

water technology

www.motralec.com

PRODUCT CATALOGUE

PRODUCT CATALOGUE

electrical submersible pumps and
water treatment systems



INDEX

INTRODUCTION

The Zenit Group 4

1.0 SUBMERSIBLE PUMPS

1.1 With vortex impeller 18

1.2 With multi-channel open impeller 88

1.3 With single-channel open impeller 154

1.4 With single and dual-channel closed impeller 182

1.5 Grinders 232

1.6 With high head 266

1.7 Made of special alloys 294

1.8 For abrasive liquids 332

2.0 AERATION AND MIXING SYSTEMS

2.1 Air diffusers 343

2.2 Submerged aerators 348

2.3 Mixers and flow-maker 356



3.0 LIFTING STATIONS

3.1	Lifting stations	361

4.0 HYDRAULIC ACCESSORIES

4.1	Coupling devices and base plates	370
4.2	Check valves and gate valves	380
4.3	Bend unions	384
4.4	Flanges and chains	386

5.0 ELECTRICAL AND ELECTRONIC ACCESSORIES

5.1	Electromechanical and electronic control panels	388
5.2	Alarms	402
5.3	Floatswitches	403
5.4	Remote control systems	404

THE ZENIT GROUP



One Group, One Goal

The Zenit Group ranks among the top national and international names in the design and manufacture of water treatment technologies.
Its core business is the design and manufacture of submersible electric pumps for domestic and industrial use.

Not just electric pumps

Thanks to the knowledge and experience it has acquired over the years Zenit has also featured on the market with aeration and mixing products, providing a comprehensive range of items designed to meet the most demanding needs.



Character of Success

A solid tradition, dynamism and a penchant for innovation are the salient qualities that have led to Zenit's constant, steady growth, without ever losing sight of Its origins and objectives.

Uncompromising Quality

Shrewd corporate decision making has enabled the Zenit Group to carve out for itself considerable portions of the market in which it operates, thus ensuring its customers high technological content and ever-innovative services.



The Customer First and Foremost

Its product differentiation in relation to that of competitors has enabled Zenit to establish with its customers a relationship of growing respect. Zenit is aware of the importance of customer satisfaction and it constantly strives to increase the fidelity of its customers.
We understand the value of finding a willing, efficient and competent business partner and every day at Zenit we work with these objectives in mind to consolidate and increase the faith our customers have placed in us.

Many Members .... a single Group

Today Zenit is a Group that manages to have direct control over the markets it operates in, thanks to a targeted territorial presence. The Group is composed of four very distinct units that operate by pursuing a single, common, shared goal.
Zenit Italia: production site and sales office for Italy.
Zenit Pumps Suzhou: production site and sales office for China.
Zenit Asia Pacific: sales office for South East Asia.
Zenit Europe: sales office for Europe.



People, Product, Passion

The current structure of the Zenit Group is the result of a successful combination of entrepreneurial strategies and insights that have led to integration between company and globalisation. Bolstered by the conviction that the path we have undertaken is the right one, we can proceed along it together towards a single goal, guided by the 3P formula that has been our constant companion: People - Product - Passion.

THE HISTORY

Zenit was established at the end of the 50s. it was founded by Ugo Zeni to build and repair electric motors and hydraulic pumps. The head office is in Modena. The market is Italy.

In 1977 the company leadership was passed on to the founder's daughter, Adriana, and her husband, Italo Bottan. The range of products designed and built by Zenit is enriched: centrifugal electric, self priming, volumetric, submerged, submersible and surface pumps. The reference market is always the Italian one.

In 1985 the company makes a strategic choice: it decides to focus the production on submersible pumps for foul waste water.

1990 marks the beginning of Zenit expansion on foreign markets: Europe, Asia and South America. It is also the year that Davide Bottan, the owners' eldest son, joins the company.

From 1990 to 1994, Zenit triples its turnover and in 1995 obtains the UNI-EN-ISO 9001 certification.

In 1996 the company head office is moved to a new establishment in San Cesario, with a surface area of 10,000 sq m. Lorenzo Bottan, brother of Davide, joins the company.

The years from 1998-2002 are characterised by the expansion of the company on new markets and the range widened with products destined for sewage disposal: mixers, aerators, oxygenators.

APEX is founded in 2001, a software company which becomes part of the Zenit Group.

Between 2003 and 2004 Zenit obtains the UNI-EN-ISO 9001:2000 company certification and ATEX product certification.

In 2006 it opens a new Regional Office in Singapore and in 2007 it launches the new production and commercial unit in China, which occupies a total surface area of 16,500 sq m., of which 8,000 currently covered.

From 2006 to 2008 Zenit expands the San Cesario head office, which changes to a surface area of 19,000 sq m. and starts work to build a test tank, amongst the most complete in Europe. In 2009 the new EMEA (Europe and Middle East Area) Regional Office in Luxembourg becomes operative; 3,000 sq m. covered on a total surface area of 6,500.







THE ZENIT LOGO

zenit

ZENIT elettropompe

ZENIT

Water technology at your service

ZENIT

water technology

DECLARATION OF VALUES

We inspire our work according to loyalty principles, honesty and respect for man, we dedicate ourselves to the environment and society.

Innovation

We believe in product, process and concept innovation, as an instrument to generate new opportunities. Aware that, as a whole, the economical subjects determine the future, and we want to be part of it.



Empowerment

Believing in the empowerment means operating in a company, respecting a quality approach, an objectives direction and an organisational development of Human Resources.
Such aspects imply the involvement of all the collaborators in the company dynamics, promoting training, professional growth, the increase in the control of one's own tasks and the capacity to evaluate one's own work, autonomously and responsibly.
An organisational culture which wants to diffuse the predisposition to invest constructive energies in the development of the various activities, through a positive attitude towards the expectations of success.
Zenit believes in empowerment!



The company

Cooperation, participation, synergy. In Zenit, each component has its own task, but they all work together to reach the objectives of the organisation.
A reality which interprets profit not as absolute value, but as expression of management efficiency and as instrument to support the development conditions.



Passion

Our style distinguishes itself for the passion which integrates competence and professionalism, in the realisation of every project.
A Passion which livens, motivates, involves, taking with it enthusiasm, precision, commitment in research. In this sense, an interpretation of the activity as dynamic expression of the potentials and capacities of a person, is proposed.





Competition

We interpret Competition as a push to improve and the market as a gym for confrontation, growing and developing.
In this sense, we believe in the importance of the additional value, “of that something extra” as principle of differentiation and as starting point in the research for alternative solutions.



Transparency

To openly manifest one’s own choices and projects is essential if one wishes to obtain trust from both collaborators and clients, and be able to ask for it in return.
Transparency and trust are essential in any activity based on merit and value recognition.
In Zenit we work with these criteria, in this way, even the human relationship can gain from the major communicative efficiency of informality, though remaining based on the maximum respect of professional value.



Quality

We pursue the quality of products and services as a consequence of the company organisation and as inspiring principle in the relationships with clients and with the community. The quality is the result of a process based on responsibility and the necessary condition of any opportunity of well-being.



Commitment, responsibility, environment

On performing our activity, we recognise the important value of social responsibility, committing ourselves in the realisation of useful, reliable and safe work.
Not only, we concretely use part of the company profits to promote the local community development and to finance social projects and have always recognised the basis for improving the community well-being and its economical, cultural and social development.

MISSION



Historical authenticity and dynamism are our primary hallmark features in terms of both our origins and future objectives.
Our know-how in the eld of the water treatment has been gained during long years of work and research.
Every day we do our utmost to build upon and increase this legacy of knowledge.
Although we have rmly established ourselves as a successful, trustworthy organization, we are still quite exible and capable of further growth and transformation.
We promote a creative, stimulating and gratifying work environment that generates ideas capable of satisfying any and all new requirements.
We research, develop and market innovative, safe products based on environmentally sustainable production processes and company strategies which simplify and improve the work of the people using them. At the same time we create new professional opportunities for our employees and constantly strive to improve the quality of life of the entire community. We believe that these objectives can be achieved by investing in human resources, leaving space for creativity, fostering passion and accepting challenges.

Producing water-treatment systems that improve the quality of life.

VISION



Zenit is a young and dynamic company that intends to reach its objectives by investing in human resources, providing space for creativity, fostering passion and accepting challenges.
Zenit wants to be the trusted partner one can always count on when it comes to ensuring professionalism, experience, product quality and ef cient service.
The opening of branches and of ces abroad is a clear demonstration of Zenit's determination to be geographically close to its customers.
Zenit wants to be a company where the client's needs are listened to, analysed and understood.
A company able to anticipate the expectations and needs of its own clients.
Zenit wants to be a future-oriented company.
The transition from local to global is natural and inevitable for those who are con dent of their own abilities and focused on innovation.
Zenit wants to become a multinational company in order to effectively compete in the global market, while still taking full advantage of its local assets: exibility, quick decision-making and a propensity to growth.
Zenit wants to exploit all the opportunities generated by globalisation.
Zenit wants to operate in an absolutely above-the-board, transparent manner because it has faith in its employees and wants to further consolidate and strengthen the trust its customers have shown in it. Zenit wants to be a company that manufactures in a sustainable and responsible manner, respecting people and the environment.

Wherever there's water requiring ef cient, responsible treatment, Zenit is there

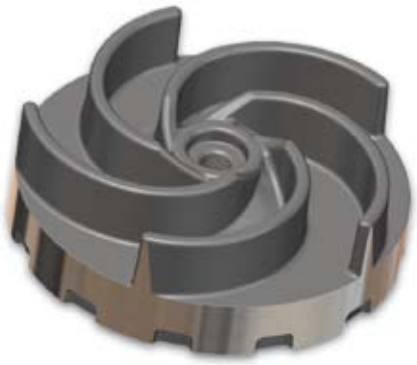
1.0

ELECTRICAL SUBMERSIBLE PUMPS



HYDRAULIC FAMILIES

DG



Set-back Vortex impeller

The DRAGA (DG) family consists of electric pumps with Set-back Vortex impeller which allows ample free passages, often entirely free passages. Ideal for applications in industry in general and in agriculture, for pumping biological sludges, livestock farm slurry and soiled liquids containing solids.

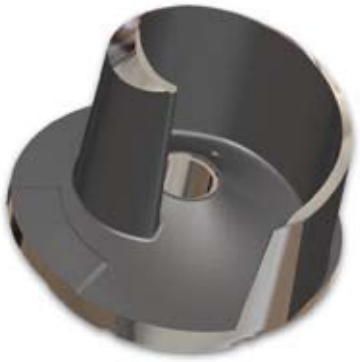
DR



Multi-channel open impeller

The DRENO (DR) family consists of electric pumps with multi-channel open impeller. Depending on which of the various motors available is fitted, this family is used for the treatment of mainly clean or slightly soiled water or can be used for lifting sewage, in wastewater treatment plants and in industrial applications in general.

MA



Single-channel open impeller

The MA family consists of electric pumps with single-channel open impeller which guarantees very high performances and ample free passages, often entirely free passages, which reduce the risk of fouling. Units in this family can be used for lifting sewage, for wastewater treatment plants, and for industrial applications in general.

SM



Single-channel closed impeller

The SYSTEM M (SM) family consists of electric pumps with single-channel closed impeller which allows ample free passages and high performances. Used with soiled wastewaters containing suspended solids. 'Ideal for handling soiled biological liquids with small solid particles in suspension and strained biological liquids. Generally used in industry, especially in sectors such as wastewater treatment plants and sewage disposal systems.

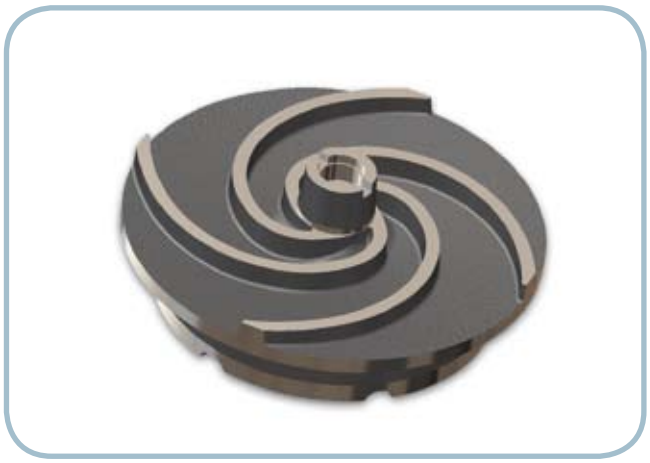
SB



Dual-channel closed impeller

The SYSTEM B (SB) family consists of electric pumps with dual-channel closed impeller. The ample free passage and excellent performance are the two features that enable the SB family to operate with soiled liquids containing suspended solids. 'The ideal solution for pumping slurry, soiled water with and without solids, untreated or activated sludges, strained and unstrained biological liquids and rainwater or seepage. Ideal for lifting water from public establishments and plants for public works or hospitals.

GR



Impeller with grinder system

The GRINDER (GR) family consists of electric pumps with immersed multi-channel impeller with a grinding system on the intake. The intended use varies depending on whether 2 or 4 pole motors are used; in the former case, applications are in the livestock farming and food industries where sewage is present. In the second case, applications are mainly in agriculture and livestock farming, with particularly heavily soiled liquids.

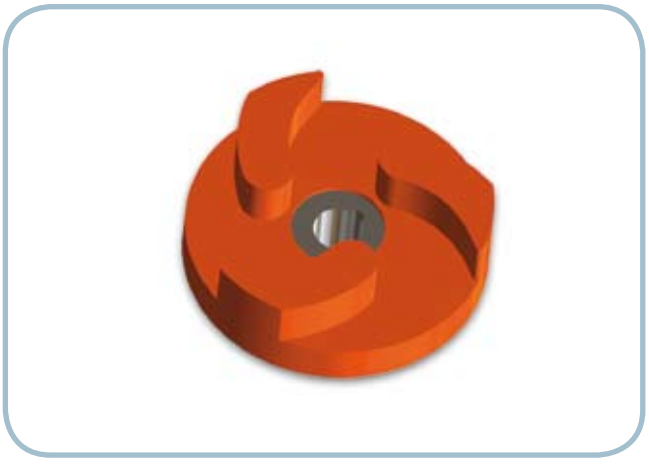
AP



High head impeller

The AP family consists of electric pumps with high-head immersed multi-channel impeller. Units in this family are used for clean or soiled water containing sand or small solids but not filaments. Suitable for applications in sectors such as the residential, public and irrigation sectors, or cleaning out wells for sanding. The high manometric head ensures excellent results for the creation of water features and fountains.

VL



Multi-channel open impeller with Vulkollan coating

VULCO (VL) family pumps are built with hydraulic units in cast iron coated with a thick layer of hard-wearing polyurethane (Vulkollan). Multichannel open impeller with metal core coated with a thick layer of hard-wearing polyurethane. This coating's virtually unlimited duration allows its application where other materials generate too many problems with excessive wear and insufficient time between services. Designed for use in the ceramics industry, for the processing of granite, marble and glass, for metal cutting, in quarries and mines, in aggregate processing systems and in concrete production plants.

ELECTROMECHANICAL ASSEMBLIES

Blue



Blue Series

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing mechanical seals in silicon carbide and alumina graphite in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

BluePRO



BluePRO series

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing silicon carbide mechanical seals in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

S



S series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

E



E series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

O



O series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

I



I series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina lip seal, installed in series in inspectable oil sump. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

B



B series

Electromechanical assembly in B10 bronze, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing and with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

X



X series

Electromechanical assembly in CF-8M (AISI 316) stainless steel, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing and with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

F



F series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

N



N series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

P



P series

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Y

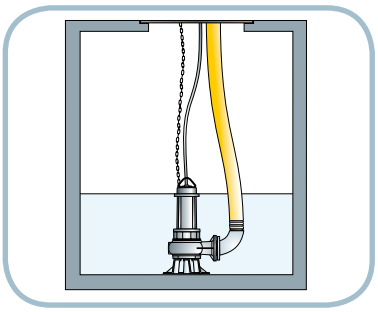


Y series

Electromechanical assembly in CF-8M (AISI 316) stainless steel, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Series not available in explosion-proof version.

INSTALLATIONS

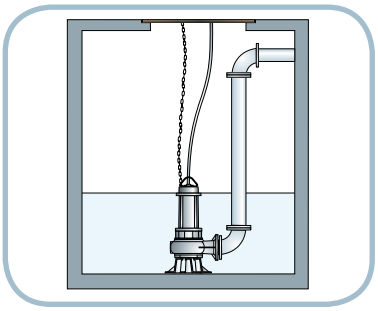
A



Free installation

The electric pump, standing on its feet or base, is connected to the delivery flexible pipe using a joint fixed to the delivery port.
This installation allows to move easily the electrical pump

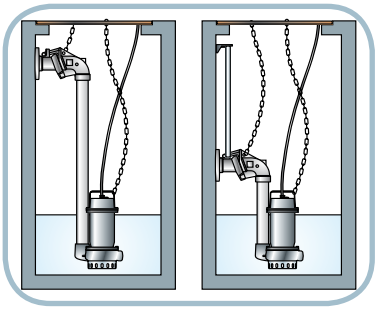
B



Fixed installation

The electric pump, standing on its feet or base, is connected to the delivery pipe, which is screwed to the delivery port if threaded, or fixed to a bend if the port is flanged.

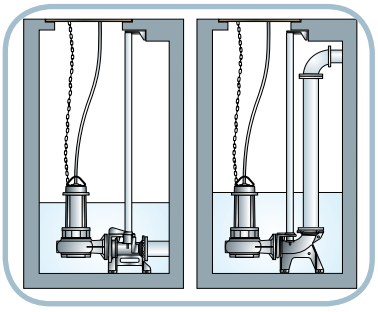
C



Installation with external coupler

Available for electric pumps with threaded delivery port. The pump unit is supported by a special device fitted to the delivery pipe. This device can be installed at any time without having to empty the tank. It simplifies any maintenance work on the pump, which can be lifted out and resubmerged with great ease. It is recommended in particular for installations of small size, and does not require the pump to be resting on the bottom of the tank.

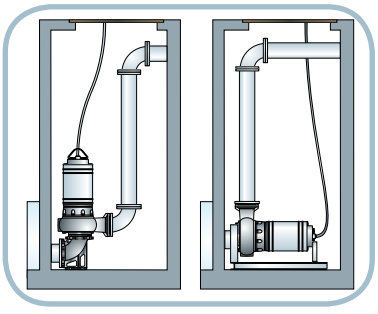
D



Installation with base coupling foot

For submerged installation, available for electric pumps with flanged or threaded horizontal delivery port. The coupling device is fixed to the bottom of the tank and the pump is lowered in with the aid of two guide pipes fitted earlier, until the connection to the foot is completed. The delivery pipe is fixed to the coupling device delivery port. This device makes routine checks, any maintenance work or replacement of the pump extremely easy, with no need to empty the tank. A specific kit also allowing pumps with vertical delivery port to be installed with the base coupling foot is available.

E



Dry installation with cooling system

Submersible electric pumps can also be used in dry chambers thanks to the cooling jacket. The cooling liquid used may be the process liquid, if its density is low, it is not seriously soiled and it does not contain suspended solids, or a liquid from the outside. The electric pump is mounted on a supporting bracket, to which the intake line is connected. This type of installation is also possible with the electric pump kept horizontal.

AVAILABLE VERSIONS

Electric version

NAE	No electric accessories installed
T	Thermistor
TC	Thermistor, capacitor
TCD	Thermistor, capacitor, startup capacitor
TCDT	Thermistor, capacitor, startup capacitor, thermal protector
TCDGT	Thermistor, capacitor, startup capacitor, thermal protector, float switch
TCG	Thermistor, capacitor, float switch
TCST	Thermistor, capacitor, box, thermal protector
TCSGT	Thermistor, capacitor, box, float switch, thermal protector
TS	Thermistor, sensor
TR	Thermistor, relay
TRG	Thermistor, relay, float switch
FT	System for flushing seals with external liquid
CGFT	Cooling jacket and system for flushing seals with external liquid

Cooling system

N	No cooling and/or seal flushing system
CC	Closed jacket cooling system

Set of seals

2SIC	2 mechanical seals in silicon carbide
SICM	1 mechanical seal in silicon carbide and 1 lip seal
SICAL	1 mechanical seal in silicon carbide and 1 mechanical seal in alumina graphite (NBR)
2SICAL	2 mechanical seals in silicon carbide and 1 mechanical seal in alumina graphite (NBR)

TECHNICAL NORMS AND MAIN STANDARDS APPLIED

Standard models

Machinery directive	2006/42/CE
Low voltage directive	2006/95/CE
Electromagnetic compatibility directive	2004/108/CE

Regulations applied:
UNI EN ISO 12100-1; UNI EN ISO 12100-2; CEI EN 60529; CEI EN 60034-1; CEI EN 60034-2; CEI EN 60335-1; CEI EN 60335-2-41; UNI EN ISO 9906; CEI EN 60204; UNI EN 1561; UNI EN 1563

Explosion-proof version models

ATEX	94/9/CE
Machinery directive	2006/42/CE
Electromagnetic compatibility	2004/108/CE

Regulations applied:
EN 1127-1; EN 13463-1; EN 13463-5; EN 13463-8; EN 60079-0; EN 60079-1 ; EN61241-0 EN 61241-1; EN ISO 12100-1; EN ISO 12100-2; EN 1050; EN 414; EN 60529; EN 60034-1; EN 60034-2; EN 60335-1; EN 60335-2-41; EN 9906; EN 60204-1; EN 1561; EN 1563; EN 614.

KEY TO PRODUCT CODE

DRO 50/2/G32V A0BM-E

(A) (B) (C)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Family

DG =	DRAGA Vortex impeller with full free passage
DR =	DRENO Multi-channel open impeller
MA =	MACS Single-channel open impeller
SM =	SYSTEM M Single-channel closed impeller
SB =	SYSTEM B Dual-channel closed impeller
GR =	GRINDER Impeller with grinder system
AP =	HIGH HEAD High head impeller
VL =	VULCO Impeller with Vulkollan coating

② Series

Blue =	Cast iron structure, 2 (two) mechanical seals in oil bath and 1 (one) V-ring. Dry motor
BluePRO =	Cast iron structure, 2 (two) mechanical seals in oil bath and 1 (one) V-ring. Dry motor
S =	Cast iron structure, 1 (one) mechanical seal and 1 (one) lip seal. Dry motor
E =	Cast iron structure, 1 (one) mechanical seal and 1 (one) lip seal. Dry motor
O =	Cast iron structure, 2 (two) mechanical seals. Oil-bath motor
I =	Cast iron structure, 2 (two) mechanical seals in oil bath. Dry motor
B =	Bronze structure, 2 (two) mechanical seals. Oil-bath motor
X =	Stainless steel structure, 2 (two) mechanical seals. Oil-bath motor
F =	Cast iron structure, 2 (two) mechanical seals in oil bath. Dry motor. ATEX certification
N =	Cast iron structure, 2 mechanical seals in oil bath. Dry motor
P =	Cast iron structure, 3 (three) mechanical seals in oil bath. Dry motor
Y =	Stainless steel structure, 3 (three) mechanical seals in oil bath. Oil-bath motor

③ Power

(HPx100) / motor poles

④ Delivery rate

(A) TYPE

G= GAS thread (if no letter appears, the pump is flanged)

(B) DIAMETER

32 = 1 1/4” 40 = 1 1/2”

50 = 2” 65 = 2 1/2”

(C) POSITION

V = vertical

H = horizontal

⑤ Hydraulic model

Basic hydraulic unit “A”. Other versions may be available identified by different letters representing alternative duty curves

⑥ Version number

Basic value “0”. Different values indicate modifications not compatible with the previous version

⑦ Motor size

Identifies the diameter of the motor assembly. Needed to distinguish between products with the same power but with motors of different sizes

⑧ Motor phases

M = Single-phase T = Three-phase

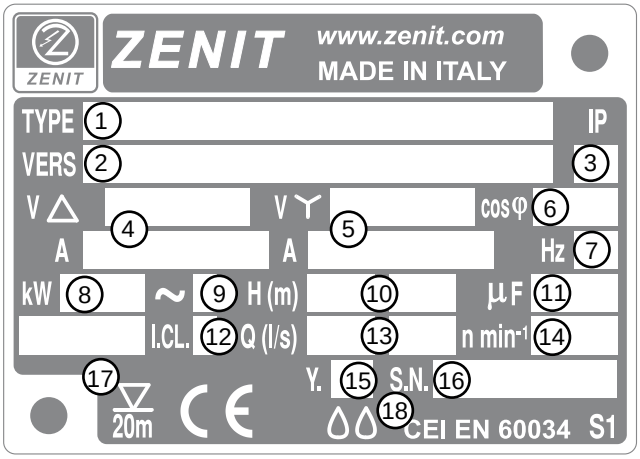
⑨ Explosion-proof version

-E = non explosion-proof

-EX = explosion-proof

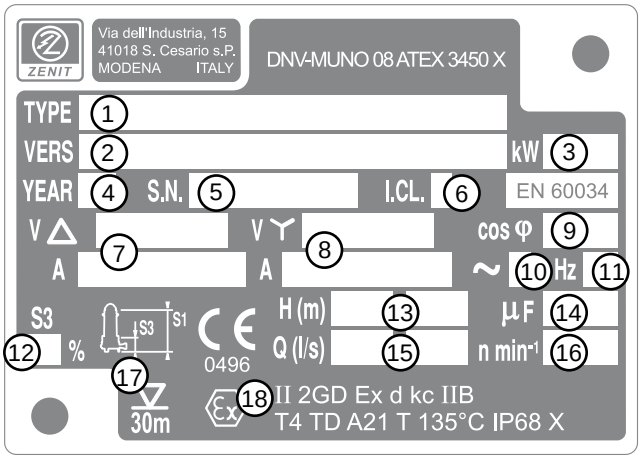
PRODUCT IDENTIFICATION

Standard



1. Article part of the article code
2. Varying part of the article code
3. Casing protection rating
4. Power supply and current (delta connection)
5. Power supply and current (star connection)
6. Power factor
7. Power supply voltage frequency
8. Motor power
9. Number of phases
10. Minimum and maximum head
11. Capacitor capacity
12. Motor insulation class
13. Minimum and maximum flow-rate
14. Rpm
15. Year of manufacture
16. Serial number
17. Maximum immersion depth
18. Reference standards

ATEX certi ed



F series models



N series models

1. Article part of the article code
2. Varying part of the article code
3. Motor power
4. Year of manufacture
5. Serial number
6. Motor insulation class
7. Power supply and current (delta connection)
8. Power supply and current (star connection)
9. Power factor
10. Number of phases
11. Power supply voltage frequency
12. Continuous/alternate operation
13. Minimum and maximum head
14. Capacitor capacity
15. Minimum and maximum flow-rate
16. Rpm
17. Maximum immersion depth
18. Reference standards

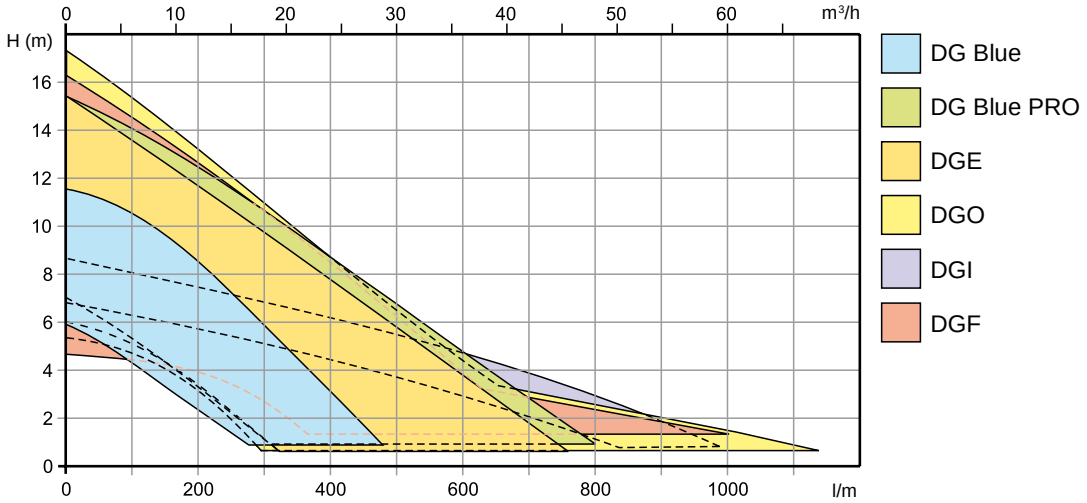
1.1 PUMPS WITH VORTEX IMPELLER

The DRAGA (DG) family consists of electric pumps with set-back Vortex impeller which allows ample free passages, often entirely free passages. Ideal for applications in industry in general and in agriculture, for pumping biological sludges, livestock farm slurry and soiled liquids containing solids.

0.3 ÷ 1.5 kW



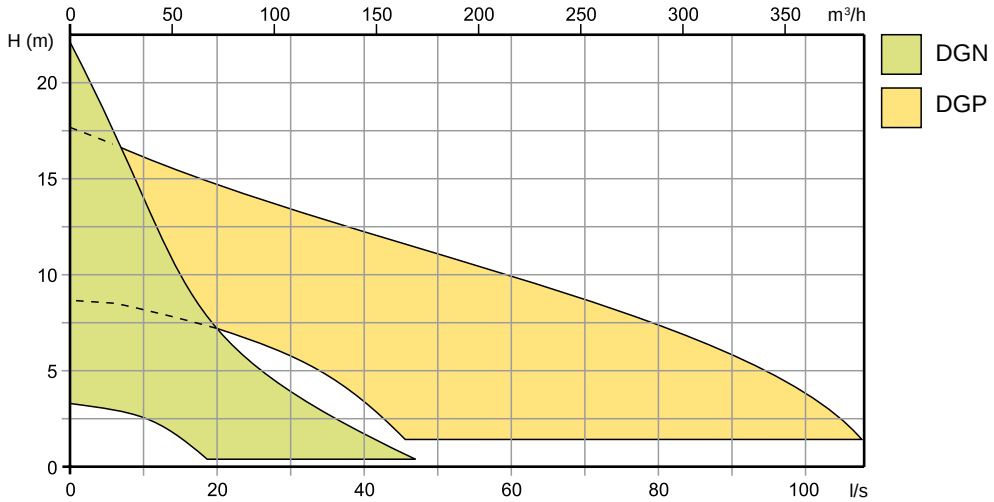
Thanks to the ample free passage, DG models with motors up to 1.5 kW are ideal for applications in industry, agriculture and livestock farming.



1.5 ÷ 16.4 kW



DG models with motors up to 16.4 kW have free passage of up to 150 mm and are suitable for the treatment of biological sludges, slurry from livestock farms and soiled liquids containing solids.



DG
Pumps with vortex impeller

0.3 ÷ 1.5 KW



DG Blue
page 20

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide and graphite alumina mechanical seals in oil sump, V-ring in direct contact with the liquid. Ecological dry motor. Technopolymer handle and impeller. Pump body in single casting with motor casing. Only available in single-phase version.
Used with soiled biological wastewaters and sewage. Suitable and reliable for domestic use and residential applications.



DG BluePRO
page 24

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in oil sump, V-ring in direct contact with the liquid. Ecological dry motor. Aluminium handle, cast iron impeller. Pump body in single casting with motor casing.
Suitable for heavy-duty applications with soiled biological liquids, sewage, rainwater and seepage. This electric pump is intended for both domestic and professional use.



DGE
page 26

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller.
Suitable with soiled biological liquids and sewage. Suitable for domestic and residential use.



DGO
page 32

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Stainless steel handle, cast iron impeller.
Suitable for heavy-duty domestic and residential applications with soiled biological liquids, sewage, rainwater and seepage.



DGI
page 46

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed in series in inspectable oil sump. Ecological dry motor. Stainless steel handle, cast iron impeller.
Suitable for heavy-duty applications with soiled biological wastewaters, sewage, rainwater and seepage.



DGF
page 50

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Cast iron handle and impeller. Models with ATEX explosion-proof certification.
Specifically developed for use where there are traces of flammable liquids or in potentially explosive atmospheres, the DGF is used where the use of ordinary submersible electric pumps would not be possible. The main sectors of use are industrial and for the removal of landfill percolates and soiled biological liquids.

1.5 ÷ 16.4 KW



DGN
page 64

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals (optional). Models available in ATEX explosion-proof version (on request).
Used with unstrained soiled biological wastewaters and sewage and for civil lifting applications. It is thus ideal for application in wastewater treatment plants, sewer systems, livestock farms, industry and agriculture.
These models are prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation (on request).



DGP
page 80

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposing graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor.
Used with unstrained soiled biological wastewaters and sewage and for civil lifting applications. It is thus ideal for heavy-duty applications in wastewater treatment plants, sewer systems, livestock farms, industry and agriculture.

DG Blue



Set-back Vortex impeller

General characteristics

- set-back vortex impeller
- 0,3 ÷ 0,74 kW motor power
- 2 poles
- GAS 1 1/2" delivery port
- max 40 mm free passage

Electromechanical assembly

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing mechanical seals in silicon carbide and alumina graphite in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Used with soiled biological wastewaters and sewage. Suitable and reliable for domestic use and residential applications.

Construction materials

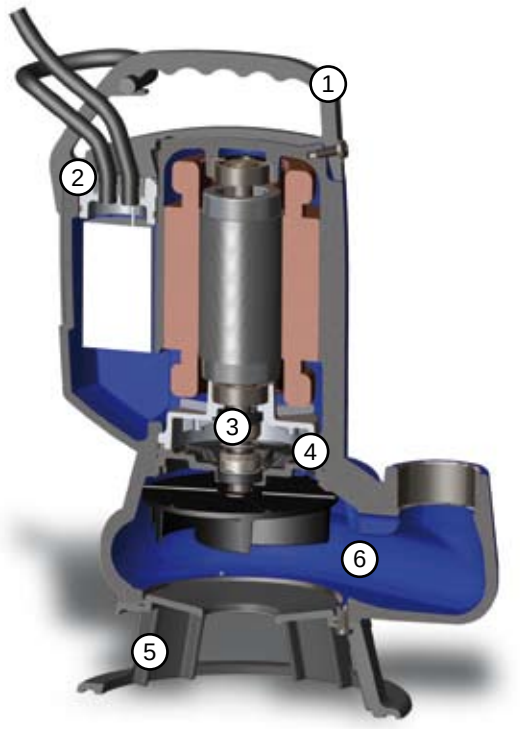
Case	Cast iron EN-GJL 250
Impeller	Technopolymer
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless steel - AISI 420
Set of standard mechanical seals	One silicon carbide mechanical seal (SiC) and one carbon-aluminium oxide mechanical seal (AL)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

DG Blue





Lifting handle

Convenient technopolymer lifting and carrying handle



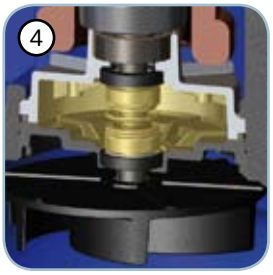
Cable Gland System

Innovative cable gland system with twin O-rings to ensure maximum tightness



Mechanical seals

One silicon carbide mechanical seal (SiC) and one carbon-aluminium oxide mechanical seal (AL)



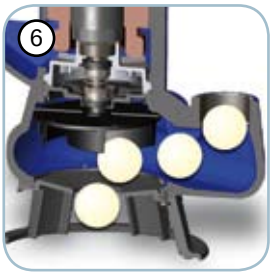
Seal sump

Oil chamber which guarantees longer mechanical seal lifetime, and is easily accessible thanks to a patented system to simplify maintenance procedures



Support foot

Support foot in impact-resistant polypropylene



Free passage

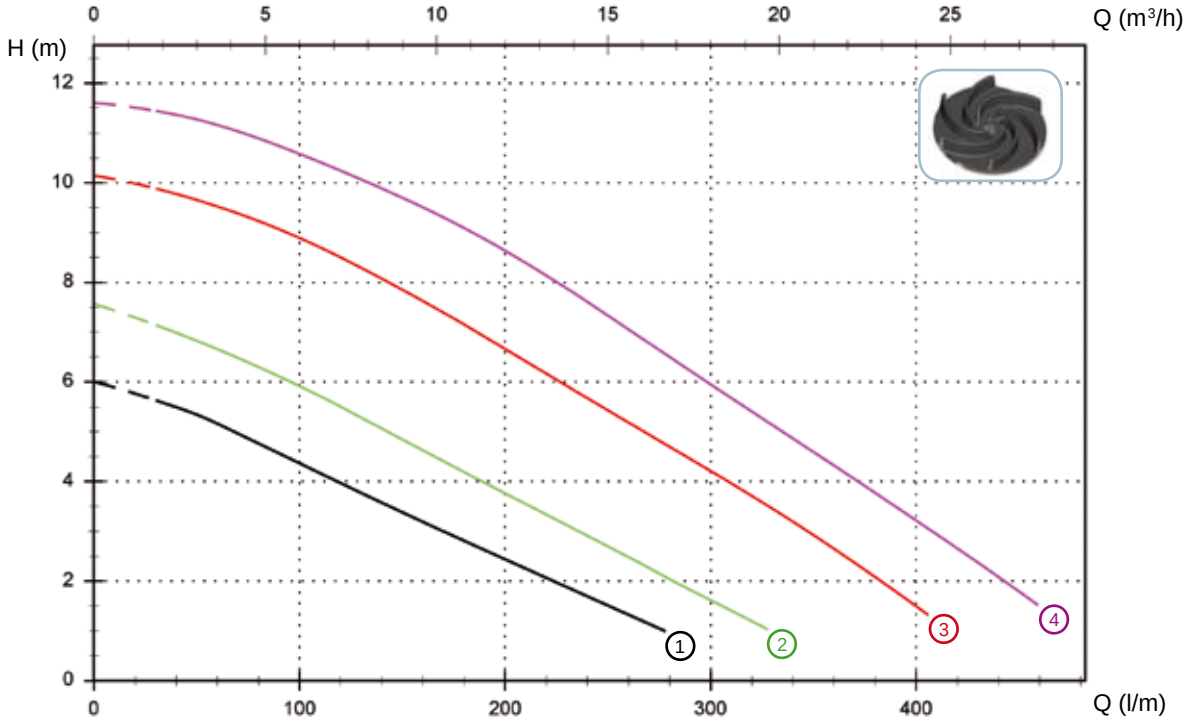
Full free passage allowing the expulsion of solids and preventing fouling of the impeller

DG Blue

Models with vertical GAS 1 1/2" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6	7
	l/min	0	60	120	180	240	300	360	420
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2
1	DG Blue 40/2/G40V A1BM/50	6,0	5,2	4,0	2,8	1,7			
2	DG Blue 50/2/G40V A1BM/50	7,6	6,7	5,5	4,2	2,9	1,6		
3	DG Blue 75/2/G40V A1BM/50	10,1	9,5	8,5	7,2	5,7	4,2	2,6	
4	DG Blue 100/2/G40V A1BM/50	11,6	11,2	10,2	9,1	7,6	6,0	4,3	2,7



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DG Blue 40/2/G40V A1BM/50	230	1	-	0.3	2.3	2900	G 1 1/2"	A	40 mm
2 DG Blue 50/2/G40V A1BM/50	230	1	-	0.37	2.8	2900	G 1 1/2"	A	40 mm
3 DG Blue 75/2/G40V A1BM/50	230	1	-	0.55	4.1	2900	G 1 1/2"	A	40 mm
4 DG Blue 100/2/G40V A1BM/50	230	1	-	0.74	5.6	2900	G 1 1/2"	A	40 mm

(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

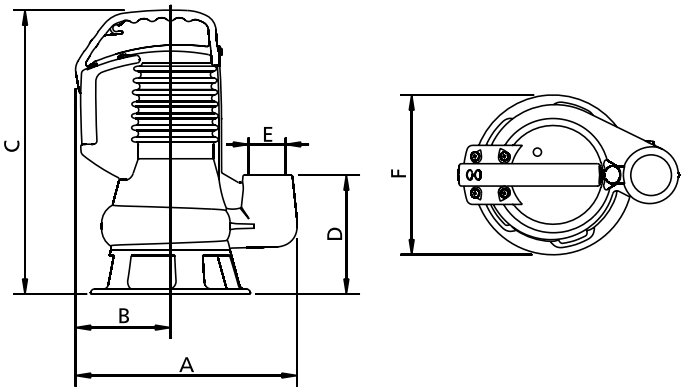
DG Blue

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DG Blue 40/2/G40V A1BM/50							●								●				●	
DG Blue 50/2/G40V A1BM/50							●								●				●	
DG Blue 75/2/G40V A1BM/50							●								●				●	
DG Blue 100/2/G40V A1BM/50							●								●				●	

Overall dimensions and weights

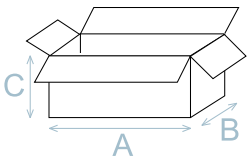


	A	B	C	D	E	F	kg
DG Blue 40/2/G40V A1BM/50	265	115	335	140	G 1 1/2"	190	12.5
DG Blue 50/2/G40V A1BM/50	265	115	335	140	G 1 1/2"	190	13
DG Blue 75/2/G40V A1BM/50	265	115	335	140	G 1 1/2"	190	15
DG Blue 100/2/G40V A1BM/50	265	115	335	140	G 1 1/2"	190	15.5

Measurements in mm

Packaging dimension

	A	B	C
DG Blue 40/2/G40V A1BM/50	240	200	400
DG Blue 50/2/G40V A1BM/50	240	200	400
DG Blue 75/2/G40V A1BM/50	240	200	400
DG Blue 100/2/G40V A1BM/50	240	200	400

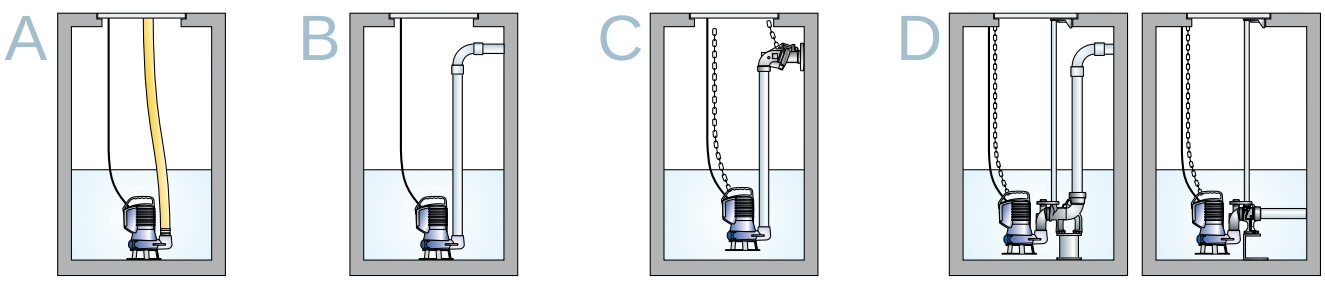


Dimension in mm

No. pieces per pallet

For DG Blue models each pallet (EUR 1000X1200 mm) is able to take 75 pieces.

Installations available



DG BluePRO



Set-back Vortex impeller

General characteristics

- set-back vortex impeller
- 0,37 ÷ 1,5 kW
- 2 poles
- GAS 1 1/2" - 2" delivery port
- max 50 mm free passage

Electromechanical assembly

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing silicon carbide mechanical seals in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Can be used with slightly soiled biological wastewaters and sewage. Suitable for heavy-duty applications with soiled biological wastewaters, sewage, rainwater and seepage. This electric pump is intended for both domestic and professional use.

Construction materials

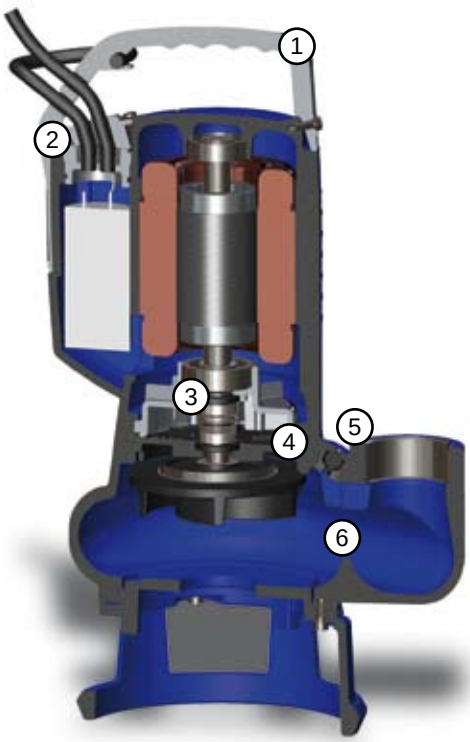
Case	Cast iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless steel - AISI 420
Set of standard mechanical seals	Two silicon carbide mechanical seals (2SiC)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

DG BluePRO





Lifting handle

Aluminium lifting and carrying handle



Cable Gland System

Innovative cable gland system with twin O-rings to ensure maximum tightness



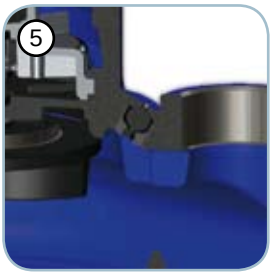
Mechanical seals

Two silicon carbide mechanical seals (2SiC)



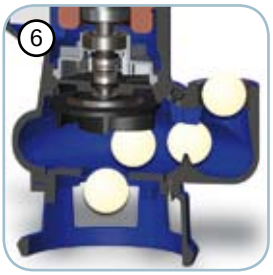
Seal sump

Oil chamber which guarantees longer mechanical seal lifetime, and is easily accessible thanks to a patented system to simplify maintenance procedures



Breather

Breather which allows the air to be vented and ensure reliable pump priming even after long periods out of use



Free passage

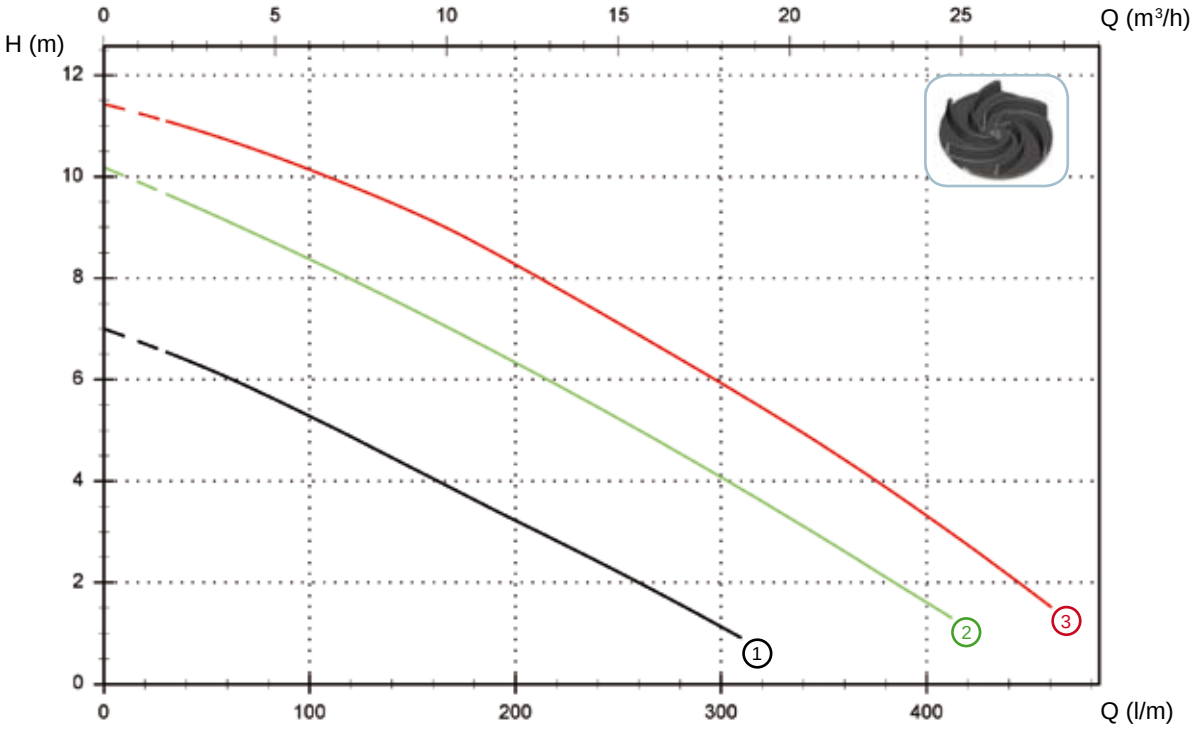
Full free passage allowing the expulsion of solids and preventing fouling of the impeller

DG BluePRO

Models with vertical GAS 1 1/2" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6	7
	l/min	0	60	120	180	240	300	360	420
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2
1	DG BluePRO 50/2/G40V A1BM(T)/50	7,0	6,0	4,9	3,6	2,4	1,1		
2	DG BluePRO 75/2/G40V A1BM(T)/50	10,2	9,1	8,0	6,8	5,5	4,1	2,6	
3	DG BluePRO 100/2/G40V A1BM(T)/50	11,4	10,7	9,8	8,7	7,4	5,9	4,4	2,7



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DG BluePRO 50/2/G40V A1BM/50	230	1	-	0.37	2.8	2900	G 1 1/2"	A	40 mm
2	DG BluePRO 75/2/G40V A1BM/50	230	1	-	0.55	4.1	2900	G 1 1/2"	A	40 mm
3	DG BluePRO 100/2/G40V A1BM/50	230	1	-	0.74	5.6	2900	G 1 1/2"	A	40 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DG BluePRO 50/2/G40V A1BT/50	400	3	-	0.37	1.15	2900	G 1 1/2"	B	40 mm
2	DG BluePRO 75/2/G40V A1BT/50	400	3	-	0.55	1.6	2900	G 1 1/2"	B	40 mm
3	DG BluePRO 100/2/G40V A1BT/50	400	3	-	0.74	2.15	2900	G 1 1/2"	B	40 mm

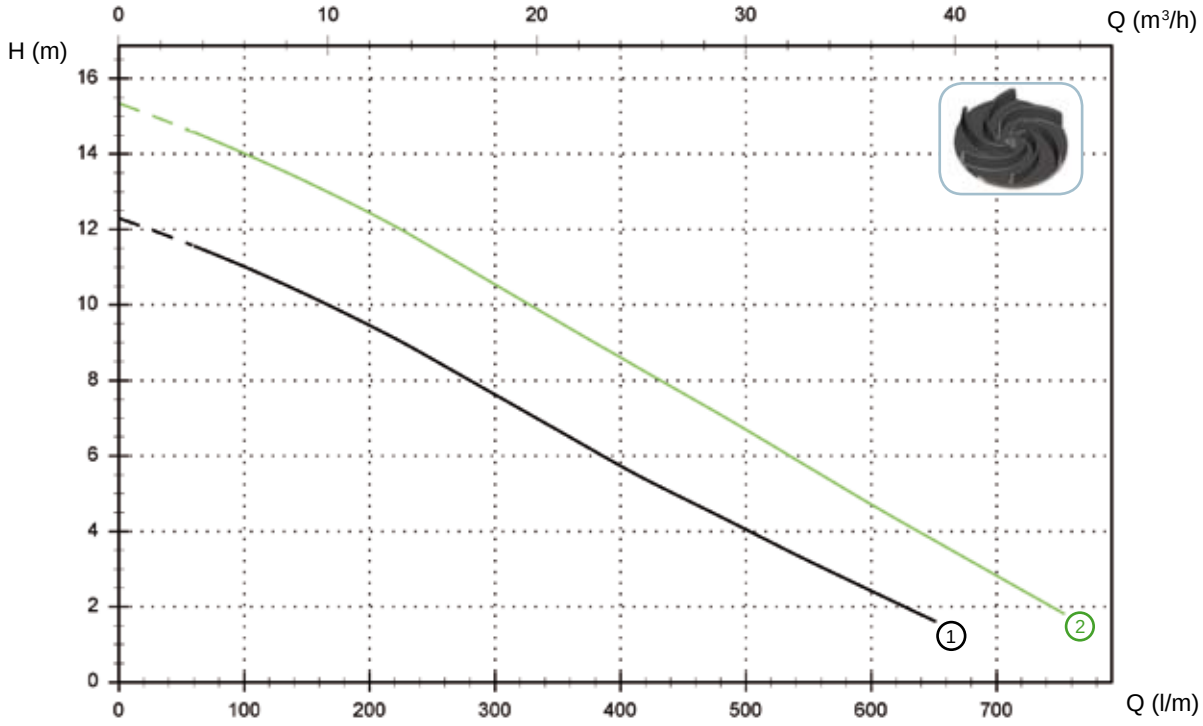
(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DG BluePRO

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1	DG BluePRO 150/2/G50V A1CM(T)/50	12,3	10,7	8,8	6,5	4,4	2,4	
2	DG BluePRO 200/2/G50V A1CM(T)/50	15,3	13,7	11,7	9,4	7,1	4,7	2,5



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DG BluePRO 150/2/G50V A1CM/50	230	1	-	1.1	7.5	2900	G 2”	A	50 mm
2	DG BluePRO 200/2/G50V A1CM/50	230	1	-	1.5	10	2900	G 2”	A	50 mm

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DG BluePRO 150/2/G50V A1CT/50	400	3	-	1.1	3.2	2900	G 2”	B	50 mm
2	DG BluePRO 200/2/G50V A1CT/50	400	3	-	1.5	4.3	2900	G 2”	B	50 mm

(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m length cable in outdoor applications

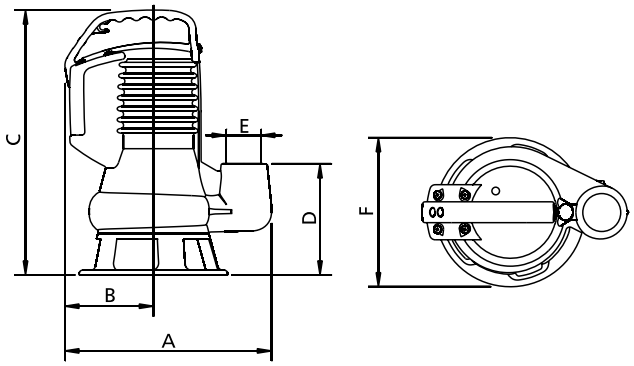
DG BluePRO

Versions available

(Key to versions on page 15)

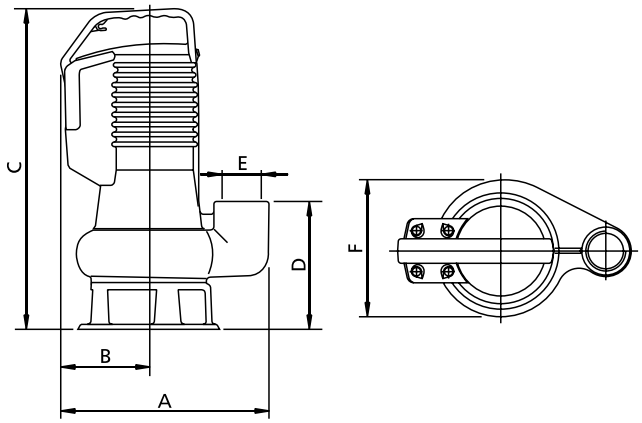
	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DG BluePRO 50/2/G40V A1BM/50			●				●								●		●			
DG BluePRO 75/2/G40V A1BM/50			●				●								●		●			
DG BluePRO 100/2/G40V A1BM/50			●				●								●		●			
DG BluePRO 150/2/G50V A1CM/50			●				●								●		●			
DG BluePRO 200/2/G50V A1CM/50			●				●								●		●			
DG BluePRO 50/2/G40V A1BT/50	●											●			●		●			
DG BluePRO 75/2/G40V A1BT/50	●											●			●		●			
DG BluePRO 100/2/G40V A1BT/50	●											●			●		●			
DG BluePRO 150/2/G50V A1CT/50	●											●			●		●			
DG BluePRO 200/2/G50V A1CT/50	●											●			●		●			

Overall dimensions and weights



	A	B	C	D	E	F	kg
DG BluePRO 50/2/G40V A1BM(T)/50	265	115	335	140	G 1 1/2"	190	13
DG BluePRO 75/2/G40V A1BM(T)/50	265	115	335	140	G 1 1/2"	190	15
DG BluePRO 100/2/G40V A1BM(T)/50	265	115	335	140	G 1 1/2"	190	15.5

Measurements in mm



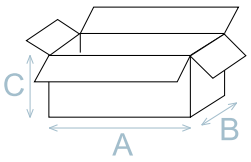
	A	B	C	D	E	F	kg
DG BluePRO 150/2/G50V A1CM(T)/50	295	125	465	195	G 2"	200	23
DG BluePRO 200/2/G50V A1CM(T)/50	295	125	465	195	G 2"	200	24

Measurements in mm

DG BluePRO

Packaging dimension

	A	B	C
DG BluePRO 50/2/G40V A1BM(T)/50	240	200	400
DG BluePRO 75/2/G40V A1BM(T)/50	240	200	400
DG BluePRO 100/2/G40V A1BM(T)/50	240	200	400
DG BluePRO 150/2/G50V A1CM(T)/50	300	250	480
DG BluePRO 200/2/G50V A1CM(T)/50	300	250	480



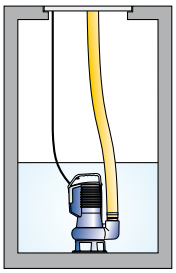
Dimension in mm

No. pieces per pallet

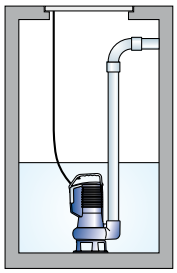
For DG BluePRO 50-75-100 models each pallet (EUR 1000X1200 mm) is able to take 75 pieces.
For DG BluePRO 150-200 models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available

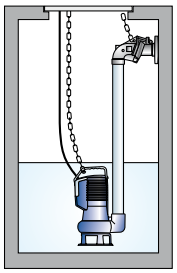
A



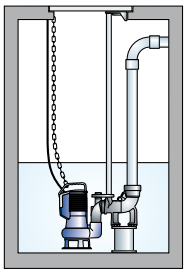
B

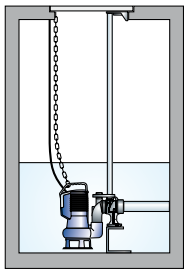


C



D





DGE

Set-back vortex impeller



General characteristics

- Set-back vortex impeller
- 0,37 ÷ 1,5 kW motor power
- 2 poles
- delivery port GAS 2” V
  GAS 2”- DN50 H
- max 50 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable with slightly soiled biological wastewaters and sewage. Suitable for domestic and residential use.

Construction materials

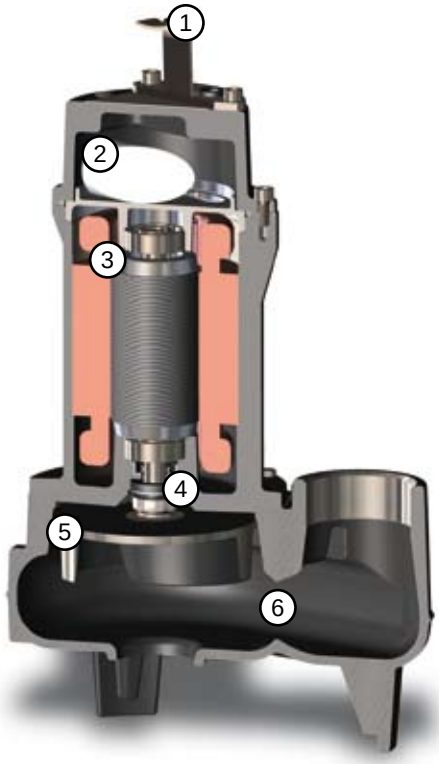
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
Max starts per hour	20

Models available in IECEx certified version

DGE





Handle

AISI 304 stainless steel lifting and carrying handle



Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Motor

Ecological dry motor with thermal overloads



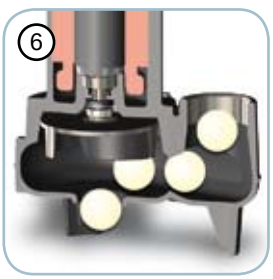
Mechanical seals

One mechanical seal in silicon carbide (SiC)



Impeller

Cast iron vortex impeller



Free passage

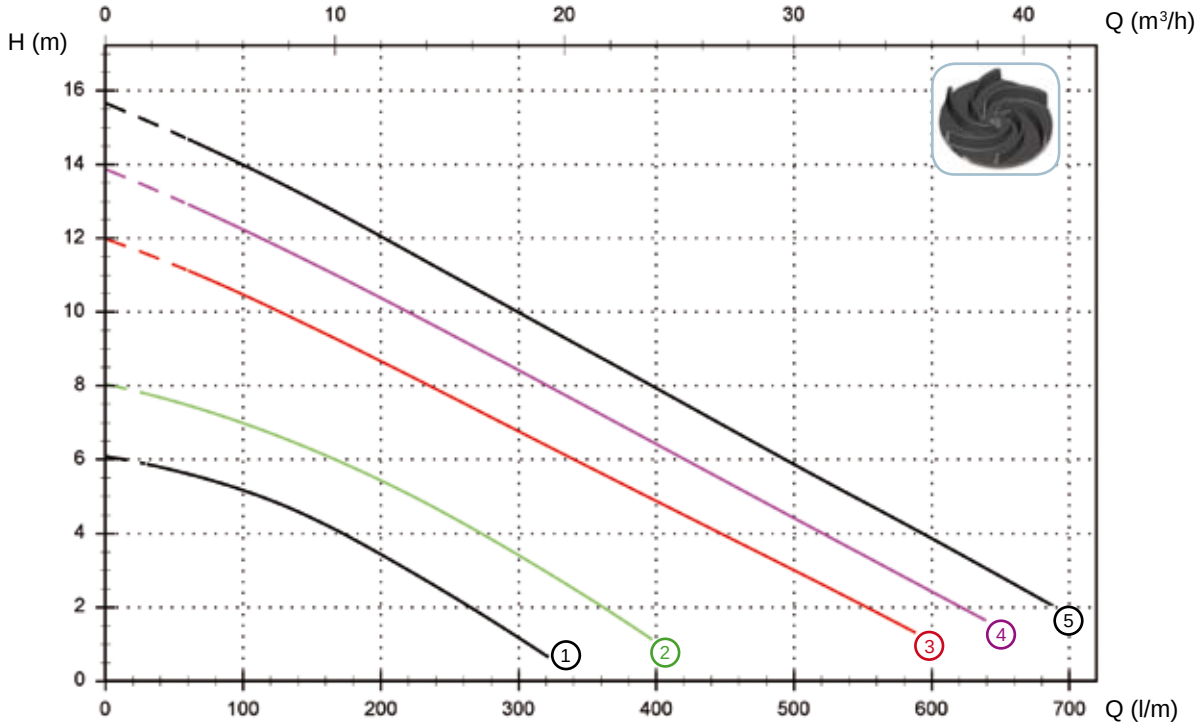
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DGE

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10
	l/min	0	120	240	360	480	600
	m³/h	0	7,2	14,4	21,6	28,8	36,0
1	DGE 50/2/G50V B0BM(T)/50	6,1	4,9	2,6			
2	DGE 75/2/G50V B0BM(T)/50	8,0	6,7	4,7	2,0		
3	DGE 100/2/G50V B0CM(T)/50	12,0	10,1	7,9	5,6	3,4	
4	DGE 150/2/G50V B0CM(T)/50	13,9	11,9	9,6	7,2	4,8	2,4
5	DGE 200/2/G50V B0CM(T)/50	15,7	13,6	11,2	8,8	6,3	3,9



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGE 50/2/G50V B0BM/50	230	1	-	0.37	2.8	2900	G 2”	A	40 mm
2	DGE 75/2/G50V B0BM/50	230	1	-	0.55	3.6	2900	G 2”	A	40 mm
3	DGE 100/2/G50V B0CM/50	230	1	-	0.88	6.5	2900	G 2”	A	50 mm
4	DGE 150/2/G50V B0CM/50	230	1	-	1.1	8.2	2900	G 2”	A	50 mm
5	DGE 200/2/G50V B0CM/50	230	1	-	1.5	9.4	2900	G 2”	A	50 mm

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGE 50/2/G50V B0BT/50	400	3	-	0.37	1.1	2900	G 2”	B	40 mm
2	DGE 75/2/G50V B0BT/50	400	3	-	0.55	1.3	2900	G 2”	B	40 mm
3	DGE 100/2/G50V B0CT/50	400	3	-	0.88	2.2	2900	G 2”	B	50 mm
4	DGE 150/2/G50V B0CT/50	400	3	-	1.1	2.6	2900	G 2”	B	50 mm
5	DGE 200/2/G50V B0CT/50	400	3	-	1.5	3.6	2900	G 2”	B	50 mm

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length

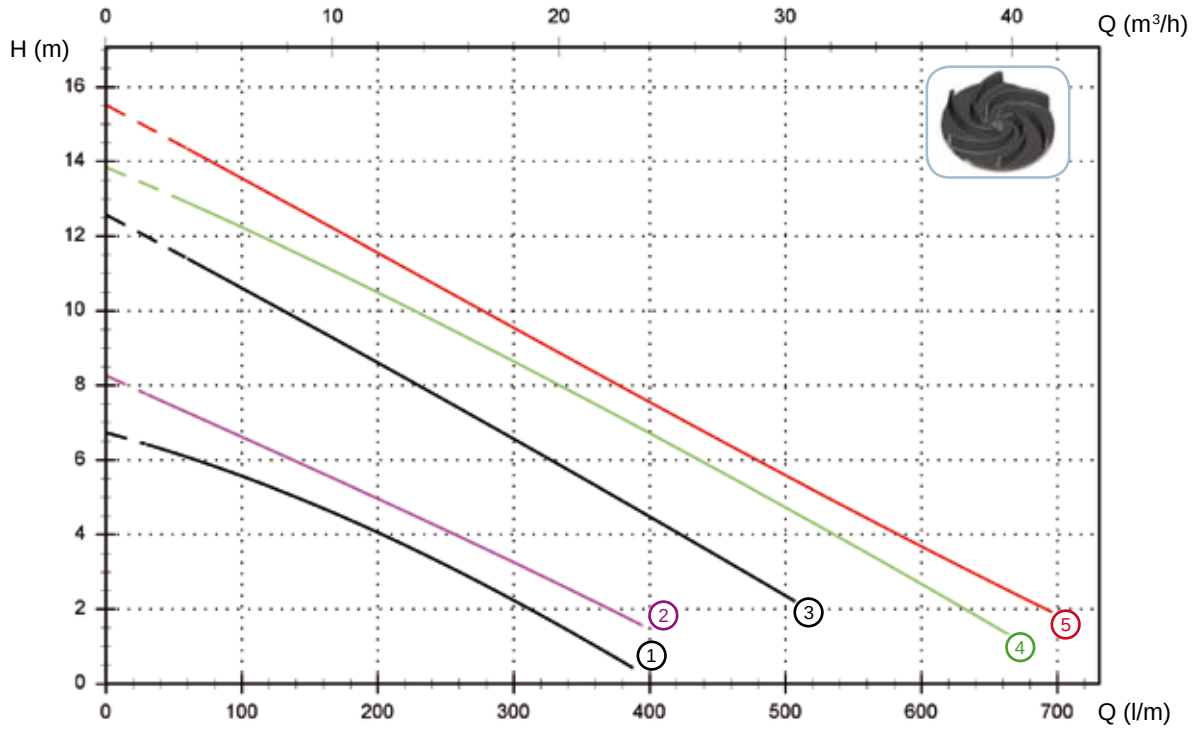
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGE

Models with horizontal GAS 2” threaded - DN50 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10
	l/min	0	120	240	360	480	600
	m³/h	0	7,2	14,4	21,6	28,8	36,0
1 DGE 50/2/G50H A1BM/50		6,7	5,3	3,4	1,0		
2 DGE 75/2/G50H A1BM/50		8,3	6,3	4,3	2,2		
3 DGE 100/2/G50H A0CM/50		12,6	10,2	7,8	5,3	2,8	
4 DGE 150/2/G50H A0CM/50		13,8	11,9	9,8	7,5	5,1	2,7
5 DGE 200/2/G50H A0CM/50		15,5	13,2	10,8	8,3	6,0	3,7



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGE 50/2/G50H A1BM/50	230	1	-	0.37	2.8	2900	G2” - DN50 PN10-16	A	40 mm
2 DGE 75/2/G50H A1BM/50	230	1	-	0.55	3.6	2900	G2” - DN50 PN10-16	A	40 mm
3 DGE 100/2/G50H A0CM/50	230	1	-	0.88	6.5	2900	G2” - DN50 PN10-16	A	50 mm
4 DGE 150/2/G50H A0CM/50	230	1	-	1.1	8.2	2900	G2” - DN50 PN10-16	A	50 mm
5 DGE 200/2/G50H A0CM/50	230	1	-	1.5	9.4	2900	G2” - DN50 PN10-16	A	50 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGE 50/2/G50H A1BT/50	400	3	-	0.37	1.1	2900	G2” - DN50 PN10-16	B	40 mm
2 DGE 75/2/G50H A1BT/50	400	3	-	0.55	1.3	2900	G2” - DN50 PN10-16	B	40 mm
3 DGE 100/2/G50H A0CT/50	400	3	-	0.88	2.2	2900	G2” - DN50 PN10-16	B	50 mm
4 DGE 150/2/G50H A0CT/50	400	3	-	1.1	2.6	2900	G2” - DN50 PN10-16	B	50 mm
5 DGE 200/2/G50H A0CT/50	400	3	-	1.5	3.6	2900	G2” - DN50 PN10-16	B	50 mm

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGE

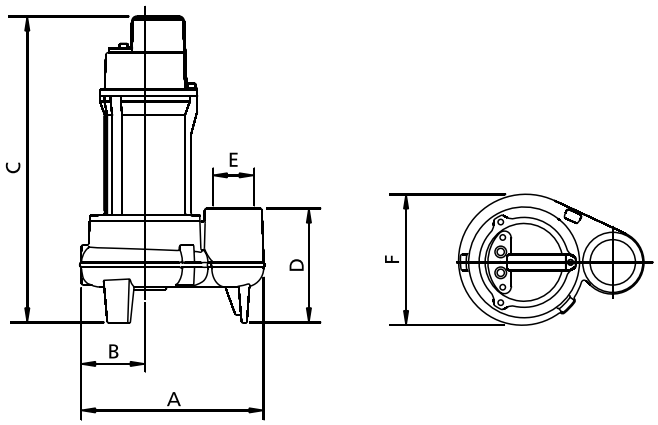
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGE 50/2/G50V B0BM/50			●				●								●			●		
DGE 75/2/G50V B0BM/50			●				●								●			●		
DGE 100/2/G50V B0CM/50			●				●								●			●		
DGE 150/2/G50V B0CM/50			●				●								●			●		
DGE 200/2/G50V B0CM/50			●				●								●			●		
DGE 50/2/G50V B0BT/50	●											●			●			●		
DGE 75/2/G50V B0BT/50	●											●			●			●		
DGE 100/2/G50V B0CT/50	●											●			●			●		
DGE 150/2/G50V B0CT/50	●											●			●			●		
DGE 200/2/G50V B0CT/50	●											●			●			●		
DGE 50/2/G50H A1BM/50			●				●								●			●		
DGE 75/2/G50H A1BM/50			●				●								●			●		
DGE 100/2/G50H A0CM/50			●				●								●			●		
DGE 150/2/G50H A0CM/50			●				●								●			●		
DGE 200/2/G50H A0CM/50			●				●								●			●		
DGE 50/2/G50H A1BT/50	●											●			●			●		
DGE 75/2/G50H A1BT/50	●											●			●			●		
DGE 100/2/G50H A0CT/50	●											●			●			●		
DGE 150/2/G50H A0CT/50	●											●			●			●		
DGE 200/2/G50H A0CT/50	●											●			●			●		

Overall dimensions and weights

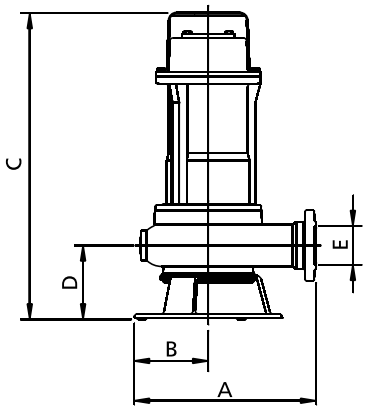
Models with vertical delivery port

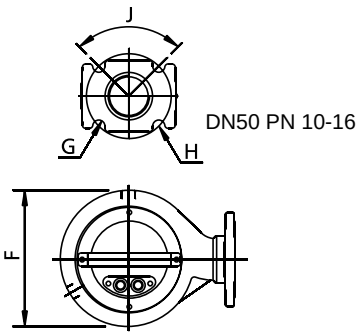


	A	B	C	D	E	F	kg
DGE 50/2/G50V B0BM(T)/50	230	80	385	120	G 2”	165	12
DGE 75/2/G50V B0BM(T)/50	230	80	385	120	G 2“	165	14
DGE 100/2/G50V B0CM(T)/50	270	100	425	130	G 2”	205	19
DGE 150/2/G50V B0CM(T)/50	270	100	425	130	G 2”	205	20
DGE 200/2/G50V B0CM(T)/50	270	100	425	130	G 2”	205	21

Measurements in mm

Models with horizontal delivery port



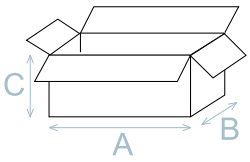


	A	B	C	D	E	F	G	H	J	kg
DGE 50/2/G50H A1BM(T)/50	220	80	365	65	G 2”-DN50	160	18	125	90°	12
DGE 75/2/G50H A1BM(T)/50	220	80	365	65	G 2”-DN50	160	18	125	90°	14
DGE 100/2/G50H A0CM(T)/50	270	110	455	110	G 2”-DN50	205	18	125	90°	19
DGE 150/2/G50H A0CM(T)/50	270	110	455	110	G 2”-DN50	205	18	125	90°	20
DGE 200/2/G50H A0CM(T)/50	270	110	455	110	G 2”-DN50	205	18	125	90°	21

Measurements in mm

Packaging dimension

	A	B	C
DGE 50/2/G50V B0BM(T)/50	385	225	245
DGE 75/2/G50V B0BM(T)/50	385	225	245
DGE 100/2/G50V B0CM(T)/50	475	285	235
DGE 150/2/G50V B0CM(T)/50	475	285	235
DGE 200/2/G50V B0CM(T)/50	475	285	235
DGE 50/2/G50H A1BM(T)/50	385	225	245
DGE 75/2/G50H A1BM(T)/50	385	225	245
DGE 100/2/G50H A0CM(T)/50	475	285	235
DGE 150/2/G50H A0CM(T)/50	475	285	235
DGE 200/2/G50H A0CM(T)/50	475	285	235

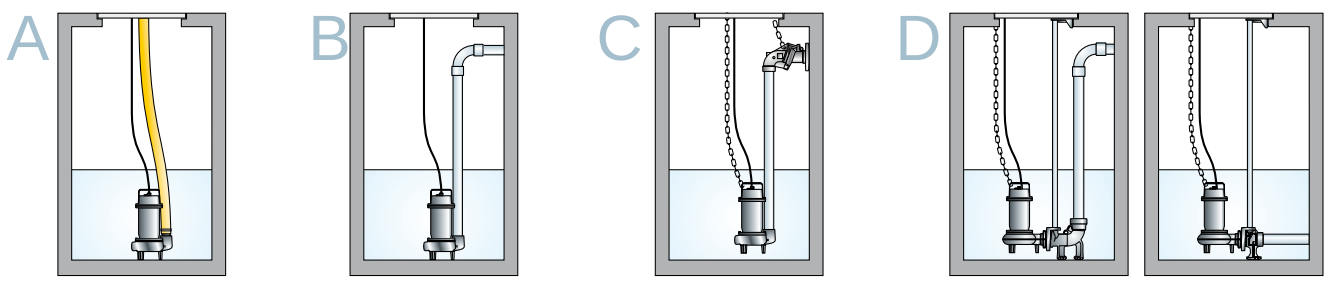


Dimension in mm

No. pieces per pallet

For DGE models each pallet (EUR 1000X1200 mm) is able to take 48 pieces.
For DGE models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available



DGO

Set-back Vortex impeller



General characteristics

- Set-back Vortex impeller
- 0,37 ÷ 1,5 kW motor power
- 2 / 4 poles
- GAS 1 1/2"V ÷ 2 1/2"V
  GAS 2"H - DN50; DN65 - DN80
- max 80 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for heavy-duty applications with soiled biological wastewaters, sewage, rainwater and seepage.

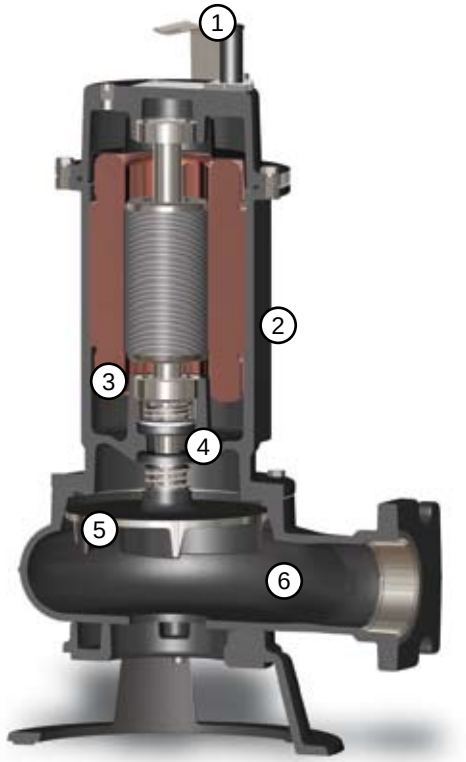
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
Max starts per hour	20

DGO





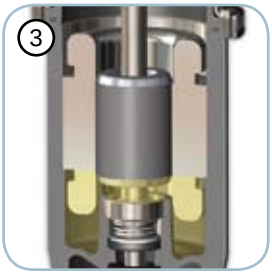
Handle

AISI 304 stainless steel lifting and carrying handle



Structure

Constructed in GJL-250 cast iron



Motor

Oil-bath motor with thermal overloads



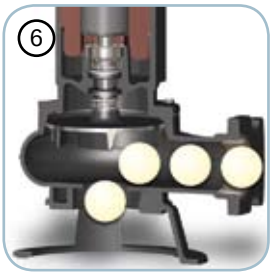
Mechanical seals

One mechanical seal in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL)



Impeller

Cast iron vortex impeller



Free passage

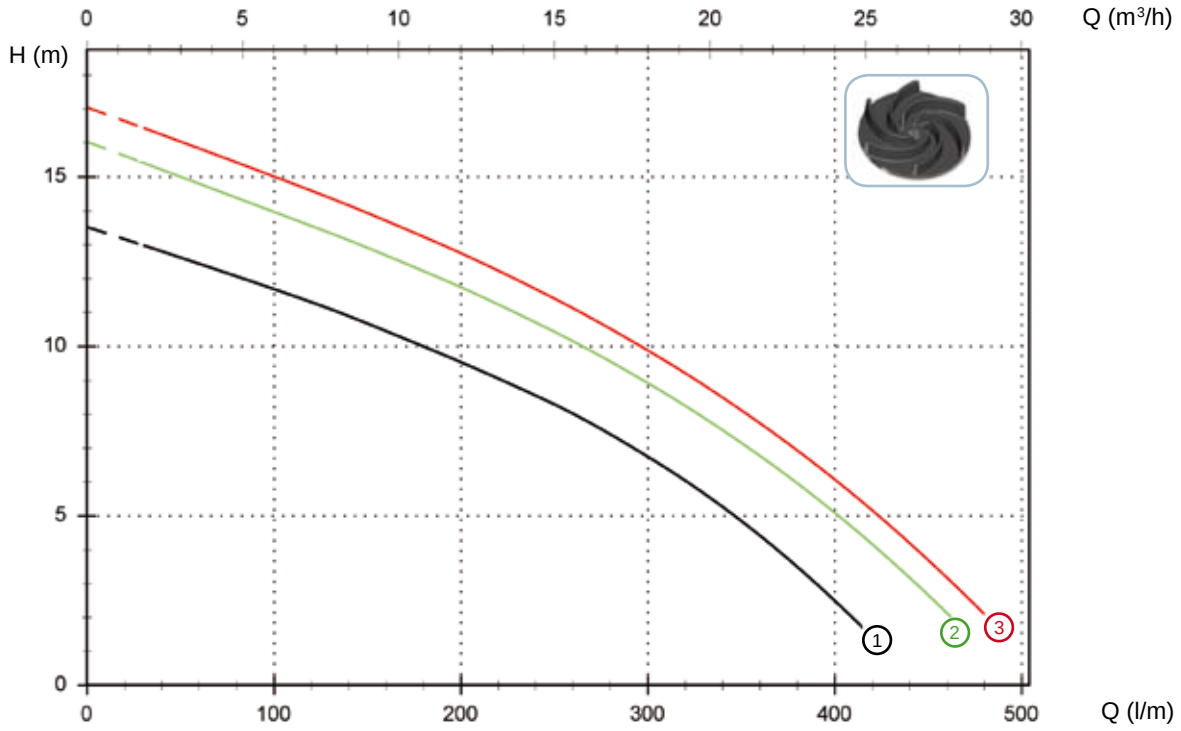
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DGO

Models with vertical GAS 1 1/2" threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8
	l/min	0	120	240	360	480
	m³/h	0	7,2	14,4	21,6	28,8
1	DGO 100/2/G40V B0CM(T)/50	13,5	11,3	8,5	4,4	
2	DGO 150/2/G40V B0CM(T)/50	14,2	13,5	10,7	6,8	
3	DGO 200/2/G40V B0CM(T)/50	15,8	14,6	11,7	7,7	2,1



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 100/2/G40V B0CM/50	230	1	-	0.88	6.9	2900	G 1 1/2"	A	40 mm
2	DGO 150/2/G40V B0CM/50	230	1	-	1.1	8.7	2900	G 1 1/2"	A	40 mm
3	DGO 200/2/G40V B0CM/50	230	1	-	1.5	10.4	2900	G 1 1/2"	A	40 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 100/2/G40V B0CT/50	400	3	-	0.88	2.3	2900	G 1 1/2"	A	40 mm
2	DGO 150/2/G40V B0CT/50	400	3	-	1.1	2.7	2900	G 1 1/2"	A	40 mm
3	DGO 200/2/G40V B0CT/50	400	3	-	1.5	3.6	2900	G 1 1/2"	A	40 mm

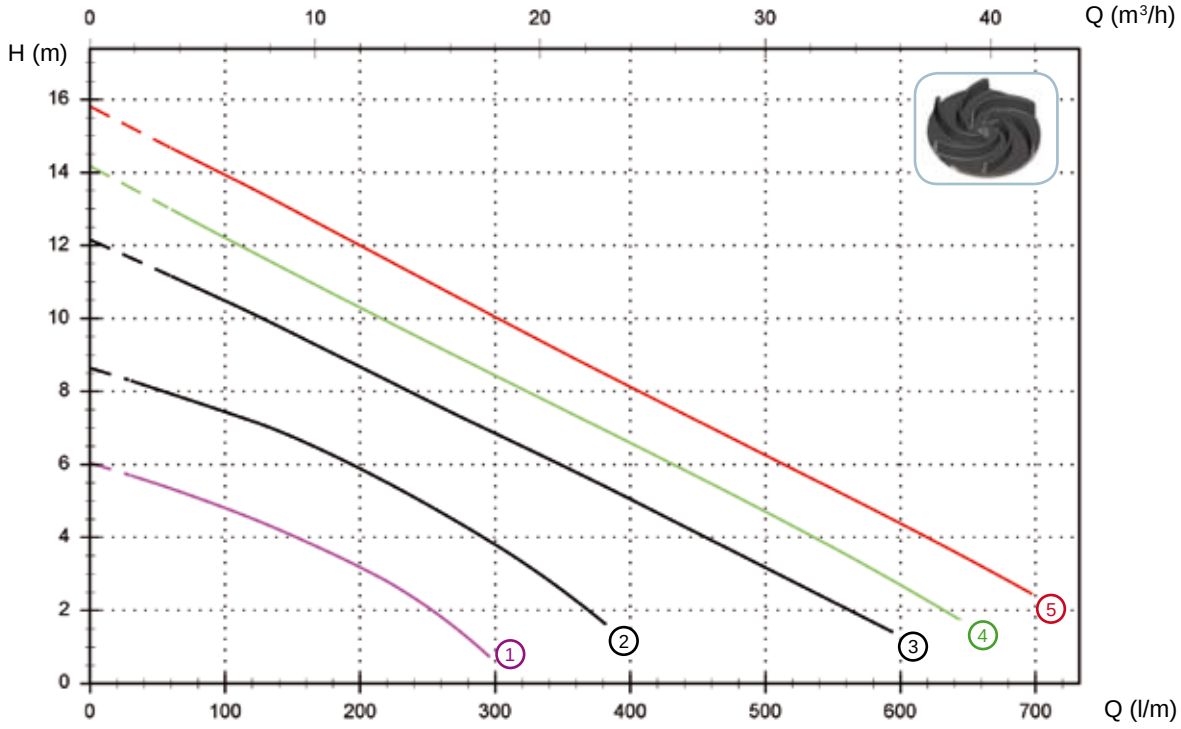
(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGO

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10
	l/min	0	120	240	360	480	600
	m³/h	0	7,2	14,4	21,6	28,8	36,0
1	DGO 50/2/G50V B0CM(T)/50	6,0	4,5	2,3			
2	DGO 75/2/G50V B0CM(T)/50	8,6	7,2	5,1	2,3		
3	DGO 100/2/G50V B0CM(T)/50	12,2	10,1	7,9	5,8	3,6	
4	DGO 150/2/G50V B0CM(T)/50	14,2	11,8	9,5	7,3	5,1	2,7
5	DGO 200/2/G50V B0CM(T)/50	15,8	13,6	11,2	8,9	6,6	4,4



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 50/2/G50V B0CM/50	230	1	-	0.37	2.9	2900	G 2”	A	40 mm
2	DGO 75/2/G50V B0CM/50	230	1	-	0.55	3.9	2900	G 2”	A	40 mm
3	DGO 100/2/G50V B0CM/50	230	1	-	0.88	6.9	2900	G 2”	A	50 mm
4	DGO 150/2/G50V B0CM/50	230	1	-	1.1	8.7	2900	G 2”	A	50 mm
5	DGO 200/2/G50V B0CM/50	230	1	-	1.5	10.4	2900	G 2”	A	50 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 50/2/G50V B0CT/50	400	3	-	0.37	1.1	2900	G 2”	A	40 mm
2	DGO 75/2/G50V B0CT/50	400	3	-	0.55	1.4	2900	G 2”	A	40 mm
3	DGO 100/2/G50V B0CT/50	400	3	-	0.88	2.3	2900	G 2”	A	50 mm
4	DGO 150/2/G50V B0CT/50	400	3	-	1.1	2.7	2900	G 2”	A	50 mm
5	DGO 200/2/G50V B0CT/50	400	3	-	1.5	3.6	2900	G 2”	A	50 mm

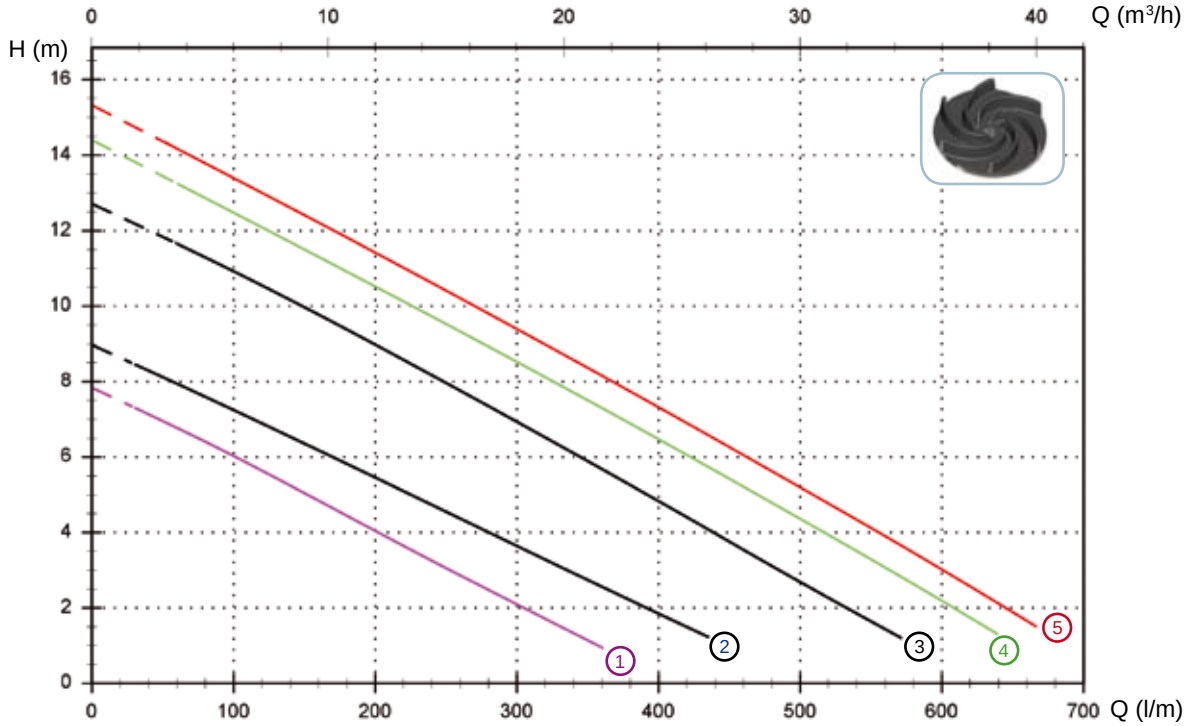
(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGO

Models with horizontal GAS 2” threaded - DN50 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10
	l/min	0	120	240	360	480	600
	m³/h	0	7,2	14,4	21,6	28,8	36,0
1	DGO 50/2/G50H A1CM(T)/50	7,8	5,6	3,3	1,0		
2	DGO 75/2/G50H A1CM(T)/50	9,0	6,9	4,7	2,6		
3	DGO 100/2/G50H A0CM(T)/50	12,7	10,6	8,2	5,7	3,1	
4	DGO 150/2/G50H A0CM(T)/50	14,4	12,1	9,7	7,3	4,8	2,2
5	DGO 200/2/G50H A0CM(T)/50	15,3	13,0	10,6	8,2	5,6	3,0



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 50/2/G50H A1CM/50	230	1	-	0.37	2.9	2900	G 2”- DN50 PN10-16	A	40 mm
2	DGO 75/2/G50H A1CM/50	230	1	-	0.55	3.9	2900	G 2”- DN50 PN10-16	A	40 mm
3	DGO 100/2/G50H A0CM/50	230	1	-	0.88	6.5	2900	G 2”- DN50 PN10-16	A	50 mm
4	DGO 150/2/G50H A0CM/50	230	1	-	1.1	8.2	2900	G 2”- DN50 PN10-16	A	50 mm
5	DGO 200/2/G50H A0CM/50	230	1	-	1.5	9.3	2900	G 2”- DN50 PN10-16	A	50 mm

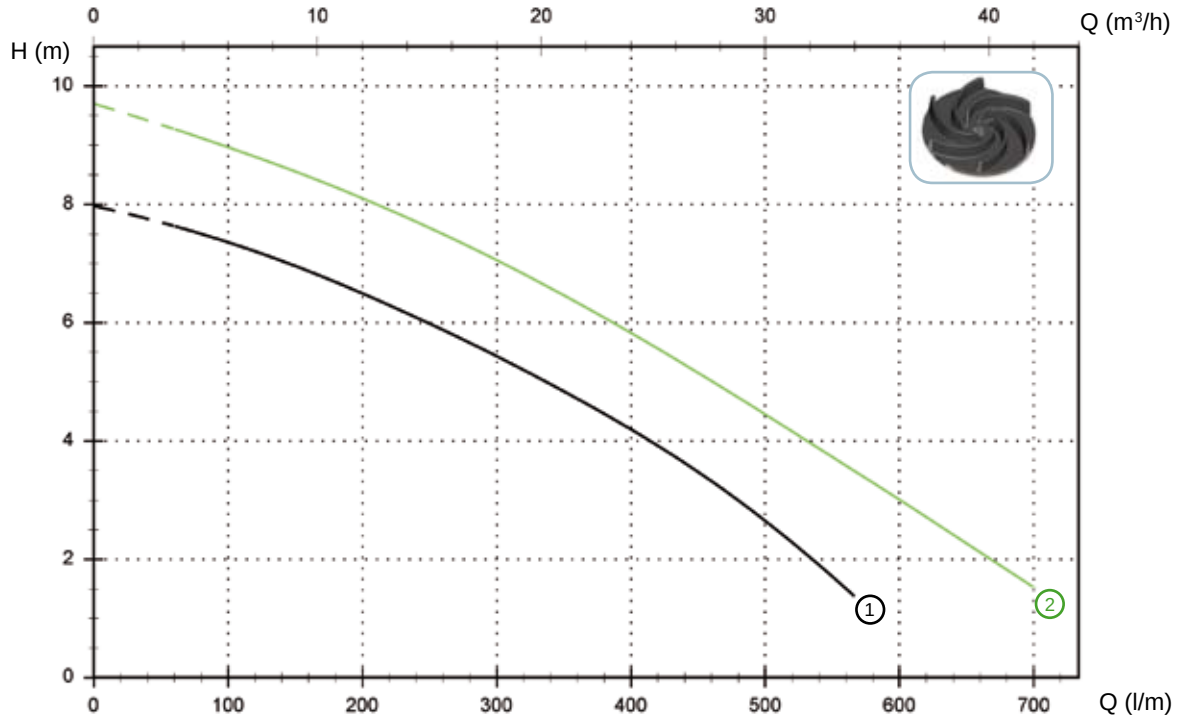
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 50/2/G50H A1CT/50	400	3	-	0.37	1.1	2900	G 2”- DN50 PN10-16	A	40 mm
2	DGO 75/2/G50H A1CT/50	400	3	-	0.55	1.4	2900	G 2”- DN50 PN10-16	A	40 mm
3	DGO 100/2/G50H A0CT/50	400	3	-	0.88	2.3	2900	G 2”- DN50 PN10-16	A	50 mm
4	DGO 150/2/G50H A0CT/50	400	3	-	1.1	2.6	2900	G 2”- DN50 PN10-16	A	50 mm
5	DGO 200/2/G50H A0CT/50	400	3	-	1.5	3.6	2900	G 2”- DN50 PN10-16	A	50 mm

(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

Models with vertical GAS 2 1/2" threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10
	l/min	0	120	240	360	480	600
	m³/h	0	7,2	14,4	21,6	28,8	36,0
1	DGO 150/2/G65V A1CM(T)/50	8,0	7,2	6,1	4,7	3,0	
2	DGO 200/2/G65V A1CM(T)/50	9,7	8,8	7,7	6,3	4,7	3,0



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 150/2/G65V A1CM/50	230	1	-	1.1	8.2	2900	G 2 1/2"	A	65 mm
2	DGO 200/2/G65V A1CM/50	230	1	-	1.5	9.9	2900	G 2 1/2"	A	65 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 150/2/G65V A1CT/50	400	3	-	1.1	2.7	2900	G 2 1/2"	A	65 mm
2	DGO 200/2/G65V A1CT/50	400	3	-	1.5	3.6	2900	G 2 1/2"	A	65 mm

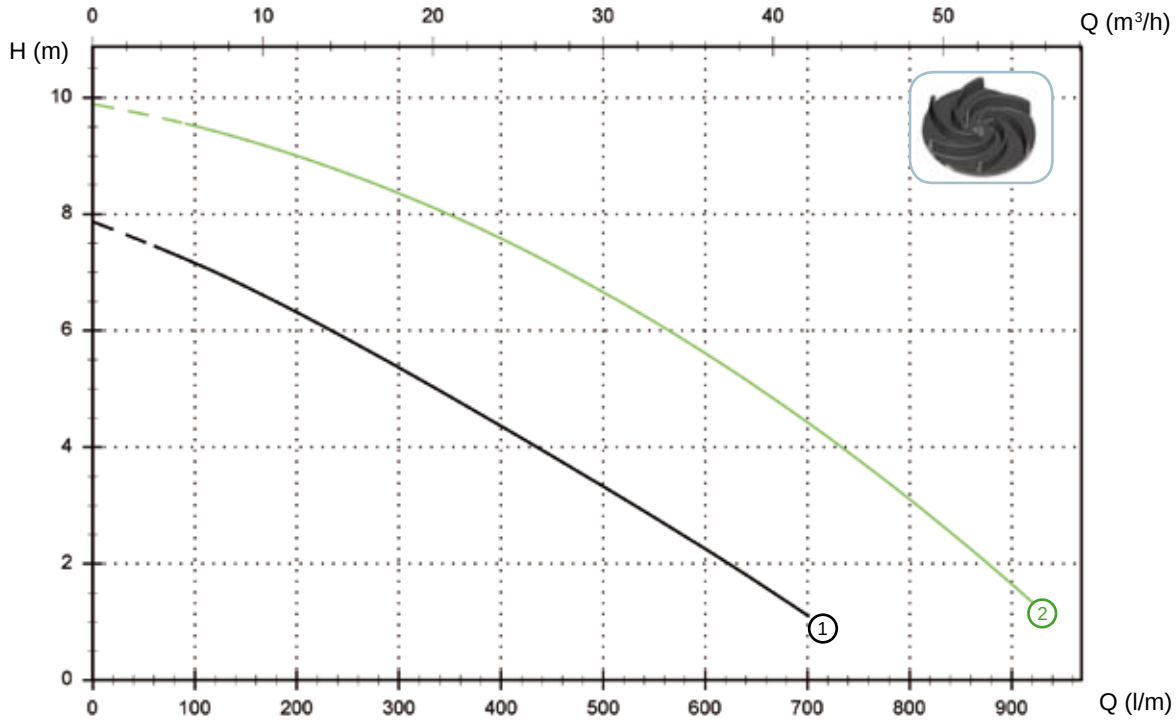
(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGO

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12	14
	l/min	0	120	240	360	480	600	720	840
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4
1	DGO 150/2/65 A1CM(T)/50	7,9	7,0	5,9	4,8	3,5	2,3		
2	DGO 200/2/65 A1CM(T)/50	9,9	9,4	8,8	7,9	6,9	5,6	4,2	2,5



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 150/2/65 A1CM/50	230	1	-	1.1	8.2	2900	DN65 PN10-16	A	65 mm
2	DGO 200/2/65 A1CM/50	230	1	-	1.5	9.9	2900	DN65 PN10-16	A	65 mm

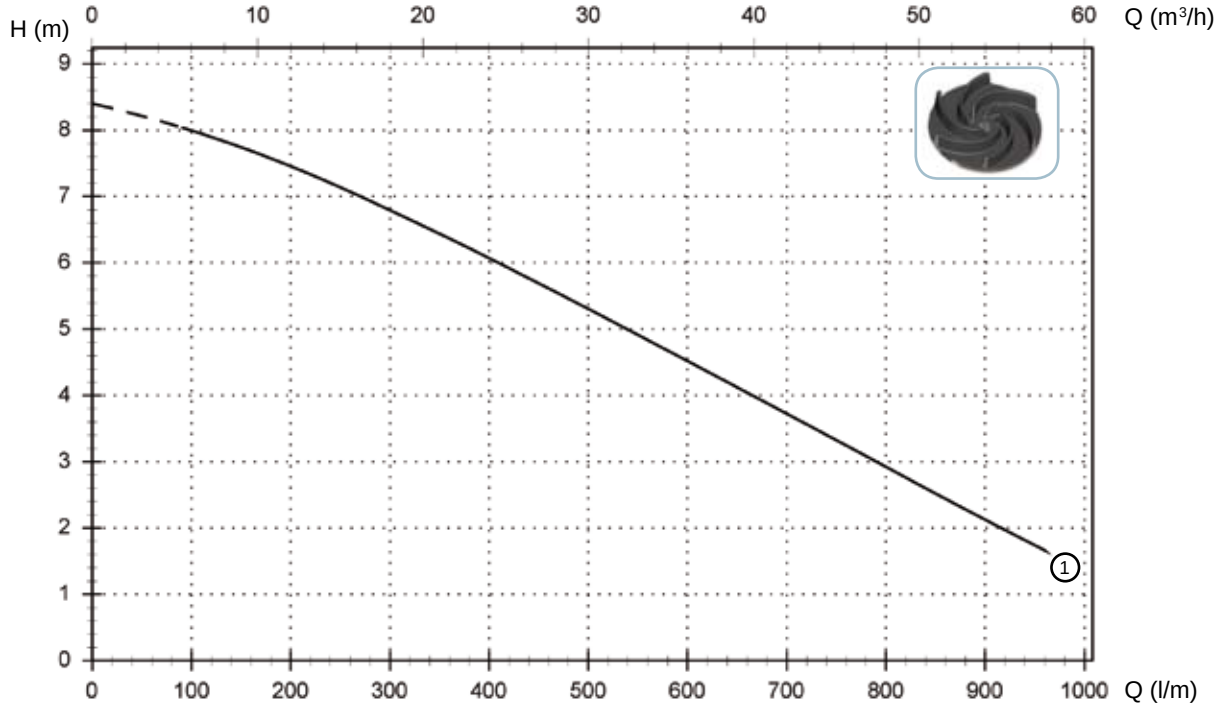
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGO 150/2/65 A1CT/50	400	3	-	1.1	2.7	2900	DN65 PN10-16	A	65 mm
2	DGO 200/2/65 A1CT/50	400	3	-	1.5	3.6	2900	DN65 PN10-16	A	65 mm

(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12	14	16
	l/min	0	120	240	360	480	600	720	840	960
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4	57.6
① DGO 200/2/80 A1CM(T)/50		8.4	7.9	7.2	6.4	5.5	4.5	3.6	2.6	1.7



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGO 200/2/80 A1CM/50	230	1	-	1.5	9.9	2900	DN80 PN10-16	A	80 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGO 200/2/80 A1CT/50	400	3	-	1.5	3.6	2900	DN80 PN10-16	A	80 mm

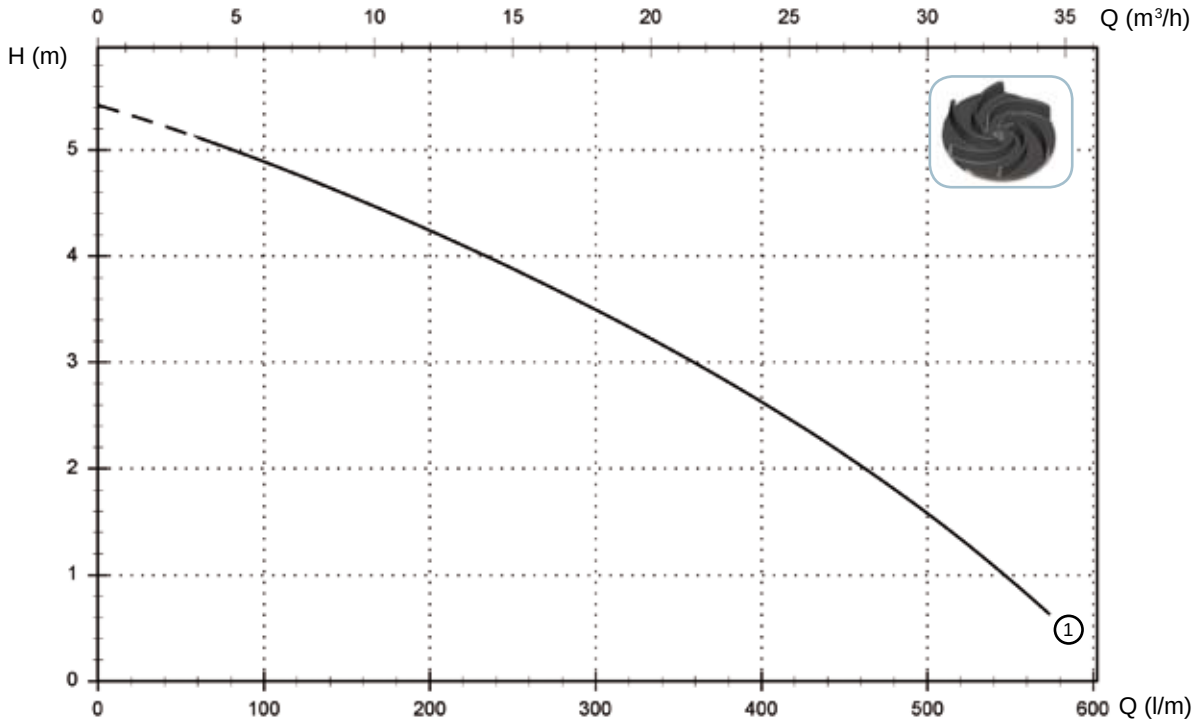
(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGO

Models with horizontal GAS 2” threaded delivery port - 4 poles

Performances

	l/s	0	1	2	3	4	5	6	7	8	9
	l/min	0	60	120	180	240	300	360	420	480	540
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2	28,8	32,4
①	DGO 100/4/G50V B0CM(T)/50	5,4	5,1	4,8	4,4	4,0	3,5	3,0	2,4	1,8	1,1



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
①	DGO 100/4/G50V B0CM/50	230	1	-	0.7	4.5	1450	G 2”	A	45 mm

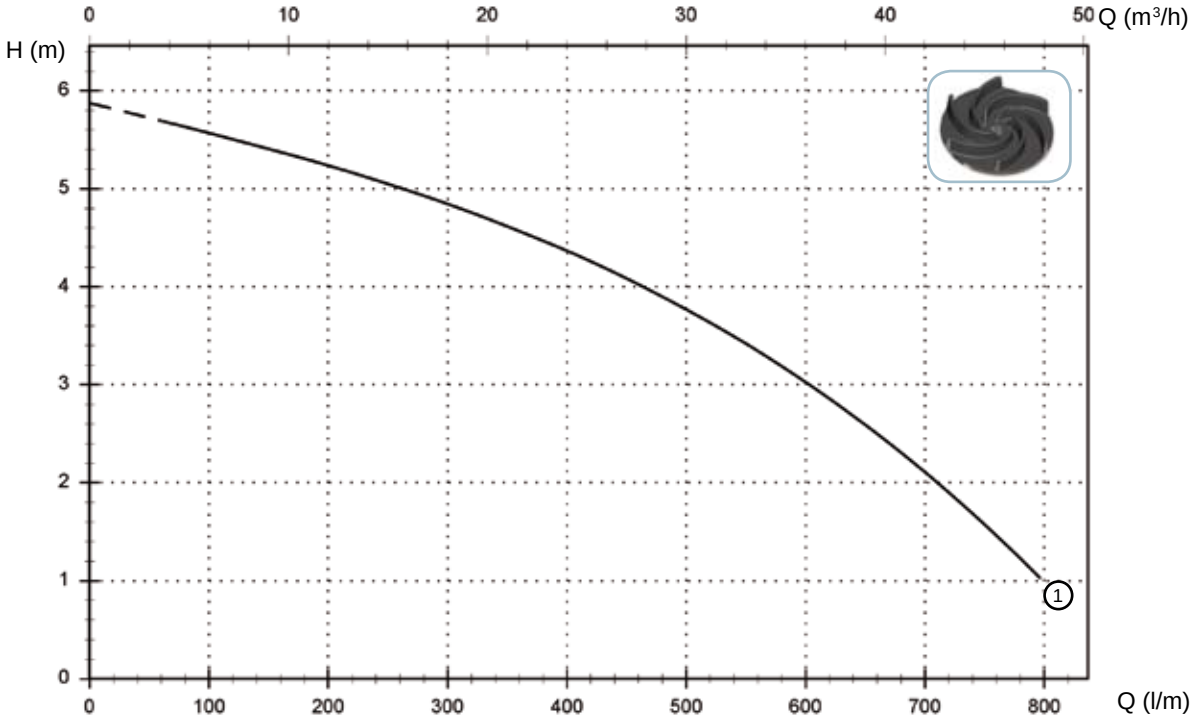
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
①	DGO 100/4/G50V B0CT/50	400	3	-	0.7	1.6	1450	G 2”	A	45 mm

(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

Models with horizontal DN65 PN10-16 anged delivery port - 4 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
① DGO 150/4/65 A0CM(T)/50		5,9	5,5	5,1	4,6	3,9	3,0	1,9



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGO 150/4/65 A0CM/50	230	1	-	0.9	7.5	1450	DN65 PN10-16	A	45 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGO 150/4/65 A0CT/50	400	3	-	0.9	2.8	1450	DN65 PN10-16	A	45 mm

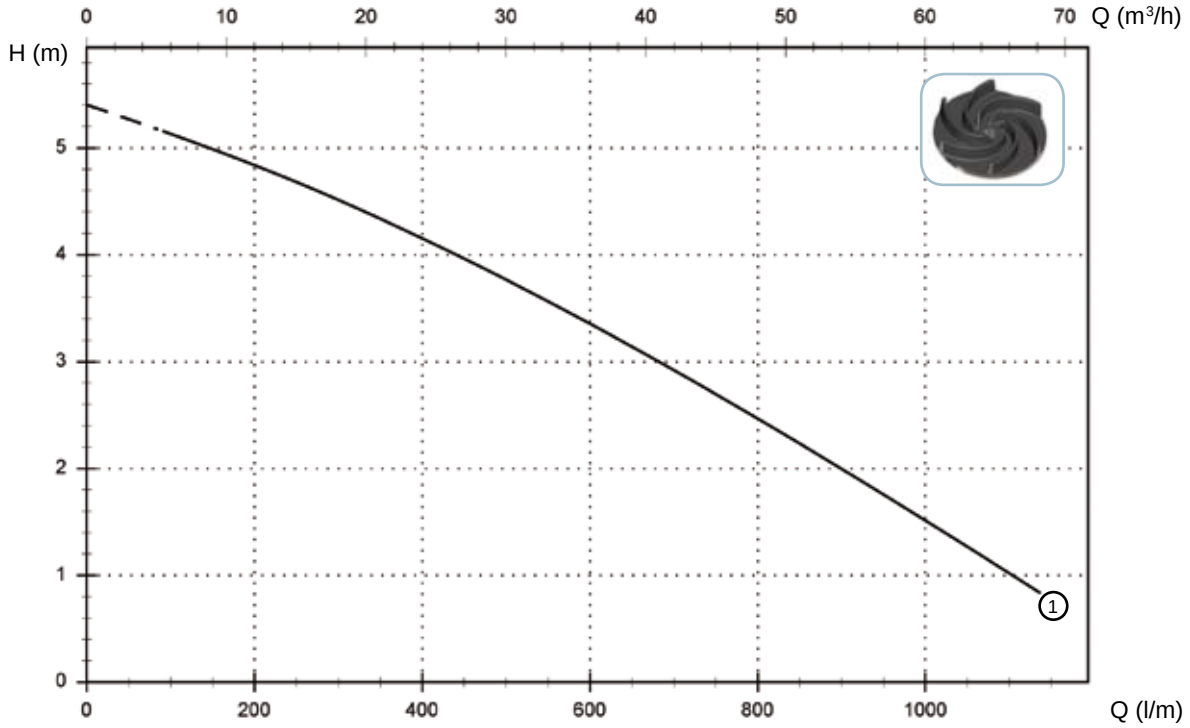
(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGO

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances

	l/s	0	2	4	6	8	10	12	14	16	18
	l/min	0	120	240	360	480	600	720	840	960	1080
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4	57,6	64,8
① DGO 150/4/80 A0CM(T)/50		5,4	5,1	4,7	4,3	3,8	3,4	2,8	2,3	1,7	1,1



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGO 150/4/80 A0CM/50	230	1	-	0.9	7.5	1450	DN80 PN10-16	A	60 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGO 150/4/80 A0CT/50	400	3	-	0.9	2.8	1450	DN80 PN10-16	A	60 mm

(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DGO

Versions available

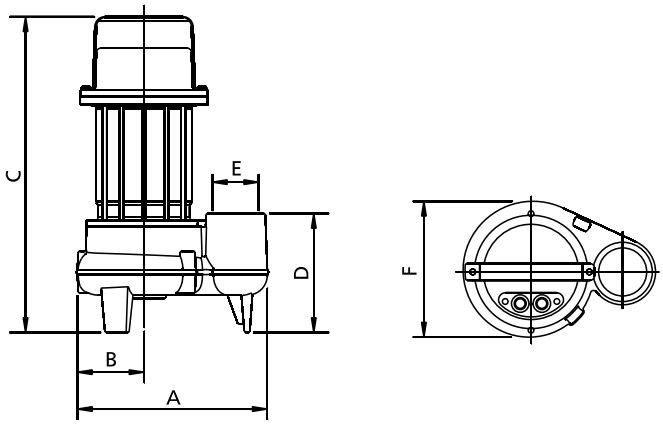
(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGO 100/2/G40V B0CM/50		●						●	●						●				●	
DGO 150/2/G40V B0CM/50		●						●	●						●				●	
DGO 200/2/G40V B0CM/50		●						●	●						●				●	
DGO 100/2/G40V B0CT/50	●														●				●	
DGO 150/2/G40V B0CT/50	●														●				●	
DGO 200/2/G40V B0CT/50	●														●				●	
DGO 50/2/G50V B0CM/50		●						●	●						●				●	
DGO 75/2/G50V B0CM/50		●						●	●						●				●	
DGO 100/2/G50V B0CM/50		●						●	●						●				●	
DGO 150/2/G50V B0CM/50		●						●	●						●				●	
DGO 200/2/G50V B0CM/50		●						●	●						●				●	
DGO 50/2/G50V B0CT/50	●														●				●	
DGO 75/2/G50V B0CT/50	●														●				●	
DGO 100/2/G50V B0CT/50	●														●				●	
DGO 150/2/G50V B0CT/50	●														●				●	
DGO 200/2/G50V B0CT/50	●														●				●	
DGO 50/2/G50H A1CM/50		●						●	●						●				●	
DGO 75/2/G50H A1CM/50		●						●	●						●				●	
DGO 100/2/G50H A0CM/50		●						●	●						●				●	
DGO 150/2/G50H A0CM/50		●						●	●						●				●	
DGO 200/2/G50H A0CM/50		●						●	●						●				●	
DGO 50/2/G50H A1CT/50	●														●				●	
DGO 75/2/G50H A1CT/50	●														●				●	
DGO 100/2/G50H A0CT/50	●														●				●	
DGO 150/2/G50H A0CT/50	●														●				●	
DGO 200/2/G50H A0CT/50	●														●				●	
DGO 150/2/G65V A1CM/50		●						●	●						●				●	
DGO 200/2/G65V A1CM/50		●						●	●						●				●	
DGO 150/2/G65V A1CT/50	●														●				●	
DGO 200/2/G65V A1CT/50	●														●				●	
DGO 150/2/65 A1CM/50		●						●	●						●				●	
DGO 200/2/65 A1CM/50		●						●	●						●				●	
DGO 150/2/65 A1CT/50	●														●				●	
DGO 200/2/65 A1CT/50	●														●				●	
DGO 200/2/80 A1CM/50		●						●	●						●				●	
DGO 200/2/80 A1CT/50	●														●				●	
DGO 100/4/G50V B0CM/50		●						●	●						●				●	
DGO 100/4/G50V B0CT/50	●														●				●	
DGO 150/4/65 A0CM/50		●						●	●						●				●	
DGO 150/4/65 A0CT/50	●														●				●	
DGO 150/4/80 A0CM/50		●						●	●						●				●	
DGO 150/4/80 A0CT/50	●														●				●	

DGO

Overall dimensions and weights

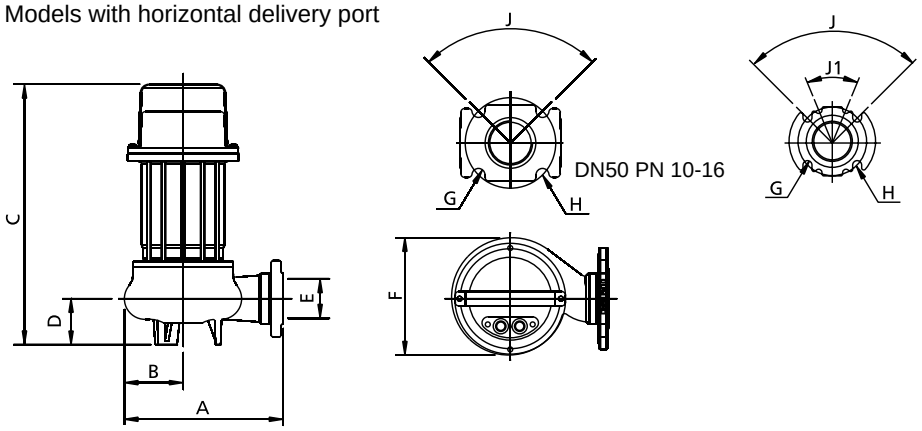
Models with vertical delivery port



	A	B	C	D	E	F	kg
DGO 100/2/G40V B0CM(T)/50	260	100	440	125	G 1 1/2"	205	18
DGO 150/2/G40V B0CM(T)/50	260	100	440	125	G 1 1/2"	205	19
DGO 200/2/G40V B0CM(T)/50	260	100	440	125	G 1 1/2"	205	20
DGO 50/2/G50V B0CM(T)/50	230	80	380	120	G 2"	165	16.5
DGO 75/2/G50V B0CM(T)/50	230	80	380	120	G 2"	165	16.5
DGO 100/2/G50V B0CM(T)/50	270	100	455	130	G 2"	205	19.5
DGO 150/2/G50V B0CM(T)/50	270	100	455	130	G 2"	205	20.5
DGO 200/2/G50V B0CM(T)/50	270	100	455	130	G 2"	205	21.5
DGO 150/2/G65V A1CM(T)/50	300	105	435	140	G 2 1/2"	210	21
DGO 200/2/G65V A1CM(T)/50	300	105	435	140	G 2 1/2"	210	22
DGO 100/4/G50V B0CM(T)/50	270	100	455	130	G 2"	205	21

Measurements in mm

Models with horizontal delivery port

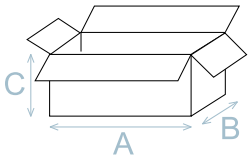


	A	B	C	D	E	F	G	H	J	J1	kg
DGO 50/2/G50H A1CM(T)/50	220	80	360	65	G 2"-DN50	160	18	125	90°	-	16.5
DGO 75/2/G50H A1CM(T)/50	220	80	360	65	G 2"-DN50	160	18	125	90°	-	16.5
DGO 100/2/G50H A0CM(T)/50	270	110	455	110	G 2"-DN50	205	18	125	90°	-	19.5
DGO 150/2/G50H A0CM(T)/50	270	110	455	110	G 2"-DN50	205	18	125	90°	-	20.5
DGO 200/2/G50H A0CM(T)/50	270	110	455	110	G 2"-DN50	205	18	125	90°	-	21.5
DGO 150/2/65 A1CM(T)/50	295	110	435	70	65	210	18	145	45°	-	22
DGO 200/2/65 A1CM(T)/50	295	110	435	70	65	210	18	145	45°	-	23
DGO 200/2/80 A1CM(T)/50	290	105	450	80	80	210	18	160	90°	45°	23
DGO 150/4/65 A0CM(T)/50	270	110	450	105	65	220	18	145	45°	-	27
DGO 150/4/80 A0CM(T)/50	270	115	480	125	80	225	18	160	90°	-	29

Measurements in mm

Packaging dimension

	A	B	C
DGO 100/2/G40V B0CM(T)/50	475	285	235
DGO 150/2/G40V B0CM(T)/50	475	285	235
DGO 200/2/G40V B0CM(T)/50	475	285	235
DGO 50/2/G50V B0CM(T)/50	385	225	245
DGO 75/2/G50V B0CM(T)/50	385	225	245
DGO 100/2/G50V B0CM(T)/50	475	285	235
DGO 150/2/G50V B0CM(T)/50	475	285	235
DGO 200/2/G50V B0CM(T)/50	475	285	235
DGO 50/2/G50H A1CM(T)/50	385	225	245
DGO 75/2/G50H A1CM(T)/50	385	225	245
DGO 100/2/G50H A0CM(T)/50	475	285	235
DGO 150/2/G50H A0CM(T)/50	475	285	235
DGO 200/2/G50H A0CM(T)/50	475	285	235
DGO 150/2/G65V A1CM(T)/50	475	285	235
DGO 200/2/G65V A1CM(T)/50	475	285	235
DGO 150/2/65 A1CM(T)/50	580	310	310
DGO 200/2/65 A1CM/(T)50	580	310	310
DGO 200/2/80 A1CM(T)/50	580	310	310
DGO 100/4/G50V B0CM(T)/50	475	285	235
DGO 150/4/65 A0CM(T)/50	580	310	310
DGO 150/4/80 A0CM(T)/50	580	310	310

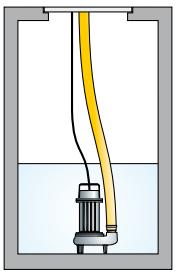


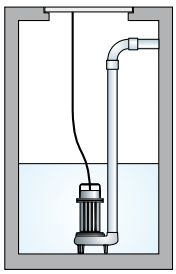
Dimension in mm

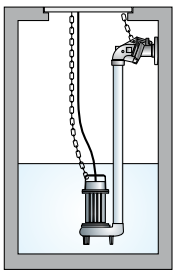
No. pieces per pallet

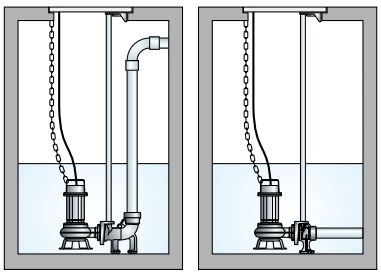
For DGO 50-75 models each pallet (EUR 1000X1200 mm) is able to take 48 pieces.
For DGO 100-150-200 models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available

A 

B 

C 

D 

DGI



Set-back Vortex impeller

General characteristics

- Set-back Vortex impeller
- 0,74 ÷ 1,5 kW motor power
- 2 / 4 poles
- DN80 delivery port
- max 80 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina lip seal, installed in series in inspectable oil sump. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for heavy-duty applications with soiled biological wastewaters, sewage, rainwater and seepage.

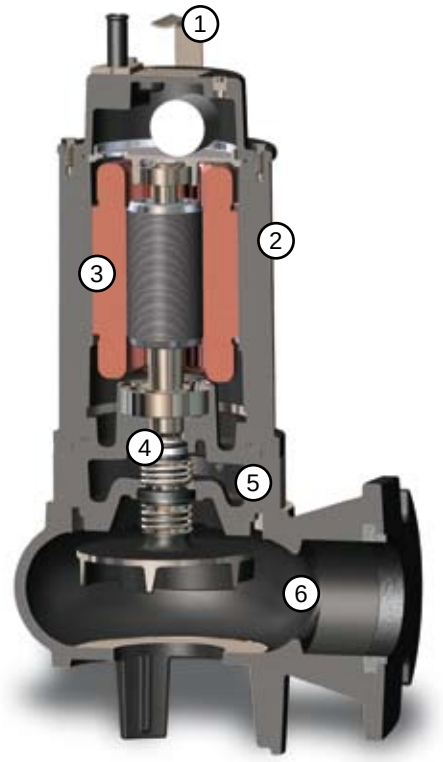
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DGI





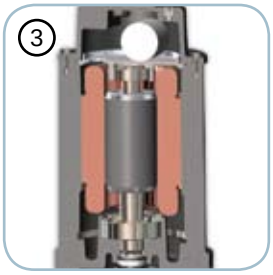
Handle

AISI 304 stainless steel lifting and carrying handle



Structure

Constructed in GJL-250 cast iron



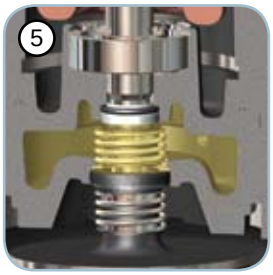
Motor

Ecological dry motor with thermal overloads



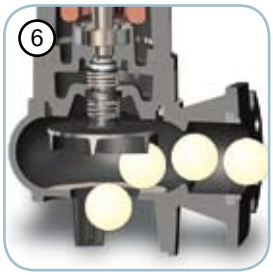
Mechanical seals

One mechanical seal in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL))



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Free passage

Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

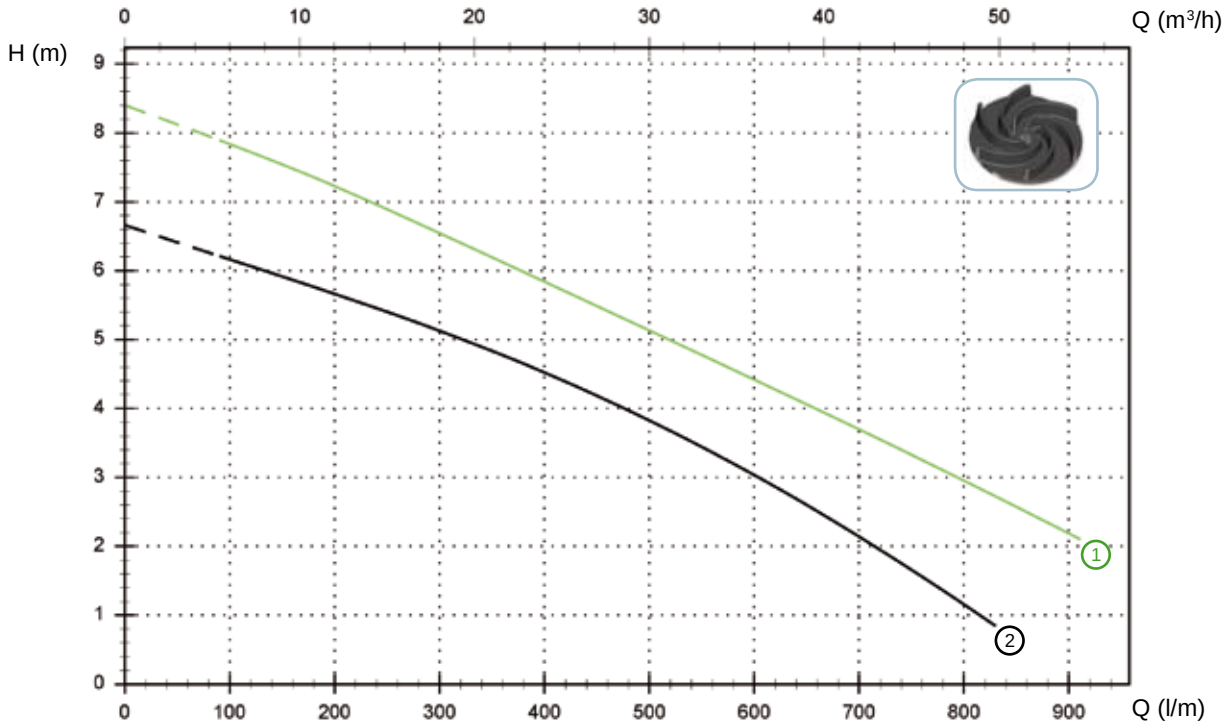
DGI

Models with horizontal

DN80 PN10 anged delivery port - 2 poles
DN80 PN10-16 anged delivery port - 4 poles

Performances

	l/s	0	2	4	6	8	10	12	14
	l/min	0	120	240	360	480	600	720	840
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4
1	DGI 200/2/80 A0CM(T)/50	8,4	7,7	7,0	6,1	5,3	4,4	3,6	2,6
2	DGI 100/4/80 A0CM(T)/50	6,7	6,1	5,5	4,8	4,0	3,0	2,0	



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGI 200/2/80 A0CM/50	230	1	-	1.5	9.3	2900	DN80 PN10	A	50 mm
2	DGI 100/4/80 A0CM/50	230	1	-	0.74	5.5	1450	DN80 PN10-16	A	80 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGI 200/2/80 A0CT/50	400	3	-	1.5	3.5	2900	DN80 PN10	B	50 mm
2	DGI 100/4/80 A0CT/50	400	3	-	0.74	2.3	1450	DN80 PN10-16	B	80 mm

(*) A = H07RN-F 3G1 - 10 m cable with shuko plug
B = H07RN-F 4G1 - 10 m cable

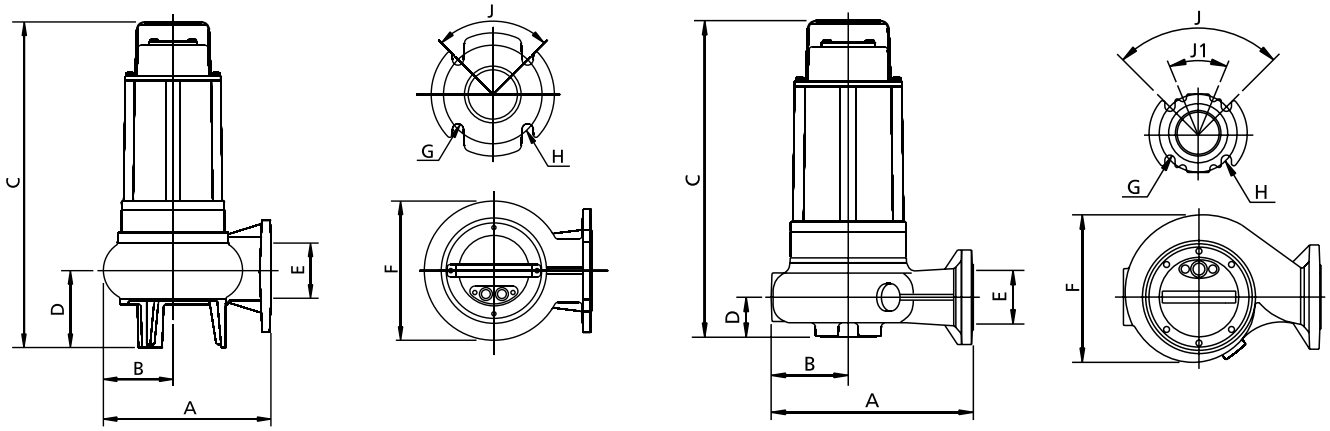
DGI

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGI 200/2/80 A0CM/50			●				●								●				●	
DGI 200/2/80 A0CT/50											●	●			●				●	
DGI 100/4/80 A0CM/50			●				●								●				●	
DGI 100/4/80 A0CT/50											●	●			●				●	

Overall dimensions and weights



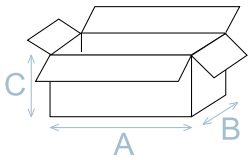
	A	B	C	D	E	F	G	H	J	J1	kg
DGI 200/2/80 A0CM(T)/50	270	115	530	125	80	225	18	160	90°	-	34
DGI 100/4/80 A0CM(T)/50	315	125	525	80	80	245	18	160	90°	45°	40

Measurements in mm

Packaging dimension

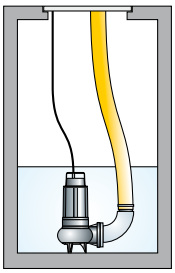
	A	B	C
DGI 200/2/80 A0CM(T)/50	725	445	415
DGI 100/4/80 A0CM(T)/50	725	445	415

Dimension in mm

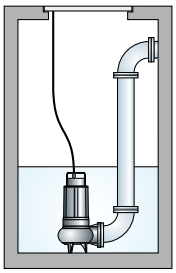


Installations available

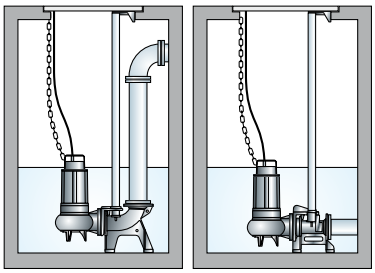
A



B



D



DGF



Set-back Vortex impeller

General characteristics

- Set-back vortex impeller
- 0,55 ÷ 1,5 kW motor power
- 2 / 4 poles
- delivery port GAS 1 1/2" ÷ 2 1/2" vertical
  DN65-DN80 horizontal
- max 80 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

Applications

Specifically developed for use where there are traces of flammable liquids or in potentially explosive atmospheres, the DRF is used where the use of ordinary submersible electric pumps would not be possible. The main sectors of use are industrial and for the removal of landfill percolates and soiled biological liquids.

Construction materials

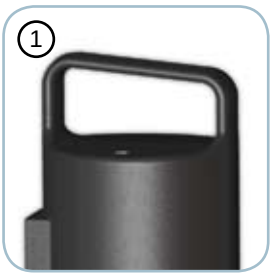
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR - VITON
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DGF





Handle/Cable gland

Cast iron lifting and carrying handle.
The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



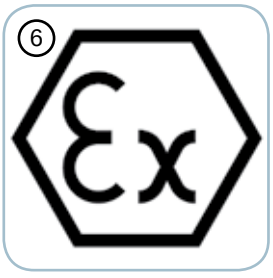
Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



Free passage

Ample free passage allowing the expulsion of solids and preventing fouling of the impeller



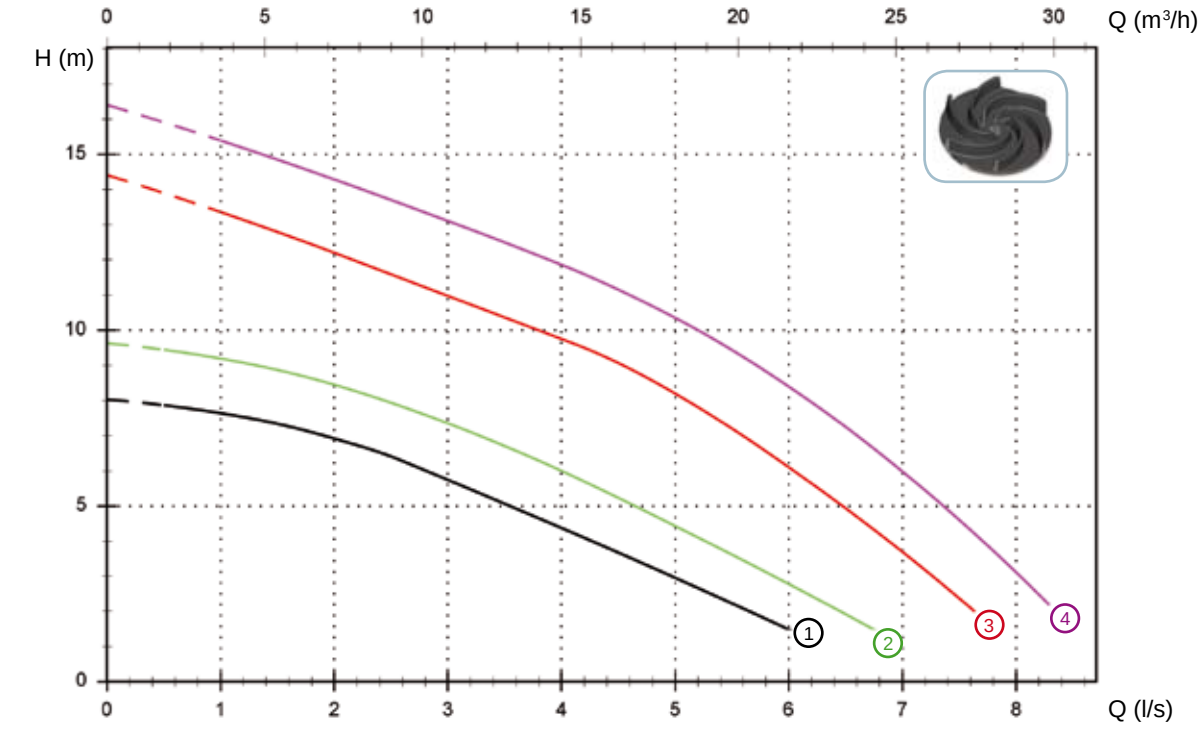
EX

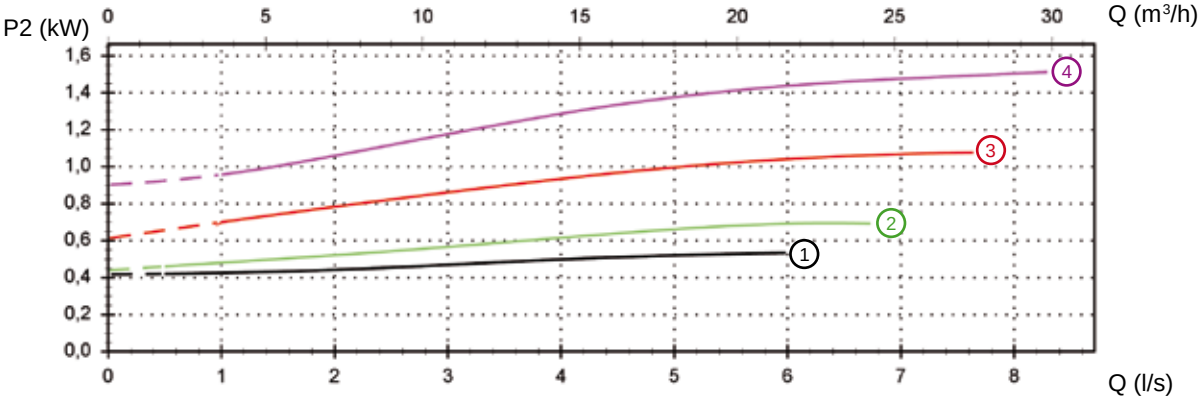
Models with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

DGF

Models with vertical GAS 1 1/2" threaded delivery port - 2 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 75/2/G40V A1CM/50	230	1	0.9	0.55	3.9	2900	G 1 1/2"	A	40 mm
2	DGF 100/2/G40V A1CM/50	230	1	1.1	0.74	4.9	2900	G 1 1/2"	A	40 mm
3	DGF 150/2/G40V A1CM/50	230	1	1.6	1.1	7.2	2900	G 1 1/2"	A	40 mm
4	DGF 200/2/G40V A1CM/50	230	1	2.2	1.5	9.8	2900	G 1 1/2"	A	40 mm

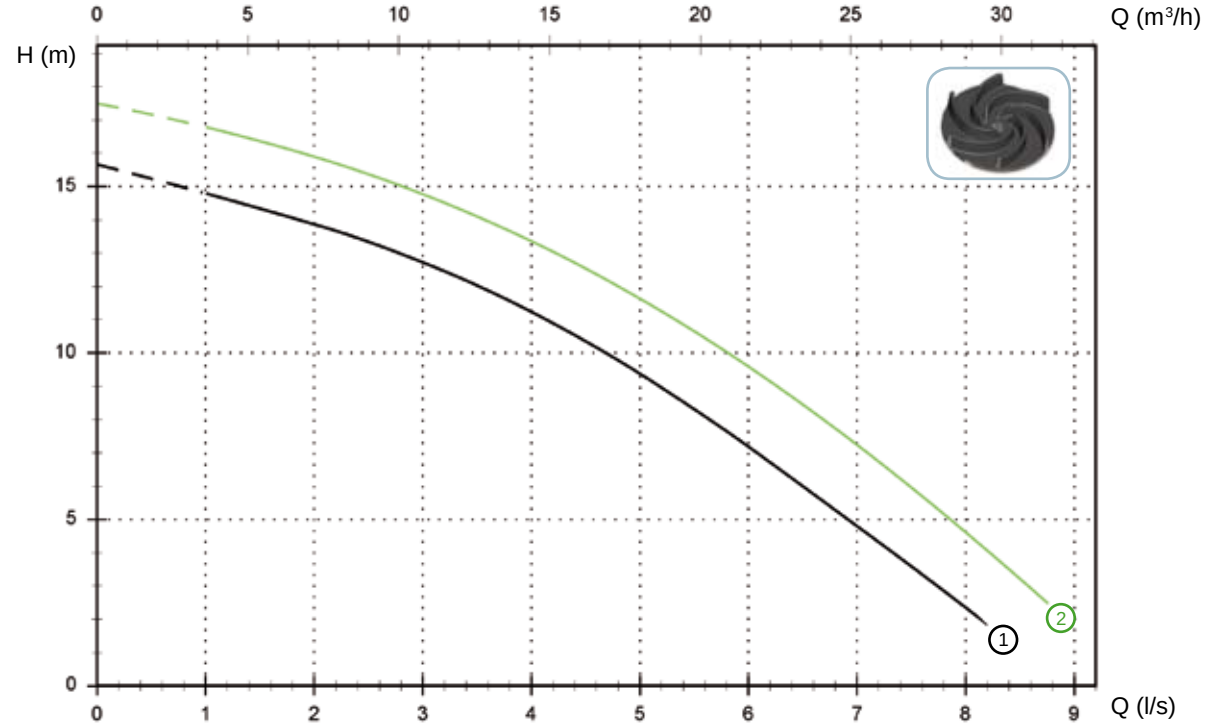
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 75/2/G40V A1CT/50	400	3	0.8	0.55	1.5	2900	G 1 1/2"	A	40 mm
2	DGF 100/2/G40V A1CT/50	400	3	1.1	0.74	1.9	2900	G 1 1/2"	A	40 mm
3	DGF 150/2/G40V A1CT/50	400	3	1.7	1.1	2.9	2900	G 1 1/2"	A	40 mm
4	DGF 200/2/G40V A1CT/50	400	3	2.1	1.5	3.7	2900	G 1 1/2"	A	40 mm

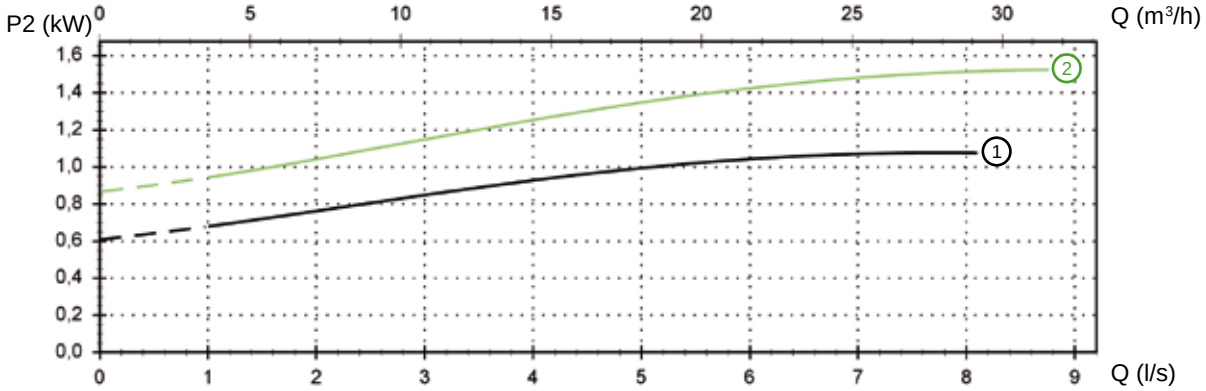
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 150/2/G40H A1CM/50	230	1	1.6	1.1	7.2	2900	G 1 1/2" - DN32 PN6	A	40 mm
2	DGF 200/2/G40H A1CM/50	230	1	2.2	1.5	9.8	2900	G 1 1/2" - DN32 PN6	A	40 mm

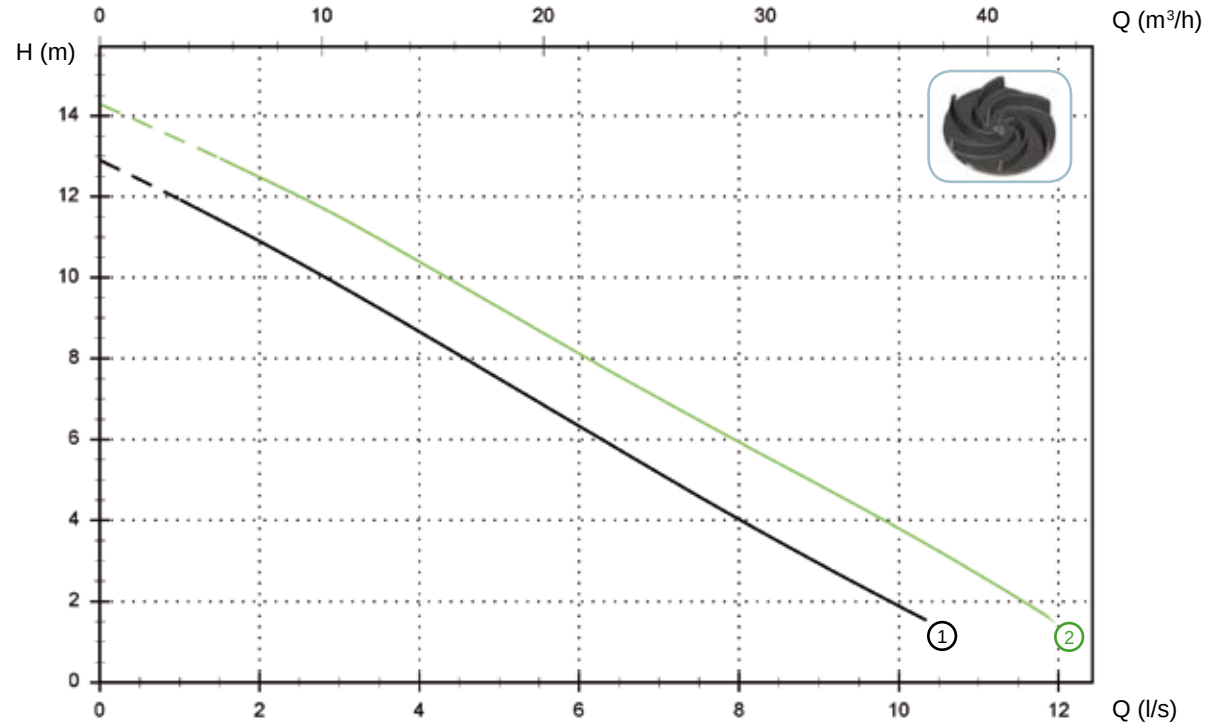
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 150/2/G40H A1CT/50	400	3	1.7	1.1	2.9	2900	G 1 1/2" DN32 PN6	A	40 mm
2	DGF 200/2/G40H A1CT/50	400	3	2.1	1.5	3.7	2900	G 1 1/2" DN32 PN6	A	40 mm

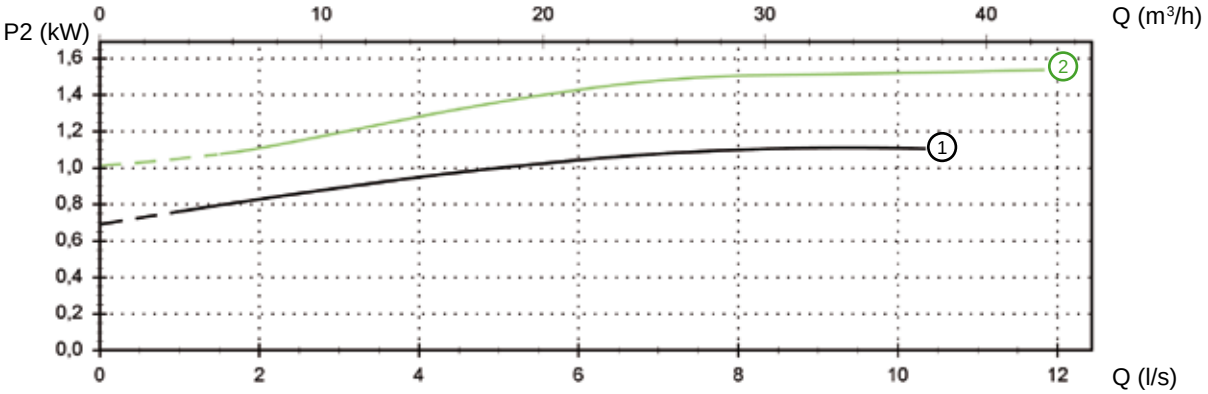
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGF 150/2/G50V A1CM/50	230	1	1.6	1.1	7.2	2900	G 2”	A	50 mm
2 DGF 200/2/G50V A1CM/50	230	1	2.2	1.5	9.8	2900	G 2”	A	50 mm

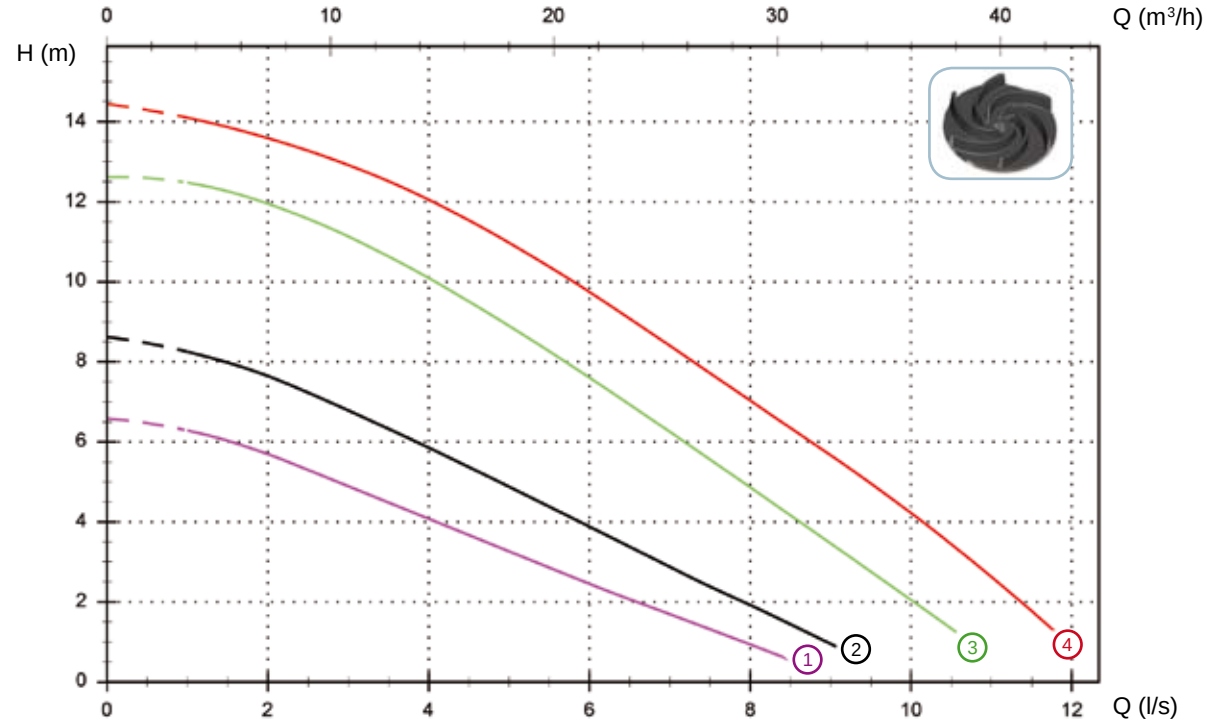
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGF 150/2/G50V A1CT/50	400	3	1.7	1.1	2.9	2900	G 2”	A	50 mm
2 DGF 200/2/G50V A1CT/50	400	3	2.1	1.5	3.7	2900	G 2”	A	50 mm

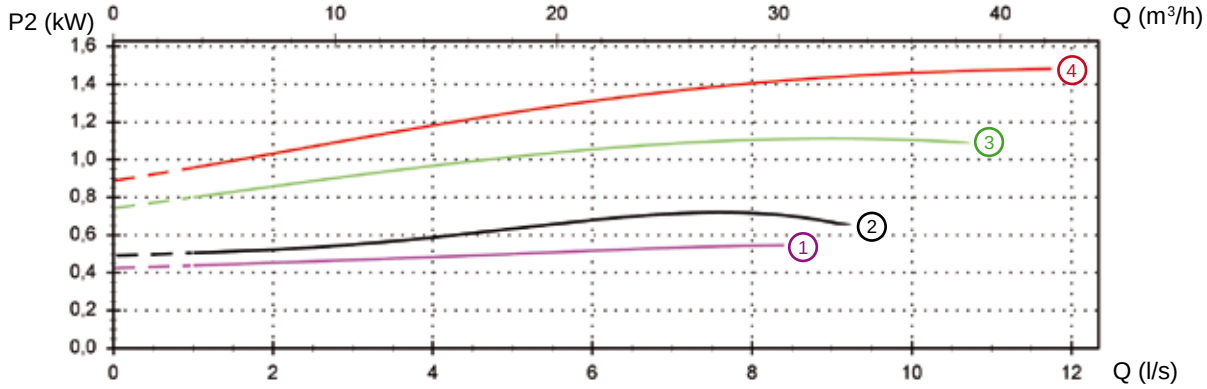
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Models with horizontal GAS 2” threaded - DN50 PN10-16 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGF 75/2/G50H A1CM/50	230	1	0.8	0.55	3.9	2900	G 2” - DN50 PN10-16	A	50 mm
2 DGF 100/2/G50H A1CM/50	230	1	1.1	0.74	4.9	2900	G 2” - DN50 PN10-16	A	50 mm
3 DGF 150/2/G50H A1CM/50	230	1	1.6	1.1	7.2	2900	G 2” - DN50 PN10-16	A	50 mm
4 DGF 200/2/G50H A1CM/50	230	1	2.2	1.5	9.8	2900	G 2” - DN50 PN10-16	A	50 mm

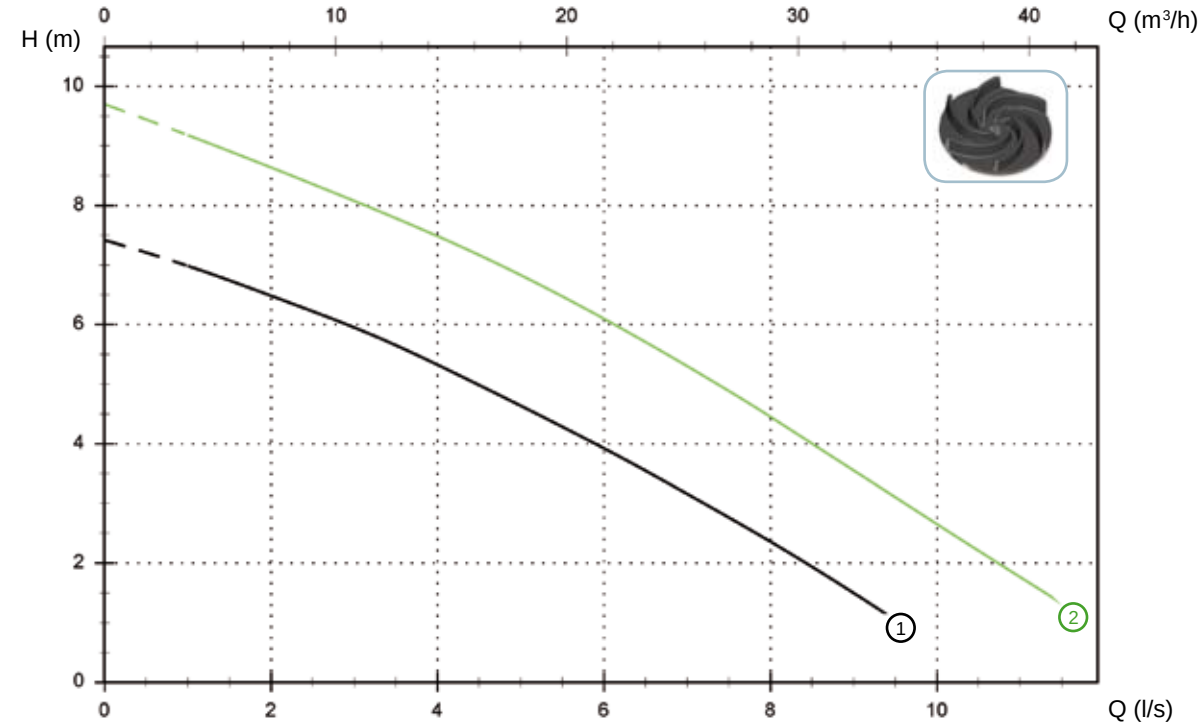
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGF 75/2/G50H A1CT/50	400	3	0.8	0.55	1.5	2900	G 2” - DN50 PN10-16	A	50 mm
2 DGF 100/2/G50H A1CT/50	400	3	1.1	0.74	1.9	2900	G 2” - DN50 PN10-16	A	50 mm
3 DGF 150/2/G50H A1CT/50	400	3	1.7	1.1	2.9	2900	G 2” - DN50 PN10-16	A	50 mm
4 DGF 200/2/G50H A1CT/50	400	3	2.1	1.5	3.7	2900	G 2” - DN50 PN10-16	A	50 mm

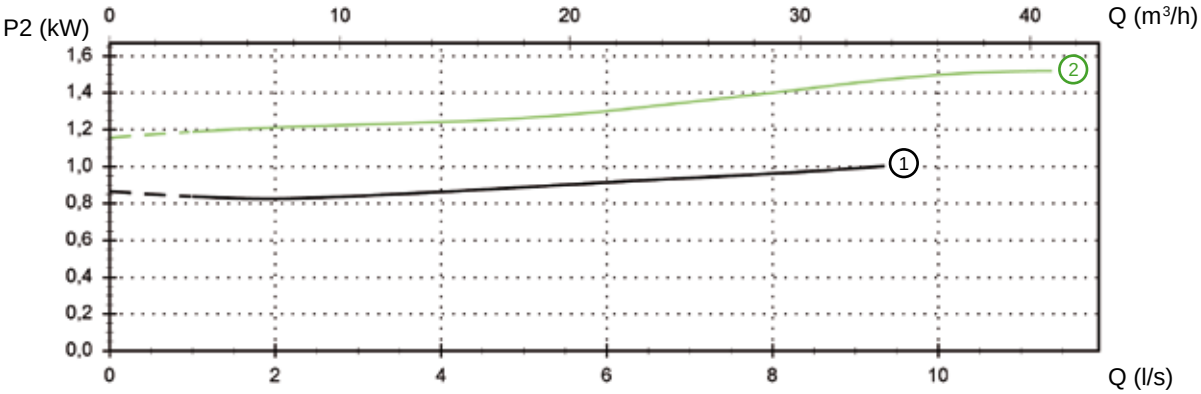
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Models with vertical GAS 2 1/2" threaded delivery port - 2 poles

Performances





Technical data

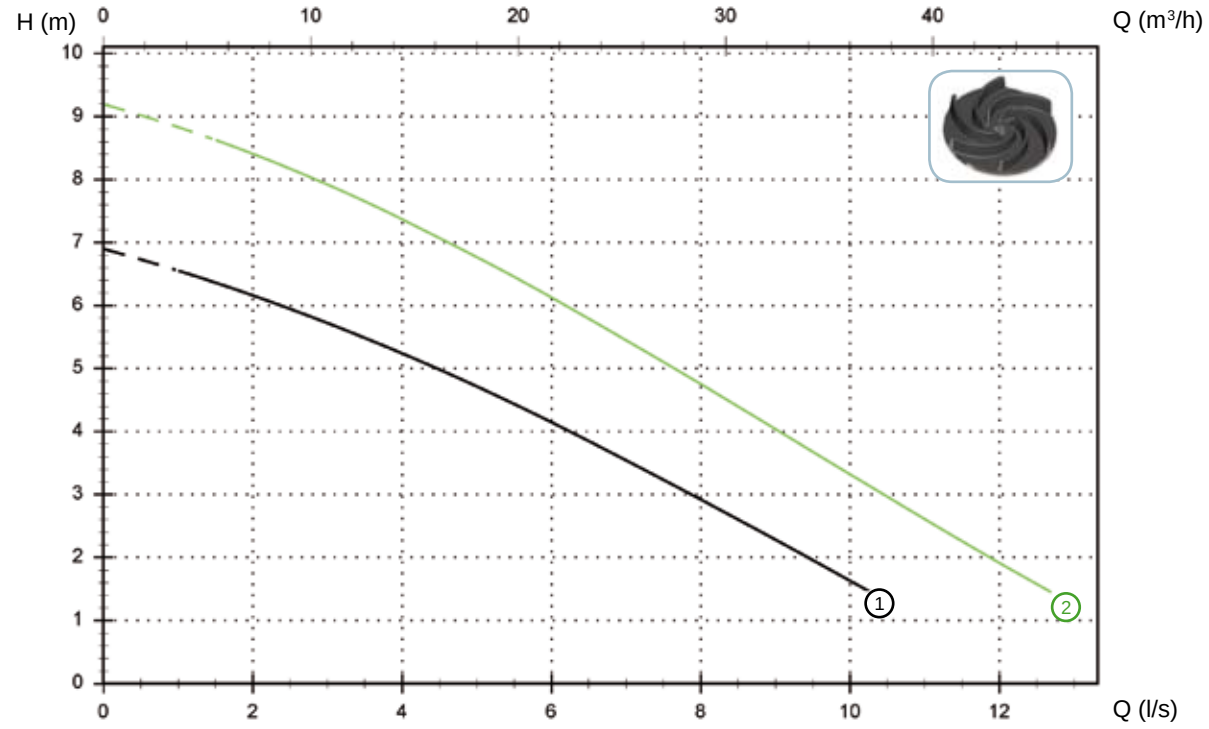
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 150/2/G65V A1CM/50	230	1	1.6	1.1	7.2	2900	G 2 1/2"	A	65 mm
2	DGF 200/2/G65V A1CM/50	230	1	2.2	1.5	9.8	2900	G 2 1/2"	A	65 mm

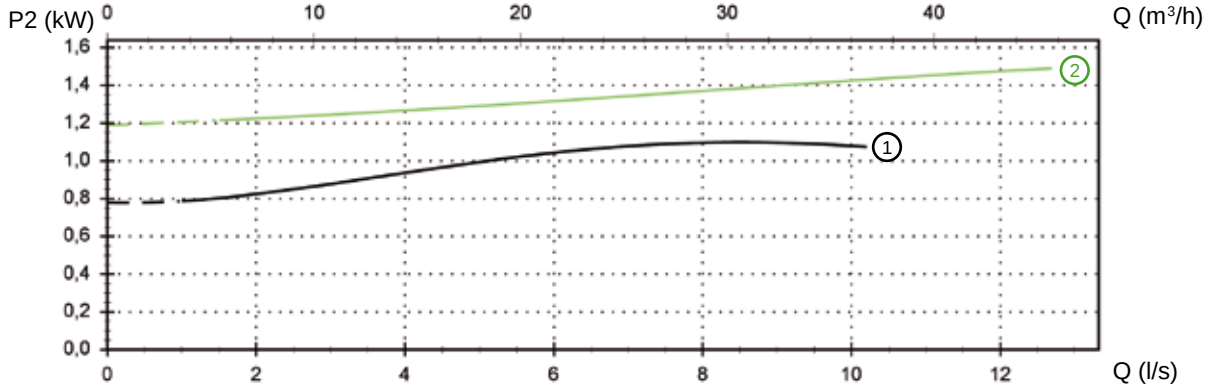
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 150/2/G65V A1CT/50	400	3	1.7	1.1	2.9	2900	G 2 1/2"	A	65 mm
2	DGF 200/2/G65V A1CT/50	400	3	2.1	1.5	3.7	2900	G 2 1/2"	A	65 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 150/2/65 A1CM/50	230	1	1.6	1.1	7.2	2900	DN65 PN10-16	A	65 mm
2	DGF 200/2/65 A1CM/50	230	1	2.2	1.5	9.8	2900	DN65 PN10-16	A	65 mm

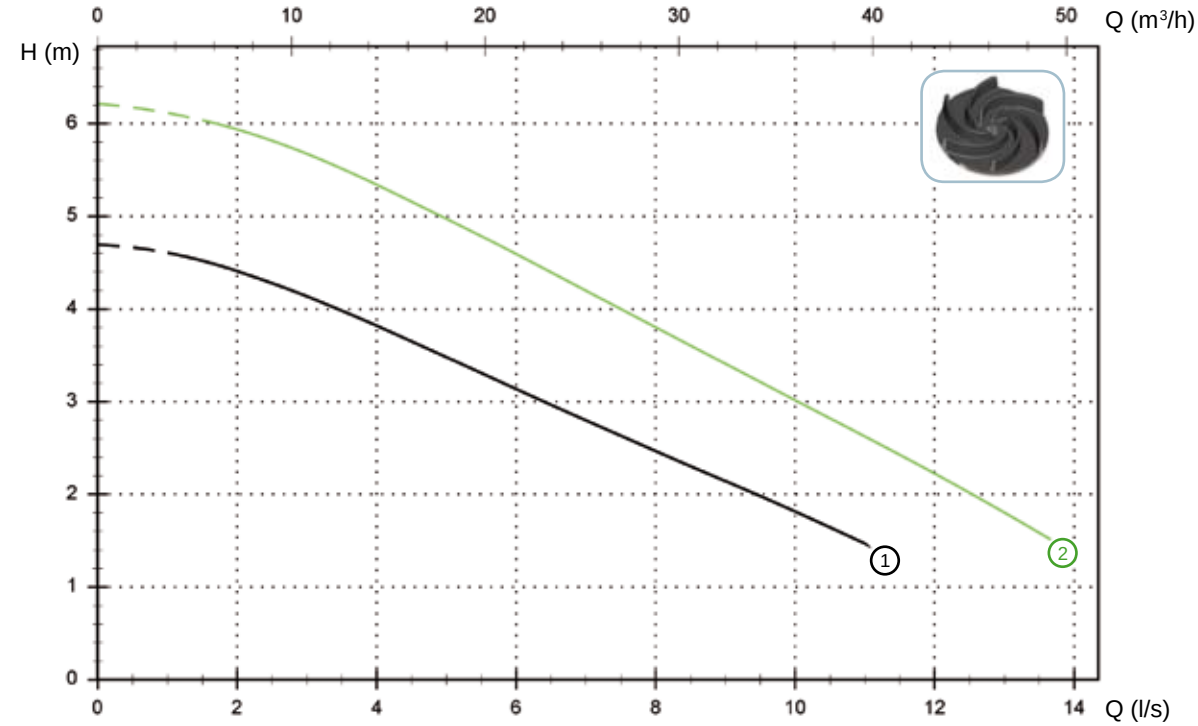
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 150/2/65 A1CT/50	400	3	1.7	1.1	2.9	2900	DN65 PN10-16	A	65 mm
2	DGF 200/2/65 A1CT/50	400	3	2.1	1.5	3.7	2900	DN65 PN10-16	A	65 mm

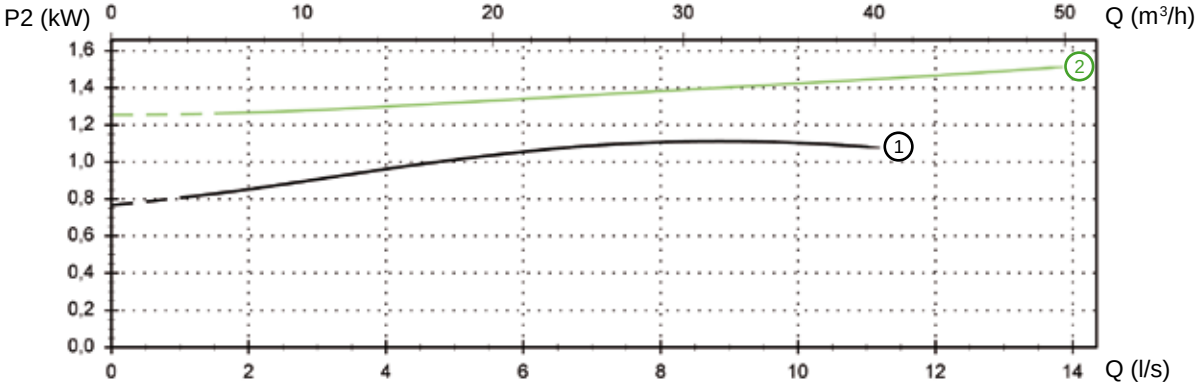
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

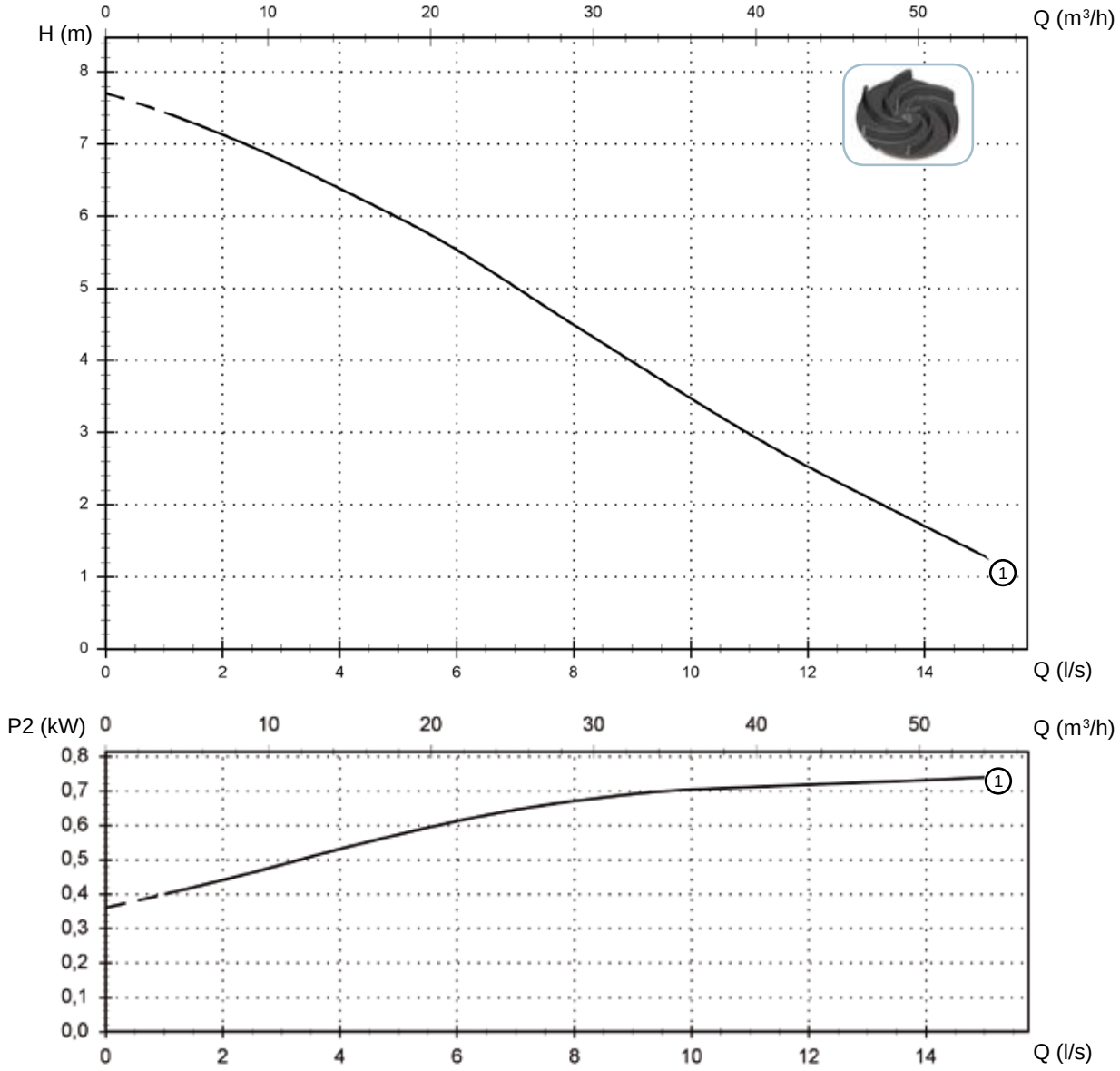
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGF 150/2/80 A1CM/50	230	1	1.6	1.1	7.2	2900	DN80 PN10-16	A	80 mm
(2) DGF 200/2/80 A1CM/50	230	1	2.2	1.5	9.8	2900	DN80 PN10-16	A	80 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGF 150/2/80 A1CT/50	400	3	1.7	1.1	2.9	2900	DN80 PN10-16	A	80 mm
(2) DGF 200/2/80 A1CT/50	400	3	2.1	1.5	3.7	2900	DN80 PN10-16	A	80 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

Models with horizontal DN65 PN10-16 anged delivery port - 4 poles

Performances



Technical data

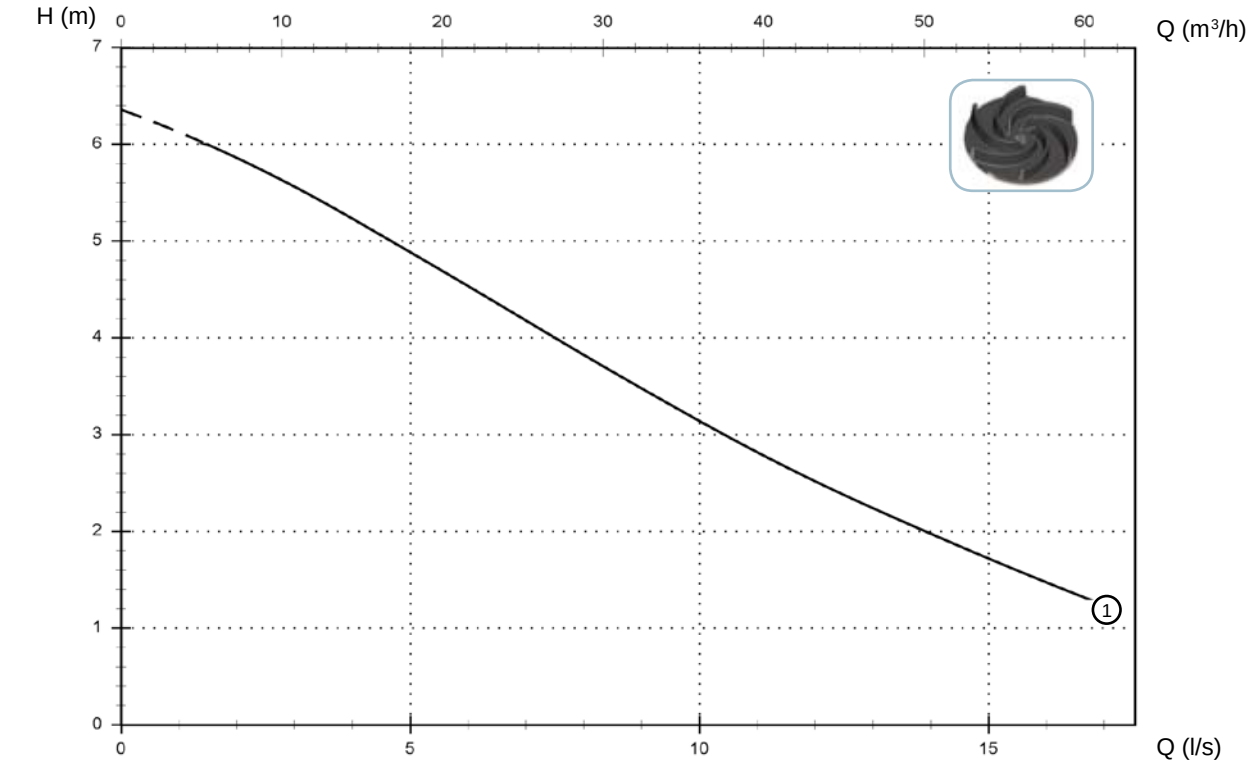
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 100/4/65 A1CT/50	400	3	1.1	0.74	2.2	1450	DN65 PN10-16	A	65 mm

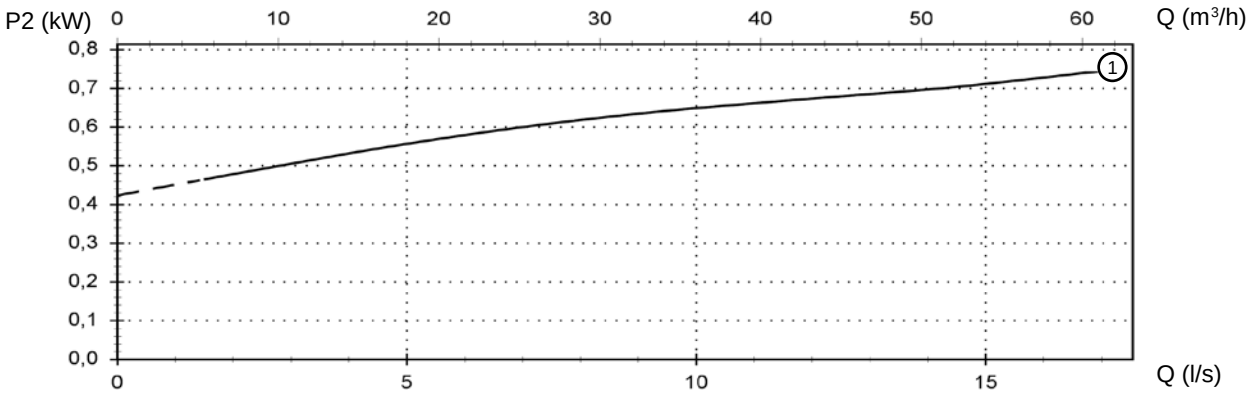
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGF 100/4/80 A1CT/50	400	3	1.1	0.74	2.1	1450	DN80 PN10-16	A	65 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DGF

Versions available

(Key to versions on page 15)

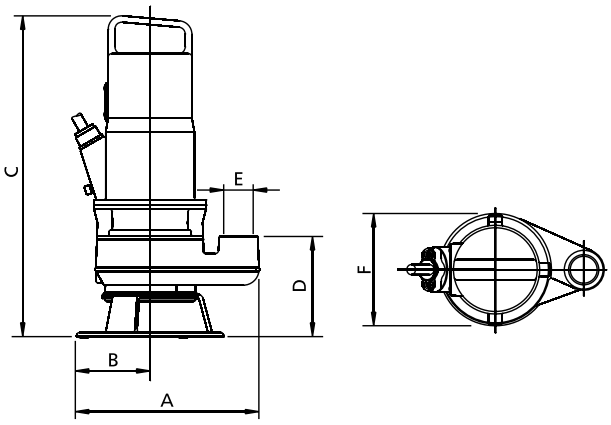
	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGF 75/2/G40V A1CM/50			●												●		●			
DGF 100/2/G40V A1CM/50			●												●		●			
DGF 150/2/G40V A1CM/50			●												●		●			
DGF 200/2/G40V A1CM/50			●												●		●			
DGF 75/2/G40V A1CT/50		●													●		●			
DGF 100/2/G40V A1CT/50		●													●		●			
DGF 150/2/G40V A1CT/50		●													●		●			
DGF 200/2/G40V A1CT/50		●													●		●			
DGF 150/2/G40H A1CM/50			●												●		●			
DGF 200/2/G40H A1CM/50			●												●		●			
DGF 150/2/G40H A1CT/50		●													●		●			
DGF 200/2/G40H A1CT/50		●													●		●			
DGF 150/2/G50V A1CM/50			●												●		●			
DGF 200/2/G50V A1CM/50			●												●		●			
DGF 150/2/G50V A1CT/50		●													●		●			
DGF 200/2/G50V A1CT/50		●													●		●			
DGF 75/2/G50H A1CM/50			●												●		●			
DGF 100/2/G50H A1CM/50			●												●		●			
DGF 150/2/G50H A1CM/50			●												●		●			
DGF 200/2/G50H A1CM/50			●												●		●			
DGF 75/2/G50H A1CT/50		●													●		●			
DGF 100/2/G50H A1CT/50		●													●		●			
DGF 150/2/G50H A1CT/50		●													●		●			
DGF 200/2/G50H A1CT/50		●													●		●			
DGF 150/2/G65V A1CM/50			●												●		●			
DGF 200/2/G65V A1CM/50			●												●		●			
DGF 150/2/G65V A1CT/50		●													●		●			
DGF 200/2/G65V A1CT/50		●													●		●			
DGF 150/2/65 A1CM/50			●												●		●			
DGF 200/2/65 A1CM/50			●												●		●			
DGF 150/2/65 A1CT/50		●													●		●			
DGF 200/2/65 A1CT/50		●													●		●			
DGF 150/2/80 A1CM/50			●												●		●			
DGF 200/2/80 A1CM/50			●												●		●			
DGF 150/2/80 A1CT/50		●													●		●			
DGF 200/2/80 A1CT/50		●													●		●			
DGF 100/4/65 A1CT/50		●													●		●			
DGF 100/4/80 A1CT/50		●													●		●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Capacitor supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.

DGF

Overall dimensions and weights

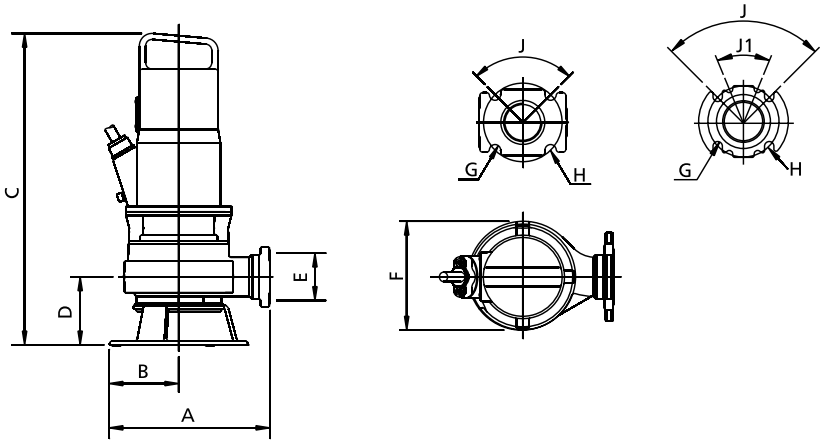
Models with vertical delivery port



	A	B	C	D	E	F	kg
DGF 75/2/G40V A1CM(T)/50	245	80	480	150	G 1 1/2"	170	27
DGF 100/2/G40V A1CM(T)/50	245	80	480	150	G 1 1/2"	170	28
DGF 150/2/G40V A1CM(T)/50	260	100	480	150	G 1 1/2"	205	30
DGF 200/2/G40V A1CM(T)/50	260	100	480	150	G 1 1/2"	205	31
DGF 150/2/G50V A1CM(T)/50	270	100	495	140	G 2"	205	32
DGF 200/2/G50V A1CM(T)/50	270	100	495	140	G 2"	205	33
DGF 150/2/G65V A1CM(T)/50	300	105	475	140	G 2 1/2"	210	31
DGF 200/2/G65V A1CM(T)/50	300	105	475	140	G 2 1/2"	210	33

Measurements in mm

Models with horizontal delivery port

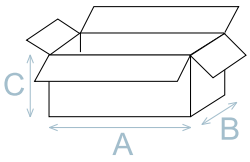


	A	B	C	D	E	F	G	H	J	J1	kg
DGF 150/2/G40H A1CM(T)/50	260	100	480	102	G 1 1/2"-DN40	205	14	90	90°	-	29
DGF 200/2/G40H A1CM(T)/50	260	100	480	102	G 1 1/2"-DN40	205	14	90	90°	-	30
DGF 75/2/G50H A1CM(T)/50	230	90	495	110	G 2"-DN50	175	18	125	90°	-	28
DGF 100/2/G50H A1CM(T)/50	230	90	495	110	G 2"-DN50	175	18	125	90°	-	29
DGF 150/2/G50H A1CM(T)/50	260	100	480	100	G 2"-DN50	205	18	125	90°	-	31
DGF 200/2/G50H A1CM(T)/50	260	100	480	100	G 2"-DN50	205	18	125	90°	-	32
DGF 150/2/65 A1CM(T)/50	290	105	475	70	65	210	18	145	90°	-	32
DGF 200/2/65 A1CM(T)/50	290	105	475	70	65	210	18	145	90°	-	34
DGF 150/2/80 A1CM(T)/50	290	105	495	80	80	210	18	160	90°	45°	33
DGF 200/2/80 A1CM(T)/50	290	105	495	80	80	210	18	160	90°	45°	35
DGF 100/4/65 A1CT/50	320	130	490	80	65	250	18	145	90°	-	38
DGF 100/4/80 A1CT/50	320	130	440	80	80	250	18	160	90°	45°	41

Measurements in mm

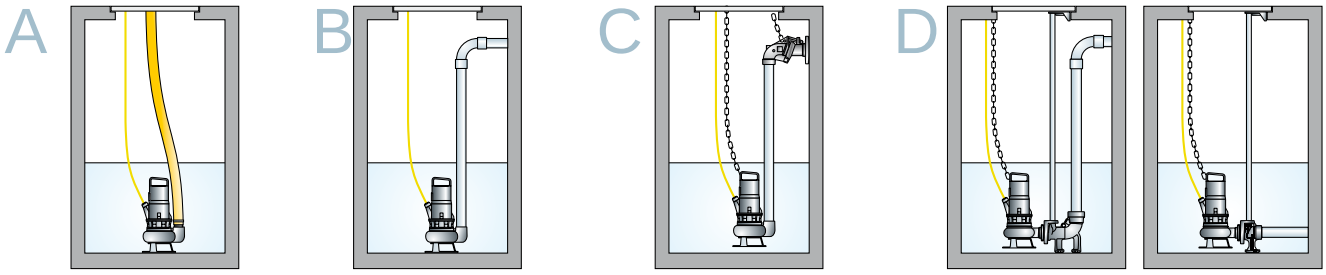
Packaging dimension

	A	B	C
DGF 75/2/G40V A1CM(T)/50	580	310	310
DGF 100/2/G40V A1CM(T)/50	580	310	310
DGF 150/2/G40V A1CM(T)/50	580	310	310
DGF 200/2/G40V A1CM(T)/50	580	310	310
DGF 150/2/G40H A1CM(T)/50	580	310	310
DGF 200/2/G40H A1CM(T)/50	580	310	310
DGF 150/2/G50V A1CM(T)/50	580	310	310
DGF 200/2/G50V A1CM(T)/50	580	310	310
DGF 75/2/G50H A1CM(T)/50	580	310	310
DGF 100/2/G50H A1CM(T)/50	580	310	310
DGF 150/2/G50H A1CM(T)/50	580	310	310
DGF 200/2/G50H A1CM(T)/50	580	310	310
DGF 150/2/G65V A1CM(T)/50	580	310	310
DGF 200/2/G65V A1CM(T)/50	580	310	310
DGF 150/2/65 A1CM(T)/50	725	445	415
DGF 200/2/65 A1CM(T)/50	725	445	415
DGF 150/2/80 A1CM(T)/50	725	445	415
DGF 200/2/80 A1CM(T)/50	725	445	415
DGF 100/4/65 A1CT/50	725	445	415
DGF 100/4/80 A1CT/50	725	445	415



Dimension in mm

Installations available



Dry installation available for specified models. Contact Custome Service for more information.

DGN



Set-back Vortex impeller

General characteristics

- Set-back Vortex impeller
- 1,1 ÷ 4,1 kW motor power
- 2 / 4 / 6 poles
- GAS 2 1/2" vertical
  DN65÷DN150 PN10-16 horizontal
- max 150 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

Applications

Used with unstrained soiled biological wastewaters and sewage and for civil lifting applications. It is thus ideal for wastewater treatment plants, sewer systems, livestock farms, industry and agriculture. The pump is also available in explosion-proof version with ATEX certification. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

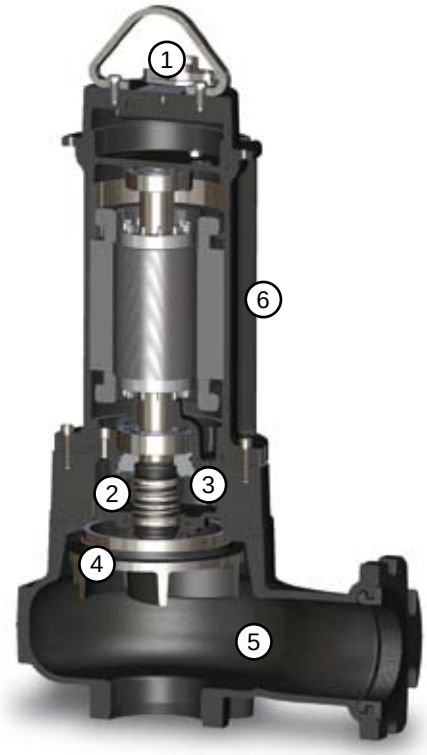
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

DGN





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.



Cable Gland

Cable gland system to guarantee perfect water-tightness. The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



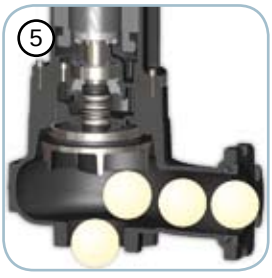
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



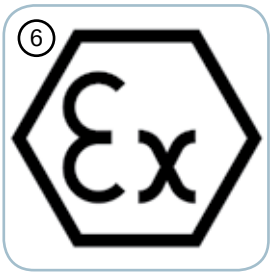
Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



Free passage

Ample free passage allowing the expulsion of solids and preventing fouling of the impeller



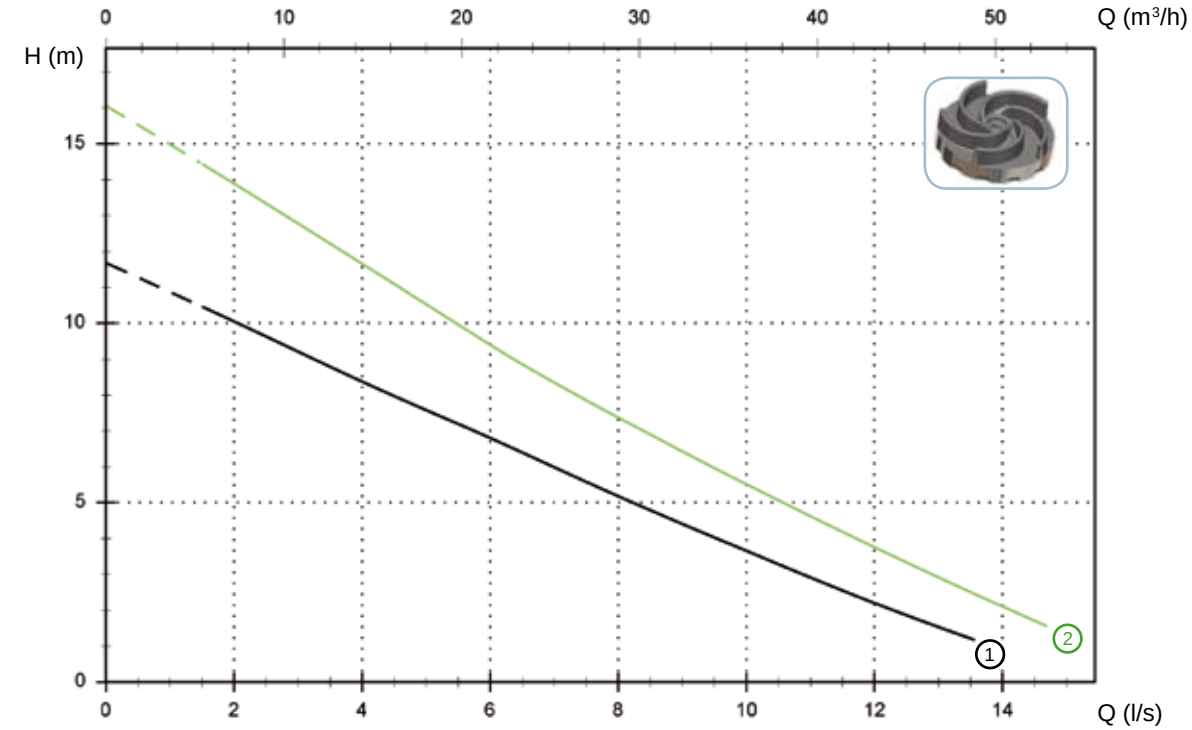
EX

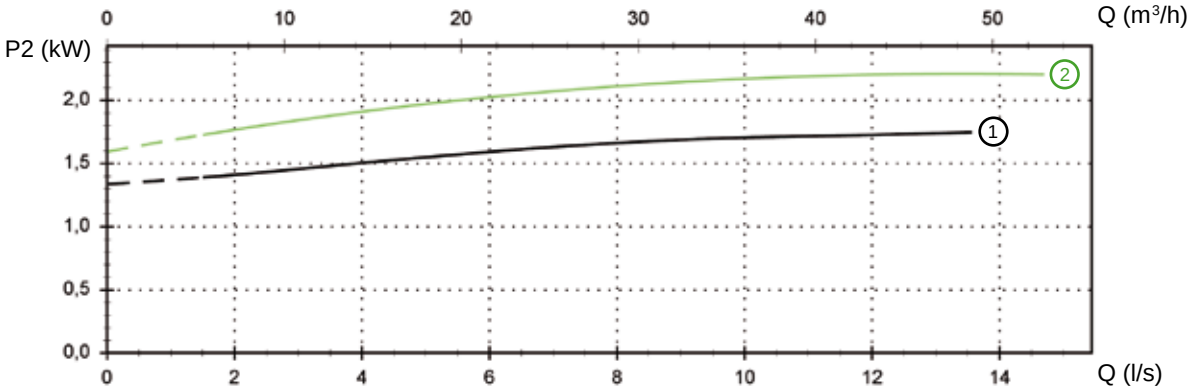
Models available on request with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

DGN

Models with vertical GAS 2 1/2" threaded delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGN 250/2/G65V A1DM/50	230	1	2.8	1.8	12.5	2900	G 2 1/2"	A - B	65 mm

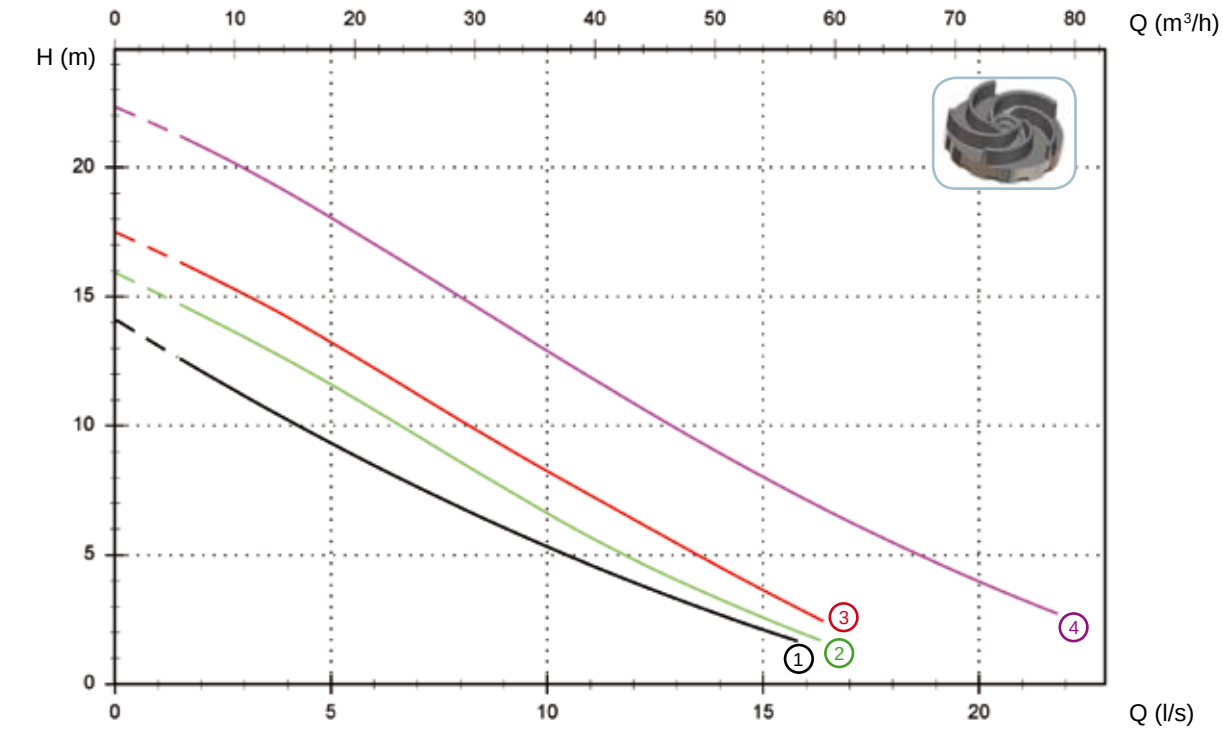
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGN 250/2/G65V A1DT/50	400	3	2.5	1.8	4.3	2900	G 2 1/2"	A - B	65 mm
(2) DGN 300/2/G65V A1DT/50	400	3	2.9	2.2	5.1	2900	G 2 1/2"	A - B	65 mm

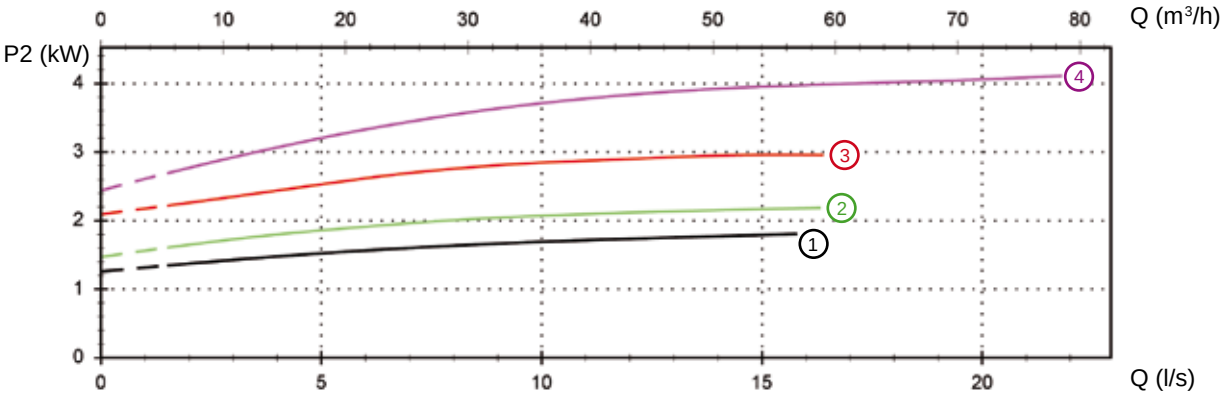
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGN 250/2/65 A1DM/50	230	1	2.8	1.8	12.5	2900	DN65 PN10-16	A - B	65 mm

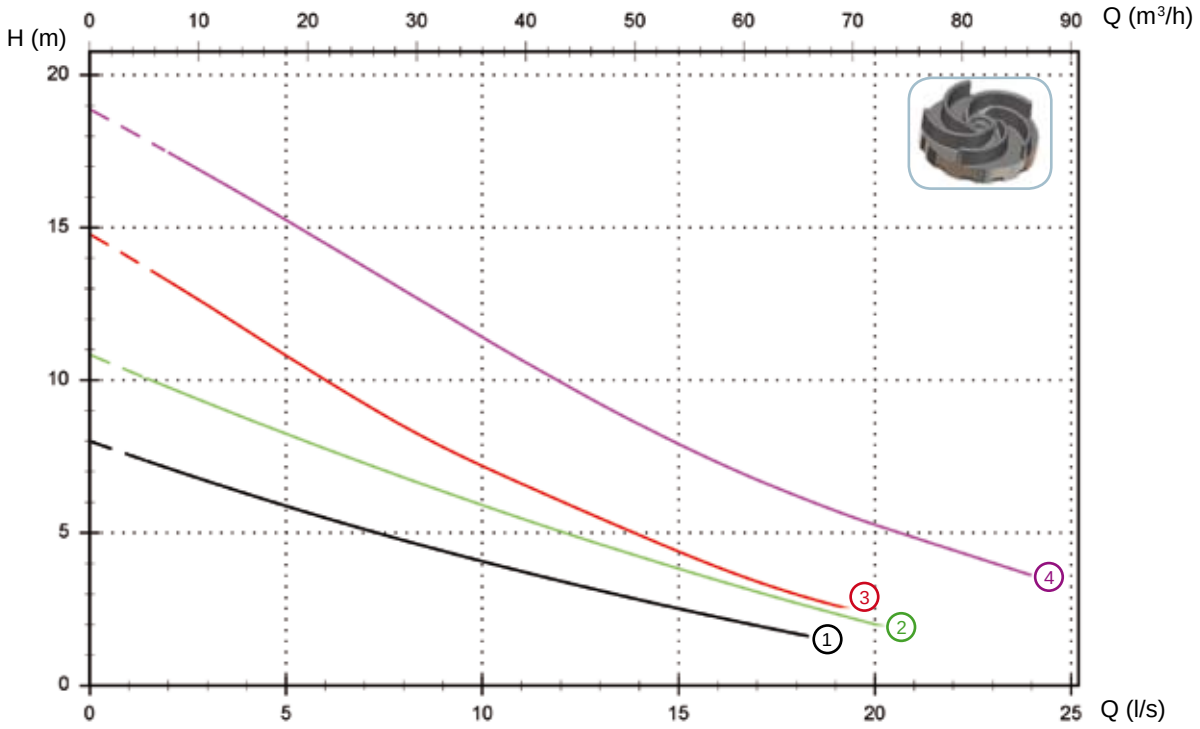
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGN 250/2/65 A1DT/50	400	3	2.5	1.8	4.3	2900	DN65 PN10-16	A - B	65 mm
② DGN 300/2/65 A1DT/50	400	3	2.9	2.2	5.1	2900	DN65 PN10-16	A - B	65 mm
③ DGN 400/2/65 A1FT/50	400	3	4.0	3	6.7	2900	DN65 PN10-16	A - B	65 mm
④ DGN 550/2/65 A1FT/50	400	3	5.0	4.1	8.7	2900	DN65 PN10-16	A - B	65 mm

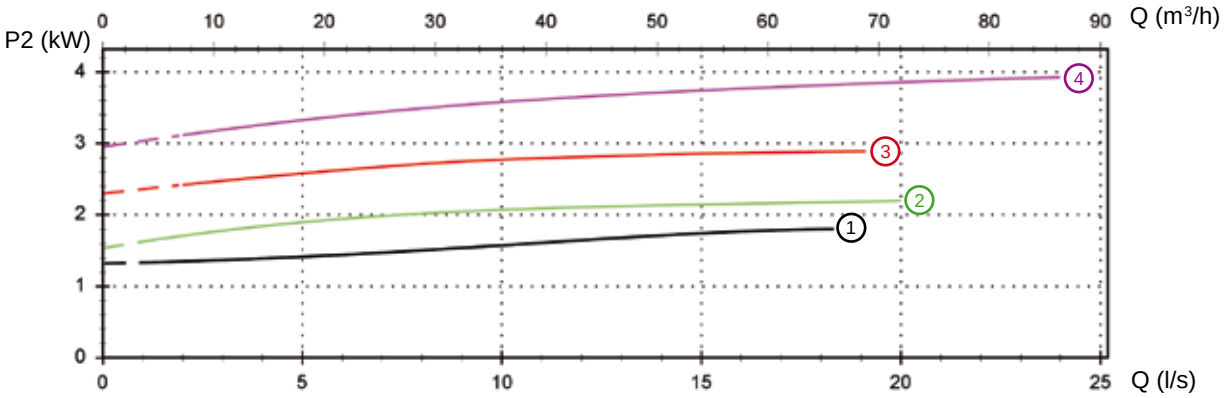
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

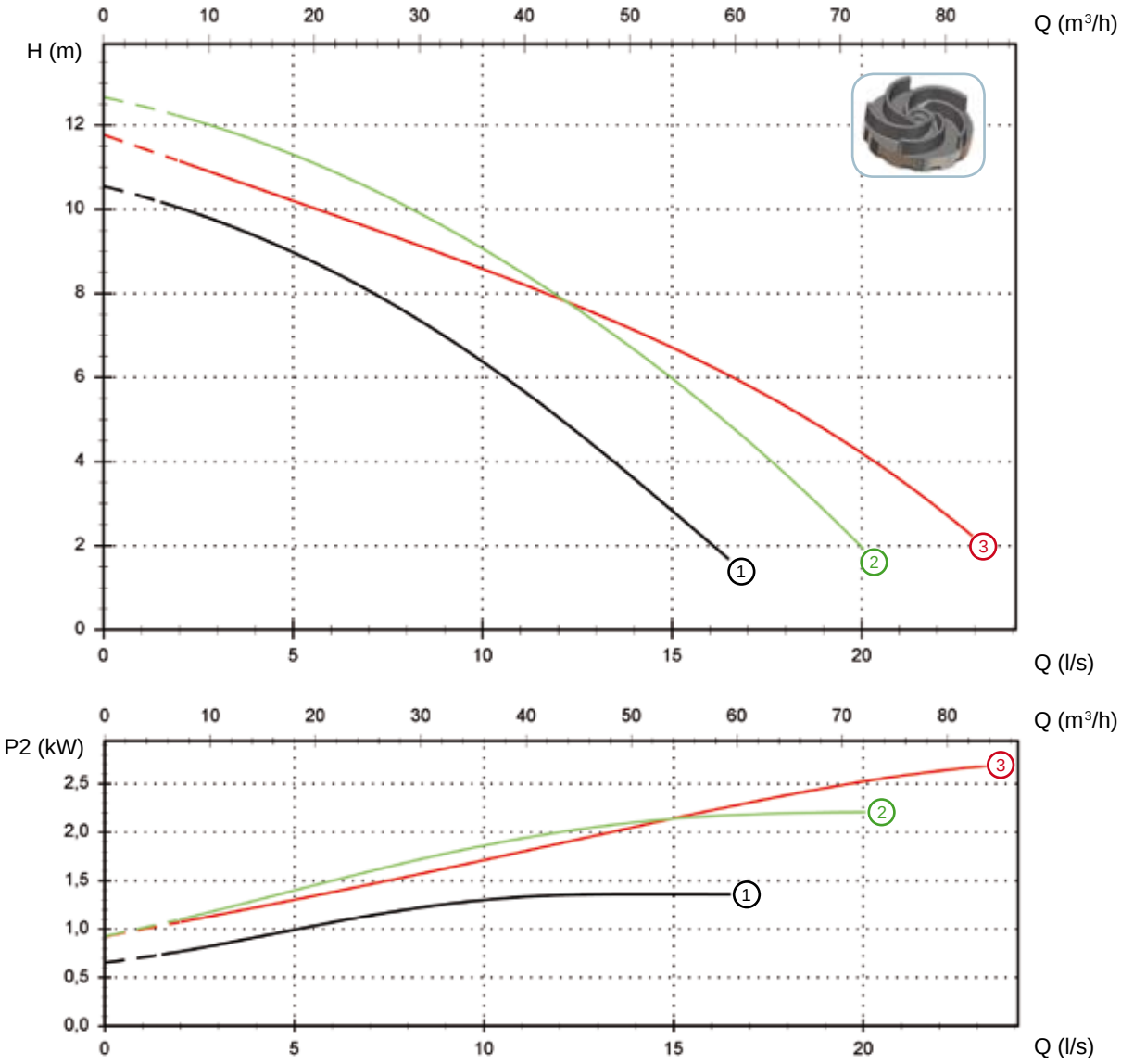
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGN 250/2/80 A1DM/50	230	1	2.8	1.8	12.5	2900	DN80 PN10-16	A - B	80 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGN 250/2/80 A1DT/50	400	3	2.5	1.8	4.3	2900	DN80 PN10-16	A - B	80 mm
2	DGN 300/2/80 A1DT/50	400	3	2.9	2.2	5.1	2900	DN80 PN10-16	A - B	80 mm
3	DGN 400/2/80 A1FT/50	400	3	4.0	3	6.7	2900	DN80 PN10-16	A - B	80 mm
4	DGN 550/2/80 A1FT/50	400	3	5.0	4.1	8.7	2900	DN80 PN10-16	A - B	80 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN65 PN10-16 anged delivery port - 4 poles

Performances



Technical data

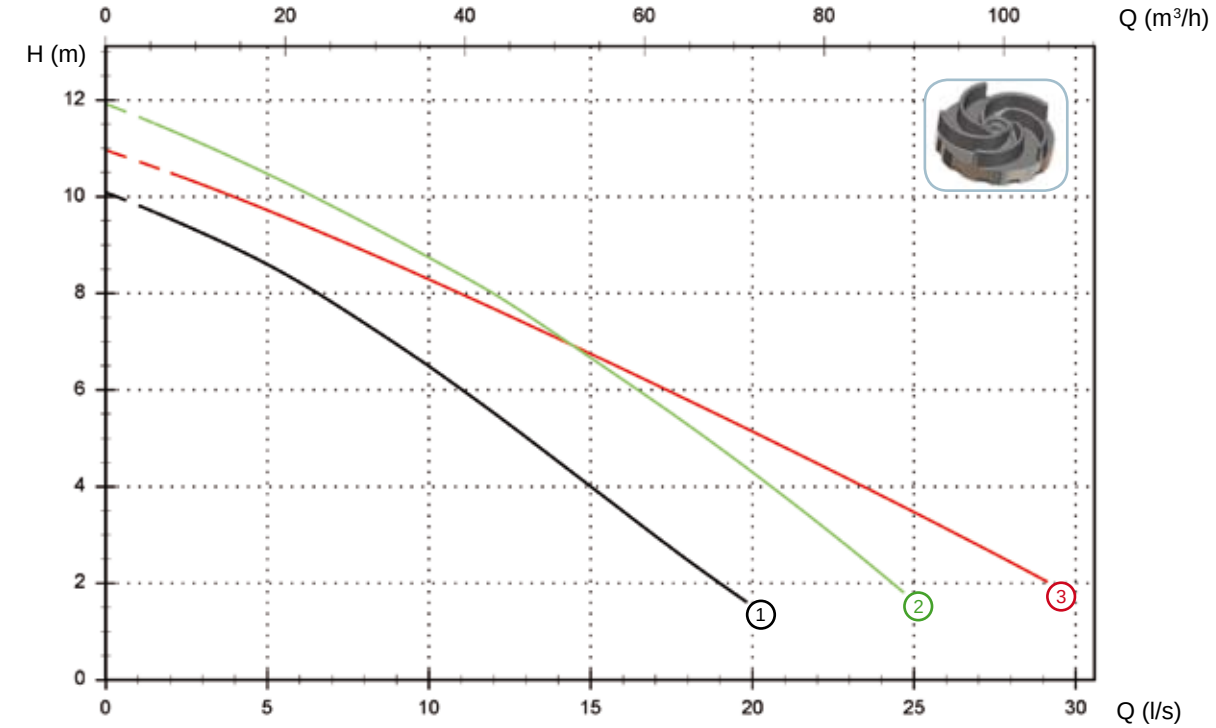
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGN 200/4/65 A1DT/50	400	3	2.0	1.5	4.1	1450	DN65 PN10-16	A - B	65 mm
2 DGN 300/4/65 A1FT/50	400	3	2.9	2.2	5.8	1450	DN65 PN10-16	A - B	65 mm
3 DGN 400/4/65 A1FT/50	400	3	3.4	3	6.7	1450	DN65 PN10-16	A - B	65 mm

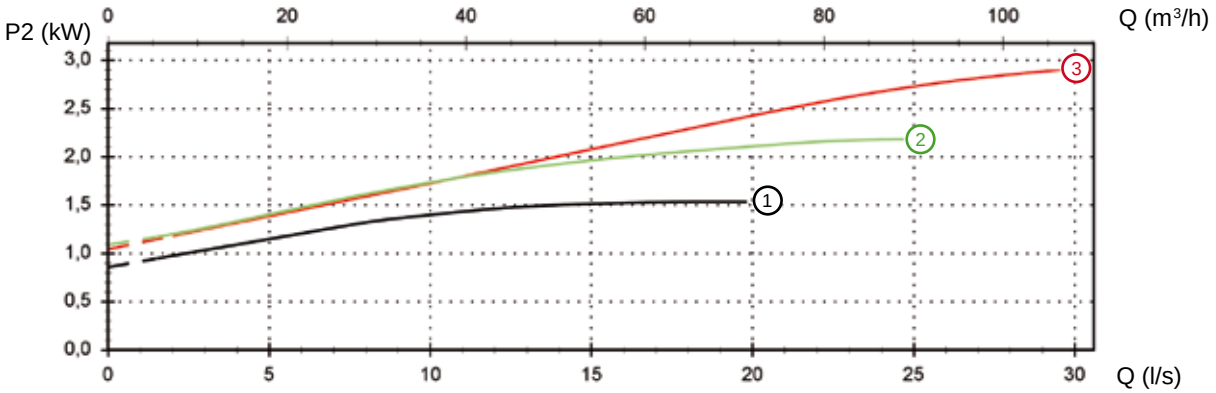
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





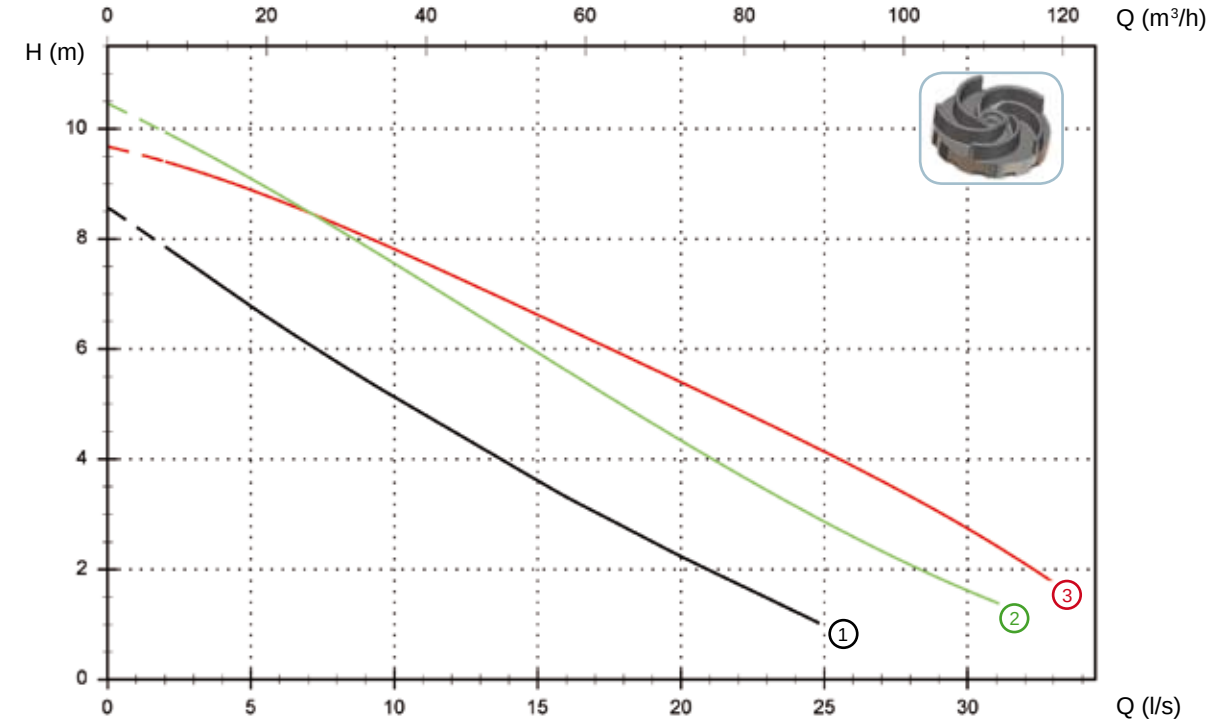
Technical data

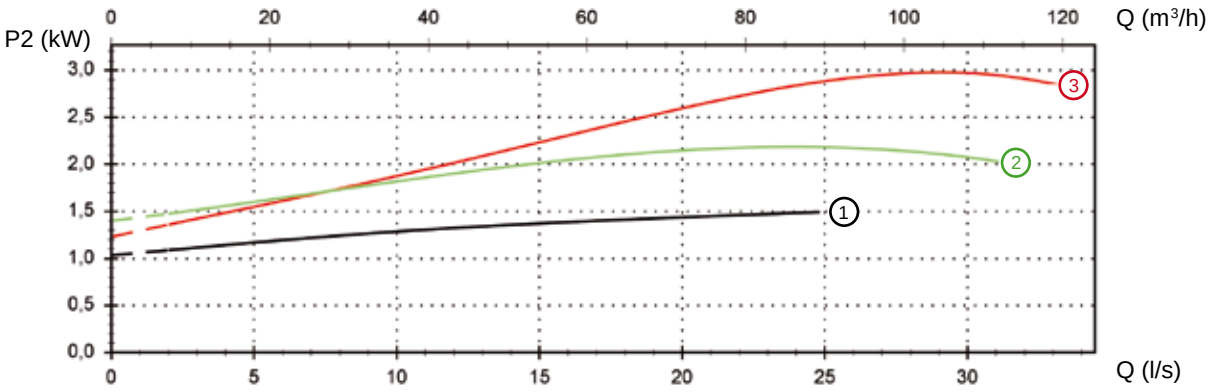
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGN 200/4/80 A1DT/50	400	3	2.0	1.5	4.1	1450	DN80 PN10-16	A - B	80 mm
(2) DGN 300/4/80 A1FT/50	400	3	2.9	2.2	5.8	1450	DN80 PN10-16	A - B	80 mm
(3) DGN 400/4/80 A1FT/50	400	3	3.7	3	7.3	1450	DN80 PN10-16	A - B	80 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

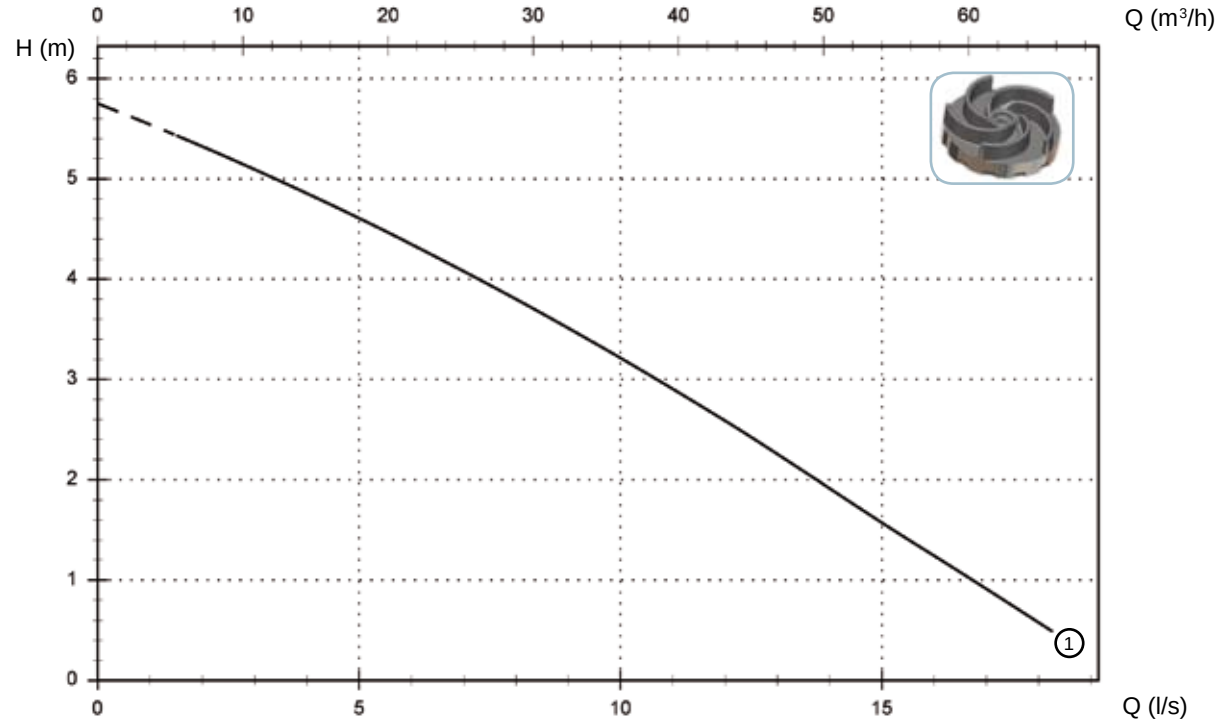
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGN 200/4/100 A1DT/50	400	3	2.0	1.5	4.1	1450	DN100 PN10-16	A - B	100 mm
(2) DGN 300/4/100 A1FT/50	400	3	2.9	2.2	5.8	1450	DN100 PN10-16	A - B	100 mm
(3) DGN 400/4/100 A1FT/50	400	3	3.7	3	7.3	1450	DN100 PN10-16	A - B	100 mm

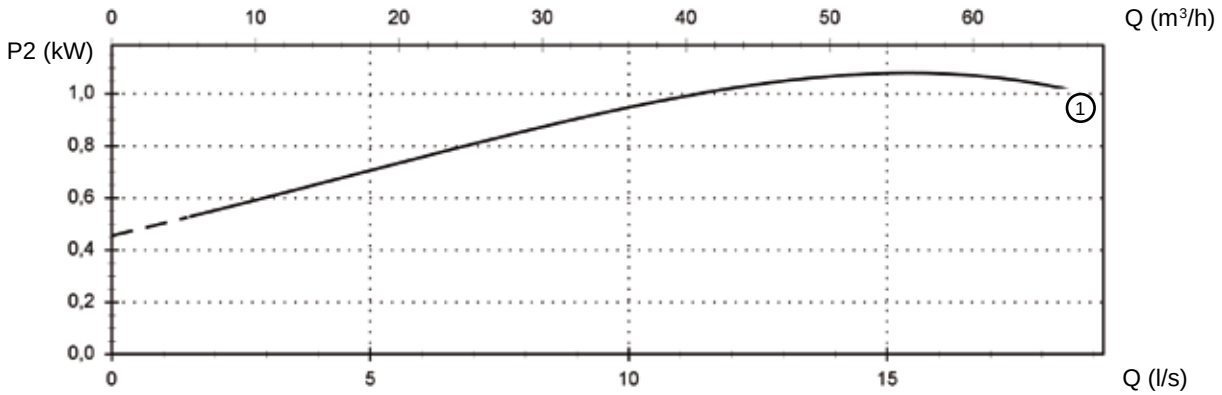
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Models with horizontal DN65 PN10-16 anged delivery port - 6 poles

Performances





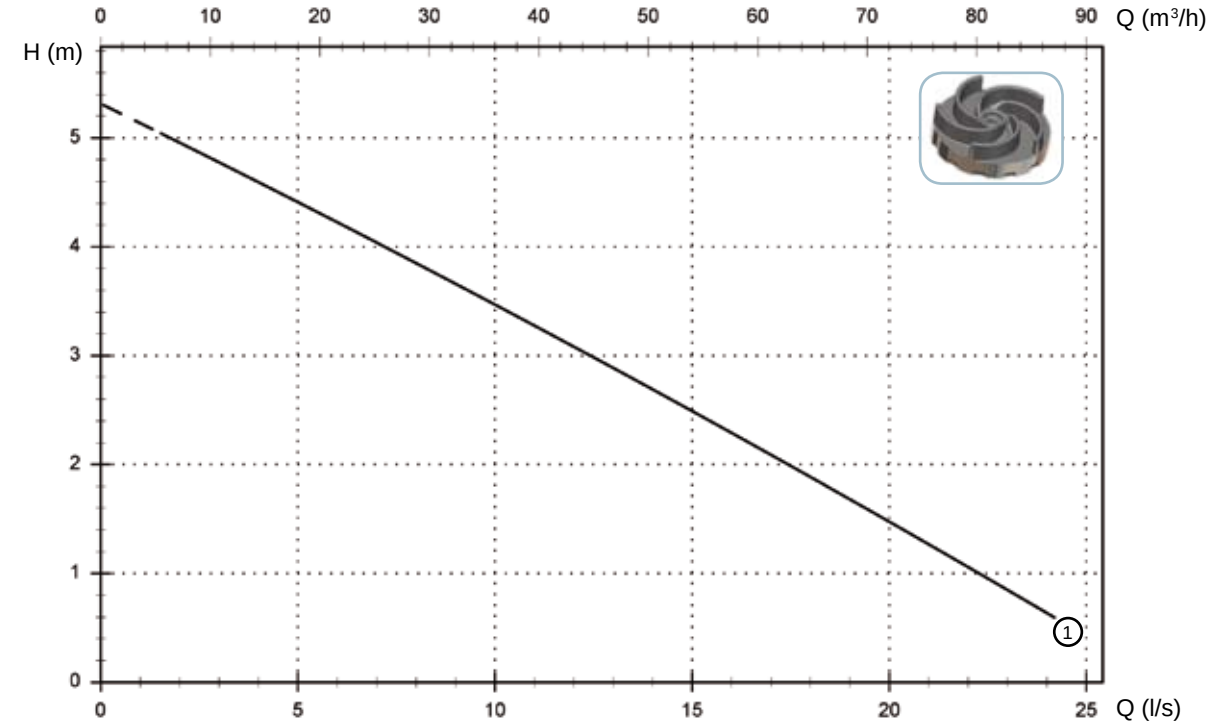
Technical data

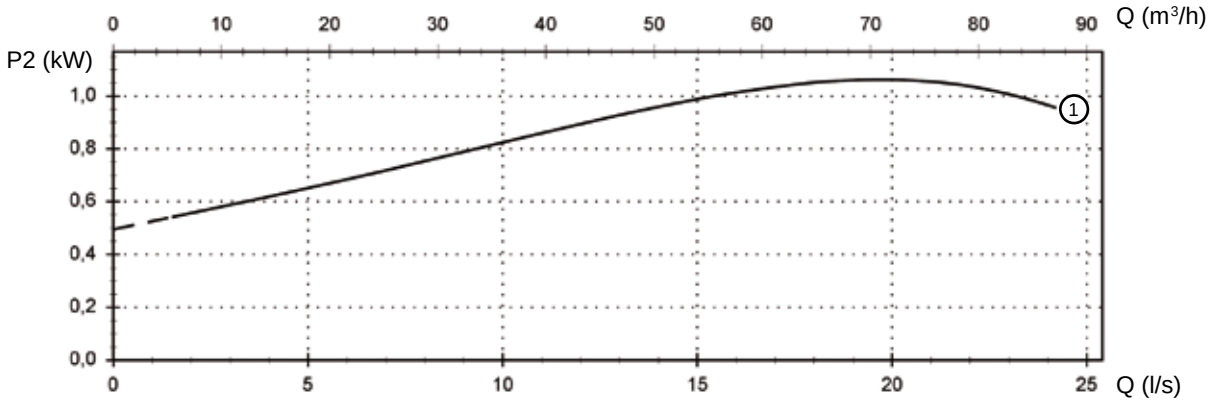
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGN 150/6/65 A1DT/50	400	3	1.6	1.1	3.7	960	DN65 PN10-16	A - B	65 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN80 PN10-16 anged delivery port - 6 poles

Performances





Technical data

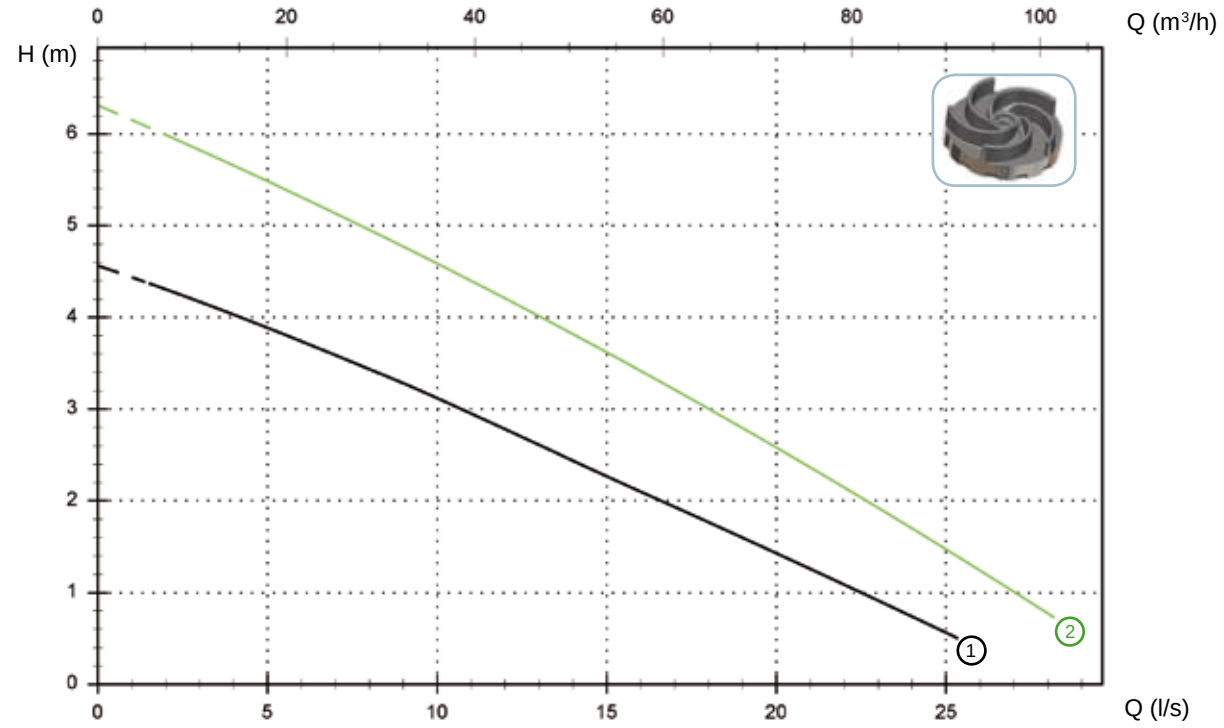
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGN 150/6/80 A1DT/50	400	3	1.6	1.1	3.7	960	DN80 PN10-16	A - B	80 mm

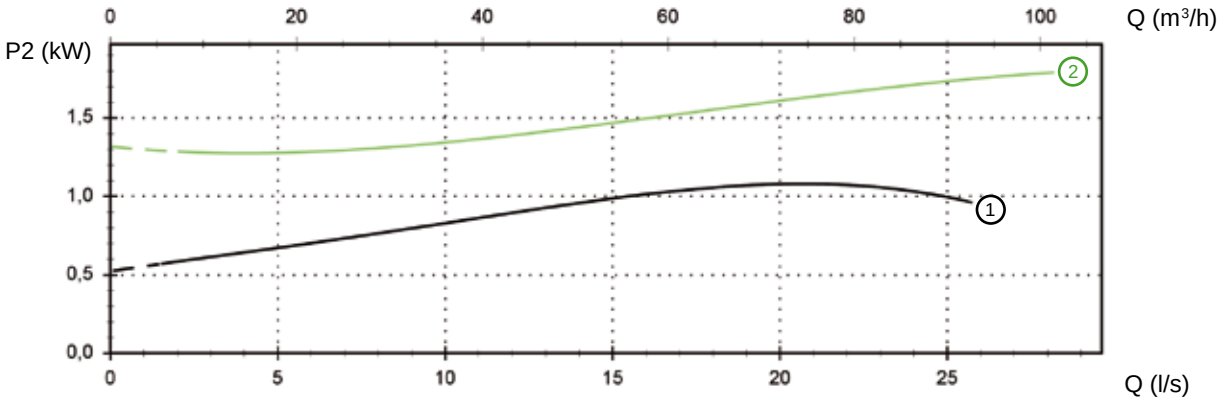
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Models with horizontal DN100 PN10-16 anged delivery port - 6 poles

Performances





Technical data

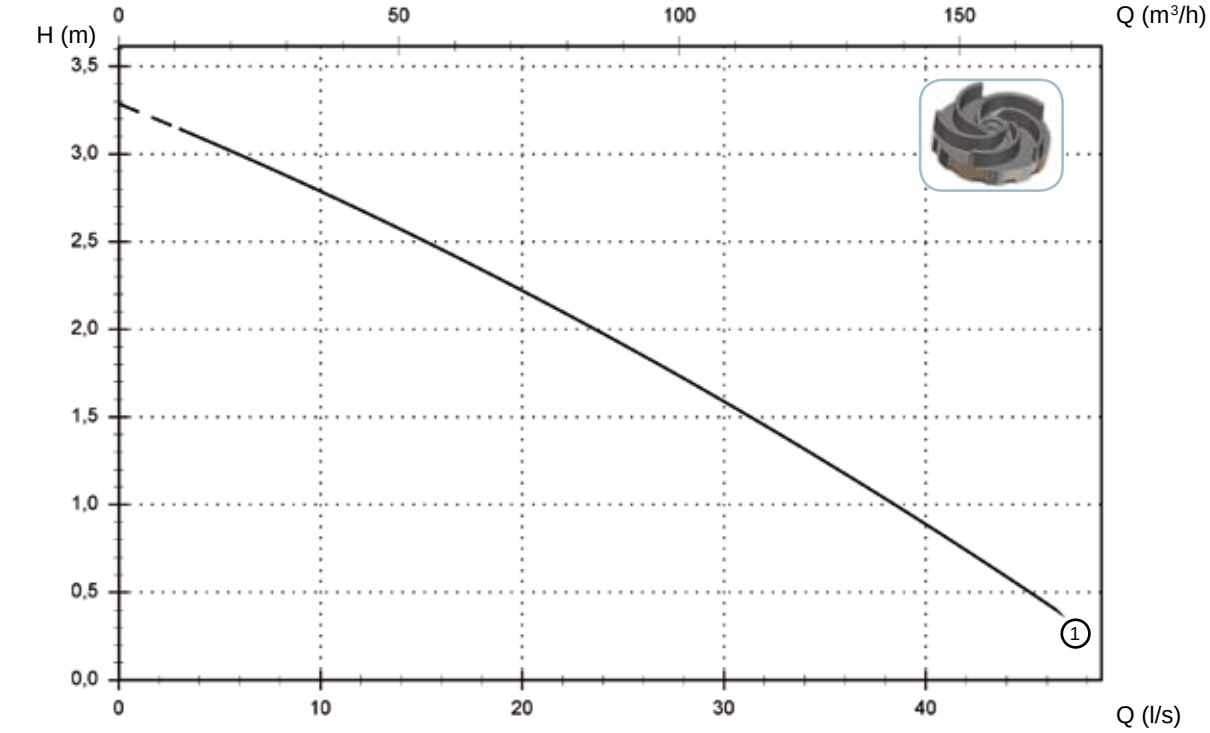
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGN 150/6/100 A1DT/50	400	3	1.6	1.1	3.7	960	DN100 PN10-16	A - B	100 mm
(2) DGN 250/6/100 A1FT/50	400	3	2.6	1.8	5.7	960	DN100 PN10-16	A - B	100 mm

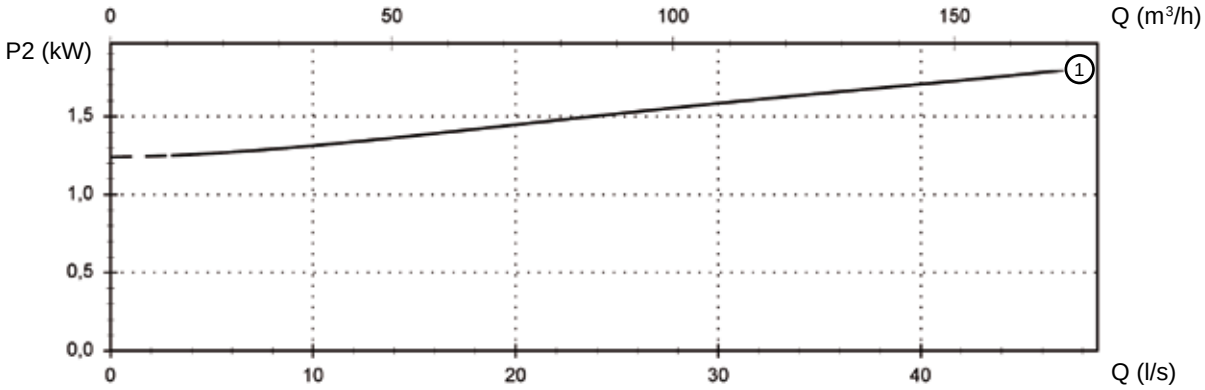
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Models with horizontal DN150 PN10-16 anged delivery port - 6 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGN 250/6/150 A1FT/50	400	3	2.6	1.8	5.7	960	DN150 PN10-16	A - B	150 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DGN

Versions available

(Key to versions on page 15)

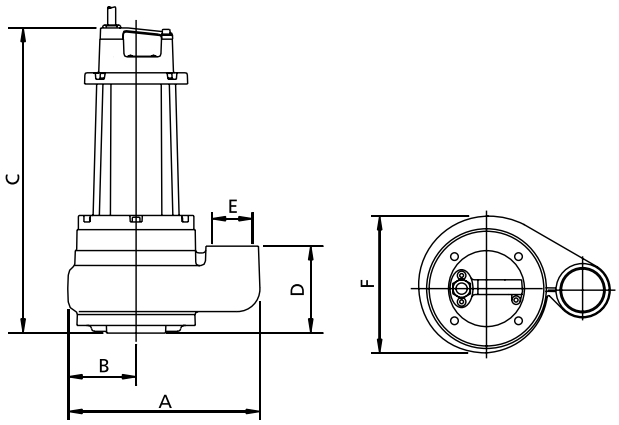
	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGN 250/2/G65V A1DM/50				●						●					●	●	●			
DGN 250/2/G65V A1DT/50		●								●					●	●	●			
DGN 300/2/G65V A1DT/50		●								●					●	●	●			
DGN 250/2/65 A1DM/50				●						●					●	●	●			
DGN 250/2/65 A1DT/50		●								●					●	●	●			
DGN 300/2/65 A1DT/50		●								●					●	●	●			
DGN 400/2/65 A1FT/50		●								●					●	●	●			
DGN 550/2/65 A1FT/50		●								●					●	●	●			
DGN 250/2/80 A1DM/50				●						●					●	●	●			
DGN 250/2/80 A1DT/50		●								●					●	●	●			
DGN 300/2/80 A1DT/50		●								●					●	●	●			
DGN 400/2/80 A1FT/50		●								●					●	●	●			
DGN 550/2/80 A1FT/50		●								●					●	●	●			
DGN 200/4/65 A1DT/50		●								●					●	●	●			
DGN 300/4/65 A1FT/50		●								●					●	●	●			
DGN 400/4/65 A1FT/50		●								●					●	●	●			
DGN 200/4/80 A1DT/50		●								●					●	●	●			
DGN 300/4/80 A1FT/50		●								●					●	●	●			
DGN 400/4/80 A1FT/50		●								●					●	●	●			
DGN 200/4/100 A1DT/50		●								●					●	●	●			
DGN 300/4/100 A1FT/50		●								●					●	●	●			
DGN 400/4/100 A1FT/50		●								●					●	●	●			
DGN 150/6/65 A1DT/50		●								●					●	●	●			
DGN 150/6/80 A1DT/50		●								●					●	●	●			
DGN 150/6/100 A1DT/50		●								●					●	●	●			
DGN 250/6/100 A1FT/50		●								●					●	●	●			
DGN 250/6/150 A1FT/50		●								●					●	●	●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Start capacitor inside the pump. Circuit breaker supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory. For installation please see use and maintenance instructions booklet. The version complete with probe is not available with ATEX certificate.

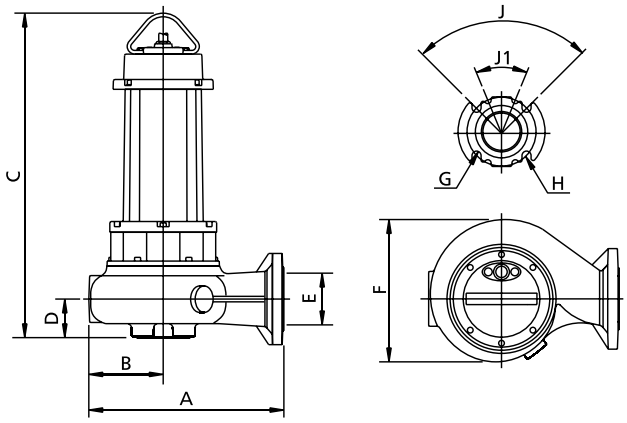
DGN

Overall dimensions and weights

Models with vertical delivery port



Models with horizontal delivery port



	A	B	C	D	E	F	G	H	J	J1	kg
DGN 250/2/G65V A1DM(T)/50	310	110	560	135	G 2 1/2"	220	-	-	-	-	49
DGN 300/2/G65V A1DT/50	310	110	560	135	G 2 1/2"	220	-	-	-	-	51
DGN 250/2/65 A1DM(T)/50	300	120	560	60	65	220	18	145	90°	-	51
DGN 300/2/65 A1DT/50	320	130	580	80	65	250	18	145	90°	-	53
DGN 400/2/65 A1FT/50	320	130	720	80	65	250	18	145	90°	-	74
DGN 550/2/65 A1FT/50	320	130	720	80	65	250	18	145	90°	-	78
DGN 250/2/80 A1DM(T)/50	310	120	585	80	80	230	18	160	90°	45°	53
DGN 300/2/80 A1DT/50	315	125	585	80	80	245	18	160	90°	45°	55
DGN 400/2/80 A1FT/50	315	125	725	80	80	245	18	160	90°	45°	75
DGN 550/2/80 A1FT/50	315	125	725	80	80	245	18	160	90°	45°	79
DGN 200/4/65 A1DT/50	390	155	595	70	65	305	18	145	90°	-	63
DGN 300/4/65 A1FT/50	390	155	700	70	65	305	18	145	90°	-	78
DGN 400/4/65 A1FT/50	390	155	700	70	65	305	18	145	90°	-	82
DGN 200/4/80 A1DT/50	385	155	610	80	80	300	18	160	90°	45°	64
DGN 300/4/80 A1FT/50	385	155	720	80	80	300	18	160	90°	45°	79
DGN 400/4/80 A1FT/50	385	155	720	80	80	300	18	160	90°	45°	83
DGN 200/4/100 A1DT/50	410	160	635	90	100	305	18	180	45°	-	66
DGN 300/4/100 A1FT/50	410	160	740	90	100	305	18	180	45°	-	81
DGN 400/4/100 A1FT/50	410	160	740	90	100	305	18	180	45°	-	85
DGN 150/6/65 A1DT/50	390	155	595	70	65	305	18	145	90°	-	61
DGN 150/6/80 A1DT/50	385	155	610	80	80	300	18	160	90°	45°	62
DGN 150/6/100 A1DT/50	410	160	635	90	100	305	18	180	45°	-	66
DGN 250/6/100 A1FT/50	495	190	770	90	100	375	18	180	45°	-	111
DGN 250/6/150 A1FT/50	550	215	825	120	150	400	24	240	45°	-	114

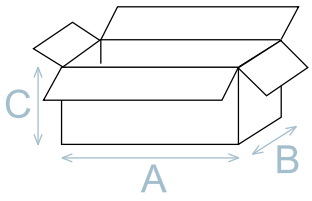
Measurements in mm

DGN

Packaging dimension

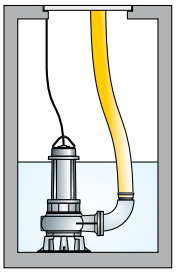
	A	B	C
DGN 250/2/G65V A1DM(T)/50	725	555	415
DGN 300/2/G65V A1DT/50	725	555	415
DGN 250/2/65 A1DM(T)/50	725	555	415
DGN 300/2/65 A1DT/50	725	555	415
DGN 400/2/65 A1FT/50	915	515	555
DGN 550/2/65 A1FT/50	915	515	555
DGN 250/2/80 A1DM(T)/50	725	445	415
DGN 300/2/80 A1DT/50	725	445	415
DGN 400/2/80 A1FT/50	915	515	555
DGN 550/2/80 A1FT/50	915	515	555
DGN 200/4/65 A1DT/50	725	445	415
DGN 300/4/65 A1FT/50	915	515	555
DGN 400/4/65 A1FT/50	915	515	555
DGN 200/4/80 A1DT/50	725	445	415
DGN 300/4/80 A1FT/50	915	515	555
DGN 400/4/80 A1FT/50	915	515	555
DGN 200/4/100 A1DT/50	725	445	415
DGN 300/4/100 A1FT/50	915	515	555
DGN 400/4/100 A1FT/50	915	515	555
DGN 150/6/65 A1DT/50	915	515	555
DGN 150/6/80 A1DT/50	915	515	555
DGN 150/6/100 A1DT/50	915	515	555
DGN 250/6/100 A1FT/50	915	515	555
DGN 250/6/150 A1FT/50	915	515	555

Dimension in mm

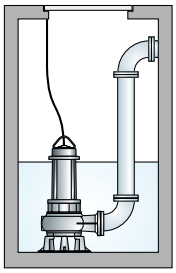


Installations available

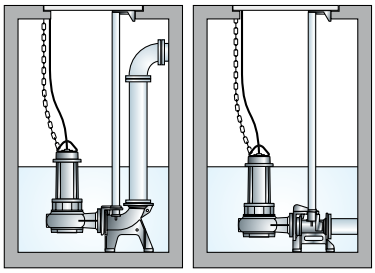
A



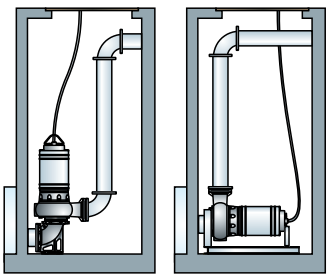
B



D



E





DGP



Set-back Vortex impeller

General characteristics

- Set-back Vortex impeller
- 4,6 ÷ 16,4 kW motor power
- 2 / 4 poles
- DN 80 ÷ DN 125 delivery port
- max 102 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Used with unstrained soiled biological wastewaters and sewage and for civil lifting applications.
It is thus ideal for heavy-duty applications in wastewater treatment plants, sewer systems, livestock farms, industry and agriculture.

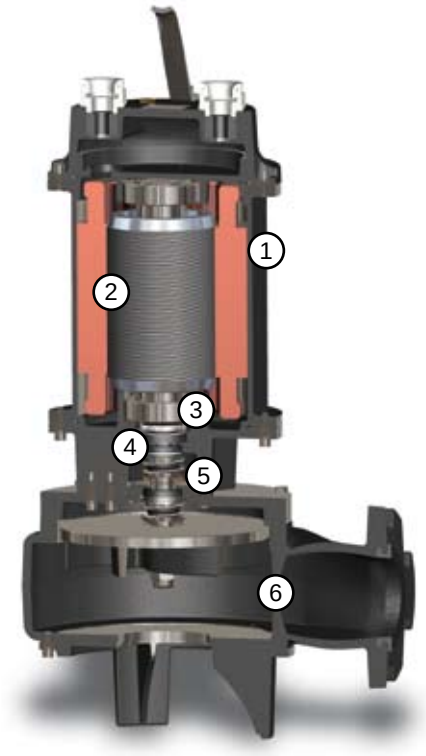
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

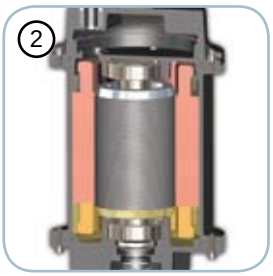
DGP





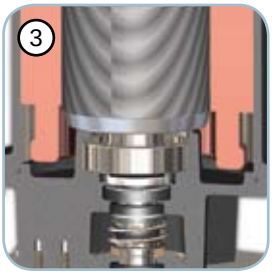
Structure

Constructed in GJL-250 cast iron



Motor

Oil-bath motor with thermal overloads



Bearings

Shielded ball bearings with lifetime autolubrication



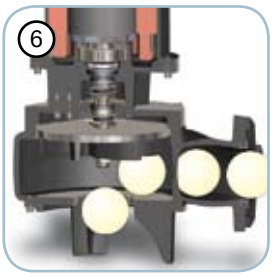
Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



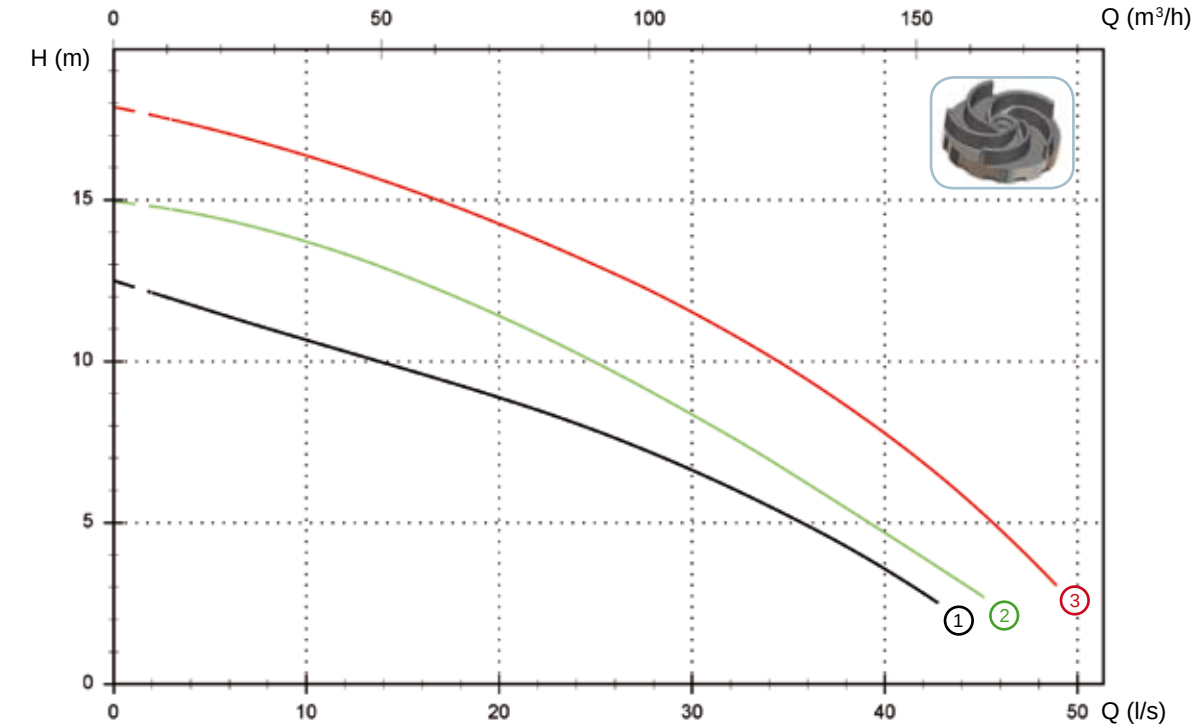
Free passage

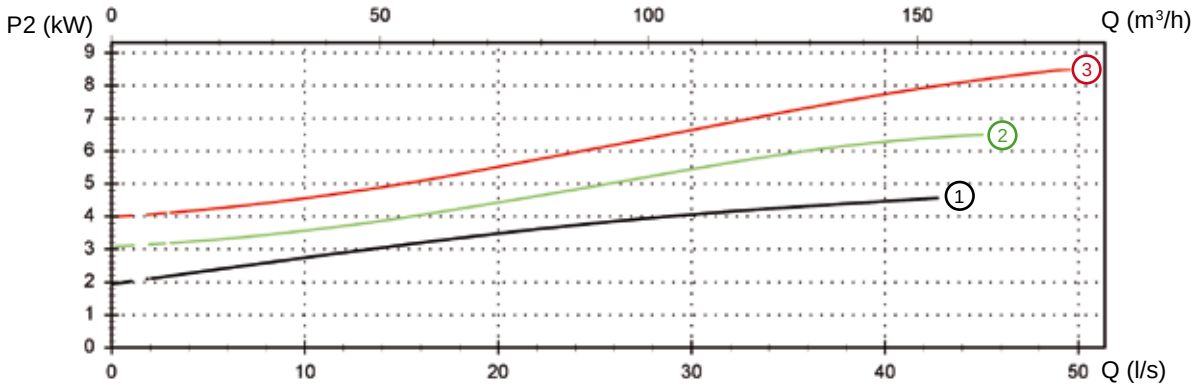
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DGP

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





Technical data

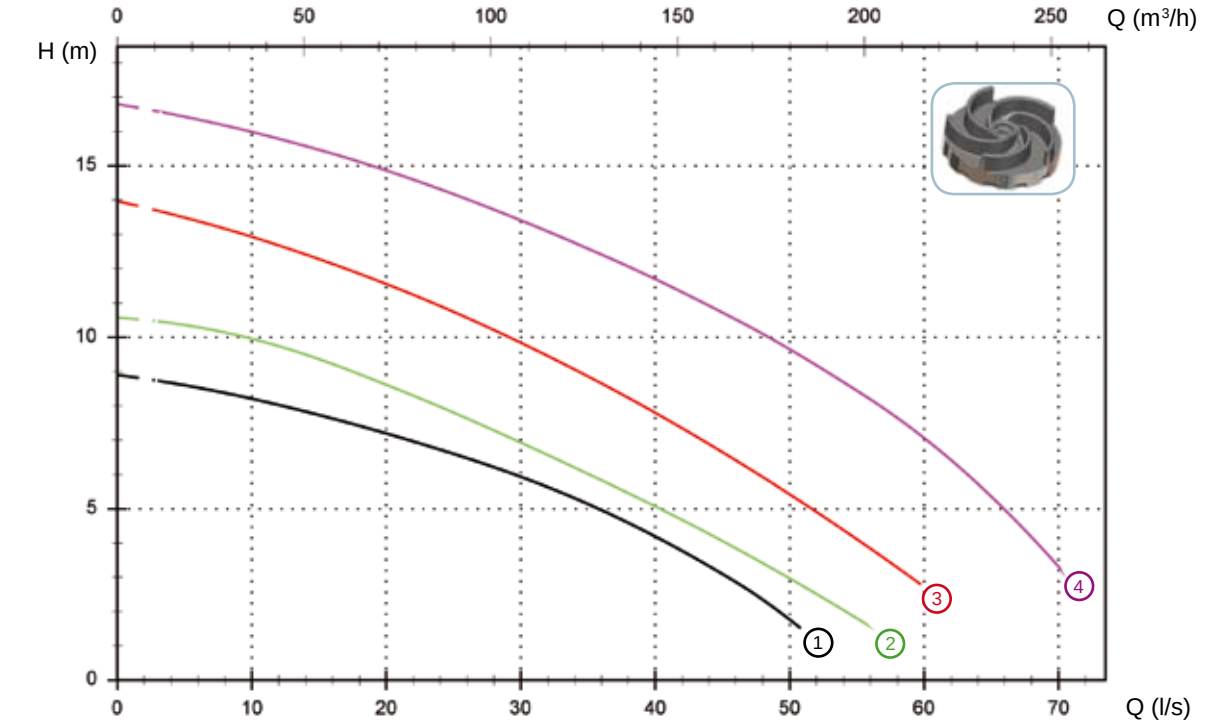
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGP 550/4/80 A0GT/50	400	3	5.9	4.6	10.1	1450	DN80 PN10-16	A	60 mm
(2) DGP 750/4/80 A0HT/50	400	3	8.6	6.5	14.9	1450	DN80 PN10-16	B	60 mm
(3) DGP 1000/4/80 A0HT/50	400	3	11.5	8.9	20	1450	DN80 PN10-16	B	60 mm

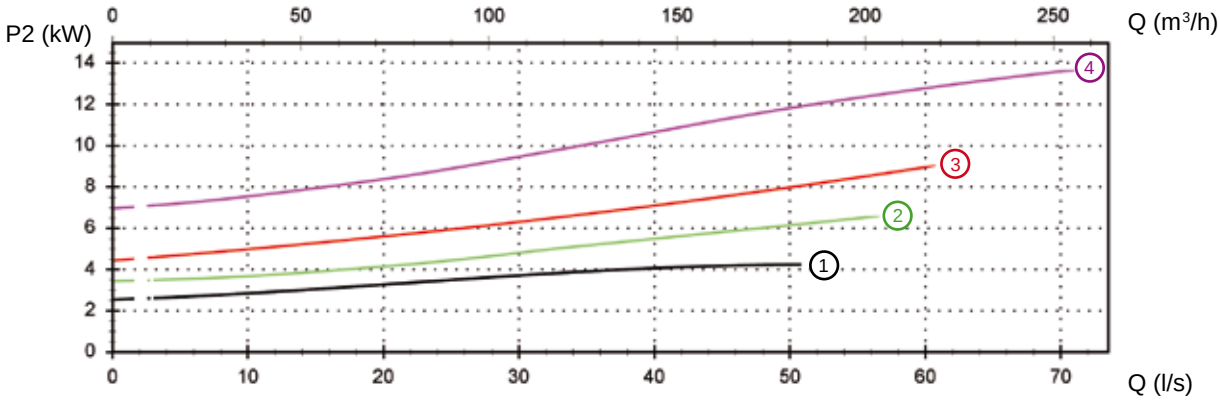
(*) A = 07RN-F 4G2.5+3x1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGP 550/4/100 A0GT/50	400	3	5.9	4.6	10.1	1450	DN100 PN10-16	A	80 mm
2	DGP 750/4/100 A0HT/50	400	3	8.6	6.5	14.9	1450	DN100 PN10-16	B	85 mm
3	DGP 1000/4/100 A0HT/50	400	3	11.5	8.9	20	1450	DN100 PN10-16	B	85 mm
4	DGP 1500/4/100 A0IT/50	400	3	15.8	13.6	28.2	1450	DN100 PN10-16	C	80 mm

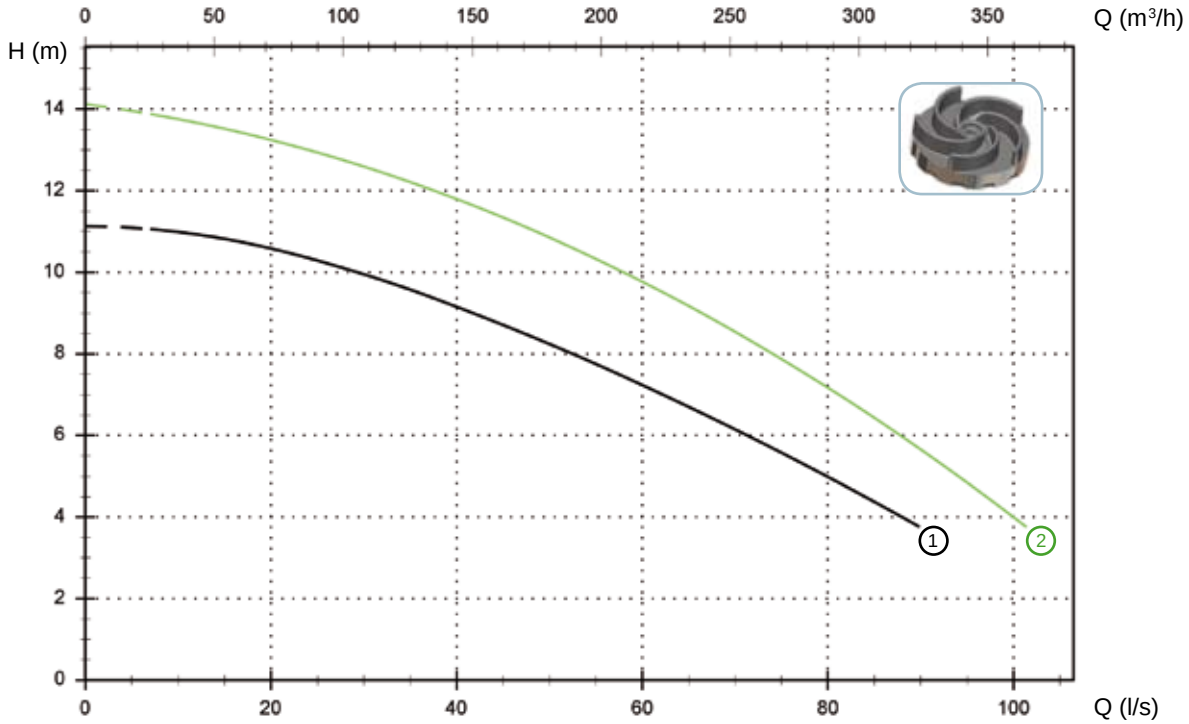
(*) A = 07RN-F 4G2.5+3x1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m
C = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

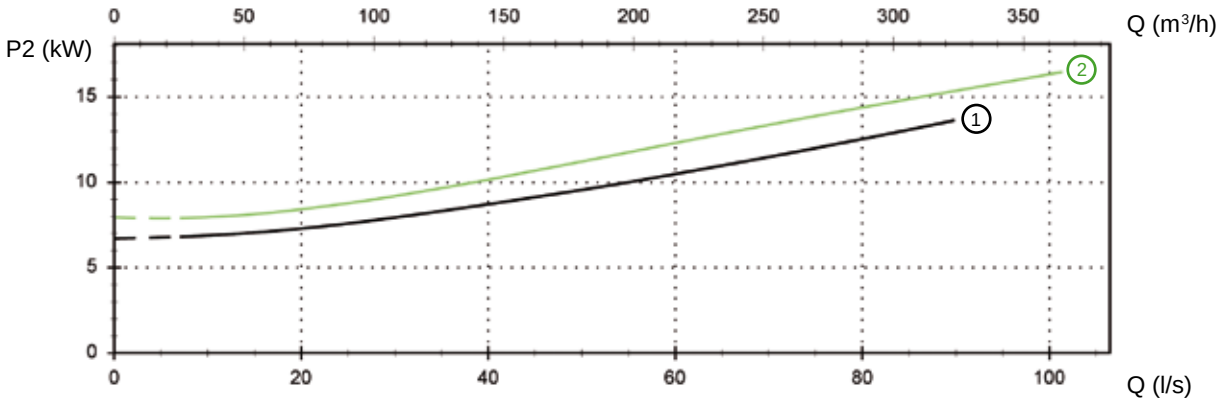
Electrical and mechanical features are equal to the cable H07RN-F

DGP

Models with horizontal DN125 PN10 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGP 1500/4/125 A0IT/50	400	3	15.8	13.6	28.2	1450	DN125 PN10	A	102 mm
(2) DGP 2000/4/125 A0IT/50	400	3	20.7	16.4	36	1450	DN125 PN10	A	102 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

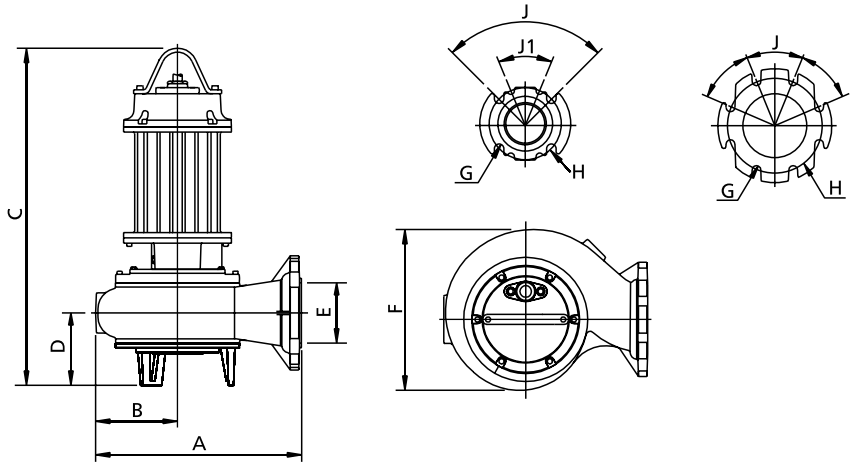
DGP

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGP 550/4/80 A0GT/50		●								●					●	●				●
DGP 750/4/80 A0HT/50		●								●					●	●				●
DGP 1000/4/80 A0HT/50		●								●					●	●				●
DGP 550/4/100 A0GT/50		●								●					●	●				●
DGP 750/4/100 A0HT/50		●								●					●	●				●
DGP 1000/4/100 A0HT/50		●								●					●	●				●
DGP 1500/4/100 A0IT/50		●								●					●	●				●
DGP 1500/4/125 A0IT/50		●								●					●	●				●
DGP 2000/4/125 A0IT/50		●								●					●	●				●

Overall dimensions and weights



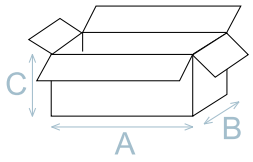
	A	B	C	D	E	F	G	H	J	J1	kg
DGP 550/4/80 A0GT/50	390	150	725	150	80	290	18	160	90°	45°	81
DGP 750/4/80 A0HT/50	445	175	810	155	80	340	18	160	90°	45°	122
DGP 1000/4/80 A0HT/50	445	175	810	155	80	340	18	160	90°	45°	130
DGP 550/4/100 A0GT/50	415	160	740	155	100	310	18	180	45°	-	84
DGP 750/4/100 A0HT/50	430	165	820	160	100	335	18	180	45°	-	115
DGP 1000/4/100 A0HT/50	430	165	820	160	100	335	18	180	45°	-	125
DGP 1500/4/100 A0IT/50	430	165	970	160	100	335	18	180	45°	-	165
DGP 1500/4/125 A0IT/50	580	280	1010	200	125	555	18	210	90°	-	199
DGP 2000/4/125 A0IT/50	580	280	1010	200	125	555	18	210	90°	-	216

Measurements in mm

DGP

Packaging dimension

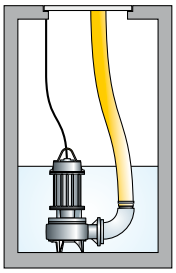
	A	B	C
DGP 550/4/80 A0GT/50	725	445	415
DGP 750/4/80 A0HT/50	915	515	555
DGP 1000/4/80 A0HT/50	915	515	555
DGP 550/4/100 A0GT/50	725	445	415
DGP 750/4/100 A0HT/50	915	515	555
DGP 1000/4/100 A0HT/50	915	515	555
DGP 1500/4/100 A0IT/50	915	515	555
DGP 1500/4/125 A0IT/50	1165	720	685
DGP 2000/4/125 A0IT/50	1165	720	685



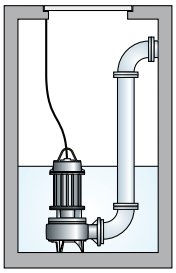
Dimension in mm

Installations available

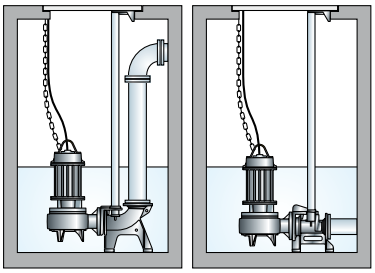
A



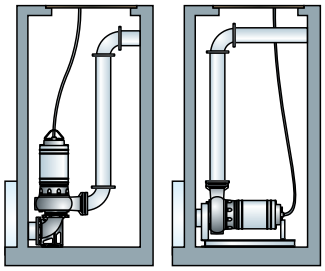
B



D



E





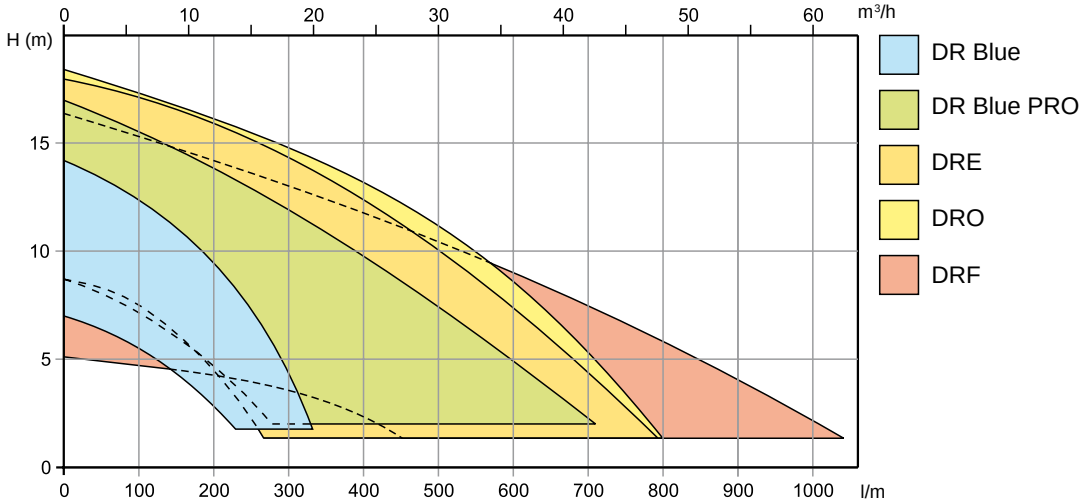
1.2 PUMPS WITH MULTI-CHANNEL OPEN IMPELLER

The DRENO (DR) family consists of electric pumps with multi-channel open impeller. Depending on which of the various motors available is fitted, this family is used for the treatment of mainly clean or slightly soiled water or can be used for lifting sewage, in wastewater treatment plants and in industrial applications in general.

0.3 ÷ 1.5 kW



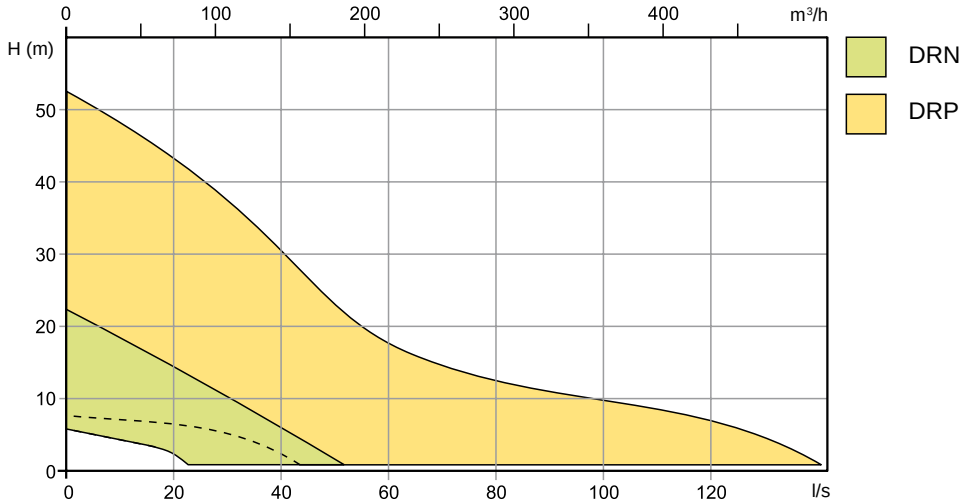
The DR impeller, fitted with motors rated up to 1.5 kW, is used for the treatment of mainly clean or only slightly soiled wastewaters.
A steel strainer on the intake allows solids up to 15 mm in diameter to pass.



1.5 ÷ 19.3 kW



The DR impeller, fitted with motors rated up to 19.3 kW, can be used for lifting sewage, for wastewater treatment plants, and for industrial applications in general. No strainer is fitted in this type of hydraulic unit, allowing solids of up to a maximum of 120 mm to pass.



DR

Pumps with multi-channel open impeller

0.3 ÷ 1.5 KW



DR Blue

page 90

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide and graphite alumina mechanical seals in oil sump, V-ring in direct contact with the liquid. Ecological dry motor. Technopolymer handle and impeller. Pump body in single casting with motor casing. Only available in single-phase version.
The ideal solution for use with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground. Suitable and for specifically domestic use, including heavy-duty applications.



DR BluePRO

page 94

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in oil sump, V-ring in direct contact with the liquid. Ecological dry motor. Aluminium handle, cast iron impeller. Pump body in single casting with motor casing.
Suitable for use with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground, where high pumping rates are required. This electric pump is intended for both domestic and professional use.



DRE

page 100

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller.
Can be used with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground. Suitable for domestic applications.



DRO

page 108

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Stainless steel handle, cast iron impeller.
Can be used with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground. Suitable for heavy-duty domestic and professional applications.



DRF

page 116

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Cast iron handle and impeller. Models with ATEX explosion-proof certification.
Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the DRF is used where the use of ordinary submersible electric pumps would not be possible. The main sectors of use are industrial and for the removal of landfill percolates.

1.5 ÷ 19.3 KW



DRN

page 128

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals (optional). Models available in ATEX explosion-proof version (on request).
Designed for mainly professional and industrial use such as wastewater treatment plants, sewage systems and livestock farms, it is particularly suitable for the treatment of liquids containing suspended solids and low or medium density activated sludges. These models are prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).



DRP

page 142

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor.
Designed to transport heavily soiled wastewater, activated sludges and solids. Particularly suitable for applications in wastewater treatment, sewer systems, civil lifting systems and the paper, tanning and leather industries.

DR Blue



Multi-channel open impeller

General characteristics

- multi-channel open impeller
- 0,3 ÷ 0,74 kW
- 2 poles
- GAS 1 1/4" vertical delivery port
- 7 mm free passage

Electromechanical assembly

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing mechanical seals in silicon carbide and alumina graphite in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

The ideal solution for use with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground. Suitable and reliable for domestic use, including heavy-duty applications.

Construction materials

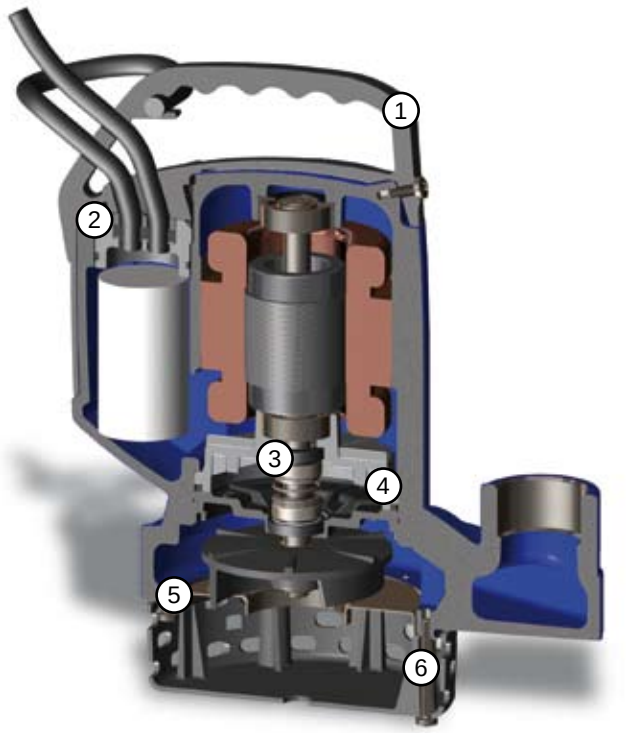
Case	Cast iron EN-GJL 250
Impeller	Technopolymer
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless steel - AISI 420
Set of standard mechanical seals	One silicon carbide mechanical seal (SiC) and one carbon-aluminium oxide mechanical seal (AL)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

DR Blue





Lifting handle

Convenient technopolymer lifting and carrying handle



Cable Gland System

Innovative cable gland system with twin O-rings to ensure maximum tightness



Mechanical seals

One silicon carbide mechanical seal (SiC) and one carbon-aluminium oxide mechanical seal (AL)



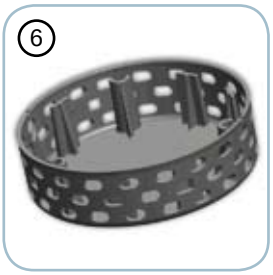
Seal sump

Oil chamber which guarantees longer mechanical seal lifetime, and is easily accessible thanks to a patented system to simplify maintenance procedures



Anti-clogging System

The diffuser plate incorporates the Anti Clogging System (ACS), consisting of grooves in the plate to facilitate the ejection of solids.



Intake strainer

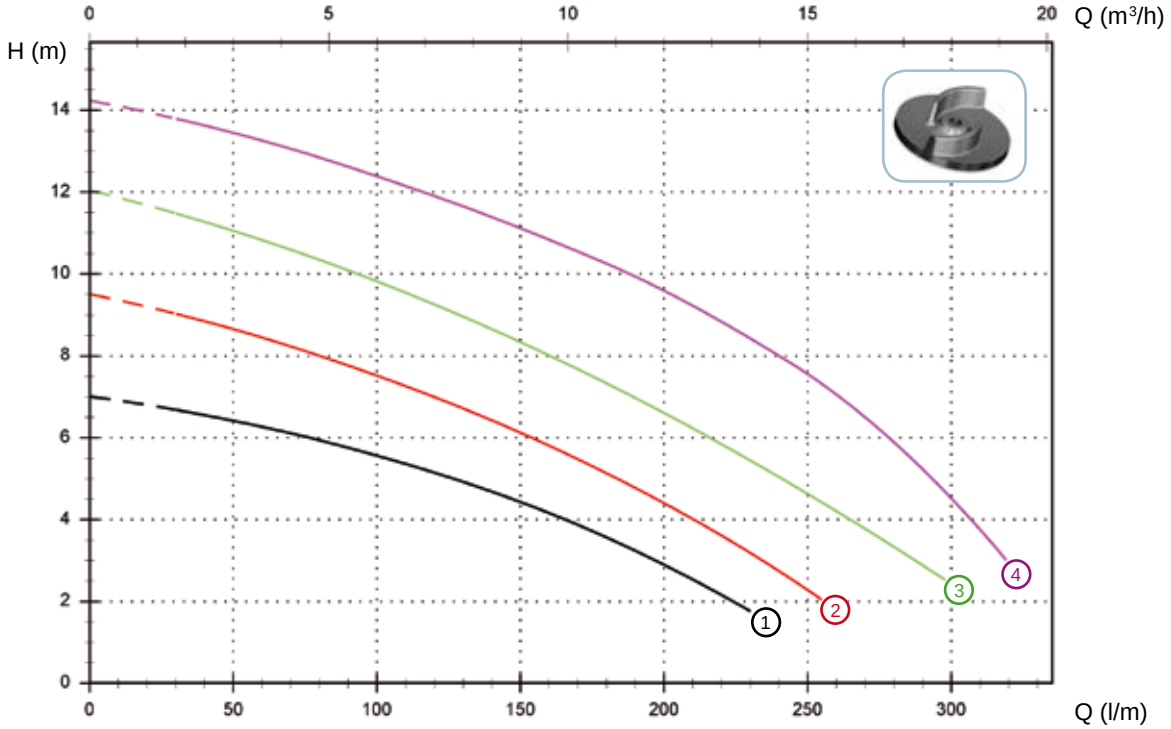
Intake strainer in impact-resistant polypropylene

DR Blue

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles motor

Performances

	l/s	0	1	2	3	4	5
	l/min	0	60	120	180	240	300
	m³/h	0	3,6	7,2	10,8	14,4	18,0
1	DR Blue 40/2/G32V A1BM/50	7,0	6,3	5,1	3,6		
2	DR Blue 50/2/G32V A1BM/50	9,5	8,4	7,0	5,1	2,7	
3	DR Blue 75/2/G32V A1BM/50	12,0	10,8	9,3	7,3	5,0	
4	DR Blue 100/2/G32V A1BM/50	14,2	13,3	11,9	10,3	8,0	4,5



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø Cable (*)		Free passage
1	DR Blue 40/2/G32V A1BM/50	230	1	-	0.3	2.3	2900	G 1 1/4"	A	7 mm
2	DR Blue 50/2/G32V A1BM/50	230	1	-	0.37	2.8	2900	G 1 1/4"	A	7 mm
3	DR Blue 75/2/G32V A1BM/50	230	1	-	0.55	4.1	2900	G 1 1/4"	A	7 mm
4	DR Blue 100/2/G32V A1BM/50	230	1	-	0.74	5.6	2900	G 1 1/4"	A	7 mm

(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

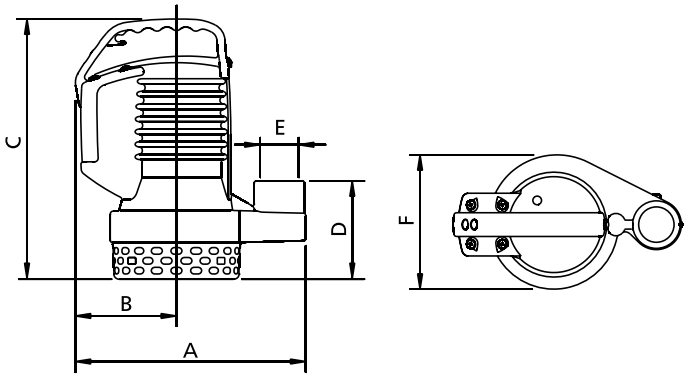
DR Blue

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DR Blue 40/2/G32V A1BM/50			●				●								●				●	
DR Blue 50/2/G32V A1BM/50			●				●								●				●	
DR Blue 75/2/G32V A1BM/50			●				●								●				●	
DR Blue 100/2/G32V A1BM/50			●				●								●				●	

Overall dimensions and weights

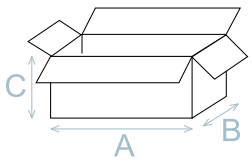


	A	B	C	D	E	F	kg
DR Blue 40/2/G32V A1BM/50	255	115	295	110	G 1¼"	150	11.5
DR Blue 50/2/G32V A1BM/50	255	115	295	110	G 1¼"	150	12
DR Blue 75/2/G32V A1BM/50	255	115	295	110	G 1¼"	150	13.5
DR Blue 100/2/G32V A1BM/50	255	115	295	110	G 1¼"	150	15.5

Measurements in mm

Packaging dimension

	A	B	C
DR Blue 40/2/G32V A1BM/50	240	200	350
DR Blue 50/2/G32V A1BM/50	240	200	350
DR Blue 75/2/G32V A1BM/50	240	200	350
DR Blue 100/2/G32V A1BM/50	240	200	350

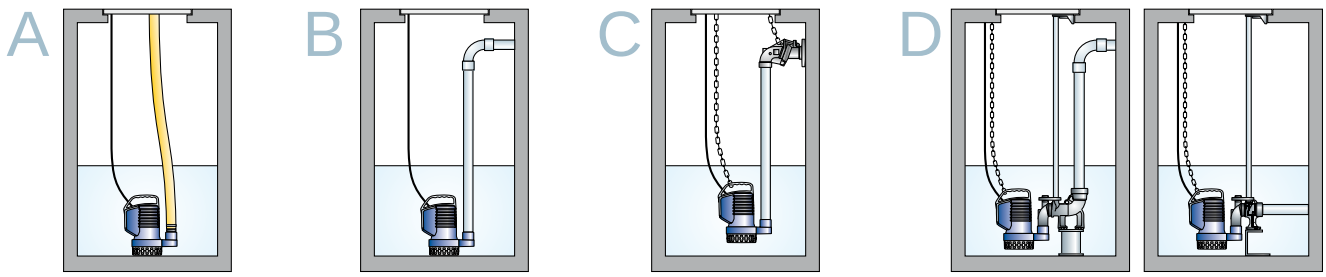


Dimension in mm

No. pieces per pallet

For DR Blue models each pallet (EUR 1000X1200 mm) is able to take 75 pieces.

Installations available



For C and D installations the joint for reduction is necessary (not included)

DR BluePRO

Multi-channel open impeller



General characteristics

- multi-channel open impeller
- 0,37 ÷ 1,5 kW
- 2 poles
- GAS 1 1/4" - 2" vertical delivery port
- max 15 mm free passage

Electromechanical assembly

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing silicon carbide mechanical seals in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Suitable for use with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground, where high pumping rates are required. This electric pump is intended for both domestic and professional use.

Construction materials

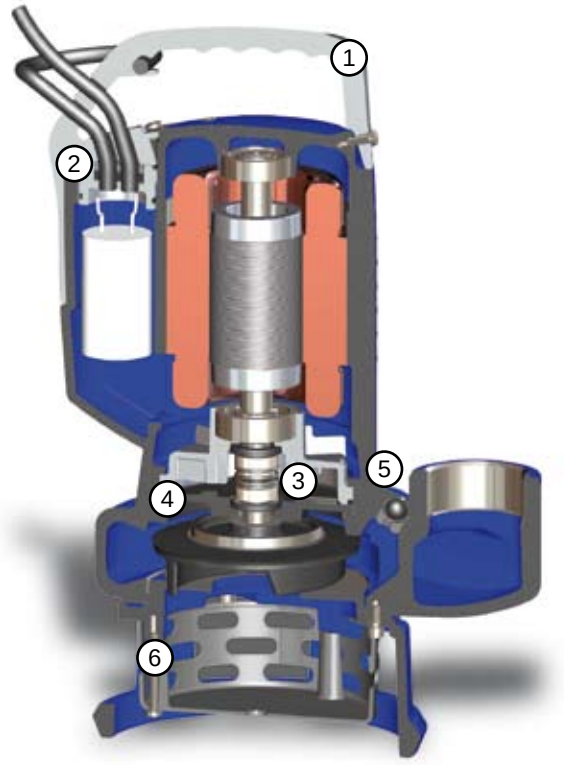
Case	Cast iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

DR BluePRO





Lifting handle

Aluminium lifting and carrying handle



Cable Gland System

Innovative cable gland system with twin O-rings to ensure maximum tightness



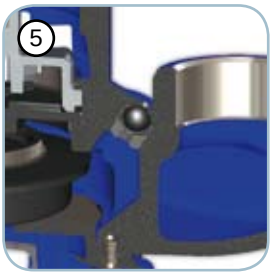
Mechanical seals

Two silicon carbide mechanical seals (2SiC)



Seal sump

Oil chamber which guarantees longer mechanical seal lifetime, and is easily accessible thanks to a patented system to simplify maintenance procedures



Breather

Breather which allows the air to be vented and ensure reliable pump priming even after long periods out of use



Intake strainer

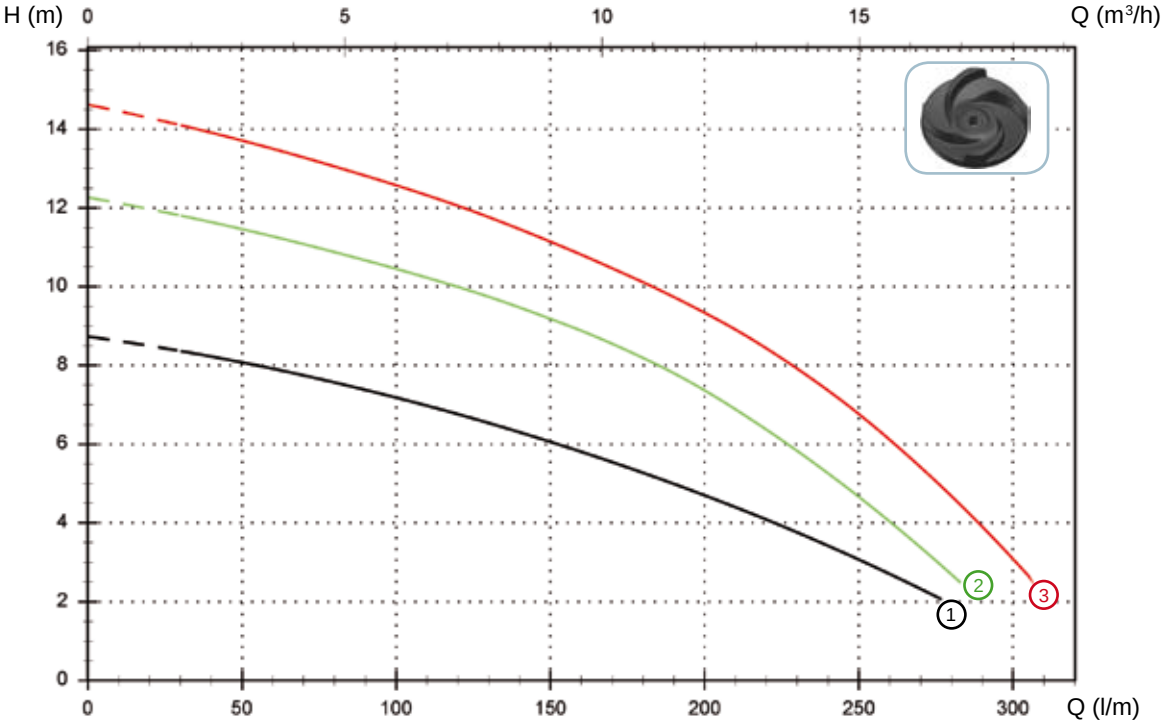
Intake strainer in stainless steel for 50, 75 and 100 models and in polypropylene with spheroidal cast iron feet for 150 and 200 models

DR BluePRO

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles motor

Performances

	l/s	0	1	2	3	4	5
	l/min	0	60	120	180	240	300
	m³/h	0	3,6	7,2	10,8	14,4	18,0
1	DR BluePRO 50/2/G32V A1BM(T)/50	8,7	7,9	6,8	5,3	3,4	
2	DR BluePRO 75/2/G32V A1BM(T)/50	12,3	11,3	10,0	8,2	5,3	
3	DR BluePRO 100/2/G32V A1BM(T)/50	14,6	13,5	12,1	10,1	7,4	3,1



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DR BluePRO 50/2/G32V A1BM/50	230	1	-	0.37	2.8	2900	G 1 1/4"	A	15 mm
2 DR BluePRO 75/2/G32V A1BM/50	230	1	-	0.55	4.1	2900	G 1 1/4"	A	15 mm
3 DR BluePRO 100/2/G32V A1BM/50	230	1	-	0.74	5.6	2900	G 1 1/4"	A	15 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DR BluePRO 50/2/G32V A1BT/50	400	3	-	0.37	1.15	2900	G 1 1/4"	B	15 mm
2 DR BluePRO 75/2/G32V A1BT/50	400	3	-	0.55	1.6	2900	G 1 1/4"	B	15 mm
3 DR BluePRO 100/2/G32V A1BT/50	400	3	-	0.74	2.15	2900	G 1 1/4"	B	15 mm

(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length

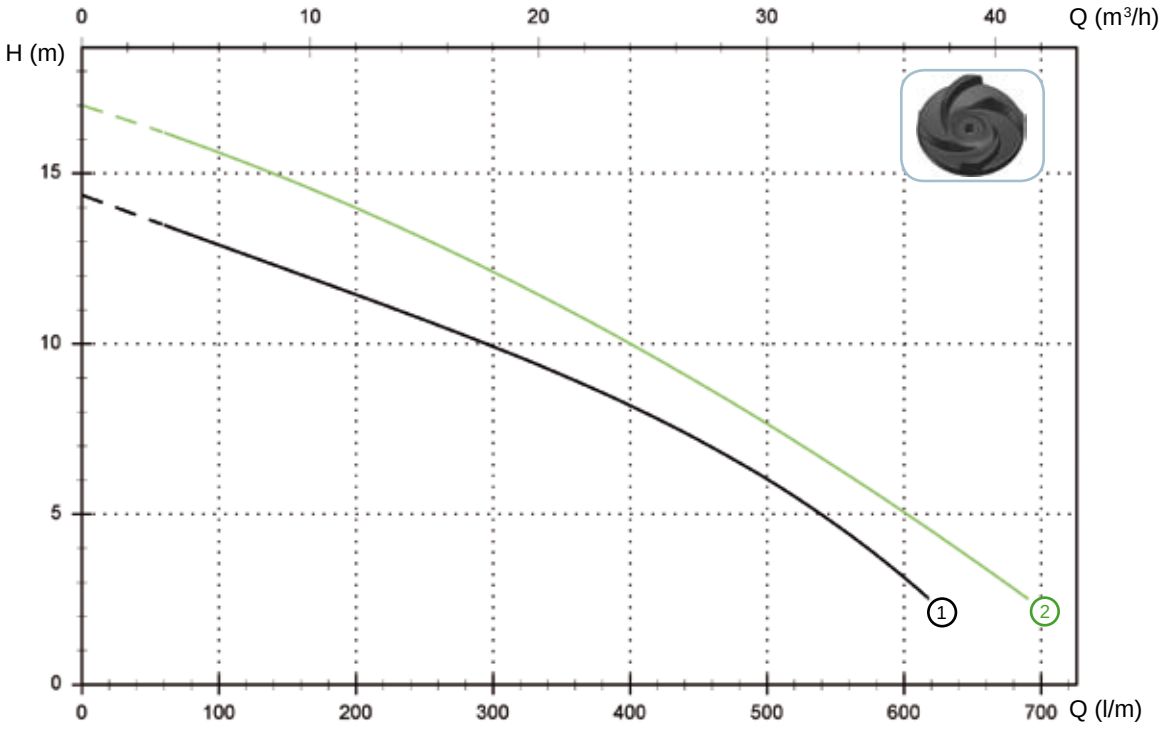
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DR BluePRO

Models with vertical GAS 2” threaded delivery port - 2 poles motor

Performances

	l/s	0	2	4	6	8	10
	l/min	0	120	240	360	480	600
	m³/h	0	7,2	14,4	21,6	28,8	36,0
1	DR BluePRO 150/2/G50V A1CM(T)/50	14,4	12,6	10,9	8,9	6,5	3,1
2	DR BluePRO 200/2/G50V A1CM(T)/50	17,0	15,3	13,3	10,9	8,1	5,1



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DR BluePRO 150/2/G50V A1CM/50	230	1	-	1.1	7.5	2900	G 2”	A	10x30 mm
2	DR BluePRO 200/2/G50V A1CM/50	230	1	-	1.5	10	2900	G 2”	A	10x30 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DR BluePRO 150/2/G50V A1CT/50	400	3	-	1.1	3.2	2900	G 2”	B	10x30 mm
2	DR BluePRO 200/2/G50V A1CT/50	400	3	-	1.5	4.3	2900	G 2”	B	10x30 mm

(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

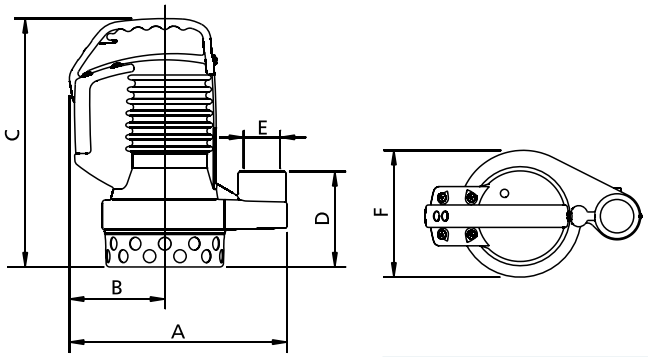
DR BluePRO

Versions available

(Key to versions on page 15)

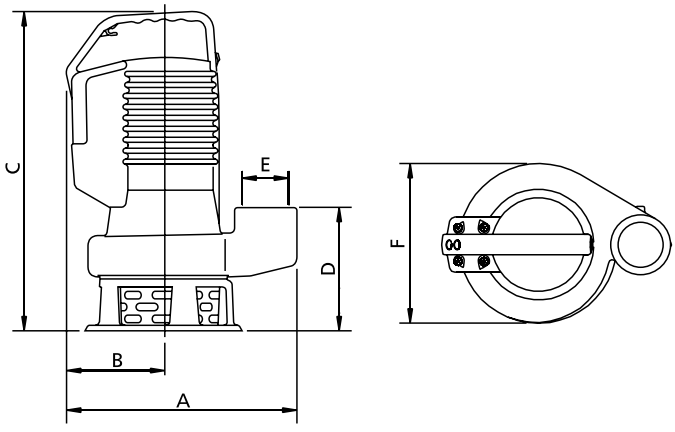
	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DR BluePRO 50/2/G32V A1BM/50			●				●								●		●			
DR BluePRO 75/2/G32V A1BM/50			●				●								●		●			
DR BluePRO 100/2/G32V A1BM/50			●				●								●		●			
DR BluePRO 150/2/G50V A1CM/50			●				●								●		●			
DR BluePRO 200/2/G50V A1CM/50			●				●								●		●			
DR BluePRO 50/2/G32V A1BT/50	●											●			●		●			
DR BluePRO 75/2/G32V A1BT/50	●											●			●		●			
DR BluePRO 100/2/G32V A1BT/50	●											●			●		●			
DR BluePRO 150/2/G50V A1CT/50	●											●			●		●			
DR BluePRO 200/2/G50V A1CT/50	●											●			●		●			

Overall dimensions and weights



	A	B	C	D	E	F	kg
DR BluePRO 50/2/G32V A1BM(T)/50	255	115	295	110	G 1¼"	150	12
DR BluePRO 75/2/G32V A1BM(T)/50	255	115	295	110	G 1¼"	150	13.5
DR BluePRO 100/2/G32V A1BM(T)/50	255	115	295	110	G 1¼"	150	14

Measurements in mm



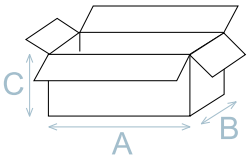
	A	B	C	D	E	F	kg
DR BluePRO 150/2/G50V A1CM(T)/50	295	125	420	170	G 2"	200	23
DR BluePRO 200/2/G50V A1CM(T)/50	295	125	420	170	G 2"	200	24

Measurements in mm

DR BluePRO

Packaging dimension

	A	B	C
DR BluePRO 50/2/G32V A1BM(T)/50	240	200	350
DR BluePRO 75/2/G32V A1BM(T)/50	240	200	350
DR BluePRO 100/2/G32V A1BM(T)/50	240	200	350
DR BluePRO 150/2/G50V A1CM(T)/50	300	250	480
DR BluePRO 200/2/G50V A1CM(T)/50	300	250	480



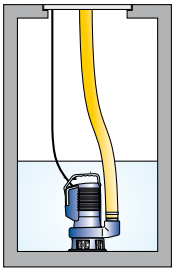
Dimension in mm

No. pieces per pallet

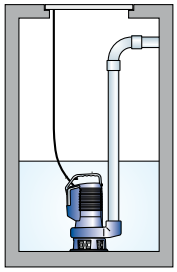
For DR BluePRO 50-75-100 models each pallet (EUR 1000X1200 mm) is able to take 75 pieces.
For DR BluePRO 150-200 models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available

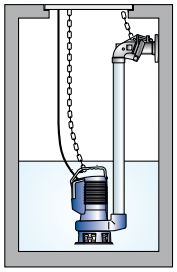
A



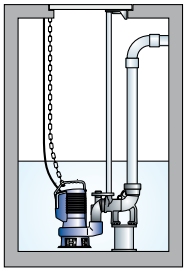
B

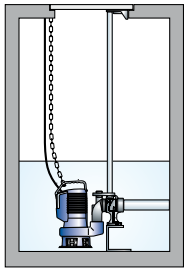


C



D





For C and D installations of the models DR BluePRO 50-75-100 the joint for reduction is necessary (not included)

DRE



Multi-channel open impeller

General characteristics

- Multi-channel open impeller
- 0,37 ÷ 1,5 kW motor power
- 2 poles
- GAS 1¼”- 2” vertical
  GAS 2” - DN50 horizontal
- max 15 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Can be used with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground. Suitable for specifically domestic use.

Construction materials

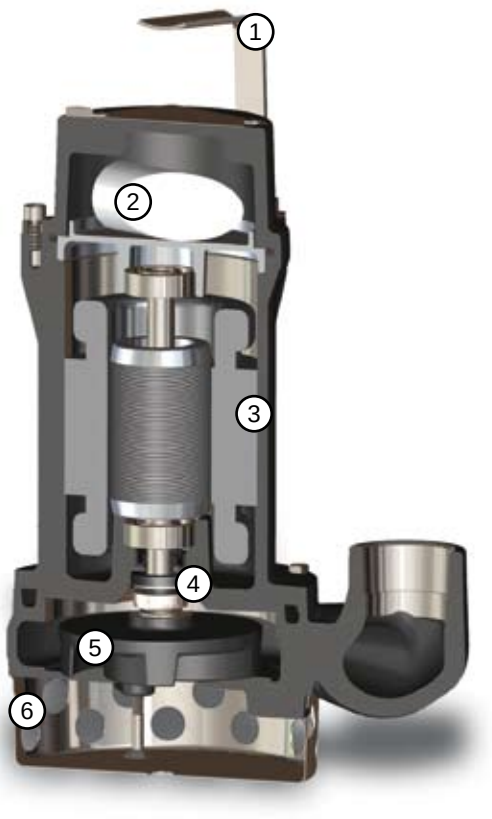
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

DRE





Handle

AISI 304 stainless steel lifting and carrying handle



Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Motor

Ecological dry motor with thermal overloads



Mechanical seals

One mechanical seal in silicon carbide (SiC)



Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



Intake strainer

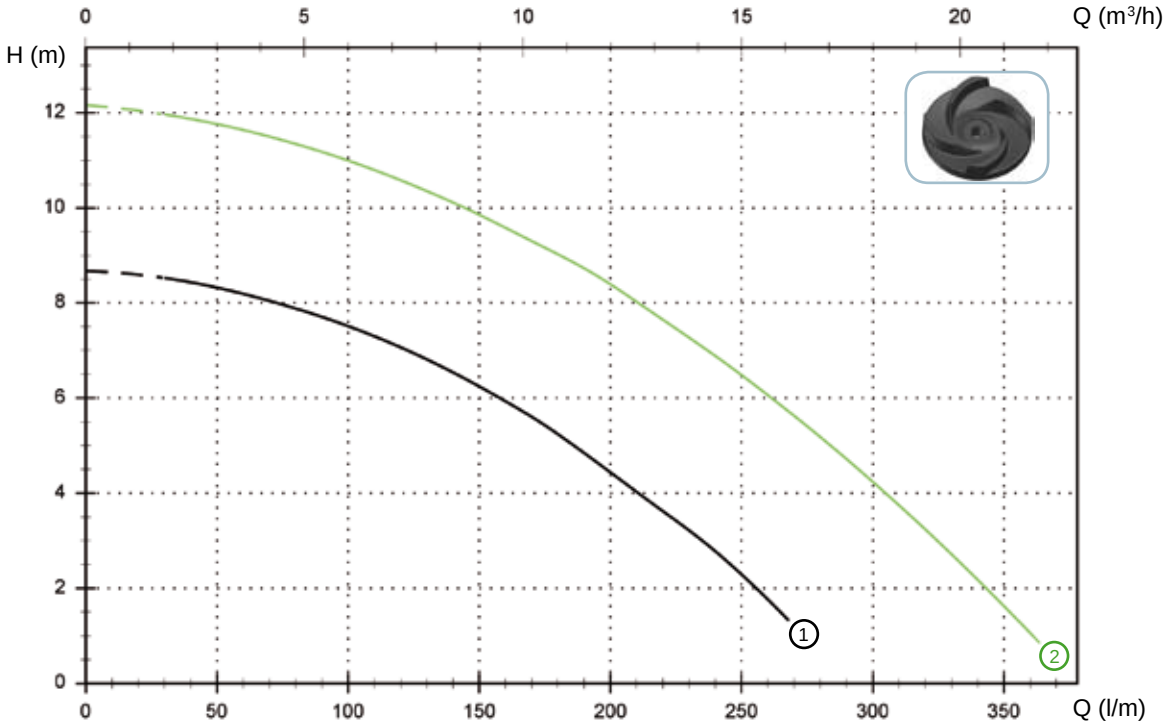
Intake strainer in stainless steel

DRE

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6
	l/min	0	60	120	180	240	300	360
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6
(1)	DRE 50/2/G32V A0BM(T)/50	8,7	8,2	7,1	5,2	2,8		
(2)	DRE 75/2/G32V A0BM(T)/50	12,2	11,6	10,6	9,0	6,9	4,2	1,1



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1)	DRE 50/2/G32V A0BM/50	230	1	-	0.37	2.8	2900	G 1 1/4"	A	15 mm
(2)	DRE 75/2/G32V A0BM/50	230	1	-	0.55	3.8	2900	G 1 1/4"	A	15 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1)	DRE 50/2/G32V A0BT/50	400	3	-	0.37	1.1	2900	G 1 1/4"	B	15 mm
(2)	DRE 75/2/G32V A0BT/50	400	3	-	0.55	1.3	2900	G 1 1/4"	B	15 mm

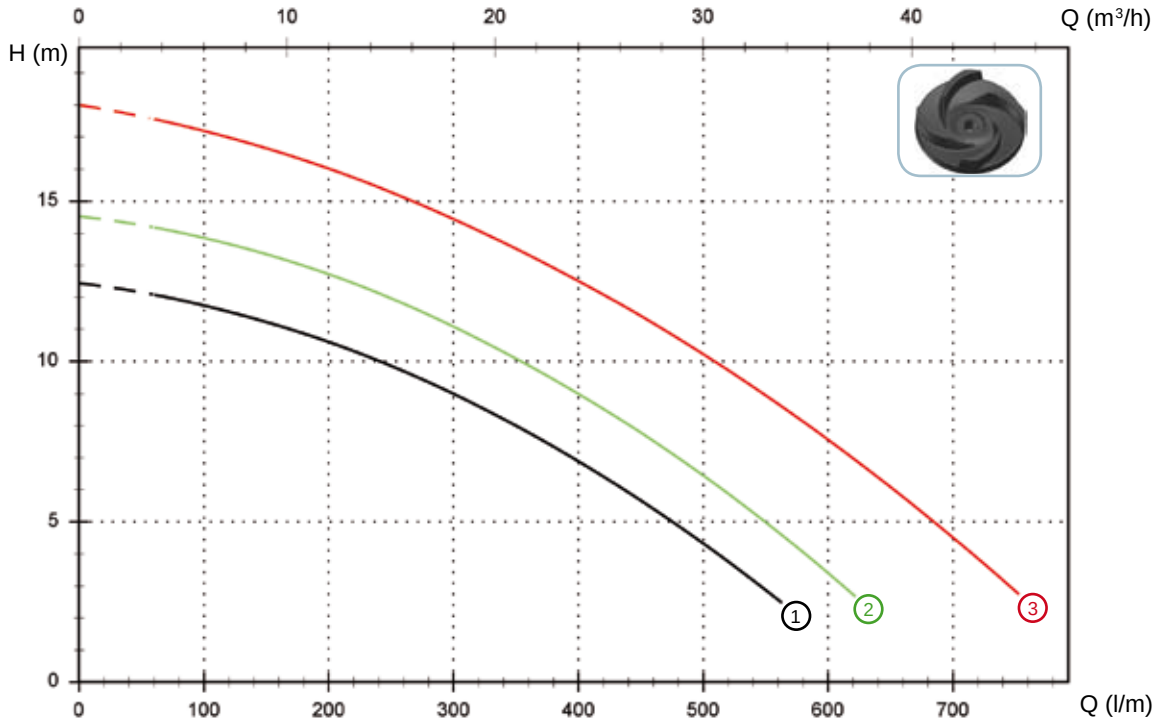
(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length

Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1	DRE 100/2/G50V A0CM(T)/50	12,4	11,6	10,0	7,8	4,9		
2	DRE 150/2/G50V A0CM(T)50	14,5	13,7	12,1	9,9	7,0	3,4	
3	DRE 200/2/G50V A0CM(T)/50	18,0	17,0	15,4	13,3	10,7	7,6	3,9



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRE 100/2/G50V A0CM/50	230	1	-	0.88	6.5	2900	G 2”	A	15 mm
2	DRE 150/2/G50V A0CM/50	230	1	-	1.1	8.2	2900	G 2”	A	15 mm
3	DRE 200/2/G50V A0CM/50	230	1	-	1.5	9.3	2900	G 2”	A	15 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRE 100/2/G50V A0CT/50	400	3	-	0.88	2.3	2900	G 2”	B	15 mm
2	DRE 150/2/G50V A0CT/50	400	3	-	1.1	2.7	2900	G 2”	B	15 mm
3	DRE 200/2/G50V A0CT/50	400	3	-	1.5	3.5	2900	G 2”	B	15 mm

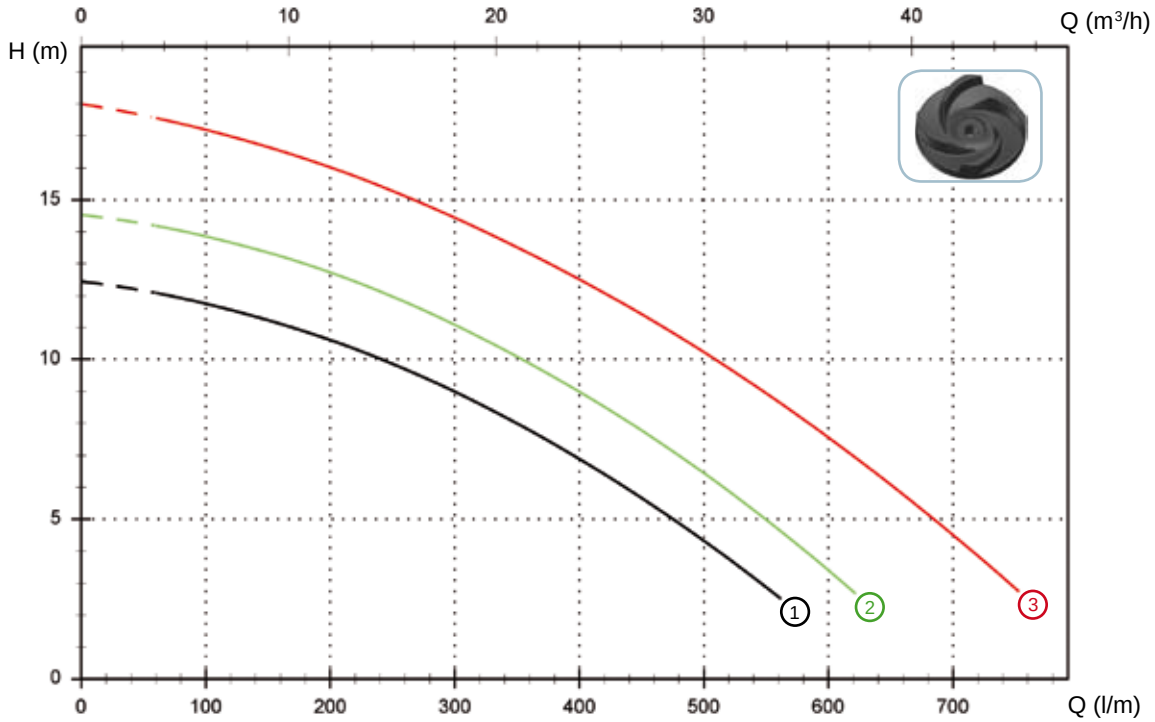
(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DRE

Models with horizontal GAS 2” threaded - DN50 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1	DRE 100/2/G50H A0CM(T)/50	12,4	11,6	10,0	7,8	4,9		
2	DRE 150/2/G50H A0CM(T)/50	14,5	13,7	12,1	9,9	7,0	3,4	
3	DRE 200/2/G50H A0CM(T)/50	18,0	17,0	15,4	13,3	10,7	7,6	3,9



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRE 100/2/G50H A0CM/50	230	1	-	0.88	6.5	2900	G 2”- DN50 PN10-16	A	15 mm
2	DRE 150/2/G50H A0CM/50	230	1	-	1.1	8.2	2900	G 2”- DN50 PN10-16	A	15 mm
3	DRE 200/2/G50H A0CM/50	230	1	-	1.5	9.3	2900	G 2”- DN50 PN10-16	A	15 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRE 100/2/G50H A0CT/50	400	3	-	0.88	2.3	2900	G 2”- DN50 PN10-16	B	15 mm
2	DRE 150/2/G50H A0CT/50	400	3	-	1.1	2.7	2900	G 2”- DN50 PN10-16	B	15 mm
3	DRE 200/2/G50H A0CT/50	400	3	-	1.5	3.5	2900	G 2”- DN50 PN10-16	B	15 mm

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DRE

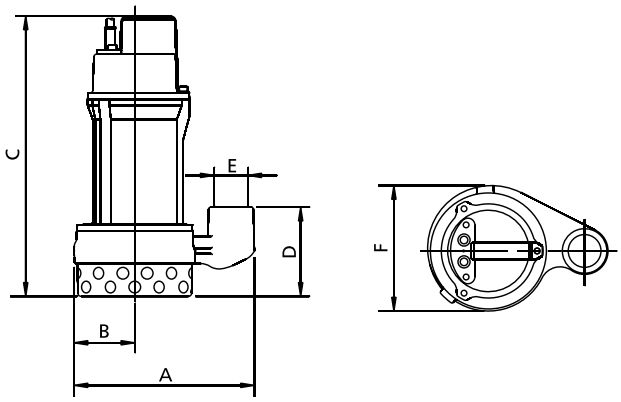
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRE 50/2/G32V A0BM/50			●				●								●			●		
DRE 75/2/G32V A0BM/50			●				●								●			●		
DRE 100/2/G50V A0CM/50			●				●								●			●		
DRE 150/2/G50V A0CM/50			●				●								●			●		
DRE 200/2/G50V A0CM/50			●				●								●			●		
DRE 100/2/G50H A0CM/50			●				●								●			●		
DRE 150/2/G50H A0CM/50			●				●								●			●		
DRE 200/2/G50H A0CM/50			●				●								●			●		
DRE 50/2/G32V A0BT/50	●											●			●			●		
DRE 75/2/G32V A0BT/50	●											●			●			●		
DRE 100/2/G50V A0CT/50	●											●			●			●		
DRE 150/2/G50V A0CT/50	●											●			●			●		
DRE 200/2/G50V A0CT/50	●											●			●			●		
DRE 100/2/G50H A0CT/50	●											●			●			●		
DRE 150/2/G50H A0CT/50	●											●			●			●		
DRE 200/2/G50H A0CT/50	●											●			●			●		

Overall dimensions and weights

Models with vertical delivery port

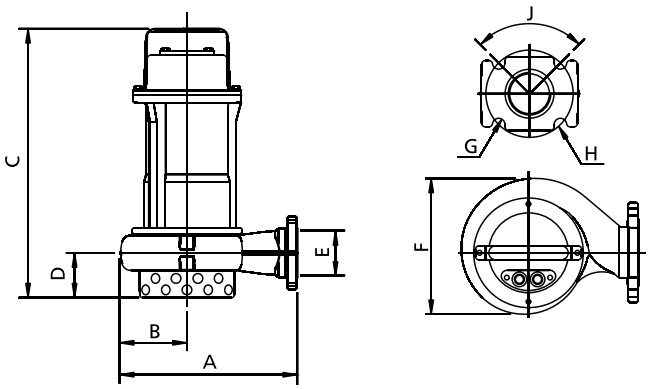


	A	B	C	D	E	F	kg
DRE 50/2/G32V A0BM(T)/50	215	70	335	105	G 1¼”	150	11
DRE 75/2/G32V A0BM (T)/50	215	70	335	105	G 1¼”	150	13
DRE 100/2/G50V A0CM (T)/50	265	100	385	125	G 2”	190	19
DRE 150/2/G50V A0CM (T)/50	265	100	385	125	G 2”	190	20
DRE 200/2/G50V A0CM (T)/50	265	100	385	125	G 2”	190	21

Measurements in mm

DRE

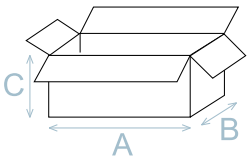
Models with horizontal delivery port



	A	B	C	D	E	F	G	H	J	kg
DRE 100/2/G50H A0CM (T)/50	255	95	385	65	G 2”-DN50	195	18	125	90°	19
DRE 150/2/G50H A0CM (T)/50	255	95	385	65	G 2”-DN50	195	18	125	90°	20
DRE 200/2/G50H A0CM (T)/50	255	95	385	65	G 2”-DN50	195	18	125	90°	21

Packaging dimension

	A	B	C
DRE 50/2/G32V A0BM(T)/50	385	225	245
DRE 75/2/G32V A0BM (T)/50	385	225	245
DRE 100/2/G50V A0CM (T)/50	475	285	235
DRE 150/2/G50V A0CM (T)/50	475	285	235
DRE 200/2/G50V A0CM (T)/50	475	285	235
DRE 100/2/G50H A0CM (T)/50	475	285	235
DRE 150/2/G50H A0CM (T)/50	475	285	235
DRE 200/2/G50H A0CM (T)/50	475	285	235

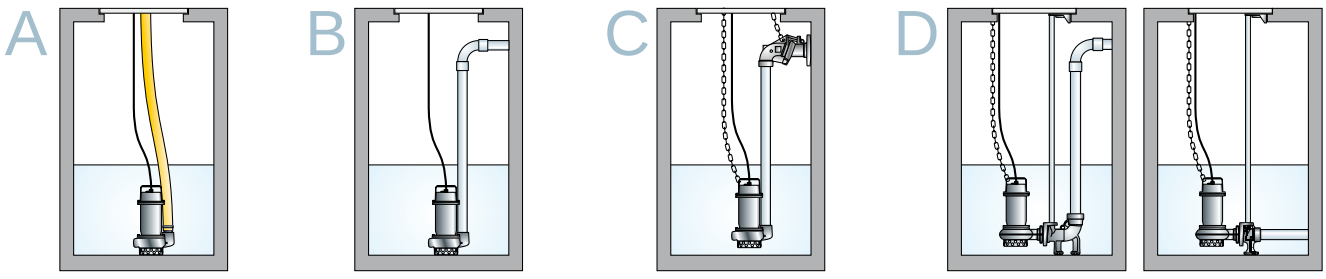


Dimension in mm

No. pieces per pallet

For DRE 50-75-100 models each pallet (EUR 1000X1200 mm) is able to take 48 pieces.
For DRE 150-200 models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available




mm/inch ON/OFF
Mahr
IP67
90°
A
TIPOLOGIA IDRAULICA: PER GIR. A RASAM
INC. IDR. Ø129 - MANDATA Ø G50V
CORPO POMPA -L-
Tolleranza profondità utile filettature ±0.5
Materiale
02
Scala
1:1

DRO



Multi-channel open impeller

General characteristics

- Multi-channel open impeller
- 0,37 ÷ 1,5 kW motor power
- 2 poles
- GAS 1 1/4" - 2" V
  GAS 2" H - DN50 PN10
- max 15 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Can be used with clear or slightly soiled wastewaters containing small solids, strained water, rainwater, seepage and water pumped from underground. Suitable for heavy-duty domestic and professional applications

Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DRO





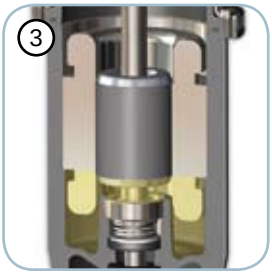
Handle

AISI 304 stainless steel lifting and carrying handle



Structure

Constructed in cast iron



Motor

Oil-bath motor with thermal overloads



Mechanical seals

One mechanical seal in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL)



Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



Intake strainer

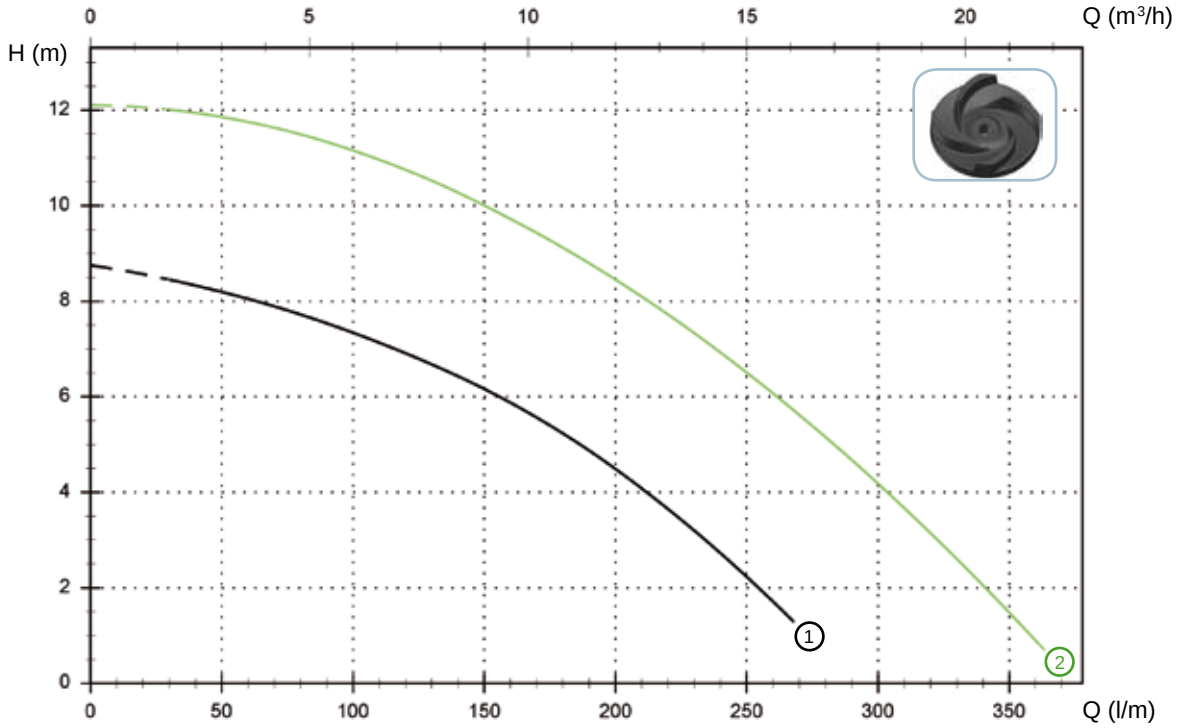
Intake strainer in stainless steel

DRO

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6
	l/min	0	60	120	180	240	300	360
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6
1	DRO 50/2/G32V A0CM(T)/50	8,8	8,1	6,9	5,2	2,7		
2	DRO 75/2/G32V A0CM(T)/50	12,1	11,8	10,8	9,1	6,9	4,2	0,9



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRO 50/2/G32V A0CM/50	230	1	-	0.37	2.9	2900	G 1 1/4"	A	15 mm
2	DRO 75/2/G32V A0CM/50	230	1	-	0.55	3.9	2900	G 1 1/4"	A	15 mm

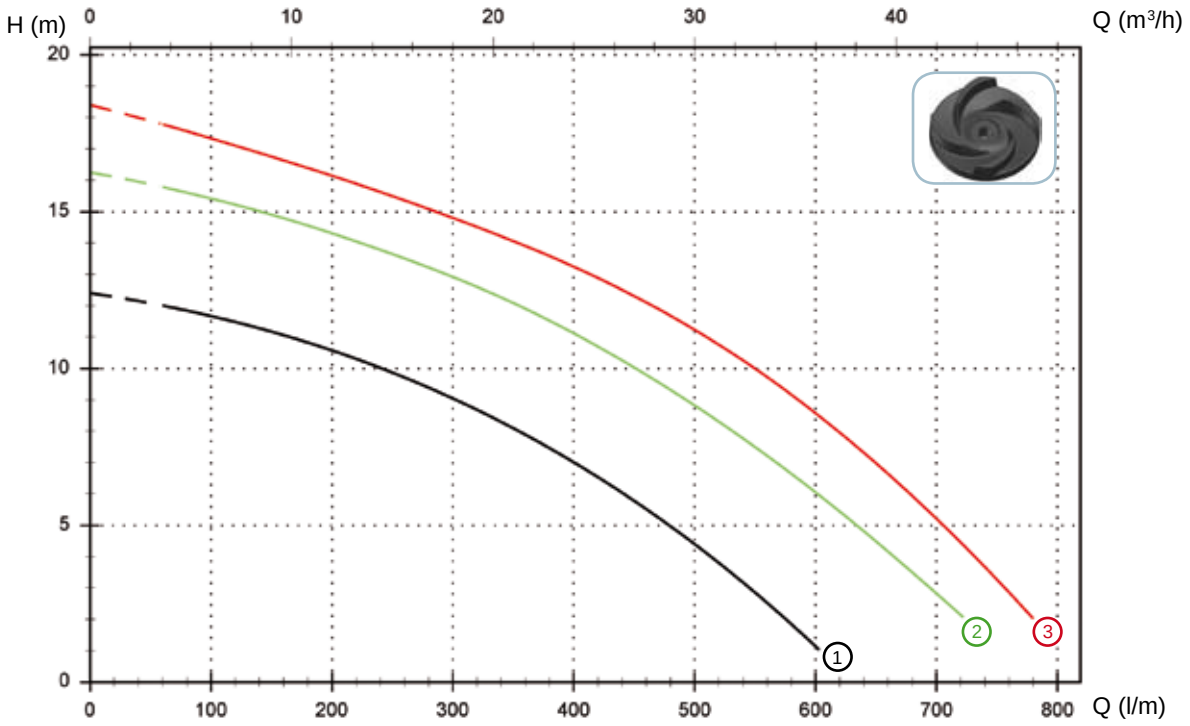
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRO 50/2/G32V A0CT/50	400	3	-	0.37	1.1	2900	G 1 1/4"	A	15 mm
2	DRO 75/2/G32V A0CT/50	400	3	-	0.55	1.4	2900	G 1 1/4"	A	15 mm

(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1	DRO 100/2/G50V A0CM(T)/50	12,4	11,5	10,0	7,9	5,0	1,1	
2	DRO 150/2/G50V A0CM(T)/50	16,3	15,2	13,8	11,9	9,3	6,0	2,1
3	DRO 200/2/G50V A0CM(T)/50	18,4	17,1	15,6	13,9	11,7	8,6	4,5



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRO 100/2/G50V A0CM/50	230	1	-	0.88	6.5	2900	G 2”	A	15 mm
2	DRO 150/2/G50V A0CM/50	230	1	-	1.1	8.2	2900	G 2”	A	15 mm
3	DRO 200/2/G50V A0CM/50	230	1	-	1.5	9.3	2900	G 2”	A	15 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRO 100/2/G50V A0CT/50	400	3	-	0.88	2.3	2900	G 2”	A	15 mm
2	DRO 150/2/G50V A0CT/50	400	3	-	1.1	2.7	2900	G 2”	A	15 mm
3	DRO 200/2/G50V A0CT/50	400	3	-	1.5	3.5	2900	G 2”	A	15 mm

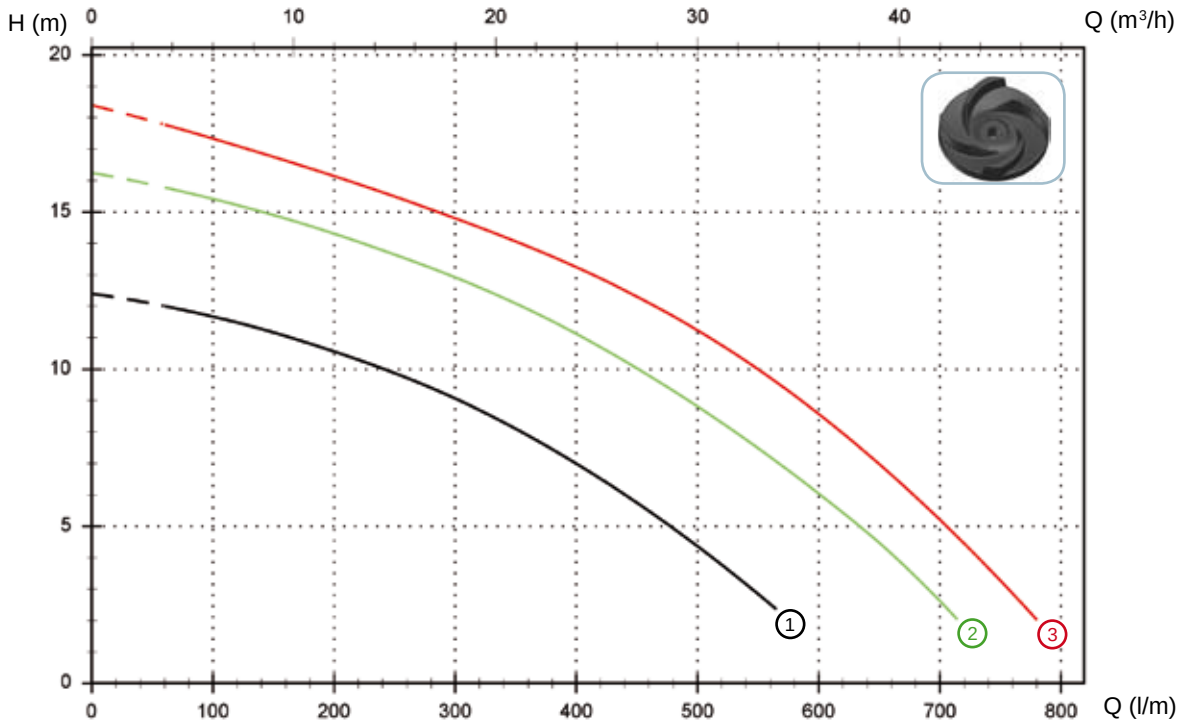
(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DRO

Models with horizontal GAS 2” threaded - DN50 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1	DRO 100/2/G50H A0CM(T)/50	12,4	11,5	10,0	7,9	4,9		
2	DRO 150/2/G50H A0CM(T)/50	16,3	15,2	13,8	11,9	9,3	6,0	
3	DRO 200/2/G50H A0CM(T)/50	18,4	17,1	15,6	13,9	11,7	8,6	4,5



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRO 100/2/G50H A0CM/50	230	1	-	0.88	6.5	2900	G 2”- DN50 PN10-16	A	15 mm
2	DRO 150/2/G50H A0CM/50	230	1	-	1.1	8.2	2900	G 2”- DN50 PN10-16	A	15 mm
3	DRO 200/2/G50H A0CM/50	230	1	-	1.5	9.3	2900	G 2”- DN50 PN10-16	A	15 mm

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRO 100/2/G50H A0CT/50	400	3	-	0.88	2.3	2900	G 2”- DN50 PN10-16	A	15 mm
2	DRO 150/2/G50H A0CT/50	400	3	-	1.1	2.7	2900	G 2”- DN50 PN10-16	A	15 mm
3	DRO 200/2/G50H A0CT/50	400	3	-	1.5	3.5	2900	G 2”- DN50 PN10-16	A	15 mm

(*) A = H07RN-F 4G1 - 5 m cable length. Optional 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

DRO

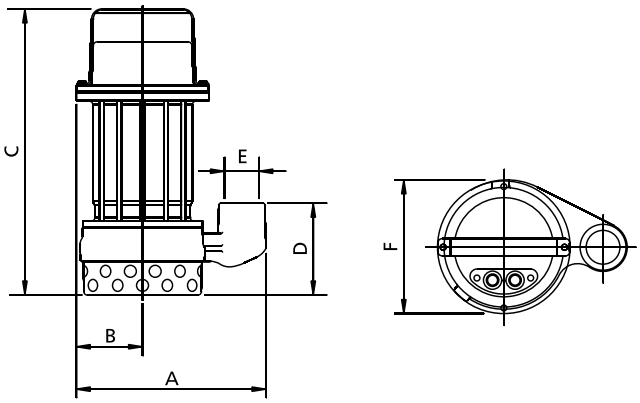
Versions available

(Key to versions on page 15)

	Electrical variants													Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRO 50/2/G32V A0CM/50		●						●	●						●				●	
DRO 75/2/G32V A0CM/50		●						●	●						●				●	
DRO 100/2/G50V A0CM/50		●						●	●						●				●	
DRO 150/2/G50V A0CM/50		●						●	●						●				●	
DRO 200/2/G50V A0CM/50		●						●	●						●				●	
DRO 100/2/G50H A0CM/50		●						●	●						●				●	
DRO 150/2/G50H A0CM/50		●						●	●						●				●	
DRO 200/2/G50H A0CM/50		●						●	●						●				●	
DRO 50/2/G32V A0CT/50	●														●				●	
DRO 75/2/G32V A0CT/50	●														●				●	
DRO 100/2/G50V A0CT/50	●														●				●	
DRO 150/2/G50V A0CT/50	●														●				●	
DRO 200/2/G50V A0CT/50	●														●				●	
DRO 100/2/G50H A0CT/50	●														●				●	
DRO 150/2/G50H A0CT/50	●														●				●	
DRO 200/2/G50H A0CT/50	●														●				●	

Overall dimensions and weights

Models with vertical delivery port

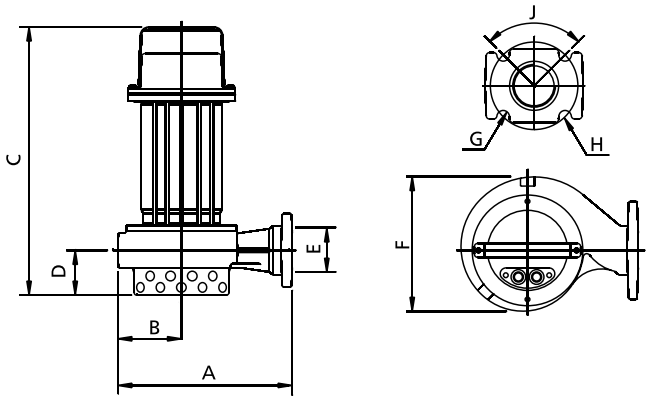


	A	B	C	D	E	F	kg
DRO 50/2/G32V A0CM(T)/50	220	75	330	105	G 1¼"	155	15
DRO 75/2/G32V A0CM(T)/50	220	75	330	105	G 1¼"	155	15.5
DRO 100/2/G50V A0CM(T)/50	260	95	385	125	G 2"	195	19.5
DRO 150/2/G50V A0CM(T)/50	260	95	385	125	G 2"	195	20.5
DRO 200/2/G50V A0CM(T)/50	260	95	385	125	G 2"	195	21.5

Measurements in mm

DRO

Models with horizontal delivery port

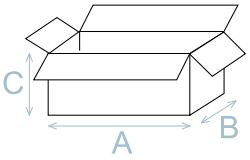


	A	B	C	D	E	F	G	H	J	kg
DRO 100/2/G50H A0CM(T)/50	250	90	385	65	G 2”-DN50	195	18	125	90°	19.5
DRO 150/2/G50H A0CM(T)/50	250	90	385	65	G 2”-DN50	195	18	125	90°	20.5
DRO 200/2/G50H A0CM(T)/50	250	90	385	65	G 2”-DN50	195	18	125	90°	21.5

Measurements in mm

Packaging dimension

	A	B	C
DRO 50/2/G32V A0CM(T)/50	385	225	245
DRO 75/2/G32V A0CM(T)/50	385	225	245
DRO 100/2/G50V A0CM(T)/50	475	285	235
DRO 150/2/G50V A0CM(T)/50	475	285	235
DRO 200/2/G50V A0CM(T)/50	475	285	235
DRO 100/2/G50H A0CM(T)/50	475	285	235
DRO 150/2/G50H A0CM(T)/50	475	285	235
DRO 200/2/G50H A0CM(T)/50	475	285	235

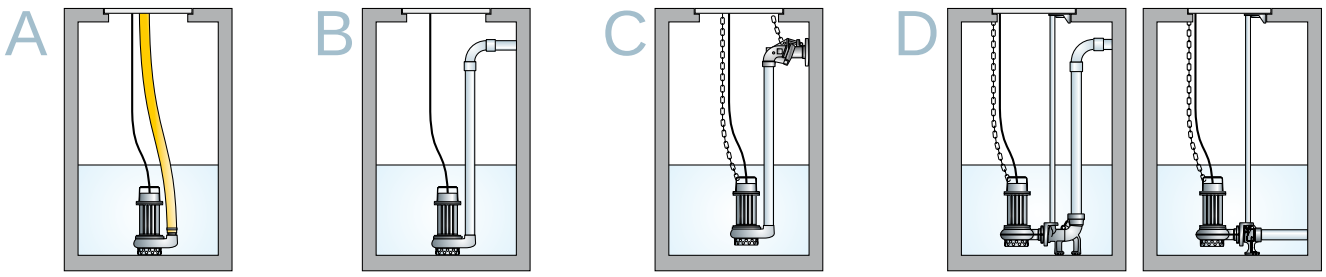


Dimension in mm

No. pieces per pallet

For DRO 50-75 models each pallet (EUR 1000X1200 mm) is able to take 48 pieces.
For DRO 100-150-200 models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available





DRF



Multi-channel open impeller

General characteristics

- Multi-channel open impeller
- 0,55 ÷ 1,5 kW motor power
- 2 / 4 poles
- GAS 1 1/2”- 2” vertical
  GAS 1 1/2”DN32 - GAS 2” DN50 horizontal
  DN65 ÷ DN100
- max 50 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

Applications

Specifically developed for use with flammable liquids or in potentially explosive atmospheres, the DRF is used where the use of ordinary submersible electric pumps would not be possible. The main sectors of use are industrial and for the removal of landfill percolates.

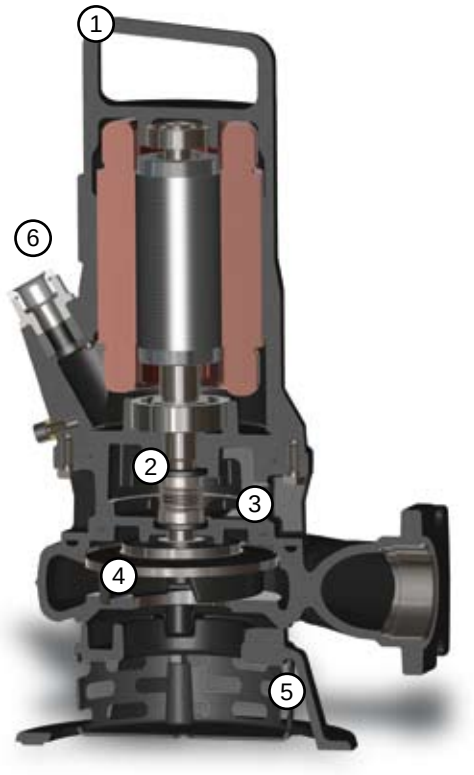
Construction materials

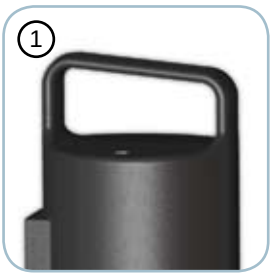
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR - VITON
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DRF





Handle/Cable gland

Cast iron lifting and carrying handle.
The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



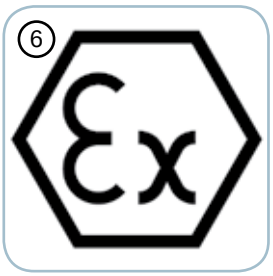
Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



Intake strainer

Intake strainer in tough polypropylene and cast iron feet



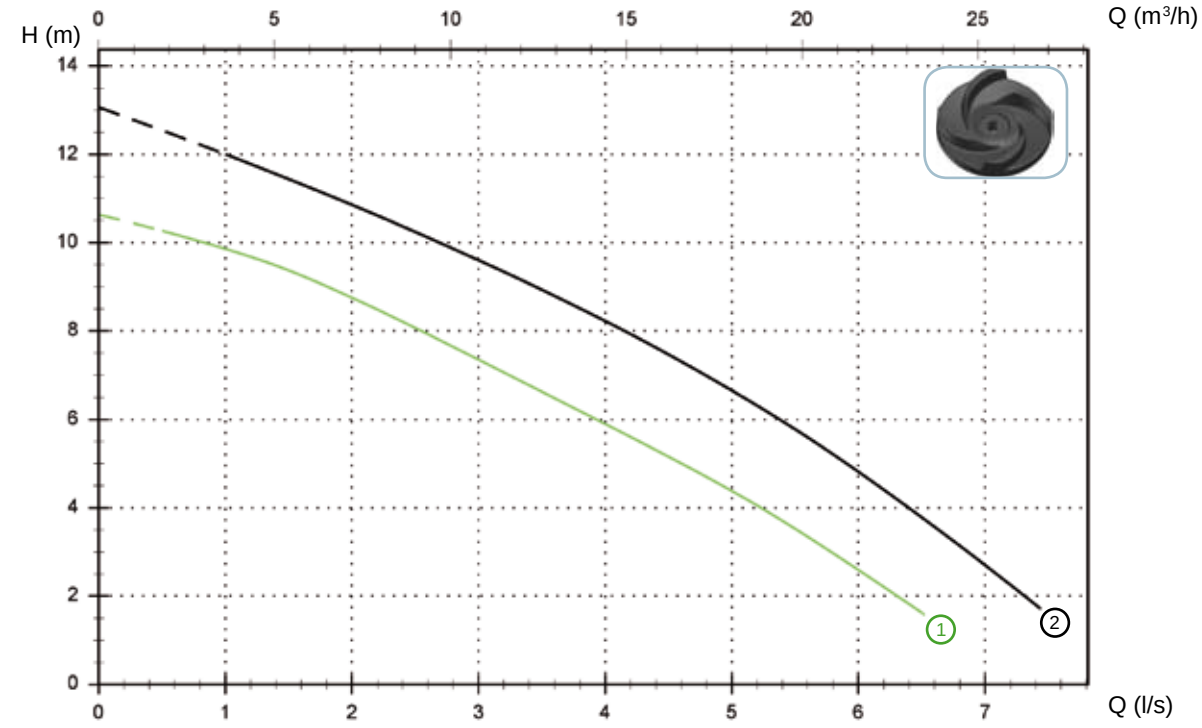
EX

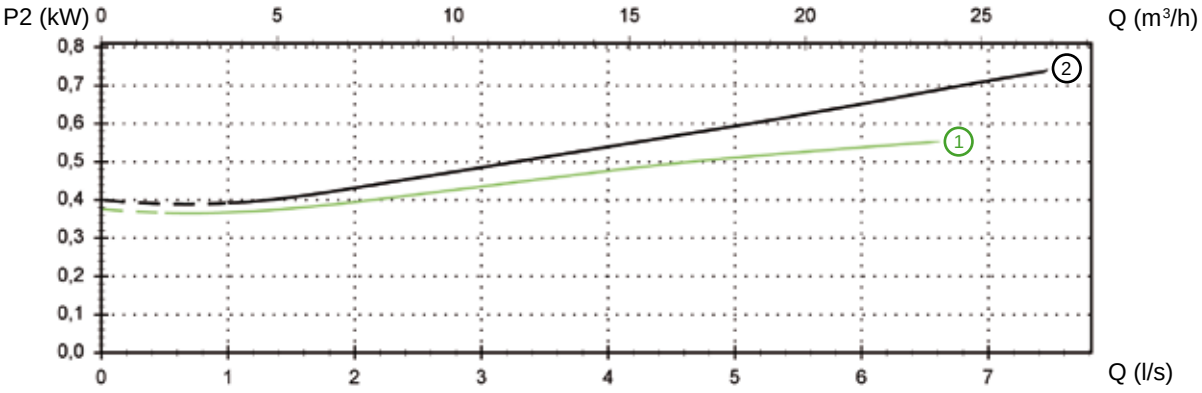
Models with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

DRF

Models with vertical GAS 1 1/2" threaded delivery port - 2 poles

Performances





Technical data

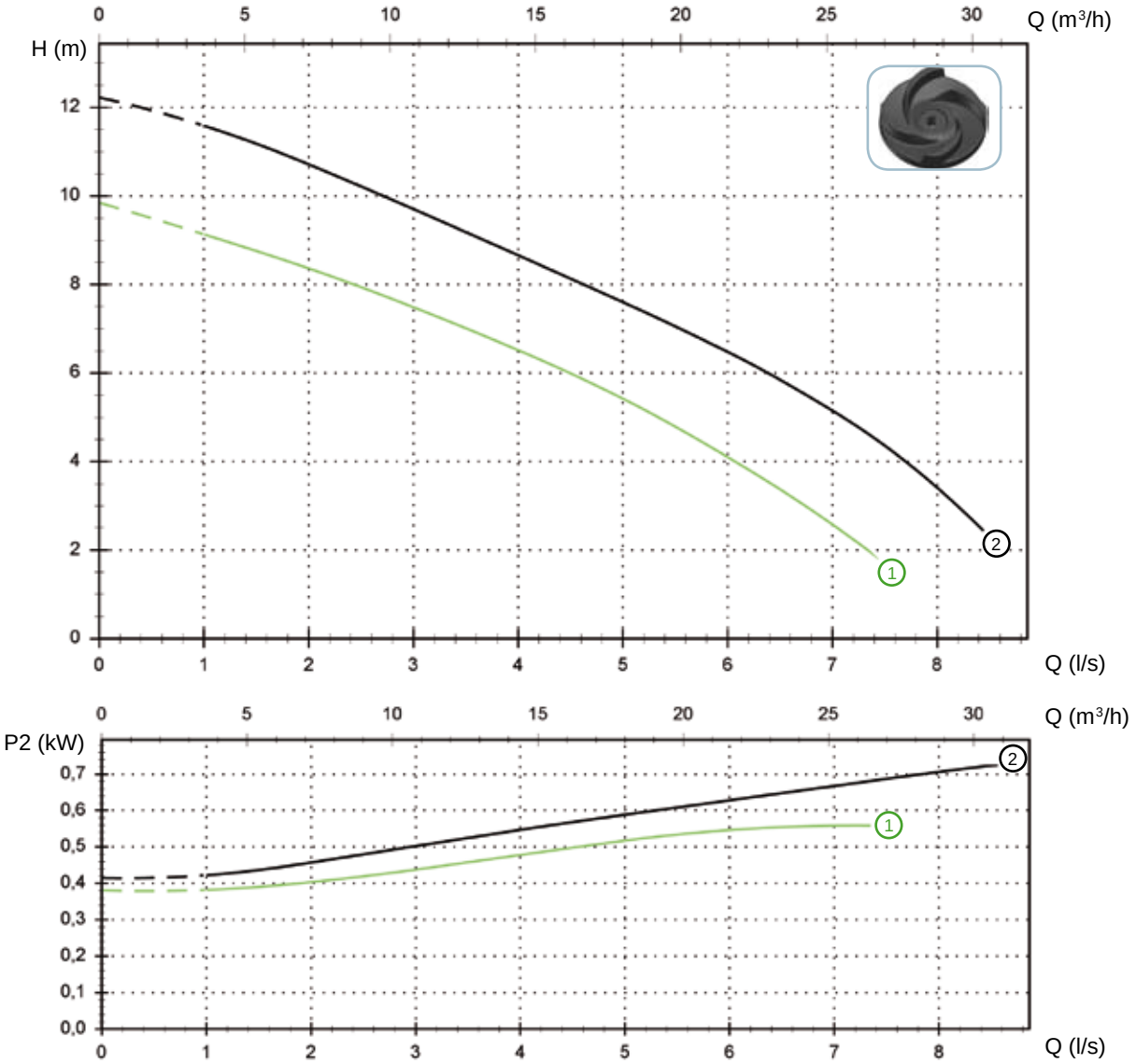
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRF 75/2/G40V A1CM/50	230	1	0.8	0.55	3.9	2900	G 1 1/2"	A	10x30 mm
2 DRF 100/2/G40V A1CM/50	230	1	1.1	0.74	4.9	2900	G 1 1/2"	A	10x30 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRF 75/2/G40V A1CT/50	400	3	0.8	0.55	1.5	2900	G 1 1/2"	A	10x30 mm
2 DRF 100/2/G40V A1CT/50	400	3	1.1	0.74	1.9	2900	G 1 1/2"	A	10x30 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 75/2/G40H A1CM/50	230	1	0.8	0.55	3.9	2900	G 1 1/2" - DN32 PN6	A	10x30 mm
2	DRF 100/2/G40H A1CM/50	230	1	1.1	0.74	4.9	2900	G 1 1/2" - DN32 PN6	A	10x30 mm

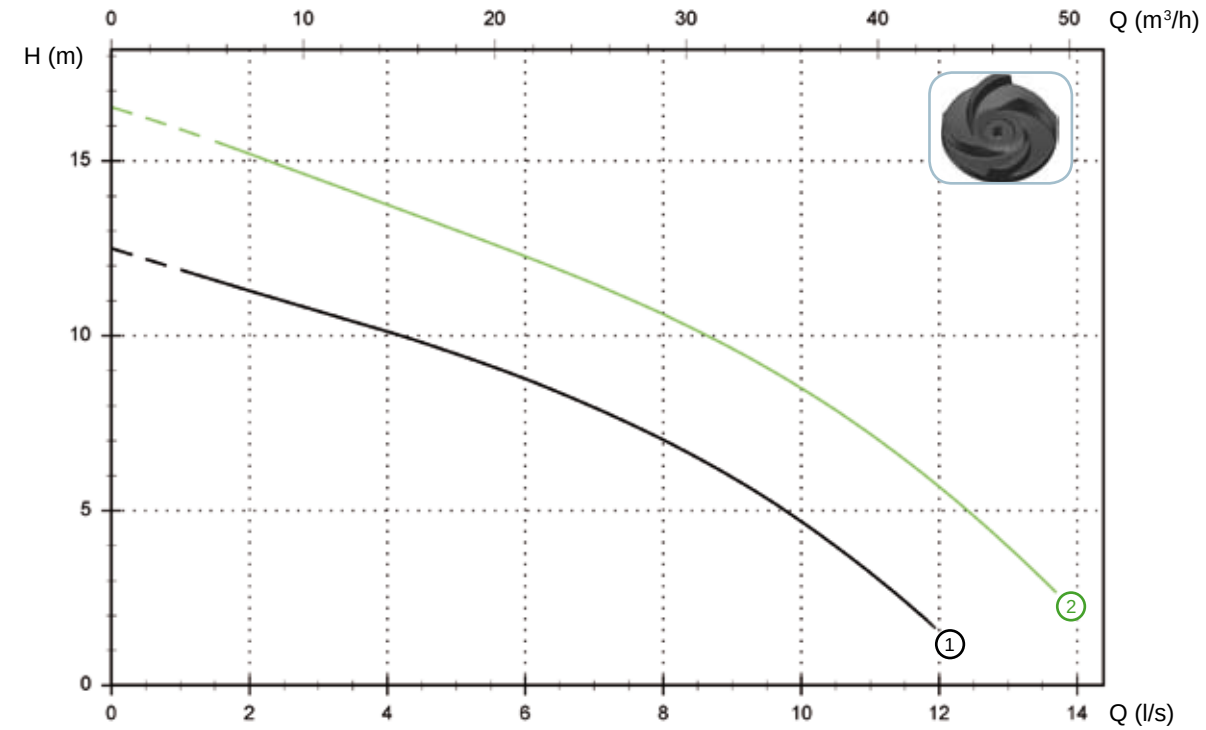
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 75/2/G40H A1CT/50	400	3	0.8	0.55	1.5	2900	G 1 1/2" - DN32 PN6	A	10x30 mm
2	DRF 100/2/G40H A1CT/50	400	3	1.1	0.74	1.9	2900	G 1 1/2" - DN32 PN6	A	10x30 mm

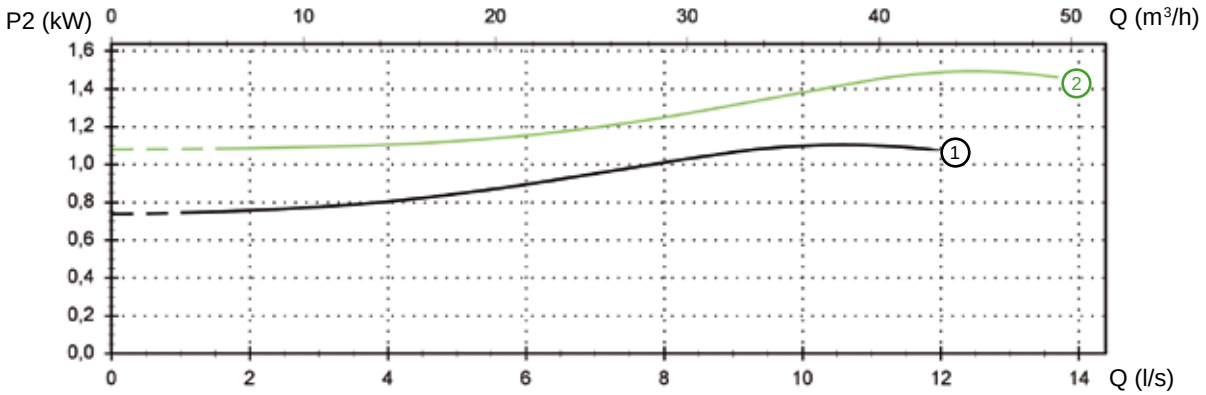
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DRF

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances





Technical data

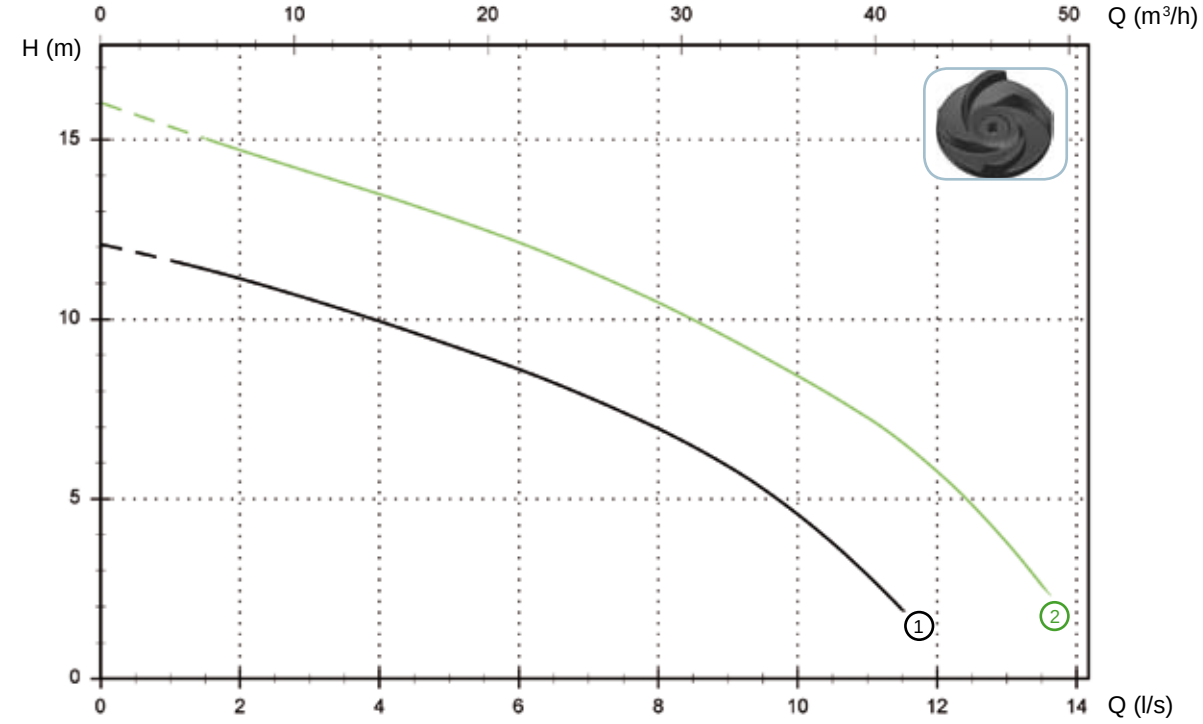
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRF 150/2/G50V A1CM/50	230	1	1.6	1.1	7.2	2900	G 2”	A	10x30 mm
2 DRF 200/2/G50V A1CM/50	230	1	2.2	1.5	9.8	2900	G 2”	A	10x30 mm

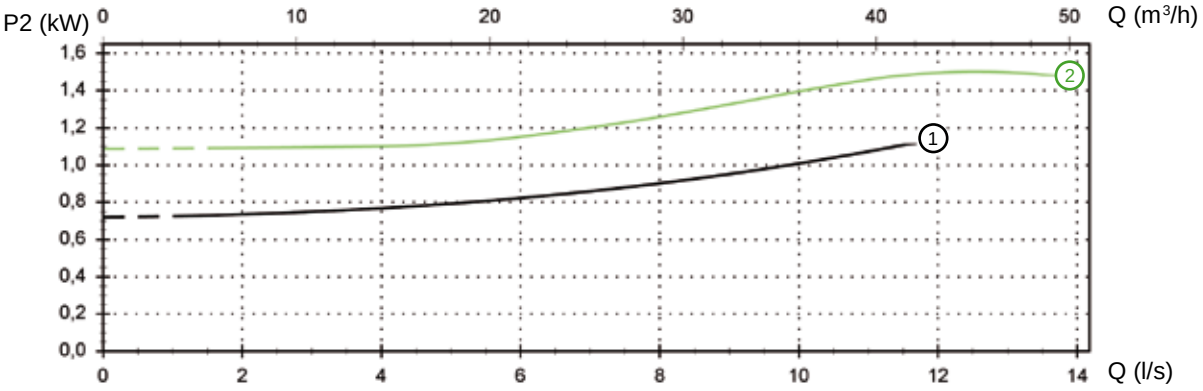
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRF 150/2/G50V A1CT/50	400	3	1.7	1.1	2.9	2900	G 2”	A	10x30 mm
2 DRF 200/2/G50V A1CT/50	400	3	2.1	1.5	3.7	2900	G 2”	A	10x30 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

Models with horizontal GAS 2” threaded - DN50 PN10-16 anged delivery port - 2 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 150/2/G50H A1CM/50	230	1	1.6	1.1	7.2	2900	G 2”- DN50 PN10-16	A	10x30 mm
2	DRF 200/2/G50H A1CM/50	230	1	2.2	1.5	9.8	2900	G 2”- DN50 PN10-16	A	10x30 mm

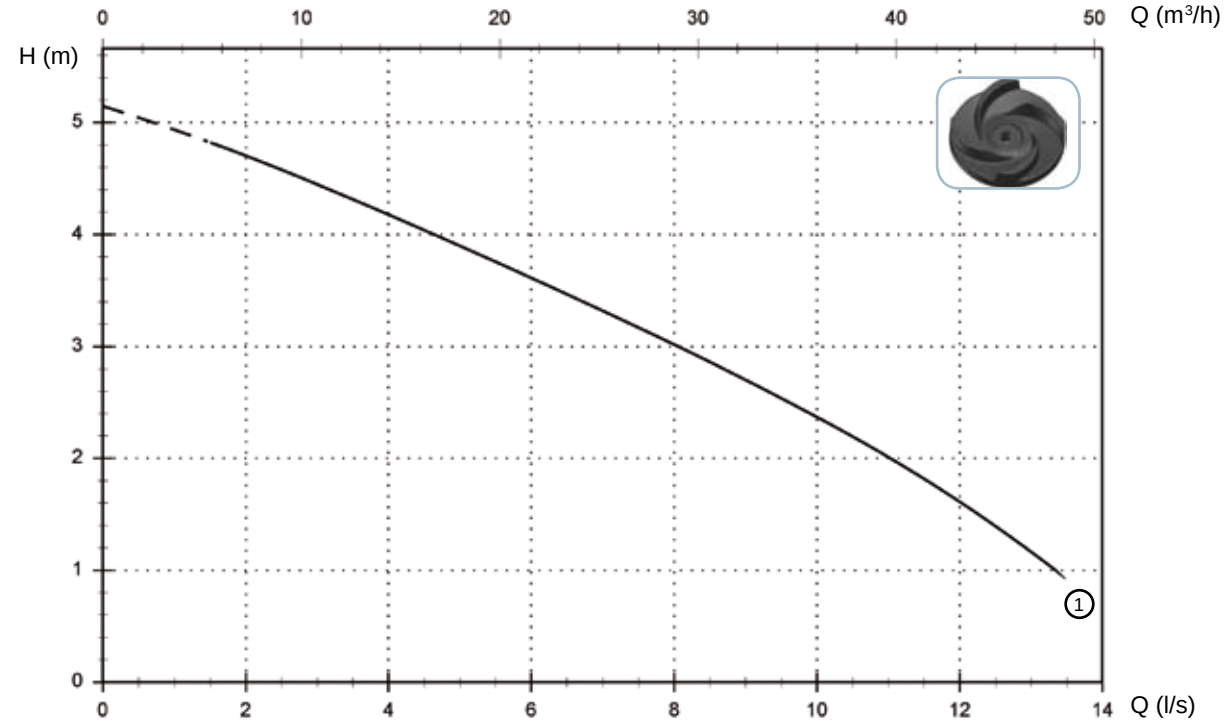
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 150/2/G50H A1CT/50	400	3	1.7	1.1	2.9	2900	G 2”- DN50 PN10-16	A	10x30 mm
2	DRF 200/2/G50H A1CT/50	400	3	2.1	1.5	3.7	2900	G 2”- DN50 PN10-16	A	10x30 mm

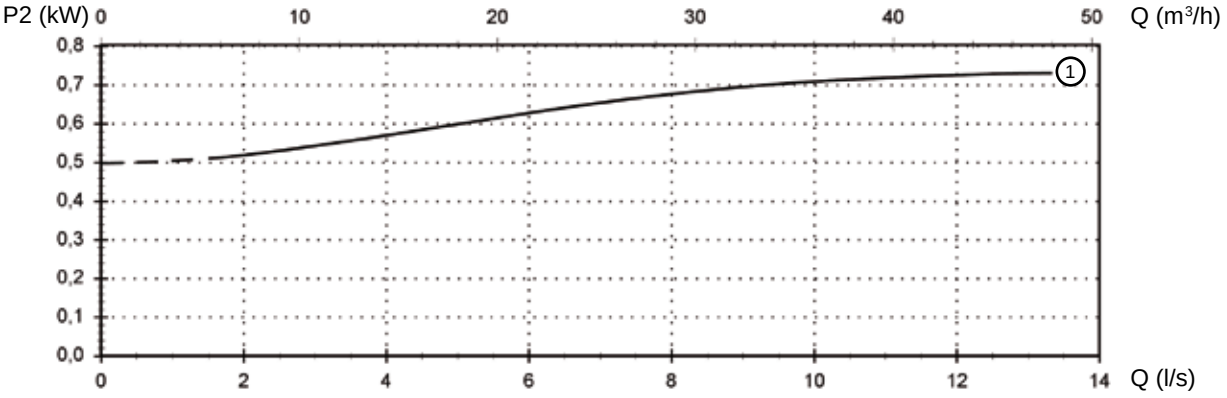
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DRF

Models with horizontal DN65 PN10-16 anged delivery port - 4 poles

Performances





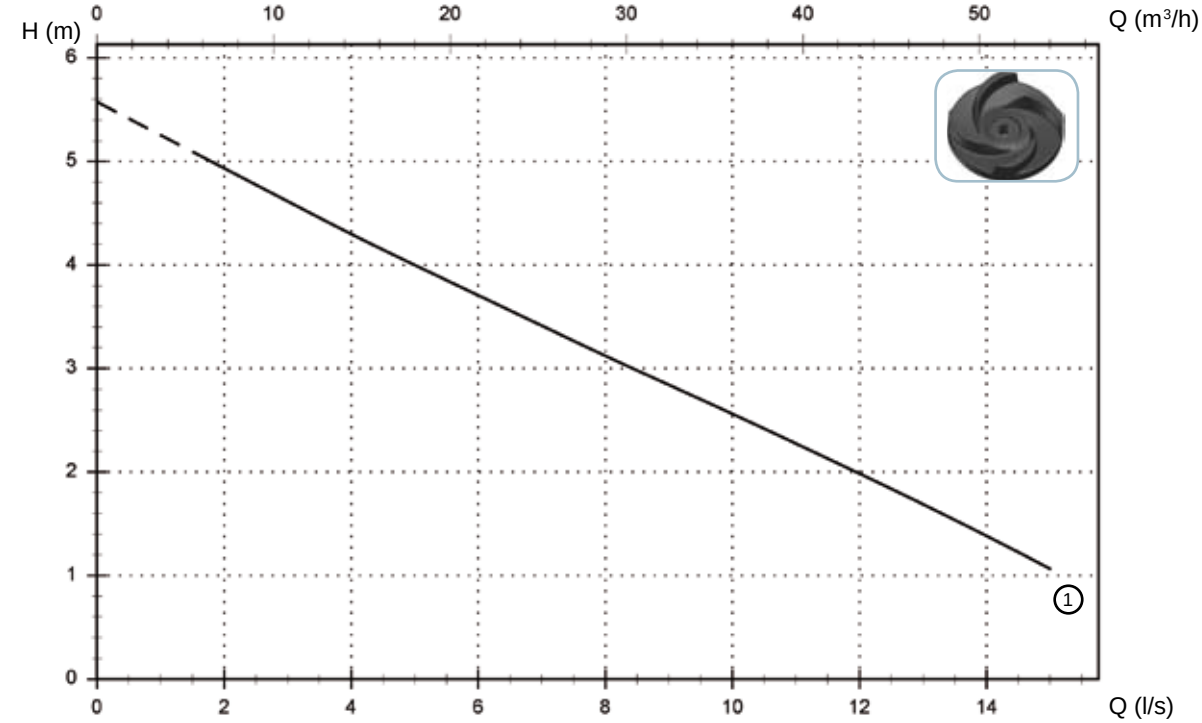
Technical data

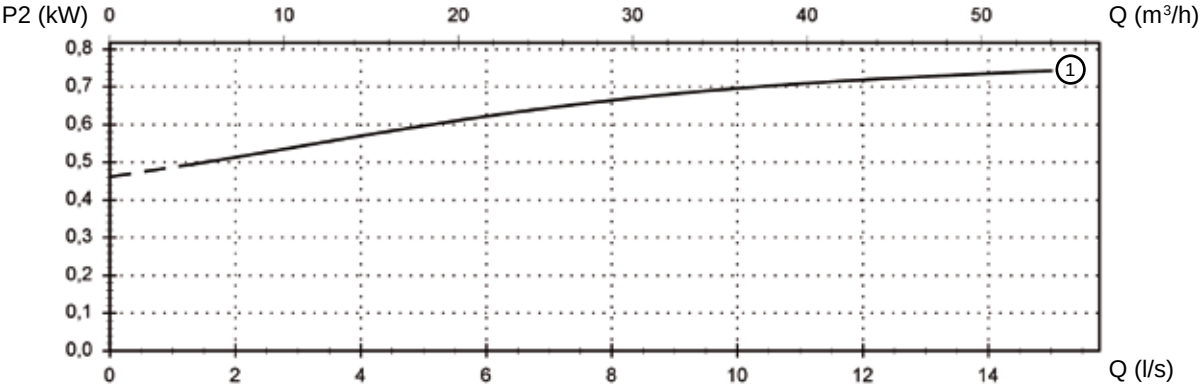
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 100/4/65 A1CT/50	400	3	1.1	0.74	2.2	1450	DN65 PN10 -16	A	50 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





Technical data

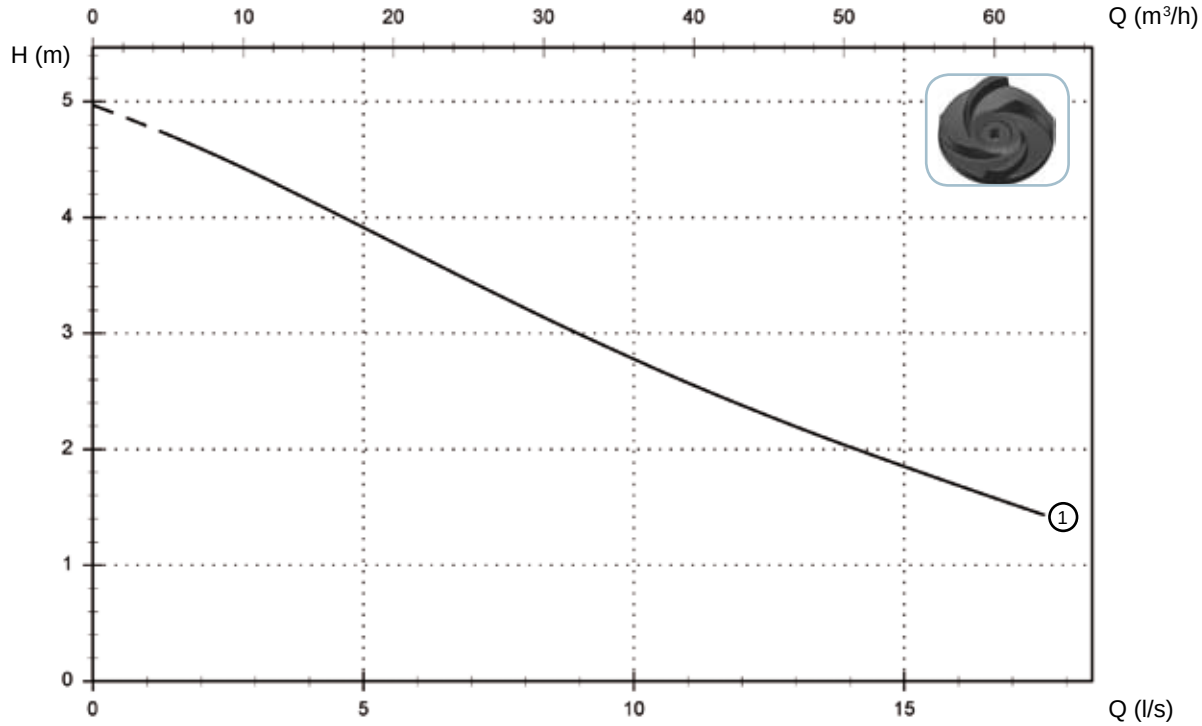
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 100/4/80 A1CT/50	400	3	1.1	0.74	2.2	1450	DN80 PN10-16	A	50 mm

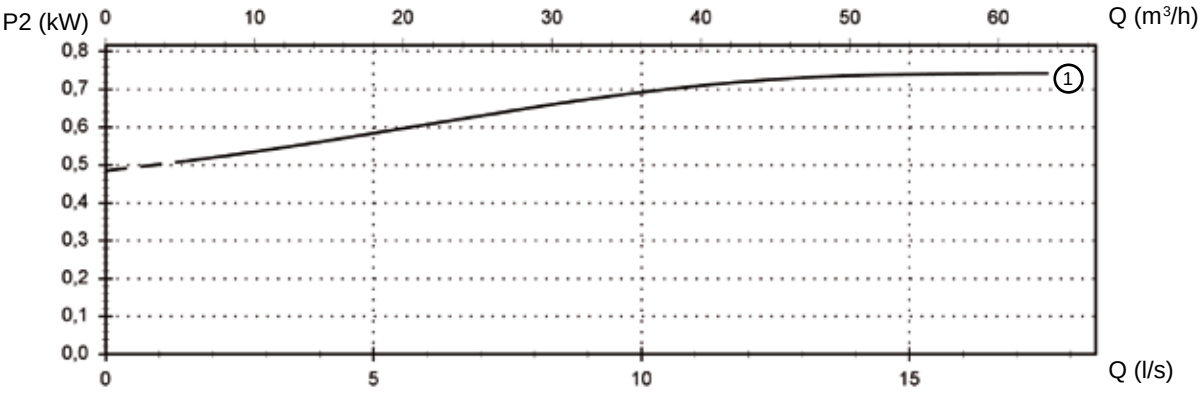
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DRF

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRF 100/4/100 A1CT/50	400	3	1.1	0.74	2.2	1450	DN100 PN10-16	A	50 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

DRF

Versions available

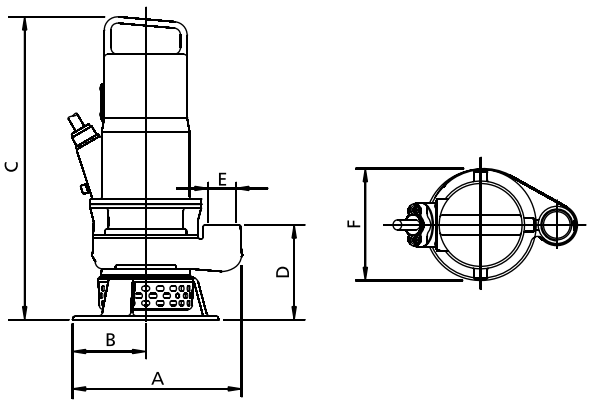
(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRF 75/2/G40V A1CM/50			●												●		●			
DRF 100/2/G40V A1CM/50			●												●		●			
DRF 150/2/G50V A1CM/50			●												●		●			
DRF 200/2/G50V A1CM/50			●												●		●			
DRF 75/2/G40H A1CM/50			●												●		●			
DRF 100/2/G40H A1CM/50			●												●		●			
DRF 150/2/G50H A1CM/50			●												●		●			
DRF 200/2/G50H A1CM/50			●												●		●			
DRF 75/2/G40V A1CT/50		●													●		●			
DRF 100/2/G40V A1CT/50		●													●		●			
DRF 150/2/G50V A1CT/50		●													●		●			
DRF 200/2/G50V A1CT/50		●													●		●			
DRF 75/2/G40H A1CT/50		●													●		●			
DRF 100/2/G40H A1CT/50		●													●		●			
DRF 150/2/G50H A1CT/50		●													●		●			
DRF 200/2/G50H A1CT/50		●													●		●			
DRF 100/4/65 A1CT/50		●													●		●			
DRF 100/4/80 A1CT/50		●													●		●			
DRF 100/4/100 A1CT/50		●													●		●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Capacitor supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.

Overall dimensions and weights

Models with vertical delivery port

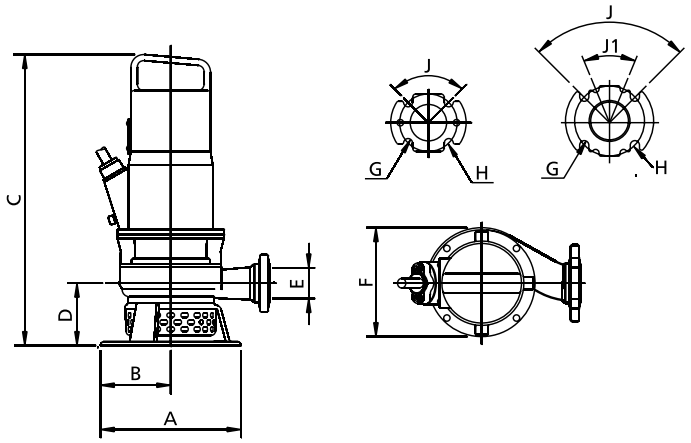


	A	B	C	D	E	F	kg
DRF 75/2/G40V A1CM(T)/50	225	80	455	145	G 1 1/2"	170	27
DRF 100/2/G40V A1CM(T)/50	225	80	455	145	G 1 1/2"	170	28
DRF 150/2/G50V A1CM(T)/50	265	100	465	165	G 2"	190	32
DRF 200/2/G50V A1CM(T)/50	265	100	465	165	G 2"	190	32

Measurements in mm

DRF

Models with horizontal delivery port



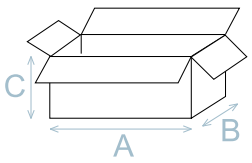
	A	B	C	D	E	F	G	H	J	J1	kg
DRF 75/2/G40H A1CM(T)/50	225	80	455	100	G 1 1/2"	170	14	90	90°	-	28
DRF 100/2/G40H A1CM(T)/50	225	80	455	100	G 1 1/2"	170	14	90	90°	-	31
DRF 150/2/G50H A1CM(T)/50	250	90	465	105	G 2"	195	18	125	90°	-	31
DRF 200/2/G50H A1CM(T)/50	250	90	465	105	G 2"	195	18	125	90°	-	32
DRF 100/4/65 A1CT/50	345	135	455	80	65	255	18	145	90°	-	41
DRF 100/4/80 A1CT/50	345	135	455	80	80	255	18	160	90°	45°	42
DRF 100/4/100 A1CT/50	430	170	475	90	100	325	18	180	45°	-	47

Measurements in mm

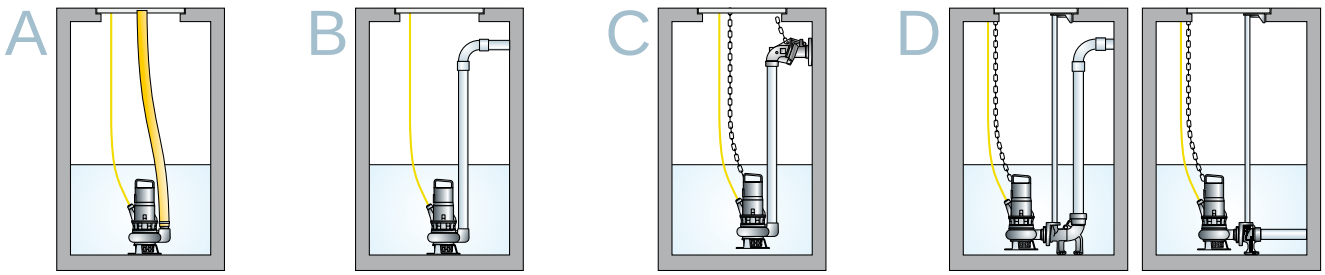
Packaging dimension

	A	B	C
DRF 75/2/G40V A1CM(T)/50	580	310	310
DRF 100/2/G40V A1CM(T)/50	580	310	310
DRF 150/2/G50V A1CM(T)/50	580	310	310
DRF 200/2/G50V A1CM(T)/50	580	310	310
DRF 75/2/G40H A1CM(T)/50	580	310	310
DRF 100/2/G40H A1CM(T)/50	580	310	310
DRF 150/2/G50H A1CM(T)/50	580	310	310
DRF 200/2/G50H A1CM(T)/50	580	310	310
DRF 100/4/65 A1CT/50	725	445	415
DRF 100/4/80 A1CT/50	725	445	415
DRF 100/4/100 A1CT/50	725	445	415

Dimension in mm



Installations available



Dry installation available for specified models. Contact Custome Service for more information.



DRN



Multi-channel open impeller

General characteristics

- Multi-channel open impeller
- 1,1 ÷ 4,1 kW motor power
- 2 / 4 / 6 poles
- DN65 ÷ DN150 delivery port
- 40 ÷ 100 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

Applications

Designed for mainly professional and industrial use such as wastewater treatment plants, sewage systems and livestock farms, it is particularly suitable for the treatment of liquids containing suspended solids or filaments, and low or medium density activated sludges. The pump is also available in explosion-proof version with ATEX certification. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

DRN





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.



Cable gland

Cable gland system to guarantee perfect water-tightness. The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



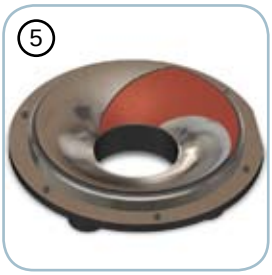
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



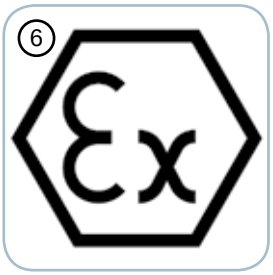
Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



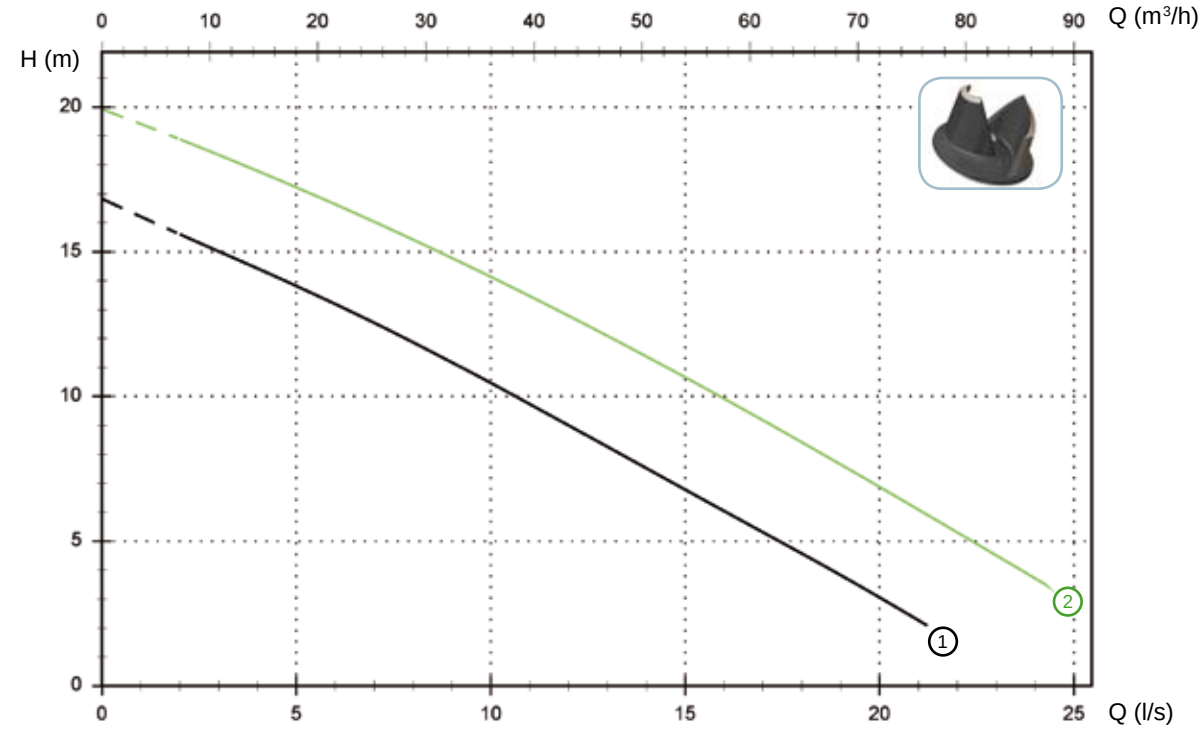
EX

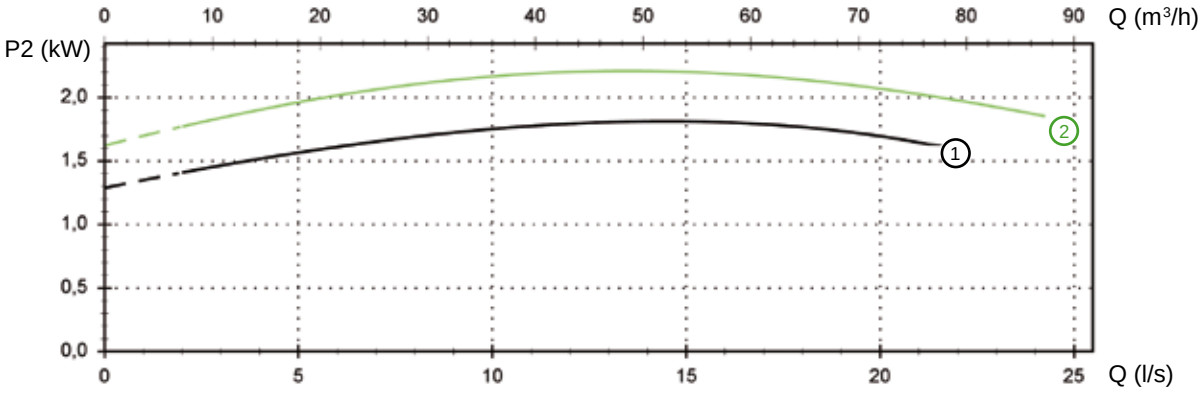
Models available on request with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

DRN

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





Technical data

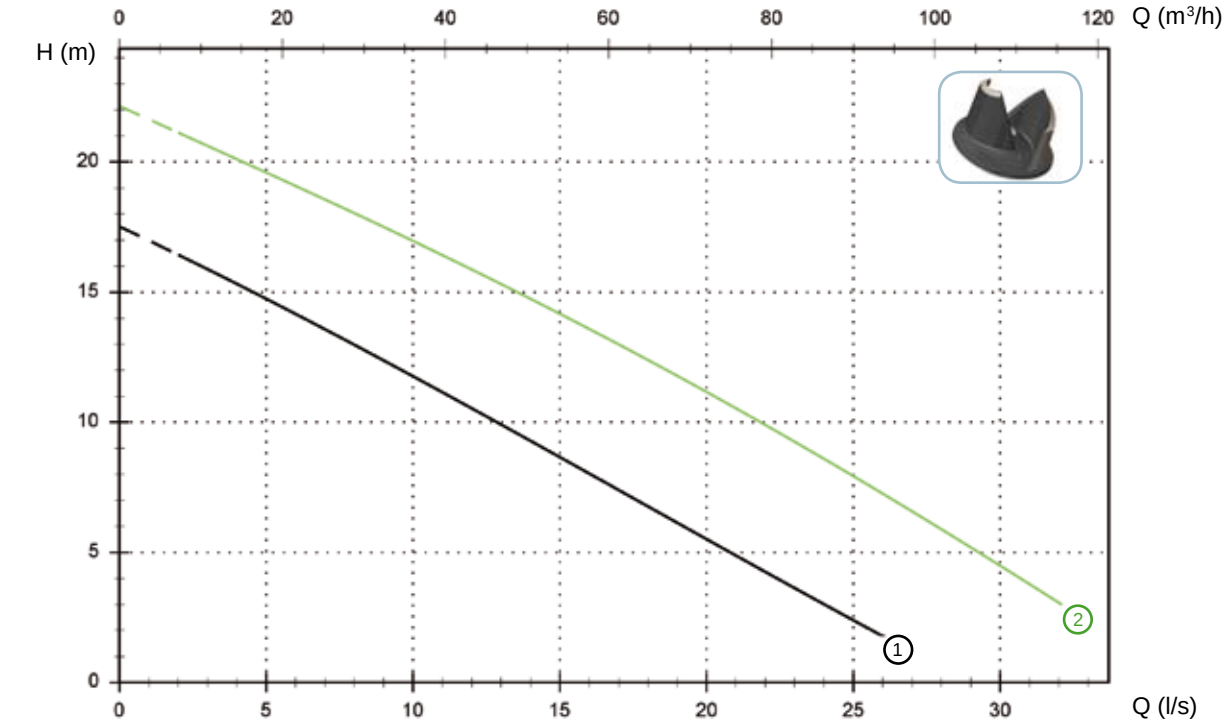
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRN 250/2/65 A1DM/50	230	1	2.8	1.8	12.5	2900	DN65 PN10-16	A - B	40 mm

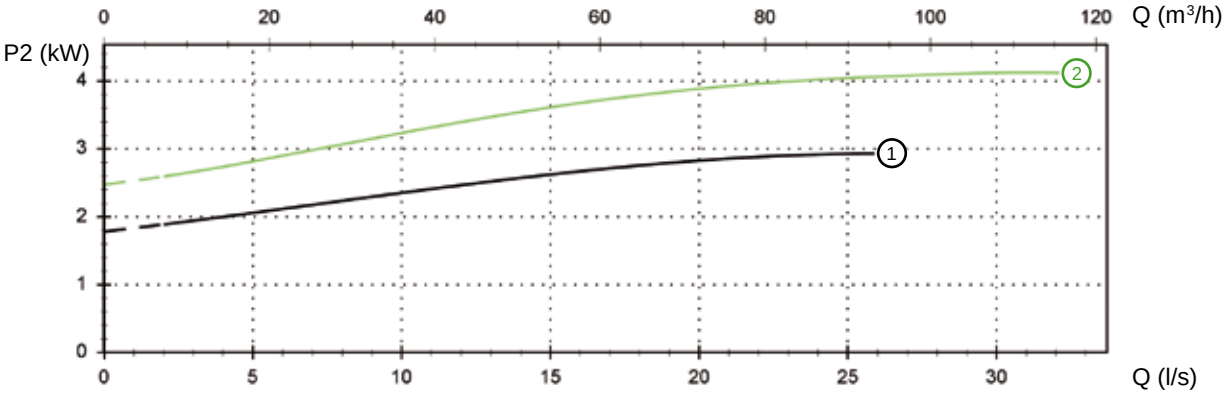
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRN 250/2/65 A1DT/50	400	3	2.5	1.8	4.3	2900	DN65 PN10-16	A - B	40 mm
(2) DRN 300/2/65 A1DT/50	400	3	2.9	2.2	5.1	2900	DN65 PN10-16	A - B	40 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





Technical data

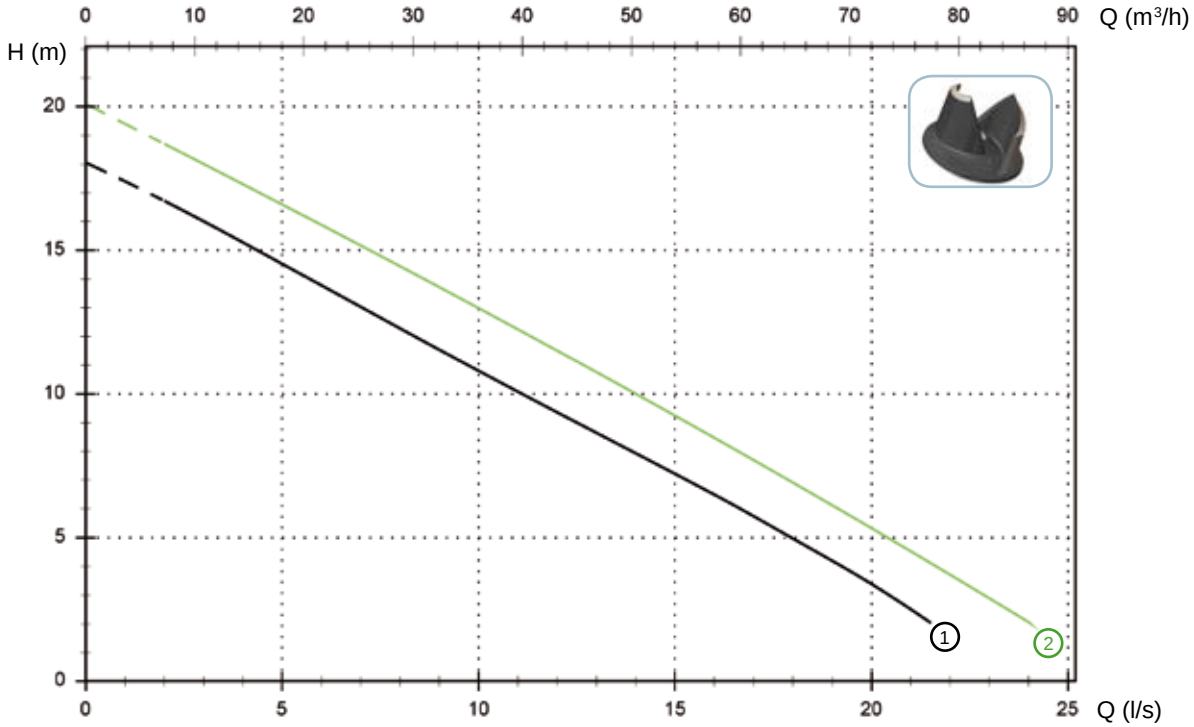
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 400/2/65 A1FT/50	400	3	4.0	3	6.7	2900	DN65 PN10-16	A - B	50 mm
2	DRN 550/2/65 A1FT/50	400	3	5.0	4.1	8.7	2900	DN65 PN10-16	A - B	50 mm

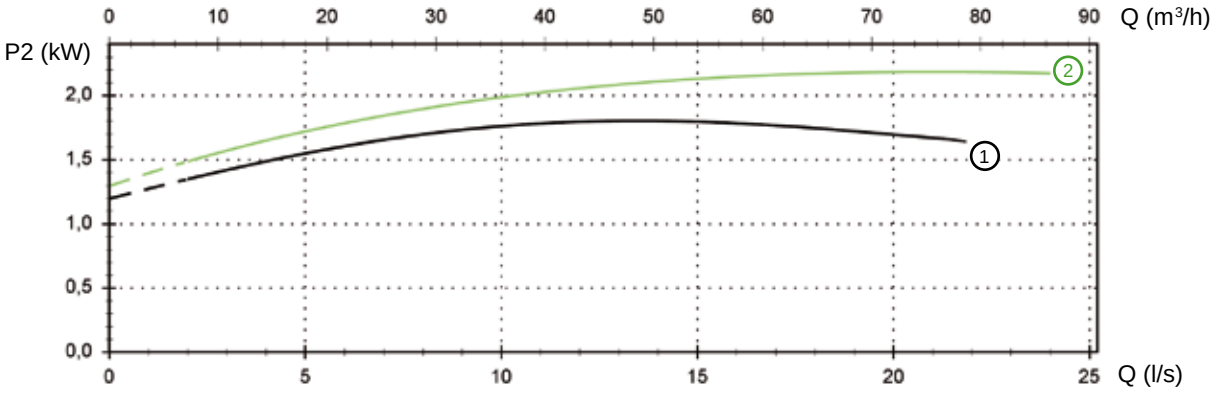
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DRN

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

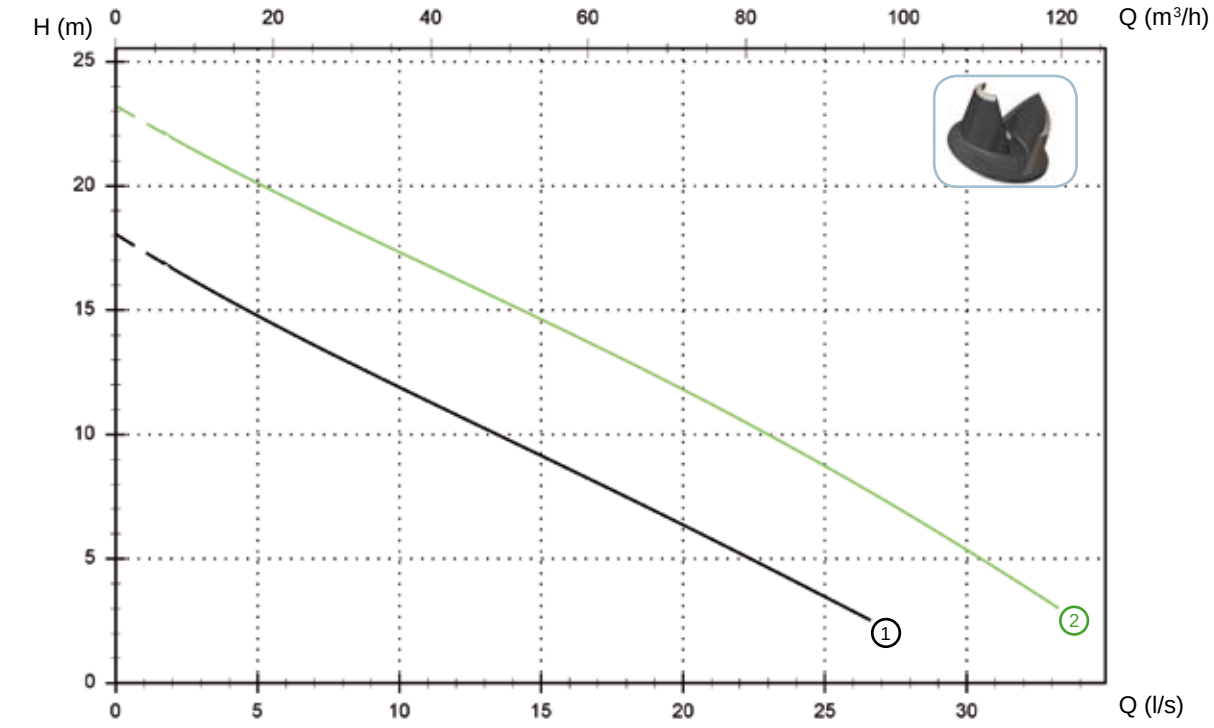
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRN 250/2/80 A1DT/50	230	1	2.8	1.8	12.5	2900	DN80 PN10-16	A - B	40 mm

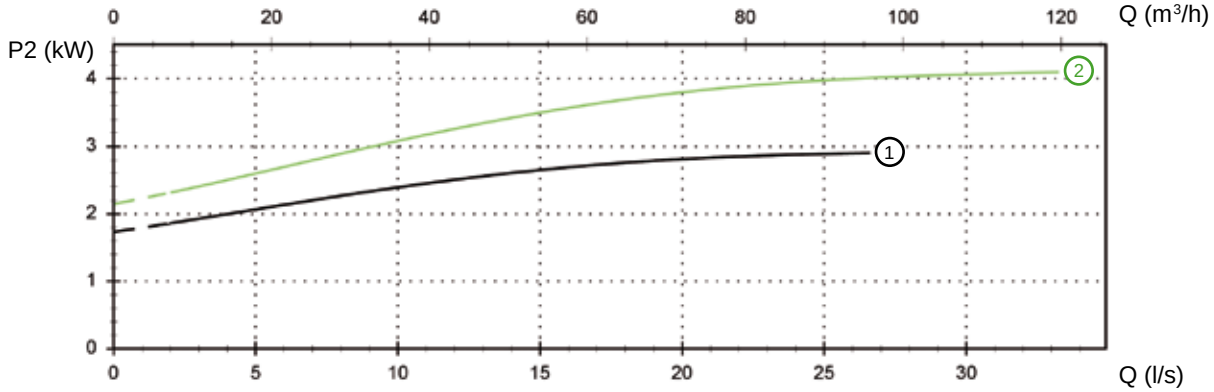
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRN 250/2/80 A1DT/50	400	3	2.5	1.8	4.3	2900	DN80 PN10-16	A - B	40 mm
(2) DRN 300/2/80 A1DT/50	400	3	2.9	2.2	5.1	2900	DN80 PN10-16	A - B	40 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

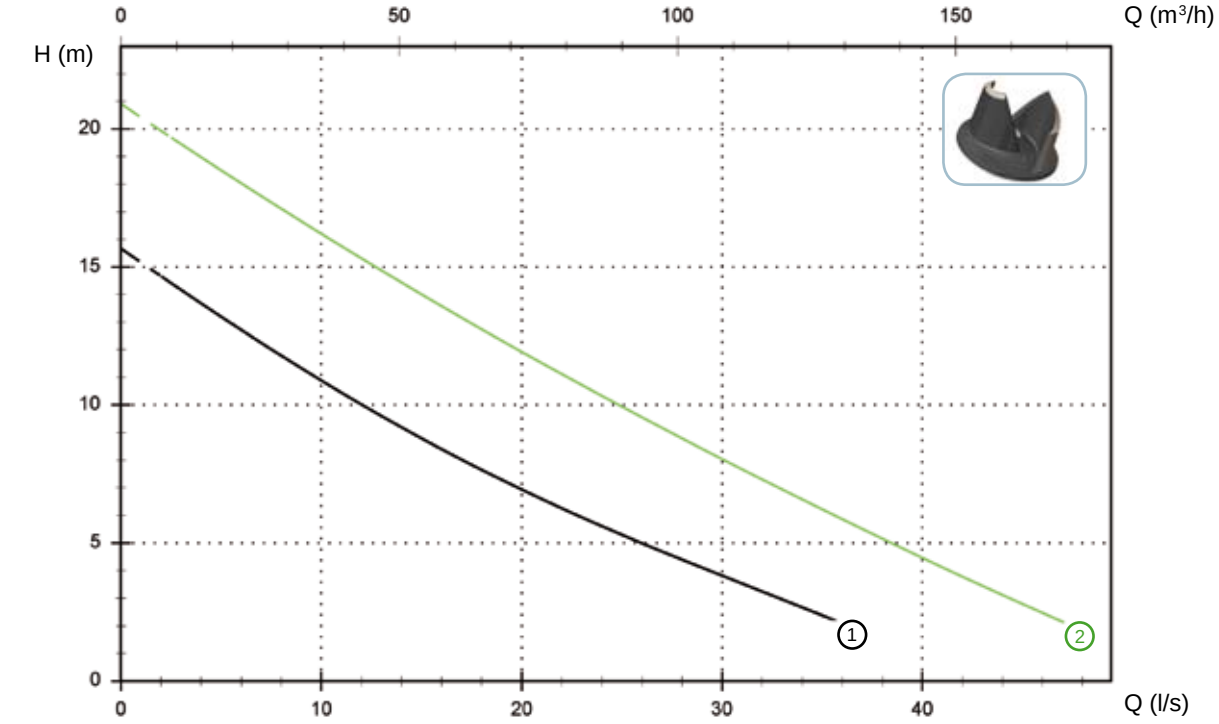
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 400/2/80 A1FT/50	400	3	4.0	3	6.7	2900	DN80 PN10-16	A - B	45 mm
2	DRN 550/2/80 A1FT/50	400	3	5.0	4.1	8.7	2900	DN80 PN10-16	A - B	45 mm

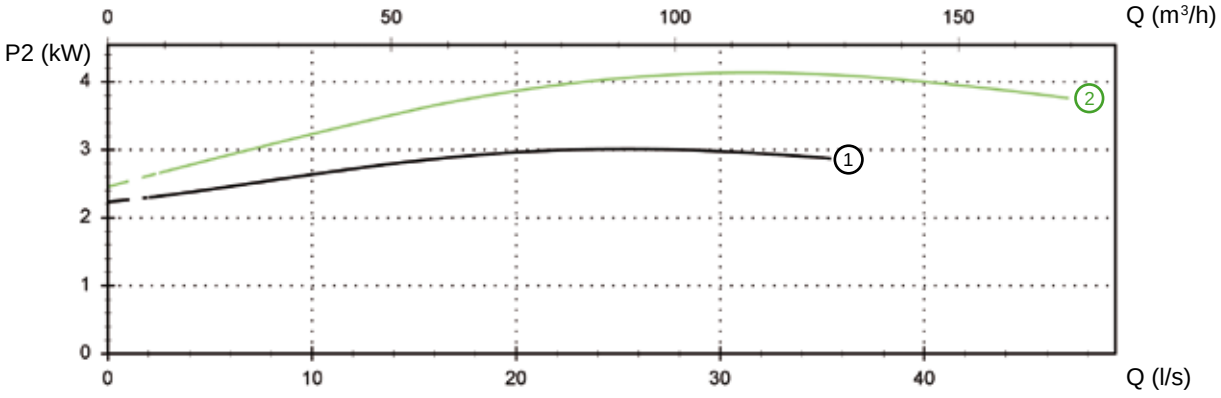
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DRN

Models with horizontal DN100 PN10-16 anged delivery port - 2 poles

Performances





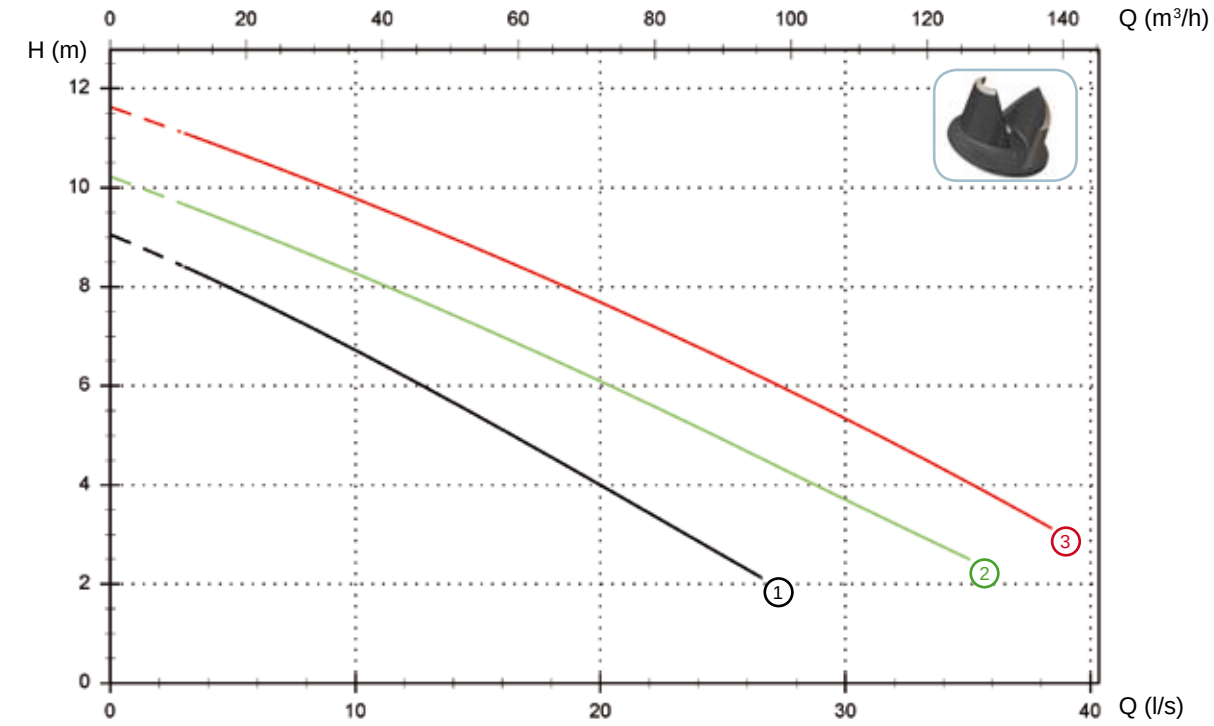
Technical data

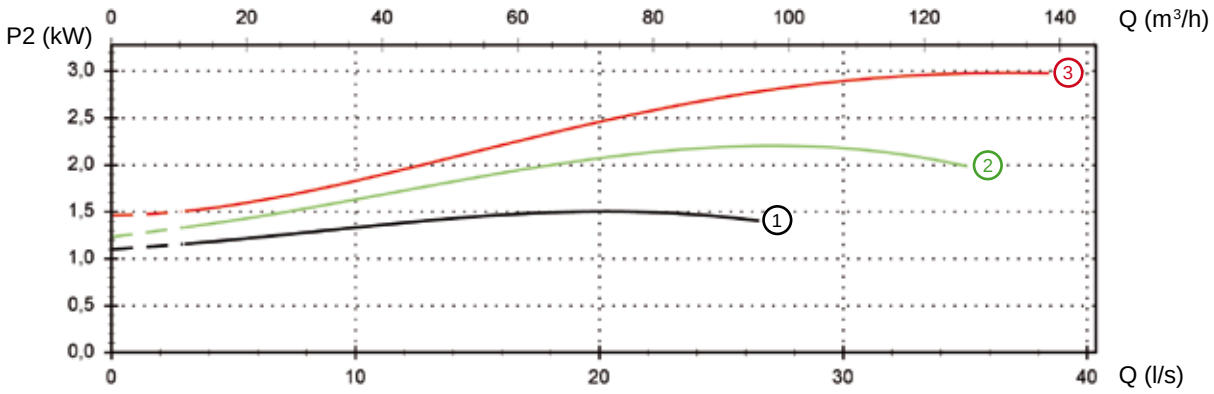
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 400/2/100 A1FT/50	400	3	4.0	3	6.7	2900	DN100 PN10-16	A - B	50 mm
2	DRN 550/2/100 A1FT/50	400	3	5.0	4.1	8.7	2900	DN100 PN10-16	A - B	50 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





Technical data

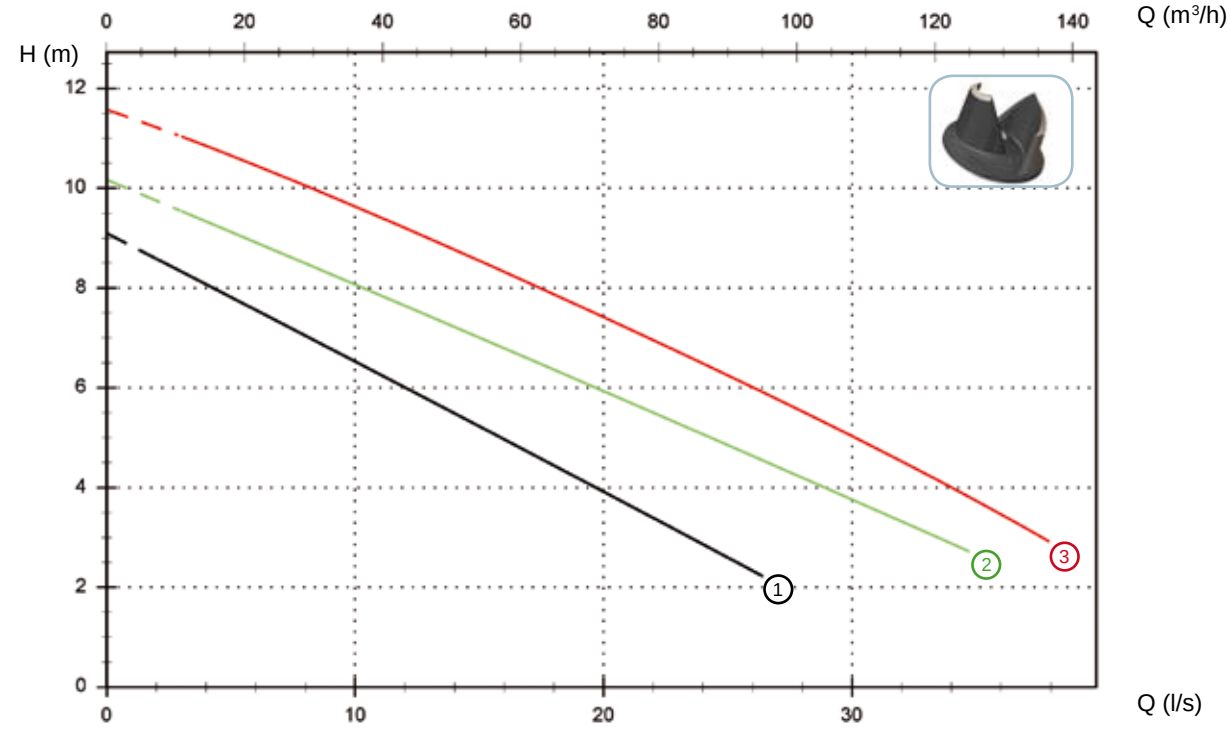
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 200/4/80 A1DT/50	400	3	2.0	1.5	4.1	1450	DN80 PN10-16	A - B	80 mm
2	DRN 300/4/80 A1FT/50	400	3	2.9	2.2	5.8	1450	DN80 PN10-16	A - B	80 mm
3	DRN 400/4/80 A1FT/50	400	3	3.7	3	7.3	1450	DN80 PN10-16	A - B	80 mm

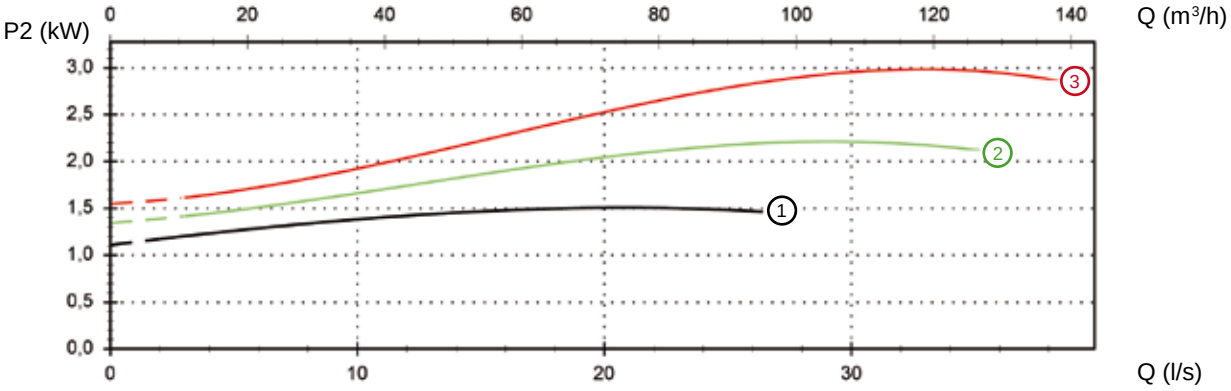
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DRN

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





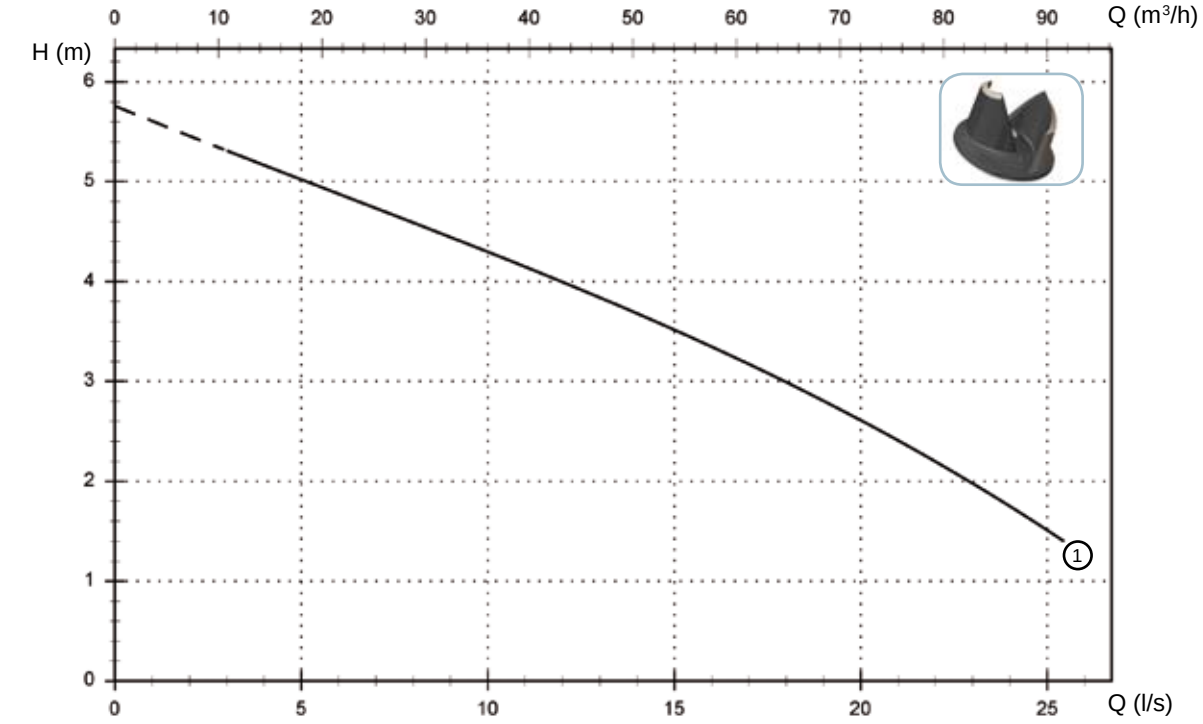
Technical data

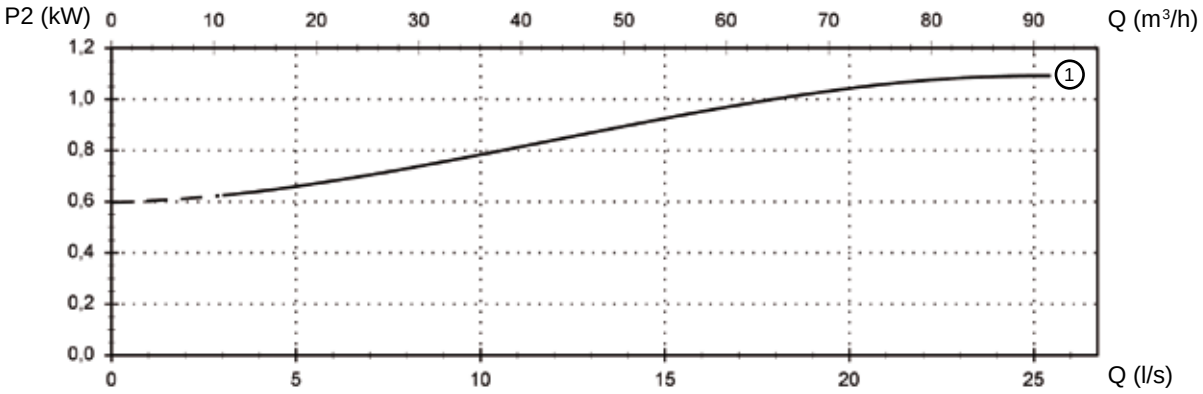
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 200/4/100 A1DT/50	400	3	2.0	1.5	4.1	1450	DN100 PN10-16	A - B	80 mm
2	DRN 300/4/100 A1FT/50	400	3	2.9	2.2	5.8	1450	DN100 PN10-16	A - B	80 mm
3	DRN 400/4/100 A1FT/50	400	3	3.7	3	7.3	1450	DN100 PN10-16	A - B	80 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN80 PN10-16 anged delivery port - 6 poles

Performances





Technical data

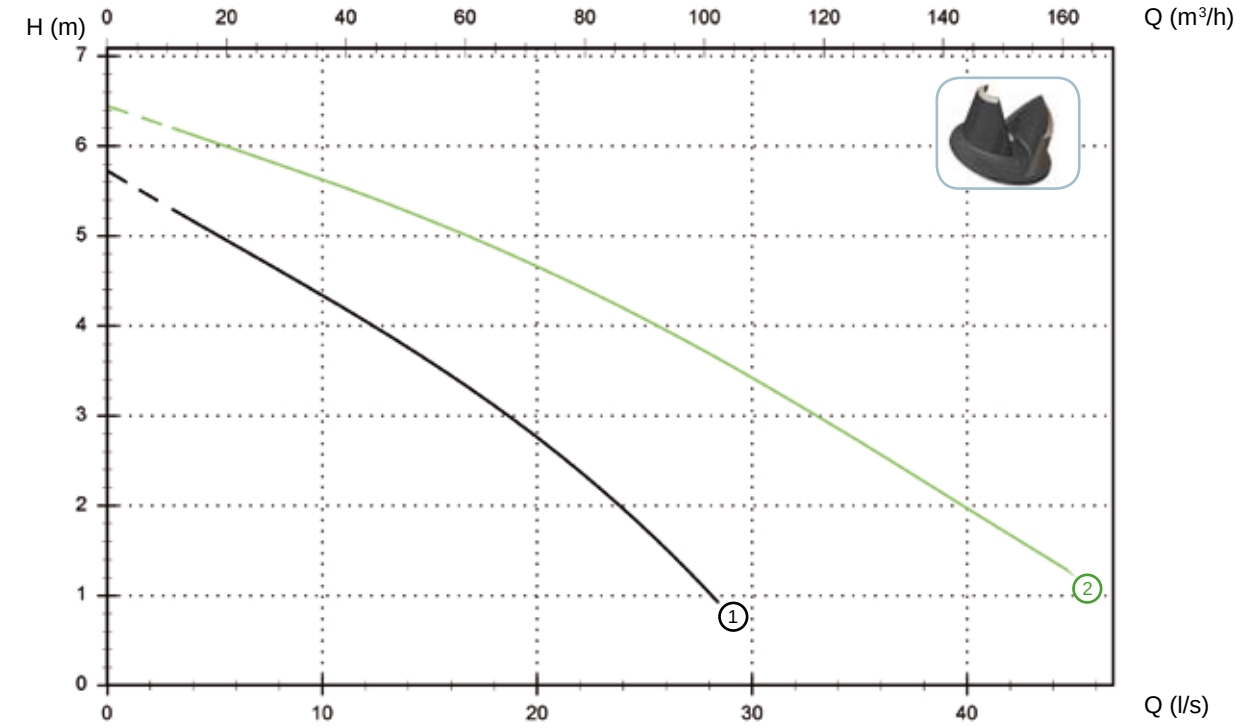
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1)	DRN 150/6/80 A1DT/50	400	3	1.6	1.1	3.7	960	DN80 PN10-16	A - B	80 mm

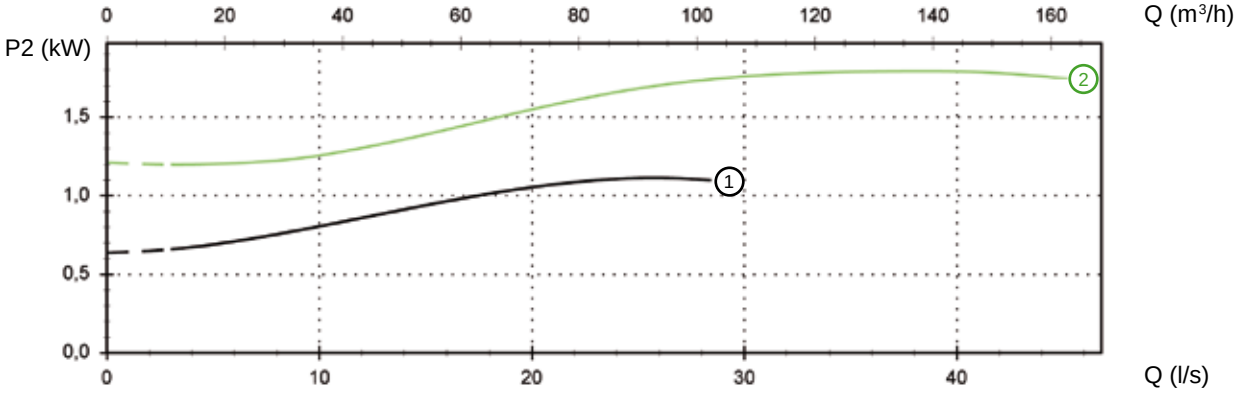
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DRN

Models with horizontal DN100 PN10-16 anged delivery port - 6 poles

Performances





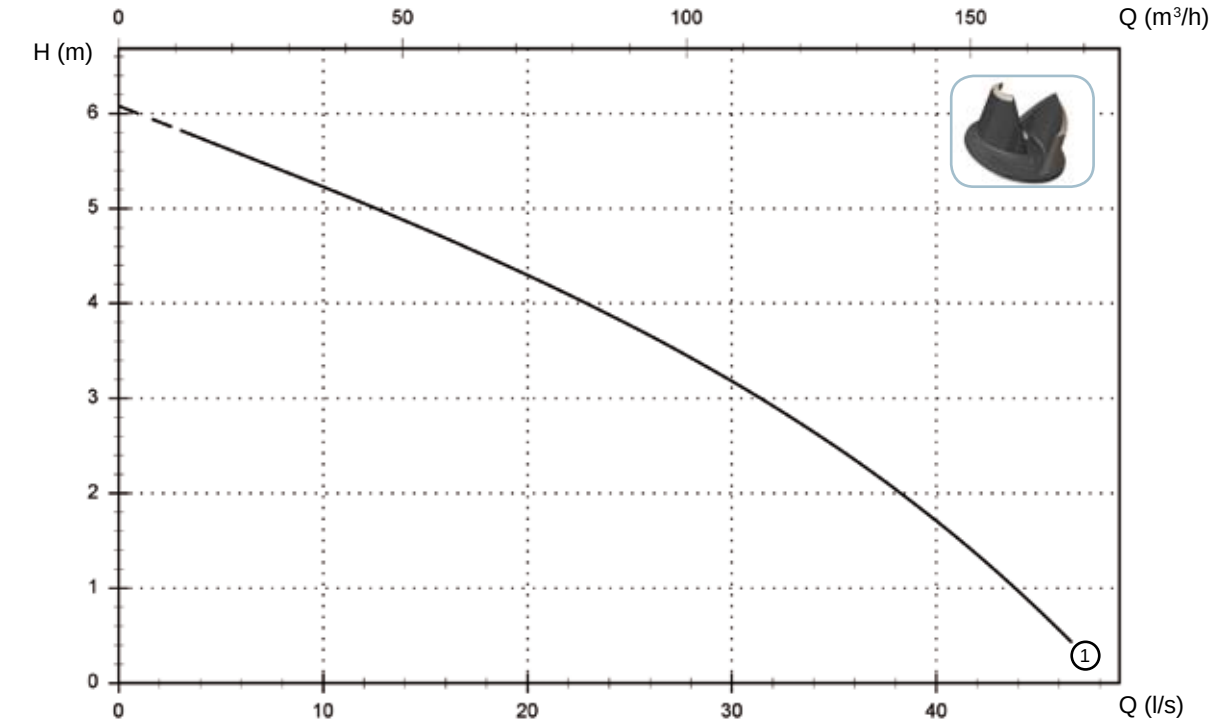
Technical data

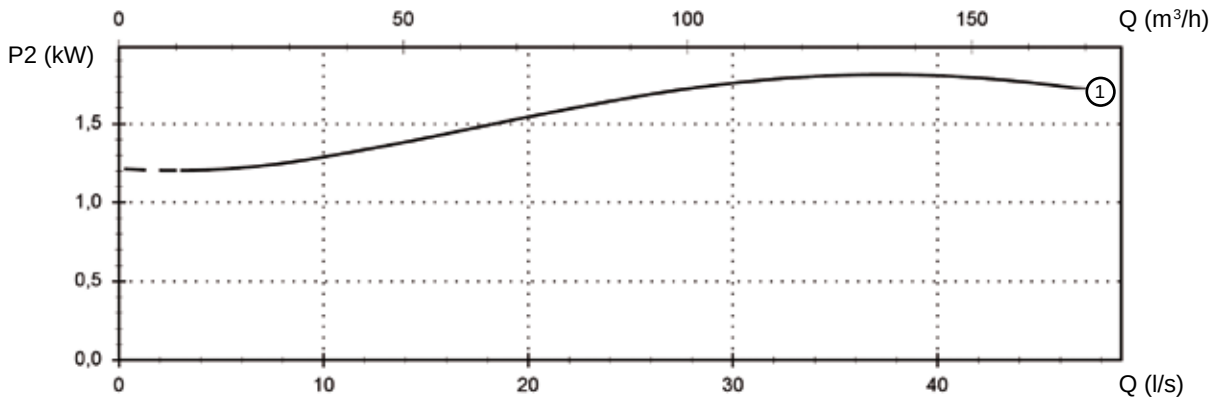
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 150/6/100 A1DT/50	400	3	1.6	1.1	3.7	960	DN100 PN10-16	A - B	80 mm
2	DRN 250/6/100 A1FT/50	400	3	2.6	1.8	5.7	960	DN100 PN10-16	A - B	100 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN150 PN10-16 anged delivery port - 6 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRN 250/6/150 A1FT/50	400	3	2.6	1.8	5.7	960	DN150 PN10-16	A - B	100 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

DRN

Versions available

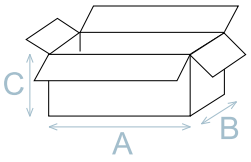
(Key to versions on page 15)

	Electrical variants													Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRN 250/2/65 A1DM/50				●						●					●	●	●			
DRN 250/2/65 A1DT/50		●								●					●	●	●			
DRN 300/2/65 A1DT/50		●								●					●	●	●			
DRN 400/2/65 A1FT/50		●								●					●	●	●			
DRN 550/2/65 A1FT/50		●								●					●	●	●			
DRN 250/2/80 A1DM/50				●						●					●	●	●			
DRN 250/2/80 A1DT/50		●								●					●	●	●			
DRN 300/2/80 A1DT/50		●								●					●	●	●			
DRN 400/2/80 A1FT/50		●								●					●	●	●			
DRN 550/2/80 A1FT/50		●								●					●	●	●			
DRN 400/2/100 A1FT/50		●								●					●	●	●			
DRN 550/2/100 A1FT/50		●								●					●	●	●			
DRN 200/4/80 A1DT/50		●								●					●	●	●			
DRN 300/4/80 A1FT/50		●								●					●	●	●			
DRN 400/4/80 A1FT/50		●								●					●	●	●			
DRN 200/4/100 A1DT/50		●								●					●	●	●			
DRN 300/4/100 A1FT/50		●								●					●	●	●			
DRN 400/4/100 A1FT/50		●								●					●	●	●			
DRN 150/6/80 A1DT/50		●								●					●	●	●			
DRN 150/6/100 A1DT/50		●								●					●	●	●			
DRN 250/6/100 A1FT/50		●								●					●	●	●			
DRN 250/6/150 A1FT/50		●								●					●	●	●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Start capacitor inside the pump. Circuit breaker supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory. For installation please see use and maintenance instructions booklet. The version complete with probe is not available with ATEX certificate.

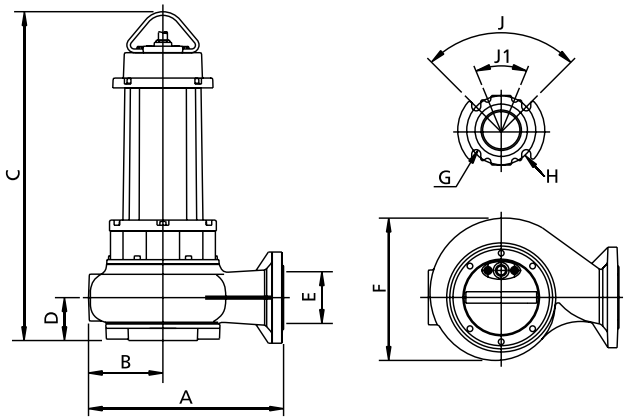
Packaging dimension

	A	B	C
DRN 250/2/65 A1DM(T)/50	725	445	415
DRN 300/2/65 A1DT/50	725	445	415
DRN 400/2/65 A1FT/50	725	445	415
DRN 550/2/65 A1FT/50	725	445	415
DRN 250/2/80 A1DM(T)/50	725	445	415
DRN 300/2/80 A1DT/50	725	445	415
DRN 400/2/80 A1FT/50	725	445	415
DRN 550/2/80 A1FT/50	725	445	415
DRN 400/2/100 A1FT/50	725	445	415
DRN 550/2/100 A1FT/50	725	445	415
DRN 200/4/80 A1DT/50	725	445	415
DRN 300/4/80 A1FT/50	725	445	415
DRN 400/4/80 A1FT/50	725	445	415
DRN 200/4/100 A1DT/50	725	445	415
DRN 300/4/100 A1FT/50	725	445	415
DRN 400/4/100 A1FT/50	725	445	415
DRN 150/6/80 A1DT/50	915	515	555
DRN 150/6/100 A1DT/50	915	515	555
DRN 250/6/100 A1FT/50	915	515	555
DRN 250/6/150 A1FT/50	915	515	555



Dimension in mm

Overall dimensions and weights

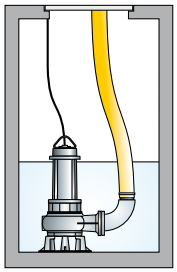


	A	B	C	D	E	F	G	H	J	J1	kg
DRN 250/2/65 A1DM(T)/50	340	135	545	80	65	255	18	145	90°	-	56
DRN 300/2/65 A1DT/50	340	135	545	80	65	255	18	145	90°	-	58
DRN 400/2/65 A1FT/50	340	135	685	80	65	260	18	145	90°	-	74
DRN 550/2/65 A1FT/50	340	135	685	80	65	260	18	145	90°	-	77
DRN 250/2/80 A1DM(T)/50	345	135	545	80	80	255	18	160	90°	45°	56
DRN 300/2/80 A1DT/50	345	135	545	80	80	255	18	160	90°	45°	58
DRN 400/2/80 A1FT/50	345	135	685	80	80	260	18	160	90°	45°	79
DRN 550/2/80 A1FT/50	345	135	685	80	80	260	18	160	90°	45°	77
DRN 400/2/100 A1FT/50	430	170	705	90	100	325	18	180	45°	-	82
DRN 550/2/100 A1FT/50	430	170	705	90	100	325	18	180	45°	-	85
DRN 200/4/80 A1DT/50	390	150	590	90	80	290	18	160	90°	45°	66
DRN 300/4/80 A1FT/50	390	150	700	90	80	290	18	160	90°	45°	87
DRN 400/4/80 A1FT/50	390	150	700	90	80	290	18	160	90°	45°	89
DRN 200/4/100 A1DT/50	415	160	595	90	100	310	18	180	45°	-	68
DRN 300/4/100 A1FT/50	415	160	700	90	100	310	18	180	45°	-	89
DRN 400/4/100 A1FT/50	415	160	700	90	100	310	18	180	45°	-	91
DRN 150/6/80 A1DT/50	390	150	590	90	80	290	18	160	90°	45°	66
DRN 150/6/100 A1DT/50	415	160	595	90	100	310	18	180	45°	-	68
DRN 250/6/100 A1FT/50	505	200	740	115	100	395	18	180	45°	-	109
DRN 250/6/150 A1FT/50	505	200	740	115	150	395	24	240	45°	-	112

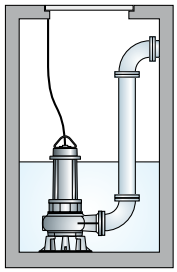
Measurements in mm

Installations available

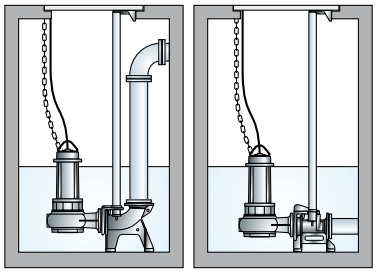
A



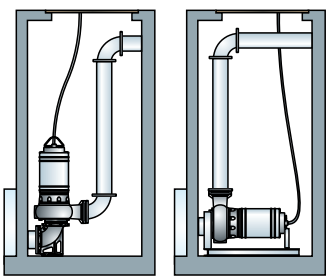
B



D



E



DRP



Multi-channel open impeller

General characteristics

- Multi-channel open impeller
- 4,1 ÷ 19,3 kW motor power
- 2 / 4 / 6 poles
- DN80 ÷ DN150 delivery port
- max 125 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Designed to transport heavily soiled wastewater, activated sludges and solids. Particularly suitable for applications in wastewater treatment plants, sewer systems, civil lifting systems and the paper, tanning and leather industries.

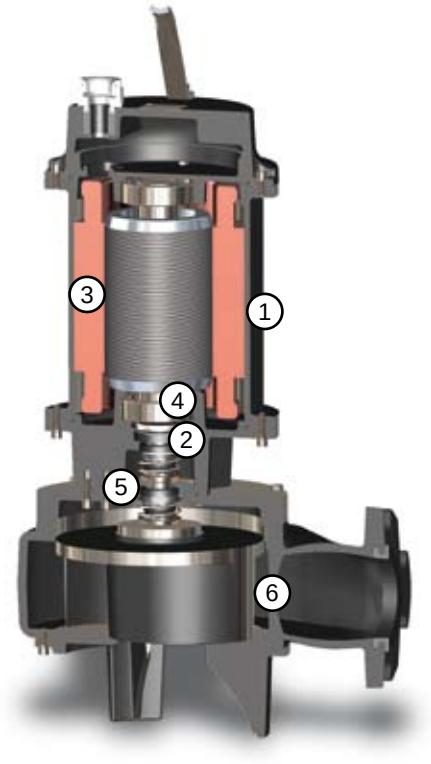
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DRP





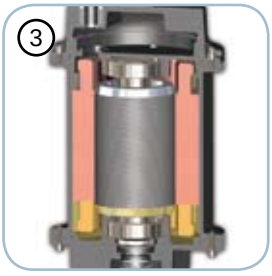
Structure

Constructed in GJL-250 cast iron



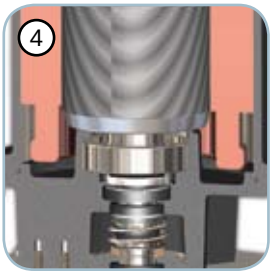
Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



Motor

Oil-bath motor with thermal overloads



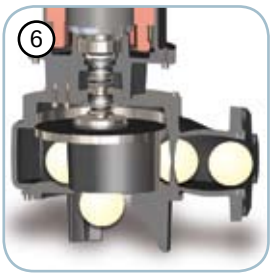
Bearings

Shielded ball bearings with lifetime autolubrication



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



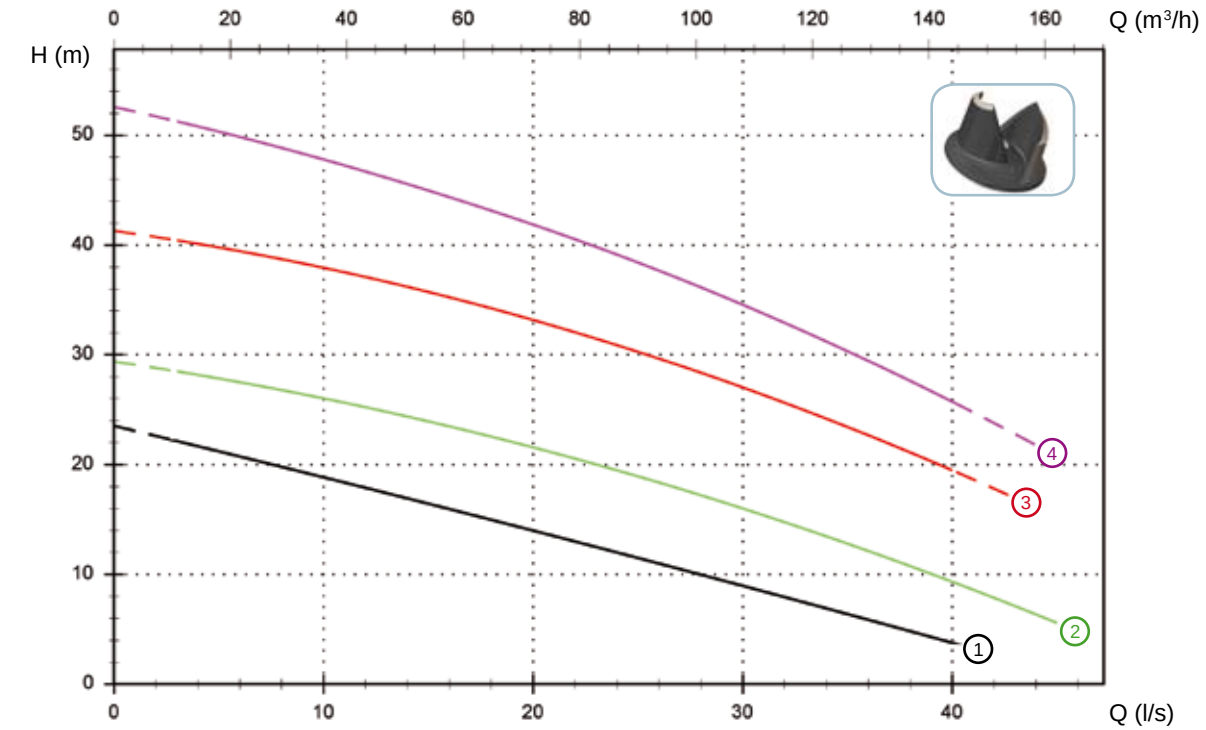
Free passage

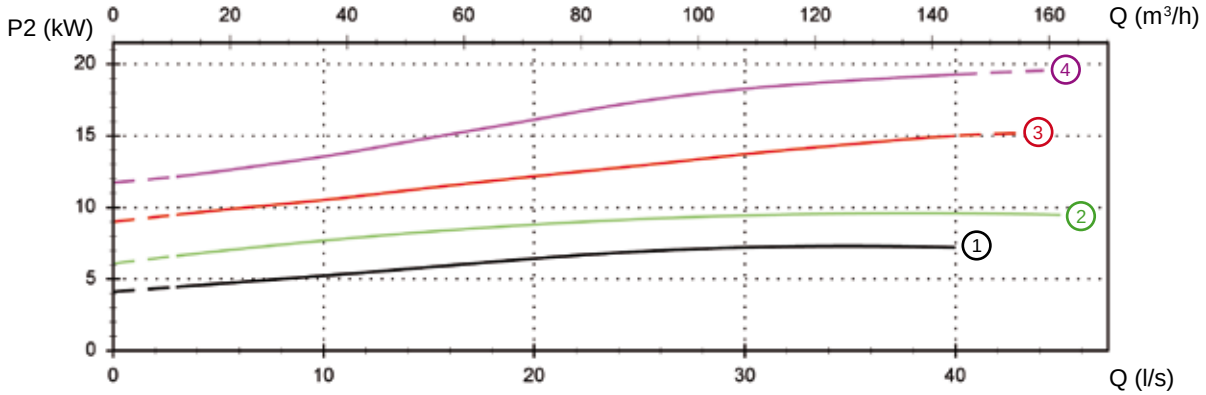
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DRP

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

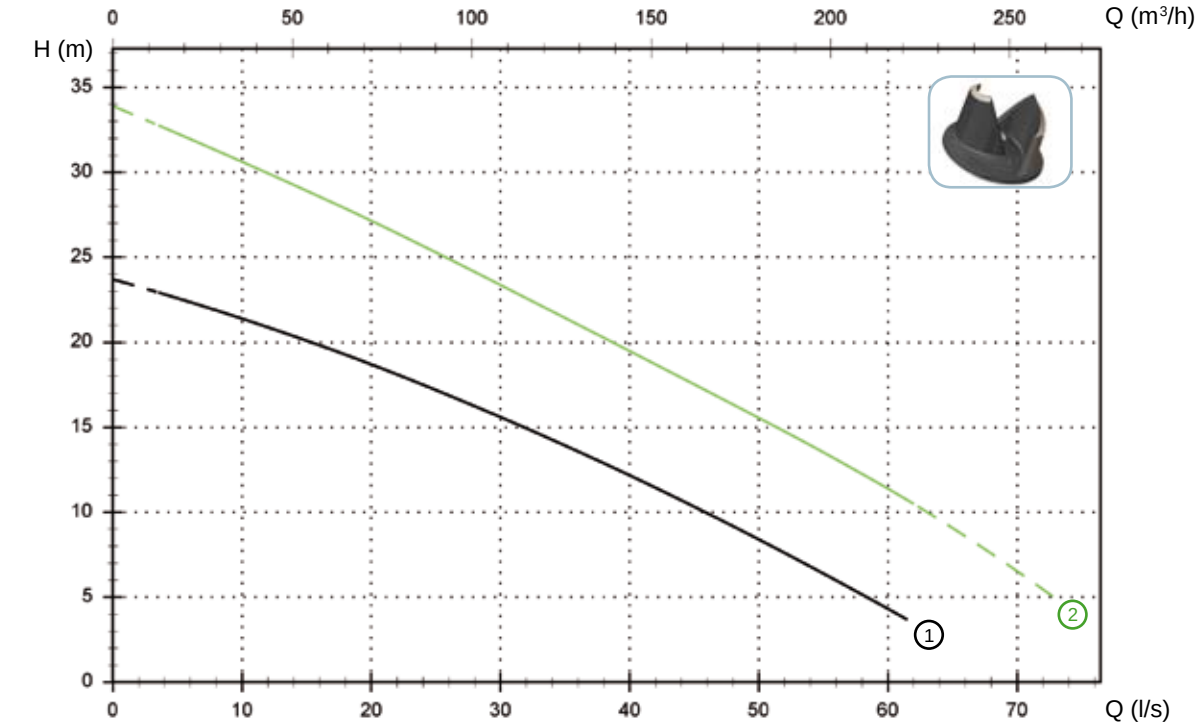
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 750/2/80 A0HT/50	400	3	8.8	7.2	14.5	2900	DN80 PN10-16	A	55x65 mm
2	DRP 1000/2/80 A1HT/50	400	3	12.4	10	19.8	2900	DN80 PN10-16	A	55x65 mm
3	DRP 1500/2/80 A0HT/50	400	3	16.7	15	27.2	2900	DN80 PN10-16	B	50x60 mm
4	DRP 2000/2/80 A0IT/50	400	3	22.7	19.3	36	2900	DN80 PN10-16	C	35x60 mm

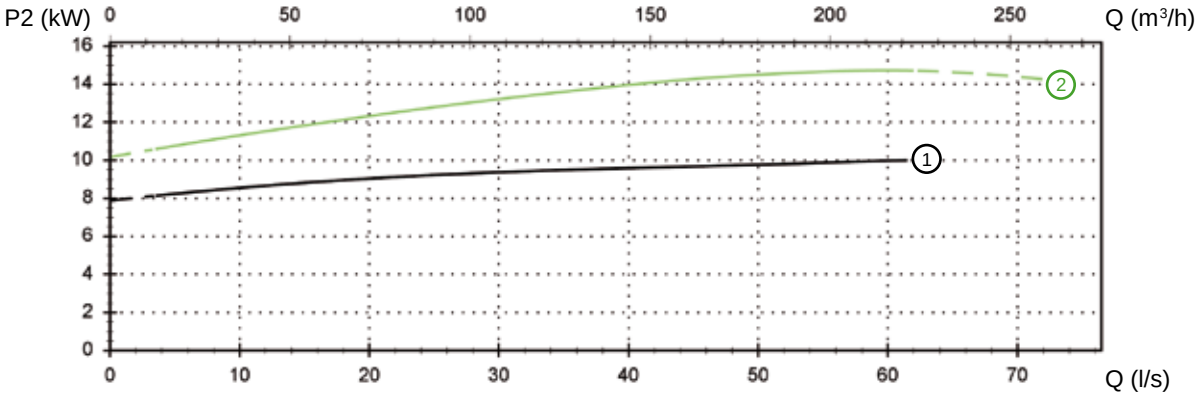
(*) A = 07RN-F 7G1.5+3x0.75 - 10 m
B = 07RN-F 7G2.5+3x0.75 -10 m
C = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN100 PN10-16 anged delivery port - 2 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 1000/2/100 A1HT/50	400	3	12.4	10	19.8	2900	DN100 PN10-16	A	75x80 mm
2	DRP 1500/2/100 A0HT/50	400	3	17.7	15	28.2	2900	DN100 PN10-16	B	70x80 mm

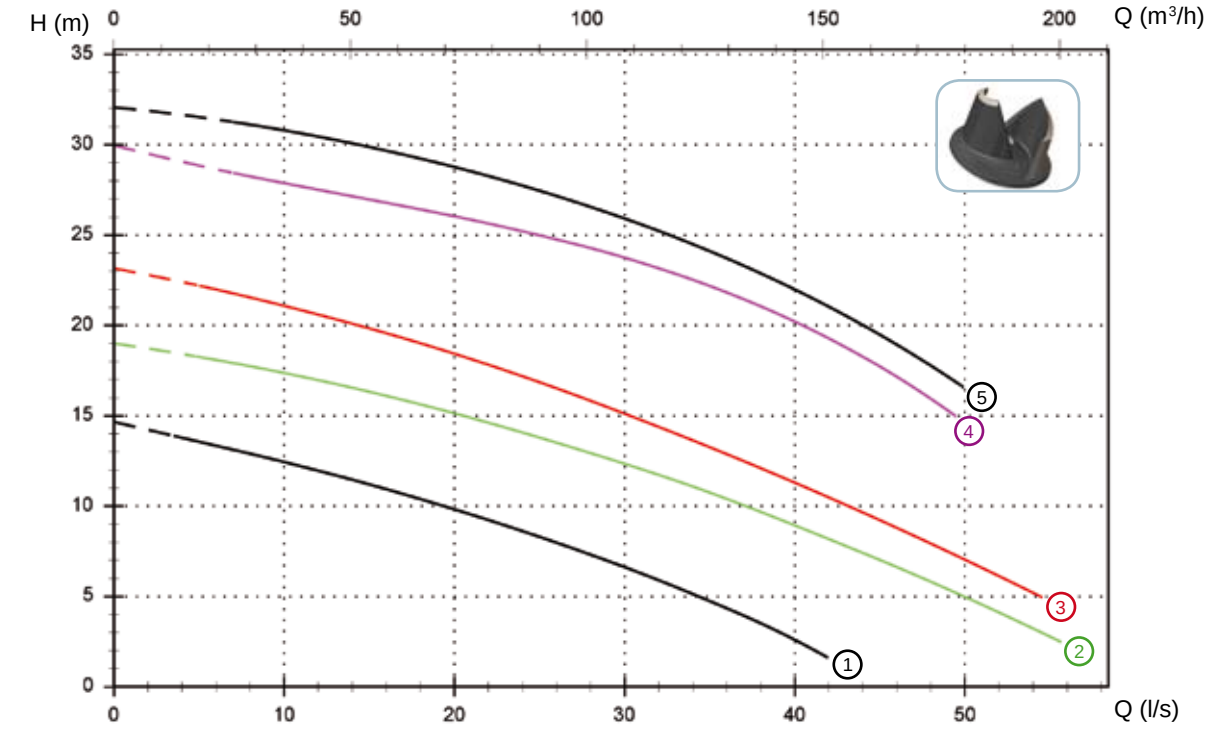
(*) A = 07RN-F 7G1.5+3x0.75 - 10 m
B = 07RN-F 7G2.5+3x0.75 -10 m

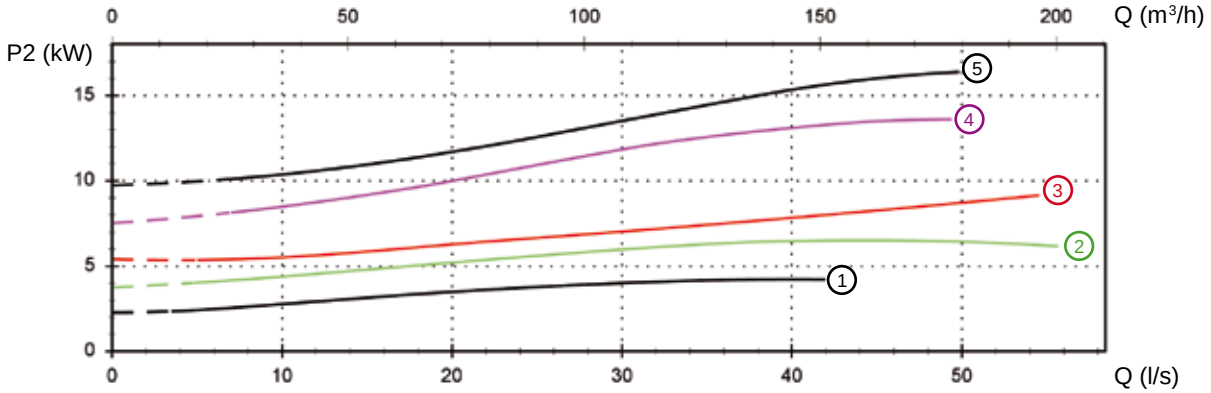
Electrical and mechanical features are equal to the cable H07RN-F

DRP

Models with horizontal DN80 PN10/10-16 anged delivery port - 4 poles

Performances





Technical data

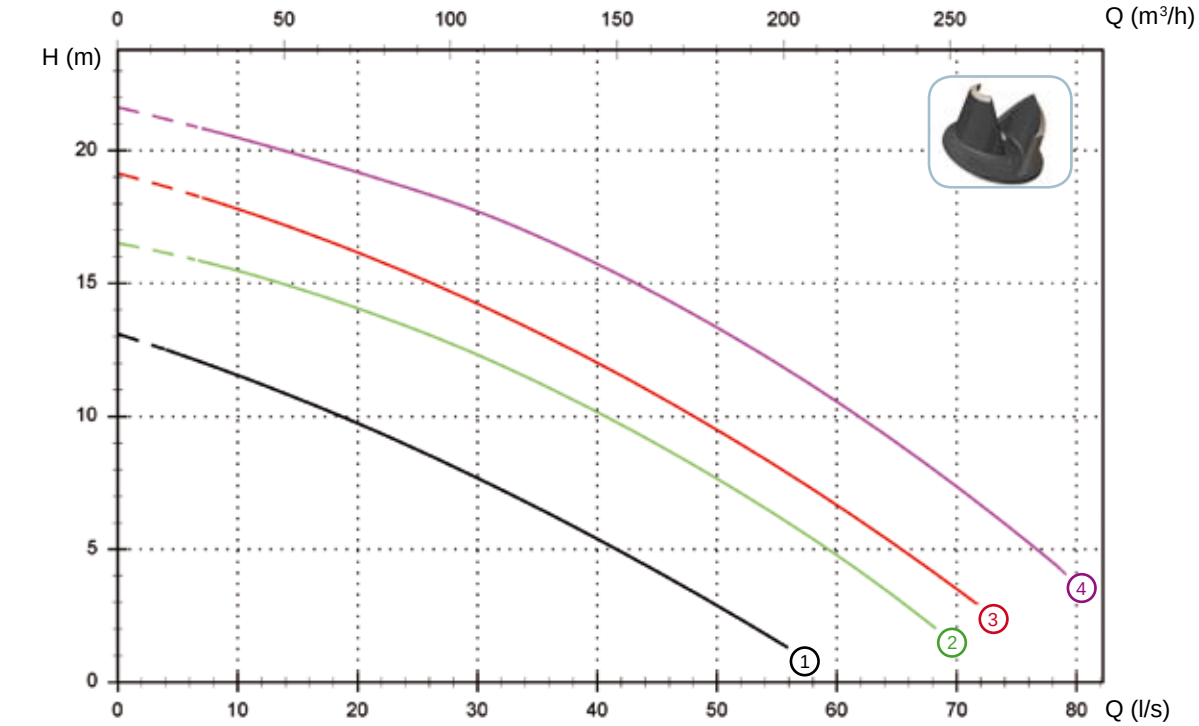
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 550/4/80 A0GT/50	400	3	5.9	4.6	10.1	1450	DN80 PN10-16	A	60x70 mm
2	DRP 750/4/80 A0HT/50	400	3	8.6	6.5	14.9	1450	DN80 PN10-16	B	60x70 mm
3	DRP 1000/4/80 A0HT/50	400	3	11.5	8.9	20	1450	DN80 PN10-16	B	60x70 mm
4	DRP 1500/4/80 A0IT/50	400	3	15.8	13.6	28.2	1450	DN80 PN10	C	50x70 mm
5	DRP 2000/4/80 A0IT/50	400	3	20.7	16.4	36	1450	DN80 PN10	C	50x70 mm

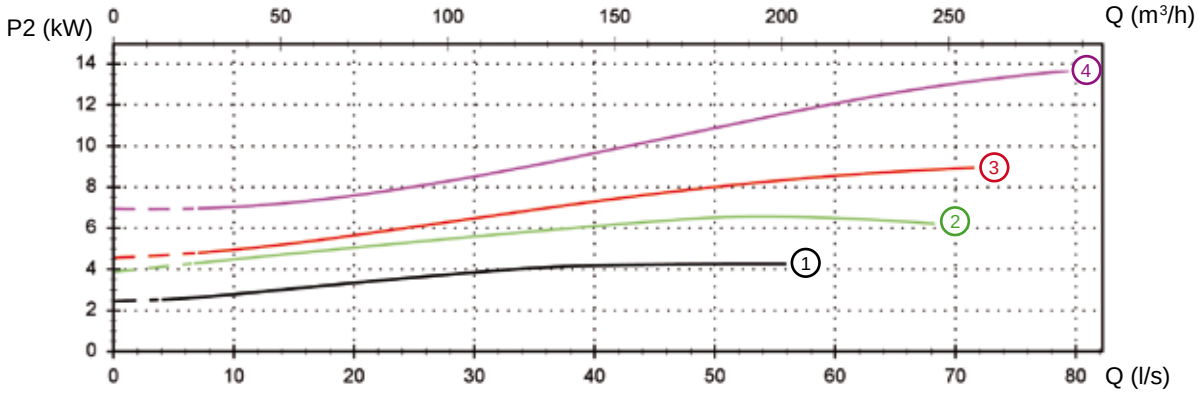
(*) A = 07RN-F 4G2.5+3x1
B = 07RN-F 7G1.5+3x0.75 - 10 m
C = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 550/4/100 A0GT/50	400	3	5.9	4.6	10.1	1450	DN100 PN10-16	A	65x70 mm
2	DRP 750/4/100 A0HT/50	400	3	8.6	6.5	14.9	1450	DN100 PN10-16	B	85x95 mm
3	DRP 1000/4/100 A0HT/50	400	3	11.5	8.9	20	1450	DN100 PN10-16	B	80x95 mm
4	DRP 1500/4/100 A0IT/50	400	3	15.8	13.6	28.2	1450	DN100 PN10-16	C	70x95 mm

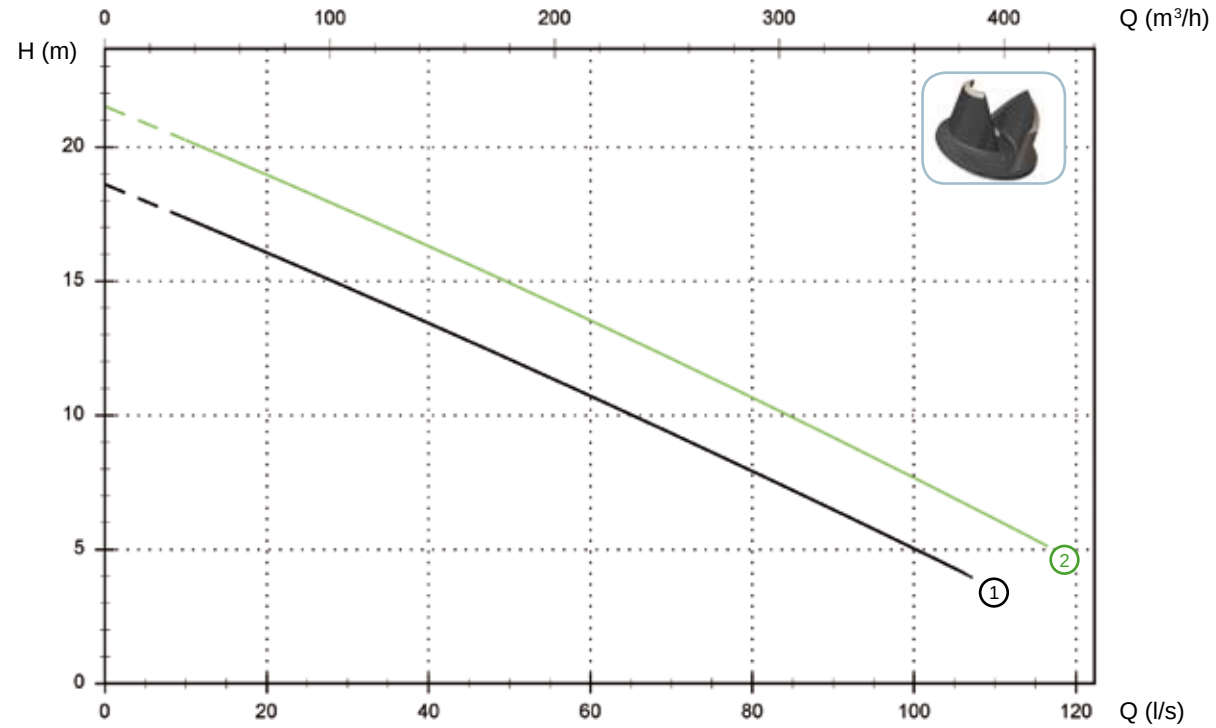
(*) A = 07RN-F 4G2.5+3x1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m
C = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

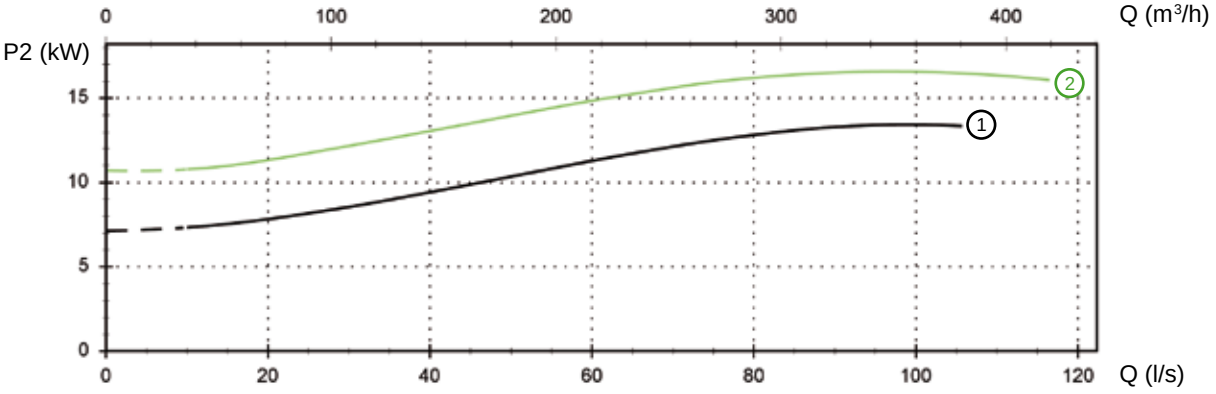
Electrical and mechanical features are equal to the cable H07RN-F

DRP

Models with horizontal DN125 PN10-16 anged delivery port - 4 poles

Performances





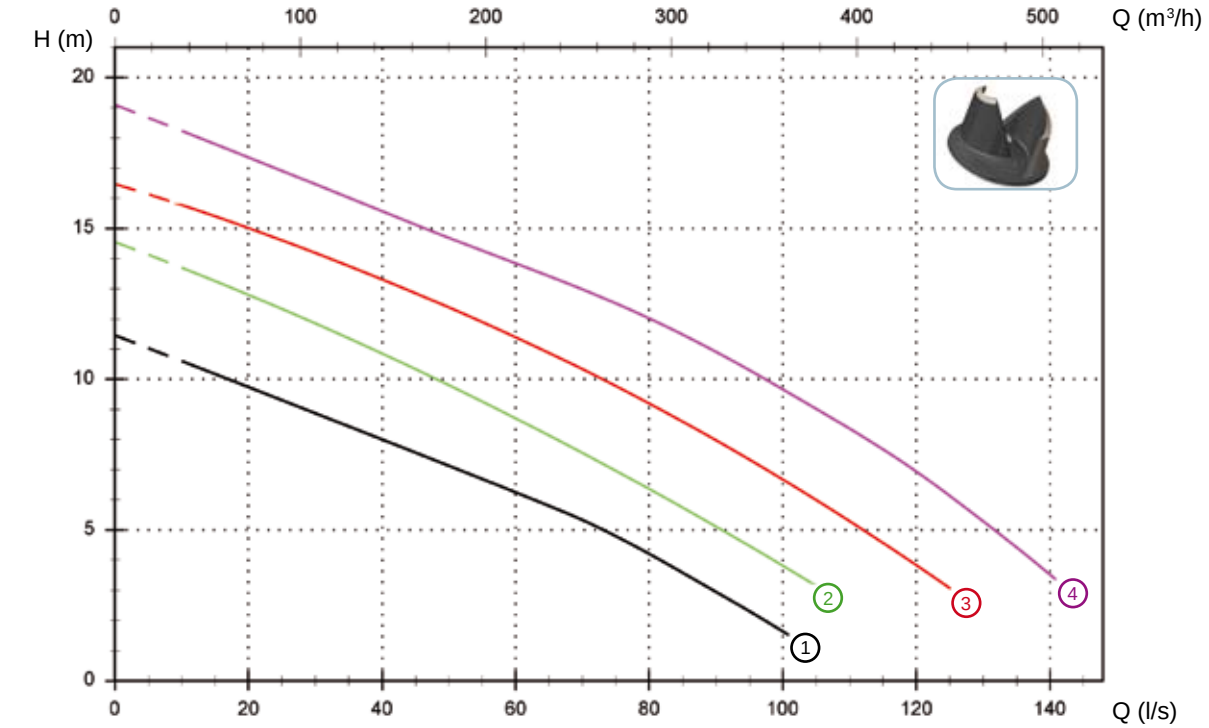
Technical data

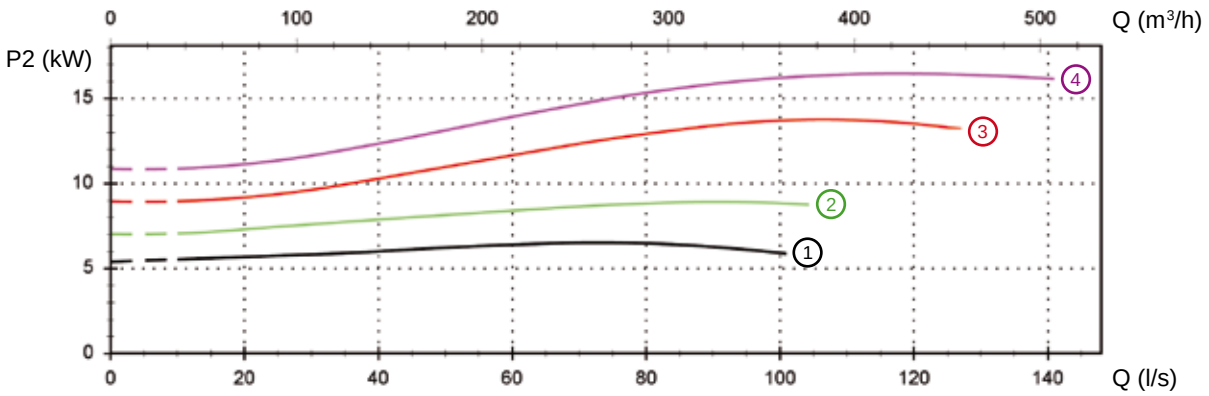
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 1500/4/125 A0IT/50	400	3	15.8	13.6	28.2	1450	DN125 PN10	A	90x105 mm
2	DRP 2000/4/125 A0IT/50	400	3	20.7	16.4	36	1450	DN125 PN10	A	90x105 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 750/4/150 A0HT/50	400	3	8.6	6.5	14.9	1450	DN150 PN10-16	A	95 mm
2	DRP 1000/4/150 A0HT/50	400	3	11.5	8.9	20	1450	DN150 PN10-16	A	95 mm
3	DRP 1500/4/150 A0IT/50	400	3	15.8	13.6	28.2	1450	DN150 PN10-16	B	95x110 mm
4	DRP 2000/4/150 A0IT/50	400	3	20.7	16.4	36	1450	DN150 PN10-16	B	95x115 mm

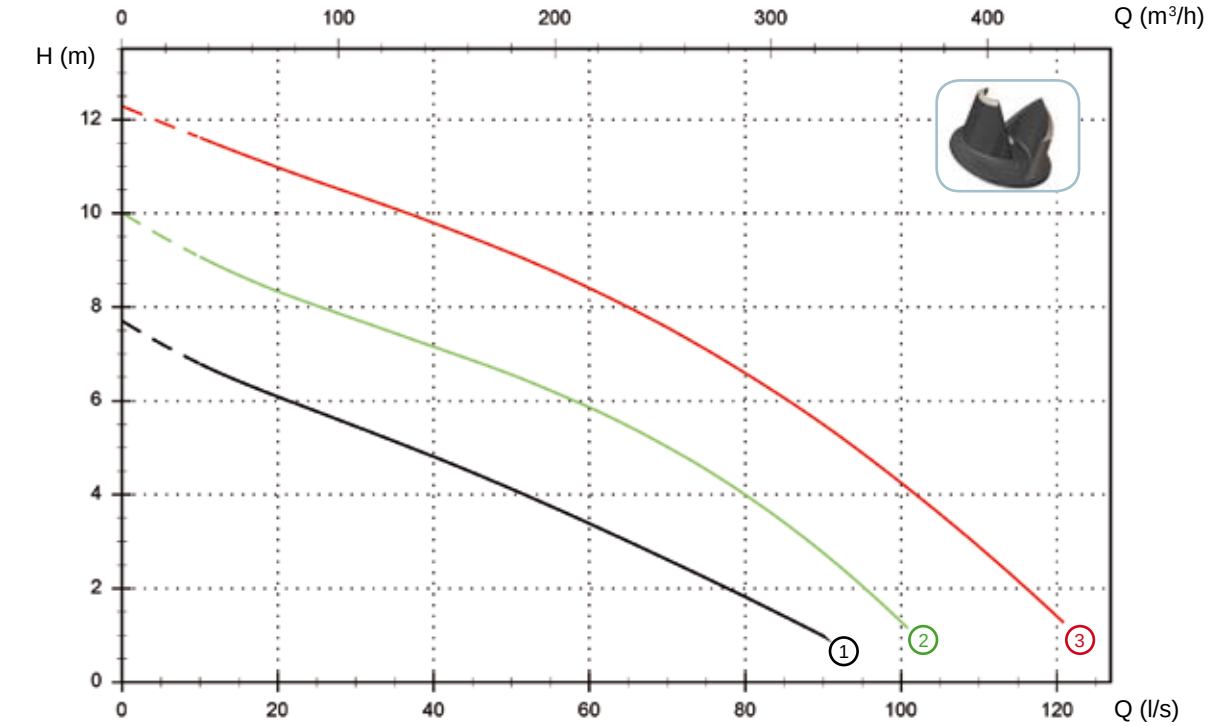
(*) A = 07RN-F 7G1.5+3x0.75 - 10 m
B = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

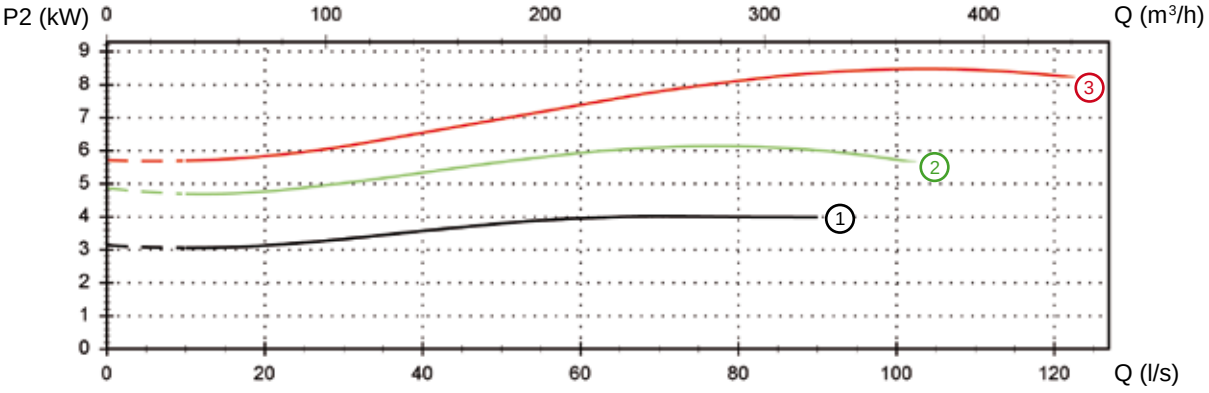
Electrical and mechanical features are equal to the cable H07RN-F

DRP

Models with horizontal DN150 PN10-16 anged delivery port - 6 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRP 550/6/150 A0HT/50	400	3	5.3	4.1	10.7	960	DN150 PN10-16	A	115 mm
2	DRP 750/6/150 A0HT/50	400	3	7.8	6.1	15.2	960	DN150 PN10-16	A	110x125 mm
3	DRP 1000/6/150 A0IT/50	400	3	11.4	8.4	20.1	960	DN150 PN10-16	B	95x115 mm

(*) A = 07RN-F 7G1.5+3x0.75 - 10 m
B = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

DRP

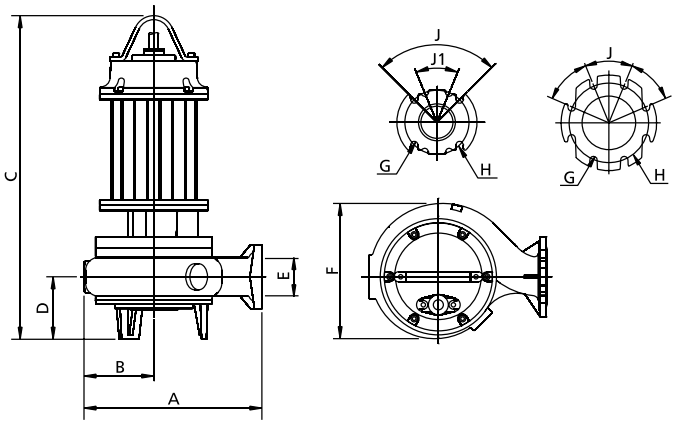
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRP 750/2/80 A0HT/50		●								●					●	●				●
DRP 1000/2/80 A1HT/50		●								●					●	●				●
DRP 1500/2/80 A0HT/50		●								●					●	●				●
DRP 2000/2/80 A0IT/50		●								●					●	●				●
DRP 1000/2/100 A1HT/50		●								●					●	●				●
DRP 1500/2/100 A0HT/50		●								●					●	●				●
DRP 550/4/80 A0GT/50		●								●					●	●				●
DRP 750/4/80 A0HT/50		●								●					●	●				●
DRP 1000/4/80 A0HT/50		●								●					●	●				●
DRP 1500/4/80 A0IT/50		●								●					●	●				●
DRP 2000/4/80 A0IT/50		●								●					●	●				●
DRP 550/4/100 A0GT/50		●								●					●	●				●
DRP 750/4/100 A0HT/50		●								●					●	●				●
DRP 1000/4/100 A0HT/50		●								●					●	●				●
DRP 1500/4/100 A0IT/50		●								●					●	●				●
DRP 1500/4/125 A0IT/50		●								●					●	●				●
DRP 2000/4/125 A0IT/50		●								●					●	●				●
DRP 750/4/150 A0HT/50		●								●					●	●				●
DRP 1000/4/150 A0HT/50		●								●					●	●				●
DRP 1500/4/150 A0IT/50		●								●					●	●				●
DRP 2000/4/150 A0IT/50		●								●					●	●				●
DRP 550/6/150 A0HT/50		●								●					●	●				●
DRP 750/6/150 A0HT/50		●								●					●	●				●
DRP 1000/6/150 A0IT/50		●								●					●	●				●

DRP

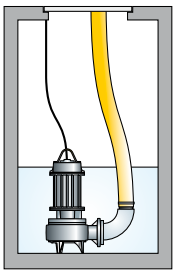
Overall dimensions and weights

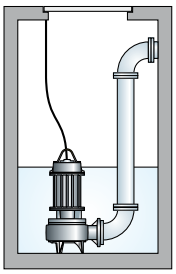


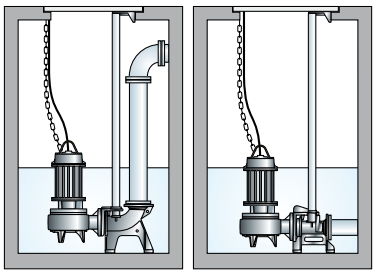
	A	B	C	D	E	F	G	H	J	J1	kg
DRP 750/2/80 A0HT/50	390	150	770	150	80	295	18	160	90°	45°	100
DRP 1000/2/80 A1HT/50	390	150	770	150	80	295	18	160	90°	45°	105
DRP 1500/2/80 A0HT/50	390	150	770	150	80	295	18	160	90°	45°	128
DRP 2000/2/80 A0IT/50	390	150	935	150	80	310	18	160	90°	45°	158
DRP 1000/2/100 A1HT/50	415	160	798	155	100	310	18	180	45°	-	108
DRP 1500/2/100 A0HT/50	415	160	830	155	100	310	18	180	45°	-	130
DRP 550/4/80 A0GT/50	390	150	725	150	80	290	18	160	90°	45°	82
DRP 750/4/80 A0HT/50	445	175	810	155	80	340	18	160	90°	45°	125
DRP 1000/4/80 A0HT/50	445	175	810	155	80	340	18	160	90°	45°	133
DRP 1500/4/80 A0IT/50	455	200	950	150	80	435	18	160	90°	-	181
DRP 2000/4/80 A0IT/50	455	200	950	150	80	435	18	160	90°	-	196
DRP 550/4/100 A0GT/50	415	160	740	155	100	310	18	180	45°	-	85
DRP 750/4/100 A0HT/50	430	165	820	160	100	335	18	180	45°	-	123
DRP 1000/4/100 A0HT/50	430	165	820	160	100	335	18	180	45°	-	131
DRP 1500/4/100 A0IT/50	430	165	970	160	100	335	18	180	45°	-	171
DRP 1500/4/125 A0IT/50	580	280	1010	200	125	555	18	210	90°	-	199
DRP 2000/4/125 A0IT/50	580	280	1010	200	125	555	18	210	90°	-	220
DRP 750/4/150 A0HT/50	500	215	845	190	150	400	24	240	45°	-	138
DRP 1000/4/150 A0HT/50	500	215	845	190	150	400	24	240	45°	-	146
DRP 1500/4/150 A0IT/50	650	255	1020	205	150	505	24	240	45°	-	213
DRP 2000/4/150 A0IT/50	650	255	1020	205	150	505	24	240	45°	-	228
DRP 550/6/150 A0HT/50	500	215	865	190	150	400	24	240	45°	-	141
DRP 750/6/150 A0HT/50	650	255	900	205	150	505	24	240	45°	-	138
DRP 1000/6/150 A0IT/50	650	255	1019	205	150	505	24	240	45°	-	213

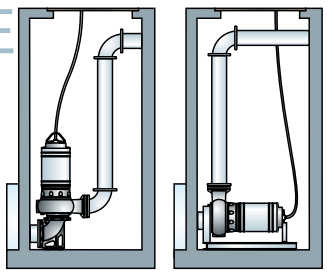
Measurements in mm

Installations available

A 

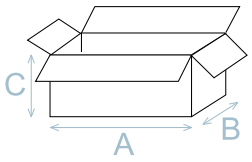
B 

D 

E 

Packaging dimension

	A	B	C
DRP 750/2/80 A0HT/50	915	515	555
DRP 1000/2/80 A1HT/50	915	515	555
DRP 1500/2/80 A0HT/50	915	515	555
DRP 2000/2/80 A0IT/50	915	515	555
DRP 1000/2/100 A1HT/50	915	515	555
DRP 1500/2/100 A0HT/50	915	515	555
DRP 550/4/80 A0GT/50	725	445	415
DRP 750/4/80 A0HT/50	915	515	555
DRP 1000/4/80 A0HT/50	915	515	555
DRP 1500/4/80 A0IT/50	915	515	555
DRP 2000/4/80 A0IT/50	915	515	555
DRP 550/4/100 A0GT/50	725	445	415
DRP 750/4/100 A0HT/50	915	515	555
DRP 1000/4/100 A0HT/50	915	515	555
DRP 1500/4/100 A0IT/50	915	515	555
DRP 1500/4/125 A0IT/50	1165	720	685
DRP 2000/4/125 A0IT/50	1165	720	685
DRP 750/4/150 A0HT/50	915	515	555
DRP 1000/4/150 A0HT/50	915	515	555
DRP 1500/4/150 A0IT/50	1165	720	685
DRP 2000/4/150 A0IT/50	1165	720	685
DRP 550/6/150 A0HT/50	1165	720	685
DRP 750/6/150 A0HT/50	1165	720	685
DRP 1000/6/150 A0IT/50	1165	720	685



Dimension in mm

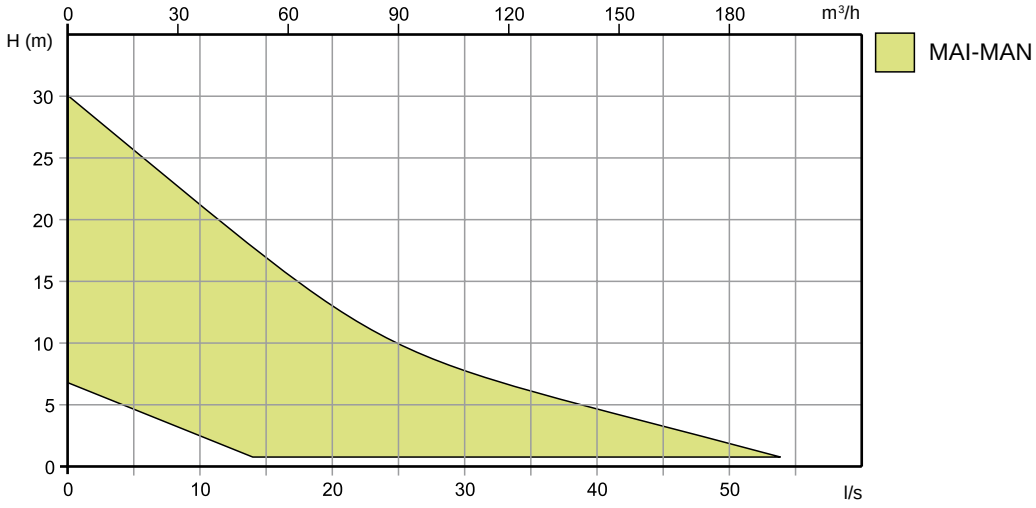
1.3 PUMPS WITH SINGLE-CHANNEL OPEN IMPELLER

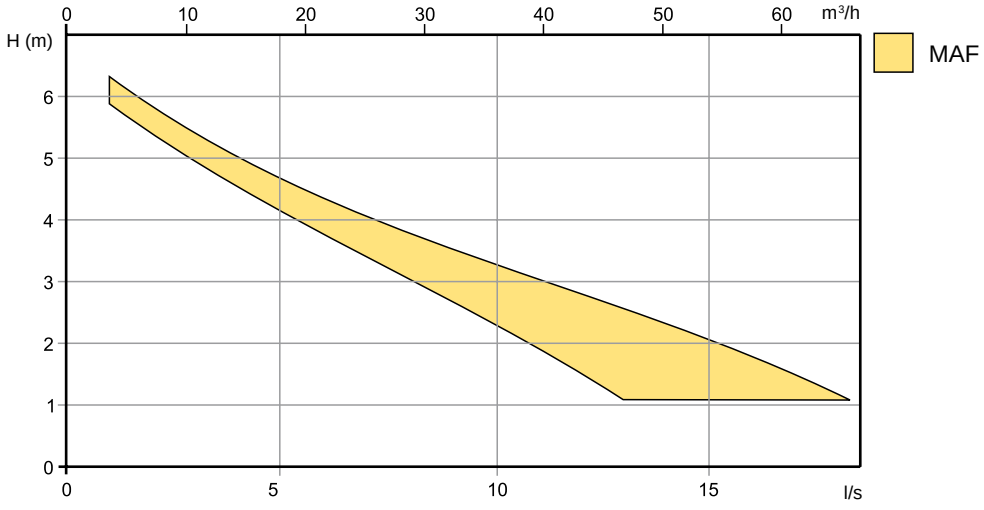
The MA family consists of electric pumps with single-channel open impeller which allows very high performance and ample free passages, often entirely free passages, which reduce the risk of fouling. Units in this family can be used for lifting sewage, for wastewater treatment plants, and for industrial applications in general.

0.74 ÷ 4.1 kW



The unusual shape of the impeller blade and diffuser plate ensures that solids will be ejected by providing them with an escape route.
A special tapered bushing can be used to adjust the axial play of the impeller to restore hydraulic performance lost due to wear of moving parts, guaranteeing a longer working life and constant efficiency over time.
The location of the blades in the rear of the impeller doubles the water flow through the cooling jacket, in installations in dry chamber, reducing the risk of fouling and ensuring the motor is cooled effectively even in heavy-duty conditions.





MA

Pumps with single-channel open impeller



MAI

page 156

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed in series in inspectable oil sump. Ecological dry motor. Stainless steel handle, cast iron impeller.
Suitable for pumping wastewater from public establishments, small sewer systems, livestock farms, the food industry and agriculture.



MAN

page 160

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals (optional). Models available in ATEX explosion-proof version (on request).
Used with unstrained soiled biological wastewaters and sewage and for civil lifting applications. It is thus ideal for application in wastewater treatment plants, sewer systems, livestock farms, industry and agriculture. These models are prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).



MAF

page 176

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Cast iron handle and impeller. Model with ATEX explosion-proof certification.
Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the MAF can be used with soiled liquids containing traces of flammable substances, and in gassy environments.

MAI



Single-channel open impeller

General characteristics

- Single-channel open impeller
- 0,74 kW motor power
- 4 poles
- DN80 delivery port
- 50 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina lip seal, installed in series in inspectable oil sump. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for pumping wastewater from public establishments, small sewer systems, livestock farms, the food industry and agriculture.

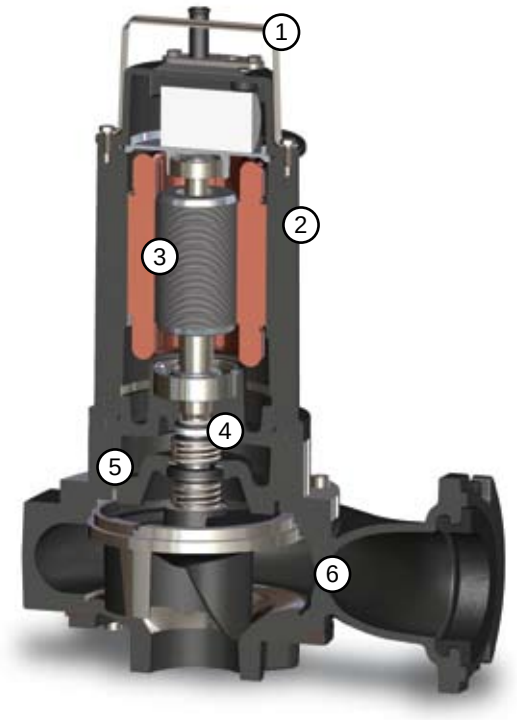
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

MAI





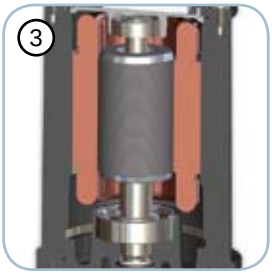
Handle

AISI 304 stainless steel lifting and carrying handle



Structure

Constructed in GJL-250 cast iron



Motor

Ecological dry motor with thermal overloads



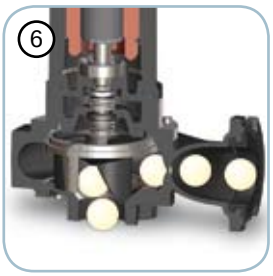
Mechanical seals

One mechanical seal in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Free passage

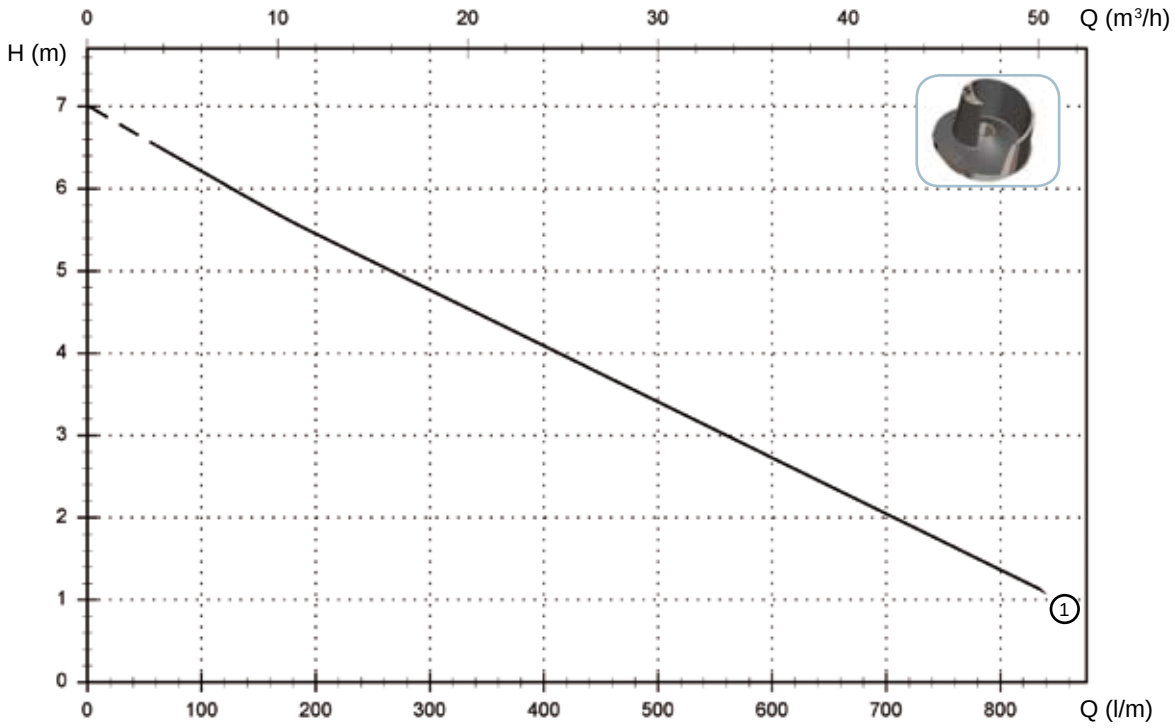
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

MAI

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
(1) MAI 100/4/80 A0CM/50		6,4	6,1	5,2	4,4	3,5	2,7	1,9



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAI 100/4/80 A0CM/50	230	1	1.1	0.74	5.5	1450	DN80 PN10-16	A	50 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAI 100/4/80 A0CT/50	400	3	1.2	0.74	2.3	1450	DN80 PN10-16	B	50 mm

(*) A = H07RN-F 3G1 - 10 m with shuko plug
B = H07RN-F 4G1 - 10 m

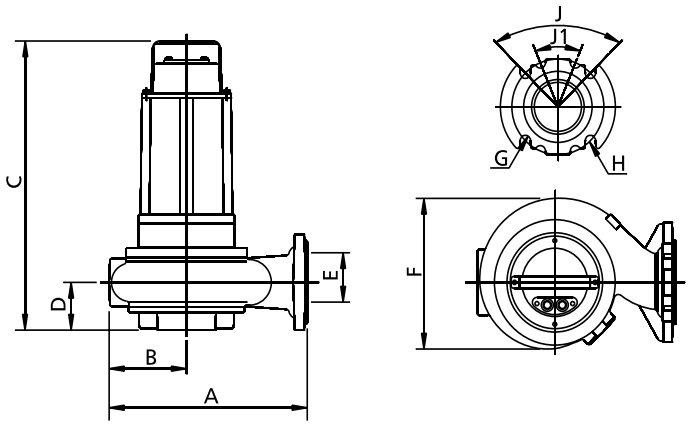
MAI

Versions available

(Key to versions on page 15)

	Electrical variants													Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
MAI 100/4/80 A0CM/50			●				●								●				●	
MAI 100/4/80 A0CT/50											●	●			●				●	

Overall dimensions and weights



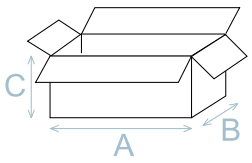
	A	B	C	D	E	F	G	H	J	J1	kg
MAI 100/4/80 A0CM(T)/50	345	135	485	80	80	255	18	160	90°	45°	42

Measurements in mm

Packaging dimension

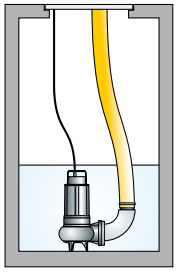
	A	B	C
MAI 100/4/80 A0CM(T)/50	725	445	415

Dimension in mm

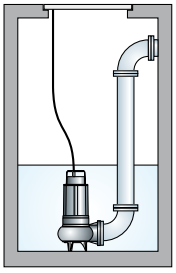


Installations available

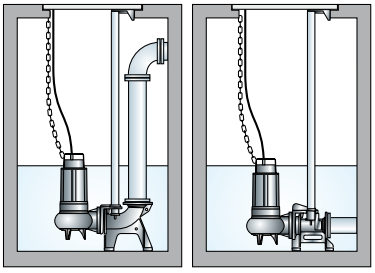
A



B



D



Dry installation available for specified models. Contact Custome Service for more information.

MAN



Single-channel open impeller

General characteristics

- Single-channel open impeller
- 1,1 ÷ 4,1 kW motor power
- 2 / 4 / 6 poles
- GAS 2 1/2" vertical
  DN65 ÷ DN150
- 40 ÷ 100 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

Applications

Used with unstrained soiled biological wastewaters and sewage and for civil lifting applications. It is thus ideal for wastewater treatment plants, sewer systems, livestock farms, industry and agriculture. The pump is also available in explosion-proof version with ATEX certification. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

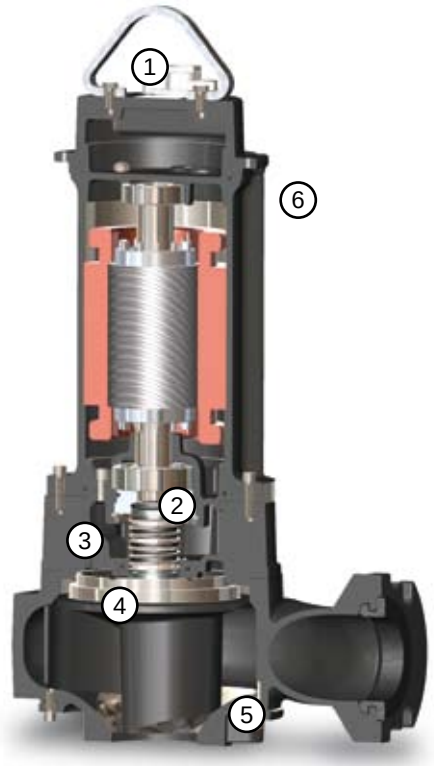
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

MAN





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.



Cable Gland

Cable gland system to guarantee perfect water-tightness. The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



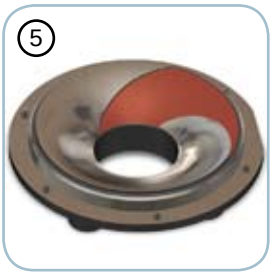
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



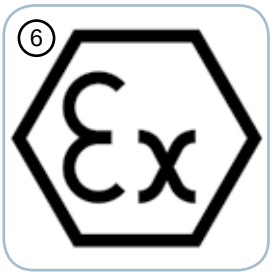
Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



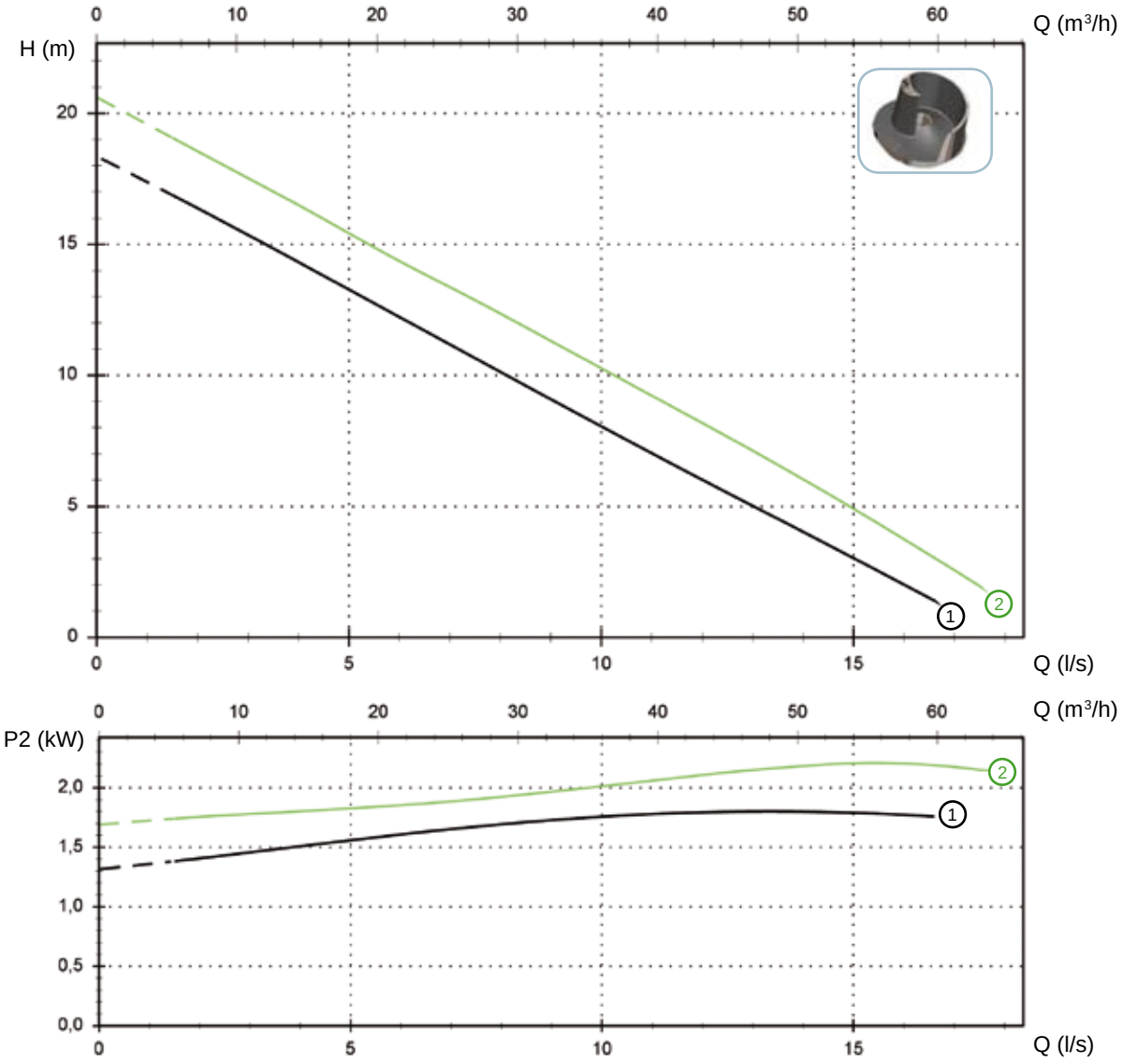
EX

Models available on request with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

MAN

Models with vertical GAS 2 1/2" threaded delivery port - 2 poles

Performances



Technical data

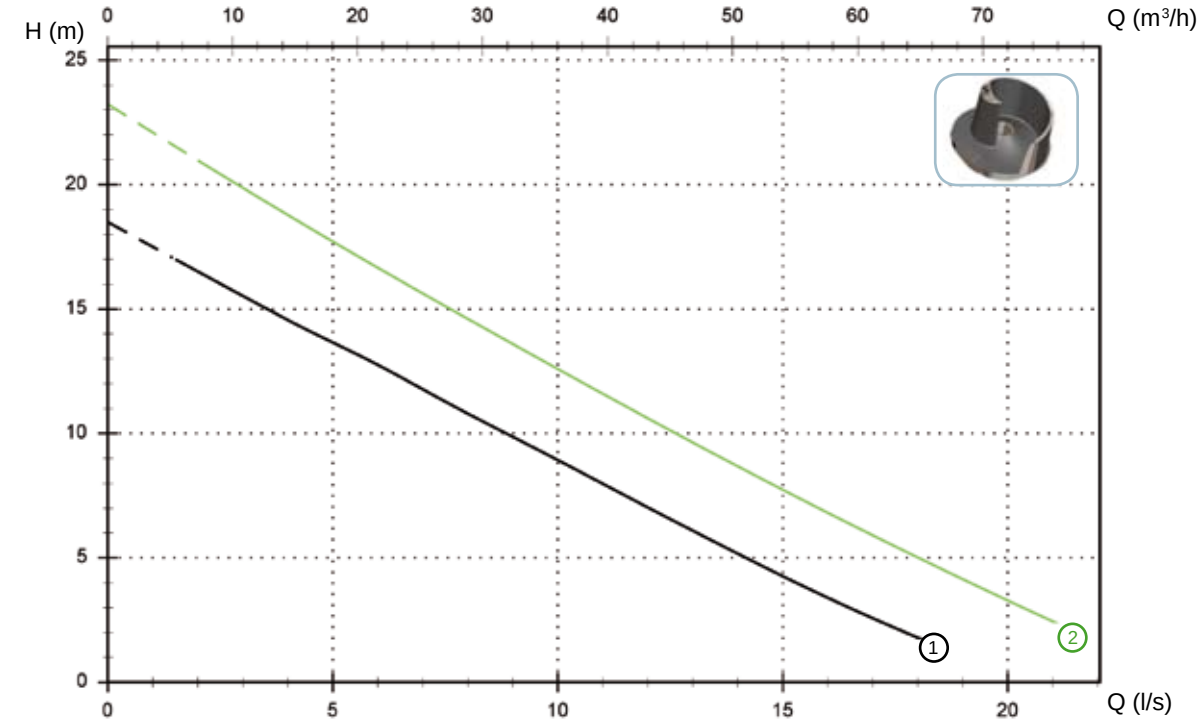
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/2/G65V A1DM/50	230	1	2.8	1.8	12.5	2900	G 2 1/2"	A - B	40 mm

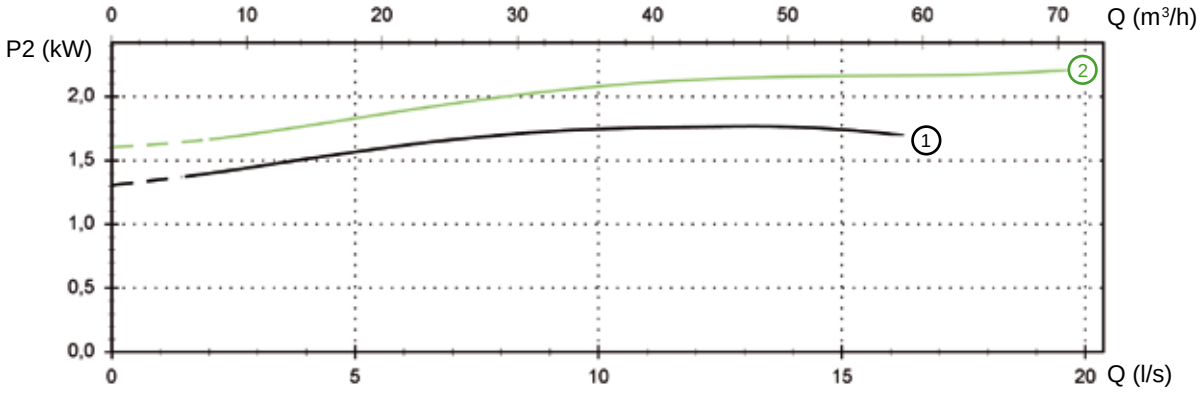
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/2/G65V A1DT/50	400	3	2.5	1.8	4.3	2900	G 2 1/2"	A - B	40 mm
(2) MAN 300/2/G65V A1DT/50	400	3	2.9	2.2	5.1	2900	G 2 1/2"	A - B	40 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/2/65 A1DM/50	230	1	2.8	1.8	12.5	2900	DN65 PN10-16	A - B	40 mm

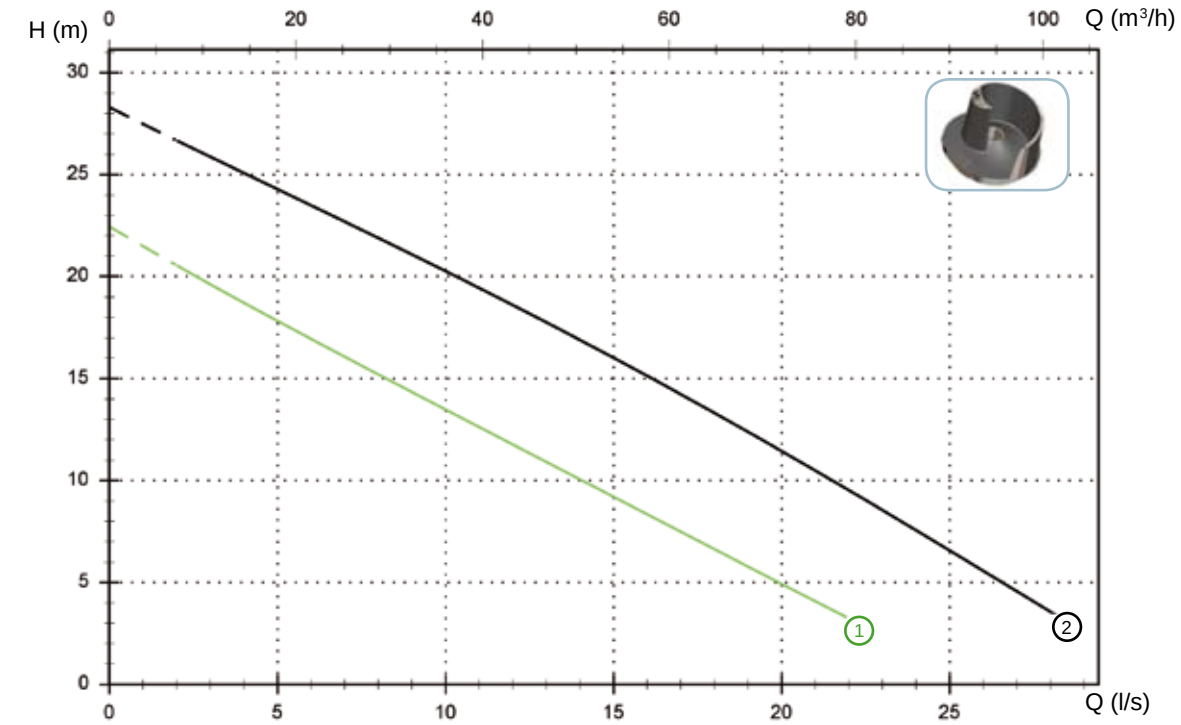
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/2/65 A1DT/50	400	3	2.3	1.8	4.3	2900	DN65 PN10-16	A - B	40 mm
(2) MAN 300/2/65 A1DT/50	400	3	2.9	2.2	5.1	2900	DN65 PN10-16	A - B	40 mm

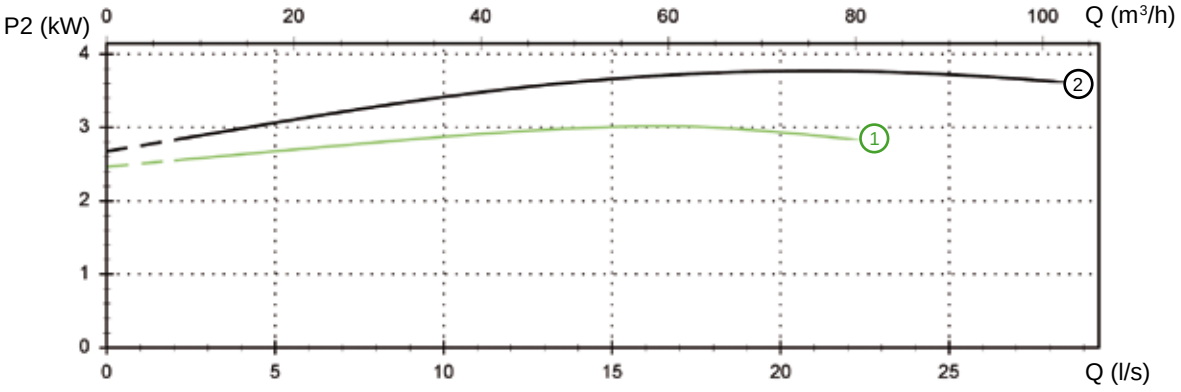
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

MAN

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





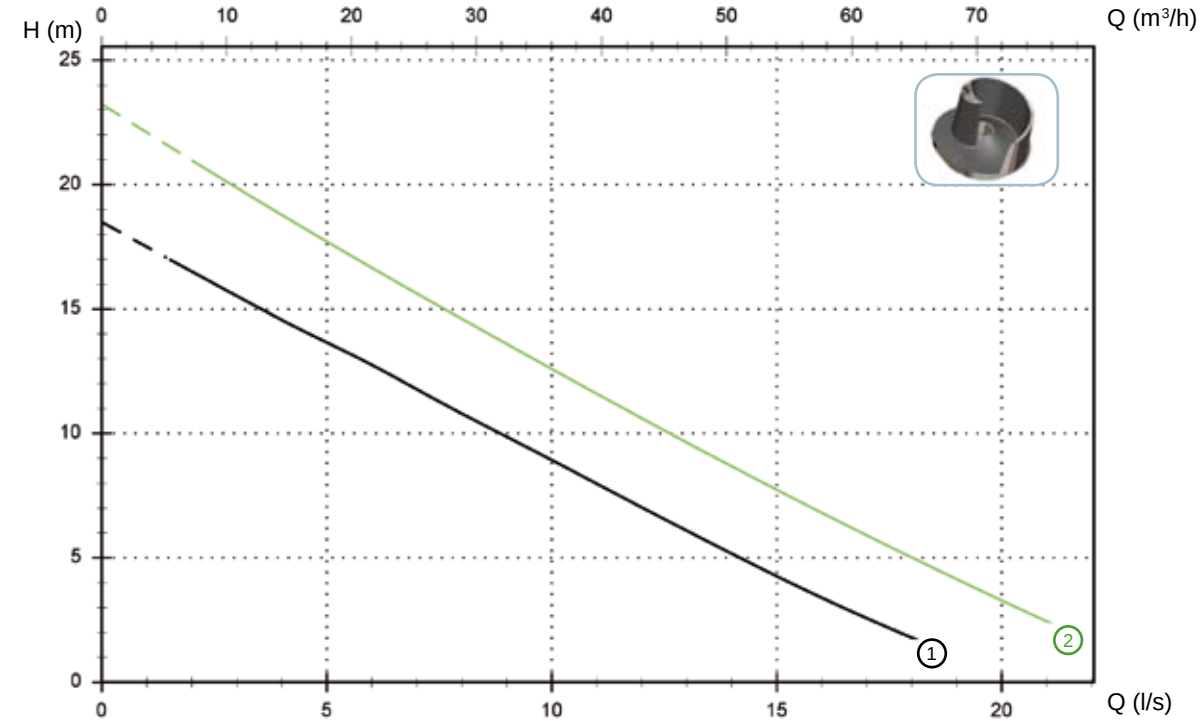
Technical data

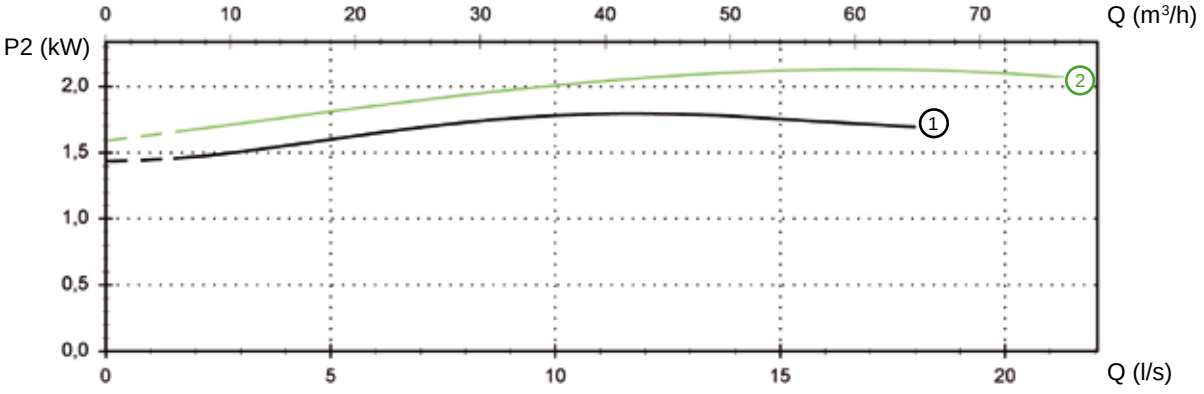
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 400/2/65 A1FT/50	400	3	4.0	3	6.7	2900	DN65 PN10-16	A - B	45 mm
(2) MAN 550/2/65 A1FT/50	400	3	5.0	4.1	8.7	2900	DN65 PN10-16	A - B	50 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/2/80 A1DM/50	230	1	2.8	1.8	12.5	2900	DN80 PN10-16	A - B	40 mm

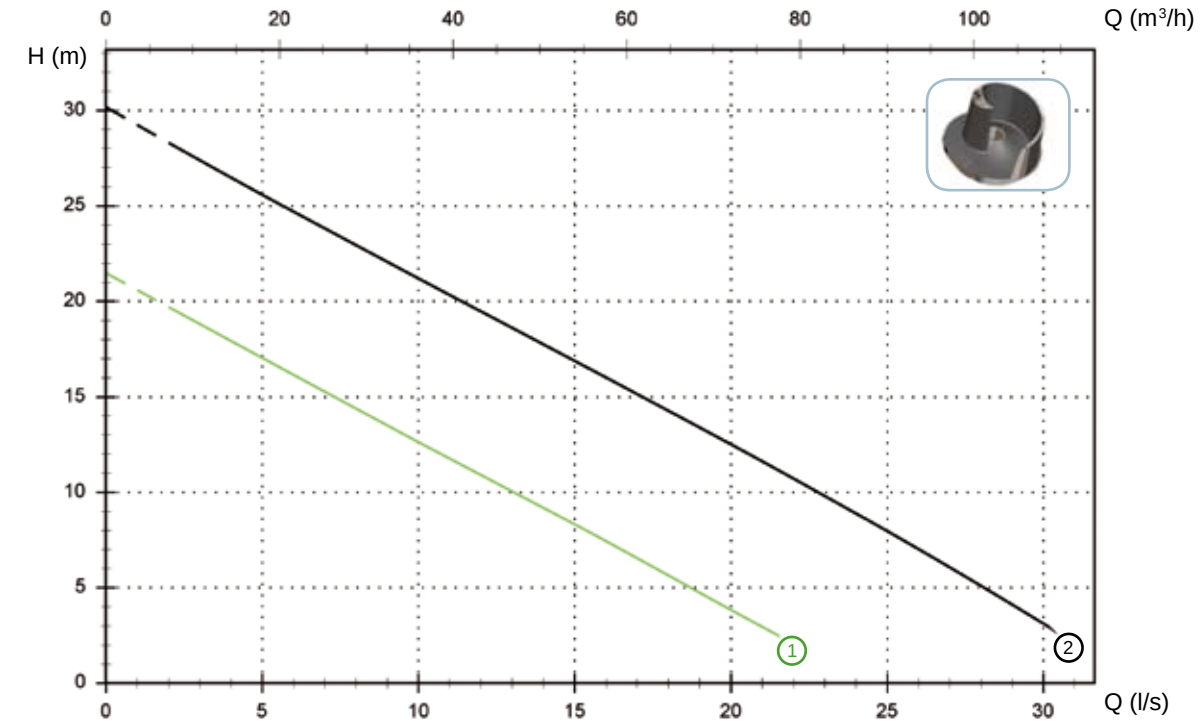
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/2/80 A1DT/50	400	3	2.5	1.8	4.3	2900	DN80 PN10-16	A - B	40 mm
(2) MAN 300/2/80 A1DT/50	400	3	2.9	2.2	5.1	2900	DN80 PN10-16	A - B	40 mm

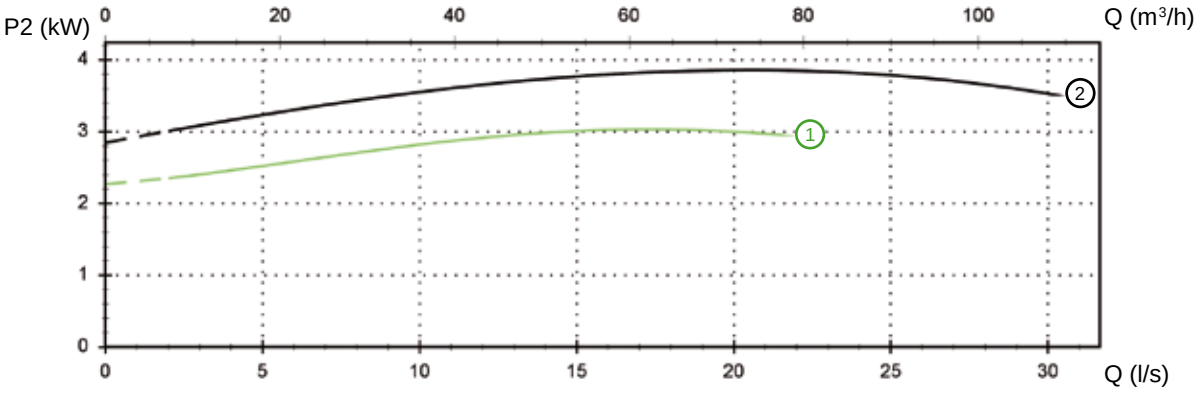
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

MAN

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





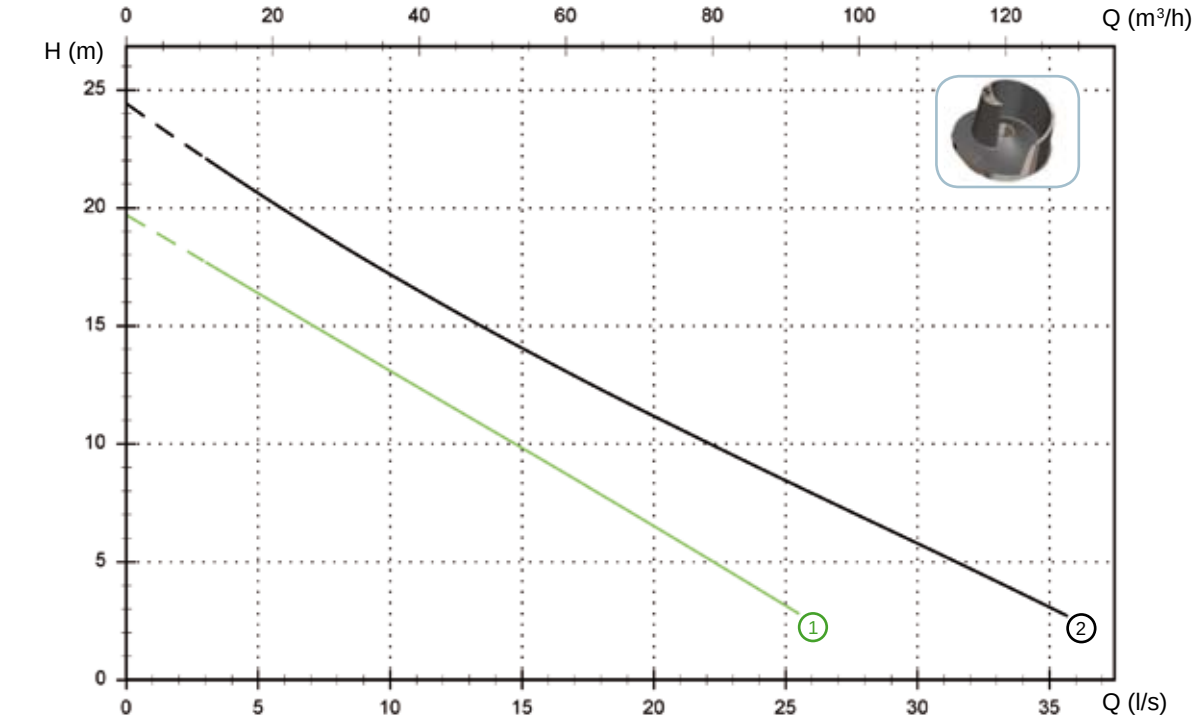
Technical data

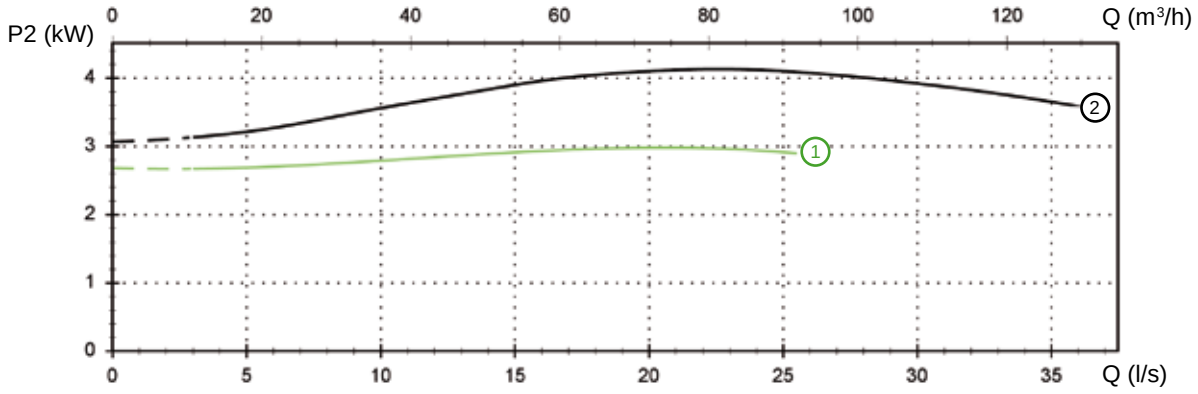
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	MAN 400/2/80 A1FT/50	400	3	4.0	3	6.7	2900	DN80 PN10-16	A - B	40 mm
2	MAN 550/2/80 A1FT/50	400	3	5.0	4.1	8.7	2900	DN80 PN10-16	A - B	45 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN100 PN10-16 anged delivery port - 2 poles

Performances





Technical data

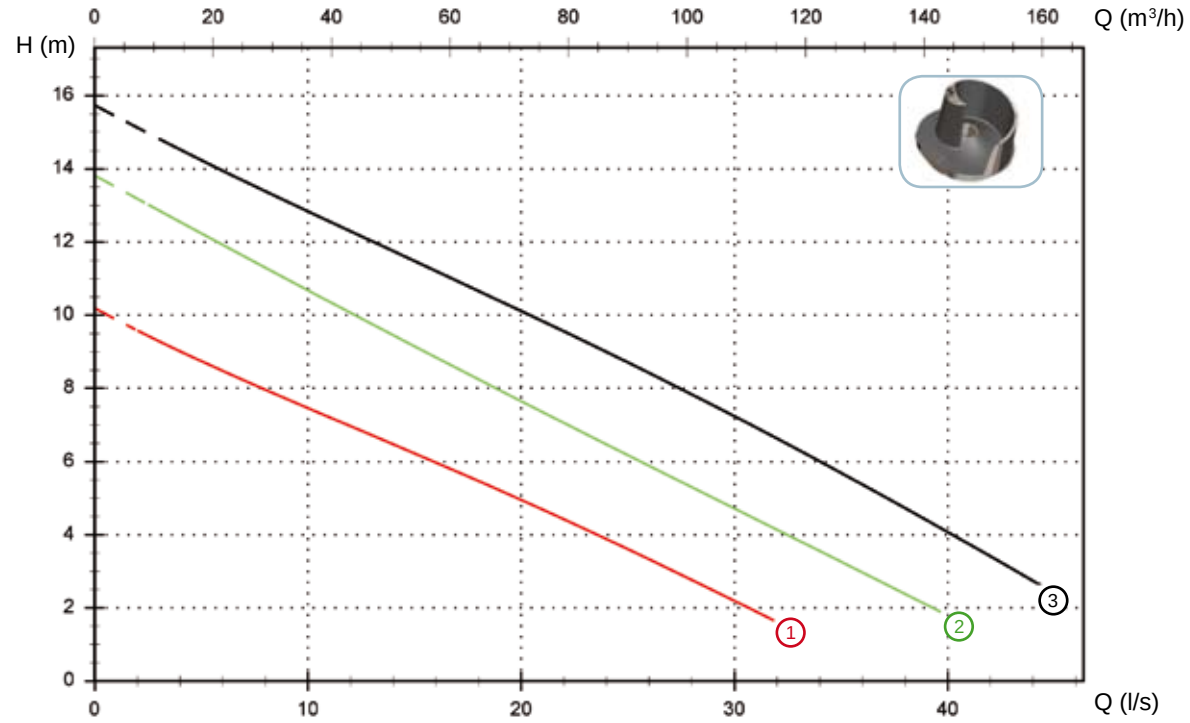
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	MAN 400/2/100 A1FT/50	400	3	4.0	3	6.7	2900	DN100 PN10-16	A - B	50 mm
2	MAN 550/2/100 A1FT/50	400	3	5.0	4.1	8.7	2900	DN100 PN10-16	A - B	50 mm

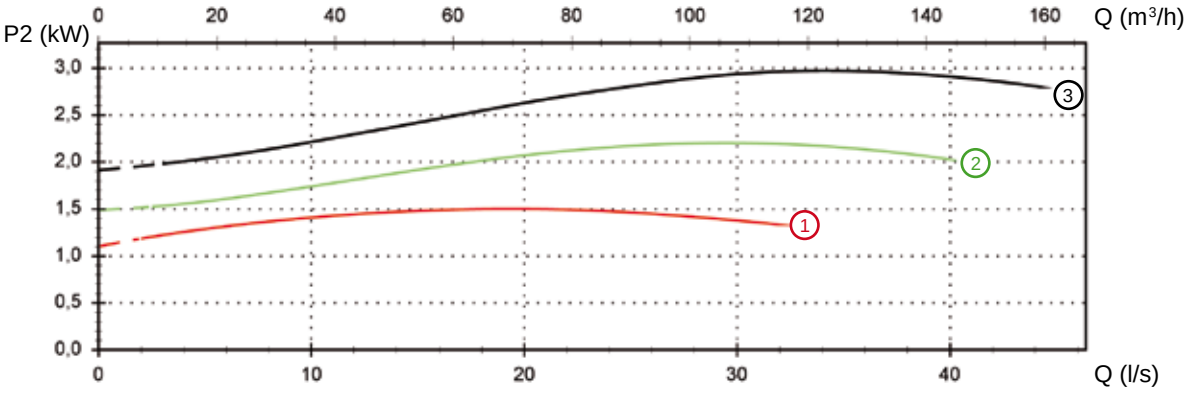
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

MAN

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





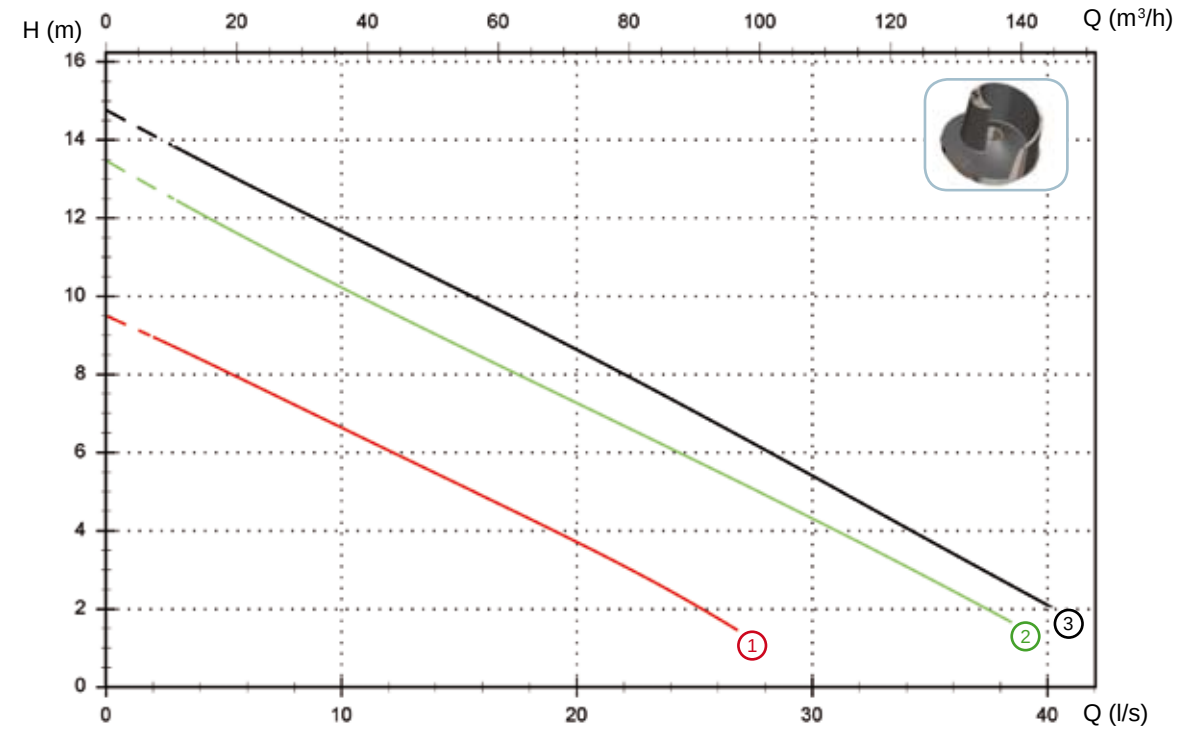
Technical data

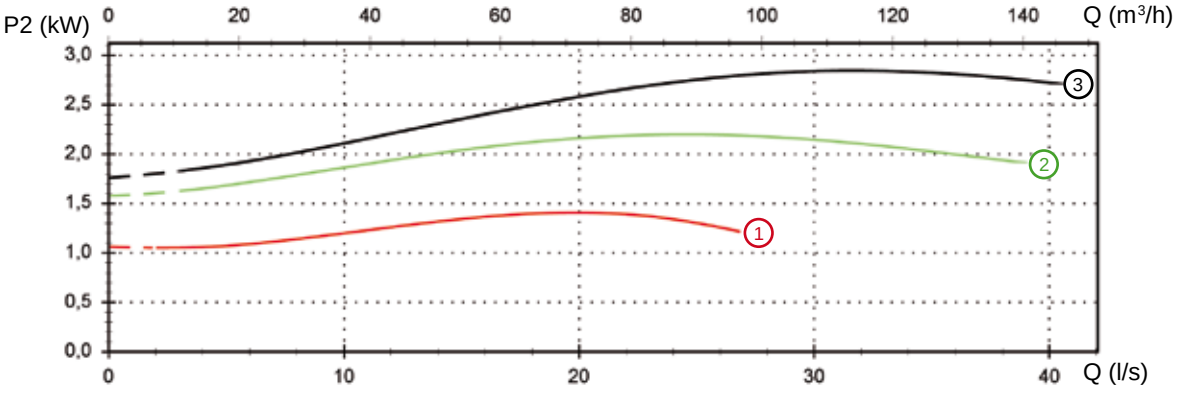
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	MAN 200/4/80 A1DT/50	400	3	2	1.5	4.1	1450	DN80 PN10-16	A - B	80 mm
2	MAN 300/4/80 A1FT/50	400	3	2.9	2.2	5.8	1450	DN80 PN10-16	A - B	80 mm
3	MAN 400/4/80 A1FT/50	400	3	3.7	3	7.3	1450	DN80 PN10-16	A - B	80 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

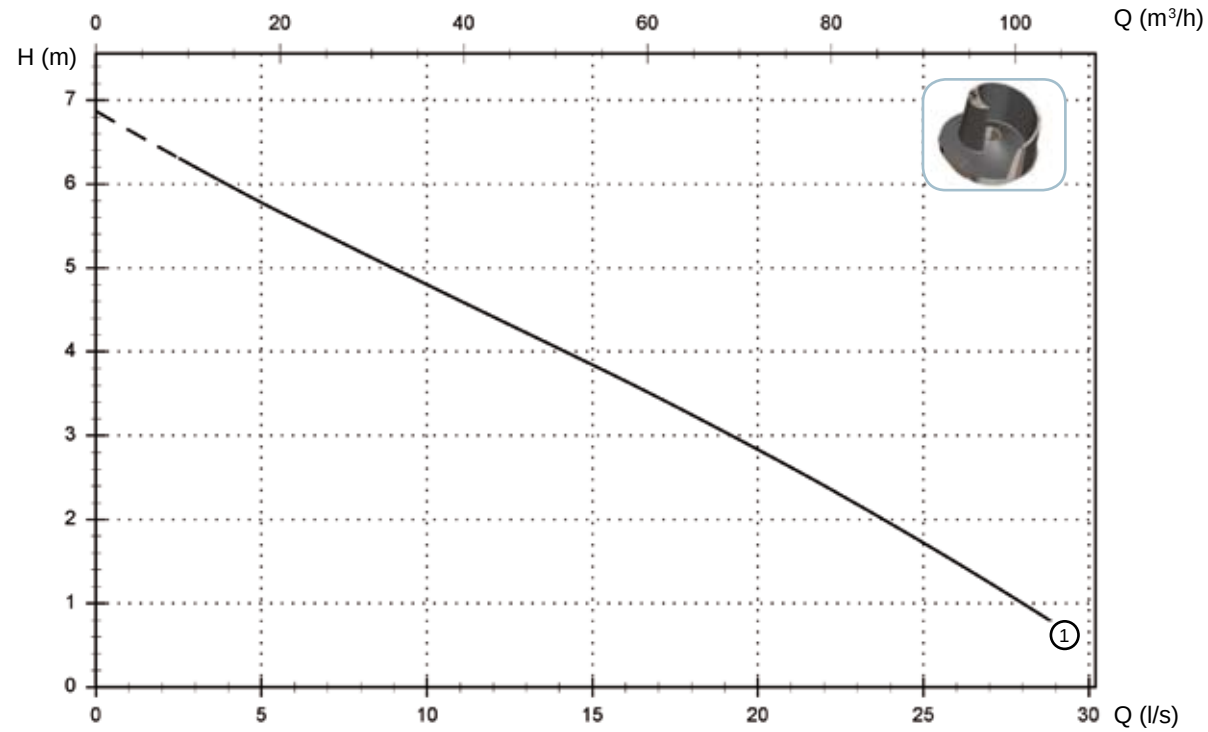
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	MAN 200/4/100 A1DT/50	400	3	2	1.5	4.1	1450	DN100 PN10-16	A - B	80 mm
2	MAN 300/4/100 A1FT/50	400	3	2.9	2.2	5.8	1450	DN100 PN10-16	A - B	80 mm
3	MAN 400/4/100 A1FT/50	400	3	3.7	3	7.3	1450	DN100 PN10-16	A - B	80 mm

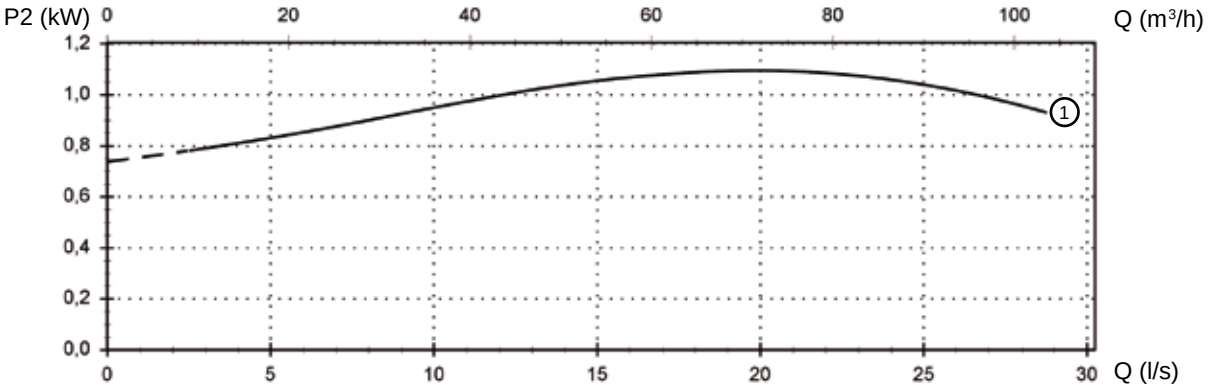
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

MAN

Models with horizontal DN80 PN10-16 anged delivery port - 6 poles

Performances





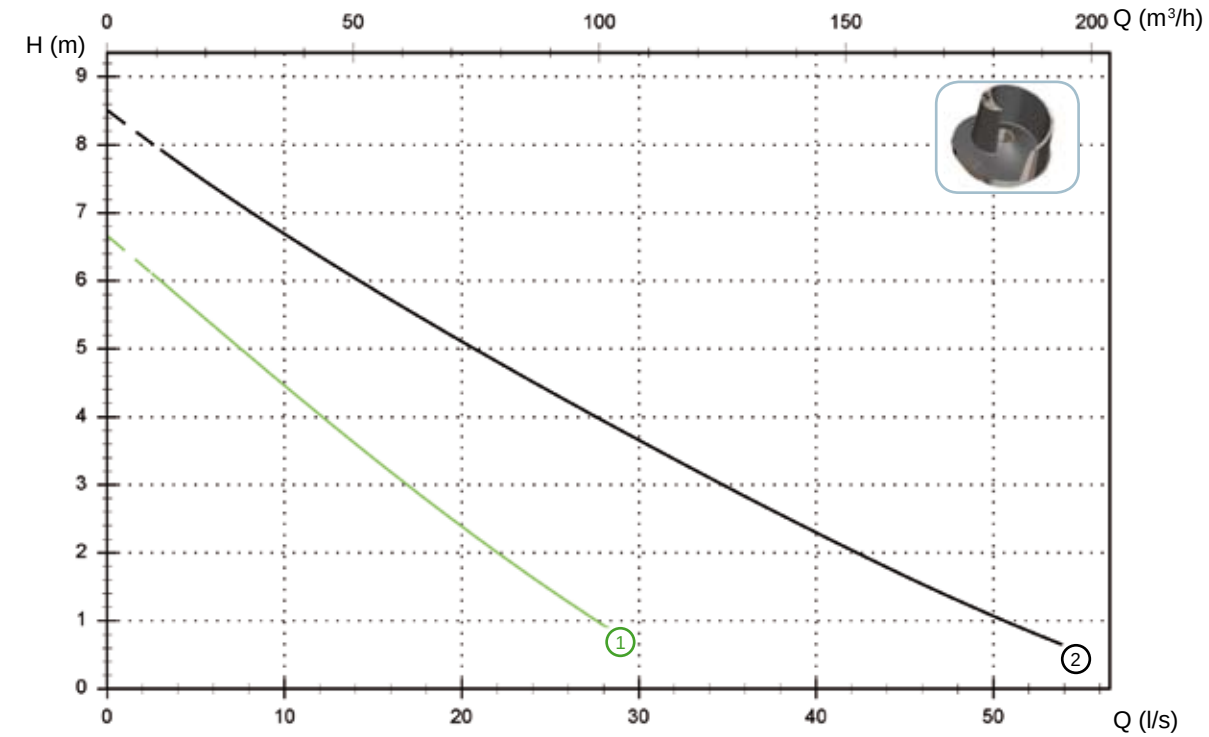
Technical data

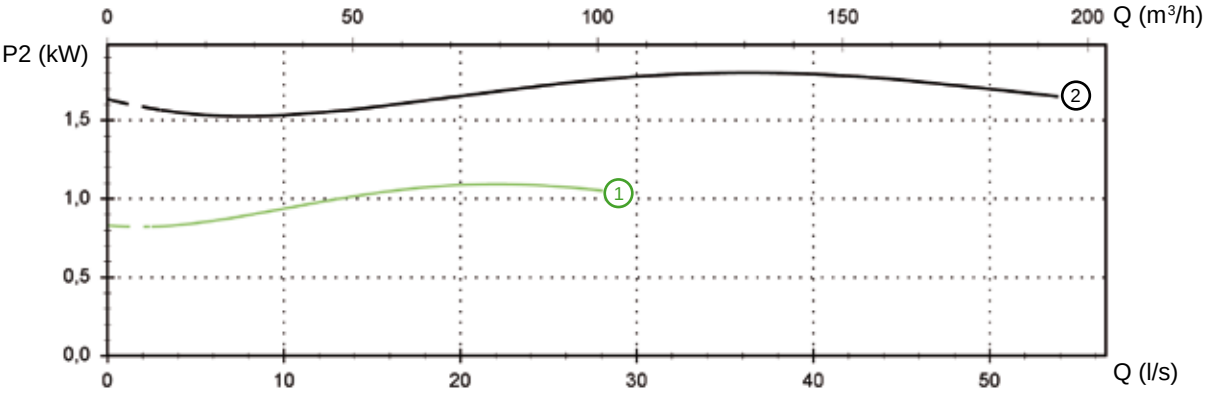
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 150/6/80 A1DT/50	400	3	1.6	1.1	3.7	960	DN80 PN10-16	A - B	80 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN100 PN10-16 anged delivery port - 6 poles

Performances





Technical data

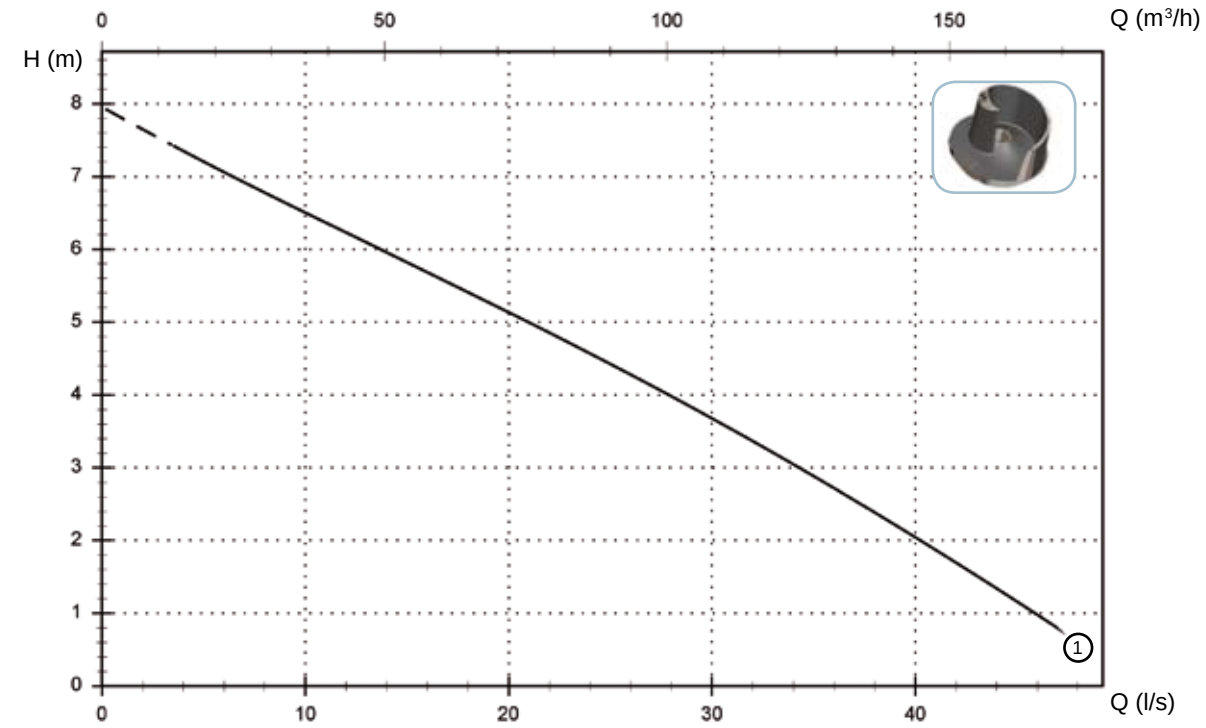
		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	MAN 150/6/100 A1DT/50	400	3	1.6	1.1	3.7	960	DN100 PN10-16	A - B	80 mm
2	MAN 250/6/100 A1FT/50	400	3	2.6	1.8	5.7	960	DN100 PN10-16	A - B	100 mm

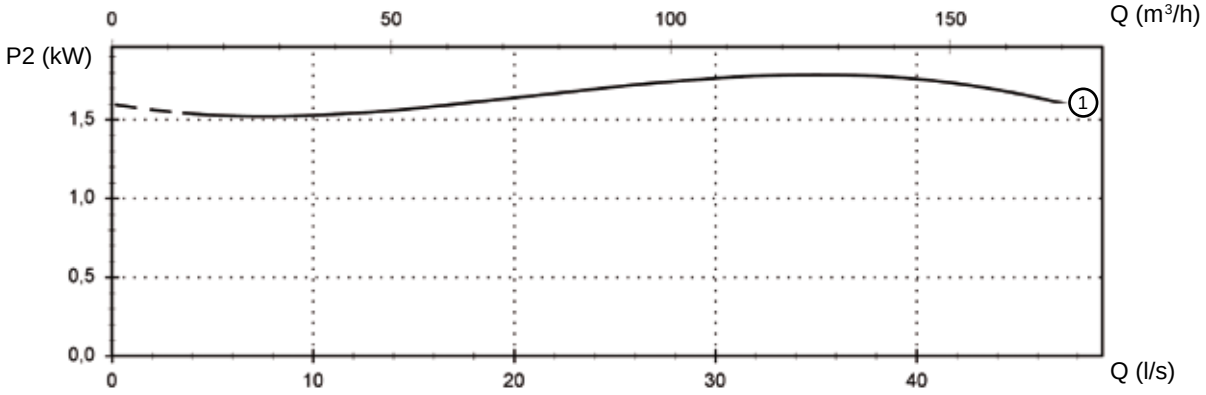
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

MAN

Models with horizontal DN150 PN10-16 anged delivery port - 6 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAN 250/6/150 A1FT/50	400	3	2.6	1.8	5.7	960	DN150 PN10-16	A - B	100 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

MAN

Versions available

(Key to versions on page 15)

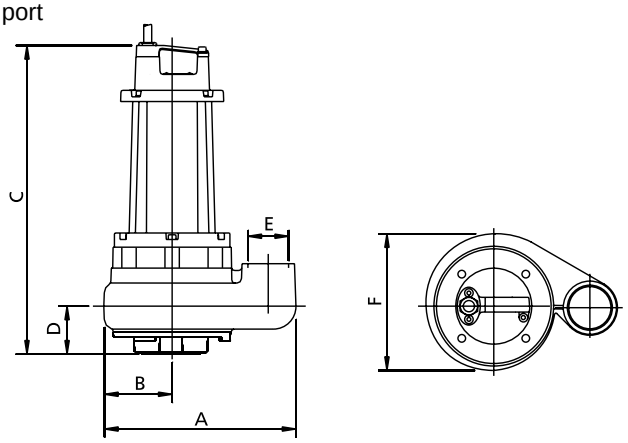
	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
MAN 250/2/G65V A1DM/50				●											●	●	●			
MAN 250/2/G65V A1DT/50		●								●					●	●	●			
MAN 300/2/G65V A1DT/50		●								●					●	●	●			
MAN 250/2/65 A1DM/50				●											●	●	●			
MAN 250/2/65 A1DT/50		●								●					●	●	●			
MAN 300/2/65 A1DT/50		●								●					●	●	●			
MAN 400/2/65 A1FT/50		●								●					●	●	●			
MAN 550/2/65 A1FT/50		●								●					●	●	●			
MAN 250/2/80 A1DM/50				●											●	●	●			
MAN 250/2/80 A1DT/50		●								●					●	●	●			
MAN 300/2/80 A1DT/50		●								●					●	●	●			
MAN 400/2/80 A1FT/50		●								●					●	●	●			
MAN 550/2/80 A1FT/50		●								●					●	●	●			
MAN 400/2/100 A1FT/50		●								●					●	●	●			
MAN 550/2/100 A1FT/50		●								●					●	●	●			
MAN 200/4/80 A1DT/50		●								●					●	●	●			
MAN 300/4/80 A1FT/50		●								●					●	●	●			
MAN 400/4/80 A1FT/50		●								●					●	●	●			
MAN 200/4/100 A1DT/50		●								●					●	●	●			
MAN 300/4/100 A1FT/50		●								●					●	●	●			
MAN 400/4/100 A1FT/50		●								●					●	●	●			
MAN 150/6/80 A1DT/50		●								●					●	●	●			
MAN 150/6/100 A1DT/50		●								●					●	●	●			
MAN 250/6/100 A1FT/50		●								●					●	●	●			
MAN 250/6/150 A1FT/50		●								●					●	●	●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Start capacitor inside the pump. Circuit breaker supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.
The version complete with probe is not available with ATEX certificate.

MAN

Overall dimensions and weights

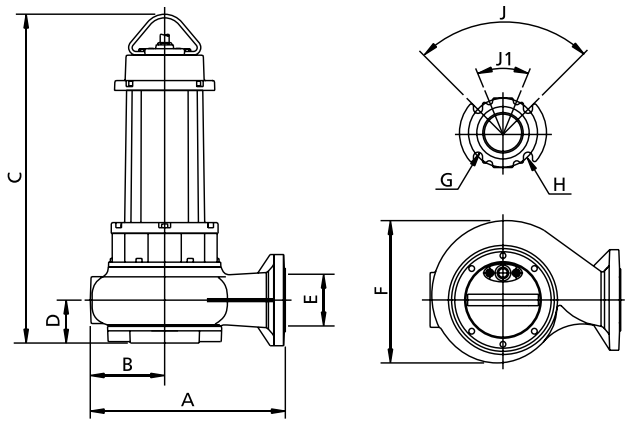
Models with vertical delivery port



	A	B	C	D	E	F	kg
MAN 250/2/G65V A1DM(T)/50	335	125	545	155	G 2 1/2"	240	52
MAN 300/2/G65V A1DT/50	335	125	545	155	G 2 1/2"	240	52

Measurements in mm

Models with horizontal delivery port

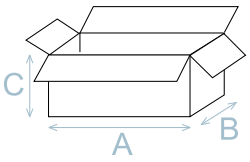


	A	B	C	D	E	F	G	H	J	J1	kg
MAN 250/2/65 A1DM/(T)50	340	135	545	80	65	255	18	145	90°	-	58
MAN 300/2/65 A1DT/50	340	135	545	80	65	255	18	145	90°	-	58
MAN 400/2/65 A1FT/50	340	135	685	80	65	260	18	145	90°	-	74
MAN 550/2/65 A1FT/50	340	135	685	80	65	260	18	145	90°	-	77
MAN 250/2/80 A1DM(T)/50	345	135	545	80	80	255	18	160	90°	45°	56
MAN 300/2/80 A1DT/50	345	135	685	80	80	260	18	160	90°	45°	58
MAN 400/2/80 A1FT/50	345	135	685	80	80	260	18	160	90°	45°	74
MAN 550/2/80 A1FT/50	345	135	685	80	80	260	18	160	90°	45°	77
MAN 400/2/100 A1FT/50	430	170	705	90	100	325	18	180	45°	-	82
MAN 550/2/100 A1FT/50	430	170	705	90	100	325	18	180	45°	-	85
MAN 200/4/80 A1DT/50	390	150	590	90	80	290	18	160	90°	45°	66
MAN 300/4/80 A1FT/50	390	150	700	90	80	290	18	160	90°	45°	86
MAN 400/4/80 A1FT/50	390	150	700	90	80	290	18	160	90°	45°	89
MAN 200/4/100 A1DT/50	415	160	595	90	100	310	18	180	45°	-	68
MAN 300/4/100 A1FT/50	415	160	700	90	100	310	18	180	45°	-	88
MAN 400/4/100 A1FT/50	415	160	700	90	100	310	18	180	45°	-	91
MAN 150/6/80 A1DT/50	390	150	595	90	80	290	18	160	90°	45°	65
MAN 150/6/100 A1DT/50	415	160	595	90	100	310	18	180	45°	-	67
MAN 250/6/100 A1FT/50	505	200	740	115	100	395	18	180	45°	-	111
MAN 250/6/150 A1FT/50	505	200	740	115	150	395	24	240	45°	-	114

Measurements in mm

Packaging dimension

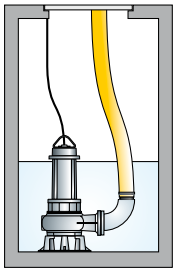
	A	B	C
MAN 250/2/G65V A1DM(T)/50	725	445	415
MAN 300/2/G65V A1DT/50	725	445	415
MAN 250/2/65 A1DM(T)/50	725	445	415
MAN 300/2/65 A1DT/50	725	445	415
MAN 400/2/65 A1FT/50	725	445	415
MAN 550/2/65 A1FT/50	725	445	415
MAN 250/2/80 A1DM(T)/50	725	445	415
MAN 300/2/80 A1DT/50	725	445	415
MAN 400/2/80 A1FT/50	725	445	415
MAN 550/2/80 A1FT/50	725	445	415
MAN 400/2/100 A1FT/50	725	445	415
MAN 550/2/100 A1FT/50	725	445	415
MAN 200/4/80 A1DT/50	725	445	415
MAN 300/4/80 A1FT/50	725	445	415
MAN 400/4/80 A1FT/50	725	445	415
MAN 200/4/100 A1DT/50	725	445	415
MAN 300/4/100 A1FT/50	725	445	415
MAN 400/4/100 A1FT/50	725	445	415
MAN 150/6/80 A1DT/50	725	445	415
MAN 150/6/100 A1DT/50	725	445	415
MAN 250/6/100 A1FT/50	725	445	415
MAN 250/6/150 A1FT/50	725	445	415



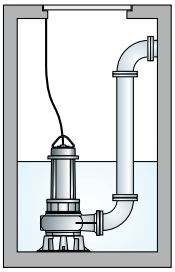
Dimension in mm

Installations available

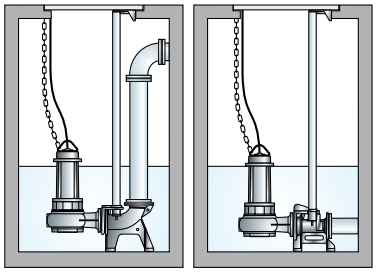
A



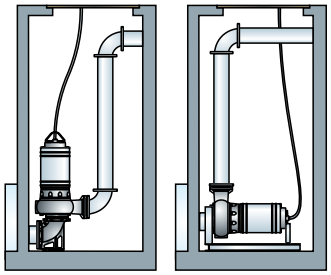
B



D



E



MAF



Single-channel open impeller

General characteristics

- Single-channel open impeller
- 0,74 kW motor power
- 4 poles
- DN65 ÷ DN100 delivery port
- max 55 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

Applications

Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the MAF can be used with liquids containing traces of flammable substances, and in gassy environments.

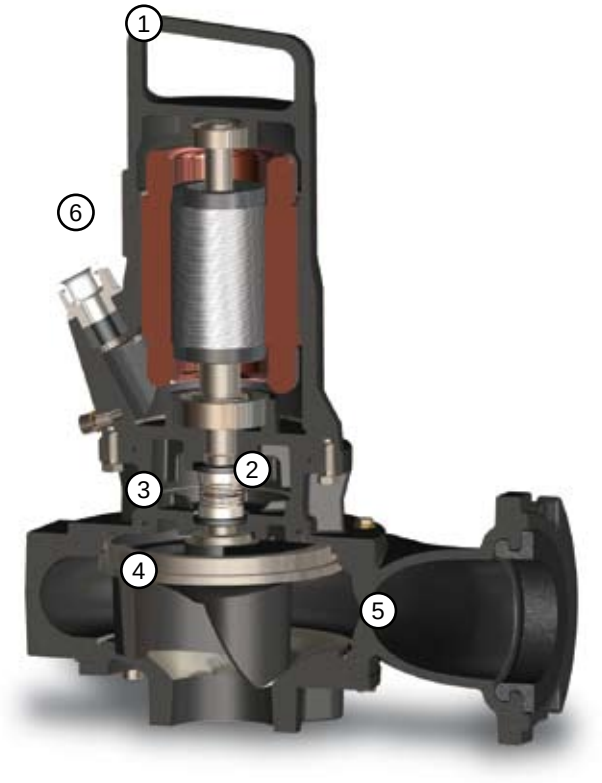
Construction materials

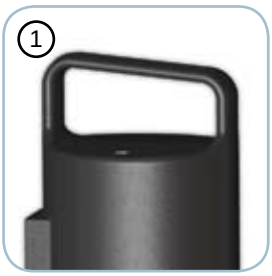
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR - VITON
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

MAF





Handle/Cable gland

Cast iron lifting and carrying handle.
The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



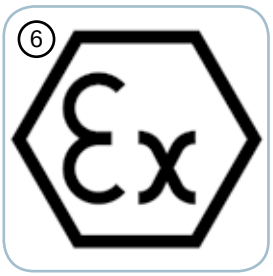
Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



Free passage

Ample free passage allowing the expulsion of solids and preventing fouling of the impeller



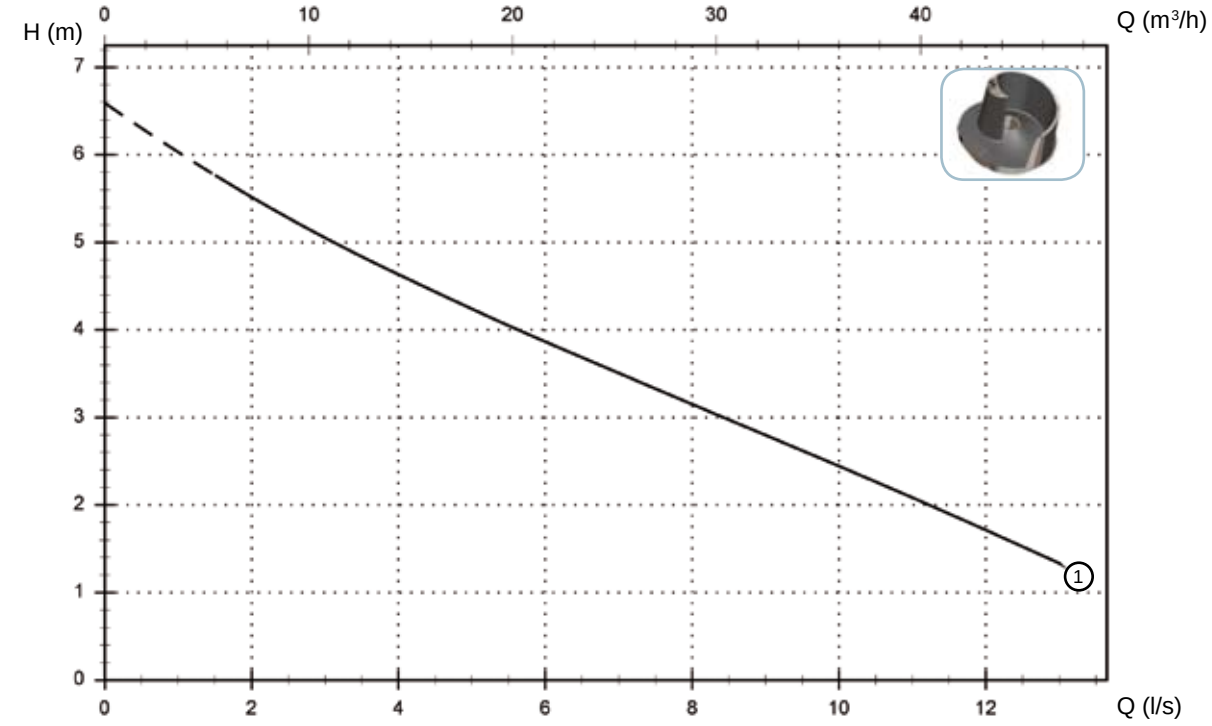
EX

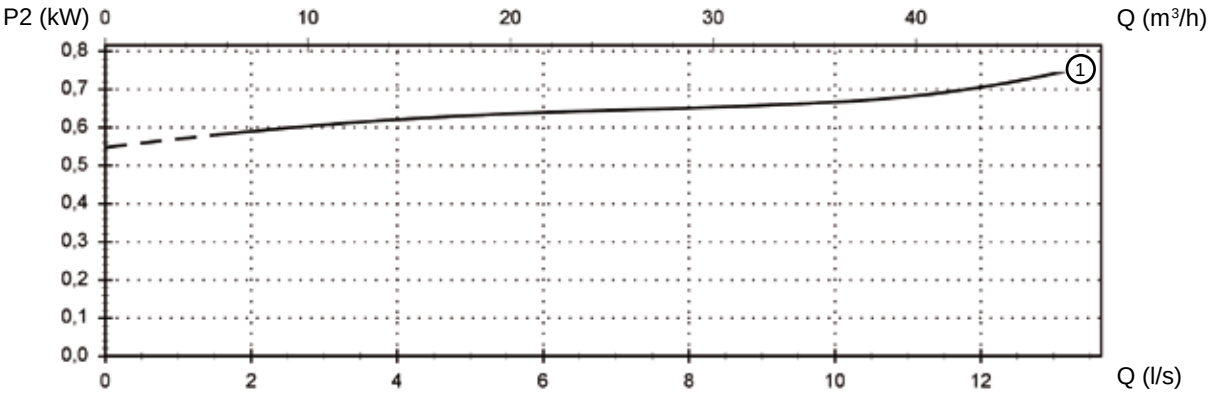
Models with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

MAF

Models with horizontal DN65 PN10-16 anged delivery port - 4 poles

Performances





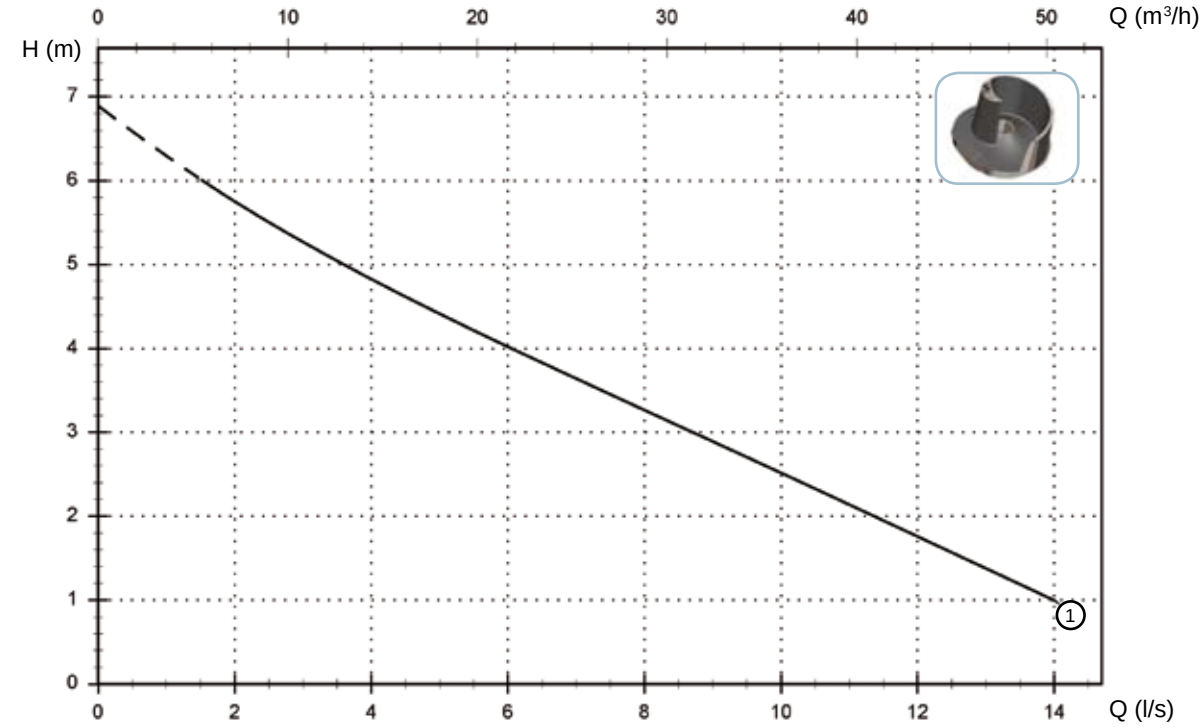
Technical data

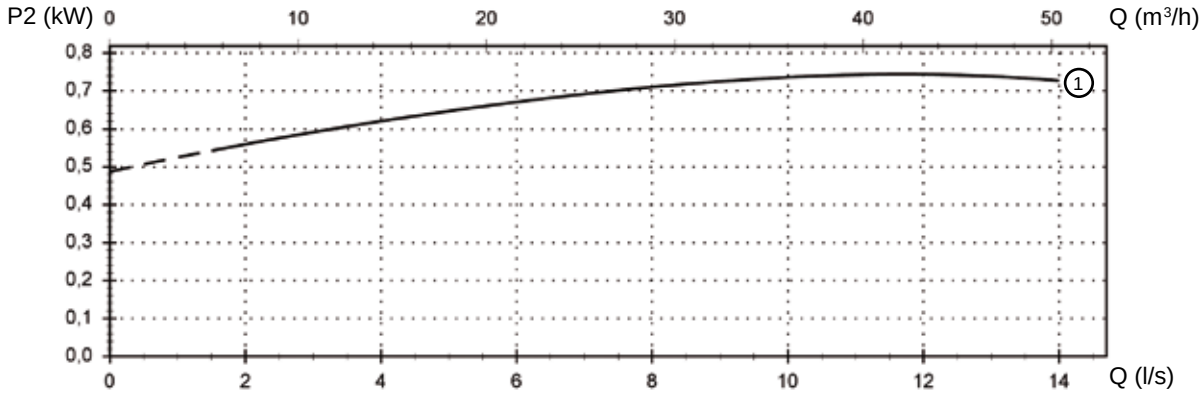
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAF 100/4/65 A1CT/50	400	3	1.1	0.74	2.2	1450	DN65 PN10-16	A	50 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





Technical data

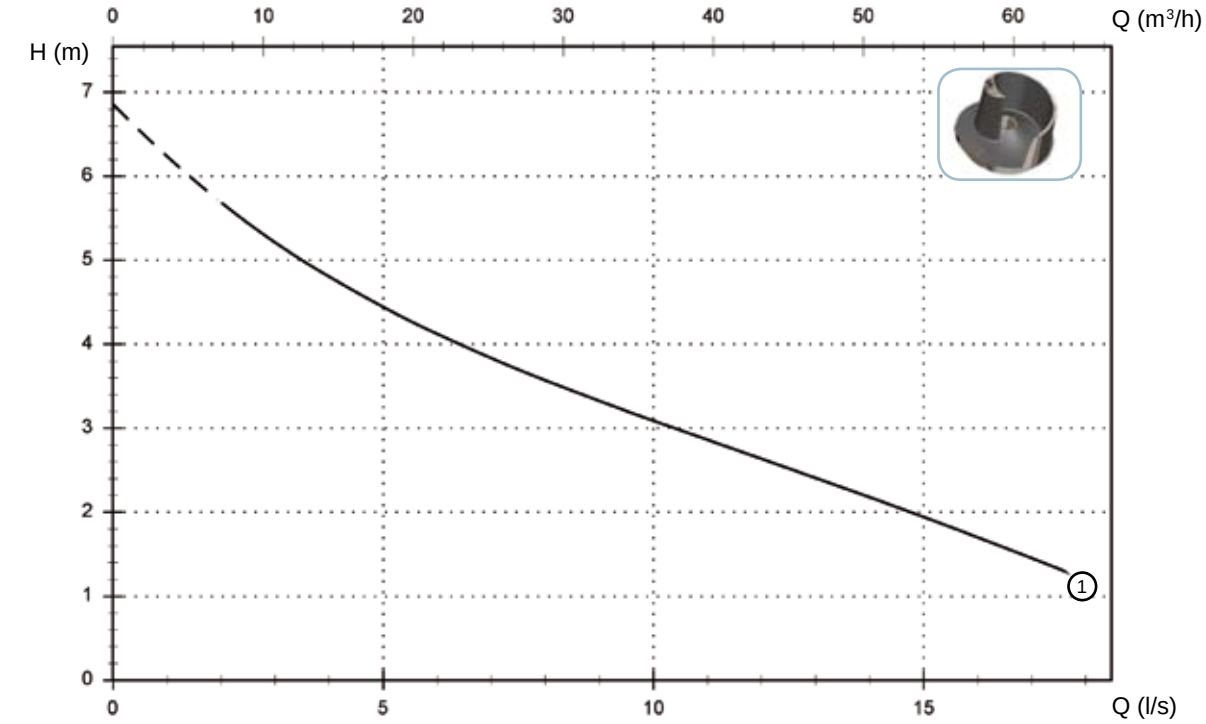
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAF 100/4/80 A1CT/50	400	3	1.1	0.74	2.2	1450	DN80 PN10-16	A	50 mm

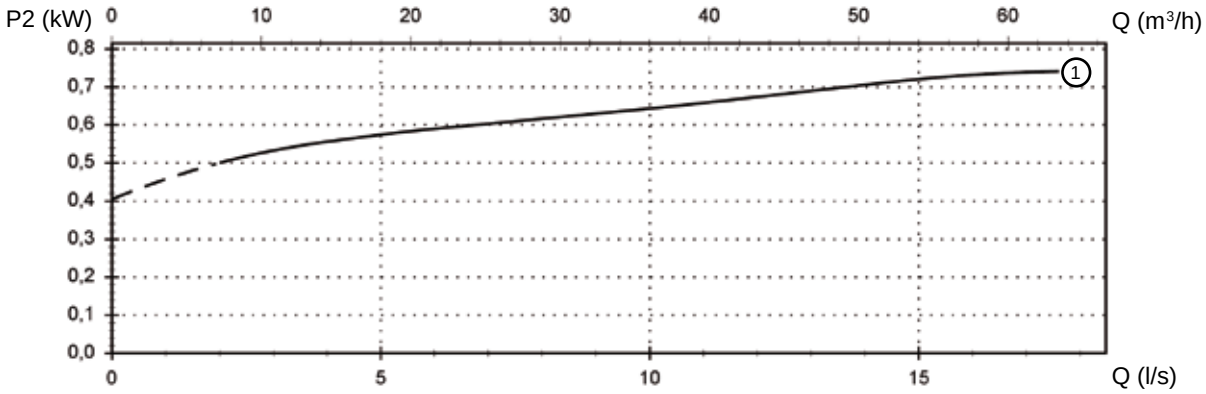
(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

MAF

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) MAF 100/4/100 A1CT/50	400	3	1.1	0.74	2.2	1450	DN100 PN10-16	A	55 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

MAF

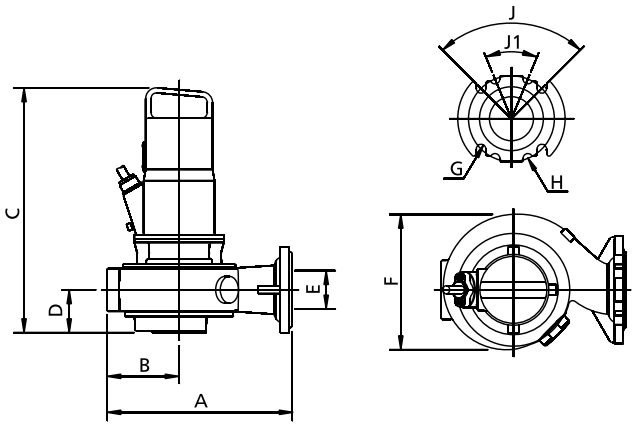
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
MAF 100/4/65 A1CT/50		●													●		●			
MAF 100/4/80 A1CT/50		●													●		●			
MAF 100/4/100 A1CT/50		●													●		●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Capacitor supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.

Overall dimensions and weights

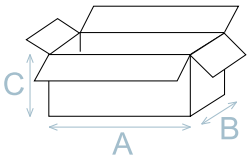


	A	B	C	D	E	F	G	H	J	J1	kg
MAF 100/4/65 A1CT/50	345	135	455	80	65	255	18	145	90°	-	42
MAF 100/4/80 A1CT/50	345	135	455	80	80	255	18	160	90°	45°	42
MAF 100/4/100 A1CT/50	430	170	475	90	100	325	18	180	45°	-	48

Measurements in mm

Packaging dimension

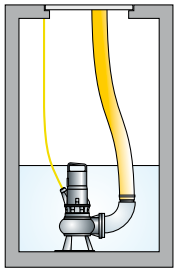
	A	B	C
MAF 100/4/65 A1CT/50	725	445	415
MAF 100/4/80 A1CT/50	725	445	415
MAF 100/4/100 A1CT/50	725	445	415



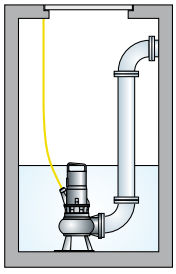
Dimension in mm

Installations available

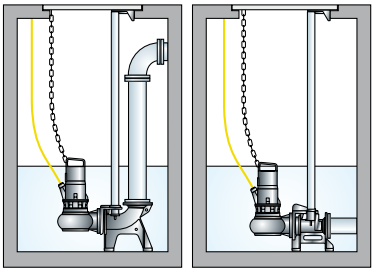
A



B



D



Dry installation available for specified models. Contact Custome Service for more information.

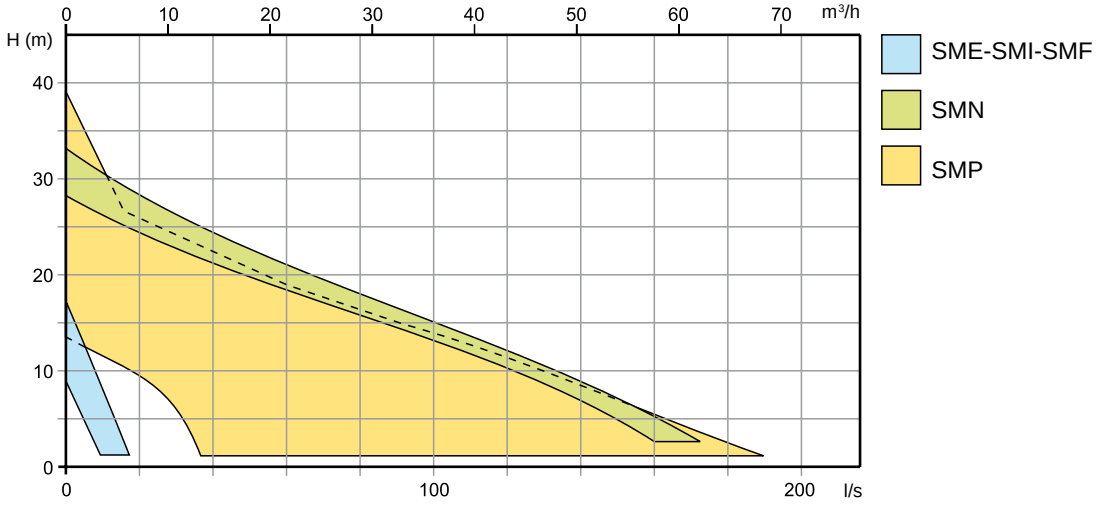
1.4 PUMPS WITH SINGLE- AND DUAL-CHANNEL CLOSED IMPELLER

The SM (SYSTEM M) family consists of electric pumps with single-channel closed impeller which allows ample free passages and high consists. Used with soiled wastewaters containing suspended solids.

1.5 ÷ 22.0 kW



Ideal for handling soiled biological liquids with suspended solid particles and strained biological liquids. Generally used in industry, especially in sectors such as wastewater treatment plants and sewage disposal systems.

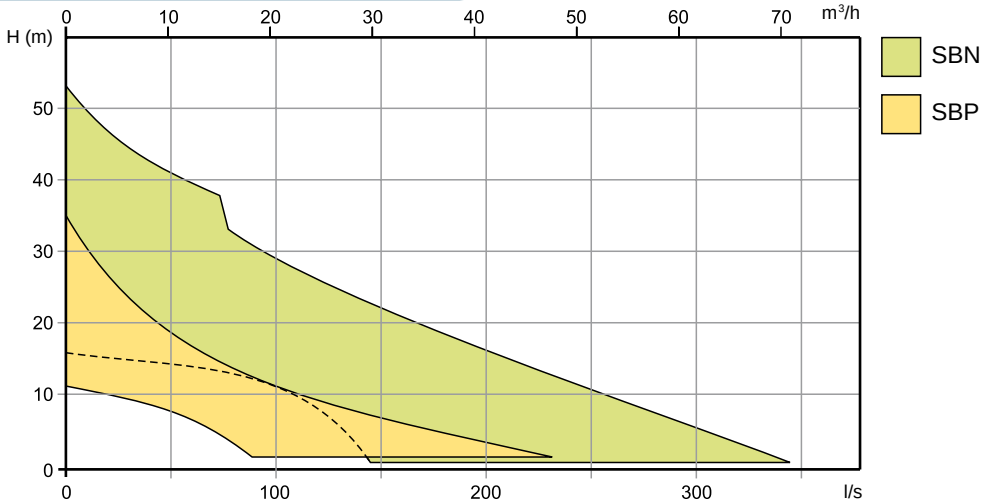


The SB (SYSTEM B) family consists of electric pumps with dual-channel closed impeller. The ample free passage and excellent performance are the two features that enable the SB family to operate with soiled liquids containing suspended solids.

6.5 ÷ 37.0 kW



The ideal solution for pumping slurry, soiled water with and without solids, untreated or activated sludges, strained and unstrained biological liquids and rainwater or seepage. Ideal for lifting water from public establishments and plants for public works or hospitals.



SM - SB

Pumps with single- and dual-channel closed impelle

Models with single-channel closed impeller



SME

page 184

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller.
Suitable for pumping wastewater in small sewer systems, livestock farms, the food industry, agriculture and irrigation.



SMI

page 188

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed in series in inspectable oil sump. Ecological dry motor. Stainless steel handle, cast iron impeller.
Suitable for pumping wastewater from public establishments, small sewer systems, livestock farms, the food industry, agriculture and for irrigation. This electric pump is intended for both domestic and professional use.



SMN

page 192

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals.
Designed for heavy-duty applications, they are generally used in civil and industrial wastewater treatment plants, for lifting in sewer systems and for pumping industrial sludges. Transporting rainwater containing solids and recycling raw or activated sludges and biological liquids. These models are prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).



SMP

page 198

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor.
Designed for heavy-duty applications, they are generally used in wastewater treatment, residential and sewer plants and for the treatment of wastewater from public establishments. Suitable for pumping industrial sludges.



SMF

page 208

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Cast iron handle and impeller. Models with ATEX explosion-proof certification.
Designed specifically for operation where there are traces of flammable liquids or in potentially explosive atmospheres, the SMF can be used with soiled liquids containing traces of flammable substances, and in gassy environments.

Models with dual-channel closed impeller



SBN

page 212

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals.
Designed for heavy-duty professional applications, they are used in civil and industrial wastewater treatment plants. Lifting sewage, pumping industrial sludges and rainwater containing solids, and recycling raw or activated sludges and biological liquids. These models are prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).



SBP

page 224

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor.
Suitable for heavy-duty industrial applications, they are generally used in civil and industrial wastewater treatment plants, for lifting sewage, for pumping industrial sludges and rainwater containing solids, and for recycling raw or activated sludges and biological liquids.

SME



Single-channel closed impeller

General characteristics

- Single-channel closed impeller
- 1,5 kW motor power
- 2 poles
- GAS 2" - DN80 horizontal delivery port
- max 50 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for pumping wastewater in small sewer systems, livestock farms, the food industry, agriculture and irrigation.

Construction materials

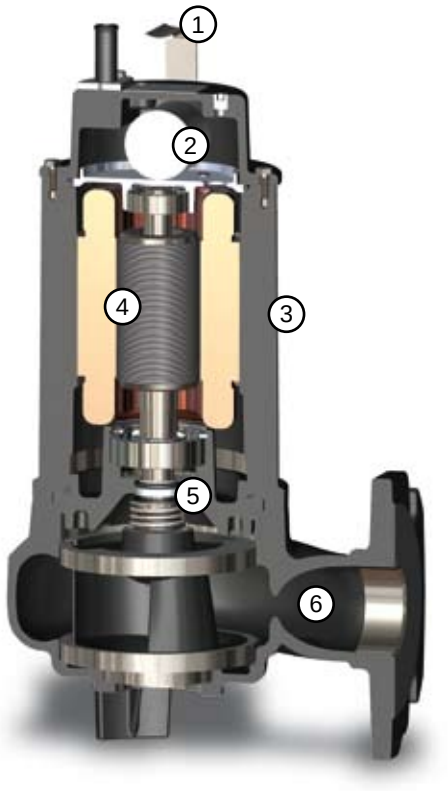
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

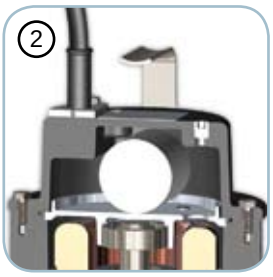
SME





Handle

AISI 304 stainless steel lifting and carrying handle



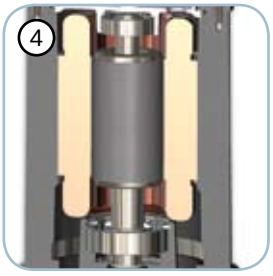
Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Structure

Constructed in GJL-250 cast iron



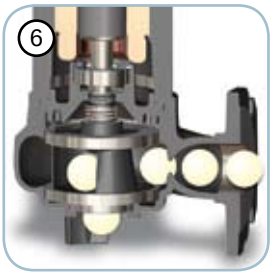
Motor

Ecological dry motor with thermal overloads



Mechanical seals

One mechanical seal in silicon carbide (SiC)



Free passage

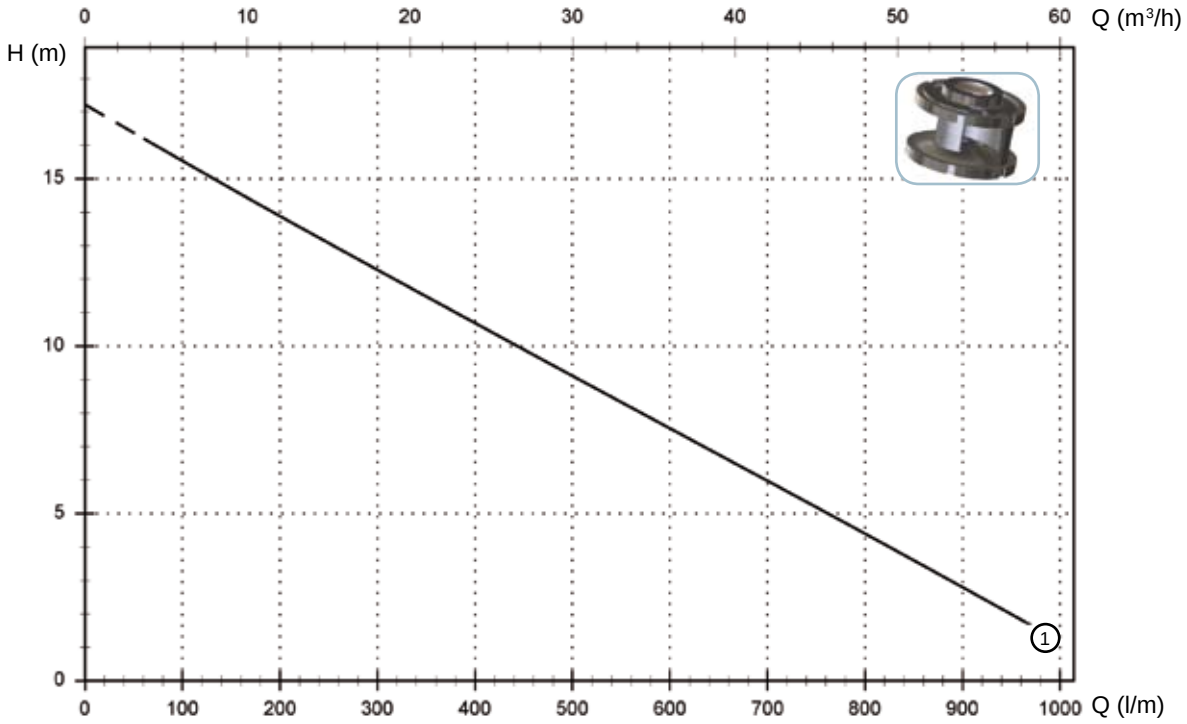
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

SME

Models with horizontal GAS 2” threaded and DN80 PN10 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12	14	16
	l/min	0	120	240	360	480	600	720	840	960
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4	57,6
(1) SME 200/2/G50H A0CM(T)/50		16,8	15,2	13,2	11,3	9,4	7,5	5,7	3,8	1,8



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SME 200/2/G50H A0CM/50	230	1	1.8	1.5	9.3	2900	G 2”- DN80 PN10	A	50 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SME 200/2/G50H A0CT/50	400	3	2.0	1.5	3.5	2900	G2”- DN80 PN10	B	50 mm

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

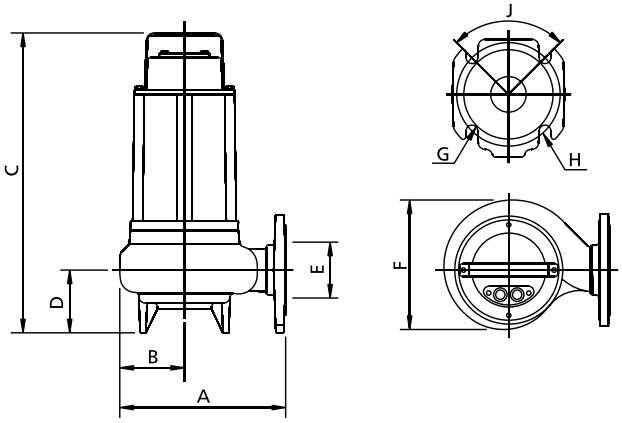
SME

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SME 200/2/G50H A0CM/50			●				●								●			●		
SME 200/2/G50H A0CT/50											●	●			●			●		

Overall dimensions and weights



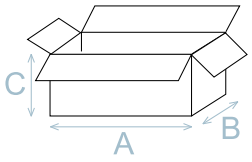
	A	B	C	D	E	F	G	H	J	kg
SME 200/2/G50H A0CM(T)/50	255	100	465	95	G 2”	200	18	160	90°	31

Measurements in mm

Packaging dimension

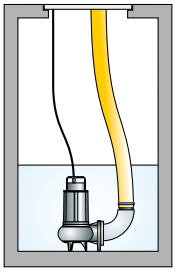
	A	B	C
SME 200/2/G50H A0CM(T)/50	725	445	415

Dimension in mm

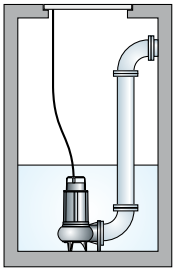


Installations available

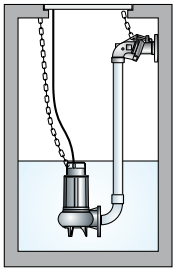
A



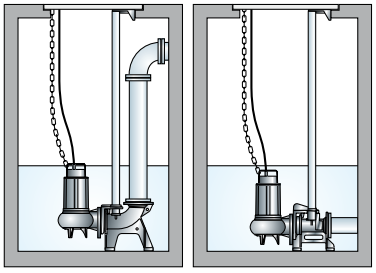
B



C



D



SMI



Single-channel closed impeller

General characteristics

- Single-channel closed impeller
- 1,5 kW motor power
- 2 poles
- GAS 2" - DN80 delivery port
- 50 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina lip seal, installed in series in inspectable oil sump. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for pumping wastewater from public establishments, small sewer systems, livestock farms, the food industry, agriculture and for irrigation. This electric pump is intended for both domestic and professional use.

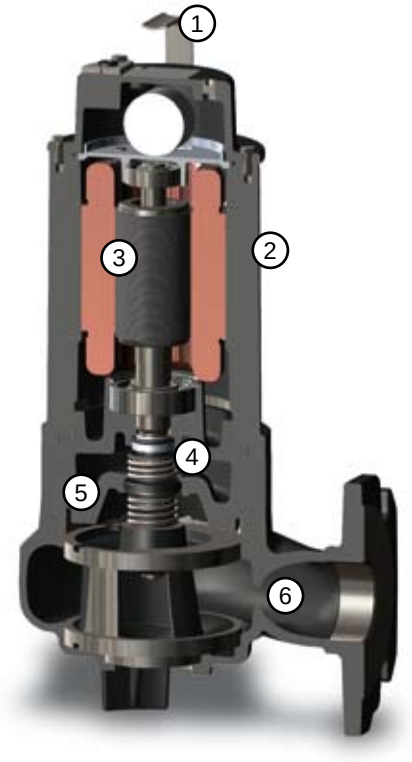
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

SMI





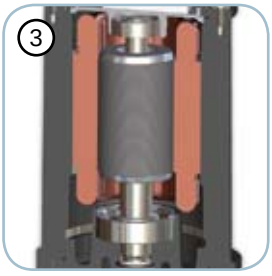
Handle

AISI 304 stainless steel lifting and carrying handle



Structure

Constructed in GJL-250 cast iron



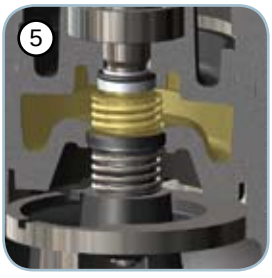
Motor

Ecological dry motor with thermal overloads



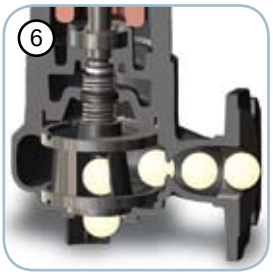
Mechanical seals

One mechanical seal in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Free passage

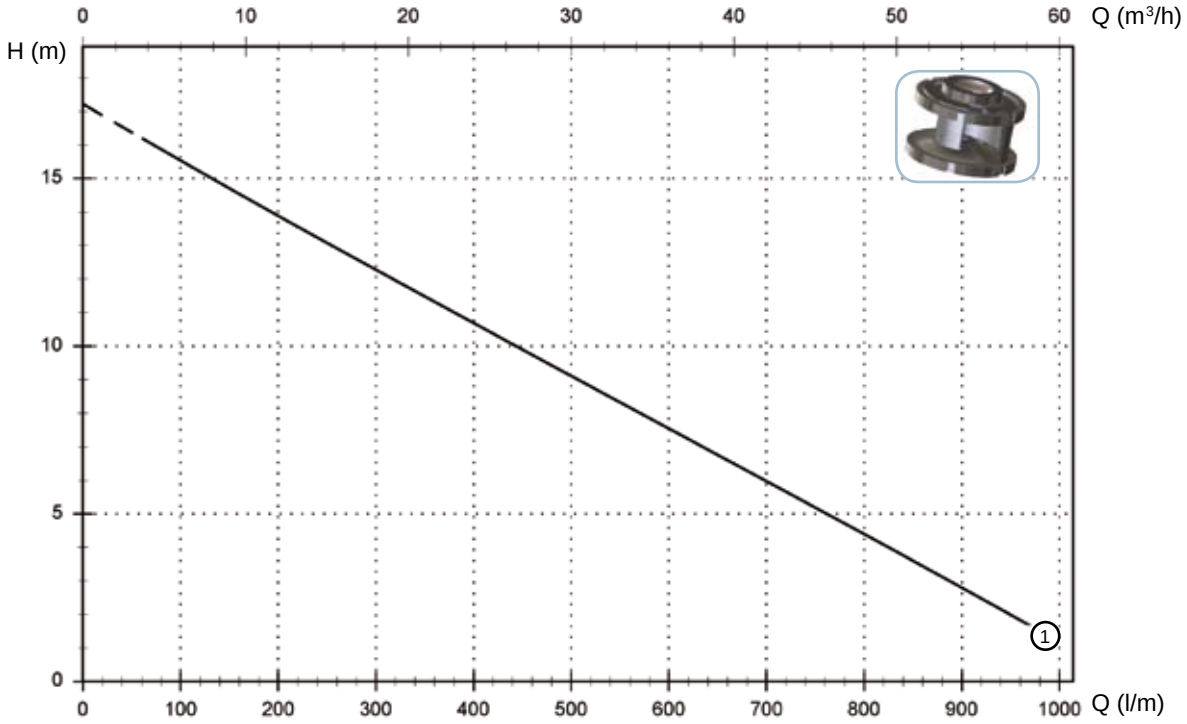
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

SMI

Models with horizontal GAS 2” threaded and DN80 PN10 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12	14	16
	l/min	0	120	240	360	480	600	720	840	960
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4	57,6
(1) SMI 200/2/G50H A0CM(T)/50		16,8	15,2	13,2	11,3	9,4	7,5	5,7	3,8	1,8



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMI 200/2/G50H A0CM/50	230	1	1.9	1.5	9.9	2900	G 2” DN80 PN10	A	50 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMI 200/2/G50H A0CT/50	400	3	2.0	1.5	3.5	2900	G 2” DN80 PN10	B	50 mm

(*) A = H07RN-F 3G1 - 10 m with shuko plug
B = H07RN-F 4G1 - 10 m

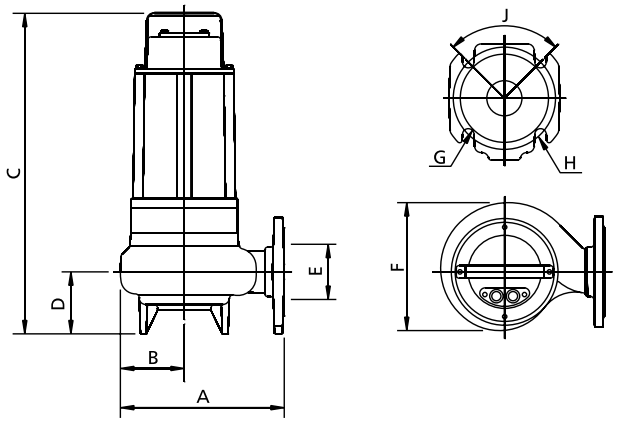
SMI

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SMI 200/2/G50H A0CM/50			●				●								●				●	
SMI 200/2/G50H A0CT/50											●	●			●				●	

Overall dimensions and weights



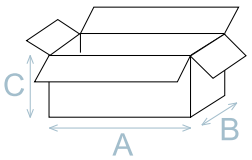
	A	B	C	D	E	F	G	H	J	kg
SMI 200/2/G50H A0CM(T)/50	255	100	505	95	G 2”	200	18	160	90°	38

Measurements in mm

Packaging dimension

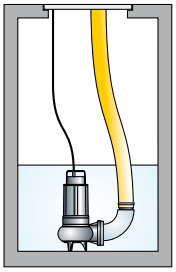
	A	B	C
SMI 200/2/G50H A0CM(T)/50	725	445	415

Dimension in mm

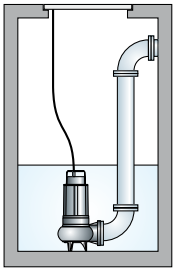


Installations available

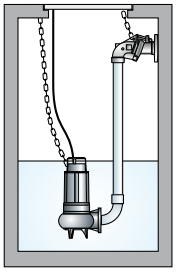
A



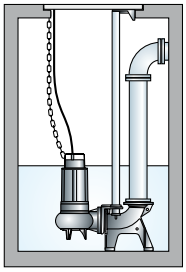
B



C



D



SMN



Single-channel closed impeller

General characteristics

- Single-channel closed impeller
- 22,0 kW motor power
- 4 poles
- DN150 ÷ DN250 delivery port
- max 130 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

Applications

Designed for heavy-duty applications, they are generally used in civil and industrial wastewater treatment plants, for lifting in sewer systems and for pumping industrial sludges. Transporting rainwater containing solids and recycling raw or activated sludges and biological liquids. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

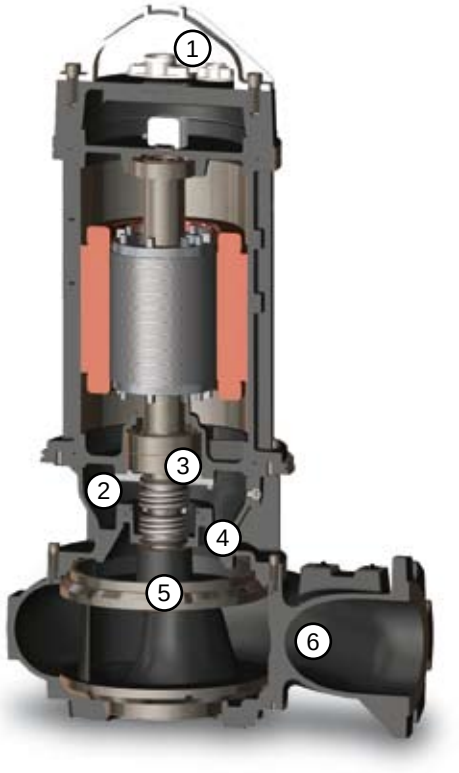
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

SMN





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.



Cable Gland

Cable gland system to guarantee perfect water-tightness. The universal thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Sensor

Sensor for detecting water in the mechanical seal oil chamber. Connected to an electrical panel, the sensor provides immediate warning of wear on the first mechanical seal, preventing possible damage to the motor



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



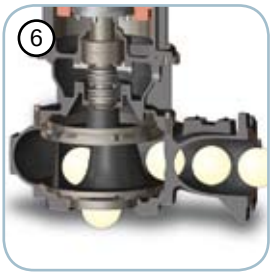
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



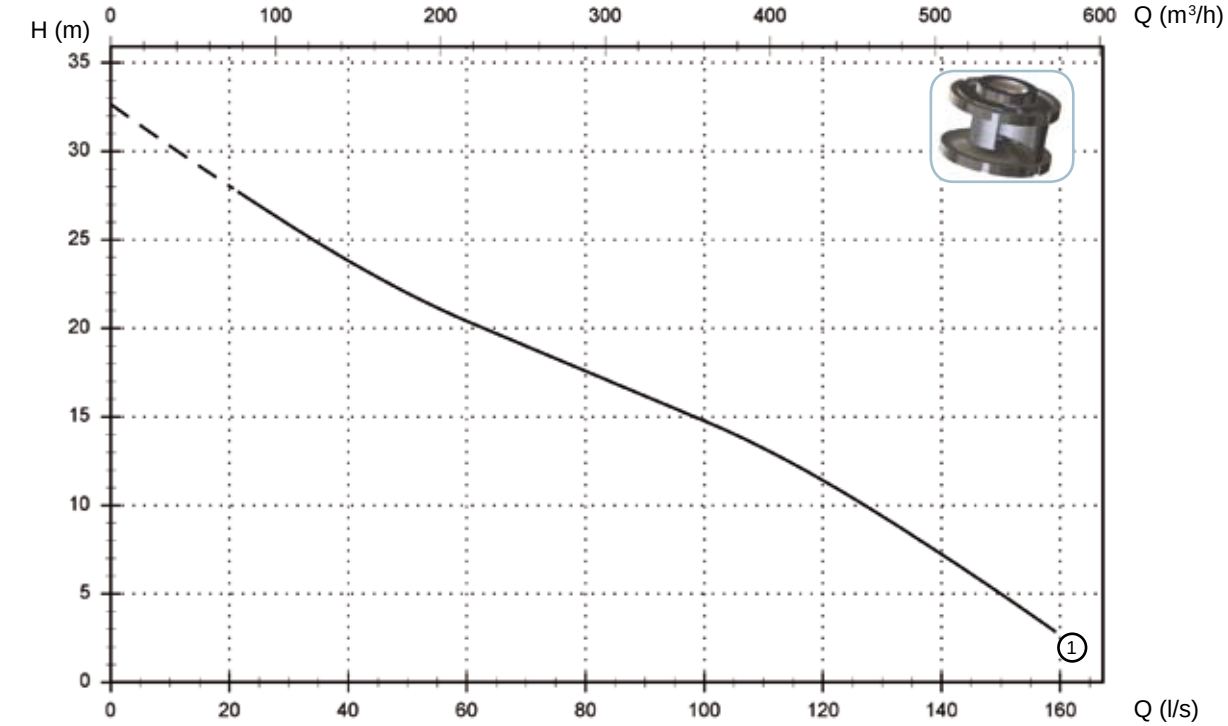
Free passage

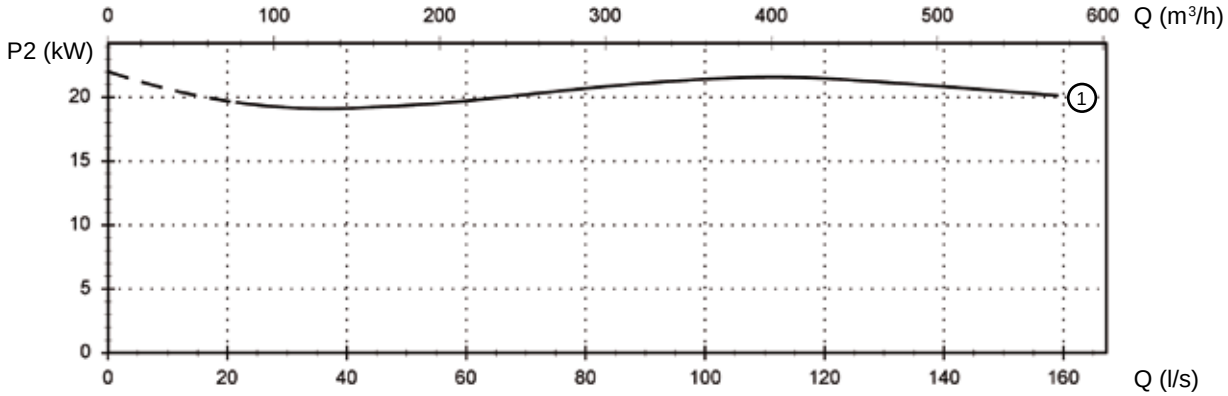
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

SMN

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





Technical data

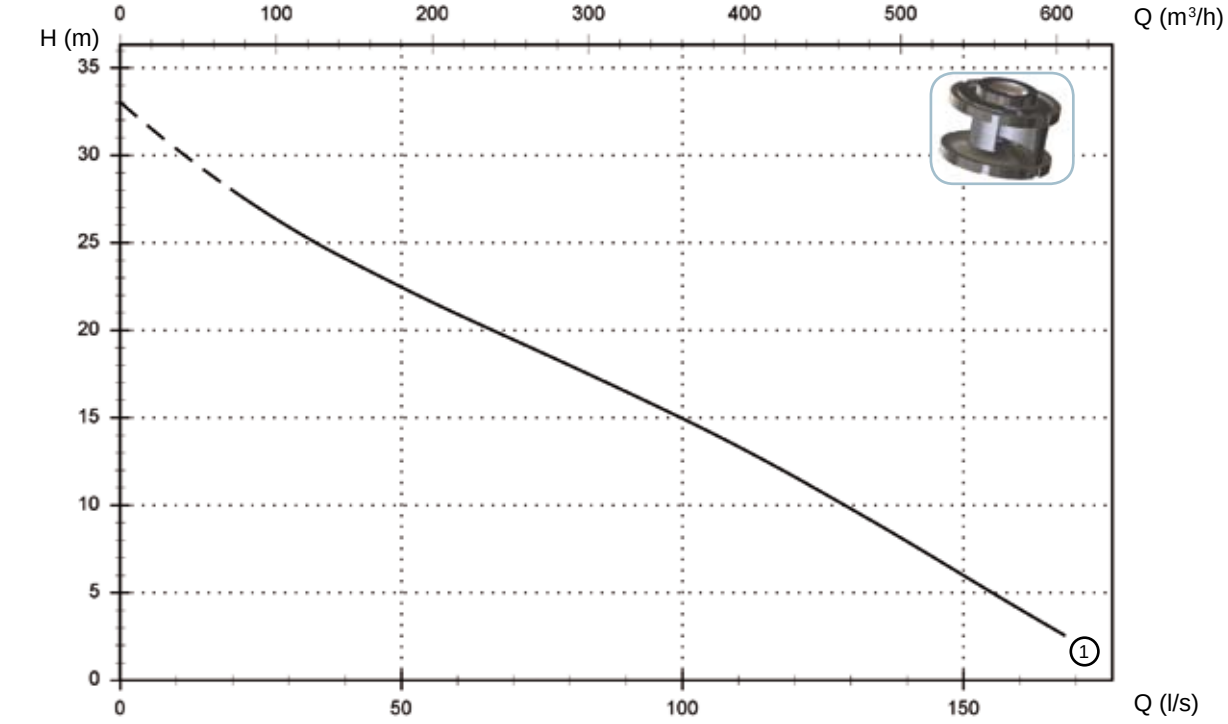
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMN 3000/4/150 A1LT/50	400	3	25.3	22	43.5	1450	DN150 PN10-16	A	100x130 mm

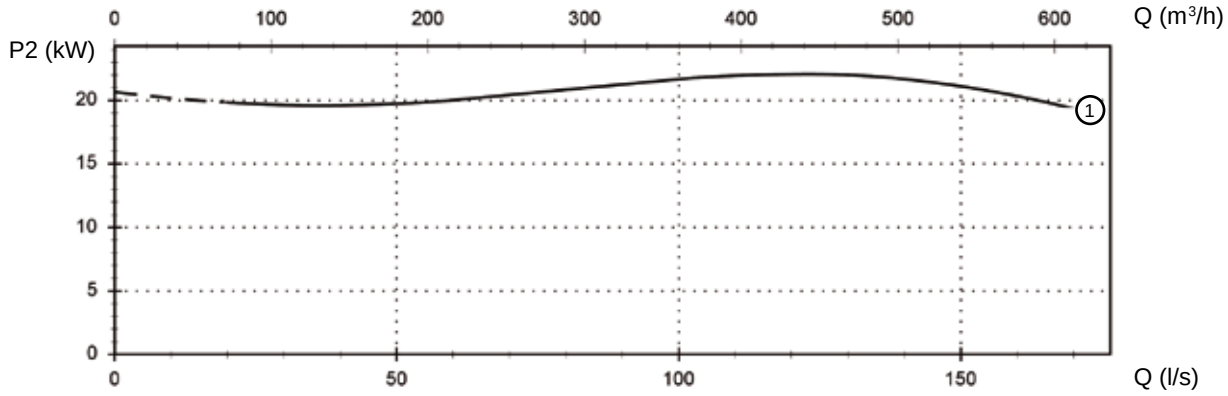
(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

SMN

Models with horizontal DN200 PN10 anged delivery port - 4 poles

Performances





Technical data

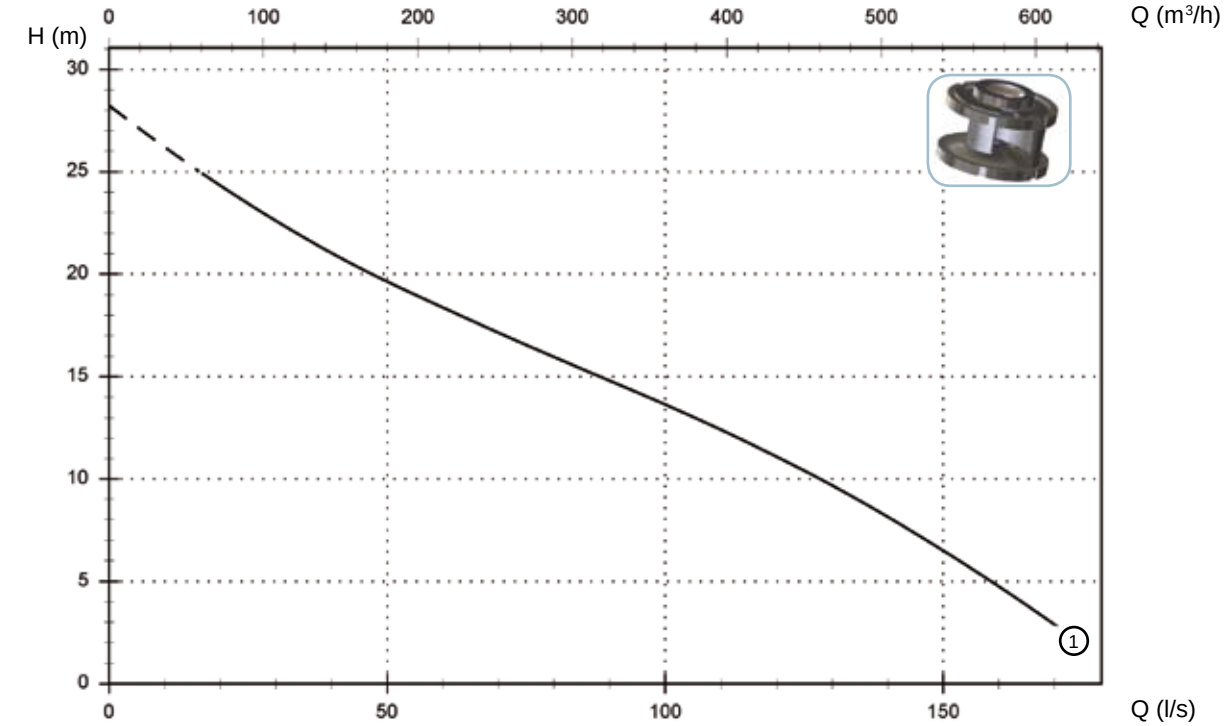
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMN 3000/4/200A1LT/50	400	3	25.3	22	43.5	1450	DN200 PN10	A	100x130 mm

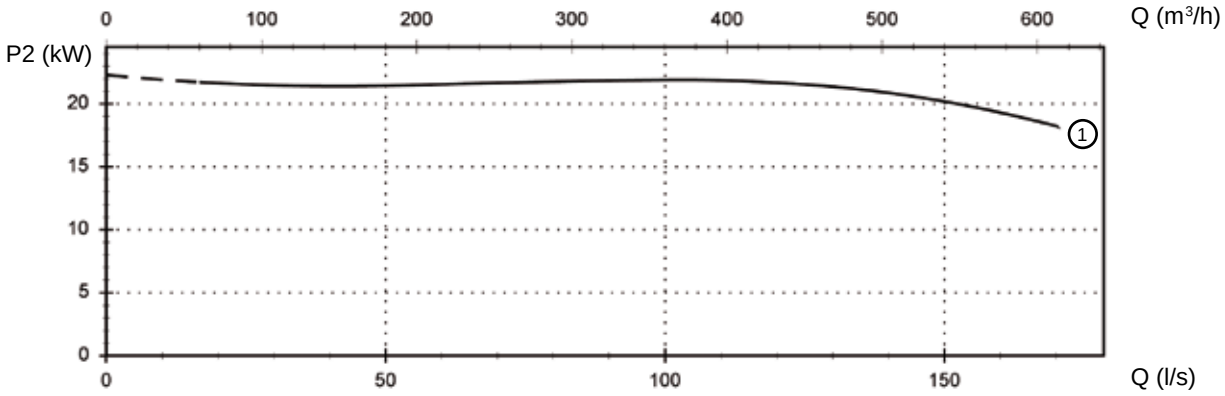
(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

SMN

Models with horizontal DN250 PN10 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMN 3000/4/250 A1LT/50	400	3	25.3	22	43.5	1450	DN250 PN10	A	100x130 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

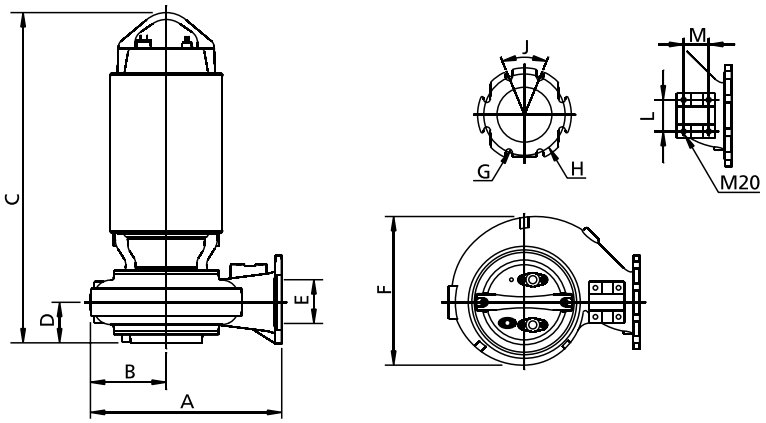
SMN

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SMN 3000/4/150 A1LT/50										●					●	●	●			
SMN 3000/4/200A1LT/50										●					●	●	●			
SMN 3000/4/250 A1LT/50										●					●	●	●			

Overall dimensions and weights



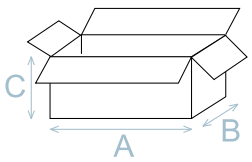
	A	B	C	D	E	F	G	H	J	L	M	kg
SMN 3000/4/150 A1LT/50	650	255	1200	140	150	505	24	240	45°	109	79	392
SMN 3000/4/200A1LT/50	695	275	1200	145	200	540	24	295	45°	109	79	393
SMN 3000/4/250 A1LT/50	785	310	1200	145	250	610	24	350	30°	109	79	402

Measurements in mm

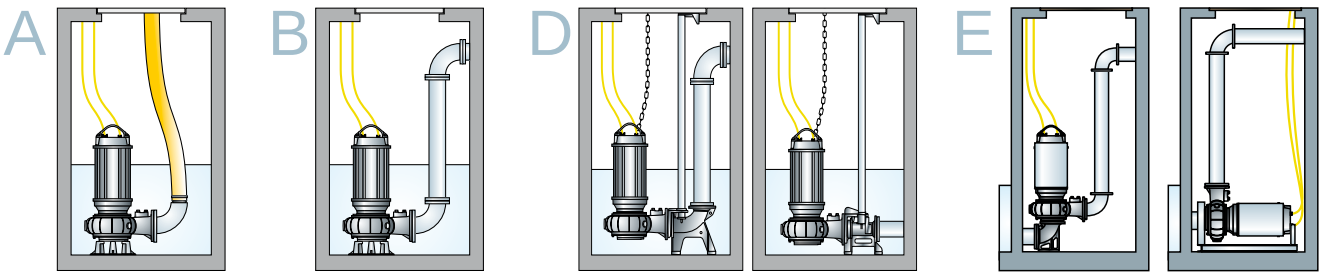
Packaging dimension

	A	B	C
SMN 3000/4/150 A1LT/50	1080	1245	1135
SMN 3000/4/200A1LT/50	1080	1245	1135
SMN 3000/4/250 A1LT/50	1080	1245	1135

Dimension in mm



Installations available



SMP



Single-channel closed impeller

General characteristics

- Single-channel closed impeller
- 3,0 kW ÷ 16,4 kW motor power
- 2 / 4 / 6 poles
- DN80 ÷ DN250 delivery port
- 53 ÷ 130 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Designed for heavy-duty applications, they are generally used in wastewater treatment, residential and sewer plants and for the treatment of wastewater from public establishments. Suitable for pumping industrial sludges.

Construction materials

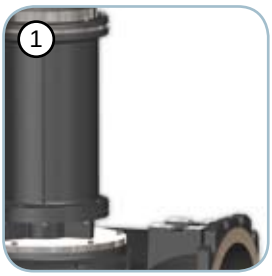
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

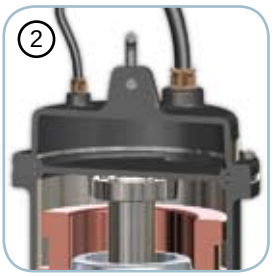
SMP





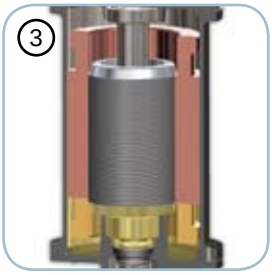
Structure

Constructed in GJL-250 cast iron



Bearings

Shielded ball bearings with lifetime lubrication



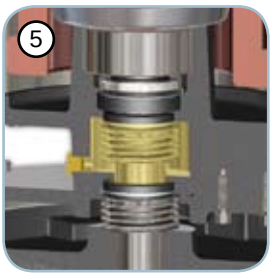
Motor

Oil-bath motor with thermal overloads



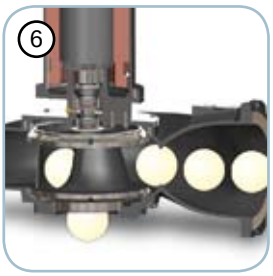
Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



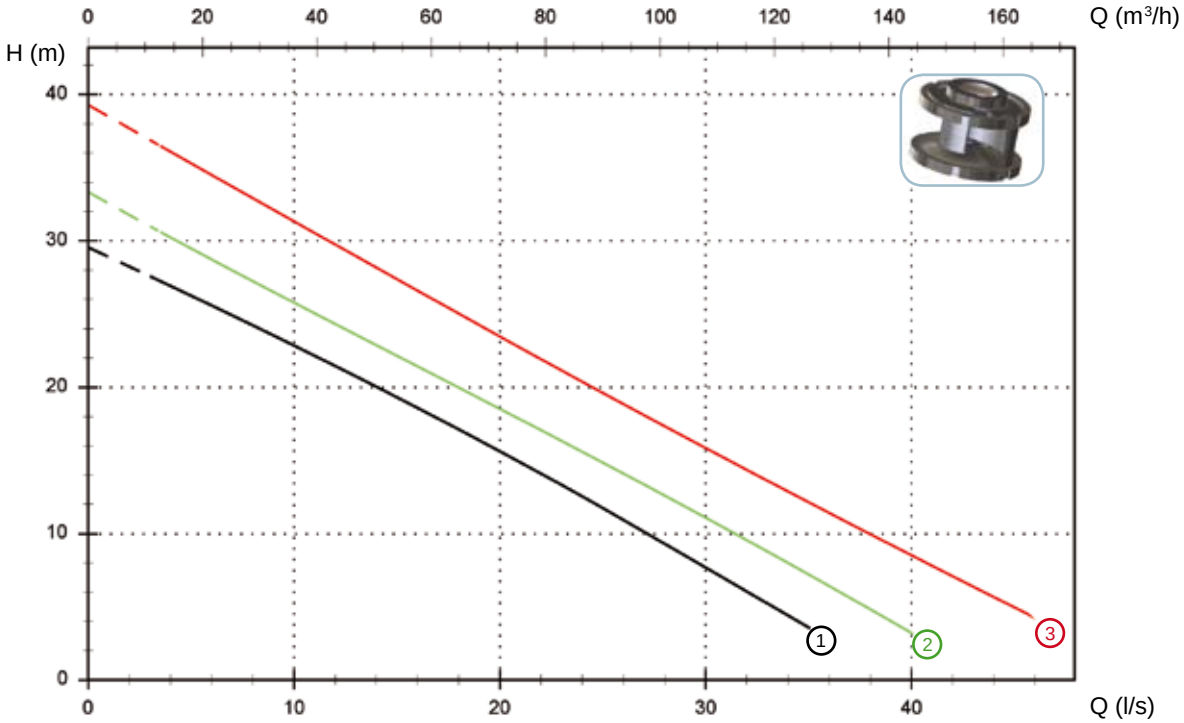
Free passage

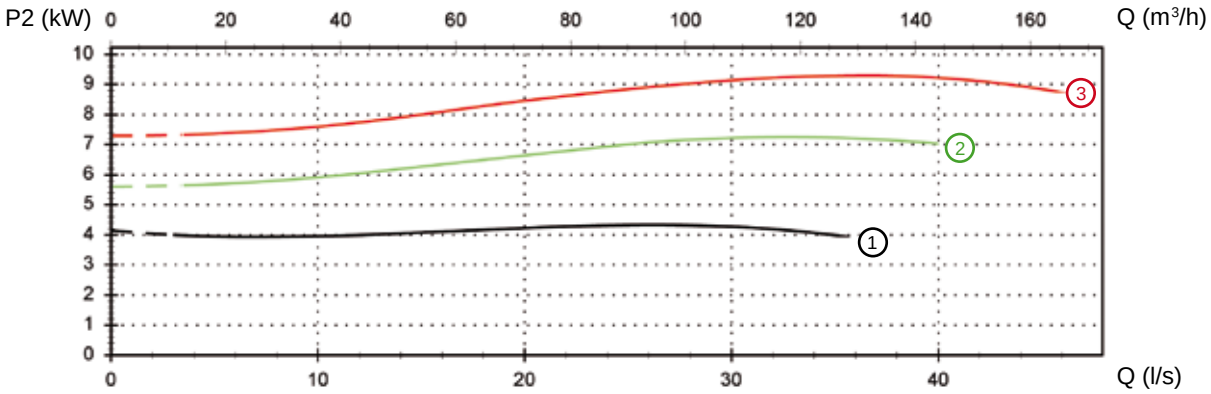
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

SMP

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

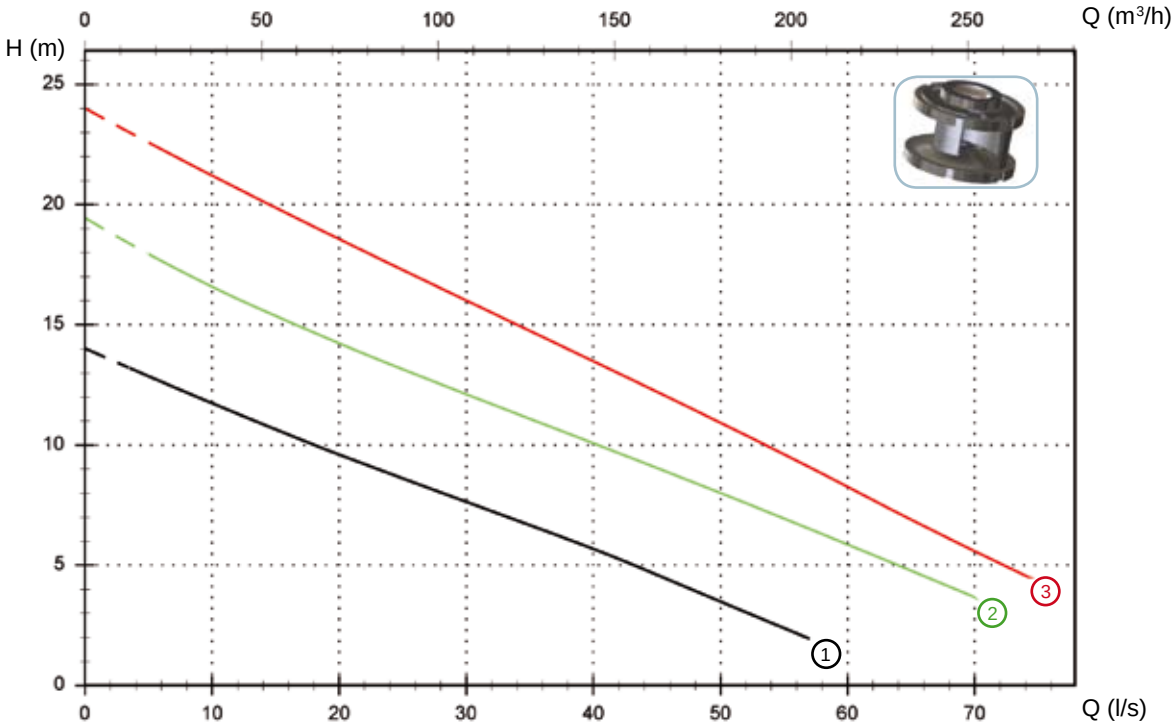
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMP 550/2/80 A0GT/50	400	3	6.8	5.5	11.5	2900	DN80 PN10-16	A	53 mm
(2) SMP 750/2/80 A0HT/50	400	3	8.9	7.2	14.5	2900	DN80 PN10-16	B	55x65 mm
(3) SMP 1000/2/80 A0HT/50	400	3	12.4	10	19.8	2900	DN80 PN10-16	B	55x65 mm

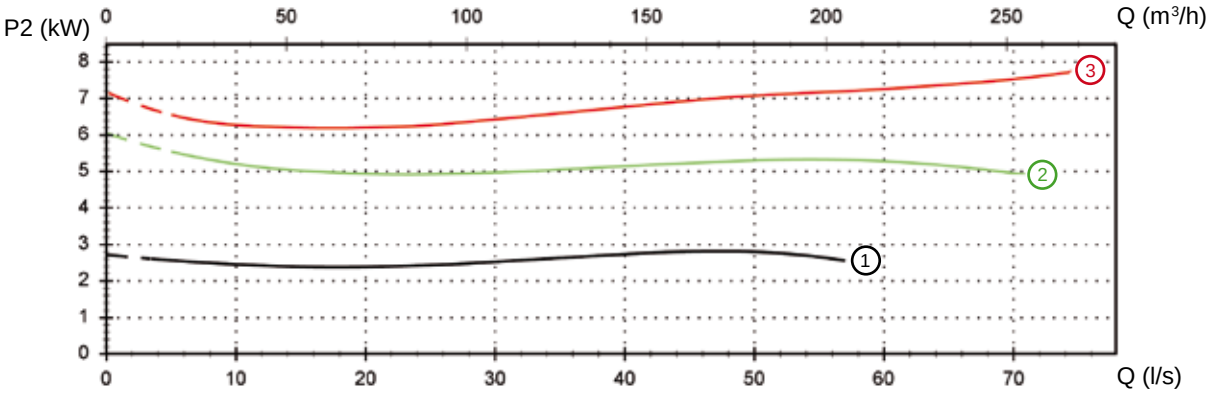
(*) A = 07RN-F 4G2.5+3x1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMP 400/4/100 A0FT/50	400	3	4.1	3	7.9	1450	DN100 PN10-16	A	75x100 mm
(2) SMP 750/4/100 A0HT/50	400	3	8.6	6.5	14.9	1450	DN100 PN10-16	B	80x100 mm
(3) SMP 1000/4/100 A0HT/50	400	3	11.5	8.9	20	1450	DN100 PN10-16	B	80x100 mm

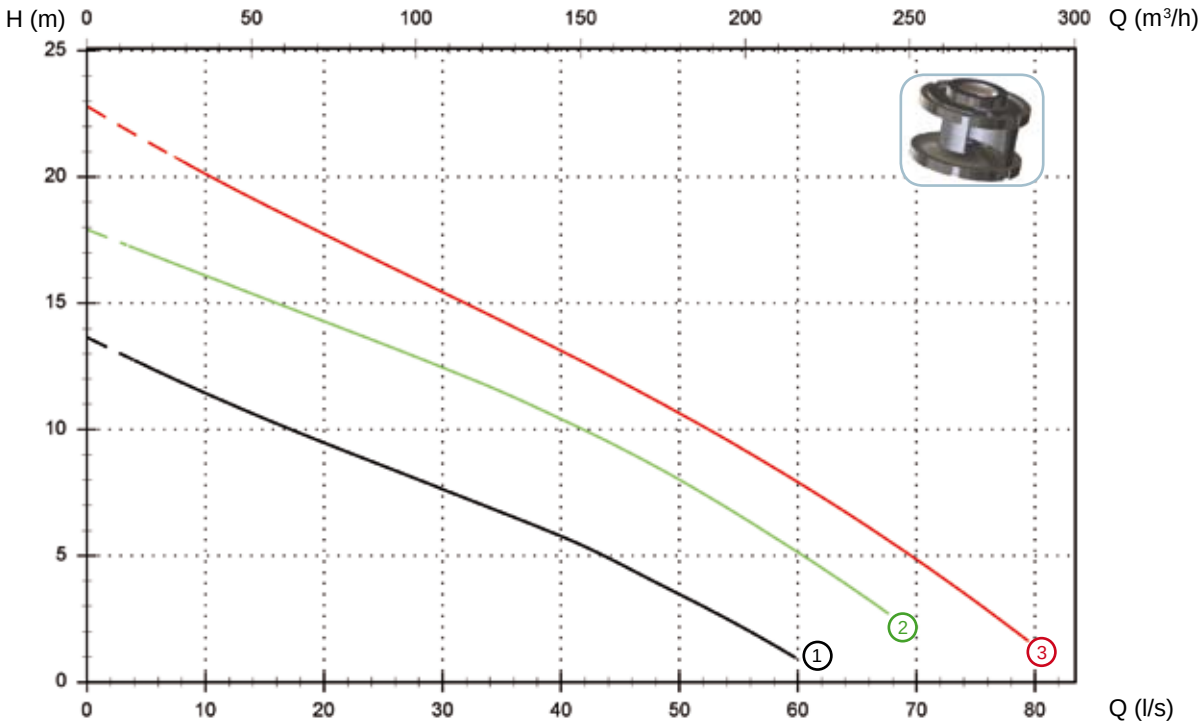
(*) A = H07RN-F 4G1.5 + H07RN-F 2G1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m

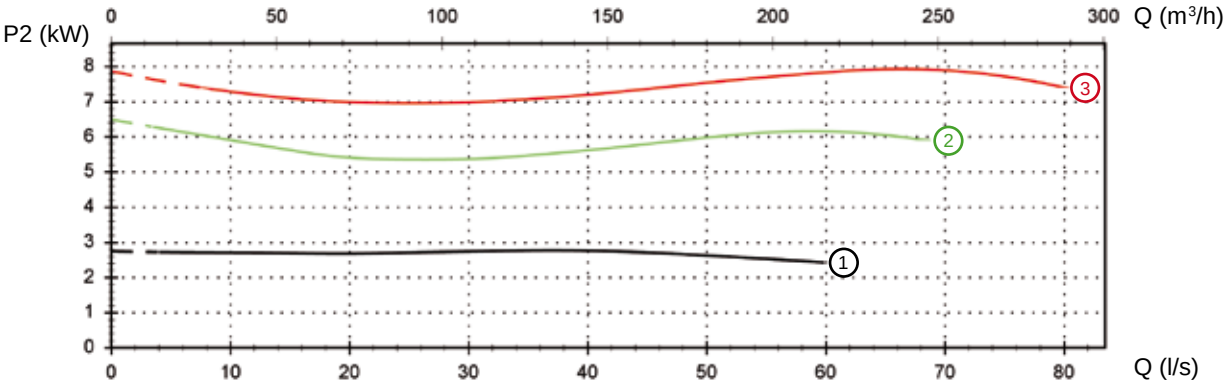
Electrical and mechanical features are equal to the cable H07RN-F

SMP

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





Technical data

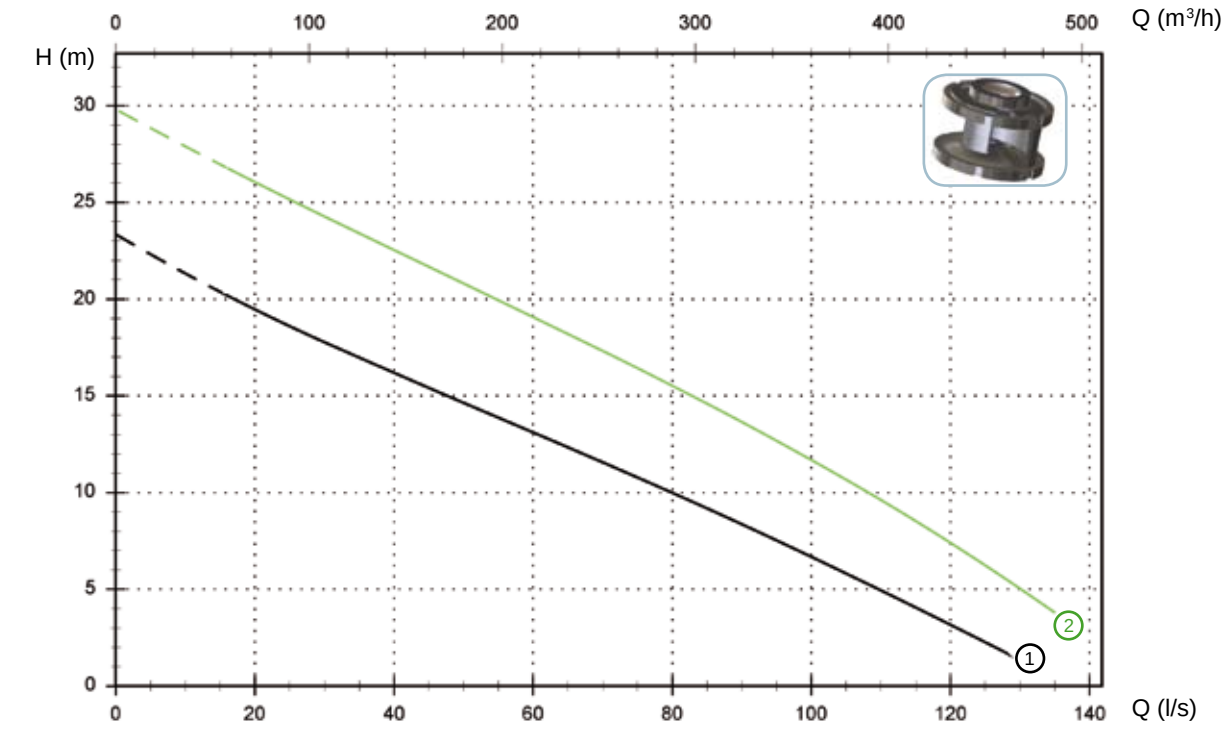
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMP 400/4/150 A0FT/50	400	3	4.1	3	7.9	1450	DN150 PN10-16	A	75x100 mm
(2) SMP 750/4/150 A0HT/50	400	3	8.6	6.5	14.9	1450	DN150 PN10-16	B	80x100 mm
(3) SMP 1000/4/150 A0HT/50	400	3	11.5	8.9	20	1450	DN150 PN10-16	B	80x100 mm

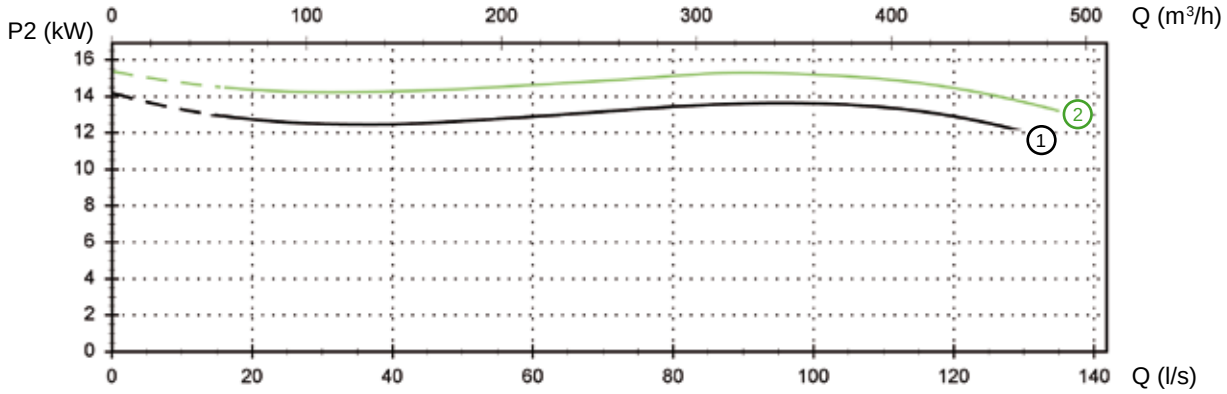
(*) A = H07RN-F 4G1.5 + H07RN-F 2G1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





Technical data

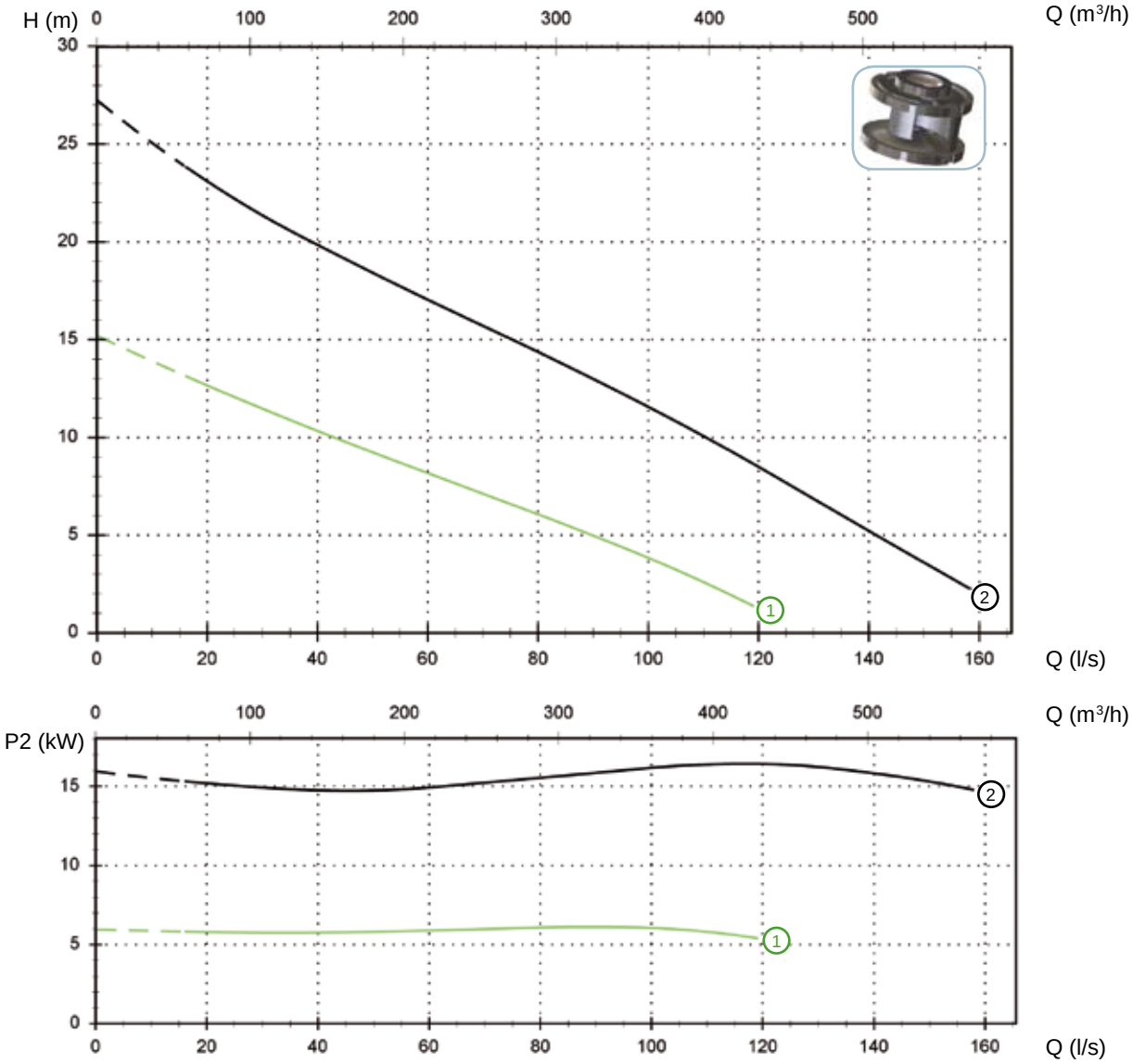
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMP 1500/4/150 A0IT/50	400	3	16.5	14.2	29.5	1450	DN150 PN10-16	A	100x130 mm
(2) SMP 2000/4/150 A0IT/50	400	3	20.7	16.4	36	1450	DN150 PN10-16	A	100x130 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

SMP

Models with horizontal DN200 PN10 anged delivery port - 4 poles

Performances



Technical data

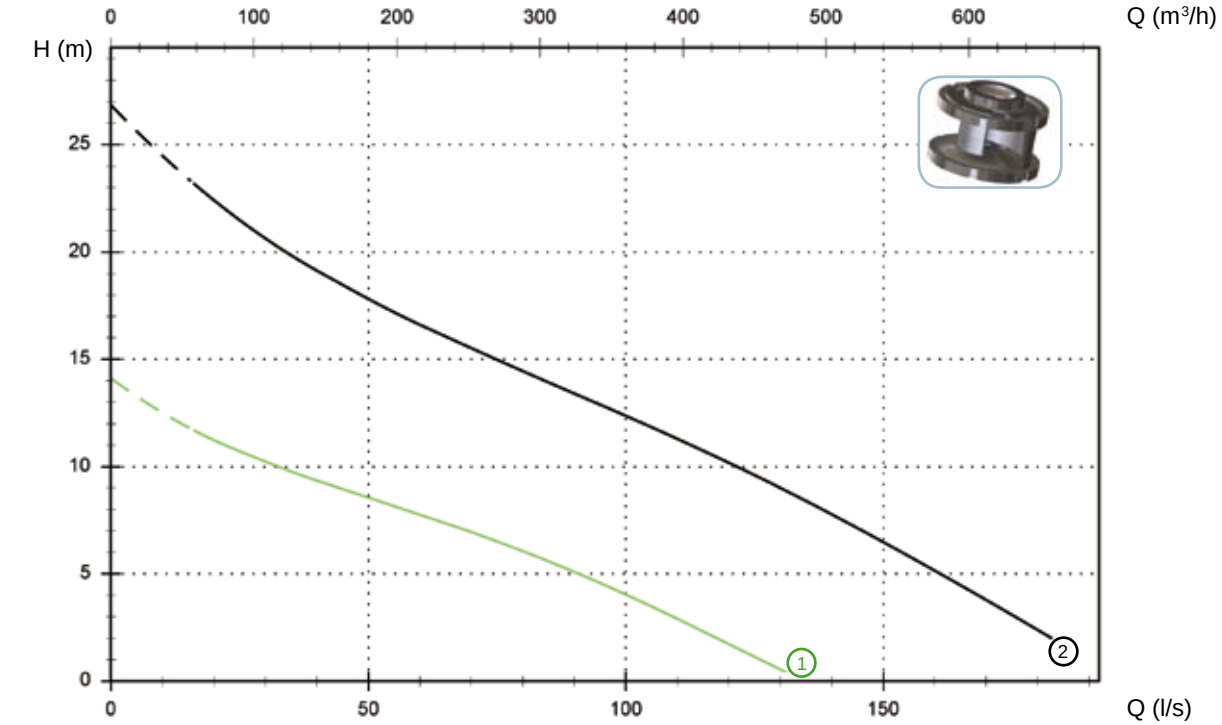
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMP 2000/4/200A0IT/50	400	3	20.7	16.4	36	1450	DN200 PN10	A	100x130 mm
(2) SMP 750/6/200A0HT/50	400	3	7.8	6.1	15.2	960	DN200 PN10	B	100x130 mm

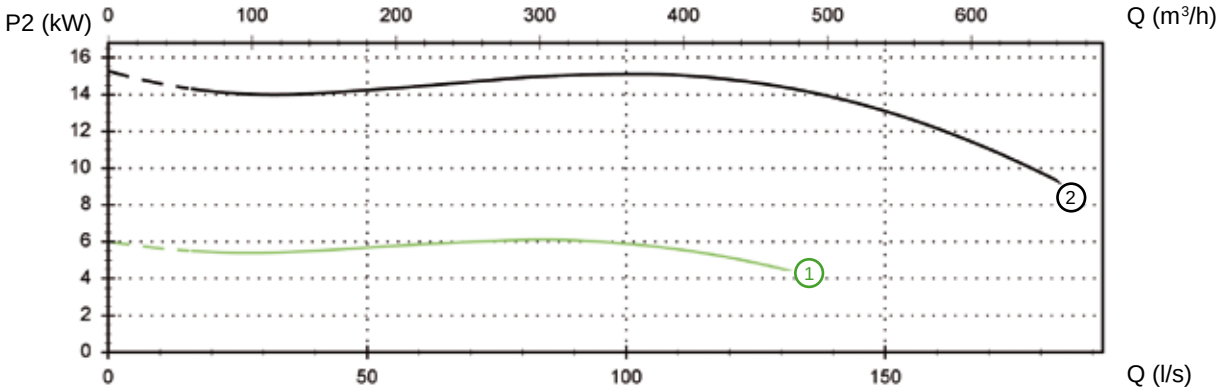
(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN250 PN10 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMP 2000/4/250 A0IT/50	400	3	20.7	16.4	36	1450	DN250 PN10	A	100x130 mm
(2) SMP 750/6/250 A0HT/50	400	3	7.8	6.1	15.2	960	DN250 PN10	B	100x130 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m
B = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

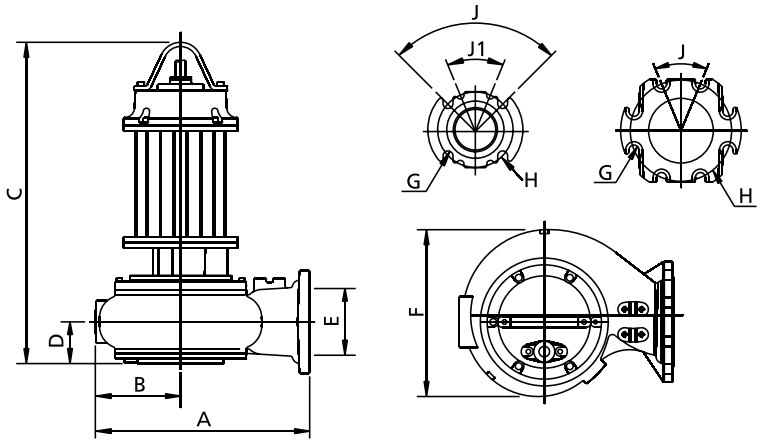
SMP

Versions available

(Key to versions on page 15)

	Electrical variants													Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SMP 550/2/80 A0GT/50		●								●					●	●				●
SMP 750/2/80 A0HT/50		●								●					●	●				●
SMP 1000/2/80 A0HT/50		●								●					●	●				●
SMP 400/4/100 A0FT/50		●								●					●	●				●
SMP 750/4/100 A0HT/50		●								●					●	●				●
SMP 1000/4/100 A0HT/50		●								●					●	●				●
SMP 400/4/150 A0FT/50		●								●					●	●				●
SMP 750/4/150 A0HT/50		●								●					●	●				●
SMP 1000/4/150 A0HT/50		●								●					●	●				●
SMP 1500/4/150 A0IT/50		●								●					●	●				●
SMP 2000/4/150 A0IT/50		●								●					●	●				●
SMP 2000/4/200 A0IT/50		●								●					●	●				●
SMP 2000/4/250 A0IT/50		●								●					●	●				●
SMP 750/6/200 A0HT/50		●								●					●	●				●
SMP 750/6/250 A0HT/50		●								●					●	●				●

Overall dimensions and weights

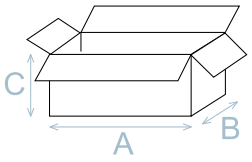


	A	B	C	D	E	F	G	H	J	J1	kg
SMP 550/2/80 A0GT/50	390	150	735	150	80	290	18	160	90°	45°	73
SMP 750/2/80 A0HT/50	390	150	795	150	80	295	18	160	90°	45°	76
SMP 1000/2/80 A0HT/50	390	150	795	150	80	295	18	160	90°	45°	110
SMP 400/4/100 A0FT/50	505	200	700	130	100	395	18	180	45°	-	81
SMP 750/4/100 A0HT/50	505	200	780	120	100	395	18	180	45°	-	132
SMP 1000/4/100 A0HT/50	505	200	760	100	100	395	18	180	45°	-	141
SMP 400/4/150 A0FT/50	507	200	700	130	150	395	24	240	45°	-	88
SMP 750/4/150 A0HT/50	505	200	780	120	150	395	24	240	45°	-	140
SMP 1000/4/150 A0HT/50	505	200	760	100	150	395	24	240	45°	-	150
SMP 1500/4/150 A0IT/50	650	255	955	140	150	505	24	240	45°	-	206
SMP 2000/4/150 A0IT/50	650	255	955	140	150	505	24	240	45°	-	252
SMP 2000/4/200 A0IT/50	695	275	970	145	200	540	24	295	45°	-	221
SMP 2000/4/250 A0IT/50	785	310	970	145	250	610	24	350	30°	-	229
SMP 750/6/200A 0HT/50	695	275	850	145	200	540	24	295	45°	-	190
SMP 750/6/250 A0HT/50	785	310	850	145	250	610	24	350	30°	-	198

Measurements in mm

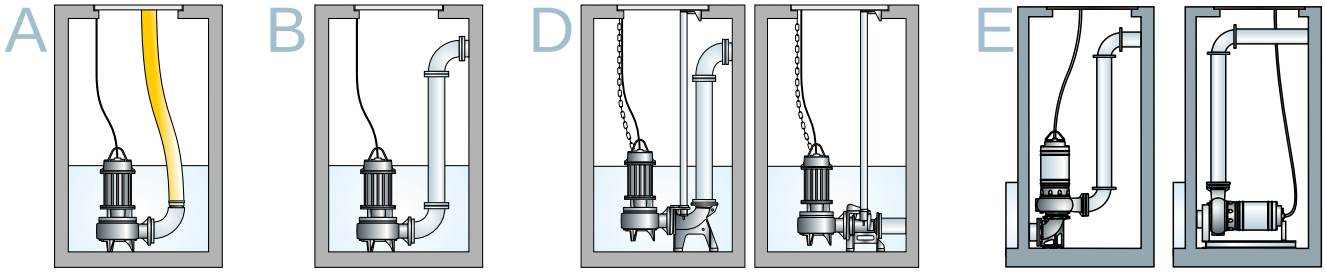
Packaging dimension

	A	B	C
SMP 550/2/80 A0GT/50	915	515	555
SMP 750/2/80 A0HT/50	915	515	555
SMP 1000/2/80 A0HT/50	915	515	555
SMP 400/4/100 A0FT/50	725	445	415
SMP 750/4/100 A0HT/50	915	515	555
SMP 1000/4/100 A0HT/50	915	515	555
SMP 400/4/150 A0FT/50	915	515	555
SMP 750/4/150 A0HT/50	915	515	555
SMP 1000/4/150 A0HT/50	915	515	555
SMP 1500/4/150 A0IT/50	915	515	555
SMP 2000/4/150 A0IT/50	1165	720	685
SMP 2000/4/200 A0IT/50	1165	720	685
SMP 2000/4/250 A0IT/50	1165	720	685
SMP 750/6/200 A0HT/50	1165	720	685
SMP 750/6/250 A0HT/50	1165	720	685



Dimension in mm

Installations available



SMF



Single-channel closed impeller

General characteristics

- Single-channel closed impeller
- 0,74 kW ÷ 1,5 kW motor power
- 2 poles
- GAS 2” - DN80 PN10 delivery port
- 48 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

Applications

Designed specifically for operation where there are traces of flammable liquids or in potentially explosive atmospheres, the SMF can be used with soiled liquids containing traces of flammable substances, and in gassy environments.

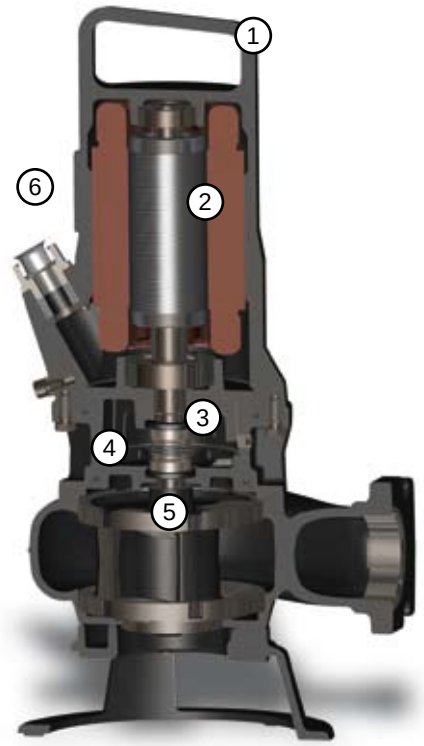
Construction materials

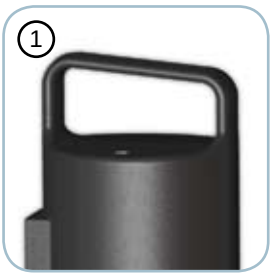
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR - VITON
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

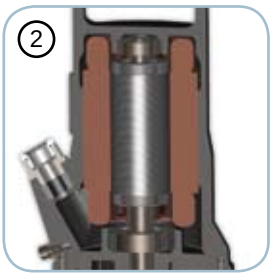
SMF





Handle/Cable gland

Cast iron lifting and carrying handle.
The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Motor

Ecological dry motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



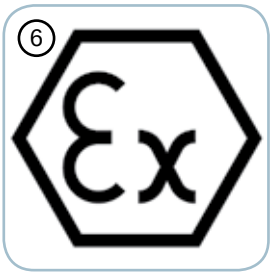
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



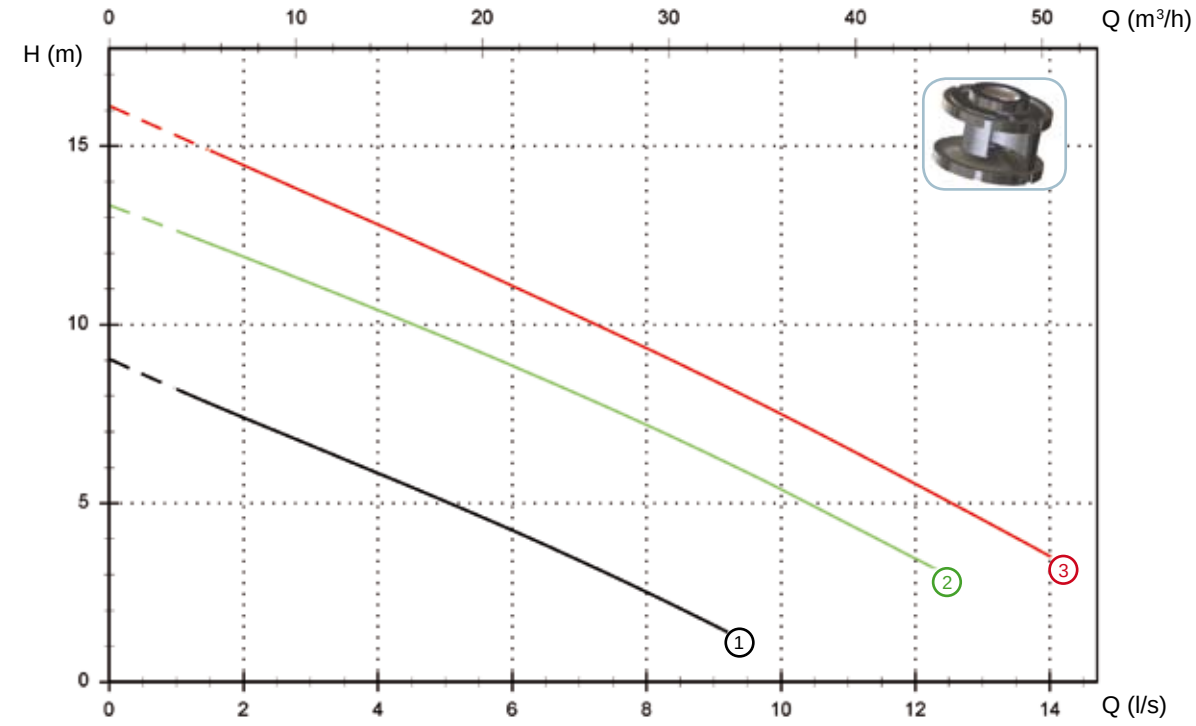
EX

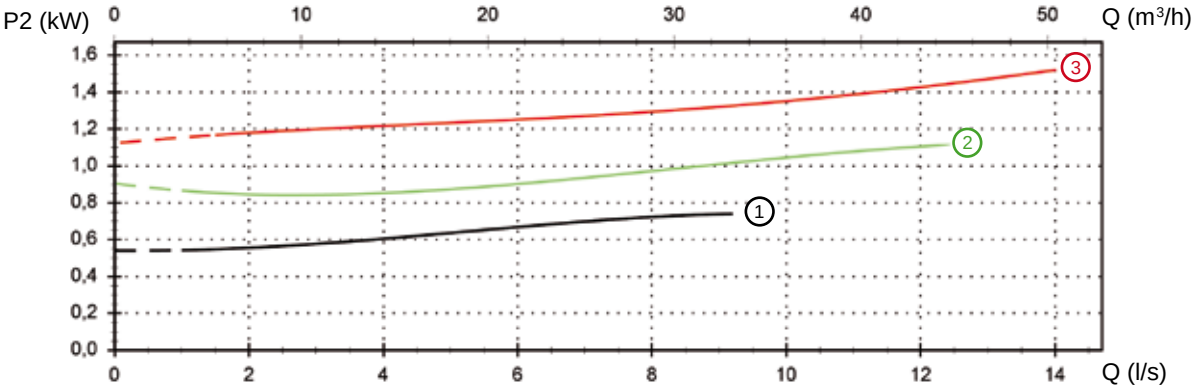
Models with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

SMF

Models with horizontal GAS 2” threaded - DN50 PN10 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMF 100/2/G50H A1CM/50	230	1	1.0	0.74	4.9	2900	G 2”-DN80 PN10	A	50 mm
(2) SMF 150/2/G50H A1CM/50	230	1	1.6	1.1	7.2	2900	G 2”-DN80 PN10	A	50 mm
(3) SMF 200/2/G50H A1CM/50	230	1	2.2	1.5	9.8	2900	G 2”-DN80 PN10	A	50 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SMF 100/2/G50H A1CT/50	400	3	1.1	0.74	1.9	2900	G 2”-DN80 PN10	A	50 mm
(2) SMF 150/2/G50H A1CT/50	400	3	1.7	1.1	2.9	2900	G 2”-DN80 PN10	A	50 mm
(3) SMF 200/2/G50H A1CT/50	400	3	2.1	1.5	3.7	2900	G 2”-DN80 PN10	A	50 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

SMF

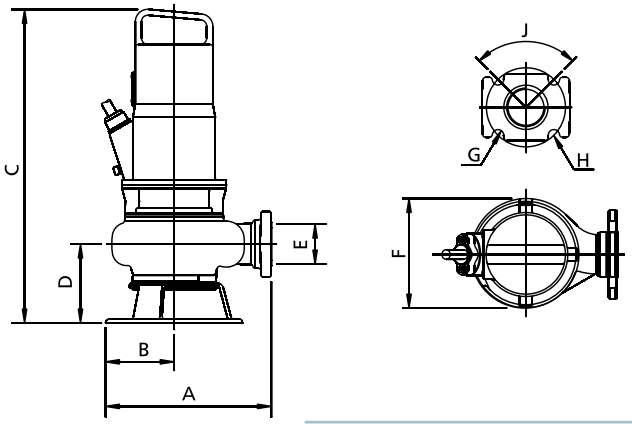
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SMF 100/2/G50H A1CM/50			●												●		●			
SMF 150/2/G50H A1CM/50			●												●		●			
SMF 200/2/G50H A1CM/50			●												●		●			
SMF 100/2/G50H A1CT/50		●													●		●			
SMF 150/2/G50H A1CT/50		●													●		●			
SMF 200/2/G50H A1CT/50		●													●		●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Capacitor supplied but not connected to the pump cable. The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.

Overall dimensions and weights

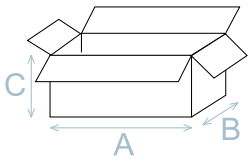


	A	B	C	D	E	F	G	H	J	kg
SMF 100/2/G50H A1CM(T)/50	255	100	505	130	G 2”	205	18	160	90°	34
SMF 150/2/G50H A1CM(T)/50	255	100	505	130	G 2”	205	18	160	90°	35
SMF 200/2/G50H A1CM(T)/50	255	100	505	130	G 2”	205	18	160	90°	36

Measurements in mm

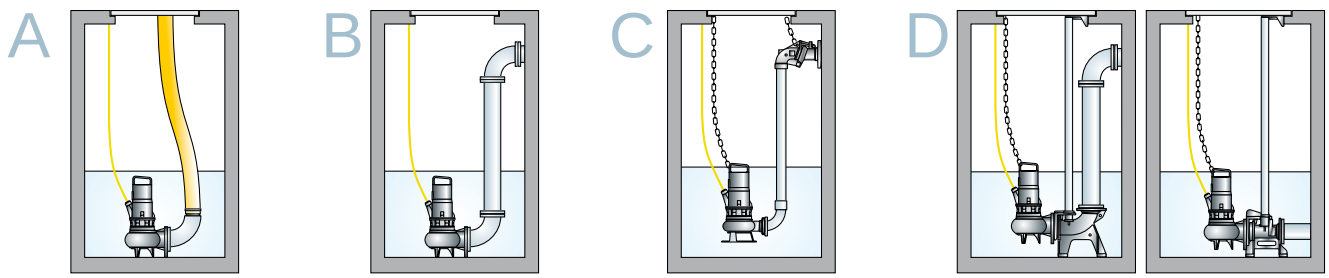
Packaging dimension

	A	B	C
SMF 100/2/G50H A1CM(T)/50	580	310	310
SMF 150/2/G50H A1CM(T)/50	580	310	310
SMF 200/2/G50H A1CM(T)/50	580	310	310



Dimension in mm

Installations available



Dry installation available for specified models. Contact Custome Service for more information.

SBN



Dual-channel closed impeller

General characteristics

- Dual-channel closed impeller
- 18,5 ÷ 37,0 kW motor power
- 4 / 6 poles
- DN150 ÷ DN300 delivery port
- 90 ÷ 140 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Designed for heavy-duty professional applications, they are used in civil and industrial wastewater treatment plants. Lifting sewage, pumping industrial sludges and rainwater containing solids, and recycling raw or activated sludges and biological liquids. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

SBN





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.



Cable Gland

Cable gland system to guarantee perfect water-tightness. The universal thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Sensor

Sensor for detecting water in the mechanical seal oil chamber. Connected to an electrical panel, the sensor provides immediate warning of wear on the first mechanical seal, preventing possible damage to the motor



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Drive shaft

Impeller connected to the drive shaft by means of tapered coupling



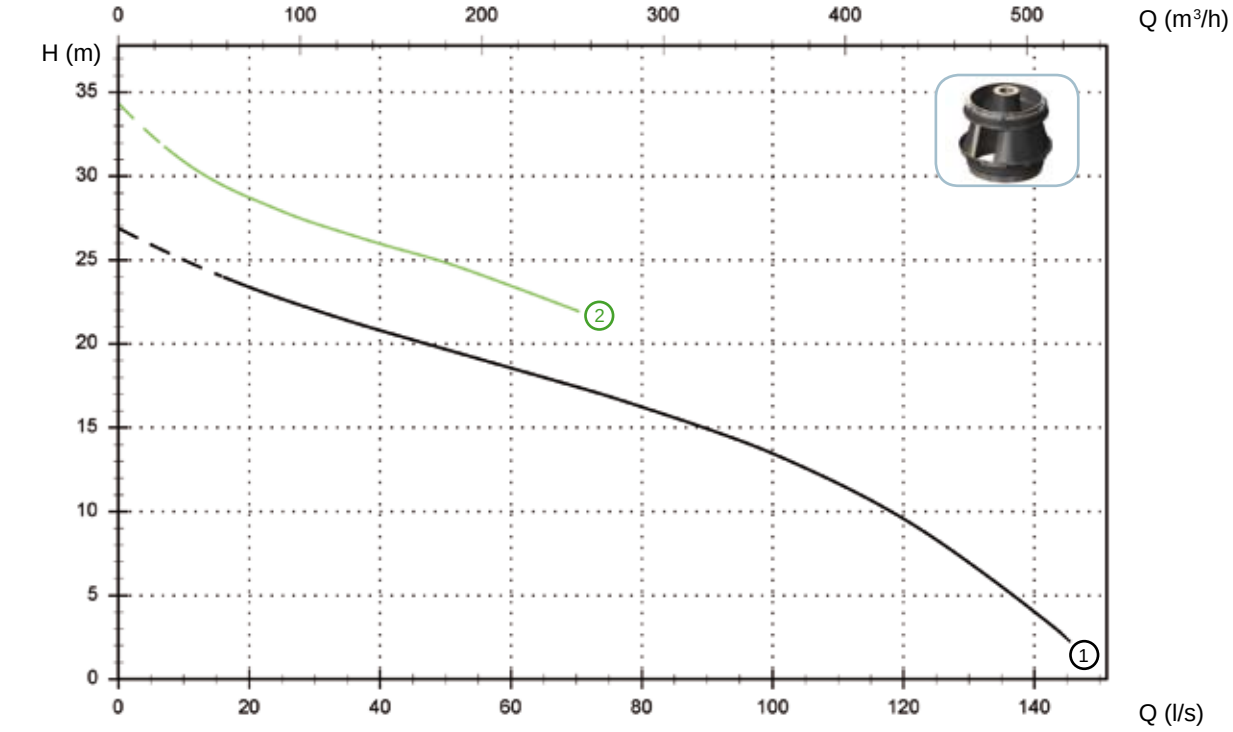
Free passage

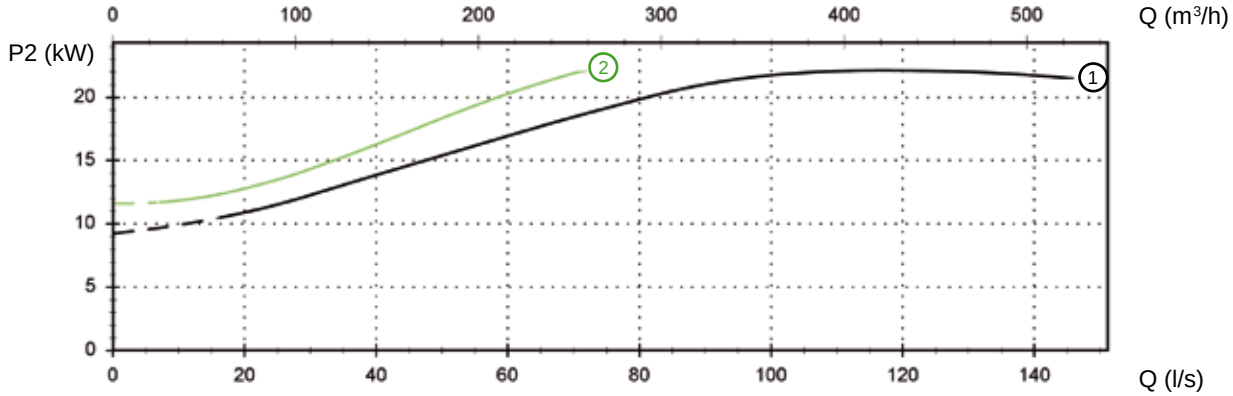
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

SBN

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





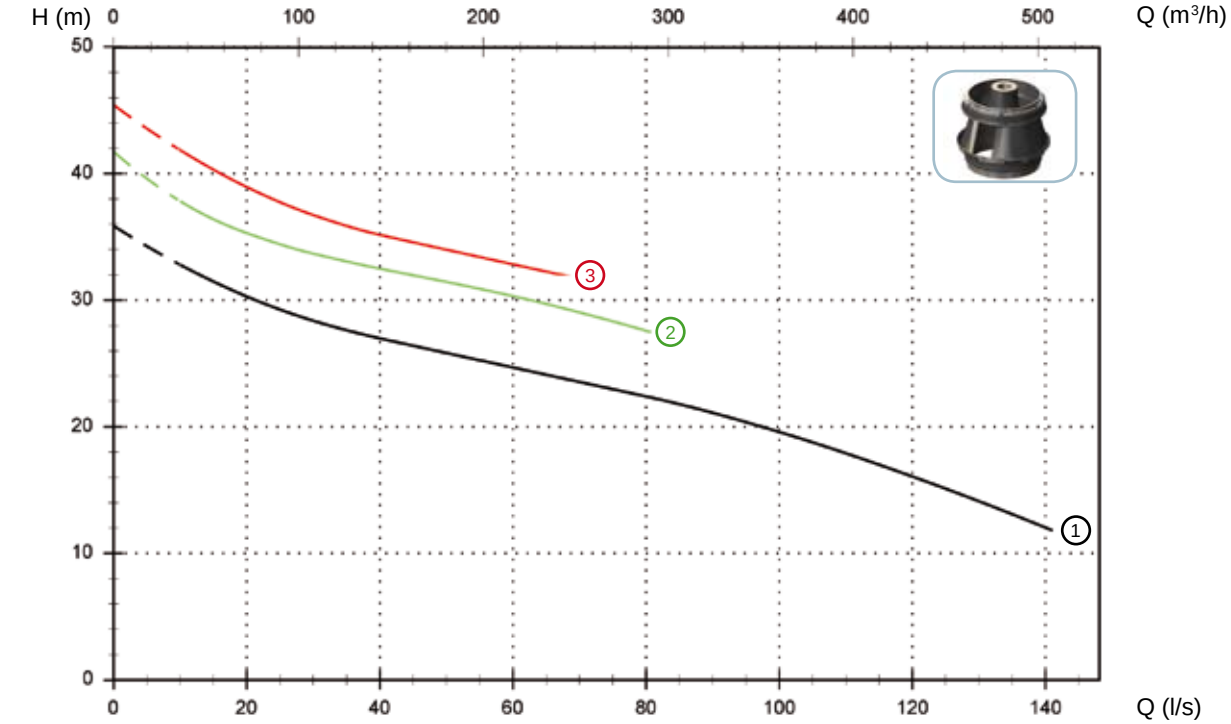
Technical data

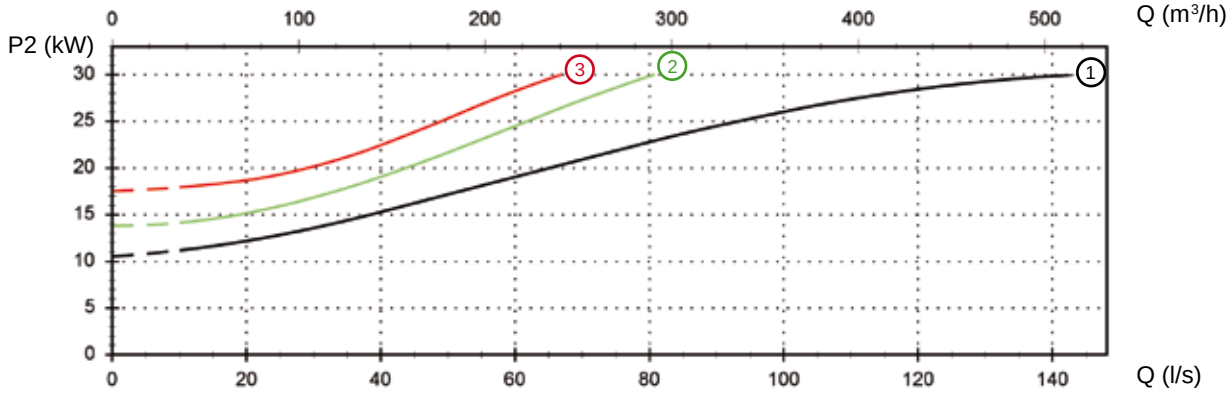
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBN 3000/4/150 A1LT/50	400	3	25.3	22	43.5	1450	DN150 PN10-16	A	90 mm
(2) SBN 3000/4/150 F1LT/50	400	3	25.3	22	43.5	1450	DN150 PN10-16	A	90 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





Technical data

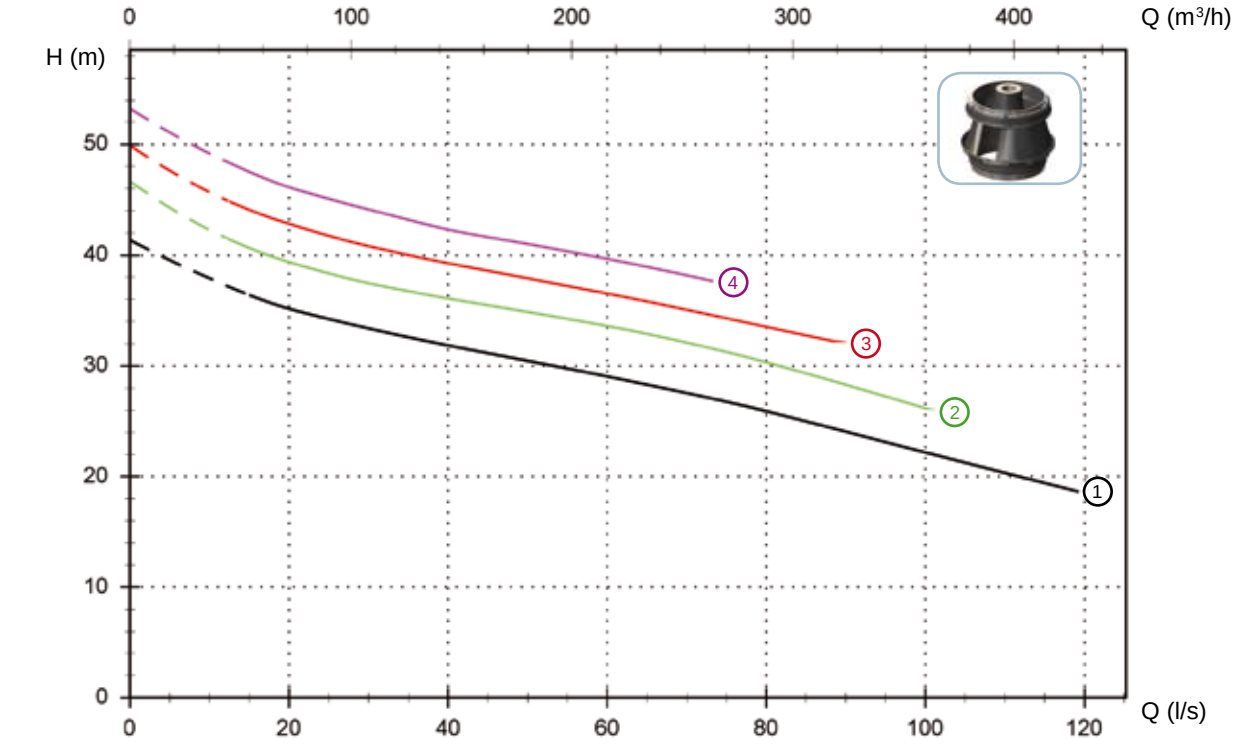
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBN 4000/4/150 A1LT/50	400	3	35.9	30	61	1450	DN150 PN10-16	A	90 mm
(2) SBN 4000/4/150 F1LT/50	400	3	35.9	30	61	1450	DN150 PN10-16	A	90 mm
(3) SBN 4000/4/150 G1LT/50	400	3	35.9	30	61	1450	DN150 PN10-16	A	90 mm

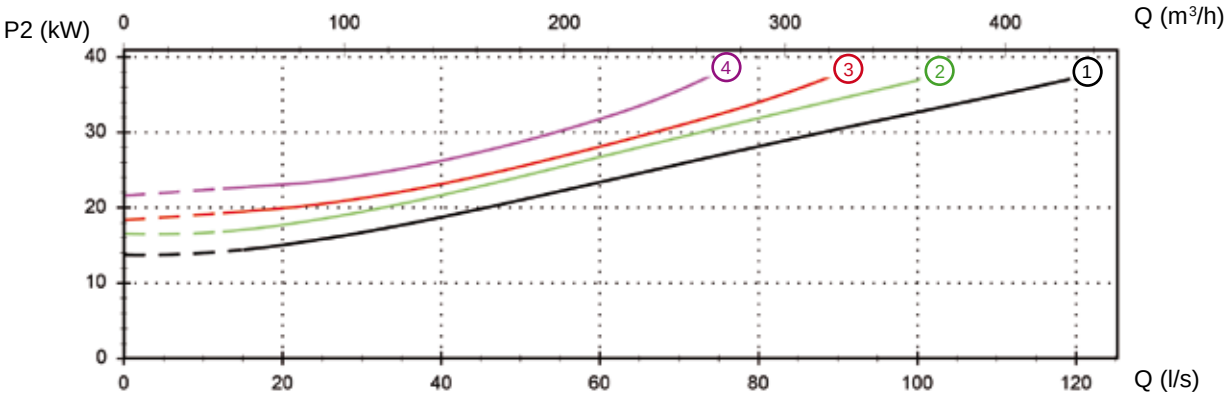
(*) A = H07RN-F 4G10 + H07RN-F 4G10 + H07RN-F 4G1.5 - 10 m

SBN

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





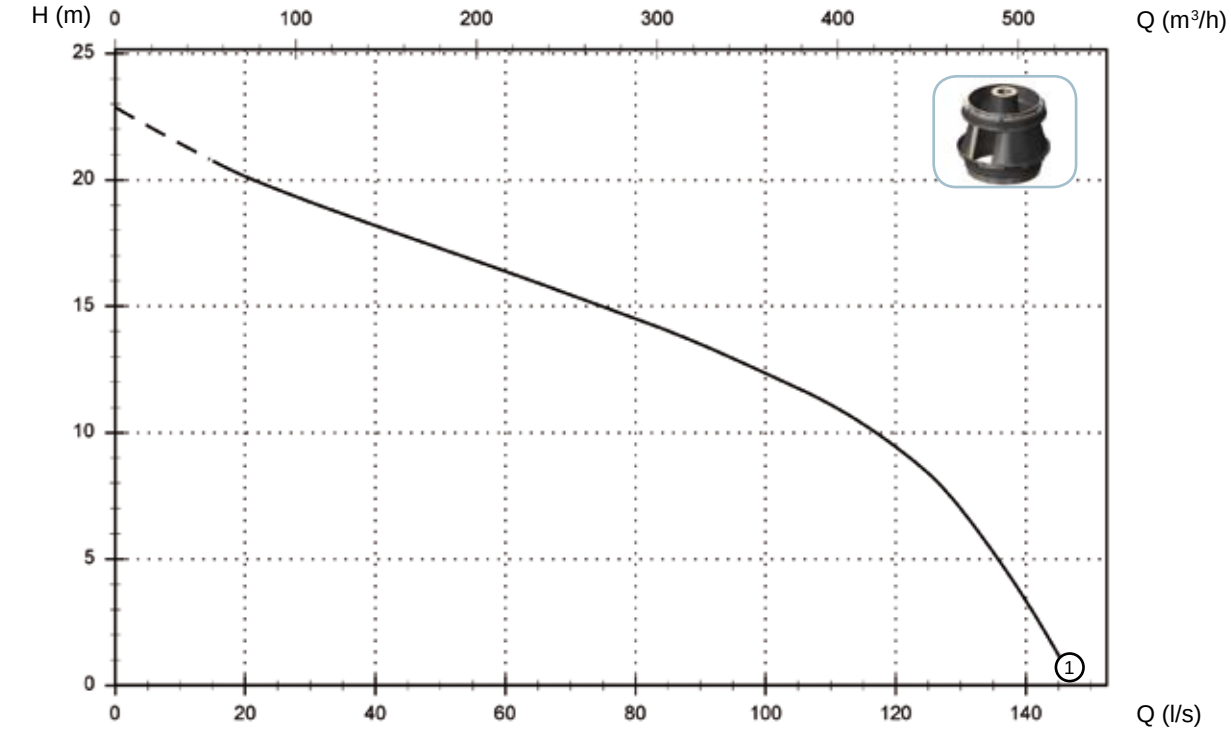
Technical data

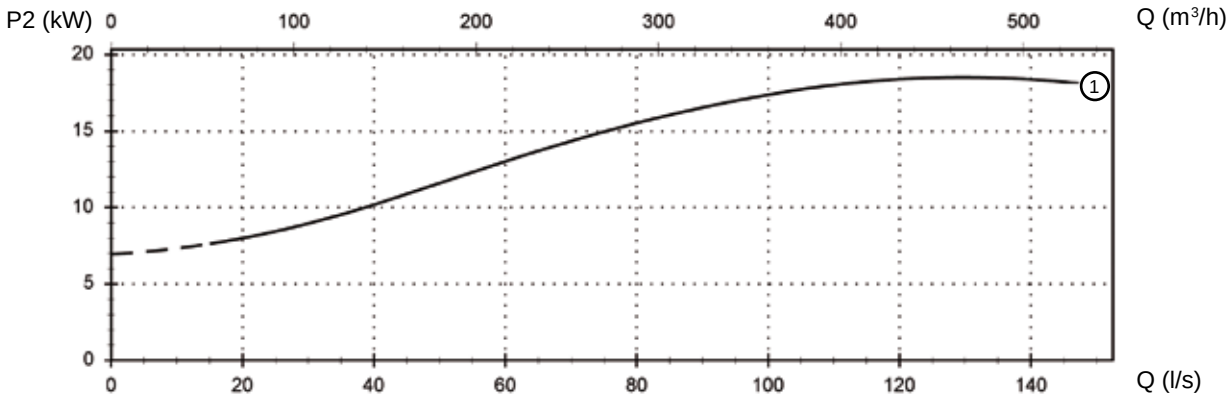
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	SBN 5000/4/150 A1LT/50	400	3	45.8	37	76	1450	DN150 PN10-16	A	90 mm
2	SBN 5000/4/150 F1LT/50	400	3	45.8	37	76	1450	DN150 PN10-16	A	90 mm
3	SBN 5000/4/150 G1LT/50	400	3	45.8	37	76	1450	DN150 PN10-16	A	90 mm
4	SBN 5000/4/150 H1LT/50	400	3	45.8	37	76	1450	DN150 PN10-16	A	90 mm

(*) A = H07RN-F 4G10 + H07RN-F 4G10 + H07RN-F 4G1.5 - 10 m

Models with horizontal DN150 PN10-16 anged delivery port - 6 poles

Performances





Technical data

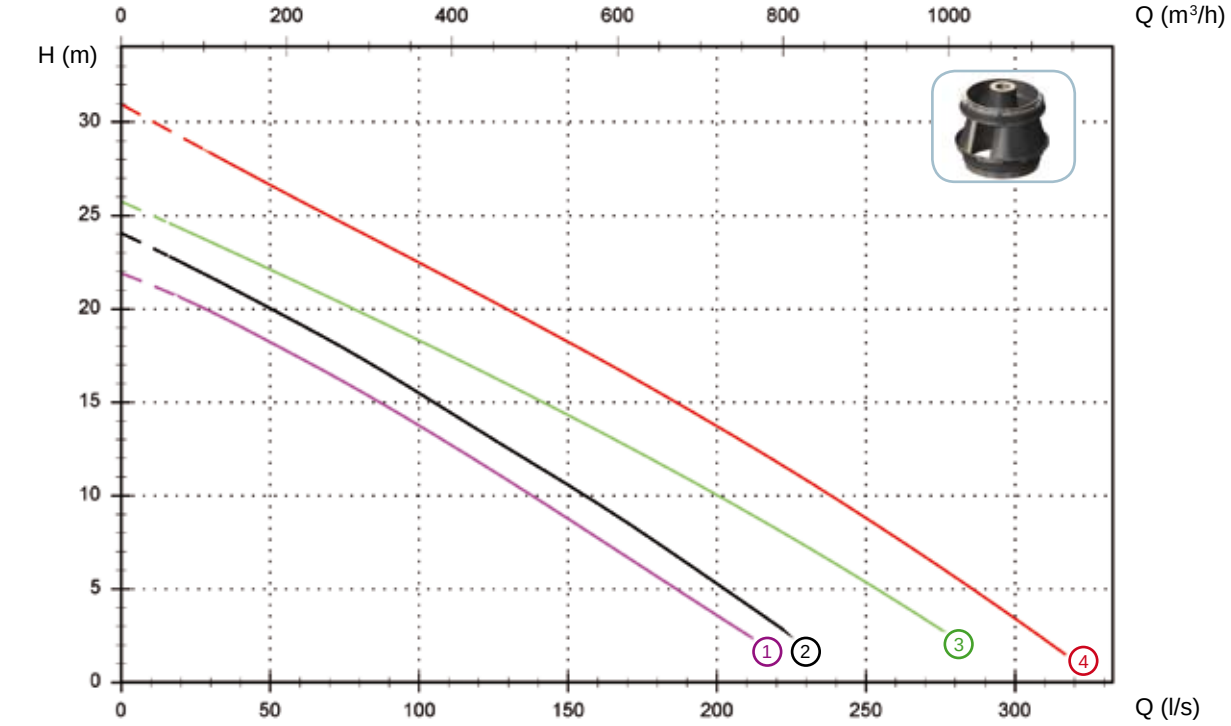
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBN 2500/6/150 A1LT/50	400	3	23.0	18.5	40	960	DN150 PN10-16	A	90 mm

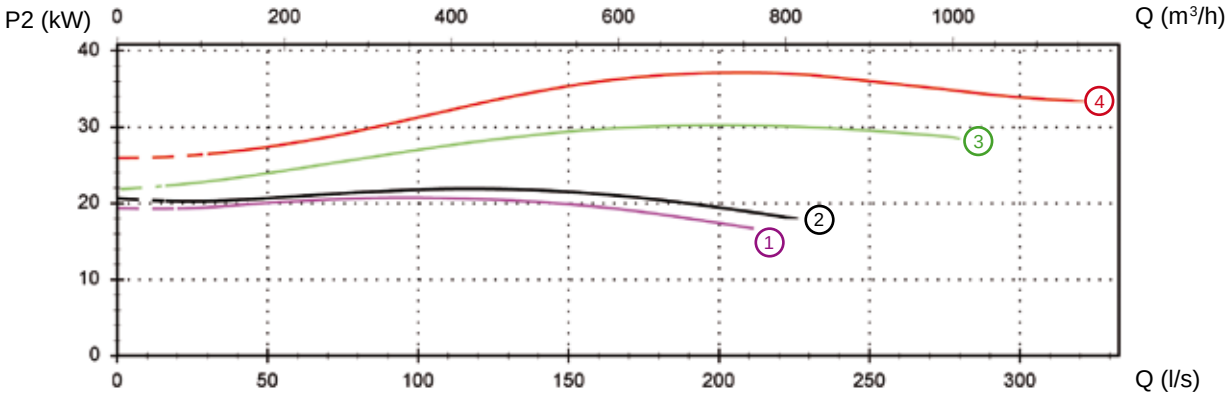
(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

SBN

Models with horizontal DN200 PN10 anged delivery port - 4 poles

Performances





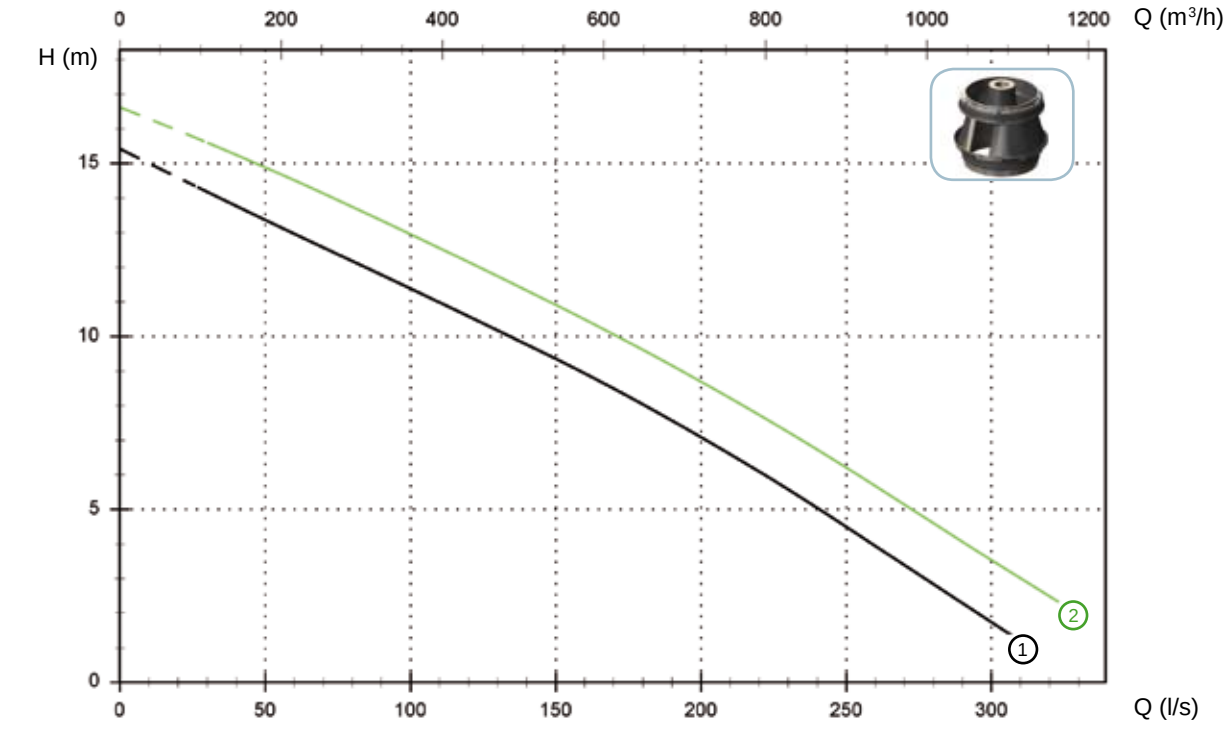
Technical data

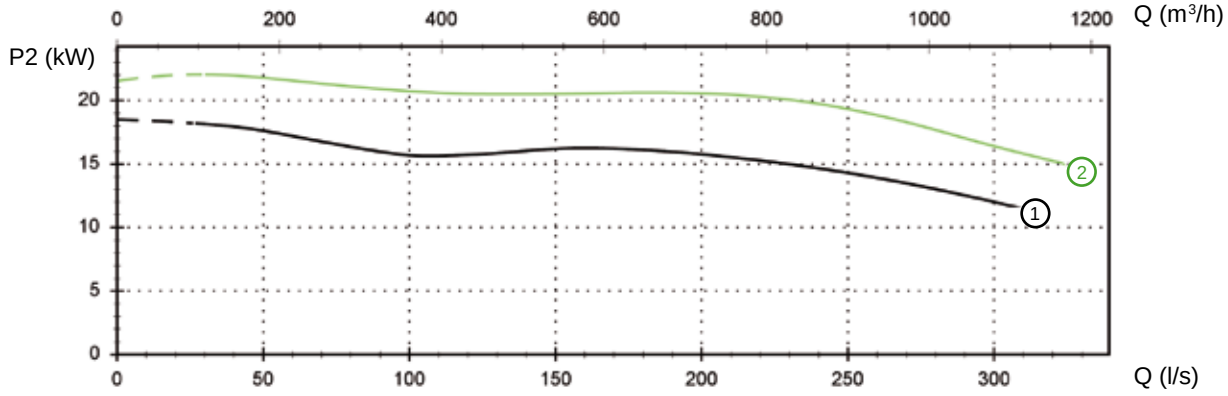
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	SBN 3000/4/200 A1LT/50	400	3	25.3	22	43.5	1450	DN200 PN10	A	105x140 mm
2	SBN 3000/4/200 B1LT/50	400	3	23.8	22	41	1450	DN200 PN10	A	105x140 mm
3	SBN 4000/4/200 A1LT/50	400	3	35.9	30	61	1450	DN200 PN10	B	105x140 mm
4	SBN 5000/4/200 A1LT/50	400	3	45.8	37	76	1450	DN200 PN10	B	105x140 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m
B = H07RN-F 4G10 + H07RN-F 4G10 + H07RN-F 4G1.5 - 10 m

Models with horizontal DN250 PN10 anged delivery port - 6 poles

Performances





Technical data

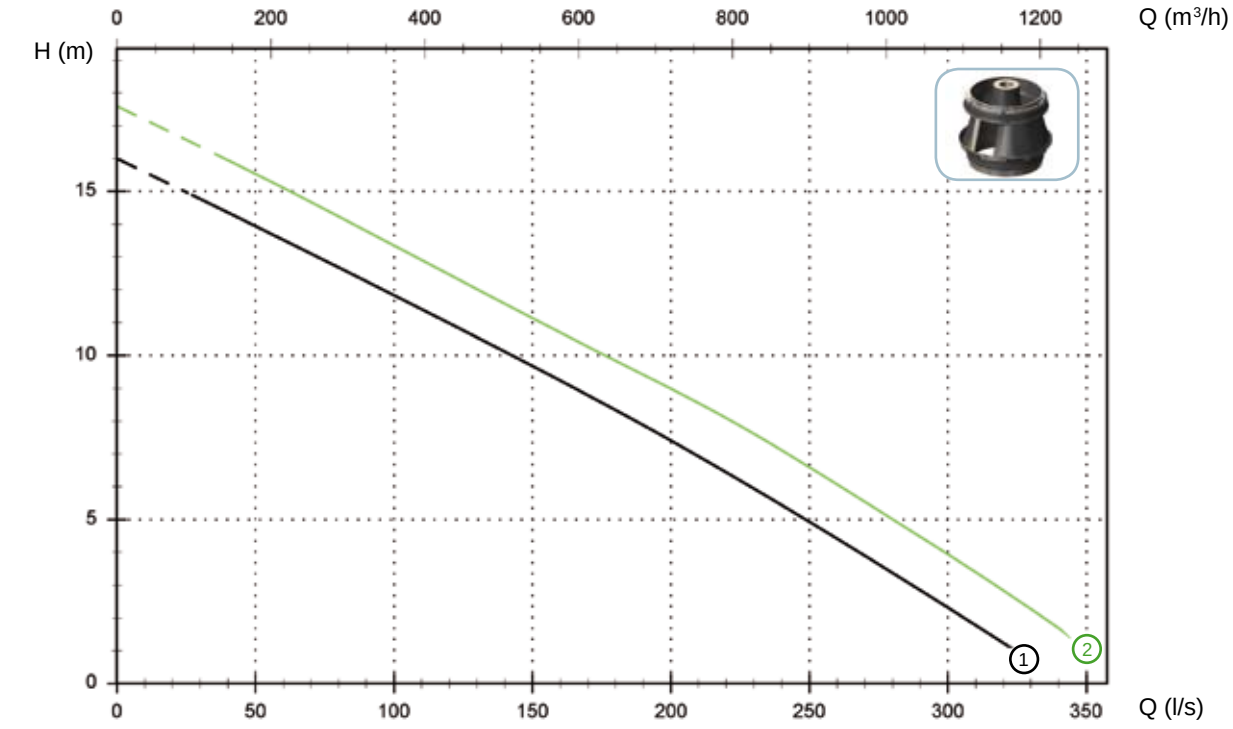
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBN 2500/6/250 A2LT/50	400	3	23.0	18.5	40	960	DN250 PN10	A	130 mm
(2) SBN 3000/6/250 A2LT/50	400	3	26.1	22	46	960	DN250 PN10	A	130 mm

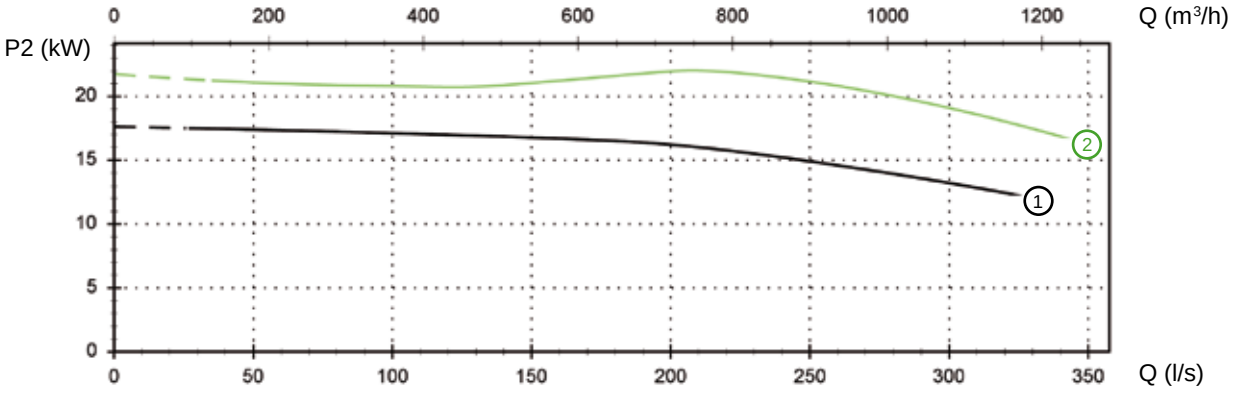
(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

SBN

Models with horizontal DN300 PN10 anged delivery port - 6 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 SBN 2500/6/300 A1LT/50	400	3	23.0	18.5	40	960	DN300 PN10	A	130 mm
2 SBN 3000/6/300 A1LT/50	400	3	26.1	22	46	960	DN300 PN10	A	130 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 4G1.5 - 10 m

SBN

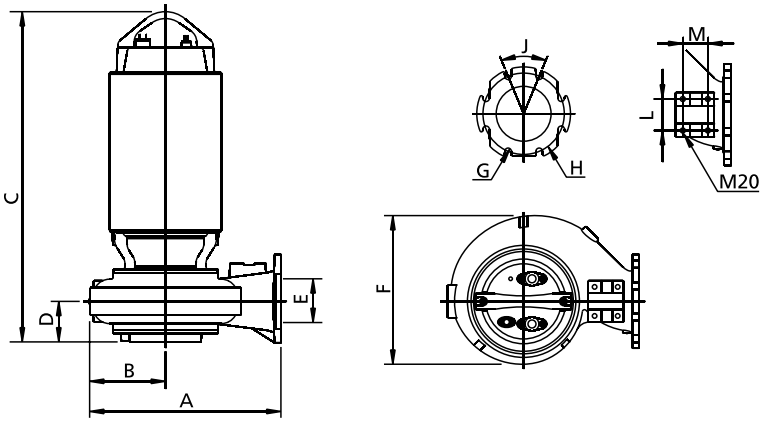
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SBN 3000/4/150 A1LT/50										●					●	●	●			
SBN 3000/4/150 F1LT/50										●					●	●	●			
SBN 4000/4/150 A1LT/50										●					●	●	●			
SBN 4000/4/150 F1LT/50										●					●	●	●			
SBN 4000/4/150 G1LT/50										●					●	●	●			
SBN 5000/4/150 A1LT/50										●					●	●	●			
SBN 5000/4/150 F1LT/50										●					●	●	●			
SBN 5000/4/150 G1LT/50										●					●	●	●			
SBN 5000/4/150 H1LT/50										●					●	●	●			
SBN 2500/6/150 A1LT/50										●					●	●	●			
SBN 3000/4/200 A1LT/50										●					●	●	●			
SBN 3000/4/200 B1LT/50										●					●	●	●			
SBN 4000/4/200 A1LT/50										●					●	●	●			
SBN 5000/4/200 A1LT/50										●					●	●	●			
SBN 3000/4/250 A1LT/50										●					●	●	●			
SBN 4000/4/250 A1LT/50										●					●	●	●			
SBN 5000/4/250 A1LT/50										●					●	●	●			
SBN 5000/4/250 B1LT/50										●					●	●	●			
SBN 2500/6/250 A2LT/50										●					●	●	●			
SBN 3000/6/250 A2LT/50										●					●	●	●			
SBN 2500/6/300 A1LT/50										●					●	●	●			
SBN 3000/6/300 A1LT/50										●					●	●	●			

SBN

Overall dimensions and weights

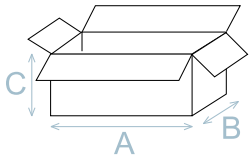


	A	B	C	D	E	F	G	H	J	L	M	kg
SBN 3000/4/150 A1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	385
SBN 3000/4/150 F1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	385
SBN 4000/4/150 A1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	410
SBN 4000/4/150 F1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	410
SBN 4000/4/150 G1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	410
SBN 5000/4/150 A1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	423
SBN 5000/4/150 F1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	423
SBN 5000/4/150 G1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	480
SBN 5000/4/150 H1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	423
SBN 2500/6/150 A1LT/50	695	265	1155	130	150	520	24	240	45°	109	79	410
SBN 3000/4/200 A1LT/50	695	275	1205	150	200	540	24	295	45°	109	79	385
SBN 3000/4/200 B1LT/50	695	275	1205	150	200	540	24	295	45°	109	79	385
SBN 4000/4/200 A1LT/50	695	275	1205	155	200	540	24	295	45°	109	79	410
SBN 5000/4/200 A1LT/50	695	275	1205	150	200	540	24	295	45°	109	79	423
SBN 3000/4/250 A1LT/50	785	310	1200	150	250	610	24	350	30°	109	79	393
SBN 4000/4/250 A1LT/50	785	310	1205	155	250	610	24	350	30°	109	79	418
SBN 5000/4/250 A1LT/50	785	310	1205	155	250	610	24	350	30°	109	79	431
SBN 5000/4/250 B1LT/50	785	310	1205	155	250	610	24	350	30°	109	79	520
SBN 2500/6/250 A2LT/50	880	370	1275	195	250	735	24	350	30°	109	79	470
SBN 3000/6/250 A2LT/50	880	370	1275	195	250	735	24	350	30°	109	79	480
SBN 2500/6/300 A1LT/50	940	400	1275	200	300	790	24	400	30°	109	79	520
SBN 3000/6/300 A1LT/50	940	400	1275	200	300	790	24	400	30°	109	79	540

Measurements in mm

Packaging dimension

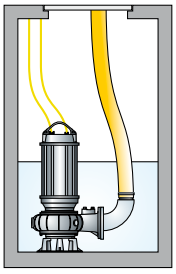
	A	B	C
SBN 3000/4/150 A1LT/50	1080	1245	1135
SBN 3000/4/150 F1LT/50	1080	1245	1135
SBN 4000/4/150 A1LT/50	1080	1245	1135
SBN 4000/4/150 F1LT/50	1080	1245	1135
SBN 4000/4/150 G1LT/50	1080	1245	1135
SBN 5000/4/150 A1LT/50	1080	1245	1135
SBN 5000/4/150 F1LT/50	1080	1245	1135
SBN 5000/4/150 G1LT/50	1080	1245	1135
SBN 5000/4/150 H1LT/50	1080	1245	1135
SBN 2500/6/150 A1LT/50	1080	1245	1135
SBN 3000/4/200 A1LT/50	1080	1245	1135
SBN 3000/4/200 B1LT/50	1080	1245	1135
SBN 4000/4/200 A1LT/50	1080	1245	1135
SBN 5000/4/200 A1LT/50	1080	1245	1135
SBN 3000/4/250 A1LT/50	1080	1245	1135
SBN 4000/4/250 A1LT/50	1080	1245	1135
SBN 5000/4/250 A1LT/50	1080	1245	1135
SBN 5000/4/250 B1LT/50	1080	1245	1135
SBN 2500/6/250 A2LT/50	1080	1245	1135
SBN 3000/6/250 A2LT/50	1080	1245	1135
SBN 2500/6/300 A1LT/50	1080	1245	1135
SBN 3000/6/300 A1LT/50	1080	1245	1135



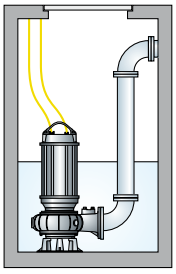
Dimension in mm

Installations available

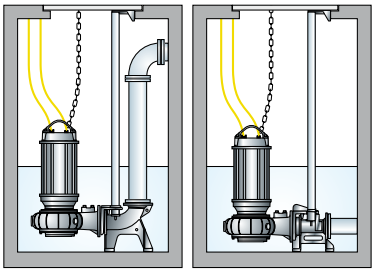
A



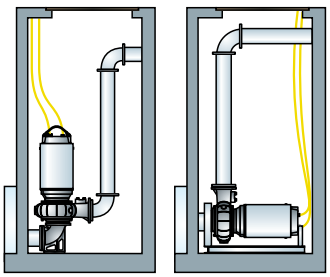
B



D



E



SBP



Dual-channel closed impeller

General characteristics

- Dual-channel closed impeller
- 6,5 ÷ 12,3 kW motor power
- 2 / 4 / 6 poles
- DN80 ÷ DN250 delivery port
- 36 ÷ 140 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for heavy-duty industrial applications, they are generally used in civil and industrial wastewater treatment plants, for lifting sewage, for pumping industrial sludges and rainwater containing solids, and for recycling raw or activated sludges and biological liquids.

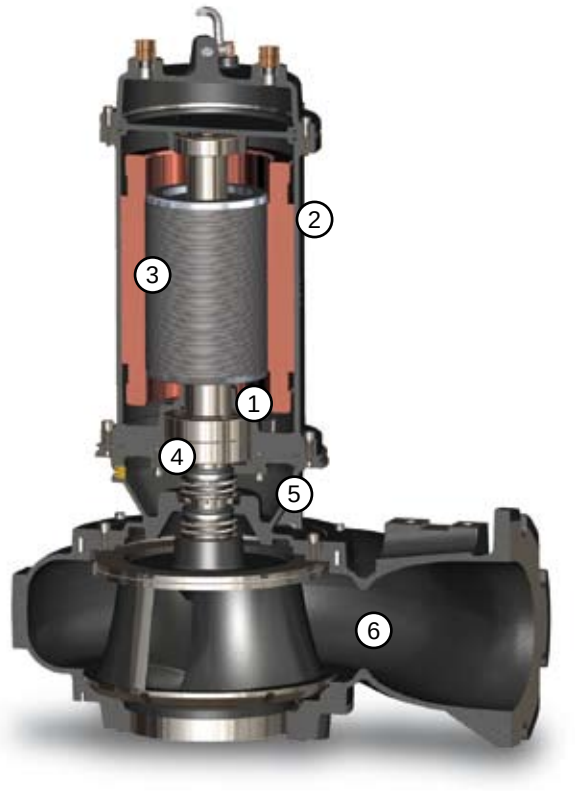
Construction materials

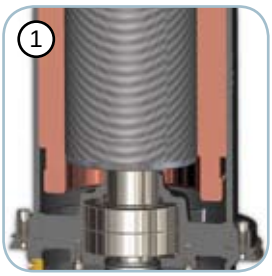
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

SBP





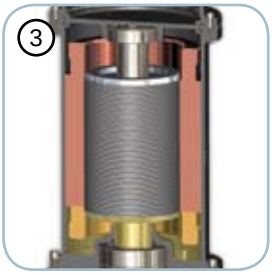
Bearings

Shielded ball bearings with lifetime lubrication



Structure

Constructed in GJL-250 cast iron



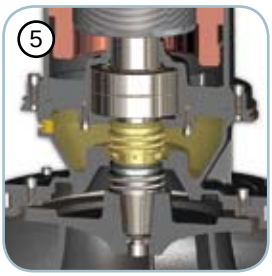
Motor

Oil-bath motor with thermal overloads



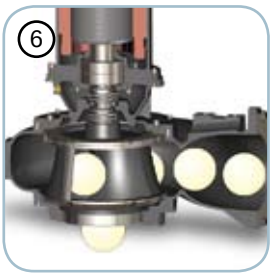
Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



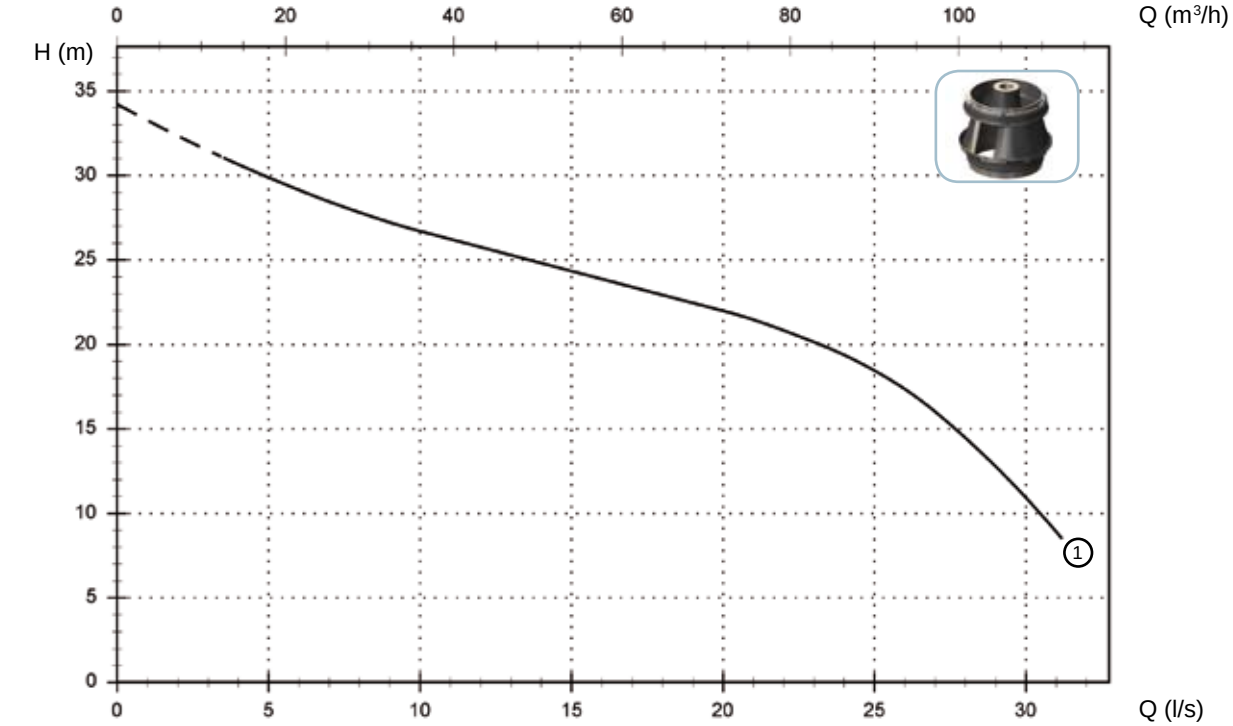
Free passage

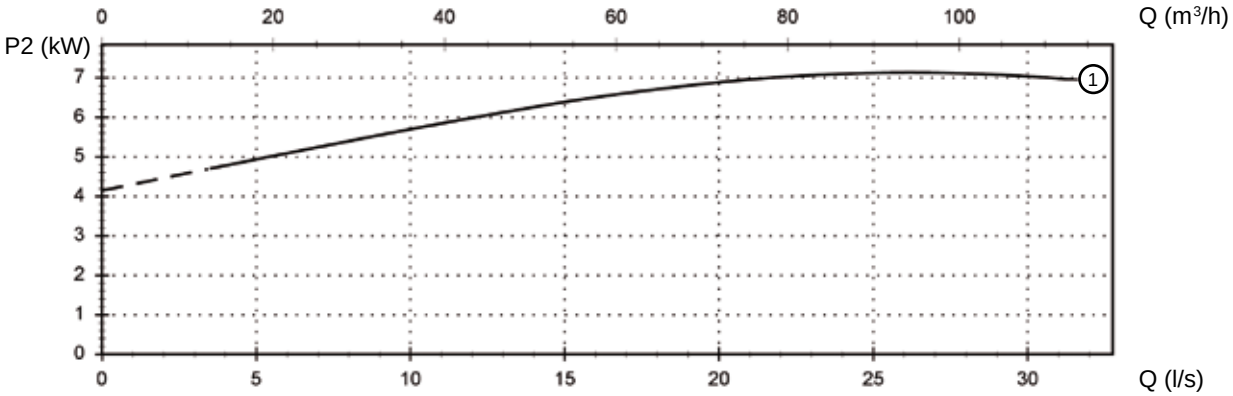
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

SBP

Models with horizontal DN80 PN10-16 anged delivery port - 2 poles

Performances





Technical data

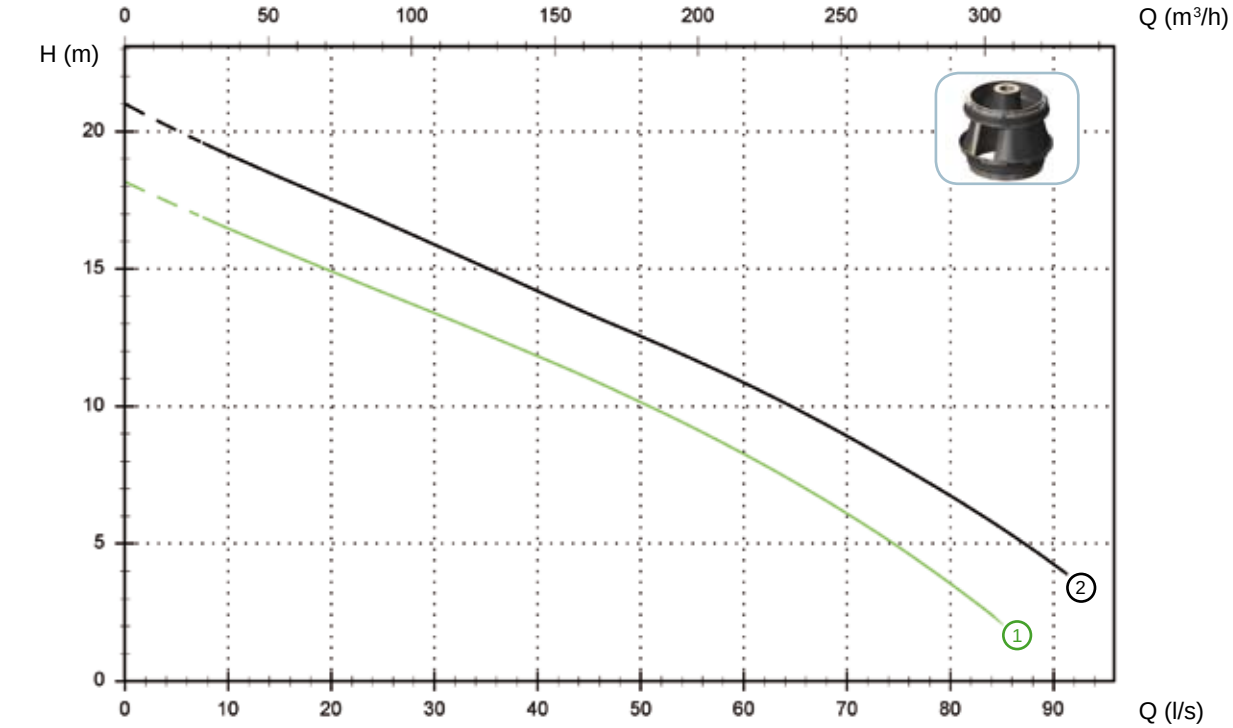
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBP 750/2/80 A0HT/50	400	3	8.8	7.2	14.5	2900	DN80 PN10-16	A	36 mm

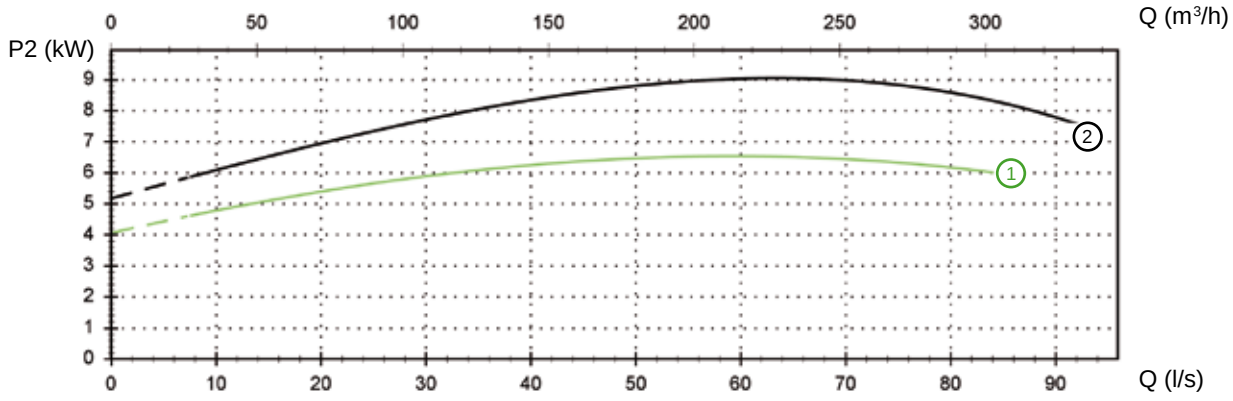
(*) A = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

Models with horizontal DN150 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	SBP 750/4/150 A0HT/50	400	3	8.6	6.5	14.9	1450	DN150 PN10-16	A	70 mm
2	SBP 1000/4/150 A0HT/50	400	3	11.5	8.9	20	1450	DN150 PN10-16	A	70 mm

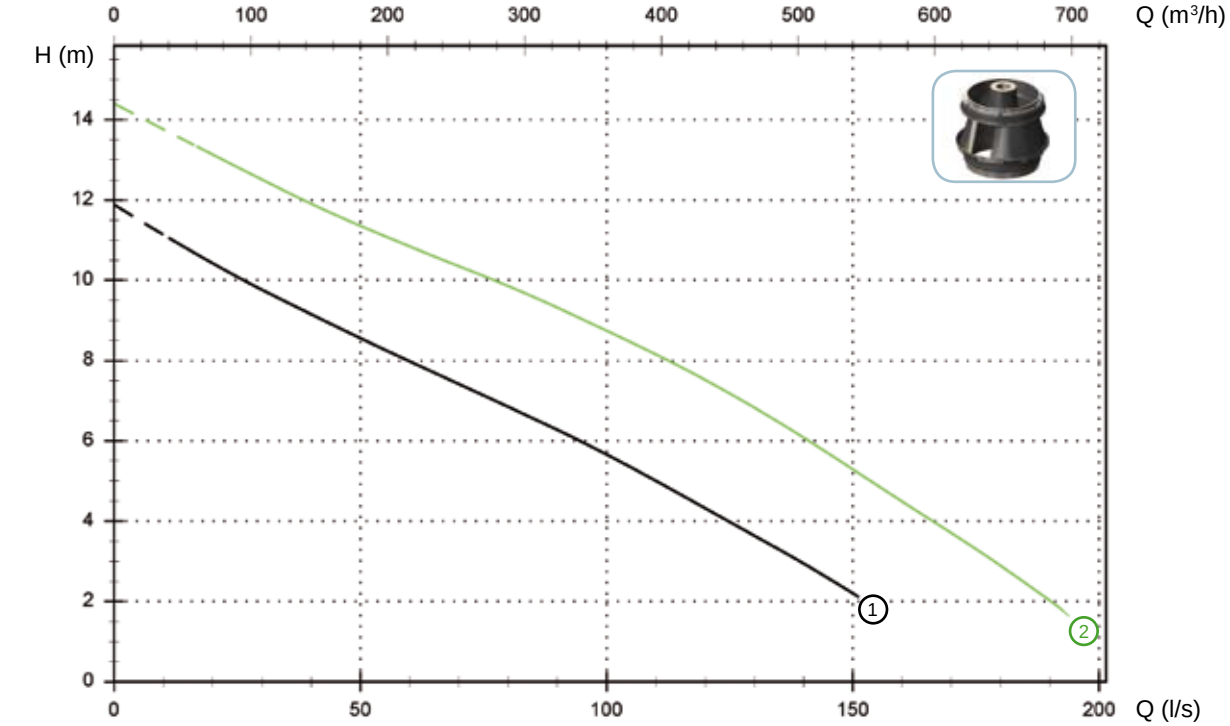
(*) A = 07RN-F 7G1.5+3x0.75 - 10 m

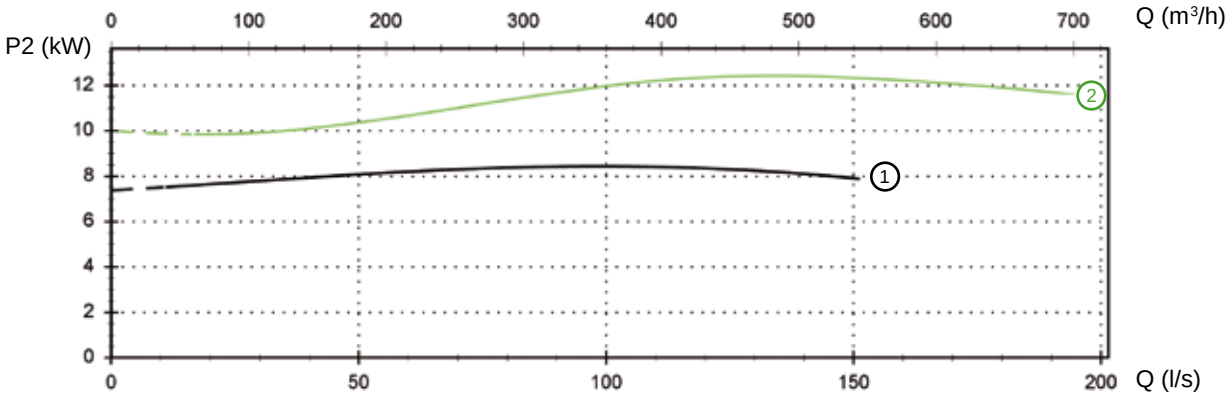
Electrical and mechanical features are equal to the cable H07RN-F

SBP

Models with horizontal DN200 PN10 anged delivery port - 6 poles

Performances





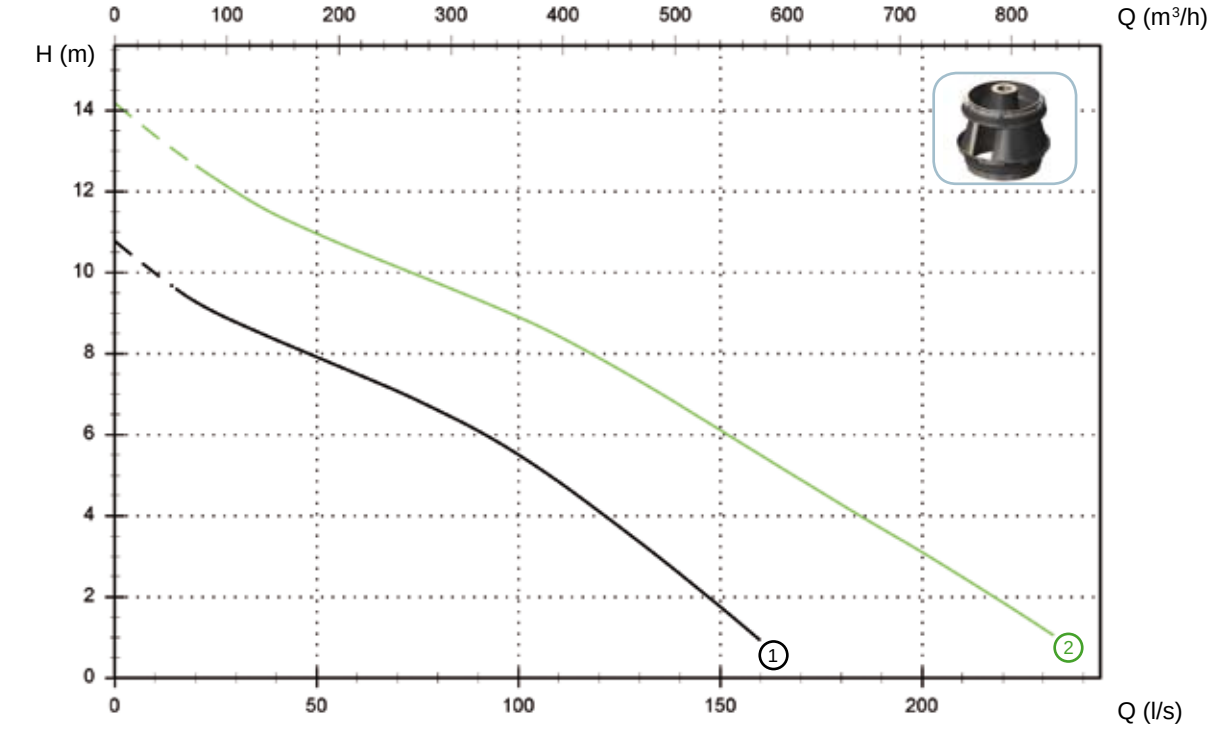
Technical data

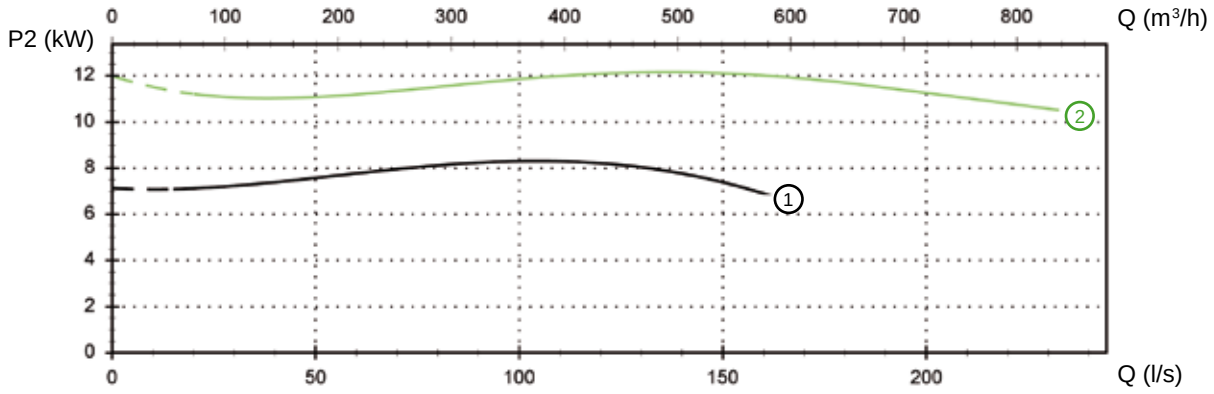
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBP 1000/6/200 A0IT/50	400	3	11.4	8.4	20.1	960	DN200 PN10	A	100 mm
(2) SBP 1500/6/200 A1IT/50	400	3	14.8	12.3	28.2	960	DN200 PN10	A	105x140 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

Models with horizontal DN250 PN10 anged delivery port - 6 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) SBP 1000/6/250 C0IT/50	400	3	11.4	8.4	20.1	960	DN250 PN10	A	100 mm
(2) SBP 1500/6/250 A1IT/50	400	3	14.8	12.3	28.2	960	DN250 PN10	A	105x140 mm

(*) A = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

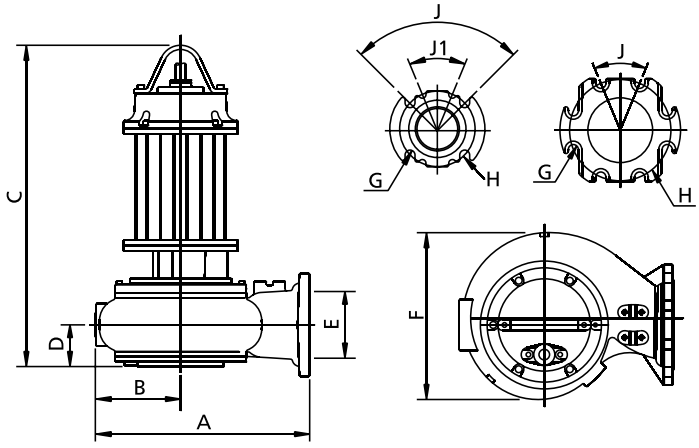
SBP

Versions available

(Key to versions on page 15)

	Electrical variants													Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
SBP 750/2/80 A0HT/50		●								●					●	●				●
SBP 750/4/150 A0HT/50		●								●					●	●				●
SBP 1000/4/150 A0HT/50		●								●					●	●				●
SBP 1000/6/200 A0IT/50		●								●					●	●				●
SBP 1500/6/200 A1IT/50		●								●					●	●	●			
SBP 1000/6/250 C0IT/50		●								●					●	●				●
SBP 1500/6/250 A1IT/50		●								●					●	●	●			

Overall dimensions and weights



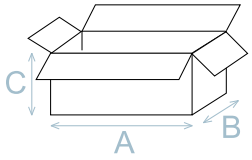
	A	B	C	D	E	F	G	H	J	J1	kg
SBP 750/2/80 A0HT/50	345	135	725	110	80	275	18	160	90°	45°	103
SBP 750/4/150 A0HT/50	585	225	855	200	150	440	24	240	45°	-	135
SBP 1000/4/150 A0HT/50	585	225	855	200	150	440	24	240	45°	-	151
SBP 1000/6/200 A0IT/50	695	275	970	145	200	540	24	295	45°	-	215
SBP 1500/6/200 A1IT/50	695	275	975	155	200	540	24	295	45°	-	245
SBP 1000/6/250 C0IT/50	785	310	970	145	250	610	24	350	30°	-	223
SBP 1500/6/250 A1IT/50	785	310	975	155	250	610	24	350	30°	-	255

Measurements in mm

Packaging dimension

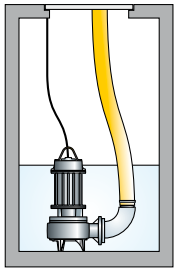
	A	B	C
SBP 750/2/80 A0HT/50	915	515	555
SBP 750/4/150 A0HT/50	915	515	555
SBP 1000/4/150 A0HT/50	915	515	555
SBP 1000/6/200 A0IT/50	1000	750	1200
SBP 1500/6/200 A1IT/50	1000	750	1200
SBP 1000/6/250 C0IT/50	1000	750	1200
SBP 1500/6/250 A1IT/50	1000	750	1200

Dimension in mm

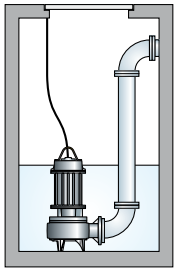


Installations available

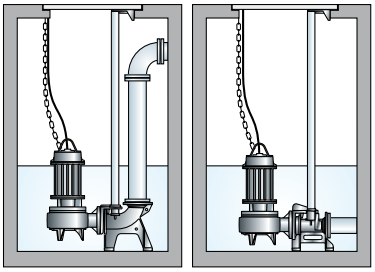
A



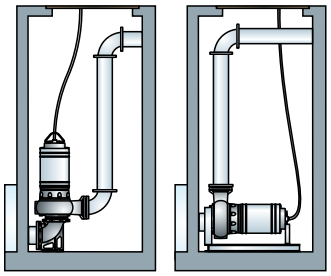
B



D



E



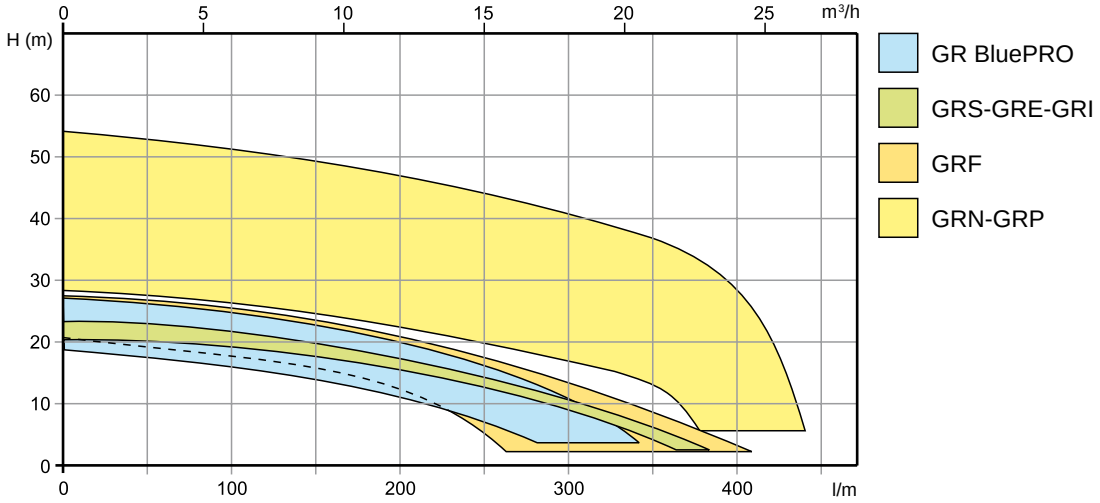
1.5 GRINDER PUMPS

The GRINDER (GR) family consists of electric pumps with multi-channel open impeller with a grinding system .
The intended use varies depending on whether 2 or 4 pole motors are used; in the former case, applications are in the residential sector and livestock farming where sewage is present. In the second case, applications are mainly in agriculture and livestock farming, with particularly heavily soiled liquids.

0.74 ÷ 7.2 kW - 2 POLES



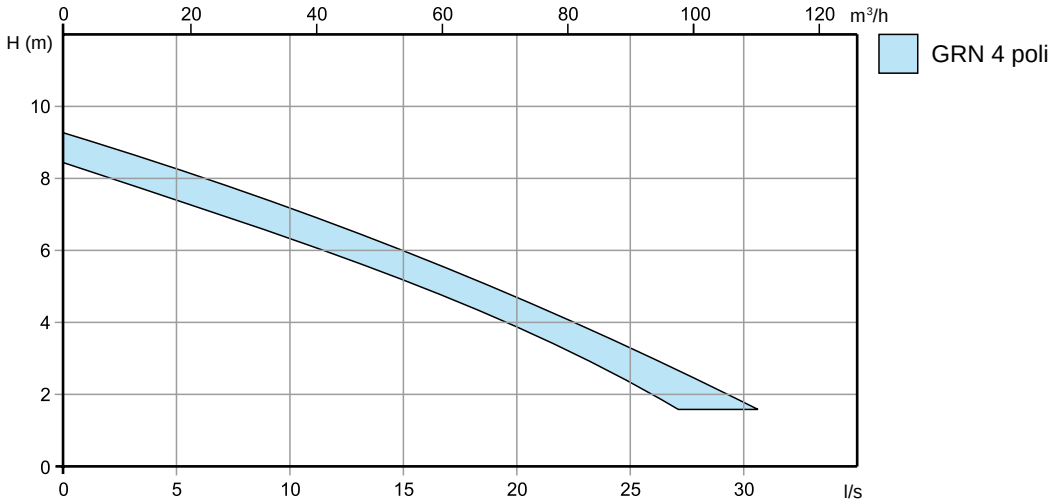
The GR impeller, designed to provide high heads and high efficiency, is applied to motors with power up to 7.2 kW, for use in the livestock farming, food and residential sectors and wherever grinding of the pumped liquid is required. The diffuser plate incorporates the Anti Clogging System (ACS), consisting of grooves in the plate to facilitate the ejection of solids, which ensures that the pump will not become fouled and restarts quickly even with lower power ratings.



2.2 ÷ 3.0 kW - 4 POLES



The special hydraulic unit used with motors from 2.2 to 3.0 kW 4 poles comprises a grinding system consisting of a rugged "S"-shaped impeller operating snug against the diffuser plate, with serrated intake orifice. Both the impeller and the diffuser plate are in EN-GJS-600-3 cast iron, heat treated for greater surface hardness. This system is recommended in agriculture, livestock farming and civil applications for liquids with particularly high contents of solids suitable for grinding.



GR
Grinder pumps

0.74 ÷ 7.2 KW - 2 POLES



GR BluePRO
page 234

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in oil sump, V-ring in direct contact with the liquid. Ecological dry motor. Aluminium handle, cast iron impeller. Pump body in single casting with motor casing.
Recommended for unstrained civil wastewaters, including those containing filaments or fibres. This electric pump is intended for both domestic and professional use.



GRS
page 238

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller. Pump body in single casting with motor casing.
Suitable for lifting soiled wastewaters containing filaments or fibres, and unstrained household sewage in general.



GRE
page 242

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller.
Suitable for lifting soiled wastewaters containing filaments or fibres, and unstrained household sewage in general.



GRI
page 246

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed in series in inspectable oil sump. Ecological dry motor. Stainless steel handle, cast iron impeller.
Can be used for lifting soiled wastewaters containing filaments or fibres, and heavy-duty applications with unstrained civil wastewaters in general.



GRF
page 250

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Cast iron handle and impeller. Models with ATEX explosion-proof certification.
Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the GRF is especially recommended for wastewaters containing filaments or fibres, and unstrained civil and industrial wastewaters in general.

2.2 ÷ 3.0 KW - 4 POLES



GRN
page 254

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. 1 opposing graphite alumina mechanical seal lubricated with motor oil. Oil bath motor.
Suitable for professional and industrial use, it is suitable for lifting liquids containing suspended solids or fibres, and activated sludges.



GRP
page 262

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals (optional). Models available in ATEX explosion-proof version (on request).
Designed for professional and industrial use, it is suitable for the treatment of liquids containing suspended solids or fibres, and low or medium density activated sludges. These models are prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).

GR Blue PRO



Impeller with grinder system

General characteristics

- impeller with grinder system
- 0,74 ÷ 1,5 kW motor power
- 2 poles
- GAS 1 1/2" - DN32 horizontal delivery port

Electromechanical assembly

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing silicon carbide mechanical seals in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Recommended for unstrained civil wastewaters, including those containing filaments or fibres. This electric pump is intended for both domestic and professional use.

Construction materials

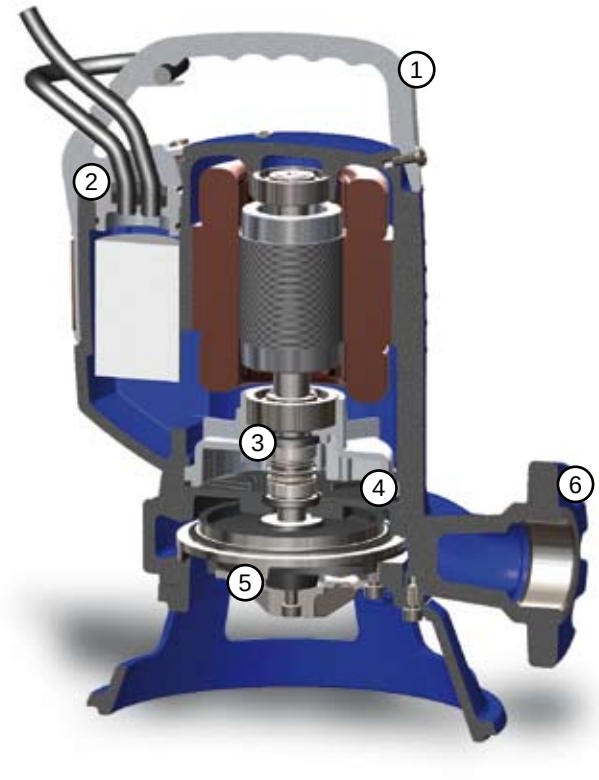
Case	Cast iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless steel - AISI 420
Set of standard mechanical seals	Two silicon carbide mechanical seals (2SiC)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

GR BluePRO





Lifting handle

Aluminium lifting and carrying handle



Cable Gland System

Innovative cable gland system with twin O-rings to ensure maximum tightness



Mechanical seals

Two silicon carbide mechanical seals (2SiC)



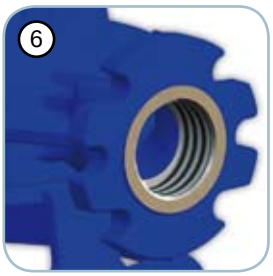
Seal sump

Oil chamber which guarantees longer mechanical seal lifetime, and is easily accessible thanks to a patented system to simplify maintenance procedures



Cutter

Grinder system comprising a revolving cutter and a plate with holes with sharpened edges that fine-chops filaments, preventing fouling of the impeller



Delivery port

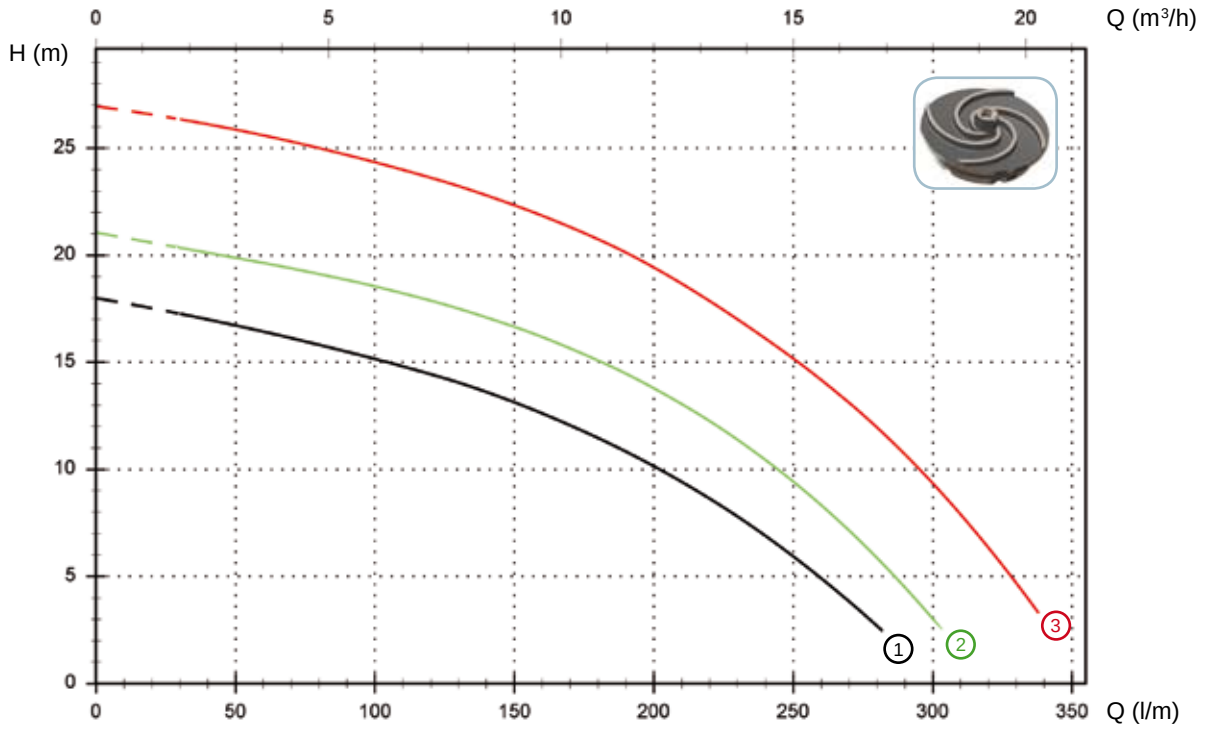
Threaded, flanged delivery port for the maximum ease of installation

GR Blue PRO

Models with horizontal GAS 1 1/2" threaded delivery port and DN32 PN6 ange - 2 poles

Performances

	l/s	0	1	2	3	4	5
	l/min	0	60	120	180	240	300
	m³/h	0	3,6	7,2	10,8	14,4	18,0
1	GR BluePRO 100/2/G40H A1CM(T)/50	18,0	16,4	14,4	11,5	6,9	
2	GR BluePRO 150/2/G40H A1CM(T)/50	21,1	19,6	17,9	15,1	10,4	3,0
3	GR BluePRO 200/2/G40H A1CM(T)/50	27,0	25,6	23,6	20,7	16,1	9,3



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GR BluePRO 100/2/G40H A1CM/50	230	1	-	0.74	5.5	2900	G 1 1/2"-DN32 PN6	A	-
2	GR BluePRO 150/2/G40H A1CM/50	230	1	-	1.1	7.5	2900	G 1 1/2"-DN32 PN6	A	-
3	GR BluePRO 200/2/G40H A1CM/50	230	1	-	1.5	10	2900	G 1 1/2"-DN32 PN6	A	-

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GR BluePRO 100/2/G40H A1CT/50	400	3	-	0.74	2.7	2900	G 1 1/2"-DN32 PN6	B	-
2	GR BluePRO 150/2/G40H A1CT/50	400	3	-	1.1	3.2	2900	G 1 1/2"-DN32 PN6	B	-
3	GR BluePRO 200/2/G40H A1CT/50	400	3	-	1.5	4.3	2900	G 1 1/2"-DN32 PN6	B	-

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

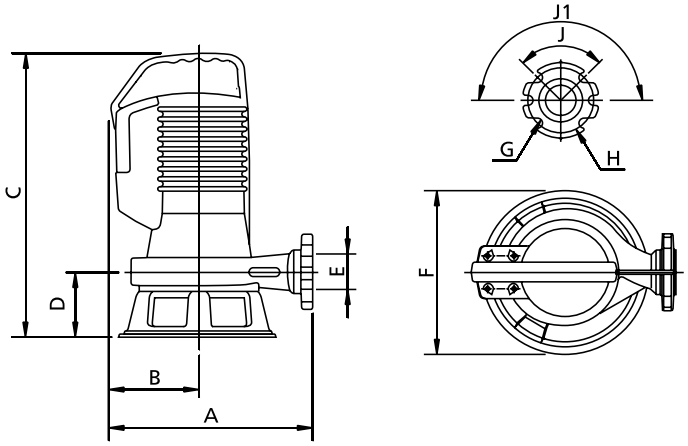
GR BluePRO

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GR BluePRO 100/2/G40H A1CM/50					●	●									●		●			
GR BluePRO 100/2/G40H A1CT/50											●	●			●		●			
GR BluePRO 150/2/G40H A1CM/50					●	●									●		●			
GR BluePRO 150/2/G40H A1CT/50											●	●			●		●			
GR BluePRO 200/2/G40H A1CM/50					●	●									●		●			
GR BluePRO 200/2/G40H A1CT/50											●	●			●		●			

Overall dimensions and weights

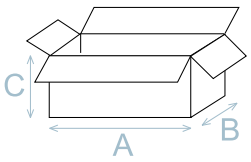


	A	B	C	D	E	F	G	H	J	J1	kg
GR BluePRO 100/2/G40H A1CM(T)/50	270	130	365	95	G 1 1/2"	220	14	90	90°	180°	19
GR BluePRO 150/2/G40H A1CM(T)/50	285	125	410	100	G 1 1/2"	230	14	90	90°	180°	24
GR BluePRO 200/2/G40H A1CM(T)/50	285	125	410	100	G 1 1/2"	230	14	90	90°	180°	25

Measurements in mm

Packaging dimension

	A	B	C
GR BluePRO 100/2/G40H A1CM(T)/50	300	250	400
GR BluePRO 150/2/G40H A1CM(T)/50	300	250	440
GR BluePRO 200/2/G40H A1CM(T)/50	300	250	440



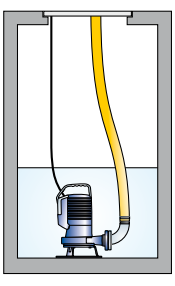
Dimension in mm

No. pieces per pallet

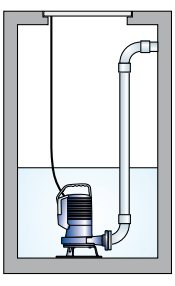
For GR BluePRO models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available

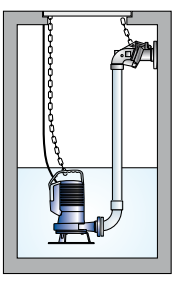
A



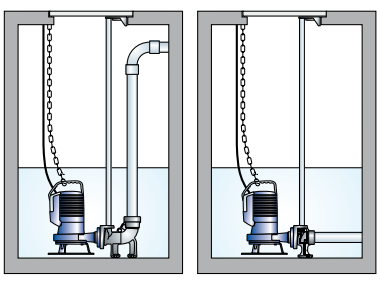
B



C



D



GRS



Impeller with grinder system

General characteristics

- Impeller with grinder system
- 0,9 kW motor power
- 2 poles
- GAS 1 1/2" - DN32 horizontal delivery port

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Suitable for lifting soiled wastewaters containing filaments or fibres, and unstrained household sewage in general.

Construction materials

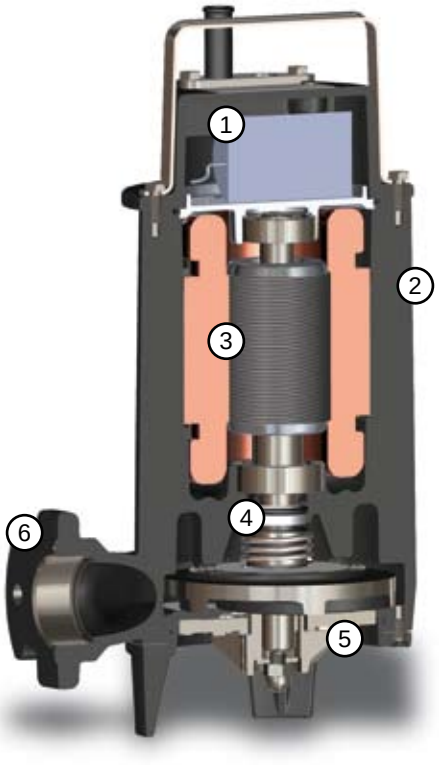
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

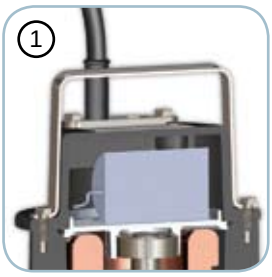
Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

GRS





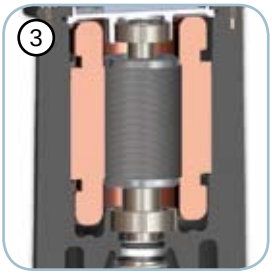
Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Structure

Constructed in GJL-250 cast iron



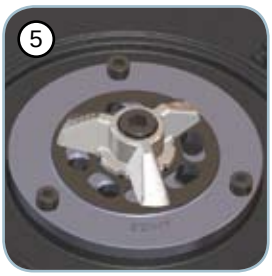
Motor

Ecological dry motor with thermal overloads



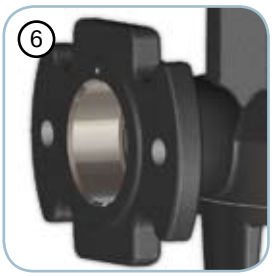
Mechanical seals

One mechanical seal in silicon carbide (SiC)



Grinder system

Grinder system comprising a revolving cutter and a plate with holes with sharpened edges that fine-chops filaments, preventing fouling of the impeller



Delivery port

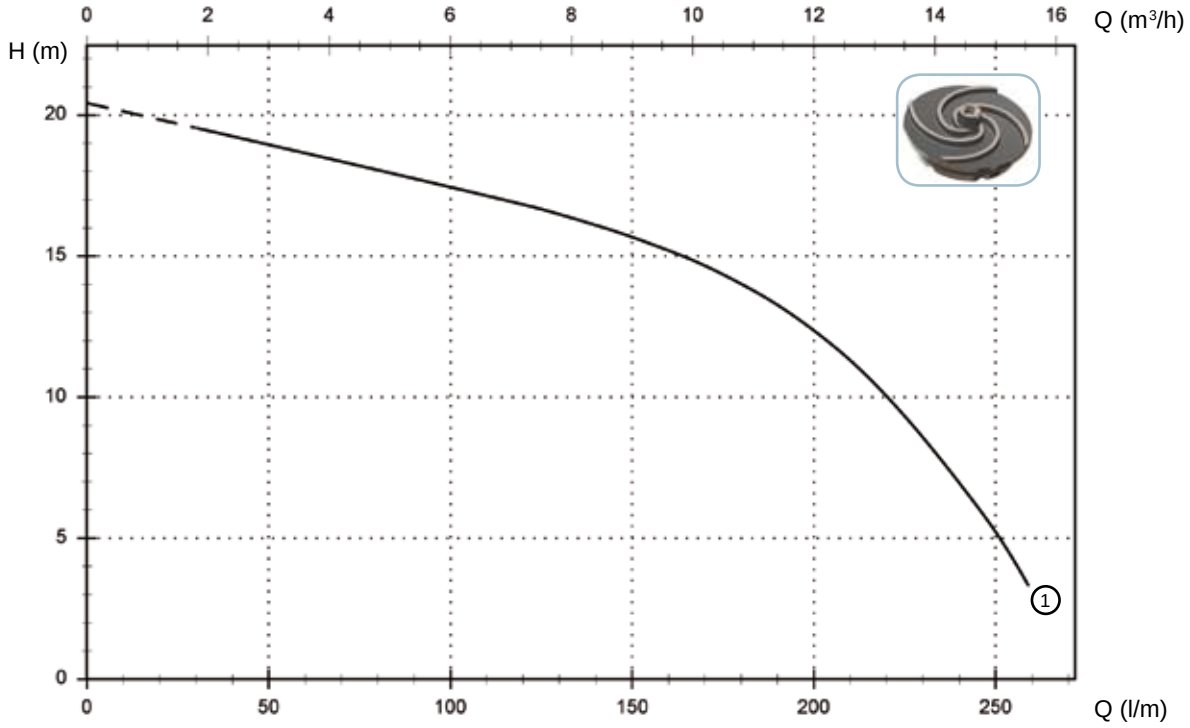
Threaded, flanged delivery port for the maximum ease of installation

GRS

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances

	l/s	0	1	2	3	4
	l/min	0	60	120	180	240
	m³/h	0	3,6	7,2	10,8	14,4
(1) GRS 100/2/G40H A0CM(T)/50		20,4	18,7	16,8	14,0	7,0



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) GRS 100/2/G40H A0CM/50	230	1	-	0.9	6.6	2900	G 1 1/2"-DN32 PN6	A	-

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) GRS 100/2/G40H A0CT/50	400	3	-	0.9	2.3	2900	G 1 1/2"-DN32 PN6	B	-

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

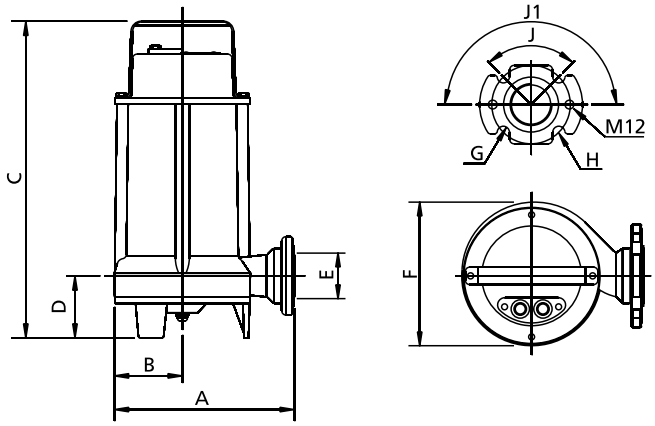
GRS

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GRS 100/2/G40H A0CM/50					●	●									●			●		
GRS 100/2/G40H A0CT/50											●	●			●			●		

Overall dimensions and weights



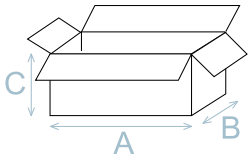
	A	B	C	D	E	F	G	H	J	J1	kg
GRS 100/2/G40H A0CM(T)/50	205	80	365	70	G 1 1/2"	165	14	90	90°	180°	21

Measurements in mm

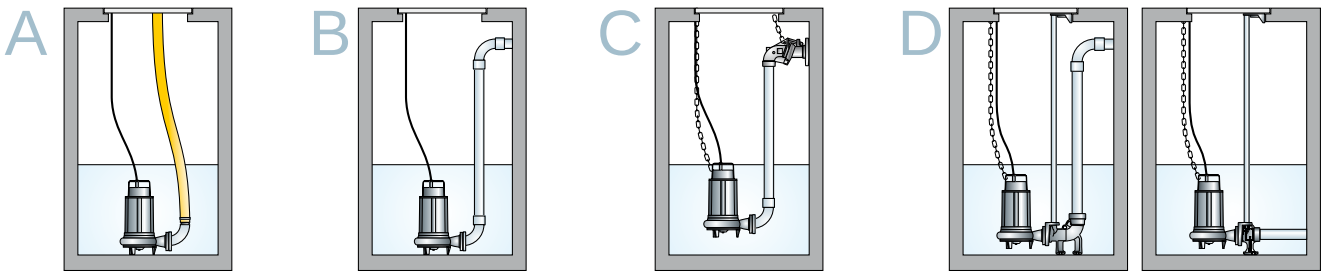
Packaging dimension

	A	B	C
GRS 100/2/G40H A0CM(T)/50	385	225	245

Dimension in mm



Installations available



GRE



Impeller with grinder system

General characteristics

- Impeller with grinder system
- 1,5 kW motor power
- 2 poles
- GAS 2” - DN32 horizontal delivery port

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for lifting soiled wastewaters containing filaments or fibres, and unstrained household sewage in general.

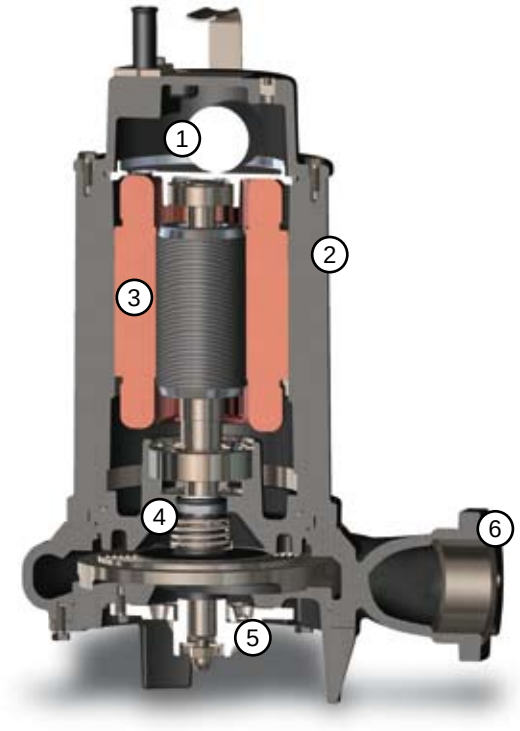
Construction materials

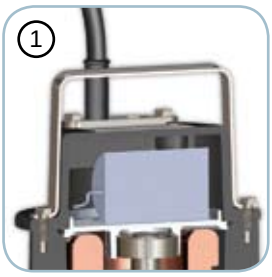
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

GRE





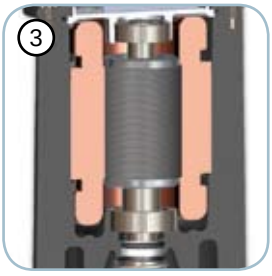
Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Structure

Constructed in GJL-250 cast iron



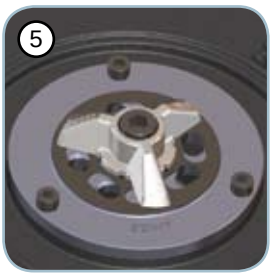
Motor

Ecological dry motor with thermal overloads



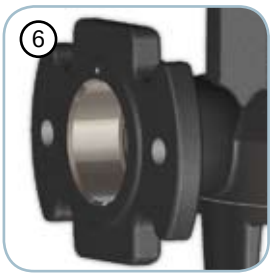
Mechanical seals

One mechanical seal in silicon carbide (SiC)



Grinder system

Grinder system comprising a revolving cutter and a plate with holes with sharpened edges that fine-chops filaments, preventing fouling of the impeller



Delivery port

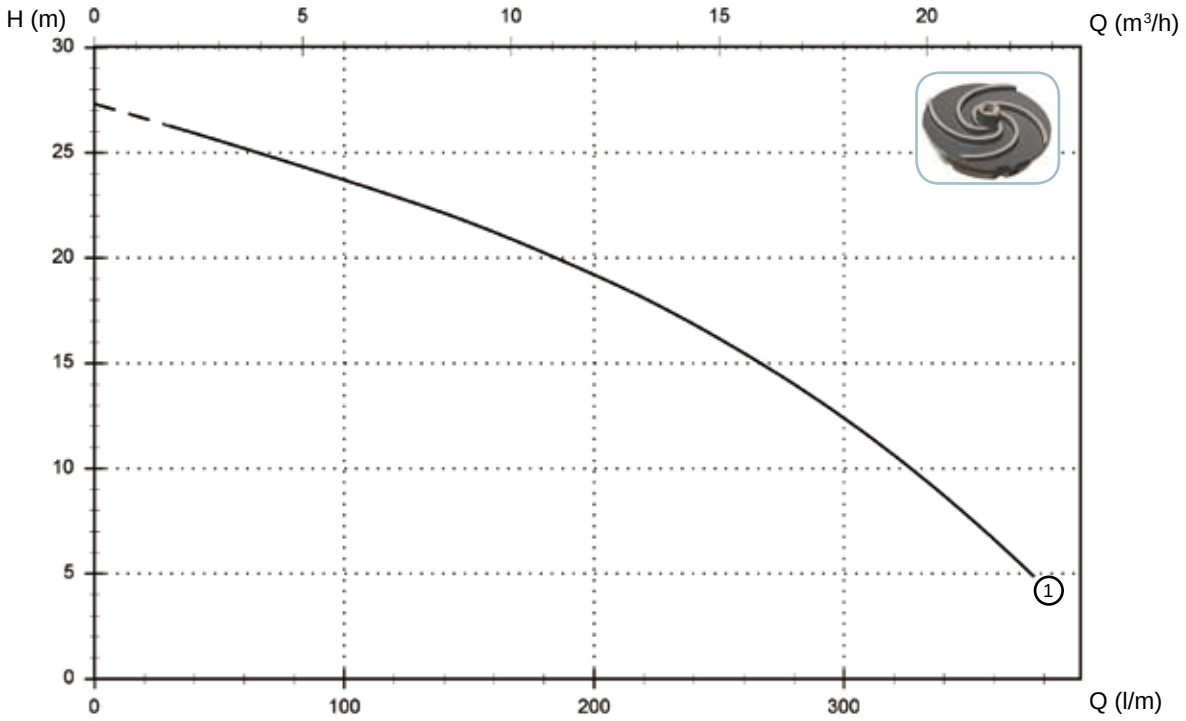
Threaded, flanged delivery port for the maximum ease of installation

GRE

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6
	l/min	0	60	120	180	240	300	360
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6
①	GRE 200/2/G50H A0CM(T)50	27,3	25,2	22,9	20,2	16,8	12,4	6,6



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
①	GRE 200/2/G50H A0CM/50	230	1	-	1.7	10.6	2900	G 2”-DN32 PN6	A	-

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
①	GRE 200/2/G50H A0CT/50	400	3	-	1.7	3.8	2900	G 2”-DN32 PN6	E	-

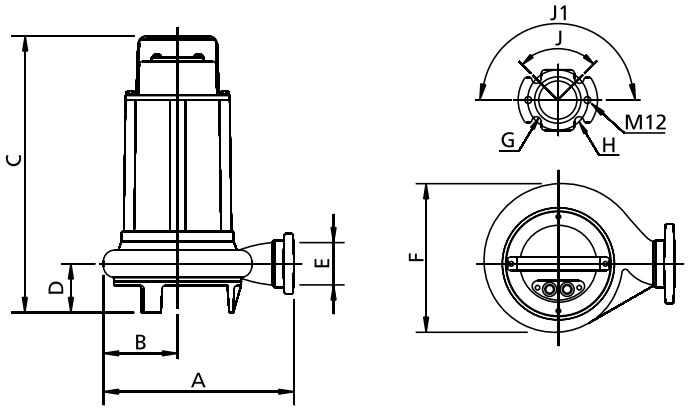
(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GRE 200/2/G50H A0CM/50					●	●									●			●		
GRE 200/2/G50H A0CT/50											●	●			●			●		

Overall dimensions and weights



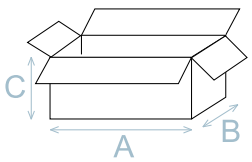
	A	B	C	D	E	F	G	H	J	J1	kg
GRE 200/2/G50H A0CM(T)/50	285	110	410	75	G 2”	220	14	90	90°	180°	26

Measurements in mm

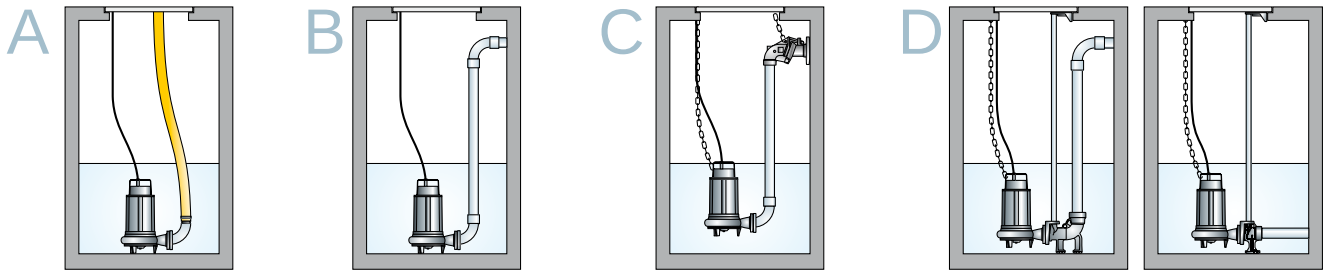
Packaging dimension

	A	B	C
GRE 200/2/G50H A0CM(T)/50	475	285	235

Dimension in mm



Installations available



GRI



Impeller with grinder system

General characteristics

- Impeller with grinder system
- 1,7 kW motor power
- 2 poles
- GAS 2" - DN32 horizontal delivery port

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina lip seal, installed in series in inspectable oil sump. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Can be used for lifting soiled wastewaters containing filaments or fibres, and heavy-duty applications with unstrained civil wastewaters in general.

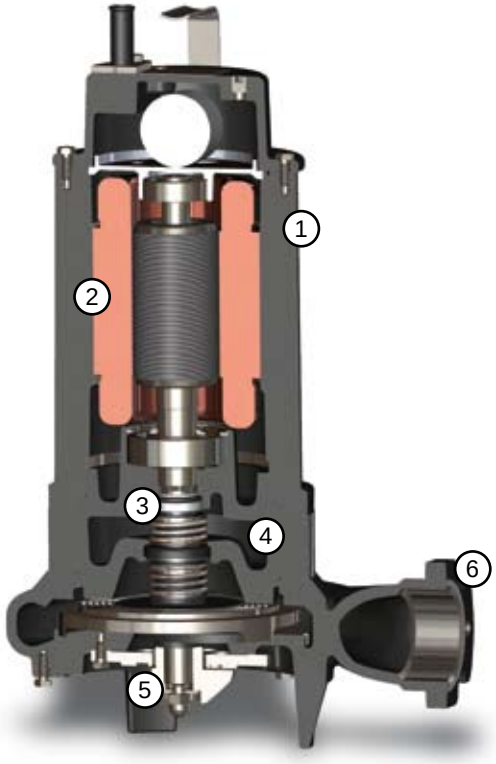
Construction materials

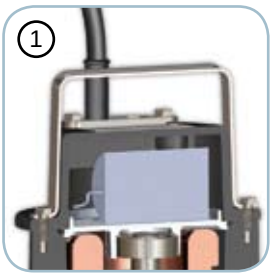
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

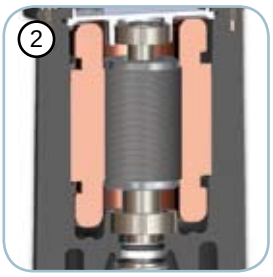
GRI





Structure

Constructed in GJL-250 cast iron



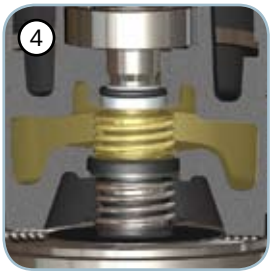
Motor

Ecological dry motor with thermal overloads



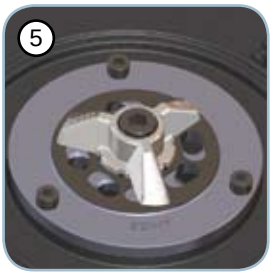
Mechanical seals

One mechanical seal in silicon carbide (SiC)



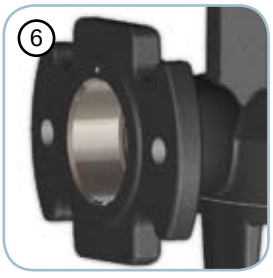
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Grinder system

Grinder system comprising a revolving cutter and a plate with holes with sharpened edges that fine-chops filaments, preventing fouling of the impeller



Delivery port

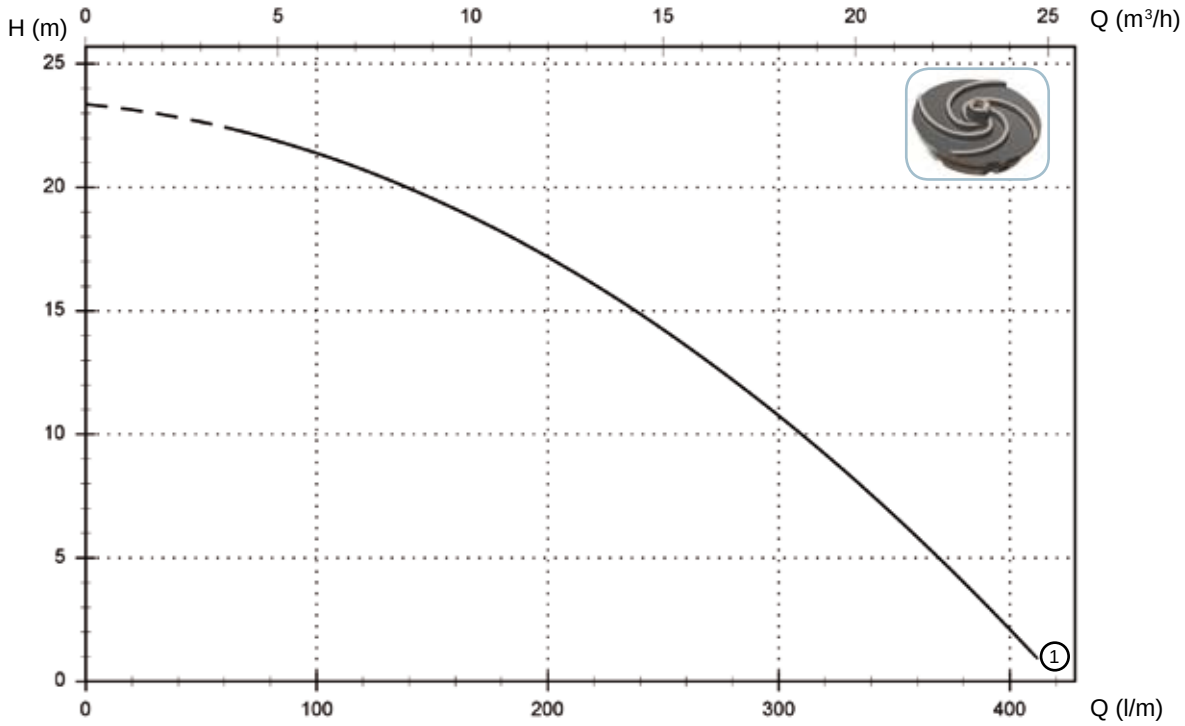
Threaded, flanged delivery port for the maximum ease of installation

GRI

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6
	l/min	0	60	120	180	240	300	360
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6
①	GRI 200/2/G50H A0CM(T)/50	23,4	22,4	20,7	18,2	14,9	10,8	5,8



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
①	GRI 200/2/G50H A0CM/50	230	1	-	1.7	10.6	2900	G 2”-DN32 PN6	A	-

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
①	GRI 200/2/G50H A0CT/50	400	3	-	1.7	3.8	2900	G 2”-DN32 PN6	A	-

(*) A = H07RN-F 4G1 - 10 m

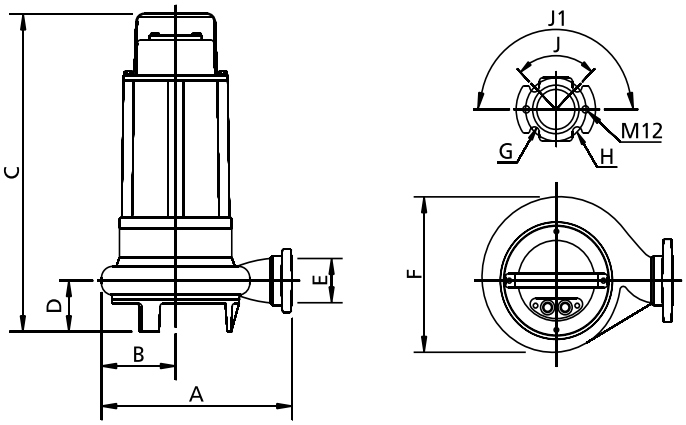
GRI

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GRI 200/2/G50H A0CM/50					●	●									●				●	
GRI 200/2/G50H A0CT/50											●	●			●				●	

Overall dimensions and weights



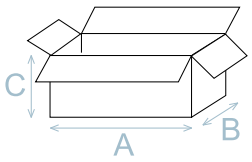
	A	B	C	D	E	F	G	H	J	J1	kg
GRI 200/2/G50H A0CM(T)/50	285	110	450	75	G 2”	220	14	90	90°	180°	32

Measurements in mm

Packaging dimension

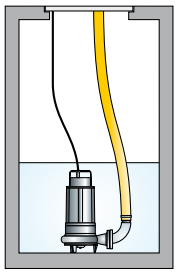
	A	B	C
GRI 200/2/G50H A0CM(T)/50	580	310	310

Dimension in mm

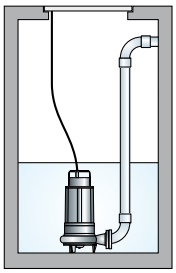


Installations available

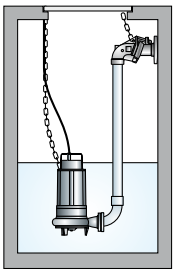
A



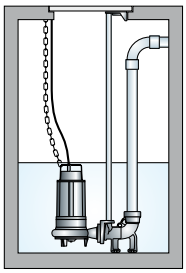
B



C



D



GRF



Impeller with grinder system

General characteristics

- Impeller with grinder system
- 1,1 ÷ 1,5 kW motor power
- 2 poles
- GAS 1 1/2" - DN32 horizontal delivery port

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

Applications

Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the GRF is especially recommended for wastewaters containing filaments or fibres, and unstrained civil and industrial wastewaters in general.

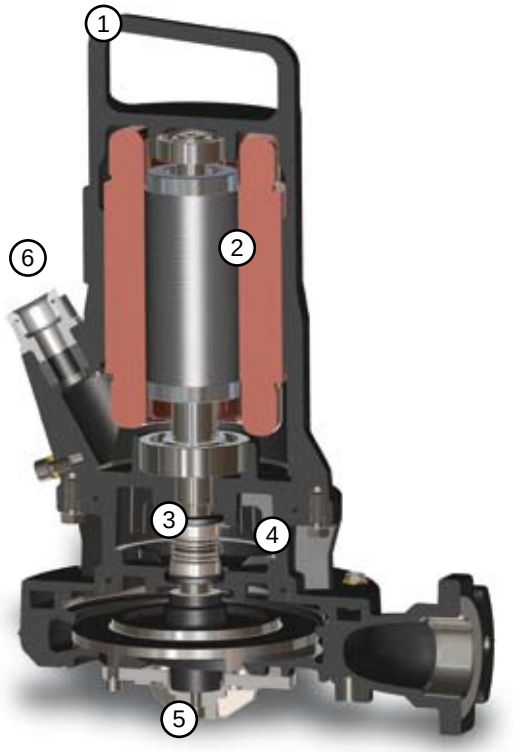
Construction materials

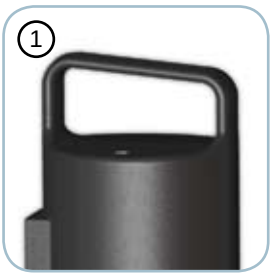
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR - VITON
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

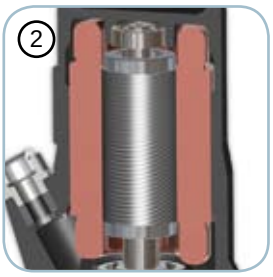
GRF





Handle/Cable gland

Cast iron lifting and carrying handle.
The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Motor

Ecological dry motor with thermal overloads



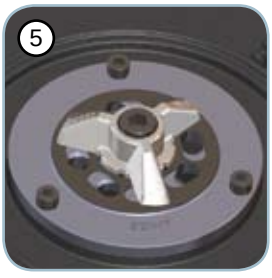
Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



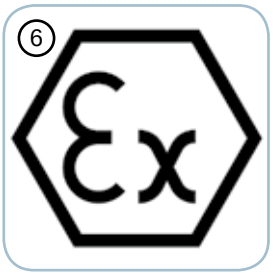
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Grinder system

Grinder system comprising a revolving cutter and a plate with holes with sharpened edges that fine-chops filaments, preventing fouling of the impeller



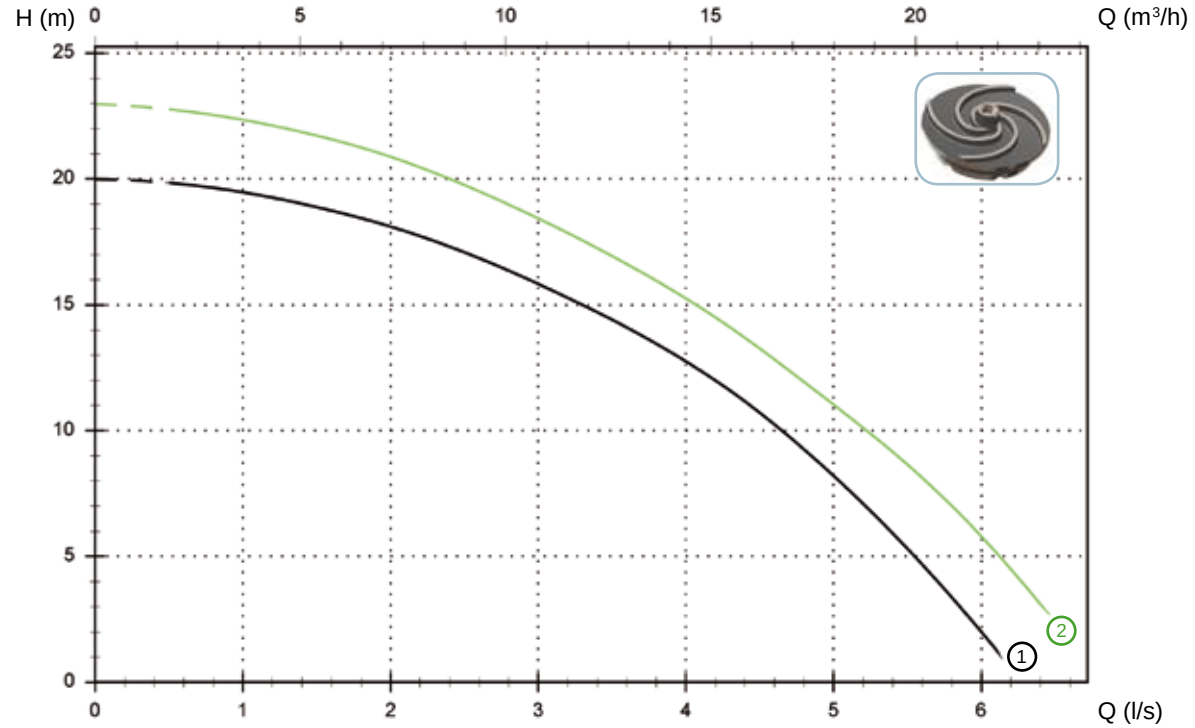
EX

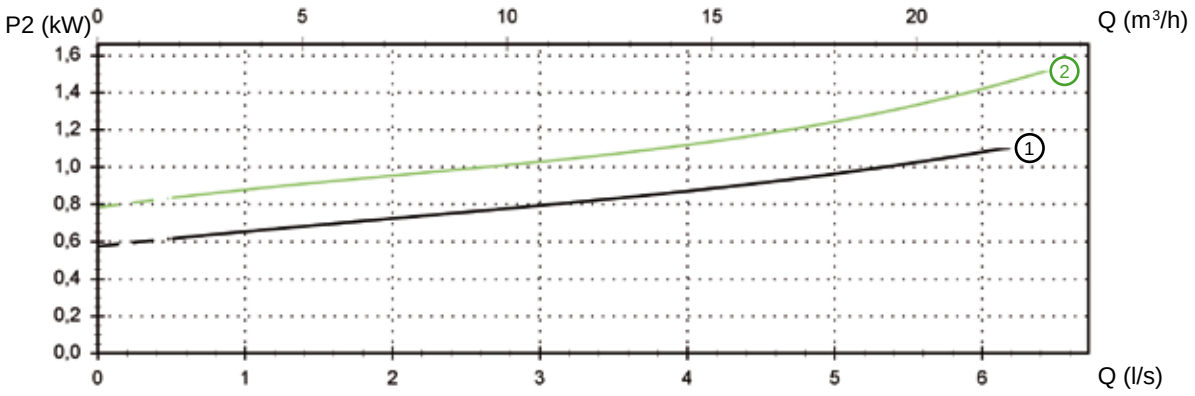
Models with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

GRF

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 GRF 150/2/G40H A1CM/50	230	1	1.6	1.1	7.2	2900	G 1 1/2"-DN32 PN6	A	-
2 GRF 200/2/G40H A1CM/50	230	1	2.2	1.5	9.8	2900	G 1 1/2"-DN32 PN6	A	-

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 GRF 150/2/G40H A1CT/50	400	3	1.7	1.1	2.9	2900	G 1 1/2"-DN32 PN6	A	-
2 GRF 200/2/G40H A1CT/50	400	3	2.1	1.5	3.7	2900	G 1 1/2"-DN32 PN6	A	-

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

GRF

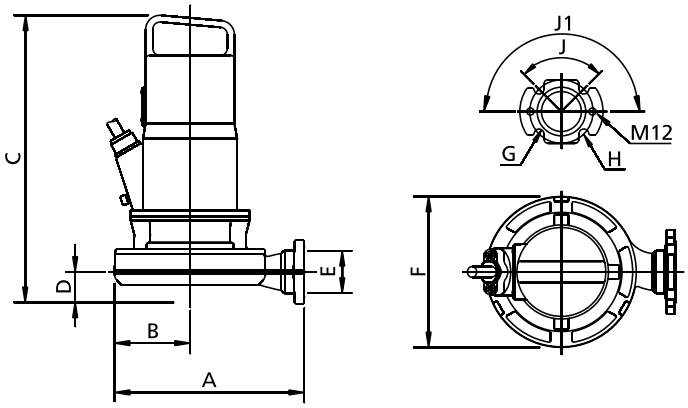
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GRF 150/2/G40H A1CM/50				●											●		●			
GRF 200/2/G40H A1CM/50				●											●		●			
GRF 150/2/G40H A1CT/50		●													●		●			
GRF 200/2/G40H A1CT/50		●													●		●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Capacitor and circuit breaker supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.

Overall dimensions and weights



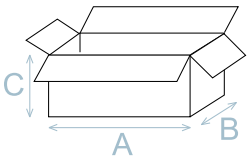
	A	B	C	D	E	F	G	H	J	J1	kg
GRF 150/2/G40H A1CM(T)/50	265	105	405	45	G 1 1/2"	215	14	90	90°	180°	32
GRF 200/2/G40H A1CM(T)/50	265	105	405	45	G 1 1/2"	215	14	90	90°	180°	34

Measurements in mm

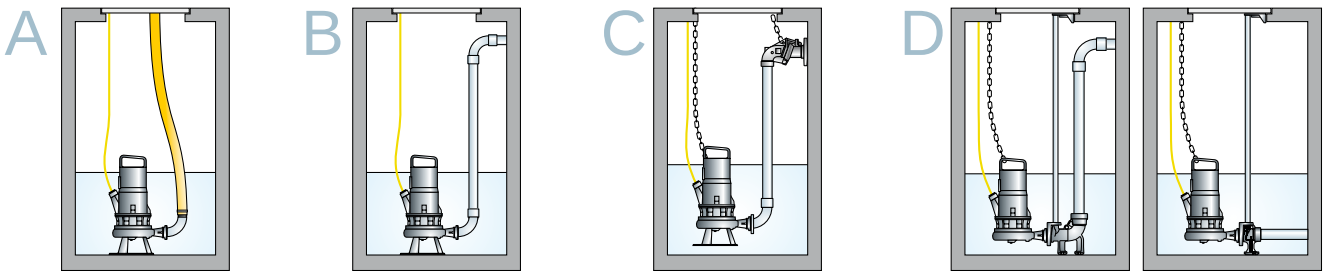
Packaging dimension

	A	B	C
GRF 150/2/G40H A1CM(T)/50	580	310	310
GRF 200/2/G40H A1CM(T)/50	580	310	310

Dimension in mm



Installations available



Dry installation available for specified models. Contact Custome Service for more information.

GRN

Impeller with grinder system



General characteristics

- Impeller with grinder system
- 1,8 ÷ 4,1 kW motor power
- 2 / 4 poles
- GAS 1 1/2”-2” DN32 horizontal
  DN80 - DN100

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

Applications

Designed for professional and industrial use, it is suitable for the treatment of liquids containing suspended solids or fibres, and low or medium density activated sludges. The pump is also available in explosion-proof version with ATEX certification. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

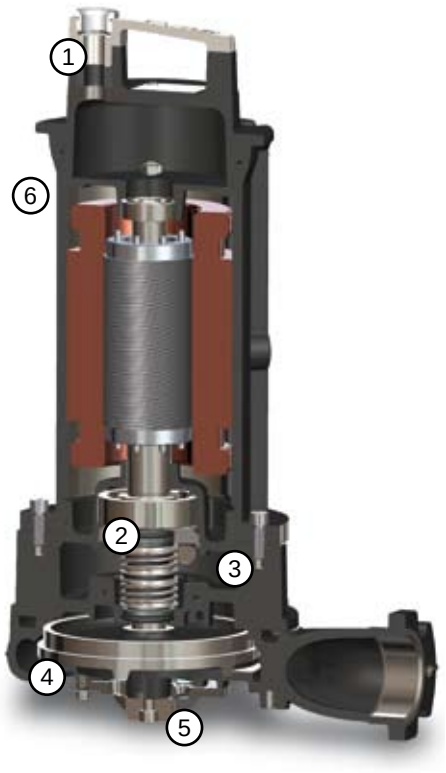
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

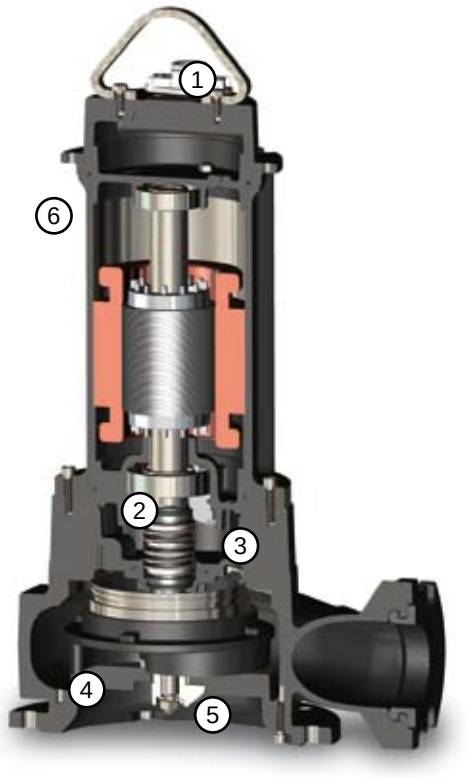
operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

GRN



2 poles motor models



4 poles motor models



Cable Gland

Cable gland system to guarantee perfect water-tightness. The universal thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in Silicon Carbide (2SiC)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



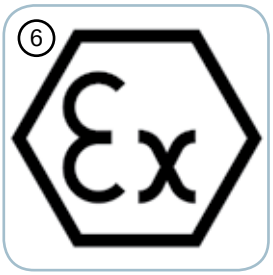
Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



Grinder system

Grinder system comprising a revolving cutter and a plate with holes with sharpened edges (2 pole models) or a cast iron flange with saw-tooth edges (4 pole models) that fine-chops filaments, preventing fouling of the impeller



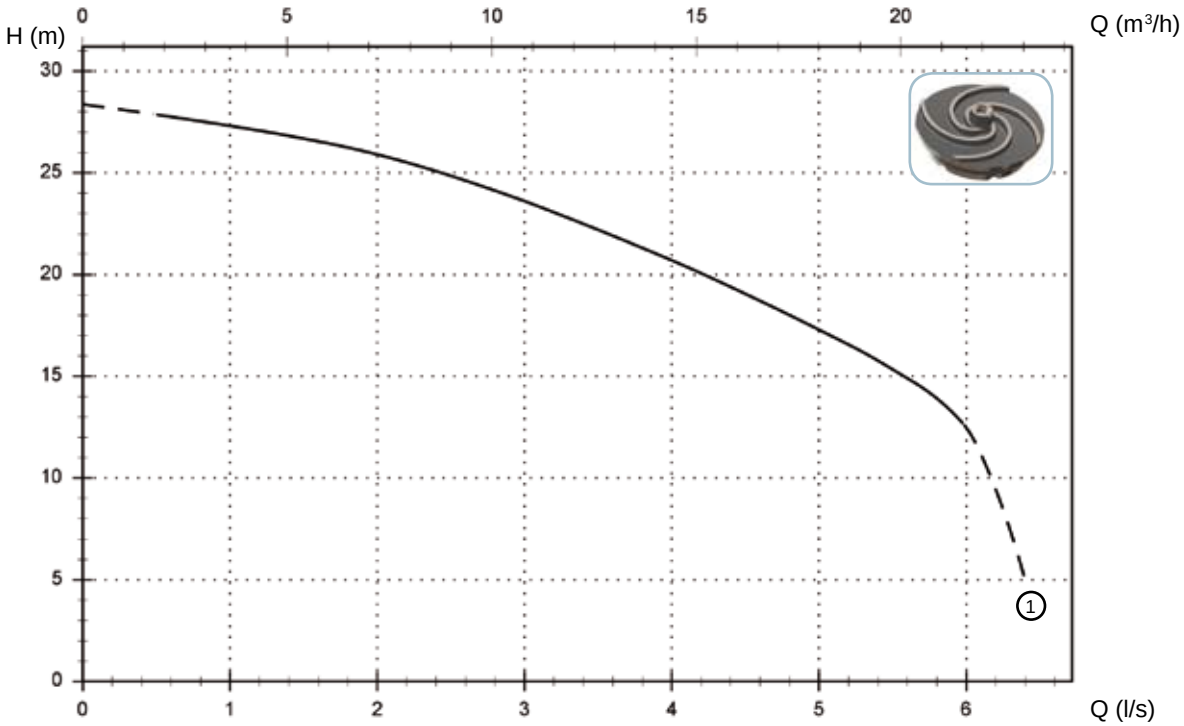
EX

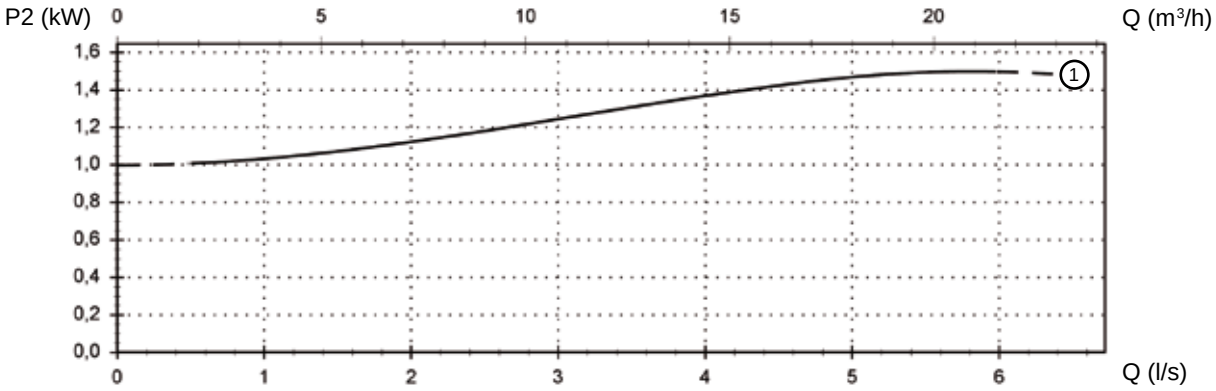
Models available on request with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

GRN

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

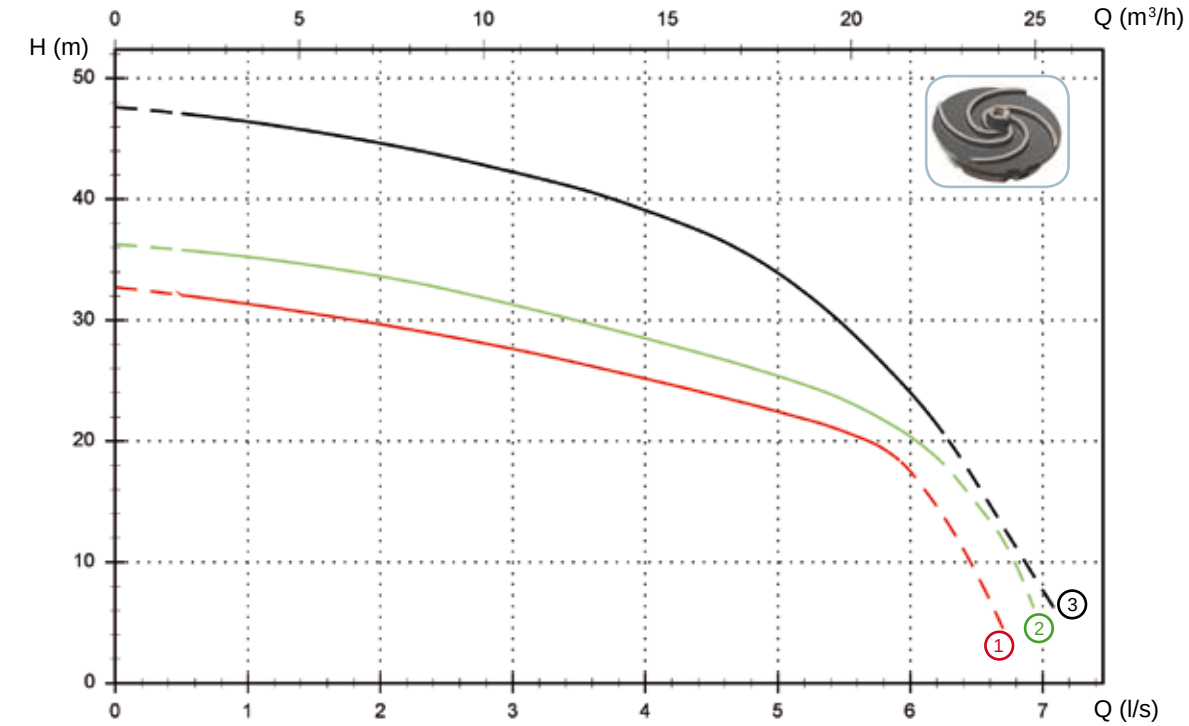
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GRN 250/2/G40H A1DM/50	230	1	2.7	1.8	12.5	2900	G 1 1/2"- DN32 PN6	A - B	-

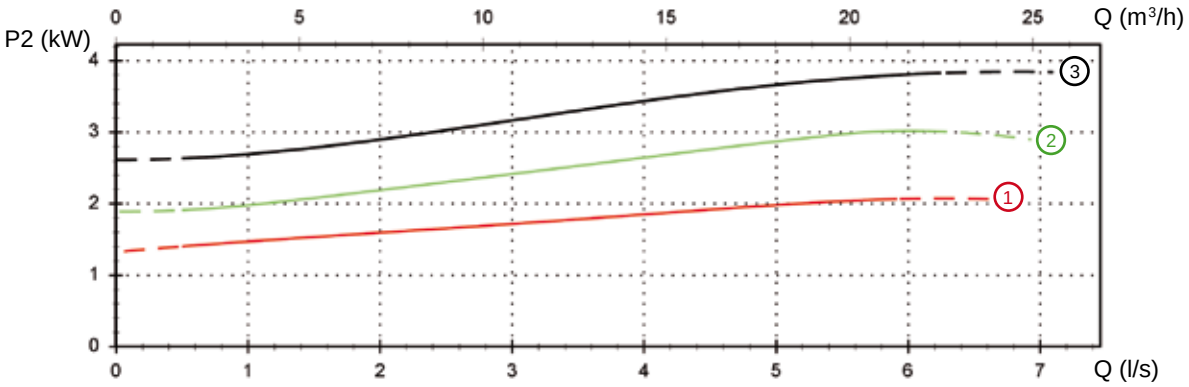
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GRN 250/2/G40H A1DT/50	400	3	2.3	1.8	3.9	2900	G 1 1/2"- DN32 PN6	A - B	-

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

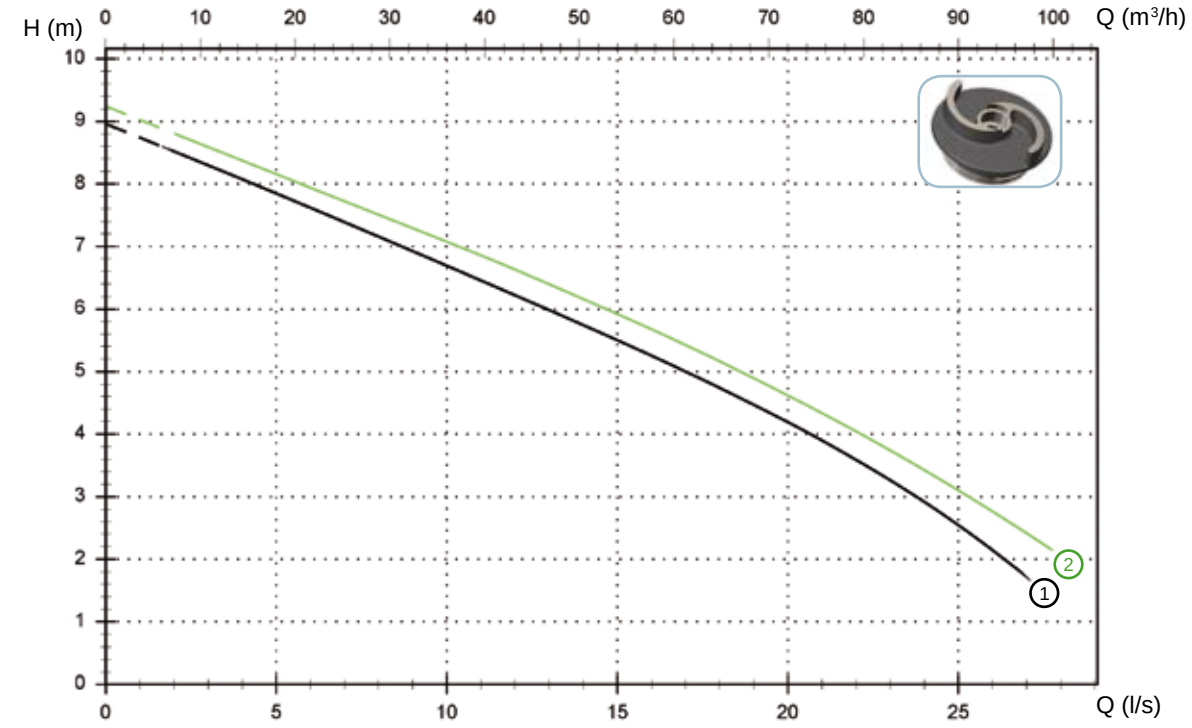
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GRN 300/2/G50H A1DT/50	400	3	2.9	2.2	5.1	2900	G 2”-DN32 PN6	A - B	-
2	GRN 400/2/G50H A1FT/50	400	3	4.0	3	6.7	2900	G 2”-DN32 PN6	A - B	-
3	GRN 550/2/G50H A1FT/50	400	3	5.0	4.1	8.7	2900	G 2”-DN32 PN6	A - B	-

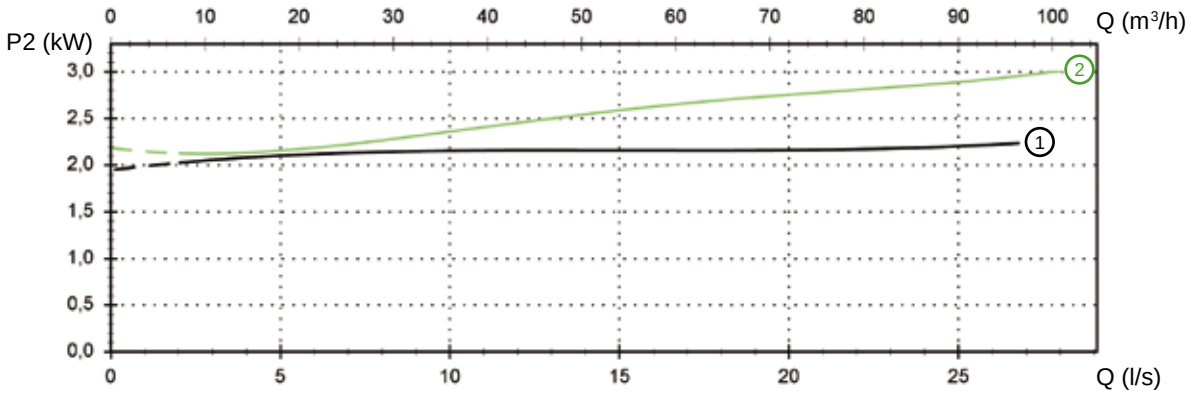
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

GRN

Models with horizontal DN80 PN10-16 anged delivery port - 4 poles

Performances





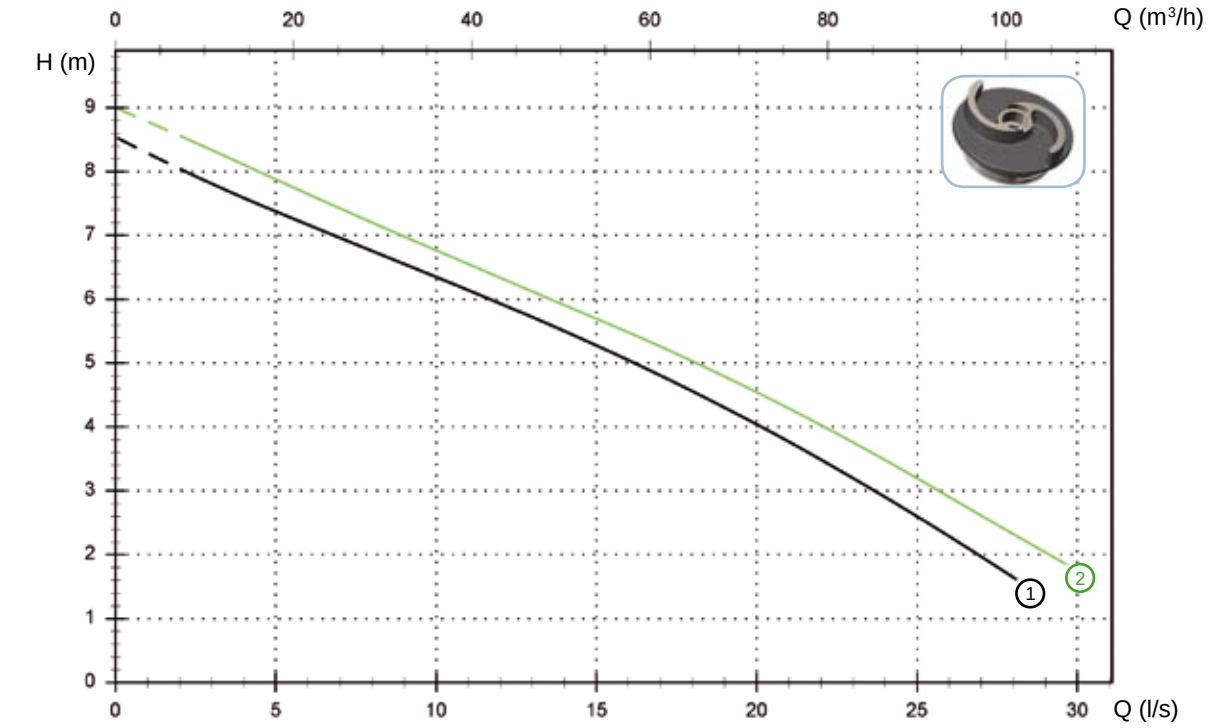
Technical data

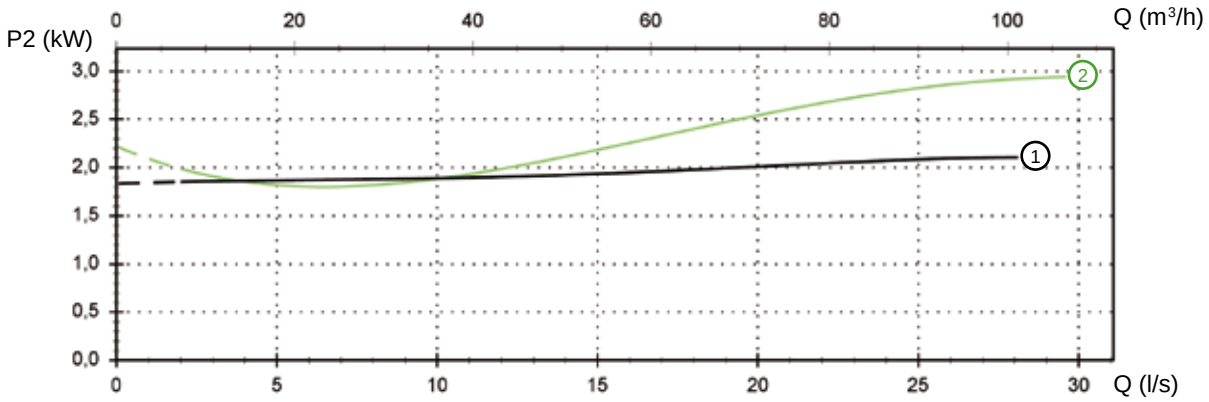
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GRN 300/4/80 A1FT/50	400	3	2.9	2.2	5.8	1450	DN80 PN10-16	A - B	-
2	GRN 400/4/80 A1FT/50	400	3	3.7	3	7.3	1450	DN80 PN10-16	A - B	-

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	GRN 300/4/100 A1FT/50	400	3	2.9	2.2	5.8	1450	DN100 PN10-16	A - B	-
2	GRN 400/4/100 A1FT/50	400	3	3.7	3	7.3	1450	DN100 PN10-16	A - B	-

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

GRN

Versions available

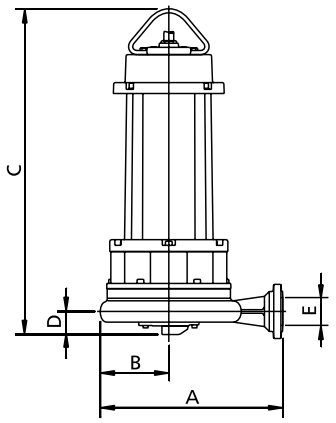
(Key to versions on page 15)

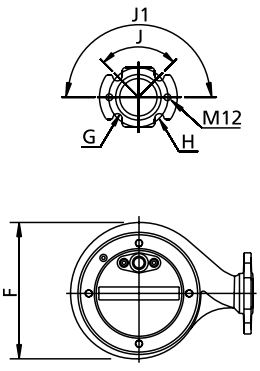
	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GRN 250/2/G40H A1DM/50				●											●	●	●			
GRN 250/2/G40H A1DT/50		●								●					●	●	●			
GRN 300/2/G50H A1DT/50		●								●					●	●	●			
GRN 400/2/G50H A1FT/50		●								●					●	●	●			
GRN 550/2/G50H A1FT/50		●								●					●	●	●			
GRN 300/4/80 A1FT/50		●								●					●	●	●			
GRN 400/4/80 A1FT/50		●								●					●	●	●			
GRN 300/4/100 A1FT/50		●								●					●	●	●			
GRN 400/4/100 A1FT/50		●								●					●	●	●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Start capacitor inside the pump.
Circuit breaker supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.
The version complete with probe is not available with ATEX certificate.

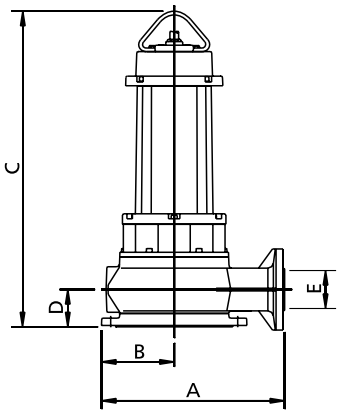
Overall dimensions and weights

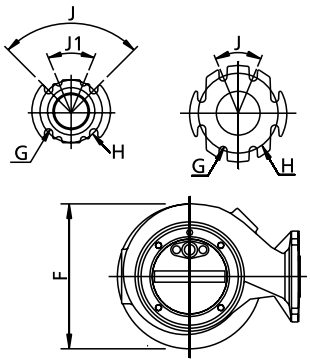
2 poles motor models





4 poles motor models





	A	B	C	D	E	F	G	H	J	J1	kg
GRN 250/2/G40H A1DM/50	265	105	495	45	G 1 1/2"	215	14	90	90°	180°	44
GRN 250/2/G40H A1DT/50	265	105	495	45	G 1 1/2"	215	14	90	90°	180°	44
GRN 300/2/G50H A1DT/50	305	110	500	45	G 2"	225	14	90	90°	180°	44
GRN 400/2/G50H A1FT/50	350	130	630	45	G 2"	265	14	90	90°	180°	69
GRN 550/2/G50H A1FT/50	350	130	630	45	G 2"	265	14	90	90°	180°	72

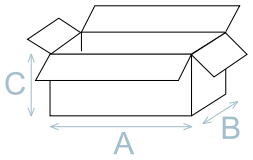
	A	B	C	D	E	F	G	H	J	J1	kg
GRN 300/4/80 A1FT/50	400	160	695	80	80	290	18	160	90°	45°	87
GRN 400/4/80 A1FT/50	400	160	695	80	80	290	18	160	90°	45°	90
GRN 300/4/100 A1FT/50	415	160	700	90	100	310	18	180	45°	-	89
GRN 400/4/100 A1FT/50	415	160	700	90	100	310	18	180	45°	-	92

Measurements in mm

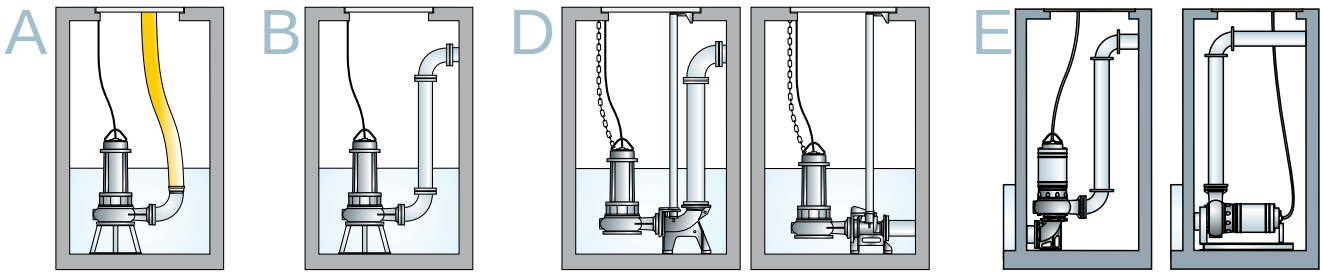
Packaging dimension

	A	B	C
GRN 250/2/G40H A1DM(T)/50	725	445	415
GRN 300/2/G50H A1DT/50	725	445	415
GRN 400/2/G50H A1FT/50	725	445	415
GRN 550/2/G50H A1FT/50	725	445	415
GRN 300/4/80 A1FT/50	725	445	415
GRN 400/4/80 A1FT/50	725	445	415
GRN 300/4/100 A1FT/50	725	445	415
GRN 400/4/100 A1FT/50	725	445	415

Dimension in mm



Installations available





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.

GRP



Impeller with grinder system

General characteristics

- Impeller with grinder system
- 7,2 kW motor power
- 2 poles
- GAS 2” DN32 horizontal delivery port

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Designed for professional and industrial use, it is suitable for the treatment of liquids containing suspended solids or fibres, and low or medium density activated sludges. These models are prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).

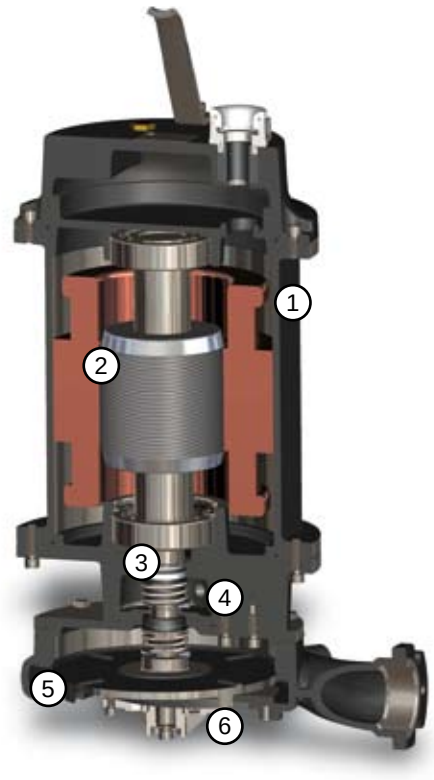
Construction materials

Case	Cast Iron - EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Cutter material	Tool Stainless Steel - X102 CrMo17 KU
Cutting disk material	Tool Stainless Steel - X102 CrMo17 KU
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

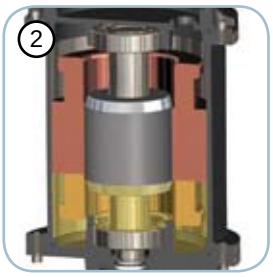
GRP





Structure

Constructed in GJL-250 cast iron



Motor

Oil-bath motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



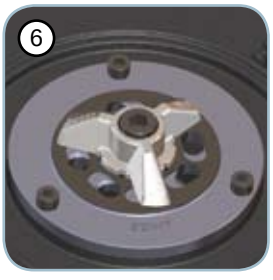
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



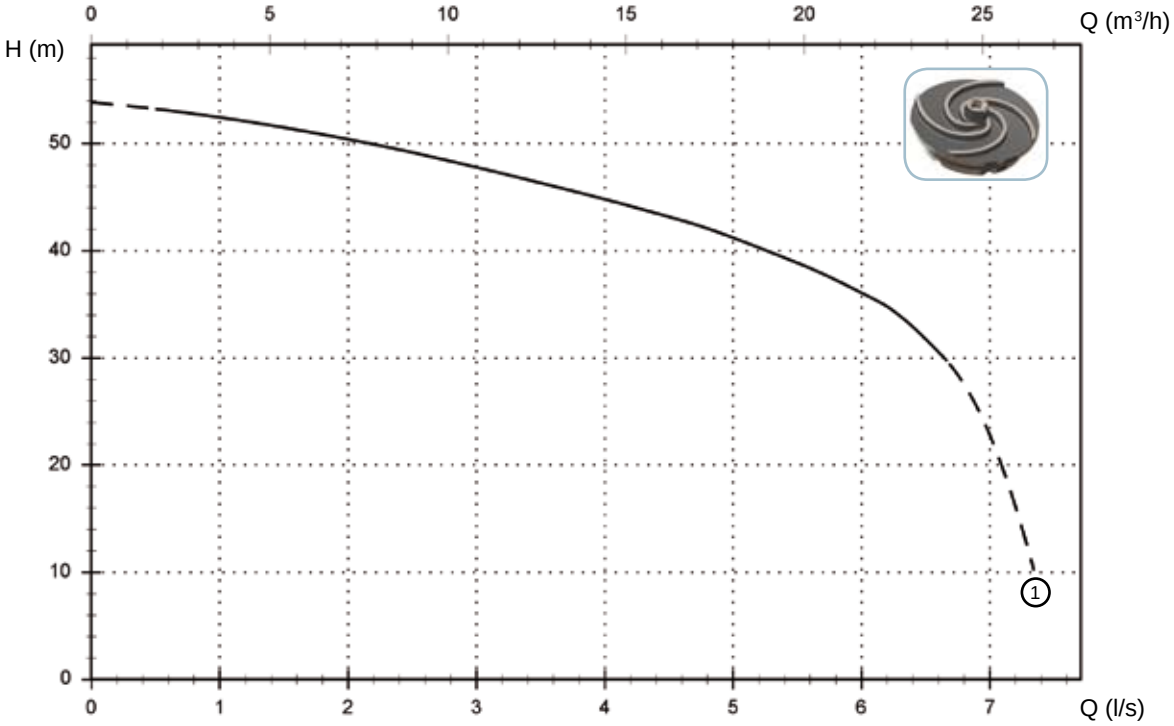
Grinder system

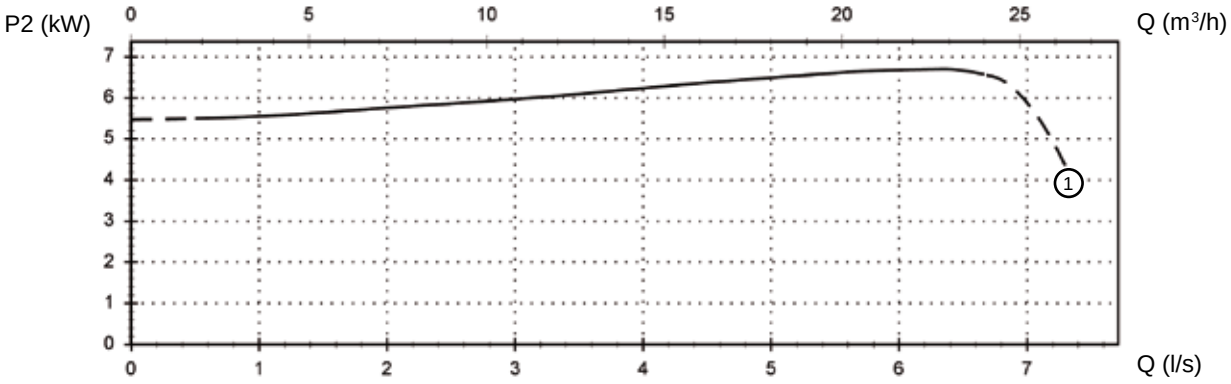
Grinder system comprising a revolving cutter and a plate with holes with sharpened edges that fine-chops filaments, preventing fouling of the impeller

GRP

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) GRP 750/2/G50H A0HT/50	400	3	8.8	7.2	14.5	2900	G2”-DN32 PN6	A	-

(*) A = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

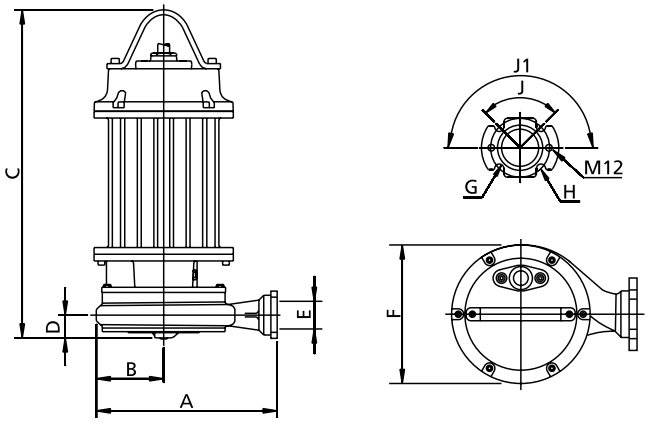
GRP

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
GRP 750/2/G50H A0HT/50		●								●					●					●

Overall dimensions and weights



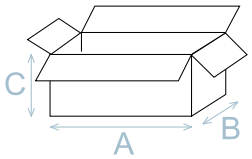
	A	B	C	D	E	F	G	H	J	J1	kg
GRP 750/2/G50H A0HT/50	350	130	670	80	G 2”	270	14	90	90°	180°	91

Measurements in mm

Packaging dimension

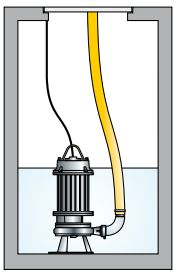
	A	B	C
GRP 750/2/G50H A0HT/50	725	445	415

Dimension in mm

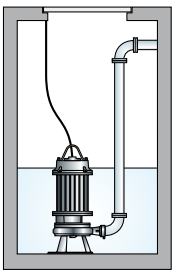


Installations available

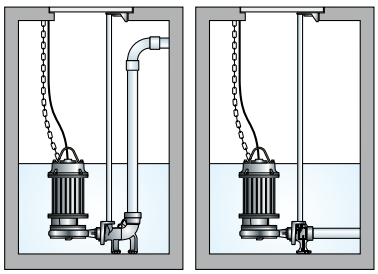
A



B



D



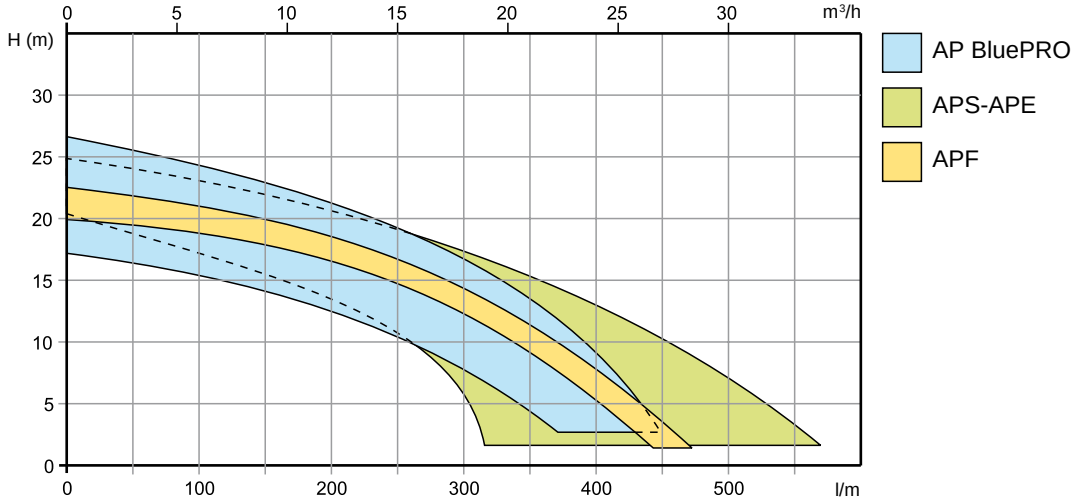
1.6 PUMPS WITH HIGH HEAD IMPELLER

The AP family consists of electric pumps with high-head immersed multi-channel open impeller. Units in this family are used for clean or soiled water containing sand or small solids but not filaments. Suitable for applications in sectors such as the residential, public and irrigation sectors, or cleaning out wells for sanding. The considerable manometric head ensures excellent results for the creation of water features and decorative fountains.

0.74 ÷ 1.5 kW



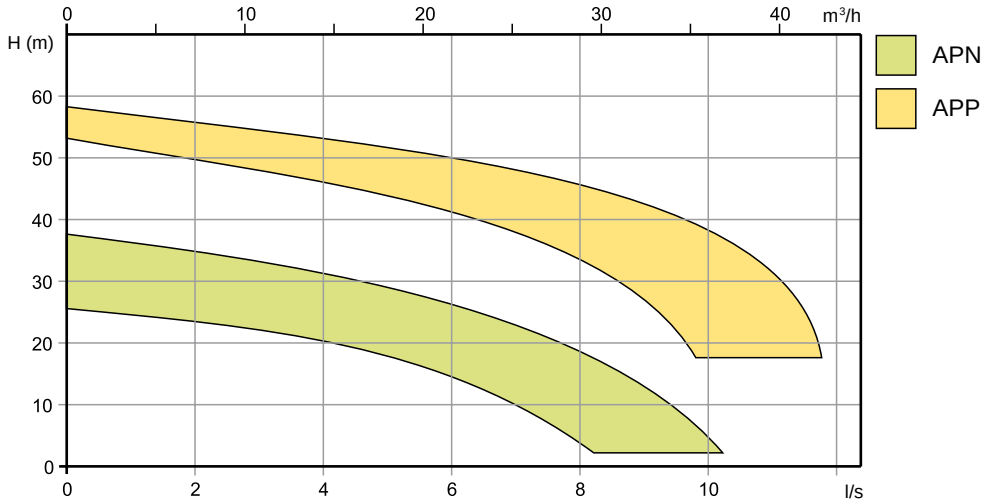
The AP impeller, fitted with motors rated up to 1.5 kW, is used for clear wastewaters. Intended for domestic or industrial use, with solid particles up to 7 mm.



1.8 ÷ 10 kW



Models with motors up to 10 kW are intended for industrial use due to the ample head guaranteed; particularly useful in sectors such as agriculture, fish processing and irrigation. Ideal for the treatment of slightly soiled waters, rainwater and seepage, or in wastewaters containing fine sand with particle size up to 10 mm.



AP

Pumps with high head impeller

0.74 ÷ 1.5 KW



AP BluePRO

page 268

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in oil sump, V-ring in direct contact with the liquid. Ecological dry motor. Aluminium handle, cast iron impeller. Pump body in single casting with motor casing.
Used for clear wastewater, rainwater and seepage containing small amounts of sand. Its high manometric head makes this series suitable for the creation of water features and decorative fountains. This electric pump is intended for both domestic and professional use.



APS

page 272

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller. Pump body in single casting with motor casing.
Used for clear wastewater, rainwater and seepage containing small amounts of sand. The considerable manometric head makes these units suitable for irrigation and the fish processing sector.



APE

page 276

Electromechanical assembly in EN-GJL-25 cast iron. 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Stainless steel handle, cast iron impeller.
Used for clear wastewater, rainwater and seepage containing small amounts of sand. The considerable manometric head makes these units suitable for irrigation and the fish processing sector.



APF

page 280

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Cast iron handle and impeller. Models with ATEX explosion-proof certification.
Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the APF can be used with liquids containing traces of flammable substances, and in gassy environments.

1.8 ÷ 10 KW



APN

page 284

Electromechanical assembly in EN-GJL-25 cast iron. 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Sensor for detecting damage to the mechanical seals (optional). Models available in ATEX explosion-proof version (on request).
Suitable for clear wastewater, rainwater and seepage. The considerable manometric head guarantees excellent results for the creation of water features and decorative fountains; suitable for use in agriculture, irrigation and the fish processing sector. This series is prefitted for installation of the ZENIT cooling system, for dry or semi-submerged installation (on request).



APP

page 290

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposing graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor.
Used for clear and sandy wastewater, rainwater and seepage. The considerable manometric head guarantees excellent results for the creation of water features and decorative fountains; suitable for use in agriculture, irrigation and the fish processing sector.

AP BluePRO



High head impeller

General characteristics

- high head impeller
- 0,74 ÷ 1,5 kW motor power
- 2 poles
- GAS 1 1/2" horizontal delivery port
- max 6 mm free passage

Electromechanical assembly

Electromechanical assembly in EN-GJL-250 cast iron, for submerged operation, fitted with 2 (two) opposing silicon carbide mechanical seals in oil sump, and V-ring in direct contact with the liquid. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Used for clear wastewater, rainwater and seepage containing small amounts of sand. Its high manometric head makes this series suitable for the creation of water features and decorative fountains. This electric pump is intended for both domestic and professional use.

Construction materials

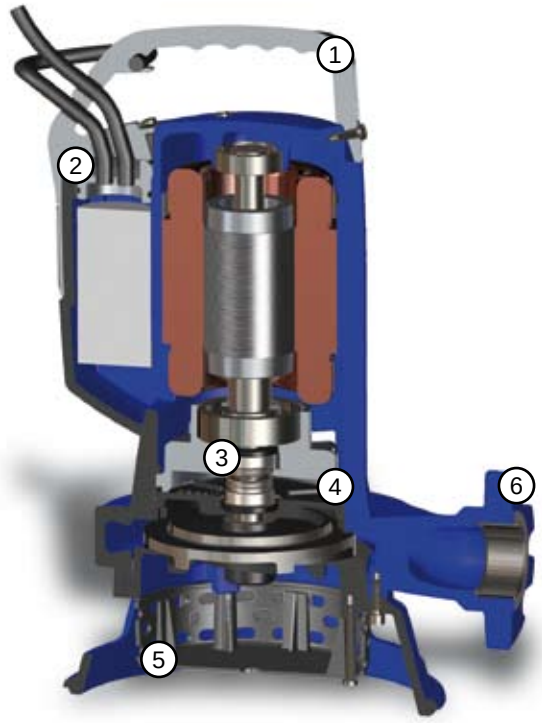
Case	Cast iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless steel - AISI 420
Set of standard mechanical seals	Two silicon carbide mechanical seals (2SiC)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

AP BluePRO





Lifting handle

Aluminium lifting and carrying handle



Cable Gland System

Innovative cable gland system with twin O-rings to ensure maximum tightness



Mechanical seals

Two silicon carbide mechanical seals (2SiC)



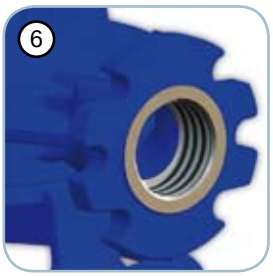
Seal sump

Oil chamber which guarantees longer mechanical seal lifetime, and is easily accessible thanks to a patented system to simplify maintenance procedures



Intake strainer

Intake strainer in impact-resistant polypropylene and spheroidal cast iron feet



Delivery port

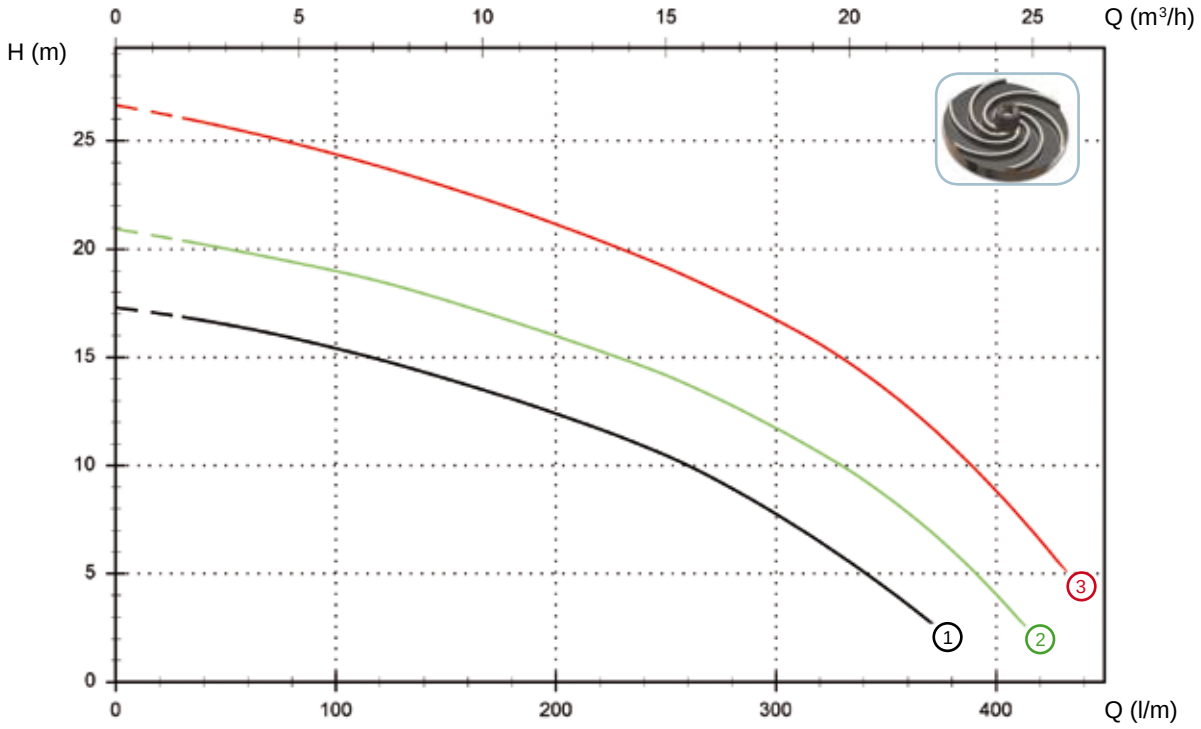
Threaded, flanged delivery port for the maximum ease of installation

AP BluePRO

Models with horizontal GAS 1 1/2" threaded delivery port and DN32 PN6 ange - 2 poles

Performances

	l/s	0	1	2	3	4	5	6	7
	l/min	0	60	120	180	240	300	360	420
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2
1	AP BluePRO 100/2/G40H A1CM(T)/50	17,3	16,3	14,9	13,1	10,9	7,8	3,6	
2	AP BluePRO 150/2/G40H A1CM(T)/50	20,9	19,8	18,5	16,7	14,6	11,7	7,8	
3	AP BluePRO 200/2/G40H A1CM(T)/50	26,6	25,4	23,8	21,9	19,6	16,7	12,7	6,6



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	AP BluePRO 100/2/G40H A1CM/50	230	1	-	0.74	5.5	2900	G 1 1/2"-DN32 PN6	A	6 mm
2	AP BluePRO 150/2/G40H A1CM/50	230	1	-	1.1	7.5	2900	G 1 1/2"-DN32 PN6	A	6 mm
3	AP BluePRO 200/2/G40H A1CM/50	230	1	-	1.5	10	2900	G 1 1/2"-DN32 PN6	A	6 mm

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	AP BluePRO 100/2/G40H A1CT/50	400	3	-	0.74	2.7	2900	G 1 1/2"-DN32 PN6	B	6 mm
2	AP BluePRO 150/2/G40H A1CT/50	400	3	-	1.1	3.2	2900	G 1 1/2"-DN32 PN6	B	6 mm
3	AP BluePRO 200/2/G40H A1CT/50	400	3	-	1.5	4.3	2900	G 1 1/2"-DN32 PN6	B	6 mm

(*) A = H07RN-F 3G1 - 5 m cable length with schuko plug. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

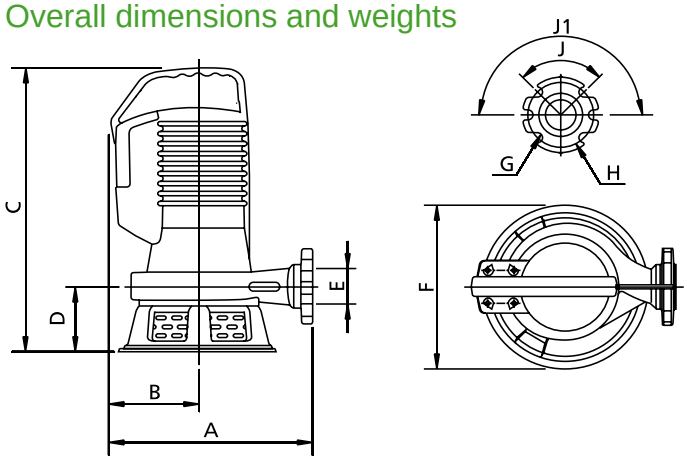
AP BluePRO

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
AP BluePRO 100/2/G40H A1CM/50			●				●								●		●			
AP BluePRO 100/2/G40H A1CT/50											●	●			●		●			
AP BluePRO 150/2/G40H A1CM/50			●				●								●		●			
AP BluePRO 150/2/G40H A1CT/50											●	●			●		●			
AP BluePRO 200/2/G40H A1CM/50			●				●								●		●			
AP BluePRO 200/2/G40H A1CT/50											●	●			●		●			

Overall dimensions and weights

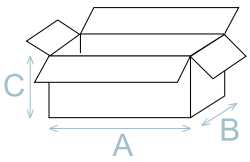


	A	B	C	D	E	F	G	H	J	J1	kg
AP BluePRO 100/2/G40H A1CM(T)/50	270	130	365	95	G 1 1/2"	220	14	90	90°	180°	19
AP BluePRO 150/2/G40H A1CM(T)/50	270	130	365	95	G 1 1/2"	220	14	90	90°	180°	24
AP BluePRO 200/2/G40H A1CM(T)/50	270	130	365	95	G 1 1/2"	220	14	90	90°	180°	26

Measurements in mm

Packaging dimension

	A	B	C
AP BluePRO 100/2/G40H A1CM(T)/50	300	250	400
AP BluePRO 150/2/G40H A1CM(T)/50	300	250	440
AP BluePRO 200/2/G40H A1CM(T)/50	300	250	440



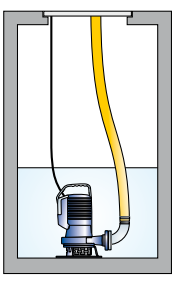
Dimension in mm

No. pieces per pallet

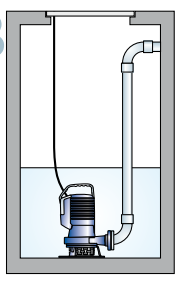
For AP BluePRO models each pallet (EUR 1000X1200 mm) is able to take 32 pieces.

Installations available

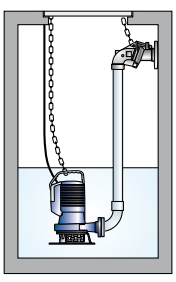
A



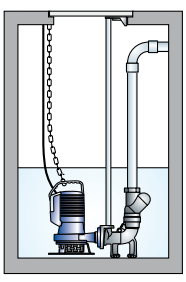
B



C



D



APS



High head impeller

General characteristics

- High head impeller
- 0,9 kW motor power
- 2 poles
- GAS 1 1/2"- DN32 horizontal delivery port
- 7 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Pump body in single casting with motor casing. Series not available in explosion-proof version.

Applications

Used for clear wastewater, rainwater and seepage containing small amounts of sand. The considerable manometric head makes these units suitable for irrigation and the fish processing sector.

Construction materials

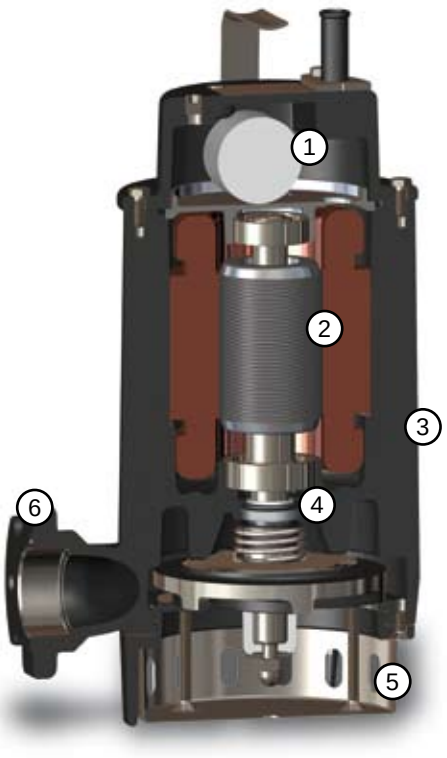
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

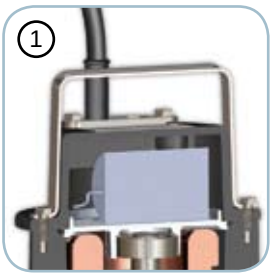
Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

Models available in IECEx certified version

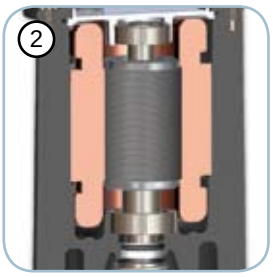
APS





Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Motor

Ecological dry motor with thermal overloads



Structure

Constructed in GJL-250 cast iron



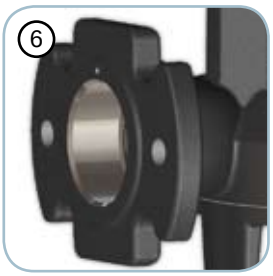
Mechanical seals

One mechanical seal in silicon carbide (SiC)



Intake strainer

Intake strainer in stainless steel



Delivery port

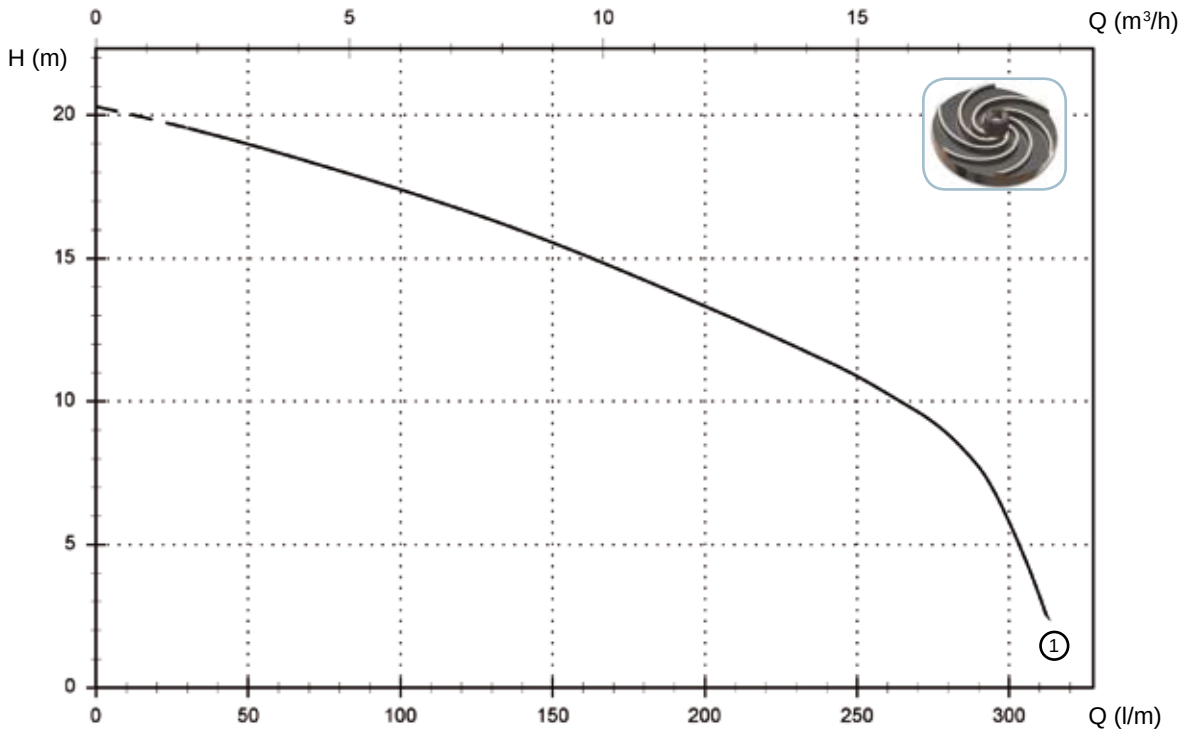
Threaded, flanged delivery port for the maximum ease of installation

APS

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5
	l/min	0	60	120	180	240	300
	m³/h	0	3,6	7,2	10,8	14,4	18,0
(1) APS 100/2/G40H A0CM(T)/50		20,3	18,7	16,7	14,2	11,4	5,8



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APS 100/2/G40H A0CM/50	230	1	-	0.9	6.6	2900	G 1 1/2"- DN32 PN6	A	7 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APS 100/2/G40H A0CT/50	400	3	-	0.9	2.3	2900	G 1 1/2"- DN32 PN6	B	7 mm

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

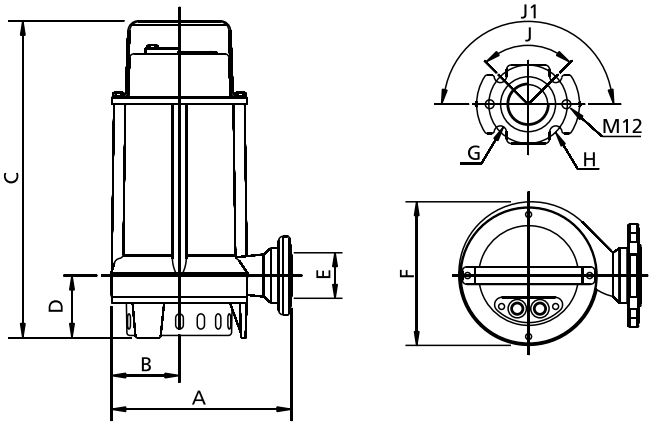
APS

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
APS 100/2/G40H A0CM/50			●				●								●			●		
APS 100/2/G40H A0CT/50											●	●			●			●		

Overall dimensions and weights



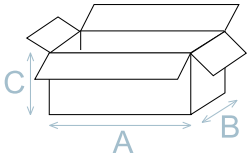
	A	B	C	D	E	F	G	H	J	J1	kg
APS 100/2/G40H A0CM(T)/50	210	80	370	80	G 1$_{1/2}$"-DN32	165	14	90	90°	180°	20

Measurements in mm

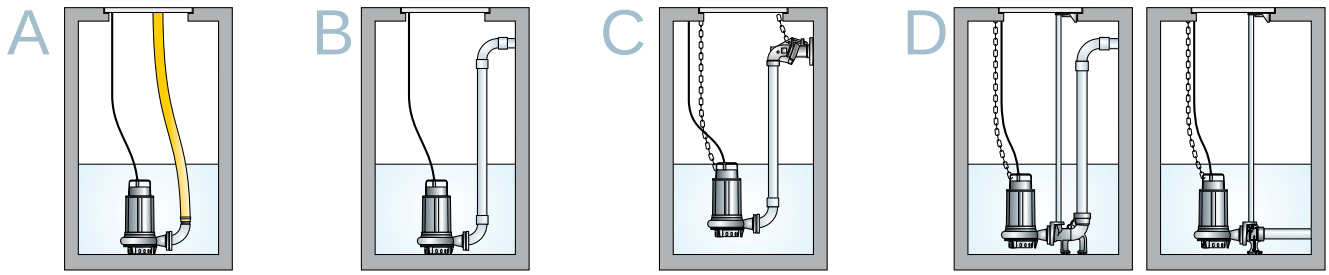
Packaging dimension

	A	B	C
APS 100/2/G40H A0CM(T)/50	385	225	245

Dimension in mm



Installations available



APE



High head impeller

General characteristics

- High head impeller
- 1,5 kW motor power
- 2 poles
- GAS 2" - DN32 horizontal delivery port
- 7 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) lip seal. Ecological dry motor. Separate pump body. Series not available in explosion-proof version.

Applications

Used for clear wastewater, rainwater and seepage containing small amounts of sand. The considerable manometric head makes these units suitable for irrigation and the fish processing sector.

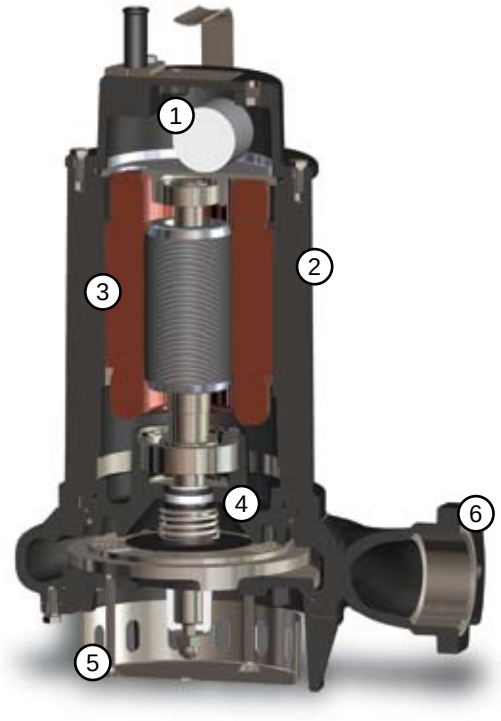
Construction materials

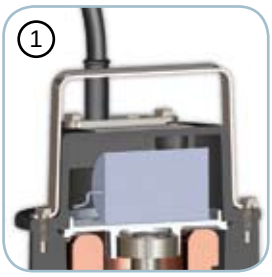
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	One Silicon carbide mechanical seal (SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

APE





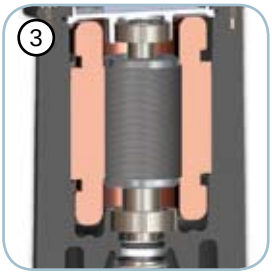
Capacitor/relay

Integral capacitor for single-phase models (relay for three-phase models)



Structure

Constructed in GJL-250 cast iron



Motor

Ecological dry motor with thermal overloads



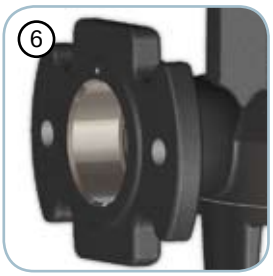
Mechanical seals

One mechanical seal in silicon carbide (SiC)



Intake strainer

Intake strainer in stainless steel



Delivery port

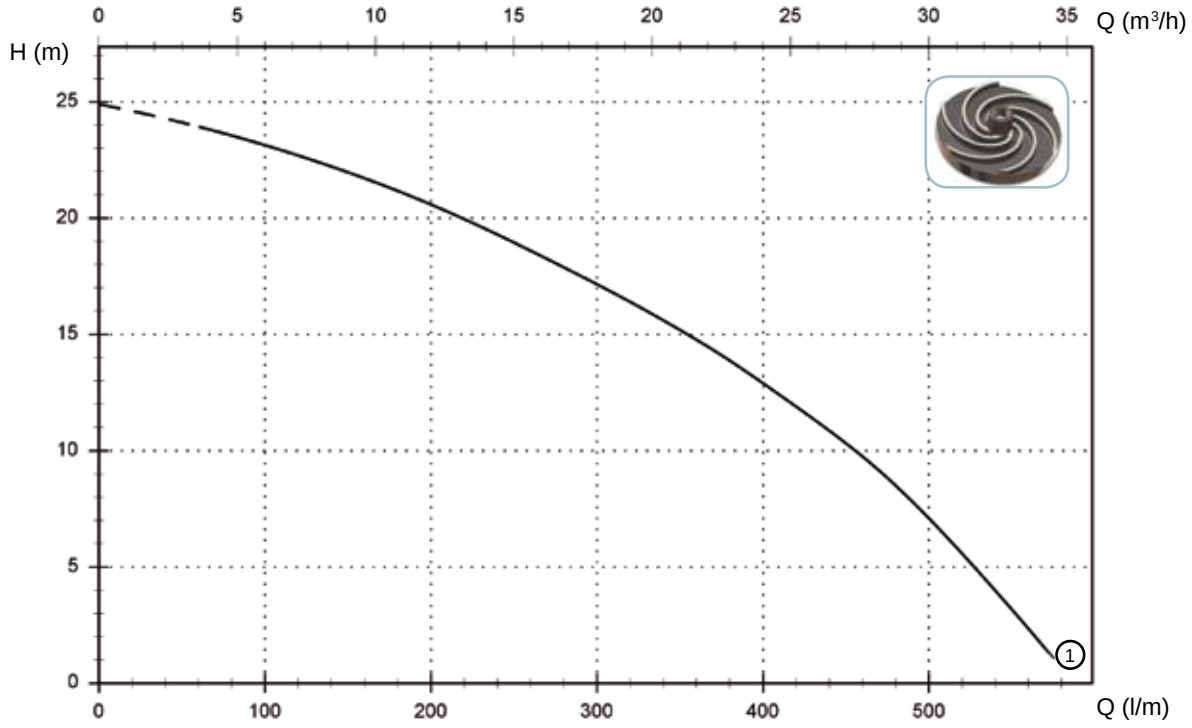
Threaded, flanged delivery port for the maximum ease of installation

APE

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6	7	8	9
	l/min	0	60	120	180	240	300	360	420	480	540
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2	28,8	32,4
(1) APE 200/2/G50H A0CM(T)/50		24,9	23,9	22,7	21,2	19,3	17,2	14,8	11,9	8,5	4,0



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APE 200/2/G50H A0CM/50	230	1	-	1.7	10.6	2900	G 2”- DN32 PN6	A	7 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APE 200/2/G50H A0CT/50	400	3	-	1.7	3.8	2900	G 2”- DN32 PN6	B	7 mm

(*) A = H07RN-F 3G1 - 5 m cable length. Optional 10 m cable length with schuko plug.
B = H07RN-F 4G1 - 10 m cable length
Attention: Standard EN 60335-2-41 requires the use of a 10 m cable length in outdoor applications

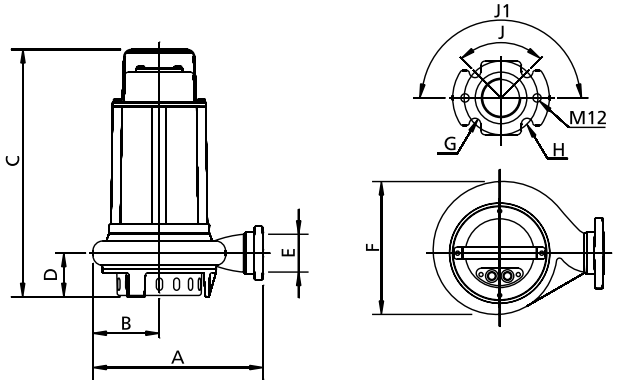
APE

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
APE 200/2/G50H A0CM/50			●				●								●			●		
APE 200/2/G50H A0CT/50											●	●			●			●		

Overall dimensions and weights



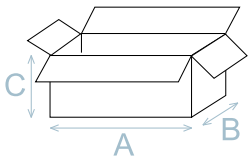
	A	B	C	D	E	F	G	H	J	J1	kg
APE 200/2/G50H A0CM(T)/50	285	110	410	75	G 2”	220	14	90	90°	180°	26

Measurements in mm

Packaging dimension

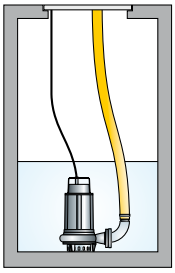
	A	B	C
APE 200/2/G50H A0CM(T)/50	475	285	235

Dimension in mm

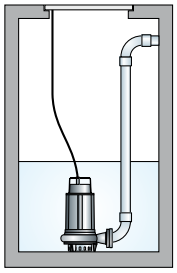


Installations available

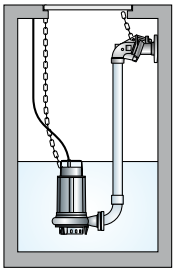
A



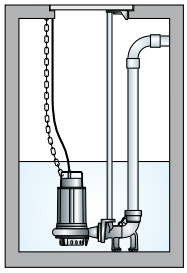
B



C



D



APF



High head impeller

General characteristics

- High head impeller
- 1,1÷ 1,5 kW motor power
- 2 poles
- GAS 1 1/2" - DN32 horizontal delivery port
- max 7 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing in inspectable oil sump. Ecological dry motor. Separate pump body. Series with explosion-proof certification.

Applications

Designed specifically for use where there are traces of flammable liquids or in potentially explosive atmospheres, the APF can be used with liquids containing traces of flammable substances, and in gassy environments.

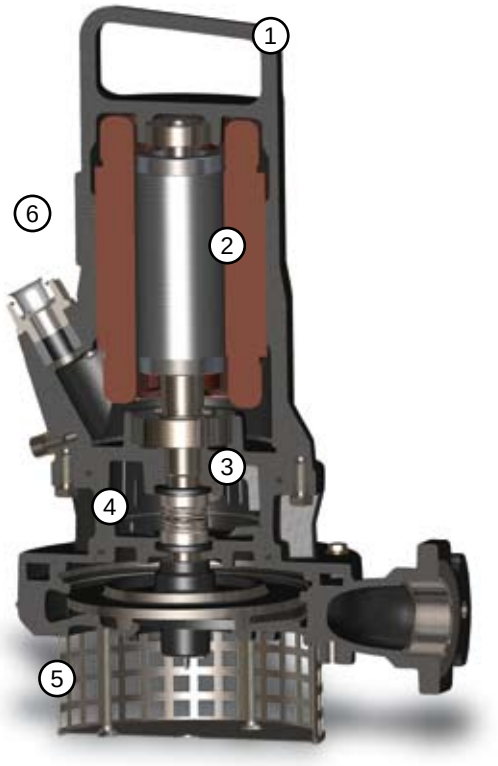
Construction materials

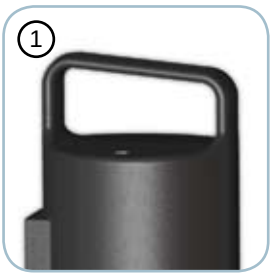
Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR - VITON
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

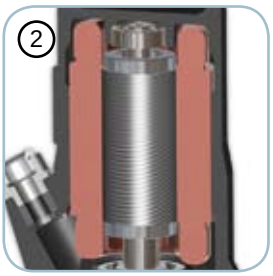
APF





Handle/Cable gland

Cast iron lifting and carrying handle.
The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Motor

Ecological dry motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



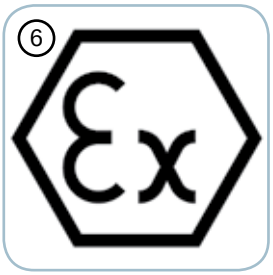
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Intake strainer

Intake strainer in stainless steel



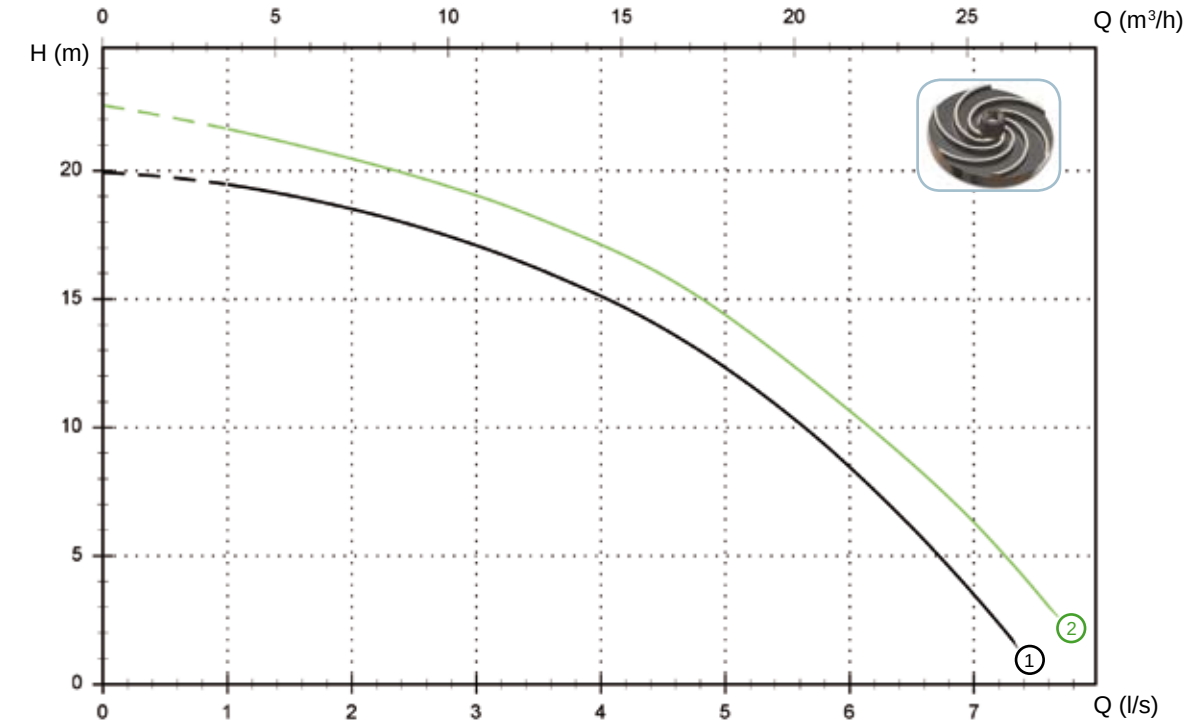
EX

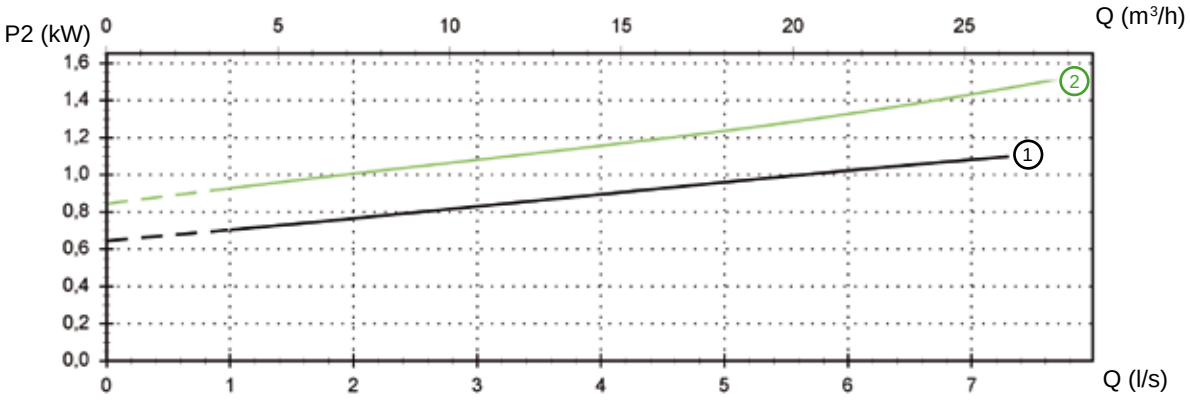
Models with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

APF

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APF 150/2/G40H A1CM/50	230	1	1.6	1.1	7.2	2900	G 1 1/2" - DN32 PN6	A	7 mm
(2) APF 200/2/G40H A1CM/50	230	1	2.2	1.5	9.8	2900	G 1 1/2" - DN32 PN6	A	7 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APF 150/2/G40H A1CT/50	400	3	1.7	1.1	2.9	2900	G 1 1/2" - DN32 PN6	A	7 mm
(2) APF 200/2/G40H A1CT/50	400	3	2.1	1.5	3.7	2900	G 1 1/2" - DN32 PN6	A	7 mm

(*) A = NSSHOU-J 4G1.5+2x0.75 - 10 m

APF

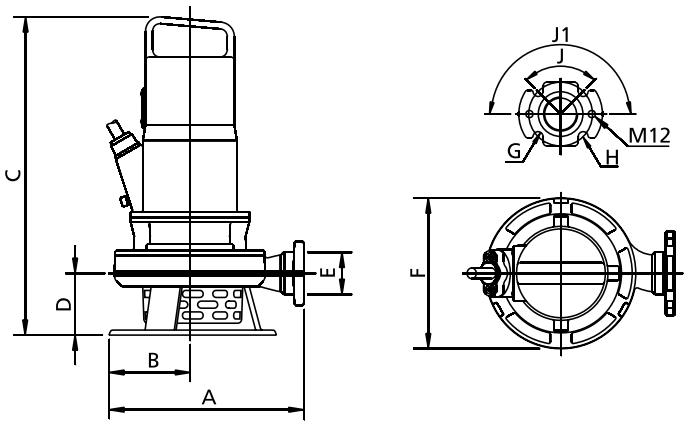
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
APF 150/2/G40H A1CM/50			●												●		●			
APF 200/2/G40H A1CM/50			●												●		●			
APF 150/2/G40H A1CT/50		●													●		●			
APF 200/2/G40H A1CT/50		●													●		●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Capacitor supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.

Overall dimensions and weights



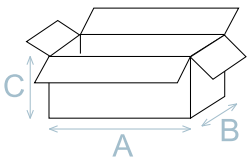
	A	B	C	D	E	F	G	H	J	J1	kg
APF 150/2/G40H A1CM(T)/50	265	105	440	80	G 1 1/2"	215	14	90	90°	180°	32
APF 200/2/G40H A1CM(T)/50	265	105	440	80	G 1 1/2"	215	14	90	90°	180°	34

Measurements in mm

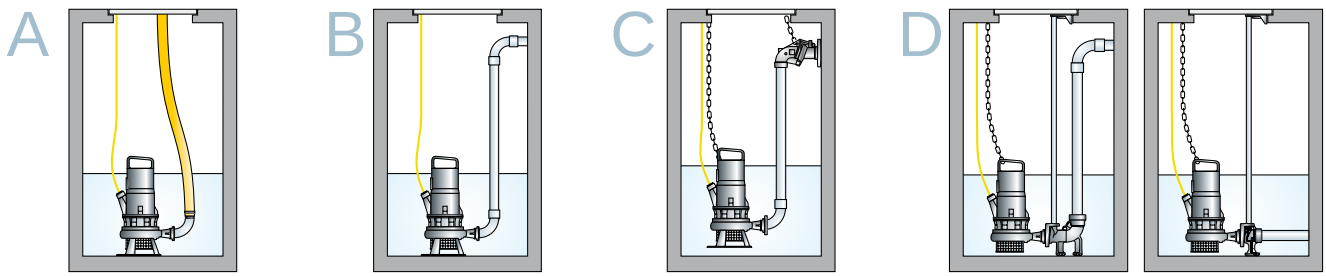
Packaging dimension

	A	B	C
APF 150/2/G40H A1CM(T)/50	580	310	310
APF 200/2/G40H A1CM(T)/50	580	310	310

Dimension in mm



Installations available



Dry installation available for specified models. Contact Custome Service for more information.

APN



High head impeller

General characteristics

- High head impeller
- 1,8 ÷ 4,1 kW motor power
- 2 poles
- GAS 1 1/2" - GAS 2" DN32 horizontal delivery port
- max 10 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) opposing silicon carbide mechanical seals in inspectable oil sump. Ecological dry motor. Separate pump body. Series available in explosion-proof version.

Applications

Suitable for clear wastewater, rainwater and seepage. The considerable manometric head guarantees excellent results for the creation of water features and decorative fountains; suitable for use in agriculture, irrigation and the fish processing sector. The pump is also available in explosion-proof version with ATEX certification. This series is prefitted for installation of the ZENIT cooling system for dry or semi-submerged installation.

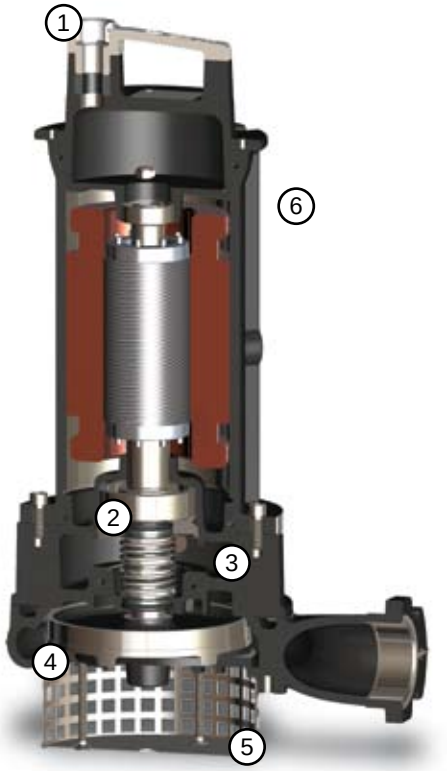
Construction materials

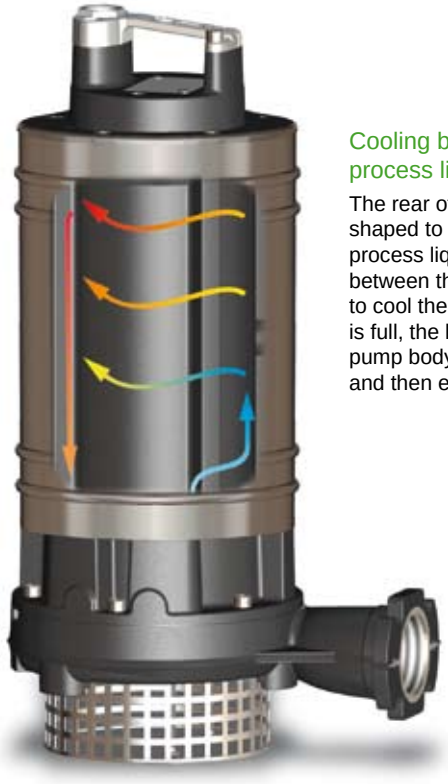
Case	Grey Cast Iron - EN-GJL 250
Impeller material	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	10

APN





Cooling by means of process liquid

The rear of the impeller is specially shaped to convey some of the process liquid into the cavity between the body and the jacket to cool the motor. Once the cavity is full, the liquid is drawn into the pump body along a special pipe and then expelled.



Cable Gland

Cable gland system to guarantee perfect water-tightness. The GAS thread ring-nut can be removed to fix a rigid or flexible duct to the cable gland to protect the power supply cable



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



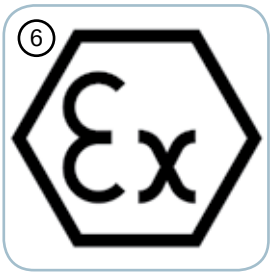
Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



Intake strainer

Intake strainer in stainless steel



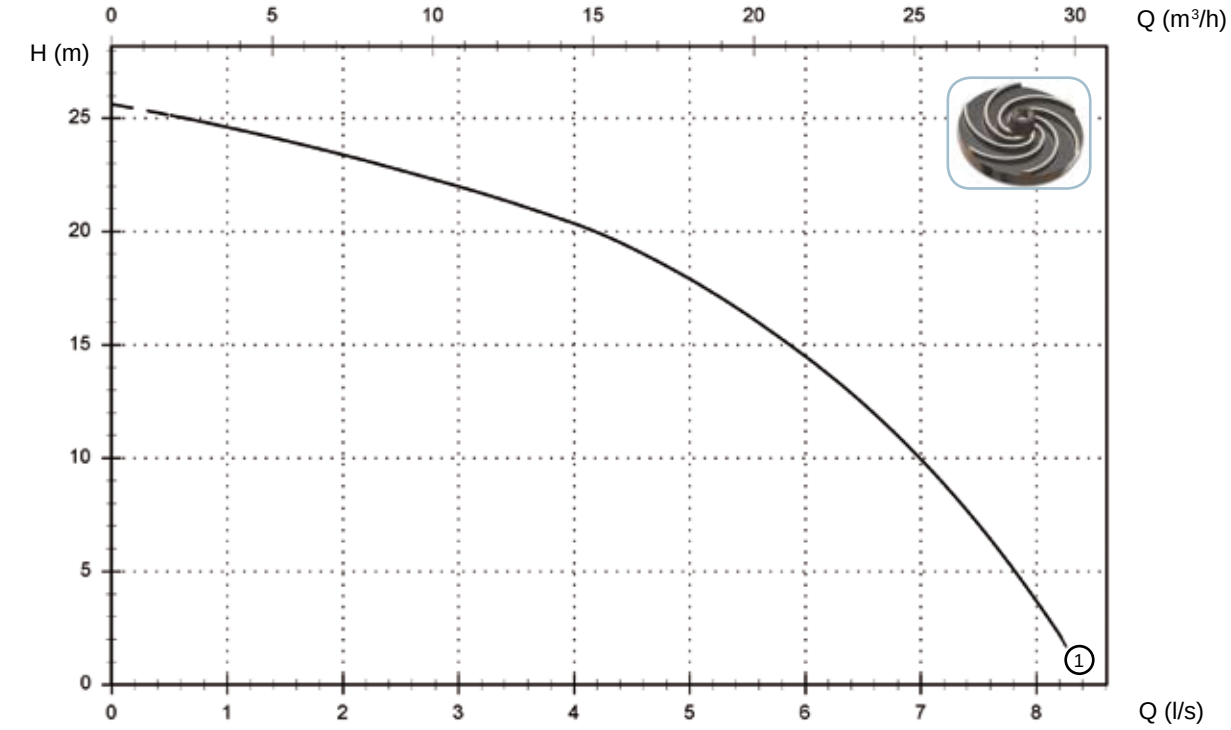
EX

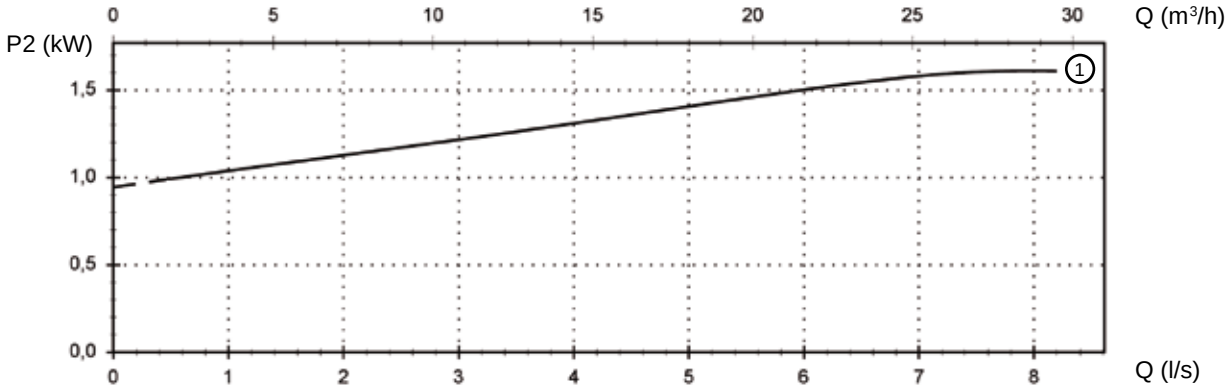
Models available on request with ATEX certification, suitable for installation in the presence of potentially explosive gases, powders and liquids

APN

Models with horizontal GAS 1 1/2" threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APN 250/2/G40H A1DM/50	230	1	2.7	1.8	12.5	2900	G 1 1/2"- DN32 PN6	A - B	10 mm

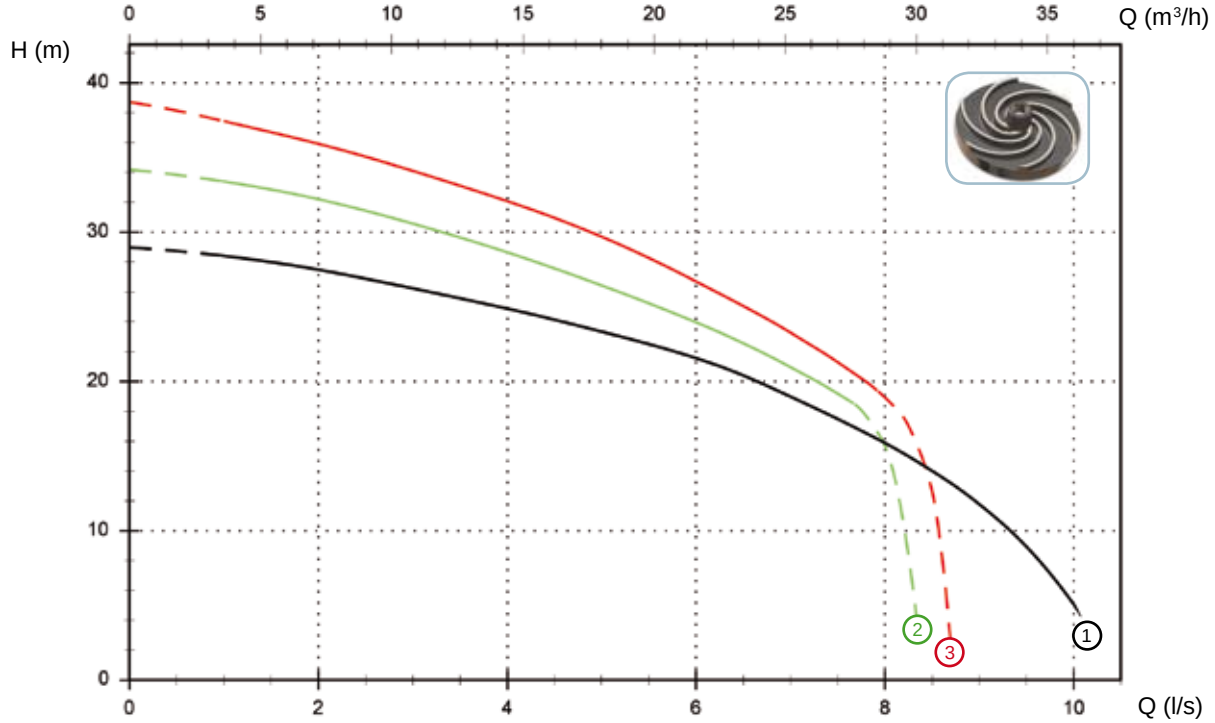
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APN 250/2/G40H A1DT/50	400	3	2.5	1.8	4.3	2900	G 1 1/2"- DN32 PN6	A - B	10 mm

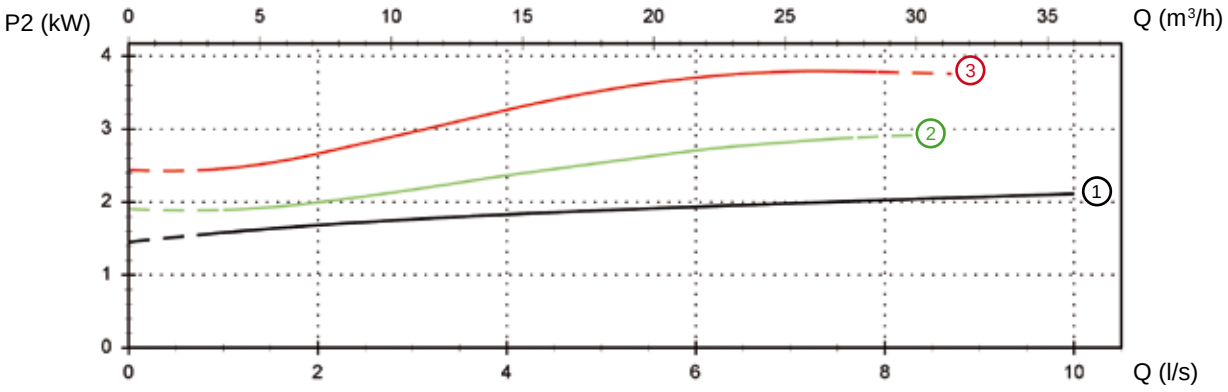
(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

APN

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APN 300/2/G50H A1DT/50	400	3	3.7	2.2	5.1	2900	G 2”- DN32 PN6	A - B	10 mm
(2) APN 400/2/G50H A1FT/50	400	3	4.0	3	6.7	2900	G 2”- DN32 PN6	A - B	10 mm
(3) APN 550/2/G50H A1FT/50	400	3	5.0	4.1	8.7	2900	G 2”- DN32 PN6	A - B	10 mm

(*) A = 07RN-F 4G1.5+3x1 - 10 m (standard version). Electrical and mechanical features are equal to the cable H07RN-F
B = NSSHOU-J 4G1.5+2x0.75 - 10 m (ATEX version)

APN

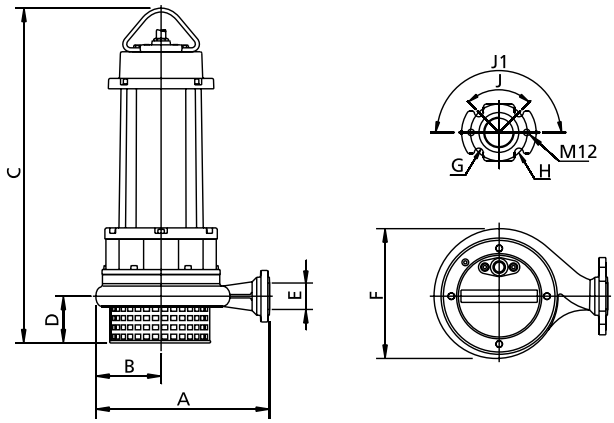
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
APN 250/2/G40H A1DM/50				●											●	●	●			
APN 250/2/G40H A1DT/50		●								●					●	●	●			
APN 300/2/G50H A1DT/50		●								●					●	●	●			
APN 400/2/G50H A1FT/50		●								●					●	●	●			
APN 550/2/G50H A1FT/50		●								●					●	●	●			

NOTE: For single phase pumps thermal protections into the winding have to be connected to the electrical panel.
Start capacitor inside the pump.
Circuit breaker supplied but not connected to the pump cable.
The use of an electrical panel as circuit breaker housing is mandatory.
For installation please see use and maintenance instructions booklet.
The version complete with probe is not available with ATEX certificate.

Overall dimensions and weights

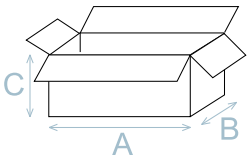


	A	B	C	D	E	F	G	H	J	J1	kg
APN 250/2/G40H A1DM(T)/50	265	105	530	80	G 1 1/2”	215	14	90	90°	180°	43
APN 300/2/G50H A1DT/50	305	110	530	80	G 2”	225	14	90	90°	180°	46
APN 400/2/G50H A1FT/50	350	130	660	80	G 2”	265	14	90	90°	180°	68
APN 550/2/G50H A1FT/50	350	130	660	80	G 2”	265	14	90	90°	180°	71

Measurements in mm

Packaging dimension

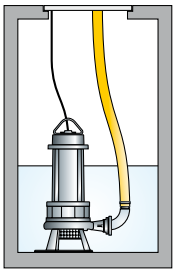
	A	B	C
APN 250/2/G40H A1DM(T)/50	725	445	415
APN 300/2/G50H A1DT/50	725	445	415
APN 400/2/G50H A1FT/50	725	445	415
APN 550/2/G50H A1FT/50	725	445	415

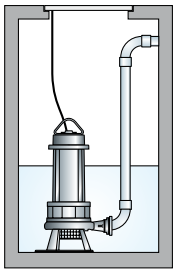


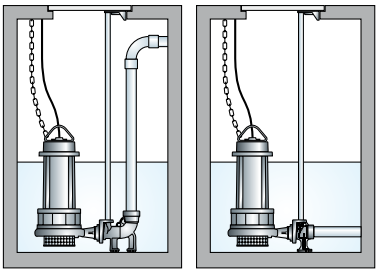
Dimension in mm

APN

Installations available

A 

B 

D 

APP



High head impeller

General characteristics

- High head impeller
- 7,2 ÷ 10 kW motor power
- 2 poles
- GAS 2”- DN32 horizontal delivery port
- 10 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Used for clear and sandy wastewater, rainwater and seepage. The considerable manometric head guarantees excellent results for the creation of water features and decorative fountains; suitable for use in agriculture, irrigation and the fish processing sector.

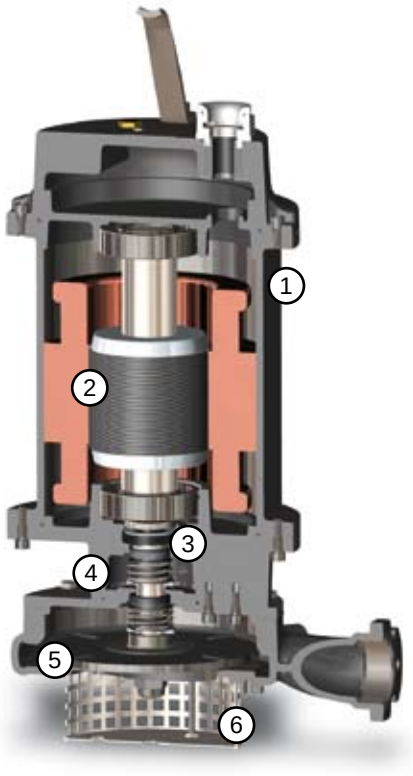
Construction materials

Case	Cast Iron EN-GJL 250
Impeller	Cast iron EN-GJL-250
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

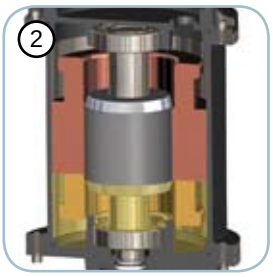
APP





Structure

Constructed in GJL-250 cast iron



Motor

Oil-bath motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Anti-clogging system

The special design of the hydraulic part ensures the expulsion of suspended solids and prevents fouling of the impeller



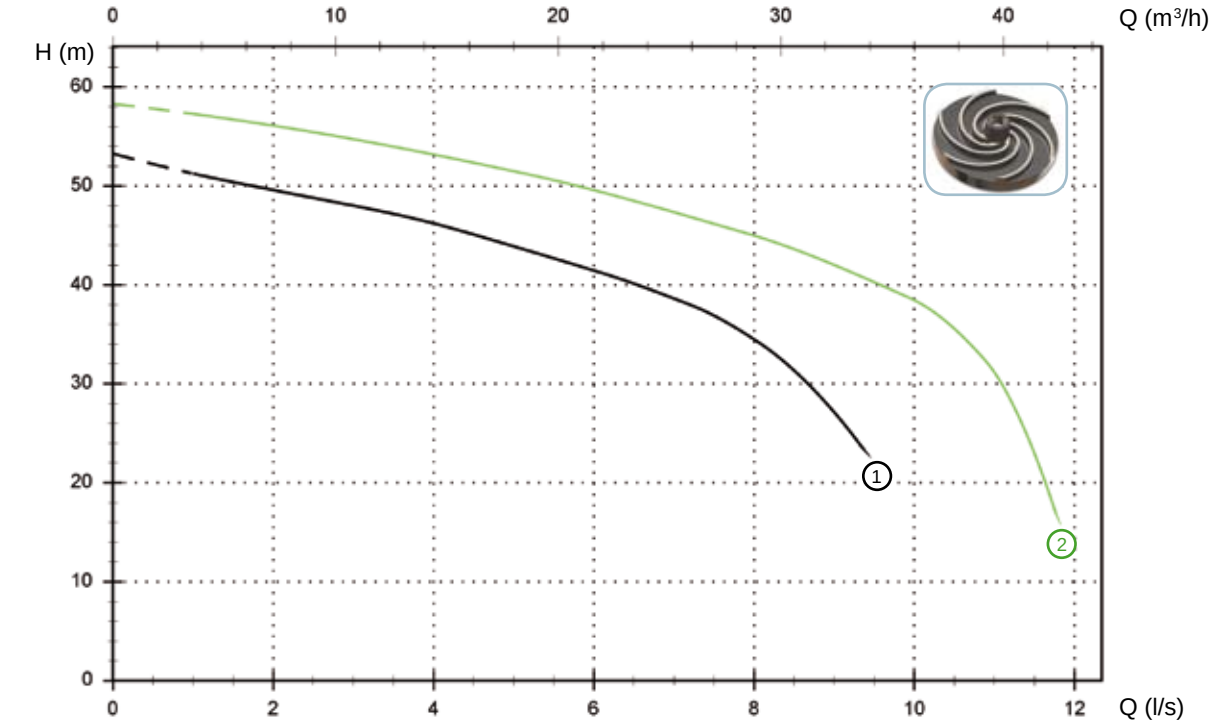
Intake strainer

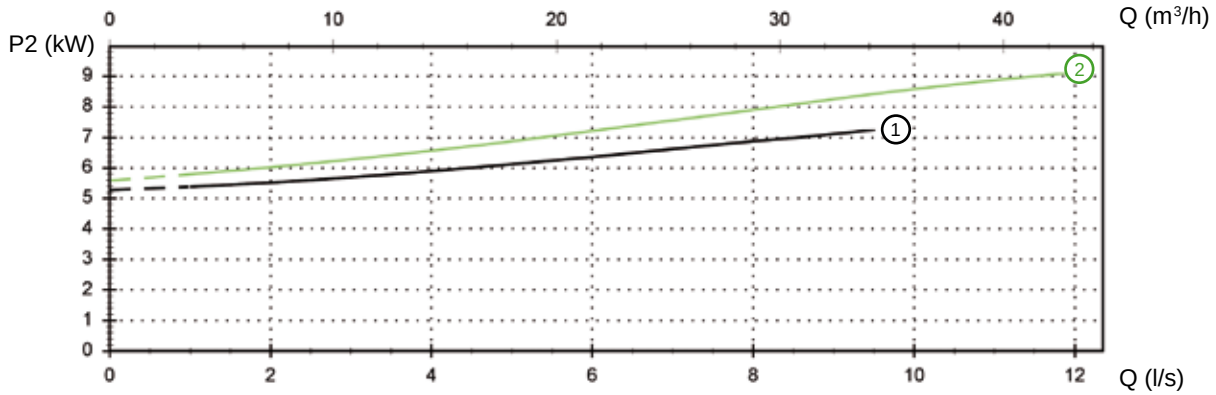
Intake strainer in stainless steel

APP

Models with horizontal GAS 2” threaded - DN32 PN6 anged delivery port - 2 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) APP 750/2/G50H A0HT/50	400	3	8.8	7.2	14.5	2900	G 2”- DN32 PN6	A	10 mm
(2) APP 1000/2/G50H A1HT/50	400	3	12.4	10	19.8	2900	G 2”- DN32 PN6	A	10 mm

(*) A = 07RN-F 7G1.5+3x0.75 - 10 m

Electrical and mechanical features are equal to the cable H07RN-F

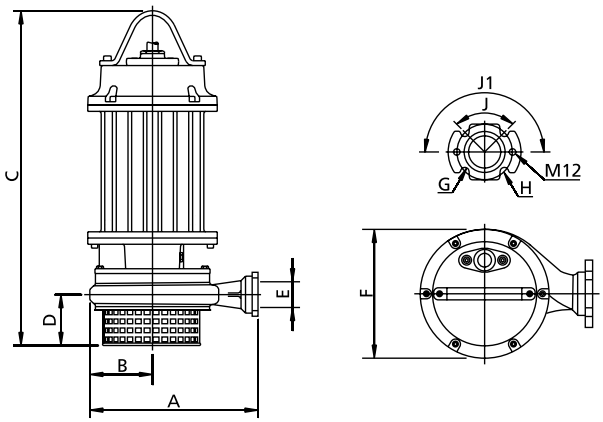
APP

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
APP 750/2/G50H A0HT/50		●								●					●	●				●
APP 1000/2/G50H A1HT/50		●								●					●	●				●

Overall dimensions and weights



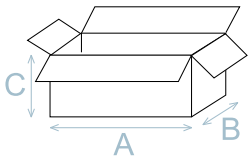
	A	B	C	D	E	F	G	H	J	J1	kg
APP 750/2/G50H A0HT/50	355	135	635	45	G 2”	270	14	90	90°	180°	90
APP 1000/2/G50H A1HT/50	355	135	650	45	G 2”	270	14	90	90°	180°	96

Measurements in mm

Packaging dimension

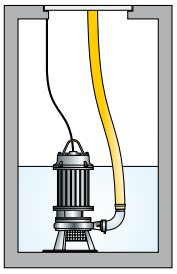
	A	B	C
APP 750/2/G50H A0HT/50	725	445	415
APP 1000/2/G50H A1HT/50	725	445	415

Dimension in mm

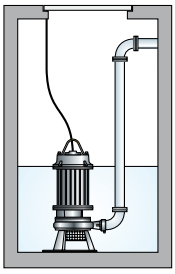


Installations available

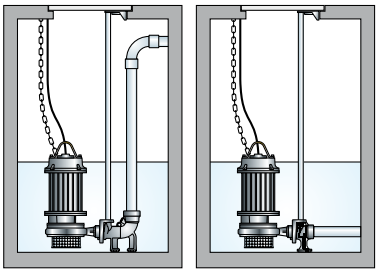
A



B



D

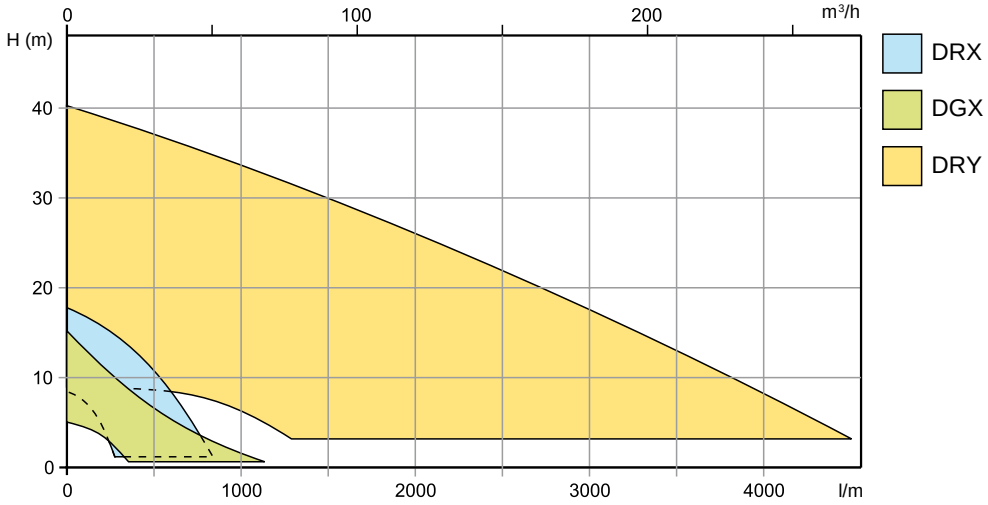


1.7 SPECIAL ALLOY PUMPS

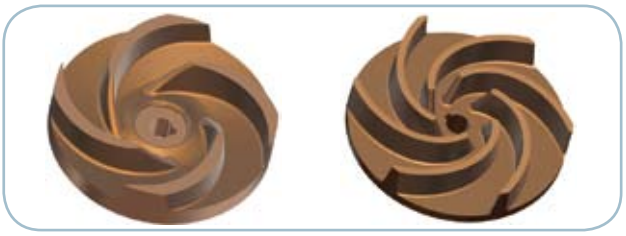
AISI 316 stainless steel models (0.37 ÷ 15.0 kW)



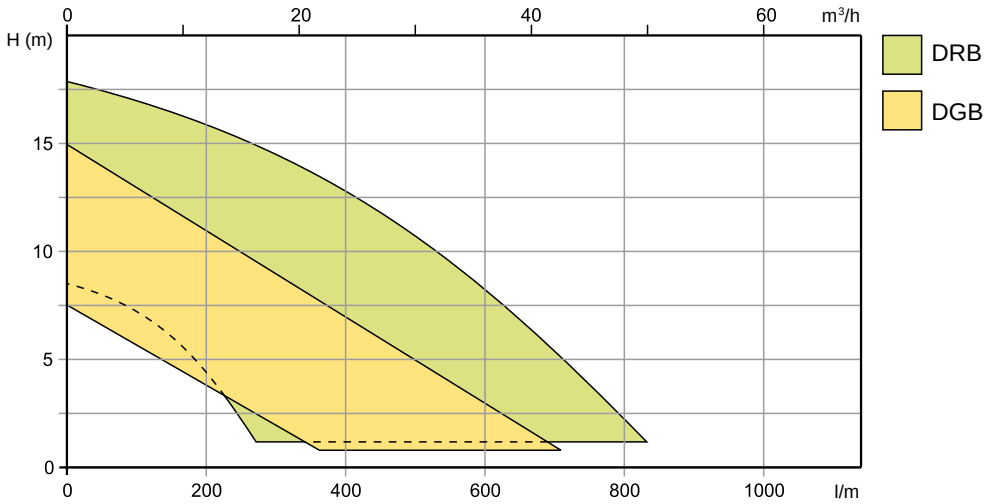
DRX, DRY and DGX pumps are constructed in CF8-M (AISI 316) stainless steel and have multi-channel open impeller suitable for wastewater containing solids (DRX and DRY) and vortex impeller for soiled wastewater (DGX).
They are recommended for applications with corrosive and aggressive liquids, and can therefore be used for industrial plants in the chemical and pharmaceutical sector, or with seawater.



B10 bronze models (0.37 ÷ 1.5 kW)



DRB and DGB pumps are constructed in B10 bronze and have multi-channel open impeller suitable for wastewater containing solids (DRB) and vortex impeller for soiled wastewater (DGB). They are recommended for applications with seawater or brine, in the fish processing and livestock farming sectors.



Stainless steel models



DRX page 296

Electromechanical assembly and impeller in CF-8M (AISI 316) stainless steel. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing and with oil lubrication. Oil bath motor. Stainless steel multichannel open impeller.
Designed for the treatment of strongly corrosive or chemically aggressive liquids, especially in the chemical industry, this unit is for a specific industrial application.



DGX page 302

Electromechanical assembly and impeller in CF-8M (AISI 316) stainless steel. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing with oil lubrication. Oil bath motor. Stainless steel vortex impeller.
Ideal for lifting strongly corrosive or aggressive strained liquids, especially in the chemical industry. Intended for specific industrial applications.



DRY page 312

Electromechanical assembly and impeller in CF-8M (AISI 316) stainless steel. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor.
Stainless steel multichannel open impeller.
Designed for the treatment of strongly corrosive or chemically aggressive liquids, especially in the chemical industry, this unit is for a specific industrial application. Suitable for treating medium-low density fluids, containing solid and fibrous parts, sand and activated sludges.

Bronze models



DRB page 322

Electromechanical assembly and impeller in B10 bronze. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing with oil lubrication. Oil bath motor. Multichannel open impeller in B10 bronze.
Suitable for treating chemically aggressive strained liquids, dyes and seawater. Can be used for applications in the tanning industry and the shipping sector.



DGB page 328

Electromechanical assembly and impeller in B10 bronze. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing with oil lubrication. Oil bath motor. Vortex impeller in B10 bronze.
Suitable for lifting chemically aggressive soiled liquids, dyes and seawater. Therefore ideal for applications in the tanning industry, the paper industry and the shipping sector.

DRX



Special alloy pumps

General characteristics

- Special alloy pumps
- 0,37 ÷ 1,5 kW motor power
- 2 poles
- GAS 1¼" - GAS 2" vertical delivery port
- max 15 mm free passage

Electromechanical assembly

Electromechanical assembly in CF-8M (AISI 316) stainless steel, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing and with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Designed for the treatment of strongly corrosive or chemically aggressive liquids, especially in the chemical industry, this unit is for a specific industrial application.

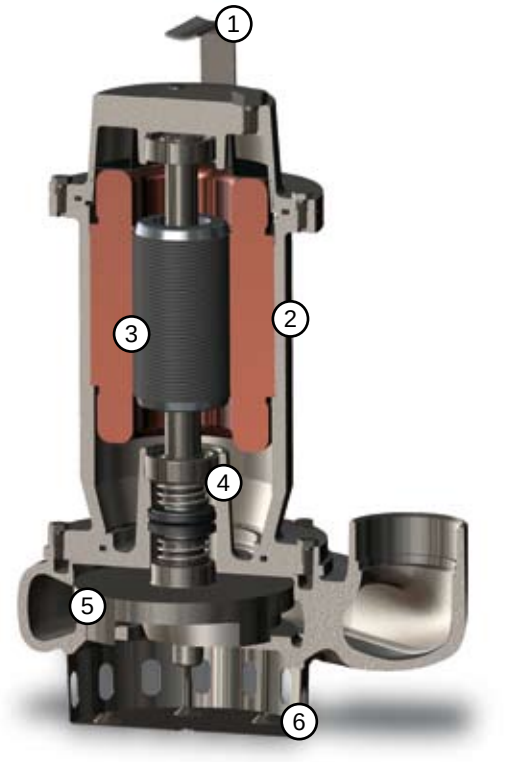
Construction materials

Case	Cast Stainless Steel - CF-8M (AISI 316)
Impeller	Stainless steel
Nuts and bolts	Stainless Steel - Class A4-70
Standard gasket	Rubber - VITON
Shaft	Stainless Steel - AISI 316
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	5 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DRX





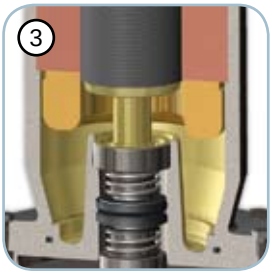
Handle and cable gland

AISI 316 stainless steel lifting and carrying handle. A rigid or flexible duct can be fixed to the cable gland to protect the power supply cable



Structure

CF-8M (AISI 316)steel construction which makes the pump suitable for use in saline environments



Motor

Oil-bath motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Impeller

Multichannel open impeller in CF-8M steel



Intake strainer

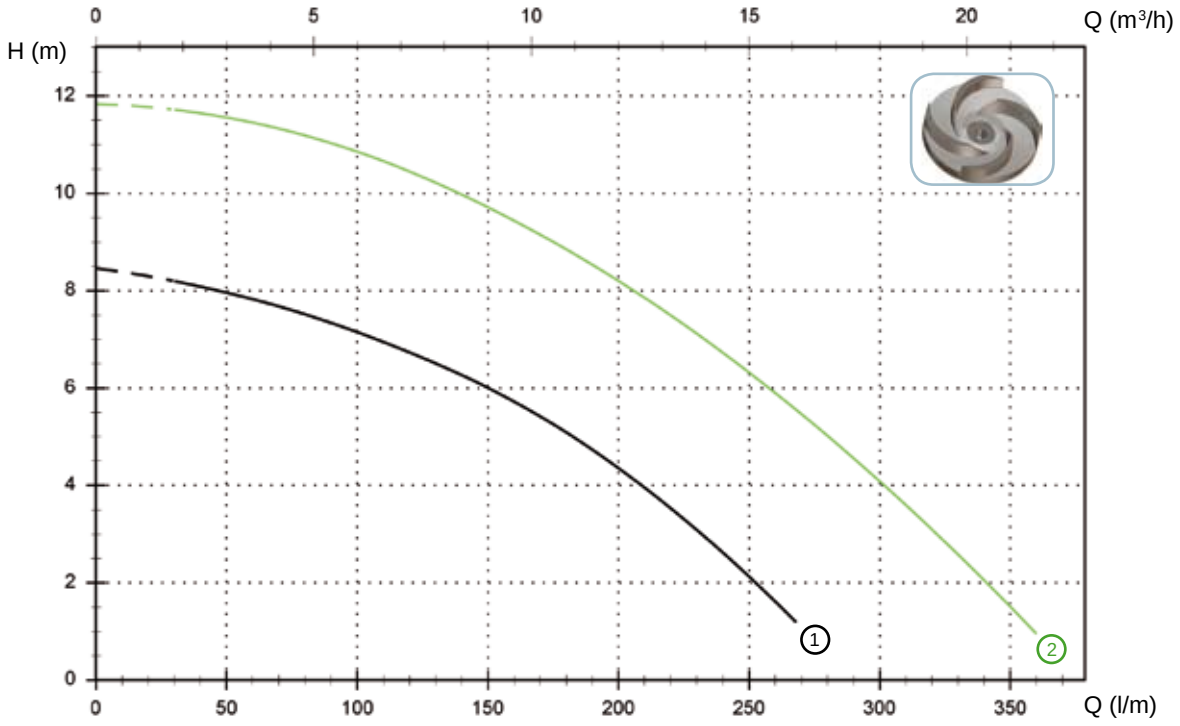
Intake strainer in stainless steel

DRX

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6
	l/min	0	60	120	180	240	300	360
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6
(1) DRX 50/2/G32V A0CM/50		8,5	7,8	6,7	5,1	2,6		
(2) DRX 75/2/G32V A0CM/50		11,8	11,5	10,5	8,9	6,7	4,1	1,0



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRX 50/2/G32V A0CM/50	230	1	-	0.37	2.9	2900	G 1 1/4"	A	15 mm
(2) DRX 75/2/G32V A0CM/50	230	1	-	0.55	3.9	2900	G 1 1/4"	A	15 mm

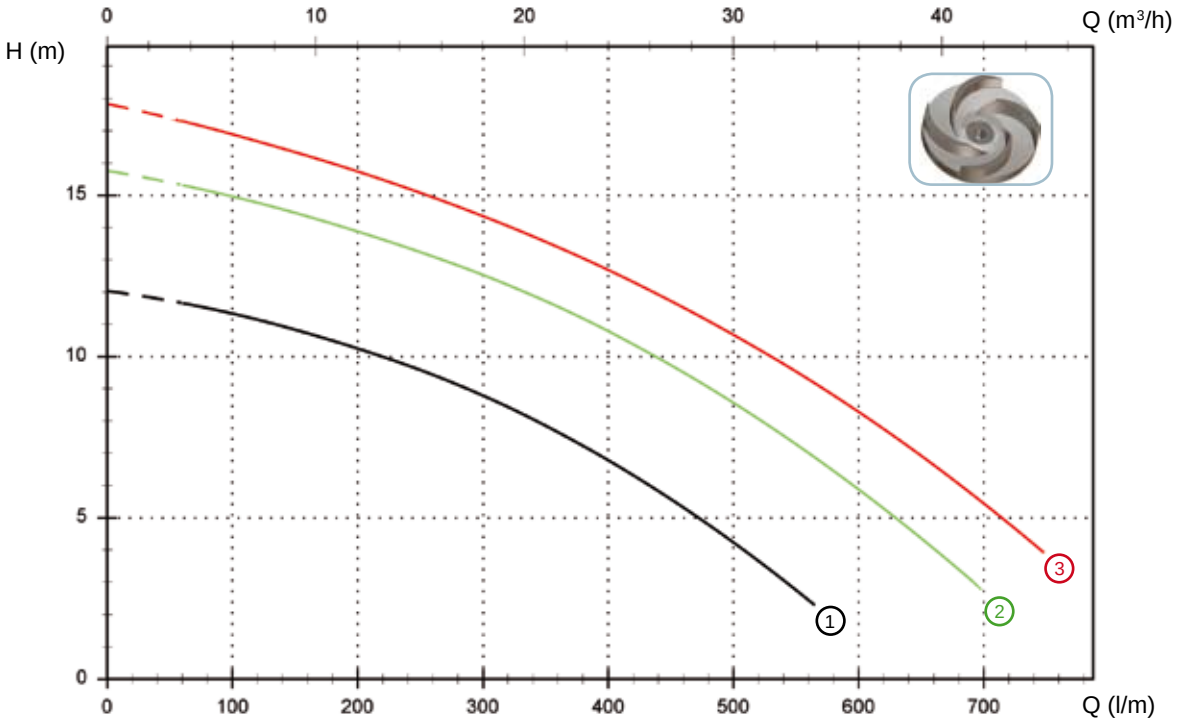
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRX 50/2/G32V A0CT/50	400	3	-	0.37	1.1	2900	G 1 1/4"	A	15 mm
(2) DRX 75/2/G32V A0CT/50	400	3	-	0.55	1.4	2900	G 1 1/4"	A	15 mm

(*) A = H07RN-F 4G1 - 10 m

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1 DRX 100/2/G50V A0CM/50		12,0	11,1	9,7	7,6	4,8		
2 DRX 150/2/G50V A0CM/50		15,8	14,8	13,4	11,5	9,0	5,9	
3 DRX 200/2/G50V A0CM/50		17,8	16,7	15,2	13,4	11,1	8,3	4,8



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRX 100/2/G50V A0CM/50	230	1	-	0.88	6.5	2900	G 2”	A	15 mm
2 DRX 150/2/G50V A0CM/50	230	1	-	1.1	8.2	2900	G 2”	A	15 mm
3 DRX 200/2/G50V A0CM/50	230	1	-	1.5	9.3	2900	G 2”	A	15 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRX 100/2/G50V A0CT/50	400	3	-	0.88	2.3	2900	G 2”	A	15 mm
2 DRX 150/2/G50V A0CT/50	400	3	-	1.1	2.7	2900	G 2”	A	15 mm
3 DRX 200/2/G50V A0CT/50	400	3	-	1.5	3.6	2900	G 2”	A	15 mm

(*) A = H07RN-F 4G1 - 10 m

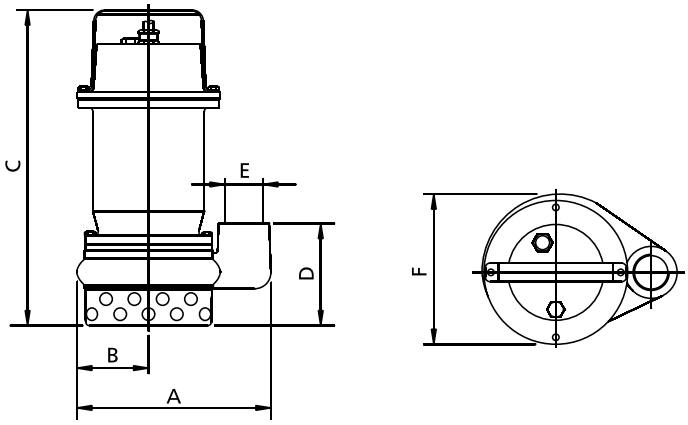
DRX

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRX 50/2/G32V A0CM/50		●						●	●						●		●			
DRX 75/2/G32V A0CM/50		●						●	●						●		●			
DRX 100/2/G50V A0CM/50		●						●	●						●		●			
DRX 150/2/G50V A0CM/50		●						●	●						●		●			
DRX 200/2/G50V A0CM/50		●						●	●						●		●			
DRX 50/2/G32V A0CT/50	●														●		●			
DRX 75/2/G32V A0CT/50	●														●		●			
DRX 100/2/G50V A0CT/50	●														●		●			
DRX 150/2/G50V A0CT/50	●														●		●			
DRX 200/2/G50V A0CT/50	●														●		●			

Overall dimensions and weights



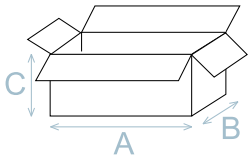
	A	B	C	D	E	F	kg
DRX 50/2/G32V A0CM(T)/50	210	75	340	110	G 1¼”	160	17
DRX 75/2/G32V A0CM(T)/50	210	75	340	110	G 1¼”	160	17
DRX 100/2/G50V A0CM(T)/50	265	100	390	125	G 2”	190	21
DRX 150/2/G50V A0CM(T)/50	265	100	390	125	G 2”	190	23
DRX 200/2/G50V A0CM(T)/50	265	100	390	125	G 2”	190	23

Measurements in mm

Packaging dimension

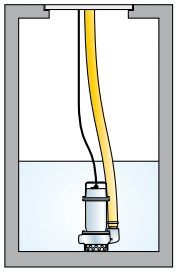
	A	B	C
DRX 50/2/G32V A0CM/50	385	225	245
DRX 75/2/G32V A0CM/50	385	225	245
DRX 100/2/G50V A0CM/50	475	285	235
DRX 150/2/G50V A0CM/50	475	285	235
DRX 200/2/G50V A0CM/50	475	285	235
DRX 50/2/G32V A0CT/50	385	225	245
DRX 75/2/G32V A0CT/50	385	225	245
DRX 100/2/G50V A0CT/50	475	285	235
DRX 150/2/G50V A0CT/50	475	285	235
DRX 200/2/G50V A0CT/50	475	285	235

Dimension in mm

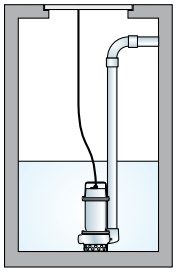


Installations available

A



B



DGX



Special alloy pumps

General characteristics

- Special alloy pumps
- 0,37 ÷ 1,5 kW motor power
- 2 / 4 poles
- GAS 2" V - DN65 - DN80 delivery port
- max 60 mm free passage

Electromechanical assembly

Electromechanical assembly in CF-8M (AISI 316) stainless steel, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals assembled opposing and with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Ideal for lifting strongly corrosive or aggressive strained liquids, especially in the chemical industry. Intended for specific industrial applications.

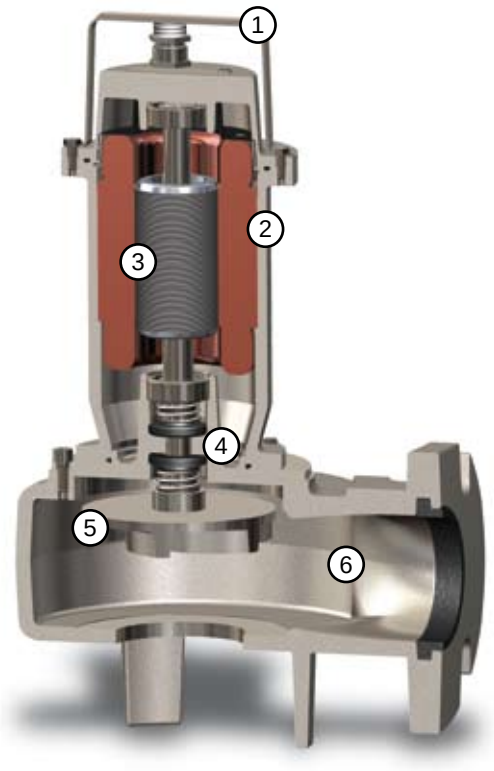
Construction materials

Case	Cast Stainless Steel - CF-8M (AISI 316)
Impeller	Stainless steel
Nuts and bolts	Stainless Steel - Class A4-70
Standard gasket	Rubber - VITON
Shaft	Stainless Steel - AISI 316
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	5 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

DGX





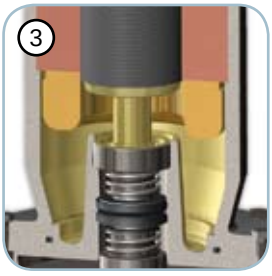
Handle and cable gland

AISI 316 stainless steel lifting and carrying handle. A rigid or flexible duct can be fixed to the cable gland to protect the power supply cable



Structure

CF-8M steel construction which makes the pump suitable for use in saline environments



Motor

Oil-bath motor with thermal overloads



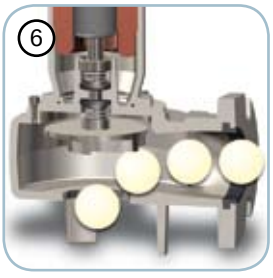
Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Impeller

Vortex impeller in CF-8M steel



Free passage

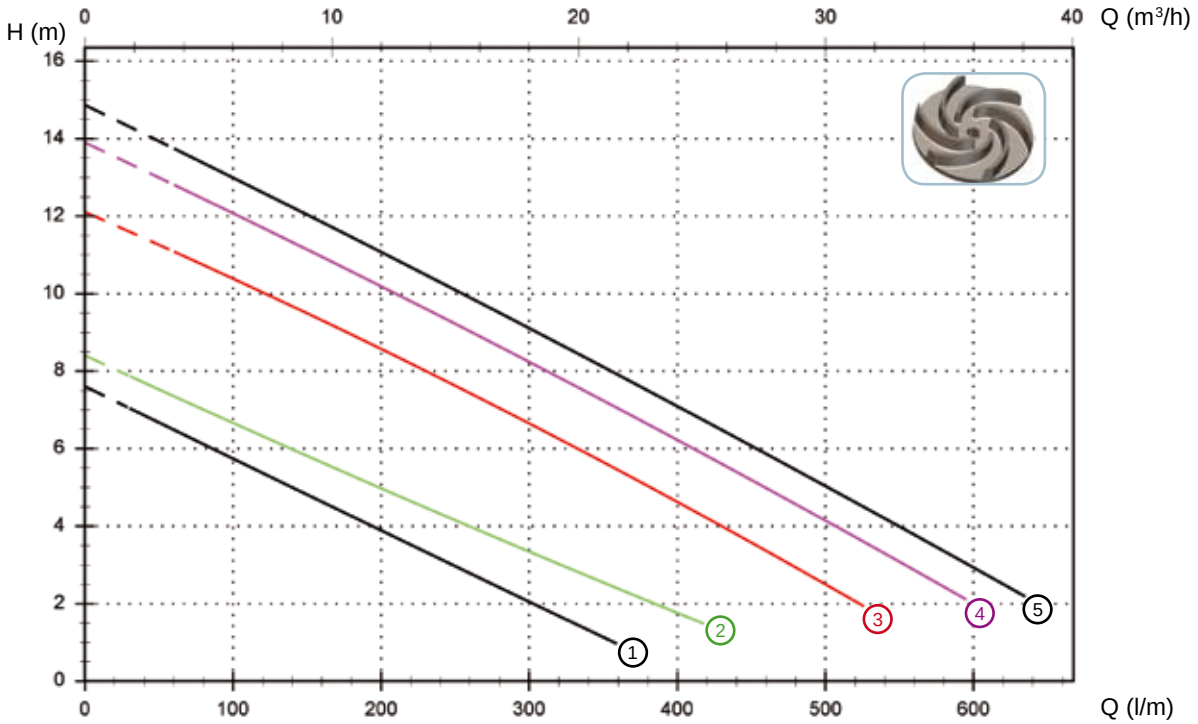
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DGX

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6	7	8	9	10
	l/min	0	60	120	180	240	300	360	420	480	540	600
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2	28,8	32,4	36,0
1	DGX 50/2/G50V A0CM(T)/50	7,6	6,5	5,4	4,3	3,2	2,1					
2	DGX 75/2/G50V A0CM(T)/50	8,4	7,4	6,3	5,3	4,3	3,3	2,4				
3	DGX 100/2/G50V A0CM(T)/50	12,1	11,1	10,0	8,9	7,8	6,7	5,4	4,2	2,9		
4	DGX 150/2/G50V A0CM(T)/50	13,9	12,8	11,7	10,6	9,4	8,2	7,0	5,8	4,6	3,3	
5	DGX 200/2/G50V A0CM(T)/50	14,9	13,7	12,6	11,5	10,3	9,1	7,9	6,7	5,5	4,2	2,9



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGX 50/2/G50V A0CM/50	230	1	-	0.37	2.9	2900	G 2”	A	38 mm
2	DGX 75/2/G50V A0CM/50	230	1	-	0.55	3.9	2900	G 2”	A	38 mm
3	DGX 100/2/G50V A0CM/50	230	1	-	0.88	6.5	2900	G 2”	A	38 mm
4	DGX 150/2/G50V A0CM/50	230	1	-	1.1	8.2	2900	G 2”	A	38 mm
5	DGX 200/2/G50V A0CM/50	230	1	-	1.5	9.3	2900	G 2”	A	38 mm

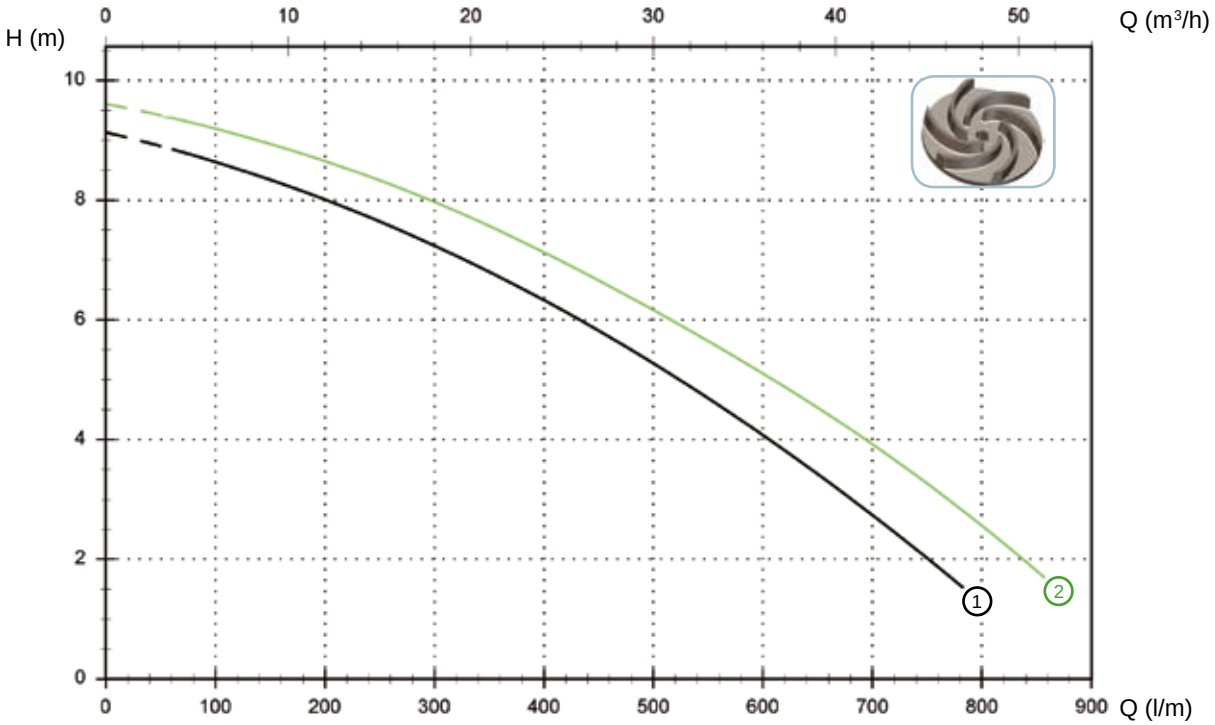
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGX 50/2/G50V A0CT/50	400	3	-	0.37	1.1	2900	G 2”	A	38 mm
2	DGX 75/2/G50V A0CT/50	400	3	-	0.55	1.42	2900	G 2”	A	38 mm
3	DGX 100/2/G50V A0CT/50	400	3	-	0.88	2.3	2900	G 2”	A	38 mm
4	DGX 150/2/G50V A0CT/50	400	3	-	1.1	2.7	2900	G 2”	A	38 mm
5	DGX 200/2/G50V A0CT/50	400	3	-	1.5	3.5	2900	G 2”	A	38 mm

(*) A = H07RN-F 4G1 - 10 m

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12	14
	l/min	0	120	240	360	480	600	720	840
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4
1 DGX 150/2/65 A0CM(T)50		9,1	8,5	7,7	6,7	5,5	4,1	2,5	
2 DGX 200/2/65 A0CM/(T)50		9,6	9,1	8,4	7,5	6,4	5,1	3,7	2,0



Technical data

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGX 150/2/65 A0CM/50	230	1	-	1.1	8.2	2900	DN65 PN10-16	A	50 mm
2 DGX 200/2/65 A0CM/50	230	1	-	1.5	9.3	2900	DN65 PN10-16	A	50 mm

	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DGX 150/2/65 A0CT/50	400	3	-	1.1	2.7	2900	DN65 PN10-16	A	50 mm
2 DGX 200/2/65 A0CT/50	400	3	-	1.5	3.5	2900	DN65 PN10-16	A	50 mm

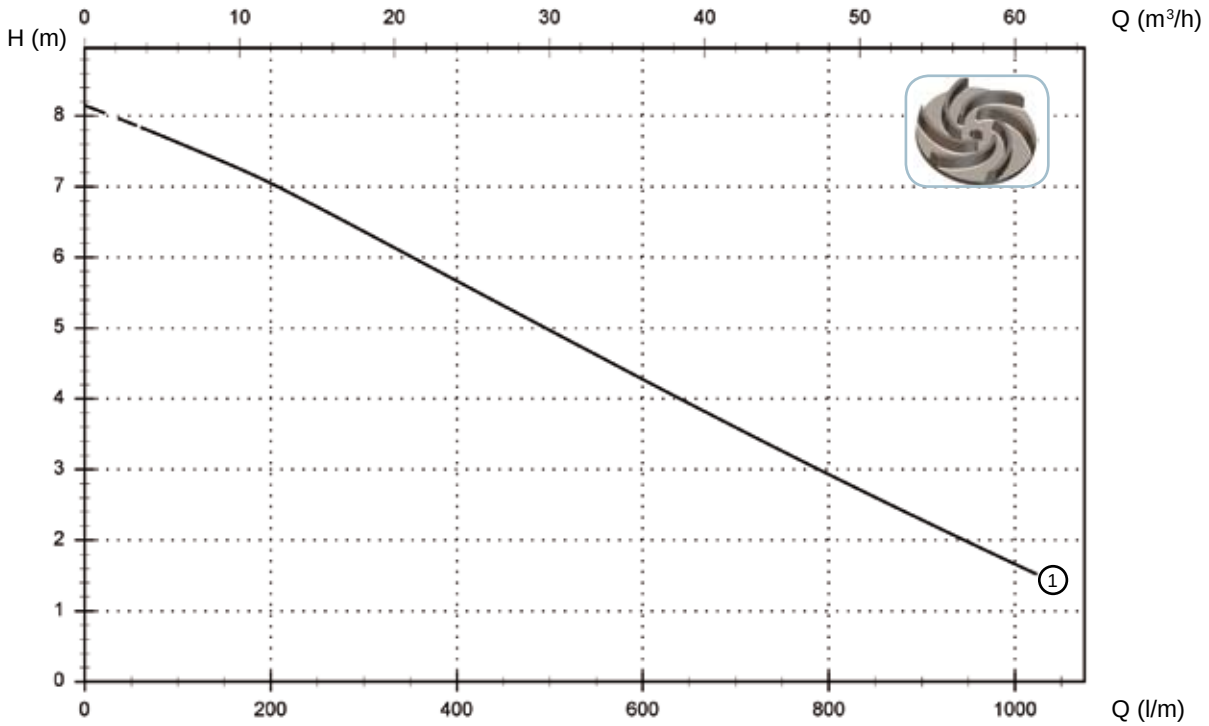
(*) A = H07RN-F 4G1 - 10 m

DGX

Models with horizontal DN80 PN10 anged delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12	14	16
	l/min	0	120	240	360	480	600	720	840	960
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4	57,6
(1) DGX 200/2/80A A0CM(T)/50		8,1	7,5	6,8	5,9	5,1	4,3	3,5	2,7	1,9



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGX 200/2/80 A0CM/50	230	1	-	1.5	9.3	2900	DN80 PN10	A	60 mm

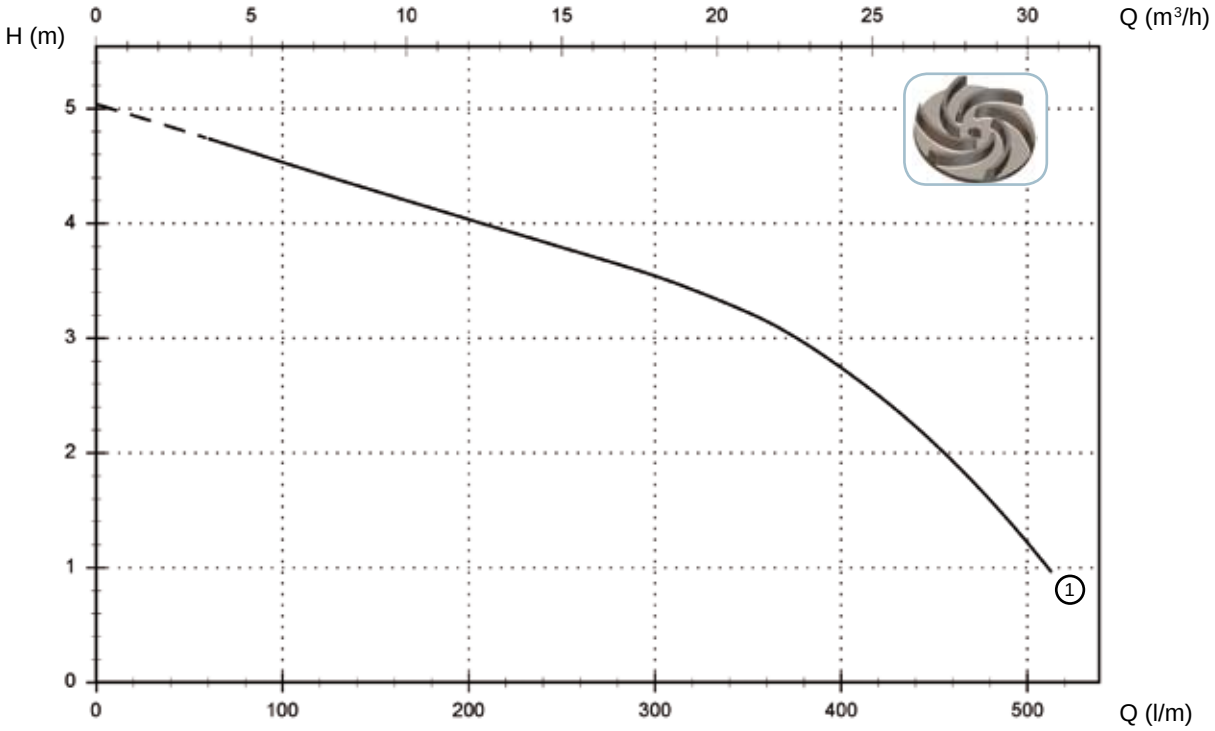
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DGX 200/2/80 A0CT/50	400	3	-	1.5	3.5	2900	DN80 PN10	A	60 mm

(*) A = H07RN-F 4G1 - 10 m

Models with vertical GAS 2” threaded delivery port - 4 poles

Performances

	l/s	0	1	2	3	4	5	6	7	8
	l/min	0	60	120	180	240	300	360	420	480
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2	28,8
①	DGX 100/4/G50V A0CM(T)/50	5,0	4,7	4,4	4,1	3,8	3,5	3,1	2,5	1,6



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
①	DGX 100/4/G50V A0CM/50	230	1	-	0.63	4.5	1450	G 2”	A	20 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
①	DGX 100/4/G50V A0CT/50	400	3	-	0.63	1.85	1450	G 2”	A	20 mm

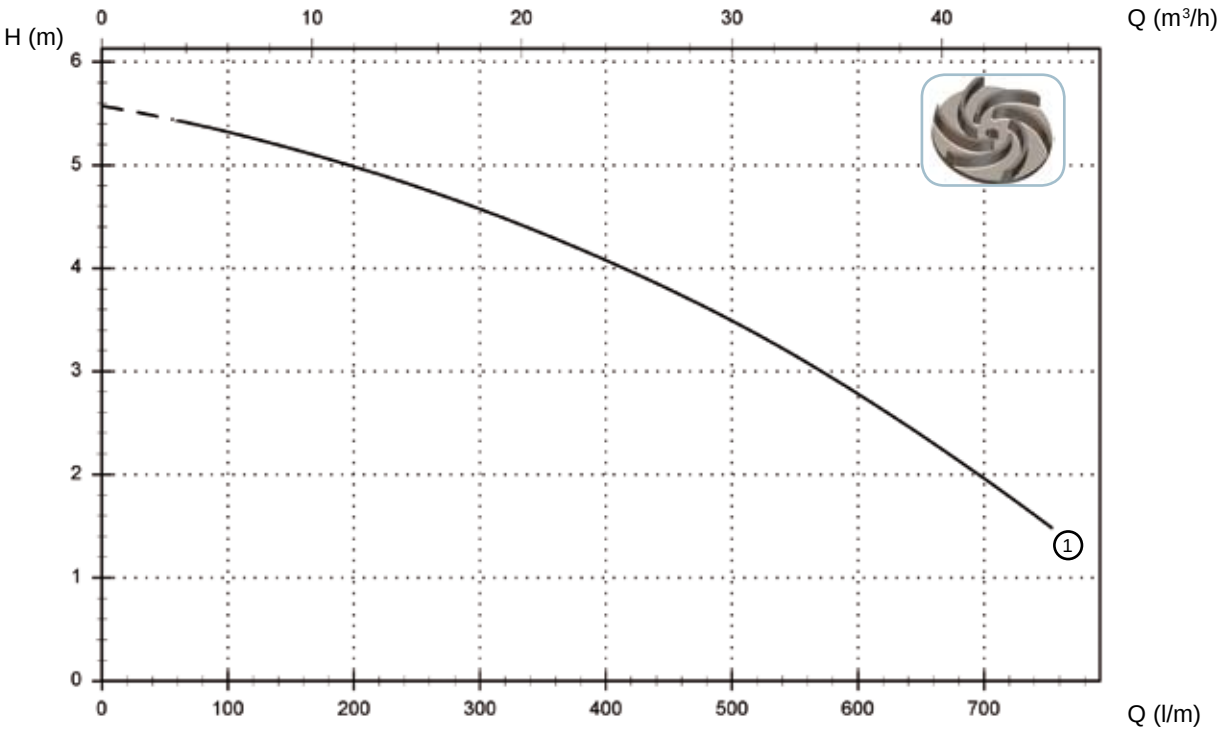
(*) A = H07RN-F 4G1 - 10 m

DGX

Models with horizontal DN65 PN10-16 anged delivery port - 4 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
① DGX 150/4/65 A0CM(T)/50		5,6	5,3	4,8	4,3	3,6	2,8	1,8



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGX 150/4/65 A0CM/50	230	1	-	0.9	6.3	1450	DN65 PN10-16	A	45 mm

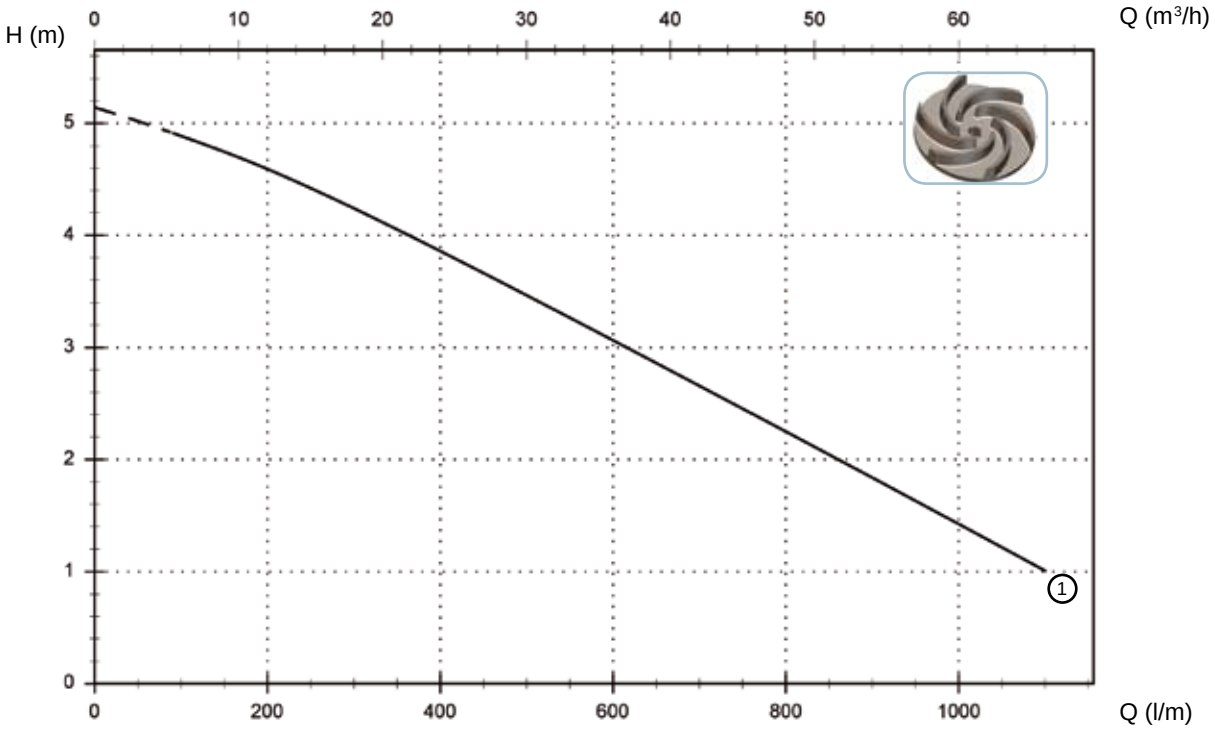
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGX 150/4/65 A0CT/50	400	3	-	0.9	2.2	1450	DN65 PN10-16	A	45 mm

(*) A = H07RN-F 4G1 - 10 m

Models with horizontal DN80 PN10 anged delivery port - 4 poles

Performances

	l/s	0	2	4	6	8	10	12	14	16	18
	l/min	0	120	240	360	480	600	720	840	960	1080
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2	50,4	57,6	64,8
① DGX 150/4/80A A0CM(T)/50		5,1	4,8	4,5	4,0	3,5	3,1	2,6	2,1	1,6	1,1



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGX 150/4/80A0CM/50	230	1	-	0.9	6.3	1450	DN80 PN10	A	60 mm

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
① DGX 150/4/80A0CT/50	400	3	-	0.9	2.23	1450	DN80 PN10	A	60 mm

(*) A = H07RN-F 4G1 - 10 m

DGX

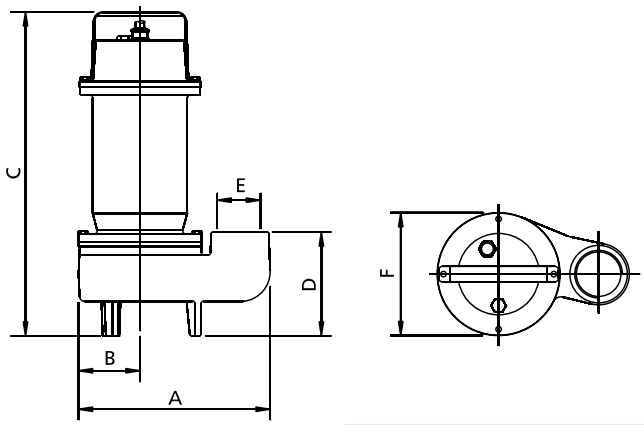
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGX 50/2/G50V A0CM/50		●						●	●						●		●			
DGX 75/2/G50V A0CM/50		●						●	●						●		●			
DGX 100/2/G50V A0CM/50		●						●	●						●		●			
DGX 150/2/G50V A0CM/50		●						●	●						●		●			
DGX 200/2/G50V A0CM/50		●						●	●						●		●			
DGX 50/2/G50V A0CT/50	●														●		●			
DGX 75/2/G50V A0CT/50	●														●		●			
DGX 100/2/G50V A0CT/50	●														●		●			
DGX 150/2/G50V A0CT/50	●														●		●			
DGX 200/2/G50V A0CT/50	●														●		●			
DGX 150/2/65 A0CM/50		●						●	●						●		●			
DGX 200/2/65 A0CM/50		●						●	●						●		●			
DGX 150/2/65 A0CT/50	●														●		●			
DGX 200/2/65 A0CT/50	●														●		●			
DGX 200/2/80 A0CM/50		●						●	●						●		●			
DGX 200/2/80 A0CT/50	●														●		●			
DGX 100/4/G50V A0CM/50		●						●	●						●		●			
DGX 100/4/G50V A0CT/50	●														●		●			
DGX 150/4/65 A0CM/50		●						●	●						●		●			
DGX 150/4/65 A0CT/50	●														●		●			
DGX 150/4/80 A0CM/50		●						●	●						●		●			
DGX 150/4/80 A0CT/50	●														●		●			

Overall dimensions and weights

Models with vertical delivery port

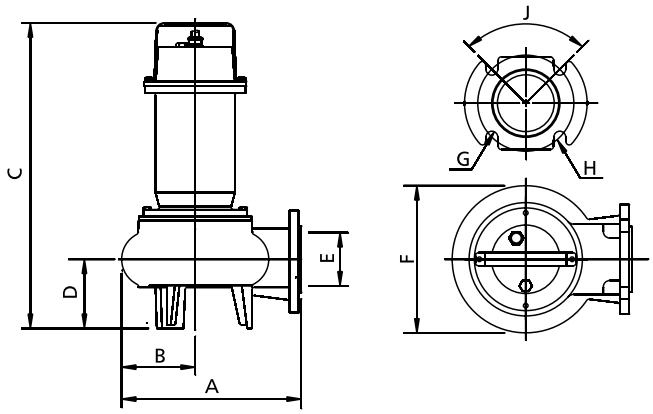


	A	B	C	D	E	F	kg
DGX 50/2/G50V A0CM(T)/50	225	75	360	120	G 2”	155	18
DGX 75/2/G50V A0CM(T)/50	225	75	360	120	G 2”	155	18
DGX 100/2/G50V A0CM (T)/50	245	80	410	130	G 2”	155	22
DGX 150/2/G50V A0CM (T)/50	245	80	410	130	G 2”	155	23
DGX 200/2/G50V A0CM (T)/50	245	80	410	130	G 2”	155	22
DGX 100/4/G50V A0CM (T)/50	245	80	410	130	G 2”	155	22

Measurements in mm

Overall dimensions and weights

Models with horizontal delivery port

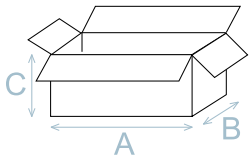


	A	B	C	D	E	F	G	H	J	kg
DGX 150/2/65 A0CM(T)/50	270	110	460	105	65	220	18	145	90°	28
DGX 200/2/65 A0CM(T)/50	270	110	460	105	65	220	18	145	90°	29
DGX 200/2/80 A0CM(T)/50	270	110	460	105	80	220	18	160	90°	33.5
DGX 150/4/65 A0CM(T)/50	270	110	460	105	65	220	18	145	90°	29
DGX 150/4/80 A0CM(T)/50	295	120	470	115	80	220	18	160	90°	33.5

Measurements in mm

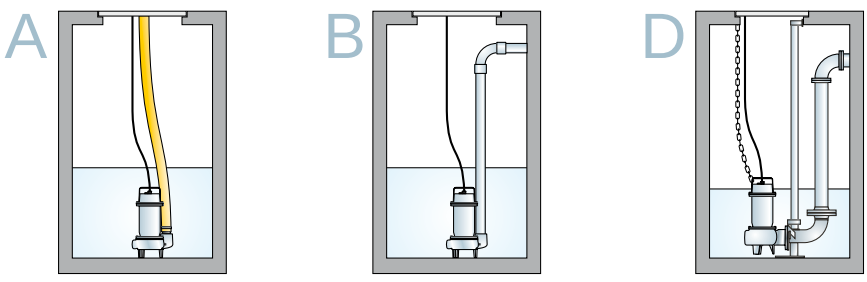
Packaging dimension

	A	B	C
DGX 50/2/G50V A0CM(T)/50	385	225	245
DGX 75/2/G50V A0CM(T)/50	385	225	245
DGX 100/2/G50V A0CM(T)/50	475	285	235
DGX 150/2/G50V A0CM(T)/50	475	285	235
DGX 200/2/G50V A0CM(T)/50	475	285	235
DGX 100/4/G50V A0CM(T)/50	580	310	310
DGX 150/2/65 A0CM(T)/50	580	310	310
DGX 200/2/65 A0CM(T)/50	580	310	310
DGX 200/2/80 A0CM(T)/50	580	310	310
DGX 150/4/65 A0CM(T)/50	580	310	310
DGX 150/4/80 A0CM(T)/50	580	310	310



Dimension in mm

Installations available



DRY



Special alloy pumps

General characteristics

- Special alloy pumps
- 2,4 ÷ 15 kW motor power
- 2 / 4 poles
- DN65 ÷ DN100 delivery port
- max 80 mm free passage

Electromechanical assembly

Electromechanical assembly in CF-8M (AISI 316) stainless steel, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. 'Separate pump body. Series not available in explosion-proof version.

Applications

Designed for the treatment of strongly corrosive or chemically aggressive liquids, especially in the chemical industry, this unit is for a specific industrial application. Suitable for treating medium-low density fluids, containing solid and fibrous parts, sand and activated sludges.

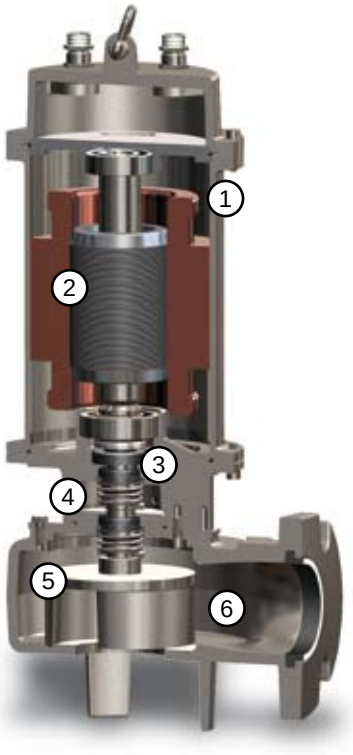
Construction materials

Case	Cast Stainless Steel - CF-8M
Impeller	Stainless steel
Nuts and bolts	Stainless Steel - Class A4-70
Standard gasket	Rubber - VITON
Shaft	Stainless Steel - AISI 420
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	5 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

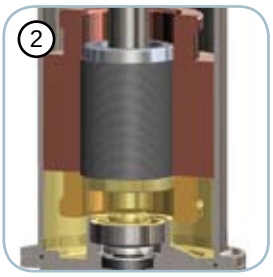
DRY





Structure

CF-8M steel construction which makes the pump suitable for use in saline environments



Motor

Oil-bath motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL) for maximum reliability even in heavy-duty applications



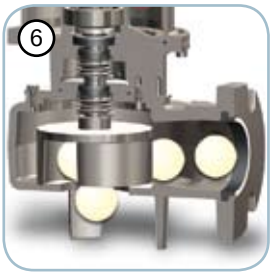
Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



Impeller

Multichannel open impeller in CF-8M steel



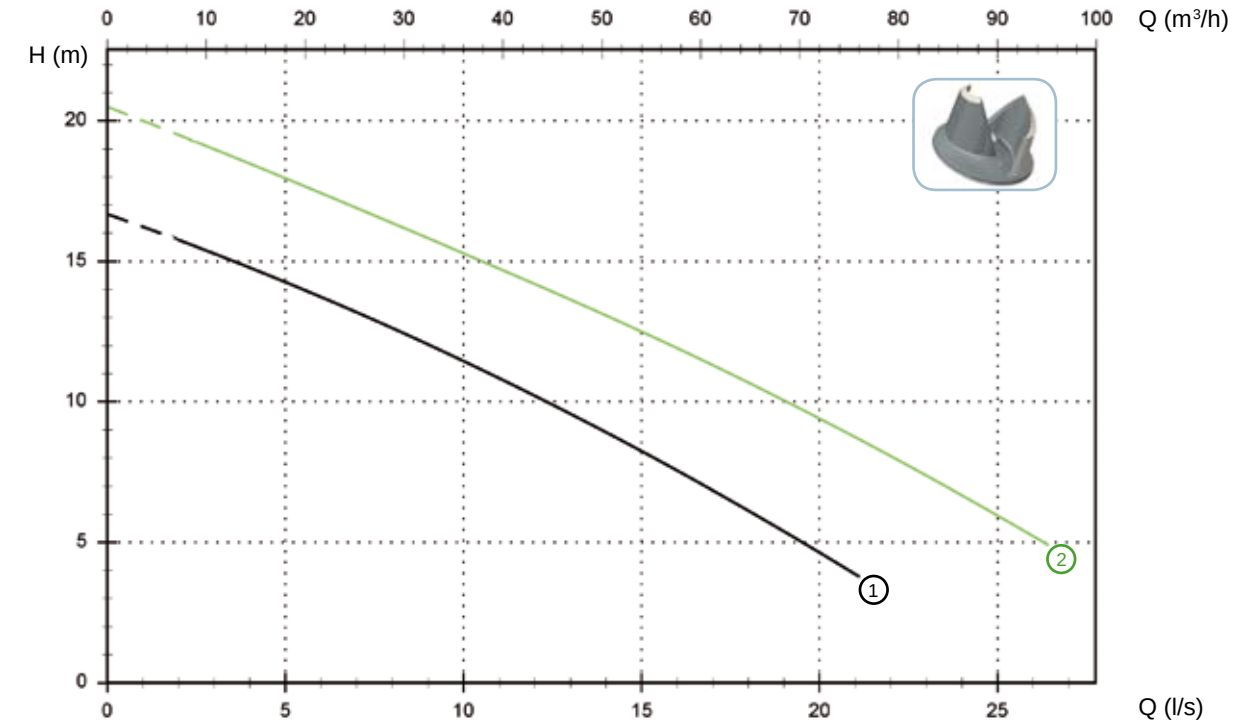
Free passage

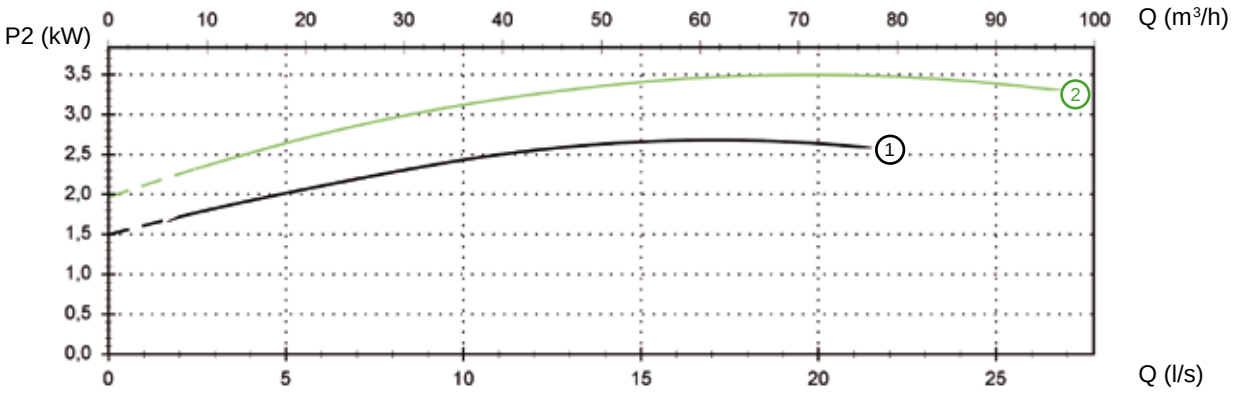
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DRY

Models with horizontal DN65 PN10-16 anged delivery port - 2 poles

Performances





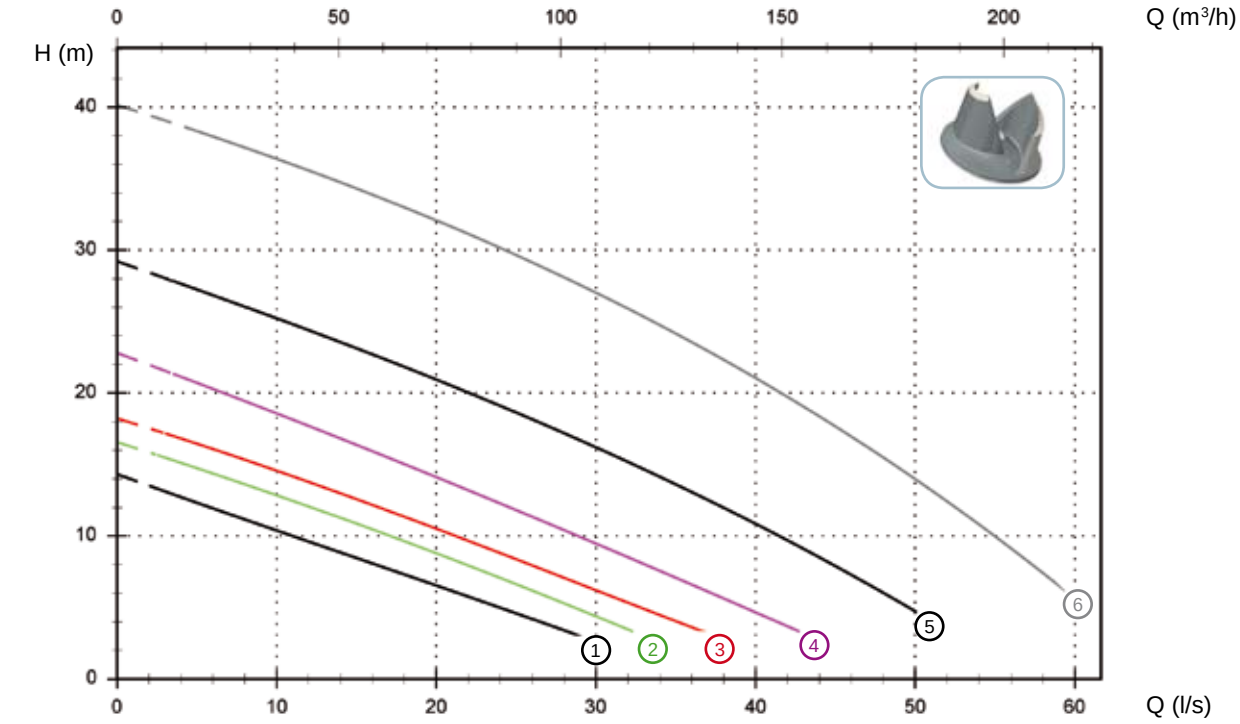
Technical data

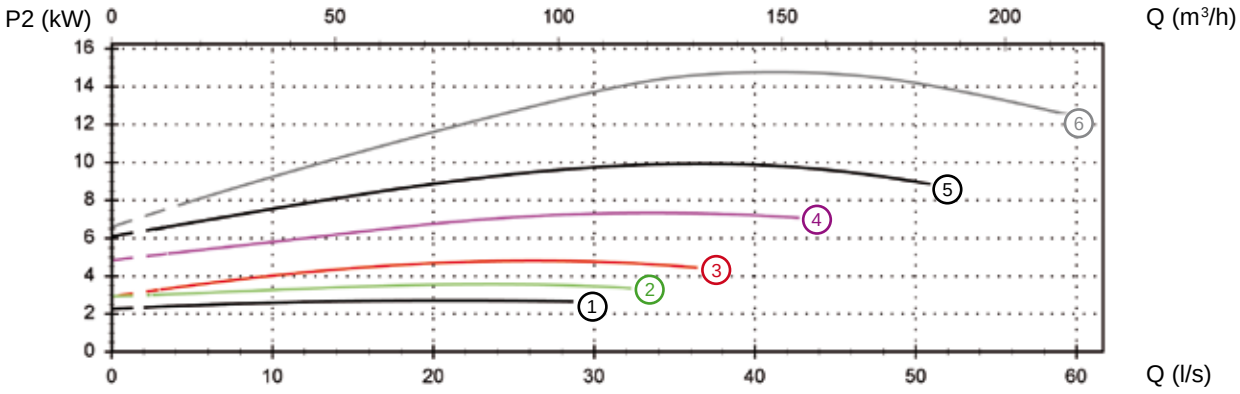
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRY 300/2/65 A0ET/50	400	3	3.7	2.7	6	2900	DN65 PN10-16	A	43 mm
(2) DRY 400/2/65 A0FT/50	400	3	4.7	3.6	8	2900	DN65 PN10-16	A	43 mm

(*) A = H07RN-F 4G1.5 + H07RN-F 2G1 - 10 m

Models with horizontal DN80 PN10 anged delivery port - 2 poles

Performances





Technical data

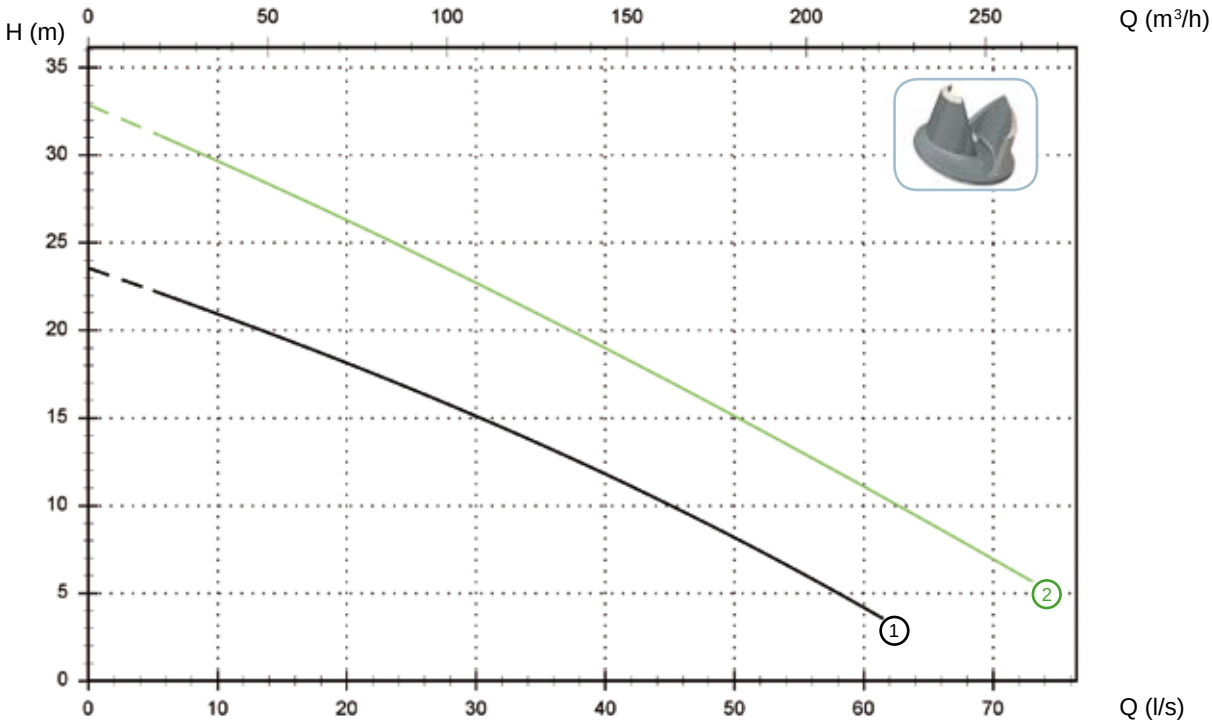
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRY 300/2/80 A0ET/50	400	3	3.7	2.7	6	2900	DN80 PN10	A	56 mm
2	DRY 400/2/80 A0FT/50	400	3	4.7	3.6	8	2900	DN80 PN10	A	56 mm
3	DRY 550/2/80 A0GT/50	400	3	5.9	4.9	10.1	2900	DN80 PN10	A	56 mm
4	DRY 750/2/80 A0HT/50	400	3	8.8	7.2	14.5	2900	DN80 PN10	B	63 mm
5	DRY 1000/2/80 A0HT/50	400	3	12.4	10	19.8	2900	DN80 PN10	B	65 mm
6	DRY 1500/2/80 A0HT/50	400	3	17.7	15	28.2	2900	DN80 PN10	B	60 mm

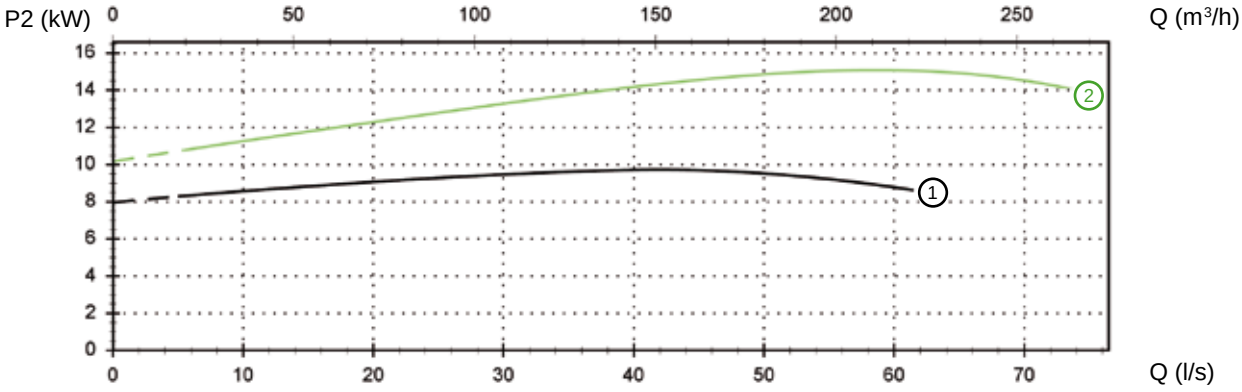
(*) A = H07RN-F 4G1.5+ H07RN-F 2G1 - 10 m
B = H07RN-F 4G2.5 + H07RN-F 4G2.5 + H07RN-F 2G1 - 10 m

DRY

Models with horizontal DN100 PN10-16 anged delivery port - 2 poles

Performances





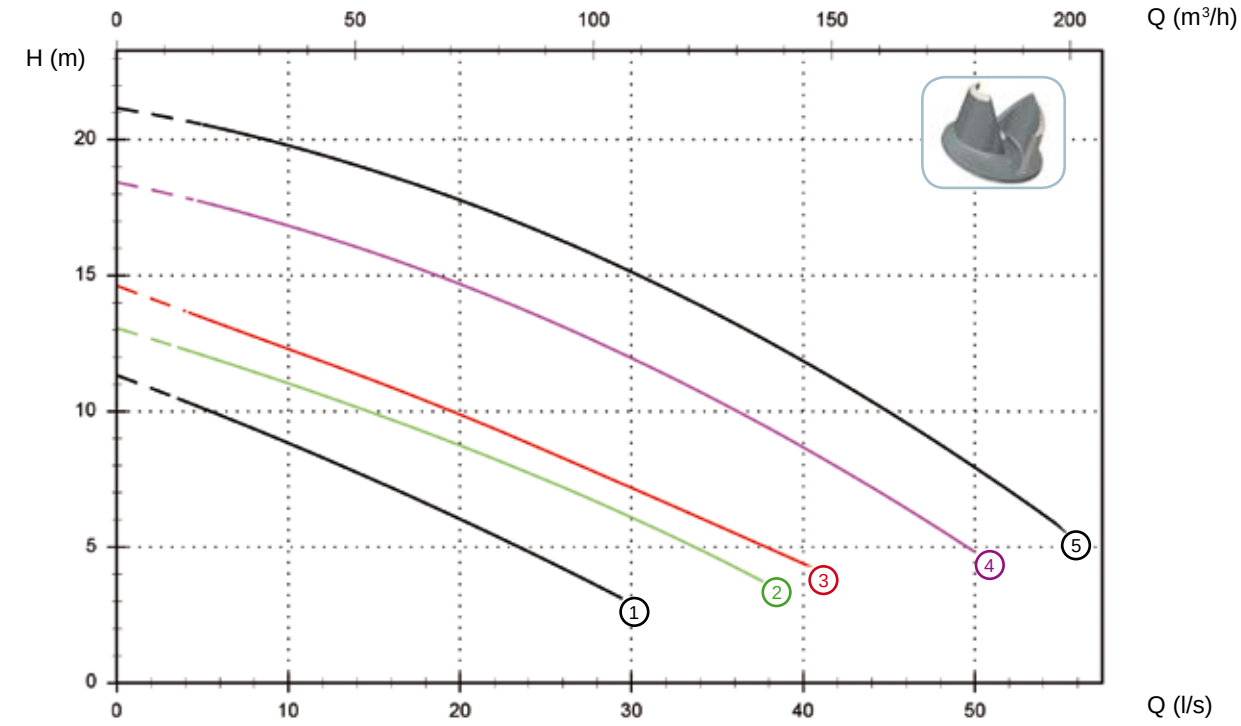
Technical data

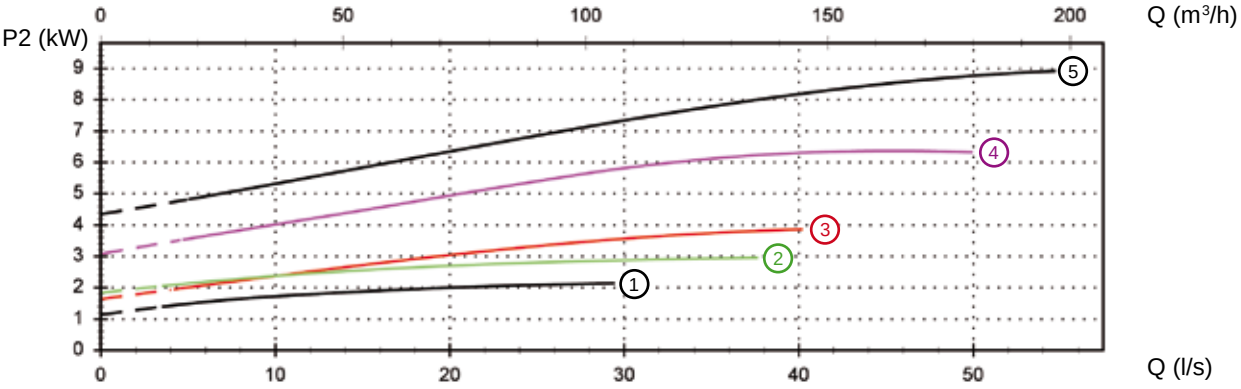
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRY 1000/2/100 A0HT/50	400	3	12.4	10	19.8	2900	DN100 PN10-16	A	80 mm
(2) DRY 1500/2/100 A0HT/50	400	3	17.7	15	28.2	2900	DN100 PN10-16	A	80 mm

(*) A = H07RN-F 4G2.5 + H07RN-F 4G2.5 + H07RN-F 2G1 - 10 m

Models with horizontal DN80 PN10 anged delivery port - 4 poles

Performances





Technical data

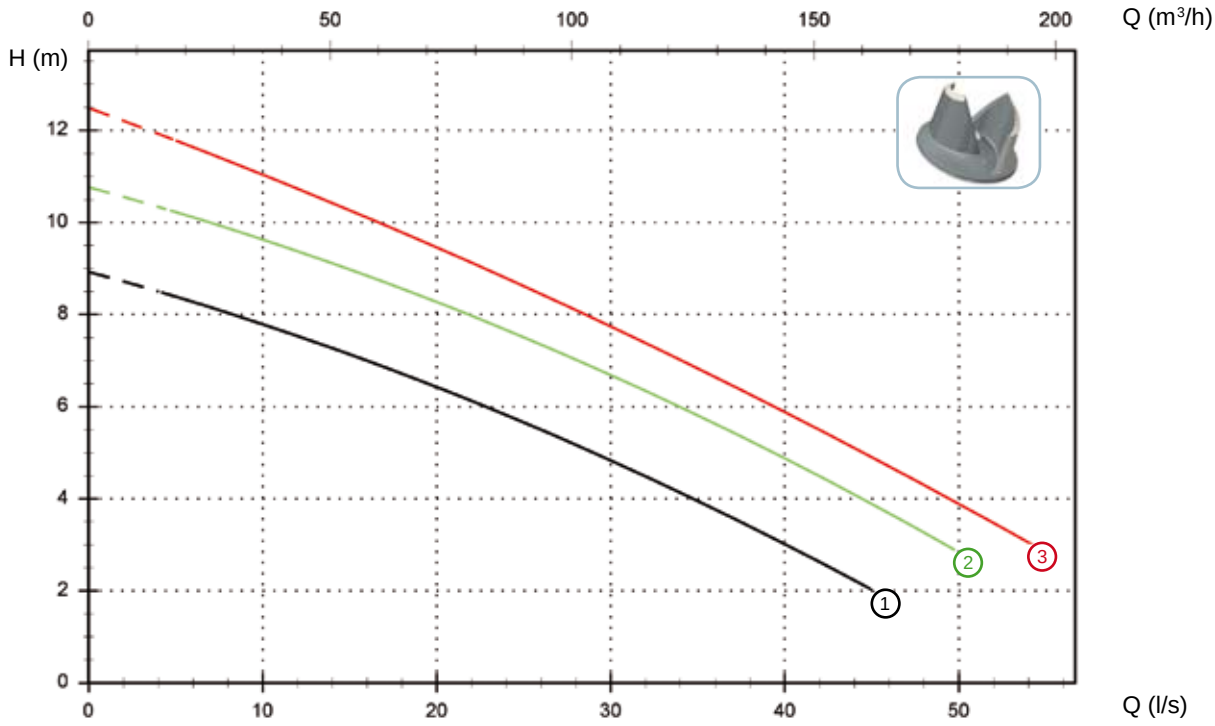
		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRY 300/4/80 A0FT/50	400	3	3.1	2.4	6.1	1450	DN80 PN10	A	67 mm
2	DRY 400/4/80 A0FT/50	400	3	4.1	3	7.9	1450	DN80 PN10	A	67 mm
3	DRY 550/4/80 A0GT/50	400	3	5.9	4.6	10.1	1450	DN80 PN10	A	67 mm
4	DRY 750/4/80 A0HT/50	400	3	8.6	6.5	14.9	1450	DN80 PN10	B	70 mm
5	DRY 1000/4/80 A0HT/50	400	3	11.5	8.9	20	1450	DN80 PN10	B	70 mm

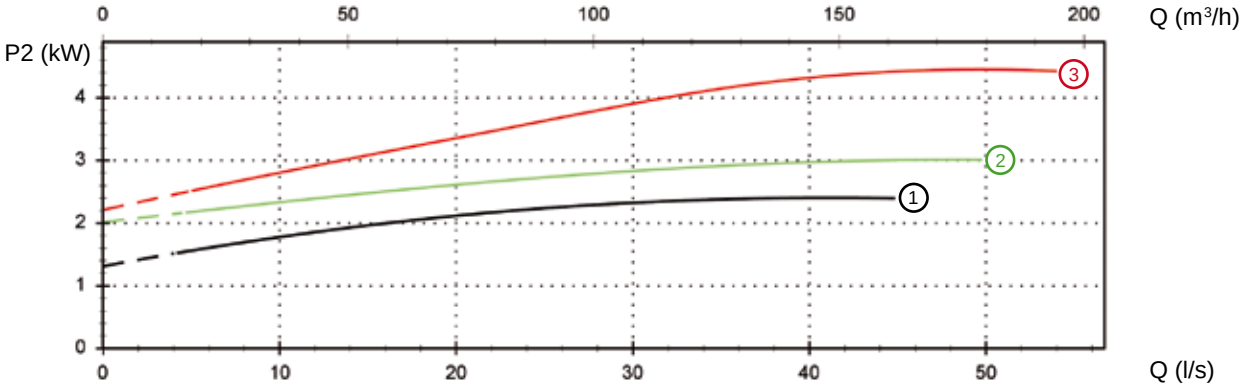
(*) A = H07RN-F 4G1.5 + H07RN-F 2G1- 10 m
B = H07RN-F 4G2.5 + H07RN-F 4G2.5 + H07RN-F 2G1 - 10 m

DRY

Models with horizontal DN100 PN10-16 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1 DRY 300/4/100 A0FT/50	400	3	3.1	2.4	6.1	1450	DN100 PN10-16	A	76 mm
2 DRY 400/4/100 A0FT/50	400	3	4.1	3	7.9	1450	DN100 PN10-16	A	76 mm
3 DRY 550/4/100 A0GT/50	400	3	5.9	4.6	10.1	1450	DN100 PN1016	B	76 mm

(*) A = H07RN-F 4G1.5 + H07RN-F 2G1 - 10 m
B = H07RN-F 4G2.5 + H07RN-F 2G1 - 10 m

DRY

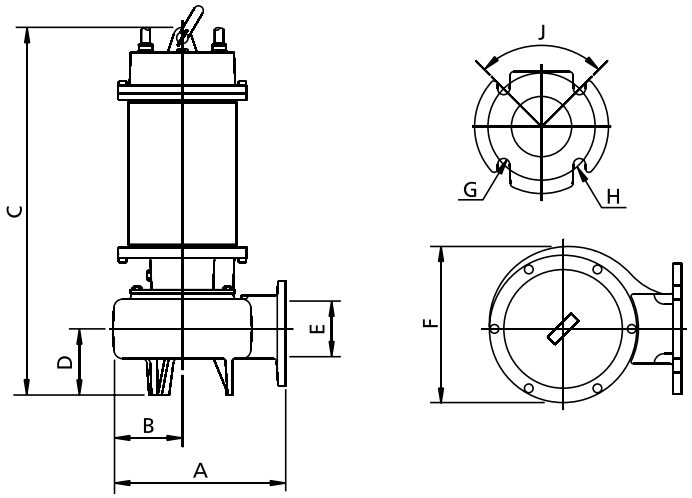
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRY 300/2/65 A0ET/50		●													●					●
DRY 400/2/65 A0FT/50		●													●					●
DRY 300/2/80 A0ET/50		●													●					●
DRY 400/2/80 A0FT/50		●													●					●
DRY 550/2/80 A0GT/50		●													●					●
DRY 750/2/80 A0HT/50		●													●					●
DRY 1000/2/80 A0HT/50		●													●					●
DRY 1500/2/80 A0HT/50		●													●					●
DRY 1000/2/100 A0HT/50		●													●					●
DRY 1500/2/100 A0HT/50		●													●					●
DRY 300/4/80 A0FT/50		●													●					●
DRY 400/4/80 A0FT/50		●													●					●
DRY 550/4/80 A0GT/50		●													●					●
DRY 750/4/80 A0HT/50		●													●					●
DRY 1000/4/80 A0HT/50		●													●					●
DRY 300/4/100 A0FT/50		●													●					●
DRY 400/4/100 A0FT/50		●													●					●
DRY 550/4/100 A0GT/50		●													●					●

Overall dimensions and weights

2 poles motor models



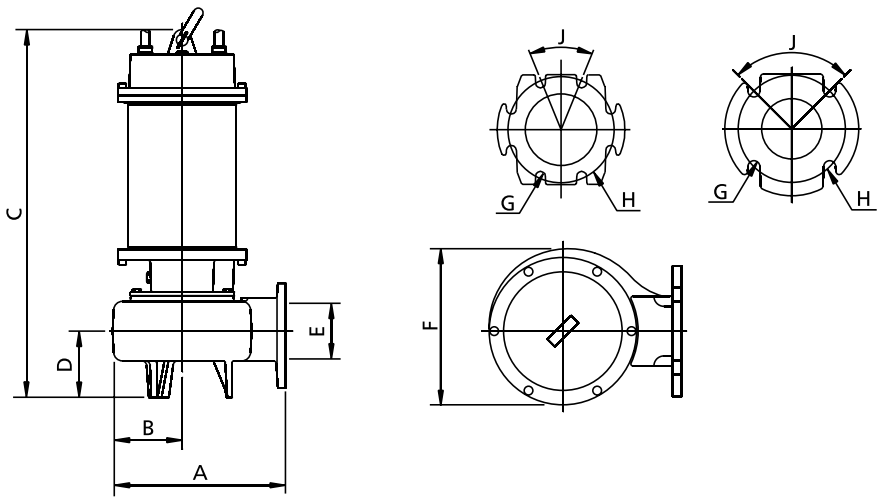
	A	B	C	D	E	F	G	H	J	kg
DRY 300/2/65 A0ET/50	270	110	570	105	65	220	18	145	90°	50
DRY 400/2/65 A0FT/50	270	110	645	105	65	220	18	145	90°	54
DRY 300/2/80 A0ET/50	295	120	580	115	80	220	18	160	90°	51
DRY 400/2/80 A0FT/50	295	120	660	115	80	235	18	160	90°	65
DRY 550/2/80 A0GT/50	295	120	665	115	80	235	18	160	90°	62
DRY 750/2/80 A0HT/50	390	150	755	150	80	295	18	160	90°	104
DRY 1000/2/80 A0HT/50	390	150	755	150	80	295	18	160	90°	110
DRY 1500/2/80 A0HT/50	390	150	755	150	80	295	18	160	90°	130
DRY 1000/2/100 A0HT/50	415	160	770	155	100	310	18	180	90°	115
DRY 1500/2/100 A0HT/50	415	160	770	155	100	310	18	180	90°	144

Measurements in mm

DRY

Overall dimensions and weights

4 poles motor models



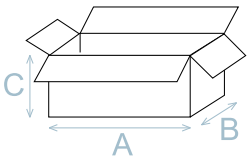
	A	B	C	D	E	F	G	H	J	kg
DRY 300/4/80A0FT/50	390	150	710	150	80	290	18	160	90°	73
DRY 400/4/80A0FT/50	390	150	710	150	80	290	18	160	90°	81
DRY 550/4/80 A0GT/50	390	150	720	150	80	290	18	160	90°	87
DRY 750/4/80 A0HT/50	440	170	775	155	80	340	18	160	90°	120
DRY 1000/4/80 A0HT/50	440	170	775	155	80	340	18	160	90°	128
DRY 300/4/100 A0FT/50	415	160	725	155	100	310	18	180	45°	75
DRY 400/4/100 A0FT/50	415	160	720	155	100	310	18	180	45°	85
DRY 550/4/100 A0GT/50	415	160	725	155	100	310	18	180	45°	91

Measurements in mm

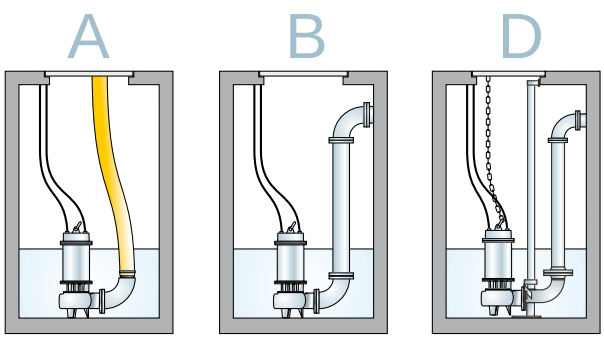
Packaging dimension

	A	B	C
DRY 300/2/65 A0ET/50	725	445	415
DRY 400/2/65 A0FT/50	725	445	415
DRY 300/2/80A0ET/50	725	445	415
DRY 400/2/80A0FT/50	725	445	415
DRY 550/2/80A0GT/50	725	445	415
DRY 750/2/80A0HT/50	915	515	555
DRY 1000/2/80A0HT/50	915	515	555
DRY 1500/2/80A0HT/50	915	515	555
DRY 1000/2/100 A0HT/50	915	515	555
DRY 1500/2/100 A0HT/50	915	515	555
DRY 300/4/80A0FT/50	725	445	415
DRY 400/4/80A0FT/50	725	445	415
DRY 550/4/80 A0GT/50	725	445	415
DRY 750/4/80 A0HT/50	915	515	555
DRY 1000/4/80 A0HT/50	915	515	555
DRY 300/4/100 A0FT/50	725	445	415
DRY 400/4/100 A0FT/50	725	445	415
DRY 550/4/100 A0GT/50	725	445	415

Dimension in mm



Installations available




ZENIT

DRB



Special alloy pumps

General characteristics

- Special alloy pumps
- 0,37 ÷ 1,5 kW motor power
- 2 poles
- GAS 1 1/4" - 2" vertical delivery port
- max 15 mm free passage

Electromechanical assembly

Electromechanical assembly in B10 bronze, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for treating chemically aggressive strained liquids, dyes and seawater. Can be used for applications in the tanning industry and the shipping sector.

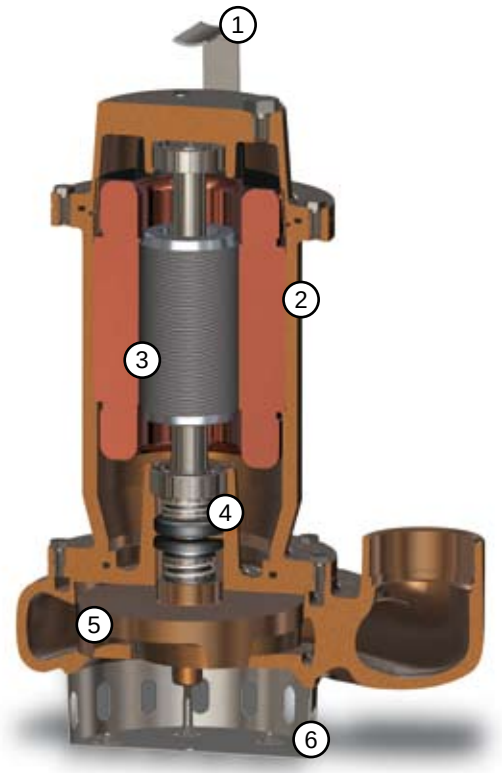
Construction materials

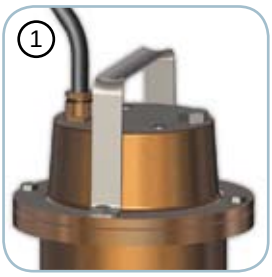
Case	Bronze B10
Impeller	Bronze B10
Nuts and bolts	Stainless Steel - Class A4
Standard gasket	Rubber - VITON
Shaft	Stainless Steel - AISI 316
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

operating limits

Maximum operating temperature	40 °C
PH of treated fluid	5 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

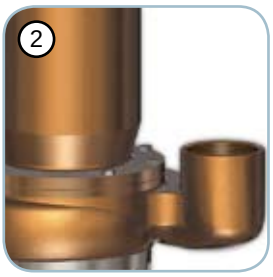
DRB





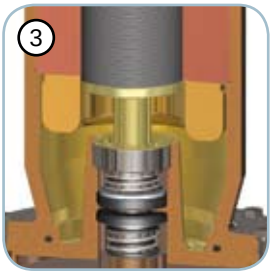
Handle

AISI 304 stainless steel lifting and carrying handle



Structure

B10 bronze construction which makes the pump suitable for use with chemically aggressive liquids



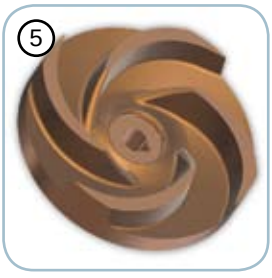
Motor

Oil-bath motor with thermal overloads



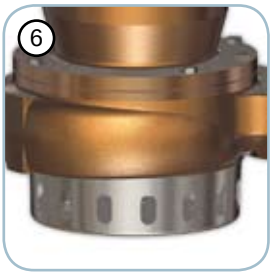
Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Impeller

Multichannel open impeller in B10 bronze



Intake strainer

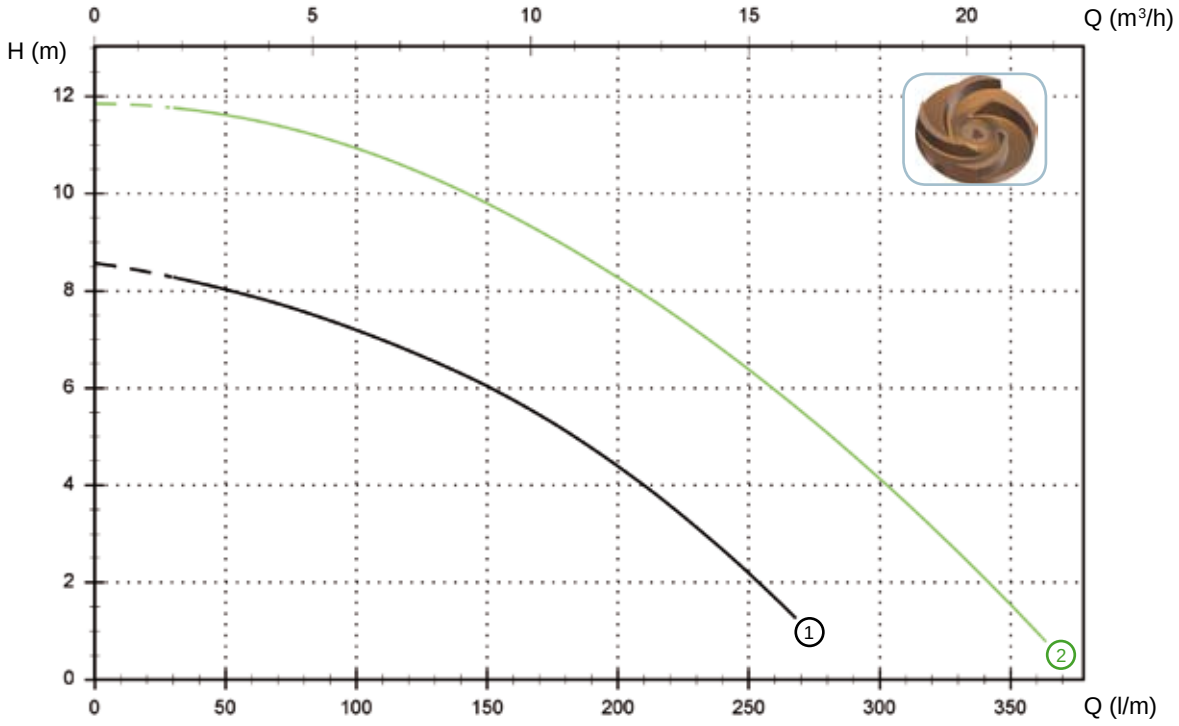
Intake strainer in stainless steel

DRB

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6
	l/min	0	60	120	180	240	300	360
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6
(1) DRB 50/2/G32V A0CM(T)/50		8,6	7,9	6,8	5,1	2,7		
(2) DRB 75/2/G32V A0CM(T)/50		11,9	11,5	10,5	8,9	6,8	4,1	1,0



Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRB 50/2/G32V A0CM/50	230	1	-	0.37	2.9	2900	G 1 1/4"	A	15 mm
(2) DRB 75/2/G32V A0CM/50	230	1	-	0.55	3.9	2900	G 1 1/4"	A	15 mm

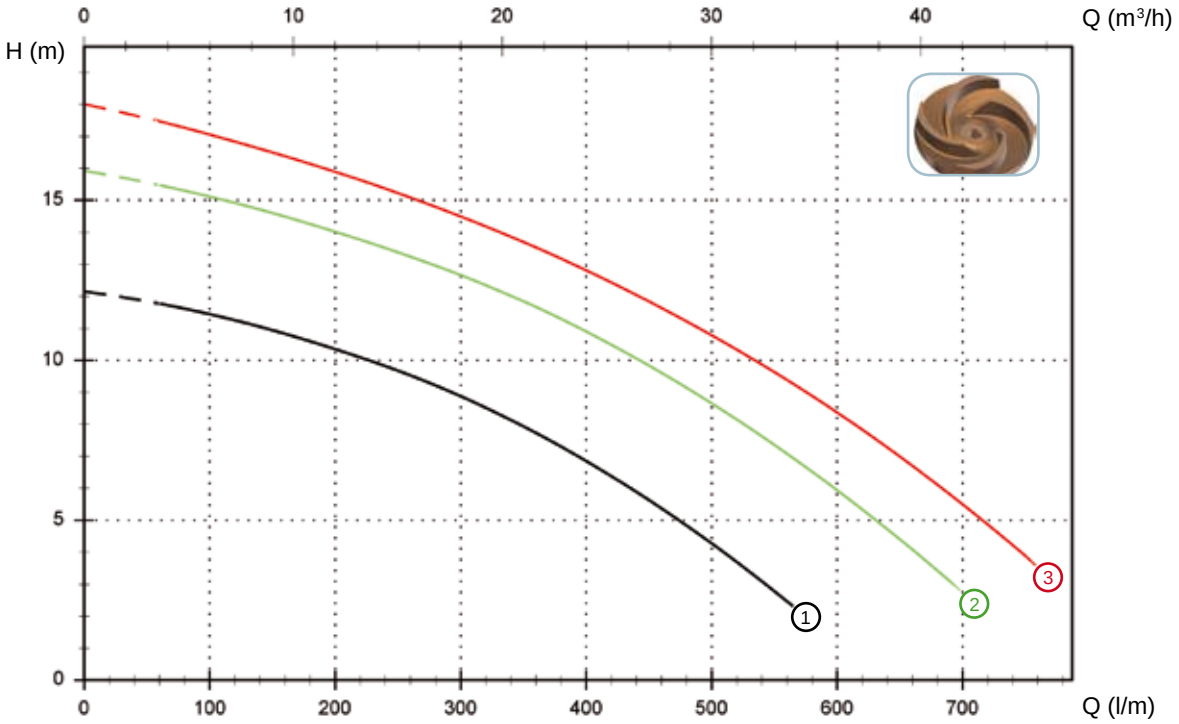
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) DRB 50/2/G32V A0CT/50	400	3	-	0.37	1.1	2900	G 1 1/4"	A	15 mm
(2) DRB 75/2/G32V A0CT/50	400	3	-	0.55	1.4	2900	G 1 1/4"	A	15 mm

(*) A = H07RN-F 4G1 - 10 m

Models with vertical GAS 2” threaded delivery port - 2 poles

Performances

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
1	DRB 100/2/G50V A0CM(T)/50	12,2	11,3	9,8	7,7	4,8		
2	DRB 150/2/G50V A0CM(T)/50	15,9	14,9	13,5	11,7	9,1	5,9	
3	DRB 200/2/G50V A0CM(T)/50	18,0	16,8	15,4	13,5	11,2	8,4	4,9



Technical data

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRB 100/2/G50V A0CM/50	230	1	-	0.88	6.5	2900	G 2”	A	15 mm
2	DRB 150/2/G50V A0CM/50	230	1	-	1.1	8.2	2900	G 2”	A	15 mm
3	DRB 200/2/G50V A0CM/50	230	1	-	1.5	9.3	2900	G 2”	A	15 mm

		V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DRB 100/2/G50V A0CT/50	400	3	-	0.88	2.3	2900	G 2”	A	15 mm
2	DRB 150/2/G50V A0CT/50	400	3	-	1.1	2.7	2900	G 2”	A	15 mm
3	DRB 200/2/G50V A0CT/50	400	3	-	1.5	3.5	2900	G 2”	A	15 mm

(*) A = H07RN-F 4G1 - 10 m

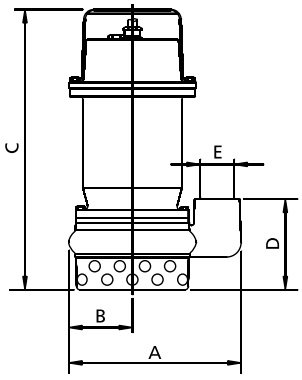
DRB

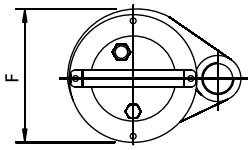
Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DRB 50/2/G32V A0CM/50		●						●	●						●		●			
DRB 75/2/G32V A0CM/50		●						●	●						●		●			
DRB 100/2/G50V A0CM/50		●						●	●						●		●			
DRB 150/2/G50V A0CM/50		●						●	●						●		●			
DRB 200/2/G50V A0CM/50		●						●	●						●		●			
DRB 50/2/G32V A0CT/50	●														●		●			
DRB 75/2/G32V A0CT/50	●														●		●			
DRB 100/2/G50V A0CT/50	●														●		●			
DRB 150/2/G50V A0CT/50	●														●		●			
DRB 200/2/G50V A0CT/50	●														●		●			

Overall dimensions and weights





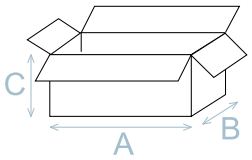
	A	B	C	D	E	F	kg
DRB 50/2/G32V A0CM(T)/50	210	75	340	110	G 1¼”	160	17
DRB 75/2/G32V A0CM (T)/50	210	75	340	110	G 1¼”	160	17
DRB 100/2/G50V A0CM (T)/50	265	100	390	125	G 2”	190	21
DRB 150/2/G50V A0CM (T)/50	265	100	390	125	G 2”	190	23
DRB 200/2/G50V A0CM (T)/50	265	100	390	125	G 2”	190	23

Measurements in mm

Packaging dimension

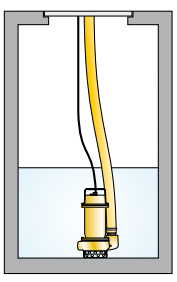
	A	B	C
DRB 50/2/G32V A0CM(T)/50	385	225	245
DRB 75/2/G32V A0CM(T)/50	385	225	245
DRB 100/2/G50V A0CM(T)/50	475	285	235
DRB 150/2/G50V A0CM(T)/50	475	285	235
DRB 200/2/G50V A0CM(T)/50	475	285	235

Dimension in mm

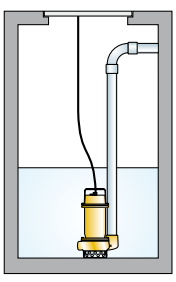


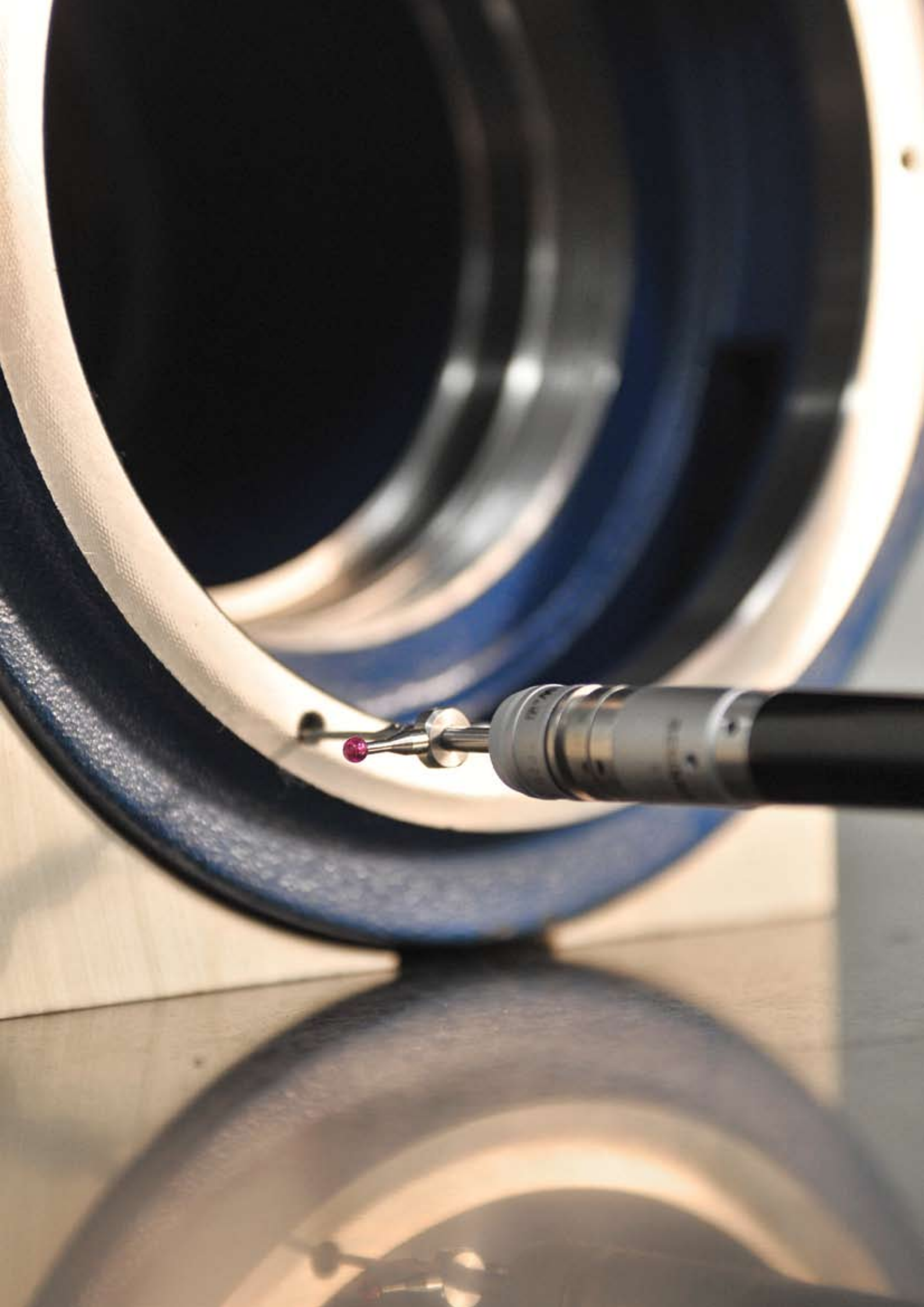
Installations available

A



B





DGB



Special alloy pumps

General characteristics

- Special alloy pumps
- 0,37 ÷ 1,5 kW motor power
- 2 poles
- GAS 2” vertical delivery port
- max 38 mm free passage

Electromechanical assembly

Electromechanical assembly in B10 bronze, for submerged operation. Seal set comprising 1 (one) silicon carbide mechanical seal and 1 (one) graphite alumina mechanical seal, installed opposing with oil lubrication. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

Suitable for lifting chemically aggressive soiled liquids, dyes and seawater. These units are therefore ideal for applications in the tanning industry, the paper industry and the shipping sector.

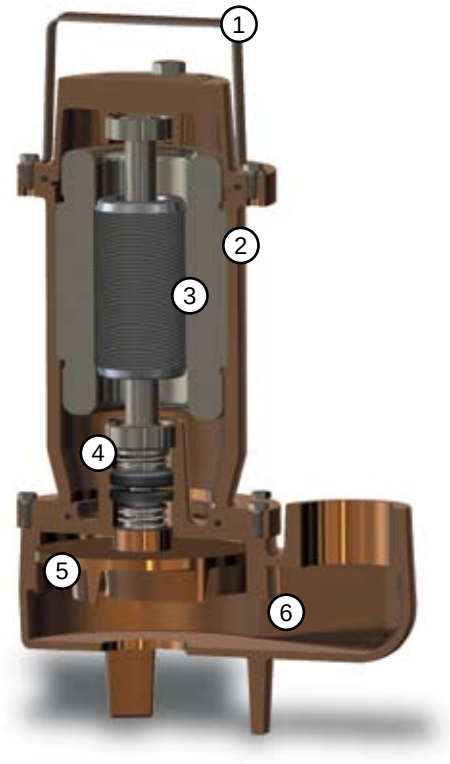
Construction materials

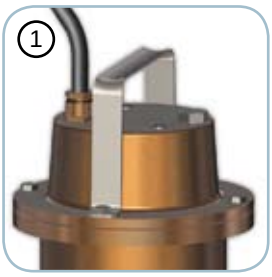
Case	Bronze B10
Impeller	Bronze B10
Nuts and bolts	Stainless Steel - Class A4
Standard gasket	Rubber - VITON
Shaft	Stainless Steel - AISI 316
Set of standard mechanical seals	Two Silicon carbide mechanical seals (2SiC)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	5 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm3
Maximum acoustic pressure	70 dB
max starts per hour	20

DGB





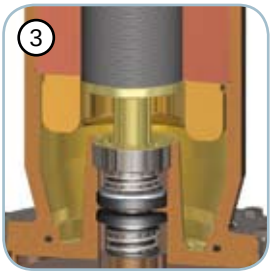
Handle

AISI 316 stainless steel lifting and carrying handle



Structure

B10 bronze construction which makes the pump suitable for use with chemically aggressive liquids



Motor

Oil-bath motor with thermal overloads



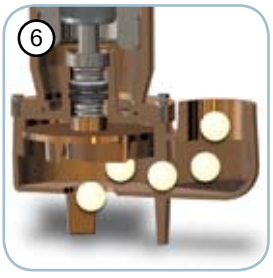
Mechanical seals

Two mechanical seals in silicon carbide (2SiC)



Impeller

Multichannel open impeller in B10 bronze



Free passage

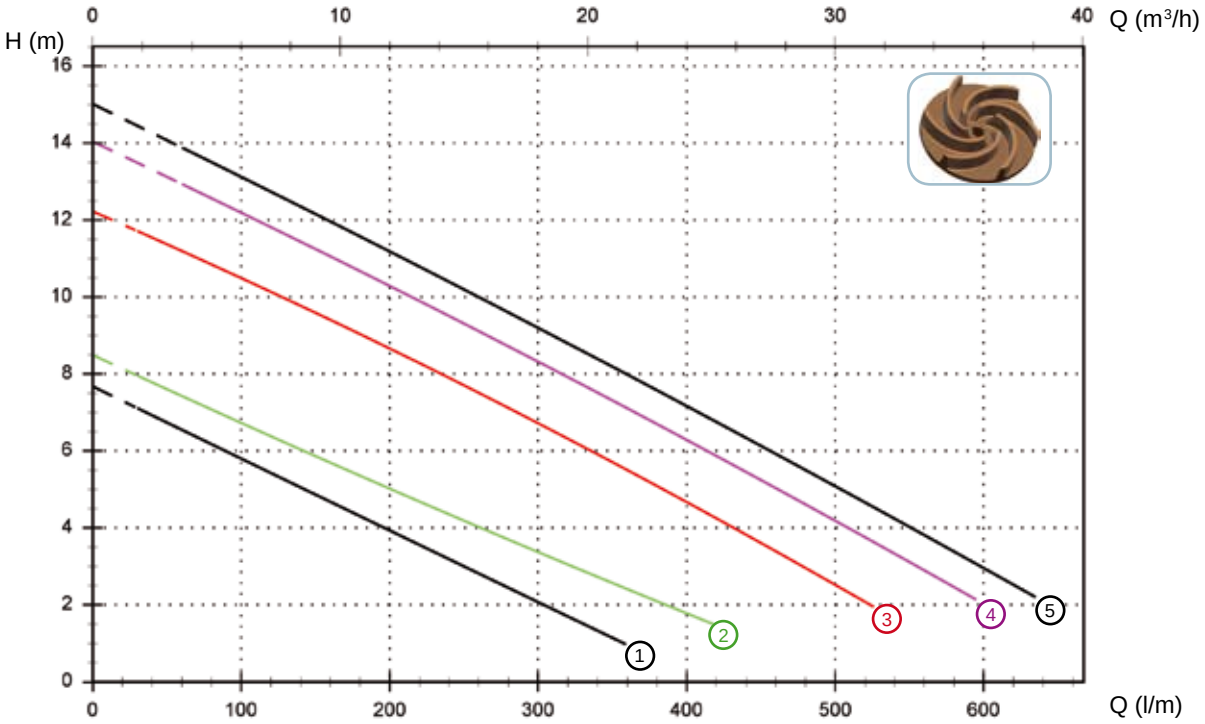
Ample free passage allowing the expulsion of solids and preventing fouling of the impeller

DGB

Models with vertical GAS 1 1/4" threaded delivery port - 2 poles

Performances

	l/s	0	1	2	3	4	5	6	7	8	9	10
	l/min	0	60	120	180	240	300	360	420	480	540	600
	m³/h	0	3,6	7,2	10,8	14,4	18,0	21,6	25,2	28,8	32,4	36,0
1	DGB 50/2/G50V A0CM(T)/50	7,7	6,6	5,4	4,3	3,2	2,1					
2	DGB 75/2/G50V A0CM (T)/50	8,5	7,4	6,4	5,4	4,4	3,4	2,4				
3	DGB 100/2/G50V A0CM (T)/50	12,2	11,2	10,1	9,0	7,9	6,7	5,5	4,3	3,0		
4	DGB 150/2/G50V A0CM (T)/50	14,0	12,9	11,8	10,7	9,5	8,3	7,1	5,9	4,6	3,3	
5	DGB 200/2/G50V A0CM (T)/50	15,0	13,9	12,7	11,6	10,4	9,2	8,0	6,8	5,5	4,2	3,0



Technical data

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGB 50/2/G50V A0CM/50	230	1	-	0.37	2.9	2900	G 2"	A	38 mm
2	DGB 75/2/G50V A0CM/50	230	1	-	0.55	3.9	2900	G 2"	A	38 mm
3	DGB 100/2/G50V A0CM/50	230	1	-	0.88	6.5	2900	G 2"	A	38 mm
4	DGB 150/2/G50V A0CM/50	230	1	-	1.1	8.2	2900	G 2"	A	38 mm
5	DGB 200/2/G50V A0CM/50	230	1	-	1.5	9.3	2900	G 2"	A	38 mm

		V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
1	DGB 50/2/G50V A0CT/50	400	3	-	0.37	1.1	2900	G 2"	A	38 mm
2	DGB 75/2/G50V A0CT/50	400	3	-	0.55	1.4	2900	G 2"	A	38 mm
3	DGB 100/2/G50V A0CT/50	400	3	-	0.88	2.3	2900	G 2"	A	38 mm
4	DGB 150/2/G50V A0CT/50	400	3	-	1.1	2.7	2900	G 2"	A	38 mm
5	DGB 200/2/G50V A0CT/50	400	3	-	1.5	3.6	2900	G 2"	A	38 mm

(*) A = H07RN-F 4G1 - 10 m

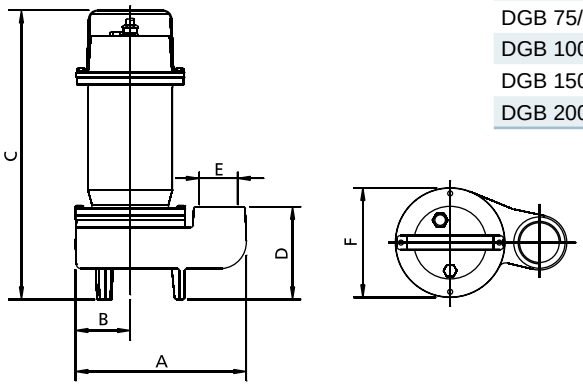
DGB

Versions available

(Key to versions on page 15)

	Electrical variants														Cooling		Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	FT	CGFT	N	CC	2SIC	SICM	SICAL	2SICAL
DGB 50/2/G50V A0CM/50		●						●	●						●		●			
DGB 75/2/G50V A0CM/50		●						●	●						●		●			
DGB 100/2/G50V A0CM/50		●						●	●						●		●			
DGB 150/2/G50V A0CM/50		●						●	●						●		●			
DGB 200/2/G50V A0CM/50		●						●	●						●		●			
DGB 50/2/G50V A0CT/50	●														●		●			
DGB 75/2/G50V A0CT/50	●														●		●			
DGB 100/2/G50V A0CT/50	●														●		●			
DGB 150/2/G50V A0CT/50	●														●		●			
DGB 200/2/G50V A0CT/50	●														●		●			

Overall dimensions and weights

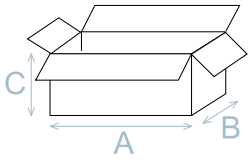


	A	B	C	D	E	F	kg
DGB 50/2/G50V A0CM(T)/50	225	75	360	120	G 2”	155	16.5
DGB 75/2/G50V A0CM(T)/50	225	75	360	120	G 2”	155	18
DGB 100/2/G50V A0CM(T)/50	245	80	410	130	G 2”	155	22
DGB 150/2/G50V A0CM(T)/50	245	80	410	130	G 2”	155	23
DGB 200/2/G50V A0CM(T)/50	245	80	410	130	G 2”	155	26

Measurements in mm

Packaging dimension

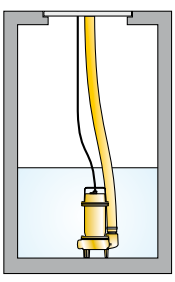
	A	B	C
DGB 50/2/G50V A0CM(T)/50	385	225	245
DGB 75/2/G50V A0CM(T)/50	385	225	245
DGB 100/2/G50V A0CM(T)/50	475	285	235
DGB 150/2/G50V A0CM(T)/50	475	285	235
DGB 200/2/G50V A0CM(T)/50	475	285	235



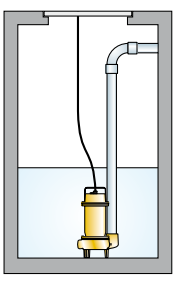
Dimension in mm

Installations available

A



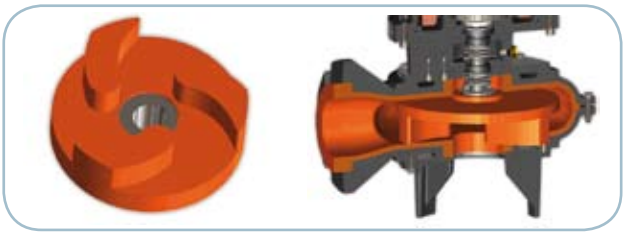
B

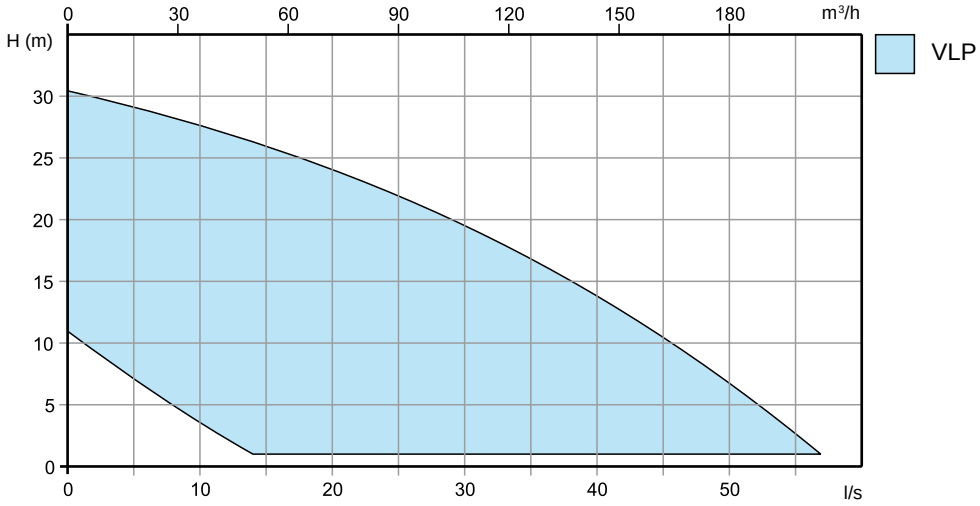


1.8 PUMPS FOR ABRASIVE LIQUIDS

VULCO (VL) family pumps are built with hydraulic units in cast iron coated with a thick layer of hard-wearing polyurethane (Vulkollan). This coating's virtually unlimited duration allows its application where other materials generate too many problems with excessive wear and insufficient time between services. Designed for use in the ceramics industry, for the processing of granite, marble and glass, for metal cutting, in quarries and mines, in aggregate processing systems and in concrete production plants.

1.5 ÷ 16.4 kW





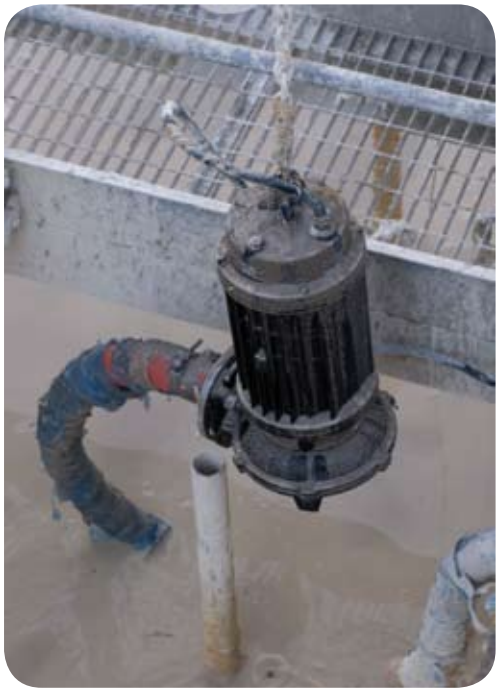


VLP

page 334

Electromechanical assembly in EN-GJL-25 cast iron. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite alumina mechanical seal lubricated by the motor oil. Oil bath motor. Multichannel open impeller with metal core coated with a thick layer of hard-wearing polyurethane (Vulkollan).
The special coating on the impeller and hydraulic unit makes this electric pump ideal for transferring ceramic glazes or pumping very dense, strongly abrasive liquids.

Vulkollan: the high-performance elastomer



Vulkollan is one of the elastomers with the highest performance on the market.
Its mechanical and dynamic properties are astonishingly high.
It is used in a large number of technological fields for the most heavy-duty applications, where especially high dynamic stresses must be withstood.
Vulkollan items are manufactured by casting a temperatures over 100° C. This high-performance elastomer is produced by a multi-stage process, involving the chemical reaction between polyester polyols and glycols.

Vulkollan's key features are:

- high mechanical strength
- exceptional dynamic load-bearing capacity

Main characteristics



- resistance to high dynamic stresses
- high tear strength
- low water absorption (ensures trouble-free operation in the most widely varying weather conditions)
- good resistance to UV radiation, ozone, fats and oils
- low variation in properties at different operating temperatures (from -30° C to +80° C)
- high wear resistance
- low permanent deformation
- high resilience

Where it is normally used

- pump diaphragms
- couplers
- disks for open-end spinning machines
- scraper blades for screen printing
- wheel coatings
- sealing rings
- support bearings
- winding rollers
- suspension systems





VLP



Multi-channel open impeller with Vulkollan coating

General characteristics

- Multi-channel open impeller with Vulkollan coating
- 1,5 ÷ 16,4 kW motor power
- 2 / 4 poles
- DN 50 - DN 80 PN10-16 delivery port
- max 54 mm free passage

Electromechanical assembly

Electromechanical assembly in GJL-250 cast iron, for submerged operation. Seal set comprising 2 (two) silicon carbide mechanical seals installed in series in inspectable oil sump and 1 (one) opposed graphite-alumina lip seal lubricated by the motor oil. Oil bath motor. Separate pump body. Series not available in explosion-proof version.

Applications

The special coating on the impeller and hydraulic unit makes this electric pump ideal for transferring ceramic glazes or pumping very dense, strongly abrasive liquids.

Construction materials

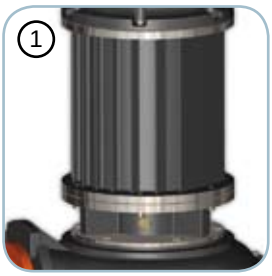
Case	Cast Iron EN-GJL 250
Impeller	Cast iron with Vulkollan coating
Nuts and bolts	Stainless Steel - Class A2-70
Standard gasket	Rubber - NBR
Shaft	Stainless Steel - AISI 420
Cooling jacket	Carbon Steel - Fe360 ÷ Fe370
Set of standard mechanical seals	Two Silicon carbide mechanical seals (SiC) and One Carbon-Aluminium oxide mechanical seal (AL)

Operating limits

Maximum operating temperature	40 °C
PH of treated fluid	6 to 10 pH
Viscosity of treated fluid	1 mm^2/s
Maximum immersion depth	20 m
Density of treated fluid	1 Kg/dm^3
Maximum acoustic pressure	70 dB
max starts per hour	20

VLP





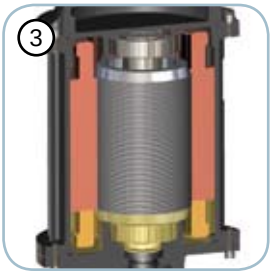
Structure

Constructed in GJL-250 cast iron



Bearings

Shielded ball bearings with lifetime lubrication



Motor

Oil-bath motor with thermal overloads



Mechanical seals

Two mechanical seals in silicon carbide (SiC) and one mechanical seal in alumina graphite (AL)



Oil sump

Large oil sump to guarantee longer mechanical seal lifetime



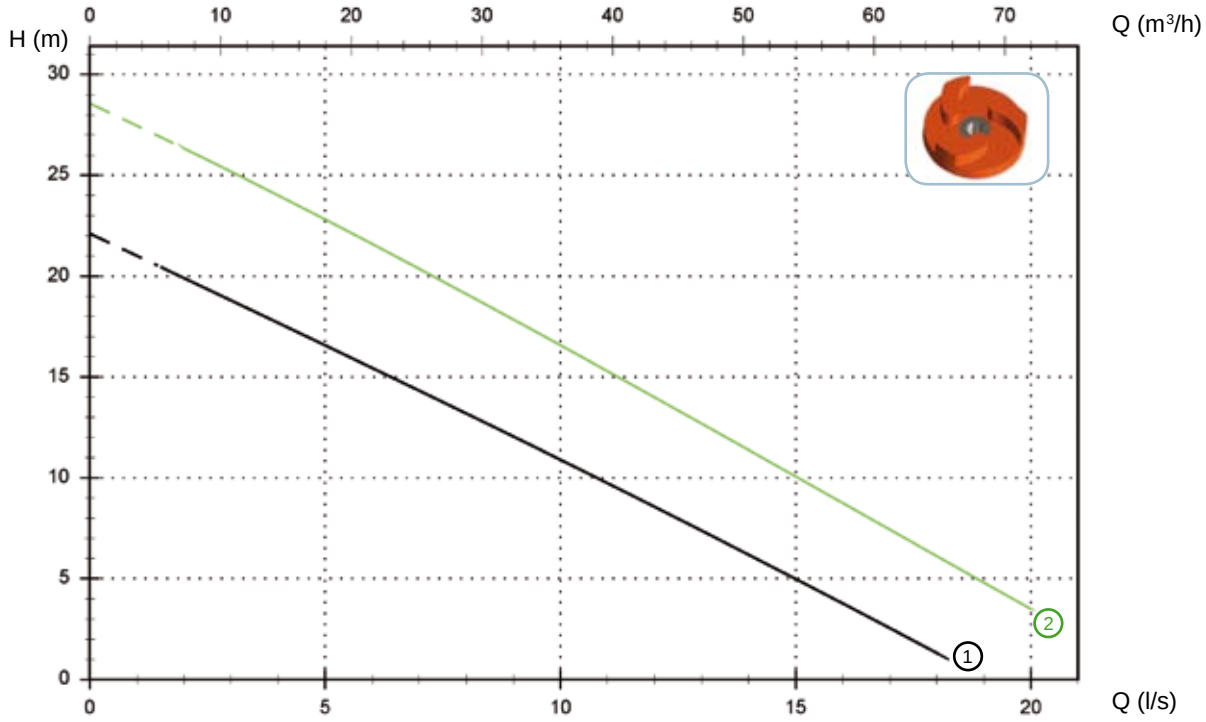
Pump body

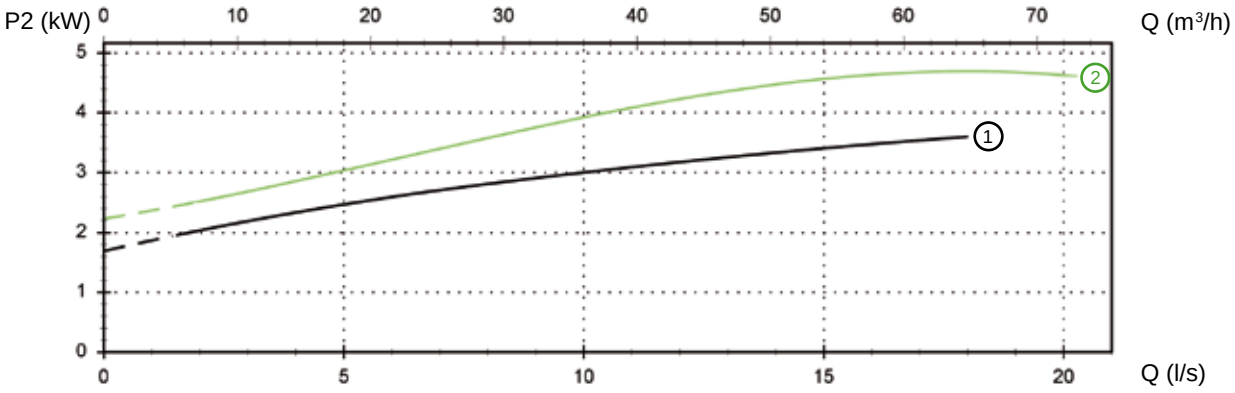
Impeller and pump body in GJL-250 cast iron coated with abrasion-resistant polyurethane (Vulkollan)

VLP

Models with horizontal DN50 PN10-16 anged delivery port - 2 poles

Performances





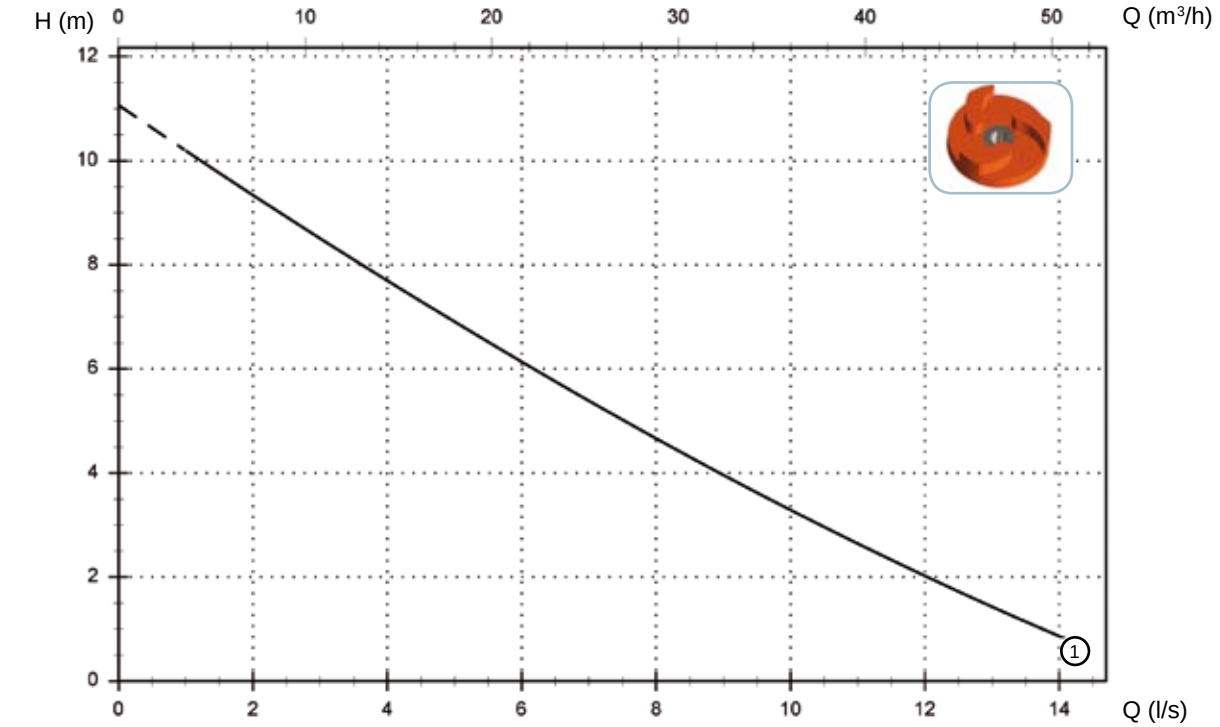
Technical data

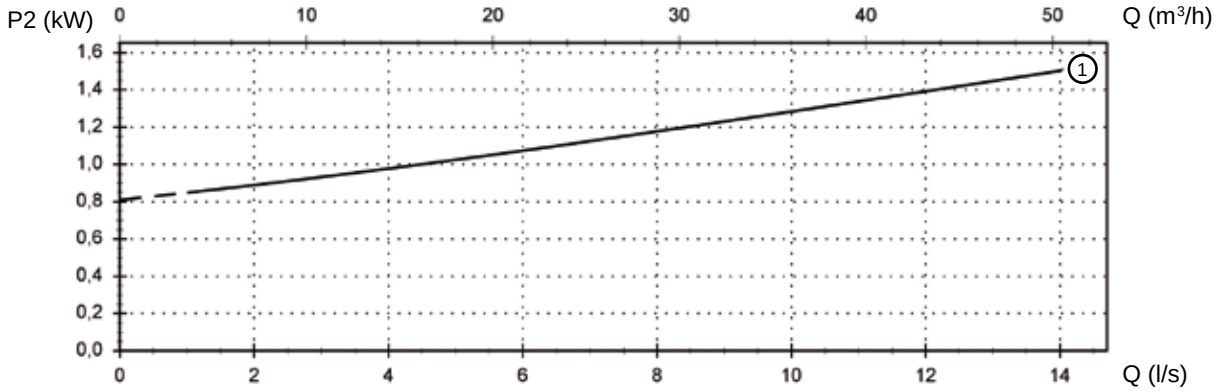
	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) VLP 400/2/50 A0FT/50	400	3	4.7	3.6	8	2900	DN50 PN10-16	A	25 mm
(2) VLP 550/2/50 A0GT/50	400	3	5.9	4.9	10.1	2900	DN50 PN10-16	B	25 mm

(*) A = H07RN-F 4G1.5 + H07RN-F 2G1 - 10 m
B = 07RN-F 4G2.5+3x1 - 10 m

Models with horizontal DN50 PN10-16 anged delivery port - 4 poles

Performances





Technical data

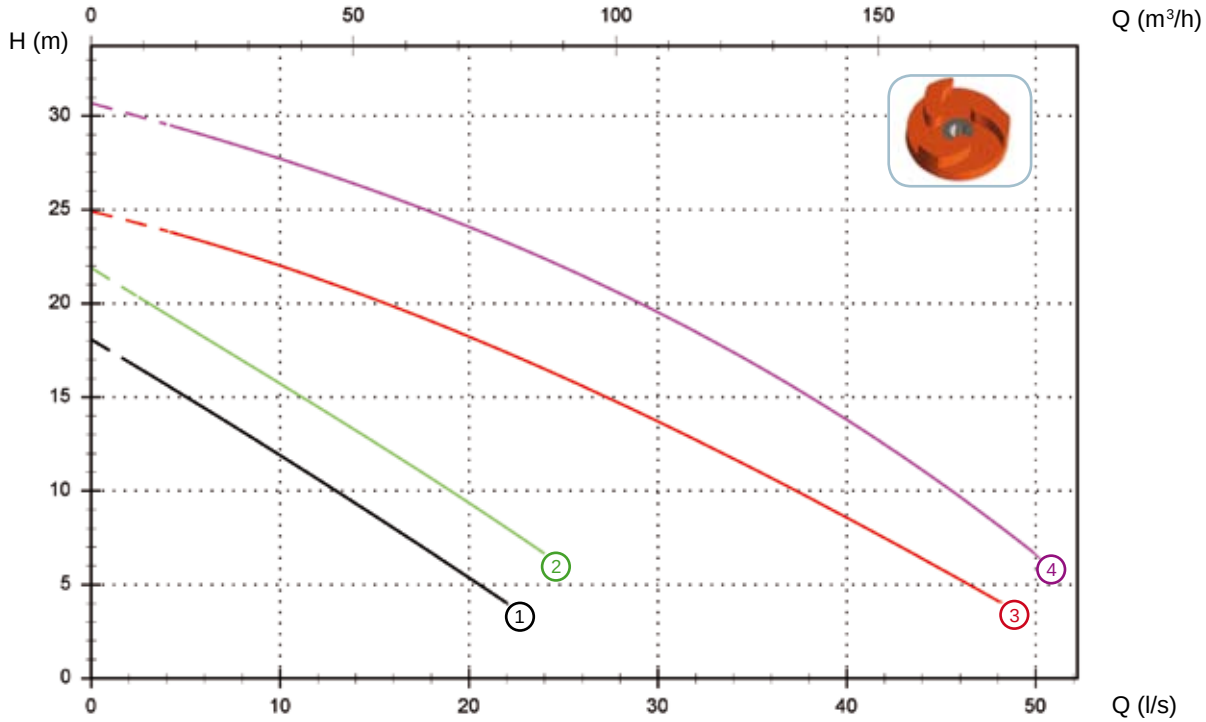
	V	Phases	P1(kW)	P2(kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) VLP 200/4/50 A0ET/50	400	3	2.1	1.5	4.1	1450	DN50 PN10-16	A	28 mm

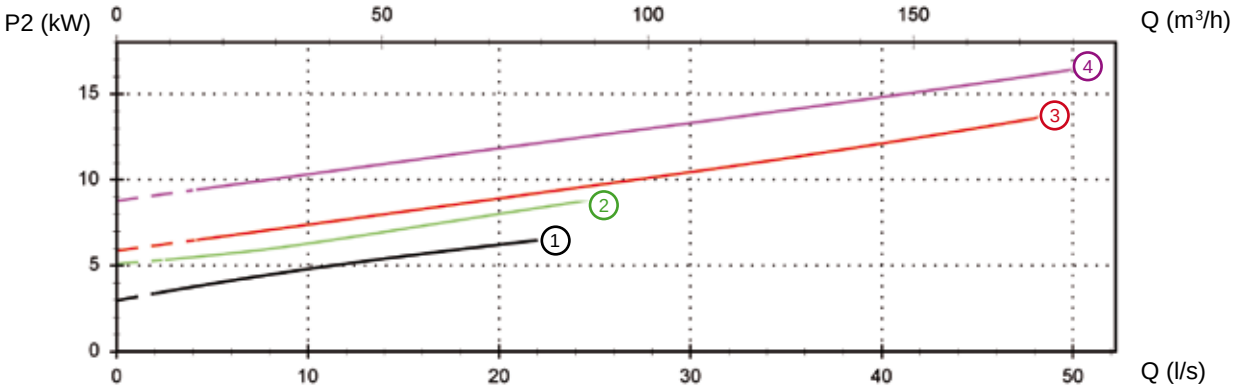
(*) A = H07RN-F 4G1.5 + H07RN-F 2G1 - 10 m

VLP

Models with horizontal DN80 PN10 anged delivery port - 4 poles

Performances





Technical data

	V	Phases	P1 (kW)	P2 (kW)	A	Rpm	Ø	Cable (*)	Free passage
(1) VLP 750/4/80A0HT/50	400	3	8.6	6.5	14.9	1450	DN80 PN10	A	45 mm
(2) VLP 1000/4/80A0HT/50	400	3	11.5	8.9	20	1450	DN80 PN10	A	45 mm
(3) VLP 1500/4/80A0IT/50	400	3	15.8	13.6	28.2	1450	DN80 PN10	B	54 mm
(4) VLP 2000/4/80A0IT/50	400	3	20.7	16.4	36	1450	DN80 PN10	B	54 mm

(*) A = 07RN-F 7G1.5+3x0.75 - 10 m
B = H07RN-F 4G6 + H07RN-F 4G6 + H07RN-F 2G1 - 10 m

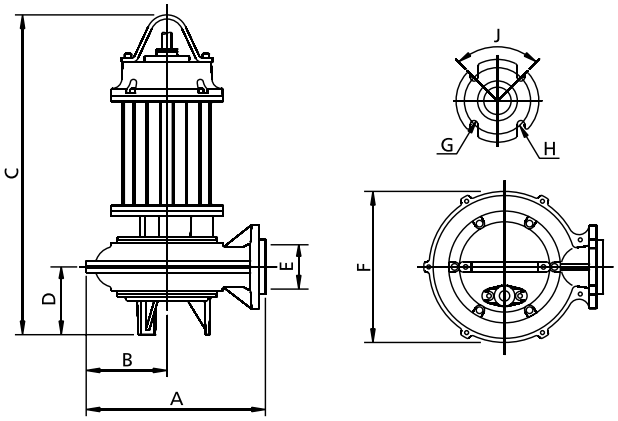
VLP

Versions available

(Key to versions on page 15)

	Electrical variants												Cooling				Mechanical seals			
	NAE	T	TC	TCD	TCDT	TCDGT	TCG	TCST	TCSGT	TS	TR	TRG	N	CC	FT	CGFT	2SIC	SICM	SICAL	2SICAL
VLP 400/2/50 A0FT/50		●											●		●	●				●
VLP 550/2/50 A0GT/50		●											●		●	●				●
VLP 200/4/50 A0ET/50		●											●		●	●				●
VLP 750/4/80A0HT/50		●											●		●	●				●
VLP 1000/4/80A0HT/50		●											●		●	●				●
VLP 1500/4/80A0IT/50		●											●		●	●				●
VLP 2000/4/80A0IT/50		●											●		●	●				●

Overall dimensions and weights

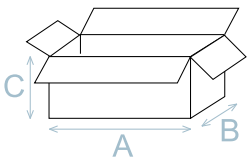


	A	B	C	D	E	F	G	H	J	kg
VLP 400/2/50 A0FT/50	290	140	555	105	50	260	18	125	90°	48
VLP 550/2/50 A0GT/50	290	140	655	105	50	260	18	125	90°	67
VLP 200/4/50 A0ET/50	290	140	555	105	50	260	18	125	90°	26
VLP 750/4/80A0HT/50	435	195	775	165	80	365	18	160	90°	80
VLP 1000/4/80A0HT/50	435	195	775	165	80	365	18	160	90°	81
VLP 1500/4/80A0IT/50	490	235	970	175	80	440	18	160	90°	172
VLP 2000/4/80A0IT/50	490	233	970	175	80	440	18	160	90°	190

Measurements in mm

Packaging dimension

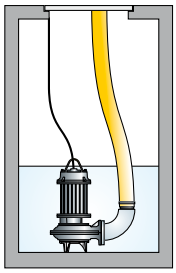
	A	B	C
VLP 400/2/50 A0FT/50	725	445	415
VLP 550/2/50 A0GT/50	725	445	415
VLP 200/4/50 A0ET/50	725	445	415
VLP 750/4/80A0HT/50	915	515	555
VLP 1000/4/80A0HT/50	915	515	555
VLP 1500/4/80A0IT/50	915	515	555
VLP 2000/4/80A0IT/50	915	515	555

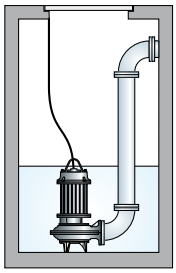


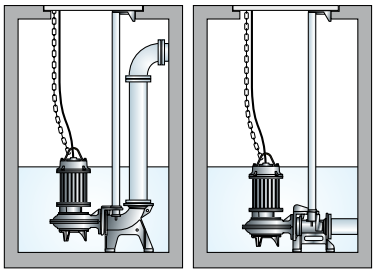
Dimension in mm

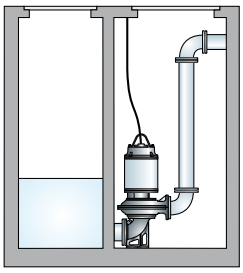
VLP

Installations available

A 

B 

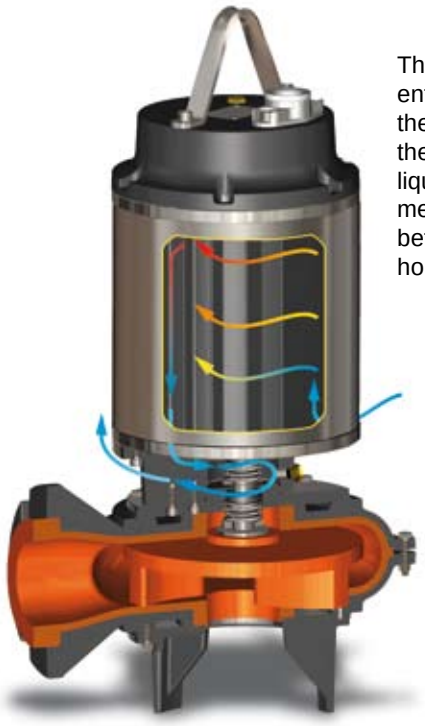
D 

E 

Cooling system



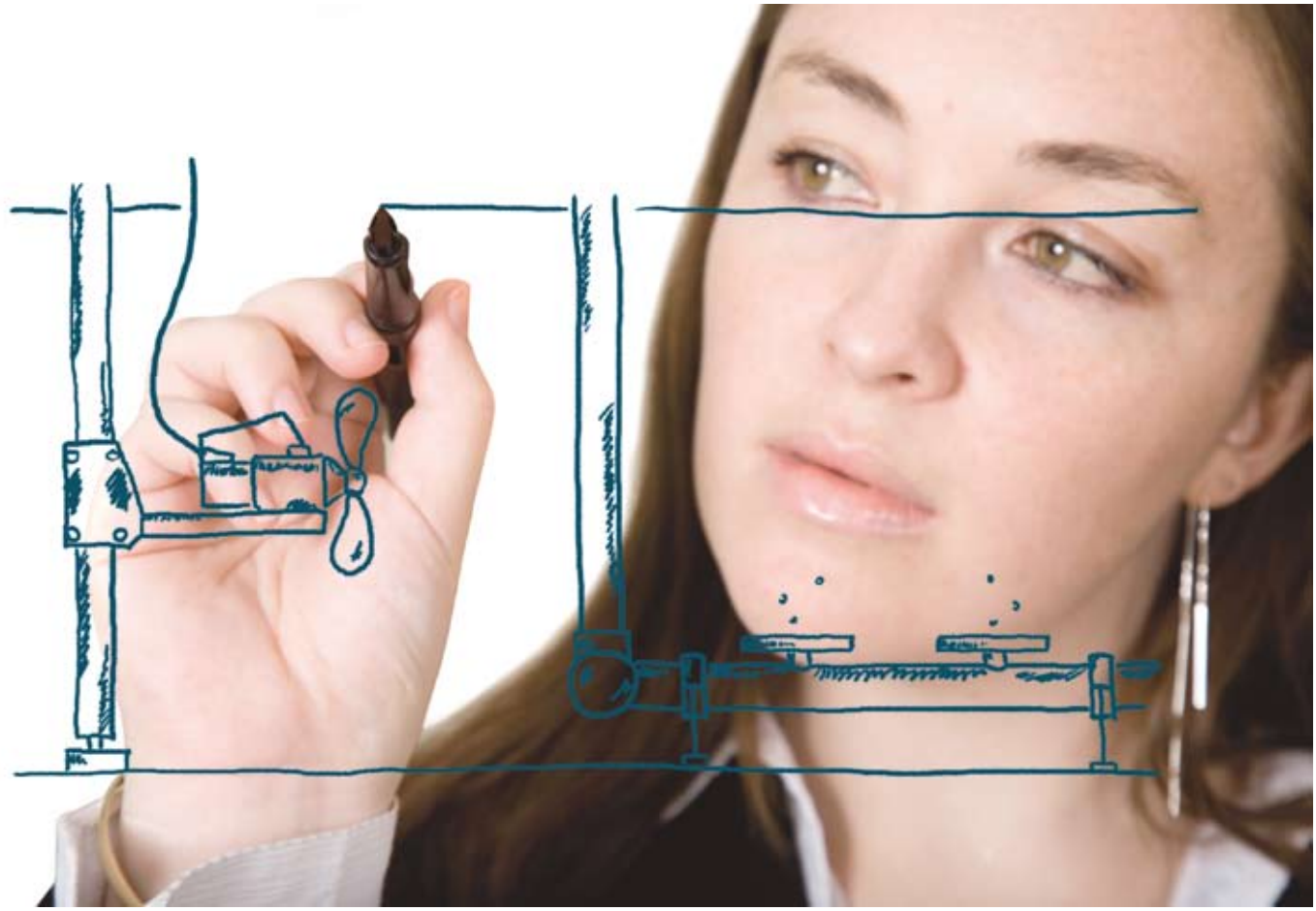
The cooling system consists of a cooling jacket fitted on the outside of the body, with the cooling liquid that keeps the motor operating temperature at the ideal level circulating inside it. The liquid used may be the process liquid (when pumping clear waters) or from an external cooling circuit.



The cooling liquid from an external circuit enters the cavity between the body and the jacket between an inlet hole to cool the motor. Once the cavity is full, the liquid flows down the special pipe into the mechanical seal sump, lubricating them before being expelled through the outlet hole.

2.0

AERATION AND MIXING SYSTEMS



AERATION AND MIXING SYSTEMS

As well as its vast range of submersible electric pumps, Zenit offers a line of aeration and mixing products for the highly specialised civil and industrial wastewater treatment sector.

The Zenit product mix comprises:
- 9" and 12" disc-shaped and 2" tubular diffusers with elastomer membranes providing high oxygen transfer efficiency
- Venturi-type submerged aerators, which ensure an efficient combined mixing and aeration action and are especially suitable for homogenization tanks and storing water from the first rainfall
- mixers and flow-makers with self-cleaning propellers from 285 mm to 2100 mm in diameter with a rotation speed from 1000 to 27 rpm.

As well as supplying products of outstanding quality, Zenit provides its customers with assistance during product selection and plant design, and supervision during assembly.





TESTING AND INSPECTION DEPARTMENT

Constantly working to improve the quality of its products, Zenit has completed the construction of its new testing tank at the San Cesario sul Panaro (Modena) production location.

This structure, 8 metres square and 10 metres deep (6.50 metres underground) is capable of containing 600 m^3 of water (head of 9.50 m) and will fulfil a large number of functions thanks to the large number of tests it will be able to perform, and its overall versatility.

Tests will be possible not only on submersible electric pumps but also on all aeration and mixing products.
Specifically, measurement will be possible of:
- flow rate - head - efficiency (up to DN 800)
- NPSH
- operating life
- oxygen transfer
- air output
- thrust measurement
- flow configuration
- degree of mixing





2.1 AIR DIFFUSERS

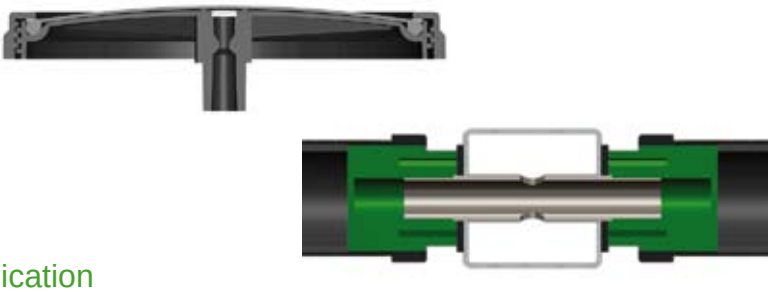





The Zenit range includes both disc-shaped and tubular membrane air diffusers.
Both models are fitted with high-quality membranes with perforation ensuring high oxygen transfer with low pressure drop, minimising the relative energy consumption.
Disc-shaped diffusers can be fitted with ball check valves.
Zenit is able to design the most efficient aeration system for the customer's specifications, and supply the complete system, including detailed assembly plans.

Operating Principle

During operation, the membrane inflates to open the tiny holes and allow the air to flow out in the form of fine bubbles. When the blower stops, the membrane deflates and pressure of the water pushes it back into contact with the supporting disc.
In this condition, the holes are closed and the central part, free from holes and specially shaped, acts as a check valve, ruling out all possible inflow of liquid.





Application

Membrane air diffusers are generally used in water treatment and purification processes where slurries have to be aerated to activate biological organic matter oxidation and nitrification processes.
They are also used in pre-aeration and aeration processes in oxidation tanks and aerobic digestion plants for civil and industrial sludges.

OXYPLATE 9-12

Disc-shaped air diffusers

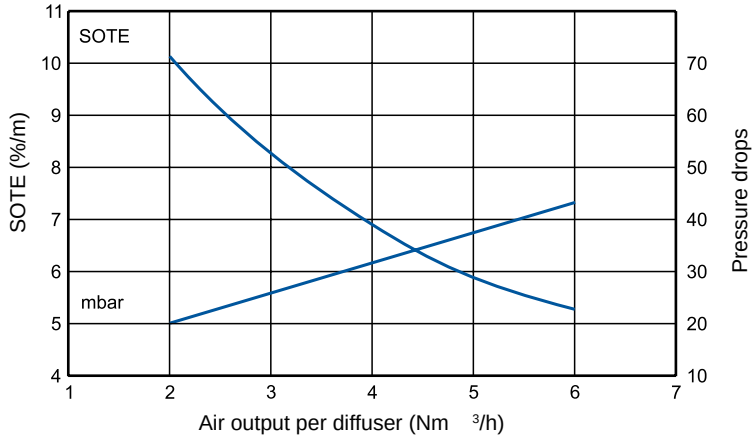


Description and applications

Disc-shaped diffusers having elastomer membrane with tiny holes for application in water treatment processes in reactors with continuous or intermittent aeration, especially recommended for high-efficiency permanent installations.
The quality, design and membrane hole size ensure unbeatable efficiency in terms of the ideal oxygen transfer-pressure drop balance.

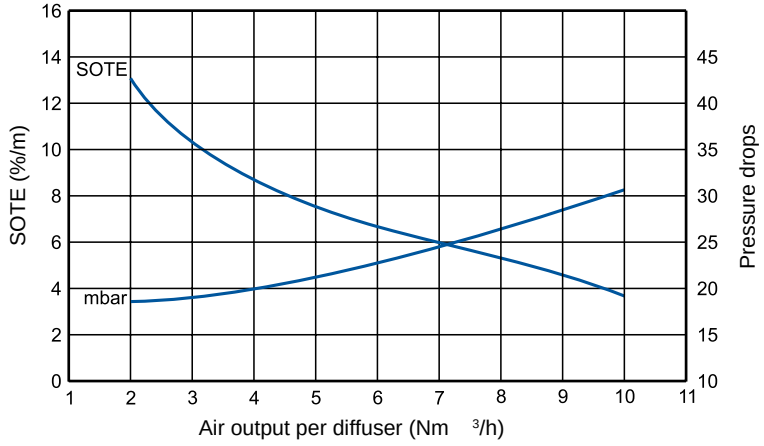
Performance

OXYplate 9



EPDM LP membrane, fine bubbles
Oxygen transfer under ATV M209
Density 6.5%

OXYplate 12



EPDM LP membrane, fine bubbles
Oxygen transfer under ATV M209
Density 5.3%

Technical characteristics

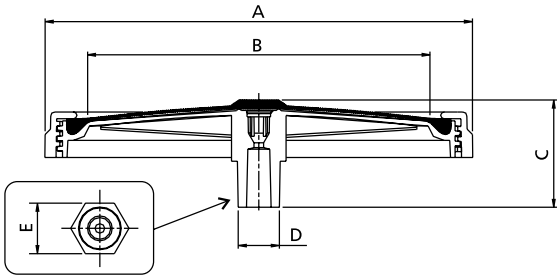
		OXYPLATE 9”	OXYPLATE 12”
Outside diameter	mm	270	340
Min. operating flow rate	Nm³/h	2	2
Max. operating flow rate	Nm³/h	6	10
Limit flow rate *	Nm³/h	10	15
Active surface area	m²	0,038	0,06
Membrane thickness	mm	2 ± 0,15	2 ± 0,15

Data with fine-bubble EPDM LP membrane
* No more than 10 min/day for membrane cleaning, tests, etc.

Construction materials

	OXYPLATE 9”	OXYPLATE 12”
Diffuser body	PP GF 30	PP GF 30
Ring-nut	PP GF 30	PP GF 30
Membrane	EPDM LP / SILICONE	EPDM LP

Overall dimensions and weights



	A	B	C	D	E	Kg
OXYPLATE 9”	270	220	76	3/4 NPT	32	0.7
OXYPLATE 12”	340	310	76	3/4 NPT	32	1.2

Measurements in mm

Accessories and components

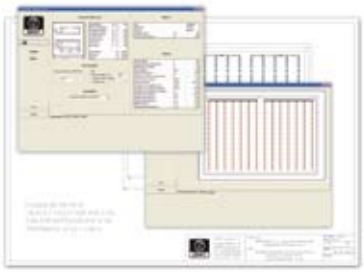
ZENIT is able to design and build complete aeration systems comprising disc-shaped diffusers and preassembled PVC air distribution networks.

The high degree of standardisation, combined with the use of special components manufactured by ZENIT itself, allows the construction of simple, reliable, quick-to-install systems which are surprisingly inexpensive in spite of the use of top-quality materials such as PVC PN10 pipelines and stainless steel mounts.





To facilitate the installation and servicing of its diffuser systems, Zenit has produced a series of tools that make every procedure quick and effective.

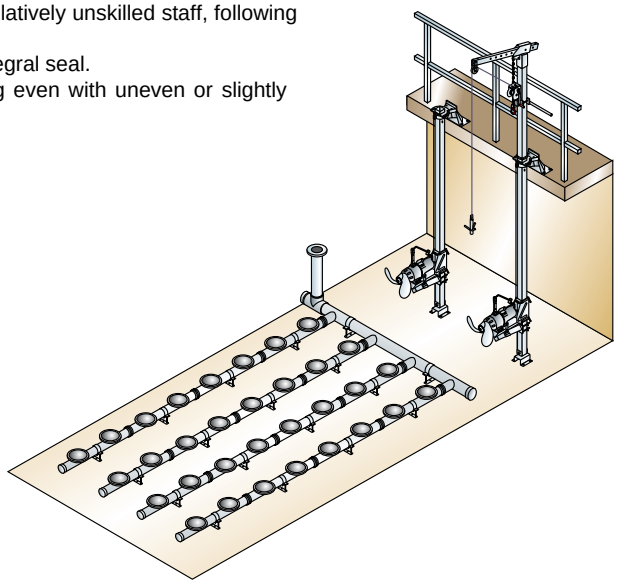


The use of dedicated software packages makes system design a quick operation, from the process to the optimal layout, through to cost analysis and generation of the bill of materials.

Installations

Preassembled systems are designed for quick, easy installation even by relatively unskilled staff, following the detailed instructions provided.
All connections are made by means of special self-aligning flanges with integral seal.
The supports are easily height-adjustable (up to 20 cm) to allow levelling even with uneven or slightly sloping tank bottoms





OXYTUBE 2

Tubular air diffusers

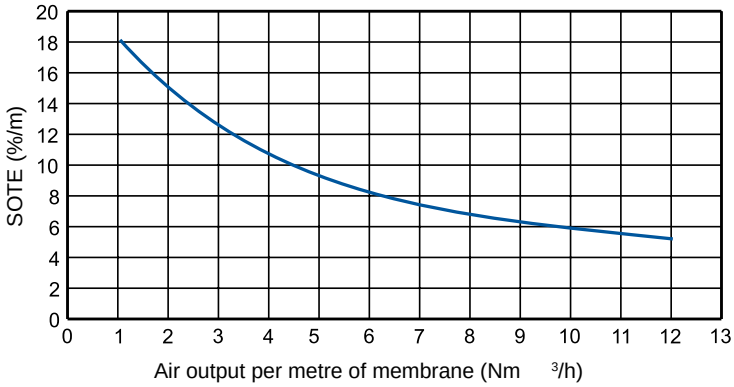


Description and applications

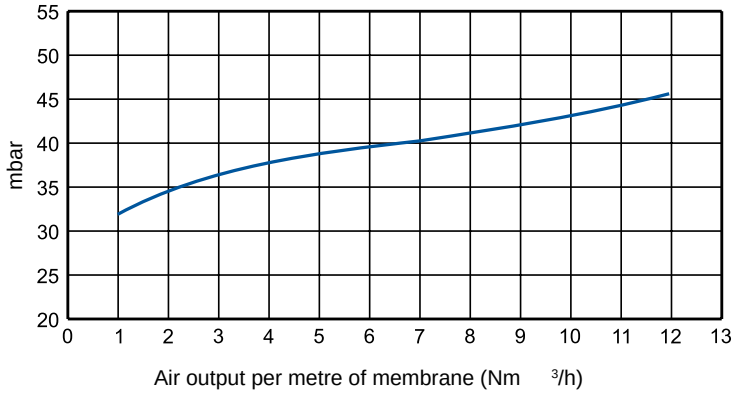
Especially recommended for the construction of removable aeration systems and in all cases where a large output surface area is required with only a small number of air distribution pipelines.
Diffusers basically consist of a head with threaded connection, the rigid polypropylene support and the tubular membrane in elastomer with tiny holes, secured with stainless steel band clamps.

Performance

Oxygen transfer
density 10% - test to ATV-M 209



Pressure drops



Technical characteristics

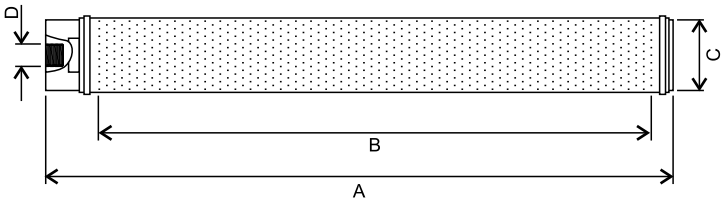
		OXYTUBE 2-500	OXYTUBE 2-750	OXYTUBE 2-1000
Support diameter	mm	63	63	63
Length of perforated section	mm	500	750	1000
Min. operating flow rate	Nm3/h	1	2	3
Max. operating flow rate	Nm3/h	6	9	12
Limit flow rate *	Nm3/h	10	15	20
Active surface area	m2	0,09	0,135	0,18
Membrane thickness	mm	1,7±0,2	1,7±0,2	1,7±0,2

Data with fine-bubble EPDM LP membrane.
* No more than 10 min/day for membrane cleaning, tests, etc.

Construction materials

Membrane	EPDM LP / SILICONE
Support	PP
Head	PP GF 30
Band clamps	V2A (stainless steel 1.4301 – AISI 304)
Gasket	EPDM th. 4 mm
Connector	V2A (stainless steel 1.4301 – AISI 304)

Overall dimensions and weights



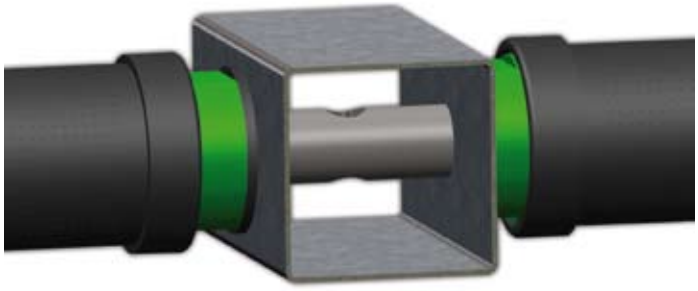
	A	B	C	D	Kg
OXYTUBE 500	560	500	63	3/4” WR	0.8
OXYTUBE 750	810	750	63	3/4” WR	1.1
OXYTUBE 1000	1060	1000	63	3/4” WR	1.3

Measurements in mm

Accessories and components

Membranes made of different materials are available for different applications:

- EPDM LP with low plasticiser content (<15%) for civil wastewater with some industrial input and industrial wastewater with low fat, oil and hydrocarbon content. Maximum operating temperature 80 °C.
- SILICONE for industrial wastewater with high fat and hydrocarbon content. Maximum operating temperature 100 °C.





- Stainless steel connectors for installation of diffusers in pairs facing each other on square manifold of 80x80 mm or 100x100 mm.
- Adaptors for manifolds with ready-made holes.

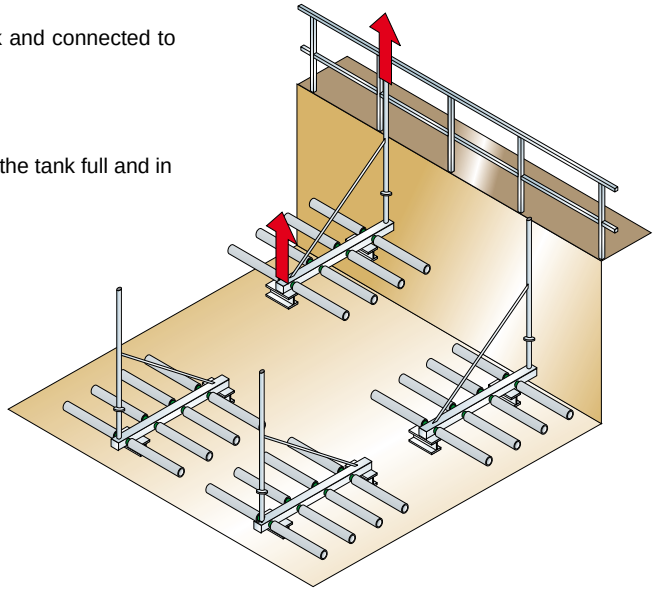
Removable systems

Especially recommended for small/medium sized systems, or in general in all cases where it is not possible to empty the tank for maintenance. These systems are built with stainless steel supply assemblies comprising basically a square manifold on which the diffusers are installed in facing pairs, a down-pipe, one or more stiffener tie-rods and a draining system.

The individual assemblies are simply placed on the bottom of the tank and connected to the main air pipeline with a flange.
Stability is ensured by counterweights that also act as feet.

No runner or anchor systems are required.
The individual assembles are therefore easy to remove and install with the tank full and in operation.





2.2 SUBMERGED AERATORS



Venturi-type submerged aerators ensure an efficient combined mixing and aeration action and they are especially suitable for homogenization tanks and storing water from the first rainfall.
They are made by connecting submersible pumps with power levels up to 30 kW to channel-type hydraulic units with large free passage combined with “OXY” series ejector devices.
OXY 80 and 150 units have a polyurethane (Vulkollan) diaphragm, easily replaceable without dismantling the pump from the ejector thanks to a patented system. The OXY80 device has a flange suitable for connection to electric pumps having size 80 and 100 delivery ports.

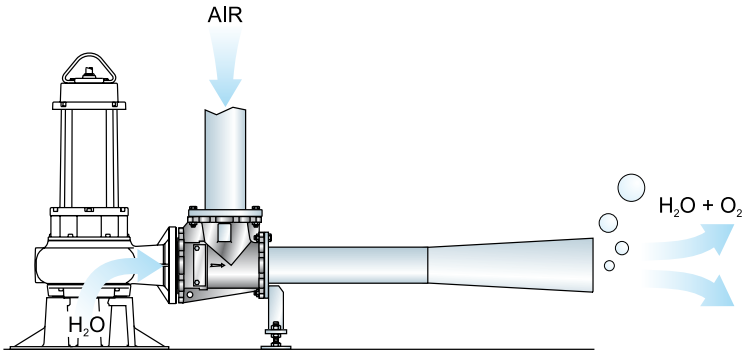
For unbeatable versatility, Zenit has created three different product lines, called respectively:

‡ OXY
‡ SYSTEM OXY
‡ JETOXY

Operating Principle

In OXY devices, the liquid conveyed is mixed with the air by the “Venturi” effect, creating a mixture containing medium-fine air bubbles that increase the contact surface area and provide highly efficient oxygen exchange.





Application

OXY submerged oxygenation systems are used in civil and industrial wastewater and sludge treatment plants, or whenever combined oxygenation and mixing are required.
These systems can be installed without emptying the tank.



Key to product codes

OXY 8055

- Diaphragm diameter
- Flange size
- Product family

OXY 50

Submerged aerators



CHARACTERISTICS

- Cast iron structure (GJL-250)
- Suitable for use with DRO and DGO pumps
- can be permanently coupled to the pump or mounted on the bottom of the tank using the automatic coupling system (DAC type)

COMPOSITION OF OXY 50

- OXY body (cone + integral diaphragm)
- Sliding flange with gasket and stainless steel screws
- Pipe guide



A special technical detail on the OXY body allows mechanical fixing (using screws) between the ejector output flange and the sliding flange connected to the pump, creating a rigid system even suitable for mobile installation.

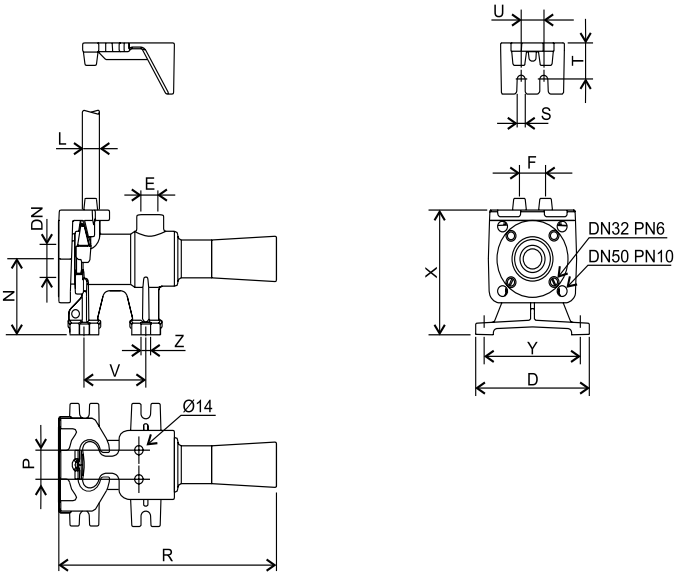
Construction materials

Body	Cast iron GJL-250
Diffuser cone	Cast iron GJL-250
Nuts and bolts	A2 steel
Paintwork	Water-based epoxy-vinyl

Models

- OXY 5027

Overall dimensions

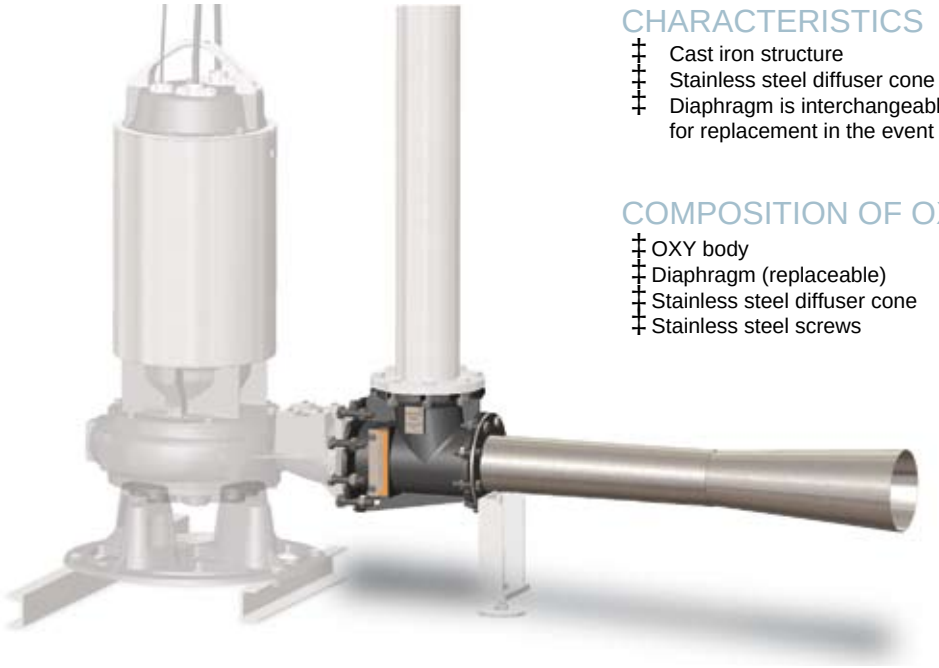


Measurements in mm

	DN	D	E	F	L	N	P	R	S	T	U	V	X	Y	Z	Kg
OXY 5027	DN32 PN6 - DN50 PN10	170	3/4”	40	3/4”	105	40	325	12	50	35	90	170	140	14	10

OXY 80 -150

Submerged aerators



CHARACTERISTICS

- Cast iron structure
- Stainless steel diffuser cone
- Diaphragm is interchangeable for flow rate adjustment or for replacement in the event of wear (PATENTED SYSTEM)

COMPOSITION OF OXY 80-150

- OXY body
- Diaphragm (replaceable)
- Stainless steel diffuser cone
- Stainless steel screws



Construction materials

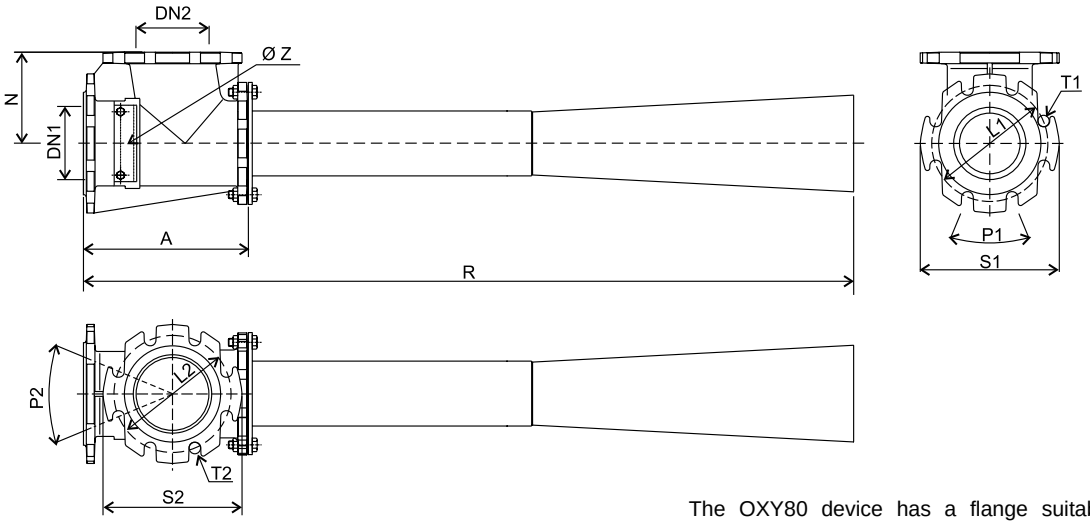
Body	Cast iron GJL-250
Diffuser cone	AISI 304 Stainless Steel
Diaphragm	Vulkollan
Nuts and bolts	A2 steel
Paintwork	Environment-friendly epoxy-vinyl

Models

- OXY 8055
- OXY 8063
- OXY 15080
- OXY 15095

OXY 80 and 150 range units can be combined with the horizontal coupler feet of the same diameter (DAC H).
This combination allows the OXY body to be fixed to the bottom of the tank for easier pump maintenance, and also allowing it to be used in more than one point (not simultaneously).

Overall dimensions



The OXY80 device has a flange suitable for connection to electric pumps having size 80 and 100 delivery ports.

	Z	A	DN1	DN2	L1	L2	N	P1	P2	R	S1	S2	T1	T2	Kg
OXY 8055	55	250	100	100	160-180	180	145	45°-90°	45°	1000	200	220	17	20	19
OXY 8063	63	250	100	100	160-180	180	145	45°-90°	45°	1000	200	220	17	20	19
OXY 15080	80	340	150	150	240	240	190	45°	45°	1500	285	285	24	24	48
OXY 15095	95	340	150	150	240	240	190	45°	45°	1500	285	285	24	24	48

Measurements in mm

SYSTEM OXY 50



SYSTEM OXY 50 COMPOSITION

- OXY body (cone + integral diaphragm)
- Sliding flange with gasket and stainless steel screws
- Pipe guide
- Galvanised steel base



A special technical detail on the OXY body allows mechanical fixing (using screws) between the ejector output flange and the sliding flange connected to the pump, creating a rigid system even suitable for mobile installation.

Models

	OXY System	OXY Ejector		Intake pipeline	
	DN (mm)	Nr.	Tipo	L max. (m) *	DN (mm)
S-OXY 50 1/5027	50	1	5027	**	50 **

* Maximum installation depth ** Intake pipeline not supplied
For overall dimensions, see drawing of JETOXY 50

SYSTEM OXY 80÷300



SYSTEM OXY 80÷300 COMPOSITION

- OXY body
- Diaphragm (interchangeable)
- Stainless steel diffuser cone
- Stainless steel screws
- Air intake line with flue filter and galvanised steel lifting hook
- Connecting tie-rod between pump and intake pipeline
- Galvanised steel/spheroidal cast iron base

Models

	OXY System	OXY Ejector		Intake pipeline	
	DN (mm)	Nr.	Tipo	L max. (m) *	DN (mm)
S-OXY 80 1/8055 35	80/100	1	8055	3,50	100
S-OXY 80 1/8055 50	80/100	1	8055	5,00	100
S-OXY 80 1/8063 35	80/100	1	8063	3,50	100
S-OXY 80 1/8063 50	80/100	1	8063	5,00	100
S-OXY 150 1/15080 35	150	1	15080	3,50	150
S-OXY 150 1/15080 50	150	1	15080	5,00	150
S-OXY 150 1/15095 35	150	1	15095	3,50	150
S-OXY 150 1/15095 50	150	1	15095	5,00	150
S-OXY 250 2/15095 35	250	2	15095	3,50	200
S-OXY 250 2/15095 50	250	2	15095	5,00	200
S-OXY 300 2/15095 35	300	2	15095	3,50	200
S-OXY 300 2/15095 50	300	2	15095	5,00	200

* Maximum installation depth

JETOXY 50

Submerged aeration systems

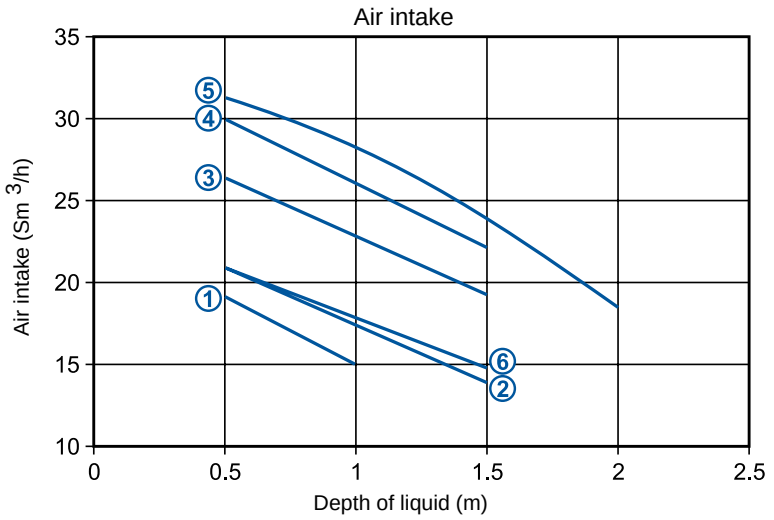


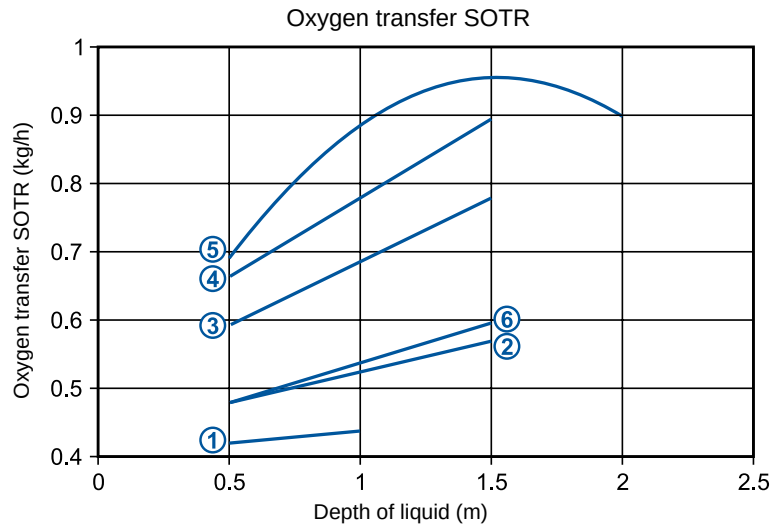
JETOXY 50 SYSTEMS comprise a Venturi-type ejector coupled to a submersible electric pump rated from 0.37 to 1.5 kW with open multi-channel or vortex impeller.
JETOXY SYSTEM models can be selected on the basis of the performance curve best suited to requirements, optimising consumption.

Application

Fish farms, small water treatment tanks, holding pits.

Performance of models with DG hydraulic units for soiled water

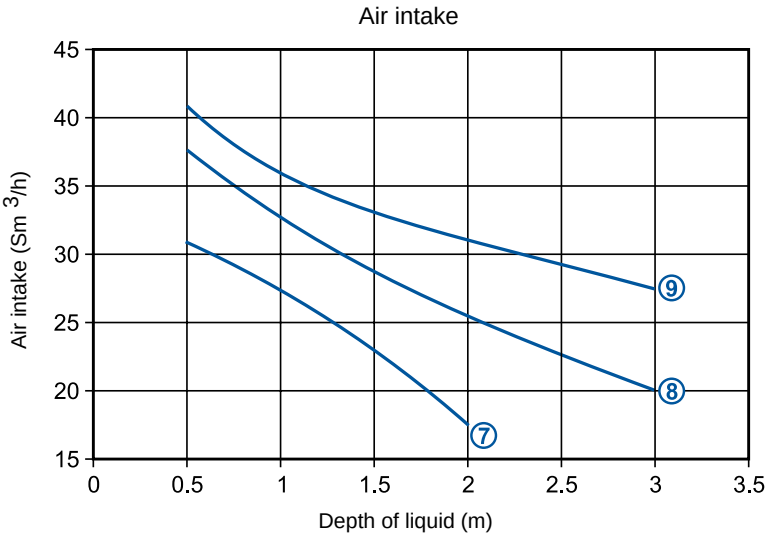


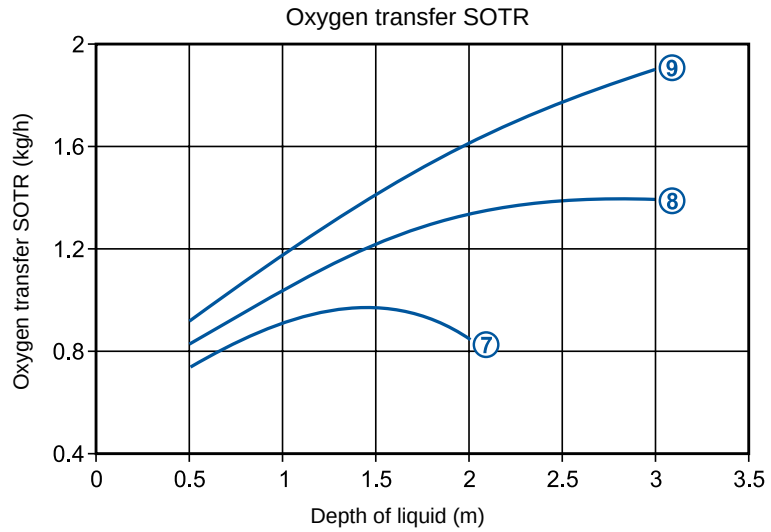


Curve	Model	Ejector			Electric pump			
		No.	Type	ø diaphragm (mm)	Model	kW	A	Poles
1	J-OXY 1 DGO 50/2	1	5027	27	DGO 50/2/G50H A	0,37	0,94	2
2	J-OXY 1 DGO 75/2	1	5027	27	DGO 75/2/G50H A	0,55	1,4	2
3	J-OXY 1 DGO 100/4	1	5027	27	DGO 100/4/G50H A	0,63	1,9	4
4	J-OXY 1 DGO 100/2	1	5027	27	DGO 100/2/G50H A	0,88	2,3	2
5	J-OXY 1 DGO 150/2	1	5027	27	DGO 150/2/G50H A	1,1	2,7	2
6	J-OXY 1 DGO 200/2	1	5027	27	DGO 200/2/G50H A	1,5	3,6	2

The technical data in the table refer to power supply voltage 400V/3/50Hz. Refer to the technical catalogue for a full view of the voltages available.

Performance of models with DG hydraulic units for clean water

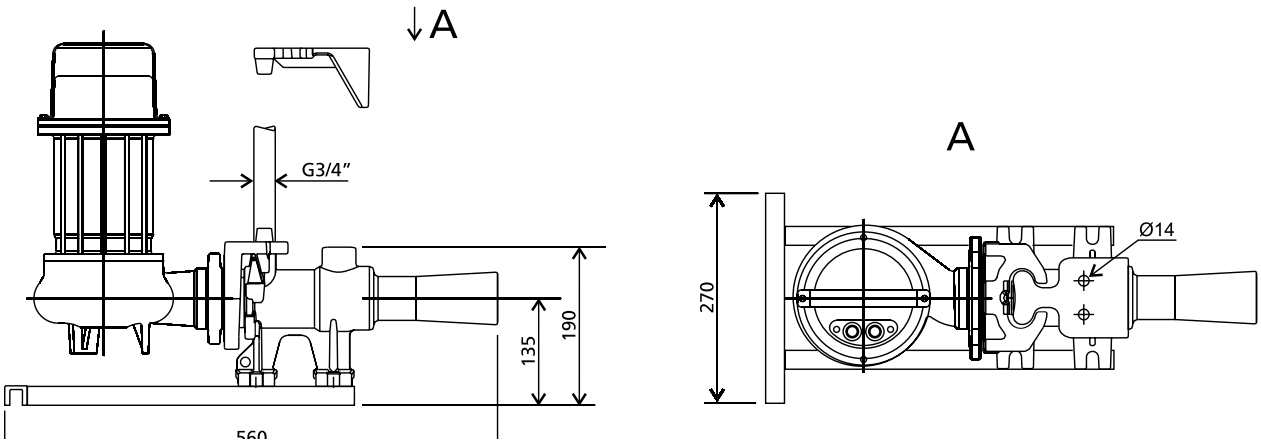




Curve	Model	Ejector			Electric pump			
		No.	Type	ø diaphragm (mm)	Model	kW	A	Poles
7	J-OXY 1 DRO 100/2	1	5027	27	DRO 100/2/G50H A	0,88	2,3	2
8	J-OXY 1 DRO 150/2	1	5027	27	DRO 150/2/G50H A	1,1	2,7	2
9	J-OXY 1 DRO 200/2	1	5027	27	DRO 200/2/G50H A	1,5	3,6	2

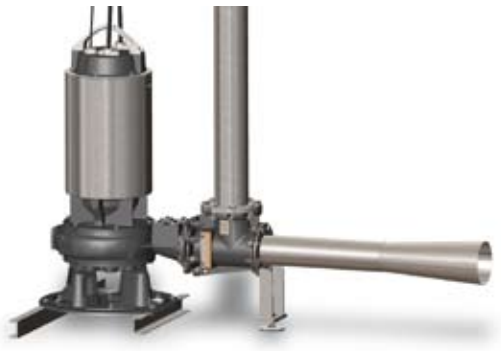
The technical data in the table refer to power supply voltage 400V/3/50Hz. Refer to the technical catalogue for a full view of the voltages available.

Overall dimensions



JETOXY 80÷300

Submerged aeration systems

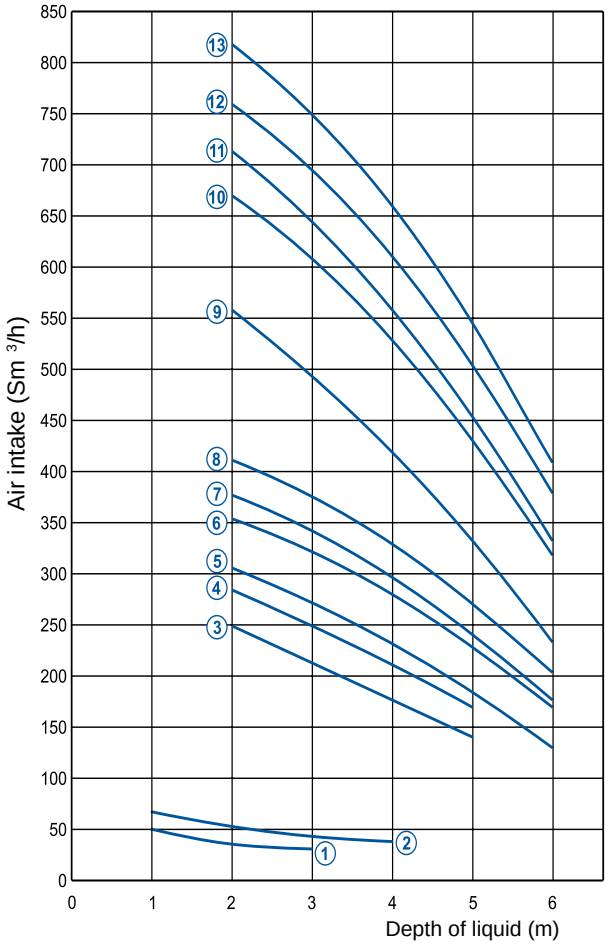


JETOXY 80÷300 units comprise one or more Venturi-type ejector with replaceable diaphragm coupled to a submersible electric pump rated from 2.2 to 30 kW .
Open multi-channel, open single-channel, and closed single or dual-channel impellers may be used depending on the type of liquid to be processed.

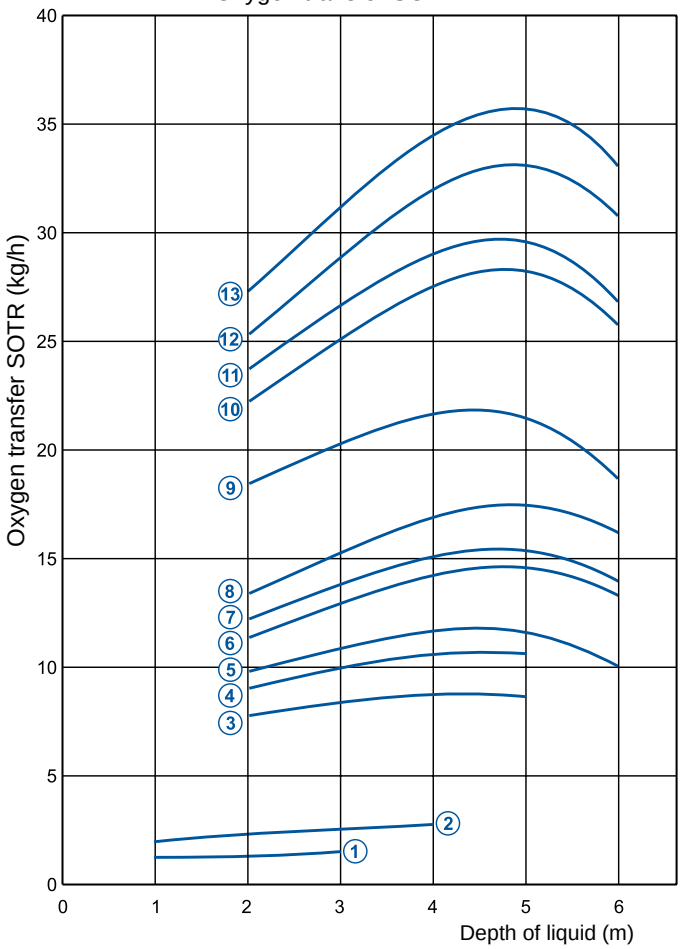
Application

Holding, homogenisation and stabilisation tanks, first rainfall collection tanks, oxidation tanks.

Air intake



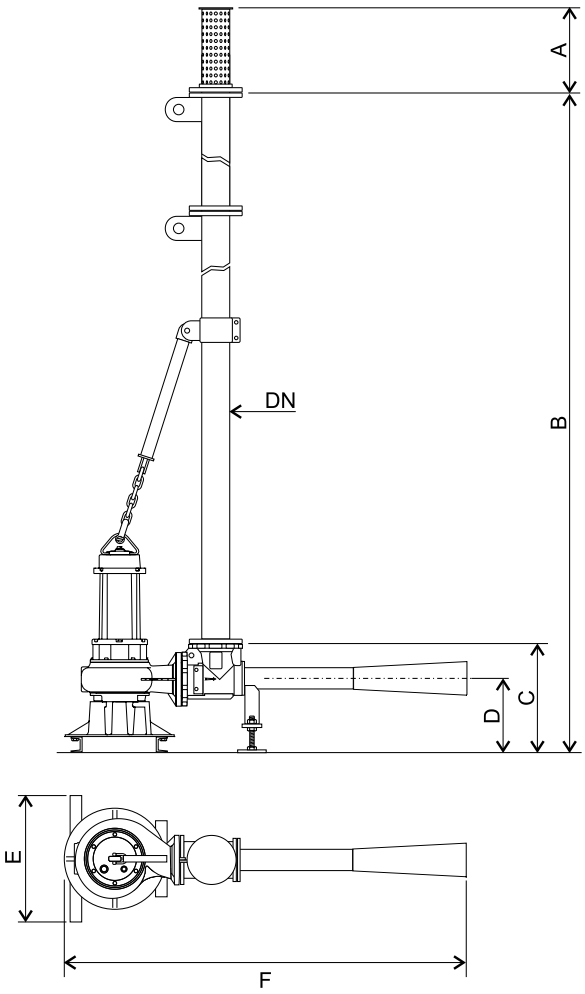
Oxygen transfer SOTR

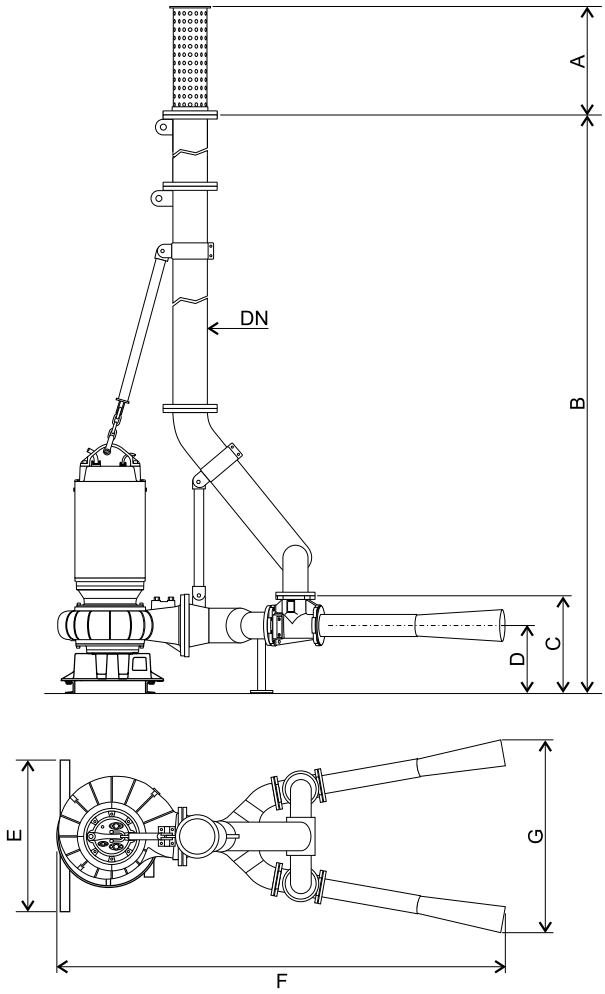


Curve	Model	Ejector			Elettropompa					Intake pipeline		System **
		No.	Type	ø diaphragm	Model	P1 (kW)	P2 (kW)	A	Poli	Max L. (m)*	DN (mm)	P1 (kW)
1	J-OXY 1/35 MAN 300/4	1	8055	55	MAN 300/4/80 A	2,9	2,2	5,8	4	3,5	100	2,8
2	J-OXY 1/35 MAN 400/4	1	8055	55	MAN 400/4/80 A	3,8	3,0	7,3	4	3,5	100	3,3
3	J-OXY 1/35(50) DRP 750/4	1	15095	95	DRP 750/4/150 A	7,9	6,5	14,9	4	3,5(5)	150	7,8
4	J-OXY 1/35(50) SMP 750/6	1	15095	95	SMP 750/6/200 A	8,1	6,1	15,2	6	3,5(5)	150	8,0
5	J-OXY 1/35(50) DRP 1000/4	1	15095	95	DRP 1000/4/150 A	10,8	8,9	20,0	4	3,5(5)	150	10,1
6	J-OXY 1/35(50) SBP 1500/6	1	15095	95	SBP 1500/6/200 A	15,7	12,3	28,2	6	3,5(5)	150	13,0
7	J-OXY 1/35(50) SMP 1500/4	1	15095	95	SMP 1500/4/150 A	15,8	13,6	28,2	4	3,5(5)	150	16,0
8	J-OXY 1/35(50) DRP 2000/4	1	15095	95	DRP 2000/4/150 A	19,6	16,4	36,0	4	3,5(5)	150	18,4
9	J-OXY 2/35(50) SBP 1500/6	2	15095	95	SBP 1500/6/250 A	15,7	12,3	28,2	6	3,5(5)	200	15,5
10	J-OXY 2/35(50) SBN 2500/6	2	15095	95	SBN 2500/6/250 A	22,8	18,5	40,0	6	3,5(5)	200	22,7
11	J-OXY 2/35(50) SBN 3000/4	2	15095	95	SBN 3000/4/250 A	26,0	22,0	43,5	4	3,5(5)	200	25,0
12	J-OXY 2/35(50) SBN 3000/6	2	15095	95	SBN 3000/6/250 A	26,7	22,0	46,0	6	3,5(5)	200	25,7
13	J-OXY 2/35(50) SBN 4000/4	2	15095	95	SBN 4000/4/250 A	36,0	30,0	61,0	4	3,5(5)	200	34,6

The technical data in the table refer to power supply voltage 400V/3/50Hz. Refer to the technical catalogue for a full view of the voltages available.
* Maximum installation depth with standard intake pipelines. For greater depths, contact our technical service.
** Power absorbed from the mains throughout the working range

Dimensions and weights





SYSTEM OXY

Model	Dimensions (mm)						max. submergence (m)			
							3.5 m		5.00 m	
	A	C	D	E	F	G	B	Kg	B	Kg
S-OXY 80 1/8055(63) 35	340	450	300	800	-	-	4050	105	-	-
S-OXY 150 1/15080(95) 35	480	450	300	1200	-	-	4050	194	-	-
S-OXY 250 2/15095 35	690	635	450	1200	-	1420	4330	356	-	-
S-OXY 80 1/8055(63) 50	340	450	300	800	-	-	-	-	5550	125
S-OXY 150 1/15080(95) 50	480	450	300	1200	-	-	-	-	5550	271
S-OXY 250 2/15095 50	690	635	450	1200	-	1420	-	-	5830	400

JETOXY

Model	Dimensions (mm)							max. submergence (m)			
								3.5 m		5.00 m	
	A	C	D	E	F	G	DN	B	Kg	B	Kg
J-OXY 1/35 MAN 300/4	340	450	300	800	1150	-	100	4050	191	-	-
J-OXY 1/35 MAN 400/4	340	450	300	800	1150	-	100	4050	194	-	-
J-OXY 1/35(50) DRP 750/4	480	450	300	1200	1590	-	150	4050	317	5550	353
J-OXY 1/35(50) SMP 750/6	480	450	300	1200	1800	-	150	4050	369	5550	405
J-OXY 1/35(50) DRP 1000/4	480	450	300	1200	1590	-	150	4050	325	5550	361
J-OXY 1/35(50) SBP 1500/6	480	450	300	1200	1800	-	150	4050	424	5550	460
J-OXY 1/35(50) SMP 1500/4	480	450	300	1200	1800	-	150	4050	385	5550	421
J-OXY 1/35(50) DRP 2000/4	480	450	300	1200	1800	-	150	4050	407	5550	443
J-OXY 2/35(50) SBP 1500/6	690	635	450	1200	3170	1420	200	4330	609	5850	653
J-OXY 2/35(50) SBN 2500/6	690	635	450	1200	3200	1420	200	4330	836	5850	880
J-OXY 2/35(50) SBN 3000/4	690	635	450	1200	3100	1420	200	4330	758	5850	802
J-OXY 2/35(50) SBN 3000/6	690	635	450	1200	3200	1420	200	4330	876	5850	920
J-OXY 2/35(50) SBN 4000/4	690	635	450	1200	3100	1420	200	4330	774	5850	818

2.3 MIXERS AND FLOW-MAKERS

Nowadays, submerged mixers are the key components of modern water treatment systems. They are mainly used in equalisation, homogenisation and denitrification processes, for phosphate extraction and where liquids have to be mixed or stirred to reduce sedimentation.



ZENIT PROpeller series mixers feature:

- Low operating costs, thanks to high efficiency leading to minimal energy consumption
- Versatility, since they can be installed in tanks of any shape and size
- Flexibility, thanks to the large assortment of installation accessories allowing correct positioning in any point in the tank
- Easy installation and maintenance provided by quick hoisting structures and a vast range of accessories allowing the user to adjust and position the machine exactly as required.

Choosing the right mixer for every application is no simple matter: there are a large number of factors to consider, and experience plays a vital role.

To select exactly the right product, users must consider how the following parameters interact:

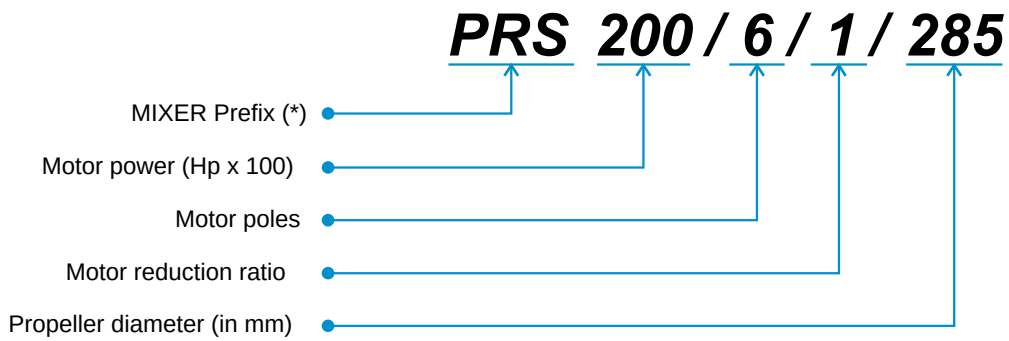
- shape, size and geometry of the tank
- material and friction level of tank walls
- items generating resistance inside the tank (pipelines, aerators, etc.).
- distance between the mixer propeller and the walls of the tank
- the type of liquid for treatment and its specific weight
- distance between mixers (for multiple installations)



ZENIT helps you to choose the right PROpeller

ZENIT helps you to choose the mixer best suited to your needs by placing its decades of experience in water treatment at your service. Simply contact our Customer Service engineers with the details of your system for a quick reply specifying the best mixer for your installation.

Key to product codes



(*) PRS - cast iron casing - direct transmission
PRX - stainless steel casing - direct transmission
PRO - cast iron casing - with reduction gear

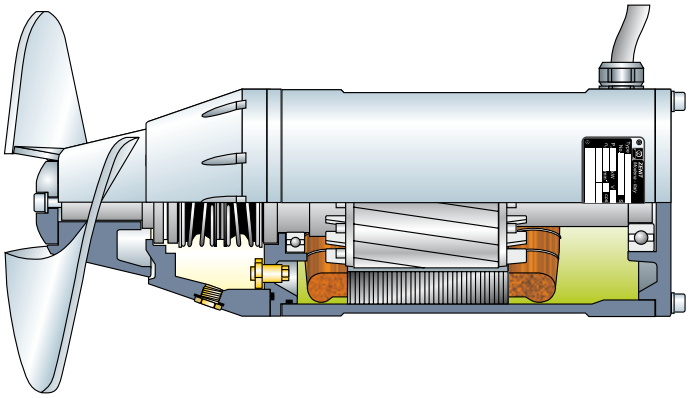
PRS-PRX-PRO

Submerged mixers



Description and application

Zenit PRS, PRX and PRO series mixers are built in cast iron or stainless steel.
The propellers, of self-cleaning design, are up to 850 mm in diameter.
The electric motors are rated from 1.1 to 15 kW and have 4, 6 or 8 poles; transmission may be direct or by means of a planetary reduction gear.
They are used in mixing processes where large quantities of liquid have to be kept in motion to prevent sedimentation. The galvanised iron or stainless steel mounting accessories provide outstanding flexibility and allow mixers to be correctly positioned even if several are installed in the same tank.

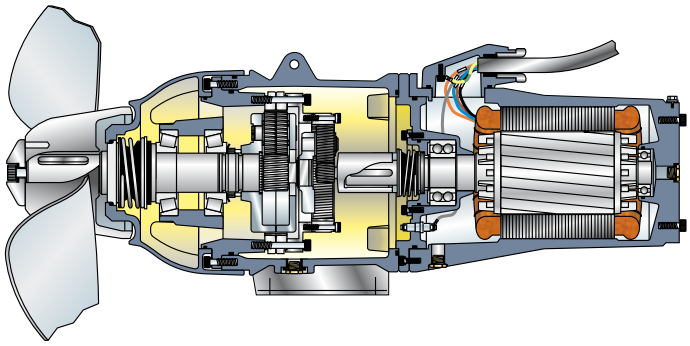


PRS

- Cast iron structure
- Propeller in Fe 510 iron
- Motors from 1.5 to 3.0 kW, with 6 and 8 poles
- From 750 to 1000 rpm, direct transmission
- Suitable for applications with max 3% solid content

PRX

- Structure in AISI 316 stainless steel
- Propeller in AISI 316 stainless steel
- Motors from 1.5 to 3.0 kW, with 6 and 8 poles
- From 750 to 1000 rpm, direct transmission
- Suitable for applications with max 3% solid content



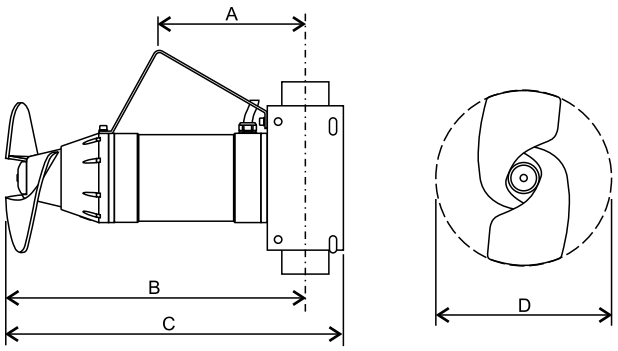
PRO

- Cast iron structure
- Propeller in Fe 510 iron
- Motors from 1.1 to 15 kW, with 4 poles
- From 222 to 350 rpm, transmission with reduction gear
- Suitable for applications with max 12% solid content

Technical characteristics

	P1	P2	current						propeller			
	(kW)	(kW)	operating	startup	poles	start	cable	rpm	thrust N	Ø mm	no. of blades	material
PRS 200/6/1/285	1.9	1.5	3.6	25	6	DOL	7x1.5	1000	390	285	2	Fe 510 D
PRS 300/6/1/325	3.0	2.2	6.4	45	6	DOL	7x1.5	1000	530	325	2	Fe 510 D
PRS 400/6/1/360	4.2	3.0	7.8	55	6	DOL	7x1.5	1000	650	360	2	Fe 510 D
PRS 200/8/1/380	2.1	1.5	5.8	41	8	DOL	7x1.5	750	465	380	2	Fe 510 D
PRS 350/8/1/440	3.4	2.5	7.1	50	8	DOL	7x1.5	750	600	440	2	Fe 510 D
PRX 200/6/1/285	1.9	1.5	3.6	25	6	DOL	7x1.5	1000	390	285	2	AISI 316
PRX 300/6/1/325	3.0	2.2	6.4	45	6	DOL	7x1.5	1000	530	325	2	AISI 316
PRX 400/6/1/360	4.2	3.0	7.8	55	6	DOL	7x1.5	1000	650	360	2	AISI 316
PRX 200/8/1/380	2.1	1.5	5.8	41	8	DOL	7x1.5	750	465	380	2	AISI 316
PRX 350/8/1/440	3.4	2.5	7.1	50	8	DOL	7x1.5	750	600	440	2	AISI 316
PRO 150/4/7/540	1.7	1.1	3.0	21	4	DOL	7x1.5	222	295	540	2	Fe 510 D
PRO 200/4/6/540	2.1	1.5	3.9	27	4	DOL	7x1.5	268	405	540	2	Fe 510 D
PRO 300/4/6/550	2.8	2.2	5.2	36	4	DOL	7x1.5	268	575	550	2	Fe 510 D
PRO 400/4/4/540	4.0	3.0	7.2	51	4	DOL	7x1.5	350	805	540	2	Fe 510 D
PRO 550/4/4/550	5.0	4.0	8.6	60	4	DOL	7x1.5	350	980	550	2	Fe 510 D
PRO 750/4/4/600	7.2	5.5	12.5	88	4	Y/ '	12x2.5	350	1450	600	2	Fe 510 D
PRO 1000/4/4/640	9.0	7.5	15.2	105	4	Y/ '	12x2.5	350	1950	640	2	Fe 510 D
PRO 1500/4/6/800	15.1	11.0	25.4	178	4	Y/ '	12x2.5	268	3400	800	2	Fe 510 D
PRO 2000/4/6/850	17.9	15.0	29.8	210	4	Y/ '	12x2.5	268	4600	850	2	Fe 510 D

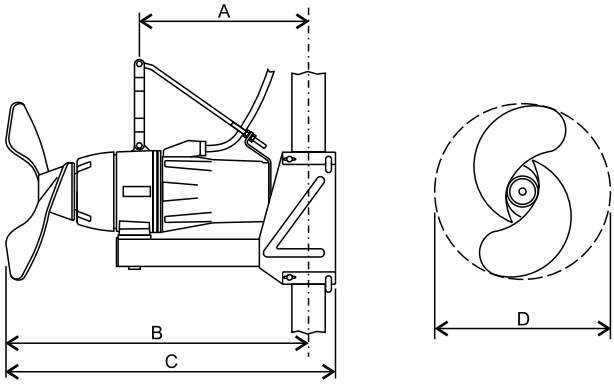
Overall dimensions and weights



	A	B	C	D	Kg
PRS 200/6/1/285	260	585	670	285	59
PRS 300/6/1/325	260	585	670	325	59
PRS 400/6/1/360	260	585	670	360	59
PRS 200/8/1/380	250	577	660	380	66
PRS 350/8/1/440	250	577	660	440	67

	A	B	C	D	Kg
PRX 200/6/1/285	260	585	670	285	59
PRX 300/6/1/325	260	585	670	325	59
PRX 400/6/1/360	260	585	670	360	59
PRX 200/8/1/380	250	577	660	380	66
PRX 350/8/1/440	250	577	660	440	67

Measurements in mm

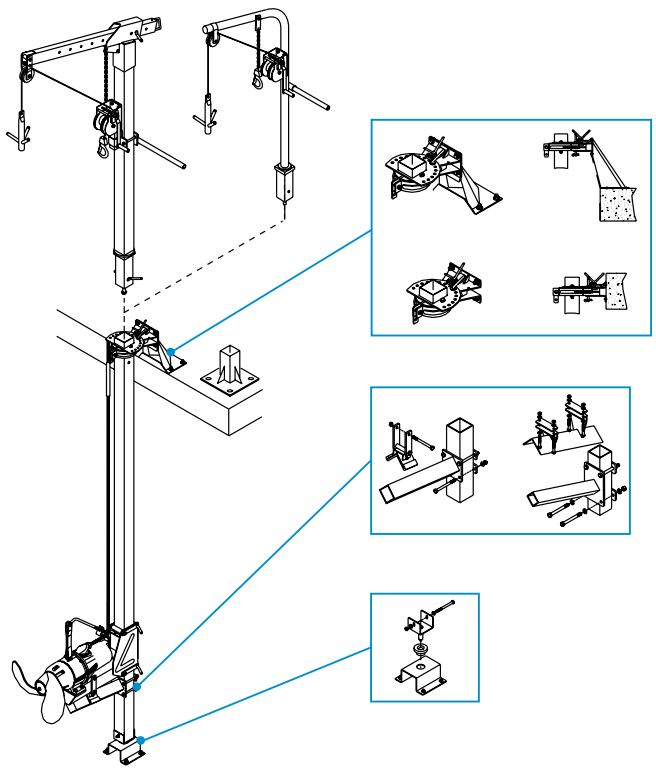


	A	B	C	D	Kg
PRO 150/4/7/540	450	988	1070	540	141
PRO 200/4/6/540	450	988	1070	540	136
PRO 300/4/6/550	450	978	1060	550	141
PRO 400/4/4/540	450	988	1070	540	138
PRO 550/4/4/550	450	978	1060	550	138
PRO 750/4/4/600	540	1123	1220	600	223
PRO 1000/4/4/650	540	1123	1220	640	229
PRO 1500/4/6/800	650	1313	1410	800	314
PRO 2000/4/6/850	625	1313	1410	850	337

Measurements in mm

Installation

PROpeller mixers can be supplied with a full range of installation accessories, which allow mounting and simplify maintenance in tanks of all kinds, as well as ensuring that the mixer is correctly positioned in the tank thanks to the various adjustments possible.



The mixer is supplied as standard with a runner and hoisting hook. All structural work can be supplied in hot-galvanised iron or stainless steel.
Various installation accessories are available for large-sized mixers on request.
All lifting systems are built with a rugged structure to guarantee efficiency and durability.
An additional advantage comes from full dismantlability into individual pieces, allowing the system to be assembled even without lifting equipment.
Thanks to a special connection on the top, all Zenit posts allow the lifting system to be removed for use on more than one installation.

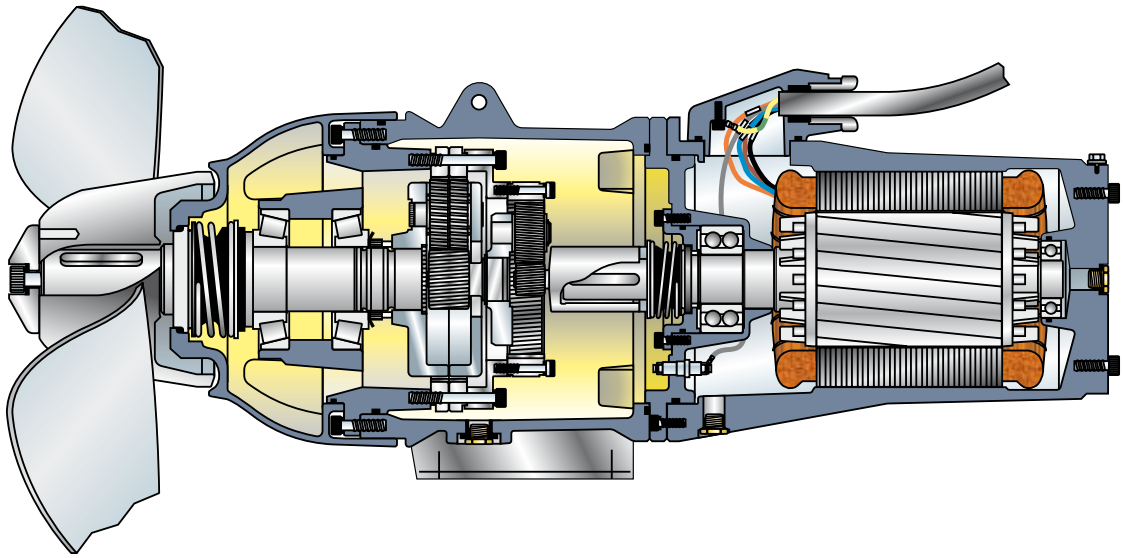


PRO
Flow-maker



Description and applications

Zenit PRO series flow-makers are built in cast iron or stainless steel.
The propellers, of self-cleaning design, are up to 2,100 mm in diameter.
The electric motors are rated from 0.8 to 5.5 kW with 4 or 6 poles; units have planetary reduction gear.
The large propeller rotating at low rpm allows a large mass of water to be kept in motion at low speed.
They are mainly used in oxidation and denitrification tanks and in all installations where the formation of sediment on the bottom of the tank has to be prevented.

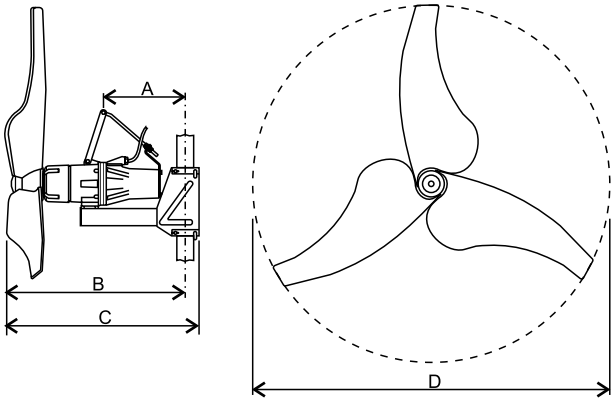


- Cast iron structure
- Propeller in AISI 316
- Motors from 0.8 to 5.5 kW, with 4-6 poles
- From 27 to 148 rpm, transmission with reduction gear
- Suitable for applications with max 1 or 3% solid content

Technical characteristics

	P1	P2	current						propeller			
	(kW)	(kW)	operating	startup	poles	start	cable	rpm	thrust N	Ø mm	no. of blades	material
PRO 100/6/7/620	1.3	0.8	2.95	21	6	DOL	7x1.5	148	290	620	3	AISI 316
PRO 150/6/7/660	1.8	1.1	4.3	30	6	DOL	7x1.5	148	410	660	3	AISI 316
PRO 200/6/7/700	2.2	1.5	4.7	33	6	DOL	7x1.5	148	550	700	3	AISI 316
PRO 300/6/7/750	3.0	2.2	6.4	45	6	DOL	7x1.5	148	800	750	3	AISI 316
PRO 400/6/7/800	4.2	3.0	7.8	55	6	DOL	7x1.5	148	1040	800	3	AISI 316
PRO 150/4/46/1900	1.7	1.1	3.0	21	4	soft start	7x1.5	33	1200	1900	2	AISI 316
PRO 200/4/46/2000	2.1	1.5	3.9	27	4	soft start	7x1.5	33	1600	2000	2	AISI 316
PRO 200/6/38/1700	2.2	1.5	4.7	33	6	soft start	7x1.5	27	1600	1700	3	AISI 316
PRO 300/4/46/1700	3.0	2.2	5.2	36	4	soft start	7x1.5	33	1800	1700	3	AISI 316
PRO 400/4/38/1750	4.2	3.0	7.2	51	4	soft start	7x1.5	40	2200	1750	3	AISI 316
PRO 550/4/46/2100	5.0	4.0	8.6	60	4	soft start	7x1.5	33	2600	2100	3	AISI 316
PRO 550/4/13/1040	5.0	4.0	8.6	60	4	soft start	7x1.5	119	1400	1040	3	AISI 316
PRO 750/4/38/2000	7.2	5.5	12.5	88	4	soft start	12x2.5	43	3200	2000	3	AISI 316

Overall dimensions and weights

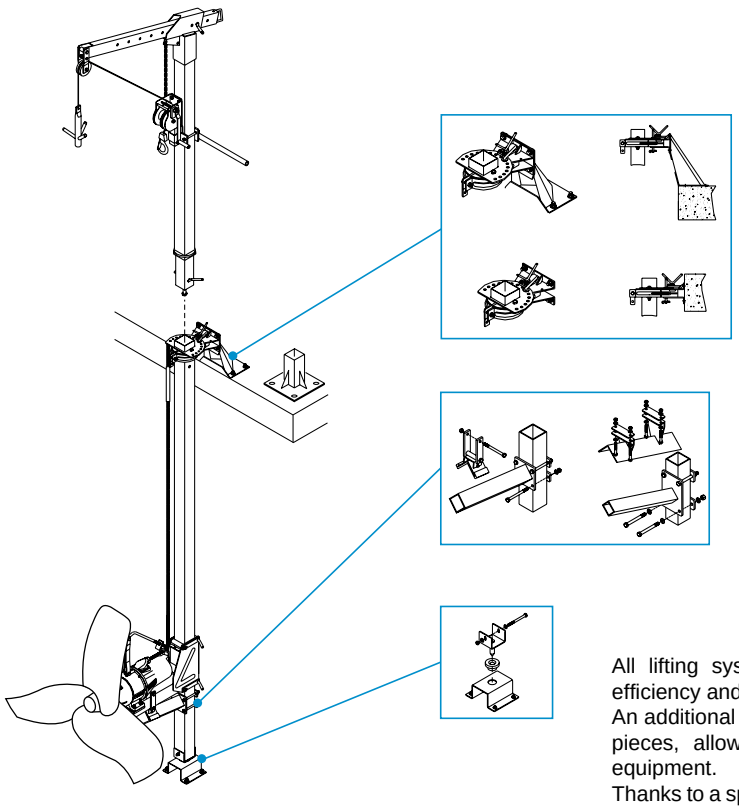


	A	B	C	D	Kg
PRO 100/6/7/620	460	893	975	620	137
PRO 150/6/7/660	460	893	975	660	137
PRO 200/6/7/700	460	893	975	700	139
PRO 300/6/7/750	460	908	990	750	139
PRO 400/6/7/800	410	923	1005	800	143
PRO 150/4/46/1900	600	1144	1241	1900	206
PRO 200/4/46/2000	600	1144	1241	2000	207
PRO 200/6/38/1700	630	1107	1204	1700	207
PRO 300/4/46/1700	630	1107	1204	1700	207
PRO 400/4/38/1750	600	1144	1241	1750	207
PRO 550/4/46/2100	655	1210	1300	2100	282
PRO 550/4/13/1040	535	1074	1171	1040	175
PRO 750/4/38/2000	685	1325	1425	2000	322

Measurements in mm

Installation

PRO flow-makers can be supplied with a full range of installation accessories, which allow mounting and simplify maintenance in tanks of all kinds, as well as ensuring that the mixer is correctly positioned in the tank thanks to the various adjustments possible.
The mixer is supplied as standard with a runner and hoisting hook. All structural work can be supplied in hot-galvanised iron or stainless steel.

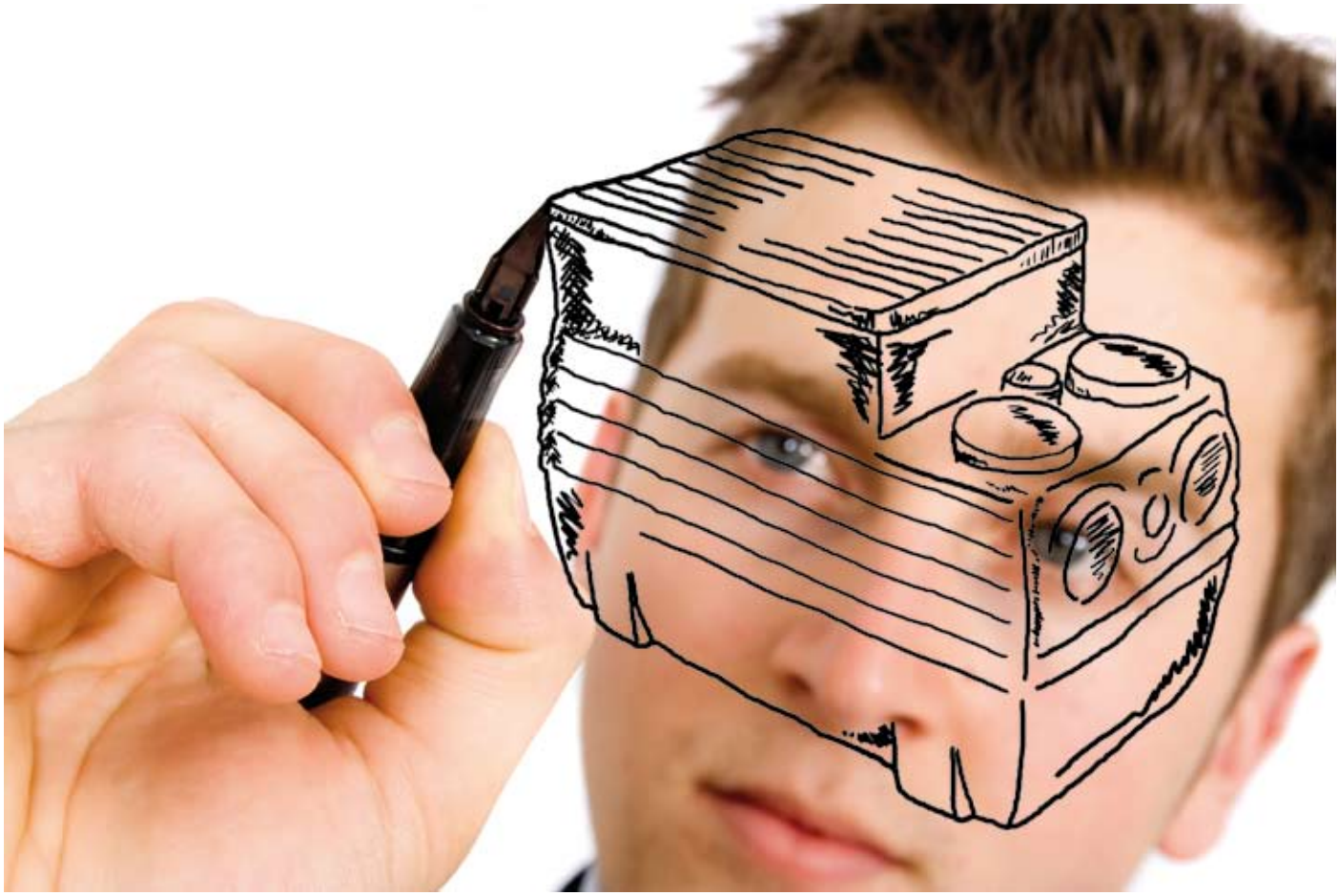




All lifting systems are built with a rugged structure to guarantee efficiency and durability.
An additional advantage comes from full dismantlability into individual pieces, allowing the system to be assembled even without lifting equipment.
Thanks to a special connection on the top, all Zenit posts allow the lifting system to be removed for use on more than one installation.

3.0

LIFTING STATIONS



3.1 LIFTING STATIONS



Prefabricated lifting stations are an effective, economical solution for collecting domestic wastewater and transferring it to a sewer at a higher level or where there are barriers to gravity run-off, or where the wastewater requires grinding.
The BlueBOX series consists of rotary moulded polyethylene tanks of 250 or 400 litres, fitted to take one or two pumps respectively.
The special shape is inspired by the Pininfarina design of the Blue Series pumps.
Their construction characteristics make BlueBOX systems extremely versatile and easy to install.

Operation and Use



The collection tank receives household wastewater from drains of any kind, and any rainwater or seepage drains.
The pump installed inside the tank refluxes the wastewater into the sewer.
The cover and pipe joints are fitted with seals to ensure airtight connections.
BlueBOX units are designed to allow a large number of intake, outlet and ventilation pipe connection options, allowing effective use whatever the space available.
A grinder pump capable of breaking down any solids in the wastewater, and refluxing it to large distances, can be installed inside the unit. This allows the pumped liquid to be passed through even small-diameter pipelines, with considerable financial savings on the total cost of the system.

BlueBOX 250 - 400

Technical characteristics

- 250 litre version for one pump and 400 litre version for two pumps
- can be installed with coupling device or directly coupled
- walk-over cover
- O-ring seal between tank and cover
- simplified intake or air venting pipe connections with seal
- airtight cable gland seals
- integral lifting handles
- fitted for emergency emptying using a tap
- PATENTEDcable gland allowing easy pump removal for any maintenance work
- the side fins, in the middle of the tank, guarantee an excellent grip if the unit is installed in-floor (refer to relevant manual)





Sturdy walk-over cover
The large top opening allows a backup pump to be used for emergency emptying, ensuring operations are simple and hygienic.



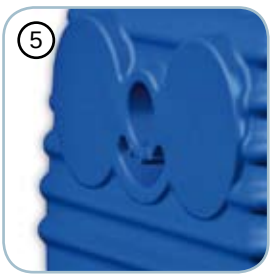
PATENTED modular cable gland system allowing the pump to be removed with no need to disconnect or extract the power supply cable (refer to relevant manual).



Guaranteed airtight thanks to "C" shaped double-lip NBR rubber seals. The seal allows the BlueBOX to be connected to the various pipelines quickly, solving the vibration problem.



Wastewater pipeline inlet ports also provided on sides.



Two integral handles for lifting and transport, for easy transfer even by hand.



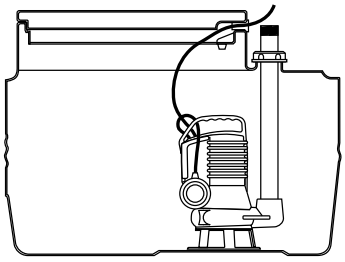
Emergency drainage fitting located low down in the unit.

Installations

BlueBOX 250-400 lt. lifting stations are fitted for installation of Zenit pumps (not included).
The delivery pipeline may be in galvanised steel or PVC and is secured to the tank by means of a ring-nut with a seal that ensures airtight sealing.
The accessories available allow a variety of installation options depending on the specific requirements.

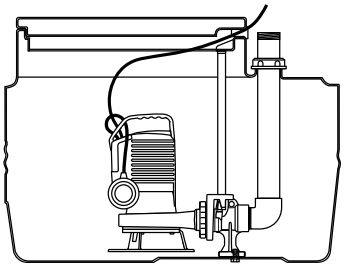
Permanent installation

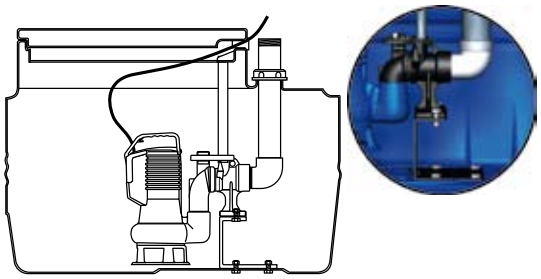
Ideal installation for pump with vertical delivery outlet up to 2 1/2”
The pump rests on the bottom of the tank. The specially shaped bottom keeps the pump in the correct position.
A ball check valve and/or a gate valve can be connected to the end of the delivery pipeline.
Permanent installation is definitely the simplest and most economical.



Installation with bottom coupling device (DAC)

Installation with the bottom coupling device allows the pump to be raised and repositioned easily, with no need to empty the tank.
Vertical delivery pumps can be installed using a special kit for horizontal DAC units.
This is a versatile installation option which simplifies pump maintenance or replacement.

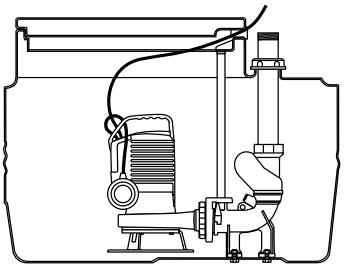




See Accessories section for further information.

Installation with bottom coupling device (DAC) and ball valve (VAP)

This special, compact accessory provides all the benefits of an ordinary DAC, and also, thanks to an integral venting valve, it prevents air pockets from forming inside the pump body if the unit runs dry.
Thanks to this feature, a special ball check valve can be directly connected to the outlet of the DAC inside the BlueBOX, ensuring compact size and removing installation constraints.

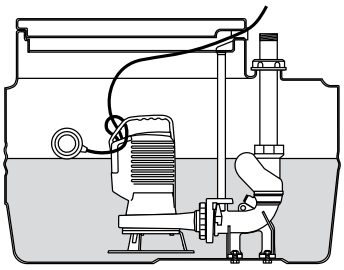


See Accessories section for further information.

Electrical accessories

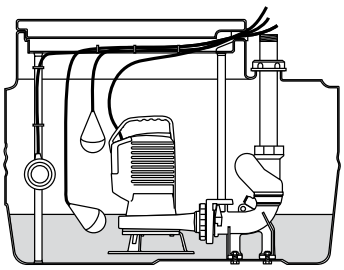
With integral float switch

In the event of use of pumps with float switch, BlueBOX lifting stations can be used with no further electric accessories. The float switch starts and stops the pump depending on the level reached.



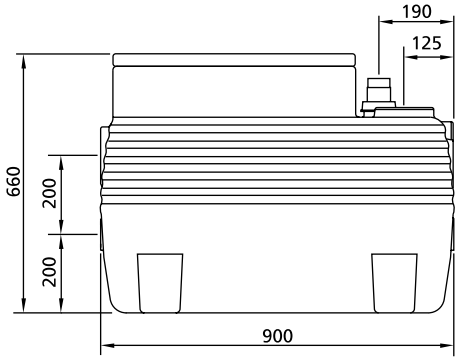
Without integral float switch

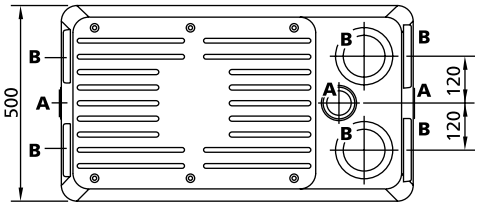
In the event of use of pumps without float switch, the BlueBOX lifting station must be equipped with minimum and maximum level float switches, and alarm float switch if required.
The electrical panel complete with all features required for operation of one or two pumps (400 lt) and accessories such as alternating control device or alarm with buzzer and light is available on request.



Overall dimensions and weights

BlueBOX 250

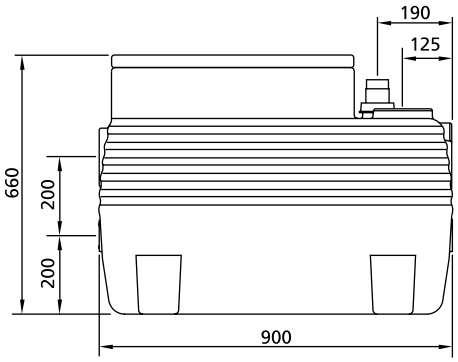


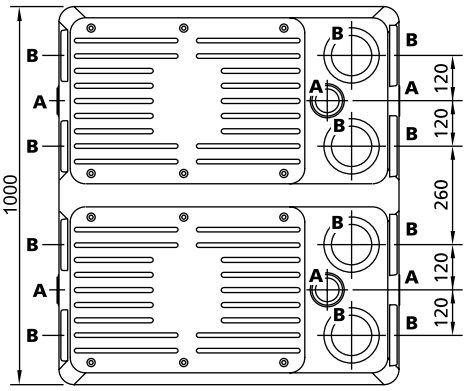


A Ø max 2 1/2"
B Ø max 110 mm
Weight 15 kg

(data without pump and accessories)

BlueBOX 400

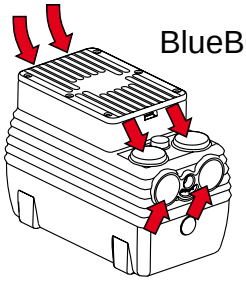




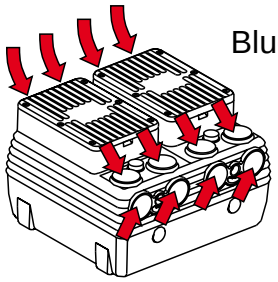
A Ø max 2 1/2"
B Ø max 110 mm
Weight 31 kg

(data without pump and accessories)

Inlets available



BlueBOX 250



BlueBOX 400

Recommended electric pumps

With vortex impeller

	V	Phases	P2(kW)	A	Rpm	Ø	Free passage
DG Blue 40/2/G40V A1BM/50	230	1	0.3	2.3	2900	G 1 1/2"	40 mm
DG Blue 50/2/G40V A1BM/50	230	1	0.37	2.8	2900	G 1 1/2"	40 mm
DG Blue 75/2/G40V A1BM/50	230	1	0.55	4.1	2900	G 1 1/2"	40 mm
DG Blue 100/2/G40V A1BM/50	230	1	0.74	5.6	2900	G 1 1/2"	40 mm
DG BluePRO 50/2/G40V A1BM/50	230	1	0.37	2.8	2900	G 1 1/2"	40 mm
DG BluePRO 75/2/G40V A1BM/50	230	1	0.55	4.1	2900	G 1 1/2"	40 mm
DG BluePRO 100/2/G40V A1BM/50	230	1	0.74	5.6	2900	G 1 1/2"	40 mm
DG BluePRO 50/2/G40V A1BT/50	400	3	0.37	1.15	2900	G 1 1/2"	40 mm
DG BluePRO 75/2/G40V A1BT/50	400	3	0.55	1.6	2900	G 1 1/2"	40 mm
DG BluePRO 100/2/G40V A1BT/50	400	3	0.74	2.15	2900	G 1 1/2"	40 mm

	l/s	0	2	4	6	8	10	12
	l/min	0	120	240	360	480	600	720
	m³/h	0	7,2	14,4	21,6	28,8	36,0	43,2
DGBLUE 40/2/G40V A1BM/50		6,0	4,0	1,7				
DGBLUE 50/2/G40V A1BM/50		7,6	5,5	2,9				
DGBLUE 75/2/G40V A1BM/50		10,1	8,5	5,7	2,6			
DGBLUE 100/2/G40V A1BM/50		11,6	10,2	7,6	4,3			
DG BluePRO 50/2/G40V A1BM(T)/50		7,0	4,9	2,4				
DG BluePRO 75/2/G40V A1BM(T)/50		10,2	8,0	5,5	2,6			
DG BluePRO 100/2/G40V A1BM(T)/50		11,4	9,8	7,4	4,4			
DG BluePRO 150/2/G50V A1CM(T)/50		12,3	10,7	8,8	6,5	4,4	2,4	
DG BluePRO 200/2/G50V A1CM(T)/50		15,3	13,7	11,7	9,4	7,1	4,7	2,5



Grinders

	V	Phases	P2(kW)	A	Rpm	Ø	Free passage
GR BluePRO 100/2/G40H A1CM/50	230	1	0.74	5.5	2900	G 1 1/2"-DN32 PN6	-
GR BluePRO 150/2/G40H A1CM/50	230	1	1.1	7.5	2900	G 1 1/2"-DN32 PN6	-
GR BluePRO 200/2/G40H A1CM/50	230	1	1.5	10	2900	G 1 1/2"-DN32 PN6	-
GR BluePRO 100/2/G40H A1CT/50	400	3	0.74	2.7	2900	G 1 1/2"-DN32 PN6	-
GR BluePRO 150/2/G40H A1CT/50	400	3	1.1	3.2	2900	G 1 1/2"-DN32 PN6	-
GR BluePRO 200/2/G40H A1CT/50	400	3	1.5	4.3	2900	G 1 1/2"-DN32 PN6	-

	l/s	0	1	2	3	4	5
	l/min	0	60	120	180	240	300
	m³/h	0	3,6	7,2	10,8	14,4	18,0
GR BluePRO 100/2/G40H A1CM(T)/50		18,0	16,4	14,4	11,5	6,9	
GR BluePRO 150/2/G40H A1CM(T)/50		21,1	19,6	17,9	15,1	10,4	3,0
GR BluePRO 200/2/G40H A1CM(T)/50		27,0	25,6	23,6	20,7	16,1	9,3



Outdoor installation

Installing a BlueBOX lifting station could not be easier.
It is supplied partially assembled to speed up installation by the customer.
A large number of construction features simplify installation, and the accessories supplied allow the system to be optimised in all conditions.



The BlueBOX tank can be installed on-floor or in-floor.
Inlet and output pipeline fittings are provided on three sides, allowing installation to be optimised to requirements.



Before the unit is actually placed in position, holes are drilled in the sides using a flared grinding tool to take the seals and then the pipes in the chosen positions.



To ensure perfect sealing, the double lip seal provided is fitted. No additional sealants are required, making installation an extremely quick procedure.



Once our BlueBOX has been placed in the installation position, the wastewater inlet and ventilation pipes are fitted.



The next step is to install the pump, which will certainly be easier if a BlueBOX with DAC was chosen. In this case, the flange provided has only to be slid along the guide tubes to achieve perfect coupling to the body of the DAC.
The BlueBOX contains an accessory that can be fitted to allow emptying in emergencies through the drainage hole low down in the unit.



The electrical cables are passed through special patented rubber cable glands that ensure a perfectly airtight seal. Before fitting the cable, perforate the chosen cable glands with a sharp tool, but leave the others intact to keep liquids or smells inside the unit.



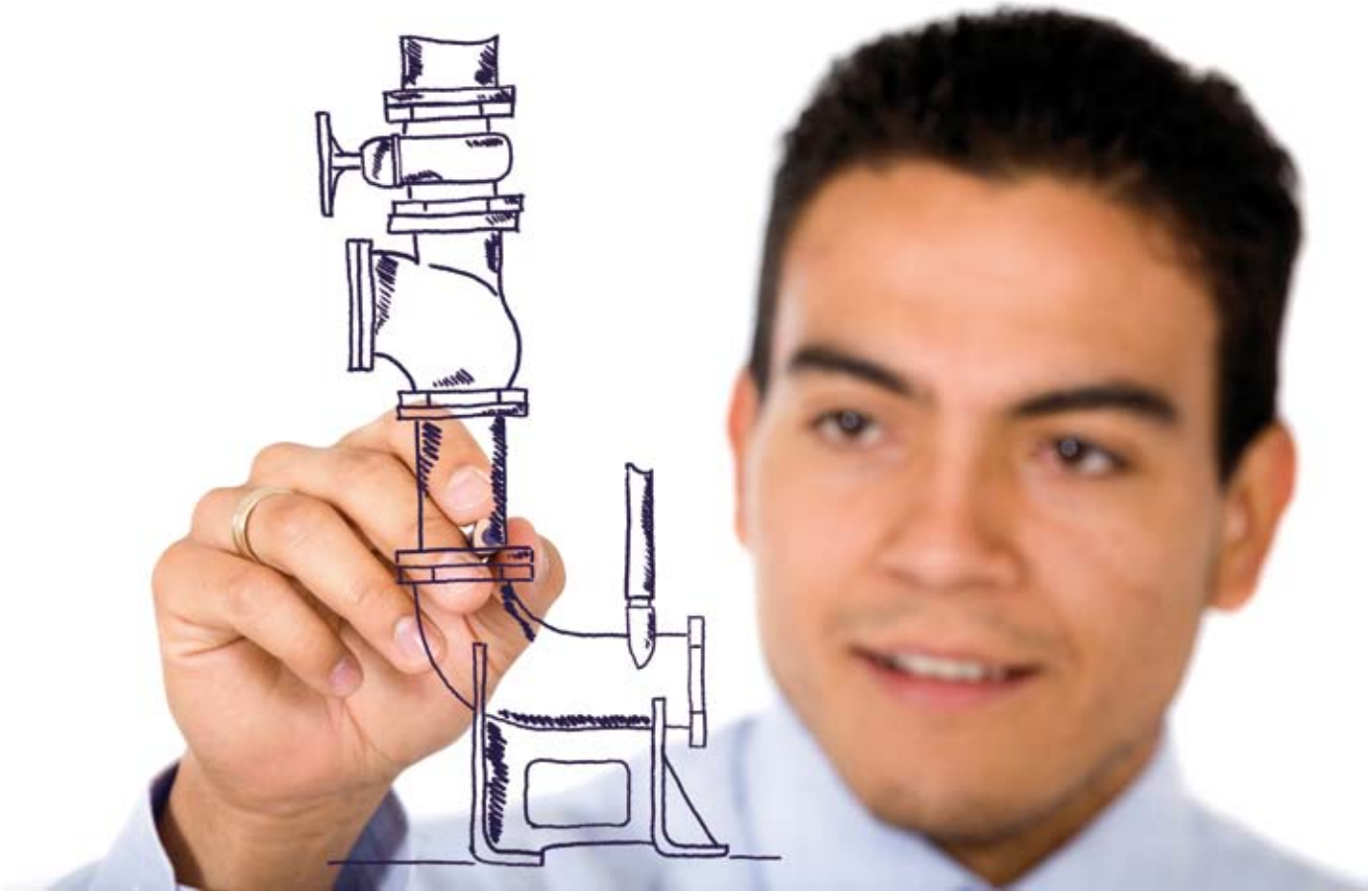
Once installation is complete and operation of the pump and its float switches has been checked, the cover can be screwed into place.
The cover is walk-over but will not support vehicles.



The BlueBOX lifting station is ready for use.
The vast range of plumbing and electrical accessories covers all installation requirements.

4.0

HYDRAULIC ACCESSORIES



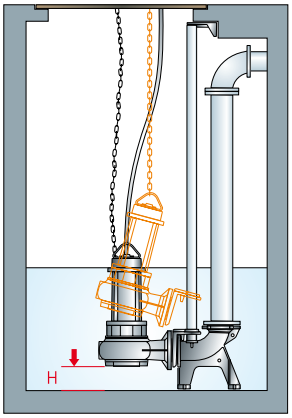
4.1 COUPLING DEVICES AND BASE PLATES

Coupling devices are essential accessories for making a reversible hydraulic connection between the pump and the outlet piping. This system allows the pump to be brought to the surface and then quickly reconnected, with no need to drain the tank, often an expensive operation involving lengthy plant stoppages.
Perfect coupling between flange and device is ensured on all units in the Zenit range by means of a rubber seal. In addition, all bottom devices are designed with two guide pipes for trouble-free perfect alignment during coupling.



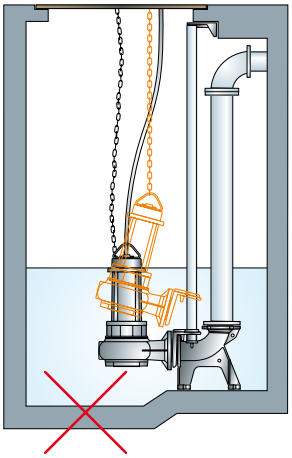
The external coupling device (DAC E), the only accessory of its type, can also be applied and used on existing plants. The unusual shape of the accessory allows the unpleasant and laborious task of tank draining to be avoided even during the installation stages.

The Zenit bottom coupling devices can have horizontal or vertical outlets in order to better adapt to the customer's needs.
All cast iron coupling devices are designed to receive 2 guide pipes which can accompany the pump into its working position without undesired twisting.
Furthermore, a PATENTED system simplifies pump release and reduces the mechanical stresses on the guide pipes, even after an extended period of time immersed in the wastewater.
There is also a special stainless steel device that is indicated for the installation with pumps from the DRY series when acids or sea water are present.



Another special feature of the Zenit vertical coupling systems is that they are designed to keep the pump's intake port at an ideal distance without the need for creating a step.
They therefore provide a considerable savings in terms of time and the costs involved in the building of the collection tanks as well as easy replacement in pre-existing plants.

The DAC V vertical bottom coupling device can be coupled to a special 2" ball valve.
Thanks to the special breather valve incorporated into the DAC structure, any air pockets that may form during the summer, for example, when the water level in the well drops below the priming threshold, are expelled allowing the electric pump to operate regularly.
The image below shows the previously described version.
This accessory's reduced size allows for easy use in small dimension wells.





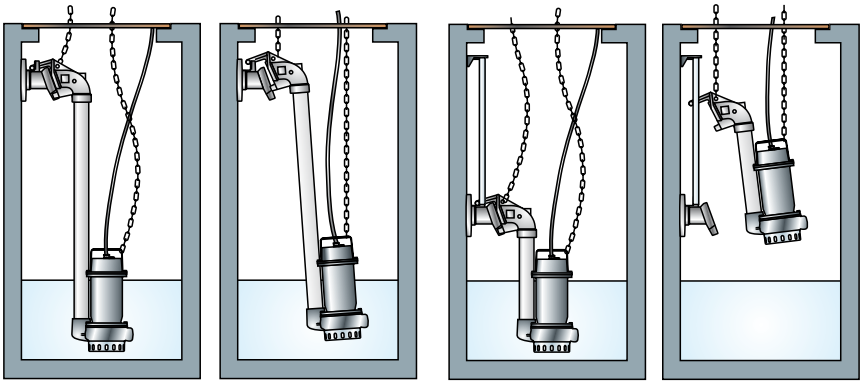
DAC E (GAS 2”)

External coupling devices



General characteristics

- xed structure in GJL-250 cast iron - movable structure in GJS-600-3
- epoxy-vinyl paint
- seals in NBR rubber
- full free passage
- xing to tank walls by means of DN50 PN10 ange or 2” GAS thread
- with a suitable male/female reduction adapter the accessory can also be used with GAS 1 1/4” and GAS 1 1/2” delivery pumps

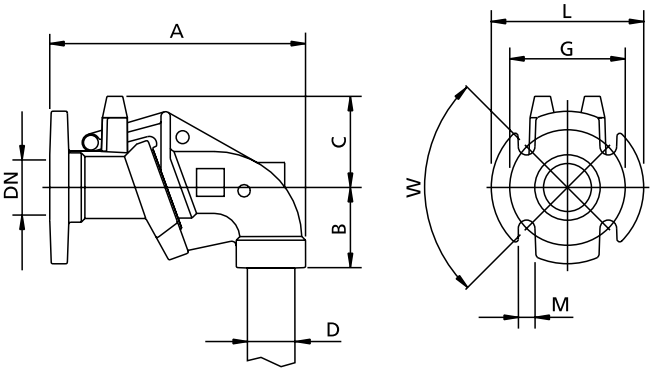


In installations in which the DAC-E needs to be fastened far from the well cover, two guide pipes (3/4") may be used, which are helpful for accompanying the electric pump until it is perfectly coupled.

Models

DAC -E G50/50H Inlet GAS 2", outlet GAS 2’’ and ange DN50 PN10

Overall dimensions and weights



	A	B	C	D	DN	G	L	M	W	kg
DAC -E G50/50H	280	90	100	G 2”	G 2”	125	165	18	90°	8

Measurements in mm

DAC V (1 1/2”- 2” and DN32 PN6 - DN50 PN10)

Bottom coupling devices with vertical outlet

General characteristics

- structure in GJL-250 cast iron
- seal in NBR rubber
- epoxy-vinyl paint
- full free passage
- complete with tting for connection to polyethylene tube (diameter 63 mm)
- threaded outlet GAS 2” and GAS 2 1/2”
- complete with pipe guide and sliding ange with stainless steel fasteners
- allows the pump intake port to be kept at optimal height, meaning there is no need to provide a step in the bottom of the tank
- version with ball valve directly on the delivery port. This model comes with an incorporated breather valve for air venting



Models

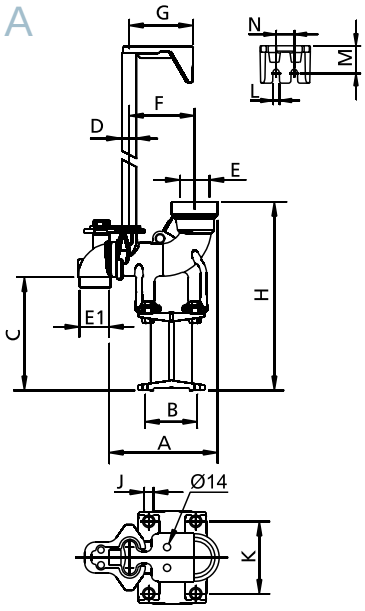
DAC-N G40V/G50-65V Inlet for vertical delivery pumps GAS 1 1/2”, outlet GAS 2” - 2 1/2”
DAC-N G50V/G50-65V Inlet for vertical delivery pumps GAS 2”, outlet GAS 2" - 2 1/2”
Both of the accessories have a tting for a PE 63 tube (GTP) or a ball check valve (VAP) + breather valve

DAC-N 32-50/G50-65V Inlet DN32 PN6 and DN50 PN10, outlet GAS 2” and GAS 2 1/2”
The accessory comes supplied with a tting for a PE 63 (GTP) tube

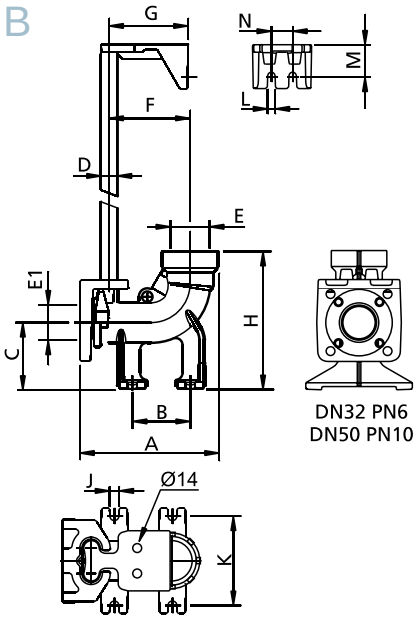
DAC-N 32-50/G50V+VAP Inlet DN32 PN6 and DN50 PN10, outlet GAS 2” (valve outlet diameter)
The accessory comes supplied with a 2” ball valve
For correct operation, the DAC structure must have an automatic air release valve.

Overall dimensions and weights

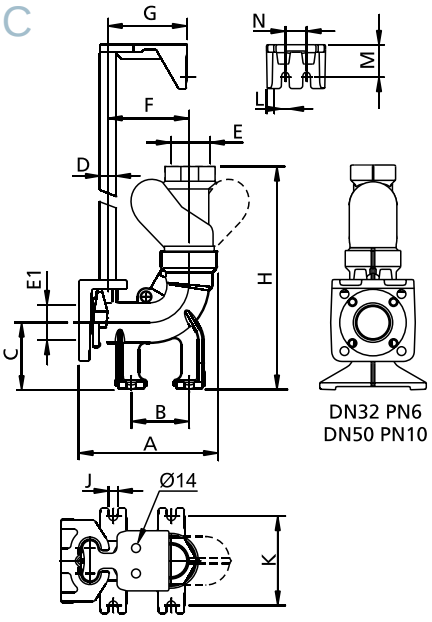
A



B



C



A	A	B	C	D	E	E1	F	G	H	J	K	L	M	N	Kg
DAC-N G40V/G50-65V	200	90	165	3/4”	G 2”-G 2 1/2”	G 1 1/2”	130	125	360	14	140	12	50	35	11
DAC-N G50V/G50-65V	200	90	220	3/4”	G 2”-G 2 1/2”	G 2”	130	125	360	14	140	12	50	35	11

B	A	B	C	D	E	E1	F	G	H	J	K	L	M	N	Kg
DAC-N 32-50/G50-65V	220	90	105	3/4”	G 2”- G 2 1/2”	50	130	125	215	14	140	12	50	35	8

C	A	B	C	D	E	E1	F	G	H	J	K	L	M	N	Kg
DAC-N 32-50/G50V+VAP	220	90	105	3/4”	G 2”	50	130	125	355	14	140	12	50	35	9

Measurements in mm

DAC V (DN65÷DN300)

Bottom coupling devices with vertical outlet

General characteristics

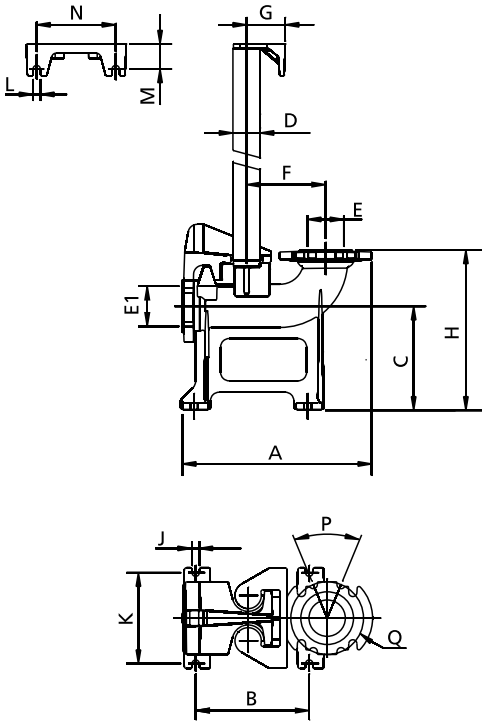
- structure in GJL-250 cast iron
- seal in NBR rubber
- epoxy-vinyl paint
- full free passage
- complete with pipe guide and sliding ange with stainless steel fasteners
- allows the pump intake port to be kept at optimal height, meaning there is no need to provide a step in the bottom of the tank
- a PATENTED system simpli es pump release and reduces the mechanical stresses on the guide pipes



Models

DAC-N 65/65V	Inlet DN65 PN10-16, outlet DN65 PN10-16
DAC-N 80/80V	Inlet DN80 PN10, outlet DN80 PN10-16
DAC-N 100/100V	Inlet DN100 PN10-16, outlet DN100 PN10-16
DAC-N 150/200V	Inlet DN150 PN10-16, outlet DN200 PN10
DAC-N 200/250V	Inlet DN200 PN10, outlet DN250 PN10
DAC-N 250/300V	Inlet DN250 PN10, outlet DN300 PN10
DAC-N 300/350V	Inlet DN300 PN10, outlet DN350 PN10

Overall dimensions and weights



	A	B	C	D	E	E1	F	G	H	J	K	L	M	N	P	Q	Kg
DAC-N 65/65V	400	250	240	2”	65	65	170	85	355	16	200	16	55	175	90	145	26
DAC-N 80/80V	420	250	230	2”	80	80	175	85	355	16	200	16	55	175	45	160	28
DAC-N 100/100V	450	250	220	2”	100	100	195	85	355	16	200	16	55	175	45	180	31
DAC-N 150/200V	625	280	410	2”	200	150	305	150	600	24	250	14	50	100	45	295	117
DAC-N 200/250V	700	500	370	2”	250	200	355	150	600	24	250	14	50	100	30	350	149
DAC-N 250/300V	810	500	525	2”	300	250	430	150	805	24	250	14	50	100	30	400	192
DAC-N 300/350V	955	500	495	3”	350	300	445	135	850	24	460	20	75	180	22.5	460	293

Measurements in mm

DAC H (DN32 PN6 - DN50 PN10)

Bottom coupling devices with horizontal outlet

General characteristics

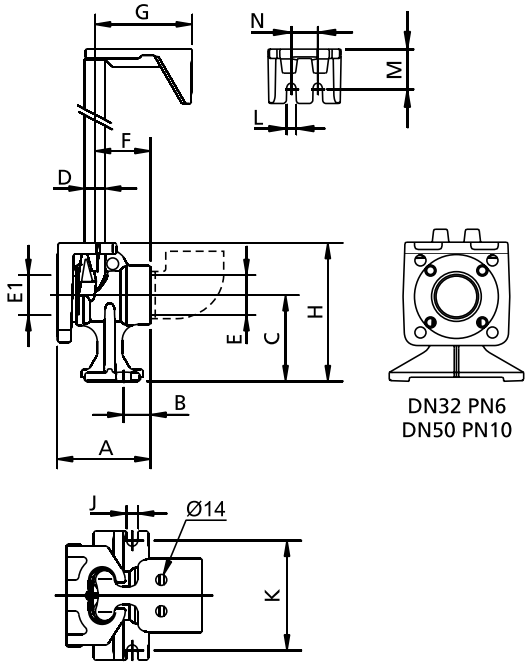
- structure in GJL-250 cast iron
- seal in NBR rubber
- epoxy-vinyl paint
- full free passage
- complete with pipe guide, sliding ange (including stainless steel fasteners) and 2" GAS threaded bend in stainless steel



Models

DAC-N 32-50/G50H Inlet DN32 PN6 and DN50 PN10, horizontal outlet GAS 2”

Overall dimensions and weights



	A	B	C	D	E1	E	F	G	J	K	L	M	N	kg
DAC-N 32-50/G50H	120	35	110	3/4”	50	G 2”	70	125	14	140	12	50	35	6.5

Measurements in mm

DAC H (DN65÷DN250)

Bottom coupling devices with horizontal outlet



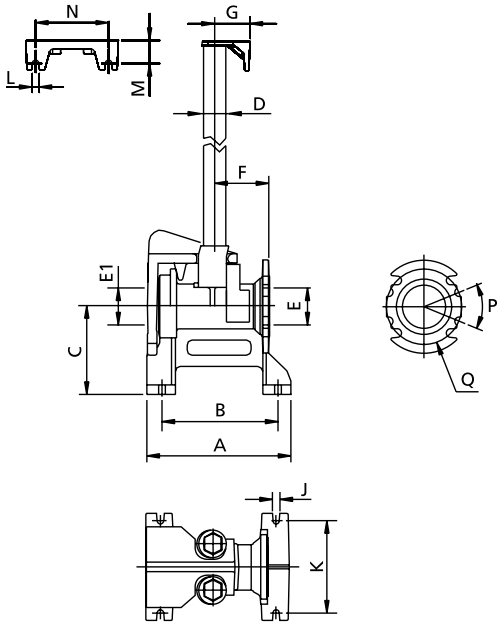
General characteristics

- structure in GJL-250 cast iron
- seal in NBR rubber
- epoxy-vinyl paint
- full free passage
- complete with pipe guide and sliding ange with stainless steel fasteners
- a PATENTED system simpli es pump release and reduces the mechanical stresses on the guide pipes

Models

DAC-N 65/65H	Inlet DN65 PN10-16, outlet DN65 PN10-16
DAC-N 80/80H	Inlet DN80 PN10, outlet DN80 PN10-16
DAC-N 100/100H	Inlet DN100 PN10-16, outlet DN100 PN10-16
DAC-N 150/150H	Inlet DN150 PN10-16, outlet DN150 PN10-16
DAC-N 200/200H	Inlet DN200 PN10, outlet DN200 PN10
DAC-N 250/250H	Inlet DN250 PN10, outlet DN250 PN10

Overall dimensions and weights



	A	B	C	D	E1	E2	F	G	J	K	L	M	N	P	Q	kg
DAC-N 65/65H	310	250	180	2”	65	65	120	85	16	200	16	55	174	90	145	35
DAC-N 80/80H	310	250	190	2”	80	80	120	85	16	200	16	55	174	45	160	35
DAC-N 100/100H	320	250	190	2”	100	100	130	85	16	200	16	55	174	45	180	39
DAC-N 150/150H	405	250	240	2”	150	150	160	150	24	250	14	50	100	45	240	70
DAC-N 200/200H	405	250	240	2”	200	200	170	150	24	250	14	50	100	45	295	87
DAC-N 250/250H	540	400	375	2”	250	250	265	150	24	250	14	50	100	30	350	120

Measurements in mm

DAC X (DN65÷DN100)

Stainless steel bottom coupling devices

General characteristics

- structure and ange in AISI 316 stainless steel
- seal in NBR
- full free passage
- recommended for installations with corrosive or saline liquids



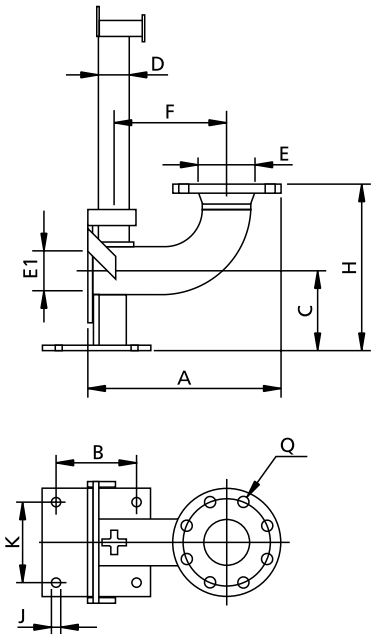
Models

DACX-N 65/65V	Inlet DN65 PN10, outlet DN65 PN10-16
DACX-N 80/80V	Inlet DN80 PN10, outlet DN80 PN10-16
DACX-N 100/100V	Inlet DN100 PN10, outlet DN100 PN10-16



The DAC X bottom coupling devices are specially indicated for the used with DRY type pumps and allow you to obtain a system that is completely in stainless steel and resistant to chemically aggressive liquids.

Overall dimensions and weights



	A	B	C	D	E	E1	F	H	J	K	Q	Kg
DACX-N 65/65V												
DACX-N 80/80V	335	120		50	80	80	186	312	14	120	160	17
DACX-N 100/100V	385	140		50	100	100	227	379	14	140	180	21

Measurements in mm

ACCESSORIES FOR COUPLING DEVICES

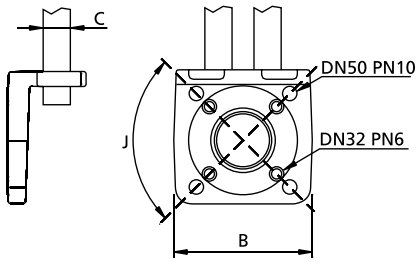
A wide range of accessories for coupling devices allow any type of plant to be optimized and reduce installation times.

KAF

Sliding ange for:
- OXY50 (KAF 32-50)
- DAC H (check the dimensions of KAF for correct coupling)
- DAC V (check the dimensions of KAF for correct coupling)

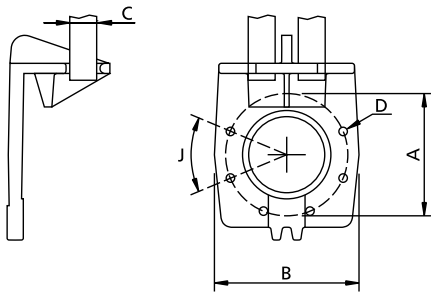
This accessory can be coupled to Flygt devices

(pay special attention to the diameter of the guide pipes, letter C in the table)



	Flange	B	C	D	J
KAF 32-50	32 PN6-50 PN10	130	3/4”	M12-M16	90°

Measurements in mm



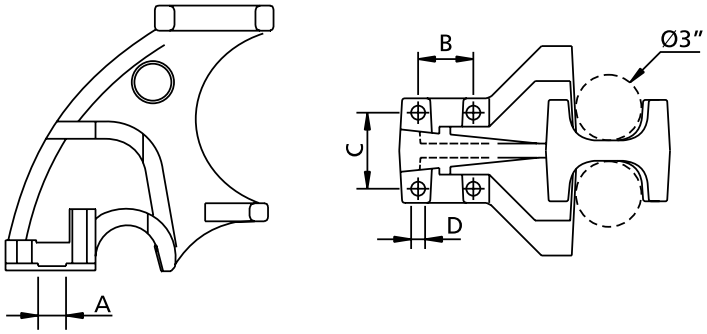
	A	B	C	D	J
KAF 65	145	160	2”	M16	90°
KAF 80	160	160	2”	M16	90°
KAF 100	180	210	2”	M16	45°
KAF 150	240	285	2”	M20	45°
KAF 200	295	345	2”	M20	45°
KAF 250	350	400	2”	M20	30°

Measurements in mm

- Supplied with NBR rubber seal and stainless steel fasteners
- Contact the Zenit Sales Department for compatibility with other manufacturers

KGP

Hook for Zenit foot ideal for coupling with DAC of 300 mm diameter and above, with double 3" guide pipes



This accessory can be used with any Zenit electric pump (check for the presence of the overall dimensions of the individual pumps on the drawing), allowing it to be coupled to DACs with 3" guide pipes and DAC Flygts with the same guide pipes.

	A	B	C	D	Kg
KGP-D	40	79	109	21	40

Measurements in mm

BASE PLATES

Base plates for FREE installation allow the pump to be positioned in the tank quickly and ensure a high level of stability thanks to the large contact surface. Made of cast iron (GJS-600.3) or galvanized steel. Complete with stainless steel fasteners.

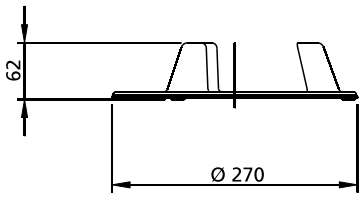
CAST IRON BASE PLATES

9024.010



Cast iron 3 spoke base plate for free installation.
Suitable for the following models:

- ‡ DGF 150-200/2/G65V-65-80
- ‡ DGO 150-200/2/G65V-65-80

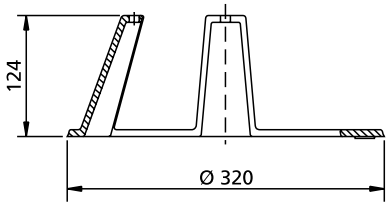


9024.006



Cast iron 3 spoke base plate for free installation.
Suitable for the following models:

- ‡ DRN 250-300/2/65-80
- ‡ DGI 100/4/80
- ‡ DGN 250-300/2/G65V-65-80
- ‡ DGN 300-400-550/2/65-80
- ‡ DGF 100/4/65-80
- ‡ APF 150-200/2/G40H
- ‡ APN 250/2/G40H
- ‡ APN 300-400-550/2/G50H
- ‡ APP 750-1000/2/G50H
- ‡ GRN 250/2/G40H
- ‡ GRN 300-400-550/2/G50H
- ‡ GRP 750/2/G50H
- ‡ GRF 150-200/2/G40H
- ‡ MAN 250-300/2/G65V-65-80
- ‡ MAI 100/4/80
- ‡ DRN 400-550/2/65-80
- ‡ MAN 400-550/2/65-80
- ‡ MAF 100/4/65-80

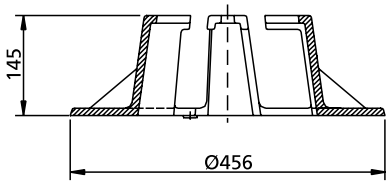


9024.007



Cast iron 4 spoke base plate for free installation.
Suitable for the following models:

- ‡ DRN 400-550/2/100
- ‡ DRN 200-300-400/4/80-100
- ‡ DRN 150/6/80-100
- ‡ DRN 250/6/100-150
- ‡ DRF 100/4/65-80-100
- ‡ DGN 200-300-400/4/65-80-100
- ‡ DGN 150/6/65-80-100
- ‡ DGN 250/6/80-100-150
- ‡ DGF 100/4/65-80
- ‡ MAN 400-550/2/100
- ‡ MAN 200-300-400/4/80-100
- ‡ MAN 150/6/80-100
- ‡ MAN 250/6/80-100-150
- ‡ MAF 100/4/100
- ‡ SMP 400/4/100-150
- ‡ SMP 750-1000/4/100-150
- ‡ SMP 1500-2000/4/150
- ‡ SBP 750-1000/4/150

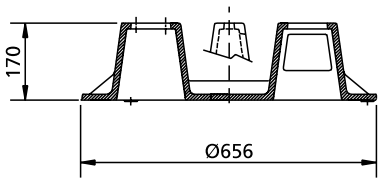


9024.009



Cast iron 4 spoke base plate for free installation.
Suitable for the following models:

- ‡ SMN 3000/4/150-200-250
- ‡ SMP 750/6/200-250
- ‡ SMP 2000/4/200-250
- ‡ SBN 3000/4/150-200-250
- ‡ SBN 4000/4/150-200-250
- ‡ SBN 5000/4/150-200-250
- ‡ SBN 2500/6/150-250-300
- ‡ SBN 3000/6/250-300
- ‡ SBP 1000-1500/6/200-250



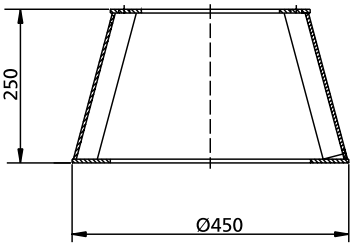
GALVANISED IRON BASE PLATES

9024.008



Hot-galvanised steel base plate.
Suitable for the following models:

- ‡ GRN 300-400/4/80-100



4.2 CHECK VALVES AND GATE VALVES

Zenit check valves, certified EN 12050-4 annex ZA standard EN 12050-4, are designed for use even with soiled liquids and provide full guarantees of operation even under heavy-duty working conditions.

The sinking ball system ensures a free passage since, at maximum opening, the valve has a completely free main line, greatly reducing pressure drops.
The fact that it can be installed in a horizontal or vertical position provides greater versatility and optimal assembly.

Clapet valves can be used for non abrasive clear wastewaters. Zenit models have a structure and disc made of GJL-250 cast iron and a seat of brass and EPDM rubber. The lever, which allows the mechanism to be moved, is made of GJS 400 cast iron in order to provide maximum reliability. The conformance to international design regulations expedites the installation and makes them compatible with any standard flange.



The knife gate valves, with handwheel control, have various functions and are used as interception units to regulate the flow in a pipeline or to temporarily isolate a section of the plant.
The gate valves have a structure in GJL-250 cast iron inside of which are the mechanisms used to partially or totally block the flow.
This product is set up to receive a servomotor for the remote partial or total opening/ closing (without manual intervention).



The Zenit gate valves are made of GJL-250 cast iron, the gate's sliding seat is in brass to ensure maneuverability over time, even after long periods without use.
The flanges meet the UNI standards and ensure that they are perfectly interchangeable.
They are mainly used in civil and industrial wastewater treatment and distribution plants in general.

VAP

Ball check valves



General characteristics

- structure in GJL-250 cast iron with rubber seals included
- sinking ball in NBR rubber
- sealing ensured by rubber on rubber contact
- stainless steel metal fasteners
- epoxy paint resistant to aggressive liquids
- full free passage
- easily removable cover for plant inspection
- can be installed in a horizontal or vertical position

Models

VAP/G32	GAS 1¼" thread
VAP/G40	GAS 1½" thread
VAP/G50	GAS 2" thread
VAP/65	DN65 PN10-16 anged
VAP/80	DN80 PN10-16 anged
VAP/100	DN100 PN10-16 anged
VAP/150	DN150 PN10-16 anged
VAP/200	DN200 PN10- anged
VAP/250	DN250 PN10- anged
VAP/300	DN300 PN10- anged

The entire range of ball valves have "rubber on rubber" coupling (rubber ball; seal on rubber gaskets).

Advantages

- lower noise level
- possibility of easily restoring the coupling between ball and lip closure
- there is no need to purchase commercial gaskets for between the anges

Operating limits

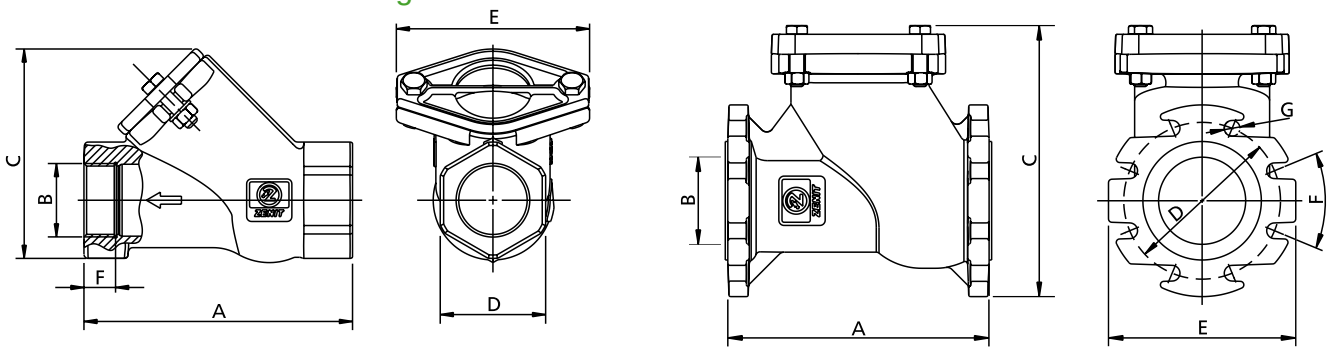
Ambient temperature and treated liquid: 0 to +40°C
pH of treated liquid: 6 ÷ 11
Density of treated liquid: 1 kg/dm ^{3}

Contact Zenit if you have requirements that are outside the usage limits

Reference standards

EN 12050-4, EN 12050-2, EN 12050-1, EN 1561, EN ISO 3506-1, EN ISO 3506-2, EN 10025, EN 1092-1, EN ISO 228-1, Directive 89/106/EEC

Overall dimensions and weights



	A	B	C	D	E	F	G	kg
VAP/G32	155	1¼"	120	60	110	20	-	2
VAP/G40	155	1½"	120	60	110	20	-	1.9
VAP/G50	180	2"	150	72	115	25	-	3

	A	B	C	D	E	F	G	kg
VAP/65	240	65	220	145	185	90°	18	11
VAP/80	260	80	255	160	200	45°	18	14
VAP/100	300	100	310	180	220	45°	18	24.5
VAP/150	400	150	425	240	285	45°	22	45
VAP/200	500	200	540	295	340	45°	22	90
VAP/250	600	250	630	350	395	30°	22	163
VAP/300	700	300	680	400	445	30°	22	230

Measurements in mm

The indication PN refers to the ange and not to the maximum operating pressure.

VAC
Clapet check valves



General characteristics

- structure and head in GJL-250 cast iron
- seal in EPDM rubber
- brass seats
- epoxy paint resistant to aggressive liquids
- can be installed in a horizontal or vertical position
- screws can be used for the manual partial opening of the valve. This option is particularly useful for the draining of the pipeline upstream of the valve during any maintenance interventions

Models

VAC/100	DN100 PN 10-16 ange
VAC/150	DN150 PN 10-16 ange
VAC/200	DN200 PN 10 ange
VAC/250	DN250 PN 10 ange
VAC/300	DN300 PN 10 ange

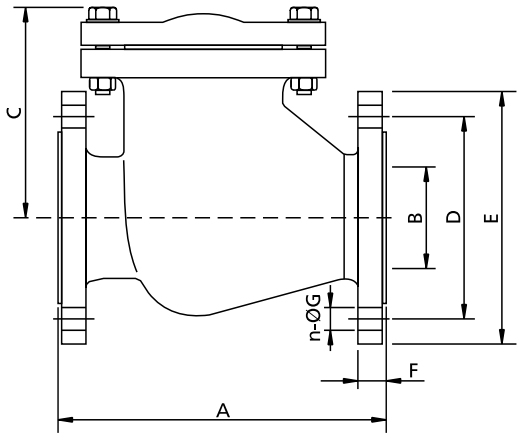
Operating limits

Operating temperature	Min 0°C - Max +50°C

Reference standards

Project standard	EN 1074-3
Gauge	EN 558-1
Flange	EN 1092-2
Testing	EN 12266

Overall dimensions and weights



	A	B	C	D	E	F	n-ØG	kg
VAC/100	300	100	175	180	220	25	8-18	32
VAC/150	400	150	230	240	285	25	8-18	71.5
VAC/200	500	200	250	295	340	25	8-23	95
VAC/250	600	250	310	350	395	30	12-23	139
VAC/300	700	300	320	400	445	30	12-23	286

Measurements in mm

Contact the Customer Service department for the availability of larger diameter products

SRP

Knife gate valves with handwheel control



General characteristics

- structure in GJL-250 cast iron
- stainless steel shaft with O-ring seal
- bronze seats
- epoxy paint
- can be installed in a horizontal or vertical position
- integral free passage when fully open

Models

SRP/50	DN50 PN10-16 ange – installation height 150 mm
SRP/65	DN65 PN10-16 ange – installation height 170 mm
SRP/80	DN80 PN10-16 ange – installation height 180 mm
SRP/100	DN100 PN10-16 ange – installation height 190 mm
SRP/150	DN150 PN10-16 ange – installation height 210 mm
SRP/200	DN200 PN10 ange – installation height 230 mm
SRP/250	DN250 PN10 ange – installation height 250 mm
SRP/300	DN300 PN10 ange – installation height 270 mm
SRP/350	DN350 PN10 ange – installation height 290 mm

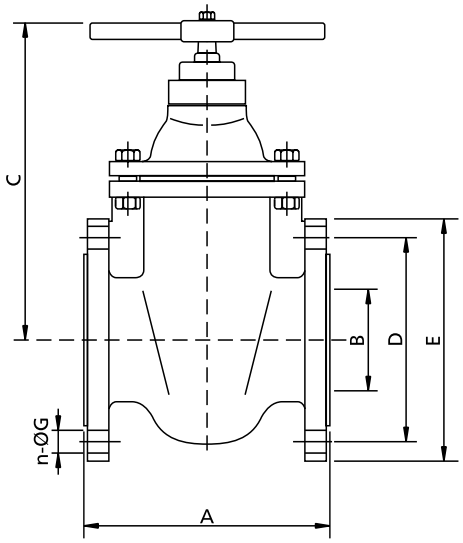
Operating limits

Operating temperature 0 - 90°C

Reference standards

Project standard	EN 1171, EN 1074-2
Gauge	EN 558-1 series 14
Flange	EN 1092-2
Testing	EN 12266

Overall dimensions and weights



	A	B	C	D	E	n-ØG	kg
SRP/50	150	50	290	125	165	4-18	11.8
SRP/65	170	65	325	145	185	4-18	15
SRP/80	180	80	360	160	200	8-18	19.2
SRP/100	190	100	380	180	220	8-18	26.4
SRP/150	210	150	490	240	285	8-23	50
SRP/200	230	200	580	295	340	8-23	78
SRP/250	250	250	710	350	395	12-23	142
SRP/300	270	300	770	400	445	12-23	179
SRP/350	290	350	830	460	505	16-23	220

Measurements in mm

4.3 BEND UNIONS

Zenit bend unions are made from GFL-250 cast iron or galvanized steel and have UNI standard flanges to guarantee complete interchangeability.

There are 2 types of bend unions: inlet and outlet.

Inlet bend unions + the hydraulic connection to be made to pumps for dry chamber installations.
This accessory was created to sustain the weight of the pump and so that it could be fastened onto the support base.

The outlet unions are designed to be coupled to the pump's delivery port or inside the plants, both of which provide a 90° direction change.
They may be flange-flange or flange-thread type, for maximum versatility.
They provide full free passage. Another advantage is the reduced curvature radius, which allows a lower overall dimension to be obtained with respect to all the other accessories on the market.
Depending on the models, they can be made of GJL-250 cast iron, galvanized steel or stainless steel.

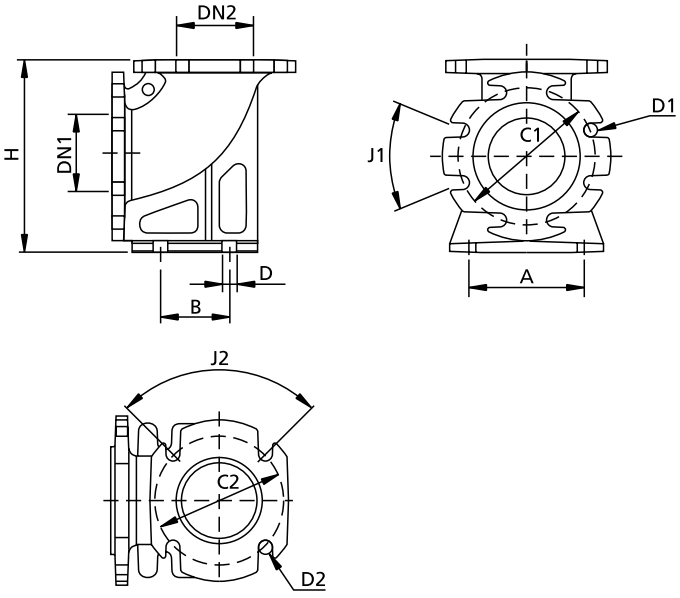


KBC
Inlet bends



General characteristics

- structure made of GJL-250 cast iron or galvanized steel
- epoxy paint
- seal in NBR





	A	B	D	H	DN1	C1	D1	J1	DN2	C2	D2	J2	kg
KBC 50/50	120	90	17	220	50	125	18	90	50	125	18	90	8
KBC 65/65	130	90	17	245	65	145	18	90	65	130	14	90	10
KBC 80/80	150	90	18	240	80	160	18	90	80	150	18	90	12
KBC 100/100	150	90	18	255	100	180	18	45	100	170	18	90	13.5
KBC 200/150	240	150	18	460	200	295	22	45	150	225	18	45	42
KBC 250/200	290	210	18	530	250	350	22	30	200	280	18	45	64.5

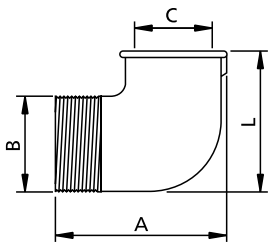
Measurements in mm

KCR

Outlet bends

MALE-FEMALE THREAD (GAS 2”)

‡ structure in stainless steel



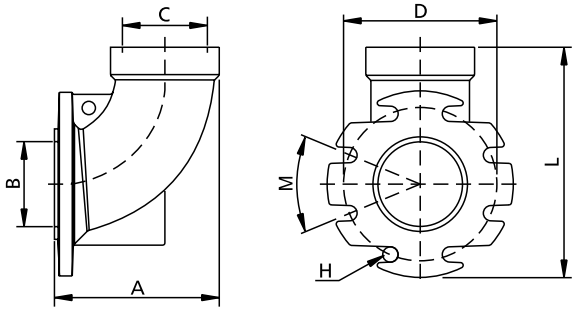


	A	B	C	L	kg
KCR G50/G50	90	G 2”	G 2”	90	0.7

Measurements in mm

FLANGE-THREAD (DN80-DN100)

‡ structure in GJL-250 cast iron
‡ epoxy paint
‡ seal in NBR



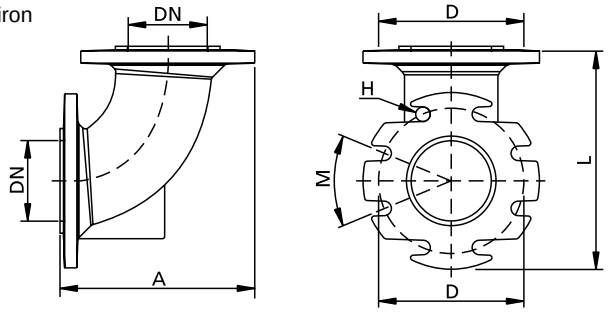


	A	B	C	D	H	L	M	kg
KCR 80/G80	180	80	G 3”	160	18	250	90	7.5
KCR 100/G100	190	100	G 4”	180	18	270	45	12

Measurements in mm

FLANGE-FLANGE (DN65 PN10-16÷DN250 PN10)

‡ structure made of GJL-250 cast iron or galvanized steel
‡ epoxy paint
‡ seal in NBR





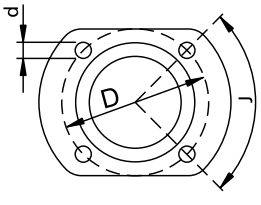
	A	L	DN	D	H	M	kg
KCR 50/50	190	190	50	125	18	90°	4
KCR 65/65	220	220	65	145	18	90°	7
KCR 80/80	224	224	80	160	22	90°	8.8
KCR 100/100	273	273	100	180	18	45°	11
KCR 150/150	370	370	150	240	22	45°	19.5
KCR 200/200	475	475	200	295	22	45°	33.5
KCR 250/250	580	580	250	350	22	30°	45

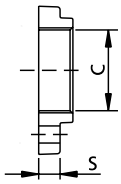
Measurements in mm

4.4 FLANGES AND CHAINS

KFL
Flange

Flange in GJL-250 cast iron painted with epoxy coating



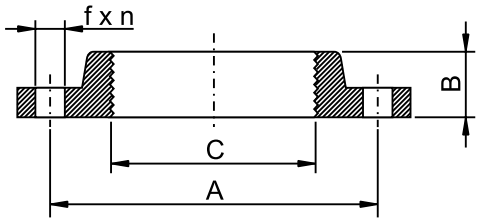




Cast iron ange to transform the delivery port from GAS 1 1/2" to GAS 2".
Designed to be coupled to electric pumps with DN32 PN6 outlet ange.

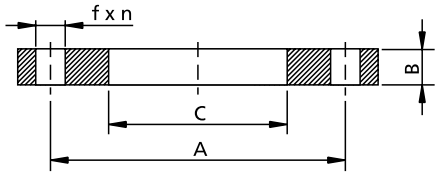
	C	d	D	J	S	kg
KFL 32/G50	G 2"	M12	90	90	15	0.75

Threaded and welded anges PN6 and PN 10-16 in accordance with standard EN 1092-1



	A	B	C	f	n	kg
KFL / G50 PN16	125	30	2"	18	4	2.8
KFL / G65 PN6	130	30	2 1/2"	14	4	2.1
KFL / G65 PN16	145	30	2 1/2"	18	4	3.5
KFL / G80 PN6	150	35	3"	18	4	3.2
KFL / G80 PN16	160	35	3"	18	8	4.2
KFL / G100 PN6	170	40	4"	18	4	3.5
KFL / G100 PN 16	180	40	4"	18	8	4.9

Measurements in mm



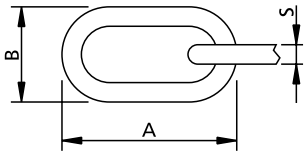
	A	B	C	f	n	kg
KFL / 100 PN10	180	20	108	18	8	4.6
KFL / 150 PN10	240	25	159	22	8	7.6
KFL / 200 PN10	295	25	216	22	8	10.0
KFL / 250 PN10	350	30	267	22	12	13.4
KFL / 300 PN10	400	30	318	22	12	14.8

Measurements in mm

KAT
Chains

Stainless steel or galvanized steel chains.
Suitable for moving pumps from tanks and wells.





material	dimensions			weight	max load (*)
	D	d	s	(gr/m)	(kg)
AISI 316	33	19.5	5	482	325
AISI 316	51	30.5	8	1250	700
Fe 430	51	30.5	8	1205	650
Fe 430	71.5	44.5	12	2895	1500

(*) Uncerti ed approximate loads

Measurements in mm

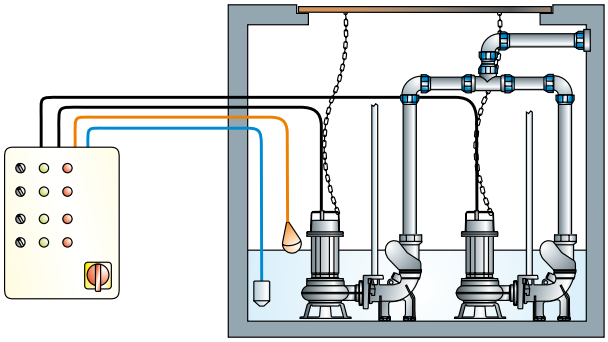
5.0

ELECTRIC AND ELECTRONIC ACCESSORIES



5.1 ELECTROMECHANICAL AND ELECTRONIC CONTROL PANELS

Zenit electromechanical and electronic control panels are suitable for the management of any submersible electric pump, from 0.37 to 55 kW, single-phase, three-phase or star/delta.
They are designed for use with float switches and level gauges.
The vast array of standard products is accompanied by customised panels designed to meet specific customer needs.



Wiring done with care

All internal wiring is done in an extremely rational and clear manner.
The connection cables are identified with numbered labels for easy reference to the wiring diagram and to facilitate any interventions by technical personnel.
The attention given to the assembly translates into a qualitatively better product in which there is a lower risk of faults and malfunctions.



Compliance to the standards

Every control panel in created in compliance with the current standards with regard to electrical constructions.
All control panels come with complete documentation, electric diagrams and CE declaration of conformity.

Quality

The control panels are made using the best components available in order to guarantee excellent reliability and easy procurement of replacement parts.
They are subject to severe functional and quality checks before delivery.



Advantages

Zenit electromechanical and electronic control panels are optimized for use with submersible pumps and the wide range of accessories make them versatile and reliable.
Having just one contact for the supplying of control systems and machines translates into definite advantages in economic terms and with regard to intervention times.

Q1M

Electromechanical control panel for 1 single-phase pump

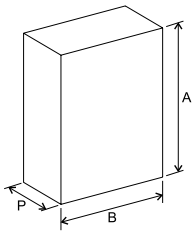
General characteristics



- Input voltage 1 ~ 50/60 Hz 230V ± 10%
- 230/24 V transformer for auxiliary circuits
- Blue light for power on (standard)
- Green light for motor running (standard)
- Red light for motor protection alarm (standard)
- 24 V AC line contactors, AC3 duty
- Auxiliary circuits protection fuse
- Motor protection fuses
- Main switch with safety door that can be locked in the OFF position
- Thermal relay for overload protection on every motor with internally resettable adjustable scale
- Very low voltage input for command from pressure switch or operating level oat switch
- Very low voltage input for command from pressure switch or minimum level oat switch
- Selector for AUTO-OFF-MANUAL motor operation (standard)
- ABS housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q1M 0402	0.37	0.5	3÷4.5	340	240	170	4
Q1M 0404	0.55	0.75	4.5÷6.5	340	240	170	4
Q1M 0406	0.75	1	6÷9	340	240	170	4
Q1M 0408	1.1	1.5	9÷10.5	340	240	170	4
Q1M 0410	1.5	2	9÷13.5	340	240	170	4
Q1M 0412	2.2	3	14÷18	340	240	170	4



Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Flashing visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Level control wired on the panel for water in ltration sensor
- 20 µF wired capacitor kit
- 30 µF wired capacitor kit
- 40 µF wired capacitor kit
- 50 µF wired capacitor kit
- 70 µF wired capacitor kit
- Wired voltmetric switch
- Wired ammetric switch complete with 3 TA
- Relay with terminal for alarm output
- Start/stop kit for 2 float switches
- Kit for 24V electrovalve output controlled by float or pressure switch
- 500V F.S. voltmeter (wired)
- 25 A F.S. ammeter (wired)
- 60 A F.S. ammeter (wired)
- 100 A F.S. ammeter (wired)
- Mushroom-head emergency stop button (wired)

Q2M

Electromechanical control panel for 2 single-phase pumps

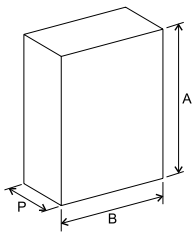
General characteristics



- Input voltage 1 ~ 50/60 Hz 230V ± 10%
- Input for command from pressure switch or oat switch protecting against dry running
- 230/24 V transformer for auxiliary circuits
- Selectors for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- Green light for motor running (standard)
- Red light for motor protection alarm (standard)
- 2 24V AC line contactors, AC3 duty
- Main switch with door lock
- Thermal relay for overload protection on every motor with internally resettable adjustable scale
- Very low voltage input for command from pressure switch or oat switch
- Thermoplastic housing
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q2M 0602	0.37	0.5	3÷4.5	420	300	150	7
Q2M 0604	0.55	0.75	4.5÷6.5	420	300	150	7
Q2M 0606	0.75	1	6÷9	420	300	150	7
Q2M 0608	1.1	1.5	9÷10.5	420	300	150	7
Q2M 0610	1.5	2	9÷13.5	420	300	150	7
Q2M 0612	2.2	3	14÷18	420	300	150	7



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 24V Undecal pump alternation relay~
- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Wired level control
- Relay with terminal for alarm output
- Start/stop kit for 2 float switches
- Kit for 24V electrovalve output controlled by float or pressure switch
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Start/stop button
- Mushroom-head emergency stop button (wired)

Q3M

Electromechanical control panel for 3 single-phase pumps

General characteristics

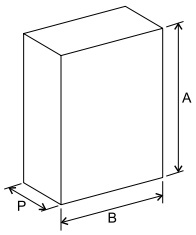


- Input voltage 1 ~ 50/60 Hz 230V ± 10%
- 230/24 V transformer for auxiliary circuits
- Very low voltage input for command from pressure switch or oat switch
- Input for command from pressure switch or oat switch protecting against dry running
- 230/24 V transformer for auxiliary circuits
- 3 selectors for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- 3 green lights for motor running (standard)
- 3 red lights for motor protection alarm (standard)
- 24 V AC line contactors, AC3 duty
- Thermal relays for overload protection on every motor with internally resettable adjustable scale
- Main switch with door lock
- Metal housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q3M 0802	0.37	0.5	3÷4.5	540	400	230	14
Q3M 0804	0.55	0.75	4.5÷6.5	540	400	230	14
Q3M 0806	0.75	1	6÷9	540	400	230	14

Contact Customer Service for higher power electric control panels



Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 24V Undecal 2 pump alternation relay~
- 24V Undecal 3 pump alternation relay~
- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Kit of 3 level gauges for dry running protection
- Wired level control
- Relay with terminal for alarm output
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Mushroom-head emergency stop button (wired)

Q1T

Electromechanical control panel for 1 three-phase pump

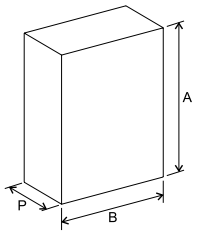
General characteristics



- Input voltage 1 ~ 50/60 Hz 230V ± 10%
- 230/24 V transformer for auxiliary circuits
- Selector for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- Green light for motor running (standard)
- Red light for motor protection alarm (standard)
- 24 V AC line contactors, AC3 duty
- Auxiliary circuits protection fuse
- Motor protection fuses
- Main switch with safety door that can be locked in the OFF position
- Thermal relay for overload protection on every motor with internally resettable adjustable scale
- Very low voltage input for command from pressure switch or operating level oat switch
- Very low voltage input for command from pressure switch or minimum level oat switch
- ABS housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q1T 1014	0.37	0.5	0.9÷1.3	340	240	170	4
Q1T 1016	0.55	0.75	1.4÷2	340	240	170	4
Q1T 1018	0.75÷1.1	1÷1.5	2÷3.2	340	240	170	4
Q1T 1020	1.5	2	3÷4.5	340	240	170	4
Q1T 1022	2.2	3	4.5÷6.8	340	240	170	4
Q1T 1024	3.7	5.5	6÷9	340	240	170	4
Q1T 1026	5.5	7.5	9÷12	340	240	170	4.5
Q1T 1028	7.5	10	14÷16	340	240	170	4.5
Q1T 1030	9.2	12.5	14÷20	340	240	170	4.5
Q1T 1032	11	15	17÷25	340	240	170	5.5
Q1T 1034	15	20	20÷32	420	300	150	12



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Flashing visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Level control wired on the panel for water in ltration sensor
- 20 µF wired capacitor kit
- 30 µF wired capacitor kit
- 40 µF wired capacitor kit
- 50 µF wired capacitor kit
- 70 µF wired capacitor kit
- Wired voltmetric switch
- Wired ammetric switch complete with 3 TA
- Relay with terminal for alarm output
- Start/stop kit for 2 float switches
- Kit for 24V electrovalve output controlled by float or pressure switch
- 500V F.S. voltmeter (wired)
- 25 A F.S. ammeter (wired)
- 60 A F.S. ammeter (wired)
- 100 A F.S. ammeter (wired)
- Mushroom-head emergency stop button (wired)

Q2T

Electromechanical control panel for 2 three-phase pumps

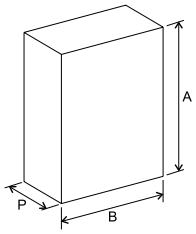
General characteristics



- Input voltage 3 ~ 50/60 Hz 400V ± 10%
- Input for command from pressure switch or oat switch protecting against dry running
- 400/24 V transformer for auxiliary circuits
- Selectors for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- Green light for motor running (standard)
- Red light for motor protection alarm (standard)
- 2 24V AC line contactors, AC3 duty
- Very low voltage input for command from pressure switch or oat switch
- Thermal relay for overload protection on every motor with internally resettable adjustable scale
- Main switch with door lock
- Thermoplastic housing
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q2T 1214	0.37	0.5	0.9÷1.3	420	300	150	7
Q2T 1216	0.55	0.75	1.4÷2	420	300	150	7
Q2T 1218	1.1	1.5	2÷3.2	420	300	150	7
Q2T 1220	1.5	2	3÷4.5	420	300	150	7
Q2T 1222	2.2	3	4.5÷6.8	420	300	150	7
Q2T 1224	3.7	5.5	6÷9	420	300	150	7
Q2T 1226	5.5	7.5	9÷12	420	300	150	7
Q2T 1228	7.5	10	14÷16	420	300	150	8
Q2T 1230	9.2	12.5	14÷20	420	300	150	8
Q2T 1232	11	15	17÷25	420	300	150	14.5
Q2T 1234	15	20	20÷32	530	400	230	14.5



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 24V Undecal pump alternation relay~
- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Wired level control
- Relay with terminal for alarm output
- Start/stop kit for 2 float switches
- Kit for 24V electrovalve output controlled by float or pressure switch
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Start/stop button
- Mushroom-head emergency stop button (wired)

Q3T

Electromechanical control panel for 3 three-phase pumps

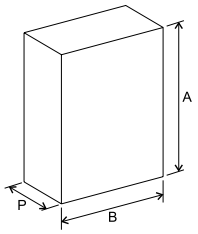
General characteristics



- Input voltage 1 ~ 50/60 Hz 230V ± 10%
- 230/24 transformer for auxiliary circuits
- Very low voltage input for command from pressure switch or oat switch
- Input for command from pressure switch or oat switch protecting against dry running
- 230/24 V transformer for auxiliary circuits
- 3 selectors for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- 3 green lights for motor running (standard)
- 3 red lights for motor protection alarm (standard)
- 24 V AC line contactors, AC3 duty
- Thermal relays for overload protection on every motor with internally resettable adjustable scale
- Main switch with door lock
- Metal housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q3T 1414	0.37	0.5	0.9÷1.3	540	400	230	14
Q3T 1416	0.55	0.75	1.4÷2	540	400	230	14
Q3T 1418	0.75÷1.1	1÷1.5	2÷3.2	540	400	230	14
Q3T 1420	1.5	2	3÷4.5	540	400	230	14
Q3T 1422	2.2	3	4.5÷6.8	540	400	230	14
Q3T 1424	3÷4	4÷5.5	6÷9	540	400	230	14
Q3T 1426	5.5	7.5	9÷12	540	400	230	14
Q3T 1428	7.5	10	10÷16	540	400	230	15
Q3T 1430	11	15	15÷20	540	400	230	15
Q3T 1432	15	20	24÷31	540	400	230	15



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 24V Undecal 2 pump alternation relay~
- 24V Undecal 3 pump alternation relay~
- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Kit of 3 level gauges for dry running protection
- Wired level control
- Relay with terminal for alarm output
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Mushroom-head emergency stop button (wired)

Q1ST

Star/delta electromechanical control panel for 1 three-phase pump

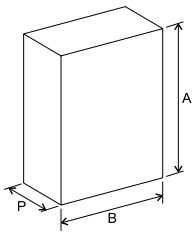
General characteristics



- Input voltage 3 ~ 50/60 Hz 400V ± 10%
- Very low voltage input for command from pressure switch or oat switch
- Input for command from pressure switch or oat switch protecting against dry running
- 400/24 V transformer for auxiliary circuits
- Selector for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- Green light for motor running (standard)
- Red light for motor protection alarm (standard)
- Line contactor, AC3 duty
- Star contactor, AC3 duty
- Delta contactor, AC3 duty
- Adjustable star-delta changeover timer 0÷30"
- Thermal relay for overload protection on every motor with internally resettable adjustable scale
- Motor protection fuses
- Auxiliary circuits protection fuse
- Main switch with door lock
- Thermoplastic (up to 15 HP) or metallic housing
- Output with cable holder
- IP 55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q1ST 2036	2.2	3	5÷8	420	320	170	6
Q1ST 2038	4	5.5	8÷11.5	420	320	170	6
Q1ST 2040	5.5	7.5	10÷14	420	320	170	6
Q1ST 2042	7.5	10	10÷16	420	320	170	6
Q1ST 2044	11	15	15÷20	420	320	170	6
Q1ST 2046	15	20	24÷31	530	400	230	16
Q1ST 2048	18.5	25	24÷36	530	400	230	16
Q1ST 2050	22	30	34÷50	530	400	230	16
Q1ST 2052	30	40	48÷62	530	400	230	20
Q1ST 2054	37	50	60÷77	630	500	230	30
Q1ST 2056	45	60	79÷98	630	500	230	30



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Wired level control
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- 150 A F.S. ammeter kit (wired)
- 200 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Relay with terminal for alarm output
- Control of sequence and lack of phases (wired)
- Min/max voltage control relay (wired)
- Start/stop button
- Mushroom-head emergency stop button (wired)

Q2ST

Star/delta electromechanical control panel for 2 three-phase pumps

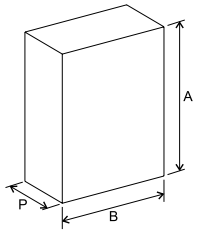
General characteristics



- Input voltage 3 ~ 50/60 Hz 400V ± 10%
- Input for command from pressure switch or oat switch protecting against dry running
- 400V/24V transformer for auxiliary circuits
- 2 selectors for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- 2 green lights for motor running (standard)
- 2 red lights for motor protection alarm (standard)
- 2 24V AC line contactors, AC3 duty
- 2 24V AC star contactors, AC3 duty
- 2 24V AC delta contactors, AC3 duty
- 2 adjustable star-delta changeover timers 0÷30"
- Very low voltage input for command from 2 pressure switches or oat switches
- Thermal relays for overload protection on every motor with internally resettable adjustable scale
- Motor protection fuses
- Auxiliary circuits protection fuse
- Main switch with door lock
- Metal housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q2ST 2236	2.2	3	5÷8	630	400	230	12
Q2ST 2238	4	5.5	8÷11.5	630	400	230	12
Q2ST 2240	5.5	7.5	10÷14	630	400	230	12
Q2ST 2242	7.5	10	10÷16	630	400	230	12
Q2ST 2244	11	15	15÷20	630	400	230	12
Q2ST 2246	15	20	24÷31	690	500	230	32
Q2ST 2248	18.5	25	24÷36	740	500	230	40
Q2ST 2250	22	30	34÷50	740	500	230	40
Q2ST 2252	30	40	48÷62	840	600	330	60
Q2ST 2254	37	50	60÷77	840	600	330	60
Q2ST 2256	45	60	79÷98	840	600	330	80



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)
Maneuvers/hour frequency: a maximum of 4 of which not more than 2 consecutively

Optional accessories

- 24V Undecal pump alternation relay~
- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Wired level control
- Relay with terminal for alarm output
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Control of sequence and lack of phases
- Min/max voltage control relay
- Start/stop button
- Mushroom-head emergency stop button (wired)

Q3ST

Star/delta electromechanical control panel for 3 three-phase pumps

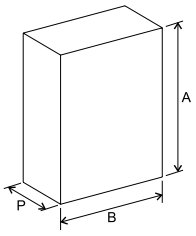
General characteristics



- Input voltage 3 ~ 50/60 Hz 400V ± 10%
- 400/24 transformer for auxiliary circuits
- Very low voltage input for command from pressure switch or oat switch
- Input for command from pressure switch or oat switch protecting against dry running
- 230/24 V transformer for auxiliary circuits
- 3 selectors for AUTO-OFF-MANUAL motor operation (standard)
- Blue light for power on (standard)
- 3 green lights for motor running (standard)
- 3 red lights for motor protection alarm (standard)
- 3 24V AC line contactors, AC3 duty
- 3 24V AC star contactors, AC3 duty
- 3 24V AC delta contactors, AC3 duty
- 3 adjustable star-delta changeover timers 0-30"
- Thermal relays for overload protection on every motor with internally resettable adjustable scale
- Motor protection fuses
- Auxiliary circuits protection fuse
- Main switch with door lock
- Metal housing
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q3ST 2436	2.2	3	5÷8	630	400	230	12
Q3ST 2438	4	5.5	8÷11.5	630	400	230	12
Q3ST 2440	5.5	7.5	10÷14	630	400	230	12
Q3ST 2442	7.5	10	10÷16	630	400	230	12
Q3ST 2444	11	15	15÷20	630	400	230	12
Q3ST 2446	15	20	24÷31	740	500	230	32
Q3ST 2448	18.5	25	24÷36	840	600	230	40
Q3ST 2450	22	30	34÷50	840	600	230	40
Q3ST 2452	30	40	48÷62	1040	800	330	60
Q3ST 2454	37	50	60÷77	1040	800	330	70
Q3ST 2456	45	60	79÷98	1040	800	330	80



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- Pump alternation relay
- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- Wired level control
- Relay with terminal for alarm output
- 500 V F.S. voltmeter kit (wired)
- 25 A F.S. ammeter kit (wired)
- 40 A F.S. ammeter kit (wired)
- 60 A F.S. ammeter kit (wired)
- 100 A F.S. ammeter kit (wired)
- Voltmetric switch
- Ammetric switch complete with 3 TA
- Control of sequence and lack of phases
- Min/max voltage control relay
- Start/stop button
- Mushroom-head emergency stop button (wired)

Q1EL M

Electronic control panel for 1 single-phase pump

General characteristics

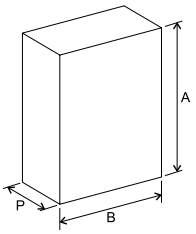


- Power supply 1~ 50/60Hz 230V +/- 10%
- Very low voltage input for command from pressure switch or oat switch
- Very low voltage input for external command from 3 minimum level gauges
- Ideal for used with sensors for non- ammable conductive liquids (not included)
- Selector for the operation of lling/draining sensors
- Internal sensor sensitivity regulator
- Buttons for "Automatic-Off-Manual" motor operation
- Green "Power On" LED
- Green "Automatic Operation" LED
- Green "motor running" LED
- Red "level alarm" LED
- Red "motor overload protection alarm" LED
- Protection reset button
- Adjustable electronic protection for motor overload
- Time for protection activation: 5"
- Motor protection fuses
- Auxiliary circuits protection fuse
- Alarm output with N.O.-C-N.C. changeover contacts (16A 250V resistive load capacity)
- Main switch with door lock
- Set up for insertion of a capacitor
- ABS housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q1 EL M	0.37÷2.2	0.5÷3	2÷16	340	240	170	1.5

Contact Customer Service for higher power electric control panels



Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Flashing visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- 20 µF wired capacitor kit
- 30 µF wired capacitor kit
- 40 µF wired capacitor kit
- 50 µF wired capacitor kit
- 70 µF wired capacitor kit

Q2EL M

Electronic control panel for 2 single-phase pumps

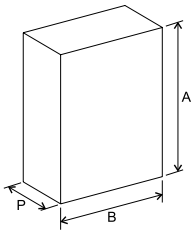
General characteristics



- Power supply 1~ 50/60Hz 400V +/- 10%
- Very low voltage input for command from 2 pressure switches or oat switches
- Very low voltage input for command from pressure switch or level alarm oat switch
- Very low voltage input for external command from 3 minimum level gauges
- Built-in pump alternation circuit with 4" startup delay
- Internal selector for pump alternation exclusion
- Selector for the operation of lling/draining sensors
- 2 selectors for "Automatic-Off-Manual" motor operation
- Green "Power On" LED
- 2 green "Automatic Operation" LEDs
- 2 green "motor running" LEDs
- Red "level alarm" LED
- 2 red "motor overload protection alarm" LEDs
- Time for protection activation: 5"
- Protection reset button
- Internal sensor sensitivity regulator
- Adjustable amperage protection for motor overload
- Motor protection fuses
- Auxiliary circuits protection fuse
- Alarm output with N.O.-C-N.C. changeover contacts (16A 250V resistive load capacity)
- Main switch with door lock
- Output with cable holder
- ABS housing
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q2 EL M	0.37÷2.2	0.5÷3	2÷16	340	240	170	3



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Flashing visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection

Q1EL T

Electronic control panel for 1 three-phase pump

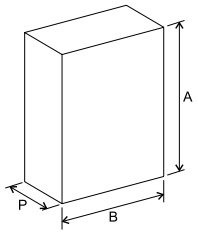
General characteristics



- Power supply 3~ 50/60Hz 400V +/- 10%
- Very low voltage input for command from pressure switch or oat switch
- Very low voltage input for external command from 3 minimum level gauges
- Ideal for used with sensors for non- ammable conductive liquids (not included)
- Selector for the operation of lling/draining sensors
- Internal sensor sensitivity regulator
- Buttons for "Automatic-Off-Manual" motor operation
- Green "Power On" LED
- Green "Automatic Operation" LED
- Green "motor running" LED
- Red "level alarm" LED
- Red "motor overload protection alarm" LED
- Protection reset button
- Adjustable electronic protection for motor overload
- Time for protection activation: 5"
- Motor protection fuses
- Auxiliary circuits protection fuse
- Alarm output with N.O.-C-N.C. changeover contacts (16A 250V resistive load capacity)
- Main switch with door lock
- ABS housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q1 EL T	0.55÷3.7	0.75÷5.5	2÷8	340	240	170	2



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Flashing visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection
- 20 µF wired capacitor kit
- 30 µF wired capacitor kit
- 40 µF wired capacitor kit
- 50 µF wired capacitor kit
- 70 µF wired capacitor kit

Q2EL T

Electronic control panel for 2 three-phase pumps

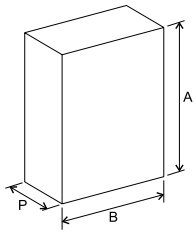
General characteristics



- Power supply 1~ 50/60Hz 400V +/- 10%
- Very low voltage input for command from 2 pressure switches or oat switches
- Very low voltage input for command from pressure switch or level alarm oat switch
- Very low voltage input for external command from 3 minimum level gauges
- Built-in pump alternation circuit with 4" startup delay
- Internal selector for pump alternation exclusion
- Selector for the operation of lling/draining sensors
- 2 selectors for operating the motors in "Automatic-Off-Manual"
- Green "Power On" LED
- 2 green "Automatic Operation" LEDs
- 2 green "motor running" LEDs
- Red "level alarm" LED
- 2 red "motor overload protection alarm" LEDs
- Time for protection activation: 5"
- Protection reset button
- Internal sensor sensitivity regulator
- Adjustable amperage protection for motor overload
- Motor protection fuses
- Auxiliary circuits protection fuse
- Alarm output with N.O.-C-N.C. changeover contacts (16A 250V resistive load capacity)
- Main switch with door lock
- Output with cable holder
- ABS housing
- IP55 protection rating

Technical characteristics

	power		thermal protection	dimensions			weight
	kW	HP	rating (A)	A	B	P	Kg
Q 2 EL T	0.55÷3.7	0.75÷5.5	2÷8	340	240	170	4.5



Contact Customer Service for higher power electric control panels

Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

Optional accessories

- 90 dB acoustic alarm - input command from oat switch or pressure switch
- Flashing visual alarm - complete with input command terminals
- Acoustic alarm with buffer battery (involves box change)
- Kit of 3 level gauges for dry running protection

5.2 ALARMS

The alarm devices provide acoustic and/or acoustic/visual signalling of plant malfunctions such as power blackouts, allowing swift corrective action.
The internal buffer battery ensures lengthy autonomy.

SA1 - SLA1

Self-powered alarm panel

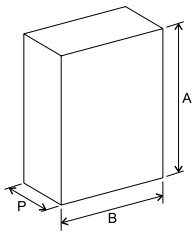
General characteristics



- Power supply 1~ 50/60Hz 230V +/- 10%
- Very low voltage input for alarm command from free contacts N.O. and N.C.
- Green "Power On" LED
- Red "level alarm" LED
- Red "acoustic alarm off" LED
- Alarm siren 90 dB at 1 mt.
- Red electronic asher (only on model SLA1)
- Acoustic alarm ON/OFF buttons
- Alarm reset button
- Battery charger and buffer battery for 24 hour power supply
- Internal selector "continuous/self-resetting alarm"
- Internal selector for alarm-timer activation
- Acoustic alarm timer adjuster 0-180"
- ABS housing
- Output with cable holder
- IP55 protection rating

Technical characteristics

	duration of the batteries	acoustic pressure	dimensions A	B	P	weight Kg
SA/1	24h	90 dBm	340	240	170	1
SLA/1	24h	90 dBm	410	240	170	1.5



Operating limits

Ambient temperature: -5/+40°C
50% relative humidity at 40°C (not condensed)

5.3 FLOAT SWITCHES

Specific for controlling electric pumps, even for installations with dense and soiled liquids.
Models with explosion-proof certification also available.

MAC

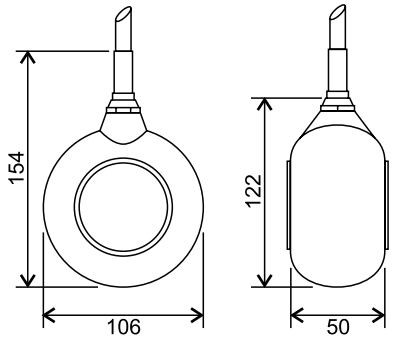
Technical characteristics

Current	Cable		
	Type	Wires	Length (m)
10A / 250V	H07RN-F	3G1	0.50
10A / 250V	H07RN-F	3G1	5
10A / 250V	H07RN-F	3G1	10



Used ONLY for draining

Overall dimensions



LEVEL

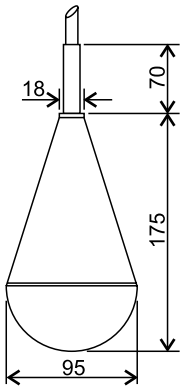
Technical characteristics

Current	Cable		
	Type	Wires	Length (m)
5A / 250V	TPK	3G1	10
5A / 250V	TPK	3G1	20
5A / 250V	TPK	3x0.75	10



Suitable for draining and lling

Overall dimensions



5.4 REMOTE CONTROL SYSTEMS

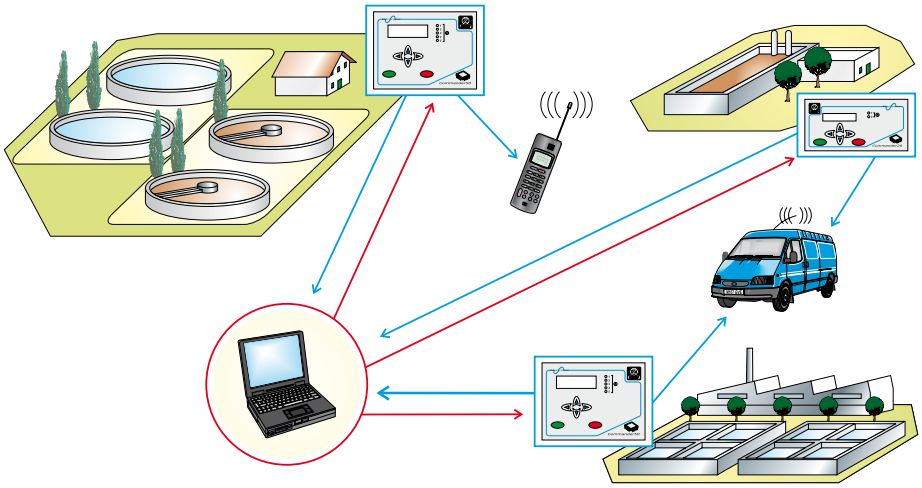
Nowadays, microprocessor remote control systems are an essential tool for the managing of water treatment plants.



There are many benefits to be had from the use of remote control systems, due mainly to the capability for receiving and sending data to and from remote positions in real time.
This allows the simultaneous management of several plants, with rapid intervention in response to malfunctions only, reducing the costs arising from scheduled servicing and inspections.

What's more, the uniform distribution of the workload across the various machines installed optimises wear of rotary components, reducing expenditures on parts and labour.

The saving of the key data for the pumps installed in a log file allows constant monitoring of their operating parameters and scheduling of servicing work to prevent inconvenient plant stoppages.



Safety above all

The use of “intelligent” systems also generates an improvement in safety standards. The processing of alarms linked to operating parameters provides notification and allows immediate intervention in case of malfunctions such as, for example, surpassing of level thresholds, dry running and the accidental entry of water into the mechanical seal oil sump before these events can constitute a threat to normal operation of the plant. There is also a specific input for a tamper alarm, preventing unauthorised modification of the set parameters, ensuring completely safe operation.



COMMANDER 20-50

Remote control system

The COMMANDER is a microprocessor unit for integration in the electrical control panel, capable of managing plant operation.

COMMANDER is available in 2 versions: the COMMANDER 20 for control of up to 2 pumps and the COMMANDER 50, able to control up to 5 pumps.

Use is simpli ed by a menu which guides the user through the setting and selection of the various functions step by step.
The user can use a liquid crystal display showing plant data and a keypad for setting the operating parameters.



The programmable functions for plant management are:

- Draining or lling, based on the signal from a sensor and on the start and stop thresholds
- Management of pumps in a group, alternating operation, based on the number of starts or the maximum continuous operating time
- Control of the maximum number of pumps in operation to prevent electrical overloading
- Activation of emergency pump set by the user which replaces another pump which is malfunctioning
- Startup delay between one pump and another to avoid peaks in power draw
- Extended operation to encourage the cleaning of the tank and the surface of the liquid
- Periodic startup in case of prolonged stops in order to prevent the blockage of the pump
- Pumps can be operated in continuous (S1) or intermittent (S3/S9) mode

The functions that can be activated for managing alarms and faults are:

- Reporting of pump malfunctions with shutdown in case of blocking fault (entry of water into the mechanical seal sump, entry of water into the motor compartment, tripping of thermal cut-out, overloading, lack of electrical power phase, lack of pump startup)
- Noti cation that the hours of operation/number of starts threshold has been reached for scheduled maintenance
- Reports from the auxiliary analogue and digital data acquisition channels (surpassing of the set limits for each input channel)
- Management of extreme minimum and extreme maximum oat switches and thresholds in case of level gauge breakdown
- Reporting of power blackouts
- Magnetothermic cutout on the electrical control panel (OVERLOAD)
- Warning of control panel opening or intrusion into the plant
- Reporting of low emergency battery

COMMANDER stores the following historical data in its internal memory or on the PC:

- Total operating time per pump
- Number of starts per pump
- Data from the auxiliary channels
- Historical data regarding the alarms, divided by pump and type



COMMANDER manages the operation of the pumps in a completely safe manner and allows maintenance interventions to be optimized thanks to the constant monitoring of the plant's key data.

The COMMANDER unit can be connected to a piezocapacitive, piezoresistive or ultrasound level gauge.

For improved safety, COMMANDER also controls two emergency oat switches located in the tank, corresponding to the extreme maximum level (beyond which there is the risk of over owing) and the extreme minimum (below which the pumps run dry).
In the case of gauge fault, the emergency oat switches guarantees plant operation and the COMMANDER unit reports the anomaly in real time as an acoustic-visual alarm, with noti cation on the remote computer through the SW COMMANDER and, if the optional GSM module is installed on the device, via text message to the mobile phone of the maintenance personnel.
COMMANDER can send all alarm messages by means of text messaging to a maximum of 3 different telephone numbers. The software also gives noti cation that the residual credit on the SIM card is nished.

The automatic system restart option ensures that the plant will continue operating after a possible black-out or distractions by the operators.

Conversely, a speci c option stops the plant, avoiding the undesired starting of the pumps in case of maintenance interventions.
The COMMANDER unit has 4 analogue channels and 3 digital auxiliary inputs designed for the connection of sensors or transducers for the reading of measurable parameters of the uids, such as:

- level measuring devices
- owrate measuring devices
- pH meter
- oxygen measuring devices
- density measuring devices
- ammeters

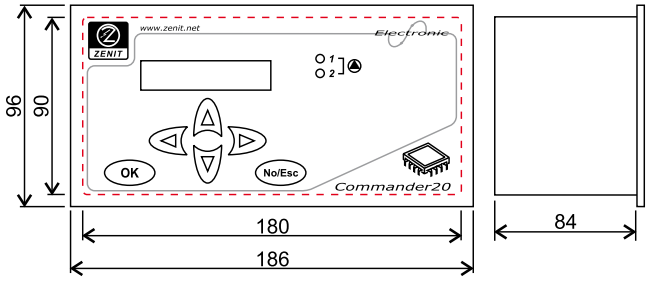
Technical characteristics

	Commander20	Commander50
2 line display	●	●
4 line display	●	●
Pump status indication on the front panel (on/off/alarm) with luminous LED	●	●
Possibility of selecting the menu language	●	●
Management of up to 2 pumps	●	●
Management of up to 5 pumps	●	●
Management of extreme maximum level	●	●
Management of extreme minimum level	●	●
Management of alternating startup and extended running	●	●
Emergency pump management	●	●
Alarm for the entry of water into the seal sump	●	●
Alarm for the entry of water into the motor compartment	●	●
Pump overheating alarm	●	●
No phase alarm	●	●
No power alarm	●	●
Alarm for the magnetothermic cutout in the electrical control panel (OVERLOAD)	●	●
Intrusion alarm	●	●
9 additional programmable ON/OFF relays that can be activated from the analogue inputs	●	●
2 additional programmable N.C./N.O. changeover relays	●	●
4 programmable analogue inputs with intervention thresholds	●	●
ON/OFF relay for command of the pumps	●	●
Acoustic/visual alarm management relay	●	●
Analogue input for the level gauge	●	●
Digital input for the generic pulse counter	●	●
Analogue output to replicate the signal from the sensor	●	●
LOCAL RS232 serial port output	●	●
HOST RS485 serial port output	●	●
GSM module and antenna with capacity of 3 stored numbers	●	●

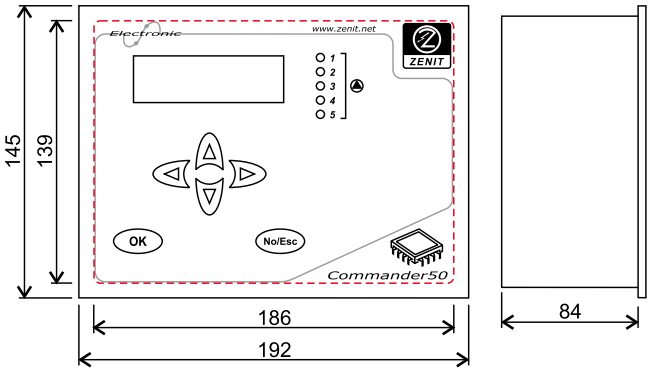
● Standard
● Optional
● Not available

Overall dimensions

Commander20



Commander50



COMMANDER SW

Plant management software

SOFTWARE COMMANDER is the special programme which, once installed on your PC, displays and manages the plant's situation in real time and allows you to modify the operating parameters.

To consult the station's operating status from a distance, one or more COMMANDER units can be managed, graphically and numerically, by COMMANDER SW.
This software can check the operating parameters and status of numerous units situated on the territory.

Communication between PC and COMMANDER units can be done by:

- local serial port cable RS232 (standard)
- RS485 interface cable (optional)
- GSM modem (optional in replacement of RS485)



NOTES