DS 3080

3080.590, 3080.690, 3080.790

Explosion proof

FLYGT

Technical specification

DS 3080 Technical specification

The DS 3080 is an explosion-proof drainage pump with high capacity and delivery head. The pump is equipped with a vortex impeller and is designed to handle abrasive trash sludge and fibrous materials. This makes the pump ideal for use within the coal mining industries and other industrial environment.

The pump is easy to install and to move between different sites.

The DS 3080 requires no special attendance and service is uncomplicated. The rubber lined pump-housing is of the split ease type to facilitate liner changing.

Two or three pumps can be connected in tandem to boost the delivery head.

APPLICATIONS

The pump is intended to be used for pumping water which may contain abrasive particles

The pump is available in the following versions:

3080.590 in grey iron, designed for use in industrial environments with risk for explosive atmosphere.

3080.690 in grey iron, designed for use in coal mines.

3080.790 in hydronalium, designed for use in industrial environments with risk for explosive atmosphere.

The pump is designed for use in explosive environments in accordance with the following approval:

EN 50018 Européen Norm
590 and 790 versions: BVS EN 50014, 50018, 50019 EEx de IIB T3
690 version: BVS EN 50014, 50018, 50019 EEx de I

Following performance characteristics are available:
MT - medium head, HT - high head, ST - super high head.

Liquid temperature: max 40°C (103°F).

Liquid density: max 1100 kg/m³.

The pH of the pumped liquid: 590, 690 versions, pH 6—11.
790 version, pH 5—8.

Particles up to a size that corresponds to the openings in the strainer (40 x 40 mm) can pass through the pump.

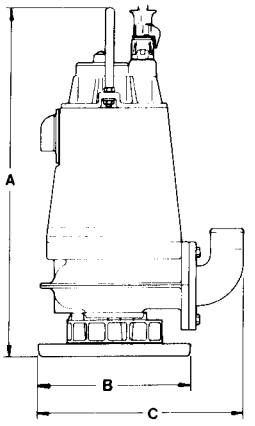
Depth of immersion: max. 20 m.

This pump is also available in a non-explosion-proof version with the same high quality and performance. Contact Flygt for further information.

For other applications, contact your nearest Flygt representative for information.

DIMENSIONS AND WEIGHTS

All dimensions are in mm.



A = 775
B = 400
C: MT = 480
HT = 465
ST = 450

Weights in kg without motor cable.

Version	Impeller	Weight
3080.590, 3080.690	MT	95
	HT, ST	100
3080.790	MT	55
	HT, ST	60

Discharge connections:

2″, R2″, 2—11½ NPSM
3″, R3″, 3—8 NPSM
4″, R4″, 4—8 NPSM

MOTOR DATA

Motor type: Squirrel-cage 3-phase AC motor, insulation class F.

MT-version

Frequency: 50 Hz

Output: 4 kW

Speed of rotation: 1400 rpm

Voltage	Rated current
220 V	15.0 A
380 V	8.8 A
415 V	8.0 A
500 V	6.7 A
550 V	6.1 A
1000 V	3.4 A

HT- and ST-versions

Frequency: 50 Hz

Output: 5.2 kW

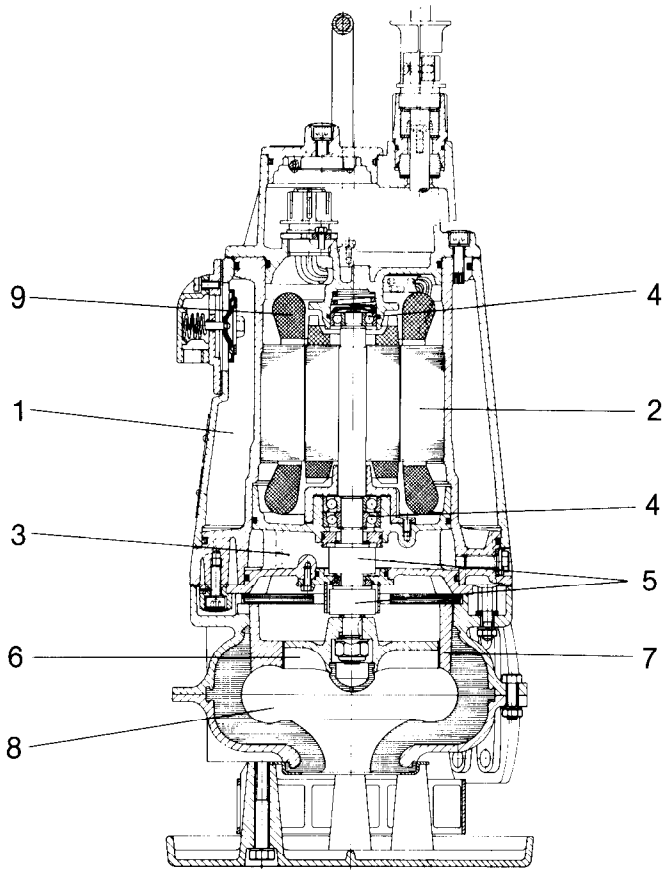
Speed of rotation: 2800 rpm

Voltage	Rated current
220 V	19.0 A
380 V	11.0 A
415 V	10.0 A
500 V	8.5 A
550 V	7.7 A
1000 V	4.3 A

MATERIALS

		DIN	BS	AISI
Cast parts: 590 and 690 versions	Grey iron	1691 GG 25	1452 Grade 260	ASTM A48 No 35 B, No 40 B
790 version	Aluminium alloy Hydronalium	1725 G-Al Mg 5 Si 1	1490 LM 5	—
Shaft	Stainless steel	17440 X8CrNiMo 275	—	329
Impeller	Ni-Hard 4	G-X300 CrNiSi 952	4844 Grade 2D	ASTM A532 Alloy 1 D
Wear ring	Ni-Hard 4	G-X300 CrNiSi 952	4844 Grade 2 D	ASTM A532 Alloy 1 D
Pump housing		Nitrile-rubber-covered		
Sealing surfaces inner		Tungsten carbide — Graphite		
outer		Tungsten carbide — Tungsten carbide		

DESIGN



1. Cooling

A built-in cooling system enables the pump to work continuously at its rated output regardless of whether the electric motor is above or below the surface of the liquid.

A portion of the pumped liquid is circulated from the pump casing up between the cooling jacket and the stator casing and carries away heat generated by the motor.

The cooling jacket is equipped with an air release valve.

2. Motor

Motor insulation to Class F means a maximum working temperature of 155°C (310°F) and permits a temperature rise of 100°C (210°F).

The temperature rise in Flygt motors does not normally exceed 80°C (175°F). The insulation material is chosen with the greatest care, and most materials are classified as Class H (180°C, 355°F) materials or very close to Class H. This means an expected service life far beyond what is required for Class F.

3. Oil casing

Oil lubricates and cools the seals and acts as a buffer between the pumped liquid and the electric motor.

Pressure build-up within the oil casing is reduced by means of a built-in volume of air.

4. Bearings

The lower bearing consists of two angular contact ball bearings (one in the MT-version).

The upper bearing consists of a deep groove ball-bearing.

The bearings are designed for at least 10 000 hours of operation.

5. Shaft seals

The pump has two mechanical face seals.

The seals work independently of each other and seal off the motor from the pump section.

6. Impeller

The pump is equipped with one vortex impeller.

It is made of Ni-hard with very good wear resistance for pumping highly abrasive liquids.

7. Wear ring

The pump casing is equipped with an easily replaceable wear ring.

8. Pump housing

The pump housing is divided in two parts and is lined with oil and wear resistant rubber.

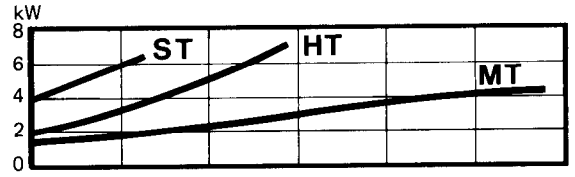
The lining is easily replaceable.

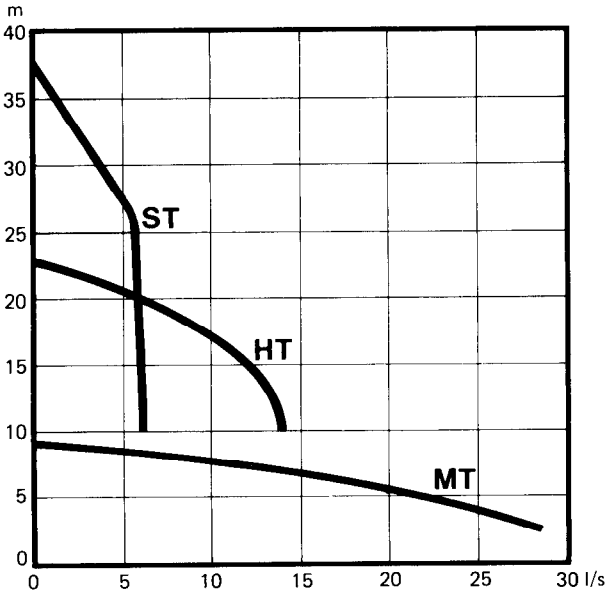
9. Monitoring system

The stator incorporates three thermal switches connected in series.

The thermal switches open at 110°C, 230°F (115°C, 240°F for ST version).

PERFORMANCE CURVES





ACCESSORIES

Tandem operation

The delivery head can be increased by connecting two or three pumps in tandem. For this purpose, a tandem flange unit is available from Flygt.

See special brochure wich describes the procedure for tandem connection.

Start and control equipment

Flygt has suitable start and control equipment for the pump. Contact Flygt for further information.

Zinc anode set

In order to reduce corrosion on the pump, it can be fitted with zinc anodes.

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