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Lutz[®]
The Fluid Managers

Lutz B80 Vertical Centrifugal Pumps

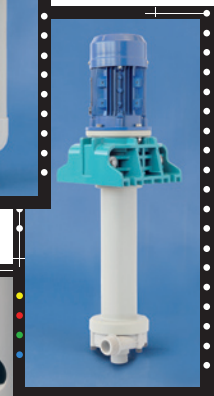


**Three Series,
One Concept**

NEW HME Series

NEW KME Series

**KGK Series
G1/G2**



Safety is our concern

C e n t r i f u g a l P u m p s
C e n t r i f u g a l P u m p s

Lutz B80 Vertical Centrifugal Pumps

Durable in service



Construction benefits

- ✓ Special vapour seals
- ✓ Plain bearing or bearing-less versions available
- ✓ All parts coming into contact with the liquid are made of corrosion resistant plastics
- ✓ Abrasion resistant material combinations possible
- ✓ Wet-well or dry-well installation
- ✓ Immersion depths from 275 to 4000 mm, deeper immersion depths possible using tail pipe
- ✓ Motors from 0.75 kW as per efficiency level IE2 in accordance with Directive 2005/32/EC

Perfection in plastic

The B80 vertical centrifugal pumps are designed for use in closed, unpressurised containers, pools or excavations.

Special design features enable a long service life and a high level of operational safety. No metal parts come into contact with the fluid being pumped, no housing screws are located in the area of the KGK Series that comes into contact with the medium. A uniformly substantial casing thickness guarantees the highest level of mechanical stability.

Special vapour seals protect the driving elements and surrounding area from gases and vapours.

The product range incorporates 3 basic series of different versions and capacity ranges, all offering the maximum level of component compatibility – the right pump solution for every pumping application.

High levels of operational safety and low wear

An interlocking coupling is used to transmit power between the motor and the pump. The motors in the KGK Series are equipped with generously dimensioned roller bearings mounted axially and radially. In the directly-coupled KME and HME Series, an innovative 2-piece motor mounting enables rapid access to facilitate maintenance work on the motor and coupling.

The HME Series for dry-well installation featuring a bearing-less cantilever design is used to pump mechanically contaminated fluids and is capable of intermittent dry running.

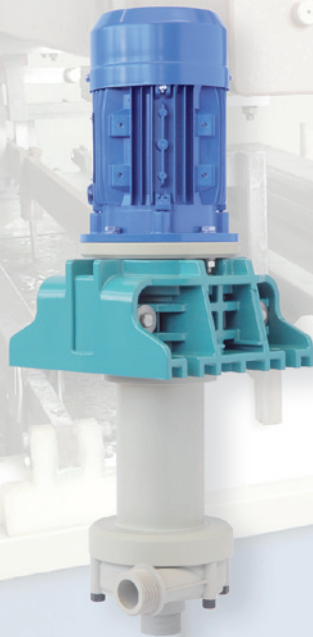
The motor is safely protected against corrosive acid vapours by a single or double shaft seal. The seal itself does not come into contact with liquids. Liquid flowing up inside the shaft guide tube flows back into the container through overflow holes.

The robust plain bearing fitted in the KGK and KME Series can be made of either PTFE-GF/ceramic or SiC/SiC.

Applications

Permanently installed pumps are used to pump acid solutions, hydroxides, salts in varying concentrations, strong acid mixtures, galvanising solutions, chemical waste fluids, chlorinated hydrocarbons, glycol ether, emulsions, sea water and hot spring water etc. from containers, tanks, pools, cisterns and pumping pits.

Three Series – One Concept



B80 HME Series

Centrifugal pump for dry-well installation featuring a bearing-less cantilever design with direct-coupled IEC motor. Specially designed for plant engineering and confined spaces.

Flow rate: up to 50 m³/h
Pumping head: up to 40 m
Installation depth: up to 450 mm



B80 KME Series

Cost-effective, compact immersion centrifugal pump with plain bearing and directly-coupled IEC motor. Ideal for the low to medium performance segment.

Flow rate: up to 50 m³/h
Pumping head: up to 40 m
Installation depth: up to 1500 mm



B80 KGK Series

Powerful and robust immersion centrifugal pump with plain bearing, support stand mounted on roller bearings and IEC standard motor. The KGK Series is designed for medium to high pump capacities under continuous operation.

Flow rate: up to 80 m³/h
Pumping head: up to 41 m
Installation depth: up to 4000 mm
additional suction pipe extension up to 2000 mm

Lutz B80 HME Vertical Centrifugal Pump

Innovative specialists



Construction benefits

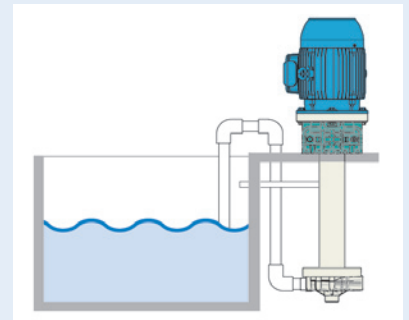
- ✓ Directly-coupled pump featuring an extremely compact design
- ✓ Bearing-less cantilever design, intermittent dry running capability
- ✓ Service-friendly dry-well installation beside the container
- ✓ All parts coming into contact with the liquid are made of corrosion resistant plastics
- ✓ Abrasion resistant material combinations possible
- ✓ Two-piece motor mounting simplifies maintenance work on motor and coupling
- ✓ Vibration-free operation using self-centring guided drive element
- ✓ Short installation length of 275 or 450 mm

Applications

The extremely compact design and innovative service-friendly 2-part motor mounting combine to make the B80 HME Series ideal for installation in confined spaces. The pump featuring a bearing-less cantilever design is suitable for pumping and circulating neutral, corrosive and mechanically contaminated liquids in stationary installations in the chemical industry and in process engineering, in surface and electroplating engineering and in gas scrubbers. Due to the freely rotating bearing-less shaft and seals in the areas in contact with the medium, the pump is capable of intermittent dry running.

Dry-well installation

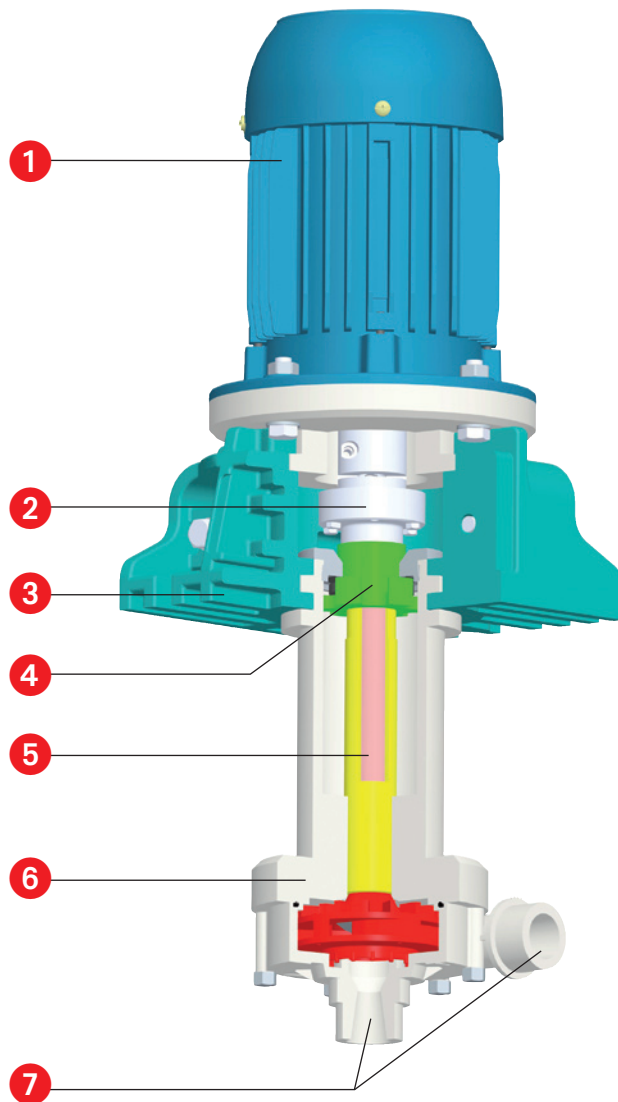
The B80 HME Series can be operated beside the container in a dry-well installation. Liquid flowing up inside the shaft guide tube returns to the container via an overflow line. Pumps in dry-well installations allow easier access to carry out maintenance and repair work.



		HME
Flow rate:	m³/h	7 to 50
Pumping head:	m	11 to 40
Temperature of pumped medium:	max. °C	90
Density:	max. kg/dm³	1.8
Immersion depths:	mm	275 or 450
Dynamic viscosity:	max. mPas	75

Dry-well Installation Layout

Quick to assemble, easy to operate



Innovative construction in detail

1 Three-phase A.C. motor conforming to IEC standard

Special voltages and protection classes possible.

2 Interlocking coupling

3 Monoblock motor mounting

Combining the seating surface and joining element in a single unit suppresses vibrations in the motor and pump. Ideal for installation in confined spaces.

4 Static-dynamic vapour seal

An elastomer ring which works when dry and protects the drive elements and the area around the pump from escaping gases and vapours under static and dynamic conditions up to a pressure of 60 mbar.

5 Pump shaft

With corrosion-resistant shaft sleeve made of PE or PTFE.

6 Pump housing and impeller

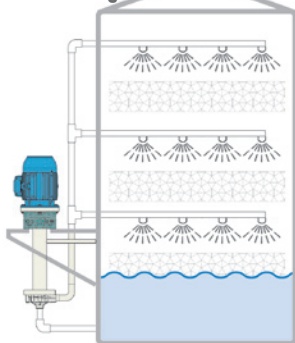
Made of chemical-resistant plastics and robust fibreglass or carbon fibre reinforced plastics.

7 Suction and pressure connection

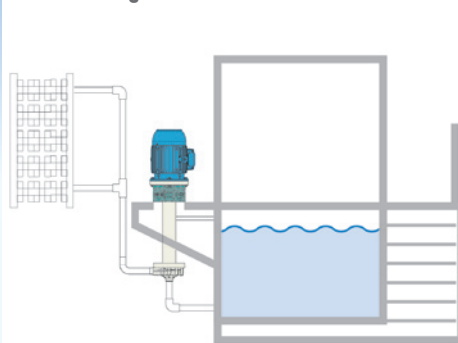
Available in either threaded or flanged version.

Application examples

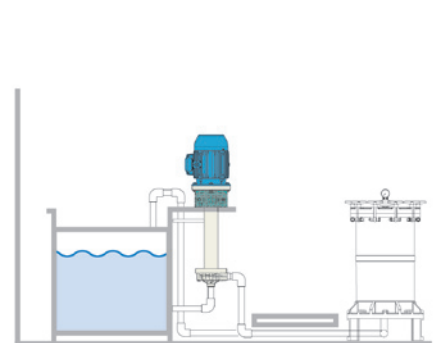
Gas scrubbing



Heat exchanger



Filtration



Lutz B80 KME Vertical Centrifugal Pump

Compact and economical



Construction benefits

- ✓ Directly-coupled pump featuring an extremely compact design
- ✓ Various plain bearing versions
- ✓ Service-friendly and space-saving construction
- ✓ All parts coming into contact with the liquid are made of corrosion resistant plastics
- ✓ Abrasion resistant material combinations possible
- ✓ Two-piece motor mounting simplifies maintenance work on motor and coupling
- ✓ Vibration-free operation using self-centring guided drive element
- ✓ Immersion depth from 600 to 1500 mm

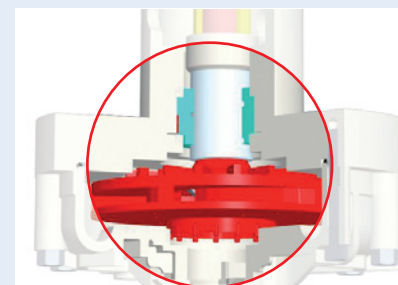
Applications

The B80 KME Series was developed as a vertical centrifugal pump for wet-well installation in stationary applications in containers and pools.

The directly-coupled, friction bearing pump is suitable for pumping and circulating neutral and chemically aggressive fluids in the chemical industry and in process engineering, in galvanic and surface engineering, in washing systems and water treatment plants. It can also be used for sump drainage in industrial and municipal waste disposal plants or as a circulation pump in gas scrubbers and heat exchangers.

Plain bearing

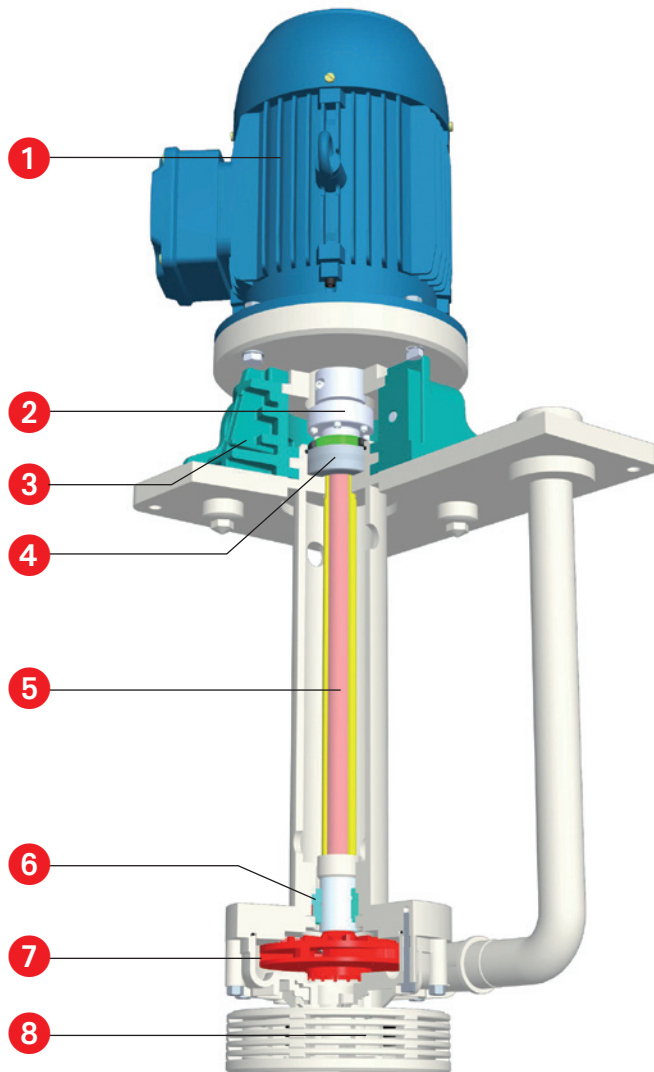
The B80 KME series features an extremely compact design and the innovative 2-piece motor mounting allows for swift access to facilitate maintenance work on the motor and coupling. The pump shaft is completely coated with plastic that is resistant to the pumped medium and is guided behind the impeller by a chemical-resistant and wear-resistant plain bearing.



		KME
Flow rate:	m³/h	7 to 50
Pumping head:	m	11 to 40
Temperature of pumped medium:	max. °C	90
Density:	max. kg/dm³	1.8
Immersion depths:	mm	600 to 1500
Dynamic viscosity:	max. mPas	75

Wet-well Installation Layout

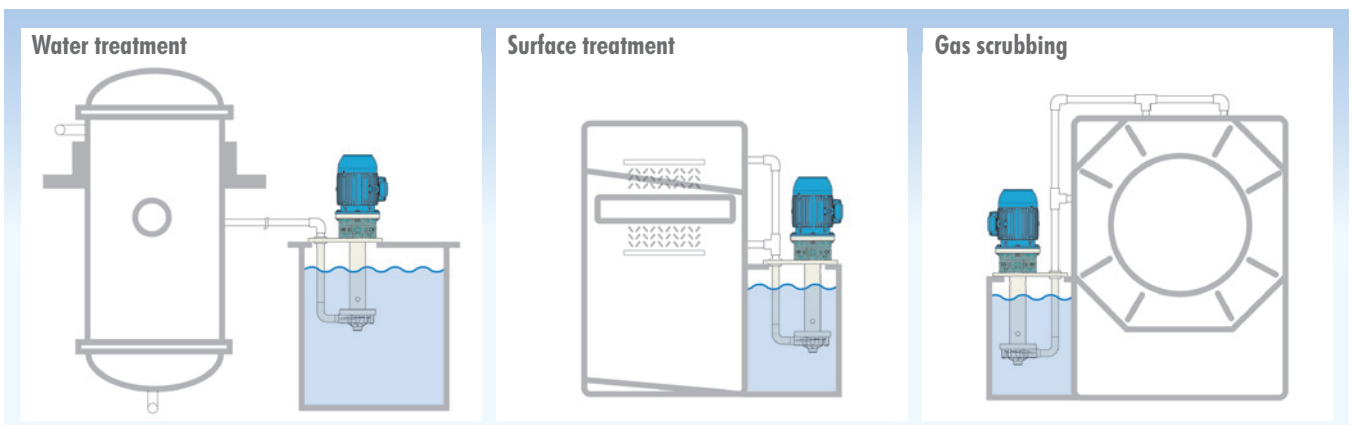
The Perfect Solution for Plant Engineering



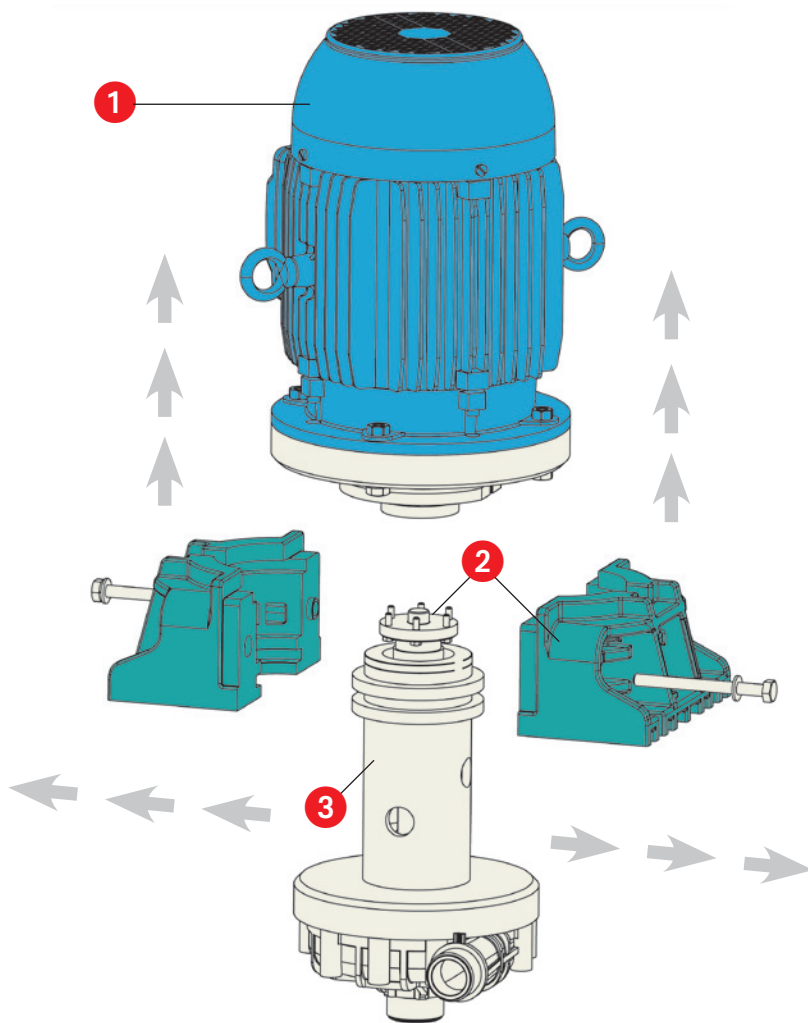
Innovative construction in detail

- 1 Three-phase A.C. motor conforming to IEC standard**
Special voltages and protection classes possible.
- 2 Interlocking coupling**
- 3 Monoblock motor mounting**
Combining the seating surface and joining element in a single unit suppresses vibrations in the motor and pump.
- 4 Static-dynamic vapour seal**
Protects the drive elements and the area around the pump from escaping gases and vapours under static and dynamic conditions up to a pressure of 60 mbar.
- 5 Pump shaft**
With corrosion-resistant shaft sleeve made of PE or PTFE.
- 6 Bearing bush housing with plain bearing**
Optionally in PTFE/glass on ceramic (PTFE/ Al_2O_3) for general applications or SiC/SiC for abrasive media, strong lyes and fluorides, etc.
- 7 Pump housing and impeller**
Made of chemical-resistant plastics and robust fibreglass or carbon fibre reinforced plastics.
- 8 Filter (optional)**
Foot strainer with 3 mm passages as an accessory.

Application examples



Lutz B80 HME-KME Vertical Centrifugal Pump



1 IEC standard motor

400V, 50-60 Hz, IP 55 and insulation class F available in the following versions:

N (for max. density 1.1 kg/dm³)

P (for max. density 1.35 kg/dm³)

S (for max. density 1.8 kg/dm³)

2 Coupling and motor mounting

The interlocking coupling is radially and axially fixed in a self-centring position between the halves of the motor mounting.

The 2-piece monoblock motor mounting allows for swift and simple connection and separation of motor and pump during service and maintenance work.

3 Pump housing and impeller

available in two material variants

WR: The material used is PP (polypropylene) offering resistance to a broad spectrum of chemicals. The pump hydraulics reinforced with fibreglass offers good mechanical strength and excellent thermal stability.

FC: The material used is PVDF (polyvinylidene fluoride), which combines outstanding chemical resistance and excellent resistance to abrasion and mechanical loading. Reinforcing the pump hydraulics with carbon fibres ensures excellent dimensional accuracy and thermal stability without restricting its chemical resistance.

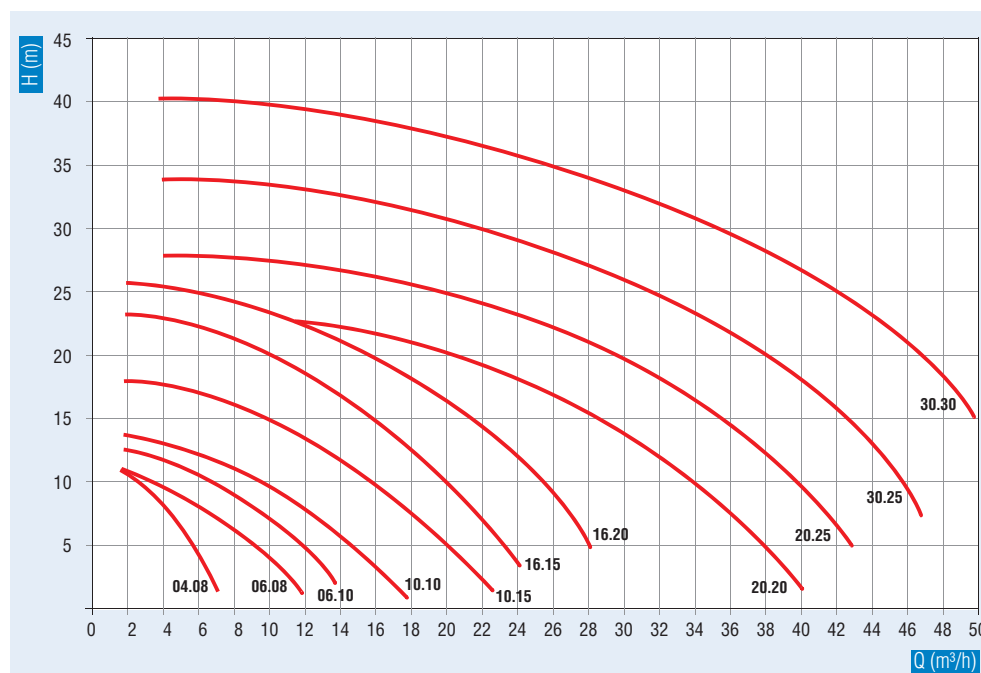
Materials

Version	WR	FC
Pump housing	PP/GF	PVDF/CF
Impeller	PP/GF	PVDF/CF
Shaft sleeve	PP	PTFE
Shaft guide tube/lifting tube	PP	PVDF
Suction-/pressure connection	PP	PVDF
Bearer plate	PP	PP
Motor mounting	PP/GF	PP/GF
Seals	FKM/EPDM	FKM/EPDM
Bolts coming into contact with the liquid	PVDF	PVDF

Immersion depth

Series	
HME	275 or 450 mm
KME	600, 800, 1000, 1250 or 1500 mm

Performance curve with nominal speed at 50 Hz, 2900 rpm.



Temperature limits in °C, depending upon the immersion depth

Version	HME		KME				
Immersion depth in mm	275	450	600	800	1000	1250	1500
Temperature of pumped medium in °C							
WR	70			65	55	50	
FC	90			85	75	65	
Ambient temperature in °C							
WR	0 to 40						
FC	-10 to 40					0 to 40	

Motor versions and connections

Size		04.08			06.08			06.10			10.10			10.15			16.15			16.20			20.20			20.25			30.25			30.30		
Motor version		N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S	N	P	S			
Motor power (IEC) 50 Hz	kW	-	0.37	0.55	0.37	0.55	0.75	0.55	0.75	1.1	0.75	1.1	1.5	1.1	1.5	2.2	1.5	2.2	3	2.2	3	4	3	4	5.5	4	5.5	7.5	5.5	7.5	-	7.5	-	-
Density max.	kg/dm³	-	1.35	1.8	1.1	1.35	1.8	1.1	1.35	1.8	1.1	1.35	1.8	1.1	1.35	1.6	1.1	1.35	1.8	1.1	1.35	1.8	1.8	1.35	1.8	1.1	1.35	1.8	1.1	1.35	-	1.1	-	-
Inlet	BSP	G 1 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/2 OT			G 1 1/2 OT			G 1 1/2 OT			G 1 1/2 OT			G 2 OT			G 2 OT			G 2 OT			G 2 OT		
	ISO (DN)	25			32			32			40			40			40			40			50			50			50			50		
Outlet HME	BSP	G 1 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/2 OT			G 1 1/2 OT			G 1 1/2 OT			G 1 1/2 OT		
	ISO (DN)	25			32			32			32			32			32			32			40			40			40			40		
Outlet KME	BSP	G 3/4 OT			G 3/4 OT			G 1 OT			G 1 OT			G 1 OT			G 1 1/4 OT			G 1 1/4 OT			G 1 1/2 OT			G 1 1/2 OT			G 1 1/2 OT			G 1 1/2 OT		
	ISO (DN)	20			20			25			25			25			32			32			40			40			40			40		
Motor		3 phases 400 V / 50 Hz, IP 55 (1 phase 230 V / 50 Hz < 3 kW)																																

OT = Outer thread

Lutz B80 KGK G1/G2 Vertical Centrifugal Pump

Durable in service



Construction benefits

- ✓ Various plain bearing versions
- ✓ External flushing of plain bearing (optional)
- ✓ All parts coming into contact with the liquid are made of corrosion resistant plastics
- ✓ Abrasion resistant material combinations possible
- ✓ Roller bearings protected from corrosive vapours and gases
- ✓ Vibration-free operation
- ✓ Long service life and high level of operational safety
- ✓ Immersion depth up to 4000 mm and additional suction pipe extension up to 2000 mm

Construction

The B80 vertical centrifugal pumps have an immersion depth between 500 and 4000 mm in steps of 250 mm. The pump is equipped with a single-stage spiral housing with a closed or open impeller.

The medium is pumped out of the container via the pump outlet and the vertical lifting tube. The downward-facing axial inlet to the pump is equipped with a filter as standard.

Bearing assembly

The KGK Series is designed for applications with continuous operation. The cast iron bearing housings hold the shaft and compensate for all radial and axial forces.

A torsionally elastic, interlocking coupling is used to transmit power between the motor and the pump.

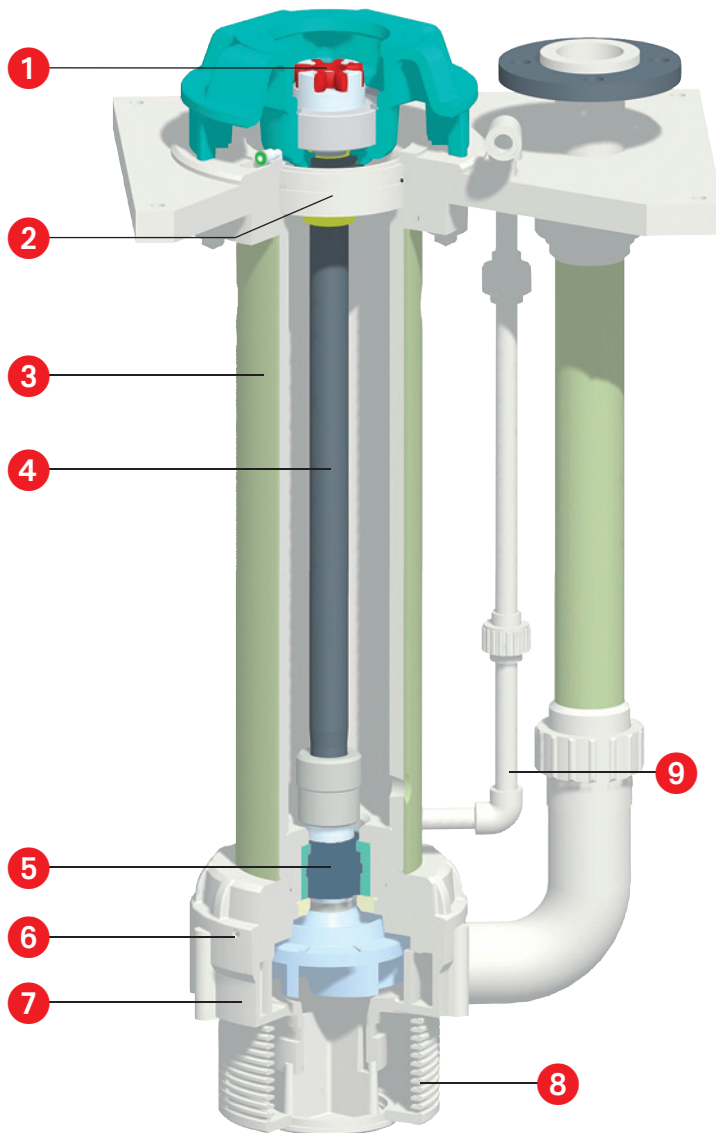
The pump motor uses generously dimensioned axial and radial roller bearings with lifetime grease lubrication.

Type	G1	G2
C25/100	●	
C25/120	●	
C32/120	●	
C32/140		●
C32/160		●
A40/100		●
A40/120		●
C40/140		●
C40/160		●
A50/100		●
A50/120		●
A50/140		●

C = closed impeller A = open impeller

		KGK G1	KGK G2
Flow rate:	m ³ /h	18 to 30	24 to 80
Pumping head:	m	13 to 27.5	22 to 41
Temperature of pumped medium:	max. °C	90	90
Density:	max. kg/dm ³	2	2
Immersion depths:	mm	500 to 4000	500 to 4000
Suction pipe extension:	mm	up to 2000	up to 2000
Dynamic viscosity:	max. mPas	75	75

Robust and versatile



1 Flexible coupling

allows swift disassembly of the coupling and drive motor. Excellent dimensional accuracy and close radial tolerances ensure vibration-free operation.

2 Vapour seal

protects the drive elements and the area around the pump under static and dynamic conditions from escaping gases and vapours.

3 Shaft guide tube/lifting tube

made of chemically resistant plastics. For the "G" version, with additional GRP reinforcement (vinyl-ester-reinforced fibreglass).

4 Pump shaft

with corrosion-resistant shaft sleeve made of PE or PTFE.

5 Bearing bush housing with plain bearing

Simple replacement of the plain bearing

6 Casing connection via central ring nut

No housing screws in the area of the pump that comes into contact with the medium, exact positioning of the pump housing with respect to the discharge manifold.

7 Pump housing and impeller

made of chemical-resistant plastics and robust fibreglass or carbon fibre reinforced plastics.

8 Filter

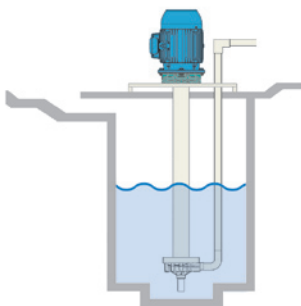
Foot strainer as standard, with 3 mm passages.

9 External flushing pipe (optional)

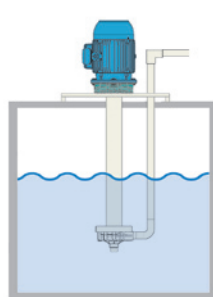
for external flushing of the guide bushes when pumping fluids containing solids.

Application examples

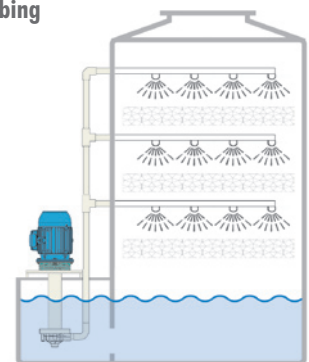
Sump drainage



Tank drainage

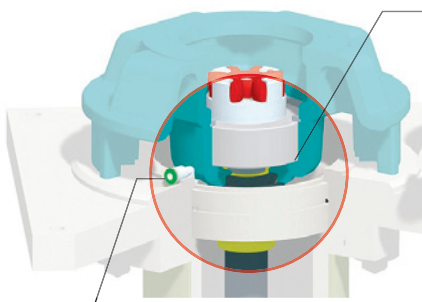


Gas scrubbing



B80 KGK G1/G2 Lutz Vertical Centrifugal Pump

Conserves the environment and your budget



Vapour seal

To contain the vapours and gases which arise inside the pump, a dry vapour seal that works both in static and dynamic conditions is fitted at the height of the bearer plate in the standard version. In addition to the standard lip seals which work dry, a mixed seal is also available which has a dynamic deflector ring that works efficiently up to a pressure of about 100 mbar.

The innovative "liquid barrier" system can be supplied with compressed air or liquid via a rapid-action coupling. The laminar spread of the compressed air builds up a counter-pressure, completely blocking poisonous vapours and gases so these can neither reach the mechanical parts nor escape to the outside, thus protecting the environment.

Rapid-action coupling

Supply connection for the "liquid barrier"

Vapour seal versions

VR - static-dynamic (standard):

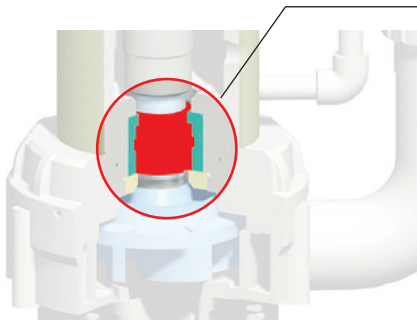
An elastomer ring which works when dry and is guaranteed not to leak up to a pressure of around 60 mbar under both static and dynamic conditions.

VF - Liquid barrier (optional):

Externally supplied low pressure flow of air or liquid, which spreads in a laminar fashion and which presents an effective barrier to gases and vapours (max. 200 mbar).

VL - (optional) in combination with the standard version:

Using a dynamic deflector ring, an increased pressure of up to approx. 100 mbar is permitted.



Guide system for the pump shaft

The pump shaft is completely coated with plastic that is resistant to the pumped medium. The shaft is guided at the top by a roller bearing and then along its length by plain bearings. For immersion depths up to 2000 mm, a single lower guide after the impeller is sufficient. For deeper immersion depths, an additional intermediate guide is installed.

Bearing assembly

Plain bearings made of PTFE/glass on ceramic (PTFE/ Al_2O_3) for general applications or SiC/SiC for abrasive media can be specified as options.

The plain bearings are lubricated by the pumped medium or can be supplied with an external medium as an option.

Materials

The materials in direct contact with the liquid have a high chemical resistance. The WR, FC and WF versions are made of thermoplastic polymer materials or clad with GRP (vinyl-ester-reinforced fibreglass).

To make the correct selection from these materials, the chemical composition of the liquid, its concentration and temperature must be checked to thus enable reliable operation.

WR - WRG

The material used is PP (polypropylene) with resistance to a broad spectrum of chemicals. The hydraulics of the pump is reinforced with fibreglass and offers good mechanical strength and excellent dimensional accuracy.

FC - FCG

The material used is PVDF (polyvinylidene fluoride): A fluoroplastic with good resistance to abrasion and high mechanical strength. Reinforcing the pump hydraulics with carbon fibres increases its strength and accuracy of its dimensions without restricting its resistance to chemicals.

WF - WFG

The material used is PP (polypropylene, partially reinforced with fibreglass). The impeller is made of PVDF, which increases its resistance to wear and abrasion.

Exceptionally robust construction for version "G"

For the "G" version, the immersed shaft guide tube and the rising tube are coated with GRP (vinyl-ester-reinforced fibreglass). This increases the strength and limits longitudinal expansion.

Motors

IEC standardised motors

400 V, 50 Hz, IP 55, insulation class F

Efficiency level IE 2 (≥ 0.75 kW) in accordance with Directive 2005/32/EC

Possible immersion depths

Variants

WR, WF, FC	500 to 3000 mm
WRG, WFG, FCG	500 to 4000 mm

Materials

Version	WR	WF	FC	WRG	WFG	FCG
Pump housing	PP/GF	PP/GF	PVDF/CF	PP/GF	PP/GF	PVDF/CF
Impeller	PP/GF	PVDF/CF	PVDF/CF	PP/GF	PVDF/CF	PVDF/CF
Shaft sleeve	PE	PE	PTFE	PE	PE	PTFE
Bearer plate	PP	PP	PP	PP	PP	PP
Shaft guide tube/lifting tube	PP	PP	PVDF	PP/GFK	PP/GFK	PVDF/GFK
Outlet connection	PP	PP	PVDF	PP	PP	PVDF
Bearing housing	Cast iron					
Seals	FKM/EPDM					

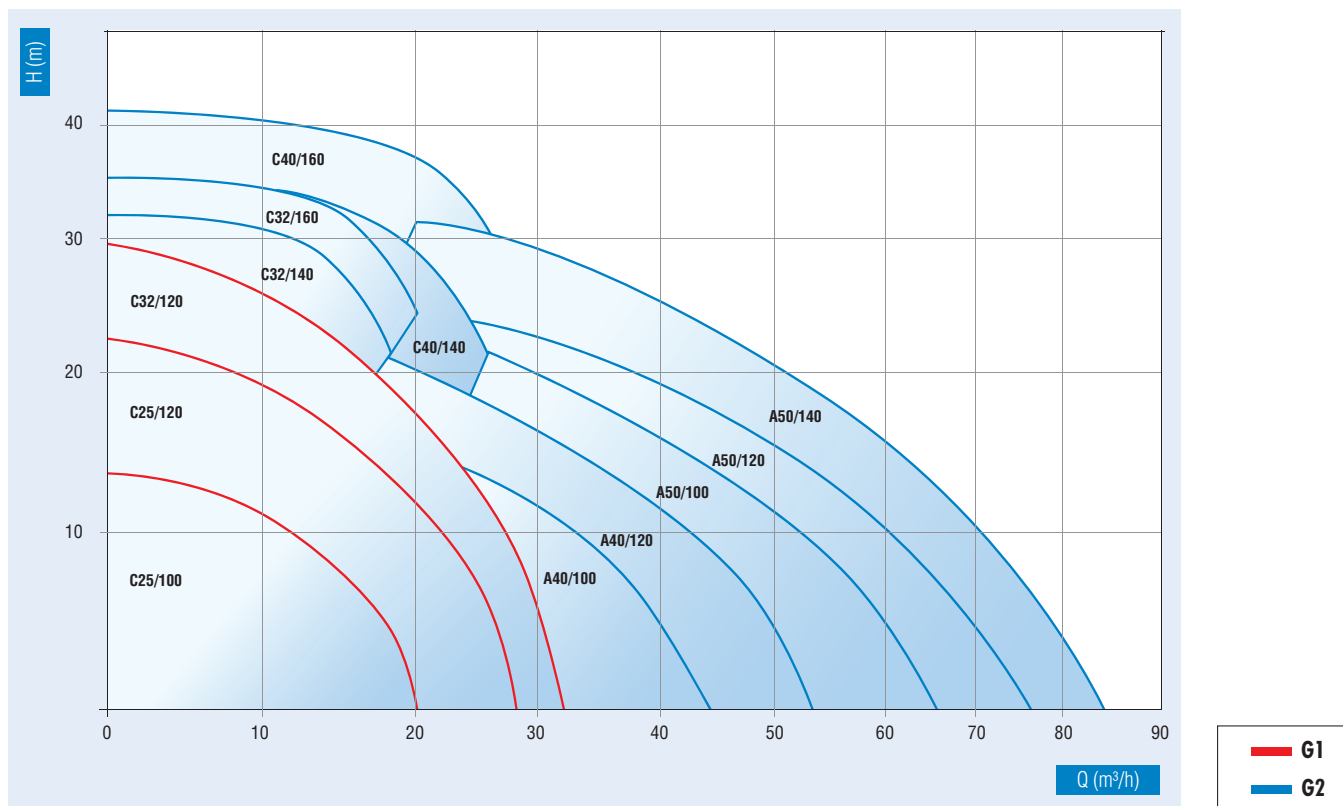
Temperature of the pumped medium in °C, depending upon the immersion depth.

Version	WR	WF	FC	WRG	WFG	FCG
500	70	70	90	70	75	80
750	70	70	90	70	75	80
1000	65	65	85	70	75	80
1250	55	55	75	70	75	80
1500	50	50	65	70	75	80
1750	45	45	60	70	75	80
2000	40	40	55	70	75	80
2500	35	35	45	70	75	80
3000	30	30	40	70	75	80
4000	—	—	—	70	75	80

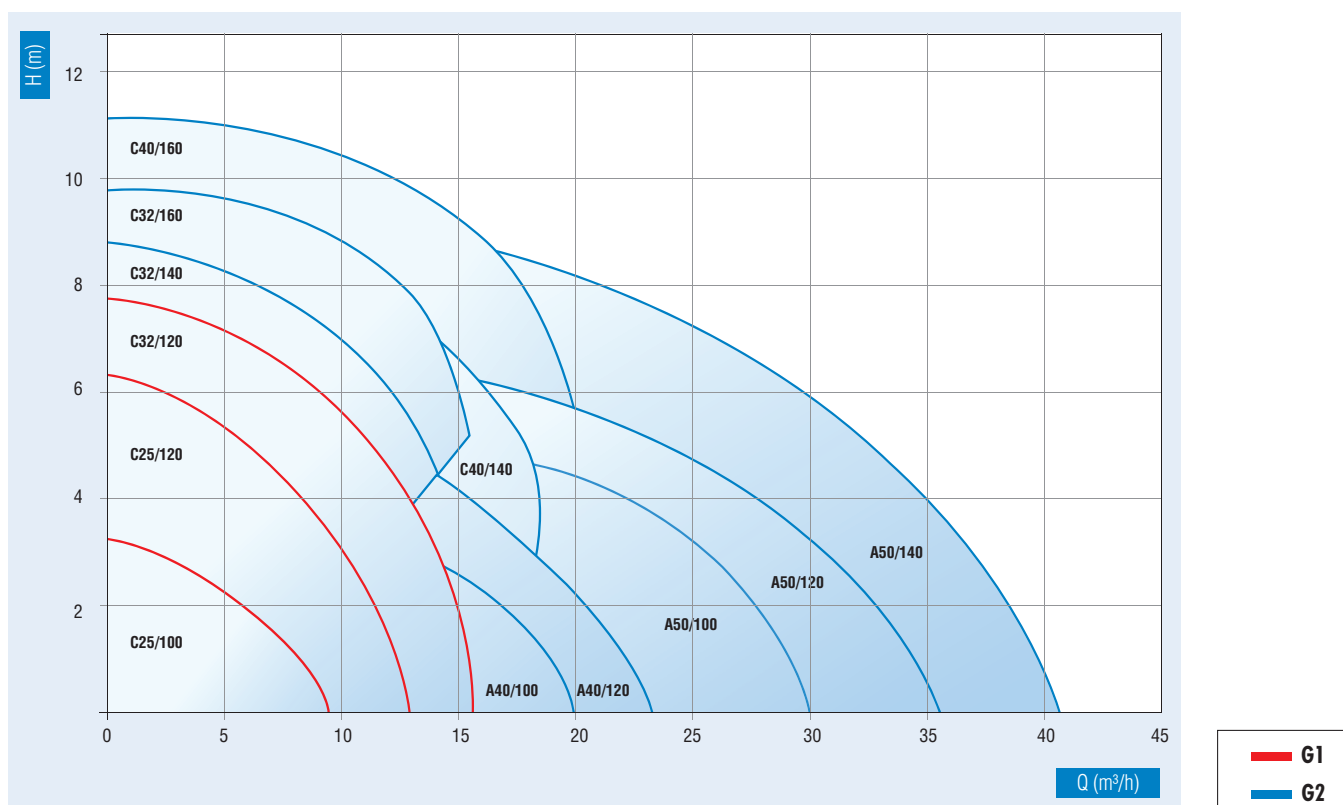
B80 KGK G1/G2 Lutz Vertical Centrifugal Pump

Technical data

Performance curve with nominal speed at 50 Hz, 2900 rpm.



Performance curve with nominal speed at 50 Hz, 1450 rpm.



Lutz B80 KGK

Vertical Centrifugal Pump

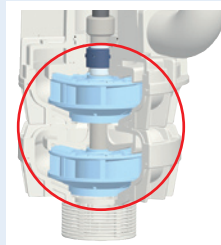
G3 Series

The B80 KGK vertical centrifugal pump is designed for industrial applications under continuous operation and high flow rates. Depending on the application and the required performance, either a single-stage spiral housing with an open or closed impeller or a two-stage version featuring two impellers arranged behind one another are used.

- ✓ Efficient and space-saving construction using single or two-stage pump hydraulics
- ✓ All parts coming into contact with the liquid are made of corrosion-resistant plastics
- ✓ High flow rate thanks to optimized pump hydraulics
- ✓ Long service life and high level of operational safety

Flow rate: up to 270 m³/h
Pumping head: up to 85 m
Immersion depth: 500 to 4000 mm

New:
2-stage
pump hydraulics



Lutz horizontal centrifugal pumps

In plastic design with magnetic coupling

This extensive range is designed for installation in small systems right up to demanding pumping jobs. These pumps are very popular because of their contact-less, magnetic transmission of power. They are thus hermetically sealed and leak free.

- ✓ Powerful and efficient due to optimised hydraulics
- ✓ Long service life through the use of high quality materials
- ✓ Easy maintenance due to low number of parts

Flow rate: up to 48 m³/h
Pumping head: up to 42 m

Versions which comply with the Atex Directive 94/9/EC for use in potentially explosive areas are available.



TMB Series



AM Series



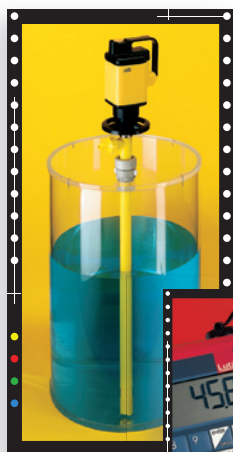
TMR G2 / TMR G3 Series

Ideally designed for pumping:

Acids, lyes, mixtures of acids and lyes, solvents, alkali degreasing baths, galvanic baths, photochemicals as well as radioactive, sterile, valuable or highly corrosive liquids and many other media.

Lutz offers the optimum solution for professional Fluid Management

Product range



Drum and Container Pumps

Lutz drum and container pumps with their versatility help to provide a complete solution to your fluid management needs. High standard of quality ensures reliable performance for handling aggressive, corrosive and easy inflammable liquids.



Flow Meters

For metering many kinds of liquids. Easy presetting of required volume is effected by user-friendly keypad. The modular design and relays combine to make a flexible metering and batching system for Ex- and not-Ex-applications.



Double Diaphragm Pumps

The lube-free Lutz air operated double diaphragm pumps offer you the ideal solution when pumping viscous, corrosive, abrasive and flammable liquids. They are suitable for a variety of industrial applications. The Lutz air operated double diaphragm pumps guarantee non-stalling operation.



Centrifugal Pumps

Lutz centrifugal pumps in horizontal and vertical construction are especially used for pumping neutral and aggressive liquids as well as liquids containing solid particles. Lutz centrifugal pumps have proven reliability, ensuring safety and reducing maintenance downtime.



JESCO

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