

PFA Lined Magnetic Drive Centrifugal Pumps

Efficient – Non-Corroding – Vacuum-Resistant



MKPL

Magnetic drive chemical process pump

MKPL-S

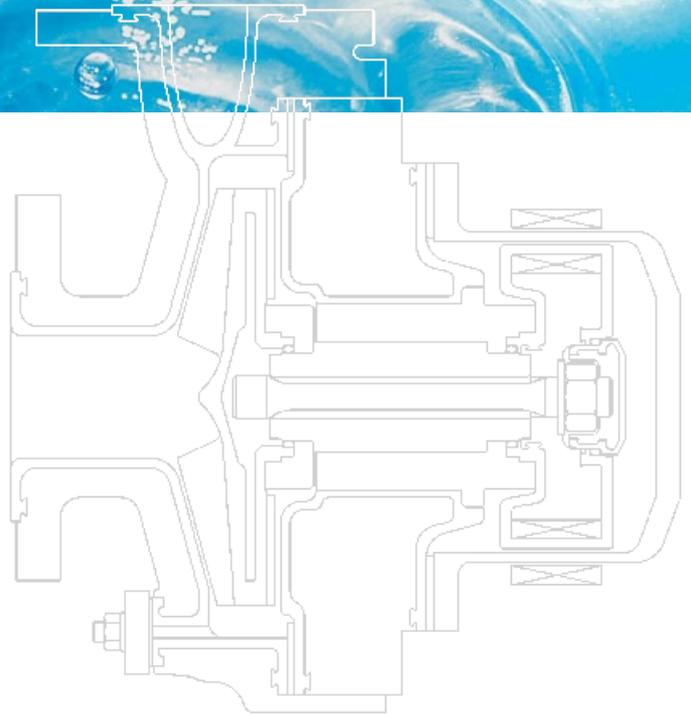
Self-priming magnetic drive chemical process pump

Designed to:

DIN EN ISO 2858, 5199 and 15783

Compliant with:

EC Directives 2006/42/EC (Machinery) and 2014/34/EC (ATEX)





Open impeller of PFA lined magnetic drive pumps



CP Pump Systems

PFA Lined Magnetic Drive Centrifugal Pumps

Our company

CP is a highly innovative Swiss company with a rich tradition. For over 60 years, we have specialised in developing and manufacturing premium quality high-tech products and providing services for international customers with the most rigorous requirements.

We produce reliable and innovative centrifugal pumps for the chemical, pharmaceutical, biotechnology, food and beverage, and pulp and paper industries. Through our network of representatives in more than 40 countries, we offer first-class advice and ensure efficient customer service locally, around the world.

Reflecting our deep commitment to energy efficient products and services, we deliver environmentally friendly solutions that always go hand in hand with maximum safety and economy. As a pioneer in this area, we advise and assist customers with a wide range of needs – throughout the value chain.

CP operates a quality management system certified to ISO 9001:2008.

Energy efficiency in industry

Nowadays, industry is facing increasing demands to improve sustainability and energy efficiency. Pumps are considered to play a key role because they offer vast potential to save energy and costs. Already recognising this back in 1999, CP took action and has become a pioneer in energy-saving pumping systems.

In recent years, we have continuously enhanced the hydraulic performance of numerous pump systems, increasing their efficiency by up to 30 per cent. At the same time, we have steadily improved pump safety, a mission we have vigorously pursued ever since our company was established in 1948.

We are wholeheartedly committed to promoting sustainable manufacturing in industry around the world. Our customers benefit from a comprehensive range of solutions that reduce costs and CO₂ emissions over the long term. Cleaner pumps, cleaner planet: we firmly believe that sustainable research, thinking and action always pay off for everyone.

PFA lined magnetic drive centrifugal pumps

With their sealless design, the MKPL and MKPL-S magnetic drive pumps are ideal to meet the stringent requirements of chemical processing and a multitude of other industries. These highly advanced and extremely energy efficient pumps are built to handle a huge variety of corrosive fluids reliably and absolutely safely, especially even in high temperature applications.

The pump casing has a thick, heavy-duty, corrosion- and permeation-resistant PFA lining positively, mechanically locked into the metal armour, ensuring vacuum resistance. This armour absorbs all mechanical stresses that can result from system pressure or piping nozzle loads.

Made of pure SSiC (sintered silicon carbide) in a robust design engineered for ceramics, the bearing assembly provides maximum reliability of pump operation. Plain and thrust bearings are secured with polygonal form-fit, self-centring anti-rotation devices. Even at high temperatures, the PFA lined metal plain bearing carrier maintains a constant clearance between the impeller and casing.

The MKPL and MKPL-S pumps come with either an open impeller for low NPSH or a closed impeller for high efficiencies. Featuring a metal core for increased mechanical strength, their plastic impellers are firmly secured to prevent loosening in case of reverse pump rotation.

Both pumps are constructed with just a few, robust components using an intelligent modular system that facilitates assembly and minimises the costs of spare parts, maintenance and servicing.

MKPL

PFA Lined Magnetic Drive Chemical Process Pump

Designed for operating at up to +200°C, the MKPL pump is built for safety in handling corrosive fluids in high temperature applications. Its connection dimensions and performance data conform to DIN EN ISO 2858, making the MKPL easy to retrofit into any installation to replace old pumps.

Technical data

Capacities (min./max.)	0.5 to 400 m ³ /h
Heads (min./max.)	3 to 90 m
Temperatures (min./max.)	-20°C to +200°C
Kinematic viscosities	0.5 to 350 mm ² /s
Solids concentration	up to 10% depending on fluid

Directives

EC Directive 2006/42/EC (Machinery)

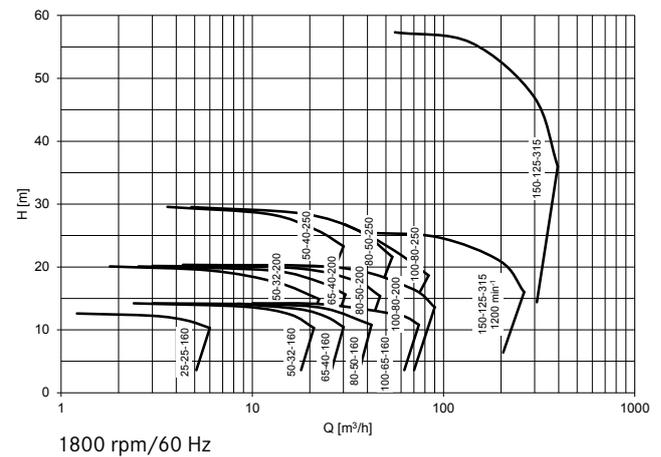
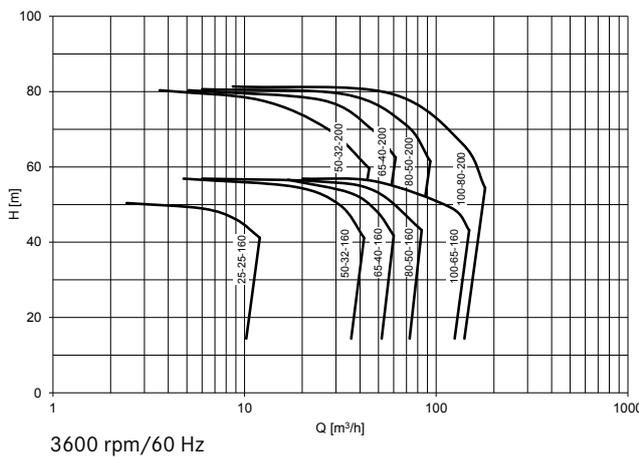
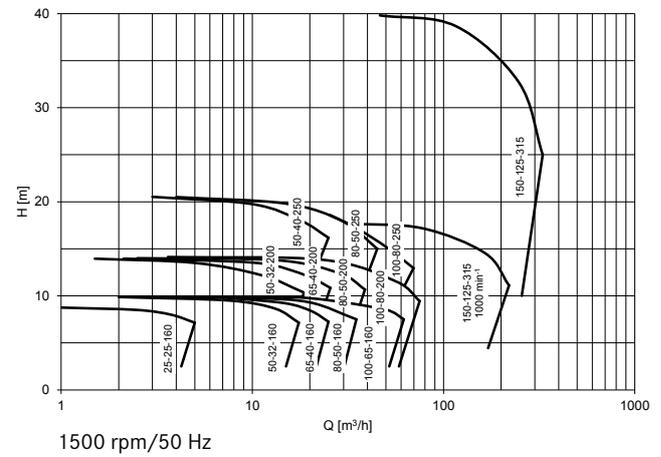
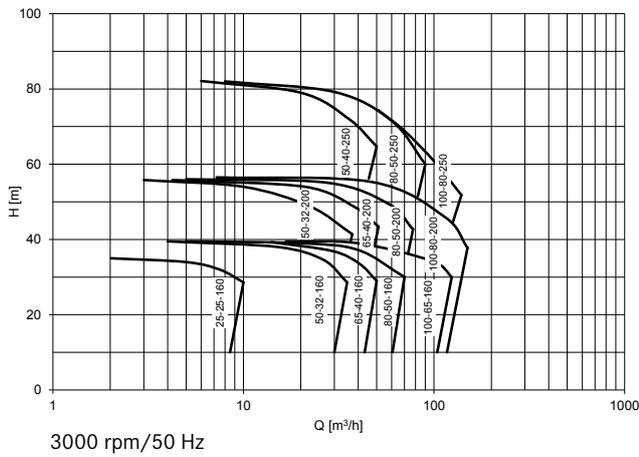
EC Directive 2014/34/EC (ATEX)

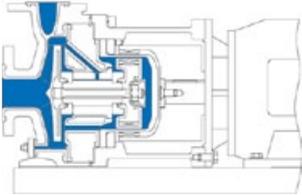
Standards

DIN EN ISO 2858

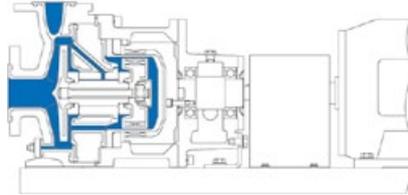
DIN EN ISO 5199

DIN EN ISO 15783





Close-coupled MKPL
with baseplate
-20°C to +200°C



Frame-mounted MKPL
with baseplate
-20°C to +200°C



MKPL with baseplate and motor
horizontal close-coupled (-20°C to +200°C)

MKPL-S

PFA Lined Self-Priming Magnetic Drive Chemical Process Pump

The MKPL-S features an integral priming chamber in the casing. A separate priming tank is not necessary because the pump evacuates the suction line itself by creating a vacuum. The MKPL-S can even readily pump entrained air in the suction line while running, thus increasing reliability of operation. This pump achieves suction lifts up to 8.5 m.

Technical data

Capacities (min./max.)	0.5 to 35 m ³ /h
Heads (min./max.)	3 to 40 m
Temperatures (min./max.)	-20°C to +150°C
Kinematic viscosities	0.5 to 350 mm ² /s
Solids concentration	up to 10% depending on fluid

Directives

EC Directive 2006/42/EC (Machinery)

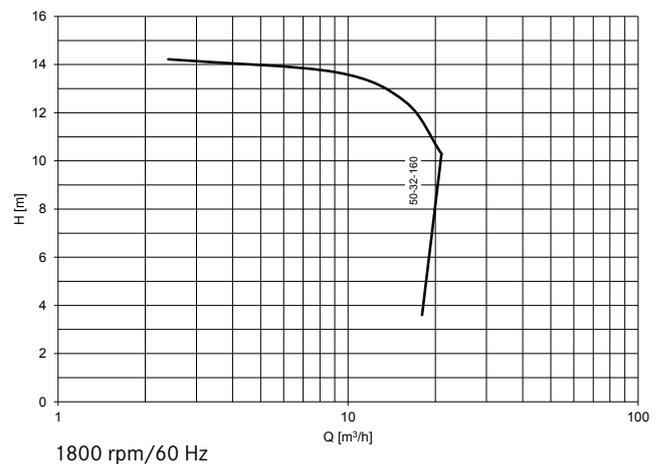
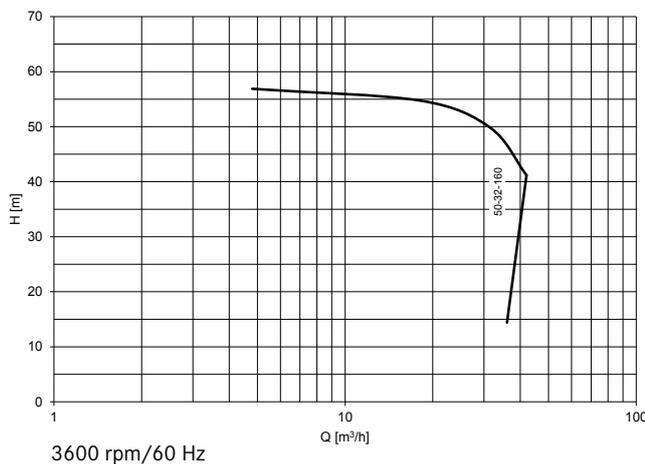
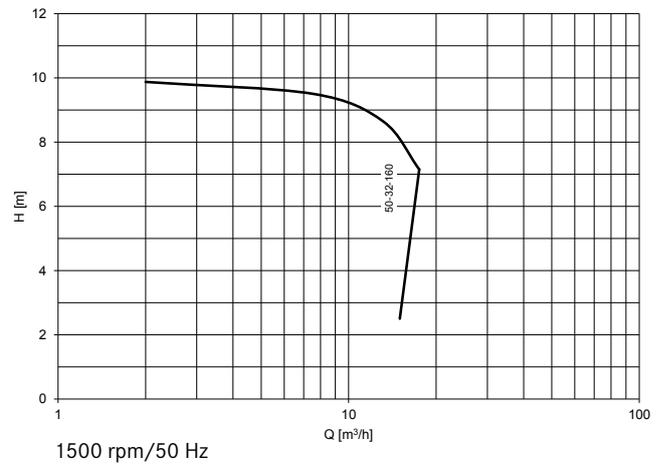
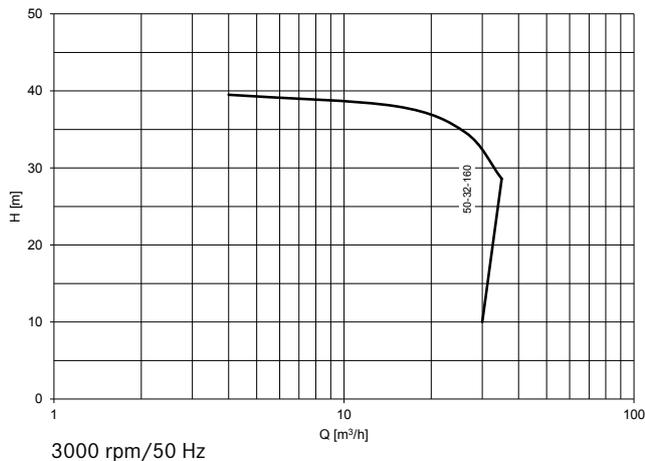
EC Directive 2014/34/EC (ATEX)

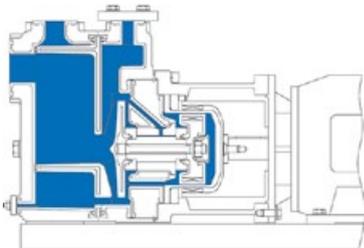
Standards

DIN EN ISO 2858

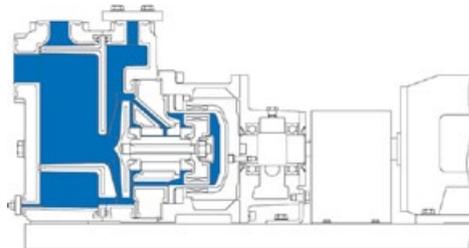
DIN EN ISO 5199

DIN EN ISO 15783





Close-coupled MKPL-S
with baseplate
-20°C to +150°C



Frame-mounted MKPL-S
with baseplate
-20°C to +150°C



MKPL-S with baseplate and motor
horizontal close-coupled (-20°C to +150°C)

Applications

Versatile – Complex – Special

CP's PFA lined magnetic drive pumps are engineered to meet the most stringent quality standards and ensure reliability and utmost safety in production operations. Suitable for many different fluids in a variety of industries and processes, they are capable of handling low, medium and high flow volumes. PFA lined magnetic drive pumps from CP offer tremendous advantages, especially in pumping sensitive or hazardous substances.

Industries

- Chemical processing: basic and fine chemicals (agrochemicals, speciality chemicals)
- Pharmaceuticals
- Biotechnology processing

Processes

CP's PFA lined magnetic drive pumps are designed for a wide range of processes, including:

- Chlor-alkali electrolysis
- Sulphuric acid recycling
- Tank unloading

Fluids

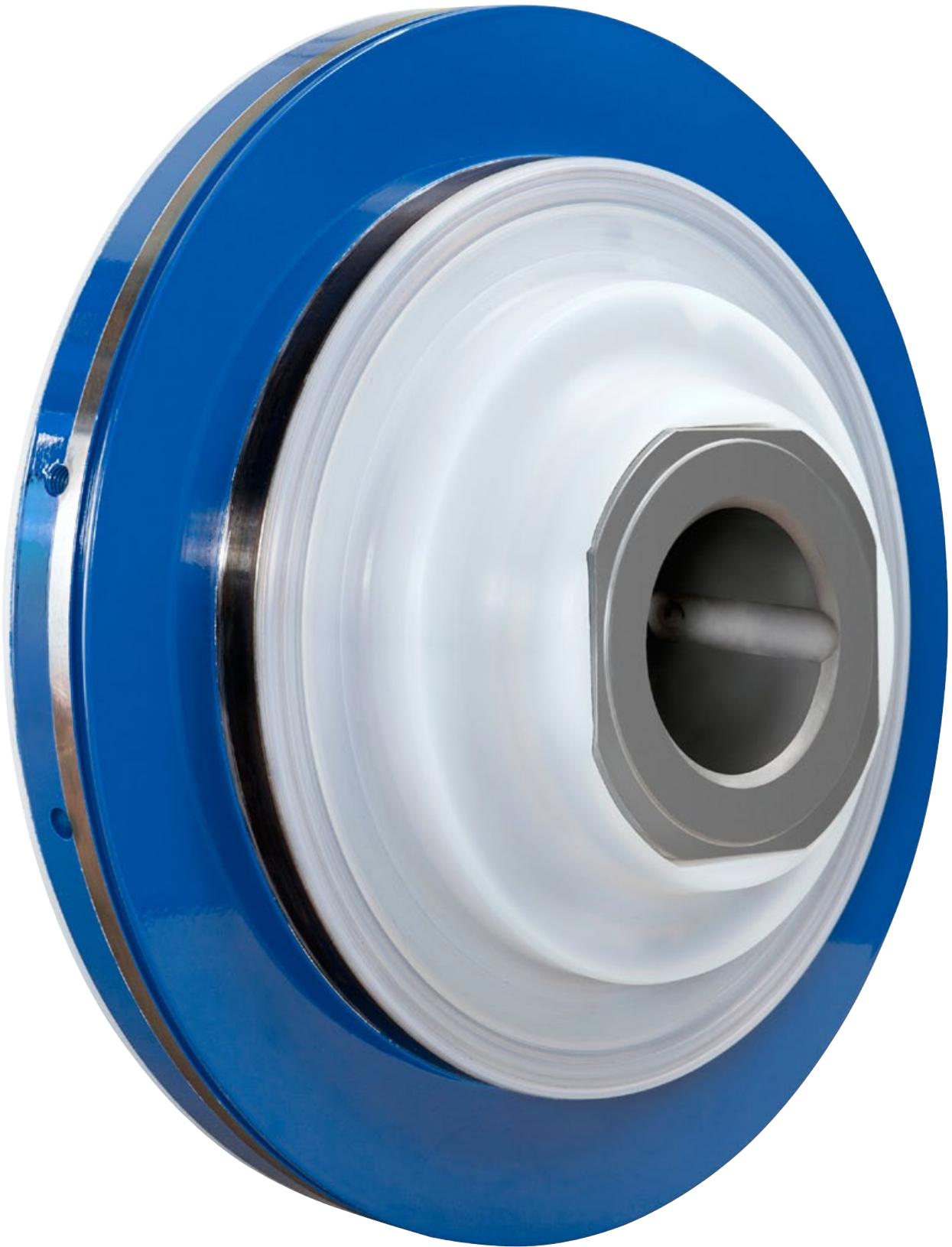
CP's PFA lined magnetic drive pumps can handle hot and/or highly concentrated acids, alkalis (bases), solvents and diffusing fluids.

For example:

- Bromine
- Chlorine
- Nitric acid
- Phosgene
- Potassium hydroxide solution
- Sodium hydroxide solution
- Sulphuric acid

Our sales staff will be glad to give you personalised advice tailored to your specific needs, industry, processes and fluids.





PFA lined metal plain bearing carrier

Options

Comprehensive – Individual – Combinable

Casing

Materials

- PFA lined cast iron

Pressure rating

- PN 16

Connection flanges

- Flange to EN 1092-2
- Flange drilled to ANSI/ASME B16.5

Additional connections

- Casing drain (with or without flange)
- External flush connection for bearing lubrication and/or cooling the magnet assembly
- Lantern monitoring connection

Gasket materials

- PTFE
- PTFE/graphite

O-ring materials

- FEP/FKM
- Kalrez®/Chemraz®



Bearing assembly

Materials

- SSiC (sintered silicon carbide)
- SSiC with diamond-like coating (ADLC)
- SSiC with FuturaSafe® diamond coating



Containment shell

Materials

- Carbon fibre reinforced PTFE
- Heat-resistant carbon fibre reinforced PTFE
- Carbon fibre reinforced PVDF

Double-walled containment shell with leakage monitoring



Pump protection

Containment shell monitoring

Double-walled containment shell with leakage monitoring

Pt100 temperature probe

Motor load sensor



Mount

Type

- Baseplate

Materials

- Steel

- Stainless steel

Stilts

Drip pan



Bearing frame

Lubrication

- Oil lubrication

- Grease lubrication

Oil lubrication options

- Hermetic seal (MagTecta OM™)

- Constant level oiler

- Oil cooling with or without thermostat

Coupling

Coupling guard

- Steel

- Brass



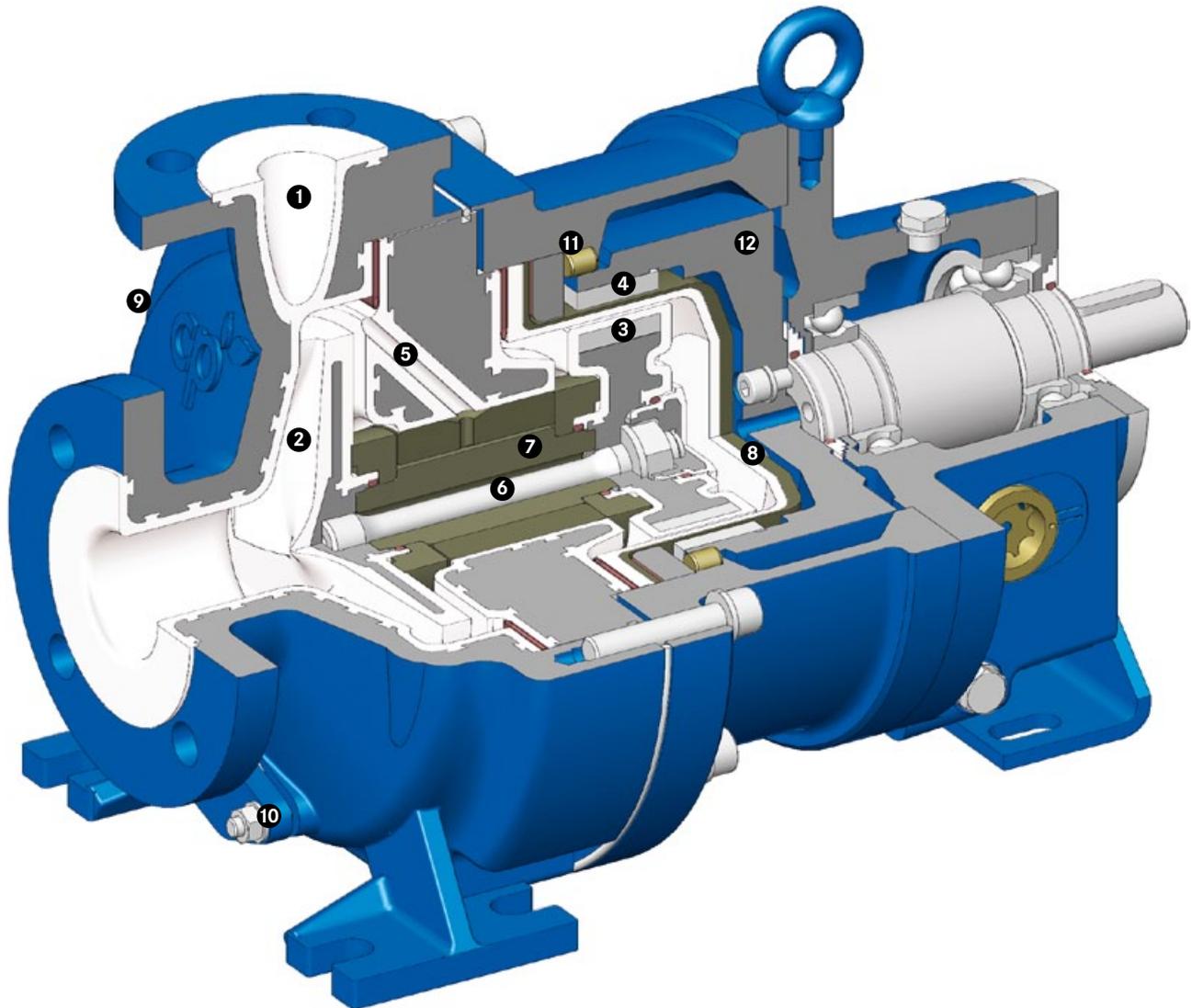
The options vary depending on the pump model. Our sales staff will be glad to advise you in detail.



Sectional View

MKPL

Bearing frame (-20°C to +200°C), horizontal



- | | |
|--|---|
| 1 Pump casing with PFA lining | 7 Plain bearing assembly |
| 2 Impeller | 8 One-piece, vacuum-resistant, non-metallic containment shell |
| 3 Inner magnet assembly (on product side) | 9 Pt100 temperature probe on casing |
| 4 Outer magnet assembly (on atmospheric side) | 10 Casing drain |
| 5 Internal bearing lubrication or external flush connection | 11 Bump ring |
| 6 Single bolt with waisted shank to fasten the rotating unit | 12 Flywheel |



CP Pump Systems

Our Product Portfolio

Customer service

We offer the highest quality, many years of experience and first-class advice from a single source. Our bespoke pump systems meet a wide range of different requirements.

CP's customers benefit from a full service offering: the fastest availability of genuine spare parts, a complete set of technical documentation, competent and efficient customer support, and a dynamic and flexible repair service. All these services ensure that your pumps will operate faultlessly. Having representatives in more than 40 countries, we can provide local advice and support directly to our customers where required.

Energy efficiency consulting

As a trend scout specialised in energy efficiency, CP can deliver a wide spectrum of services relating to pumps and motors: comprehensive advice, in-depth system analysis, meticulous planning and design. Our goal is to actively help our customers optimise the energy consumption of their pumping systems and thereby cut costs over the long term.

Backed by our many years of broad experience, we today advise and assist customers in both the private and public sectors. These include owners and operators of fluid processing plants in the chemical, pharmaceutical and diverse other industries.

Are you interested? Do you have any questions? We would be happy to discuss all the different options with you personally.

Stainless steel magnetic drive centrifugal pumps

MKP

Magnetic drive chemical process pump

MKP-S

Self-priming magnetic drive chemical process pump

MKTP

Magnetic drive chemical process sump pump

MKP-ANSI

Magnetic drive chemical process pump

MKPP

Magnetic drive in-line chemical process peripheral pump

SZMK

Magnetic drive in-line chemical process pump

Stainless steel magnetic drive biotech process pump

MKP-Bio

Magnetic drive centrifugal pump for sterile processes

PFA lined magnetic drive centrifugal pumps

MKPL

Magnetic drive chemical process pump

MKPL-S

Self-priming magnetic drive chemical process pump

Solid PTFE magnetic drive centrifugal pumps

MSKP

Magnetic drive chemical process pump

MSKPP

Magnetic drive chemical process peripheral pump

MSKS

Self-priming magnetic drive chemical process side channel pump

Stainless steel mechanical seal centrifugal pumps

IL-BTO

In-line mechanical seal chemical process pump

KTP

Multi-stage mechanical seal chemical process sump pump

ZMP

Mechanical seal chemical process grinder pump

PFA lined double mechanical seal centrifugal pump

EB

Double mechanical seal chemical process pump

Ceramic lined double mechanical seal centrifugal pump

ET

Double mechanical seal chemical process pump



Improving energy efficiency in pumping systems helps to create a cleaner planet.

Your CP distributor



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