Stainless Steel Magnetic Drive Centrifugal Pumps
Versatile – Space-Saving – Safe

MKPP
Magnetic drive in-line chemical process peripheral pump

SZMK
Magnetic drive in-line 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 the MKPP magnetic drive in-line chemical process peripheral pump
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.

Stainless steel magnetic drive centrifugal pumps
The sealless MKPP and SZMK 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 fluids reliably and absolutely safely.

With their special design, the MKPP and SZMK require no plain bearing carrier. Optimum lubrication and cooling of the single, centrally located impeller bearing assembly with the process fluid gives the pumps excellent running characteristics.

The pump impeller rotates stably about a stationary axis on the gyroscopic principle, maintaining a perfect hydraulic balance. This minimises bearing loads, increasing the reliability of pump operation.

Wetted parts of the pump casing are machined from rolled bar stock, ensuring that the material is non-porous and impermeable. By using rolled bar stock, we can also offer a very wide choice of materials of construction to tailor the pumps exactly to the particular pumping application, and especially to the corrosive medium to be handled.

Added to their compact design, the MKPP and SZMK pumps are constructed with just a few, robust parts. The small number of components facilitates assembly and minimises the costs of spare parts, maintenance and servicing. With their vertical in-line design, the MZPP and SZMK take up less space than conventionally mounted pumps and can be fitted into any installation easily and inexpensively.

Stainless steel magnetic drive centrifugal pumps

Stainless Steel Magnetic Drive Centrifugal Pumps

CP Pump Systems

Energy efficiency in industry

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MKPP
Stainless Steel Magnetic Drive In-Line Chemical Process Peripheral Pump

The MKPP features a peripheral impeller. This type of impeller allows the pump to generate high head at low flow rates, making it perfect for dosing and injection applications.

Technical data

<table>
<thead>
<tr>
<th>Capacities (min./max.)</th>
<th>0.25 to 4 m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heats (min./max.)</td>
<td>1 to 40 m</td>
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<tr>
<td>Temperatures (min./max.)</td>
<td>–100°C to +200°C</td>
</tr>
<tr>
<td>Kinematic viscosities</td>
<td>0.5 to 350 mm²/s</td>
</tr>
<tr>
<td>Solids concentration</td>
<td>0%</td>
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</tbody>
</table>

Directives

- EC Directive 2006/42/EC (Machinery)
- EC Directive 2014/34/EC (ATEX)

Standards

- DIN EN ISO 5199
- DIN EN ISO 15783
Vertical in-line close-coupled MKPP with stand
-100°C to +200°C
The SZMK features a non-clog, wear-resistant open impeller for reliable handling of fluids containing solids. Depending on the process medium, it can pump suspended solids in concentrations up to 30% with a particle size up to 1 mm.

### Technical data

- **Capacities (min./max.)** 0.5 to 40 m³/h
- **Heads (min./max.)** 1.4 to 22 m
- **Temperatures (min./max.)** –100°C to +200°C
- **Kinematic viscosities** 0.5 to 350 mm²/s
- **Solids concentration** up to 30% 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
Vertical in-line close-coupled SZMK with stand
-100°C to +200°C

SZMK with stand and motor
vertical in-line close-coupled (-100°C to +200°C)
Applications
Versatile – Complex – Special

CP’s stainless steel 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. They offer tremendous advantages, especially in pumping very sensitive or hazardous substances.

Industries
- Chemical processing: basic and fine chemicals (agrochemicals, specialty chemicals)
- Pharmaceuticals
- Biotechnology processing
- Food and beverages
- Pulp and paper

Processes
CP’s stainless steel magnetic drive pumps are designed for a wide range of processes, including:
- Dosing
- Laboratory applications
- Refrigeration and heating cycles

Fluids
CP’s stainless steel magnetic drive pumps can handle acids, bases, solvents, suspensions, heat transfer liquids and other fluids. For example:
- Acetone
- Brine
- Diphenylmethane diisocyanate
- Ethylene dichloride
- Ethylene glycol
- Hydrogen peroxide
- Sodium bisulphite
- Sulphuric acid

Our sales staff will be glad to give you personalised advice tailored to your specific needs, industry, processes and fluids.
Casing of the SZMK magnetic drive in-line chemical process pump
Options
Comprehensive – Individual – Combinable

Casing

Materials
- Stainless steel
- Uranus® B6
- Nickel-base alloys, e.g. Hastelloy® B und C
- Other materials (rolled bar stock) to meet customer needs

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
- Lantern monitoring connection

MKPP gasket materials
- FEP/FKM
- Kalrez®

SZMK gasket materials
- PTFE
- Graphite/stainless steel 1.4401
- Graphite/nickel-base alloy 2.4819 (Hastelloy® C-276)
- Sigma 511®

Plug seal materials
- PTFE
- Silver-plated nickel

Bearing assembly

Materials
- SSIC (sintered silicon carbide)
- SSIC with graphite
- SSIC with diamond-like coating (ADLC)
- Nickel-bound tungsten carbide
- Nickel-bound tungsten carbide with diamond-like coating (ADLC)
The options vary depending on the pump model.
Our sales staff will be glad to advise you in detail.

### Containment shell

**Materials**
- Stainless steel
- Hastelloy® C

**Containment shell vortex breaker**

**Containment shell insulation**

**Double-walled containment shell with leakage monitoring**

### Pump protection

**Containment shell thermocouple**

**Double-walled containment shell with leakage monitoring**

**Motor load sensor**

### Mount

**Type**
- Stand

**Materials**
- Steel
- Stainless steel

**Stilts**

**Drip pan**
Sectional Views

**MKPP**
vertical in-line close-coupled (-100°C to +200°C)

![MKPP Diagram](image1)

**SZMK**
vertical in-line close-coupled (-100°C to +200°C)

![SZMK Diagram](image2)

1. Pump casing
2. Impeller
3. Inner magnet assembly (on product side)
4. Outer magnet assembly (on atmospheric side)
5. Internal bearing lubrication or external flush connection
6. Single impeller locking sleeve
7. Plain bearing assembly
8. Hermetically sealed containment shell
9. Containment shell thermocouple
**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.
Improving energy efficiency in pumping systems helps to create a cleaner planet.