



Specialist for Pumping Technology



CPA-M

**ANSI/ASME B73.3 Horizontal Magnetic Drive
Process Pump**

+75 years developing the pumping technology that drives progress

Ruhrpumpen is an innovative and efficient pump technology company that offers highly engineered, custom made solutions for oil & gas, chemical processing, power generation, industrial applications and water.

Implementation of cutting-edge technology and world-class engineering, combined with our unique vertically integrated structure, allows Ruhrpumpen to design complex technical solutions, creating the most robust and powerful pump systems in the marketplace.

Our broad product line complies with the most demanding quality standards and industry specifications such as **American Petroleum Institute (API)**, **American National Standards Institute (ANSI)**, **Underwriter's Laboratories (UL)**, **Factory Mutual (FM)**, **National Fire Protection Association (NFPA)**, **ISO** and **Hydraulic Institute**.

Products include:

- Single stage overhung pumps
- Vertical in-line pumps
- Single and multi-stage between bearing pumps
- Multi-stage vertical pumps
- Reciprocating plunger pumps
- Sealless magnetic drive pumps
- Fire protection systems
- Pitot tube pumps
- Hydraulic decoking systems
- Horizontal pumping systems



Ruhrpumpen is your single source supplier

- Original Equipment
- Spare parts
- Installation and startup support
- Repair and maintenance
- Engineering, training and consulting
- Reverse engineering

Benefits of our pumps

- Proven reliability
- High efficiency designs ensure lowest operating cost
- Robust design allows for long system life with minimal maintenance
- Optimized total cost of ownership

CPA-M pump

The CPA-M is a single-stage, horizontal magnetic drive centrifugal pump designed for industries requiring high reliability and zero leakage operation. Built in full compliance with ANSI/ASME B73.3 standards, this pump is ideal for handling hazardous, toxic, and aggressive fluids safely. Its sealless design eliminates the need for mechanical seals, reducing maintenance costs and ensuring environmental safety.

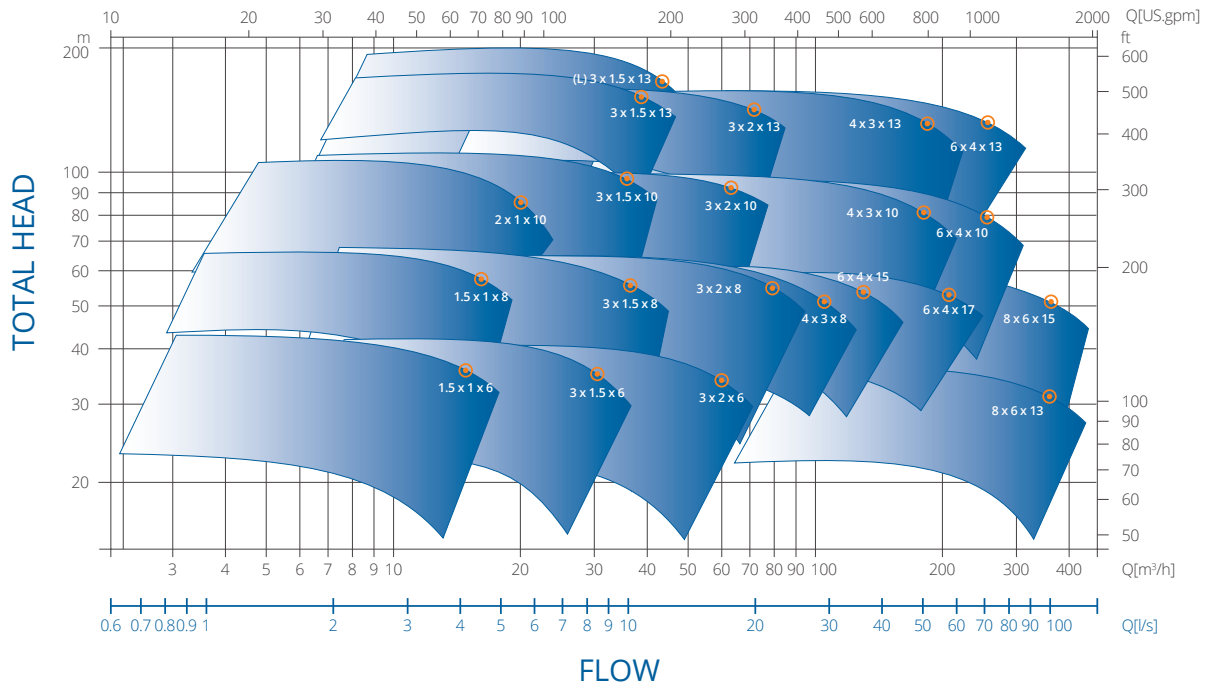
With a compact footprint, high efficiency, and a back pull-out design, the CPA-M provides easy maintenance while optimizing operational performance. It is widely used in industries such as chemical processing, petrochemicals, refrigeration, and power plants, making it a robust and dependable solution for demanding applications.



Performance range

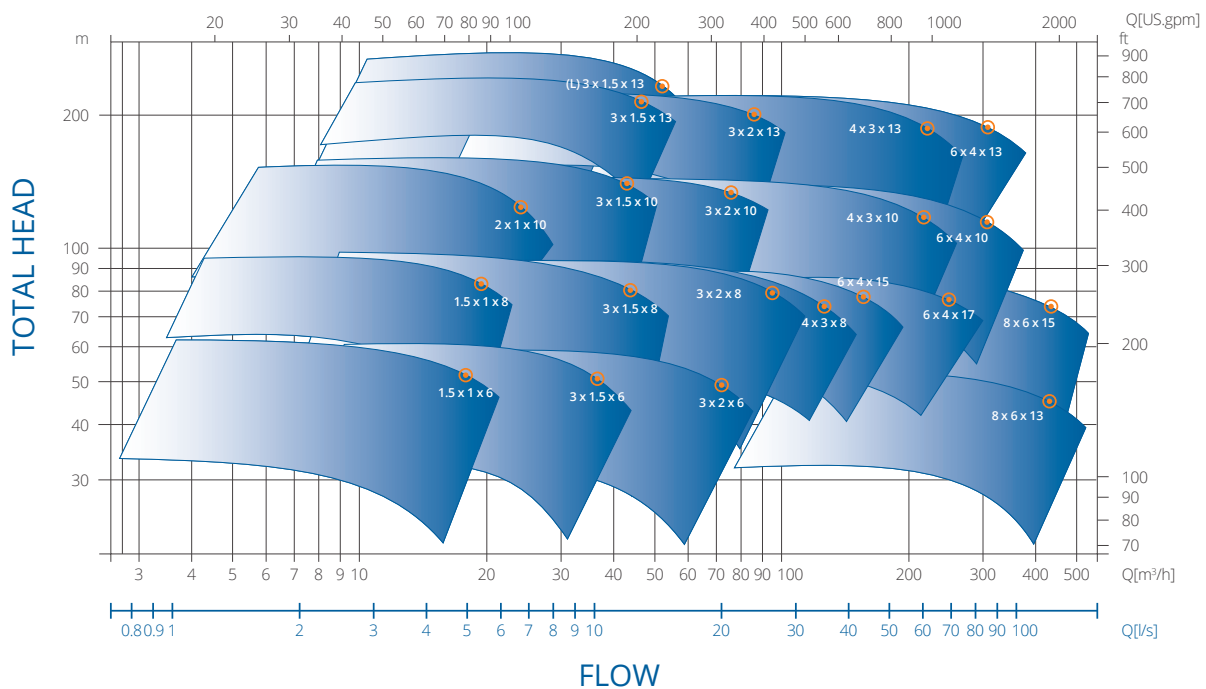
Selection Chart CPA-M

— 50 Hz



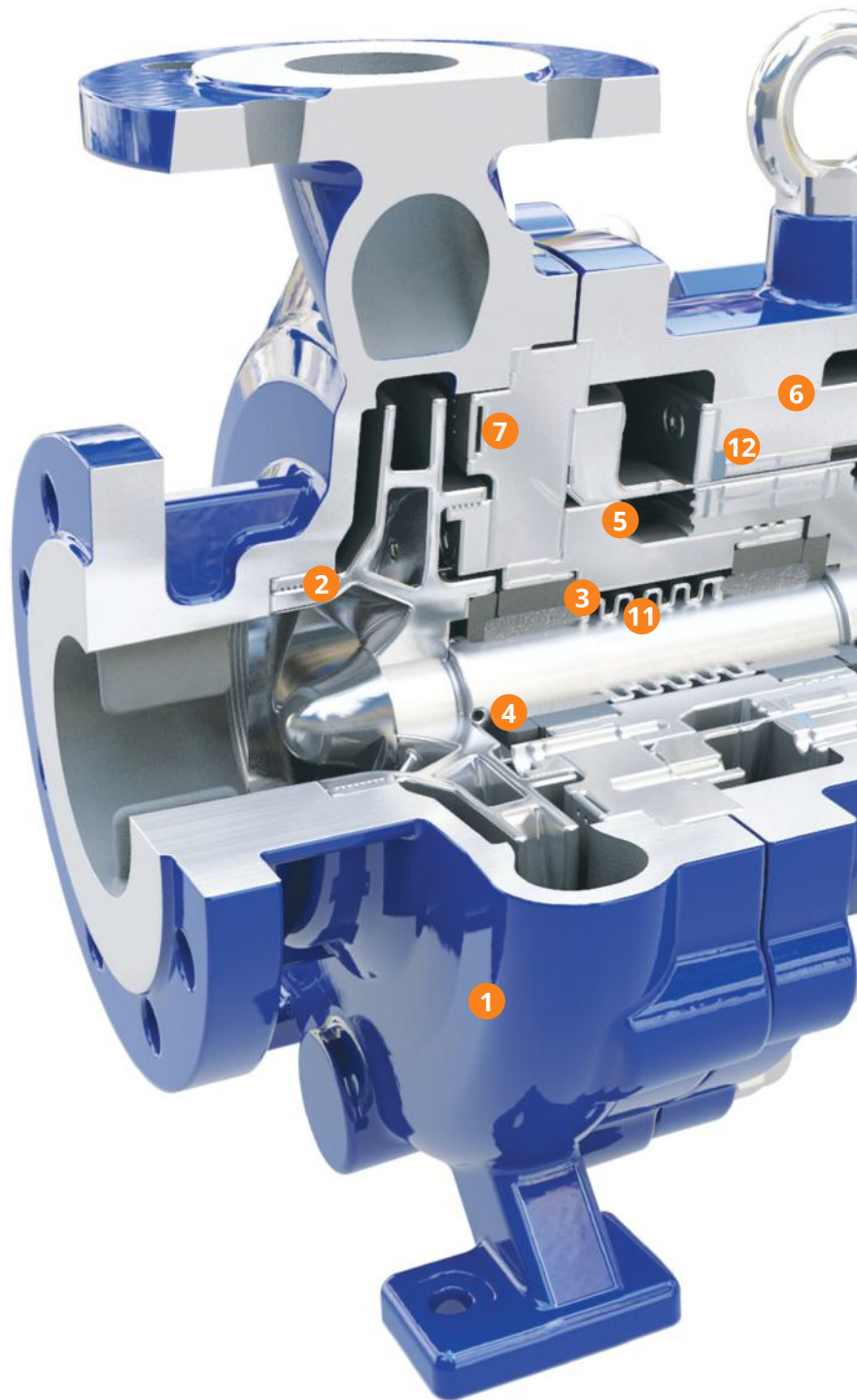
Selection Chart CPA-M

— 60 Hz



Characteristics

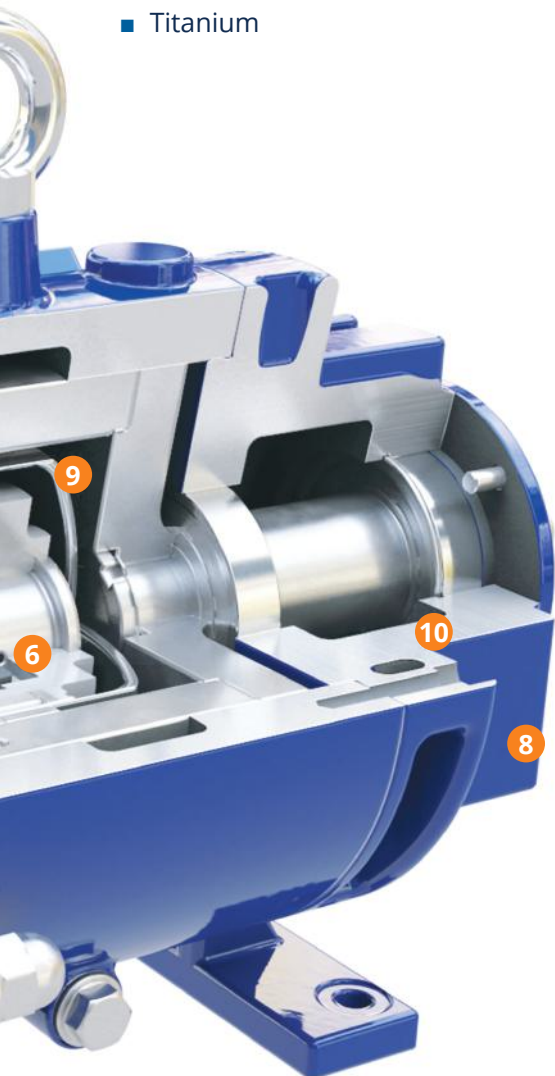
- 1 Volute Casing**
Designed for 19 bar at 38°C, foot-mounted, with 25 bar option.
- 2 Renewable Wear Rings**
Replaceable profiled wear rings for increased efficiency.
- 3 Journal Bearings**
Spherical design, axial and radial bearings made of sintered silicon carbide (SSiC).
- 4 Axial Thrust Bearings**
Optimized hydraulic measures control axial thrust across the operating range, without the need for auxiliary impeller.
- 5 Internal Flushing System**
Balanced and highly efficient flow path, with separation of cooling and lubrication circuit, for optimized performance.
- 6 Outer Magnet Rotor**
Rub ring for containment shell protection.
- 7 Internal Filter System**
Optional self-cleaning filtration, ensuring reliability with increased solids handling capability.
- 8 Bearing Bracket**
Increased stiffness including cast foot, minimizing vibration for safe, reliable operation.
- 9 Containment Shell**
Robust containment and self-venting design, providing a 100% leakage-free static seal.
- 10 Constant Level Oiler**
Enhances lubrication and extends bearing life.
- 11 Thermal Bellows**
Patented bearing stability, optimizing performance at high temperatures.
- 12 Pure Magnet Quality**
High temperature, permanent magnets, for long life.



Images for general arrangement use only, not certified for construction.

MATERIALS OF CONSTRUCTION

- Stainless Steel
- Duplex / Super Duplex
- Hastelloy
- Alloy 20
- Titanium



CPA-M PERFORMANCE DATA

Capacity	up to 2,200 gpm	up to 500 m ³ /h
Head	up to 900 ft	up to 270 m
Pressure	275 psi at 100°F	19 bar at 38°C
Temperature	-184°F to 840°F	-120°C to 450°C

Notes:

For pump operations outside this range, please contact a Ruhrpumpen Representative.

KEY FEATURES

- Fully compliant with ANSI/ASME B73.3.
- Single-stage centrifugal pump.
- Radially split casing with flanged connections.
- Horizontal end suction and vertical discharge on the centerline.
- Foot-mounted design.
- Oil lubrication, with grease option.
- Enclosed impeller for increased efficiency.

BENEFITS

- **100% Leakage-Free:** Magnetic drive ensures zero emissions and enhanced safety.
- **High Efficiency:** Optimized hydraulic and mag-drive design for superior performance.
- **Compact Design:** Space-saving footprint for flexible installation.
- **Back Pull-Out Design:** Simplified maintenance without disturbing flange connections.
- **Reliable Operation:** Advanced bearing and lubrication systems for prolonged service life and greatly reduced maintenance/downtime.

APPLICATIONS

The CPA-M pump is designed for various industries, including:

- Chemical and Petrochemical.
- Tank Farms.
- Liquid Gas Industry.
- Refrigeration and Heat Technology.
- Power Plant Technology.
- Hydrogen Production.
- Mining and Mineral Extraction.

OPTIONAL FEATURES

- Inducer for improved suction capabilities.
- External flushing lubrication.
- Casing and intermediate housing heating/cooling for extreme conditions.
- Chemically inert Ceramic containment shell for elimination of eddy-current losses and increased efficiency.
- Secondary control and containment for leakage security.
- Instrumentation for pump protection.
- Internal, mainstream and tangential filtration options, for increased solids handling capability.
- High pressure designs available upon request.

CPA-M

ANSI/ASME B73.3 Horizontal Magnetic Drive Process Pump

Taking Magnetic Drive Performance Further

As a complement to the CPA-M line, Ruhrpumpen offers a broader range of magnetic drive pumps designed to handle the most demanding fluids in industrial and hazardous environments. With zero emissions, no mechanical seals, and unmatched reliability, these sealless pumps provide a safe, efficient, and low-maintenance solution for critical applications where leakage is not an option.

SCE-M

Heavy-duty Process Pump with Magnetic Drive acc. to API 685 (OH2)



CHARACTERISTICS AND DESIGN FEATURES

- Sealless, no mechanical seal.
- Horizontal, single stage, centerline mounted, back pull-out design.
- Best in class efficiency and power.
- Patented spherical journal bearing design.
- Balanced flow path for improved bearing lubrication and cooling.
- Secondary control/containment options.

OPERATING LIMITS

Capacity	up to 2200 m³/h	up to 9690 gpm	Pressure	up to 40 bar	up to 580 psi
Head	up to 330 m	up to 1080 ft	Temperature	-120 to 450 °C	-184 to 840 °F

CRP-M

Permanent Magnetic Drive Centrifugal Pump acc. ISO 2858 /15783 (OH1)



CHARACTERISTICS AND DESIGN FEATURES

- Sealless, no mechanical seal.
- Horizontal, single stage, radially split design.
- High efficiency hydraulic and internal flow path.
- Thermally stable, with patented locking sleeve and spherical journal bearing design.
- Corrosion resistant materials and ceramic containment shell option.

OPERATING LIMITS

Capacity	up to 500 m³/h	up to 2200 gpm	Pressure	up to 16 bar	up to 230 psi
Head	up to 215 m	up to 700 ft	Temperature	-120 to 450 °C	-184 to 840 °F

CLP-M

ISO 2858 / 15783 Lined Magnetic Drive Centrifugal Pump (OH1)



CHARACTERISTICS AND DESIGN FEATURES

- Sealless, no mechanical seal.
- Horizontal, single stage, radially split design.
- PTFE/PFA lined.
- Positively keyed isostatically pressed lining.
- Metal core rigid impeller.
- High operating temperatures.

OPERATING LIMITS

Capacity	up to 300 m³/h	up to 1320 gpm	Pressure	up to 16 bar	up to 230 psi
Head	up to 90 m	up to 295 ft	Temperature	-60 to 180 °C	-76 to 356 °F



Our seal-free magnetic drive pumps are engineered for applications where traditional sealing systems represent a risk to safety, reliability, or cost-efficiency. They are ideal for:

- Acids, bases and alkalis.
- Caustics and solvents.
- Toxic alcohols and glycols.
- Hydrocarbons and sour liquids.
- Halides.
- Nitrogen and sulphur compounds.
- Heat transfer liquids.

Simplified Maintenance

With a modular and user-friendly design, our seal-free magnetic drive pumps can be disassembled quickly and easily, no special tools required. This results in reduced downtime and simple on-site maintenance.

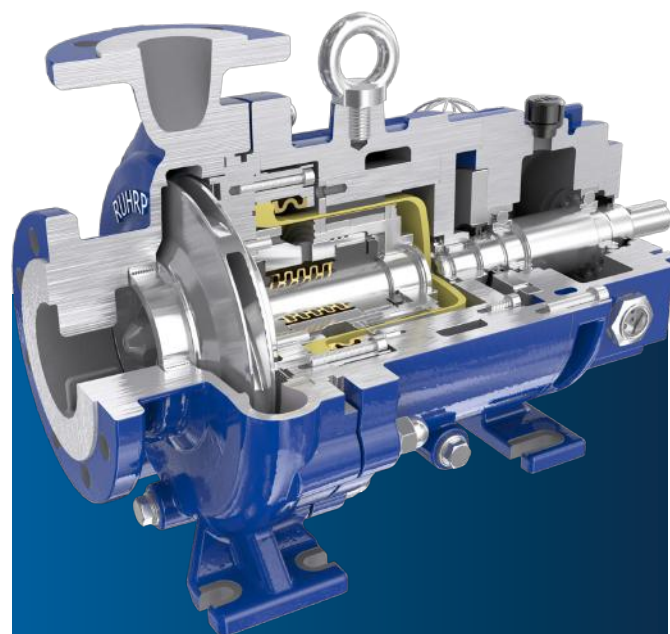
- Intuitive construction for ease of operation.
- Minimal technical expertise required.
- No complex sealing systems.
- Standardized spare parts = reduced inventory.
- Fully serviceable on site using common tools.
- Cartridge replacement in rapid time.
- No vibration monitoring required.

Long-Term Cost Efficiency

From installation to decades of reliable service, these pumps deliver significant savings in maintenance, compliance, and operational overhead, making them a smart investment across the lifecycle of your system.

Sealless Technology = Peace of Mind

Built on decades of engineering excellence, our seal-free magnetic drive pump technology ensures optimal performance with minimal risk. For industries where safety, uptime, and reliability are critical, this is the solution that delivers.



Key Benefits

- Enhanced personnel safety and environmental protection.
- No seals = no leaks.
- No product loss or production downtime.
- Virtually maintenance-free operation.
- Extended MTBF and MTBM.
- Reduced installation and maintenance costs.
- Maximum reliability, zero hassle.

+75 years creating the pumping technology that moves our world

Ruhrpumpen is an innovative and efficient pump technology company that offers highly-engineered and standard pumping solutions for the oil & gas, power generation, industrial, water and chemical markets. We offer a broad range of centrifugal and reciprocating pumps that meet and exceed the requirements of the most demanding quality specifications and industry standards such as API, ANSI, UL, FM, ISO and Hydraulic Institute.

