



Specialist for Pumping Technology



CPO

**Single stage, end suction, ANSI process pump
(semi open impeller)**

For more than 70 years the name Ruhrpumpen™ has been synonymous worldwide with innovation and reliability for pumping technology

Ruhrpumpen is an innovative and efficient centrifugal pump technology company that offers a wide range of quality products to our clients. Ruhrpumpen is committed to global excellence with a complete range of Pumps, Fire Pump Packages and related products, such as Decoking Systems and Tools to support the core markets, namely Oil & Gas, Petrochemical, Power, Heavy Industry Applications, Mining and Water Services.

The broad product line complies with the most demanding quality specifications and goes beyond stringent industry standards such as API, ANSI, Hydraulic Institute, Underwriter's Laboratories, Factory Mutual and ISO 9001.

Ruhrpumpen is a vertically integrated company with its own foundry, machine shop, pump manufacturing plants and service centers. With strategically located manufacturing plants, operating offices and service centers in many parts of the world, Ruhrpumpen is truly a global pump company which also has the strength to focus on the local necessities of each client.



CPO ANSI Chemical Process Pumps

The CPO line is designed to meet or exceed ASME/ANSI B 73.1 specifications. All CPO pumps are designed to provide superior hydraulic performance superior reliability and low total cost of ownership.

This rugged process pump is designed to operate dependably and even in the toughest industrial applications. The CPO line features 31 hydraulics and an semi open impeller design that covers a wide range of service conditions

(including low-flow region) while providing industry-leading low NPSHR performance and high efficiencies.

CPO is designed around a modular concept which allows provision of multiple hydraulics with a small number of power frames. In addition these power frames are interchangeable with models of other common pump manufacturers.

CPO-L Low flow, high head model

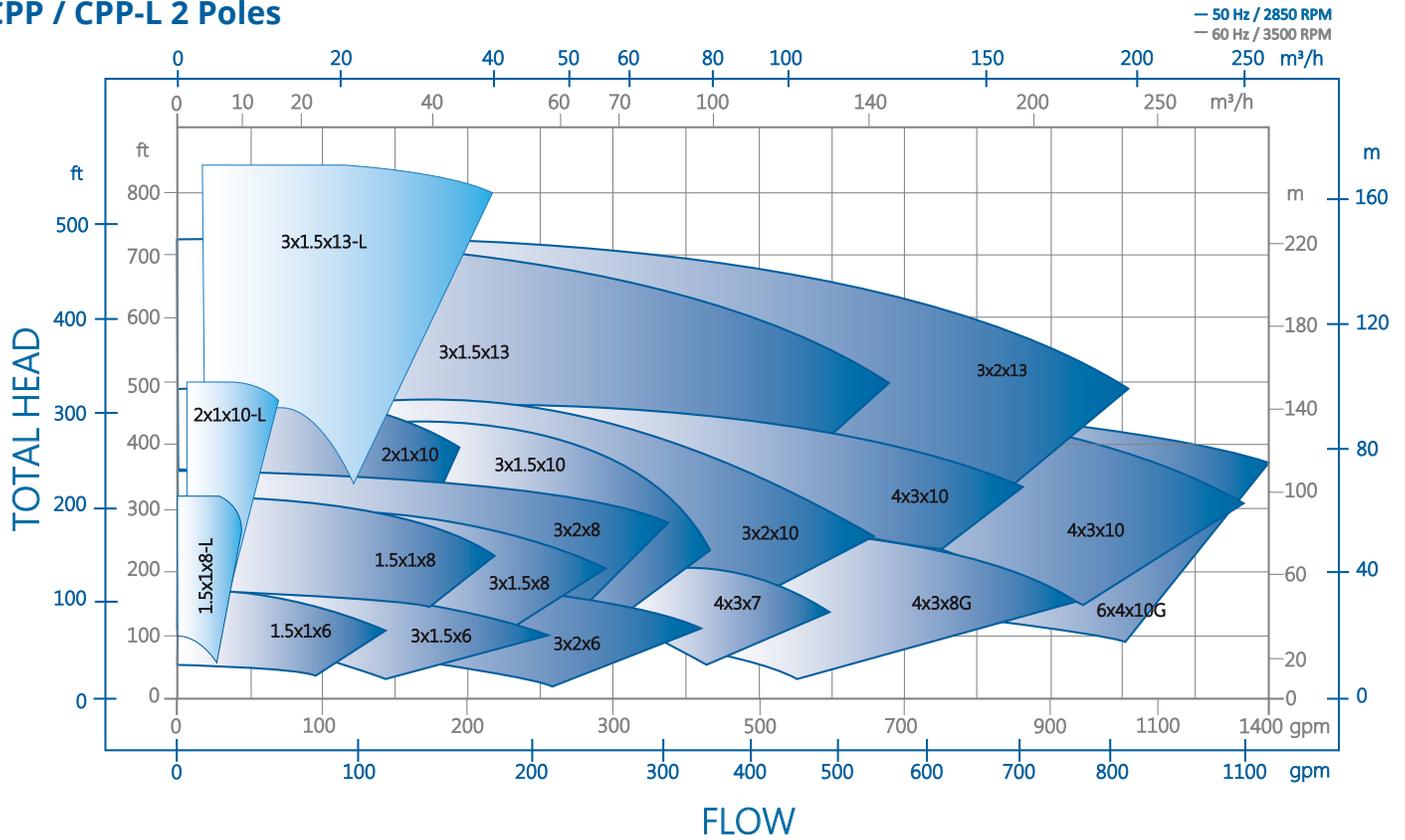
Ruhrpumpen offers its CPO-L Low Flow, High Head pump model. It's radial vane impellers are specially designed to reduce the thrust load and seal chamber pressure normally associated with low flow application and it also complies with the ASME/ANSI B 73.1 Standard.

The CPO-L is the low flow option of the CPO product line, designed to fill the gap on the low flow side of the CPO range map. With low flow applications, it is important to reduce the radial load and potential shaft deflection issues. Ruhrpumpen's radial vane impeller and concentric pump casing for the CPO-L are specifically designed to reduce these issues at low flow or throttled operating conditions. The radial vane impeller with balance holes also reduces seal chamber pressures. This will lead to increased seal and bearing life and increased reliability.

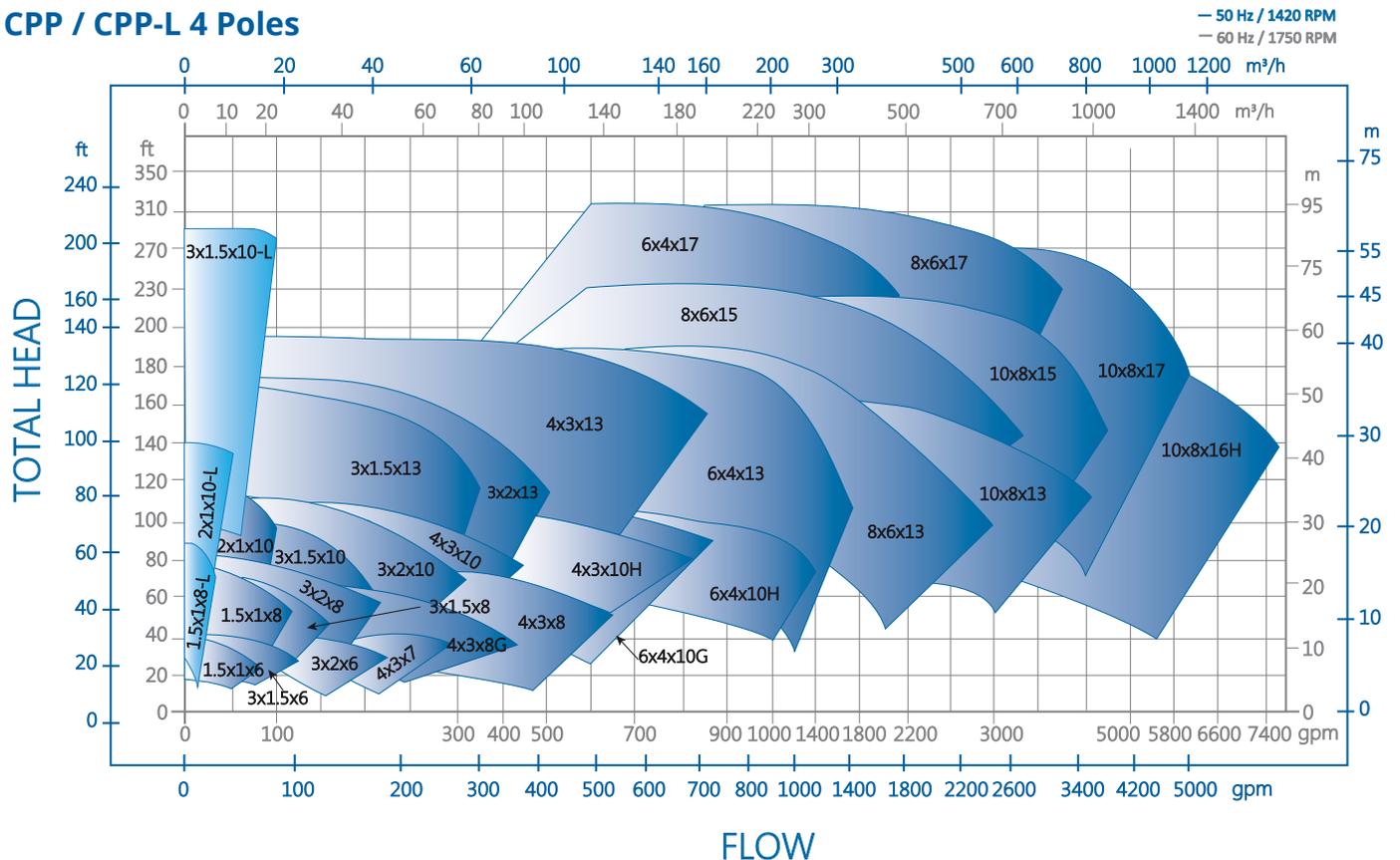


Pump Performance Chart

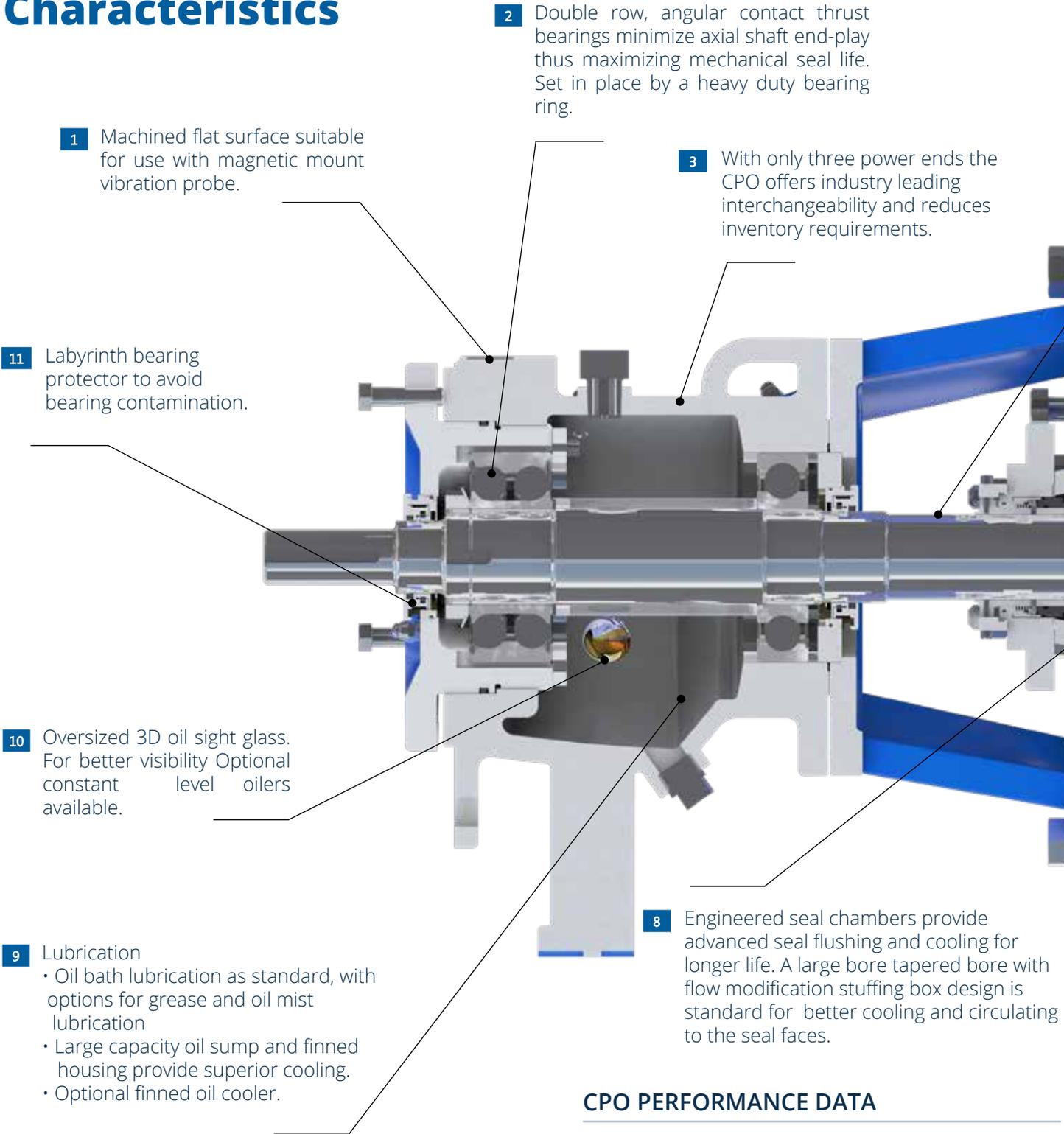
CPP / CPP-L 2 Poles



CPP / CPP-L 4 Poles



Characteristics



1 Machined flat surface suitable for use with magnetic mount vibration probe.

2 Double row, angular contact thrust bearings minimize axial shaft end-play thus maximizing mechanical seal life. Set in place by a heavy duty bearing ring.

3 With only three power ends the CPO offers industry leading interchangeability and reduces inventory requirements.

11 Labyrinth bearing protector to avoid bearing contamination.

10 Oversized 3D oil sight glass. For better visibility Optional constant level oilers available.

9 Lubrication

- Oil bath lubrication as standard, with options for grease and oil mist lubrication
- Large capacity oil sump and finned housing provide superior cooling.
- Optional finned oil cooler.

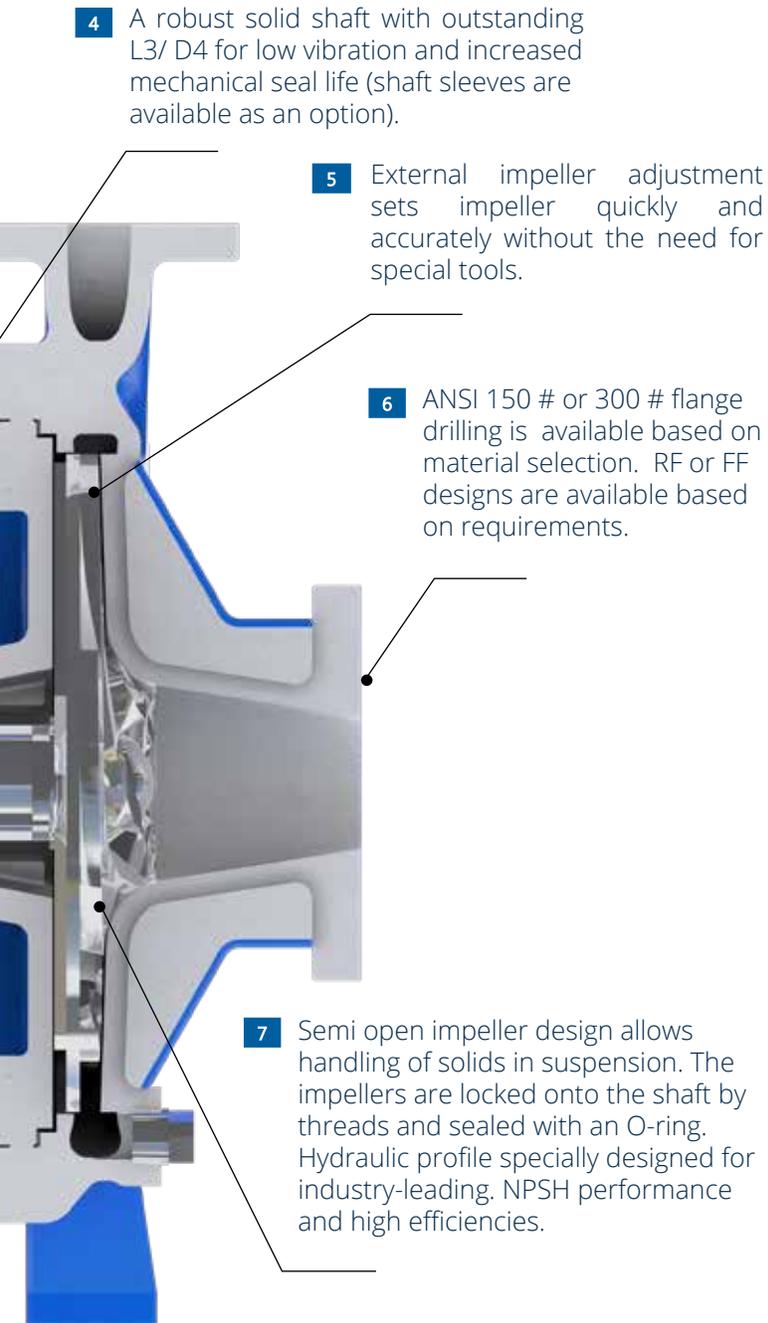
8 Engineered seal chambers provide advanced seal flushing and cooling for longer life. A large bore tapered bore with flow modification stuffing box design is standard for better cooling and circulating to the seal faces.

CPO PERFORMANCE DATA

Capacity	up to 7,000 U.S. gpm	up to 1,590 m ³ /h
Head	up to 650 ft	up to 198 m
Pressure	up to 375 psi	up to 26 bar
Temperature	-20 °F to 572 °F	-30 °C to 300 °C
Dis. Flange Size	1 to 8 in	

For Pump operation outside this range, please contact a Ruhrpumpen representative.

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



DESCRIPTION

Single stage, horizontal centrifugal pump.

- Radially split casing with flanged connections (150# -300#).
- Raised Face and Flat Face.
- Horizontal end suction and vertical discharge on the center line.
- Semi open impeller, clockwise rotation (viewed from coupling end).
- Outstanding L3/D4 deflection index.
- Foot mounted.
- Oil lubricated.
- Back pull-out design allows pump disassembly without disturbing pipe connections.
- Standard bore, large bore, or tapered stuffing boxes are available for packing, single or double seals.
- All ANSI flush plans are offered, as needed, in a variety of configurations.
- Dimensional Interchangeability with most common ASME/ ANSI B 73.1 pump manufactures.
- Industry leading low NPSHR performance and high efficiencies.
- C-Frame option is also available.
- Optional cooling jacket and cooling coil for high temperature applications.
- Power frames interchangeable with models of other manufacturers.

BROAD APPLICATION RANGE

The Ruhrpumpen CPO is designed for a wide range of industrial, chemical process and municipal applications such as but not limited to:

- | | |
|------------------|----------------------|
| ■ Petrochemical | ■ Food Processing |
| ■ Oil & Gas | ■ Power Generation |
| ■ Steel Industry | ■ Pharmaceuticals |
| ■ Automotive | ■ Water treatment |
| ■ Agriculture | ■ Pipeline |
| ■ Tank Farm | ■ General Industries |
| ■ Pulp and Paper | ■ Textile |
| ■ Chemical | ■ Mining |
| ■ Semiconductor | |

MATERIALS OF CONSTRUCTION

Ruhrpumpen CPO pump is available in many materials such as:

- | | |
|--------------------------|---------------|
| ■ Ductile Iron / CD4MCuN | ■ Alloy20 |
| ■ CF8M | ■ Hastelloy C |
| ■ CD4MCuN | ■ Hastelloy B |

RP has the necessary inventory on hand to offer more competitive delivery times in CD4MCuN, CF8M and Ductile Iron.

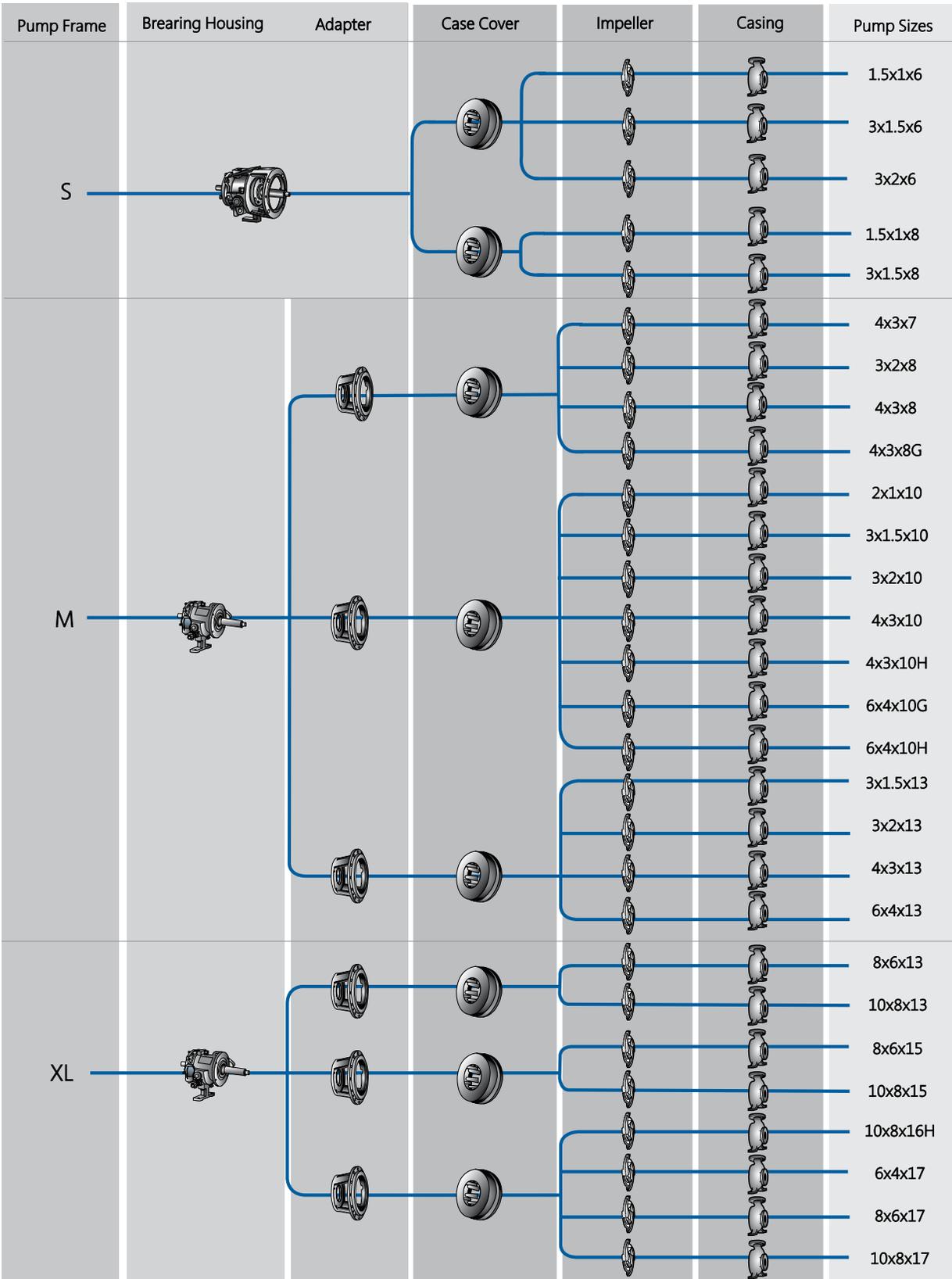
We cover a large range of material options to satisfy every need, please contact us for more information.

CPO-L PERFORMANCE DATA

Capacity	up to 210 U.S. gpm	up to 48 m ³ /h
Head	up to 920 ft	up to 281 m
Pressure	up to 400 psi	up to 27.5 bar
Temperature	700 °F	up to 371 °C
Dis. Flange Size	1 to 1.5 in	

For Pump operation outside this range, please contact a Ruhrpumpen representative.

Modular Interchangeability CPO



Large Bearings to withstand High Suction Pressure Applications

CPO-BEARINGS DESIGNATION			COMPETITOR - BEARINGS DESIGNATION	
SHAFT SIZE	RADIAL BEARING	AXIAL BEARING	RADIAL BEARING	AXIAL BEARING
S	6208	3307	6207	3306
M	6310	3310	6309	3309
XL	6314	3314	6313	3313

More than 50,000 Hours of Bearing Life.

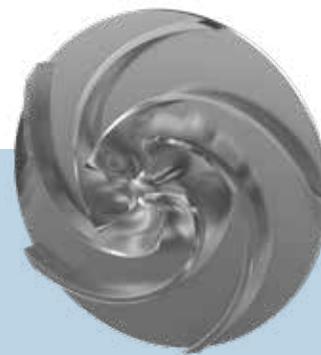
Design Features CPO

IMPELLER ADJUSTMENT FEATURE



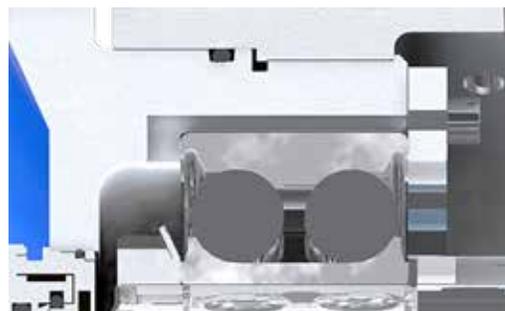
Enables impeller clearance setting in 20 seconds, restoring pump efficiency.

- Superior to Jackscrews.
- Protected with o-rings.



**CPO
Impeller**

Enhanced hydraulic design for low NPSH requirements



Double Row Angular Contact outboard and single row, deep roll inboard bearings provide excellent axial and radial load support.

CPO pump

- CPO-L utilizes external impeller adjustment to restore pump efficiency and reduce downtime.
- Complies with ASME/ANSI B73.1 Standard, this pump can be used to replace existing equipment without any problem. There will be no need for piping or base changes.
- Ruhrpumpen's CPO-L series is designed with a circular concentric casing together with a radial vane impeller to minimize shaft deflection and reduce excessive radial loads and thus prolonging bearing and seal life.
- The C-Frame adaptor allows to install the motor without alignment process.

Optional Features CPO

BASEPLATE

- Standard ANSI
- PIP
- API 610
- Polymer
- Special designs to meet customer specifications.



Heavy Duty PIP Baseplate

PIP baseplate can be offered in applications where more heavy-duty and rigid support is required.



SEALING

- Large Taper Bore with flow modifiers
- Standard Large & Small Bore
- Cooling/Heating Jacket Designed to control mechanical seal temperature.



Sealing

COOLING COIL

To maintain proper oil temperature in hot applications.



Cooling Coil

C-FRAME

C - Frame assures easier alignment and longer seal life

Other Ruhrpumpen Products

Horizontal Split Case Pumps



Single stage double suction horizontal centrifugal pump, enclosed impellers, oil or grease lubricated bearings, foot mounted. We also count with horizontal split case pumps for fire service applications, available in a wide range of sizes, specifically designed and tested. Ruhrpumpen's Fire Pumps are Listed by Underwriter's Laboratories Inc., and Approved by Factory Mutual. Dewatering, Mining, Water, Cooling Towers, Oil Process, Petrochemical, Paper Industry.

Volute Casing Centrifugal Pump



Axially split, horizontal single or two stage, double volute casing, double suction, closed impeller. Heavy duty process design according to API 610 latest edition. Pipeline Service-Mainline and Booster, Oil Extraction, Refinery, Chemical, Petrochemical, Metallurgical Industry, and Power Stations.

Self Priming Solid Handling Pump



Self Priming Pump, easy maintenance without the need of disconnecting piping, easy access to impeller and seal, availability of mounting above the liquid being pumped, designed to allow up to 3 inch diameter solids. Steel, Paper Mills, Mining, Food Processing, Power Plant, Automotive, Wineries.



Sump Pump

Single Stage single suction vertical centrifugal pump, volute type case, flanged and threaded discharge, cast iron casing, flexible coupling, open impeller type designed for corrosive wet pit applications. Sump Drainage, Flood Control, Air Wash Systems, Power Plants, Chemical Industry, Municipal Systems, Water Treatment, Process Plants, and Sewage Lift Stations.



Vertical Turbine Pump

Multistage vertical centrifugal pump with diffuser type bowl, semi-open / enclosed impellers, cast iron bowls, counterclockwise rotation viewed from coupling end. Deep Well, Irrigation, Cooling Tower, Sump, and Condensate Pumps.



Vertical In-Line Pumps Split Coupled

Split-coupling simplifies maintenance, flanged suction and discharge in common center line designed for working with pressures up to 275 psi, coupling guard for protection during operation, water drainer to avoid condensed water collection. Chemical, Petrochemical, Petroleum, Coal, Fiber, Pulp and Paper, Food and Beverage, Pharmaceutical Fats and Oil, Fire Service, Condensed Water.

+65 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.

