



*Specialist for Pumping Technology*



# CPP

**Single stage, end suction, ANSI process pump  
(enclosed 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 operators of Pump Systems and a wide range of quality products. 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.

## CPP ANSI Chemical Process Pumps

The CPP line is designed to meet or exceed ANSI B 73.1 specifications. All CPP pumps are designed around a single, basic hydraulic and mechanical design concept which ensures efficiencies across a wide spectrum of operating conditions, unparallel application flexibility and superior interchangeability.

This rugged process pump is designed to operate dependably and even in the toughest industrial applications.

The CPP line features 35 sizes to precisely meet service conditions within a wide range of hydraulic parameters including low flow high head parameters. The line was

also designed to accommodate many different optional features such as wear rings on casing and impeller or water jackets for stuffing boxes and bearing housings.

### CPP-L Low flow, high head model

Ruhrpumpen offers its CPP-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 ANSI B 73.1 Standard.

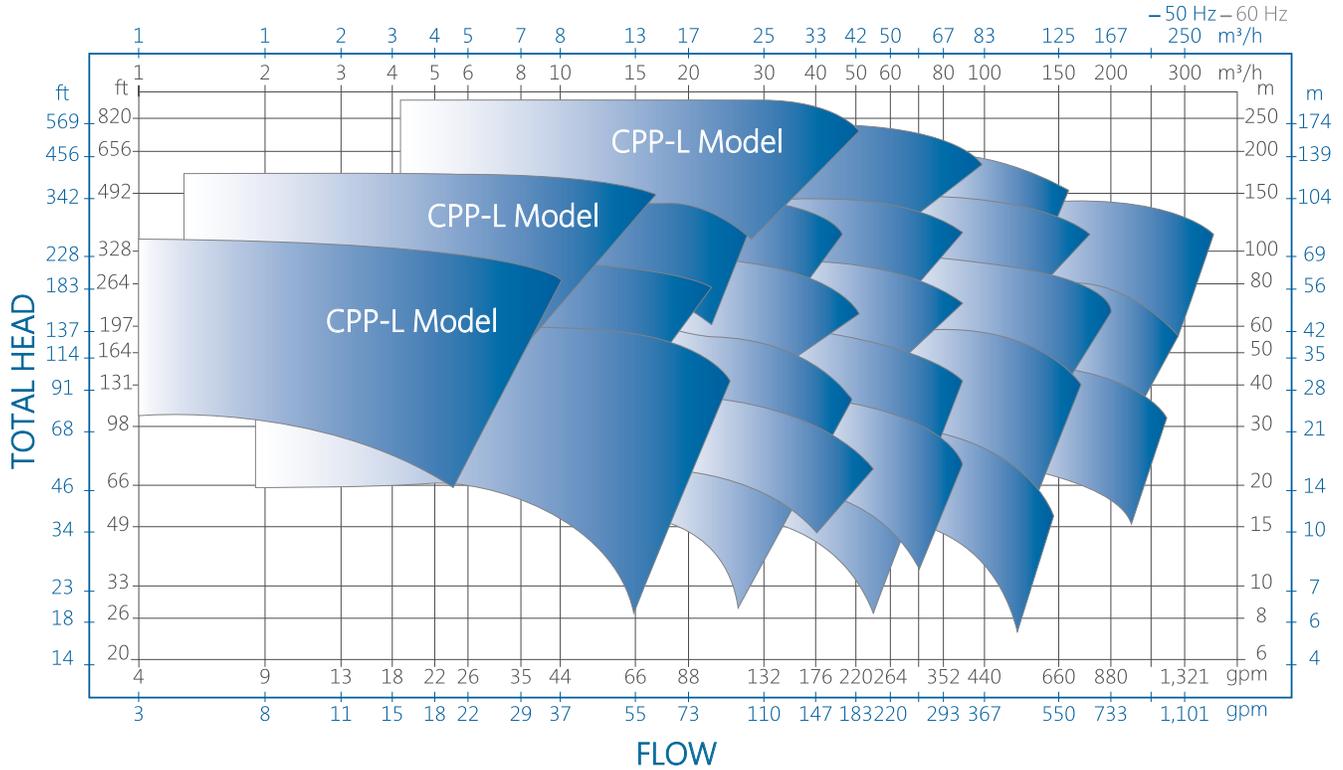


### C-Frame

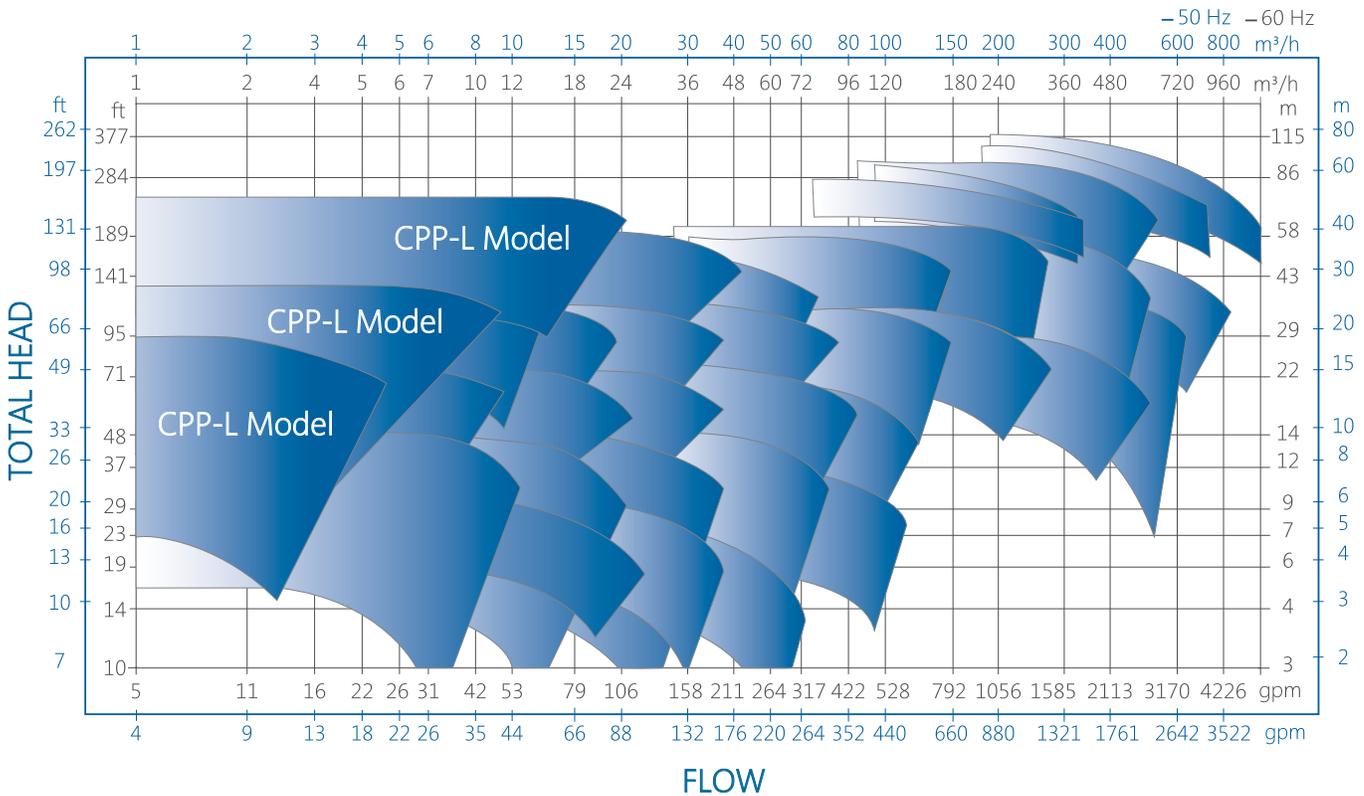
C-Frame assures proper alignment and better seal life

# Pump Performance Chart

## CPP / CPP-L 2 Poles



## CPP / CPP-L 4 Poles



## Characteristics

**1** Bearing vibration monitoring ports standard.

**2** The double row thrust bearing provides minimal shaft end play for extended mechanical seal life.

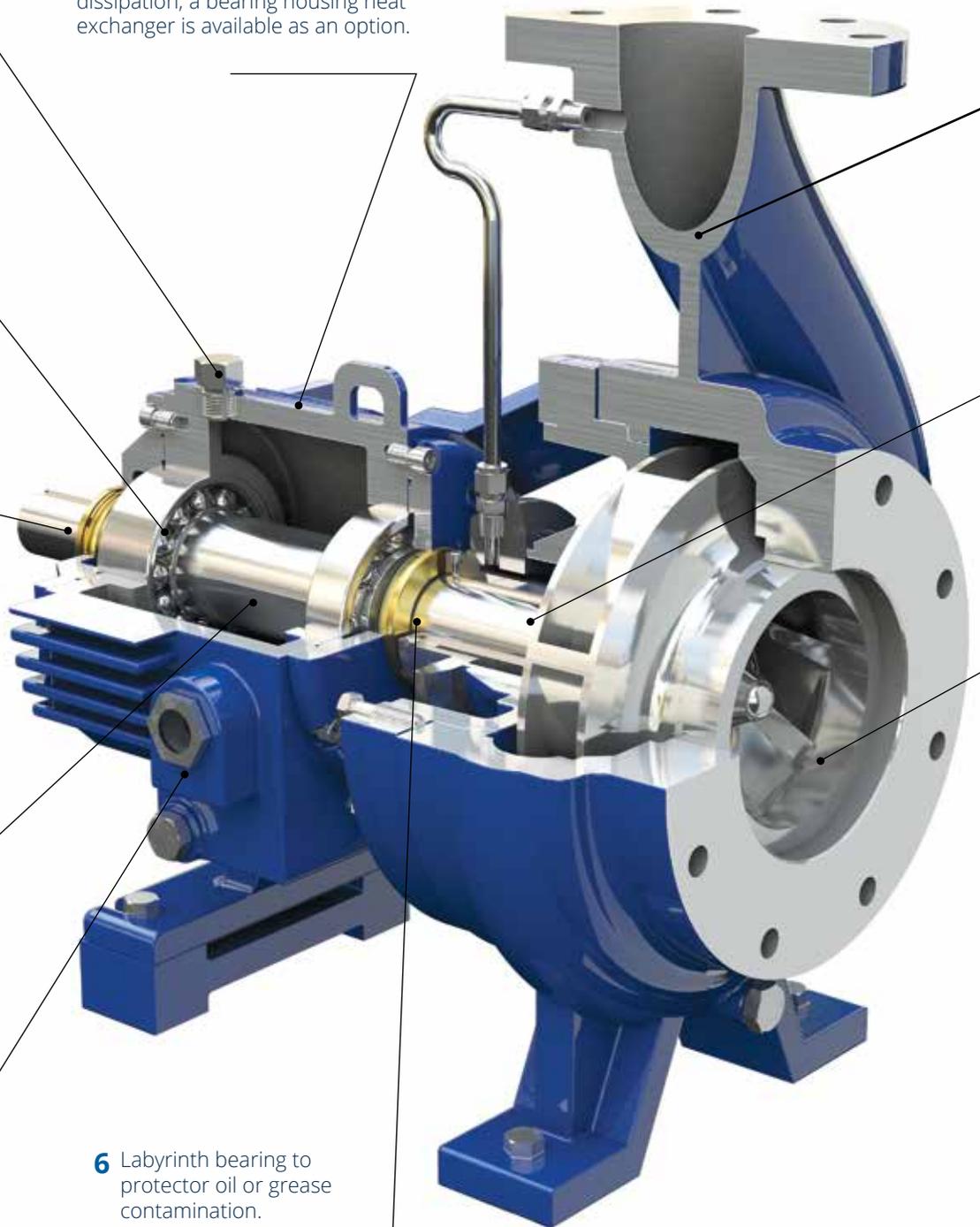
**3** A robust 316SS solid shaft as standard for extended seal life (sleeved shaft optional).

**4** **Lubrication**

- Grease/Oil Bath/Oil Mist capable without adjustments or different parts
- Large capacity bearing housing oil reservoir
- Optional finned oil cooler

**5** Oversized oil sight glass mounted on both sides of the bearing unit (most sizes). Optional constant level oilers available.

**10** The heavy-duty power frame of the CPP incorporates an integrated fin design for additional oil cooling and heat dissipation; a bearing housing heat exchanger is available as an option.



**6** Labyrinth bearing to protector oil or grease contamination.

Sectional only applies to the CPP; the CPP-L design is not illustrated on this page. Images for illustration purposes not actual construction.

**9** ANSI 150 # or 300 # flange drilling is available based on material selection. RF or FF designs are available based on requirements.

**8** A large bore stuffing box design is standard for better cooling and circulating to the seal faces. Stuffing box cover for packing or mechanical seal applications, inside or outside, double or single, balanced or unbalanced seals, with any required gland connections.

**7** Enclosed impeller design ensures maximum efficiency. The impeller itself is threaded and is positively locked onto shaft and sealed with an o-ring.

## CPP PERFORMANCE DATA

Capacity	5,000 U.S. gpm	up to 1,135 m <sup>3</sup> /h
Head	up to 770 ft	up to 235 m
Pressure	up to 375 psig	up to 26 bar
Temperature	50 °F to 600 °F	45 °C to 315 °C
Dis. Flange Size	1 to 8 in	

## CPP-L PERFORMANCE DATA

Capacity	210 U.S. gpm	up to 48 m <sup>3</sup> /h
Head	up to 920 ft	up to 281 m
Pressure	up to 400 psig	up to 27.5 bar
Temperature	up to 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.

## DESCRIPTION

Single stage, horizontal centrifugal pump

- Radially split casing with flanged connections.
- Horizontal end suction and vertical discharge on the center line.
- Enclosed impeller, clockwise rotation (viewed from coupling end).
- Outstanding L3/D4 deflection index.
- Foot mounted.
- Oil lubricated.
- ANSI B73.1 Standard.
- "Back pull-out" design allows pump disassembly without disturbing pipe connections.
- Standard or large bore stuffing boxes are available for packing, single, or double seals.
- All ANSI flush plans are offered, as needed, in a variety of configurations.
- C-Frame option is also available.
- Optional cooling jacket and cooling coil for high temperature applications.

## BROAD APPLICATION RANGE

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

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

## MATERIALS OF CONSTRUCTION

Ruhrpumpen CPP pump is available in many materials such as:

- Ductile Iron / Stainless Steel (CF8M)
- Stainless Steel (CF8M)
- Duplex (CD4MCu)
- Alloy 20 (C7NM)

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

## More CPP models

### CPP-L, Low Flow, High Head model

The CPP-L is the low flow option of the CPP product line, designed to fill the gap on the low flow side of the CPP 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 CPP-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 less unplanned system downtime.

#### Design Features

CPP-L utilizes external impeller adjustment to restore pump efficiency and reduce downtime. Complies with 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 CPP-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.



CPP-L



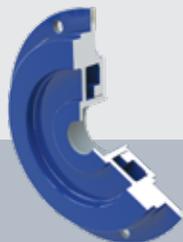
CPP-L  
IMPELLER

## High Temperature Options for CPP and CPP-L

### Cooling options

#### Cooling Jacket

Designed to control seal's temperature



Cooling  
Jacket

#### Cooling Coil

Cools oil with minimum cooling water, ideal for oil temperatures up to 350 °F (177 °C)



Cooling Coil



## Other Ruhrpumpen Products

### ANSI Vertical In-Line Close Coupled Pump



IIL - Back pull-out design, CI/SS impeller, packing box cover, casing-flanged suction, front wear rings, manual vent plug.  
Chemical, Petrochemical, Petroleum, Coal, Fiber, Pulp and Paper, Food and Beverage, Pharmaceutical Fats and Oils, Soap, Paint, and Automotive.

### Vertical Turbine Pump



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

### Vertical In-Line Pump Rigid Coupled Pump



IVP - Rigid-coupling, flanged suction and discharge on common centerline, up to 350 psi, fully enclosed, impeller with hydraulic balance which prevents vibration, radially splitcase. Fire Service, Air Conditioning Systems, Condensed Water, Ice Water, Service Water, Ocean Water, Building Water Supply Systems.

### Sump Pump



VSP - Single Stage single suction vertical centrifugal pump, volute type case, flanged and threaded discharge, cast iron casing, flexible coupling. Sump Drainage, Flood Control, Air Wash Systems, Power Plants, Chemical Industry, Municipal Systems, Water Treatment, Process Plants, Sewage Lift Stations.

### Submersible Sewage Pump



NE - Cast Iron body, multipurpose pump, double mechanical seal, discharge nozzle up to 6", semi-open impeller. General Industry, Commercial, Irrigation, Farming, Landscaping.

### Horizontal Split Case Pump Single Stage



HSD - Single stage double suction horizontal centrifugal pump, foot mounted, oil or grease lubricated bearings. Dewatering, Mining, Water, Fire service, Cooling Towers, Municipal, Oil Process, Petrochemical, Sugar Industry, Paper Industry, Pipeline, Power Generation.

## +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.

