



*Specialist for Pumping Technology*



# SCE

**Horizontal, centerline supported, single stage  
API 610 process pump (OH2)**

# HORIZONTAL, CENTERLINE SUPPORTED, SINGLE STAGE API 610 PROCESS PUMP (OH2)

Ruhrpumpen is an innovative and efficient centrifugal pump technology company and offers operators of Pump Systems, 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 go beyond stringent industry standards such as API, ANSI, Hydraulic Institute, Underwriter's Laboratories, Factory Mutual and ISO 9001.

Ruhrpumpen's quality program and in-house foundry, along with the latest testing equipment, ensures that the pumps we manufacture will provide long operating life, even under the most severe conditions.

## SCE Single Stage Overhung Pumps

The SCE process pumps (OH2) are horizontally mounted, radial split case, single stage, single suction, heavy-duty centrifugal process pumps with a back-pull-out design for easy maintenance.

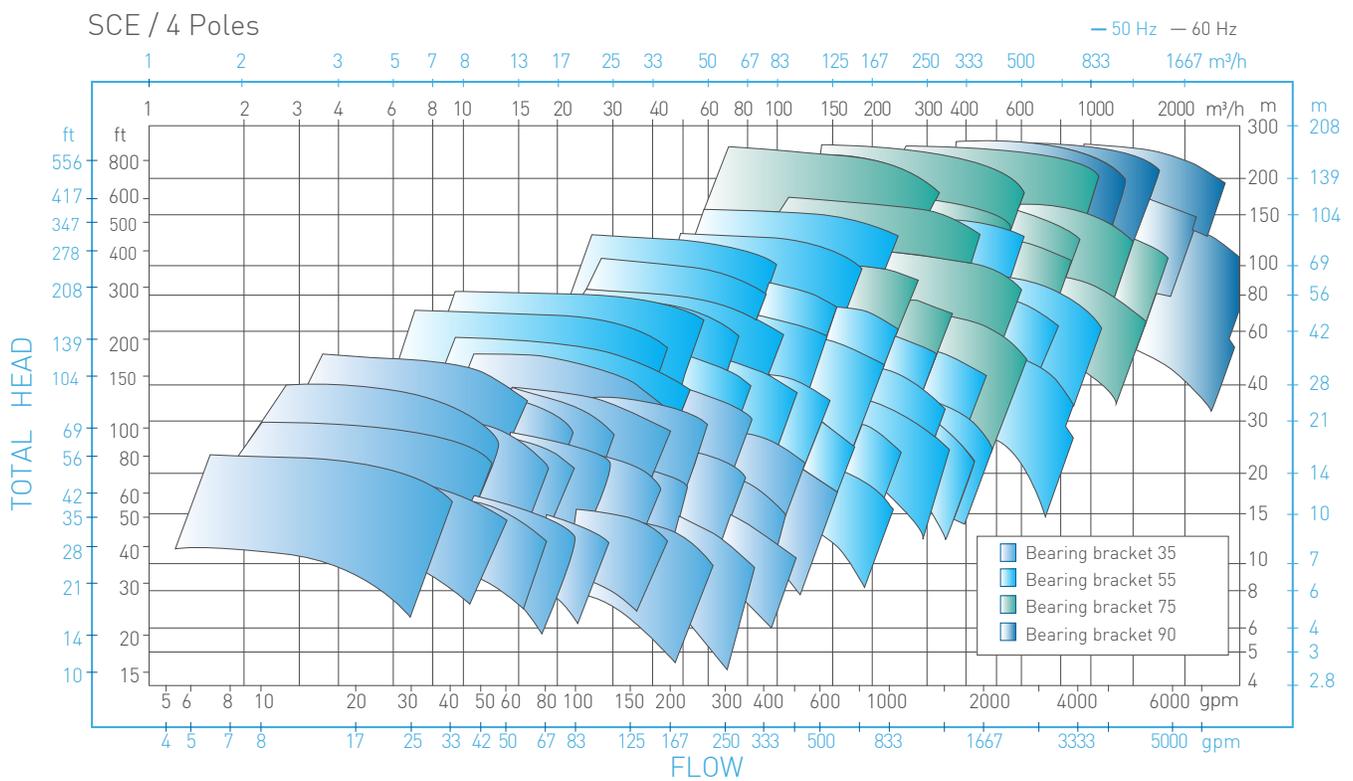
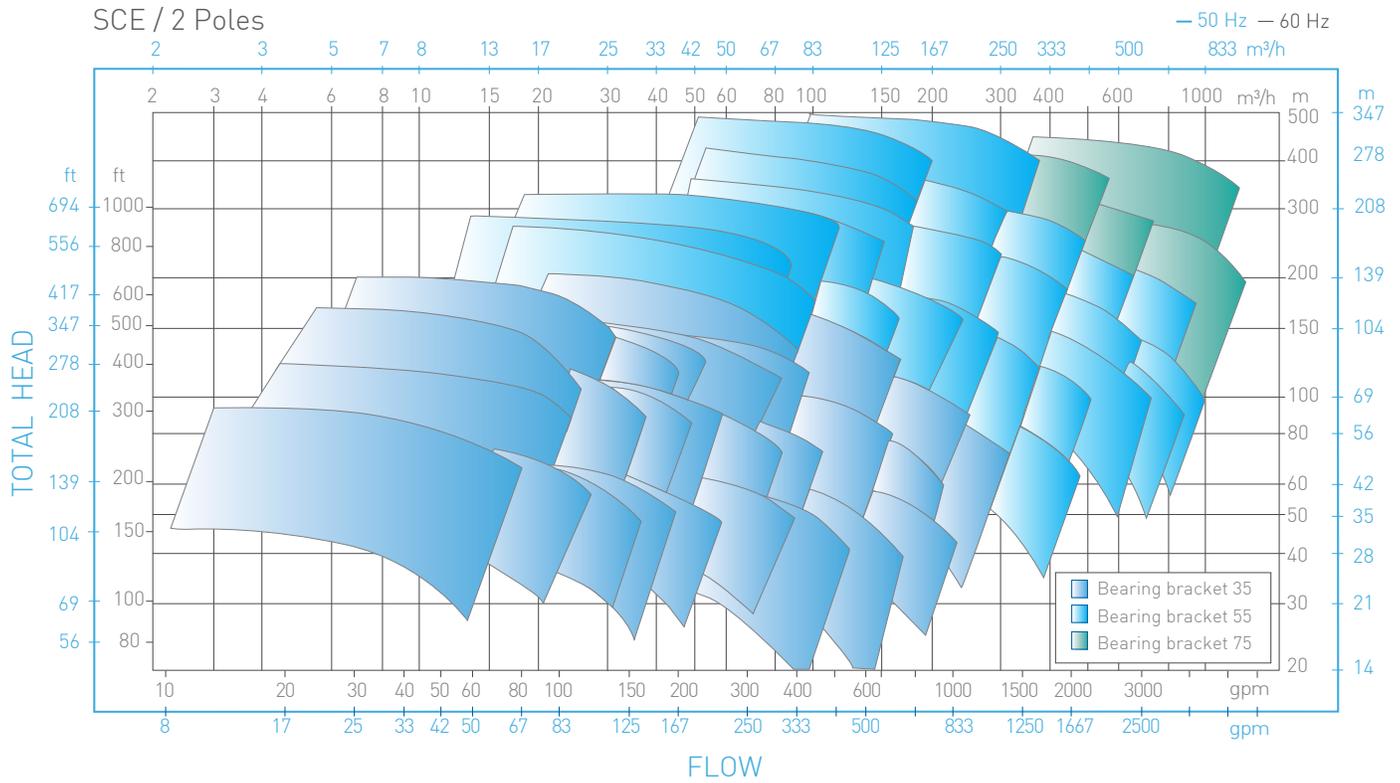
They are designed for continuous duty, pumping various fluids, with a combination of mechanical and installation features for applications in petroleum, petrochemical, and industrial products service.

The SCE pump is designed to comply with the latest editions of API 610 and API 682.

With over 130 hydraulic combinations available for the SCE pump, almost all customer requirements are covered. We have the latest engineering techniques and tools such as 3D Modeling and Finite-Element Analysis to assure our customers the best product quality.



# Selection Chart



# HORIZONTAL, CENTERLINE SUPPORTED, SINGLE STAGE API 610 PROCESS PUMP (OH2)

## Characteristics

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- 1 WATER COOLING**  
With finned-tube insert is optional to allow the bearing bracket to maintain optimal oil/bearing temperature.
  - 2 CONSTANT LEVEL OILER**  
Provided with sight glass for visual inspection and oil sampling.
  - 3 COOLING COIL**  
Available Cooling Coil in Bearing Housing for effective Oil Cooling.
  - 4 SEALS**  
Versatile labyrinth seals and bearing isolators designed to work with either oil or oil mist lubrication.
  - 5 MECHANICAL SEAL**  
Mechanical seal chamber dimensions according to API 610 and API 682.
  - 6 CENTERLINE MOUNTED CASE**  
Features a back-pull-out design for easy maintenance. The casing as well as the fully welded, fabricated steel baseplate with integrated dripplate are fully compliant to API.
  - 7 IMPELLER**  
Full complement of renewable front and back impeller wear rings, casing and casing cover wear rings and throat bushing are standard.
  - 8 CASING COVER**  
Casing/Casing cover in metal-to-metal contact. The Non-asbestos spirally wound gasket is made of stainless steel/graphite foils and it is totally enclosed ensuring sealing without misalignment.
  - 9 VOLUTE CASING**  
75 volute casing pump sizes for 50 and 60Hz operation. Centerline discharge nozzles from 1" to 12", in compliance with API 610, latest Edition.
  - 10 SUCTION & DISCHARGE**  
Nozzles integrally cast with casing. 300# Nozzles are standard while 600# available as option.
  - 11 LAP-JOINT CONNECTION**  
(Registered design) to mechanical seal. Easy maintenance. Integrated orifice possible.
  - 12 BEARING BRACKET**  
Increased bearing bracket stiffness for heavy duty service, guarantees low vibration levels, ensuring safety and reliability. Is designed with internal taper to prevent oil flow to mechanical seal during disassembly.

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

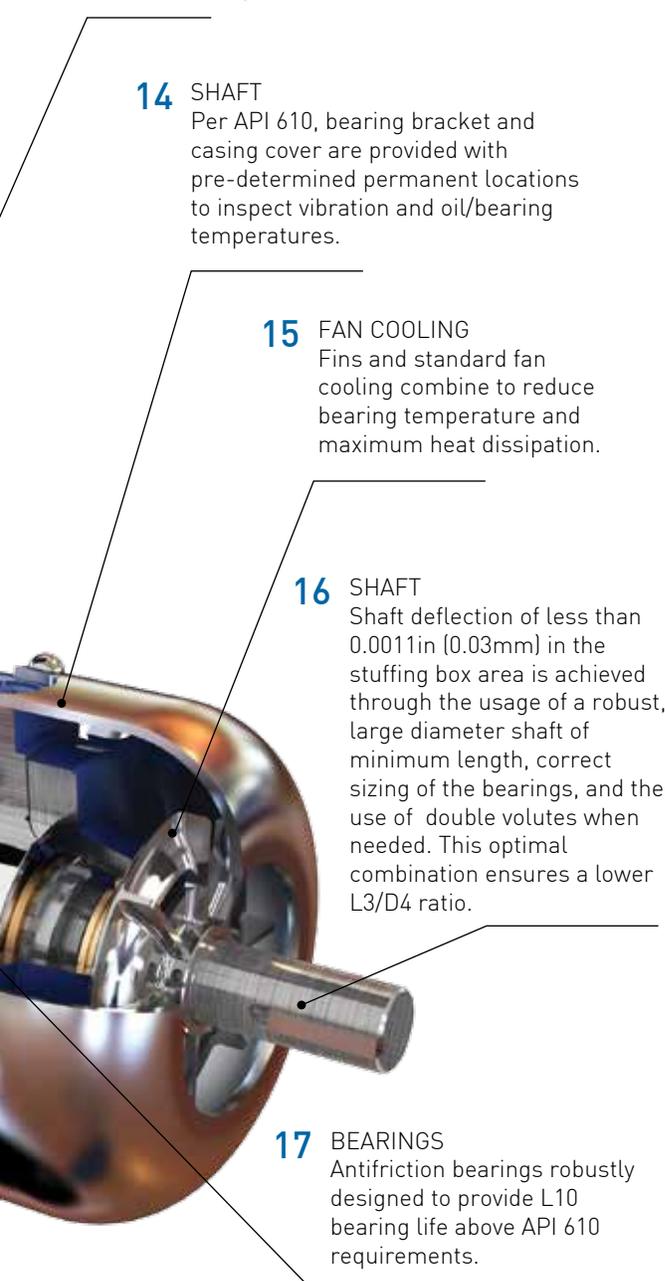
**13 BEARING LUBRICATION**  
Designed with effective and proven ring oil system for optimal and effective bearing lubrication.

**14 SHAFT**  
Per API 610, bearing bracket and casing cover are provided with pre-determined permanent locations to inspect vibration and oil/bearing temperatures.

**15 FAN COOLING**  
Fins and standard fan cooling combine to reduce bearing temperature and maximum heat dissipation.

**16 SHAFT**  
Shaft deflection of less than 0.0011in (0.03mm) in the stuffing box area is achieved through the usage of a robust, large diameter shaft of minimum length, correct sizing of the bearings, and the use of double volutes when needed. This optimal combination ensures a lower L3/D4 ratio.

**17 BEARINGS**  
Antifriction bearings robustly designed to provide L10 bearing life above API 610 requirements.



## DESCRIPTION

- Horizontal, radially split case, heavy-duty centrifugal process pump
- Centerline mounted
- End suction, centerline discharge
- Single stage, single suction, enclosed impeller (keyed and locked with cap nut to the shaft)
- Clockwise rotation viewed from the driver end, hydraulically balanced
- Top-top nozzle design available
- Customized base plate available to meet specific customer requirements
- Robust construction is designed to comply with the latest edition of API 610

## BENEFITS

- Our centerline discharge nozzle is designed to withstand higher piping loads than other discharge designs
- Balancing holes in impeller reduce axial thrust
- Longer bearing life due to the lower axial thrust
- Solutions for high suction pressure services
- We have over 130 hydraulic combinations to cover almost all of our customer's requirements
- Available in a wide range of materials (A8, C6, D1, D2, S1, S5, S6, S8, T1, T2)
- Back-pull-out design for easy maintenance

## APPLICATIONS

- Petroleum Refining, Production and Distribution (Pipeline)
- Industrial Wastes
- Petrochemical and Chemical Industry
- Gas Industry Services
- Hydrocarbon Processing
- Hot Oil Service
- Utilities
- Boiler Feed Recirculation and HRSG Recirculation
- Water
- General Industry

## SCE PERFORMANCE DATA

Capacity	up to 3,200 m <sup>3</sup> /h	14,000 U.S. gpm
Head	up to 480 m	1,575 ft
Pressure	up to 90 bar	1,300 psig
Temperature	-80 °C to 450 °C	-110 °F to 850 °F
Flange size	1 to 12 in	

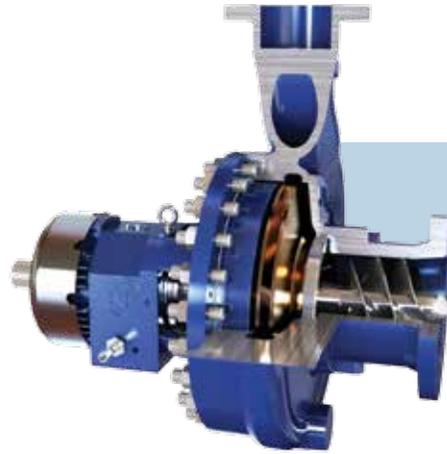
For Pump operation outside this range, please contact a Ruhrpumpen representative.

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## Optional Features

### Special Configuration and Optional Features

- For low flow applications.
- For medium pressure.
- For high pressure applications up to 1,300 psi (90 bar).
- In case of low NPSH available values, the installation of an inducer is possible.
- Coke Crusher configuration also available.
- Water cooling for bearing bracket if needed.
- Heat flinger. Dissipates shaft-conducted heat.
- Different impeller types:
  - A – For low NPSH (standard).
  - B – For higher flow.
- Pure/purge oil mist lubrication available.
- Flushed Wear Rings and Non Metallic Wear Rings for abrasive services available.



**SCE  
Inducer**



**Impeller for  
low NPSH**

## Synergetic Retrofit®

Ruhrpumpen offers besides the more common mechanical retrofits, also Power retrofits (including impellers) to improve operations and save money on energy. This might be necessary when pump operating conditions have been changed, if we have excessive wear ring clearances or there might even be new (better) techniques in the market.

Ask your Ruhrpumpen representative for more information.



## Other Ruhrpumpen Products

### ANSI Horizontal Process Pump



CPP - Single Stage end suction horizontal centrifugal pump, enclosed impeller, radially split casing with flanged connections.  
Petrochemical, Oil & Gas, Steel Industry, Automotive, Food Processing, Power Generation, Pharmaceuticals, Water Treatment, General Process.

### 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.

### Multi-Stage, Axially Split Casing Pump



SM - Axially split, horizontal multi-stage, centrifugal pump, near-centerline mounted, single suction, radial, closed impeller (API Type BB3).  
Oil Fields and Terminals, Water Pipelines, Fluid Injection and High Pressure Services.

### Vertical Barrel Pump



VLT - Low NPSH "Shockless Entry" first stage impeller (single or double suction), Single or multi-stage.  
Heavy duty process design according to API 610 latest edition (Type VS6).  
Condensate, Power Plants, Municipal, Hydrocarbons, Pipeline and Refineries.

### Submersible Sewage Pump



NE - Cast Iron body, multi-purpose 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.

