HS / ZW
Horizontal, axially split case pumps
HI design (BB1 & BB3)
Advanced pumping technology that moves our world

The outcome of many years of experience in the design and manufacture of centrifugal pumps, the Ruhrpumpen HS / ZW pumps are single- or multi-stage, single or double volute, axially split case centrifugal pumps.

The HS range (HSC, HSD, HSL, HSR and HSM models) and the ZW pump are designed and built according to the Hydraulic Institute (HI) standard (BB1 & BB3 types). Depending on mechanical features and material selection, they can pump various fluids providing maximum reliability in general industry applications, power generation plants, municipal water systems, mining operations, fire protection and many other industries. For API build, check the ZM pump range.

High reliability

These pumps are engineered for continuous, heavy-duty pumping with several combinations of metallurgical, mechanical and installation features to fit any specific needs.

Flexible design

To minimize footprint and simplify installation, all our HS / ZW pumps can be mounted in horizontal or vertical arrangements, according to customer requirements.

Easy-maintenance design

The axially split casing allows for the upper half to be removed for inspection and maintenance of the complete rotating assembly without disturbing piping or drive alignment.

Our complete range of Horizontal Split Case Pumps and our expertise in pump engineering, allows Ruhrpumpen to bring a solution to every customer.

<table>
<thead>
<tr>
<th>RP MODEL</th>
<th>STAGES</th>
<th>VOLUTE</th>
<th>IMPELLER</th>
<th>CAPACITY</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC</td>
<td>Single</td>
<td>Double volute</td>
<td>Double suction, enclosed impeller</td>
<td>up to 140,000 gpm up to 31,800 m³/h</td>
<td>up to 550 ft up to 168 m</td>
</tr>
<tr>
<td>HSD</td>
<td>Single</td>
<td>Single volute</td>
<td>Double suction, enclosed impeller</td>
<td>up to 7,000 gpm up to 1,590 m³/h</td>
<td>up to 550 ft up to 168 m</td>
</tr>
<tr>
<td>HSL</td>
<td>Single</td>
<td>Single Volute</td>
<td>Double suction enclosed impeller</td>
<td>up to 2,200 gpm up to 500 m³/h</td>
<td>up to 500 ft up to 155 m</td>
</tr>
<tr>
<td>HSR</td>
<td>Single</td>
<td>Single volute</td>
<td>Double suction, enclosed impeller</td>
<td>up to 9,000 gpm up to 2,050 m³/h</td>
<td>up to 500 ft up to 155 m</td>
</tr>
<tr>
<td>HSM</td>
<td>Multi (2 or 4)</td>
<td>Double volute</td>
<td>Single suction, enclosed impeller</td>
<td>up to 2,000 gpm up to 454 m³/h</td>
<td>up to 2,200 ft up to 670 m</td>
</tr>
<tr>
<td>ZW</td>
<td>Single</td>
<td>Single and double volute</td>
<td>Double suction, enclosed impeller</td>
<td>up to 40,000 gpm up to 9,000 m³/h</td>
<td>up to 1,115 ft up to 340 m</td>
</tr>
</tbody>
</table>
Pump Performance Chart

HSC, HSD, HSL, HSR, HSM and ZW
WEAR RINGS
Casing wear rings are standard and replaceable on all pumps. Impeller wear rings are optional.

IMPELLER
Double suction, dynamically balanced impellers held in place by separate nuts.

SHAFT
A rigid shaft combined with double-volute casing results in low shaft deflection at all operating points. Low deflection reduces packing wear, ring wear and bearing loading, which ultimately results in sustained efficiency and economic operation.

SHAFT SLEEVE
Separate shaft nuts feature provides the greatest simplification of sleeve replacement. Sleeves are sealed to shaft by an O-ring to prevent leakage and subsequent erosion. 11-13% chrome sleeves are available for extended life on packing.

CASING SEALING SYSTEM
Innovative sealing system allows metal to metal contact (ZW model) ensuring a perfect rotor-casing alignment, improved sealing capacity and ease of maintenance.

FLANGES
Suction and discharge connections are on the same centerline for piping ease.
APPLICATIONS
For pumping of pure, raw and wastewater, as well as seawater:
- Municipal water systems
- Cooling towers
- Circulating water
- Raw water transfer
- High and low water lift
- Water pipelines
- Dewatering
- Irrigation
- Desalination
- Marine services
- Cargo loading and unloading
- Fire protection

All HS / ZW pumps can be mounted vertically or horizontally, depending on customer requirements.

Images for general arrangement use only, not certified for construction.
Split case pumps for fire protection service

Our HSC and ZW pump models are available for fire protection service, they are UL listed, FM approved and comply with the NFPA standard. Pumps are factory tested and can be provided as single pumping units or in complete pre-packaged fire systems with or without enclosure.

CHARACTERISTICS
- Flows from 150 to 5000 GPM
- Pressures from 40 to 355 + PSI
- Electric or Diesel driven
- UL-448 listed
- FM-1311 approved
- NFPA-20 design

HSM
Horizontal, multi-stage, split case pumps for high pressure applications

From our HS line, the HSM pump is a heavy-duty, multi-stage, split case process pump engineered according to the Hydraulic Institute standard (BB3 type). Its design, in two- or four- stages, allows it to operate with high reliability in high pressure applications such as: boiler feed water, water pipelines and cooling water.

DESIGN FEATURES
- Oil lubricated bearings
- Flanged connections
- Stuffing box allows for packing or mechanical seal
Looking for an API 610 pump?
Meet the ZM pump range

Our ZM pump range of axially split case centrifugal pumps has a heavy-duty process design according to API 610 latest edition (BB1 type) for applications in the oil and gas industry such as the extraction of oil (land and offshore), as mainline and booster pumps in hydrocarbon pipelines, and different applications in refineries, tank farms and petrochemical plants.

OPERATING LIMITS

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>up to 44,000 gpm</td>
</tr>
<tr>
<td></td>
<td>up to 10,000 m³/h</td>
</tr>
<tr>
<td>Head</td>
<td>up to 1,300 ft</td>
</tr>
<tr>
<td></td>
<td>up to 400 m</td>
</tr>
<tr>
<td>Pressure</td>
<td>up to 580 psi</td>
</tr>
<tr>
<td></td>
<td>up to 40 bar</td>
</tr>
<tr>
<td>Temperature</td>
<td>14 °F to 428 °F</td>
</tr>
<tr>
<td></td>
<td>-10 °C to 220 °C</td>
</tr>
</tbody>
</table>
+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.

Ruhrpumpen Plants

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