




*Specialist for Pumping Technology*

# **SPLIT CASE Double Volute, Horizontal Split Case Pumps**





## Ruhrpumpen is an innovative and efficient centrifugal pump technology company that 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 other 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 equipment, ensures that the pumps we manufacture will provide long operating life even under the most severe conditions.

## Split Case Pumps

The Ruhrpumpen HS/ZW pumps are single- or multi-stage, double suction, double volute, axially-split case pumps.

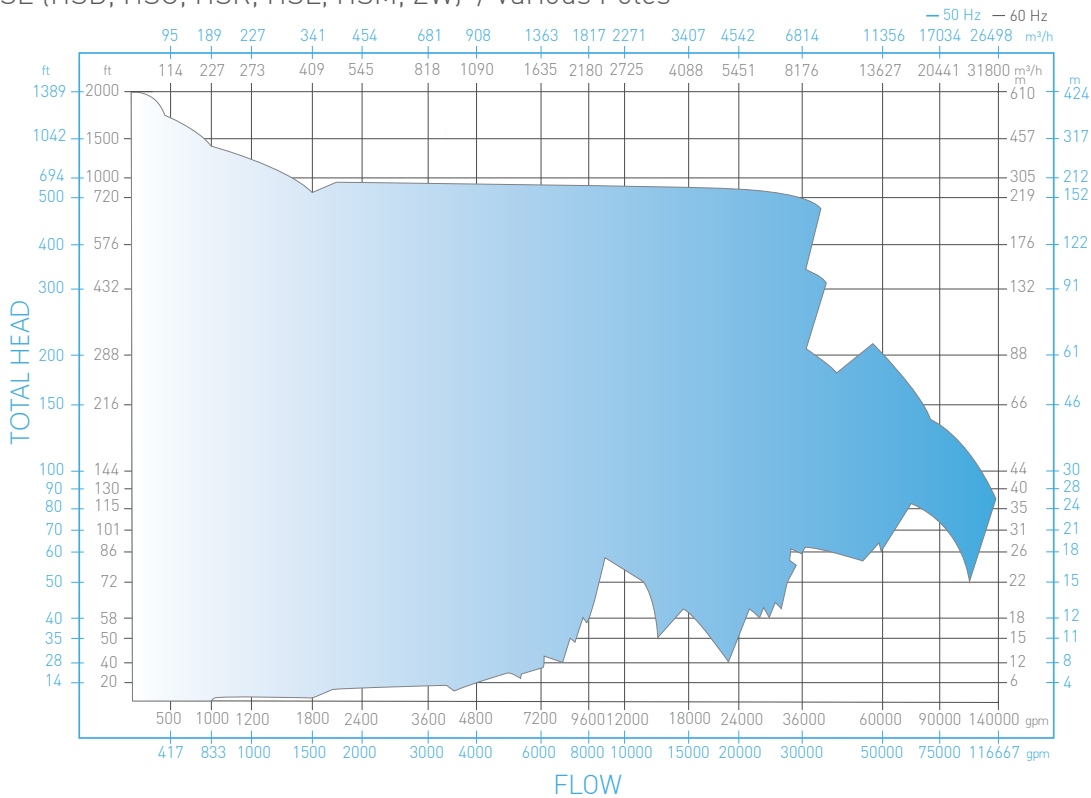
The suction and discharge nozzles are integrally casted in the lower half of the casing and on the same horizontal center-line. The nozzle configuration is side/side.

Intensive research and development ensures that the products of Ruhrpumpen are continuously improved to meet the latest technical requirements. Instant availability of spare parts, together with first-class service, ensures customers that they have selected the right partner.



## Selection Chart

SPLIT CASE (HSD, HSC, HSR, HSL, HSM, ZW) / Various Poles



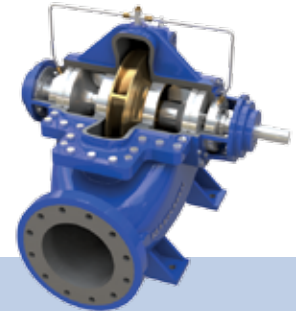
## Complete Range of Split Case Pumps



**HSD**



**HSC**



**ZW**

With this complete range of Horizontal Split Case Pumps and our depth of expertise in pump engineering, Ruhrpumpen can truly a solution to every customer.

### Horizontal Split Case Pumps Performance Data

PUMP TYPE	CAPACITY		HEAD	
	METRIC	U.S. STANDARD	METRIC	U.S. STANDARD
HSD	up to 1,590 m³/h	7,000 U.S. gpm	168 m	550 ft
HSC	up to 31,800 m³/h	140,000 U.S. gpm	168 m	550 ft
HSR	up to 2,050 m³/h	9,000 U.S. gpm	155 m	500 ft
HSL	up to 500 m³/h	2,200 U.S. gpm	155 m	500 ft
HSM	up to 454 m³/h	2,000 U.S. gpm	670 m	2,200 ft
ZW	up to 9,000 m³/h	40,000 U.S. gpm	340 m	1,115 ft

# Characteristics

**1 WEAR RINGS**  
Casing wear rings are standard and replaceable on all pumps. Impeller wear ring are optional.

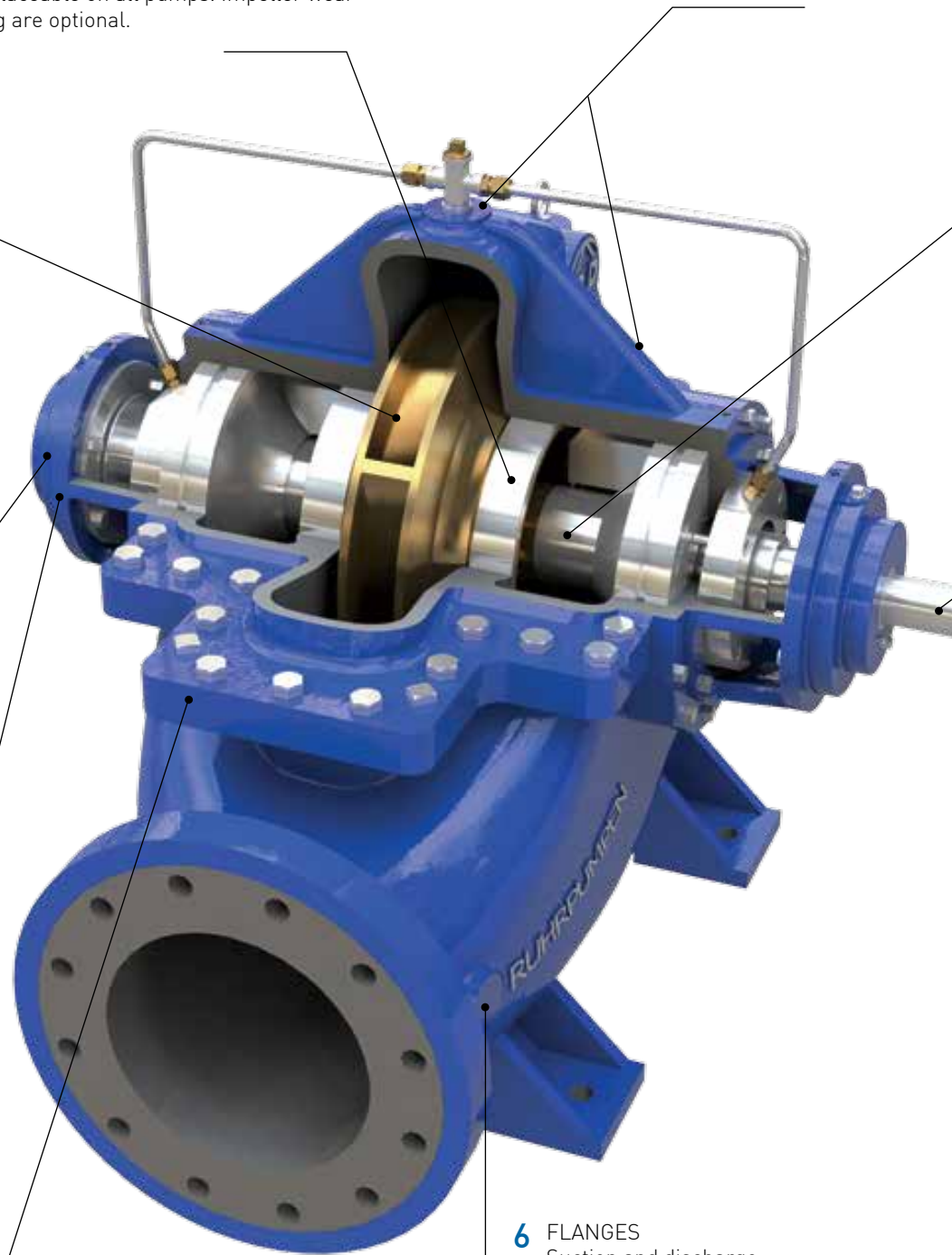
**2 IMPELLER**  
All impellers are double suction, dynamically balanced and held in place by separate nuts. (investment casting and sand casting manufacturing).

**3 BEARING HOUSING**  
360° bearing housing arrangement to ensure mechanical stability and low vibration levels. Design allows to use the housing for packing (Standard seal) or mechanical seal (Optional seal).

**4 BEARINGS**  
Interchangeable line and thrust bearings (conservatively rated at 100,000 hours "plus" bearing life) guarantee maximum life at minimum maintenance cost. Either oil or grease lubrication available.

**5 CASING SEALING SYSTEM**  
Innovative sealing system allows metal to metal contact ensuring a perfect rotor-casing alignment, improved sealing capacity and ease of field maintenance.

**9 MECHANICAL STRENGTH**  
Provided with ribs and connection bosses to ensure mechanical strength during hydrostatic test and normal operation.



**6 FLANGES**  
Suction and discharge connections all on the same center line for piping ease.

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

## 8 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 sleeve life on packing.

## 7 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.



### Horizontal Split Case Performance Data

Capacity	up to 31,800 m <sup>3</sup> /h	140,000 U.S. gpm
Head	up to 340 m	1,115 ft
Pressure	up to 27 bar	298 psig
Temperature	-9 °C to 150 °C	50 °F to 300 °F

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

## Description

- Single or multi-stage horizontal centrifugal pump
- Horizontally split case, single-volute or double-volute (some HSC sizes) minimizes thrust loads and allow operation over a wide range of capacities
- Flanged connections
- Enclosed impellers, double suction provides hydraulic balance eliminating axial thrust
- Clockwise or counterclockwise rotation
- Oil lubrication bearings
- Stuffing box allows mechanical seal option
- Horizontal or vertical mounting arrangements available
- Foot mounted

## Benefits

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

## Applications

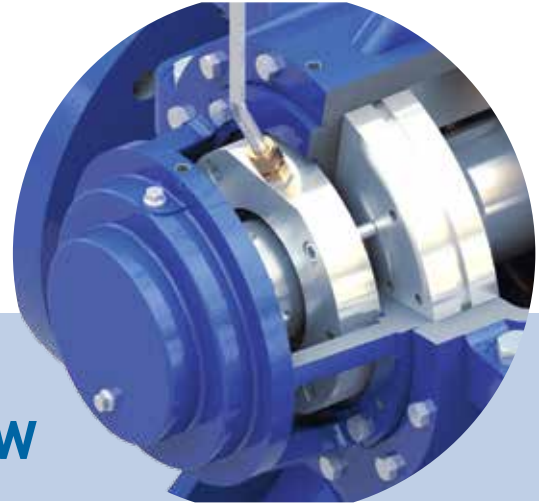
The Ruhrpumpen Split Case Pumps are designed for a wide range of industrial, chemical process and municipal.

Applications such as:

- Cooling towers
- Municipal
- Oil process
- Dewatering
- Mining
- Water
- Petrochemical
- Sugar Industry
- Paper Industry
- Fire Service
- Pipeline
- Power Generation

## ZW Design Features

- ZW bearing housing has a 360° mounting configuration, feature that allows ease of maintenance and improved mechanical stability.
- Modular design, allows parts interchangeability within the same pump in different sizes.
- Standardized design allows use of same components for both, mechanical seal or packing option.
- Improved casing sealing through an innovative design which assures metal to metal contact.



ZW

## Multi-Stage Horizontal Split Case

From our Industrial Line, the HSM pump is a split case heavy-duty process pump. Unlike our other split case pumps, the HSM type is a two- or four-stage pump which allows higher pressure applications such as petrochemical, chemical, industrial, boiler feed or power plant applications.

### Design Features

- Oil lubricated bearings
- Flanged connections
- Stuffing box allows for packing or mechanical seal options.



HSM



## 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 - Multi-stage 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.

### Vertical In-Line Pump Flexible-Coupled Pump



IVP - Split-coupling, flanged suction and discharge on common center-line, up to 350 psi, fully enclosed, impeller with hydraulic balance which prevents vibration, radially-split casing. 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.

### Vertical Barrel Pump



VLT - Low NPSH "Shockless Entry" first stage impeller (single- or double-suction), single- or multi-stage. Standard construction materials according to API latest edition (type VS6). Condensate, Power plants, Municipal, Hydrocarbons, Pipeline and Refineries.

### Multi-Stage, Axially Split Casing Pump











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

Ruhrpumpen Plants

## International service and support



-  USA, TULSA & ORLAND
-  MEXICO, MONTERREY
-  BRAZIL, RIO DE JANEIRO
-  ARGENTINA, BUENOS AIRES
-  GERMANY, WITTEN
-  EGYPT, SUEZ
-  INDIA, CHENNAI
-  CHINA, CHANGZHOU

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Represented by:

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