



Specialist for Pumping Technology


INNOVATION
EFFICIENCY
QUALITY



FIRE PUMPS

Horizontal Fire Pumps / Vertical Fire Pumps / Pre-Packaged Fire Systems

По всем вопросам обращайтесь в компанию "ТИ-СИСТЕМС":
Тел/факс: (495) 7774788, 5007154,55, 65, 7489626, (925) 7489127, 28, 29
Электронная почта: info@tisis.ru Интернет: www.tisis.ru www.tisis.kz www.tisis.by



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 goes 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.

FIRE PUMPS

Ruhrpumpen's Fire Pumps are Listed by Underwriter's Laboratories and Approved by Factory Mutual. The complete range includes Horizontal, Vertical Fire Pumps and complete Pre-Packaged Fire Systems, in both 50 and 60 Hz. The pumps are available in electric motor, diesel engine or steam turbine driven configuration.

Ruhrpumpen's Horizontal Split-Case, End suction and Vertical In-Line centrifugal pumps combine the latest in hydraulic design with almost a century of application experience to meet today's industrial and municipal requirements.

The Fire Pumps offer longer life, higher efficiencies, less downtime and lower maintenance costs. Heavy fabricated-steel bases, are available to mount the pump and driver. Flexible shaft coupling connects driver to pump.

Vertical Fire Pumps

The VTP (Vertical Fire Pumps) are normally designed to operate in wells, sumps or offshore. The bowl assembly consists primarily of a suction bowl & suction bell, one or more bowls, and a discharge head. The number of stages (bowls) required is determined by the head requirements of the installation. The pump bowl assembly is positioned in the sump or well at a depth to provide the proper submergence. A pump shaft, common to all moving parts in the bowl assembly, provides mechanical linkage to the pump driver unit.

Pre-packaged Fire Pumps

Ruhrpumpen also offers complete Pre-Packaged Fire Pump Systems, which can vary from a pump with driver arrangement on a skid, to a fully prefabricated unit with environmental enclosures.

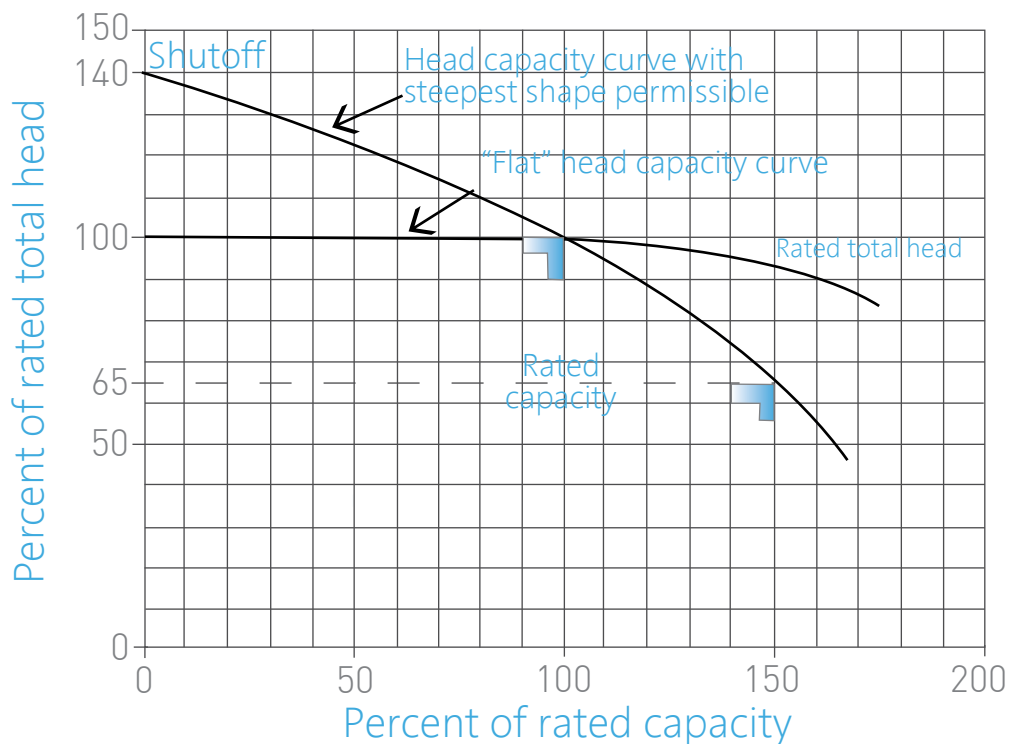


FIRE PUMPS

Vertical Configuration with a Standard Vertical Driver and a Flexible Coupling.



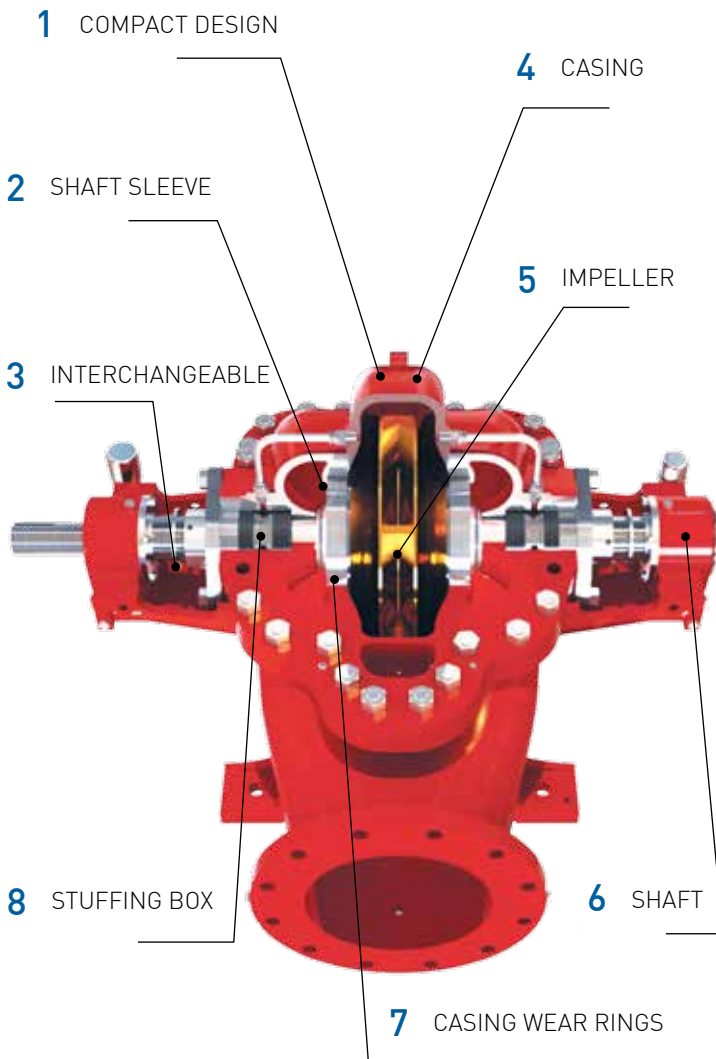
Selection Criteria



- Pump shall furnish not less than 150% of rated capacity at not less than 65% of total rated head.
- Shutoff head will range from a minimum of 101 percent to a maximum of 140 percent of rated head.
- As per NFPA-20 we can offer ranges over 5,000 gpm, these cases are subject to individual review by the authority having jurisdiction or a listing laboratory.
- As required by NFPA-20, each pump is tested at our factory to provide detailed performance data and to demonstrate its compliance with the required specifications.
- In compliance with NFPA-20, hydrostatic tests are performed on the pump for a period of not less than 5 minutes. In the case of vertical turbine pumps, both the discharge head and the bowl assembly are tested.
- The use of a Diesel Engine requires the proper environmental temperature (minimum 4.5°C / 40°F), to ensure correct operation of the Fire System. A Pump House may be required in order to meet these specific conditions, please contact the factory for more information.

Characteristics

Ruhrpumpen also designs offshore Fire Pump Systems with ABS certification for floating offshore facilities.



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

Horizontal Split Case Performance Data

Capacity	up to 1136 m ³ /h	5,000 U.S. gpm
Head	up to 204 m	670 ft
Pressure	up to 20 bar	290 psig
Temperature	10° to 105 °C	50 ° to 220°F

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

Description

Single Stage Horizontal Split Case Pumps

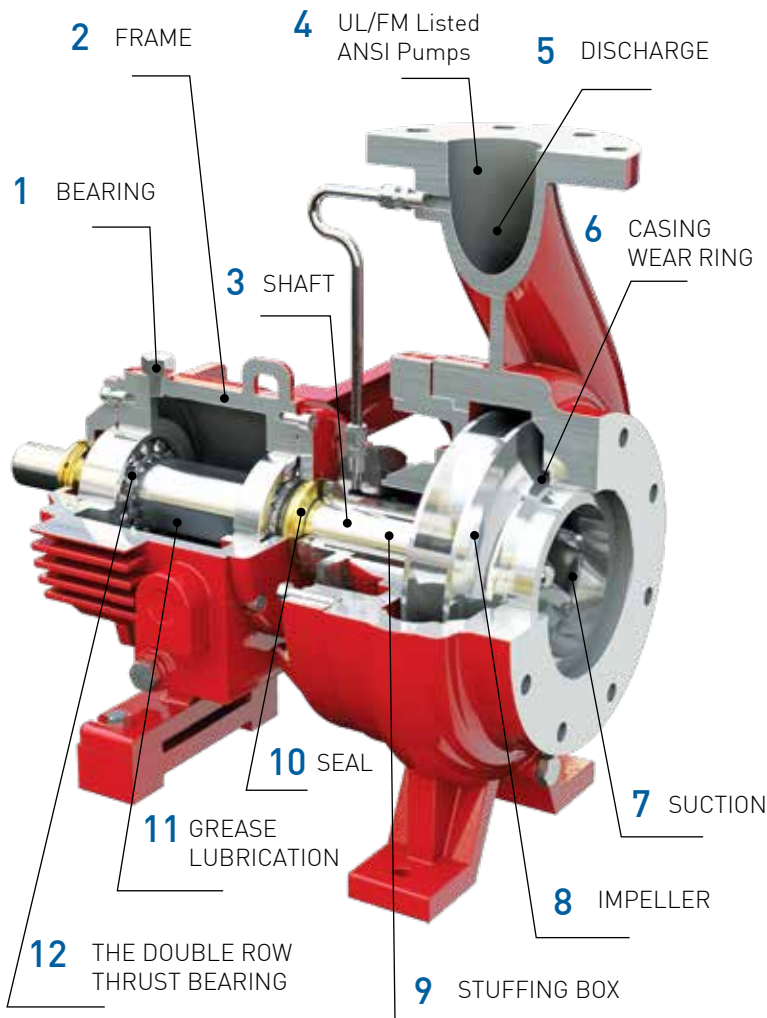
- COMPACT DESIGN**
 Heavy shaft and short bearing span reduce shaft deflection to a minimum, providing longer packing and bearing life and lower maintenance costs, while requiring less floor space. Clockwise rotation standard; counter-clockwise rotation optional
- SHAFT SLEEVE**
 Protects the shaft against corrosion and wear, extends through gland for maximum shaft protection
- INTERCHANGEABLE**
 Radial and Thrust Bearings with grease lubrication are (conservatively rated at 100,000 hrs "Plus" Bearing Life) guaranteed, maximum life at minimum maintenance cost
- CASING**
 Upper and lower half bolted and dowelled to provide perfect alignment. Bearing supports are cast and bored integrally with lower-half casing. Upper half casing can be removed for inspection, without disturbing bearings or alignment. Flanged suction and discharge connections are located in the lower-half casing
- IMPELLER**
 Enclosed, double-suction. Cast in one-piece and balanced to minimize thrust and to ensure longer bearing life. Locked in position by threaded shaft sleeves
- SHAFT**
 Larger-diameter, precision-machined, high strength steel shaft for maximum strength with minimum shaft deflection
- CASING WEAR RINGS**
 Close running clearance minimizes pressure leakage between suction and discharge chambers of the casing, maximizes efficiency and are easily replaceable
- STUFFING BOX**
 Designed to accept a minimum of five rings of packing with lantern ring. Internally drilled liquid passage in upper-half casing provides lubrication to the packing area

Design Features

- NFPA - 20
- UL - 448
- FM - 1311
- Special design available on request

Characteristics

Our End Suction Fire Pumps are designed according to ANSI (ASME B73.1) and are Certified by Factory Mutual and UL. Ruhrpumpen also designs offshore Fire Pump Systems with ABS certification for floating offshore facilities. The End Suction Pump is also available as Jockey a Pump.



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

End Suction Performance Data

Capacity	up to 114 m ³ /h	500 U.S. gpm
Head	up to 198 m	650 ft
Pressure	up to 19 bar	280 psig
Temperature	-45° to 315 °C	-50 ° to 600°F

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

Description

End Suction Fire Fighting Pumps

- **BEARING**
Vibration monitoring ports standard
- **FRAME**
The heavy-duty power frame of the CPP incorporates a design for additional oil cooling and heat dissipation; bearing housing heat exchanger is an available option
- **SHAFT**
A robust 316SS sleeved shaft as standard for extended seal life
- **UL/FM**
Listed ANSI pumps will be supplied in FF. ANSI 150 # or 300 # flange drilling is available based on material selection
- **DISCHARGE**
Vertical discharge on the center line
- **CASING WEAR RING**
Is standard for the certified ANSI pumps
Radially split casing with flanged connections
- **SUCTION**
Horizontal End Suction ANSI 150 # or 300 # flange drilling is available based on material selection
- **IMPELLER**
Enclosed impeller design ensures maximum efficiency. The impeller itself is threaded against rotation and is positively locked onto shaft, and sealed with an o-ring
- **STUFFING BOX**
Cover for packing
- **SEAL**
Standard Inpro/Seal® bearing isolators
- **GREASE LUBRICATION**
Is possible without adjustments on different parts.
- **THE DOUBLE ROW THRUST BEARING**
provides minimal shaft end play for extended mechanical seal life

Design Features

- NFPA - 20
- UL - 448
- FM - 1319

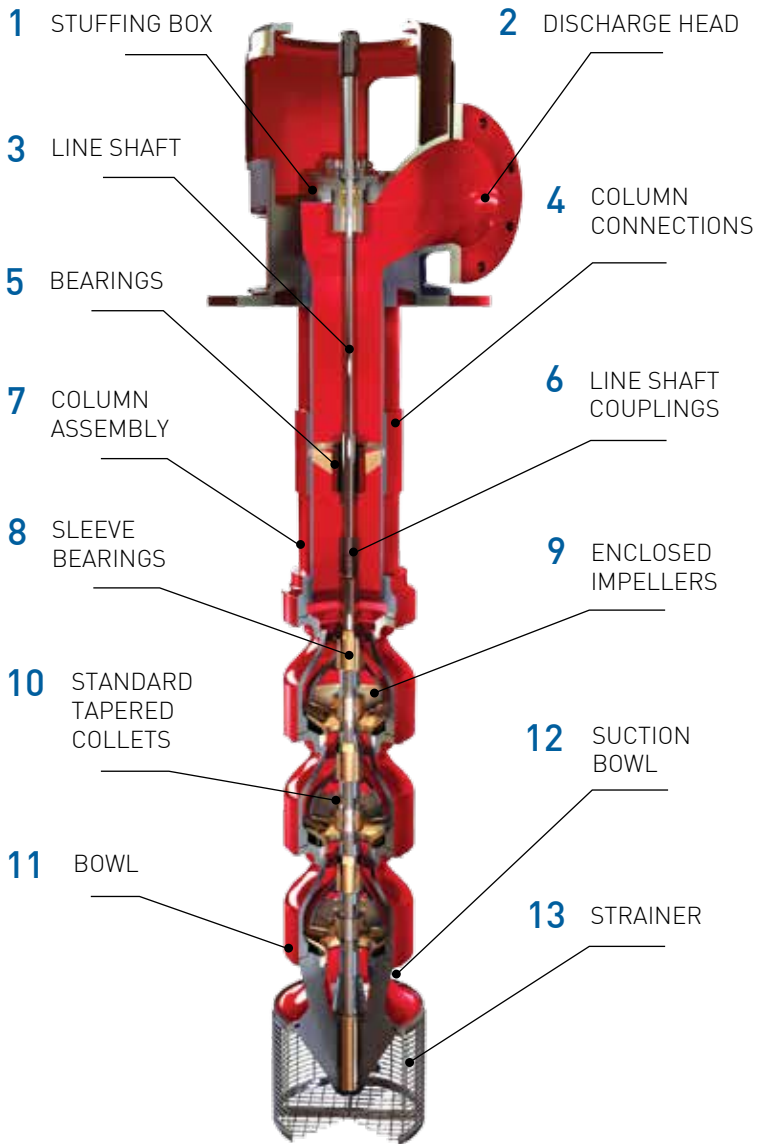
Materials of Construction

- The certified ANSI pumps are supplied in:

Ductile Iron / Stainless Steel (CF8M)

Characteristics

Ruhrpumpen can design an offshore Fire Pump System with ABS certification for floating offshore facilities.



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

Vertical Turbine Pump Performance Data

Capacity	up to 1136 m ³ /h	5,000 U.S. gpm
Head	up to 202 m	663 ft
Pressure	up to 19 bar	280 psig
Temperature	10° to 105 °C	50 ° to 220°F

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

Description

Vertical Turbine Pumps

- **STUFFING BOX**
Machined with bushing to guide shaft
- **DISCHARGE HEAD**
Provides support for motor and entire pump. Available in cast iron or fabricated steel
- **LINE SHAFT**
Carbon steel and threaded with coupling. Other materials available for various applications
- **COLUMN CONNECTIONS**
Flanged or threaded, and include replaceable bearing retainer
- **BEARINGS**
Available in a variety of materials
- **LINE SHAFT COUPLINGS**
Machined from solid steel stock
- **COLUMN ASSEMBLY**
Manufactured in-plant to ensure accurate fit. Available in different materials and coatings
- **SLEEVE BEARINGS**
Operate in conjunction with pump shaft to provide long life and low friction
- **ENCLOSED IMPELLERS**
Designed for long life and high efficiency. Machined and balanced for vibration free operation; the vanes and guide passages are hand finished to improve the efficiency. Counter clockwise rotation viewed from coupling end
- **STANDARD TAPERED COLLETS**
Secure impeller to pump shaft. Keyed impellers available for some sizes
- **BOWL**
Suction bowl provides a rigid support of the lower end of the pump shaft. Suction bell is available for special applications
- **SUCTION BOWL**
Provides a rigid support of the lower end of the pump shaft. Suction bell is available for special applications
- **STRAINER**
Prevents entry of foreign objects into pump suction

Design Features

- NFPA - 20
- UL - 448
- FM - 1312
- Special design available on request

Materials of Construction

- Standard Material: Cast Iron / Bronze Fitted.
Special materials available on request

In-Line Pumps

Ruhrpumpen Vertical-In Line Pumps are also available for Fire Fighting Applications.



In-Line

Benefits from Using In-Line Pumps

- Compact space saving design.
- Top pull-out simplifies maintenance.
- In-Line design ensures ease of installation.



In-Line Skid

Pre-Packaged Fire Systems

Ruhrpumpen offers Pre-Packaged Fire Systems that can be designed and built to the requirements of the customer. These Pre-Packaged systems can be supplied with an electric motor or diesel engine. As a customer you can choose prefabricated skid mounted units or pump housed units. System designers appreciate the time savings and the Ruhrpumpen expertise built into each project.

Benefits using Pre-Packaged Fire System

- Single source responsibility
- Prefabricated and Factory tested
- Reduced field cost installation
- Delivered to site in a single shipment
- International distribution and start up capabilities
- Compactness & Space Efficiency
- Completely wired.
- ETL/C-ETL Third Party Listing
- UL/FM approved components
- NFPA 20 full compliance
- NFPA 850 Compliant
- Certified ASME section IX welding, AWS D1.1 certified structural welders.

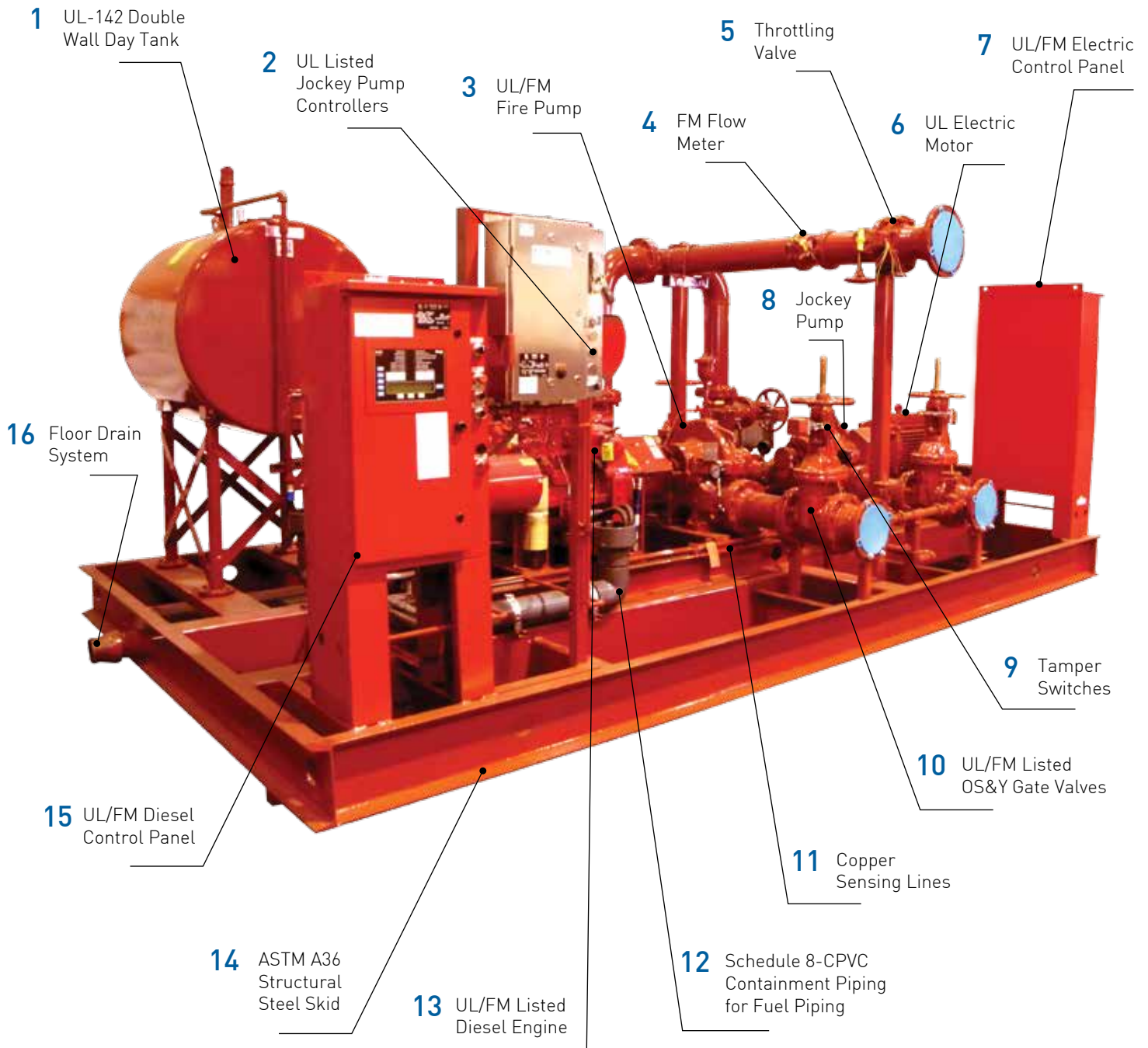


End Suction Pump on Pre-Packaged Skid

Mining Market



Characteristics



Nothing is left to chance with a Ruhrpumpen Pre-Packaged Fire System

If your customer needs a packaged fire system to be completely housed, Ruhrpumpen can supply this enclosure. The Pump Houses include the following (optional) features.

- Interior Lighting
- Exterior Flood Lighting
- Pre-wired and pre-piped
- Pre-piped sprinkler systems for pump house interior
- Exhaust Fan
- Mini Power Zone
- Electric Heaters with Built-in Thermostat
- Wall or Floor access for piping
- Containment piping
- Floor Drain
- Architectural finishes
- Safety Equipment
- Grating Floor Deck design
- Seismic Calculations with PE Stamps
- Open Skid design
- Diamond Plate Floor Deck design

Pump House Fire System



Interior Pump House Fire System



Optional Features Pre-Packaged Fire Systems

- Ruhrpumpen can give start up and field training
- Leveling bolts optional
- High performance coating systems for corrosive or costal environments
- Stainless steel sensing lines
- Stainless piping for salt or brackish water applications
- Mobile systems available
- Custom alarm panels available

Mobile Pre-Packaged System

Option for PE Stamps
on all Drawings



Panel Options

Ruhrpumpen can offer Electric / Diesel and Jockey control panels. Panels are available for configurations with one or more drivers and the panels can be programmed for either fully automatic or manual operation. The Electric / Diesel Control Panels are UL/ULC listed and approved by Factory Mutual and CSA, as well as meeting or exceeding the requirements of NFPA 20 and NFPA 70.

Electric Panels



- Configurations LV:
- Across the line
 - Soft Start
 - Delta open / closed
 - Primary resistor
 - Auto-transformer
 - Part Winding

- Configurations MV:
- Across the line

Diesel Panels

Diesel control panels are available for 12 volt (120, 220 / 240 VAC) or 24 volt (120, 220 VAC) diesel fire pump engines.



Jockey Panels

Single or three phases Jockey Fire Pump Panels designed for 50 & 60 Hz in a variety of voltages.



Baseplates

The Fire Pumps will be mounted on a rigid single piece standard baseplate or a heavy duty baseplate. A drip rim or extension for a control panel can be added depending on customer requirements.

Heavy Duty Baseplate



Standard Baseplate



Other Ruhrpumpen Products

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.

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, Irrigation, Cooling Tower, Sump, and Condensate Pumps.

Volute Casing Centrifugal Pump



ZM - Axially split, horizontal single or two stage, double volute casing, double suction, closed impeller. Heavy duty process design according to API 610 latest edition (type BB1).
Pipeline Service-Mainline and Booster, Oil Extraction, Refinery, Chemical, Petrochemical, Metallurgical Industry, and Power Stations.

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, and Sewage Lift Stations.

Horizontal Multi-Stage Process Pump



JTN - Axially split, horizontal multi-stage centrifugal pump. Near centerline mounted. Heavy duty process design according to API 610 latest edition (type BB3).
Refinery, Oil Fields, Petrochemical, and Chemical Applications.

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.



RUHRPUMPEN PLANTS

-  USA, Tulsa & Orland
-  MEXICO, Monterrey
-  BRAZIL, Rio De Janeiro
-  ARGENTINA, Buenos Aires
-  GERMANY, Witten
-  EGYPT, Suez
-  INDIA, Chennai
-  CHINA, Changzhou

More Information:

