RUHRPUMPEN

Specialist for Pumping Technology

INNOVATION
EFFICIENCY
QUALITY

SELECTION GUIDE

Ruhrpumpen offers a wide range of pump designs and sizes providing energy efficient solutions for the vast majority of duty conditions.

Additionally, Ruhrpumpen can offer innovative, tailor-made hydraulics by modifying our high efficiency designs to provide an optimized high quality solution to meet each customer's unique requirements.

The flexibility to adapt our vast product range makes Ruhrpumpen a true "one-stop shop" for all pumping needs.

RUHRPUMPEN

RUHRPUMPEN

Index

ANSI Horizontal Process Pumps

CHARACTERISTICS

- Single stage horizontal centrifugal pump.
- Radially split casing with flanged connections horizontal end suction and centerline top discharge.
- Enclosed or Semi-open impeller.
- Clockwise rotation (viewed from coupling end).
- Foot mounted
- Oil lubricated

DESIGN FEATURES

- ANSI/ASME Standard B 73.1 (OH1).
- "Back Pull Out" design for ease of maintenance, allows for removal of pump assembly without disturbing casing flange connections.
- Standard or large bore stuffing box selection allows for use of packing, and all designs of single or double mechanical seals.
- Close Coupled assembly available.
- Options for high and low temperatures available.

STANDARD CONSTRUCTION MATERIALS

- All ductile iron
- Ductile iron / stainless steel
- Duplex
- All stainless steel
- Duplex Stainless steel
- Alloy 20, hastelloy, zirconium and other materials available upon request

OPERATING LIMITS

- Capacity to 1,150 m^3/h (5,000 U.S. GPM)
- Head to 235 m (770 ft)
- Temperature -45 to 315 °C (-50 to 600 °F)
- Maximum Pressure up to 26 bar (375 PSI)

APPLICATIONS

- Petrochemical
- Oil & gas
- Steel industry
- Automotive
- Food processing
- Power generation
- Pharmaceuticals
- Water treatment
- General process

RUHRPUMPEN NOMENCLATURE

- CPP
- IPP

ANSI End Suction Low Flow, Process Pumps

CHARACTERISTICS

- Single stage horizontal centrifugal pump.
- Radially split casing with flanged connections, horizontal end suction and top discharge on the center line.
- Circular concentric casing together with a radial vane impeller (semi-open) to minimize shaft deflection and reduce excessive radial loads and thus prolonging bearing and seal life.
- Clock-wise rotation (viewed from coupling end).
- Foot mounted.
- Oil lubricated.

DESIGN FEATURES

- ANSI std B73.1 (OH1).
- "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.

OPERATING LIMITS

- Capacity up to 48 m^3/h (210 U.S. gpm).
- Head up to 281 m (920 ft).
- Maximum Pressure up to 27.5 bar (400 psi).
- Temperature up to 371 C (700 F).
- Discharge flange size 25 to 38 mm (1 to 1.5 in).

APPLICATIONS

- Low Flow, High Head Applications
- Chemical / Petrochemical
- Oil & gas
- Water treatment
- Steel industry
- Automotive
- Agriculture
- Pulp and paper
- Paper stock
- Semiconductor
- Food processing
- Pharmaceuticals
- Textile
- General Industries

RUHRPUMPEN NOMENCLATURE

- CPP-L

Horizontal Process Pump

CHARACTERISTICS

- Single stage horizontal centrifugal pump.
- Radially split casing with flanged connections, horizontal end suction and top discharge on the center line.
- Clock-wise rotation (viewed from coupling end).
- Foot mounted.
- Oil lubricated.

DESIGN FEATURES

- In compliance with DIN EN ISO 2858 and DIN EN ISO 5199
- Lip seals as standard
- Commercial cartridge single mechanical seal
- Enclosed impeller keyed to the shaft
- Labyrinth seals on request

MATERIALS OF CONSTRUCTION

- Ductile Iron / Cast Iron
- Duplex

OPERATING LIMITS

- Capacity up to 500 m³/h (2,200 U.S. gpm)
- Head up to 215 m (705 ft)
- Pressure up to 16 bar (232 psi)
- Temperature up to 400°C (752°F)
- Speed up to 3,500 min-1 (3,500 rpm)

APPLICATIONS

- Chemical Industry
- Petrochemical
- Oil & Gas
- Steel Industry
- Automotive
- Food Processing
- Power Generation
- Pharmaceuticals
- Water Treatment
- General Process

RUHRPUMPEN NOMENCLATURE

- CRP

Horizontal Process Pump

CHARACTERISTICS

- Radially split, horizontal single stage centrifugal pump.
- Centerline mounted casing
- Single / double volute depending on size.
- Single suction, enclosed impeller.
- Thrust compensation by balance holes.
- End-Top nozzle arrangement.
- Centerline discharge nozzle.
- Top - Top nozzle arrangement available as an option
- Materials of construction per API 610.
- Other materials available on request.

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (OH2 type).
- Oil ring lubrication. Other methods of lubrication are available.
- Replaceable front and back wear rings for casing and impeller.
- Special design for abrasive liquids available.
- Low temperature design on request.
- Inducers for low NPSH available.
- Fan and Water cooling are available.
- Rotating element completely removable without disturbing piping or driver.
- Coke Crusher Impeller available.
- Jacketed casings available for fly ash & similar service.
- Five power ends offering more than 150 hydraulics.

OPERATING LIMITS

- Capacity up to 3,200 m³/h (14,089 U.S. gpm)
- Head up to 480 m (1,575 ft)
- Discharge flange size 1" to 12"
- Maximum Pressure 90 bar (1,300 psi)
- Temperature -120 to 450 C (-184 to 850 F)

APPLICATIONS

- Petroleum Refining, Production and Distribution.
- Petrochemical.
- Heavy-duty Chemical.
- Gas Industry Services.
- Power Plants.
- Utilities.

RUHRPUMPEN NOMENCLATURE

- SCE

General Service Heavy Duty Horizontal Process Pumps

CHARACTERISTICS

- Radially split, horizontal, centrifugal pump
- Foot or centerline mounted
- Single volute casing
- Single suction, radial, enclosed impeller
- Thrust compensation by balance holes
- End-Top nozzle arrangement

MATERIALS OF CONSTRUCTION

- Cast iron
- Ductile iron
- All bronze

APPLICATIONS

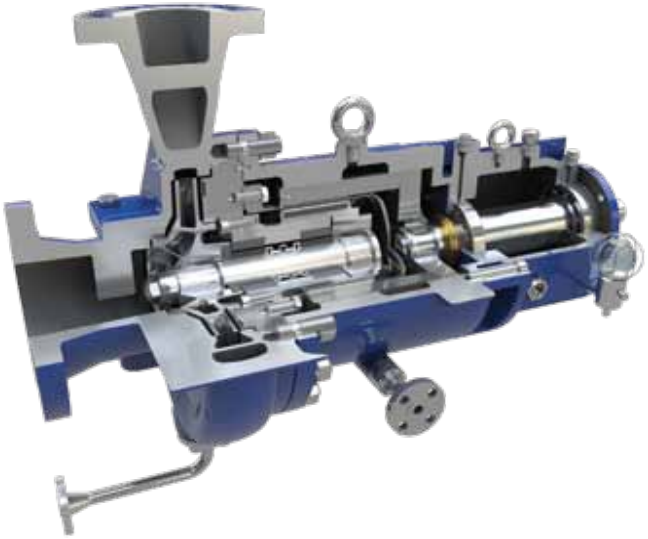
- Cooling water
- Drinking water
- Sea water
- Fire pump
- SOM as hot water pump

OPERATING LIMITS

- Capacity up to 2,800 m^3/h (12,340 U.S. GPM)
- Head up to 160 m (525 ft)
- Discharge flange size 6 to 16 in
- Pressure up to 20 bar (298 PSI)
- Temperature up to 210°C (410°F)

RUHRPUMPEN NOMENCLATURE

- SO
- SOM



Horizontal Overhung Magnetic Drive Pumps

CHARACTERISTICS

- Magnetic driven over journal bearings
- Horizontal overhung, Single Stage
- Centerline Mounted Casing
- Materials of construction per API 685
- Well-defined pressurized internal flush flow
- Balanced axial thrust over the complete operating range up to Qopt. x 1.

DESIGN FEATURES

- Heavy duty process design according to API 685 (OHM) latest edition
- Replaceable front and back wear rings for casing and impeller
- Journal bearings (patent pending) made of silicon carbide (SSiC)
- Inducers for low NPSH available
- 100% leakage free containment shell, self vented and fully drainable
- Secondary control system and secondary containment system are available per API 685
- Internal and main stream filter self cleaning
- Casing and intermediate housing heating/cooling
- Energy efficient Magnetic drive. Elimination of the axial deflection.

OPERATING LIMITS

- Capacity up to 2,200 m³/h (9, 690 gpm).
- Head up to 330 m (1,080 ft).
- Flanges according to ASME B16.5 up to
- 300# (600# as an option).
- Pressure up to 40 bar (580 psi).
- Temperature -120 °C to 450 °C (-184 °F to 840°F).

APPLICATIONS

- Petroleum Refining, Production and Distribution.
- Petrochemical.
- Refineries.
- Heavy-duty Chemical.
- Gas Industry Services.
- Power Plants.
- Utilities.

RUHRPUMPEN NOMENCLATURE

- SCE-M

Magnetic Horizontal Process Pump

CHARACTERISTICS

- Horizontal, single stage
- Radially Split.
- Foot mounted casing
- End-Top nozzle arrangement.
- Single suction impeller.
- Axial thrust balance.

DESIGN FEATURES

- Complies with DIN EN ISO 2858 and DIN EN ISO 15783
- Spherical journal bearings
- Internal flows and pressures
- High efficiency magnetic drive system
- Axial thrust balancing.
- 100% leakage free containment shell, self vented and fully drainable.

OPERATING LIMITS

- Capacity up to 500 m³/h (2,200 U.S. gpm).
- Head up to 215 m (705 ft).
- Design Pressure 16 barg at 120°C (232 psig at 248°F)
- Temperature up to -120°C to 450°C (-148°F to 840°F)

APPLICATIONS

- Chemical and Petrochemical Industry
- Tank farms
- Liquid gas industry
- Refrigeration and heat technology
- Power plant technology
- Galvano technique
- Oil and Gas
- Coking Plants

RUHRPUMPEN NOMENCLATURE

- CRP-M

Horizontal Split Case Pumps Single Stage

CHARACTERISTICS

- Single stage double suction horizontal centrifugal pump
- Horizontally split casing, single and double volute
- Flanged connections
- Enclosed impellers, double suction provide hydraulic balance eliminating axial thrust
- Clockwise or counterclockwise rotation
- Double ended shaft available
- Foot Mounted

DESIGN FEATURES

- Oil or grease lubricated bearings, oil mist lubrication available.
- Stuffing box configured for packing or mechanical seals
- Horizontal or vertical mounting configurations
- Renewable wear rings on impeller and casing

STANDARD CONSTRUCTION MATERIALS

- Cast iron
- Cast iron, Stainless steel fitted
- All bronze
- All WCB grade carbon steel
- All stainless steel
- Other material available upon request

OPERATING LIMITS

- Capacity to 31,800m^3/h (140,000 U.S. GPM)
- Head to 480 m (1,575 ft)
- Pressure to 20 bar (298 PSI)
- Temperature 10 to 270°C (50 to 518°F)

APPLICATIONS

- Dewatering
- Mining
- Water
- Fire service
- Cooling towers
- Municipal
- Oil process
- Petrochemical
- Sugar industry
- Paper industry
- Pipeline
- Power generation
- Others

RUHRPUMPEN NOMENCLATURE

- HSC
- HSD
- HSR
- ZW

Horizontal Split Case Pumps

CHARACTERISTICS

- Axially split, horizontal, single or double stage centrifugal pump
- Foot or Near-centerline mounted
- Double volute casing and diffuser casing
- Enclosed impeller, double suction provides hydraulic balance eliminating axial thrust.
- Side-Side nozzle arrangement
- Two-stage design for higher heads
- Materials of contruction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (BB1 type)
- Ring oil lubrication, other methods of lubrication available
- Diffuser design available enabling hydraulic flexibility
- Replaceable wear rings for casing and impeller
- Fan and Water cooling available

OPERATING LIMITS

- Capacity 100 to 22,000 m^3/h (440 to 96,863 U.S. GPM)
- Head 10 to 1,200 m (33 to 3,930 ft)
- Discharge flange size 4 to 40 in
- Max. Pressure 145 bar (2,103 PSI)
- Temperature 205°C (401°F)

APPLICATIONS

- Pipeline service: mainline and booster
- Oil extraction technology: onshore and offshore
- Refinery technology
- Chemical / Petrochemical industry
- General industry
- Metallurgical and steel industries
- Combined heating and power stations
- Power stations

RUHRPUMPEN NOMENCLATURE

- ZM
- ZMS
- ZLM

Horizontal Split Case Pump Multi Stage

CHARACTERISTICS

- Two and four stage horizontal centrifugal pumps, double volute
- Horizontally split casing, side-side nozzle arrangement
- Enclosed impellers
- Counterclockwise rotation viewed from coupling end

DESIGN FEATURES

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

STANDARD CONSTRUCTION MATERIALS

- All cast iron
- Cast iron, bronze fitted
- Carbon steel, iron fitted
- Cast iron, 316 SS fitted
- Other materials available on request

OPERATING LIMITS

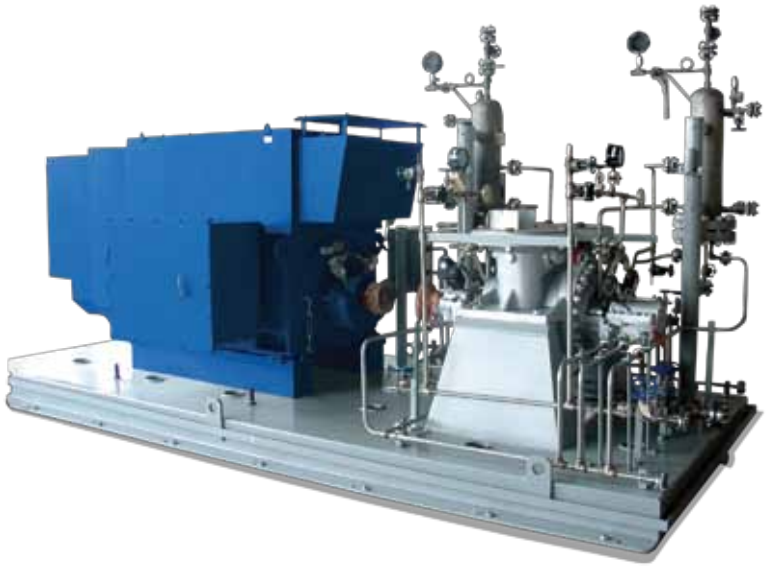
- Capacity to 454 m^3/hr (2,000 U.S. GPM)
- Head to 670 m (2,200 ft)
- Pressure 50 bar (739 PSI)
- Temperature max: 121°C (250°F)

APPLICATIONS

- High pressure applications (Boiler Feed, Petrochemical, Chemical, Industrial)
- Power plants

RUHRPUMPEN NOMENCLATURE

- HSM



Between Bearing Single Stage

CHARACTERISTICS

- Radially split, horizontal single stage centrifugal pump
- Centerline mounted
- Double volute casing
- Double suction, enclosed impeller
- Thrust compensation by double suction impeller
- Top-Top nozzle arrangement, other arrangements on request
- Materials of construction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (BB2 type)
- Ring oil lubrication, other methods of lubrication available
- Fan and water cooling available
- Coke crusher design available for heater charge services
- Side-side and side-top nozzles available
- Jacketed casings available for fly ash and similar service
- Double Ended shaft available

OPERATING LIMITS

- Capacity to 6,814 m³/h (30,000 U.S. GPM)
- Head to 610m (2,000 ft)
- Max. pressure to 125 bar (1,813 PSI)
- Temperature to 450°C (850°F)

APPLICATIONS

- Heavy duty high temperature process
- Process and industrial applications including: Charge, Transfer, Injection and Utility Booster

RUHRPUMPEN NOMENCLATURE

- HVN
- J
- JD

Between Bearing Two Stage

CHARACTERISTICS

- Radially split, horizontal two stage centrifugal pump
- Diffuser / volute combined casing
- Single suction, radial, enclosed impeller
- Double suction on request
- Thrust compensation by opposed impellers
- Top-Top nozzle arrangement, other arrangements on request
- Materials of construction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (BB2 type)
- Ring oil lubrication, other methods of lubrication available
- Replaceable wear rings for casing and impeller
- Fan and water cooling available
- Coke crusher design available

OPERATING LIMITS

- Capacity 18 to 2,000 m^3/h (75 to 8,806 U.S. GPM)
- Head 150 to 1,000 m (492 to 3,281 ft)
- Discharge flange size 2 to 14 in
- Max. pressure 125 bar (1,813 PSI)
- Temperature 450°C (850°F)

APPLICATIONS

- Refineries
- Oil fields
- Petrochemical plants
- Chemical plants

RUHRPUMPEN NOMENCLATURE

- RON / RON-D

Horizontally Split Multi Stage Volute Casing

CHARACTERISTICS

- Axially split, horizontal multi-stage centrifugal pump
- Near-centerline mounted
- Double volute casing
- Single suction, enclosed impeller
- Double suction impellers for higher flows
- Thrust compensation by opposed impeller groups
- Side-Side nozzle arrangement
- Materials of construction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (BB3 type)
- Ring oil lubrication, other methods of lubrication available
- Replaceable wear rings for casing and impeller
- Sleeve / Tilt Pad bearings design available
- Fan and water cooling available

OPERATING LIMITS

- Capacity 50 to 3,000 m^3/h (220 to 13,209 U.S. GPM)
- Head 200 to 3,000 m (656 to 9,843 ft)
- Discharge flange size 3 to 14 in
- Max. Pressure 420 bar (6,000 PSI)
- Temperature up to 205°C (400°F)

APPLICATIONS

- Oil fields and terminals
- Crude oil and oil product pipelines
- Water pipelines
- Fluid injection
- High pressure services
- Power plants

RUHRPUMPEN NOMENCLATURE

- SM
- SM I

Horizontally Split Multi Stage Diffuser Casing

CHARACTERISTICS

- Axially split, horizontal multistage centrifugal pump
- Near-centerline mounted
- Diffuser casing
- Single suction, enclosed impeller
- Thrust compensation by opposed impeller groups
- Side-Side nozzle arrangement
- Materials of construction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (BB3 type)
- Ring oil lubrication, other methods of lubrication available
- Replaceable wear rings for casing and impeller
- Fan and water cooling available

OPERATING LIMITS

- Capacity 10 to 350 m³/h (44 to 1,540 U.S. GPM)
- Head 100 to 1,000 m (325 to 3,280 ft) Discharge flange size 1 1/2 to 6 in
- Max. Pressure 130 bar (1,890 PSI)
- Temperature 220 °C (428 °F)

APPLICATIONS

- Power plants
- Refineries
- Oil fields
- Petrochemical plants
- Chemical plants

RUHRPUMPEN NOMENCLATURE

- JTN

Horizontal Multi Stage Barrel Pump

CHARACTERISTICS

- Radially split, horizontal multi-stage centrifugal pump
- Centerline mounted
- Diffuser casing
- Single / Double suction, enclosed impeller
- Thrust compensation by balance drum or rotor design with opposed impellers available
- Top-Top nozzle arrangement
- Materials of construction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (BB5 type)
- Ring oil lubrication, other methods of lubrication available
- Cartridge pull out design available
- Sleeve / Tilt Pad bearings design available
- Replaceable wear rings for casing and impeller
- Alternate nozzle arrangements available
- Fan cooling available
- Special design for decoking service available
- Low NPSH double suction design available

OPERATING LIMITS

- Capacity up to 2,000 m^3/h (8,806 U.S. GPM)
- Head up to 4,572 m (15,000 ft)
- Discharge flange size 2 to 12 in
- Max. Pressure 420 bar (6,000 PSI)
- Temperature 450°C (850°F)

APPLICATIONS

- Hydrocarbons
- Chemical solutions
- Water
- Seawater
- Decoking Jet service
- Charge pumps
- Descaling service pumps

RUHRPUMPEN NOMENCLATURE

- A
- AB
- ADC
- ADSL

Vertical Turbine Pumps

VTP

SUBMERSIBLE VTP

CHARACTERISTICS

- Multistage vertical centrifugal pumps with diffuser type bowl
- Semi-Open / enclosed impellers
- Counterclockwise rotation viewed from coupling end
- Basket or conical strainer, according to pump requirements

STANDARD CONSTRUCTION MATERIALS

Bowls

- Cast iron bowls
- Bronze impellers
- 416 SS shafting
- Integral cast wear surfaces with optional wear rings in bronze or SS
- Optional materials available on request

Columns

- Carbon steel pipe – threaded or flanged
- AISI–1045 carbon steel or 416 SS line shafting
- Optional materials available on request

Discharge Head

- Cast Iron with 125# ANSI FF flanges
- Fabricated steel with 150# or 300#
- ANSI flanges (optional)
- Optional custom fabricated discharge head to meet your criteria

Bearing Material

- Bronze as standard
- Other materials and configurations available as options

DESIGN FEATURES

- API 610 latest edition construction available (VS1 type)
- Product or oil lubricated
- Oversized bowl shaft sizing for longer life
- Epoxy coated bowls
- Collet mounted impellers

OPERATING LIMITS

- Capacity to 13,630 m³/hr (60,000 U.S. GPM)
- Head to 762 m (2,500 ft)
- Pressure to 74 bar (1,080 PSI)
- Temperature 121°C (250°F)

APPLICATIONS

- Deep well
- Irrigation
- Sump
- Condensate
- Can pump requirements
- Fire service
- Municipal
- Industrial

RUHRPUMPEN NOMENCLATURE

- VTP
- HQ

Double Suction Vertical Turbine Pumps

CHARACTERISTICS

- Single stage vertical, centrifugal, double volute
- Double suction enclosed impeller
- Counterclockwise rotation
- Available as a low NPSH first-stage for other vertical models

DESIGN FEATURES

- API 610 latest edition construction available (VS2 type)
- Above or below base discharge nozzle
- Open line shaft construction standard, enclosed line shaft with external lubrication available

STANDARD CONSTRUCTION MATERIALS

- Liquid End: cast iron with bronze impellers
- Column: carbon steel pipe and shaft
- Discharge Head: carbon steel with 150 and 300 ANSI flanges
- Other materials available upon request

OPERATING LIMITS

- Capacity 340 to 18,170 m^3/h (1,500 to 80,000 GPM)
- Head 12 to 244 m (40 to 800 ft)
- Discharge flange size 10 to 48 in
- Maximum Pressure 19 bar (280 PSI)
- Temperature150°C (302°F)

APPLICATIONS

- Cooling towers and other applications requiring large volumes of liquid with relatively high head
- Raw water intake
- Pipeline booster pump

RUHRPUMPEN NOMENCLATURE

- DSV
- DX

Vertical Circulator and Mixed Flow Pumps

CHARACTERISTICS

- Vertical space saving construction
- Open, semi-open and enclosed impellers available for wide range of applications and according to pump model
- Oil, fresh water or self-lube column construction
- Engineered to customer specifications
- Wide range of impeller designs and specific speeds (1,800-14,000) for optimum hydraulic coverage
- Integral bearing retainer
- Threaded or flanged column (depending on its size), with water or oil lubrication
- Sizes 20 cm (8 in) to 305 cm (120 in)

DESIGN FEATURES

- API 610 latest edition construction available (VS3 type)
- Above or below ground discharge
- Packed stuffing box or mechanical seal
- Optional pull-out design for ease of maintenance except VMF and TR
- Pump mounted thrust bearings when required
- Rotor 'Pull-Out' design available

OPERATING LIMITS

- Capacity to 90,850 m^3/h (400,000 U.S. GPM)
- Head to 175 m (575 ft per stage)
- Pressure 10 bar (156 PSI)
- Temperature -30 to 135°C (-20 to 275°F)

APPLICATIONS

- Power generation
- Condenser cooling water service
- Cooling tower service
- Flood service
- Storm water disposal
- Water treatment
- Primary water supply
- Waste treatment plants
- Industrial service
- Sump drainage

RUHRPUMPEN NOMENCLATURE

- TR
- HX
- KX
- MX
- RX
- SX
- VX
- WX
- VMF

Vertical Sump Pumps

CHARACTERISTICS

- Vertical sump arrangement
- Sump
- Single suction
- Single stage
- API 610 latest edition construction available (VS4 type)

APPLICATIONS

- Water
- Hydrocarbons
- Process water
- River water
- Chemical solutions

OPERATING LIMITS

- Capacity 3 to 1,931 m^3/h (10 to 8,500 U.S. GPM)
- Head 3 to 130 m (10 to 425 ft)
- Max. Pressure 40 bar (580 PSI)
- Temperature 200°C (400°F)

RUHRPUMPEN NOMENCLATURE

- VSP
- VSP CHEM

Vertical Axial Flow Pumps

STANDARD CONSTRUCTION MATERIALS

- Bowls: Cast iron with bronze impeller
- Column: Carbon steel with AISI-1045 shaft
- Discharge head: Fabricated steel
- Other materials available on request

OPERATING LIMITS

- Capacity to 72,680 m^3/h (320,000 U.S. GPM)
- Head 27 m (90 ft)
- Pressure 5 bar (75 PSI)
- Temperature 95°C (230°F)

CHARACTERISTICS

- Multi-stage vertical centrifugal pump, diffuser type bowl
- Axial flow impeller, high efficiency
- Solids handling capacity upto 23 cm (9")
- Counterclockwise rotation viewed from shaft coupling

DESIGN FEATURES

- API 610 latest edition construction available (VS3 type)
- Above or below base discharge
- Discharge elbows designed to reduce friction losses, diffusers designed to minimize turbulence and increase efficiency
- Product, oil, or fresh water lubrication
- Rotor 'Pull-Out' design available

APPLICATIONS

- All applications that require large quantities of water with low head, like drainage, wastewater, flood control, irrigation, waste treatment plants, underpass drainage, condenser cooling, construction dewatering, ditch pumps and raw water intakes

OPTIONAL ACCESSORIES

- Basket type strainer
- Extended Suction bell to minimize vortices

RUHRPUMPEN NOMENCLATURE

- VAF
- POV
- PV
- PMR
- VPO
- PVD

Vertical Barrel Pumps

- Fabrications designed in accordance with PED (Pressure Equipment Directive) and national standards when required
- Choice of bearings and mechanical seals
- Pump mounted thrust bearing when required
- Tank or sump mount options available
- Three different impeller design fit into same bowl providing flexible hydraulics for the same pump configuration.

CHARACTERISTICS

- Double suction first stage available
- Low NPSH “Shockless Entry” first stage impeller
- Over 700 vertical Ruhrpumpen pump hydraulics can be used for construction
- Integral fabricated column support bearings
- Collet or ring and key impeller mounting
- One-piece shaft construction for shaft lengths to 6 m (20 ft)
- Rigid 4-piece coupling
- Single or double suction first stage
- Single stage or multistage available
- Nozzles are available with the suction in the head or barrel

DESIGN FEATURES

- API 610 latest edition construction available (VS6 type)
- Fabrications manufactured using ASME Section IX code qualified welders for API applications

OPERATING LIMITS

- Capacity to 25,000 m^3/hr (110,000 U.S. GPM)
- Head to 1,500 m (4,921 ft)
- Pressure to 140 bar (2,030 PSI)
- Max. Temperature 600°C (1,110°F)
- VMT Min. Temperature -200°C (-323°F)
- Horsepower 3,000 kW (4,000 hp)

APPLICATIONS

- Condensate
- Power plants
- Municipal
- Hydrocarbons
- Pipeline
- Refineries
- Molten salt applications

RUHRPUMPEN NOMENCLATURE

- VLT
- VMT

LS Barge Pump

CHARACTERISTICS

- Vertical self-contained pump
- Primary self-priming 1st stage impeller
- Capable of handling air and product for efficient stripping
- Vertical unit requires minimal space
- Handles large variety of petroleum distillates and sea water during offloading process

DESIGN FEATURES

- Efficient function under adverse stripping conditions
- No need for auxiliary vacuum pump to maintain prime
- Pollution prevention design system to minimize costly product clean up
- Broad range of metallurgies available for special applications

OPERATING LIMITS

- Capacity 182 to 1,136 m³/h (800 to 5,000 GPM)
- Head 12 to 91 m (40 to 300 ft)
- Max. viscosity 48 cSt (1,500 SSU)
- Max. temp. 74 °C (165 °F)

APPLICATIONS

- Ballast operation
- Transfer petroleum distillates including gasoline, fuel oils, light lubricants, some heavy oils (not to exceed 48 cSt (1,500 SSU))
- Barge Stripping / Dewatering

RUHRPUMPEN NOMENCLATURE

- LS Barge Pump

Vertical Turbine Generators and Cryogenic Services

VTG

VTG
CRYOGENIC

CHARACTERISTICS

- Multi-stage vertical centrifugal pump, which can also be used as a Turbine Generator
- Enclosed and open impeller available
- Bearings are product lubricated
- Different types of turbines for different operation conditions
- Available for sump or closed system applications

APPLICATIONS

- Hydroelectric generators
- Industrial systems
- Water transportation systems
- Dams
- Reverse Osmosis
- Oil supply systems
- Chemical & petrochemical processes
- Cryogenic closed systems

OPERATING LIMITS

- Capacity up to 6,626 m^3/h (29,174 U.S. GPM)
- Head to 1,067 m (3,500 ft)
- Pressure up to 105 bar (1,523 PSI)
- Temperature -185 to 121°C (-300 to 250°F)

Depending on materials and size of the turbine; higher pressures or head are possible, please contact Ruhrpumpen

DESIGN FEATURES

- Semi-open runners which are axially adjustable from the operating floor level
- Good efficiency and good choke-flow characteristics
- Discharge may be open into a sump, or into a barrel in a closed system
- API 610 latest edition construction available

RUHRPUMPEN NOMENCLATURE

- VTG

Vertical In-line

SPN

SPI

CHARACTERISTICS

- Radially split, vertical in-line centrifugal pump
- Single volute casing
- Single suction, enclosed impeller
- Thrust compensation by balance holes
- Side-Side in-line nozzle arrangement
- Materials of construction per API 610, other materials on request

DESIGN FEATURES

- Heavy duty process design according to API 610 latest edition (OH3 / OH5 type)
- OH5 (SPN) close coupled design
- OH3 (SPI) separate bearing bracket
- Replaceable wear rings for casing and impeller

APPLICATIONS

- Petroleum refining, production and distribution
- Petrochemical
- Chemical

OPERATING LIMITS

- Capacity 2.5 to 613m³/h (11 to 2,700 U.S. GPM)
- Head 15 to 290 m (52 to 950 ft)
- Speed up to 3,600 RPM
- Temperature to 260°C (500°F)
- MAWP to 41 bar (597 PSI)

RUHRPUMPEN NOMENCLATURE

- SPI (Flexible Coupled)
- SPN (Close Coupled)

IVP

IIL

General Service Vertical In-line

CHARACTERISTICS

IIL
- Vertical inline pump with top pull out design to simplify maintenance.
- Closed coupled pump for compact installation
- Dual purpose jack screws
- Protected one piece shaft

IVP
- Axial Split Coupling
- Outside Balanced / Inside Unbalanced seal arrangement
- Rigid Coupling with Coupling guard for safety.

DESIGN FEATURES

IIL
- ANSI B73.1
- Flanged suction and discharge on common centerline
- Fully enclosed, balance impeller
- Packing Box Cover with unique through bolt design
- Optional Wear Rings on all models
- SS Motor Shaft Sleeve

IVP
- Enclosed Cast Iron or SS Impeller
- Adapter with lifting lugs
- Air relief valve
- Water Drainer

OPERATING LIMITS

IIL
- Capacity to 227 m^3/hr (1,000 U.S. GPM)
- Head to 119 m (390 ft)
- Pressure up to 24 bar (350 PSI)
- Temperature to 175°C (350°F)

IVP
- Capacity to 1135 m^3/hr (5,000 U.S. GPM)
- Head to 122 m (400 ft)
- Pressure up to 26 bar (375 PSI)
- Temperature to 260°C (500°F)

APPLICATIONS

- Chemical
- Petrochemical, Petroleum, Coal
- Fiber
- Pulp and Paper
- Food and Beverage
- Pharmaceutical Fats and Oils
- Fabrication
- Utility
- Fire Service
- Air Conditioning Systems
- Ice, Service, Ocean and Condensed Water
- Building water supply systems
- Other applications

RUHRPUMPEN NOMENCLATURE

- IIL (Close Coupled)
- IVP (Rigidly Coupled)

Submersible Pumps

CHARACTERISTICS

- Vertical
- Single suction
- Single stage
- Submersible motor

APPLICATIONS

- Water
- Rain water
- Combined sewage
- Sea water
- Cooling water
- Sludge

OPERATING LIMITS

- Capacity 300 to 18,000 m /h^3 (1,320 to 79,344 U.S. GPM)
- Head 2 to 50 m (6 to 165 ft)
- Pressure up to 7 bar (99 PSI)
- Temperature up to 40°C (104°F)

RUHRPUMPEN NOMENCLATURE

- STT (Volute casing)
- PVT (Propeller pump, only for clean water)
- TRT (Mixed flow, only for clean water)
- LKT (Mixed flow)

Single-Stage, Mixed Flow Pumps

CHARACTERISTICS

- Single stage
- Single suction
- Semi-axial enclosed impeller
- Antifriction bearings
- Mixed flow pump

OPERATING LIMITS

- Capacity up to 14,000 m^3/h (61,700 U.S. GPM)
- Head up to 45 m (147 ft)
- Pressure up to 4.4 bar (64 PSI)
- Temperature up to 40°C (104°F)
- Discharge flange size 10 to 40 in

APPLICATIONS

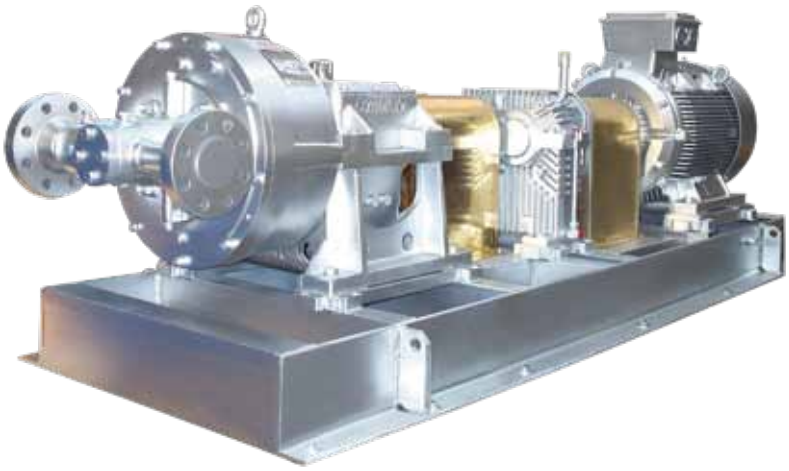
SD & SDV:
- Cooling water
- General water
- Drinking water
- Rain water
- Sea water

SK & SKV:
- Sewage
- Wastewater

RUHRPUMPEN NOMENCLATURE

- SD
- SDV
- SK
- SKV

Combitube



CHARACTERISTICS

- Horizontal Single stage
- Pitot tube pump
- Pulsation free operation
- Side-side nozzle arrangement
- Oil and grease lubricated versions
- Counter clock wise rotation when viewed from motor end

DESIGN FEATURES

- Heavy duty mechanical construction
- No impeller design. Pitot tube technology
- Designed for low flow, and high heads
- Oil cooling coil could be provided
- Single or double mechanical seal for shaft sealing
- No contact between pumped medium and pump lubricant
- Complies with ATEX legislation

OPERATING LIMITS

- Capacity up to 80 m^3/h (352 GPM)
- Head up to 1480 m (4,856 ft)
- Discharge flanges of 50 mm (2 in)
- Maximum pressure 160 bar (2,320 PSI)
- Temperature 200°C (390°F)

APPLICATIONS

- Chemical
- Pulp and Paper Industry
- Food Industry
- Brewing Industry
- Steel Manufacturing
- Metal plating
- Automotive production
- Desalination
- Transportation
- Oil extraction

RUHRPUMPEN NOMENCLATURE

- Combitube

Single Channel Impeller

CHARACTERISTICS

- Non-clogging / Non-stringing single-channel impeller
- Back pull out design
- Casing with a cleaning opening and replaceable wear plate
- Impeller with a large waterway and vanes on the front and back shroud
- Shaft sealing with a special waste water seal or a mechanical seal

OPERATING LIMITS

- Capacity 70 to 2,000 m^3/h (308 to 8,820 U.S. GPM)
- Head 4 to 35 m (13 to 115 ft)
- Discharge flange size 5 to 14 in
- Pressure up to 4 bar (56 PSI)
- Temperature up to 80°C (176°F)

APPLICATIONS

- Municipal and industrial raw wastewater
- Combined sewage and rain water
- Wastewater pumping stations

RUHRPUMPEN NOMENCLATURE

- ESK

Two Channel Impeller

CHARACTERISTICS

- Horizontal or vertical
- Single suction
- Single stage
- Clog-Free impeller design
- Two channel pot impeller
- Heavy duty bearing bracket
- Radially split
- Tangential Discharge Nozzle

APPLICATIONS

- Sewage
- Rain water
- Sludge

OPERATING LIMITS

- Capacity up to 8,000 m^3/h (35,223 U.S. GPM)
- Head 3.5 to 32 m (11 to 115 ft)
- Pressure up to 4.5 bar (65 PSI)
- Temperature up to 80°C (176°F)

RUHRPUMPEN NOMENCLATURE

- ST
- STV

Three Channel Impeller

CHARACTERISTICS

- Horizontal or vertical mounted
- Single suction
- Single stage
- Radially split casing
- Three-Channel impeller
- Heavy duty bearing bracket

OPERATING LIMITS

- Capacity 250 to 3,000 m^3/h (1,100 to 13,220 U.S. GPM)
- Head 2 to 20 m (6 to 131 ft)
- Temperature up to 60°C (140°F)
- Pressure up to 1.9 bar (28 PSI)

APPLICATIONS

- Wastewater
- Combined sewage
- Rain water
- Fecal matter
- Sludge

RUHRPUMPEN NOMENCLATURE

- SKO

General Service Horizontal Pumps

CHARACTERISTICS

- Horizontal or vertical
- Single stage
- Enclosed impeller

APPLICATIONS

- Water
- Wastewater
- River water
- Rain water

OPERATING LIMITS

- Capacity 18 to 1,590 m^3/h (80 to 7,000 U.S. GPM)
- Head 1.8 to 42 m (6 to 140 ft)
- Temperature up to 120°C (248°F)
- Pressure up to 4.4 bar (64 PSI)

RUHRPUMPEN NOMENCLATURE

- SHD
- Sump Pump

Floating Dock Pump Single Stage

CHARACTERISTICS

- Radially split, vertical foot mounted centrifugal pump
- Volute casing with double suction impeller
- Double suction, radial, enclosed impeller
- Thrust compensation by double suction impeller
- Side-Side nozzle arrangement

OPERATION LIMITS

- Capacity 170 to 6,000 m³/h (750 to 26,500 U.S. GPM)
- Head 3 to 20 m (10 to 66 ft)
- Discharge flange size 12 to 28 in
- Pressure up to 5 bar (71 PSI)
- Temperature up to 40°C (104°F)

APPLICATIONS

- Main bilge pump on floating docks

RUHRPUMPEN NOMENCLATURE

- ZVZ

Floating Dock Pump, Single or Multi Stage

CHARACTERISTICS

- Radially split centrifugal pump.
- Single or multi-stage.
- Diffuser casing.
- Single suction segmental casing.

APPLICATIONS

- Wash-down pumps in floating docks
- Fire protection service

OPERATING LIMITS

- Capacity 20 to 300 m³/h (88 to 1,320 U.S. GPM)
- Head 25 to 160 m (82 to 525 ft)
- Discharge flange size 12 to 28 in
- Maximum Pressure up to 20 bar (71 PSI)
- Temperature up to 40 °C (104 °F)

RUHRPUMPEN NOMENCLATURE

- LVZ

Vertical Can Cryogenic Pumps

CHARACTERISTICS

- API 610 latest edition
- Vertical arrangement
- Reliable and proven sealing system
- Various material combinations available for low temperature cryogenic liquids
- VLT single or multi-stage
- SVNV single stage

OPERATING LIMITS

- Capacity 3 to 3,000 m^3/h (10 to 13,200 U.S. GPM)
- Head 6 to 1,152 m (26 to 370 ft)
- Max. pressure 145 bar (2,105 PSI)
- Temperature -196°C (-320°F)

APPLICATIONS

- Liquid nitrogen
- Liquid oxygen
- Cryogenic
- Hydrocarbons

RUHRPUMPEN NOMENCLATURE

- VLT Cryogenic
- SVNV
- VLTV

Vertical Fire Pumps

Pumps Listed for Fire Protection Service

APPROVALS

- Ruhrpumpen's vertical turbine fire pumps are listed by Underwriter's Laboratories Inc and approved by Factory Mutual

CHARACTERISTICS

- Multiple stages as required to meet differential pressure
- Enclosed impellers, single suction
- Counterclockwise rotation as viewed from coupling end.
- Threaded Columns optimally sized for low discharge velocity and adequate length to cover pump setting.
- Flanged Columns available as option.
- Open line shaft construction is standard, enclosed line shaft available as option.
- Larger bowl shaft ensures longer pump life.
- Standard materials for Nozzle head & Columns: Cast Iron / Fabricated Steel / Stainless steel and other materials available.
- Standard materials for Bowls/Impellers; Cast Iron / Other materials available on request.
- Fabricated baseplate to accommodate pump head, right angle gear box and diesel engine driver available
- Complete Fire Pump Housing per NFPA20 & UL/FM available
- Electrical / Pneumatc Start for Diesel Engine Available

DESIGN FEATURES

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

APPLICATIONS

- Commercial centers
- High rise buildings
- Oil & gas onshore and offshore platforms
- Power stations
- Manufacturing and chemical industries

Horizontal Fire Pumps

Pumps Listed for Fire Protection Service

APPROVALS

- Ruhrpumpen's fire pumps are listed by Underwriter's Laboratories Inc and approved by Factory Mutual

CHARACTERISTICS

- Single stage double suction impeller
- Split case design allows for service without disturbing the piping
- Dynamically balanced double suction Impeller to reduce thrust loads
- Clockwise or counterclockwise rotation (viewed from coupling side) available
- Grease lubricated bearings
- Standard materials are cast iron case, bronze impellers & wear rings, other materials available
- Special material for casing and internals on request
- Base fabricated steel capable of supporting the weight of the pump and driver, other base designs are available on request
- Complete packaged fire pump skids available
- Electric / Pneumatic starting system available for Diesel Engine
- Complete Fire Pump Housing per NFPA20 & UL/FM available

DESIGN FEATURES

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

APPLICATIONS

- Commercial centers
- High rise buildings
- Oil & gas onshore and offshore platforms
- Power stations
- Manufacturing and chemical industries

Packaged Fire Pump Systems

APPROVAL

- Ruhrpumpen's horizontal and vertical fire pumps are listed by Underwriter's Laboratories Inc and approved by Factory Mutual

CHARACTERISTICS

- Electric motor or diesel engine
- Main and jockey pumps and controller mounted on a common base
- Complete equipment compatibility
- Reduced field cost installation
- Interconnection wiring in accordance with area classifications
- Delivered to site in a single shipment
- Factory piped suction, discharge and test pipe line manifolds (optional)
- Fuel tank into the common base with fuel lines (optional)
- System is totally wired and tested

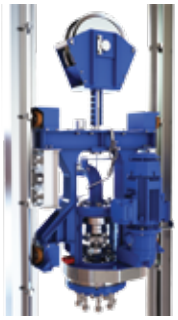
DESIGN FEATURES

- NFPA-20
- UL-448
- FM-1311
- FM-1312
- Special design available on request

APPLICATIONS

- Commercial centers
- High rise buildings
- Oil & gas onshore and offshore platforms
- Power stations
- Manufacturing and chemical industries

Hydraulic Decoking System



CROSSHEAD WITH DRILL STEM DRIVE

Crosshead Design
Standard components of heavy duty industry
- Guide rails
- Wheels
- Free fall arrestor
- Double block

Functional test
- Simmulation of broken rope

Drill Stem Drive Design
Standard Components of heavy duty industry
- Main gear, grease lubricated
- Auxiliary gear, oil lubricated
- Packing cartridge
- Engine with hydraulic, electric, or pneumatic drive

High torque at the drill stem
- High gear ratio
- Main gear without sealing at the Drill Stem

Control
- Measurement of torque and speed at the drill stem
- Manual override for max. torque (optional for hydraulic systems)

Favorable Maintenance
- Cartridge system

Test condition of Drill Stem Drive
Hydro Test
- 525 bar (7,800 PSI)

Functional test
- 15 rpm at 350 bar (5,200 PSI)

Measurement
- Torque
- Leakage

HOIST HYDRAULIC DRIVEN

Performance
Pull Force
- 4,500 kg (9,912 lb)
- Compact design
- Low noise

Pull speed (Hoist)
- Up to 70 m/min (230 ft/min)

DECOKING JET PUMPS

- ADC Model, API 610 (BB5) see page 15

Operating Limits
- Capacity up to 400 m³/h (1,760 U.S. GPM)
- Head up to 4,000 m (13,120 ft)
- Speed according to requirement
- Temperature up to 150°C (302°F)
- Higher heads base on requirements
- For High-pressure cutting water

- MANUFACTURING PLANTS & SERVICE CENTERS
- SERVICE CENTERS

PLANTS & SERVICE CENTERS

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

SERVICE CENTERS

- CANADA, EDMONTON
- USA, VIRGINIA
- USA, BATON ROUGE
- USA, HOUSTON
- MEXICO, CELAYA
- MEXICO, SAN LUIS POTOSI
- MEXICO, COATZACOALCOS
- COLOMBIA, BOGOTA

RUHRPUMPEN

RUHRPUMPEN PLANTS

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

RP-CAT-SG-EN-V01-130311