

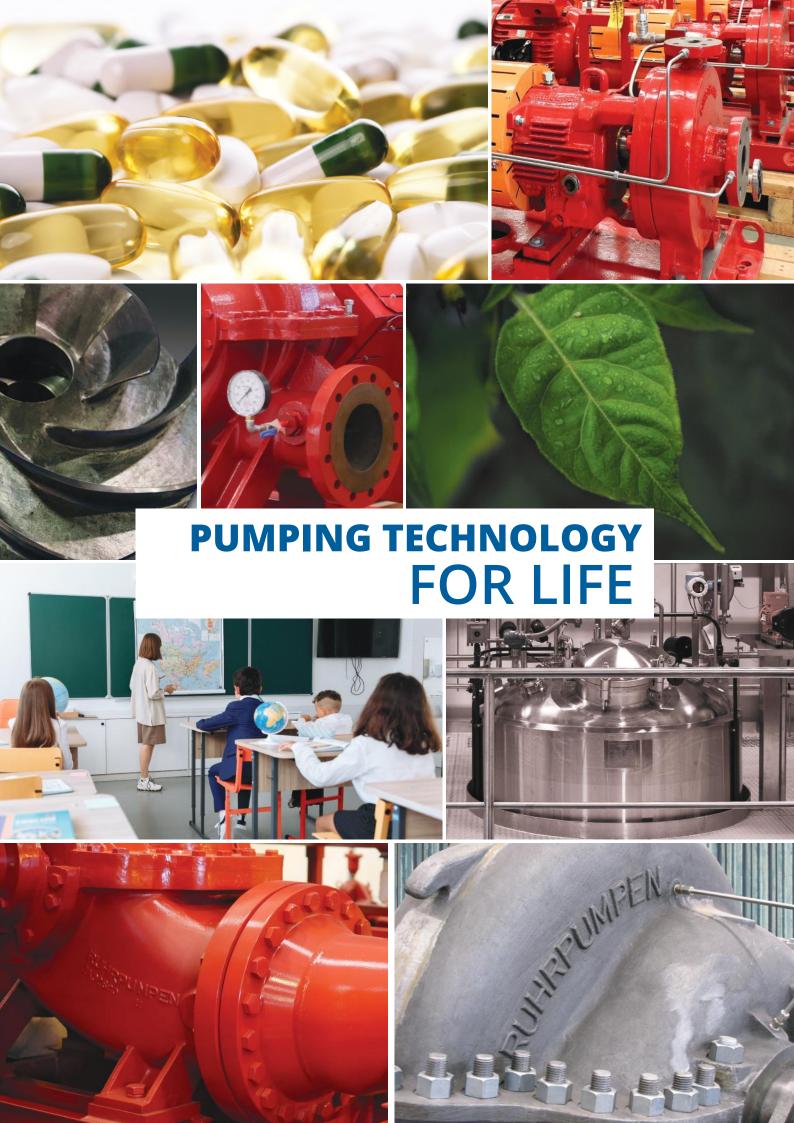








FIRE PUMPS
CATALOGUE



# CREATING YOUR SOLUTION

Aiming to provide **the best available technology** through centuries of industrial application experience, **not impacting our planet.** 

Reliability	Every fire pump factory performance tested	
Quality	Listed and approved suppliers and components	
Preengineered Solutions	Plug-and-play baseplates and complete fire pump houses	
Manufacture	Packaging and testing in United Kingdom	
Service	15 Service Centres globally	
People	Health, safety and ecological culture	
Waste	Sustainable within our strategy	





### **+70 YEARS** CREATING

# PUMPING TECHNOLOGY FOR LIFE

### We deliver industrial fluid-handling solutions ranging from off-the-shelf pumps, through to pre-configured process packages, and engineered-to-order systems.

The Ruhrpumpen brand means "Solution". Our experienced fluid handling team assist with commercially-centric application challenges across all areas of the world.

Safeguarding families with fire protection packages, facilitating health within pharmaceutical production, and providing clean drinking water, are just a few reasons which make Ruhrpumpen the ideal life-choice for industrial pumping equipment.

We aim to reduce our planet's carbon footprint and waste plastic. Ecologically-biased engineers use lean and clean processes to manufacture solutions by employing parts that have a long lifetime and can eventually be recycled.

### Ruhrpumpen at a Glance



Vertical Integration



70 years of experience



Sales offices in more than 35 countries



+2,000 employees



Manufacturing facilities in 10 countries



Global Service Centres

Sustainable pumping solutions installed globally



# **OUR SERVICES**

# Your aftermarket supplier of choice for spare parts, mechanical seals, repairs, upgrades, field service, and total-pump-management.

The dedication of Ruhrpumpen to our customers goes beyond simply supplying world class products. Our dedicated Aftermarket staff are ready and waiting to assist you in solving all your pumping needs. From on-site service to standard overhauls, in Ruhrpumpen we are ready to supply parts, service and training for your complete pump line.

#### **Field Service**

Available for worldwide assignments Our specialists can be dispatched within 24 hrs Reliability Engineering Field Technicians Application Engineering

#### **OEM & Spare Parts**

OEM Spare parts Reverse Engineering Mechanical Seals

#### **Upgrades & Retrofits**

Retrofits & Upgrades

#### **Repairs**

Workshop repairs Performance Testing Reverse Engineering

### **Approvals Maintenance**

Fire-Pump service ATEX assesment





# MEET OUR **PUMPS**

RP MODEL		DESCRIPTION DESIGN STANDARDS OPERATING L		TING LIMITS		
	CRP	Single stage, end suction ISO process pump	DIN EN ISO 2858, ISO 5199 HI design (OH1)	Q = up to 500 m <sup>3</sup> /h H = up to 215 m	P = up to 25 bar T = up to 300 °C	
	CRP-M	Sealless process pump with magnetic drive	DIN EN ISO 2858 & ISO 15783 (OH1)	Q = up to 500 m³/h H = up to 215 m	P = up to 16 bar T = - 120 to 450 °C	KOIIK CHEMICAL
	CPP / CPP-L	Single stage, end suction ANSI process pump (enclosed impeller)	ANSI B73.1 HI design (OH1)	Q = up to 1,150 m <sup>3</sup> /h H = up to 235 m	P = up to 26 bar T = - 45 to 315 °C	
	CPO / CPO-L	Single stage, end suction ANSI process pump (open impeller)	ANSI B73.1 H1 design (OH1)	Q = up to 1,590 m <sup>3</sup> /h H = up to 198 m	P = up to 26 bar T = up to 371 °C	
	СРА-М	Sealless process pump with magnetic drive	ANSI B73.3 H1 design (OH1)	Q = up to 500 m <sup>3</sup> /h H = up to 215 m	P =16 bar T = -120 to 450 °C	
	CLP	Sealless Fluorpolymer lined up pump with magnetic drive	DIN EN ISO 2858 & DIN 24256 (OH1)	Q = up to 300 m <sup>3</sup> /h H = up to 90 m	P = 16 bar T = -60 to 180 °C	
	IVP / IVP-CC	Vertical in-line pump in extended and close coupled configurations	HI design (OH4 / OH5)	Q = up to 2,271 m <sup>3</sup> /h H = up to 122 m	P = up to 19 bar T = -45 to 150 °C	
<b>-</b>	IRP	Single stage, end suction industrial water-type pump	DIN EN ISO 2858 & DIN 24255 ( OH1 & Close coupled)	Q = up to 681 m³/h H = up to 130 m	P = up to 10 bar T = up to 140 °C	
	Combitube	Single stage, pitot tube pump for low flow, high head applications	Industrial & API norms	Q = up to 80 m³/h   H = up to 1,480 m	P = up to 160 bar T = up to 200 °C	
(O)	SWP	Self-priming pump for solids handling applications	HI design (OH1)	Q = up to 1,476 m³/h H = up to 42 m	T = up to 70 °C	
-	PS	Single stage, end suction, centrifugal solids handling stock pump	HI design (OH1)	Q = up to 1, 817 m³/h H = up to 91 m	P = up to 10 bar T = up to 144 °C	
	zw	Horizontal & Vertical double suction, single sstage, split case pumps		Q = up to 9,000 m <sup>3</sup> /h H = up to 340 m	P = up to 98 bar T = up to 120 °C	
	SO	Single stage, end suction ISO Process pump	DIN EN ISO 2858, Transnorm, DIN 24256 (OH1)	Q = up to 2,800 m <sup>3</sup> /h H = up to 160 m	P = up to 25 bar T = -10 °C to 240 °C	
	SHD / ESK SKO / SK / SKV / ST / STV	Single stage, end suction pumps (solids handling)		Q = up to 8,000 m³/h H =up to 116 m	P = up to 10 bar T = up to 80 °C	
	SD / SDV	Single stage, end suction pumps (solids handling) for vertical and horizontal installations	HI design (OH3)	Q =up to 14,000 m <sup>3</sup> /h H = up to 45 m	P = up to 4.4 bar T = up to 40 °C	
	NE	Submersible Non-clog centrifugal wastewater pump with oil-filled motor	HI design Industrial norms	C =up to 522 m³/h H = up to 53 m	P = up to 4.8 bar T = up to 70 °C	
	SHS	Submersible Non-clog centrifugal wastewater pump with dry-running motor	   HI design Industrial norms 	C =up to 1,600 m³/h H = up to 73 m	P = up to 10.3 bar T = up to 120 °C	
1	VTP	Multi-stage, vertical turbine pumps with diffuser type bowl	HI design Industrial & API 610 (VS1) norms	Q = up to 13,636 m³/h H = up to 762	P = 74 bar T = 0 to 121 °C	VEKTICAL
	VSP / VSP CHEM	Single stage vertical sump pump design for wet pit applications	ANSI B73.1, ISO 5199 EN ISO 2858 and API 610 (VS4) norms	Q = up to 1,200 m <sup>3</sup> /h H = up to 130 m	P = up to 40 bar T = up to 200 °C	CAL

# MEET OUR **PUMPS**

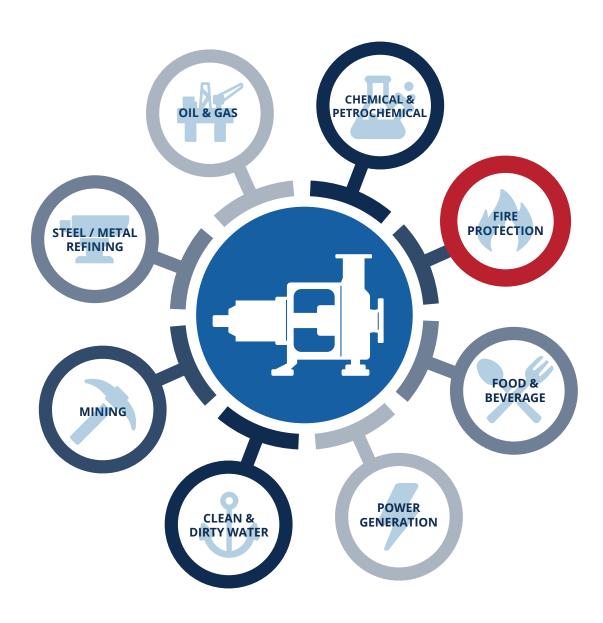
RP MODEL		DESCRIPTION DESIGN STANDARI		OPERATING LIMITS		
	VSS	Vertical multi-stage centrifugal in-line pump with balanced mechanical seal	Industrial norms	Q = 1,120 m³/h H = 300 m	P= up to 30 bar T = up to 120°C	RUP HIGH PR
	GP GPA	Horizontal, multi-stage, ring-section type process and boiler feed water pump	ISO 5199, Industrial norms and API 610 (BB4)	Q = up to 900 m³/h H = up to 4,000 m	P = up to 416 bar T = up to 205 °C	RUHR <sup>AP</sup> HIGH PRESSURE
	МРР	Single stage, end suction, Hard-metal mining & slurry pump		Q = up to 4,500 m³/h H = up to 70 m	P = up to 20 bar T = up to 120 °C	RUHRQUARTZ MINING
	ZW - F	, , , ,		Q = 150 to 5,000 US gpm (1,135 m <sup>3</sup> /h) P = up to 355 psi (25 bar)		
-	IRP - F	Horizontal, single stage, end suction fire pumps	NFPA 20 FM / UL approvals	Q = up to 1,500 US gpm (340 m³/h) P = up to 185 psi (13 bar)  Q = up to 5,000 US gpm (1,135 m³/h) P = up to 355 psi (25 bar)		RUHRFIRE PROTECTION
	Pre-Packaged Fire Pump Systems	Fire systems incorporate pumps, drivers, control systems and pipework in a single container. They can be skid mounted, with or without enclosure and supplied with electric motor or diesel engine.				ECTION
	PSKI & PDKI	Component Single & Dual mechanical seals	DIN 24960, EN 12756, ATEX II2G & II3G	T min = - 50 °C T max = 400 °C	P = up to 80 bar	
	CSCI & CDCI	Cartridge Single & Dual mechanical seals	EN 12756, ATEX II2G & II3G	T min = -40 °C T max = -220 ° C	P = up to 25 bar	
	CSCI & CDCI	Cartridge Single & Dual mechanical converter seals	EN12756, DIN24960, ISO 3069, ATEX II2G & II3G	T min = -40 °C T max = -220 ° C	P = up to 20 bar	
	CSCA & CDCA	Cartridge Single & Dual Mechanical seals	API 682, ISO 21049, EN 12756, ATEX II2G & II3G	T min = -40 °C T max = -220 ° C	P = up to 25 bar	RCH
	SSCM, SSCL & SSCU	Split semi-cartridge mechanical seals	FDA, DIN28136 T2 & T3, DIN 28137 T2, DIN28141/ U154, DIN 28154, DIN 28159, ATEX II2G & II3G	T min = -20 °C T max = 500 °C	P= FV P = up to 25 bar	RUHR <sup>₽I</sup> - MECH <i>F</i>
<b>-</b> 40	PSGI, PDGI, CSGI, CDGI, CSGL, CDGL, CSGU, CDGU, CSGM & CDGM	Dry Gas cartridge single & dual mechanical seals	'	T min = -20 °C T max = 170 °C	P= FV P = up to 25 bar	ECHANICAL SEALS
	Support Systems	Thermosyphon circulation and cooling systems	API 682 / ISO 21049: PLAN 52 & PLAN 53A, PED 2014/68/EU, ASME VIII, Div. 1	T min = - 60 °C T max = 200 ° C	P = 40 bar	
	Engineered Seals	Cartridge & component Single & Dual API & Chemical mechanical seals	I API 682, FDA, DIN	T min = - 50 °C T max = 500 ° C	P= FV P = up to 150 bar	
	SCE	Horizontal, centerline mounted, single stage API process pump	API 610 (OH2)	Q = up to 3,200 m <sup>3</sup> /h H = up to 480 m	P = up to 90 bar T = -80 to 450 °C	일 문
	SCE-M	Horizontal, centerline mounted, single stage API provess pump with magnetic drive	API 685 (OH2)	Q = up to 2,200 m <sup>3</sup> /h H = up to 330 m	P = up to 40 bar T =-120 to 450 °C	RUHR <sup>API</sup> OIL & GAS

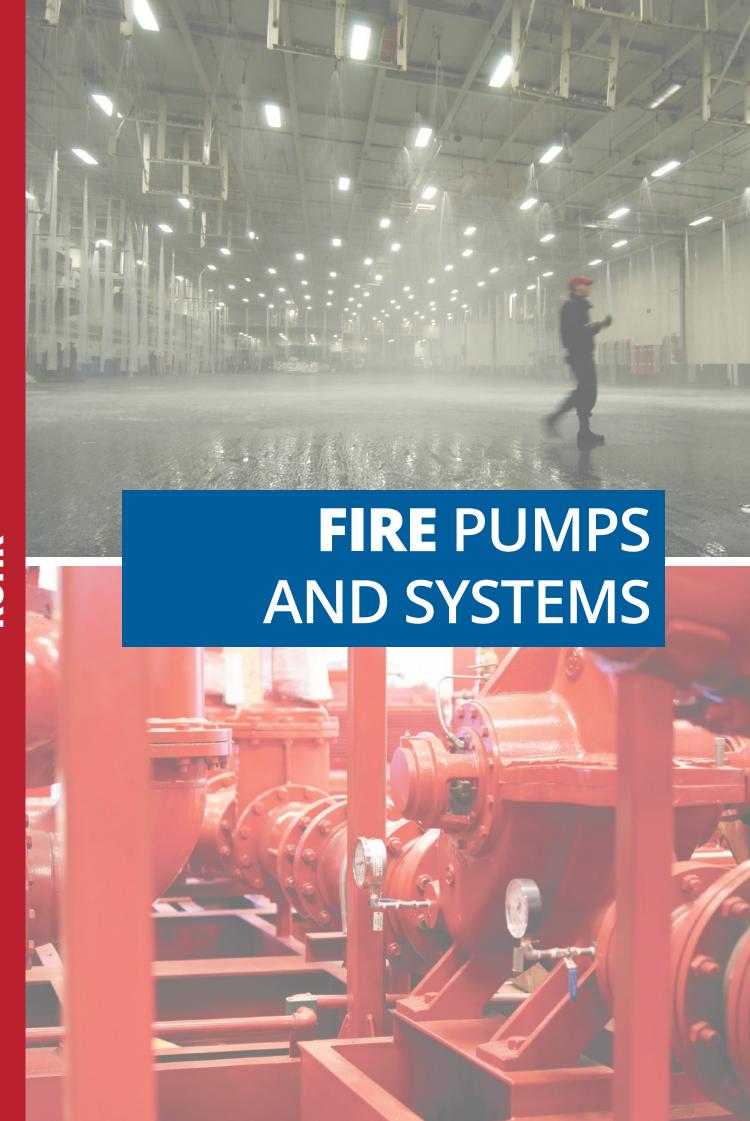


# A WIDE RANGE OF APPLICATIONS

We offer more than 70 years of experience solving thousands of specific industrial needs in fluid transfer technology.

Our customers can be sure that we are constantly developing more efficient pumps for new and existing industrial processes. Our products are used in a wide variety of industrial applications, including but not limited to:





# FIRE PUMPS AND SYSTEMS

Our fire protection pumping solutions can be found all around the world in a variety of industrial, commercial and residential applications. We are able to supply single pumping units or complete pre-packaged fire systems (with or without enclosure), always tailored and built to the requirements of the customer, ensuring that they meet international and local safety regulations.













#### **CHARACTERISTICS**

All pre-packaged systems accommodate any of the RP fire pump models with drivers, control systems and pipework on a common base for a plug-and-play-installation.

- Available with electric motor or diesel engine
- ETL/C-ETL third party listing components
- UL listed and FM approved components
- NFPA 20 full compliance
- NFPA 850 compliant
- Wide range of construction materials available.
   Metallurgies available for sea/brackish water application and harsh environments.

#### **BENEFITS**

- Single source responsibility for complete system
- System is completely wired and factory tested
- Delivered on site in a single shipment, ready for installation
- Engineered to customer requirements
- International distribution and start-up capabilities
- ABS certification for offshore platform fire pump packages and fire skid units





#### **APPLICATIONS**

- Commercial, municipal and residential highrise buildings
- Large industrial premises and storage warehouses
- Offshore and remote facilities
- Airports
- Commercial centers
- Power stations
- Marine

# JHRSAFE

# Ruhrpumpen fire pumps: the heart of your fire protection system









In-line fire pump

centrifugal pumps

**Vertical in-line** 

Characteristics

# Split case fire pumps

#### Horizontal, single and two stage, split case centrifugal pumps

#### **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
- Factory tested
- EN12845 options

### Benefits

- Ease of installation and maintenance
- Wide range of applications
- Construction materials for seawater service are available

# End suction fire pumps

Horizontal, single stage, end suction centrifugal pumps

#### **Characteristics**

- Flows from 150 to 1,500 GPM
- Pressures from 40 to 250+ PSI
- Electric or Diesel driven
- UL-448 listed
- FM-1319 approved
- NFPA-20 design
- Factory tested
- EN12845 options

#### **Benefits**

 Space-saving and simplified maintenance with back pull-out design without disturbing pipe work

# Vertical turbine fire pump

Vertical, single and multi-stage, turbine pumps

#### **Characteristics**

- Flows from 250 to 5000 GPM
- Pressures from 40 to 519+ PSI
- No priming
- Adaptability to water level
- Electric or Diesel driven
- UL-448 listed
- FM-1312 approved
- NFPA-20 design
- Factory tested

#### -----

- Flows from 150 to 1000 GPM
- Only available with electric drive
- Pending UL Listing and FM Approval
- NFPA-20 design
- Factory tested

#### **Benefits**

- UL listed and FM approved pump for suction lift conditions
- Minimal maintenance
- Can be used where city water is not available and ponds or lakes are the only water supply
- Construction materials for seawater service are available

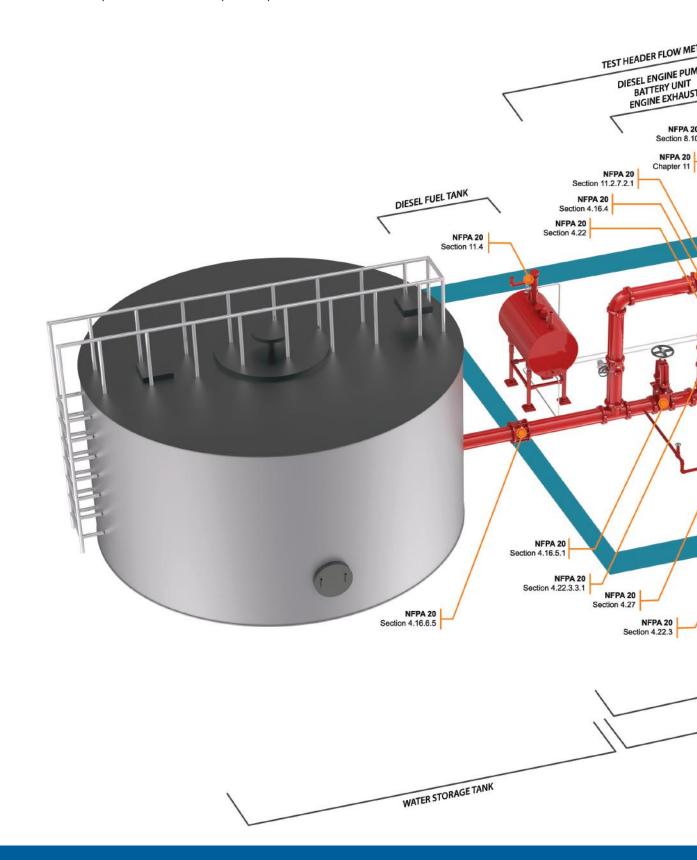
#### Benefits

- Top pull-out design simplifies maintenance
- Compact, space-saving design

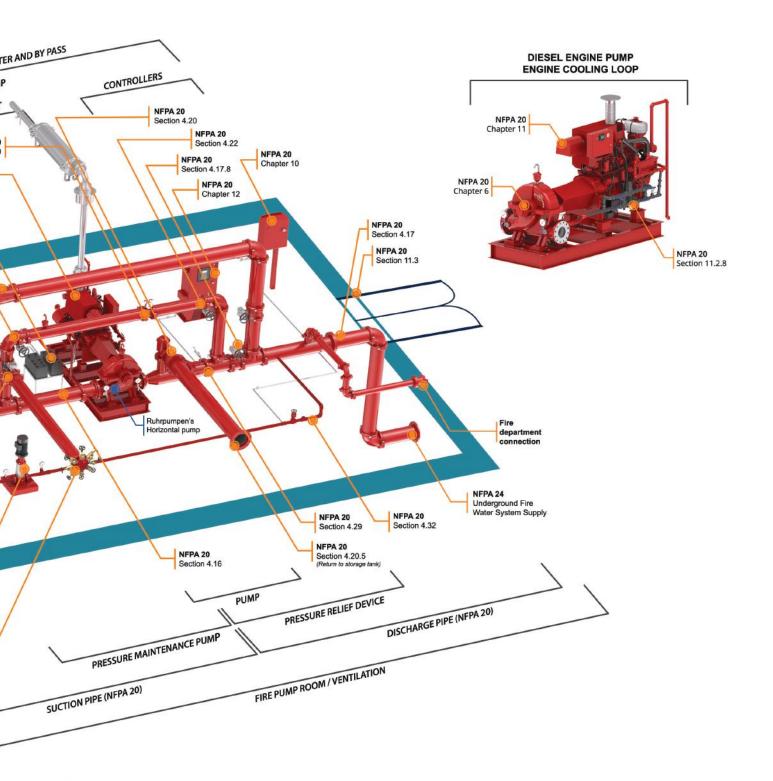


### Fire Pump Installation Arrangement According to NFPA 20

- 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.



Source: NFPA 20-19 Standard for the Installation of Stationary Pumps for Fire Protection, NFPA 22 Standard for Water Tanks for Private Fire Protection





Rated Capacity
Head
Temperature
Pressure

Up to 1341 m<sup>3</sup>/h (1500 USgpm) Up to 123 m (175 psi) Up to 260 °C Up to 16 bar



Materials of construction

Metallurgies for sea/ brackish water - available upon request

TECHNICAL SUMMARY		
DESIGN STANDARD	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection	
FIRE PUMP SPECIFICATION	Centrifugal end suction back-pull-out type design. Central end in suction and top delivery flanges both drilled to BS EN 1092 PN16 standards. In accordance with DIN 24255.	
CASING	CAST IRON The suction and discharge branches together with mounting feet are cast integral with the volute casing. Back-pull-out facility permits removal of back cover, stuffing box and impeller without disturbance of casing or suction / discharge pipework.	
CASE WEAR RING	Close running clearance minimizes pressure leakage, maximizes pump efficiency and are easily replaceable if required.	
IMPELLER	STAINLESS STEEL Dual shrouded with balancing vanes. It is machined and hand finished smooth. The impeller is keyed to the shaft.	
SHAFT	CARBON STEEL Larger-diameter, precision machined, high strength steel shaft provides maximum strength with minimum shaft deflection, so ensuring maximum reliability.	
SHAFT SLEEVE	STAINLESS STEEL Protects the shaft against corrosion and wear, extends through gland for maximum shaft protection.	
STUFFING BOX	GRAPHITE PTFE GLAND PACKING Deep stuffing boxes are designed to accept rings of packing with lantern ring. External flushing line to provide lubrication to the packing area.	
GLAND	STAINLESS STEEL Simplifies maintenance of gland packing.	
LIQUID THROWER	NATURAL RUBBER Designed to protect the bearings from water during operation.	
BEARINGS	Greased-for-life Radial and Thrust Bearings for maximum life at minimum maintenance cost. Operating hours based on 17,500 L10 Life. Mounted in bearing housing secured to cover plate and volute to ensure perfect alignment.	
COUPLING	SPACER Allows removal of rotor without disturbing the motor.	
BASEPLATE	STEEL Extended to carry the driving unit.	
ACCESSORIES	GAUGES Compound Pressure and Vacuum gauge on Suction branch. Pressure gauge on Discharge branch. Fitted with handles.	
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.	













#### **APPLICATIONS**

- Offices
- Residential buildings
- Schools
- Hospitals
- Airports
- Commercial centers
- Power stations
- Chemical Plants



## **HORIZONTAL SPLIT CASE - ZW**

**TECHNICAL SUMMARY** 



<b>Rated Capacity</b>	
Rated Head	
Temperature	
Pressure	

From 150 to 5000 USgpm Up to 339 PSI Up to 250 °C Up to 16 bar



Materials of construction

Metallurgies for sea/ brackish water - available upon request

DESIGN STANDARD	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection
CERTIFICATION	FACTORY MUTUAL (FM) UNDERWRITERS LABORATORIES (UL)
FIRE PUMP SPECIFICATION	Centrifugal axial split case. Lower half casings comprise the suction and discharge flanges. In accordance with ASME / ANSI B16.1, B16.42 and B16.5
CASING AND CASING COVER	CAST IRON / DUCTILE IRON Horizontally split, upper and lower half bolted and dowelled. Flanged suction and discharge connections located in the lower-half casing, allowing inspection and maintenance without disturbing piping or drive alignment
CASE WEAR RING	DUPLEX STAINLESS STEEL Close running clearance minimizes pressure leakage between suction and discharge chambers of the casing, maximizes efficiency and are easily replaceable.
IMPELLER	STAINLESS STEEL Enclosed, double-suction type. Cast in one-piece and balanced to minimize thrust and to ensure longer bearing life Keyed to shaft and locked in position by threaded shaft sleeves
IMPELLER WEAR RINGS	IMPELLER WEAR RINGS Impeller wear rings are optional and case wear rings are standard. Listed material options available on request.
SHAFT	CARBON STEEL Larger-diameter, precision machined, high strength steel shaft provides maximum strength with minimum shaft deflection, so ensuring maximum reliability.
SHAFT SLEEVE	STAINLESS STEEL Protects the shaft against corrosion and wear, extends through gland for maximum shaft protection.
STUFFING BOXES	GLAND PACKING Deep stuffing boxes are 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.
GLAND	STAINLESS STEEL Simplifies maintenance of gland packing.
BEARINGS	BALL (DE) / BALL (NDE) Radial and Thrust Bearings with grease lubrication for maximum life at minimum maintenance cost.
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; counterclockwise rotation optional.













#### Plug-and-Play Solutions...

- ■UL 142 Fuel Tanks loose or pre-installed
- ■Reduced on site installation time and activities

#### Listed Driveshaft Couplings...

- Listed and pre-tested
- Engine manufacturer balancing certificate available on request
- ■CE compliant shaft guarding

#### **Quality Assured Components...**

- Automatic Air Release Valves (AARV)
- ■Pressure Gauges

#### Starting Devices...

- Listed diesel engine controllers
- ■NEMA 2/4/4X Listed enclosure options
- Seawater suitable initiation lines
- Optional Listed features

#### Performance Guarantee...

- ■Every fire pump Factory Tested
- Non Witness and Witness Tested options.

#### Approved Assemblies...

- Listed and pre-tested cooling line arrangements
- Alternate Listed Materiales of construction including Sea Water suitable options

#### **Modular options...**

- Baseplate mounted fuel tanks all pre-piped and pre-wired
- Single and common preassembled baseplate options
- Jockey pumps and pressure initiation boards baseplate mounted and preconnected

#### **APPLICATIONS**

- Large industrial premises and storage warehouses
- Commercial, municipal and residential high-rise buildings
- Offshore and remote facilities
- Airports
- Commercial centers
- Power stations
- Marine



# Completely pre-assembled and fully enclosed packages for a trouble-free and quick installation

The Ruhrpumpen Industrial Europa range of pre-packaged fire pump houses can be containerised or weatherproof, non-combustible enclosure type designs, constructed per NFPA 20 requirements and typically include:



#### **Weatherproof Enclosures**

- Converted (High Cube) container type and fire rated panel system designs
- Original large cargo doors
- Internal dividing wall
- C5-1 industrial finish or saline enviroment suitable finishes
- Drainage

#### **Quality Assured Components**

- Suction and Discharge Valves
- Main Pressure Relief Valve (PRV)
- Waste Cone
- Automatic Air Release Valve (AARV)
- Pressure Gauges

#### **Performance Guarantee**

- Every fire pump is Factory Tested
- Non witness and Witness Tested pumps set and pump house options

#### **Easy Access**

- Standard personnel fire rated doors
- Bespoke plant maintenance doors and hatches

#### **APPLICATIONS**

- Commercial, municipal and residential highrise buildings
- Large industrial premises and storage warehouses
- Offshore and remote facilities
- Airports
- Commercial centers
- Power stations
- Marine



#### Turnkey plug-and-Play Solutions

- From 3D standardized and designed-to-order specifications
- Cuts down the supply chain
- Reduces contractor activity on site
- Commissioning and Testing on site
- On site training

#### **Standard Features**

- Standard personnel fire rated doors
- Bespoke plant maintenance doors and hatches



# YOUR PROCESS PARTNER

### We understand your application

70 years of pump processing experience Application specialists available for support

### **Ecological Foot-printing is important to us**

Investment being made to reduce waste CO<sub>2</sub> Impact aligned to offers

### **Operational Excellence**

Continual process improvements Best in class products

### **Continued Product Development & R&D**

In-house R&D efforts for your Industry Vertically integrated skills and competence

## **Training**

Our tailored courses can be matched to the experience levels and needs of our customers in their specialized fields





#### +70 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.

