

Sulzer Saudi Pump Company

Fire Pump Systems





VANGUARD

VTL-160M

WILZER



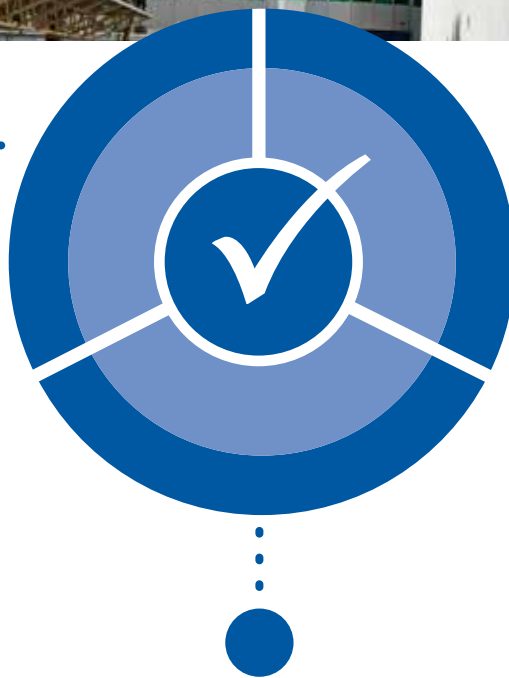
Sulzer Saudi Pump Company

Sulzer Saudi Pump Company is a joint venture between Sulzer and the Saudi Pump Factory. The manufacturing plant in Riyadh produces all types of centrifugal pumps to API and NFPA standards and is part of Sulzer's global manufacturing network. With a fully integrated service center, we can offer maintenance and repair support for pumps and other rotating equipment. This company is the first complete manufacturing facility in Saudi Arabia for a global pump manufacturer of API and fire pumps. We serve to save your life, your property, your job.



Facility

- Equipped with state-of-the-art machinery that includes CNC and conventional machines to serve its Saudi Arabian and Gulf Cooperation Council customers with products to highest Sulzer standards from a local base.
- Ensure the highest quality standards are maintained whilst the quality and management systems comply with the requirements of ISO 9001



Your partner

- Optimize your operational efficiency with our customized solutions
- Enhance your competitive advantage with our expertise through higher energy efficiency, improved production output, and extended maintenance cycles

Workshop

- 25 000 m² facility with 17 500 m² covered, air-conditioned production area
- 4 500 kW computerized pump performance test bed
- 500 m³ water reservoir for testing flows up to 3 400 m³/h
- ISO 9001:2008 Quality Management Systems
- ISO 14001:2004 Environmental Management Systems
- OHSAS 18001:2007 Occupational Health & Safety Management Systems

Sulzer Saudi Pump Company

Sulzer is at your side during each phase of the project to develop the best solution together with you. Reliability and efficiency of your operations is key to your success and we deliver outstanding pumping and service solutions to increase these factors. Operating one of the largest manufacturing and service networks, Sulzer is close to your business to enhance your competitiveness.

Test bed

- Performance tests
- NPSH tests
- Vibration and noise measurement
- Mechanical run test
- With 3.3, 6.6 and 11 kV electrical supply
- Motor capacity up to 4.5 MW
- Capacity: 15 000 GPM
- Dynamic balancing

Key products

- API 610 – VS1, VS4, VS6 pumps
- API 610 – OH2 pumps
- APE 610 - BB1, BB2, BB3, BB5 pumps
- ASME B73.1 – horizontal and VS4 pumps
- Fire water pumps, UL listed – NFPA 20
- Pump packaging

Service and repair support

- Fully integrated service center offering
- On-site installation and supervision
- Pre-commissioning assistance
- Start-up
- Site performance test
- Mechanical and electrical repair service
- Repair for instrumentation
- Maintenance contracts
- Emergency call-out
- Preventive maintenance

Approvals from

- Saudi ARAMCO
- Saudi Electric Co.
- Saline Water Conversion Corp.
- SABIC
- Saudi Arabian Standards Organization
- KOC



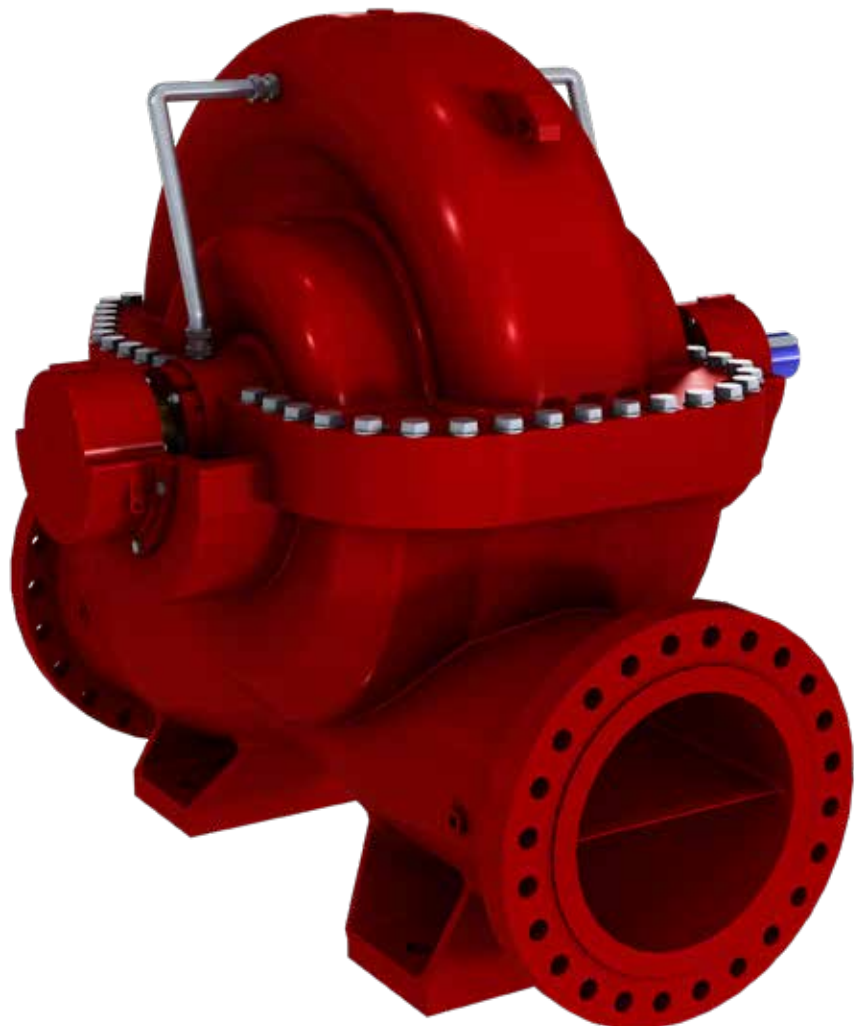
Sulzer Fire Pumps SMN Axially Split Casing Double Suction Pump

Main applications

SMN pumps are used to pump water in municipal installations and in general industry.

Available in over 50 different sizes and in vertical configuration, they provide broad hydraulic coverage with excellent efficiency over a wide range of flows and head. They are mainly used in the following applications:

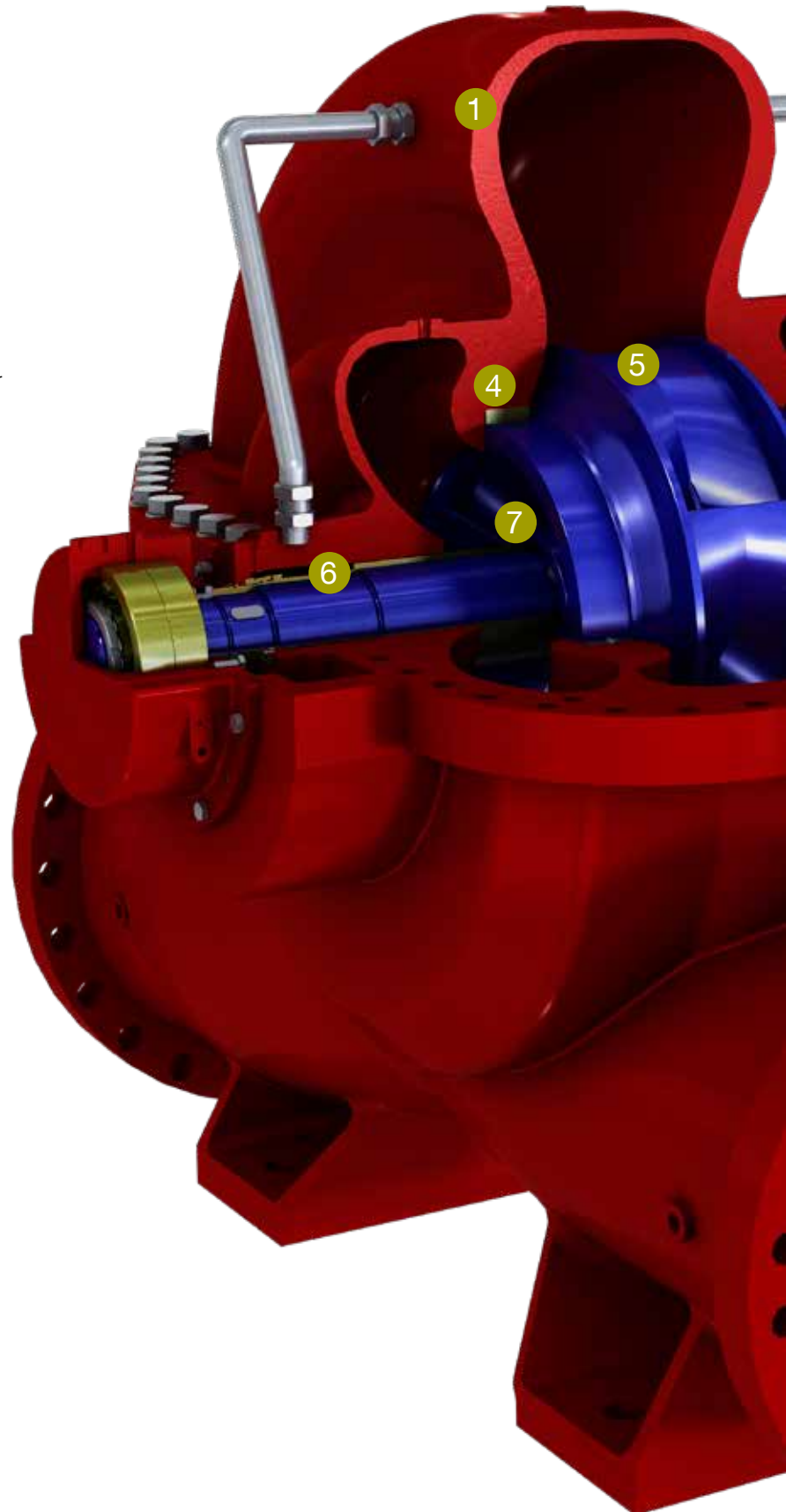
- Water intake, treatment and supply
- Irrigation and drainage systems
- Cooling and heating systems
- Desalination
- Industrial water applications
- Fire fighting applications

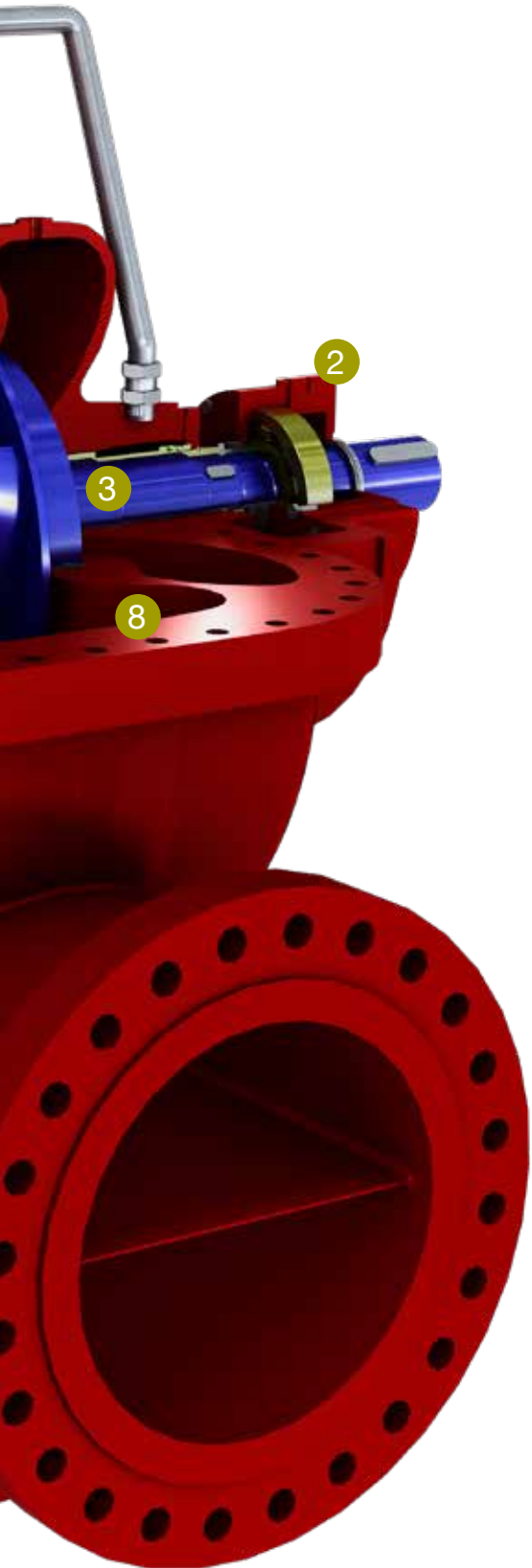


SMN Axially Split Casing Double Suction Pump

Features and benefits

- 1 Axially split casing**
 - Suction and discharge branches in lower half
 - Provides easy maintenance
 - Complete rotor can be inspected and refurbished without disturbing the main pipework or the driver
- 2 Heavy duty rotor bearings**
 - Designed for long bearing life with assured lubrication
- 3 Heavy duty shaft**
 - Stiff design for hard service conditions
- 4 Replaceable wearing rings**
 - Lower maintenance costs





5 Double entry impeller

- Optimum vane geometry provides high efficiency, low Net Positive Suction Head (NPSH) requirement and quiet running over a wide operating range

6 Shaft sealing

- By means of gland packing or mechanical seal; cartridge mechanical seal possible

7 Hydraulic geometry optimized

- Provides ideal flow patterns with low velocities for high efficiency and quiet running

8 Volute

- Single or double volute, reducing this way radial thrusts

SMN Axially Split Casing Double Suction Pump

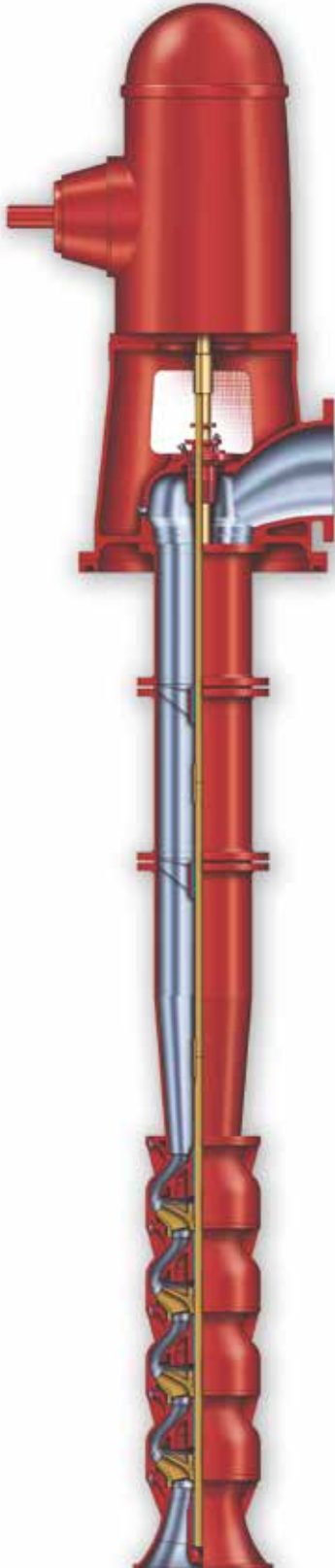
Operating data

50 Hz		60 Hz
100 to 350 mm	Pump sizes	4 to 14 inches
Up to 1 136 m ³ /h	Capacities	Up to 5 000 USgpm
175 m	Heads	570 feet
30 bar	Pressures	435 psi
-10 to 50°C	Temperatures	15 to 122°F

Materials

Item	Material class		
	Bronze fitted	Stainless steel	Super duplex stainless steel
Casing	D.I. ASTM A395	ASTM A351 CF3M	ASTM A995 Gr 5A
Shaft	C.S. AISI 4140	ASTM A276 XM19	A 276 S32760
Double suction impeller	BR. ASTM B148	ASTM A743 CF3M	ASTM A995 Gr 5A
Casing wear ring	BR. ASTM B148	ASTM A 276 S21800	ASTM A995 Gr 5A
Shaft sleeve	BR. ASTM B148	AISI 316 L	A 276 S32760
Gland	BR. ASTM B148	ASTM A743 CF3M	ASTM A 890 Gr.5A
Packing	Graphited acrylic	Graphited acrylic	Graphited acrylic

SJT Vertical Fire Pumps



Fire water pumps

Compelling reasons dictate the installation of a Sulzer fire pump. Foremost among these is protection – protection of lives, equipment, possessions, and inventories of major assets. Maximum protection from the destructive hazards of fire demands the utmost in reliability and performance from fire fighting equipment. Sulzer fire pumps are the end product of many years of engineering and design experience in the vertical pump field. When used with a natural water source Sulzer fire pumps provide fire protection wholly independent of regular water mains thus assuring instant response in time of need.

When property is thoroughly protected by a Sulzer fire pump, it receives a better “safety rating”, and consequently, a lower insurance rate. Often the saving in premiums is sufficient to cover the cost of the equipment in the matter of a few years.

Advantages

- Minimum use of floor space
- Can be installed inside or outside
- No priming required, the pump bowl assembly is submerged in the fluid being pumped
- Ruggedly built for supreme reliability
- Consistent power requirements under normal operating conditions
- Tested at rated and greater than rated flow conditions
- Highly versatile and adaptable in terms of location and length

SJT Vertical Fire Pumps

Features and benefits

1 Driver

A wide variety of pump drivers can be furnished such as electric motors and steam turbines. The diesel engine drive with a right angle gear or dual configuration increases availability by providing power independence for the fire pump during an emergency.

2 Discharge head

Discharge heads are furnished as high strength cast iron, close-grained surface type for easy access and simple installation. In addition, heads are approved as fabricated above or underground type to accommodate customer pipe requirements. Flange ratings are ASA and ANSI standard according to the approved discharge pressure.

3 Column assembly

Consists of flanged or threaded connections. Product lubricated columns have a Sulzer "unique" reversible bearing retainer doubling shaft life by changing wear surfaces.

4 Impellers

Enclosed turbine impellers are precisely trimmed and balance to reduce vibration and wear. Impellers are affixed with either a locking collet or keyed construction and furnished with shrink fitted wear rings.

5 Headshaft

One or two piece headshaft is provided for a hollow shaft drive and features axial adjustment. A solid shaft motor requires a separate motor stand and flanged coupling for a cast head to allow easy mobility.

6 Pumpshaft

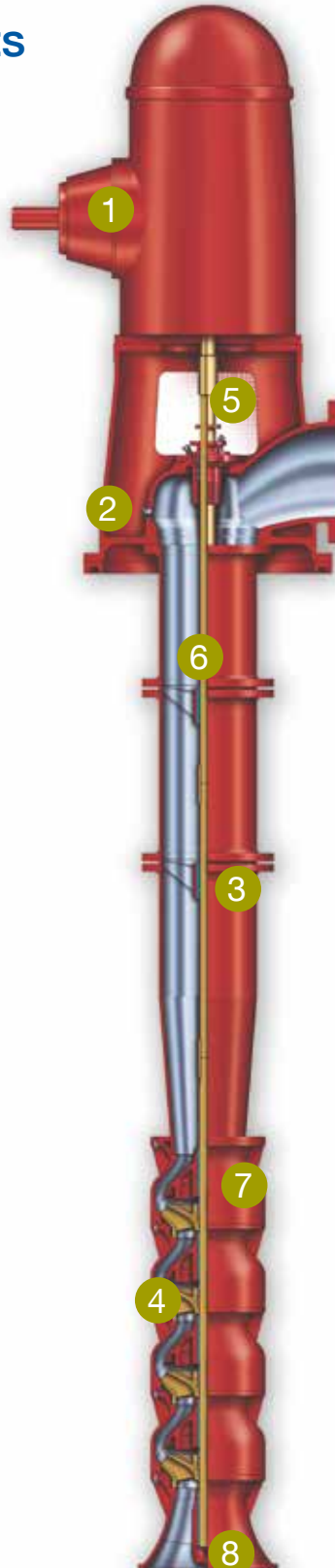
Various sizes and materials are available and are provided as high tensile pump shaft quality material to maintain alignment throughout.

7 Bowl

Bowls are cast and vitriform enamelled internally to achieve maximum efficiency. Dual bronze and rubber bearings provide alignment and dampen vibration as bowl wear rings (optional) increase bowl life.

8 Suction

Standard design is an integral cast tail bearing for maximum shaft support. A suction bell provides efficient, unrestricted flow to the suction impeller. Strainers are not standard in order to avoid the risk of restricted flow in an emergency.



Packaged Fire Pump Systems

Sulzer offers custom and pre-engineered packaged fire pump systems. These systems are factory assembled and tested, leaving only pipe and power connections as well as structural base grouting to be completed on site. All fire pump packages are built to NFPA 20 standards with UL listed/FM approved components

Standard equipment

- UL listed fire pump
- UL listed/FM approved fire pump controller
- Jockey pump
- UL listed jockey pump controller
- Pressure sensing lines complete per NFPA 20
- Listed OS and Y gate as well as butterfly valves
- Suction and discharge pressure gauges
- Automatic casing air release valve
- Casing pressure relief valve (electric packages)
- Hose header with valves, caps and chains
- Suction and discharge piping per NFPA 20
- All electrical components pre-wired at factory
- Complete system hydrostatically tested

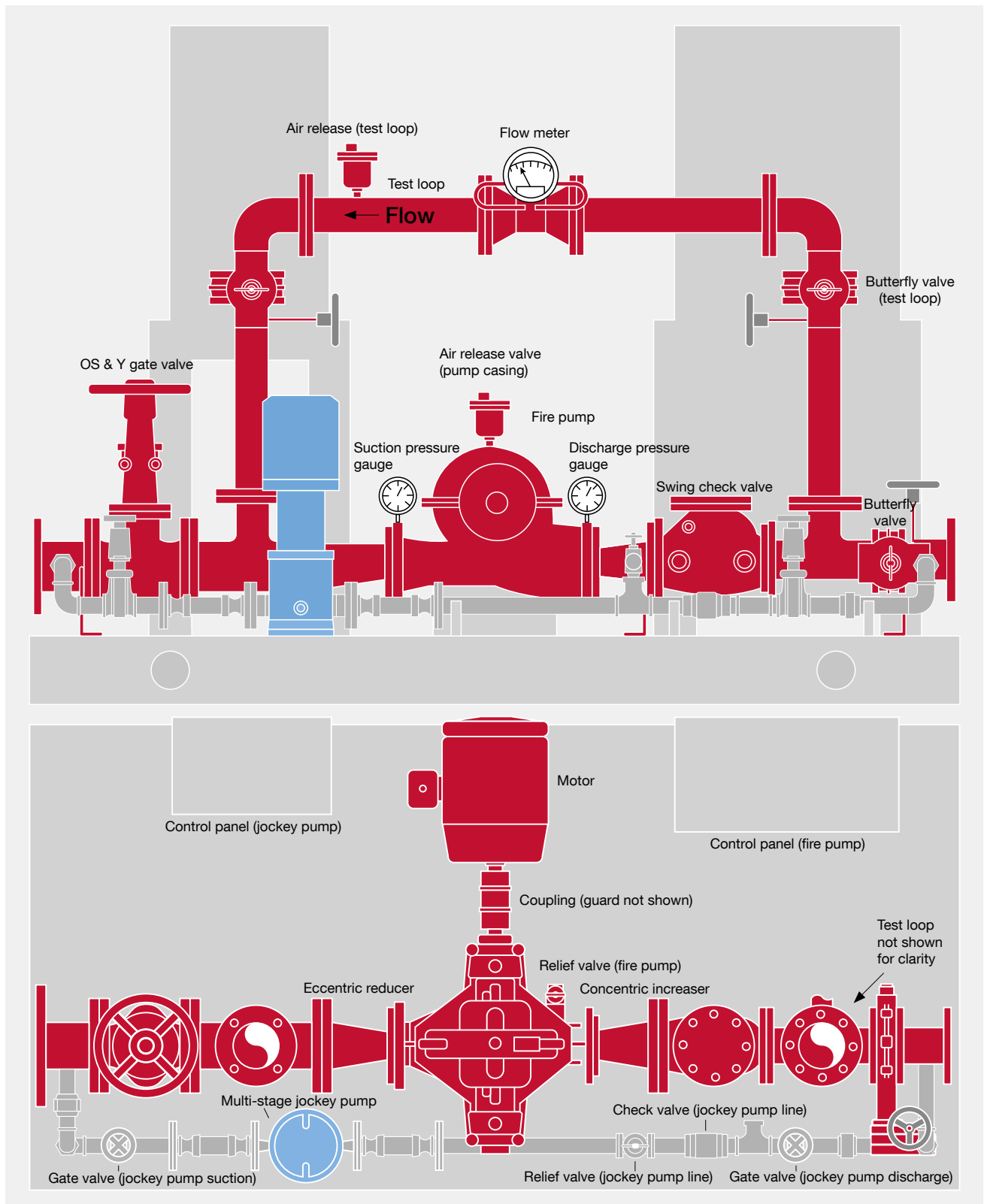
Diesel-driven fire pump packages also include

- Dual batteries with racks and charger
- UL listed fuel tank sized per NFPA 20
- Residential grade muffler
- Flexible exhaust connector
- Engine cooling loop
- UL listed/FM approved diesel engine
- UL listed/FM approved diesel engine controller
- UL listed fire pump

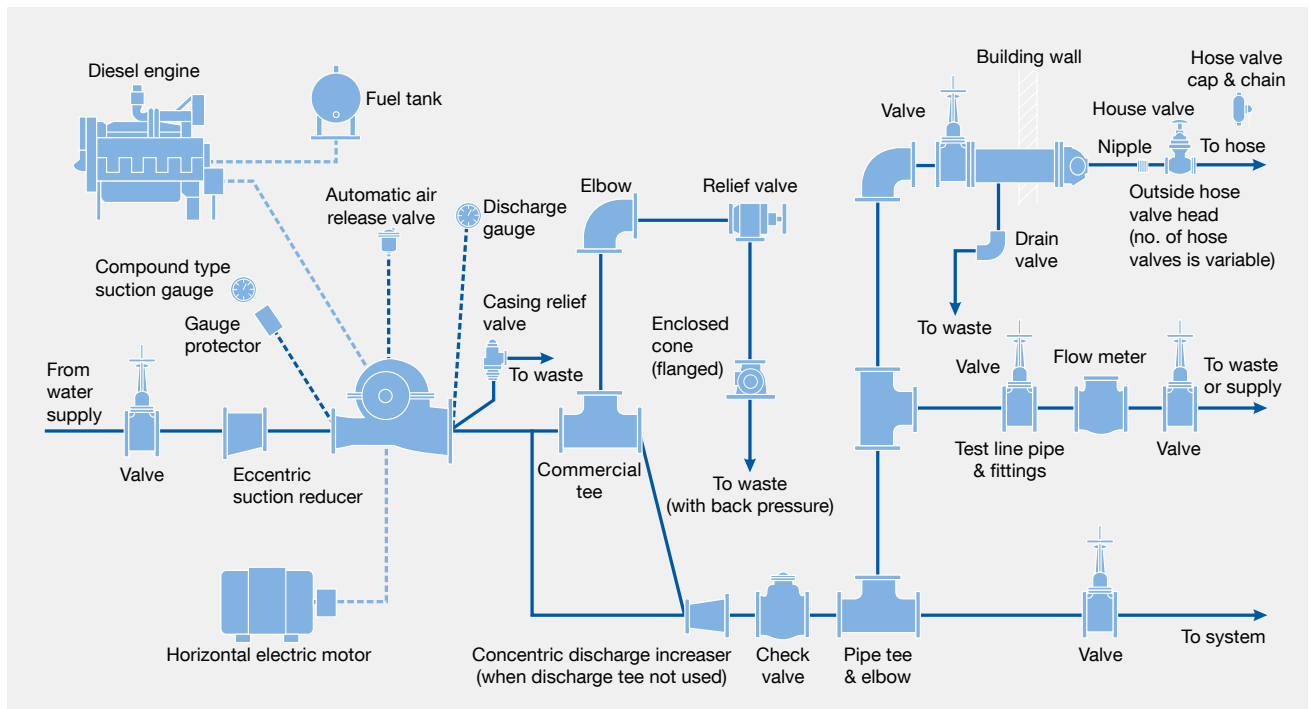
Available options

- Witnessed and non-witnessed complete system performance test
- Test line outlet to connect to remote tank with FM approved flow meter, isolation valves and air release valve
- Test loop back to suction with FM approved flow meter, isolation valve and air release valve
- Bypass loop with check valve, isolation valve and air release valve
- Main system pressure relief valve with enclosed waste cone
- Relief valve for jockey pump line
- Double wall fuel tank
- Acoustic hood for diesel engine
- Critical grade muffler
- Packaged system drains piped to edge of skid

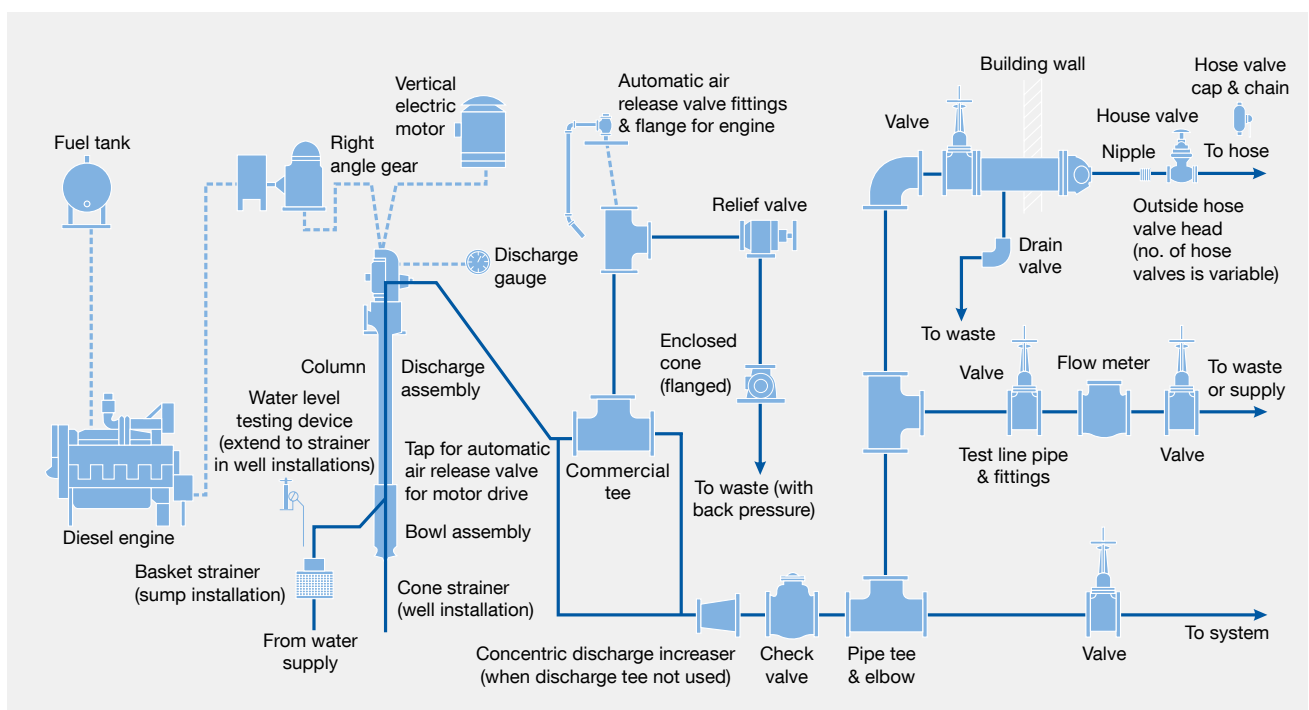
Packaged Fire Pump Systems



Sulzer horizontal fire pump accessories



Sulzer vertical fire pump accessories



Fire Pump Packages for Your Safety

Customer:

Maaden

Country of installation:

Saudi Arabia

EPC contractor:

Hanwha, South Korea

Project:

Duwayhi CIL Gravity Gold Project

Skid mounted electric + diesel + jockey fire pump set



Customer:

Saudi Electricity Co.

Country of installation:

Riyadh, Saudi Arabia

Consultant:

Worley Parsons, Australia

Skid mounted duplex diesel fire pumps for PP13 combined cycle power plant



Customer:

Saudi Aramco

Country of installation:

Saudi Arabia

EPC contractor:

Tecnicas ReUnidas, Spain

Project:

Fadhili Gas Programme, Saudi Arabia

Electric and jockey pump fire pump skids



Customer:

Saudi Aramco

Country of installation:

Saudi Arabia

EPC contractor:

Japan Gas Corporation, Japan

Project:

Manifa Gas Plant, Saudi Arabia

Diesel engine fire pump package with acoustic hood



Sulzer Saudi Pump Company

P.O. Box 51737

Riyadh 11553

Saudi Arabia

Phone +966 11 265 2123

www.sulzer.com



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