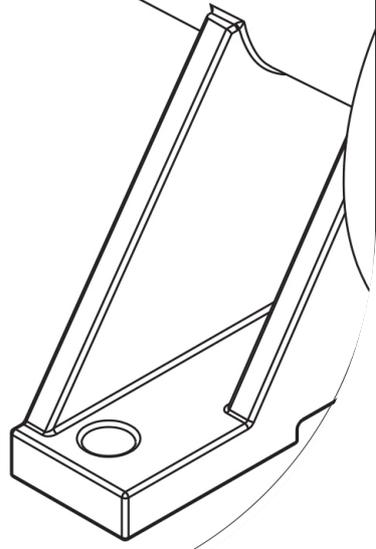


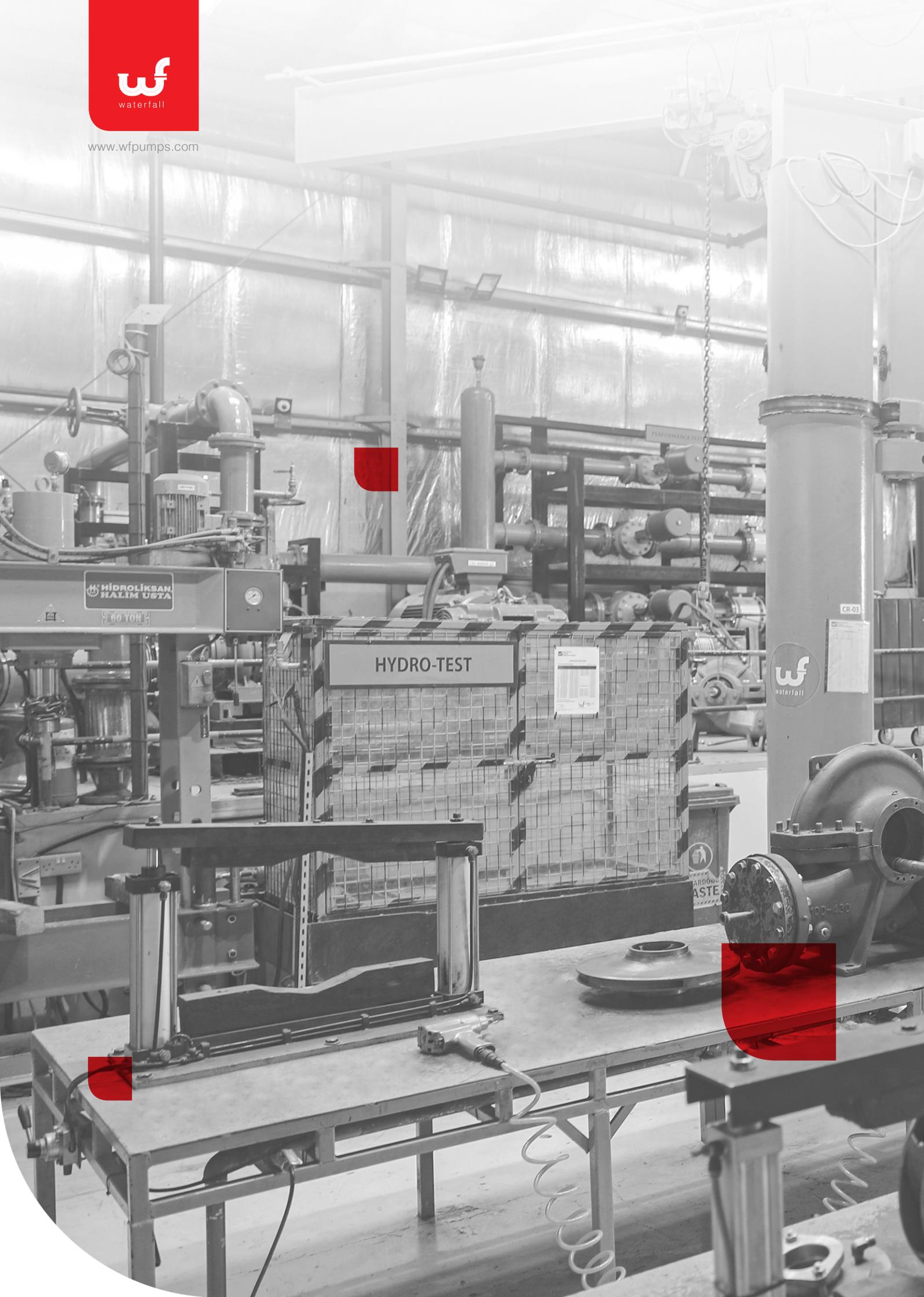
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OVERVIEW

Waterfall Pumps Manufacturing is an innovative and efficient centrifugal fire protection pump manufacturer committed to minimizing the loss of lives and properties by offering the market a wide range of products.

All our products are tested in a fully equipped ISO 9001, ISO 14001, ISO 45001 factory environment backed with a highly trained and experience team for conducting the testing as well as the inspections to ensure that it meets, or exceeds the requirements of the most demanding quality standards and industry specifications such as UL, FM and NFPA 20.

Our product lines are listed by Underwriters Laboratories (UL) and approved by Factory Mutual (FM). The complete range includes the Horizontal Split Case, End Suction and Vertical Turbine fire protection pumps. These fire pumps are available in electric motor and diesel driven configuration.

Waterfall Pumps Manufacturing also offers a containerized fire system, WF Fire Pump House (Pre-packaged Systems), which can be designed as per the site requirement or client's preferences without neglecting the standard requirements Intensive research and development to ensure that our products are continuously improved to meets the latest technical requirements and to introduce new products that will bringing valued solutions to the fire protection industry.

HORIZONTAL SPLIT CASE FIRE PUMP

Horizontal Split Case Fire Pumps offers higher efficiencies, low maintenance, more reliable operation constructed with double inlets that practically eliminate and thrust while boosting operation efficiency. The simplicity of design allows inline service without disturbing piping and ensures a long efficient unit life and minimum power consumption. It can be driven by either an electric motor or diesel engine with a full range of options and accessories available to complete the NFPA-compliant fire pump. Heavy fabricated steel bases, are available to mount the pump and driver along with flexible coupling connects driver to pump. Horizontal Split Case Fire Pump is ideal when the source of water is located above the ground as it provides a positive suction pressure to the pump at any performance point.

PUMP PERFORMANCE

- Flow ranges from 300 GPM up to 3500 GPM
- Pressure ratings from 81 PSI up to 345 PSI

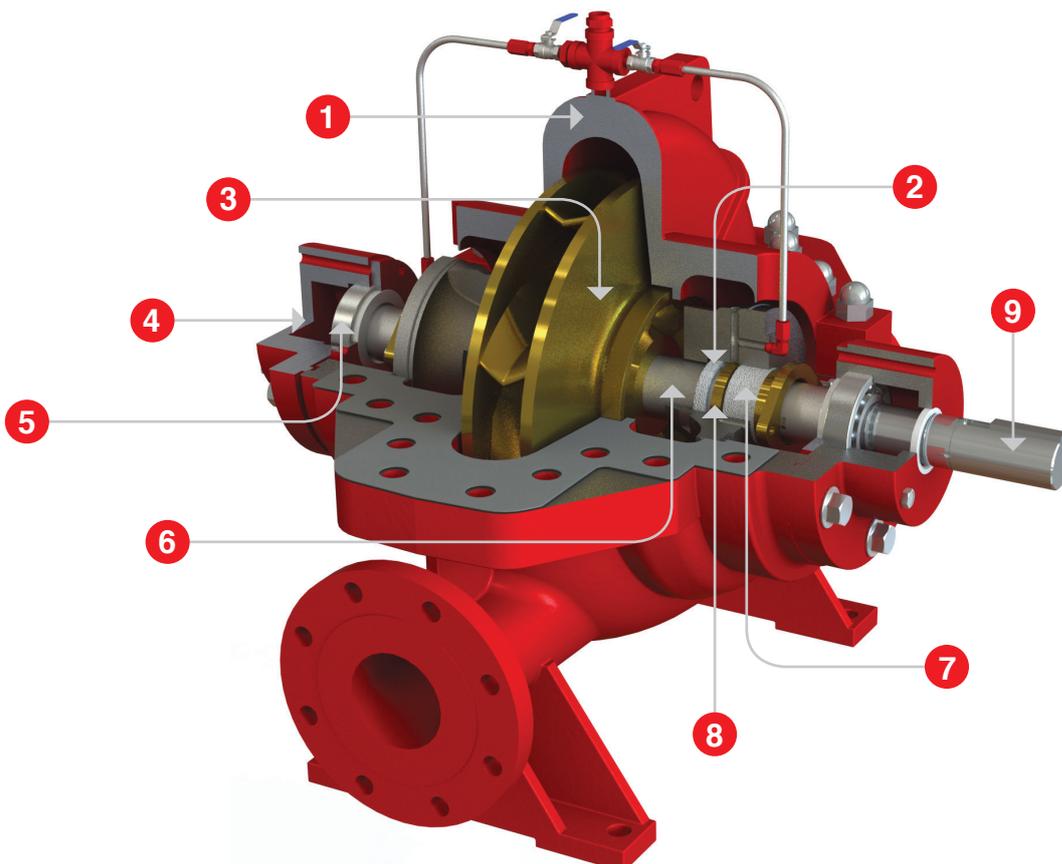
DESIGN FEATURES

- Underwriters Laboratories (UL) – 448
- Factory Mutual (FM) – 1311
- NFPA 20



CROSS SECTIONAL

1. **CASING:** The rugged heavy duty, two pieces casing is matched and split horizontally along the centerline of the shaft.
2. **STUFFING BOX:** Accommodate with square rings of packing with a lantern ring. Stuffing box is completely removable and replaceable with rotating assembly.
3. **IMPELLER:** Double suction, enclosed, dynamically and hydraulically balanced prior to the assembly. Impellers are firmly keyed and locked to an accurately finished oversized shaft to absorb all shock loads.
4. **BEARING HOUSE:** both the inboard and outboard bearing are protected by lip seals to keep contaminants out of bearing. Completely replaced without disturbing any other part of the rotating assembly.
5. **BEARING:** single-row, cartridge mounting, maintains impeller in their central position, grease type lubrication standard.
6. **SHAFT SLEEVE:** Easily replaceable centrifugally cast sleeves protect the shaft from packing wear, and are sealed to prevent leakage. Sleeves are accurately positioned and locked in place.
7. **GLAND PACKING:** flexibility allows the shaft to run freely as well as leak proof.
8. **LANTERN RING:** A perforated hollow ring that receives relatively cool, clean liquid. Distribute uniformly around the shaft to provide lubrication and cooling.
9. **SHAFT:** High strength steel, grounded and polished to a smooth surface, design to transmit full driver horsepower with a liberal safety factor and minimum deflection.



END SUCTION FIRE PUMP

End Suction Fire Pumps are engineered to last with a precision-cast, dynamically balanced and enclosed impeller that minimizes the vibration and maximizes bearing life. Due to its back-pull-out design, the complete bearing assembly including impeller and casing cover can be dismantled without removing the volute casing from the pipe system. It can be driven by either an electric motor or diesel engine with a full range of options and accessories available to complete the NFPA-compliant fire pump. Heavy fabricated steel bases, are available to mount the pump and driver along with flexible coupling connects driver to pump. Horizontal End Suction Fire Pumps are ideal when the source of water is located above the ground as it provides a positive suction pressure to the pump at any performance point.

PUMP PERFORMANCE

- Flow ranges from 50 GPM up to 1000 GPM
- Pressure ratings from 80 psi up to 309 psi

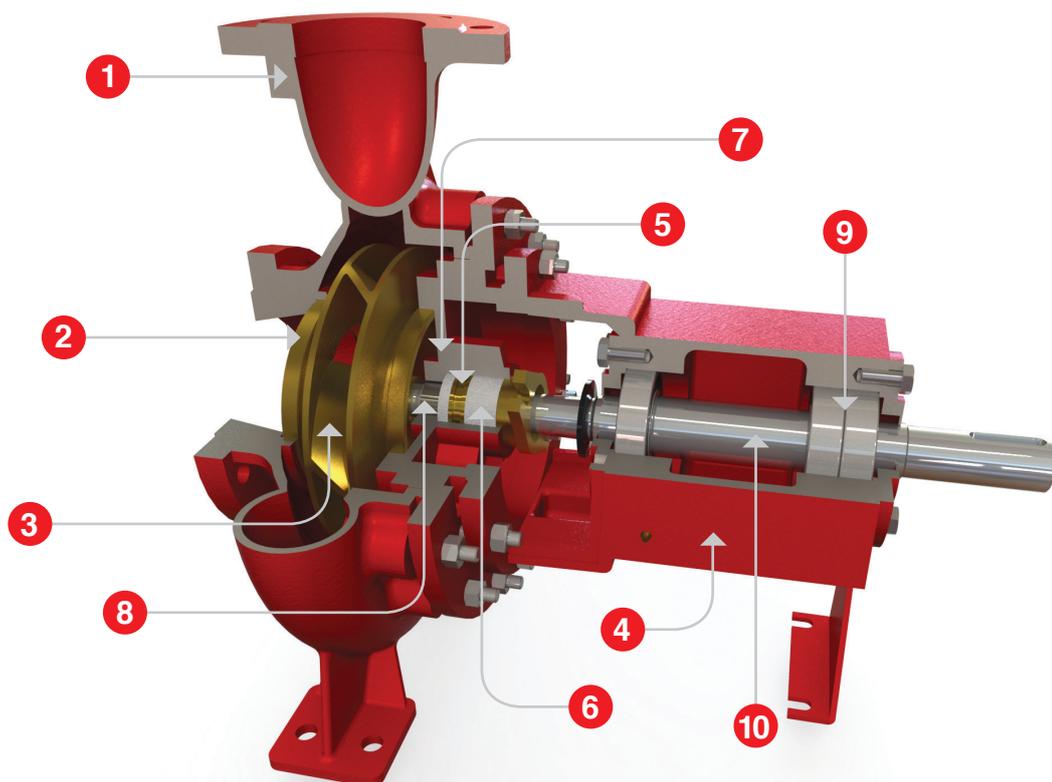
DESIGN FEATURES

- Underwriter Laboratories (UL) – 448
- Factory Mutual (FM) – 1319
- NFPA 20



CROSS SECTIONAL

1. **PUMP CASING:** Rugged heavy duty, volute type, centerline discharge and self-venting. Radial split design allows removal of bearing assembly and impeller without disturbing the pipe connection.
2. **CASING WEAR RING:** Standard enclosed impellers are designed with integral case wear rings to reduce end thrust.
3. **IMPELLER:** End suction type, enclosed, dynamically and hydraulically balanced prior to the assembly. Impellers are firmly keyed and locked to an accurately finished oversized shaft to absorb all shock loads.
4. **BEARING HOUSE:** both the inboard and outboard bearing are protected by lip seals to keep contaminants out of bearing.
5. **LANTERN RING:** A perforated hollow ring that receives relatively cool, clean liquid. Distribute uniformly around the shaft to provide lubrication and cooling.
6. **GLAND PACKING:** flexibility allows the shaft to run freely as well as leak proof.
7. **CASING COVER:** Accommodate with square rings of packing with a lantern ring. Stuffing box is completely removable and replaceable with rotating assembly.
8. **SHAFT SLEEVE:** Easy to replace centrifugally cast sleeves protect the shaft from packing wear and are sealed to prevent leakage. Sleeves are accurately positioned and lapped in place.
9. **BEARING:** Cartridge mounting, maintains impeller in their central position, grease type lubrication standard.
10. **SHAFT:** High strength steel, grounded and polished to a smooth surface, design to transmit full driver horsepower with a liberal safety factor and minimum deflection.





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VERTICAL TURBINE FIRE PUMPS

Vertical Turbine Fire Pump is designed to be a system operating under a static suction lift condition requirement. The flexibility of its design allows the use of a wide range of materials. Multi-staging can be done to meet the specific requirements of the user and adaptable to the application. The space saving vertical design minimizes the floor space requirements. It can be driven by either an electric motor or diesel engine with a full range of options and accessories available to complete the NFPA-compliant fire pump.

PUMP PERFORMANCE

- Flow ranges from 150 GPM up to 2000 GPM
- Pressure ratings from 49 psi up to 402 psi

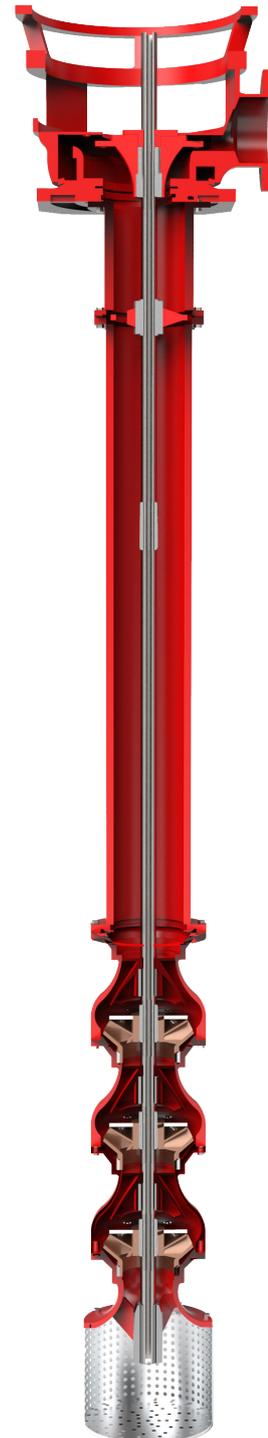
DESIGN FEATURES

- Underwriter Laboratories (UL) – 448
- Factory Mutual (FM) – 1312
- NFPA 20



CROSS SECTIONAL

1. **DISCHARGE HEAD:** Designed to change the direction of flow from vertical to horizontal and to couple the pump to the system piping in addition to supporting and aligning the driver. It also accommodates various type of driver configurations.
2. **STUFFING BOX:** Accommodates square rings of packing and bearing to maintain central position of the shafting.
3. **LINE SHAFT:** High strength steel, grounded and polished to a smooth surface. Threaded and provided with couplings to ease jointing.
4. **INTERCONNECTING PIPE:** Connects discharge head assembly to the column pipe.
5. **SPIDERS:** Provides support to the line shaft and links interconnecting pipe and column pipe.
6. **BEARING SPIDERS:** Operate in conjunction with line to provide long life and low friction.
7. **COLUMN PIPE:** Provided with flanged ends incorporating fits for ease of alignment during assembly to ensure concentricity.
8. **IMPELLER SHAFT:** High strength steel, grounded and polished to a smooth surface. Threaded and provided with couplings to ease jointing. Keyed impellers available for some sizes.
9. **BOWL BEARING:** Operate in conjunction with impeller shaft to provide long life and low friction.
10. **IMPELLER:** Dynamically balanced. Designed for long life and high efficiency.
11. **IMPELLER COLLET SLEEVE:** Secure impeller to the pump shaft. Keyed impellers available for some sizes.
12. **SUCTION BELL:** Provides rigid support of the lower end of the pump shaft and allows smooth entry of liquid into the first stage impeller eye, minimizes foundation opening.
13. **STRAINER:** Provides protection from large solids objects to prevents entry into the pump suction.





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FIRE PUMP HOUSE (PRE-PACKAGED FIRE SYSTEMS)

WF Fire Pump House (Pre-packaged fire systems) designed according to the site or client's preferences without neglecting the standard requirements. Pre-wired, factory tested and assembled with components selected from the most reliable manufacturers across the globe in order to ensure that the best functionality of the equipment will be delivered. Consist of UL Listed or FM Approved Fire Pumps, Controllers, Valves, Pressure Gauges, Flowmeter, Fuel Tanks etc. and is ensure to undergo for quality checks and factory tests before the package assembly. Electrical connection, piping lines and installation of the component is complete in the factory. Complete system is pressure tested to eliminate on-site leaks.

Due to its single source responsibility and compact feature, the on-site installation of the system can be completed in as little as 6 hours which reduces the installation cost, labor hours, project timelines and eliminates potential field installation and interface problems.



Enclosures are made from wall and roof panels that are fire resistant, weather proof and thermal insulation which makes its suitable to any climate and site condition. This type of enclosure panel is specifically chosen not only to ease the installation but because of the advantages it offers. It is made from rock, blast furnace slag and other raw materials which are melted and spun into fibers to resemble the texture of wool which made it non-combustible or fire resistant. It also helps to reduce the heat transfer due to its thermal insulation which prevents problems such as mold, humidity resulting from heat movements and condensation, which give assurance that product will be robust and long lasting. Skid covered in non-slip checkered mild steel plate with drain port provided to assure that the pump house will have its proper draining system especially during its operation.





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**Where
Quality
Comes
First**

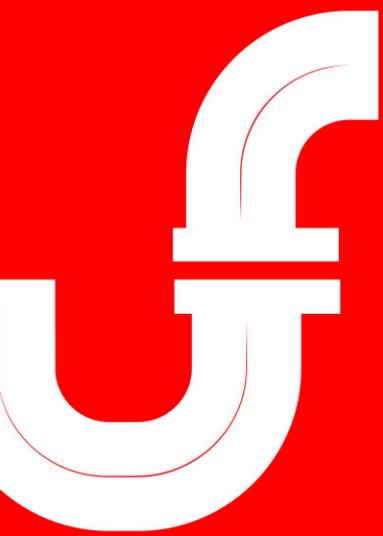


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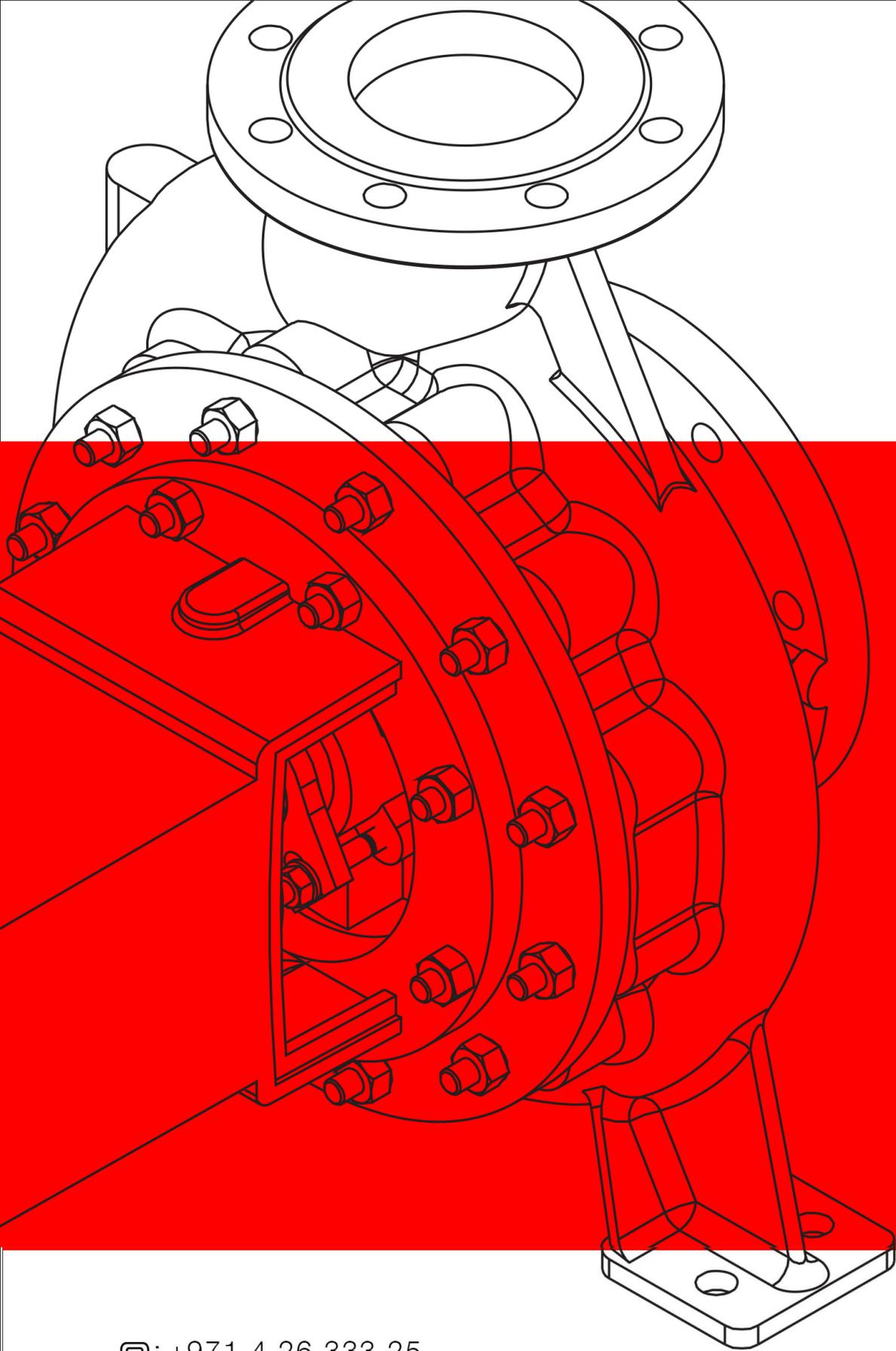
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