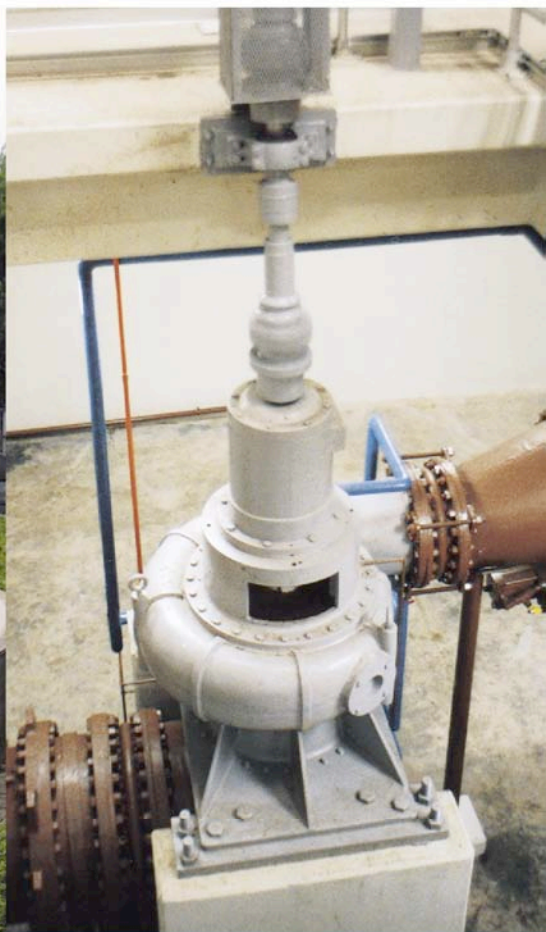


Unparalleled Solutions In Wastewater Pumping





Proven Quality and Reliability

Patterson pumps and Flo-Pak® engineered packaged systems are daily performing unparalleled, reliable service in these dirty water applications throughout North and South America, Europe, the Middle East, the Far East, Africa, Asia and Australia:



Raw Sewage

Secondary Sludge

Industrial Wastewater

Storm Water

Process Water

Circulation Water

River Water

Dry Dock Drainage

Industrial Wash Water

Influent

Effluent

Flood Control

Engineered packaged pump systems for all applications.

Member of
Hydraulic
INSTITUTE

Type “F” Sewage Pumps

Heavy duty, non-clogging workhorses for sewage, sludge & dirty water applications.



Patterson’s Type “F” Centrifugal Pumps are superior, non-clogging pumps for the handling of raw, unscreened sewage and miscellaneous trash in treatment plants and lift stations, or in other applications involving sludge, storm water drainage, paper mills, reduction plants and waters with unscreened solids up to 8 in. in diameter.



F30.

While offered in sizes from 12 in. to 48 in., the Type “F” can have special requirements addressed, and custom alterations are made routinely as part of Patterson’s unparalleled customer service.

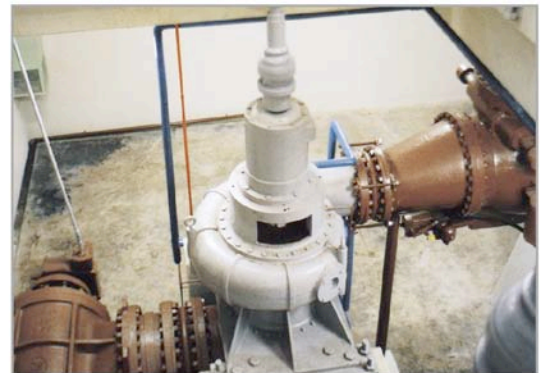
Vertical Type “F” Pumps are standard direct coupled. They can be designed for a dry pit where the intermediate drive shaft from the motor is located some distance above the pump. Intermediate shafting of the customer’s choice is custom fabricated to desired lengths. Standard shafting is a universal joint type that will ensure satisfactory operation in spite of expansion and contraction due to temperature changes, structural settlements or other conditions.

Horizontal pumps are directly connected to the motor through a flexible coupling. Heavy-

duty cast iron and steel supports ensure long trouble-free service. Sturdy base plates can be fabricated to suit particular needs, with “drip lips” if desired. Large grout holes are provided in each base as standard.

Capacities for both types of models range from 500 gpm to 100,000 gpm, with heads to 150 ft. Special wear resistant castings are available for handling abrasives. If your requirements exceed the range of our standard units, custom units are available.

A new, patented self-cleaning ring to prevent clogging and has been developed (US 7,037,069 dated May 2, 2006).



F20-D.

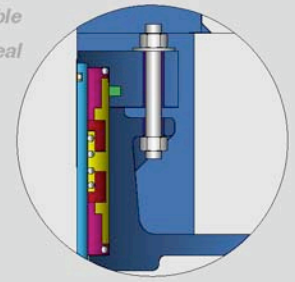
Zero Flush Technology. Patterson’s Type “F” and The Forceline® NCS Series sewage pumps are now available with a sealing arrangement that requires no water.

This new technology features EnviroSeal’s SpiralTrac* throat bushing and Chesterton’s model 442** Split Mechanical Seal.

*SpiralTrac is a trademark of EnviroSeal Engineering Products Ltd.

**442 is a trademark of A.W. Chesterton Company.

Optional Double
Mechanical Seal



V-Ring flingers at each
end of the bearing
housing perform dual
function as flingers and
supplemental seals.

Hook-type shaft sleeve.

Heavy duty shaft design.

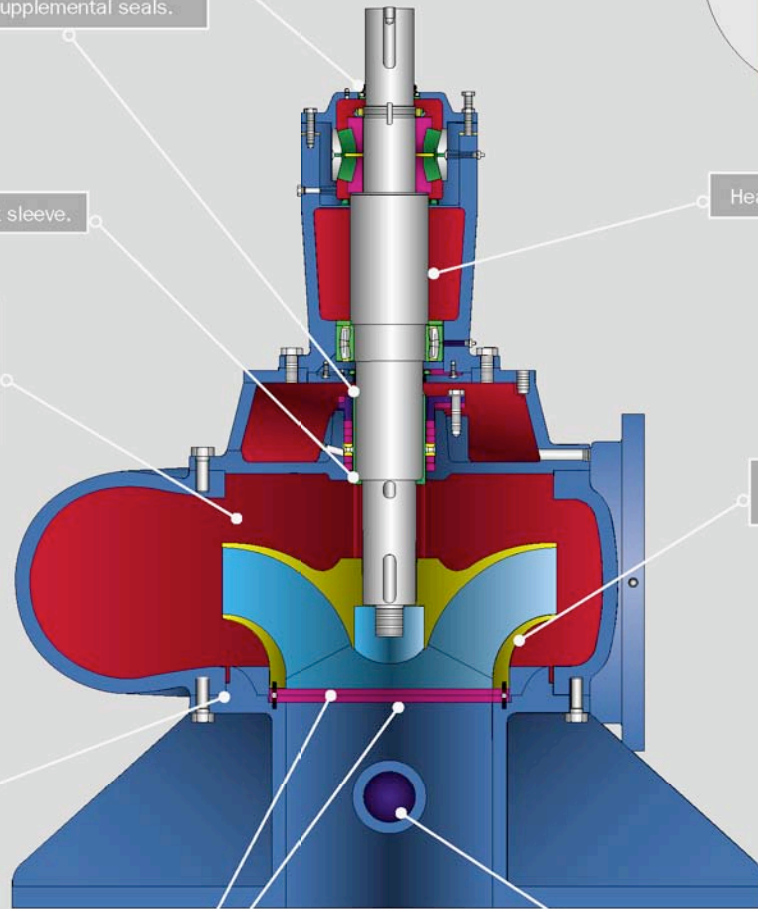
Large clearance between
impeller diameter and
cut water for better
solids handling and
smoother operation.

Dynamically
balanced impeller.

O-Ring seals at the
suction fitting and volute
cover eliminate need for
conventional gaskets.

Replaceable
impeller and suction
wearing rings.

Clean out ports in pump
casing and suction fitting.



SpiralTrac.



Chesterton 442.

The Forceline® NCS Series Pumps

Most modern, reliable & easy-to-install dry pit solids handling pumps on the market.



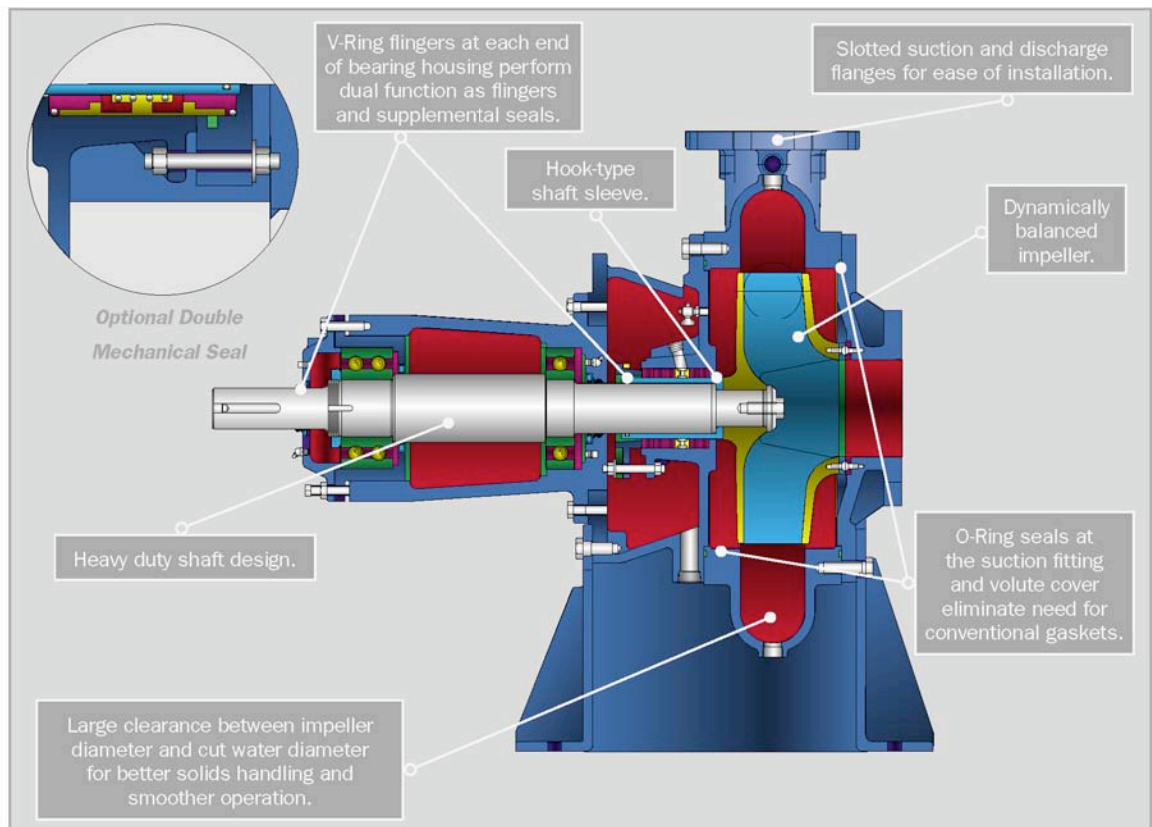
The Forceline® NCS durable pumps are specifically designed to pump sludge, raw unscreened sewage and contaminated trashy fluids efficiently, without clogging. Incorporated into their design are extensive inputs from engineering firms, maintenance personnel, plant and equipment operators, and mechanical/hydraulic experts. The pump is well known for its high efficiencies, rugged construction and serviceability.

The Forceline is available in three basic configurations from 3 in. to 12 in. discharge: NCSVF, vertically mounted and directly coupled through a flexible coupling;

NCSV, vertically mounted and remotely coupled through an extended drive shaft; and NCSH, horizontally mounted and directly coupled through a flexible coupling.

Capacities range from 150 gpm to 12,000 gpm, with heads in excess of 250 ft. They are hydrostatically tested to 1-1/2 times of shut-off head. Horizontal or vertical, the NCS Series pumps are available in standard or alloy construction.

A new, patented self-cleaning ring to prevent clogging and has been developed (US 7,037,069 dated May 2, 2006).

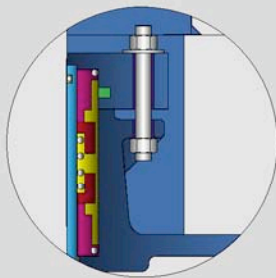




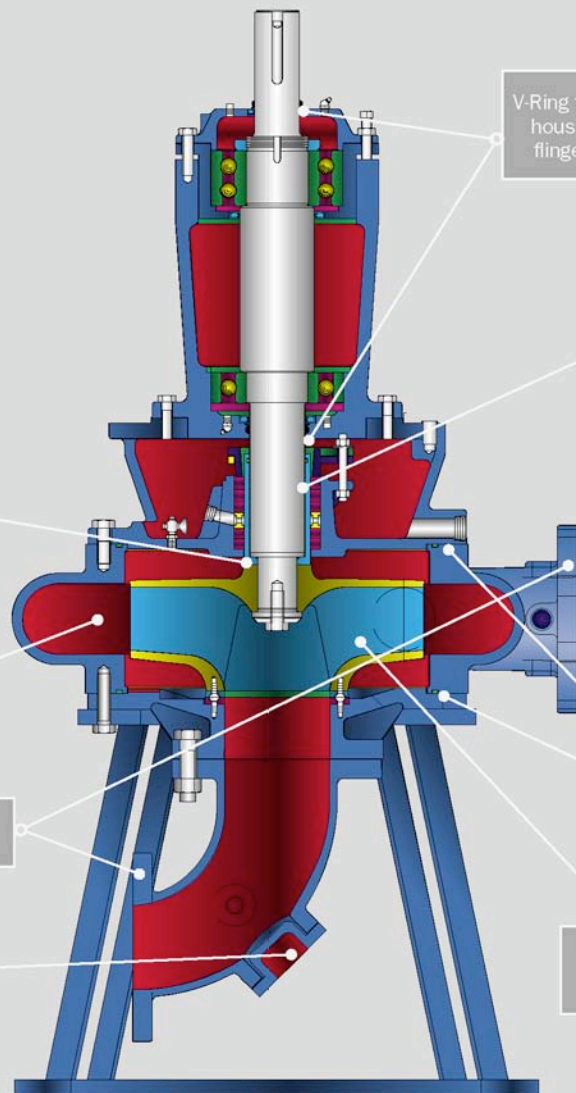
10x10x18 NCS.



10x10x18 NCS.



Optional Double Mechanical Seal



V-Ring flingers at each end of bearing housing perform dual function as flingers and supplemental seals.

Heavy duty shaft design.

Hook-type shaft sleeve.

Large clearance between impeller diameter and cut water diameter for better solids handling and smoother operation.

Slotted suction and discharge flanges for ease of installation.

Clean out ports in pump casing and suction fitting.

O-Ring seals at the suction fitting and volute cover eliminate need for conventional gaskets.

Dynamically balanced impeller.

MPVT® Pumps

High efficiency solids handling capability combined with greatest ease of retrofit.

The Patterson Multi-Purpose Vertical Turbine® (MPVT) is a truly superior, solids handling, municipal/industrial pump that takes the concept of vertical turbine pumping one step further by being specifically designed to handle stringy solids. An internal vane inside the pump column and discharge head prevents stringy material from wrapping around the shaft enclosing tube. This vane is aligned with one of the diffuser vanes to prevent build up of solids.

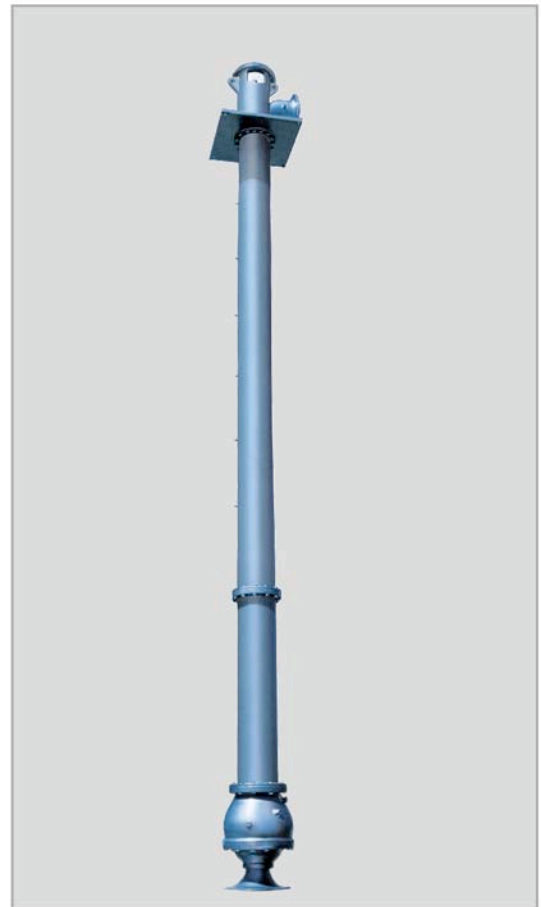


12 MPVT.

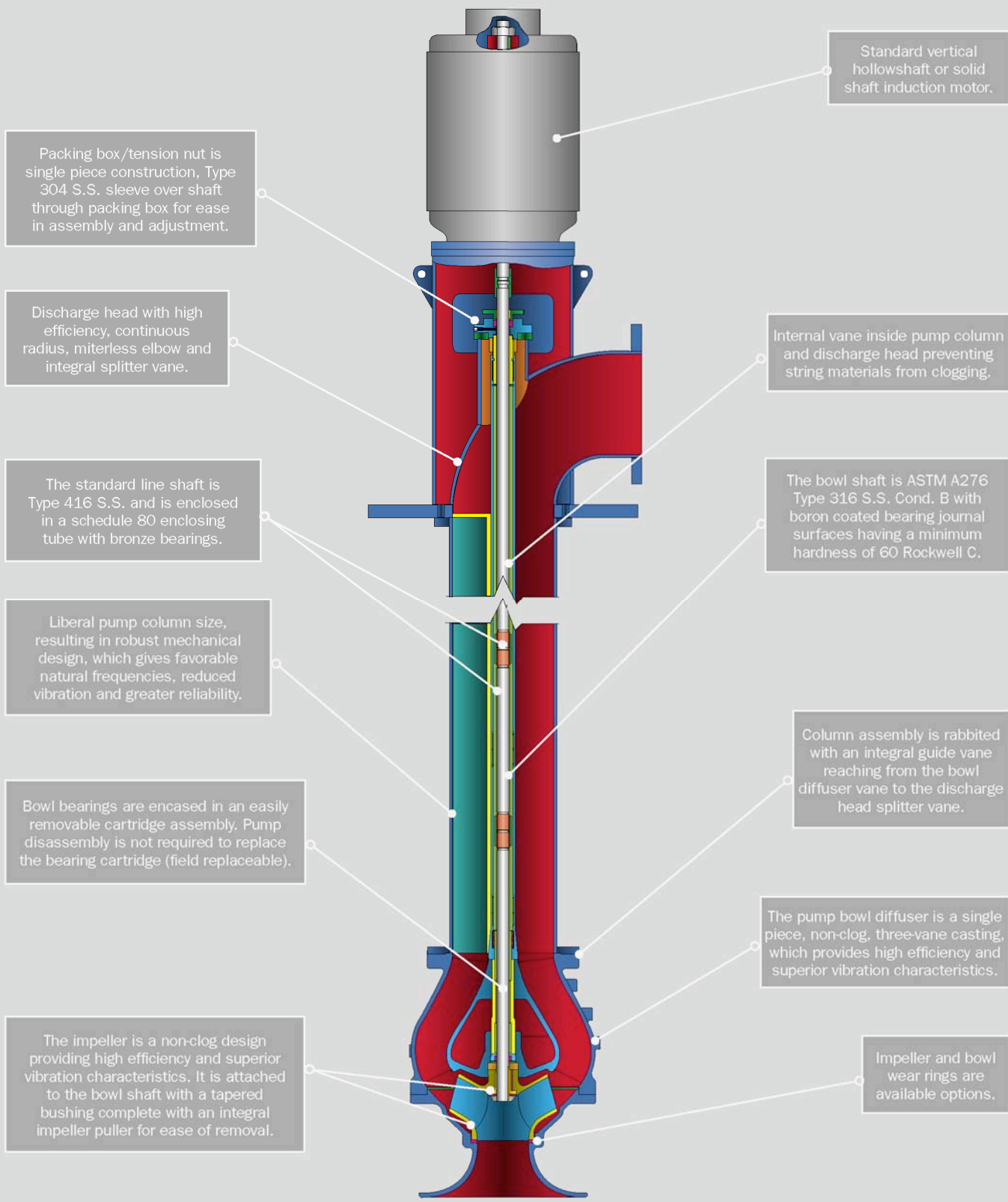
Patterson's century-long pumping success combines with the latest in design and engineering technology to produce a more efficient pump with the very highest hydraulic performance and lowest vibration and noise levels.

No other pump on the market today can be as easily integrated into retrofit plans of existing submersible pump installations.

MPVT pumps have bowl sizes ranging from 12 in. to 40 in. Capacities range from 1,500 gpm to 20,000 gpm and above. Standard units have cast iron discharge heads, fabricated steel column, stainless steel head and bowl shafts, alloy steel line shaft and cast iron bronze fitted bowls. Open line shaft construction is standard.



Multi-Purpose Vertical Turbine Pump.



Standard vertical hollowshaft or solid shaft induction motor.

Packing box/tension nut is single piece construction, Type 304 S.S. sleeve over shaft through packing box for ease in assembly and adjustment.

Discharge head with high efficiency, continuous radius, miterless elbow and integral splitter vane.

Internal vane inside pump column and discharge head preventing string materials from clogging.

The standard line shaft is Type 416 S.S. and is enclosed in a schedule 80 enclosing tube with bronze bearings.

The bowl shaft is ASTM A276 Type 316 S.S. Cond. B with boron coated bearing journal surfaces having a minimum hardness of 60 Rockwell C.

Liberal pump column size, resulting in robust mechanical design, which gives favorable natural frequencies, reduced vibration and greater reliability.

Column assembly is rabbited with an integral guide vane reaching from the bowl diffuser vane to the discharge head splitter vane.

Bowl bearings are encased in an easily removable cartridge assembly. Pump disassembly is not required to replace the bearing cartridge (field replaceable).

The pump bowl diffuser is a single piece, non-clog, three-vane casting, which provides high efficiency and superior vibration characteristics.

The impeller is a non-clog design providing high efficiency and superior vibration characteristics. It is attached to the bowl shaft with a tapered bushing complete with an integral impeller puller for ease of removal.

Impeller and bowl wear rings are available options.



Axial and Mixed Flow Pumps

Specially designed and built to meet individual customer requirements.



Patterson Axial and Mixed Flow Pumps have demonstrated over and over again their ability to move large volumes of liquid at low to medium heads with an efficiency and economy unobtainable with any other type of pump. These pumps consist of: a bowl assembly, which is cast and provides much more reliable service; an outer column and discharge elbow; shaft and shaft cover tube; floor plate; and motor mounting stand.



72 AFV.

The axial flow propeller or mixed flow impeller is positioned in its individual impeller housing just above the suction bell and close to the pump inlet. Water enters the pump through the suction bell, is discharged by the impeller into a guide vane section or diffuser, and then is pumped through the outer column to the discharge connection of the pump elbow. The pumps may be built in one or more stages, depending on the total head requirements, in bowl sizes from 12 in. to 84 in. Capacities run from 2,000 gpm to 500,000 gpm, with heads up to 60 ft per stage. Custom units are available if your requirements exceed the above conditions.

Axial and Mixed Flow Pumps can be furnished with an open line shaft when pumping a relatively clear product. Patterson can also provide “pull out” designs to make regularly scheduled inspection and maintenance easier. The design permits removal of the entire bowl assembly, including all rotating parts, diffuser, impeller housing and suction bell, through the outer shell without disturbing either discharge or floor plate connections.

These pumps generally operate in a submerged state with suction entrances flooded. Horizontal units are installed with a positive suction head.



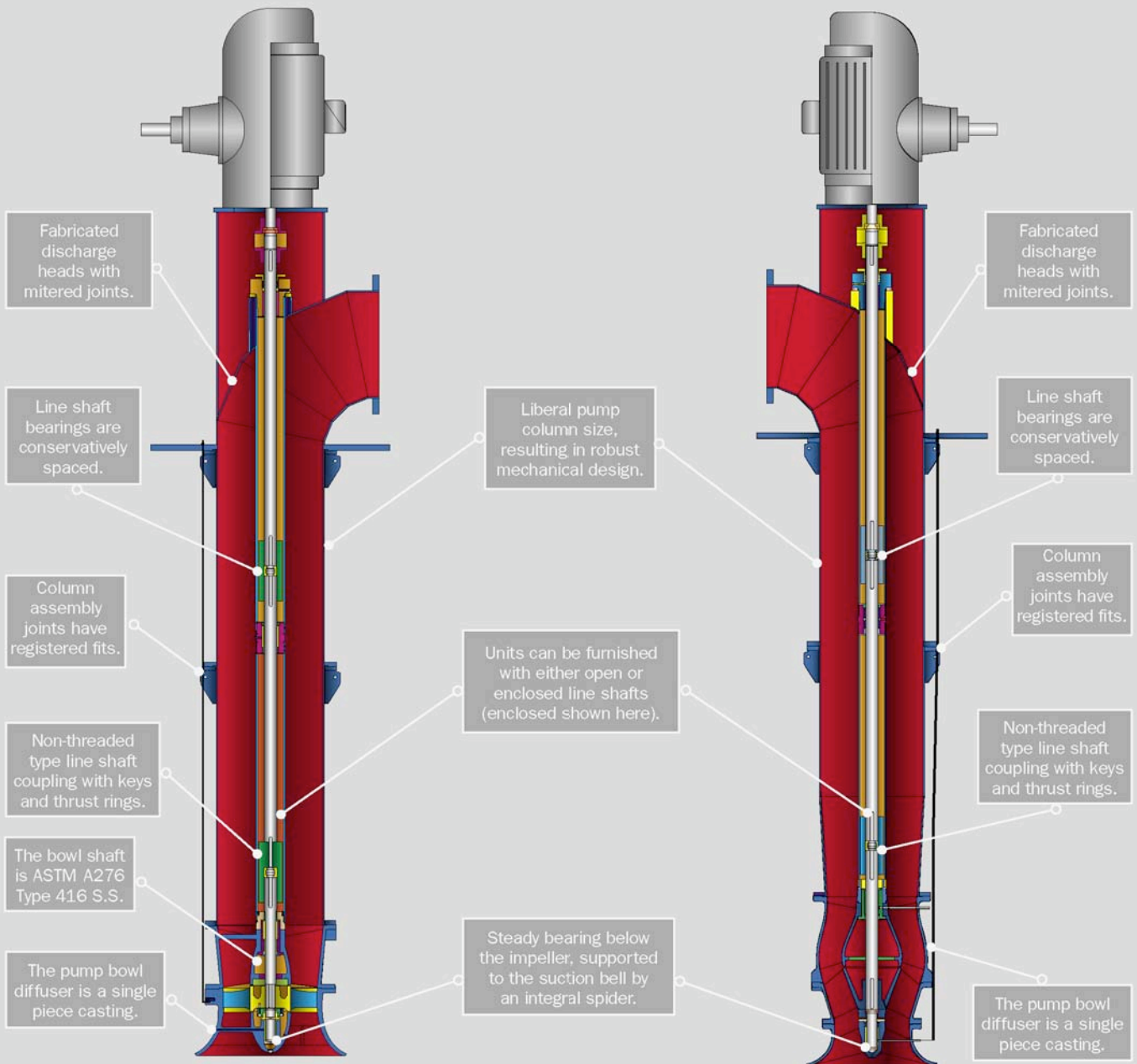
30 SAFV.



96-in., 260,000-gpm Axial Flow Pump for Velasco Drainage District in Texas.

Axial Flow Pump

Mixed Flow Pump



Available in open or enclosed line shaft configurations. Enclosing tubes, when used, are schedule 80 and are supported by spiders when required by the pump length.

Flo-Pak® Systems

Prepackaged municipal pump systems for efficient, dependable service.

Municipal-Pac®...Setting the Bar for Standardized Packaging. The Municipal-Pac® prepackaged pump system is engineered to provide municipalities a powerhouse of efficiency in handling clean water applications...including potable water boosters, raw water intakes and tank fills.



Above Ground Installation.

Designed and engineered for maximum performance and energy efficiency with budget constraints in mind, the Municipal-Pac is a standardized package that is anything but standard.

Its installation cost is reduced by up to 35% over field construction.

The prepackaged pump system can be furnished in various configurations to meet precise space requirements, in underground capsules as well as above ground stations.

System designs accommodate flows from 100 gpm to over 14,000 gpm and pressures up to 300 psi. Plus, its surface is prepped to SSPC-SP10 prior to painting, and its controls and power distribution are mounted in a freestanding enclosure, eliminating unsightly conduit runs.

This factory assembled and tested prepackaged pump system is shipped complete with simplified lifting devices for contractor rigging.

A variety of building types, exteriors and architectural finishes are available to meet varying budget levels. Multi-room buildings, as well as multiple building sections, can accommodate requirements of larger projects.

The system may be furnished with metal buildings, complete with HVAC and lighting. For smaller installations, a removable fiberglass enclosure is available. Other options include: flow chemical feed rooms, climate control, variable frequency drives, pump control valves, surge relief valves and flow meters.

Third Party Listings:

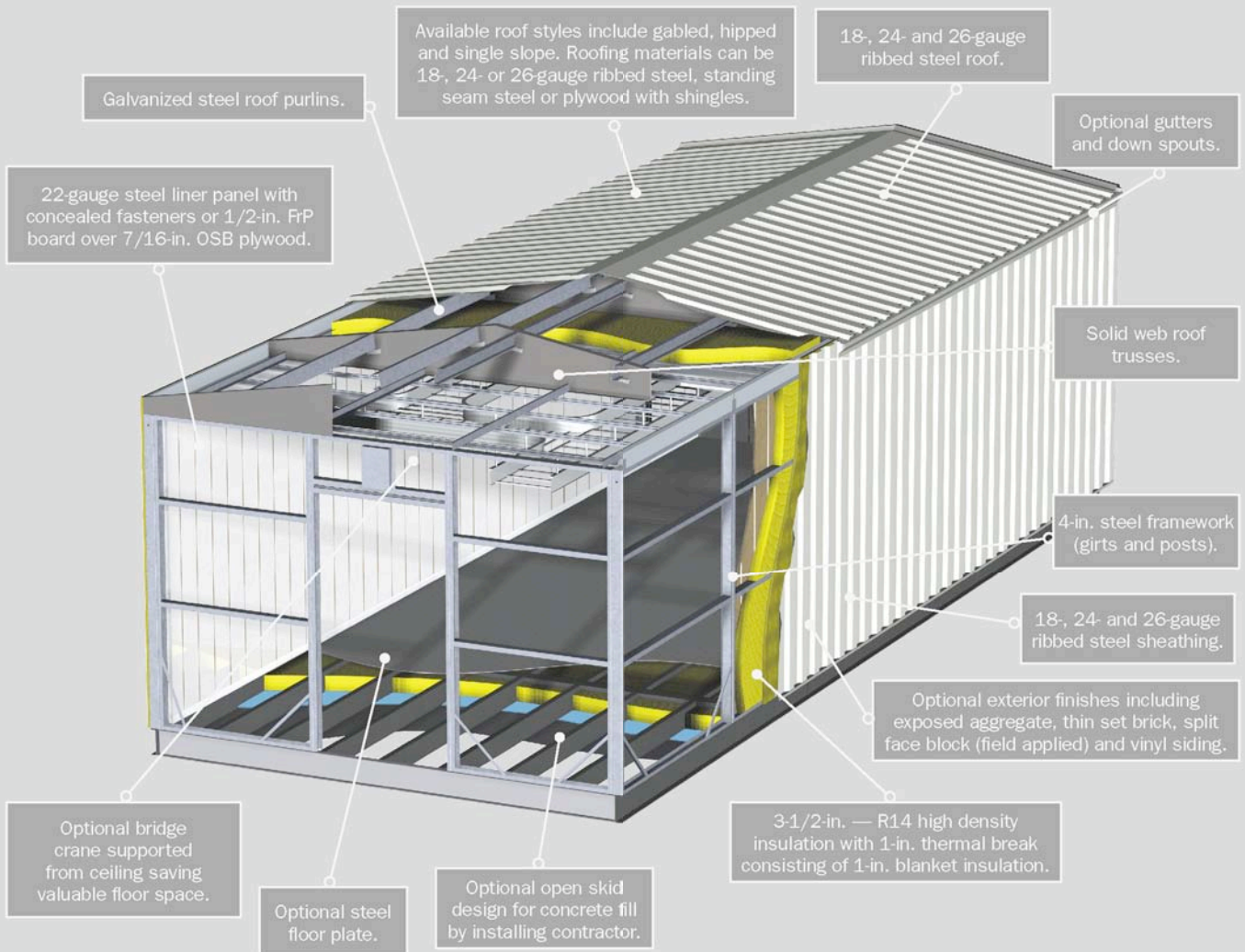
UL-QRNZ/QCZJ

ETL-505

ETL-225 Listed Packager



Below Ground Installation.



*Above Ground Installation Cutaway (above).
Municipal-Pac Pump System (right).*





Pumping Technology for Tomorrow's World

For the last century, Patterson has built a firm reputation of reliable pump installation worldwide—whether satisfying urban water and waste demands; harnessing and controlling ravaging floods; reclaiming arid deserts; taming rampaging and devastating fires; or protecting the planet's ecological balance.

Patterson Pump Company leads America as one of the foremost designers and manufacturers of: Split Case Pumps; Fire Pumps; Axial and Mixed Flow Pumps; Vertical Turbine Pumps; End Suction Pumps; Vertical In-Line Pumps; solids handling pumps; engineered packaged systems; and exclusive Ludlow-Rensselaer Double-Disc Gate Valves.

Proven Quality and Reliability for More Than a Century. It is Patterson's century-long dedication to the quality, innovation and reliability of its products that has inspired its high-quality, valued employees.

Patterson's design engineers are driven to continuously make incremental improvements throughout the company's product line and to develop leading-edge pumping technology.

Just as Patterson's highly trained machinists meticulously operate the cutting-edge, computer-controlled machining centers, vertical turning centers and computerized lathes—all to create Patterson products with high-precision workmanship in less time for faster delivery.

The quality and reliability of Patterson products doesn't stop at installation. Patterson is equally dedicated to providing the finest field

and factory service and maintaining the best service department in the industry.

ISO 9000 Certification. Patterson does more than strive for quality and reliability; Patterson has invested in the company's core values.

Patterson is ISO 9000 certified, attesting to its world-class quality and dependability. The company is continually reevaluated, with a complete reassessment every three years, to ensure all elements are maintained in keeping its products world-class.

Six Sigma. Patterson has also invested into its Six Sigma program. Six Sigma is an optimized level of performance. That's overall excellence—not only in a world-class finished product, but also in the administrative, service and manufacturing processes throughout the company.

Patterson's Six Sigma program is a proven methodology that standardizes the right tools and techniques, while providing working teams with step-wise progressions in applying these tools. The program has successfully enhanced Patterson's reputation for high-quality, reliable pump design, manufacture and service.



*Patterson Toccoa, GA,
Headquarters (above). Patterson
Mullingar, Ireland, Factory (right).*





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