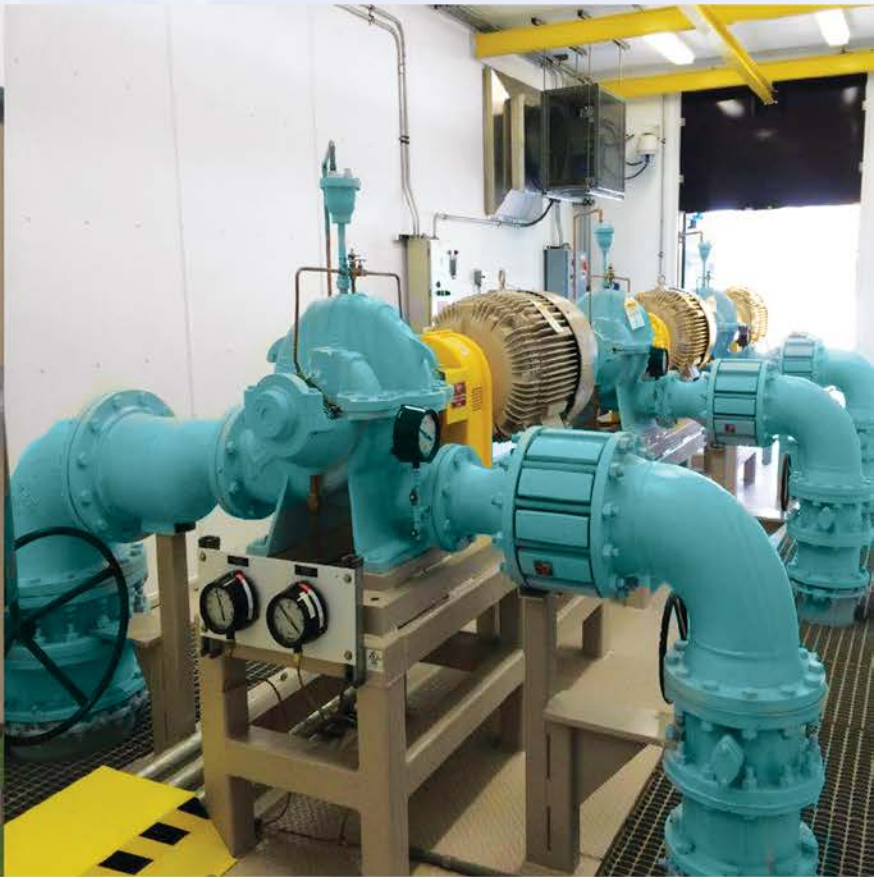


muniPAC[®]

Place-And-Connect Pump Stations

Municipal Pumping Systems

The Pump People[®]
Patterson
A Gorman-Rupp Company



When Quality Matters...

Patterson **Muni~Pac**[®] Place And Connect Pumping Stations...Setting the Bar for Packaged Systems Everywhere.

Engineered to provide municipalities a powerhouse of efficiency in water applications involving booster stations, raw water intakes and the filling of elevated tanks.

muniPAC

Place-And-Connect Pump Stations



Benefits of Packaged Systems

Patterson **Muni~Pac**[®] pre-packaged pump stations offer our customers peace of mind because they have a single point of contact for service and warranty claims.

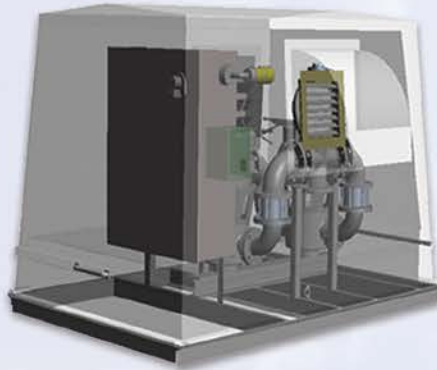
Patterson **Muni~Pac**[®] stations can be furnished in various configurations including open skid or complete pumping station including a factory assembled building, to meet precise space requirements and can be supplied for above ground as well as below ground installations.

Patterson **Muni~Pac**[®] system designs accommodate flows from 100 GPM to over 19,000 GPM and pressures exceeding 300 PSI.

The Pump People[®]



MuniPac Standard Open



MuniPac Standard Housed Clamshell



MuniPac Standard Housed Stationary

Features

- Completely Pre-Configured
- CAD drawings available
- Duplex or Triplex Configuration
- Vertical In-Line Pumps
- Vertical Multi-stage Pumps
- End Suction Pumps (Future)
- Ductile Iron Piping
- Optional Fiberglass Enclosure



muniPAC

Place-And-Connect Pump Stations

Muni~Pac Standard

Place And Connect pumping systems are designed to reduce both initial cost and total cost of ownership.

Muni~Pac Standard Place And Connect pumping systems provide the following benefits:

- Reduced Cost Associated With Design
- Reduced Construction Time
- Dependable Schedules
- Factory Tested
- Reduced Start-Up Expense
- Single Point of Responsibility

The Muni~Pac Standard focuses on space-saving afforded us through the use of Patterson's Vertical In-Line style of pumps. The vertical in-line pump is a tried and true, space saving pump design that provides similar cost of ownership to that of end suction centrifugals and smaller horizontal split case pumps. The construction of close-coupled, vertical in-line pumps is almost identical to that of close-coupled, end suction style centrifugals. The entire rotating element can be removed without disturbing suction and discharge piping. Remote-coupled, vertical in-line pumps afford maintenance personnel the additional freedom to replace mechanical seals without having to first remove the electric motor. The Muni~Pac Standard is a complete booster pump solution that comes completely pre-wired and pre-plumbed from the factory.

muniPAC[®] Standard

With their single point power connection and simplified influent and effluent connections, installation of Muni~Pac Standard Place And Connect pumping systems is a snap.

The Muni~Pac Standard includes:

- Patterson Vertical In-Line Pumps or vertical Multi-stage Pumps (Duplex or Triplex)
- Ductile Iron Suction and Discharge Manifolds
- PLC or SCADA Control
- Variable or Constant Speed Motor Controllers
- Isolation Valves For Each Pump
- Check Valve For Each Pump
- System Suction and Discharge Pressure Gages
- Structural Steel Skid With Lifting Lugs or Optional Forklift Slots
- Optional Flow Meter
- Optional Pressure/Surge Relief Valve
- Optional Clamshell Enclosure For Smaller Systems
- Optional Stationary Enclosure For Larger Systems



The Pump People[®]

Above Grade Fiberglass Enclosures...

Optional Clamshell Enclosure



- Gas shocks for lift assist.
- Exhaust fan & return damper
- 500 Watt heater
- Stainless steel hardware
- R-19 Insulation Value
- 5 dB Noise reduction
- Available In various colors



Optional Stationary Enclosure



- Removable Roof
- Exhaust fan & return damper
- 500 Watt heater
- Stainless steel hardware
- R-19 Insulation Value
- 5 dB Noise reduction
- 125 MPH Wind Load
- 40 PSF Snow Load
- Doors available on all sides
- Available In various colors



muniPAC

Place-And-Connect Pump Stations

Stationary Fiberglass Enclosures...

muniPAC[®] Standard

120 MPH design wind load.

Removable roof design.

40 PSF design live roof load.



Doors available on all four sides.

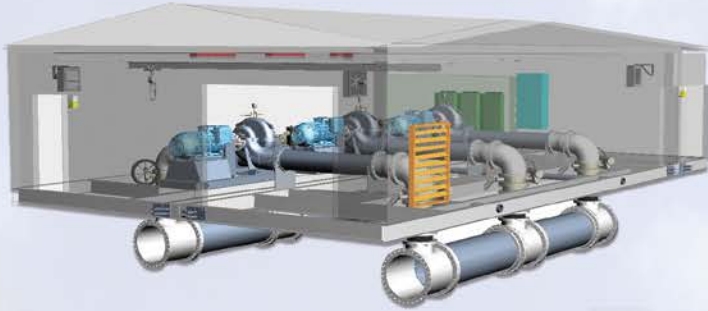
15 Mil polyester gel coat with UV inhibitor.

R20 Insulation value in walls and ceiling.

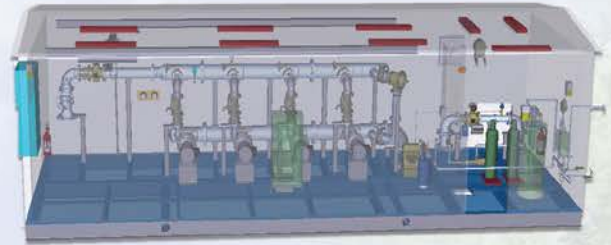
Stainless steel hardware.

6 Dba reduction in noise level.

The Pump People[®]



MuniPac Plus Option A



MuniPac Plus Option B

Features

- Completely preassembled to the greatest extent possible.
- Pre-wired
- Pre-Plumbed
- Multiple Pump Types
- Optional Building Enclosures
- Optional Standby Power Systems
- Optional Chemical Feed Systems
- Designs Up To 19 MGD



muniPAC

Place-And-Connect Pump Stations



Muni~Pac Plus

Place And Connect pumping systems are designed to reduce both initial cost and total cost of ownership.

Muni~Pac Plus Place And Connect pumping systems provide the following benefits:

- Factory Assembled
- Design Flexibility
- Factory Testing Options
- Custom PLC Programming
- Multiple Piping Material Options
- Multiple Architectural Finish Options
- Reduced Project Completion Time
- Factory Direct Design Assistance
- Multiple Rooms
- Multiple Roof Style Options

The Muni~Pac Plus focuses on the specific equipment needs of our customers. Input from our customer's concerning pump and valve types, control needs and architectural considerations are used to develop solutions to satisfy each customer's unique demands.

The Muni~Pac Plus is a complete booster pump solution that comes completely pre-wired and pre-plumbed from the factory. With their single point power connection and simplified influent and effluent connections, installation of Muni~Pac Plus, Place And Connect pumping systems is a snap.

The Muni~Pac Plus Typically Features:

- Multiple pump options including vertical in-line, end suction, horizontal split case and vertical turbine pumps
- Suction and discharge manifold piping from a variety of materials including ductile Iron, carbon steel and stainless.
- PLC or SCADA Control
- Custom PLC Programming
- Variable or Constant Speed Motor Controllers
- Isolation Valves For Each Pump
- Check Valve For Each Pump
- System Suction and Discharge Pressure Gages
- Multiple Power Distribution Options That Include Motor Control Centers and Panelboards.
- Multiple Skid and Floor Options That Include Structural Steel and Pre-Cast Concrete.
- Multiple flow meter options including turbine and magnetic from various manufacturers.
- Multiple control valve options including Pressure/Surge Relief Valves, solenoid operated valves, pressure reducing valves and pump control valves.
- Optional modular steel enclosure with multiple architectural finishes and options.



The Pump People®

Above Grade Steel Enclosures...

Options for Exterior Finish



26 Gauge Steel

- Kynar 500 Baked On Finish
- 30 Year Warranty Against Fading
- 40 Year Warranty Against Rust
- Optional Rain Canopy
- Optional Gutters & Down Spouts



Dryvit Stucco

- Optional Rain Canopy
- Optional Gutters & Down Spouts
- Wide Choice of Color



Thin Set Brick

- Choice of Brick Finish & Color
- Optional Rain Canopy
- Optional Gutters & Down Spouts



Fullerton Castwall

- 8 X 8 Split Face Block Appearance
- Optional Rain Canopy
- Optional Gutters & Down Spouts
- Choose From 12 Colors



Place-And-Connect Pump Stations

Muni~Pac Plus Above Grade Steel Enclosures...

muniPAC[®] PLUS

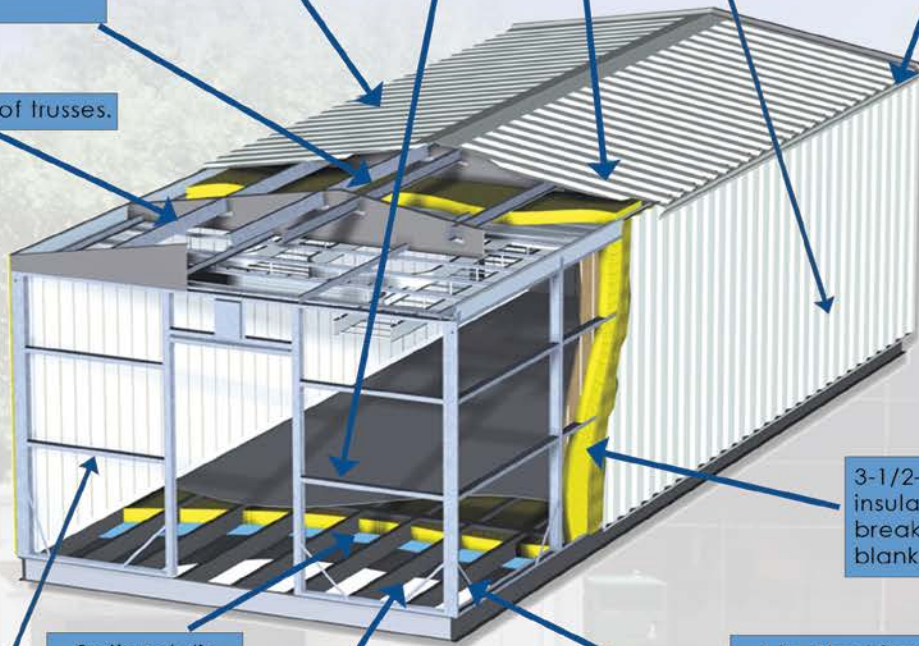
Available roof styles include gabled, hipped, and single slope. Roofing materials can be 18, 24, or 26-gauge ribbed steel or plywood with architectural shingles.

Kynar 500 – baked on polyester resin finish on roof, ceiling, exterior and interior wall panels – guaranteed against fading or chalking for 30 years.

Optional gutters and down spouts.

Galvanized steel roof purlins

Solid web roof trusses.



3-1/2-in. – R14 high density insulation with 1-in. thermal break consisting of 1-in. blanket insulation.

4-in. Steel framework consisting of 12, 14 & 16 gauge galvanized steel. Building load requirements are met prior to the installation of the roof and exterior panels.

Optional slip resistant steel deck plate.

22-gauge steel liner panel with concealed fasteners or FRP laminated, 7/16-in. OSB plywood.

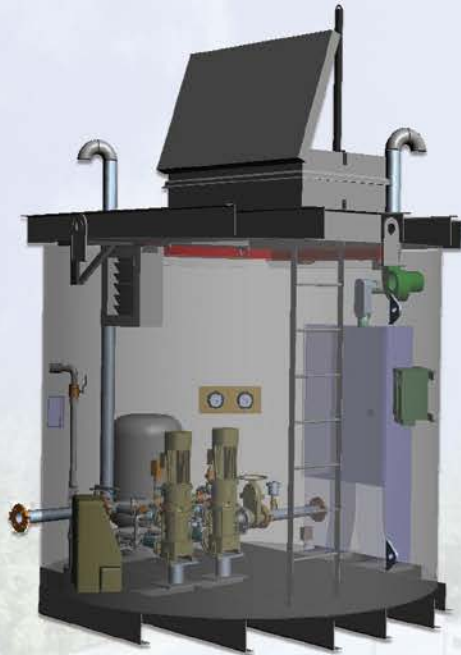
Optional open skid design to allow concrete fill by installing contractor.



Optional bridge crane for equipment removal.

The Pump People[®]

Below Ground Vaults



Features

- Stainless Steel & Aluminum Entry Hatches
- Built In Entry Ladder or Ship Stairs
- Carbon or Stainless Steel Construction
- H₂O Loading Capability
- Structural Calculations Provided
- Engineered Ventilation System Provided
- Designs Up To 20 MGD
- Anode Protection Included
- Circular or Oblong



muniPAC

Place-And-Connect Pump Stations

Muni~Pac BG

Patterson Pump Company's Muni~Pac BG, below grade pumping systems are designed to reduce both initial cost and total cost of ownership.

Muni~Pac BG Place And Connect pumping systems provide the following benefits:

- Hidden From Sight
- Reduced Cost Associated With Design
- Reduced Construction Time
- Dependable Schedules
- Factory Tested
- Reduced Start-Up Expense
- Single Point of Responsibility

Application:

- Booster Stations
- High Service Pump Stations
- Raw Water Pump Stations
- Effluent Pump Stations
- Reuse Booster Pump Stations
- Lift Stations (Not Submersible)
- Storm Water Pump Stations (Not Submersible)
- Pressure Reducing Stations
- Flow Meter Vaults

The **Muni~Pac BG** focuses on the ever present real estate concerns of our customers. Hidden from site, security concerns are minimized along with your real estate needs.

muniPAC[®]
BG

The **Muni~Pac BG** is a complete booster pump solution that comes completely pre-wired and pre-plumbed from the factory. The Muni~Pac Standard includes:

- Carbon steel or optional 304 stainless steel equipment capsule.
- Engineered heating and ventilation system.
- Sump Pump
- Pump options that include vertical in-line, vertical multi-stage and horizontal split case pumps.
- Carbon steel or optional stainless steel suction and discharge manifold piping.
- PLC or SCADA Control
- Variable or Constant Speed Motor Controllers
- Isolation Valves For Each Pump
- Check Valve For Each Pump
- System Suction and Discharge Pressure Gages
- Multiple flow meter options including turbine and magnetic from various manufacturers.
- Multiple control valve options including Pressure/Surge Relief Valves, solenoid operated valves, pressure reducing valves and pump control valves.
- Corrosion resistant entry and equipment removal hatches.



The Pump People[®]

Below Ground Vaults...



Below Ground HSC



**Entry Hatch and
Ventilation Tube**



Below Ground Vaults



**Optional Stainless Steel
Construction**

muniPAC

Place-And-Connect Pump Stations

Below Ground Vaults...

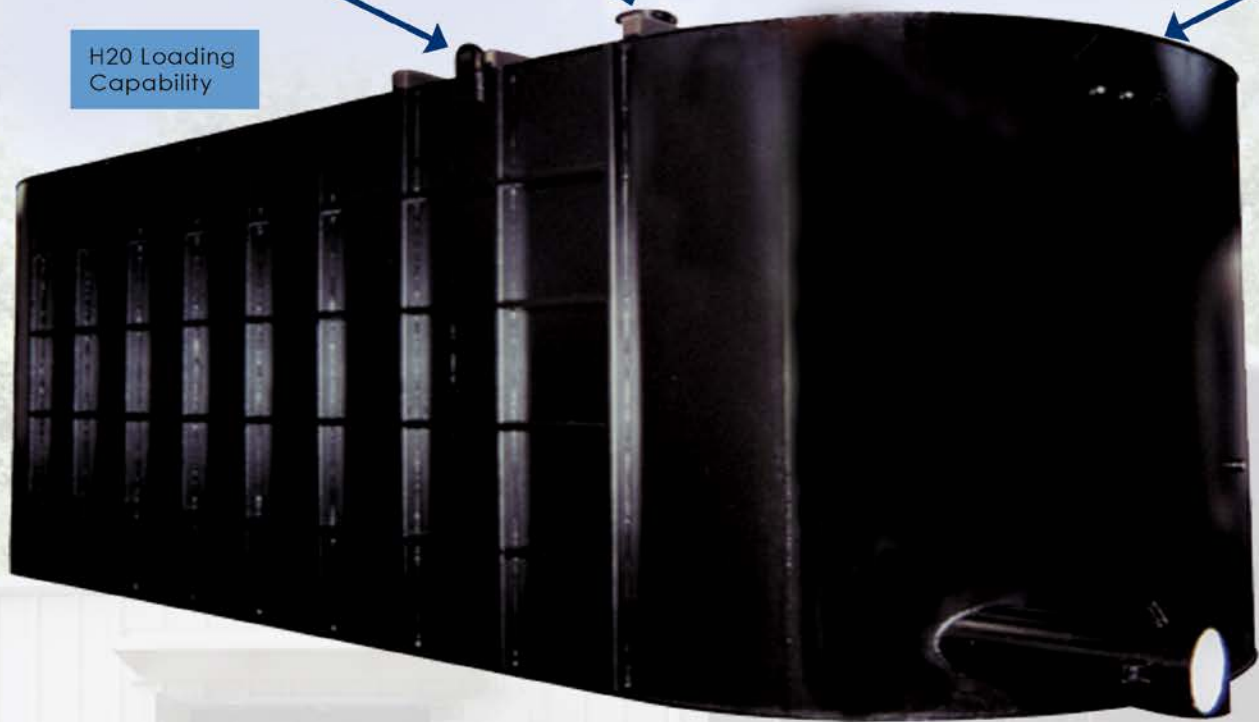
muniPAC[®]
BG

Stainless Steel & Aluminum Entry Hatches

Engineered Ventilation System Provided

Carbon or Stainless Steel Construction

H₂O Loading Capability



Circular or Oblong



Built In Entry Ladder or Ship Stairs

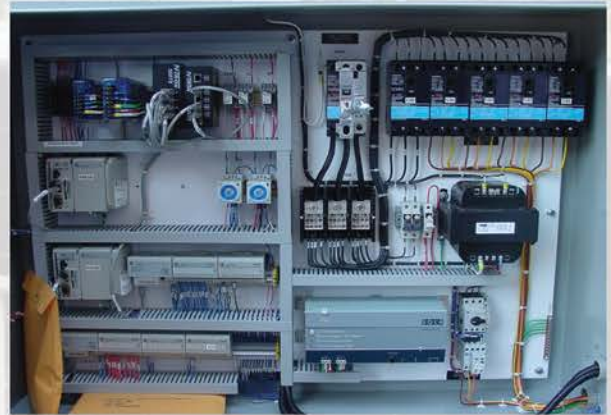
The Pump People[®]

Controls ...

Features:

- UL 508A & ETL Listed
- Variable or Constant Speed
- Optional Motor Control Center Construction
- Optional Flow Switch or Flow Meter Input
- Optional Suction Pressure Transmitter Input
- Optional Serial Communication Capability
- Built-in Ethernet Communication
- Optional Dry Contacts For Scada
- Flow (Optional), Total Discharge Pressure, Suction Pressure (Optional), Elapsed Time, number of starts, kW, and amps Displayed on Operator Interface.
- Custom PLC Programming
- Easily Web Enabled With Secure Firewall
- Pressure or level control
- Standard 6" Color Touch Screen Operator Interface (10" Optional)
- Enhanced diagnostic capability
- Alarm conditions and trouble shooting instructions appear on operator interface, thus eliminating the need for pilot lights
- Optional Cellular Remote Monitoring

Motor Control Center Construction



6" Color Touch Screen

muniPAC

Place-And-Connect Pump Stations

Intelligent Variable Speed Pump Control...

Intuition is the most advanced Variable Frequency Drive for pumping applications on the market today. Developed jointly by Schneider Electric and Patterson Pump Company, Intuition features:

- Intuitive Variable Speed Pump Control
- Multi-Pump Control For Up To 6 Pumps
- Onboard Web Server
- QR Code Generation
- Screen Snap Shot Feature

Operational Intelligence

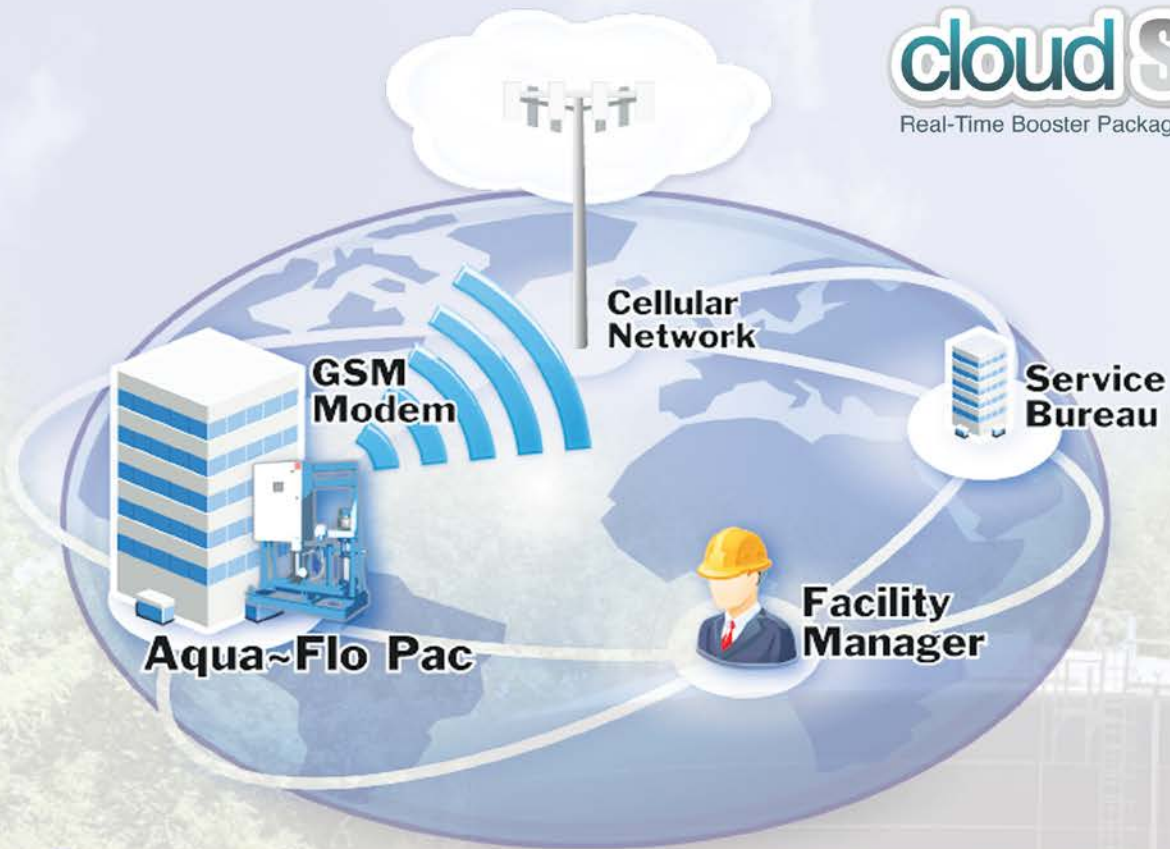
Applications need to run at optimum efficiency for your success. Making informed decisions, easily, at a moment's notice is foundational to this.

Embedded process knowledge provided by Patterson Intuition gives you the information you need.

Embedded Guidance

Avoid getting lost with start-up, integration of your drives and maintenance needs. New and intuitive built-in functions simplify support and diagnostics, allowing issues to be solved quickly and comprehensively.





CloudStat allows compiling of important data for up to three years, aiding preventative maintenance. Alarms are communicated instantly by email or SMS text.



With CloudStat® monitoring, supervisors can remotely monitor the outstanding efficiency and status of VIL series pumps is an easy and ready to use solution that allows you to:

- Manage equipment in locations worldwide
- Monitor and analyse machine and installation data remotely
- Troubleshoot & Modify programming remotely

Pumping Technology for Tomorrow's World

Over the last century, Patterson built a firm reputation for reliable pump installation worldwide

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; HVAC and Booster Systems.

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 services and maintaining the best service department in the industry.

ISO 14001 Certification. Patterson does more than strive for quality and reliability; Patterson has invested in the company's core values.

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 significant resources 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.



The Pump People®



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