

AQUAFLOTM CONTROL

PLUMBING SYSTEMS
PLUMBING ACCESSORIES

*Reliable Packaged Solutions
in Plumbing*

Aqua~FloPac[®]

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



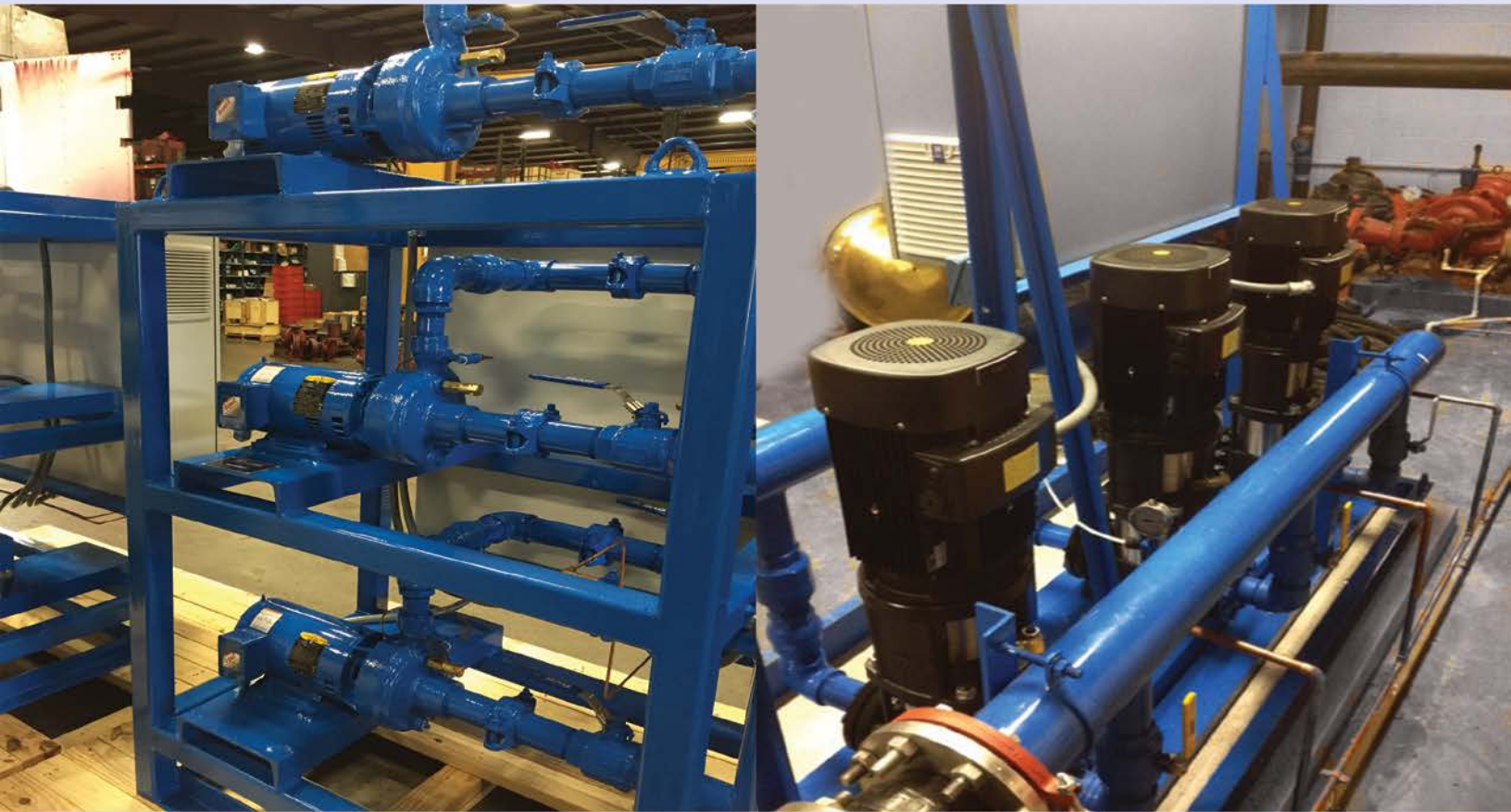
High enough. Fast enough. Just enough.

Plumbing contractors worldwide are filling the need for reliable clean water supply with **Aqua~FloPac®** pre-engineered packaged systems. Delivering exceptional response to extraordinary demands with reliable clean water delivery. Standard and custom configurations available.

AQUAFLO[™]

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Supply The Demand

AquaFloControl® Plumbing Systems offer proven quality and reliability when it comes to delivering clean water at controlled volume and pressure to high-density residential, light industrial, independent water systems, dormitories and office buildings.

These booster pumping systems eliminate the need for job-by-job system engineering involving individual pumps, accessories and controls. They are an excellent, cost-effective technical solution for supplying high demands. Many configurations are available, along with the technical support to implement custom installations for complete customer satisfaction.



The Pump People®

Aqua~FloPac®

Pre-engineered, standard plumbing packages provide distinct advantages to contractors.

With Aqua~FloPac®, you can install reliable water service at controlled volume and pressure for high-density residential structures, light industrial sites, office buildings, dormitories and similar facilities. You can even provide independent water systems with custom booster plumbing packages.

All Aqua~FloPac packages are preengineered, so contractors only have to size them and install them. Plus, service and maintenance is easy with the rear pullout design, which allows removal of the rotating element without disturbing suction and discharge connections.

Patterson engineers the plumbing packages with variable frequency or constant speed drives to follow cooling load with maximum energy efficiency. Pump options include end suction, horizontal split case, vertical turbine, vertical diffuser and a multi-stage pump for low flow, high head conditions. The packages can also be furnished with a standard 185-gal hydro-pneumatic tank; other sizes are available.

Duplex and triplex horizontal configurations are standard with the Aqua~FloPac packages, and split-base options are available. Vertical and horizontal split-base configurations can fit through a 36-in. door opening, easily accommodating existing construction.

Our custom, programmable, state-of-the-art System Controller delivers highly effective energy and system management. Standard on all systems, its easy-to-read and operate interface belies its highly sophisticated capabilities. It is UL 508-A listed, features pop-up window overlays for easier monitoring and all screens include an "Emergency Stop Pumps" button.

Each pump is assembled in a Patterson Pump controlled manufacturing environment, and every pump is 100% run/flow tested and ETL third-party inspected prior to shipment.

Aqua~FloPac Custom Booster Systems.

If an application is not covered by the standard package, Patterson will help you configure a custom package. Custom booster systems are available with multiple pumps, controls and piping materials to fit individual job needs with a working pressure to 500 psi.

Special control options include flow meters and relay/time logic to micro processor based controls. Additional options include custom piping arrangements and metal or fiberglass housing. Capacities are only limited by shipping restrictions. UL-QCZJ Listed.

AQUAFLO™ CONTROL

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From the first floor to the penthouse, residents in this metropolitan condo (above) enjoy reliable water delivery with this Aqua~FloPac package (right) working efficiently down below.



Aqua~FloPac Design & Construction

Standard variable & constant speed

Pumps and Fluid Controls

Patterson End Suction pumps used in Aqua~FloPac systems have dynamically balanced impellers with a centerline, self-venting discharge. Standard working pressure is 175 psi.

Fluid controls are designed with longevity and ease of maintenance as priorities. The 4-in. pressure gauges include an integral shut-off valve. There are lug butterfly isolation valves on the suction and discharge of 2-1/2-in. and larger; full-port ball isolation valves on 2 in. and smaller. Check valves are combo pressure reducing valves (PRVs).

Motors And Drives

Constant speed motors have a Class F insulation system. Variable Frequency Drives (VFDs) are available, Schneider Electric ATV 212, Reduced Harmonics Technology drives, with THDI<35%, which eliminates the need for line reactors.

Electrical

The control panel is UL 508-A listed, with a NEMA 12 enclosure (others available). Standard connection is single point electrical.

Alarms include low system pressure, low suction pressure and high system pressure; others are available.

The standard interface is a 5.7-in., 65K TFT LCD touch screen. Remote control with a Vijeo Design Air App is available. A USB slot is provided for program updates and data storage.

The starters for constant speed motors are a combination with 3-leg overload protection.

Main disconnect switches with through door operators are provided; Schneider Electric motor (MSP) H-O-A and run light switches are provided in the touch screen interface. The electronic control system provides automatic alternation of equal pumps.

Structural Features

Headers are welded stainless steel for durability. Bases and supports are enamel coated structural steel. The support system conforms to ANSI B-31.1 and 31.9.

Better System Loads, Higher Efficiencies... ...With flow match to meet your requirements.

Patterson has the experience, expertise and equipment to help you be ASHRAE 90.1.-compliant. Let us fulfill your system needs. All package systems are UL/508 and ETC-listed, NSF-compliant, California Low Lead and IAMPO listed—all meeting today's standards.

Compliant with ASHRAE 90.1 -2013, Ch. 10, Sec. 10.4.2

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Compact, Power-Packed TDH+ Model

Providing a more compact, self-contained design for higher pressures.

The **Aqua~FloPac** TDH+ Model is anything but standard. It is designed and engineered for maximum performance and energy efficiency with budget restraints in mind.

The TDH+ Model has a smaller footprint than other **Aqua~FloPac** plumbing packages and offers vertical multi-stage pumps. Plus, with a working pressure of 240 psi per pump and heads up to 555 ft, the model is capable of higher discharge pressures than the standard end suction pump. Larger sizes are available; consult the factory.

The model also offers both constant and variable speed; changeable orientation of



TDH+ Model has a smaller footprint.

headers; NEMA 12 standard enclosures (NEMA 4 and 3R optional); and a split-base option.

The UL-QCZJ system features a factory certified and tested UL 508-A control panel and tested pump system for reliable, uninterrupted operation upon arrival at the jobsite.



This TDH+ Model meets the constant demands of a university dorm.

The Pump People®

Steady Pressure? YES! Lead? ABSOLUTELY NOT!

Aqua~FloPac Booster Plumbing Packages

Certified to NSF/ANSI Std. 61

Also...NSF 61 California Low Lead Plumbing Law compliant from inlet to outlet. From Patterson Pump, the name you trust for reliable domestic water pressure, you now have the choice of our Aqua~FloPac Booster Plumbing Packages in models certified to NSF/ANSI 61 throughout the line. These Aqua~FloPac booster systems comply with the most rigorous standards for potable water applications in high-rise commercial structures, institutional buildings and rural water districts.

Be ready to qualify for potable water specs today...and tomorrow. Aqua~FloPac plumbing systems supply water at controlled volume and pressure to your tallest customers. These preengineered, standard and custom booster plumbing packages are easy to install, operate and maintain.

Thanks to Patterson Pump innovative engineering, Aqua~FloPac systems sport an advanced System Controller for both energy and system management. An easy-to-read and operate interface masks the advanced capabilities that provide reliability under changing conditions.



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Supply on demand above, with **Aqua~FloPac**
down below



Qualify now for federal contracts where the new standard is mandatory. Plus, with Patterson you have a single source of supply for booster systems as state and local governmental bodies make NSF/ANSI Std. 61 certification mandatory for potable water applications. Contact us today at (706) 886-2101 or visit www.pattersonpumps.com for all the details on **Aqua~FloPac** plumbing packages.

Manufacturing Certified to NSF/ANSI Std. 61 by IAPMO

(And also in compliance with Section 116875 of the California Health & Safety Code)

- Stainless Steel Ball Valves
- Butterfly Valves
- Stainless Steel Check Valve
- PRV Valve
- Stainless Steel Headers
- Stainless Steel Branch Piping
- Stainless Steel and Ductile Iron Fittings
- Patterson AP End Suction Pumps (NSF/ANSI Std. 61-2008 Section 8 certified by IAPMO)
- Vertical Multistage Pump
- Thermal Relief Valve

NSF/ANSI Std. 61 IAPMO File No. N-7439

California Lead Plumbing Law File No. 7440

Aqua~FloPac is a registered trademark of Patterson Pump Company for its line of booster plumbing packages. AquaFloControl is a registered trademark of Patterson Pump Company for its line of plumbing systems and accessories.

The Pump People®

Redefining Booster Pumping Efficiency...

...With A Cloud's Eye View Of Status. Enjoy the energy saving advantages of Variable Frequency Drive power in **Aqua~FloPac** plumbing packages. Save thousands of dollars in operating costs compared to pipeline flow/pressure regulation, reducing pumping costs alone by 50%.

A new standard in drive efficiency. Schneider Electric™ Altivar 212 Variable Frequency Drives (VFDs), regulating power to Patterson's VIL series pumps, eliminate the need for pressure reducing or throttling valves or inlet guide vanes. This compact Aqua~FloPac plumbing package reduces installation costs and maximizes building occupant comfort with accurate flow control.

The drives offer the latest in VFD technology to help keep total harmonic distortion (THD) levels within the limits of the IEEE 519-1992. The ATV 212 was specifically designed to comply with IEC/EN 61000-3-12, which limits THDI of system components to 35%. Additionally, these drives feature resonant frequency skipping, soft starting and stopping, under-load and over-load detection and time limits for operating at minimum speed.

All the information for efficient pumping management. And on the management front, Patterson CloudStat®-enabled **Aqua~FloPac** plumbing packages mark a true step forward. CloudStat Real-Time,

Web-Based Booster Pump Monitoring provides a browser-based, real-time view of pump status and efficiency from 500 ft or 50,000 miles. CloudStat is based on one-way cellular technology, installable without IT involvement, and there are no security risks. The system consists of a GSM modem installed in the control panel and an external antenna.

Cloud-hosted information includes:

- Cost in kW/gal of water pumped
- User-specified high and low alarm conditions: suction and discharge pressures, water volume pumped (with availability of flowmeter volumetric rate signals)
- Trend lines: power cost for each pump, water consumption (with availability of flowmeter volumetric rate signals), operating pressures and total cost of operation

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

AQUAFLO[™]

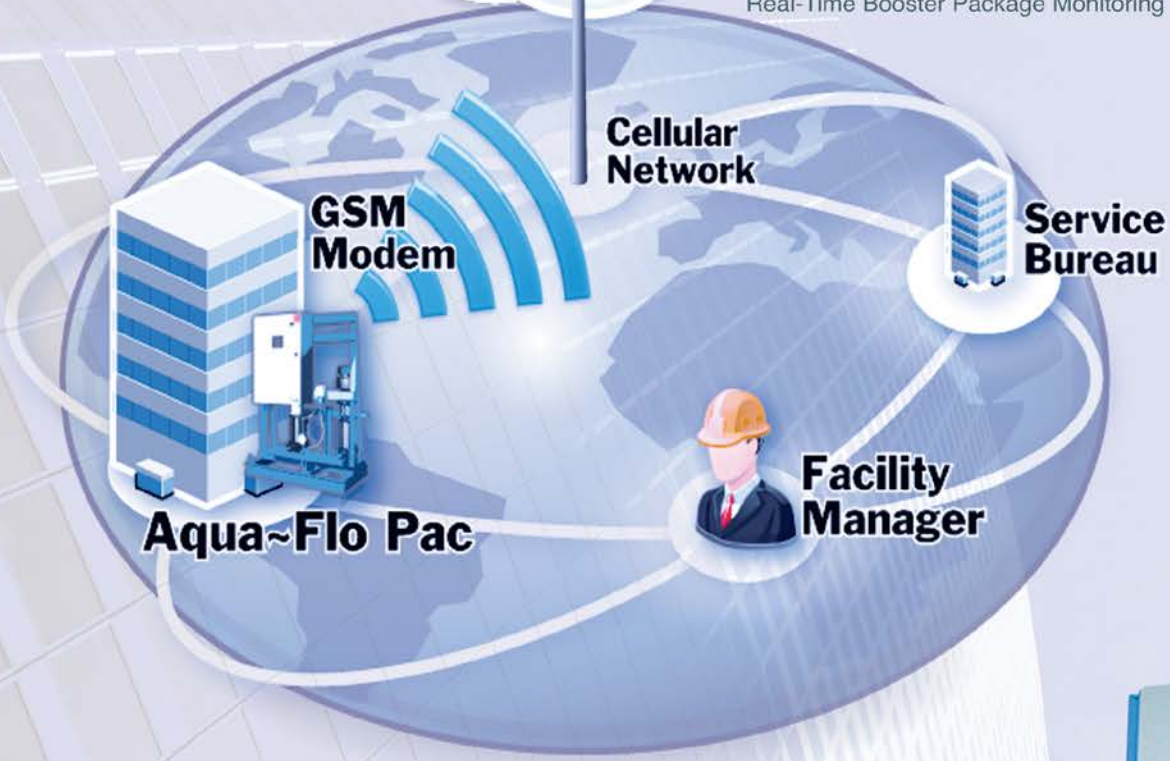
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cloudSTAT[®]

Real-Time Booster Package Monitoring



With CloudStat[®] monitoring, supervisors can remotely monitor the outstanding efficiency and status of VIL series pumps powered by new Variable Frequency Drives.



The Pump People[®]



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