

FlowTHERMTM Systems

Complete packaged and custom solutions for
mechanical, plumbing, and industrial systems.



Professionally manufactured to the highest industry standards using only premium materials and components. We are proud to display the UL certification label on all our packaged systems.

A photograph of a modern, two-story office building with a white facade and large windows. The building is partially framed by bare trees in the foreground. A dark horizontal band across the middle of the building features the company name. The foreground shows a grassy area with some fallen leaves and a sidewalk.

FlowTherm systems

**A LEADER IN
PACKAGED
SYSTEMS**

About Us

In 1970 our parent company CHC, noticing a need for pre-fabricated engineered equipment packages, and began a manufacturing division that utilizes many of the components built by the equipment manufacturers that we represent. This division was named FlowTherm Systems™.

These

pre-engineered, packaged systems provide a unique product to our industry and we have enjoyed tremendous success and acceptance in the marketplace. FlowTherm Systems received Underwriter Laboratories (UL) approval status in 1998 and has since received IAPMO, NSF/ANSI 61 and approval by the City of Los Angeles. The UL and IAPMO listing provides nationally recognized 3rd party quality assurance and has provided us with a strong specification tool that assures our customers of a product that is built to rigid specifications and code compliance. In 2009, we expanded the FlowTherm division with the addition of 2,400 sq ft for CAD designers, administration and project management.

Now with over 35 years of proven system application experience FlowTherm Systems™ is a leading supplier of complete packaged systems for pumping and heat transfer applications. By considering the overall system requirements of each unit, in addition to addressing the smallest details, FlowTherm Systems produces premium, packaged equipment designed and manufactured to meet your specifications. We recognize the need for affordable, high-quality equipment packages and are committed to providing superior products with exceptional customer satisfaction ratings.



PRESSURE BOOSTER SYSTEMS

Standard sizes for multistage boosters are available with flow rates up to 1200 gpm and boost pressures exceeding 200 psi. All of the FMV series boosters are UL listed and built to the requirements of NSF/ANSI 61 and NSF/ANSI 372 certified insuring the most dependable and safest delivery systems of domestic water. The control system provides an energy efficiency interface and Building Automation Systems (BAS) including BACnet and LonWorks and are available with Scada interfaces.

FlowTherm Systems™ FMV series of booster pumps provide the highest in reliability for delivery of potable and reclaimed water systems in the industry. Every system is built with series 300 stainless steel manifolds which are supported from the integral structural steel frame. Each system utilizes multistage pumps constructed of stainless steel impellers, pump sleeves, and rugged cast iron or stainless steel pump bodies.

These booster systems are easy to startup and service with door mounted

H/O/A switches and disconnects for each motor and isolation valve for each pump. Non-standard systems are available in any capacity and configuration. Contact FlowTherm Systems™ for custom system requests.

FlowTherm was called in to help with the construction of Levi Stadium. Pictured is one of many reclaimed water booster pumps. The bright purple is a symbol of reclaimed water systems.

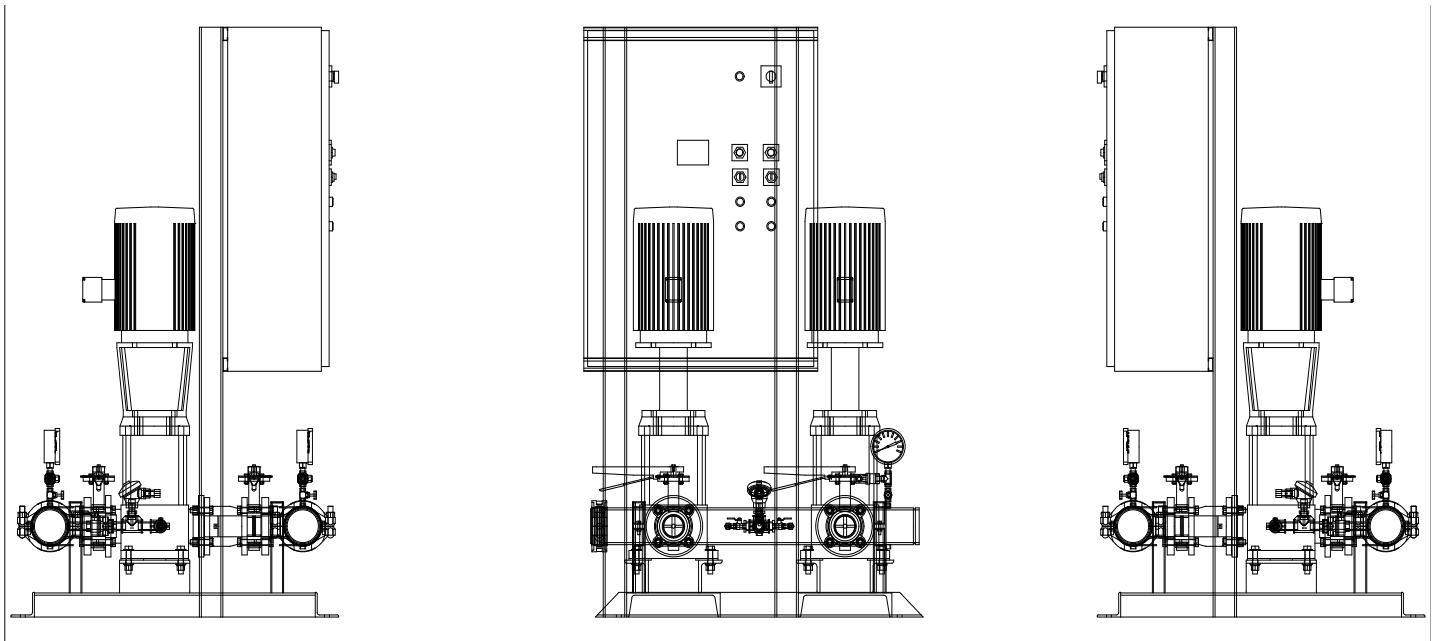


Pressure Booster Systems

Each completed pumping system is carefully checked for proper control operation prior to shipment. Our systems are GUARANTEED to perform as per specification requirements and are assured by thousands of successful installations over the past 35 years.

FlowTherm Systems™ continues to develop control strategy solutions which reduce energy usage and the associated environmental impact. No Demand Shutdown (NDS) and Dynamic Set Point Adjust (DSA) control strategies are part of our solution.

FlowTherm Pressure Boosters include Human Machine Interface (HMI) controllers. All Controllers utilize the energy efficient (NDS) & (DSA) Control Strategies.



Control Panel being prepped for addition to a booster package.

Drawing of a Duplex Pressure Booster System

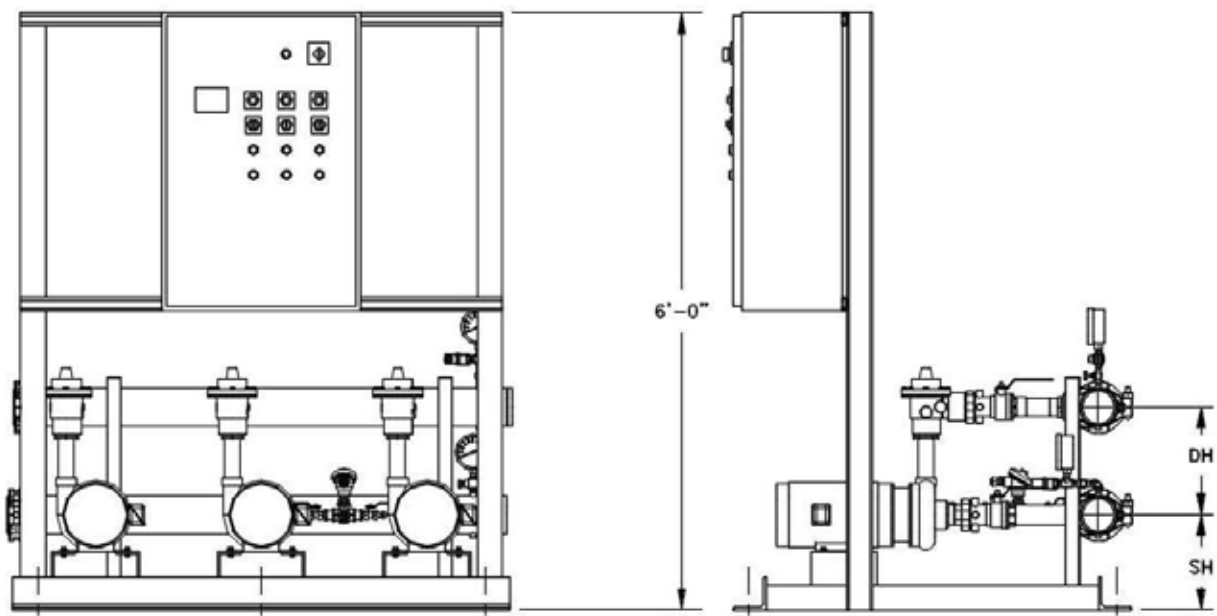


FlowTherm Systems™ FMV series control panels are UL Listed 508A Industrial Control Panels.

- Single point power connection and door mounted main disconnect and SCCR rated.
- Each motor is individually protected and have individual disconnect switches
- Door mounted H/O/A switches for each pump
- Human Machine Interface (HMI) for easy system operations
- PLC with PID control algorithms providing highly energy efficient solutions
- Algorithms include Dynamic Set Point (DSP) adjustment which meets the ASHRAE Standard 90.1-2010 without need of remote sensors
- Trend logging of all critical operations and alarms is provided and displayed on the door mounted HMI
- Interface with Building Automation systems (BAS) including BACnet, LonWorks and other systems

Standard sizes for end suction boosters are available with flow rates up to 950 gpm and boost pressures exceeding 90 psi. All of the FEV series boosters are UL listed and built to the requirements of the NSF/ANSI 61 insuring the most dependable and safest delivery system of domestic water. The control system provides an energy efficient solution to any booster application with algorithms which meet ASHRAE Standard 90.1+2010 without the need of remote sensors. The control panels can interface with Building Automation Systems (BAS) including BACnet and LonWorks and are available with SCADA interfaces.

FlowTherm systems FEV series of booster pumps provide the highest in reliability for delivery of potable and reclaim water systems in the industry. Every system is built with series 300 stainless steel manifolds which are sup-



Drawing of a Duplex Pressure Booster System

ported from the integral structural steel frame. Each system utilizes end suction pump constructed of lead free bronze or stainless steel impellers and rugged cast iron pump bodies.

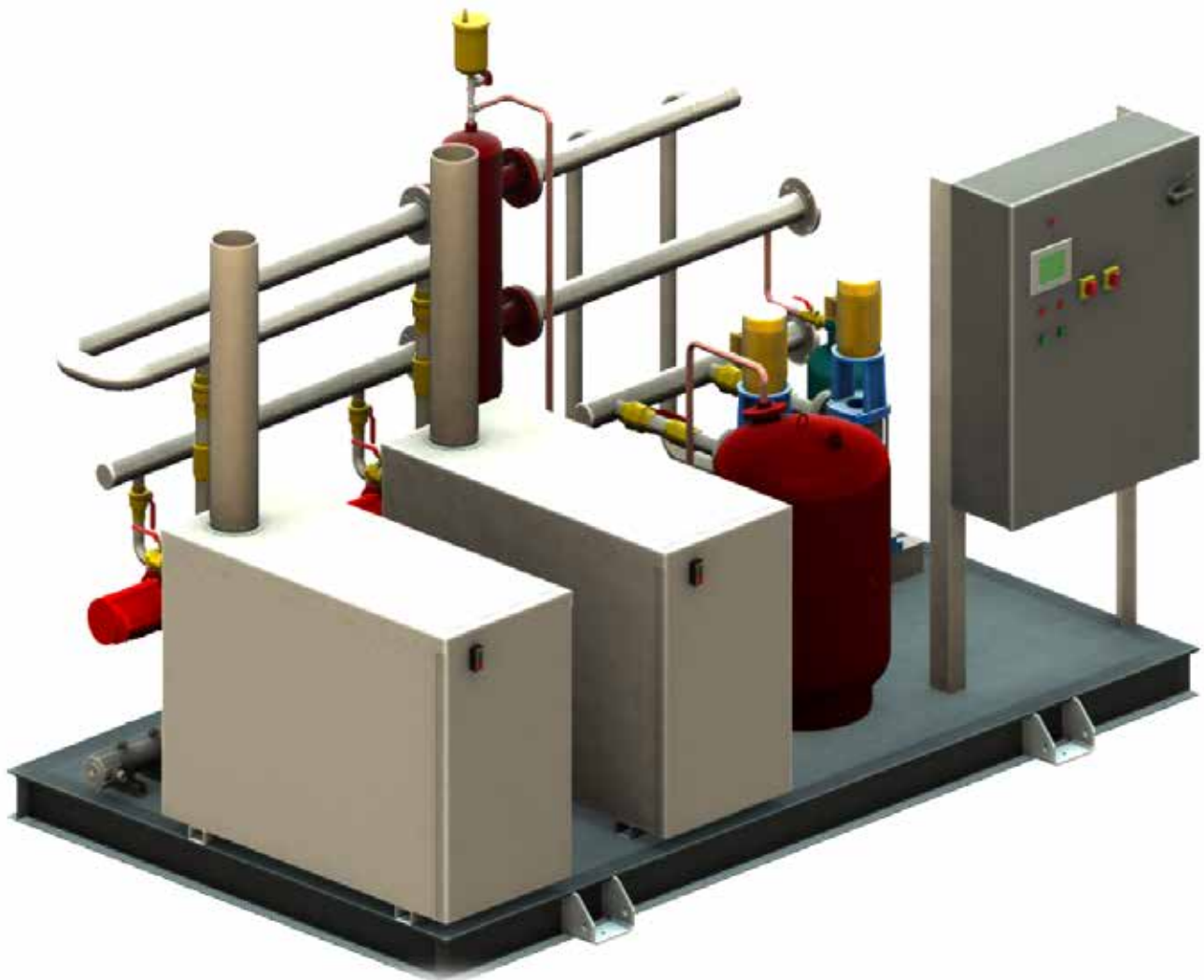
These booster systems are easy to startup and service, with door mounted H/O/A switches and disconnects for each motor and isolation valves from each pump. Non-standard systems are available in any capacity and configuration.

HYDRONIC HEATING

FlowTherm systems has been designing and manufacturing packaged hydronic heating systems for over 35 years with a focus on quality, reliability, and customer service. Our pre-engineered, modular hydronic packages provide a turnkey solution for engineers and contractors.

All FlowTherm systems packages are built to industry standards by experienced pipefitters, welders, and fabricators in our west coast manufacturing facility.

Hydronic Heating



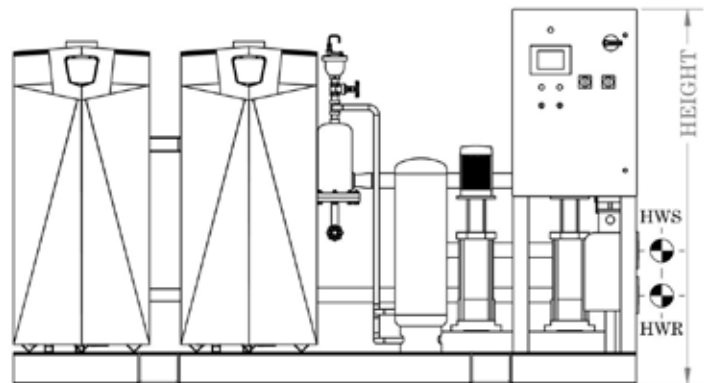
HHM-C HYDRONIC HEATING MODULES FEATURES & BENEFITS:

- Indoor and outdoor rated condensing boilers with variable system pumps
- Variable primary and optional variable primary/variable secondary pump control
- Structural steel frame with full coverage plate steel deck
 - Includes lifting and anchor points
 - Seismic spring isolator ready anchor chains
- Master/member boiler sequencing control system
- Reverse layout options are available
- System air separator and auto air vent
- System thermal expansion tank
- System chemical pot feeder

SYSTEM INTEGRATION PANEL (SIP) INCLUDES:

- HMI with 6" color touch screen
- NEMA 1 or NEMA 3R enclosure
- Three phase single point power
- VFD with individual disconnect for each system pump
- Wire-to-Water power optimization staging of system pumps
- BACnet BMS interface

Dual Boiler Layout - CD Model



TECHNICAL DATA

HHM Model	MBH		Efficiency	GPM ¹	TDH	FLA ²	Frame	Water Conn.	Weight ³
	Input	Output		30°ΔT	Ft.	460V/230V/208V		NPT	Lbs.
CS150NT	150	138	92%	10	65	2.8 / 4.5 / 4.9	A	1	3,700
CS210NT	210	194	92%	13	65	2.8 / 4.5 / 4.9	A	1.25	3,800
CS285NT	285	264	93%	18	65	3.2 / 5.3 / 5.8	A	1.25	3,800
CS399NT	399	386	97%	28	65	3.7 / 6.4 / 6.9	A	1.5	3,900
CS500NT	500	475	95%	32	65	4.1 / 7.2 / 7.8	B	2	4,100
CS600NT	600	572	95%	38	65	4.1 / 7.2 / 7.8	B	2	4,300
CS750NT	750	724	97%	48	65	4.9 / 8.8 / 9.6	C	2.5	4,400
CS850NT	850	813	96%	54	65	4.9 / 8.8 / 9.6	C	2.5	4,400
CD300NT	300	276	92%	20	65	5.3 / 9.6 / 10.5	D	1.25	4,300
CD420NT	420	388	92%	26	65	5.3 / 9.6 / 10.5	D	1.5	4,400
CD570NT	570	528	93%	36	65	6.1 / 11.2 / 12.3	D	2	4,500
CD799NT	798	772	97%	50	65	8.8 / 16.5 / 18.2	D	2.5	4,700
CD1000NT	1,000	950	95%	64	65	10.4 / 19.7 / 21.7	E	2.5	5,000
CD1200NT	1,200	1,144	95%	76	65	15.8 / 30.5 / 33.6	E	2.5	5,200
CD1500NT	1,500	1,448	97%	98	65	15.8 / 30.5 / 33.6	F	3	5,500
CD1700NT	1,700	1,626	96%	108	65	15.8 / 30.5 / 33.6	F	3	5,500

¹ Flow at a particular ΔT can be found by calculating GPM = BTU / [500 * ΔT]

² Full load amperages are calculated assuming 3 phase incoming power

³ Operating weight

DOMESTIC HOT WATER SYSTEMS

FlowTherm Domestic Water heating packages consist of one or more water heaters with or without storage tanks. When storage tanks are included they are pre-piped with circulating pumps. The Domestic Hot Water Package may include building recirculation pumps and domestic hot water tempering valves. Standard Domestic Water heater systems are typically composed of condensing or high efficiency boilers, thermal expansion tanks, circulating pumps and a complete control system with a single point power connection.

Domestic Hot Water



FlowTherm customized domestic hot water skid

HEAT TRANSFER PACKAGE

Flowtherm Heat Transfer package is a system pre-built for your specific heating projects. It is designed to facilitate the transfer of heat between sources of energy. Since we custom build and assemble the packages for you, we eliminate the down time of assembly on site that can cut into tight deadlines and budgets. Our team of CAD designers will help custom design the system that best fits your project requirements. We coordinate the steam piping, condensate piping, hot water piping, and utility connections.

The FlowTherm Heat Transfer package consists of one or more Heat Exchangers in a variety of styles such as Shell-and-Tube (steam-to-water, water-to-water), Gasketed Plate, Frame Heat Exchangers, and Brazed Plate Heat Exchangers. The majority of packages include hot water system pumps and will include hydronic components for ease of installation.

Our systems can be controlled by existing building management systems or can be provided with complete standalone digital control systems which can be monitored by a BMS. Control systems include Pump VFD's, steam control valves, and automatic isolation valves when multiple heat change systems are used.

Heat Transfer Package



Above is the custom FlowTherm Heat Transfer Package for Bayer

PUMPING PACKAGES

FlowTherm Systems Pumping Packages are designed to make the installation of a chilled water, hot water, or condensed water system quick and efficient. These systems are designed to reduce field time by providing the equipment needed for your specific job and the piping connections at the optimum location. The rugged structure frame allows for easy rigging to land the pumping package where needed for efficient field piping and power connections.

Frames are also available to accept spring isolators for sensitive locations. Controls are available for efficient variable volume pumping and primary/secondary pump control. Systems come in sizes of less than 100 GPM to over 10,000 GPM.

Pumping Packages



WATER SOURCE HEAT PUMP

FlowTherm Water Source Heat Pump systems are designed to supply condenser water to multiple water source heat pumps installed in commercial, multi facility, and retail buildings.

These systems are the central plant of a water source heat pump loop. They provide an efficient constant source of condenser water. Most systems include a closed loop fluid cooler, a gas fired high efficiency boiler, condenser water circulating pumps, air separator, expansion tank and chemical treatment for the fluid cooler and the condenser water loop.

Systems are also available with plate and frame heat exchanger if open cooling towers are used and steam to water heat exchangers if steam is used as the heating source. Multiple boilers and multiple pumps can also be provided for redundancy or operation at part load conditions. Systems sized commonly are in the range of 50 to 500 tons of cooling.

Complete integrated control systems are most common with these systems including variable volume pumping of the condenser water pumps, variable speed control of the fluid cooler fans, and staging all of the equipment for optimum operating efficiency.



**Water Source
Heat Pump**

PROCESS COOLING WATER SYSTEMS

FlowTherm is responsible for building Process Cooling Water Systems for some of the biggest manufacturers from automotive to consumer goods manufacturing. We understand the importance of keeping a line up and running, so we only use the best parts and take the utmost care in assembly of these systems.

FlowTherm Process Cooling Water System

package consists of one or more stainless steel gasketed plate & frame heat exchangers which are pre-piped to receive chilled water on one side of the heat exchanger and clean process water on the other side.

The key function of a Process Cooling System is to keep the chilled water from a chiller or cooling tower separate from the process water used to cool equipment and/or tooling for a production facility.

Process cooling skid packages use all Stainless Steel or plastic piping, pumps, valves, and may include water filtration using media filter, UV purifiers, water softener, reverse-osmosis system, etc.

FlowTherm builds systems to meet your projects needs. From simple to complex.



Process Cooling

Installation of a FlowTherm Process Cooling Water System for TESLA.

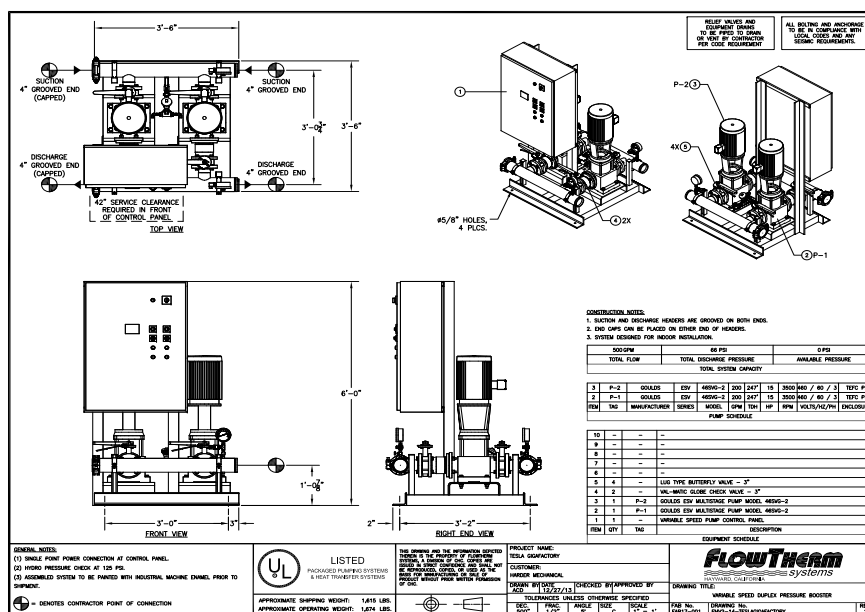


THE BENEFITS OF FLOWTHERM

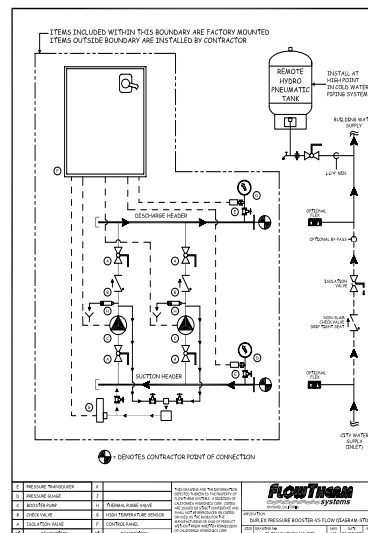
More than ever before, mechanical engineers, owners, and contractor are choosing FlowTherm Systems packaged equipment because of the benefits they provide. We understand that time is money, accuracy is key, and a happy customer makes for better business on all fronts. Here are just a few of the benefits of using FlowTherm Systems in your projects.

BENEFITS

- Up-front cost assurance eliminates unknown labor costs when compared to field installed components
 - Single source responsibility for start-up and warranty issues
 - Minimized field coordination issues and field labor
 - Rugged structural steel platforms easily rigged and installed at the job site
 - High-quality system construction that exceeds national code requirements
 - Confidence in dealing with an established company with a long track record of customer satisfaction
 - Complete customer support including full submittals, drawings, and O&M instructions in addition to layout and application assistance throughout the project
 - Guaranteed system performance
 - Experienced application assistance
 - Assurance of matched and compatible system components
 - Equipment manufactured to ASME/ANSI standards
 - UL 3rd party certification for quality assurance on all packaged systems
 - High quality components installed in accordance with industry standards and manufacturers' recommendations
 - Professional AutoCAD and 3D drawings provided with accurate dimensions and weights
 - Flexible system configurations and options for custom requirements
 - Extensive selection of standard configured packages



Drawing & Flow Diagram of a Duplex Pressure Booster System



HIGH QUALITY SYSTEMS

FlowTherm Systems offers an extensive array of packaged pumping and heat transfer application systems. All of our systems include high quality components, valves, piping, and fittings; assembled and mounted on a structural steel frame. All electrical controls and wiring can be included with our systems.

AVAILABLE SYSTEMS

- Domestic Water Pressure Booster Pump Systems
- Gas and Steam Fired Domestic Hot Water Systems
- Hydronic Boiler Systems
- Water Source Heat Pump Systems
- Condensate and Boiler Feed Pumps
- Heat Transfer Packages - Steam/Water and Water/Water
- Packaged Pumping Systems
- Process Cooling Water Systems
- Above grade effluent & sewage pumping systems



STANDARD SPECIFICATION

- 3rd Party Certification by Underwriters Laboratories (UL) for "Packaged Pumping and Heat Transfer Systems"
- NSF/ANSI 61 drinking water systems components - health effects.
- UL 508 listed, NEMA rated industrial control panels and wiring systems
- Certified welding specifications
 - ASME Section IX for welded steel piping
 - AWS D1.1 for structural steel frames and support welding
- Welding standards
 - ASME/ANSI #B31.9 for low pressure water and General Building Service piping (standard)
 - ASME/ANSI #B31.1 for high temperature water, high pressure water, and steam
 - ASME/ANSI #B31.7 for high purity piping systems

Examples of our Packaged Pumping Systems and Hydronic Boiler System



OUR CUSTOMERS

FlowTherm has designed and manufactured over 4000 equipment packages that have been installed throughout the U.S.A. and in many overseas locations. Our customer list includes hundreds of mechanical, plumbing, and industrial contractors. FlowTherm Systems equipment can be found in the heart of thousands of hospitals, hotels, commercial buildings, sporting facilities, schools, and industrial and manufacturing plants all over the world.





CONTACT US

Have questions? We're here to help.

FlowTherm has a highly trained staff of representatives, designers, and engineers to help you select the right system package for your project. Contact us and we will connect you with the right team member.

FLOWTHERM SYSTEMS

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