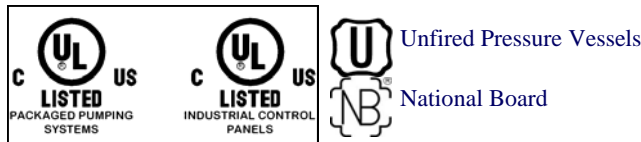


**Model #
MPH**

Modular Pump House Pre-engineered Plant



TYPICAL SPECIFICATIONS	
System Configuration	Simplex, Duplex, Triplex, or Quadraplex
System Controls	Pressure, Temperature, Flow, or Other
Pump System	Variable or Constant Speed
Standard Power	460 V (Other Voltages Available)
Dimensions	Based Upon Customer Requirements
Working Pressure	100 to 1000 psig (6.8 to 69 barg)
Working Temperature	< 400 deg F (< 205 deg C)

EnviroSep MPH, Modular Pump House, is a UL-Listed, factory engineered and manufactured Mechanical Room utilized in any commercial, industrial, or municipal fluid handling application. The *Model MPH* provides a Lower Cost alternative to site-built Pump Houses while avoiding costly project delays. All components required to integrate a stand-alone Pump House are included, eliminating site coordination, and negating start-up irregularities. Being custom-engineering by *EnviroSep*, enables the owner to specify key components from a range of manufacturers that meet performance needs. *EnviroSep* factory service personnel, who have followed the project from inception, perform Site Start-up eliminating errors from multiple hand-offs. The *Model MPH* is controlled by a non-proprietary, Programmable Controller, providing the best system operating efficiency. *Variable Frequency Drives* may be incorporated with Manual or Automatic Bypasses. A User-friendly, Color Touch Screen Operator Interface is utilized for simple operation. Factory Engineering staff are available to assist facility owners or engineers in conceptual development and planning.

Standard Features:

- Energy-Efficient Variable Speed or Constant Speed Pumps
- Integrated Pumping System—Programmable Controller
- System Accessories including Isolation Valves, Instrumentation, and Auxiliary Tanks
- Variable Frequency Drives & Integrated Controller, with Touchscreen Interface
- Differential Pressure, Temperature, & Flow Transmitters
- Communication Interface to Building Management System
- Environmentally-controlled Building Enclosure with Single-point Power Connection



Pressure Piping



Process Piping & Power Piping

Representative System Types

System Type	Basis of Operations
Booster Pump System	Pressure
Water Treatment Pump System	Flow/Temperature
Wastewater Collection System	Level/Flow
Fire Pump Houses	Pressure
Chemical Delivery Systems	Demand/Flow/Level

Options:

- Internet Connectivity for Remote System Monitoring
- Building Air Conditioning and Heating
- Exterior Power Disconnect
- Vibration Isolation & Flexible Connectors
- System Supply or Side-stream
- Stand-by Power Generator
- Chemical Treatment and Control System
- System without Building Enclosure
- Specific Performance Criteria (Upon Request)

P. O. Box 857 Georgetown, SC 29442 • Phone: 843-546-7400 Fax: 843-546-7407

Sep
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Specify the following parameters:

- I. System Flow = _____ GPM
- II. System Differential Pressure Required = _____ psid
- III. System Supply Temperature = _____ °F
- IV. Location = _____
- V. System Return Temperature = _____ °F
- VI. System Electrical = _____ V _____ Hz
- VII. System Volume = _____ Gal.

Note: System medium assumed to be water, unless otherwise specified.

SYSTEM OPTIONS

- Type of System
- Booster Pump
 - Water Treatment
 - Wastewater Collection\
 - Chemical Delivery
 - Fuel Oil Distribution
 - Fire Pump
 - Other

- Basis of Controls
- Level
 - Constant Flow
 - Pressure
 - Differential Pressure
 - Temperature
 - Other

Stand-by Pump

Vibration Isolation

Vertical In-line Pump

Flexible Connectors

Split-coupled Vertical In-line Pump

Minimum Flow Bypass Control Valve

Closed-coupled end-suction Centrifugal Pump

- Inline or Side-stream Filtration
- Centrifugal Solids Separator
 - Multi-media Filter
 - Self-cleaning Filter

Auto standby pump start on lead pump failure

Chemical Treatment System w/ Blowdown Control

Auto Pump Alternation

Non-chemical Treatment System

Remote start connection

System Flow Meter

Variable Frequency Drives

- Manual Bypass
- Automatic Bypass

Differential Pressure Transmitter across Pump suction/ discharge

Remote System Monitoring

- Ethernet
- Dial-up Modem

Regardless of system size, temperature, pressure, fluid medium, or space requirements, *EnviroSep* can provide solutions to all specialized needs.

Communication Protocol

- Ethernet I/P
- Modbus RTU
- Siemens FLN
- Johnson Controls N2
- BACnet (MS/TP)
- Lon Works
- Profibus
- DeviceNet

Model #
MPH

Representative Specifications for MPH

Furnish and install one *EnviroSep* Model MPH- [A] - [B] - [C] - [D] Modular Pump House with the system capacity of _____ GPM of _____ (fluid) from _____ psig to _____ psig.

KEY:

[A] = Model # (GPM)
[B] = # of pumps (1,2,3,etc.)
[C] = Parallel (P) or Stand-by (S) pump designation
[D] = Manual (M) or Automatic (A) alternation for multiple pumps

GENERAL - This package shall be factory assembled with pump(s), air separator, expansion tank, triple duty valves, hydropic accessories, fabricated steel frame, interconnection piping (welded per ASME Section IX certified welders), UL-listed Industrial Control Panel factory wired for single-point field connection per NEC, (and including Variable Speed Pump Controller).

PUMPS-Pump(s) shall be single, end-suction type with radially split, top center-line discharge, self-venting casing. Pump construction shall be cast iron, bronze fitted and shall be fitted with a long-life, product lubricated, drip tight mechanical seal, with O-ring seat retainer. Impeller shaft to be 416SS fitted with a SS shaft sleeve and be supported by two heavy duty ball bearings. The design shall allow back pull out servicing, enabling the complete rotating assembly to be removed without disturbing casing piping connections. The pump shall be mounted on a rigid, single base plate and by flexible with guard to the motor. Seal shall be rated for continuous duty at 270°F, motor shall be open drip proof, NEMA MG-1 with 1.15 service factor

VARIABLE FREQUENCY DRIVE – Variable Frequency Drive shall be variable torque AC inverter enclosed in NEMA 1 or 12 enclosure. Standard features shall include circuit breaker disconnect, Hand-Off-Auto selector switch, manual potentiometer (speed pot), door-mounted keypad, run relay contacts, fault relay contacts, and top/bottom conduit entry. Drive bypass shall be provided as standard with Drive-Off-Bypass selector switch. Class 20 overloads are included.

SYSTEM CONTROLLER – Controller shall include all controls necessary to operate the system as a stand-alone system. The PLC-based controller shall be of the same manufacturer as the Packaged Pumping System. Controller shall include Remote/Local system start capability. Acceptance of up to 16 remote 4-20 ma signals shall be provided for modulation of pump speed, and other optional control functions. Enclosure shall be NEMA 12 with thru-the-door disconnect. Operator Interface shall be a color touch screen type. Controller shall include independent PID control loop for each remote signal.

AIR REMOVAL EQUIPMENT- System shall include one tangential air separator with internal stainless steel collector tube. Connections to be flanged with a rating of 150 psig. System shall be equipped with ¾" Pressure Relief Valve, ¾" Pressure Regulating Valve, ASME Compression / Expansion Tank (sized by or provide system volume and temperature difference), and tank fitting, sight glass, and tank drain connections to tank.

TRIPLE DUTY VALVE- System shall include, on the discharge of each pump, a combination valve incorporating three functions in one body: tight shut-off, spring closure type silent non-slam check, and flow measured/throttling. Valve body shall be ductile iron with two ¼" NPT connections on each side of the valve seat. The valve disc shall be bronze plug disc type with high impact engineered resin seat to ensure tight shut-off and silent check valve operation. Valve stem shall be SS with flat surfaces provided for adjustment with open end wrench.

SUCTION DIFFUSER- System shall include, on the suction of each pump a suction diffuser with cast iron body, outlet guide vanes and removable SS strainer.

CONTROL PANEL - System shall include one (1) UL - Listed, NEMA 12, Industrial Control Panel with single-point power connection, pre-wired to all electrical components. Panel shall have thru-the-door fused disconnect; magnetic circuit breaker supplementary motor protector with fast-closing contacts, non-reversing 3-pole contactor, and variable setting, bi-metallic overload relay for each motor; 30 mm Foundry-duty switches; 30 mm Corrosion Resistant pilot lights; control transformer; Automatic Alternator (if required). Operation of each pump shall be Hand-Off-Auto with external connection to terminal blocks. When standby pump(s) are used, the standby pump(s) shall manually/ automatically (customer specified) start on primary pump failure. All internal wiring shall be placed in conduit.

MAKE-UP WATER ASSEMBLY - Make-up Water Assembly shall be pre-piped and installed into system suction header; including, Self-contained, Cast Iron Pressure Reducing Valve, set @ 12 psig; Bronze isolation and bypass valves; Cast Iron Y-strainer; Bronze Backflow Preventer; System Pressure Relief Valve, set @ 75 psig; and Liquid Filled Pressure Gauge with Bronze Isolation Valve.

BUTTERFLY VALVES - System Butterfly Isolation Valves shall be Lug-mounted, Cast Iron with 10-position Lever Operator for 6" and below; and Gear Operated above 6" in size. Disc shall be Al-Br or Stainless Steel. Seat material shall be Buna-N or EPDM.

BALL VALVE - Isolation Ball Valves shall be Bronze 2-pc with 316L Stainless Steel Ball and RTFE seats. All Valves shall have Latch-lock lever for Lock-Out procedures.

MANUFACTURER - Shall assume system liability, and performance guarantee and warranty all equipment on system for 12 months after initial start-up.

