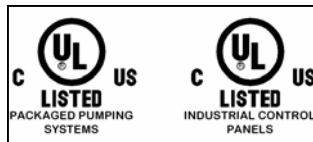


Model #
PPS-VO

Variable Speed Packaged Pumping System for Open Systems



U Unfired Pressure Vessels
PP Pressure Piping

TYPICAL SPECIFICATIONS

System Configuration	Open Circuit (any qty. of Pumps)
Fluid Temperature	50 to 240 deg F (Other Ranges Available)
Standard System Flow Rate	5 to 4000 GPM
Standard Power	460 V (Other Voltages Available)
Dimensions	Based Upon Customer Requirements
Working Pressure	100 to 600 psig (6.8 to 40 barg)
Working Temperature	< 240 deg F (< 116 deg C)

EnviroSep PPS-VO, Variable Speed Packaged Pumping System for Open Systems is a UL-Listed, variable speed, factory manufactured and fully tested system used in fluid handling systems which are configured in open circuits. The *Model PPS-VO* provides significant **power savings** by automatically controlling the speed of the pump(s) based on the actual system demand. Transmitters signal the *PPS-VO* System Controller which controls a **Variable Frequency Drive** for each pump to the appropriate speed. The *Model PPS-VO* may be configured for pumping a variety of fluids at a controlled flow rate in any industrial or commercial application. Process fluid enters a common, System Header and by use of centrifugal pumps is delivered at a controlled flow rate to a common, System Discharge Header. A UL-Listed, Industrial Control Panel with single-point power connection is pre-wired to all electrical sources. Each unit is custom-engineered to meet specific system requirements. The *Model PPS-VC* speeds installation and start-up of fluid handling systems which provides significant savings to contractors, engineers, and facility owners.

Standard Features:

- UL Listing of Complete Package and Control Panel
- Base-mounted, End-suction Pumps
- Differential Pressure Gauges
- Pump Isolation Valves
- Triple Duty Valves & Suction Diffusers
- UL Listed NEMA 12 Industrial Variable Speed System Controller
- Variable Frequency Drives, *with or without Bypass or Input Power Disconnect*
- Make-up Water Assembly, *if required*
- PLC-based System Controller with Color Touch Screen Controller, *if required*



Options:

- Internet Connectivity for Remote System Monitoring
- Interface for Facility Management System
- Auto Pump Staging with PLC Controls
- NEMA 3R/4/4X/7/9 Rating
- Seismic or Vibration Isolators
- ANSI or API Process Pumps
- Split-coupled Vertical Inline Pumps
- Chemical Treatment System
- Flexible Pump Connectors
- Panel Mounted Gauges
- Specific Performance Criteria (Upon Request)



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Specify the following parameters:

- I. System Flow Rate = _____ GPM
- II. System Differential Pressure Required = _____ psid
- III. System Inlet Pressure = _____ psig
- IV. System Temperature (Min/Max) = _____ °F
- V. System Fluid = _____ Type
- VI. System Electrical = _____ V _____ Hz
- VII. System Volume = _____ Gal.

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

SYSTEM OPTIONS

- Stand-by Pump
- Variable Frequency Drive
w/ Manual Bypass
w/ Automatic Bypass
- Pump Suction Diffuser
- Vertical In-line Pump
- Split-coupled Vertical In-line Pump
- Closed-coupled end-suction Centrifugal Pump
- Horizontal Split Case Pump
- Multistaged Centrifugal Pump
- Auto standby pump start on lead pump failure
- Auto Pump Alternation
- Remote start connection
- System drain valves
- Flexible Pump Connectors
- Vibration Isolation
- Panel-mounted Differential Pressure Gauges
- Pump Run-time Hour Meter
- Outdoor-use Rating
- Outdoor Cabinet
- System Inlet/Outlet Isolation Valves
- System Flow Switch
- Differential Pressure Switch across Pump suction/
discharge

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

Model #
PPS-VO

Typical Specifications for PPS-VO

Furnish and install one *EnviroSep* Model PPS-VO- [A] - [B] - [C] - [D] Packaged Pumping System with the system capacity to pump _____ 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), 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.

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

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.

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.

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; Siemens S7-300 or Allen Bradley ControlLogix Programmable Logic Controller with Color Touch Screen; Ethernet or Dial-up Modem for Remote Access; UPS Control Power Back-up; 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.

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.

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

