

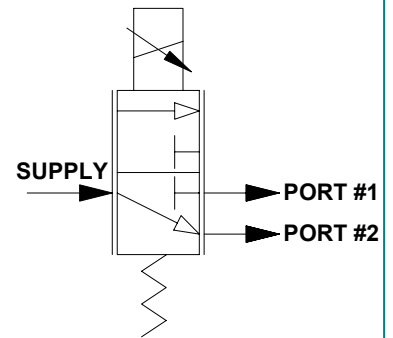
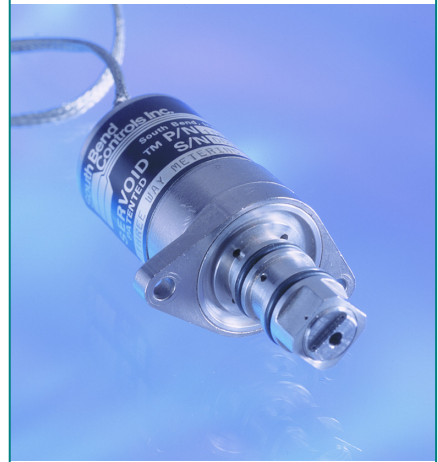
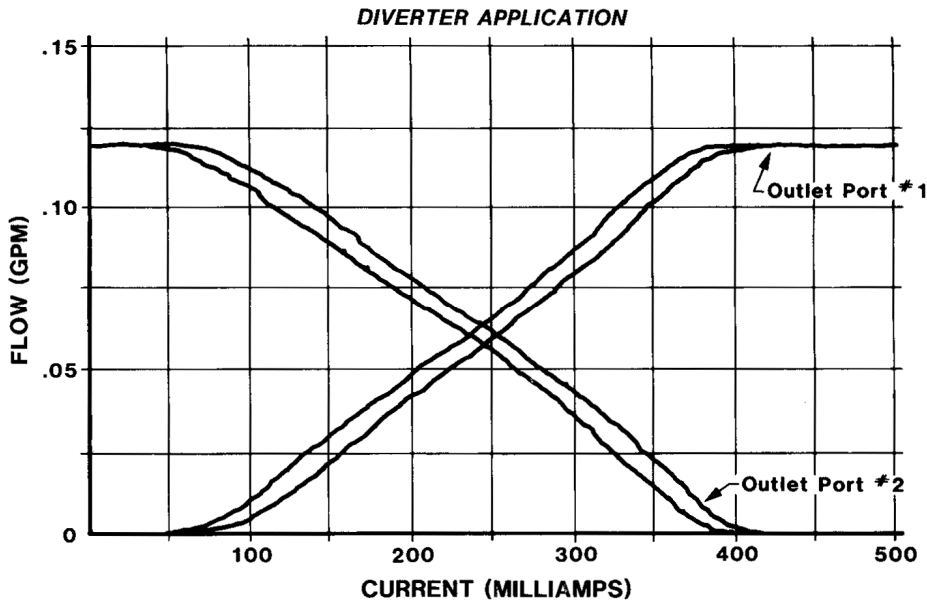
PROPORTIONAL BYPASS VALVE

3-WAY NORMALLY CLOSED PROPORTIONAL VALVE
FOR HEAT TRANSFER FLUIDS

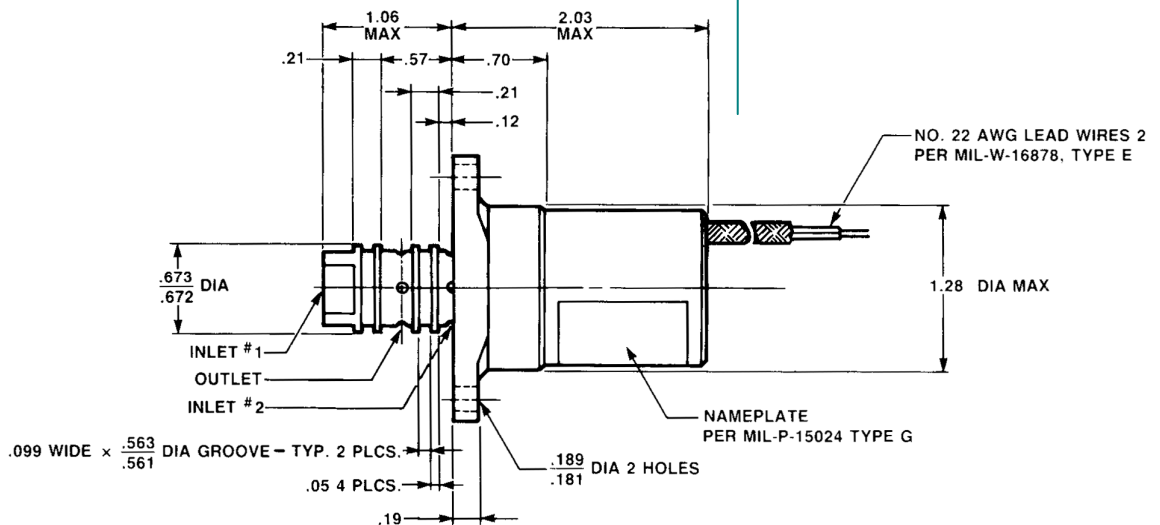
COMPONENT FEATURES

- Compatible with water/glycol mix and other similar fluids
- Metallic ball & seat for high repeatability and long life
- Fast response time (20 msec typical)
- Maximum flow rate: 0.12 gpm @ 6 psid (ESEOD of 0.050")
- Maximum supply pressure: 40 psig
- Manifold mounted design allows maximum flexibility
- Infinitely variable control of flow ratio

TYPICAL FLOW CURVE



FLOW SCHEMATIC



South Bend Controls, Inc.

1237 NORTHSIDE BOULEVARD • SOUTH BEND, IN 46615

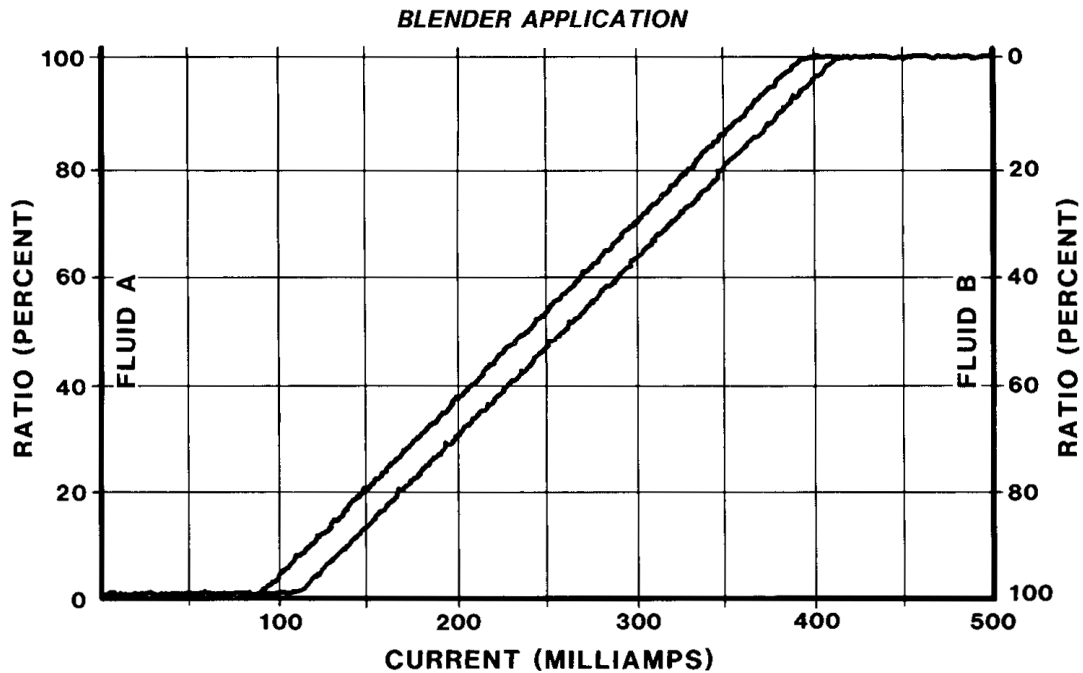
TEL+1.574.234.3157 • FAX+1.574.234.3948 • WEB WWW.SBCONTROLS.COM

BULLETIN PV-205

PROPORTIONAL BYPASS VALVE TECHNOLOGY

- The current-driven, proportional DC solenoid driver responds to either analog or digital (1 kHz pulse-width-modulated) signals. Input current (0 to 500 mA) is translated into a specific displacement with infinite resolution. The displacement is applied to a metering orifice with resulting flow control.
- Flow Diverting or Flow Blending configurations for many different types of systems.
- Utilizes suspended armature design with no sliding friction to minimize hysteresis.
- Based upon proven technologies with high accuracy and long term repeatability

This type of valve can be used with liquid or gaseous media in any system which requires proportional blending or diverting between two fluid streams. Application for this kind of device will include thermal cooling or heating, chemical blending of gases or liquids, pump bypass control and so on. In a thermal control system, for example, when the temperature at the work place must be maintained with varying heat loads, this valve can be used. It will bypass or feed the returning fluid either through or around the heat exchanger in response to the temperature feed-back from the blended hot and cold fluids returning to the work place. Systems requiring laser or infra-red cooling, crew suit temperature control, lube oil temperature control or avionics cooling are candidates. In life or health support systems where air and oxygen or anesthetic gases must be blended in varying ratios to suit the patients' needs, this concept will provide accurate control. If the system designer requires flow as well as ratio control, S.B.C. can do that as well using two SERVOID® Valves in a common manifold (See TECH BULLETIN PV-203).



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