

PNEUMATIC PROPORTIONAL PRESSURE CONTROL VALVE



**PNEUMATIC
Series 40-880
Brochure 1252**

**3 Way, Direct Operated
1/8" to 3/8" NPT**

Functional Description:

A direct acting solenoid poppet valve with variable pressure regulating capability. In combination with a **HERION** amplifier, the valve controls pressure output in proportion to an electrical input signal.

A **HERION** amplifier is required to drive these valves. The amplifier accepts an electrical "command input" signal and provides a controlled output current for the proportional solenoid. The command input signal can be derived from a potentiometer, or provided by the customer's process controller.

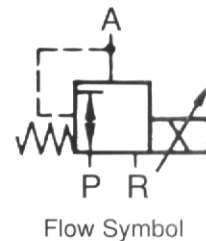
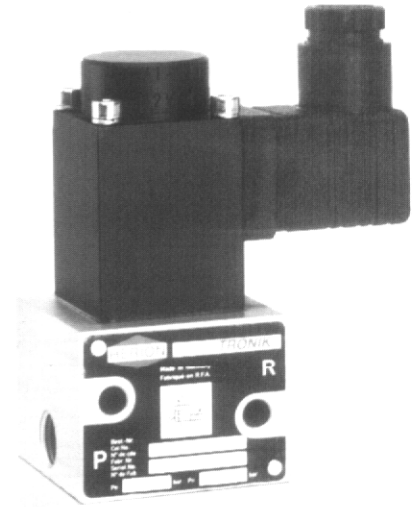
Features:

- Minimum Hysteresis
- Good Repeatability
- Short Response Time

Characteristics:

Construction	Poppet type pressure control valve – direct acting
Protection class with connector installed	IP 65
Mounting position	Vertical preferred
Flow direction	Fixed
Fluid	Filtered Air, Lubricated or Non-Lubricated
Environmental Temperature	15° to 105°F
Fluid Temperature	15° to 105°F
Filtering	It is recommended that a 40 micron filter be installed upstream of the valve
Materials: Housing: Seals:	Aluminum NBR - (BUNA N)
Hysteresis ^{(1) (2)}	< 3% of Pmax
Sensitivity ⁽¹⁾	< 1% of Pmax
Linearity	see Fig. 1
Electromechanical Response Time	
0% to 90% of P Max	30 ms
100% to 10% of P Max	60 ms

NOTE: (1) with optimum amplifier dither adjustment.
(2) Hysteresis for model 40-882-71
is < 5% of Pmax



Electrical Characteristics:

Proportional Solenoid (12 VDC)	Types 7053/7071
Rated Current Range	0 - 1600 mA
Solenoid Resistance	6.5 Ohms at 68°F

Valve Order Information:

Nom. Size (mm)	Port Size (NPT)			Max. Inlet Pressure (Pmax) (PSI)	Outlet Pressure (PSI)	Weight (lb.)	Order No.		Remarks
	P(1)	A(2)	R(3)				Valve	(1) Solenoid	
4	1/8	1/8	1/8	145	0-145	1.9	40-881-19	.7053	
4	1/4	1/4	1/8	230	0-190	1.9	40-882-17	.7053	
6	1/4	1/4	1/4	100	0-30	1.9	40-882-01	.7053	
6	1/4	1/4	1/8	175	0-145	1.9	40-882-11	.7053	with Quick Exhaust
6	1/4	1/4	1/4	175	5-145	2.1	40-882-71	.7053	
8	3/8	3/8	3/8	145	0-100	3.7	40-883-11	.7071	

NOTE: (1) The connector is not included with the solenoid and must be ordered separately. Available connectors include the PQ-11 connector amplifier from table below, Part No. 05-702-75 cable clamp connector and 06-613-74 1/2" NPT connector.

Accessory Order Information:

Item	Remarks	Brochure	Order Number
Connector Amplifier Model PQ-11	0-1600 mA Scalable output	2961	59-800-85
Power Supply	28 VDC/2A	N-227	81-105-99
Command Potentiometer Assembly	Built-in terminal strip	N-227	59-985-34

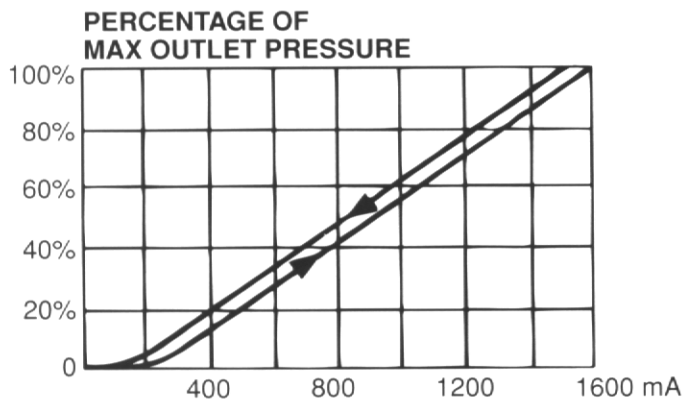


Fig. 1 Typical Pressure Curve

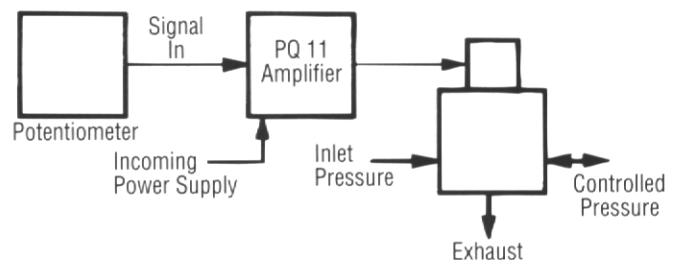
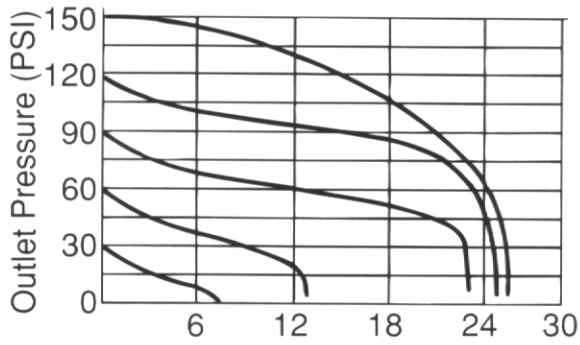


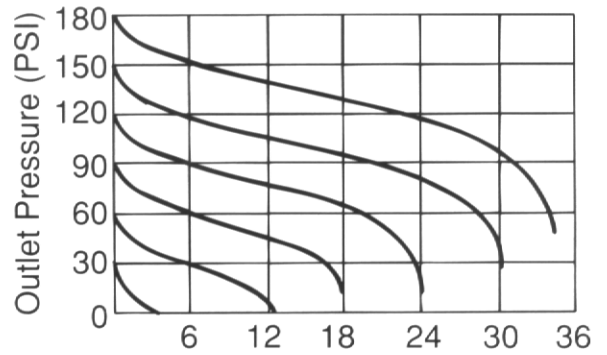
Fig. 2 Typical Pressure Control System

Flow Curves

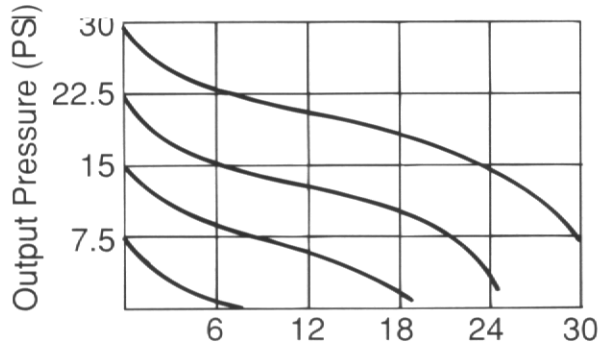
NOTE: 1. These flow curves are based on using the maximum inlet pressure to the valve. The output pressure on the left of the charts is the pressure set by the command signal to the valve.



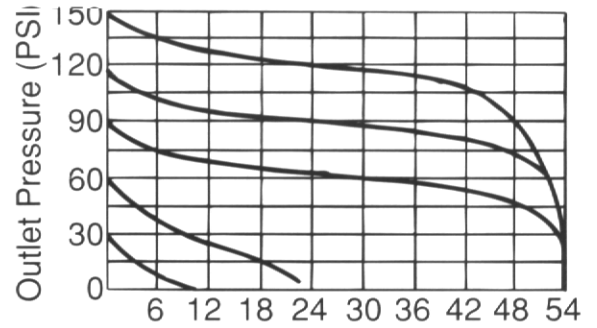
Flow (SCFM)
Fig. 3 Valve 40-881-19



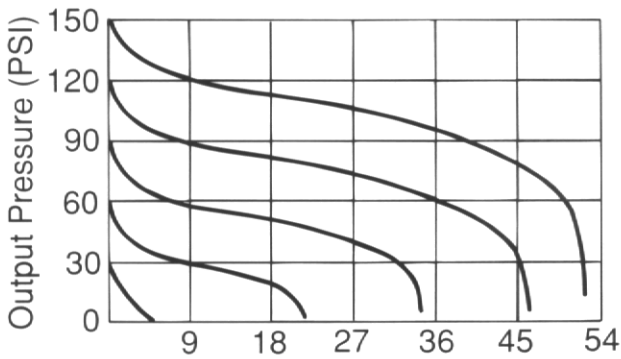
Flow (SCFM)
Fig. 4 Valve 40-882-17



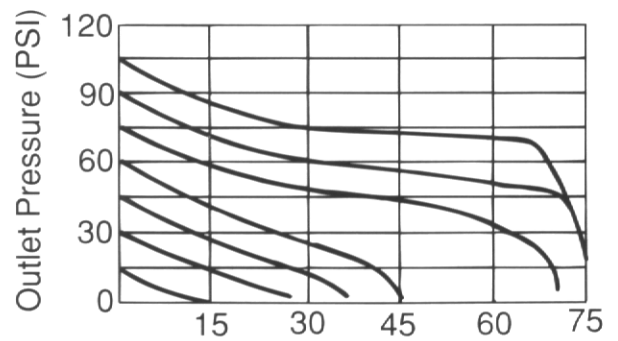
Flow (SCFM)
Fig. 5 Valve 40-882-01



Flow (SCFM)
Fig. 6 Valve 40-882-11



Flow (SCFM)
Fig. 7 Valve 40-882-71



Flow (SCFM)
Fig. 8 Valve 40-883-11

Dimensions:

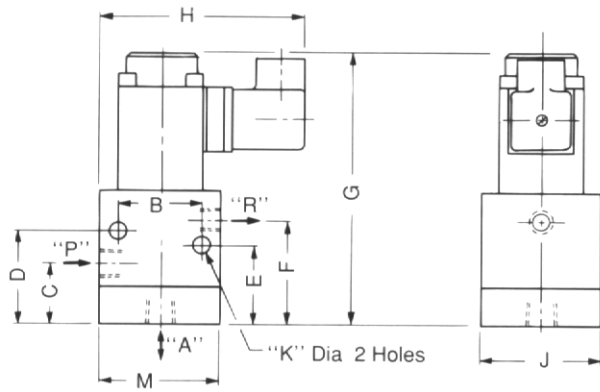


Fig. 9 Standard Valves

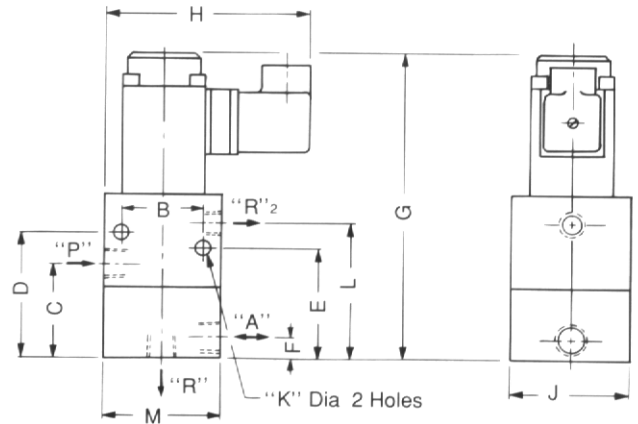


Fig. 10 Valve with quick exhaust

All dimensions on this page are mm (inches)

VALVE NO.	VALVE TYPE	PORT SIZES (NPT)				DIMENSIONS										
		P	A	R	R2	B	C	D	E	F	G	H	J	K	L	M
40-881-19	Standard	1/8	1/8	1/8	-	34 (1.34)	23 (.91)	36 (1.42)	36 (1.42)	50.5 (1.99)	121 (4.76)	81 (3.19)	50 (1.97)	6.5 (.26)	-	50 (1.97)
40-882-17	Standard	1/4	1/4	1/8	-	34 (1.34)	26.5 (1.04)	40 (1.57)	34 (1.34)	44.5 (1.75)	115 (4.53)	81 (3.19)	50 (1.97)	6.5 (.26)	-	50 (1.97)
40-882-01	Standard	1/4	1/4	1/4	-	49 (1.93)	30 (1.18)	43 (1.69)	38 (1.50)	50 (1.97)	117 (4.61)	86 (3.39)	40 (1.57)	6.5 (.26)	-	60 (2.36)
40-882-11	Standard	1/4	1/4	1/8	-	34 (1.34)	26.5 (1.04)	40 (1.57)	34 (1.34)	44.5 (1.75)	115 (4.53)	81 (3.19)	50 (1.97)	6.5 (.26)	-	50 (2.76)
40-883-11	Standard	3/8	3/8	3/8	-	49 (1.93)	36.5 (1.44)	52 (2.05)	52 (2.05)	67 (2.64)	142 (5.60)	104 (4.09)	55 (2.17)	6.5 (.26)	-	70 (2.76)
40-882-71	with Quick Exhaust	1/4	1/4	1/4	1/8	34 (1.34)	39.5 (1.56)	53 (2.09)	47 (1.85)	9 (.35)	128 (5.04)	81 (3.19)	50 (1.97)	6.5 (.26)	57.5 (2.26)	50 (1.97)