

Types CP and CP-2 Rotary Screw Compressor Pilot Valves

Cash Valve

Application: Types CP and CP-2

Types CP and CP-2 are frequently used as pilot valves in Rotary Screw compressors to control receiver pressure or compressor discharge pressure. The pilot valve, supplied with air pressure from the receiver regulates the air pressure to a cylinder or diaphragm which positions the control device in the compressor suction line and/or positions the speed control on engine-driven units. One additional use for the pilot is to maintain proper circulation of the lube oil in the compressor. Use of the Types CP and CP-2 significantly contribute to considerable savings in energy. Additionally, they lead to quieter compressor operation and reduced wear.

Principle of Operation

The Type CP and Type CP-2 provide a regulated output pressure that increases at a pre-determined rate as the receiver pressure or compressor discharge pressure increases above the desired pressure setting of the pilot. The pilot is provided to increase, in straight line fashion, on a ratio of 1 to 1, 2 to 1, 3 to 1; or whatever ratio or differential control is required for proper functioning of the compressor. For example, assume the pilot is to start to open when receiver pressure reaches 100 psi; further assume that the pilot is operating with a 2 to 1 ratio. At this point the pilot output pressure is 0 psi. On 10 psi increase the pilot will provide a controlled discharge pressure from 0 to 20 psi as compressor increases from 100 psi to 110 psi. (See graph on reverse)

Construction

Type CP and Type CP-2 have bronze body and spring chamber, stainless steel seat, phosphor bronze diaphragm, fiber gaskets. Type CP-2 has a larger seat for increased capacity. Type CP is available in 1/4" pipe size with either side inlet/side outlet or side inlet/bottom outlet. Type CP-2 is available in 1/4" or 3/8" sizes with either side inlet/side outlet or side inlet/bottom outlet. All connections are threaded female.

Type CP Adjustment Ranges (psi)				
2-25	15-65	40-100	75-175	100-250

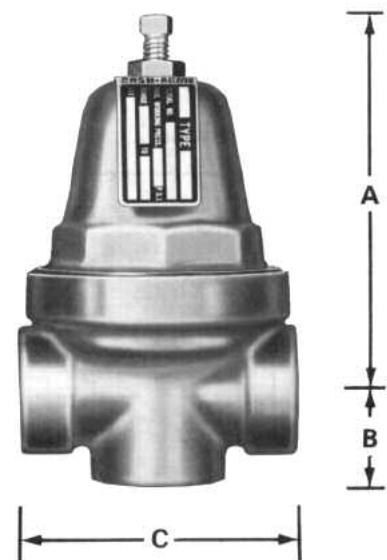
Type CP-2 Adjustment Ranges (psi)				
0-30	31-50	51-80	81-150	151-250 200-400

Dimensions

Type	Size (Inches)	Connections	Dimensions (Inches)			Ship. WT. (Pounds)
			A	B	C	
CP	1/4 x 1/4	side inlet; side or bottom outlet	3 3/8	1/2	2 1/4	1 1/8
CP-2	1/4 x 1/4	side inlet; side or bottom outlet	4 1/2	3/4	2 11/16	2 1/2
CP-2	3/8 x 3/8	side inlet; side or bottom outlet	4 1/2	3/4	2 11/16	2 1/2

How To Order

Cash Valve Types CP and CP-2 Pilots are suitable for adaptation to specialized compressor designs. For application of these valves in a special design or along the more standard applications discussed in this Data Sheet, please contact the factory.



Types CP and CP-2 Rotary Screw Compressor Pilot Valves

Typical Installation Schematic

In order to provide a better idea of how the Type CP and Type CP-2 are used we have provided the system schematic at right. This is intended to represent a "typical" application, and, as such, is greatly simplified. For your specific application requirements, please consult the factory.

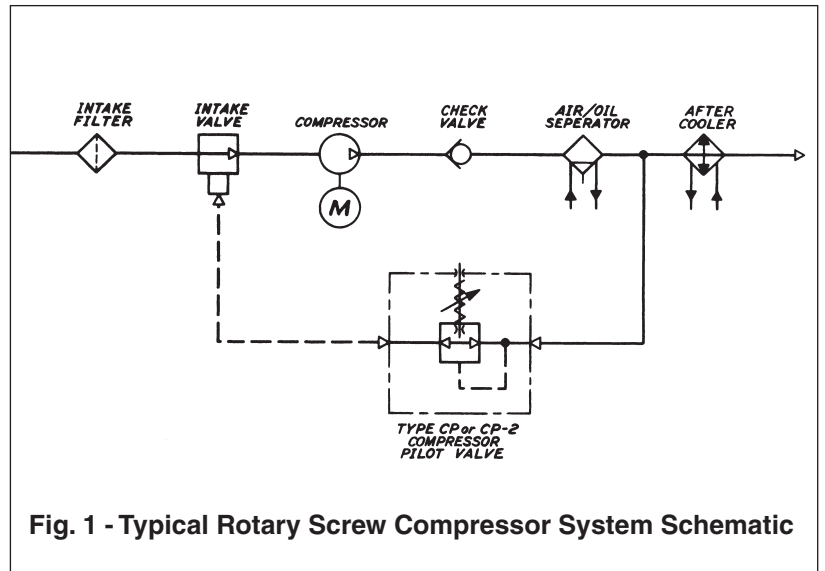
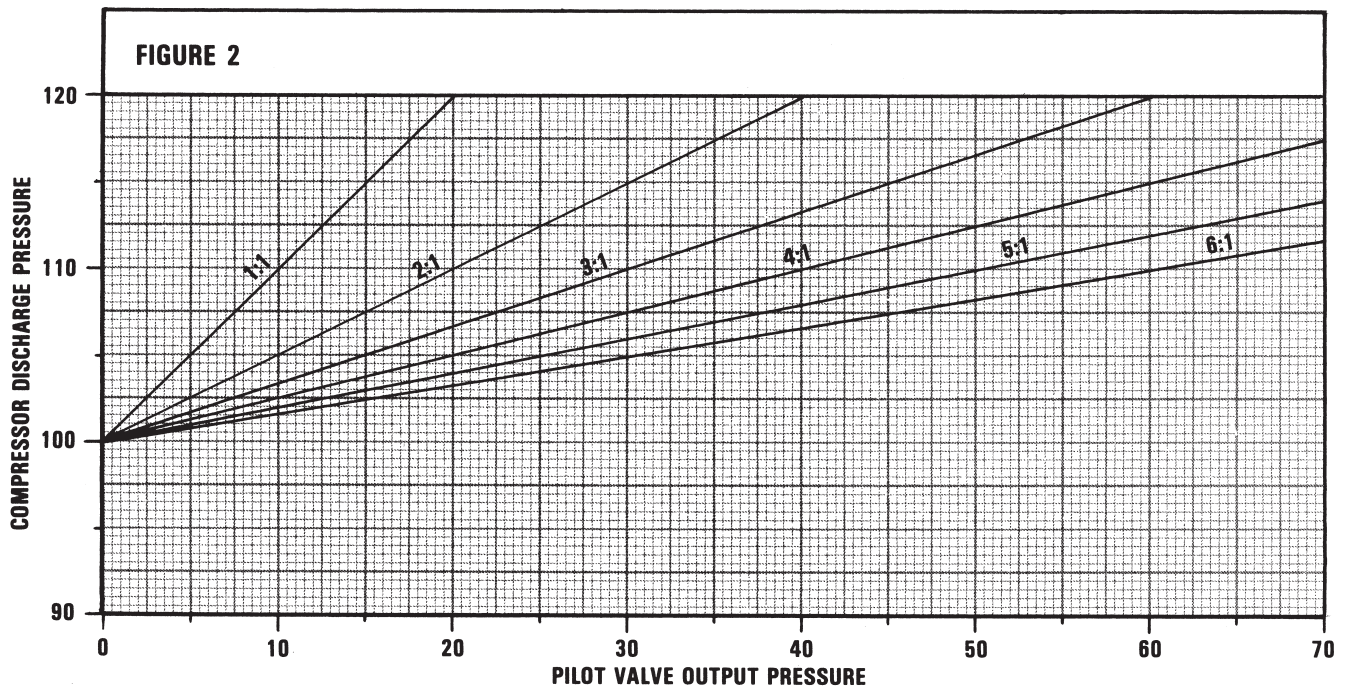


Fig. 1 - Typical Rotary Screw Compressor System Schematic

Performance Graph

The graph below illustrates the linear output of the Types CP and CP-2 valves for a given set point and a variety of ratios. The graph is given in .5 psi increments.



953 Old U.S. Highway 70
Black Mountain, NC 28771
Phone: 800-879-2042 • 828-669-3700
Fax: 800-879-2057 • 828-669-0586

www.cashvalve.com

Tyco Flow Control (TFC) provides the information herein in good faith but makes no representation as to its comprehensiveness or accuracy. This data sheet is intended only as a guide to TFC products and services. Individuals using this data sheet must exercise their independent judgment in evaluating product selection and determining product appropriateness for their particular purpose and system requirements. TFC MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT(S) TO WHICH THE INFORMATION REFERS. ACCORDINGLY, TFC WILL NOT BE RESPONSIBLE FOR DAMAGES (OF ANY KIND OR NATURE, INCLUDING INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES) RESULTING FROM THE USE OF OR RELIANCE UPON THIS INFORMATION. Patents and Patents Pending in the U.S. and foreign countries. Tyco reserves the right to change product designs and specifications without notice.

CAVMC-0522-US-0609