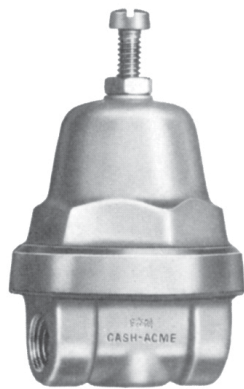




CASH VALVE TYPES CP/CP2 COMPRESSOR PILOT VALVES

Pilot valves for use in rotary screw compressors to control receiver pressure or compressor discharge pressure



FEATURES

- Contribute to significant energy savings.
- Lead to quieter compressor operation and reduced wear.
- Brass body and spring chamber, stainless steel seat, phosphor bronze diaphragm, fiber gaskets as standard.
- Type CP2 has a larger seat for increased capacity.
- Vacuum service and reverse acting models available.
- Choice of side inlet/side outlet, side inlet/bottom outlet or side inlet/side outlet/bottom outlet configurations.
- Suitable for adaptation to specialized compressor designs.

GENERAL APPLICATION

The pilot valve regulates the air pressure to a cylinder or diaphragm which positions the control device in the compressor suction line and/or the speed control on engine-driven units. Also for maintaining compressor lube oil circulation.

TECHNICAL DATA

Materials:	Bronze, Stainless steel
Sizes:	1/4", 3/8", 1/2" (7, 10.5, 15 mm)
Connections:	Threaded NPTF
Pressure range:	0 to 400 psig (0 to 27.6 barg)

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DIMENSIONS

Type	Size NPS	Connections	Dimensions			Ship. weight (pounds)
			A	B	C	
CP	1/4 x 1/4	*	3 3/8	1/2	2 1/4	1 1/8
CP2	1/4 x 1/4	*	4 1/2	3/4	2 11/16	2 1/2
CP2	3/8 x 3/8	*	4 1/2	3/4	2 11/16	2 1/2

* Side inlet; side or bottom outlet

Principle of operation

These valves provide a regulated output pressure that increases at a pre-determined rate as the receiver or compressor discharge pressure increases above the pilot's pressure setting. The pilot is provided to increase the pressure, in straight line fashion, on a ratio of 1 to 1, 2 to 1; or whatever ratio or differential control is required for proper compressor functioning.

For example, if the pilot is to start to open when receiver pressure reaches 100 psi and the pilot is operating with a 2 to 1 ratio: 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 the compressor increases from 100 to 110 psi.

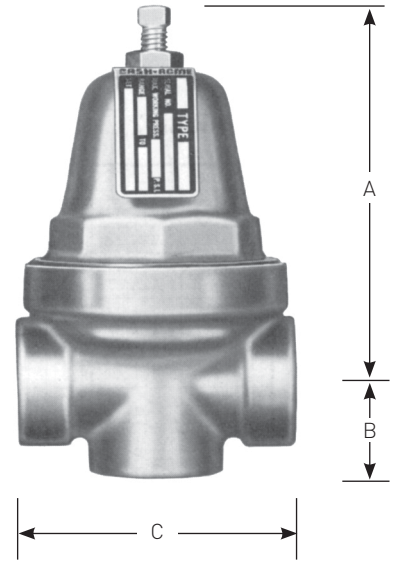
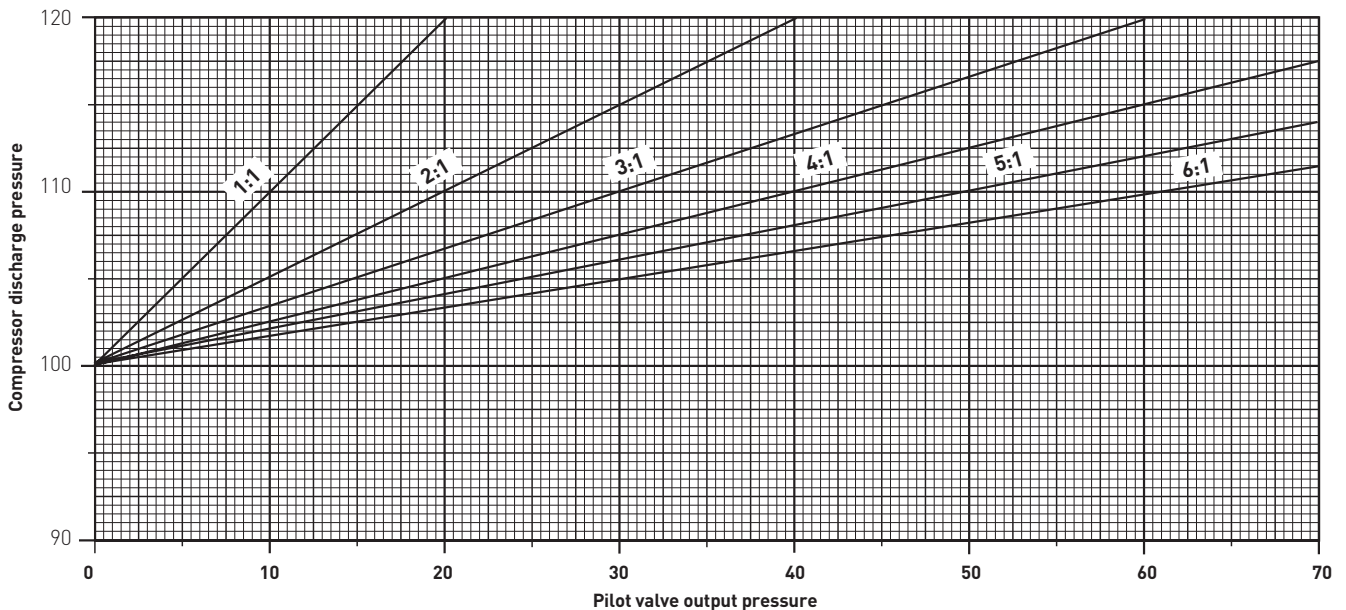


Figure 1 - Performance graph

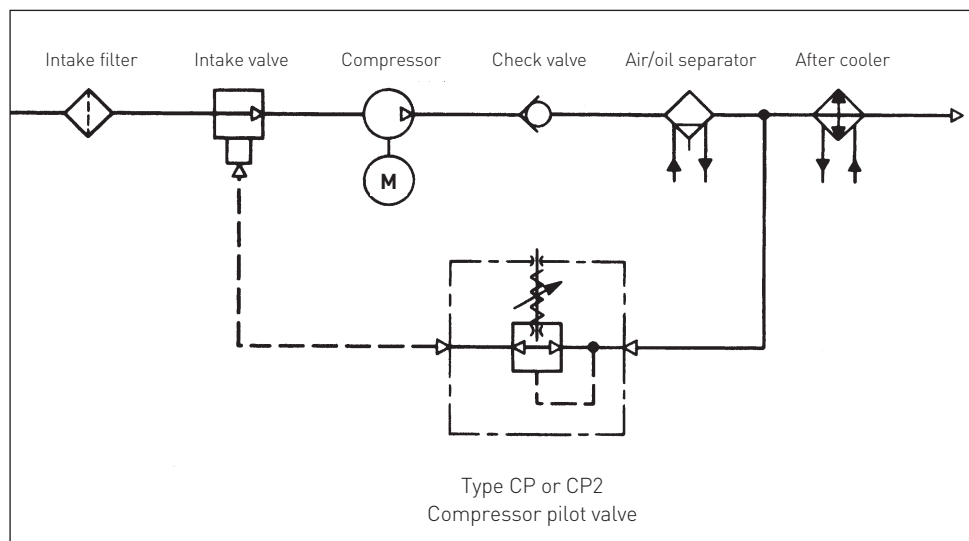
This graph illustrates the linear output of the Types CP and CP2 valves for a given set point and a variety of ratios and is given in .5 psi increments.



CASH VALVE TYPES CP/CP2 COMPRESSOR PILOT VALVES

FIGURE 2 - Typical rotary screw compressor system schematic

NB: greatly simplified. For specific application details, consult the factory.



Specialized designs

Type CP and CP2 Pilots are suitable for adaptation to specialized compressor designs.

For application in special designs, consult your local representative.

CASH VALVE TYPES CP/CP2 COMPRESSOR PILOT VALVES

SELECTION GUIDE

Example:	CP-	Z	A	S	S	010	Z	F	-	01	D	1
Model												
CP-	CP valve	CPV	CP-V valve (vacuum service)									
CP2	CP2 valve	CPR	CP valve reverse acting									
Body material												
Z	Brass											
G	SST (CP, CP2 only)											
Valve size												
A	¼"		C	½" (CP2 only)								
B	⅜" (CP2 only)											
Connection type												
S	Side inlet - side outlet (SI-SO)				D	Side inlet - side outlet - bottom outlet (SI-SO-BO)						
B	Side inlet - bottom outlet (SI-BO)											
Options												
S	Standard				P	Panel mount						
M	Mounting thread in body				N	No bleed orifice (reverse action only)						
C	Clean out plug (SI-SO-BO only)											
Output ratio												
010	1.0 to 1 (CP or CP2)		023	2.3 to 1 (CP2)		038	3.8 to 1 (CP2)		114	11.4 to 1 (CP2)		
011	1.1 to 1 (CP or CP2)		025	2.5 to 1 (CP)		041	4.1 to 1 (CP)		135	13.5 to 1 (CP)		
013	1.3 to 1 (CP)		027	2.7 to 1 (CP)		044	4.4 to 1 (CP)		216	21.6 to 1 (CP2)		
016	1.6 to 1 (CP2)		028	2.8 to 1 (CP2)		050	5.0 to 1 (CP2)		RVA	Reverse action (CPR)		
017	1.7 to 1 (CP)		032	3.2 to 1 (CP2)		052	5.2 to 1 (CP)		VAC	Vacuum (CPV)		
018	1.8 to 1 (CP)		033	3.3 to 1 (CP)		074	7.4 to 1 (CP)					
020	2.0 to 1 (CP)		035	3.5 to 1 (CP)		105	10.5 to 1 (CP2)					
Spring chamber												
A	Aluminum (CP, CPV, CPR only)				G	316 SST (CP2 only)						
Z	Brass											
Adjusting screw												
F	Fillister head (CP, CPR, CPV only)				T	T-handle (requires option for panel mount) (CP, CP2)						
H	Hex head				W	Handwheel (requires option for panel mount) (CP)						
Design revision												
(-)	Original design											
Variation												
01	Catalog standard											
02	Teflon gaskets											
Spring material												
D	Steel											
E	SST											
Set pressure												
Refer to table below												

STANDARD SPRING RANGES (PSIG)

Spring Material	Model	1	2	3	4	5	6	7
Steel	CP	40-90	40-125	75-175	----	----	----	----
	CP	15-65	40-100	75-175	100-250	200-400	200-600	300-600
SST	CPR	100-150	75-175	100-250	140-200	200-450	300-600	----
	CP-2	0-30	40-80	80-150	50-275	100-275	200-400	300-600
	CPV (in/hg)	1-30	----	----	----	----	----	----

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