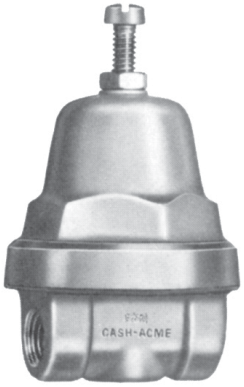
CASH VALVE TYPES CP/CP2 COMPRESSOR PILOT VALVES

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.

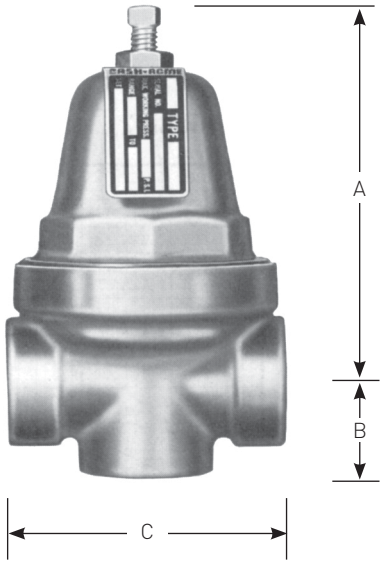
TECHNICAL DATA

Materials:	Bronze, Stainless steel
Sizes:	¼", ⅜", ½" (7, 10.5, 15 mm)
Connections:	Threaded NPTF
Pressure range:	0 to 400 psig (0 to 27.6 barg)

DIMENSIONS

			Dimensions			
Type	**Size NPS**	**Connections**	**A**	**B**	**C**	**Ship. weight (pounds)**
CP	¼ x ¼	*	3⅜	½	2¼	1⅛
CP2	¼ x ¼	*	4½	¾	2 11/16	2½
CP2	⅜ x ⅜	*	4½	¾	2 11/16	2½

* Side inlet; side or bottom outlet



Type CP adjustment ranges (psi)	Type CP2 adjustment ranges (psi)
2-25	0-30
15-65	31-50
40-100	51-80
75-175	81-150
100-250	151-250
	200-400

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.

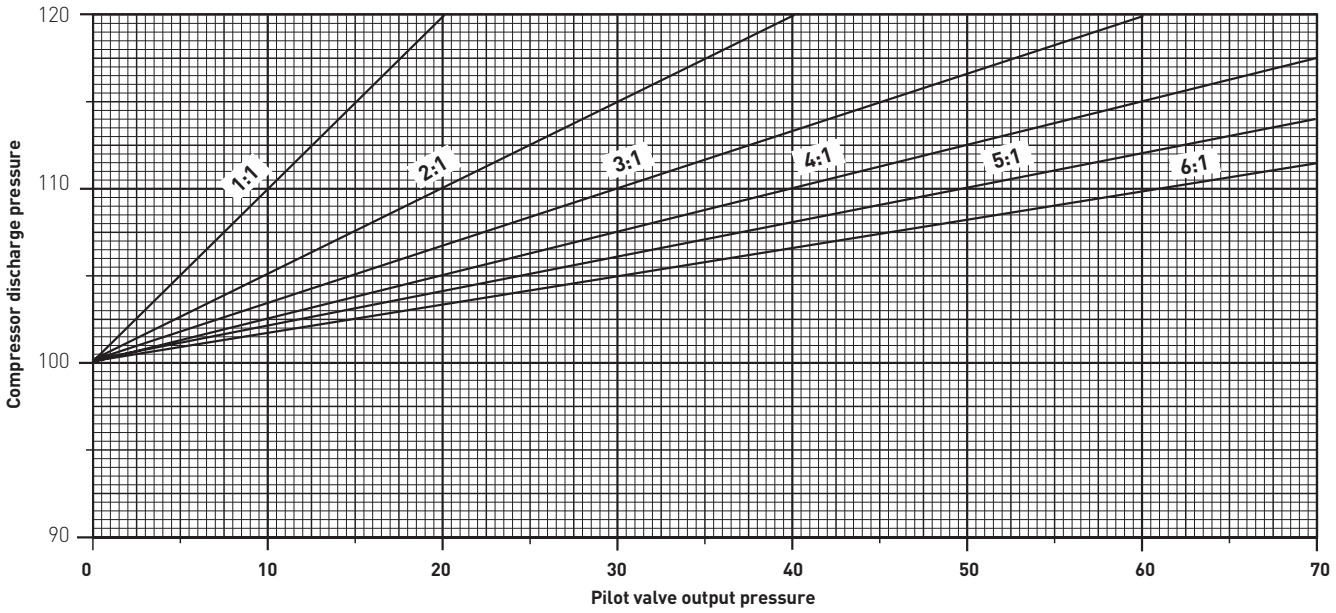
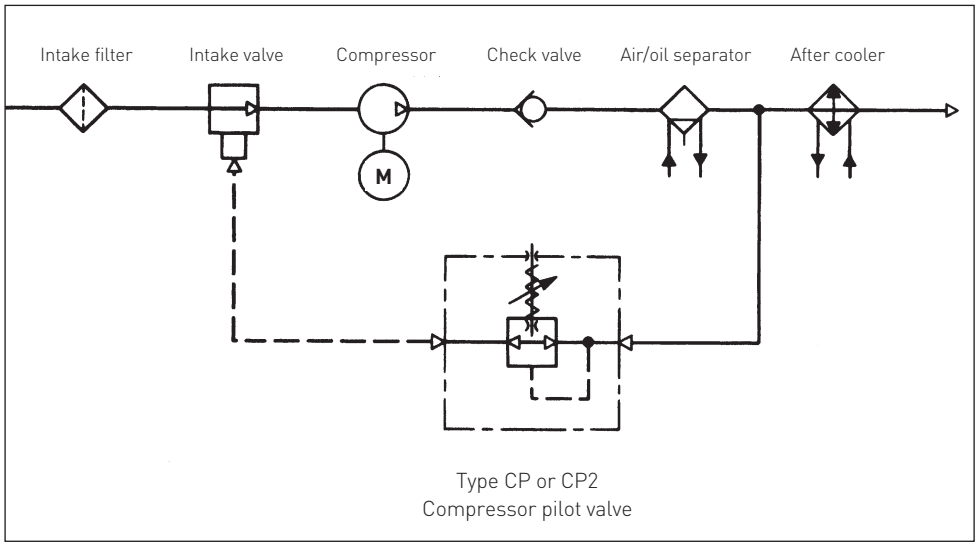


FIGURE 2 - Typical rotary screw compressor system schematic
NB: greatly simplified. For specific application details, consult the factory.



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	0005

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 (CP-V)
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, CP-V, CPR only)	**G**	316 SST (CP2 only)
Z	Brass		

Adjusting screw

F	Fillister head (CP, CPR, CP-V 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	PTFE gaskets

Spring material

D	Steel
E	SST

Set pressure

0005	5 psig	**0300**	300 psig
0025	25 psig		

STANDARD SPRING RANGES - MUST SPECIFY DURING ORDER PROCESS

Type		Spring range of adjustment in psi						
CP (STL)	Steel	40-90	40-125	75-175				
CP (SST)	Stainless steel	15-65	40-100	75-175	100-250	200-400	200-600	300-600
CPR (SST)	Stainless steel	100-150	75-175	100-250	140-200	200-450	300-600	
CP2 (SST)	Stainless steel	0-30	40-80	80-150	50-275	100-275	200-400	300-600
CP-V (SST)	Stainless steel	1-30 in/Hg						

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