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DOERING

## Cavity & Housing

Please see Spec. Sheets  
 at [www.doering.com](http://www.doering.com)

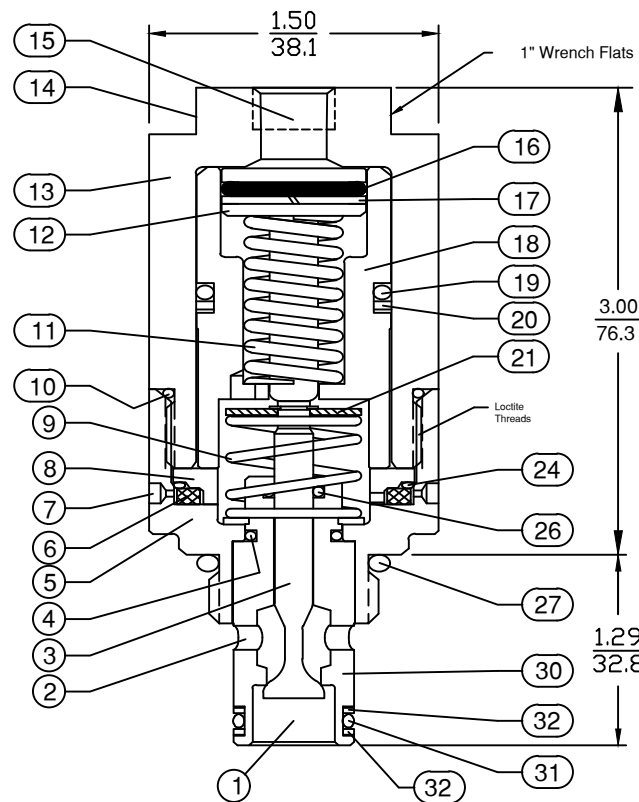
Cavity C-8542 (10-2):  
 See Spec. Sheet 1200621  
 Includes Cavity and  
 Cavity Tooling Info.

Line Mount Housings:  
 See Spec. Sheets  
 1200674 and 1201455

Panel Mount Housings:  
 See Spec. Sheets  
 1202982 and 1202990

Two Stage  
 Decompression Housings:  
 See Spec. Sheets  
 1201268 and 1203114

## CARTRIDGE VALVE



INCH  
 METRIC

### STANDARD OPTIONS

Seals: Buna N, Viton or Teflon. Others please specify.  
 T Option: 10-32 Ports at Key 7 ( Located 2 places )  
 If T option is used, allow for fitting clearance.

### TOOLING

\* Cavity Form Tools: FT+ cavity#  
 \* 1" Open End Wrench No. 720

### KEY EXPLANATION:

1. Port No. 1, System
2. Port No. 2, System
3. Poppet, Hard Stainless Steel
4. O-Ring Seal, Buna N ( Also see Options )
5. Cartridge Body, Lower Section
6. Filter, 10 Micron Sintered Bronze. Omitted W/ T option.
7. Vent ( 2 Pl. ) Optional T Port Locations
8. Filter Retainer
9. Poppet return Spring, Stainless Steel, 20psig
10. O-Ring Seal, Buna N ( Also see Options )
11. Coil Spring, Stainless Steel, 100psig
12. Piston
13. Cartridge Body, Upper Section
14. 1" Wrench Flats.
15. Pilot Port. See Pilot port options / ordering info.
- 16 & 19. O-Ring Seals, Buna N ( Also see Options )
- 17 & 20 Back Up Rings, Teflon
18. Cylinder Sleeve
21. Spring Retainer Assembly
24. O-Ring Seal, Filter Retainer ( Buna-N )
- 26, 27, & 31. O-Ring Seals, Buna N ( Also see Options )
30. Cartridge Seat, Hard Stainless Steel.
32. Back Up Rings, Teflon

### SPECIFICATIONS:

Pilot operated two way cartridge valve. Normally closed. Pilot to open passage between ports one and two. Valve will not hold pressure from 2 to 1. Use No. 1 port as pressure inlet port.

Valve is pressure rated to 5,000 PSI working and 7,500 PSI Proof Pressure.

Fluid temperature -45°F, (42.7°C) to 200°F, (93.3°C)  
 Install Cartridge valve using 1" wrench  
 Valve should screw in freely to the Mount Seal.  
 Final tightening to 20 foot pounds torque.  
 Use lubricant on external oil seals and mounting threads.

### 7:1 PILOT RATIO NOTES

Pilot pressure Range 120 PSI Min. to 5000 PSI Max.  
 Add pilot pressure to offset working pressure.

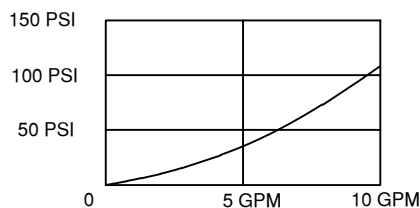
Area of pilot piston is 7 X larger than seat area.

To determine Minimum Pilot pressure required, follow these steps:

- (1) Multiply the maximum possible system pressure X 1.1 = SM ( System Max. )
- (2) Divide SM by 7 and add 120 PSI = MP  
 Note: MP is minimum pilot pressure needed to open this normally closed valve.

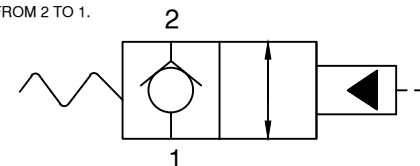
### FLOW AND PRESSURE DROP CHART. $C_v = 1.0$

VALVE ORIFICE DIAMETER = .280"



## 2PB SERIES

IN CLOSED POSITION, VALVE DOES NOT FREE FLOW FROM 2 TO 1.



### 2PB N/C

HIGH PRESSURE PILOT RATING.

Valve Number: **84409#071**

Pilot Porting, Key 15  
 1 = 1/8 NPT  
 2 = 1/4 NPT  
 4 = SAE4 (ORB)  
 6 = SAE6 (ORB)