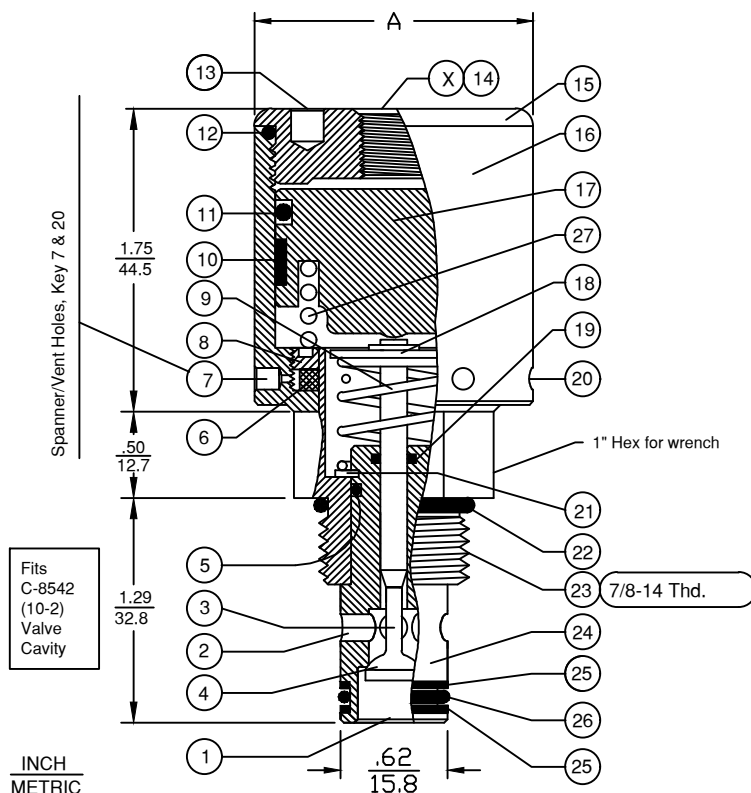


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DOERING

# CARTRIDGE VALVE



Fits  
 C-8542  
 (10-2)  
 Valve  
 Cavity

## KEY EXPLANATION:

1. Port No. 1, System Inlet
  2. Port No. 2, System Outlet
  3. Poppet, Hard Stainless Steel
  4. Seat passage sealing area. Hard Stainless Steel.
  5. O-Ring Seal, Buna N ( Also See Options )
  6. Filter, 10 Micron, Sintered Bronze.
  7. Vent ( 2 Pl. ) Optional T Port Locations
  8. Filter Retainer
  9. Poppet and Actuator Return Spring, Stainless
  10. Piston Guide Ring UHMW material
  11. Piston O-Ring Seal, Buna N ( Also See Options )
  12. Bonnet O-Ring Seal, Buna N ( Also See Options )
  13. 3/16" ( 4.763 ) Spanner Holes ( 2 Pl. )
  14. 1/8 NPT Pilot Port X ( Also See Options )
  15. Bonnet, Aluminum material
  16. Actuator Body, Aluminum
  17. Actuator Piston, Aluminum
  18. Poppet Return Spring Retainer Assembly
  19. Poppet Seal, TFE
  20. 1/8" ( 3.175 ) Spanner Holes ( 4 or 6 Pl. )
  21. Cartridge Seat Retaining Ring
  22. Mount O-Ring Seal, Buna N ( Also See Options )
  23. Cartridge Mounting Threads, Stainless Steel
  24. Cartridge Seat, Hard Stainless
  25. Backup Ring, Teflon
  26. O-Ring Seal, Buna N ( Also See Options )
  27. Spring, Stainless Steel
- Key 27 Used on valves with 1-7/8 and 2-1/4" "A" Dia.

## Cavity & Housing

Cavity C-8542 (10-2):  
 See Spec. Sheet 1200621

Line Mount Housings:  
 See Spec. Sheets  
 1200674 and 1201455

Panel Mount Housings:  
 See Spec. Sheets  
 1202982 and 1202990

## 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.

Maximum pressure 5,000 PSI Port 1, 3,000 PSI Port 2

Pilot Pressure Range, 50 PSI Min. to 150 PSI Max.  
 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.

## PILOT RATIO NOTES:

TO CALCULATE THE CORRECT PILOT RATIO VALVE, FOLLOW THESE STEPS:

1. Determine the MAXIMUM possible system pressure.  
 Multiply X 1.1 = SYSTEM
2. Determine MINIMUM possible pilot pressure.  
 Multiply X .9 = PILOT
3. Divide SYSTEM by PILOT = PILOT TO SYSTEM RATIO
4. Round up to standard available ratio.

## STANDARD OPTIONS

Pilot Port ( Key X ) 1/8 NPT. Optional SAE4 Available.  
 Seals: Buna N, Viton or Teflon. Others please specify.  
 T Option: 10-32 Ports at Key 7 & 20, Random 360° Pos.  
 Seat ( Key 4 ) Hard Stainless.

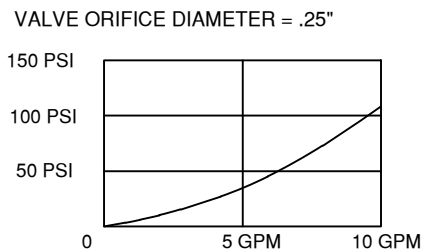
## TOOLING

\* 1/8 ( 3.175 ) Pin Spanner Tool  
 Order No. 471, Ref. Key No. 20  
 \* 3/16 ( 4.763 ) Face Spanner Tool  
 Order No. 482, Ref. Key No. 13

| PILOT TO SYSTEM RATIOS: | " A " Diameter |        |
|-------------------------|----------------|--------|
|                         | Inch           | Metric |
| 19:1                    | 1-1/2          | 38.10  |
| 24:1                    | 1-5/8          | 41.28  |
| 33:1                    | 1-7/8          | 47.63  |
| 50:1                    | 2-1/4          | 57.15  |

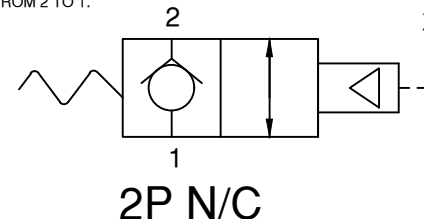
| CARTRIDGE VALVE NO. |
|---------------------|
| 84H2090191          |
| 84H3090241          |
| 84H6090331          |
| 84H7090501          |

## FLOW AND PRESSURE DROP CHART. $C_v = 0.9$



## 2P SERIES

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



This Valve is not a POC.

SPEC. SHEET NO. 1201653 REV. 003