

### KEY EXPLANATION:

- 1 Port No. 1, System Inlet
- 2 Port No. 2, System Outlet
- 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 (7 PSI).
- 10 O-Ring Seal, Buna N ( Also see Options )
- 11 Coil Spring, Stainless Steel (90 PSI).
- 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.  
 Use No. 1 port as pressure inlet port.  
 Port No. 1 pressure rating ( 8502 Cavity ) 7,500 PSIG  
 Port No. 1 pressure rating ( 8542 Cavity ) 3,000 PSIG  
 Port 2, Cavity C-8502, Maximum PSI 5,000  
 Port 2, Cavity C-8542, Maximum PSI 3,000  
 Pilot Pressure Range, 100 PSI Min. to 5000 PSI Max.  
 Fluid temperature -40F, (-40°C) to 200F, (93.3°C)  
 Install Cartridge Valve using 1" wrench.  
 Valve should screw in freely to the Mount Seal.  
 Torque to 20 to 30 foot pounds.  
 Use lubricant on external oil seals and mounting threads.

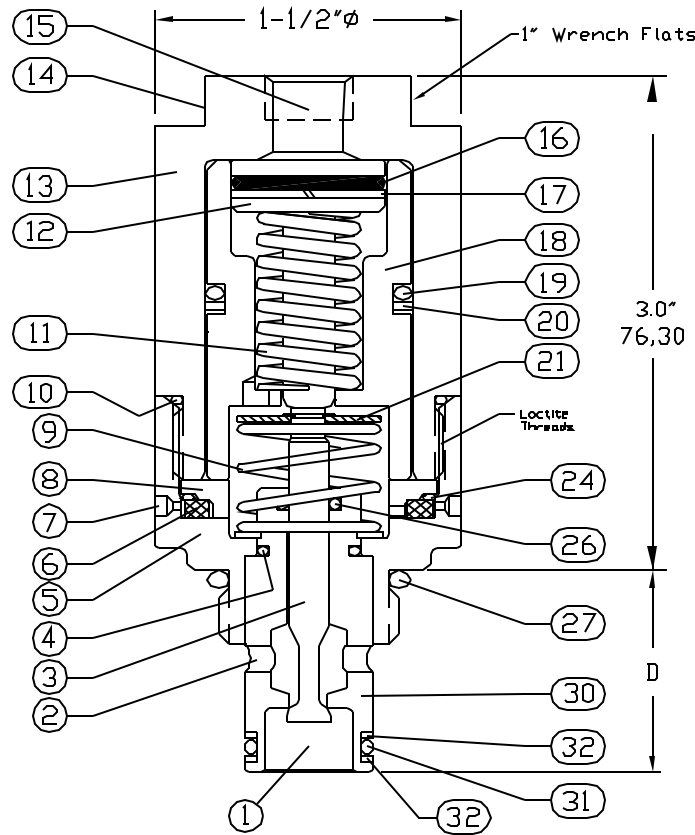
### 36:1 PILOT RATIO:

Area of pilot piston is 36 X larger than seat area.  
 To determine Minimum Pilot pressure required, follow these steps:

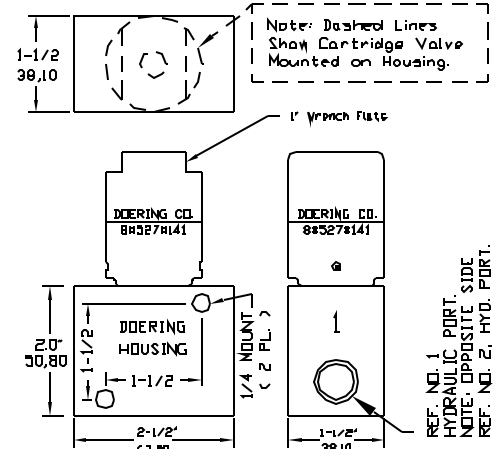
- (1) Multiply the maximum possible system pressure X 1.1 = SM ( System Max. )
- (2) Divide SM by 36 and add 100 PSI = MP

Note: MP is minimum pilot pressure needed to open this normally closed valve.

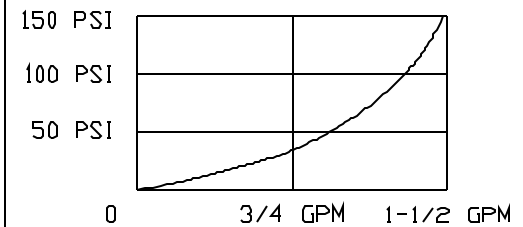
## CARTRIDGE VALVE



## HOUSING



Standard Housing is 3/8 NPT. -2 is 1/4 NPT. -6 is SAE6  
 Standard Housing Material is Aluminum.  
 For Stainless add -S or -2S or -6S to Housing No.



### FLOW AND PRESSURE DROP CHART. C<sub>v</sub> = 0.1

FLOW and PRESSURE DROP Chart indicates U.S. G.P.M. All flow performance data based on tests using fluid at a specific gravity of .85 and a viscosity of 150 SUS at a temperature of 100°F.

### 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
- \* 1/8 ( 3.175 ) Pin Spanner Tool Order No. 471. Ref. Key No. 20

### CARTRIDGE VALVE ORDERING INFORMATION:

### HOUSING NUMBER

### " D " SUB SURFACE DETAIL

82404#361

3/4-16 UNF Mounting threads

#### PILOT PORT OPTIONS

- 1 = 1/8 NPT
- 2 = 1/4 NPT
- 4 = SAE4
- 6 = SAE6

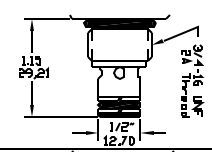
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7/8-14 UNF Mounting Threads

#### PILOT PORT OPTIONS

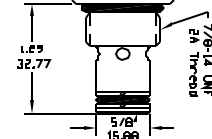
- 1 = 1/8 NPT
- 2 = 1/4 NPT
- 4 = SAE4
- 6 = SAE6

S8502  
 - OR -  
 S8502-2  
 - OR -  
 S8502-6



Use with Cavity C-8502.

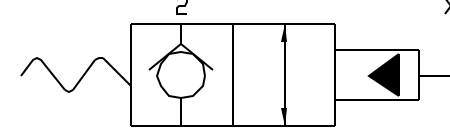
S8542  
 - OR -  
 S8542-2  
 - OR -  
 S8542-6



Use with Cavity C-8542.

## 2PB SERIES

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



2PB N/C

HIGH PRESSURE PILOT RATING.