

### KEY EXPLANATION:

1. Part No. 1, System
2. Part No. 2, System
3. Poppet, Hard Stainless Steel
4. Seal Buna-N on 82 Series, Teflon on 84 Series
5. Cartridge Body, Stainless Steel
6. Filter, 10 Micron Sintered Bronze. Drilled W/ T option
7. Vent ( 2 Pl. ) Optional T Port Locations
8. Filter Retainer, Stainless Steel
9. Poppet and Piston return spring, Stainless
10. O-Ring Seal
12. Pilot Piston, Stainless Steel
13. Bonnet, Stainless Steel
14. 1" Wrench Flats
15. Pilot Port. See Pilot part options / ordering info.
16. O-Ring Seal
17. Back Up Ring
21. Spring Retainer Washer, Stainless Steel
22. Retaining Rings, Carbon Steel, sometimes plated.
24. O-Ring Seal, Filter Retainer
26. Seal, Teflon
- 27 & 31. O-Ring Seals
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.  
 No. 1 part is the pressure inlet part.  
 Maximum pressure 5,000 PSI, Cavity C-8502  
 Cavity C-8542, 5,000 PSI Part 1, 3,000 PSI Part 2  
 Pilot Pressure Range, 50 PSI Min. to 5000 PSI Max.  
 Note: Pilot pressure maximum designed at 4 to 1 safety factor when provided with 1/8 NPT port.  
 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 20 to 40 Foot Pounds Torque.  
 Use lubricant on external oil seals and mounting threads.

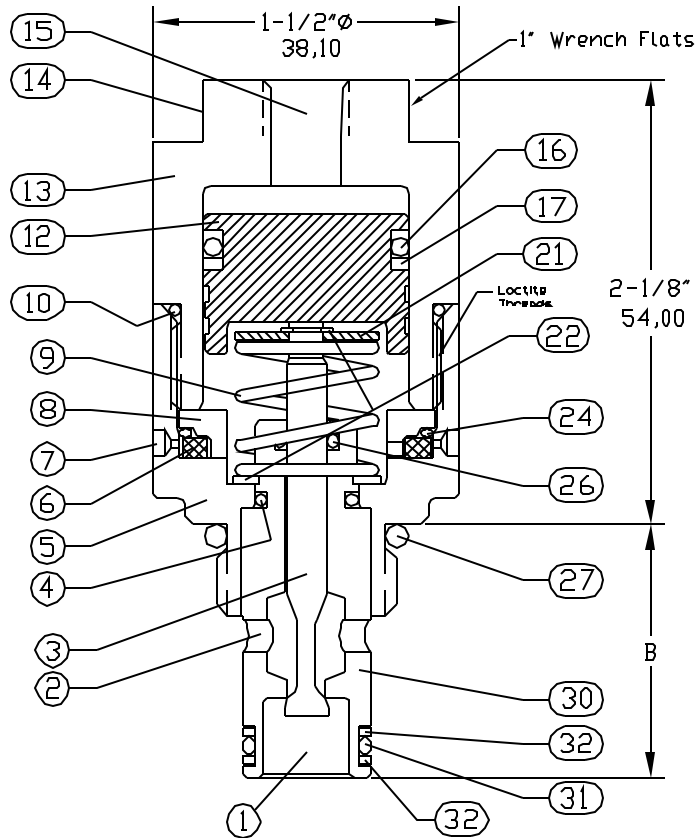
### 64:1 PILOT RATIO:

Area of pilot piston is 64 X larger than seat area.  
 To determine Minimum Pilot pressure required, follow these steps:

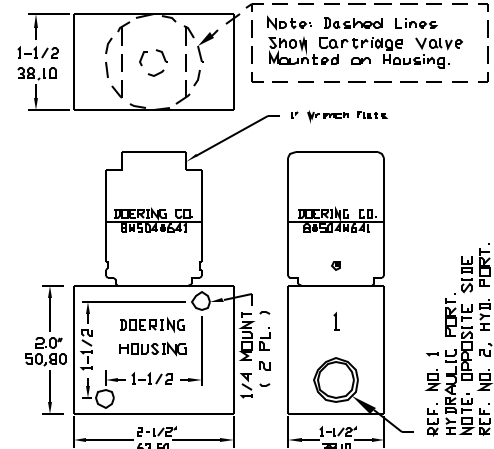
- (1) Multiply the maximum possible system pressure X 1.1 = SM ( System Max. )
- (2) Divide SM by 64 = MP ( Min. Pilot )

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

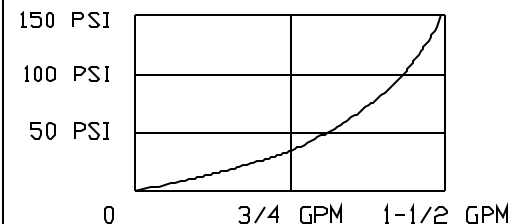
## CARTRIDGE VALVE



## HOUSING



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



### FLOW AND PRESSURE DROP CHART, $C_v = 0.1$

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 are Buna-N with Teflon Back Up Rings.  
 Optional seal materials are available.  
 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:

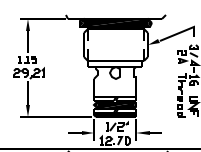
### HOUSING INFORMATION

### " B " SUB SURFACE DETAIL

82504#641  
 3/4-16 UNF Mounting threads

- PILOT PORT OPTIONS
- 1 = 1/8 NPT
  - 2 = 1/4 NPT
  - 4 = SAE4
  - 6 = SAE6

S8502###  
 Aluminum  
 3000 PSI  
 ---  
 Stainless  
 5000 PSI

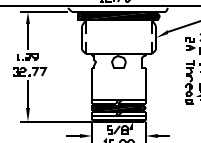


Use with  
 CAVITY C-8502.

84504#641  
 7/8-14 UNF Mounting Threads

- PILOT PORT OPTIONS
- 1 = 1/8 NPT
  - 2 = 1/4 NPT
  - 4 = SAE4
  - 6 = SAE6

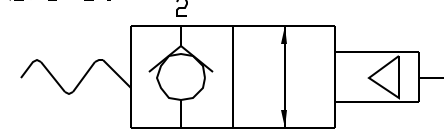
S8542###  
 Aluminum  
 3000 PSI  
 ---  
 Stainless  
 5000 PSI



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.

