

### KEY EXPLANATION:

1. Bottom System Port (T)
2. Second from bottom System Port (A)
3. Third from bottom System Port (P)
4. Fourth from bottom System Port (B)
5. Body Mount, 7/8"-14 Thread (SST)
6. Filter, 10 Micron Sintered Bronze (Other Options Available)
7. Vents to atmosphere ( 2 Places 180° apart )
8. Filter Retainer, Aluminum (Other Options Available)
9. Operator Follower, Aluminum (Other Options Available)  
Operator Follower is 1-1/4"φ
10. Follower Guide Ring, UHMW (Other Options Available)
11. Over-Travel Protection (Spring Stack)
12. O-Ring Seal, Buna-N (Other Options Available)
13. Operator Bonnet, Aluminum (Other Options Available)
14. Manual Operator Push Rod, Heat Treated 17-4 SST.
15. Wiper Ring, Urethane
16. Bronze Drillite (R) Bushing ( 3/8" I.D. X 1 1/4" Long )
17. Cylinder, Aluminum (Other Options Available)
18. Spring Retainer Assembly
19. Spring, Spool Return, Stainless Steel (7-1/2#)
20. Retaining Ring, Carbon Steel (Other Options Available)
21. O-Ring Seal, Buna-N (Other Options Available)
22. Spool Connector Seal Assembly, Teflon Seal & SST. Material
23. Retaining Ring, Spool Cage Assembly
24. O-Ring Seal, Teflon
25. O-Ring Seal, Buna-N (Other Options Available)
26. Spool Cage ( Heat Treated Stainless )
27. Back Up Rings, Teflon ( two used )
28. O-Ring Seal, Buna-N (Other Options Available)
29. Back Up Rings, Teflon ( two used )
30. O-Ring Seal, Buna-N (Other Options Available)
31. Back Up Rings, Teflon ( two used )
32. O-Ring Seal, Buna-N (Other Options Available)

### SHIFT FORCE

To determine the minimum theoretical operating force (#) required to shift the valve manually, multiply the pressure at Port 1 by .012 and add the spring force of 7-1/2 pounds (#).

Example: 3000 (pressure) multiply by .012 = 36 + 7-1/2 pounds spring force = 43-1/2#.

This represents the theoretical minimum manual operating force required to shift the valve. Considering variations in springs and hysteresis it is advisable to add at least 10# to the calculated minimum theoretical operating force to assure full valve function.

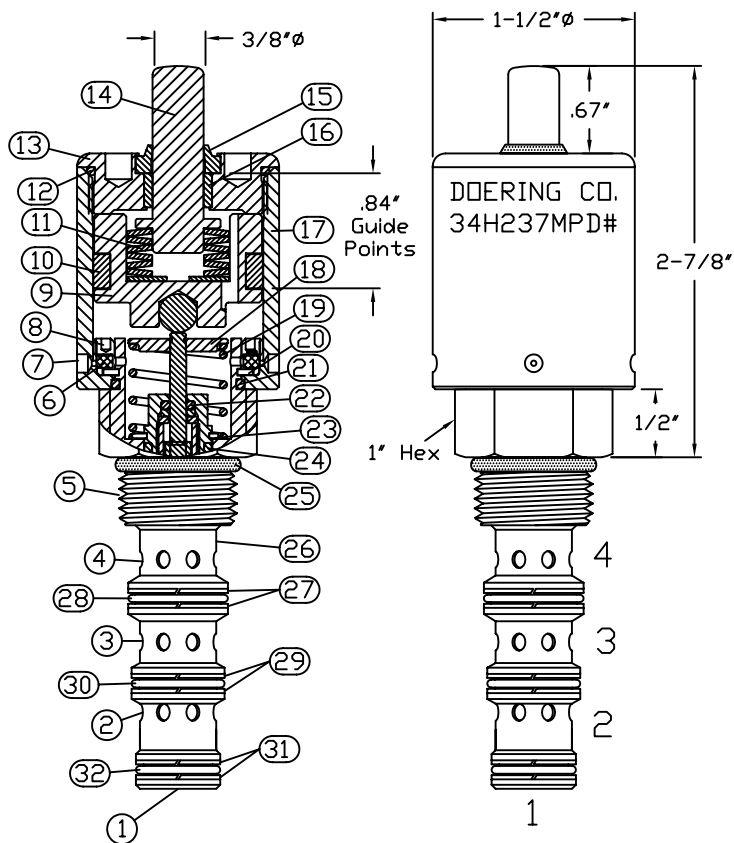
### OPERATION

In its steady-state spring offset position, the 34H237MPD# Valve functions according to the functional symbol flow path located nearest the spring symbol in the corresponding functional symbol found on the right side of this spec. sheet.

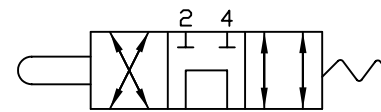
As the operator plunger is depressed to the 1/2 stroke position (1/8" Spool Travel) the function corresponds with the middle of the symbol.

At full stroke (1/4" Spool Travel) the function corresponds to the portion of the symbol on the plunger end.  
At the end of the full stroke the Over-Travel Protection will allow approximately 1/16" maximum additional travel of the operator, without damaging the valve.

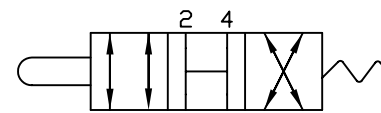
## CARTRIDGE VALVE



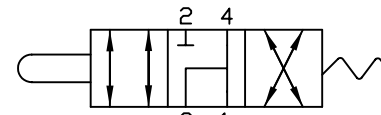
## SPOOL SELECTION



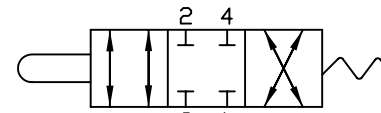
SPOOL NO. 1



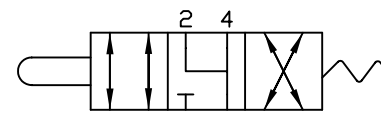
SPOOL NO. 2



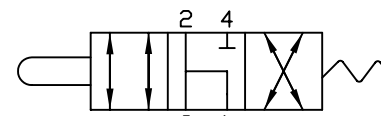
SPOOL NO. 4



SPOOL NO. 5



SPOOL NO. 6



SPOOL NO. 7

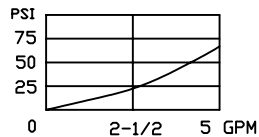
### CAVITY INFO.

Cavity C-8544 (Industry 10-4)  
Form Tool: FT-8544 Call for source information.  
Reference Cavity Spec. Sheet No. 1200023 or  
Web Sheet C-8544 at [www.doering.com](http://www.doering.com)

### HOUSING & MANIFOLD INFO.

Single Station Housings (Sub-Plates) Illustrated on Spec. Sheet No. 1200706, S8544-\*\*\* Group. Also see Web Sheet S8544 at [www.doering.com](http://www.doering.com). Choose from Aluminum or Stainless materials. Multi Station and Custom Housings or Manifolds also available.

### PRESSURE DROP / FLOW



### ORDERING INFORMATION:

CARTRIDGE VALVE PART NO.

34H237MPD#

# = Enter Spool No.

## 4PS SERIES

Three Position 4 Way Spool Valve.  
Manually Operated, Spring Return.  
Directional Control or Selector Valve.

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DOERING