



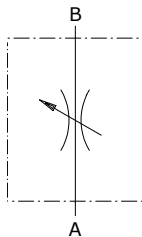
## Type VRFB90 needle valves

- Bidirectional

Technical specifications and diagrams are measured with mineral oil of 46 cSt viscosity at 40°C (104°F) temperature.

|                                                     | VRFB9001                                          | VRFB9002                  | VRFB9003                  | VRFB9004                  | VRFB9005                   |
|-----------------------------------------------------|---------------------------------------------------|---------------------------|---------------------------|---------------------------|----------------------------|
| Nominal flow                                        | 30 l/min<br>(7.9 US gpm)                          | 40 l/min<br>(10.6 US gpm) | 50 l/min<br>(23.8 US gpm) | 80 l/min<br>(21.1 US gpm) | 110 l/min<br>(29.1 US gpm) |
| Max. pressure                                       | 350 bar (5100 psi)                                | 350 bar (5100 psi)        | 350 bar (5100 psi)        | 320 bar (4600 psi)        | 300 bar (4350 psi)         |
| Fluid                                               | mineral based oil                                 |                           |                           |                           |                            |
| Viscosity                                           | from 10 to 200 cSt                                |                           |                           |                           |                            |
| Max. level of contamination                         | 18/16/13 ISO4406                                  |                           |                           |                           |                            |
| Fluid temperature                                   | with NBR seals from -30°C (-22°F) to 80°C (176°F) |                           |                           |                           |                            |
| Environmental temperature<br>for working conditions | from -40°C (-40°F) to 100°C (212°F)               |                           |                           |                           |                            |
| Weight                                              | steel 0.34 kg (0.75 lb)                           | 0.34 kg (0.75 lb)         | 0.43 kg (0.95 lb)         | 1.13 kg (2.49 lb)         | 1 kg (2.2 lb)              |

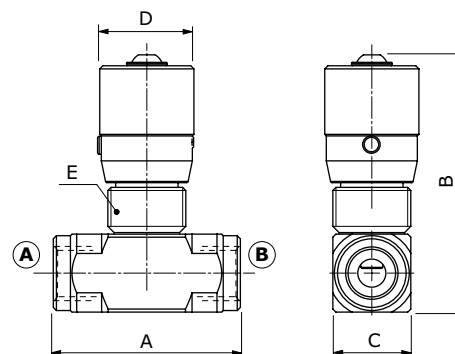
NOTE - For different conditions, please contact Walvoil Sales Dpt.



### Dimensions

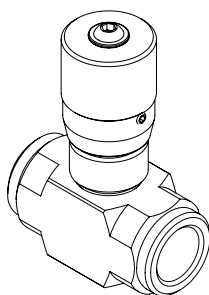
Dimensions are in mm-in

| Valve type | All ports | A         | B          | C         | D         | E       |
|------------|-----------|-----------|------------|-----------|-----------|---------|
| VRFB9001   | G1/4      | 58 - 2.28 | 82 - 3.23  | 25 - 0.98 | 30 - 1.18 | M25X1.5 |
| VRFB9002   | G3/8      | 60 - 2.36 | 82 - 3.23  | 25 - 0.98 | 30 - 1.18 | M25X1.5 |
| VRFB9003   | G1/2      | 64 - 2.52 | 88 - 3.46  | 30 - 1.18 | 30 - 1.18 | M25X1.5 |
| VRFB9004   | G3/4      | 89 - 3.50 | 116 - 4.57 | 40 - 1.57 | 42 - 1.65 | M35X1.5 |
| VRFB9005   | G1        | 89 - 3.50 | 116 - 4.57 | 40 - 1.57 | 42 - 1.65 | M35X1.5 |



### Ordering codes and description composition

VRBF90 01



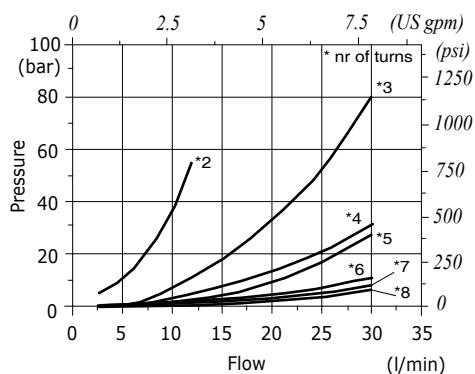
#### VRFB90 complete valves

| TYPE     | CODE       | DESCRIPTION            |
|----------|------------|------------------------|
| VRFB9001 | 1605210100 | Steel body, G1/4 ports |
| VRFB9002 | 1605220100 | Steel body, G3/8 ports |
| VRFB9003 | 1605230100 | Steel body, G1/2 ports |
| VRFB9004 | 1605240100 | Steel body, G3/4 ports |
| VRFB9005 | 1605250100 | Steel body, G1 ports   |

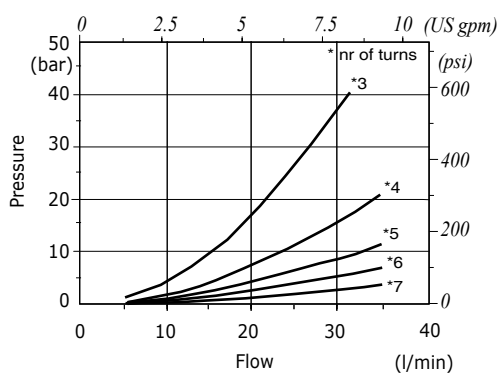
For different configurations or SAE thread please contact our Sales Dpt.

### Rating diagram

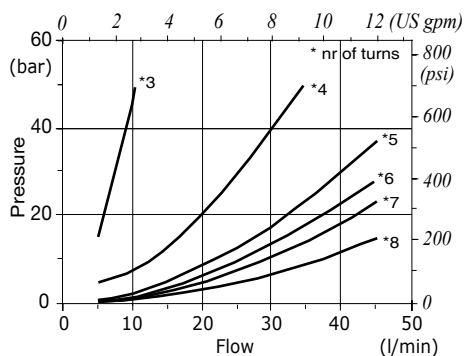
**VRFB9001**  
pressure drop vs. flow



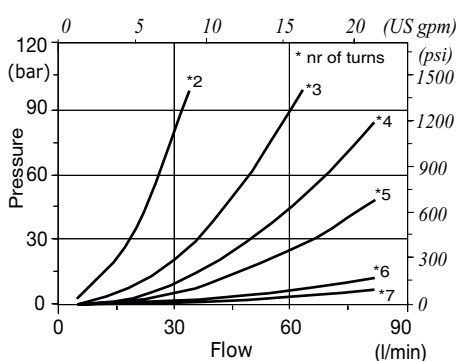
**VRFB9002**  
pressure drop vs. flow



**VRFB9003**  
pressure drop vs. flow



**VRFB9004**  
pressure drop vs. flow



**VRFB9005**  
pressure drop vs. flow

