

Back Pressure & Relief Valves



Where Innovation Flows

Back Pressure Valves

Back Pressure Valves maintain a set pressure at the pump outlet port (discharge) to assure accurate metering and are also used to prevent siphoning. A major benefit is assuring proper metering check valve performance when the system pressure is lower than the injecting fluid pressure.

The Back Pressure Valve is a required accessory when pumping to a lowpressure injection point below the tank level or when pumping from a bulk tank with a high head pressure.

Relief Valves protect the piping and system from overpressure. Discharge is piped to an external tank.

FEATURES AND BENEFITS

BACK PRESSURE VALVES

- Assures accurate metering to prevent siphoning
- Broad range of valve body materials
- Long-life PTFE diaphragm
- Field adjustable to a maximum pressure of 50 psi (3.4 bar)
- Low maintenance

RELIEF VALVES

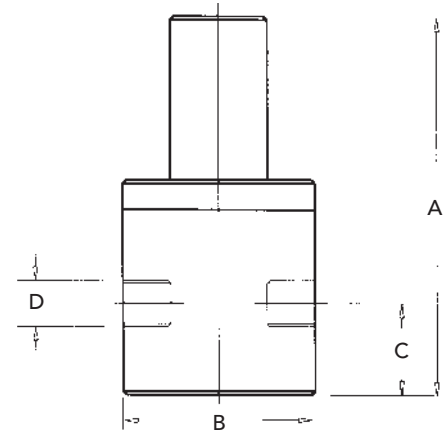
- Field adjustable to a maximum pressure of 150 psi (10.3 bar)
- Multiple port designs depending on size
 - Two-port design on 1/2" models
 - Three-port (right angle) on 3/4" and 1" models eliminates the need for a separate "T" fitting in piping



Specifications

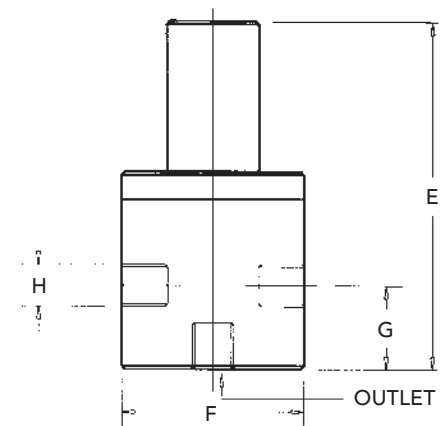
BACK PRESSURE VALVES

| MODEL | SIZE IN. (MM) | SET PRESS PSI (BAR) | MAX. FLOW AT 50 PSI | | MATERIALS OF CON-STRUC. | DIA-PHRAGM | DIMENSIONS IN. (MM) | | | |
|------------|---------------|---------------------|---------------------|-----------|-------------------------|------------|---------------------|-----------|----------|--------|
| | | | GPH | L/H | | | A | B | C | D FNPT |
| | | | | | | | | | | |
| BP-SS-75 | 3/4 (19.1) | 150 | 567.8 | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 | | | |
| BP-SS-100 | 1 (25.4) | 250 | 946.4 | 5 (127) | 3 (76.2) | 1 (25.4) | 1 | | | |
| BP-SS-150 | 1-1/2 (38.1) | 800 | 3,028.3 | 9 (228.6) | 4 (101.6) | 2 (50.8) | 1-1/2 | | | |
| BP-KY | 1-1/2 (38.1) | 50 (3.4) | 100 | 378.5 | PVDF | TFE | 4 (101.6) | 2 (50.8) | 1 (25.4) | 1/2 |
| BP-KY-75 | 3/4 (19.1) | | 150 | 567.8 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 |
| BP-KY-100 | 1 (25.4) | | 250 | 946.4 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 1 |
| BP-KY-150 | 1-1/2 (38.1) | | 800 | 3,028.3 | | | 9 (228.6) | 4 (101.6) | 2 (50.8) | 1-1/2 |
| BP-C20 | 1/2 (12.7) | 50 (3.4) | 100 | 378.5 | C-20 | TFE | 4 (101.6) | 2 (50.8) | 1 (25.4) | 1/2 |
| BP-C20-75 | 3/4 (19.1) | | 150 | 567.8 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 |
| BP-C20-100 | 1 (25.4) | | 250 | 946.4 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 1 |
| BP-PVC | 1/2 (12.7) | 50 (3.4) | 100 | 378.5 | PVC | TFE | 4 (101.6) | 2 (50.8) | 1 (25.4) | 1/2 |
| BP-PVC-75 | 3/4 (19.1) | | 150 | 567.8 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 |
| BP-PVC-100 | 1 (25.4) | | 250 | 946.4 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 1 |
| BP-PVC-150 | 1-1/2 (38.1) | | 800 | 3,028.3 | | | 9 (228.6) | 4 (101.6) | 2 (50.8) | 1-1/2 |



RELIEF VALVES

| MODEL | SIZE IN. (MM) | SET PRESS PSI (BAR) | MAX. FLOW AT 50 PSI | | MATERIALS OF CON-STRUC. | DIA-PHRAGM | DIMENSIONS IN. (MM) | | | |
|--------------|---------------|---------------------|---------------------|-----------|-------------------------|------------|---------------------------|-----------|----------|--------|
| | | | GPH | L/H | | | E | F | G | H FNPT |
| | | | | | | | | | | |
| RV-316SS-75 | 3/4 (19.1) | 150 | 567.8 | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 | | | |
| RV-316SS-100 | 1 (25.4) | 250 | 946.4 | 5 (127) | 3 (76.2) | 1 (25.4) | 1 | | | |
| RV-316SS-150 | 1-1/2 (38.1) | 800 | 3,028.3 | 9 (228.6) | 4 (101.6) | 2 (50.8) | 1-1/2 | | | |
| RV-KY | 1-1/2 (38.1) | 150 (10.3) | N/A | | PVDF | TFE | 4 (101.6) | 2 (50.8) | 1 (25.4) | 1/2 |
| RV-KY-75 | 3/4 (19.1) | | 150 | 567.8 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 |
| RV-KY-100 | 1 (25.4) | | 250 | 946.4 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 1 |
| RV-KY-150 | 1-1/2 (38.1) | | 800 | 3,028.3 | | | 9 (228.6) | 4 (101.6) | 2 (50.8) | 1-1/2 |
| RV-C20 | 1/2 (12.7) | 150 (10.3) | N/A | | C-20 | TFE | -- See RV on next page -- | | | |
| RV-C20-75 | 3/4 (19.1) | | 150 | 567.8 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 |
| RV-C20-100 | 1 (25.4) | | 250 | 946.4 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 1 |
| RV-PVC-050 | 1/2 (12.7) | 150 (10.3) | N/A | | PVC | TFE | 4 (101.6) | 2 (50.8) | 1 (25.4) | 1/2* |
| RV-PVC-75 | 3/4 (19.1) | | 150 | 567.8 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 3/4 |
| RV-PVC-100 | 1 (25.4) | | 250 | 946.4 | | | 5 (127) | 3 (76.2) | 1 (25.4) | 1 |
| RV-PVC-150 | 1-1/2 (38.1) | | 800 | 3,028.3 | | | 9 (228.6) | 4 (101.6) | 2 (50.8) | 1-1/2 |



*Only one inlet provided on 1/2" PVC and PVDF relief valves.

Relief Valves

Neptune Relief Valves have two outstanding characteristics:

Economy. Models RV-316-1, -2, -3 and -4 with all 316SS wetted parts cost no more than other 304SS designs. C-20 valves are also available as standard.

Simplicity. Neptune exclusive design uses a self-cleaning ball check and seat. It has a unique spring guide which assures proper spring loading and consistent relief capacity. The relief pressure setting can be easily changed by removing the top cap screw and locking set screw, inserting a proper Allen wrench into the opening, and adjusting the spring to the desired pressure.

Recommended setting: Operating pressure plus 10% or 50 psi whichever is greater.

FEATURES AND BENEFITS

- All wetted parts are 316SS or C-20
- Pressures from 30 to 2000 psi
- Spring guide for consistent relief capacity
- Easily adjustable relief setting
- Liquid service only



Specifications

INLET/OUTLET PIPE SIZE: 1/2" NPT

| MODEL | PRESSURE (PSI) | CAPACITY (GPM) |
|----------|----------------|----------------|
| RV-316-1 | 100 | 3.0 |
| RV-C20-1 | | |
| RV-316-2 | 400 | 4.0 |
| RV-C20-2 | | |
| RV-316-3 | 1000 | 4.0 |
| RV-316-4 | 2000 | 6.0 |

| MATERIAL OF CONSTRUCTION | MODEL | PRESSURE RANGE (PSI) |
|--------------------------|----------|----------------------|
| 316SS | RV-316-1 | 30 to 100 |
| | RV-316-2 | 101 to 400 |
| | RV-316-3 | 401 to 1000 |
| | RV-316-4 | 1001 to 2000 |
| C-20 | RV-C20-1 | 30 to 100 |
| | RV-C20-2 | 101 to 400 |

QUOTATION AND ORDERING INFORMATION

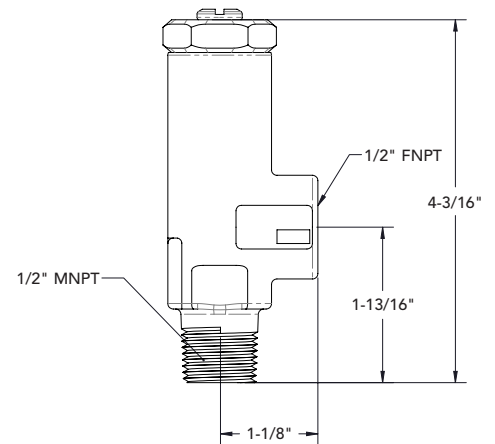
Please supply the following information:

1. Type of liquid to be handled.
2. Relief pressure range or set point required.

REPAIR KITS

Each kit contains a replacement spring, diaphragm, threaded adjuster and support disk.

| PART NUMBER | DESCRIPTION |
|-------------|--|
| RK001 | Fits all 1/2" "BP" back pressure valves above, all materials |
| RK002 | Fits all 3/4" and 1" "BP" back pressure valves and "RV" relief valves above, all materials |
| RK003 | Fits all 1-1/2" "BP" back pressure valves and "RV" relief valves above, all materials |





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