TV Series Back Pressure and Pressure Relief Valves

H2O Rx

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Back Pressure and Pressure Relief Valves

Improve accuracy, prevent chemical siphoning, and prevent damage to pumps and pipework

- Field adjustable from 0 – 1030 kPa
- Teflon Faced EPDM Diaphragm style.
- Back Pressure Valves prevent siphoning and improve accuracy by providing a consistent load to chemical metering pumps.
- Pressure Relief valve prevents damage to pumps if inadvertently over pressured.
- Optional air release / gauge port.
- Materials include:
  - ⇒ PVC
  - ⇒ CPVC (Corzan)
  - ⇒ PVDF
  - ⇒ Polypropylene
  - ⇒ Stainless Steel 316
  - ⇒ Alloy 20
  - ⇒ Hastelloy C 276
- Sizes from DN8 to DN50

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DESCRIPTION

Back pressure and pressure relief valves can improve accuracy and safety of pumps and processes. They do this by enhancing the effectiveness of pumps, reducing maintenance costs and time, reducing wastage of chemical, and preventing damage of equipment and pipework.

These valves are diaphragm style. The range include two types - back pressure or anti-siphon valves, and pressure relief valves. They all feature a completely adjustable pressure range of 0 - 1030 kPa(g) and a built-in air release to reduce priming difficulties.

The valves are available in sizes from DN8 through DN50.

Socket weld, flanged or special threaded connections are available. Higher temperature and pressure valves are available on request.

FLOW DETAILS

Flow capacity through TOP VALVE back pressure / anti-siphon and pressure relief valves under continuous flow conditions at 345 kPa with ambient temperature water is outlined in the following table.

Size of valve (DN)	DN 8	DN8 x DN15	DN15	DN20	DN25	DN40	DN50
Flow Rate L/H	455	565	1135	1360	2500	5675	9085

Note:

- Flow capacity increases with pressure – if pressure is doubled, the flow rate will approximately double.
- Pulsation flows (from reciprocating pumps) create flow peaks. To calculate the flow your application requires, divide the given flow rate by three. For example, a DN25 back pressure valve used for a reciprocating pump will have a maximum flow rate of approximately 830 L/H at 345 kPa.
- The DN8 x DN15 Valve has a DN8 orifice x DN15 process connections.

VALVE SELECTION

For example:
A back pressure valve of CPVC with DN15 ports and BSPF threaded connections and Viton diaphragm is:

TV B B 50 - CPVC – V - C

Accessory Valve

Valve Type
B = Back Pressure
P = Pressure Relief

Connection Type

P = Back Pressure FNPT
R = Pressure Relief FNPT
FW = Welded Flanged
FT = Threaded Companion Flange
F = Flanged Non Metallic
S = Socket
B = BSPF Thread
T = High Temperature (to 145^{0}C)
H = High Pressure (to 2.4 MPa)

Connection Size

25 = ¼”
45 = ¼” x ½”
50 = ½”
75 = ¾”
10 = 1”
15 = 1-1/2”
20 = 2”

Materials

PVC = Polyvinylchlo-ride
CPVC = Corzan
PP = Polypropylene
PVDF = Kynar
S/S = 316 Stainless Steel
All20 = Alloy 20
Hast = Hastelloy C 276

Top Options (PVC Standard)

A = Aluminium Top
S = 316 S/S Top
C = CPVC Top

Misc Options

E = EPDM Diaphragm
P = PVC Diaphragm
V = Viton Diaphragm
G = Gauge Port