

Frank Series

Pressure Relief Valve

- Process fluid is isolated from mechanical parts
- Adjustable under working pressure
- Install in any orientation
- Adjustment range of 7psi (0.5 bar) to 135psi (9.5 bar) outlet with an inlet of 145psi (10 bar)
- Highly accurate and stable control

Description

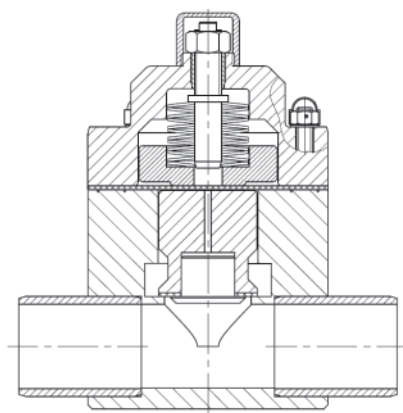
Protect your piping system. Non-wetted spring keeps the valve closed until over pressurized. The integrated third spigot provides zero dead volume and minimal pressure loss.

Installed inline, this valve can maintain your systems pressure by reducing peaks. Balance out fluctuations in pressure caused by shutting points of use on or off.

When the system pressure returns to the preset value, the valve closes to maintain the pressure.

Product Offering

Size		PP	PVDF	PVC
in	mm			
1/2"	20	V185	V185	V185
3/4"	25	V185	V185	V185
1"	32	V185	V185	V185
1-1/4"	40	V185	V185	V185
1-1/2"	50	V185	V185	V185
2"	63	V185	V185	V185
2-1/2"	75	V85	V85	V85
3"	90	V85	V85	V85
4"	110	V85	V85	V85



V85



Specifications

- Size Range:** 1/2" (20mm) to 4" (110mm)
- Diaphragm/Seals:** EPDM/EPDM or PTFE/FKM
- Connections:** IR/Butt, Socket¹, NPT¹, Flange²
- Operation:** 14psi (1 bar) pressure differential min.
7psi (0.5 bar) to 135psi (9 bar) outlet with 145psi (10 bar) inlet

1) PVC only, 2) Optional

Material

- PVC
- PP
- PVDF

Temperature Range

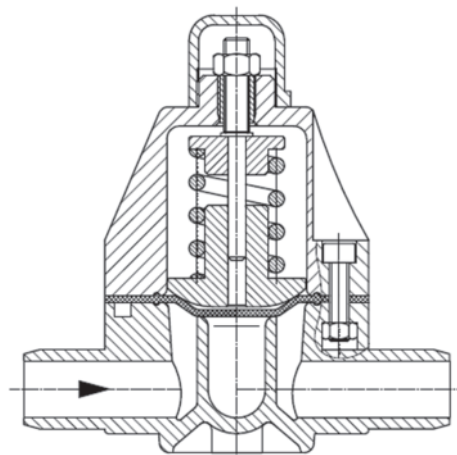
- 32°F (0°C) to 140°F (60°C)
- 4°F (-20°C) to 176°F (80°C)
- 4°F (-20°C) to 248°F (120°C)

Valve Size

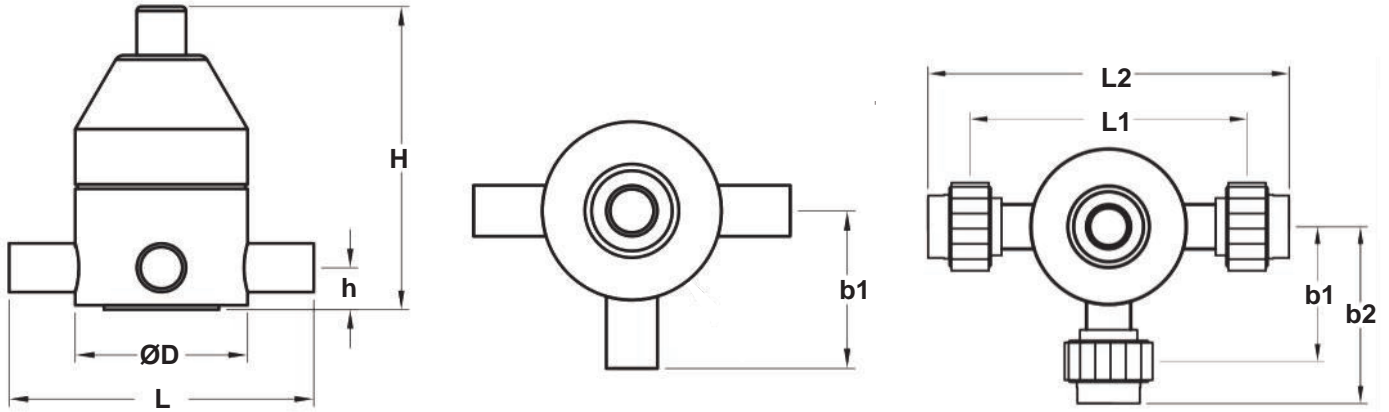
- 1/2" (20mm) to 2" (63mm)
- 2-1/2" (75mm) to 3" (90mm)
- 4" (110mm)

Pressure Range

- 7-150psi (0.5-10 bar)
- 14-90psi (1-6 bar)
- 13-60psi (1-4 bar)



V185



V85/185 Dimensions

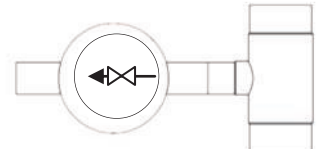
Size		DN	Ø D	H	h	L	b1	b2	L1*	L2*	Weight (lbs)		
in	mm										PP	PVDF	PVC
1/2"	20	15	3 1/4	5 3/8	3/4	5 1/4	3 1/8	4	5 2/4	7	1.0	1.5	1.1
3/4"	25	20	3 1/4	5 3/8	3/4	5 1/4	3 1/8	4 1/8	5 5/8	7 1/2	1.0	1.5	1.1
1"	32	25	4 3/8	7 7/8	1 1/8	6 7/8	3 7/8	5	7 1/4	9	2.0	3.8	2.9
1-1/4"	40	32	6 1/2	7 7/8	1 3/4	6 7/8	3 7/8	5 1/8	7 1/4	9 3/8	2.0	3.8	2.9
1-1/2"	50	40	6 1/2	11 3/8	1 3/4	8 7/8	5 1/8	6 5/8	9 1/4	11 1/2	10.0	18.0	14.5
2"	63	50	6 1/2	11 3/8	1 3/4	9 5/8	5 1/8	6 3/4	10 1/4	12 3/4	10.0	18.0	14.5
2-1/2"	75	65	7 1/8	10 7/8	9	11 1/8	5 5/8	-	-	-	14.0	32.5	-
3"	90	75	9 7/8	16 1/8	12 5/8	14 1/8	7 1/4	-	15 1/4	18	21.0	35.5	28
4"	110	100	9 7/8	19 1/8	16 3/8	15	7 3/4	-	16 3/8	19 1/2	44.0	74.5	50

*PVC only. Union with FNPT or IPS socket

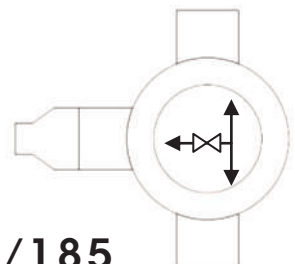
V86/186 Pressure Relief

It is often desirable to use a V86/186 back pressure regulator on the branch of a tee to act as a pressure relief valve. The benefits of this configuration are that you can install a higher pressure rated, smaller diameter, less expensive, more readily available valve that will perform in the same manner as a V85/185 pressure relief valve.

V85/185 pressure relief valves are popular for tight installations, or high purity projects where dead volume can affect the quality of the water.

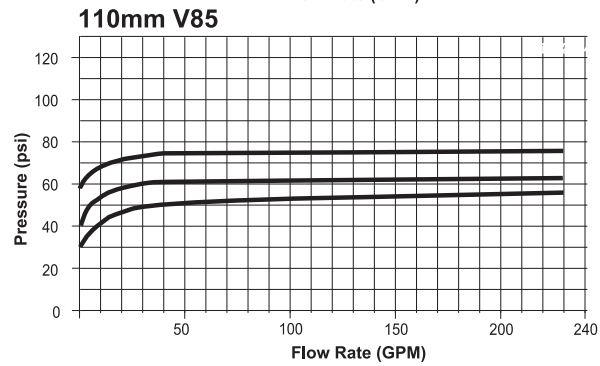
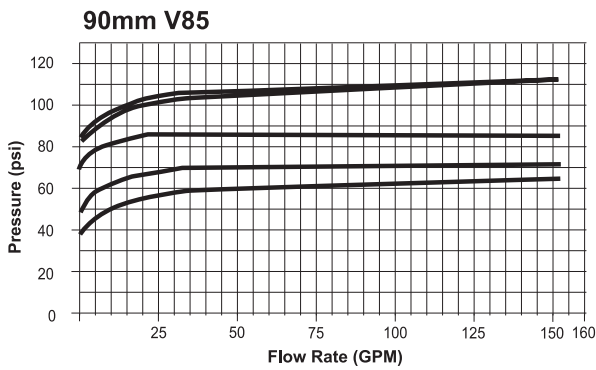
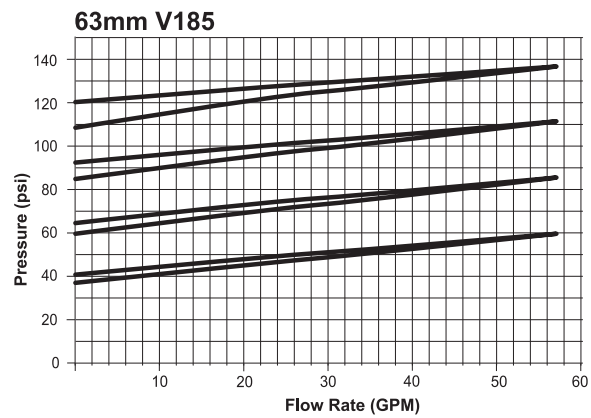
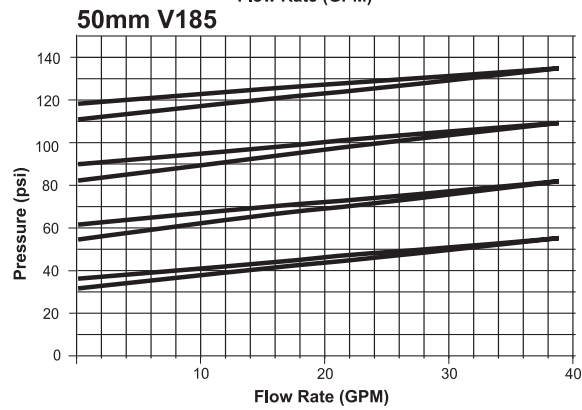
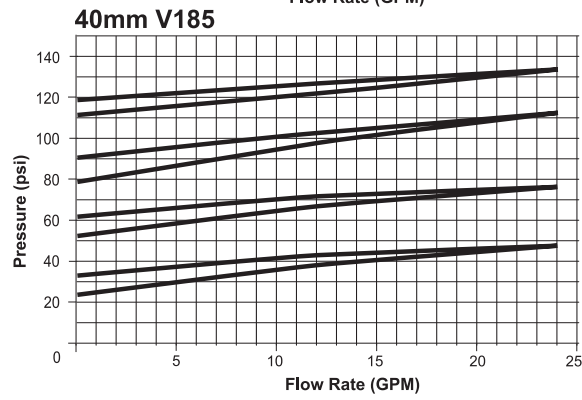
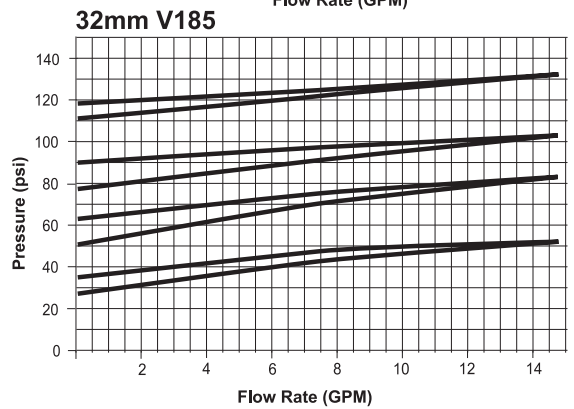
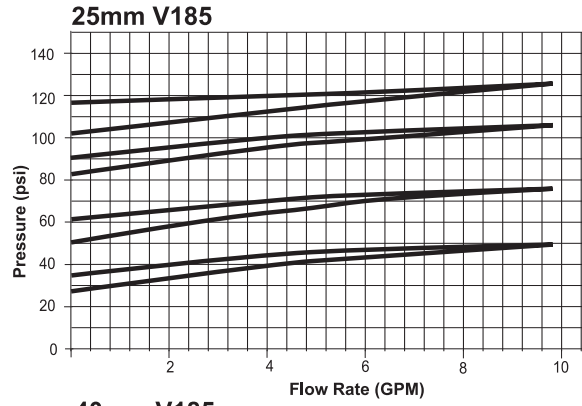
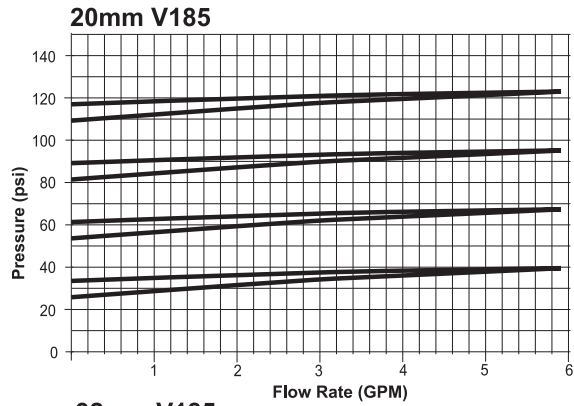


V86/186
2x1 Tee & 1" Valve



V85/185
2" Valve & 2x1 Reducer

Flow Characteristics



Flow characteristics shown are not a guarantee of performance.

Size		DN	Type	PVC/EPDM		PVC/PTFE	
Inch	mm			IPS Socket	FNPT	IPS Socket	FNPT
1/2"	20	16	V185	160245005	160245105	160245205	160245305
3/4"	25	20	V185	160245007	160245107	160245207	160245307
1"	32	25	V185	160245010	160245110	160245210	160245310
1-1/4"	40	32	V185	160245012	160245112	160245212	160245312
1-1/2"	50	40	V185	160245015	160245115	160245215	160245315
2"	63	50	V185	160245020	160245120	160245220	160245320
2-1/2"	75	65	V85	160245025	160245125	160245225	160245325
3"	90	80	V85	160245030	160245130	160245230	160245330
4"	110	100	V85	160245040	160245140	160245240	160245340

Size		DN	Type	Proline PP, Butt		PP-Pure, IR Butt	
Inch	mm			EPDM	PTFE	EPDM	PTFE
1/2"	20	16	V185	500245005	500245105	910255005	910245005
3/4"	25	20	V185	500245007	500245107	910255007	910245007
1"	32	25	V185	500245010	500245110	910255010	910245010
1-1/4"	40	32	V185	500245012	500245112	910255012	910245012
1-1/2"	50	40	V185	500245015	500245115	910255015	910245015
2"	63	50	V185	500245020	500245120	910255020	910245020
2-1/2"	75	65	V85	500245025	500245125	910255025	910245025
3"	90	80	V85	500245030	500245130	910255030	910245030
4"	110	100	V85	500245040	500245140	910255040	910245040

Size		DN	Type	Chem Grade PVDF, Butt	Purac HP PVDF, IR Butt
Inch	mm			PTFE	PTFE
1/2"	20	16	V185	590245005	540245005
3/4"	25	20	V185	590245007	540245007
1"	32	25	V185	590245010	540245010
1-1/4"	40	32	V185	590245012	540245012
1-1/2"	50	40	V185	590245015	540245015
2"	63	50	V185	590245020	540245020
2-1/2"	75	65	V185	590245025	540245025

Installation and operating instructions

- The valves must be installed without tension, and if possible with a detachable connection.
- Any desired installation position is possible, and has no influence on the function.
- Pay attention to the flow direction. This is identified on the valve by an arrow.
- Install a dirt trap for dirty media and media carrying particles.
- Before start-up, we recommend tightening the housing screws (see table below).

Setting the operating pressure

- Unscrew the grey protective cap from the upper body
- Loosen the lock nut
- Turn the adjustment screw with a screwdriver/spanner wrench as follows:
 - Clockwise = Increases the output pressure
 - Counter clockwise = Reduces the output pressure

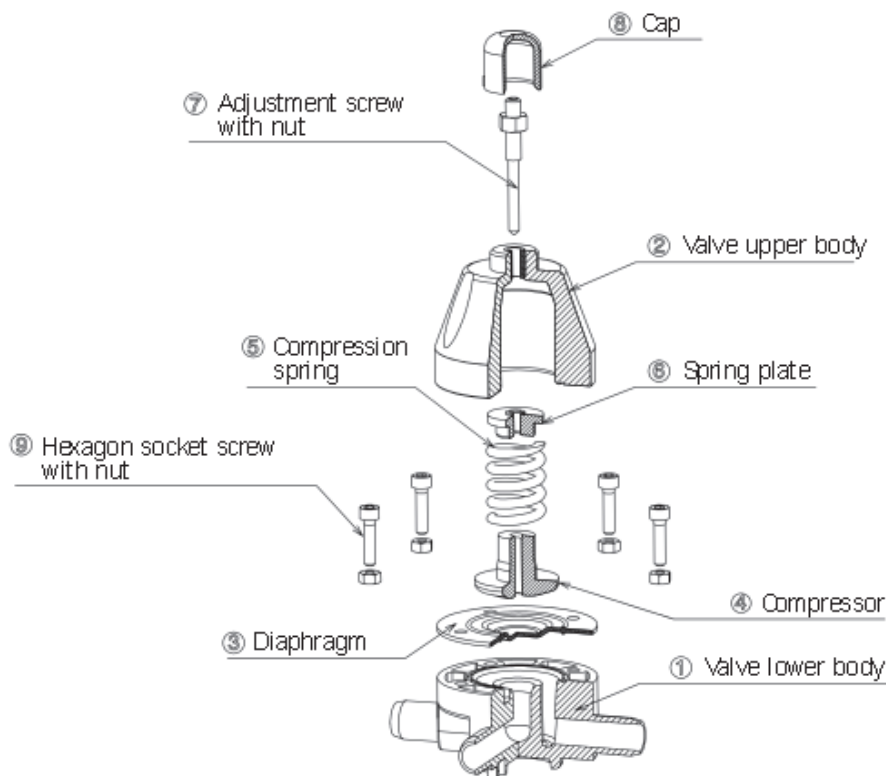
Torque Setting

Type	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
V85/185 Housing	80	80	105	105	175	175	250	250	250

*Torque in in-lbs

Troubleshooting

Problem	Cause	Solution
Leakage at the adjustment screw	Defective diaphragm	Replace the diaphragm or valve
Leakage between upper and lower body	Housing screws are loose	Retighten housing screws
Valve does not close perfectly	Seal seat is dirty or damaged	Backwash or otherwise clean the seal



V185