

# Frank Series

## Pressure Regulating Valves

- Process fluid is isolated from mechanical parts
- Adjustable under working pressure
- Adjustment range of 7psi (0.5 bar) to 135psi (9.5 bar) outlet with an inlet of 145psi (10 bar)
- Gauge guard incorporated into design (V82/182)
- Low hysteresis (V782): 1.5psi (0.1 bar) to 6.0psi (0.4 bar)

### Description

Pressure regulators keep downstream pressure steady at a set value. Our most popular model, the V82/182 features an integrated gauge guard with pressure gauge. This makes adjustment simple and provides a cost savings package.

For further accuracy and stability, the V782 pressure regulator is engineered with a parabolic piston shape. The parabolic piston is balanced more precisely with the diaphragm, which creates linear flow pattern throughout the entire range.

### Product Offering

Size		PP	PPn	PVDF	Halar	PVC
in	mm					
1/2"	20	V82, V782	V82	V82, V782	V82	V182
3/4"	25	V82, V782	V82	V82, V782	V82	V182
1"	32	V82, V782	V82	V82, V782	V82	V182
1-1/4"	40	V82, V782	-	V82, V782	-	V182
1-1/2"	50	V82, V782	V82	V82, V782	V82	V182
2"	63	V82	V82	V82	V82	V82
2-1/2"	75	V82	-	V82	-	V82
3"	90	V82	-	-	-	V82
4"	110	V82	-	-	-	V82



### Specifications

- Size Range:** 1/2" (20mm) to 4" (110mm)
- Diaphragm/Seals:** EPDM/EPDM or PTFE/FKM
- Connections:** IR/Butt, Socket<sup>1</sup>, NPT<sup>1</sup>, Flange<sup>2</sup>
- 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

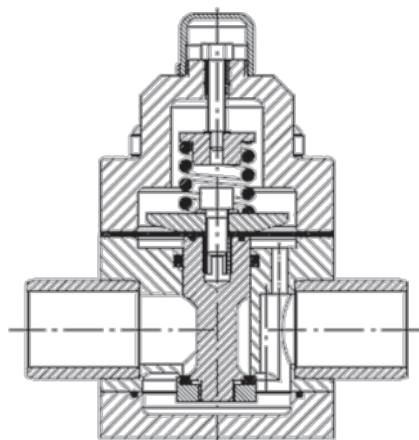
### Material Temperature Range

PVC	32°F (0°C) to 140°F (60°C)
PP	- 4°F (-20°C) to 176°F (80°C)
PP-natural*	- 4°F (-20°C) to 176°F (80°C)
PVDF	- 4°F (-20°C) to 248°F (120°C)
E-CTFE*	-234°F (-145°C) to 340°F (170°C)

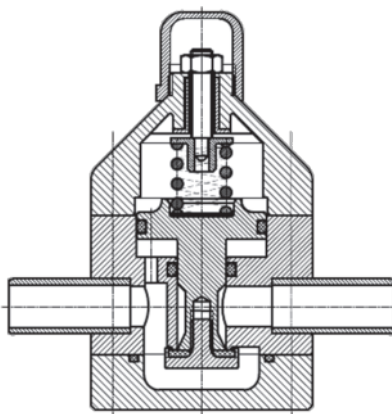
\* PPn & E-CTFE are machined Style V82 in all sizes

### Valve Size Pressure Range

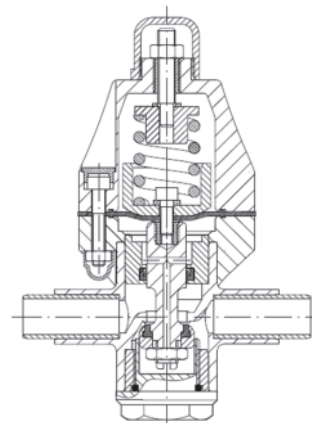
1/2" (20mm) to 1-1/2" (50mm)	7-150psi (0.5-10 bar)
2" (63mm) to 3" (90mm)	14-90psi (1-6 bar)
4" (110mm)	13-60psi (1-4 bar)



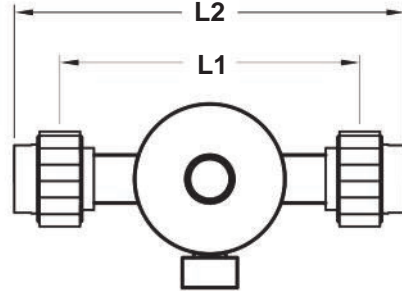
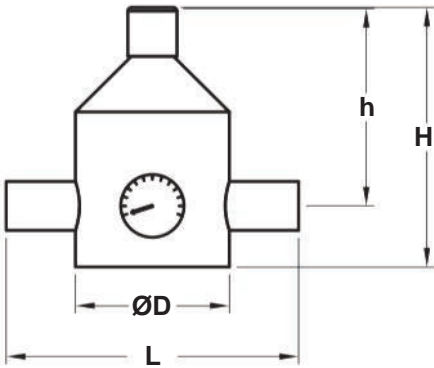
V82



V182



V782



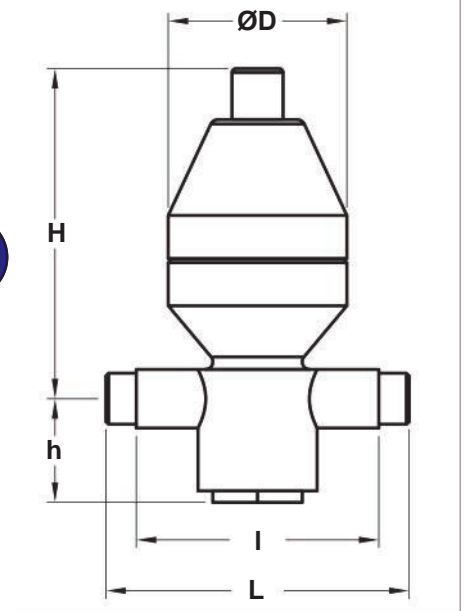
**V82/182 Dimensions**

Size		DN	Ø D	H	h	L	L1*	L2*	Weight (lbs)		
in	mm								PP	PVDF	PVC
1/2"	20	15	2 3/4	5 1/8	3 7/8	5 7/8	6 1/4	7 3/4	1.2	1.8	1.7
3/4"	25	20	3 7/8	7 1/8	5 1/8	7 1/2	7 7/8	9 1/2	2.3	3.5	3.3
1"	32	25	3 7/8	7 1/8	5 1/8	7 1/2	8	9 3/4	2.3	3.5	3.5
1-1/4"	40	32	5 1/8	9	6 7/8	9 1/2	10	12	5.0	12	7.4
1-1/2"	50	40	5 1/8	9	6 7/8	9 1/2	9 3/4	12 1/2	5.0	12	7.5
2"	63	50	5 7/8	11 1/4	8 1/4	10 1/4	10 3/4	13 1/4	8.8	20	13
2-1/2"	75	65	7 7/8	13 3/4	9 7/8	11 3/4	-	-	18	30	-
3"	90	75	9 7/8	16 3/4	12	14 1/8	15 1/4	18	29		44
4"	110	100	11 3/4	19 1/2	13 5/8	16 1/2	17 7/8	21	52		70

\*PVC only. Union with FNPT or IPS socket

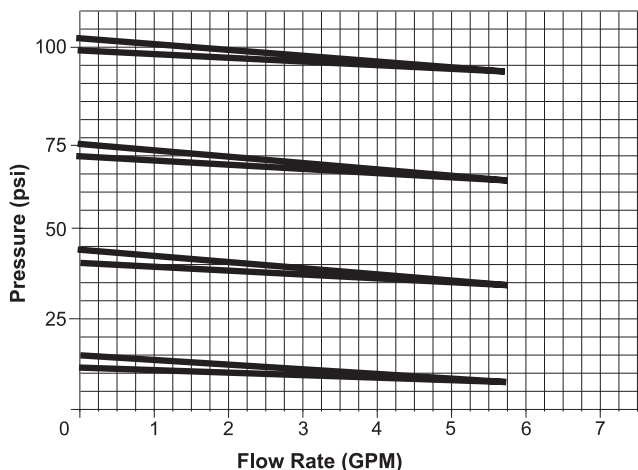
**V782 Dimensions**

Size		DN	Ø D	H	h	L	l	Weight (lbs)	
in	mm							PP	PVDF
1/2"	20	15	3 1/4	5 3/8	4	5 1/4	1 7/8	1.2	1.8
3/4"	25	20	4 3/8	8 1/8	4 3/8	6 1/8	2 1/2	2.3	3.5
1"	32	25	4 3/8	8 1/8	4 3/8	6 1/8	2 1/2	2.3	3.5
1-1/4"	40	32	6 1/2	9 3/4	6 3/8	8 7/8	3 3/4	5.0	12
1-1/2"	50	40	6 1/2	9 3/4	6 3/8	8 7/8	3 3/4	5.0	12

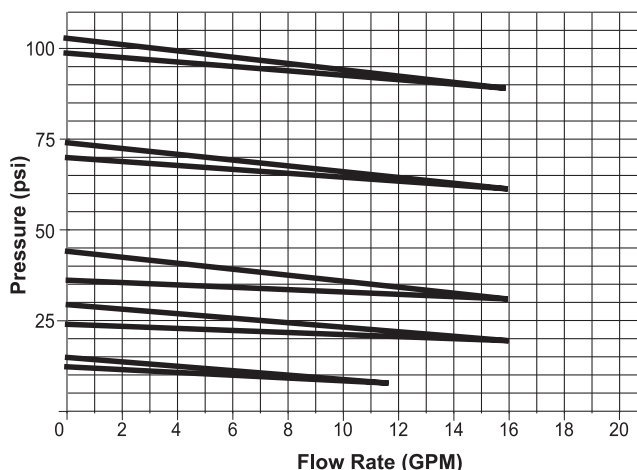


Flow Characteristics

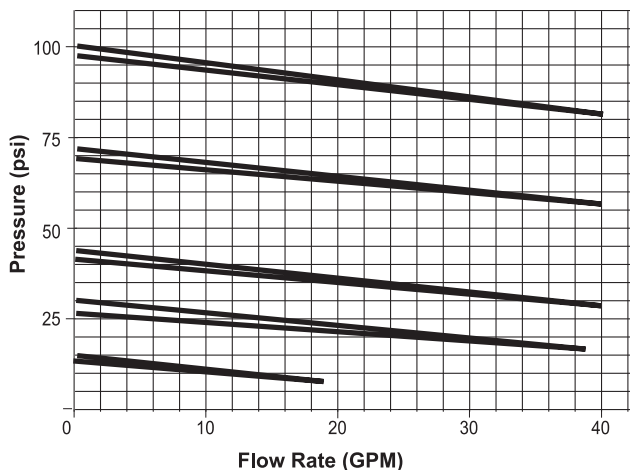
20mm V82/V182



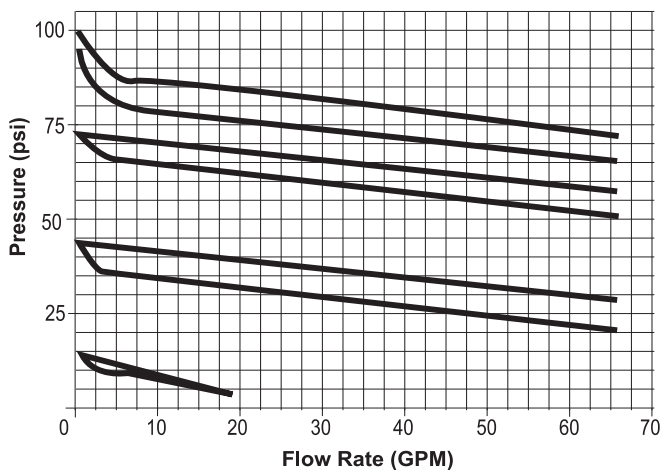
25mm & 32mm V82/V182



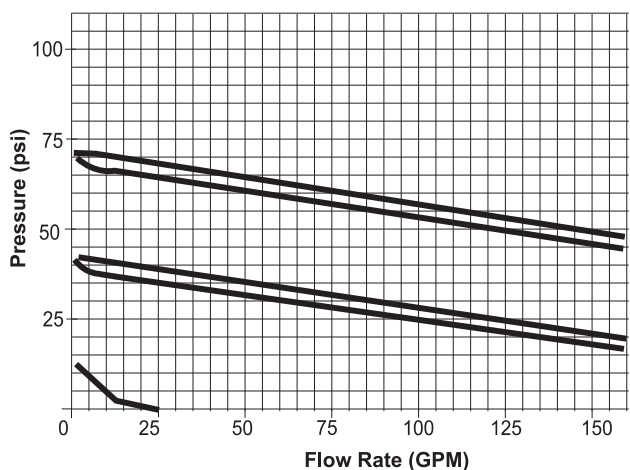
40mm & 50mm V82/V182



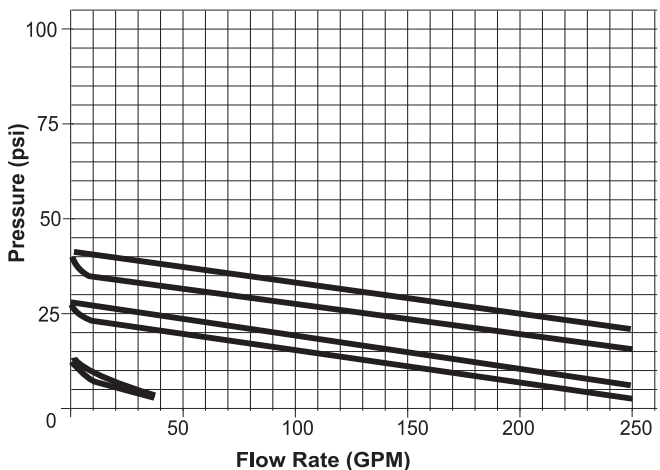
63mm V82



90mm V82

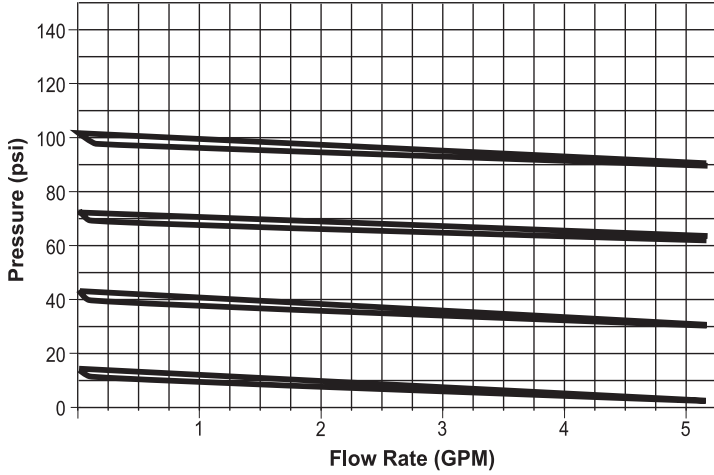


110mm V82

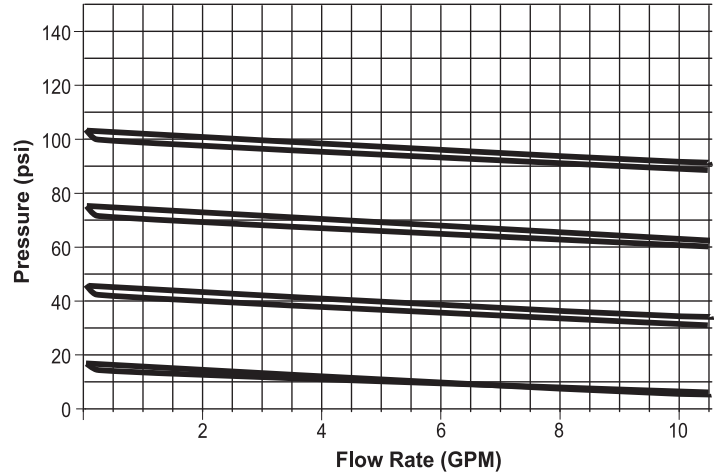


Flow characteristics shown are not a guarantee of performance.

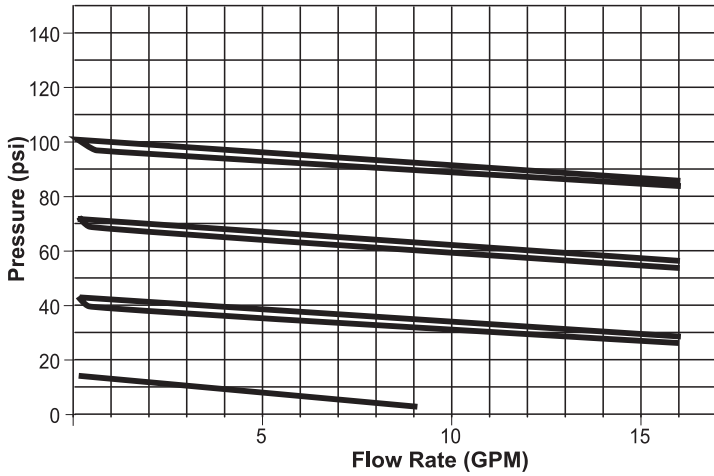
20mm V782



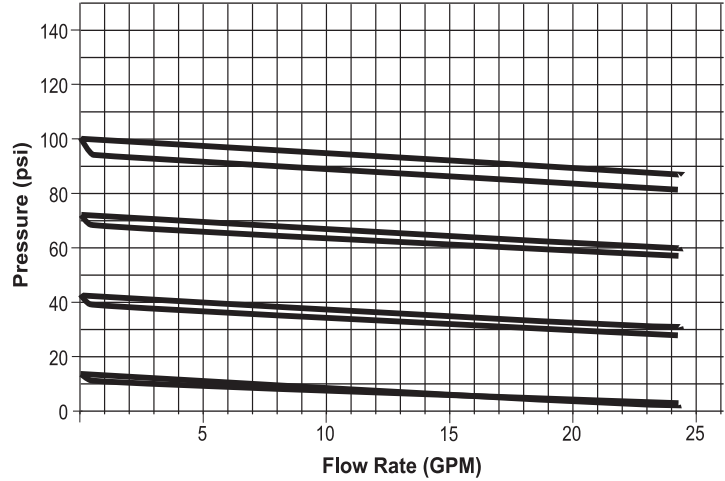
25mm V782



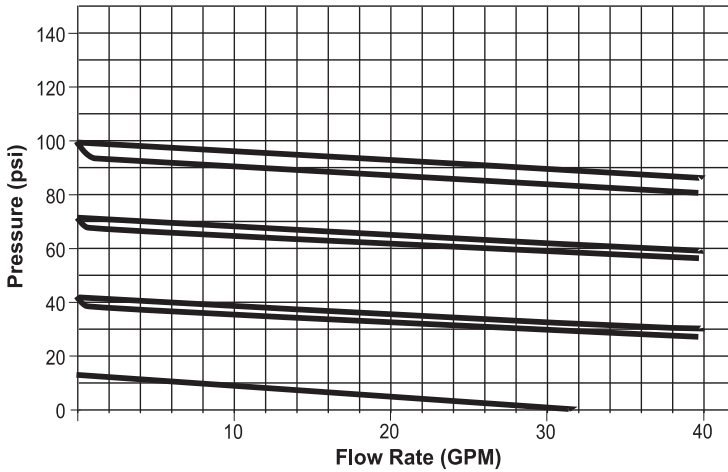
32mm V782



40mm V782



50mm V782



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	V182	160241005	160241105	160241205	160241305
3/4"	25	20	V182	160241007	160241107	160241207	160241307
1"	32	25	V182	160241010	160241110	160241210	160241310
1-1/4"	40	32	V182	160241012	160241112	160241212	160241312
1-1/2"	50	40	V182	160241015	160241115	160241215	160241315
2"	63	50	V82	160241020	160241120	160241220	160241320
2-1/2"	75	65	V82	160241025	160241125	160241225	160241325
3"	90	80	V82	160241030	160241130	160241230	160241330
4"	110	100	V82	160241040	160241140	160241240	160241340

Size		DN	Type	Proline PP, Butt		PP-Pure, IR Butt		PolyPure PPn, IR Butt	
Inch	mm			EPDM	PTFE	EPDM	PTFE	EPDM	PTFE
1/2"	20	16	V82	500241005	500241105	910251005	910241005	630251105	630241105
3/4"	25	20	V82	500241007	500241107	910251007	910241007	630251107	630241107
1"	32	25	V82	500241010	500241110	910251010	910241010	630251110	630241110
1-1/4"	40	32	V82	500241012	500241112	910251012	910241012	-	-
1-1/2"	50	40	V82	500241015	500241115	910251015	910241015	630251115	630241115
2"	63	50	V82	500241020	500241120	910251020	910241020	630251120	630241120
2-1/2"	75	65	V82	500241025	500241125	910251025	910241025	-	-
3"	90	80	V82	500241030	500241130	910251030	910241030	-	-
4"	110	100	V82	500241040	500241140	910251040	910241040	-	-

Size		DN	Type	Chem Grade PVDF, Butt		Purac HP PVDF, IR Butt		Halar E-CTFE, Butt	
Inch	mm			PTFE	PTFE	PTFE	PTFE		
1/2"	20	16	V82	590241005	540241005	550241005			
3/4"	25	20	V82	590241007	540241007	550241007			
1"	32	25	V82	590241010	540241010	550241010			
1-1/4"	40	32	V82	590241012	540241012	-			
1-1/2"	50	40	V82	590241015	540241015	-			
2"	63	50	V82	590241020	540241020	-			
2-1/2"	75	65	V82	590241025	540241025	-			

Size		DN	Type	Proline PP, Butt		PP-Pure, IR Butt		PVDF, Butt, PTFE	
Inch	mm			EPDM	PTFE	EPDM	PTFE	Chem Grade	High Purity
1/2"	20	16	V782	500243005	500243105	910253005	910243005	590243005	540243005
3/4"	25	20	V782	500243007	500243107	910253007	910243007	590243007	540243007
1"	32	25	V782	500243010	500243110	910253010	910243010	590243010	540243010
1-1/4"	40	32	V782	500243012	500243112	910253012	910243012	590243012	540243012
1-1/2"	50	40	V782	500243015	500243115	910253015	910243015	590243015	540243015

## 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 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"
V182	Housing	80	105	105	130	130	-	-	-	-
V82	Housing	80	105	105	130	130	250	250	250	250
	Piston	55	90	90	130	130	130	220	220	220
V782	Housing	70	70	70	130	130	-	-	-	-

\*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

