CHECK-ALL VALVE

INSERT SERIES

FLANGE INSERT

PED 97/23/EC COMPLIANT
See Page 34 for Details

NOTE: Above valve shown in fitting

STYLE FIV
FLANGE INSERT VALVE

INSERT SERIES CHECK VALVES

The **INSERT SERIES** consists of seven styles of check valves designed to be inserted into existing or necessary hardware making up a piping system. The series consists of valves for every service application ranging from air to acid.

Some of the features of the INSERT SERIES are:

- Low installation costs.
- Minimal space required.
- Easily removed for cleaning.
- Lightweight, compact and rugged.
- Location in system may be changed without re-piping.
- Economical – no large housing to pay for.
- Easily added to existing systems.

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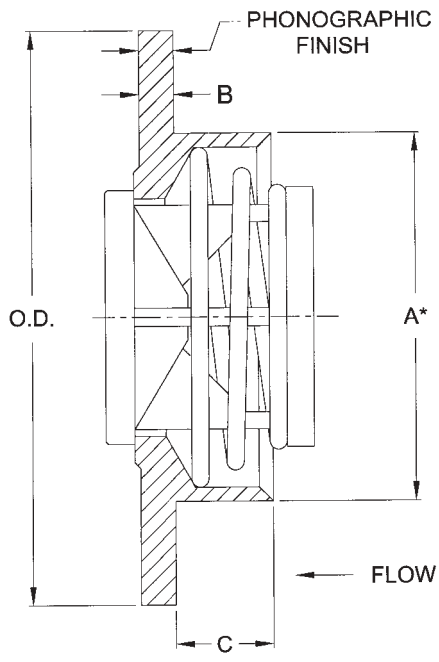
ISO 9001 CERTIFIED

The **Flange Insert Valve** is the ultimate check valve in flanged systems. Designed to be inserted between two mating ANSI flanges, it provides the simplest most economical way to install a check valve in a piping system. The valve body automatically positions the valve and holds it in place while bolts are being installed and tightened. All that is required is two gaskets in place of the one normally used in a flanged joint. Consult the factory for additional installation guidelines.

Flange Insert Valves are available in the following materials and sizes:

1. 316 Stainless Steel 1/2 through 20 inches
2. Carbon Steel 1/2 through 20 inches
3. Brass 1/2 through 20 inches
4. *Teflon*® resin 1/2 through 6 inches
5. PVC 1/2 through 6 inches
6. Other super alloys 1/2 through 20 inches



FLANGE INSERT VALVES are available in most metal alloys for use with ANSI class 150, 300 and 600 flanges. Brass valves are for use with ANSI class 150 and 300 flanges.

FLANGE INSERT VALVES can be used as check valves, low pressure relief valves and vacuum breakers by simply using different spring settings.

FLANGE INSERT VALVES are available in Titanium, *HASTELLOY*® Alloys, *MONEL*® Alloys, Alloy 20 and many other alloys.

NON–SHOCK PRESSURE – TEMPERATURE RATINGS

Material	Valve Size	P–T Rating	Recommended*** Service Temp.
Teflon® resin	1/2 – 1-1/2	** 55 psig @ 100°F	-320°F to 400°F
Teflon® resin	2 – 6	** 20 psig @ 100°F	-320°F to 400°F
PVC	1/2 – 6	** 200 psig @ 100°F	+32°F to 150°F
Brass	1/2 – 4	ANSI Class 150 & 300	-320°F to 400°F
	5 – 20	ANSI Class 150	
Metal Valves	1/2 – 4	ANSI Class 150, 300 & 600	-320°F to 700°F
	5 – 20	ANSI Class 150	

*Check "A" dimension for clearance with pipe ID. Generally "A" dimension is designed for use in standard schedule pipe for class 150 & 300 valves. Order class 600 valves for schedule 80 pipe.
**Consult the factory for reduced P–T ratings above 100°F.
***See page 4 for P–T ratings of valve seats & springs. CARBON STEEL -20° TO 700°F
See page 27 for Flow Data.

FIV INSTALLATION DIMENSIONS

SIZE	ANSI Rating & Material	A	B	C	O.D.	*Orifice Diameter
1/2"	150 & 300	0.605	1/4	17/64		0.348
	600	N/A	1/4	N/A	1-3/8	0.348
	Plastic	0.600	1/4	17/64		0.348
3/4"	150 & 300	0.762	1/4	1/4		0.464
	600	0.719	1/4	1/4	1-3/4	0.464
	Plastic	0.720	1/4	1/4		0.464
1"	150 & 300	1.000	1/4	23/64		0.593
	600	0.922	1/4	5/16	2	0.593
	Plastic	0.925	1/4	25/64		0.593
1-1/4"	150 & 300	1.340	1/4	7/16		0.890
	600	1.234	1/4	3/8	2-1/2	0.890
	Plastic	1.240	1/4	7/16		0.890
1-1/2"	150 & 300	1.570	1/4	7/16		1.135
	600	1.490	1/4	13/32	2-7/8	1.135
	Plastic	1.470	1/4	1/2		1.135
2"	150 & 300	2.005	1/4	7/16		1.385
	600	1.890	1/4	27/64	3-5/8	1.385
	Plastic	1.890	1/4	33/64		1.385
2-1/2"	150 & 300	2.407	1/4	21/32	4-1/8	1.555
	600	2.266	1/4	37/64		1.555
3"	150 & 300	3.006	5/16	11/16		2.025
	600	2.844	5/16	41/64	5	2.025
	Plastic	2.850	5/16	23/32		2.025
4"	150 & 300	3.964	3/8	1-3/64		2.560
	600	3.766	3/8	61/64	6-3/16	2.560
	Plastic	3.766	3/8	1-1/8		2.560
5"	150	4.985	1/2	1-1/16	7-5/16	3.280
6"	150	6.003	3/8	1-33/64	8-1/2	3.875
	Plastic	5.700	9/16	1-35/64		3.875
8"	150	7.919	1/2	2-17/64	10-5/8	5.110
10"	150	9.958	1/2	2-53/64	12-3/4	6.380
12"	150 Brass	11.876	5/8	3-7/64	15	7.670
	Other Metals	11.876	1/2	3-15/64		7.670
14"	150 Brass	13.062	11/16	3-11/64	16-1/4	8.460
	Other Metals	13.062	1/2	3-23/64		8.460
16"	150 Brass	14.938	3/4	3-11/16	18-1/2	9.650
	Other Metals	14.938	9/16	3-7/8		9.650
18"	150 Brass	16.814	7/8	3-55/64	21	10.860
	Other Metals	16.814	5/8	4-7/64		10.860
20"	150 Brass	18.750	15/16	3-7/8	23	12.110
	Other Metals	18.750	11/16	4-1/8		12.110

*Due to molding process, orifice in plastic valves may vary.
Sizes 5" and larger are only available in class 150. Consult the factory if using Schedule 80 pipe.

CHECK-ALL VALVE

INSERT SERIES

FLANGE INSERT

CHECK THESE EXCLUSIVE FLANGE INSERT FEATURES:

SMOOTH SILENT OPERATION!
Spring loaded.

LIGHT AND COMPACT!

Why support several hundred percent more weight just to enclose the valve and provide a means to install it in the system. Use the existing piping and flanges to serve this purpose.

TREMENDOUS COST SAVINGS!

Why pay for several hundred percent more material! Pay less freight charges! Pay less for installation costs!

EASE OF INSTALLATION!

No need to alter existing piping to install a check valve. Simply spread the flanged joint, insert the valve and gaskets, and tighten the bolts.

VERSATILITY!

Check valve. Low pressure relief valve. Vacuum breaker.

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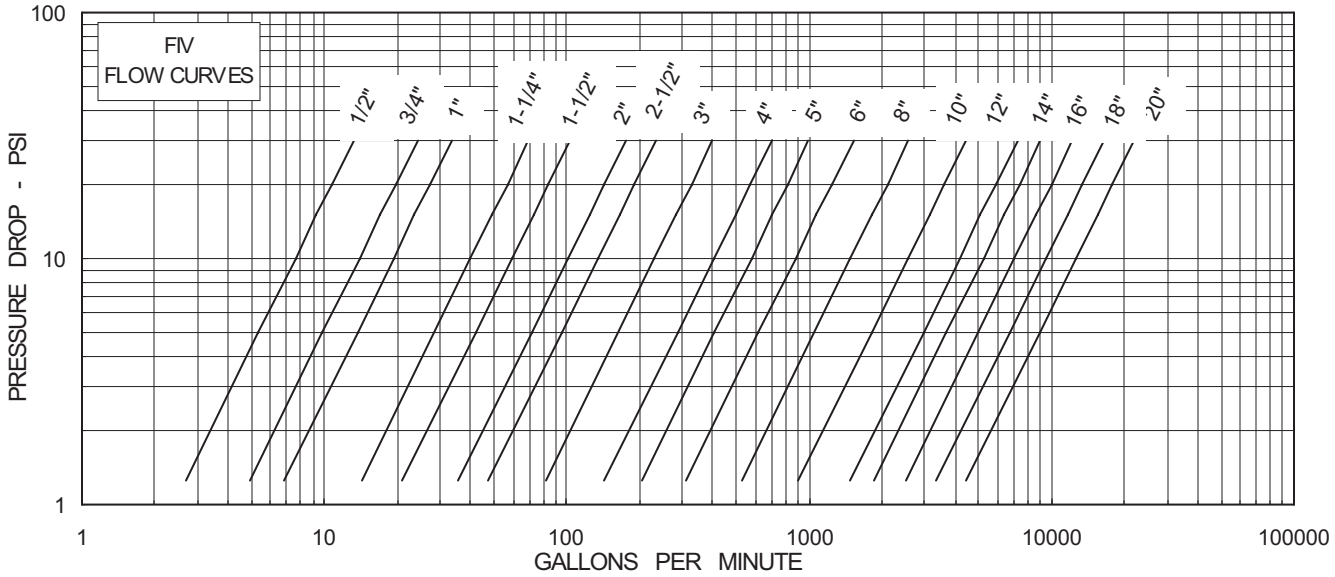
Note: All flow curves and **Cv** values presume the valves are fully open with 1/2 PSI cracking pressure springs. Consult the factory for more information.

Flange Insert Valve

Flow Curves assume Schedule 40 pipe
For water at 72° F



FIV	
Size	**Cv**
1/2	2.4
3/4	4.4
1	6.1
1-1/4	12.7
1-1/2	18.8
2	32.0
2-1/2	42.5
3	73.0
4	128
5	182
6	277
8	470
10	810
12	1320
14	1650
16	2230
18	3010
20	4000

C_V values assume Schedule 40 pipe