

AXIAL FLOW
CHECK VALVE



Originally founded in Germany in 1992, Magwen Valves has over 30 years of experience in delivering world-class valve solutions for the most challenging applications in key industries such as natural gas and petrochemicals (upstream to downstream), water infrastructure, chemical processing and energy production. After establishing its global presence from Germany, the company shifted operations to India, capitalizing on the country's promising economy, talent pool and manufacturing capabilities.



German Plant



India Plant

- **Magwen's product range is split into two categories:**

Isolation Valves

- Double Offset Butterfly Valves (3"-120"/DN80-DN3000 | up-to PN64/#300 pressure rating)
- Non-Slam Axial Flow Check Valves (2"-80"/DN50 - DN2000 | up-to PN250/#1500 pressure rating)
- 4 Function Non Slam Air Release Valves (0.5"-12"/DN15 - DN300 | up-to PN40/#300 pressure rating)
- Floating Ball Valves (0.5" - 8"/DN15 - DN200 | up-to PN50/#300 pressure rating)
- Trunnion Mounted Ball Valves (2"-50"/DN50-DN1400 | up-to PN420/#2500 pressure rating)

Control + Isolation Valves

- Triple Offset Butterfly Valves (4"-60"/DN100 - DN1500 | up-to PN420/#2500 pressure rating)
- Axial Flow Control (Plunger) Valves (4"-100"/DN100 - DN2500 | up-to PN420/#2500 pressure rating)
- Magwen Tri-Ball Valve (Full bore triple offset butterfly valve | 4" - 76"/DN100 - DN1900 | up-to PN420/#2500 pressure rating)

Our design philosophy rests on the following pillars:

Safe

- Operator
- Equipment
- Asset
- Society

Reliable

- Proven Technology
- Available on demand
- Peace of mind

Innovative

- Fit for use
- New Ideas
- Focussed on application

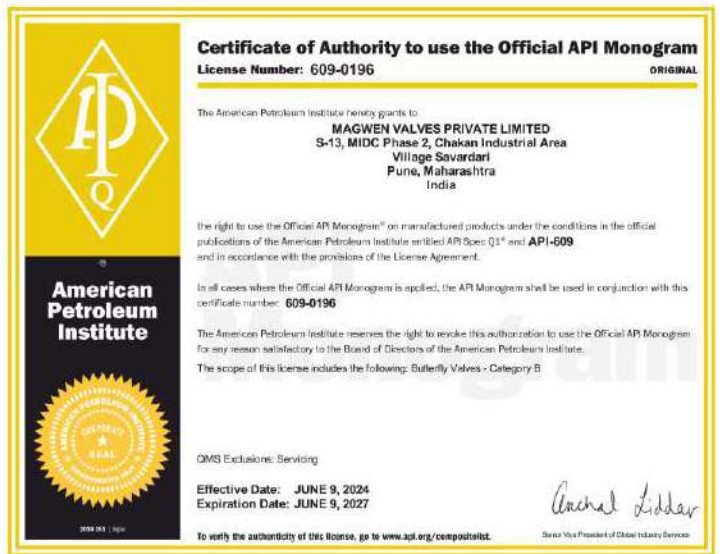
Efficient

- Time
- Total Cost of Ownership
- Lower Energy Consumption

The quality management systems for the production plant in India are certified as per ISO9001, ISO14001, and ISO45001. The product line is also certified as per PED, API 6D and API 609(with valid monogram licenses). All manufacturing processes that directly impact product performance can be done in-house. This includes state-of-the-art CNC machines for critical machining, in-house painting booths, and in-house testing facilities.



API 6D Monogram License



API 609 Monogram License



ISO 9001 Certificate



ISO 14001 Certificate



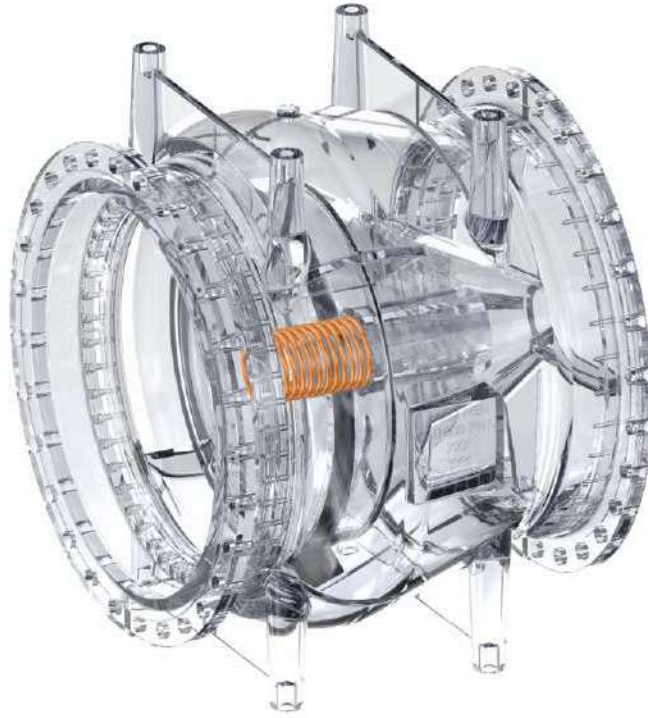
ISO 45001 Certificate



PED Certificate

• Optimized Spring Design For Low Cracking Pressure

In an axial flow check valve, the spring is primarily responsible for its automatic closing action. Hence, choice of material and design of spring become crucial for product performance and longevity. The function of any check valve is to isolate media flow, even before back flow begins. Recognizing these requirements, the springs in our Axial Flow Check Valves are engineered to consistently deliver millisecond responses over their lifetime while minimizing cracking pressure, making it the ideal choice for all applications.



• One – Piece Integral Body Casting

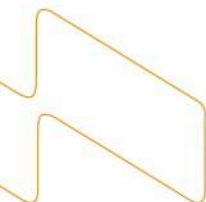
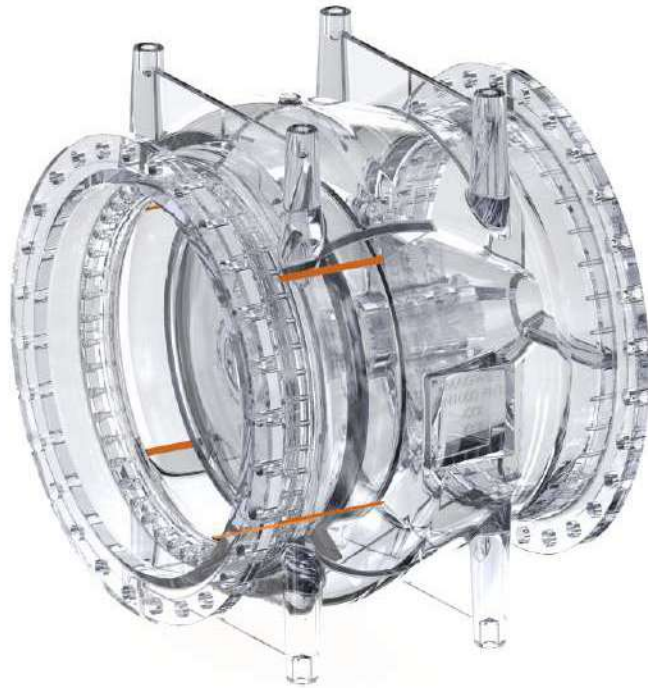
The valve body is made from a single piece casting with an internal geometry that generates a Venturi effect, which maximizes spring effect while minimizing hydraulic losses. Since the body is a single piece casting, chances of fugitive emissions and elastic/plastic deformation are nullified.



- **Reduced Friction between moving parts**



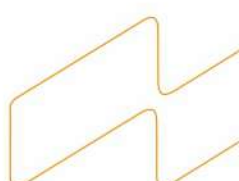
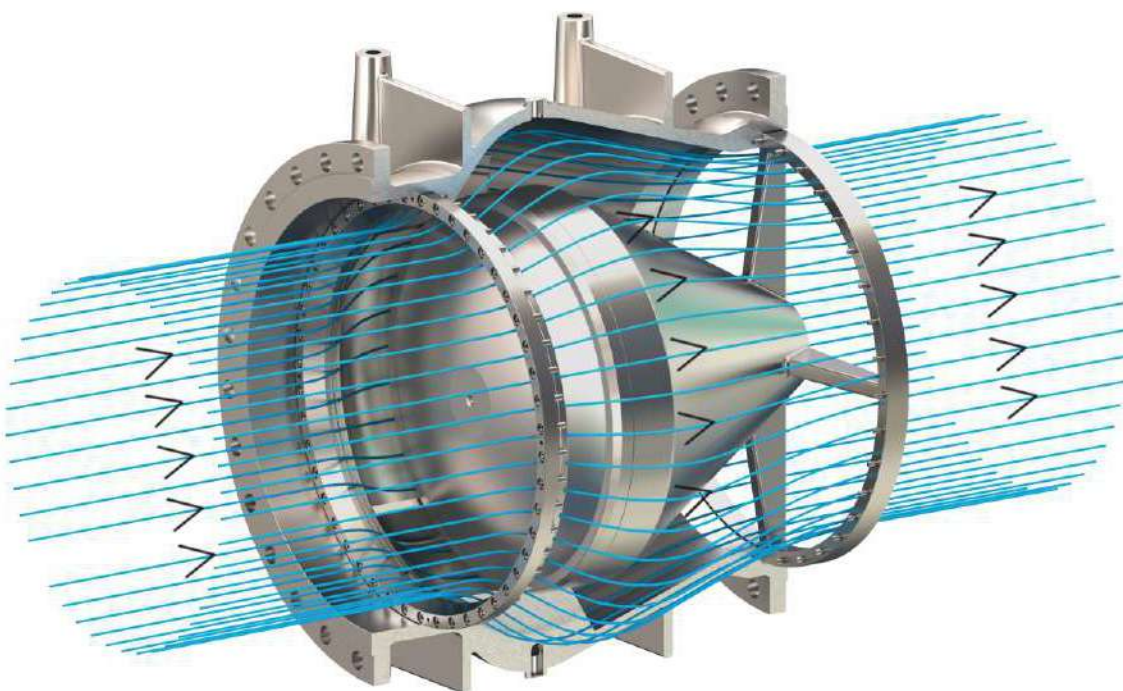
The disc's linear motion is guided across its complete stroke length by hard-faced guide rails. These guide rails are placed around the disc radially and support the disc via line contact. They are precisely machined to micron accuracy for smooth, jamming-proof operation of the disc throughout its usable life.



- **Light Weight Disc**

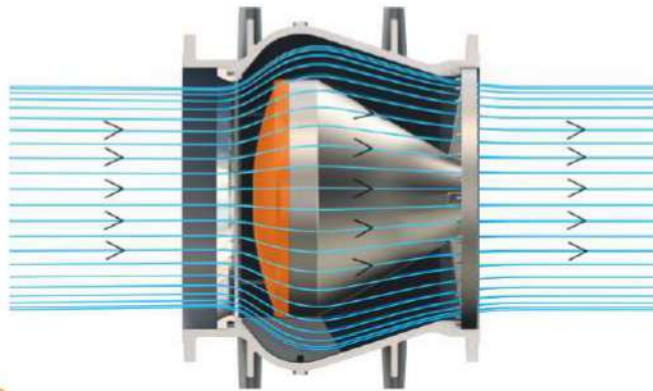


The disc profile is designed for minimum inertia and maximum flow area, which improves the dynamic response of the valve and contributes to higher flow capacity.

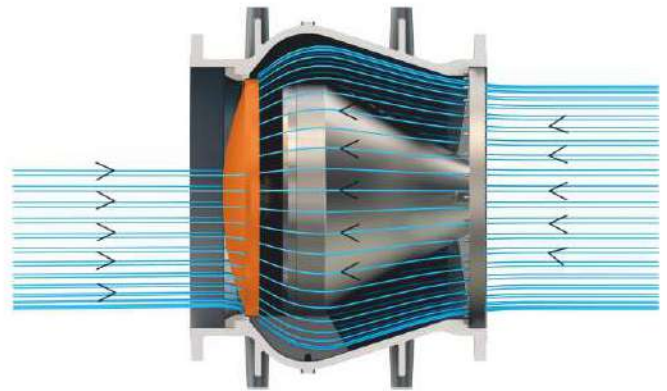


• Rapid Non-Slam Response

The combination of a low weight disc, short stroke length, and spring assistance make the Axial Flow Check Valve the quickest to respond to media pressure out of all types of check valves. This rapid response is especially critical in ensuring that reverse fluid velocity is not allowed to build to a level where it may cause damage to pumps, pipes, or the surrounding environment. The quick closure means that reverse media flow velocity is negligible or significantly lower compared to other types of check valves.



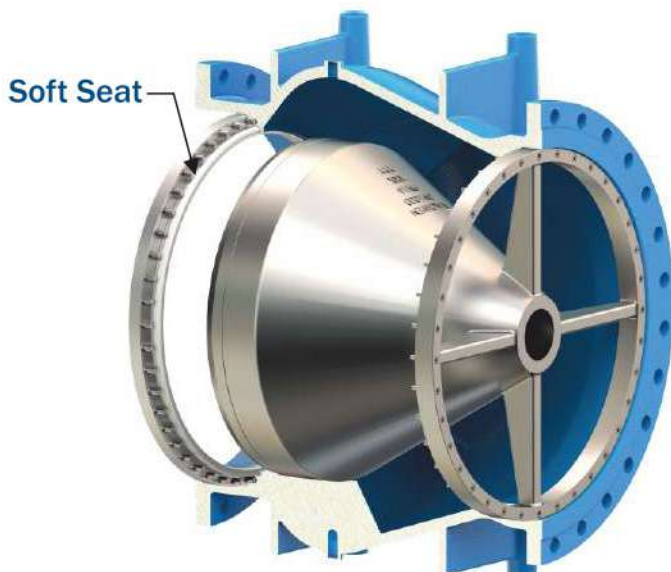
Forward Media Flow



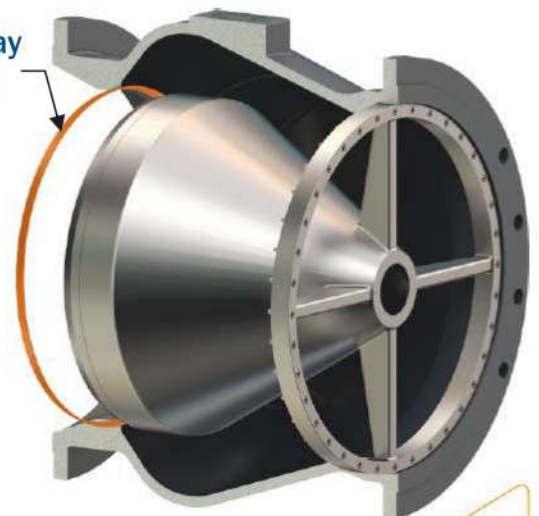
Reverse Media Flow

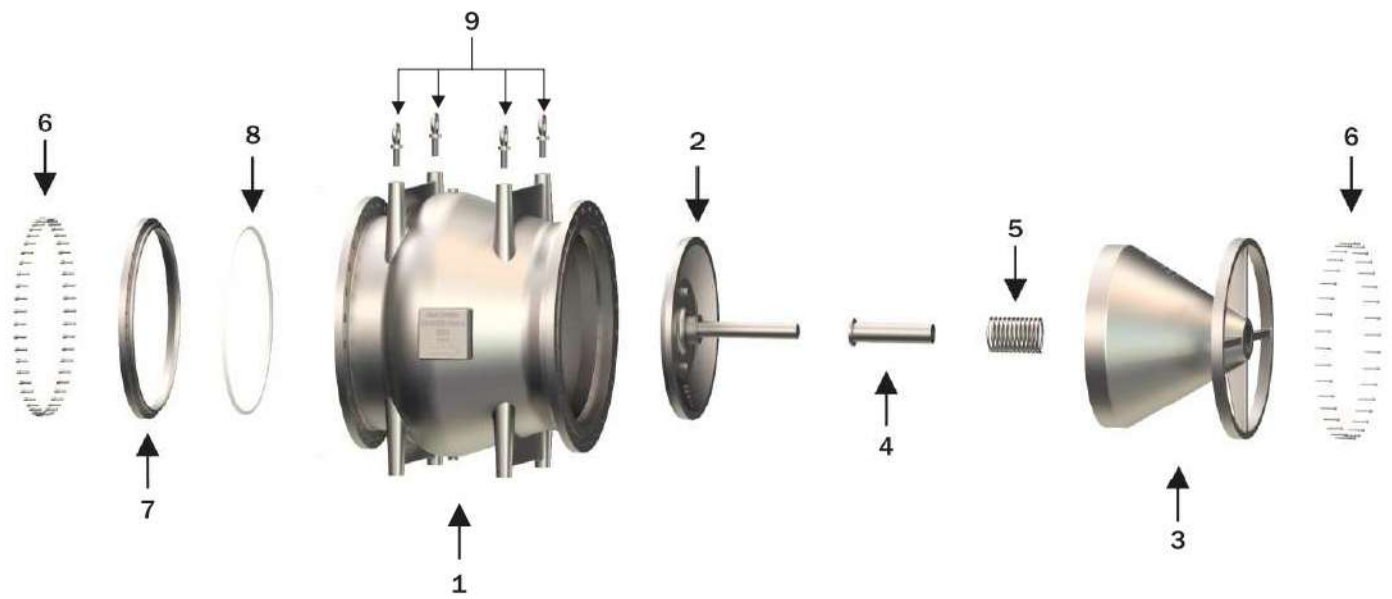
• Multiple Valve Seat Options

The seat of the valve is designed to provide tight shut off over its entire service life. Material choices for the seat include hard faced metal / alloys or Polymer, depending upon the application.



Weld Overlay
Metal Seat





Component List - AFCV

Sr. No.	Part Name	Sr. No.	Part Name	Sr. No.	Part Name
1	Body	4	Guide Bush	7	Retainer Ring
2	Disc	5	Spring	8	Seal Ring
3	Difuser	6	Cap Screw	9	Eye Bolt

Materials Offered

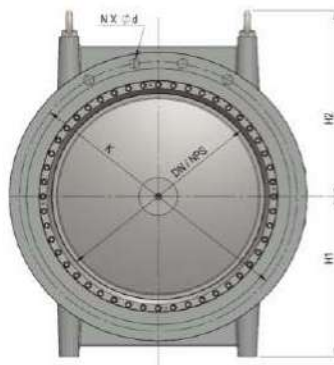
Sr. no	Component Name	Material
1	Body	DUCTILE IRON GJS-400-15 / DUCTILE IRON GJS-500-7 / ASTM A216 WCB / ASTM A351 CF8
2	Disc	ASTM A216 GR. WCB + SS304 OVERLAY AT SEAT AREA / ASTM A351 CF8
3	Difuser	DUCTILE IRON GJS-400-15 / DUCTILE IRON GJS-500-7 / ASTM A216 WCB / ASTM A351 CF8
4	Spring	ASTM B148 C95500 / SS316
5	Guide Bush	INCONEL 7750
6	Cap Screw	A2-70 / ASTM A193 B7 / B8
7	Retainer Ring	ASTM A351 GR. CF8
8	Seal Ring	PTFE / METAL
9	Eye Bolt	C15 OR A2

List of Standards

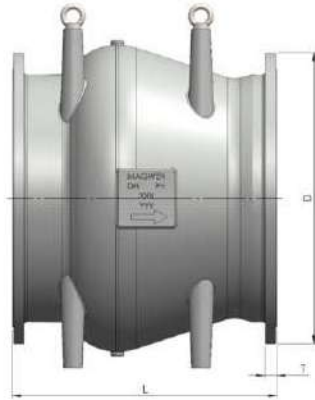
Sr. no	Scope	Name of Standard
1	Design Standards	Face to face as per API 6D TABLE C.3 LONG PATTERN & SHORT PATTERN
		Flange drilling as per DIN EN-1092-2, as per ASME B16.5 & ASME B16.47
2	Testing Standards	EN-12266-1
		API 6D

Applicable Certificates

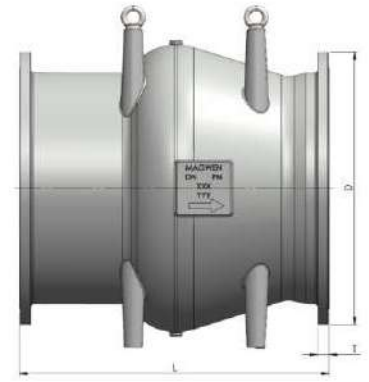
Sr. no	Certificates
1	API-6D



Compact Pattern



Short Pattern

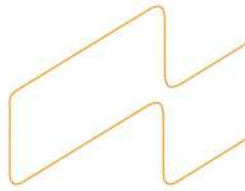
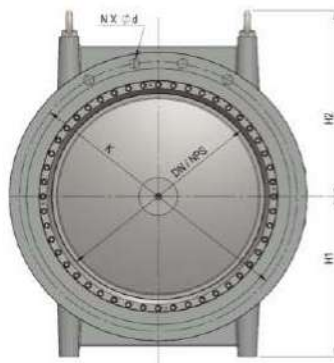
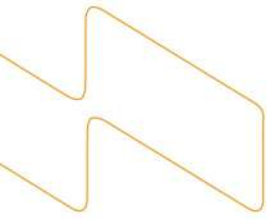


Long Pattern

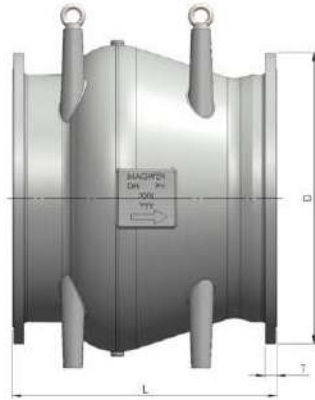
PN10

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	165	125	19	4	19	120	120	203	-	-	7	7	9
80	3	200	160	19	8	19	120	120	241	-	-	12	12	17
100	4	220	180	19	8	19	140	140	292	118	155	17	18	26
150	6	285	240	23	8	19	210	210	356	150	185	38	40	45
200	8	340	295	23	8	20	280	280	495	195	240	72	76	90
250	10	395	350	23	12	22	350	350	622	228	275	122	130	160
300	12	445	400	23	12	24.5	181	350	699	275	320	93	160	225
350	14	505	460	23	16	24.5	222	405	787	275	325	140	230	320
400	16	565	515	28	16	24.5	245	455	864	315	365	195	300	415
450	18	615	565	28	20	25.5	264	520	978	350	400	228	390	535
500	20	670	620	28	20	26.5	305	570	978	395	460	304	520	680
600	24	780	725	31	20	30	370	685	1295	465	540	474	830	1140
700	28	895	840	31	24	32.5	430	800	1448	525	600	703	1100	1520
800	32	1015	950	34	24	35	500	910	-	585	695	946	1620	-
900	36	1115	1050	34	28	37.5	600	1030	1956	650	760	1509	2150	3060
1000	40	1230	1160	37	28	40	650	1135	-	730	860	1871	2885	-
1200	48	1455	1380	41	32	45	740	1365	-	850	980	2914	4800	-

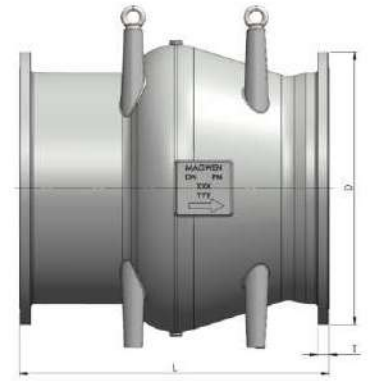
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Compact Pattern



Short Pattern

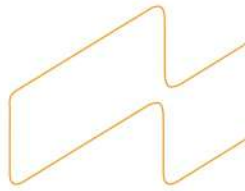
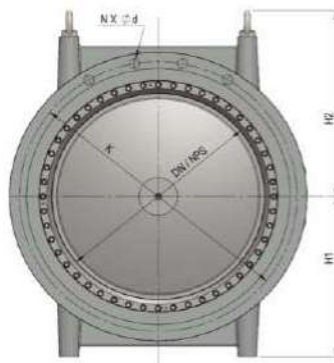
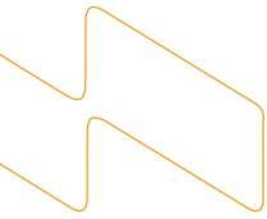


Long Pattern

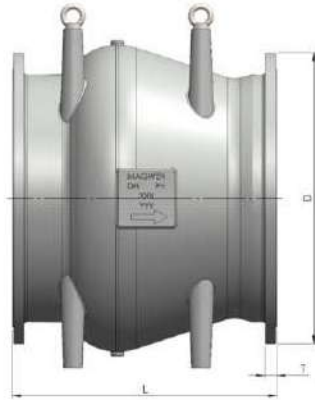
PN16

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	165	125	19	4	19	120	120	203	-	-	7	7	9
80	3	200	160	19	8	19	120	120	241	-	-	12	12	17
100	4	220	180	19	8	19	140	140	292	118	155	17	18	26
150	6	285	240	23	8	19	210	210	356	150	185	38	40	45
200	8	340	295	23	12	20	280	280	495	195	240	72	76	90
250	10	405	355	28	12	22	350	350	622	228	275	124	130	160
300	12	460	410	28	12	24.5	181	350	699	275	320	98	160	225
350	14	520	470	28	16	26.5	222	405	787	275	325	148	230	320
400	16	580	525	31	16	28	245	455	864	315	365	206	300	415
450	18	640	585	31	20	30	264	520	978	350	400	240	390	535
500	20	715	650	34	20	31.5	305	570	978	395	460	320	520	680
600	24	840	770	37	20	36	370	685	1295	465	540	499	830	1140
700	28	910	840	37	24	39.5	430	800	1448	525	600	740	1100	1520
800	32	1025	950	41	24	43	500	910	-	585	695	996	1620	-
900	36	1125	1050	41	28	46.5	600	1030	1956	650	760	1589	2150	3060
1000	40	1255	1170	44	28	50	650	1135	-	730	860	1970	2885	-
1200	48	1485	1390	50	32	57	740	1365	-	850	980	3068	4800	-

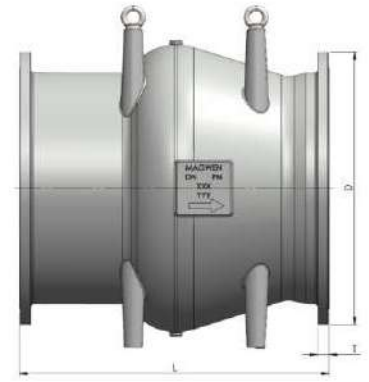
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Compact Pattern



Short Pattern

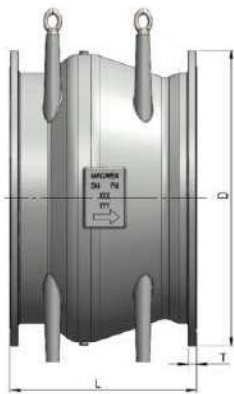
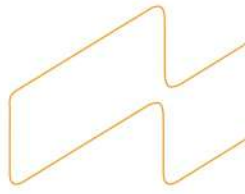
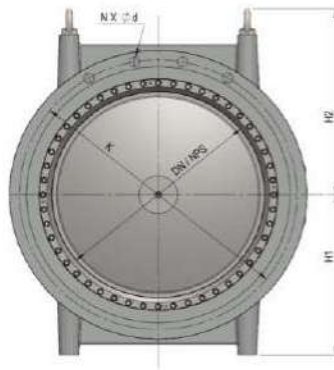
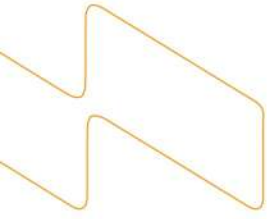


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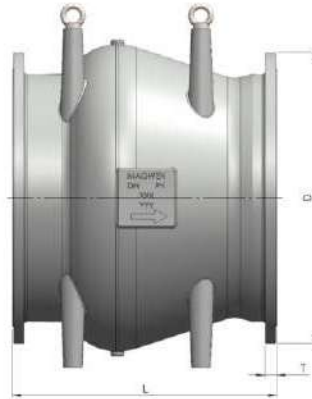
PN25

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	165	125	19	4	19	120	120	203	-	-	7	7	9
80	3	200	160	19	8	19	120	120	241	-	-	12	12	17
100	4	235	190	23	8	19	140	140	292	125	170	18	18	26
150	6	300	250	28	8	20	210	210	356	160	205	40	40	45
200	8	360	310	28	12	22	280	280	495	205	260	76	76	90
250	10	425	370	31	12	24.5	350	350	622	235	290	130	130	160
300	12	485	430	31	16	27.5	181	350	699	275	320	120	160	225
350	14	555	490	34	16	30	222	405	787	310	375	181	230	320
400	16	620	550	37	16	32	245	455	864	340	405	252	300	415
450	18	670	600	37	20	34.5	264	520	978	365	430	293	390	535
500	20	730	660	37	20	36.5	305	570	978	395	460	391	520	680
600	24	845	770	41	20	42	370	685	1295	465	540	610	830	1140
700	28	960	875	44	24	46.5	430	800	1448	550	660	904	1100	1520
800	32	1085	990	50	24	51	500	910	-	620	730	1217	1620	-
900	36	1185	1090	50	28	55.5	600	1030	1956	680	810	1942	2150	3060
1000	40	1320	1210	57	28	60	650	1135	-	760	890	2408	2885	-
1200	48	1530	1420	57	32	69	740	1365	-	870	1000	3750	4800	-

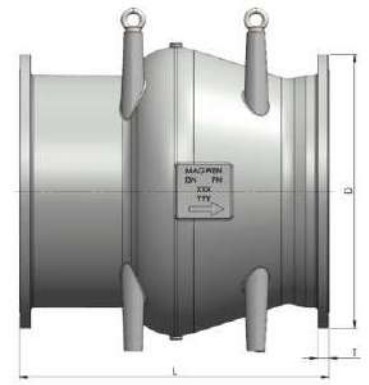
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Compact Pattern



Short Pattern

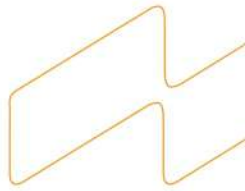
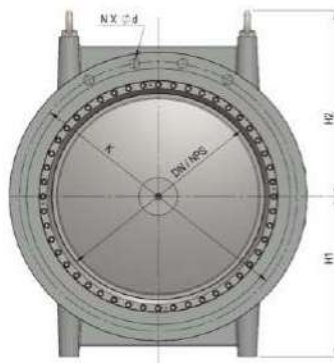
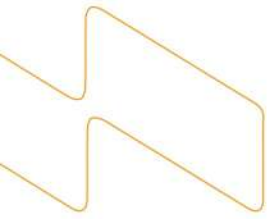


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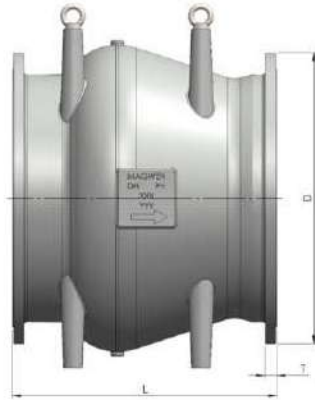
PN40

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	165	125	19	4	19	120	120	267	-	-	9	9	13
100	3	200	160	19	8	19	150	150	318	-	-	17	17	24
100	4	235	190	23	8	19	170	170	356	118	155	30	30	40
150	6	300	250	28	8	26	210	210	445	150	185	52	52	75
200	8	375	320	31	12	30	280	280	533	210	255	88	88	120
250	10	450	385	34	12	34.5	350	350	622	250	300	150	150	185
300	12	515	450	34	16	39.5	181	350	711	305	355	152	230	340
350	14	580	510	37	16	44	222	405	838	315	385	232	325	480
400	16	660	585	41	16	48	245	455	864	355	425	338	425	630
450	18	685	610	41	20	49	264	520	978	375	465	355	580	850
500	20	755	670	44	20	52	305	570	1016	415	505	525	745	1060
600	24	890	795	50	20	58	370	685	1346	490	600	808	1220	1870

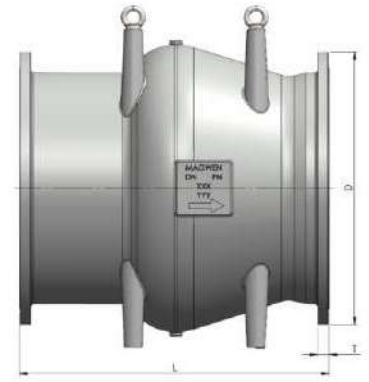
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Compact Pattern



Short Pattern

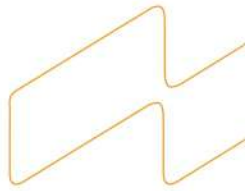
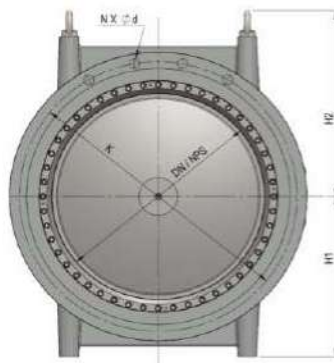
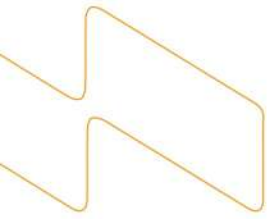


Long Pattern

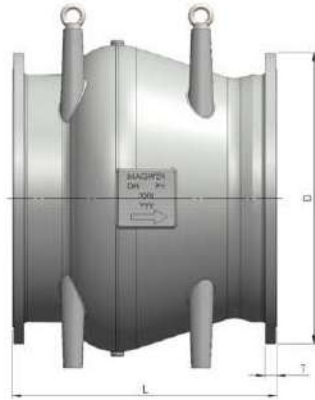
#150

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	152	120.6	19.05	4	17.5	120	120	203	-	-	7	7	9
80	3	190	152.4	19.05	4	22.4	120	120	241	-	-	12	12	17
100	4	229	190.5	19.05	8	22.4	140	140	292	118	155	18	18	26
150	6	279	241.3	22.225	8	23.9	210	210	356	150	185	40	40	45
200	8	343	298.4	22.225	8	26.9	280	280	495	195	240	76	76	90
250	10	406	362	25.4	12	28.4	350	350	622	228	275	130	130	160
300	12	483	431.8	25.4	12	30.2	181	350	699	275	320	110	160	225
350	14	533	476.2	28.6	12	33.3	222	405	787	275	325	165	230	320
400	16	597	539.8	28.6	16	35.1	245	455	864	315	365	229	300	415
450	18	635	577.8	31.8	16	38.1	264	520	978	350	400	267	390	535
500	20	693	635	31.8	20	41.1	305	570	978	395	460	356	520	680
600	24	813	749.3	34.9	20	46	370	685	1295	465	540	555	830	1140
700	28	927	863.6	34.9	28	69.8	430	800	1448	525	600	822	1100	1520
800	32	1060	977.9	41.3	28	79.5	500	910	-	585	695	1107	1620	-
900	36	1168	1085.8	41.3	32	88.9	600	1030	1956	650	760	1766	2150	3060
1000	40	1289	1200.2	41.3	36	88.9	650	1135	-	730	860	2189	2885	-
1200	48	1511	1422.4	41.3	44	106.4	740	1365	-	820	950	3409	4800	-

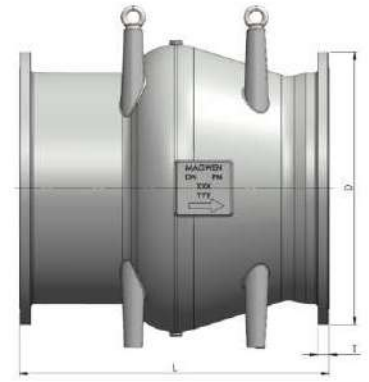
NOTE: Please consult us for missing information or data about sizes larger than those mentioned above.



Compact Pattern



Short Pattern

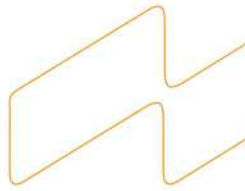
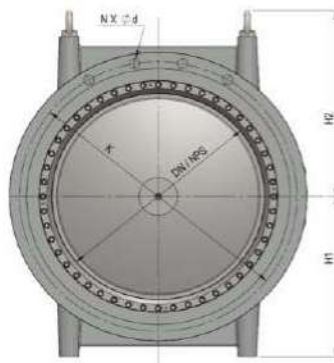
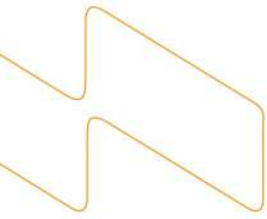


Long Pattern

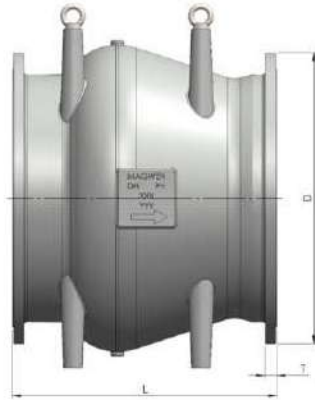
#300

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	165	127	19.05	8	20.6	120	120	267	-	-	9	9	13
80	3	210	168.1	22.2	8	26.9	150	150	318	-	-	17	17	24
100	4	254	200.2	22.2	8	30.2	170	170	356	150	195	30	30	40
150	6	318	269.7	22.2	12	35.1	210	210	445	185	220	52	52	75
200	8	381	330.2	25.4	12	39.6	280	280	533	220	260	88	88	120
250	10	444	387.4	28.6	16	46	350	350	622	250	300	150	150	185
300	12	521	450.8	31.8	16	49.3	181	350	711	305	350	152	230	340
350	14	584	514.4	31.8	20	52.3	222	405	838	325	375	233	325	480
400	16	648	571.5	34.9	20	55.6	245	455	864	360	430	338	425	630
450	18	711	628.6	34.9	24	58.7	264	520	978	400	470	355	580	850
500	20	775	685.8	34.9	24	62	305	570	1016	440	530	525	745	1060
600	24	914	812.8	41.3	24	68.3	370	685	1346	510	600	808	1220	1870
700	28	1035	939.8	44.45	28	88.9	430	800	1499	580	690	1243	1775	2630
800	32	1149	1054.1	50.8	28	98.6	500	910	-	650	780	1558	2050	-
900	36	1270	1168.4	53.975	32	109.7	600	1030	2083	725	860	2286	2950	5200
1000	40	1238	1155.7	44.45	32	112.8	650	1135	-	730	860	2372	3600	-
1200	48	1467	1371.6	50.8	32	131.8	840	1365	-	840	970	3746	5600	-

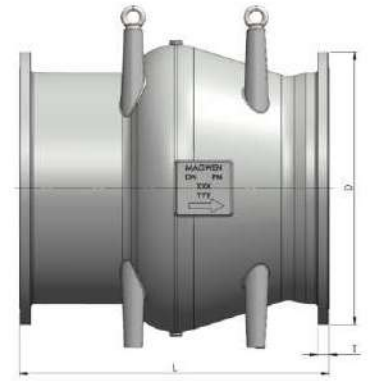
NOTE: Please consult us for missing information or data about sizes larger than those mentioned above.



Compact Pattern



Short Pattern



Long Pattern

#600

Sizes		ØD	K	Ød	N	C	L			H1	H2	Weight (Kg)		
DN	NPS						COMPACT PATTERN	SHORT PATTERN	LONG PATTERN			COMPACT PATTERN	SHORT PATTERN	LONG PATTERN
50	2	165	127	19.05	8	25.4	120	120	292	-	-	10	10	14
80	3	210	168.1	22.2	8	31.8	150	150	356	-	-	21	21	31
100	4	275	215.9	25.4	8	38.1	170	170	432	150	195	42	42	60
150	6	355	292.1	28.6	12	47.8	210	210	559	200	250	80	80	130
200	8	420	349.2	31.8	12	55.6	280	280	660	240	285	140	140	215
250	10	510	431.8	34.9	16	63.5	350	350	787	295	365	250	250	380
300	12	560	489	34.9	20	66.5	229	375	838	330	400	238	300	520
350	14	605	527	38.1	20	69.8	273	440	889	350	420	320	405	690
400	16	685	603.2	41.3	20	76.2	305	500	991	380	470	434	615	1010
450	18	745	654	44.5	20	82.6	362	565	1092	410	500	572	810	1315
500	20	815	723.9	44.5	24	88.9	368	625	1194	450	560	732	1190	1750
600	24	940	838.2	50.8	24	101.6	438	745	1397	510	620	1151	1600	2430
700	28	1073	965.2	53.975	28	131.8	480	870	1600	580	690	1626	2430	3950
800	32	1194	1079.5	60.325	28	147.6	584	990	-	670	800	2240	3070	-
900	36	1314	1193.8	66.675	28	162.1	635	1120	2083	745	875	3058	3950	6900
1000	40	1321	1212.8	60.325	32	162.1	820	1240	-	765	895	3380	5170	-
1200	48	1594	1460.5	73.025	32	195.3	970	1485	-	900	1040	6109	7400	-

NOTE: Please consult us for missing information or data about sizes larger than those mentioned above.

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