IRUA TECH Ind.
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CHECK VALVES

General Catalogue

2013

CHECK VALVES

Description

Check valves are mechanical valves that permit gases and liquids to flow in only one direction, preventing process flow from reversing. They are classified as one-way directional valves. Fluid flow in the desired direction opens the valve, while backflow forces the valve closed.

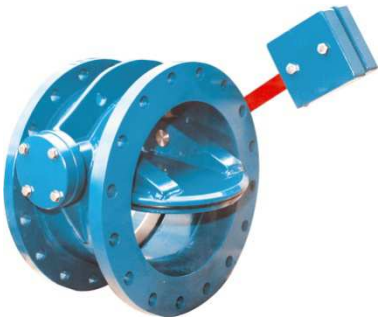
Application

They are used:

- To prevent reverse flow
- To stop a pipe or tank emptying when a pump stops
- To prevent pressure transients damaging the pump
- To prevent parallel pumps rotating reverse
- To hold pressure in the line
- To prevent flooding
- To prevent water hammer mitigation

Types

- Swing Check Valves
- Tilting Disc
- Axial Flow Check Valves
- Piston Type



Swing Check Valves

To avoid slam is essential that the counterweight closes the valve before a flow reversal occurs. That Slam is what causes the “Water Hammer” in piping systems

The cushion cylinder cannot retard the valve closure and will minimize the slamming tendency when the valve closes too quickly due to its own counterweight.

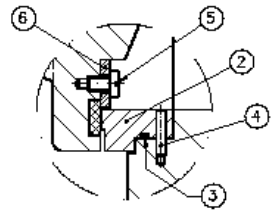
The counterweight requires an opening force that diminishes as the valve opens and produces the maximum closing force at the seated position where it is most needed. The pressure drop is therefore minimized.

Specifications

Sizes:	from DN80 to DN1000
Rating	PN10 / PN16
Body	GJS – 500 – 7
Disc	GJS – 500 – 7
Body Seat	Stainless Steel A304
	Or Rubber
Shaft	Stainless Steel A304

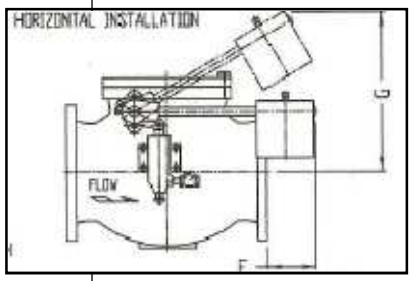
Options:

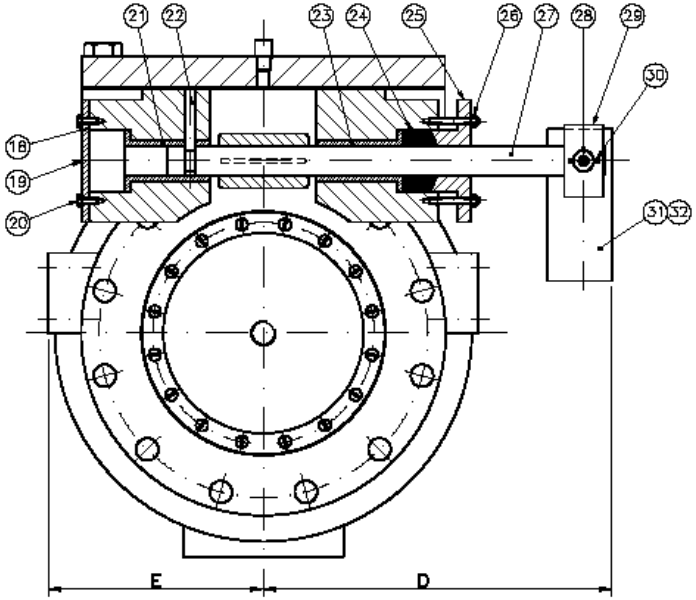
- Cushion & Counterweight
- Power Assisted Closing
- Lever & Spring
- Lever & Weight

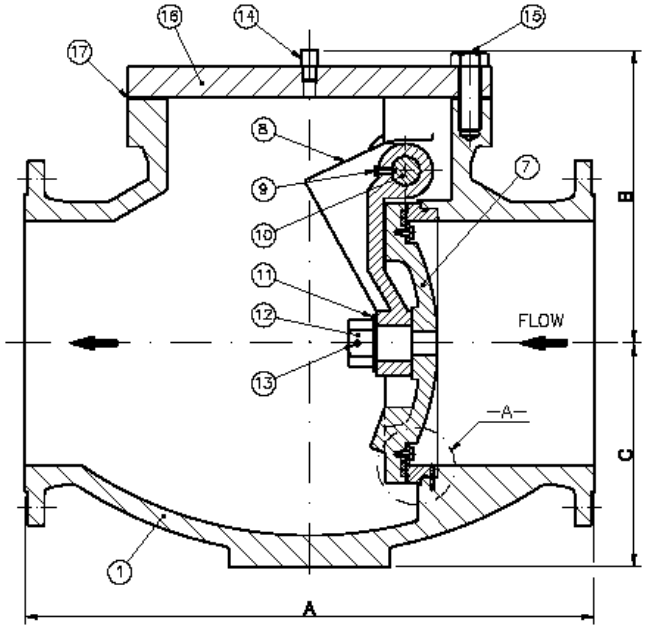


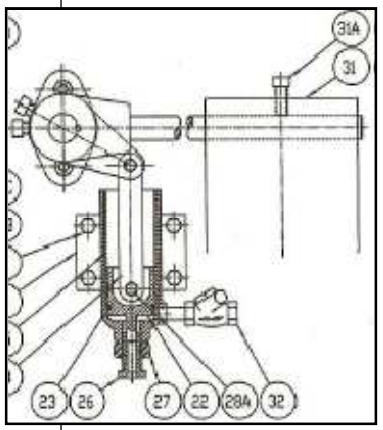
DETAIL –A–

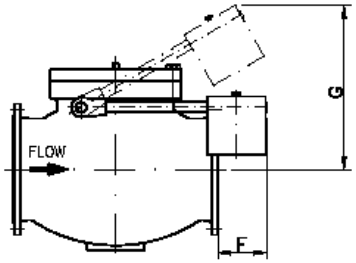
NO.	2 ½" IN.	2 ½" MM	3" IN.	3" MM	4" IN.	4" MM	6" IN.	6" MM	8" IN.	8" MM	10" IN.	10" MM	12" IN.	12" MM	14" IN.	14" MM	16" IN.	16" MM	18" IN.	18" MM	20" IN.	20" MM
A	12	305	12	305	13	330	17½	445	18	457	23	584	28	711	33	838	36	914	40	1016	40	1016
B	7	178	7	178	8½	216	9	229	12	305	14	356	16	406	22	559	23	584	24	610	24	610
C	5	127	5	127	5	127	6	152	9	229	9	229	11	279	13	330	14	356	17¼	438	17¼	438
D	10	254	10	254	11	279	12	305	14	356	15	381	17	432	20	508	24	610	28	711	28	711
E	5	127	5	127	5	127	7	178	8	203	9	229	11	279	14	356	16	406	18	457	18	457
F	5	127	5	127	4	102	3	77	3	77	—	—	8	204	—	—	—	—	—	—	—	—
G	15	381	15	381	16	406	19	483	21	533	23	584	32	813	34	864	35	889	37	940	37	940



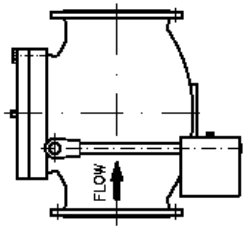








HORIZONTAL INSTALLATION



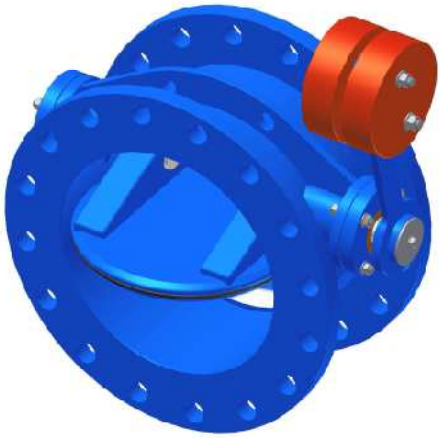
VERTICAL INSTALLATION

MOD. 2/1			4/3	
	Name	Date	FIGURE: VR395	
Drawn by:	Ana. L	25/11/13	DN: —	PN: —
Approved by:				
SCALE %	2½"–20" SWING CHECK VALVE HORIZONTAL OR VERTICAL INSTALLATION (GENERAL ARRANGEMENT AND DIMENSIONS)		DRAWING N°: V2469	
			Sust. a: / Sustit. por:	REV: 0

Tilting Disc

Description

Valve allows for one directional flow and prevents the return flow of the liquid to its source



Double-eccentric, freely swinging and flow-optimised tilting disc

Low headloss, low operation cost

Shafts built in maintenance-free,

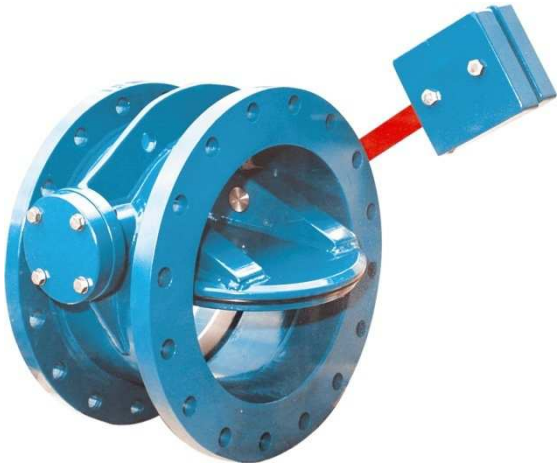
Non-slamming closure

Metal to Metal or resilient seating options

Specifications

Sizes: from DN150 to DN2000

Rating:PN10/16/25/40



Materials

Body: Ductile Iron, Carbon Steel or fabricated steel

Shaft: Stainless steel on both sides of the valve body

Inner parts: Corrossion resistance

Sealing Ring: EPDM

Selflubricating sleeve bearings

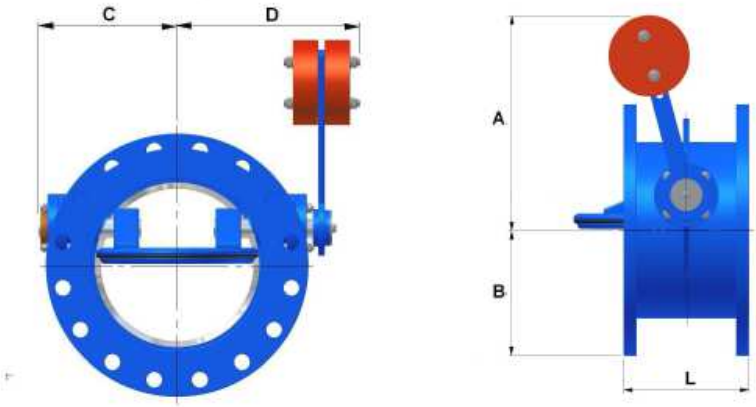
Coating: Internal and External FBE 200 microns minimum acc to DIN 30677-2

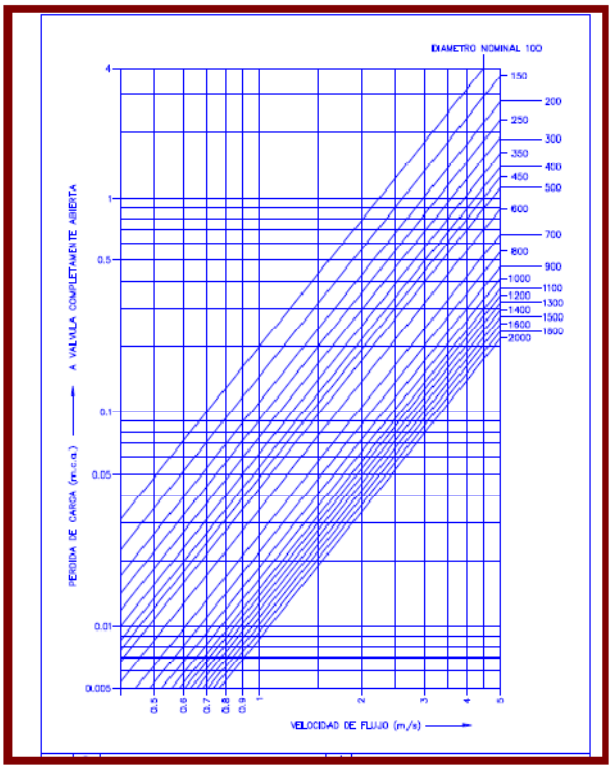
Optionals

Also available with weight-loaded hydraulic actuator

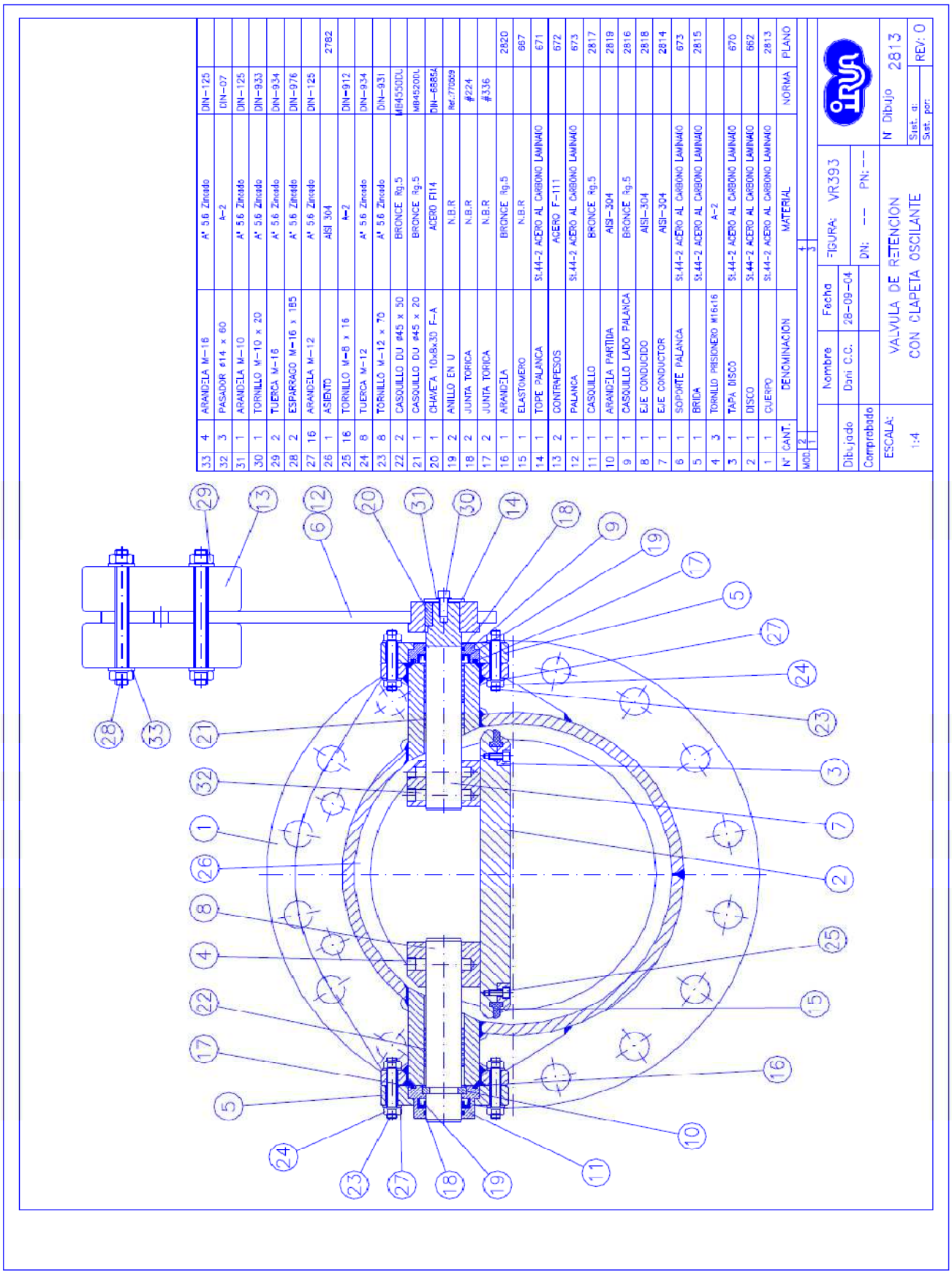
CUADRO de MEDIDAS y PESOS

	300	350	400	500	600	700	800	900	1000	1200
A	300	360	395	510	620	675	820	890	990	1090
B	185	210	240	290	360	400	470	515	580	620
C	325	350	375	445	515	600	655	725	780	935
D	350	375	400	480	560	640	690	750	820	975
L	270	290	310	350	390	430	470	510	550	630





CUADRO de PÉRDIDAS de CARGA


33 4 ARANDELA M-16 A° S.G Zincado DIN-125
32 3 PASADOR ø14 x 60 A-2 CIN-07
31 1 ARANDELA M-10 A° S.G Zincado DIN-125
30 1 TORNILLO M-10 x 20 A° S.G Zincado DIN-933
29 2 TUERCA M-16 A° S.G Zincado DIN-934
28 2 ESPARRAGO M-16 x 185 A° S.G Zincado DIN-976
27 16 ARANDELA M-12 A° S.G Zincado DIN-125
26 1 ASIENTO AISI 304 2782
25 16 TORNILLO M-8 x 16 A-2 DIN-912
24 8 TUERCA M-12 A° S.G Zincado DIN-934
23 8 TORNILLO M-12 x 70 A° S.G Zincado DIN-931
22 2 CASQUILLO DU ø45 x 50 BRONCE Rg.5 MB45500DU
21 1 CASQUILLO DU ø45 x 20 BRONCE Rg.5 MB45200DU
20 1 CHAVETA 10x8x30 F-A ACERO F114 DIN-68854
19 2 ANILLO EN U N.B.R Ref.:70009
18 2 JUNTA TORICA N.B.R #224
17 2 JUNTA TORICA N.B.R #336
16 1 ARANDELA BRONCE Rg.5 2820
15 1 ELASTOMERO N.B.R 667
14 1 TOPE PALANCA St.44-2 ACERO AL CARBONO LAMINADO 671
13 2 CONTRAPESOS ACERO F-111 672
12 1 PALANCA St.44-2 ACERO AL CARBONO LAMINADO 673
11 1 CASQUILLO BRONCE Rg.5 2817
10 1 ARANDELA PARTIDA AISI-304 2819
9 1 CASQUILLO LADO PALANCA BRONCE Rg.5 2816
8 1 EJE CONDUCIDO AISI-304 2818
7 1 EJE CONDUCTOR AISI-304 2814
6 1 SOPORTE PALANCA St.44-2 ACERO AL CARBONO LAMINADO 673
5 1 BRIDA St.44-2 ACERO AL CARBONO LAMINADO 2815
4 3 TORNILLO PRISIONERO M16x16 A-2
3 1 TAPA DISCO St.44-2 ACERO AL CARBONO LAMINADO 670
2 1 DISCO St.44-2 ACERO AL CARBONO LAMINADO 662
1 1 CUERPO St.44-2 ACERO AL CARBONO LAMINADO 2813
N° CANT. DENOMINACION MATERIAL NORMA PLANO
MOD. 2 4 3 1
Nombre Fecha
Dibujado Dani C.C. 28-09-04
Comprobado
ESCALA: 1:4
VALVULA DE RETENCION CON CLAPETA OSCILANTE
FIGURA: VR393
DN: -- PN: --
N° Dibujo 2813
Sust. a:
Sust. por:
REV: 0

Axial Flow Check Valves (Nozzle Check)

Description

Silent check valves designed to prevent reverse flow automatically.

The valve shall open when upstream pressure exceeds downstream pressure by 0,2 bar approx.

An internal spring shall close the valve just prior to equalizing of pressure on both sides of the plug providing a quiet and non-slamming valve closure. Figure 288 check valve is the ideal valve to combat water hammer and protect the water lines.

Fast response to flow changes

Very short closing stroke

Specifications

Sizes from DN50 to DN1000

Rating PN16/ 25/ 40/ 64/ 100

150/ 300/ 400/ 600 acc to ANSI

Materials

Body: Ductile Iron EN GJS 500-7

Plug: Stainless Steel A304 up to DN350

WCB + A304 in seat area from DN400

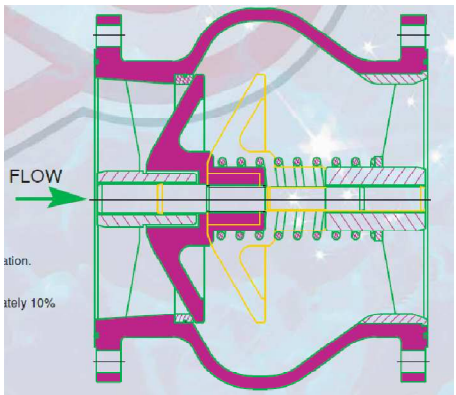
Shaft: Stainless Steel A304

Bushings: Bronze Rg5

Spring: Stainless Steel A303

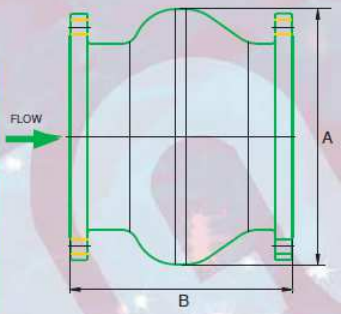
Coating: Body and Plug Internal and External minimum 200 microns (FBE)

Other materials and coatings available under request.



DIMENSIONS (MM) AND WEIGHTS (KG)

DN	50	80	100	150	200	250	300	350	400	450	500	600	700	800	900	1000
A	107	200	220	285	340	425	519	560	625	700	772	918	1.030	1.406	1.600	1.750
B	75	150	184	248	318	400	362	388	549	600	686	813	900	960	1.050	1.200
Weight	4	13	23	45	68	92	115	170	220	330	415	720	890	1.210	1.480	1.820
Connection	Wafer	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange	Flange



FLOW RATE / Kv FACTOR

DN	DN50	DN80	DN100	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500	DN600	DN700	DN800
Kv	59	150	234	526	935	1461	2105	2865	3914	4972	6131	8382	11426	14880

$$\Delta P = \left(\frac{Q}{Kv} \right)^2$$

PRESSURE DROP IN VALVE

The Kv factor represents the flow capacity (Q) in m^3/h of water, flowing across the valve with a pressure drop (ΔP) of 1 bar.