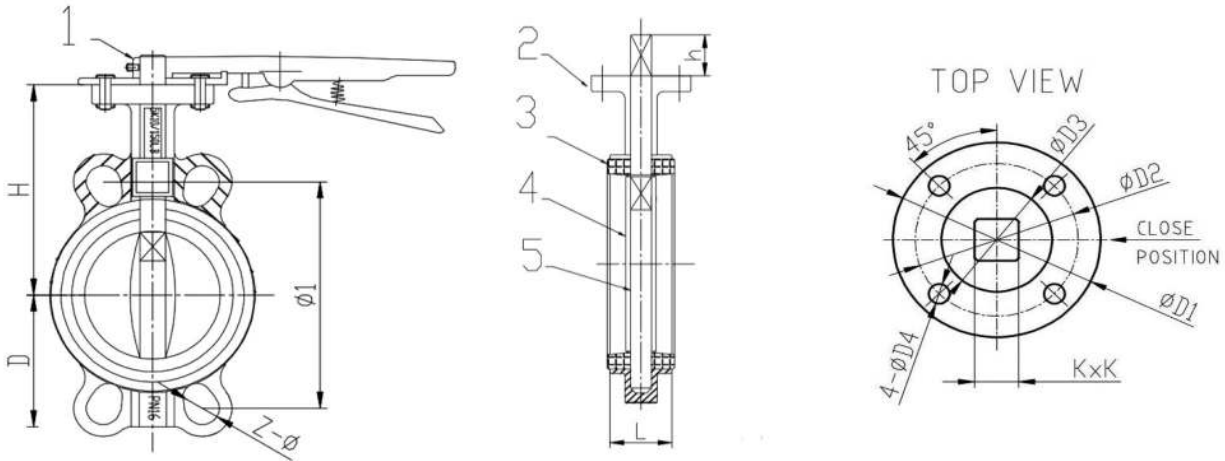




BRAVO STAINLESS STEEL BUTTERFLY VALVE

Wafer Type Butterfly Valve Universal Flange Lever Operated

Model : TBSS-23



Technical requirement

Design & Manufacturing : GB12238

2. Face to Face : GB12221

3. Flange dimension : gb/t9113-2010

4. Test & inspection : GB13927

Material

1. Lever	Assembly
2. Body	SS316
3. Sealing Face	PTFE
4. Disc	SS316
5. Stem	2cr13

Performance Specification

Pressure		1.0MPa
Test	Shell test	1.5MPa
Pressure	Seal test	1.1MPa
Suitable temp	-22°C~135°C	
Suitable medium		



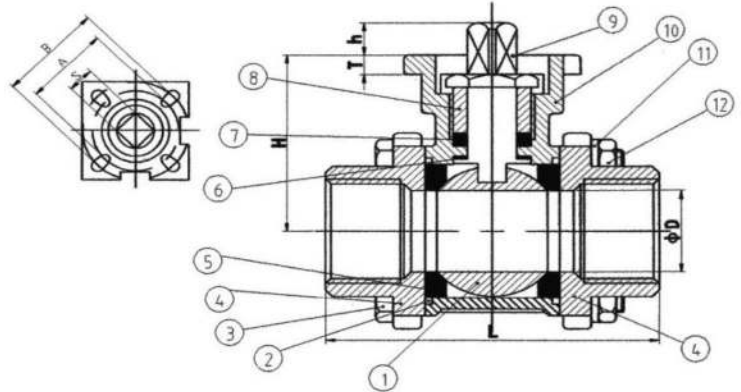
Dimensions

Size	$\phi 1$	L	Z- ϕ	H	D	D1	D2	D3	D4	K	h
50	125	42	4-18	127	65	65	50	35	7	9	12
65	145	45	8-18	140	83	65	50	35	7	9	12
80	160	45	8-18	143	86	65	50	35	7	9	16
100	180	52	8-18	160	98	90	70	55	10	11	16
125	210	56	8-18	175	115	90	70	55	10	14	16
150	240	56	8-22	205	126	90	70	55	10	14	19
200	295	60	8-22	239	166	125	102	70	12	17	19



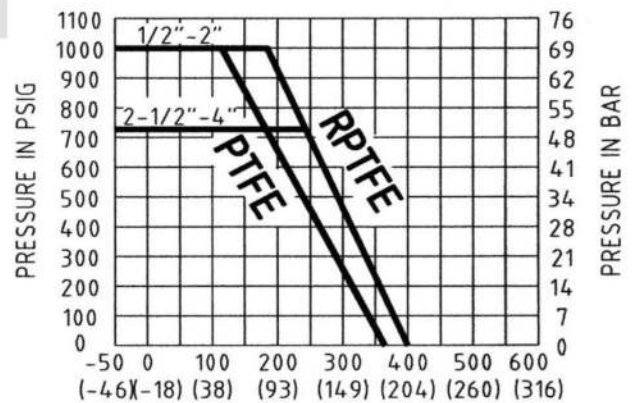
BRAVO 3-PCS BALL VALVE , MODEL : VT3M

WITH HIGH MOUNTING SCREW END 1000 W.O.G. PN63



Feature: ISO-5211 TopMount

- Pipe Thread in Accordance : NPT, BSPT , BSP,
- Temperature Range:PTFE:-20°C ~ 180°C
TFM:- ISO-228 Class A Thread
RPTFE:-35°C ~ 210°C
- Suitable Medium : Water, Oil, Air And Some Corrosive
Liquid(W.O.G)
- Nominal Pressure: 1000PSI(PN63) For 1/2" to 4"
- Stem: Blow-out Proof
- Locking Device
- Material: CF8M(DIN 1.4408), CF8(DIN 1.4308) , WCB(DIN 1.0619)



Dimensions:

Dime Size	D	H	h	T	L	ISO-5211		S
						A	B	
1/4"	11	39	7	5	66	F03	F04	9
3/8"	14	39	7	5	66	F03	F04	9
1/2"	15	43	7	5	72	F03	F04	9
3/4"	20	46	7	6	79	F03	F04	9
1"	25	50	9	6	93	F04	F05	11
1-1/4"	32	56	11	6	111	F04	F06	11
1-1/2"	40	68	14	7	119	F05	F07	14
2"	50	76	14	8	136	F05	F07	14
2-1/2"	65	95	17	8	185	F07	F10	17
3"	80	105	22	10	210	F07	F10	17
4"	100	125	22	10	266	F07	F12	22

Materials of Main Construction:

No.	Part	Material	Q'ty
1	Ball	AISI 316	1
2	Body Seal	PTFE	2
3	Bolt	AISI 304	4
4	Cap	AISI 316	2
5	Body Seat	PTFE	2
6	Stem Washer	Poly PTFE	1
7	Stem Packing	PTFE	1
8	Gland	AISI 304	1
9	Stem	AISI 316	1
10	Body	AISI 316	1
11	Bolt Washer	AISI 304	4
12	Hex Nut	AISI 304	4



BRAVO CAST IRON VALVE , MODEL : TY-20

Y-TYPE STRAINER

DESCRIPTION

- Bolted cover
- Y type body
- Punched stainless steel
- Plate screen
- 300 psi.hydrostatic shell test
- 250 psi hydrostatic seat test

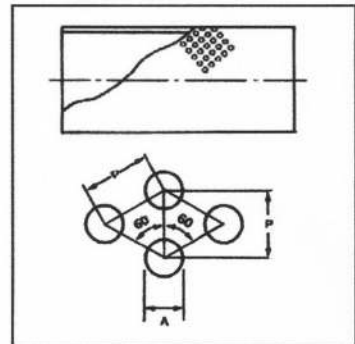
M A T E R I A L S

BODY	CAST IRON
COVER	CAST IRON
SCREEN	STAINLESS STEEL
GASKET	ASBESTOS JOINT SHEET
BOLT AND NUT	STEEL
PLUG	STEEL



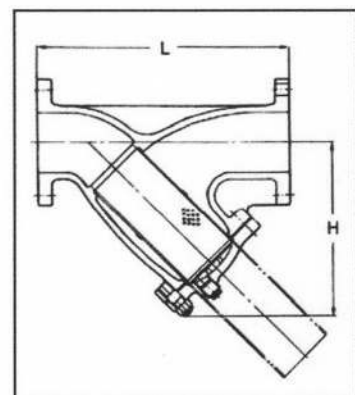
S C R E E N D I M E N S I O N S

SIZE	A mm	P mm.	THICKNESS mm.
2" to 4"	2.0 ∅	3.0	0.7
5" to 6"	3.0 ∅	5.0	0.7
10"	3.0 ∅	5.0	1.0
12" to 16"	5.0 ∅	7.0	1.0



D I M E N S I O N S

mm	inch	L mm	H Mm
50	2	250	190
65	2 ½	285	210
80	3	315	240
100	4	371	285
125	5	420	325
150	6	490	360
200	8	570	440
250	10	680	512
300	12	800	600
350	14	950	710
400	16	1000	740





BRAVO CAST IRON VALVE , MODEL : TSC-20

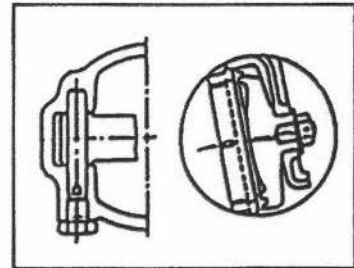
SWING CHECK VALVE

DESCRIPTION

- Bolted cover
- Swing type disc
- Metal to metal
- 300 psi.hydrostatic shell test
- 250 psi hydrostatic seat test

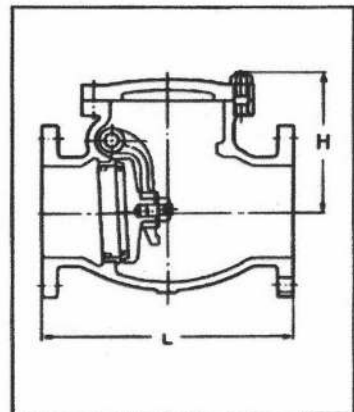
M A T E R I A L S

BODY		CAST IRON
BONNET		CAST IRON
DISC	2" to 3"	BRONZE
	4" to 12"	CAST IRON
DISC SEAT RING		BRONZE, STAINLESS STEEL,RUBBER
BODY SEAT RING		BRONZE, STAINLESS STEEL
DISC NUT		STEEL
WASHER		STEEL
PLUG		BRASS
GASKET		ASBESTOS JOINT SHEET
BOLT AND NUT		STELL
HANGER		CAST IRON



D I M E N S I O N S

mm	inch	L mm	H Mm
50	2	203	115
65	2 ½	216	135
80	3	241	150
100	4	292	170
125	5	330	210
150	6	356	230
200	8	495	260
250	10	622	300
300	12	699	390





BRAVO CAST IRON VALVE , MODEL : TNG-20

KNIFE GATE VALVE

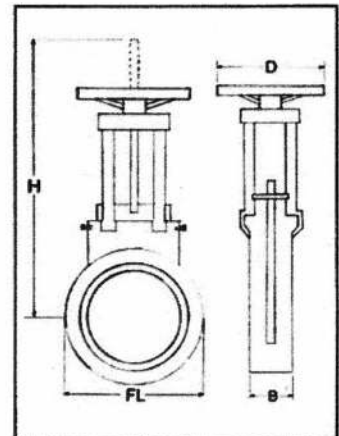
DESIGN FEATURE

- Heavy gate with wide spaced clevis
- PTFE or EPDM resilient seat
- Full port one piece cast body with resilient seat
- Drip tight shut-off in both directions
- Wafer pattern drill and tapped to suit ANSI class, PN 10, PN 16, and JIS 10k flanges
- Easy bolt-on conversion to actuator or worm gear operator or pneumatic cylinder actuator or electric actuator

M A T E R I A L S	
BODY	CAST IRON
STEM	STAINLESS STEEL
DISC	STAINLESS STEEL
LOCK NUT	BRASS
GLAND	CAST IRON
HAND WHEEL	CAST IRON
YOKE BUSH	BRASS
SEAT	EPDM, PTFE
BOLT	STEEL



D I M E N S I O N S					
mm	inch	FL mm	B mm	H(open) mm	D mm
80	3	200	45	375	240
100	4	220	55	496	240
125	5	256	55	546	240
150	6	286	60	591	290
200	8	340	61	762	320
250	10	394	64	873	350
300	12	445	70	1045	380
350	14	505	83	1245	440
400	16	566	83	1334	440





BRAVO CAST IRON VALVE , MODEL : TF-20 SOC

FOOT VALVE

TECHNICAL CHARACTERISTICS

- Operates in any position from horizontal to vertical ascending
- Minimum head loss
- Silent, reliable sealing, compact
- Exceptional robustness
- Does not generate hammering

DESCRIPTION

- Closing system : Long back axial guiding for reduced displacement
- Sealing guaranteed by a flat seal
- Return Spring

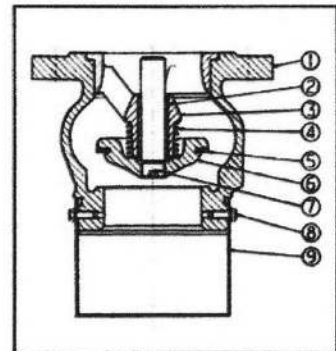
C H A R A C T E R I S T I C S

TEMPERATURE IN °C	MIN.	-10°C	
	MAX.	+130°C at peak	+100°C in continuous
PRESSURE IN BAR	OPENING PRESSURE	See table	
	SERVICE	10	
	TESTING PRESSURE	16	
MEDIUMS	Clear liquids		
HEADLOSS CHART	See overleaf		



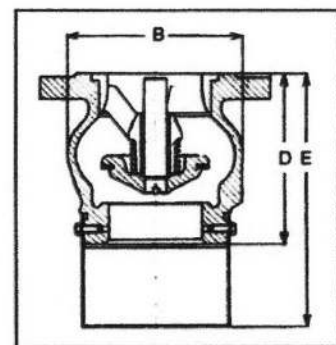
M A T E R I A L S

1	CASING	CAST IRON
2	RING	BRONZE
3	GUIDE	CAST IRON
4	SPRING	STAINLESS STEEL
5	SEAL	EPDM
6	HEAD VALVE	CAST IRON
7	STEM VALVE	STAINLESS STEEL
8	SCREW	STEEL
9	STRAINER	STEEL



D I M E N S I O N S

mm	inch	B mm	D mm	E mm
80	3	200	147	218
100	4	220	176	265
125	5	254	204	333
150	6	262	210	350
200	8	343	296	483
250	10	406	395	572





BRAVO CAST IRON VALVE , MODEL : TG-20

GATE VALVE

DESCRIPTION

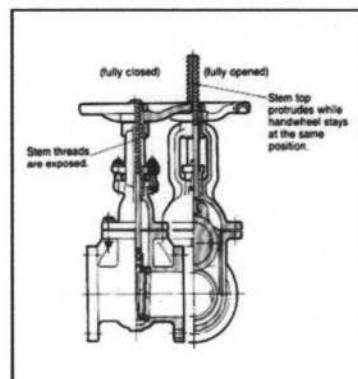
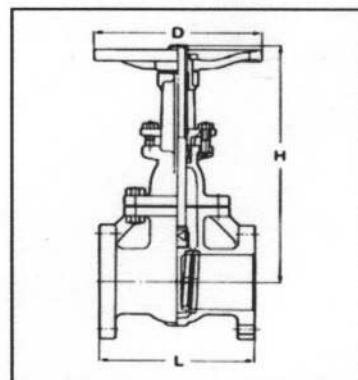
- Bolted bonnet
- Outside screw and yoke
- Rising stem
- Flanged ends
- Solid wedge disc
- 300 psi.hydrostatic shell test
- 250 psi hydrostatic seat test

M A T E R I A L S

BODY	CAST IRON
BONNET	CAST IRON
STEM	STAINLESS STEEL
DISC	CAST IRON
DISC SEAT RING	BRONZE, STAINLESS STEEL
BODY SEAT RING	BRONZE, STAINLESS STEEL
GLAND	CAST IRON
GLAND PACKING	ASBESTOS GRAPHITE
HAND WHEEL	CAST IRON
GASKET	ASBESTOS JOINT SHEET
BOLT AND NUT	STEEL
YOKE	CAST IRON

D I M E N S I O N S

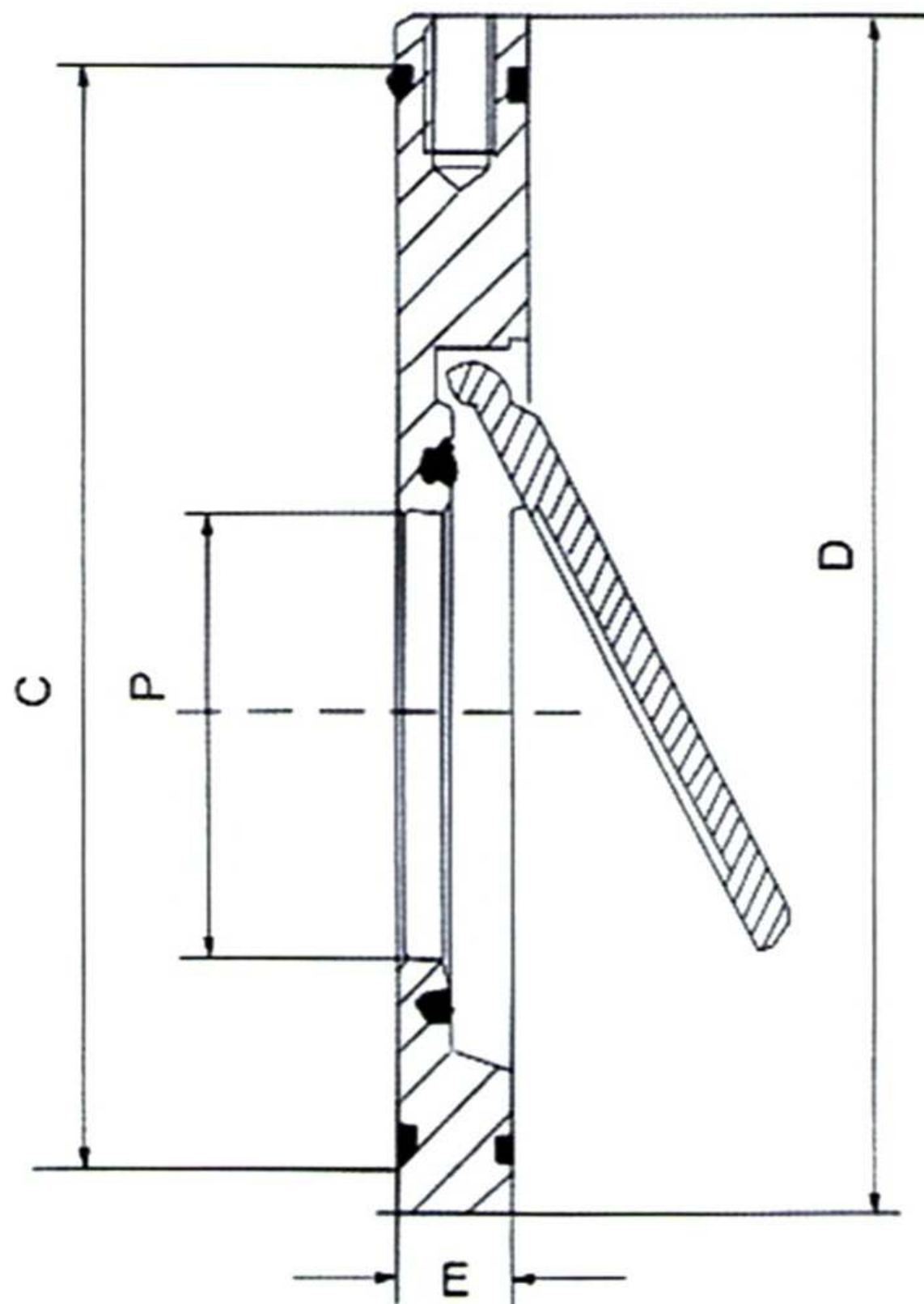
mm	inch	L mm	H (open) Mm	D Mm
50	2	178	350	170
65	2 ½	190	385	170
80	3	203	450	195
100	4	229	540	220
125	5	254	635	240
150	6	267	710	240
200	8	292	970	345
250	10	330	1250	380
300	12	356	1440	440
350	14	381	1625	550
400	16	406	1855	590
450	18	432	2070	700
500	20	457	2340	700
600	24	508	2770	700





BRAVO SWING CHECK VALVE WAFER TYPE

MODEL : SW-23



CAST IRON , EPDM



SUS 316 , VITON

MATERIALS LIST

PART	TYPE A	TYPE B
BODY	*STEEL	316SS
DISC	*STEEL	316SS
SEAT RING	NBR/EPDM	VITON
FLANGE RING	NBR/EPDM	VITON

*STEEL AND GALVANIZED OR CHROME PLATED

Normal pressure	PN16
Seal test pressure	1.76MPa
Strength test pressure	2.4MPa
Suitable temperature	NBR:-10 - +80 C
	EPDM:-10 - -120 C
	VITON:-10 - +150 C
Medium	Fresh water,Sea water,Waste water,food stuff, All kinds of oil,All kinds of acid and alkaline liquid etc.

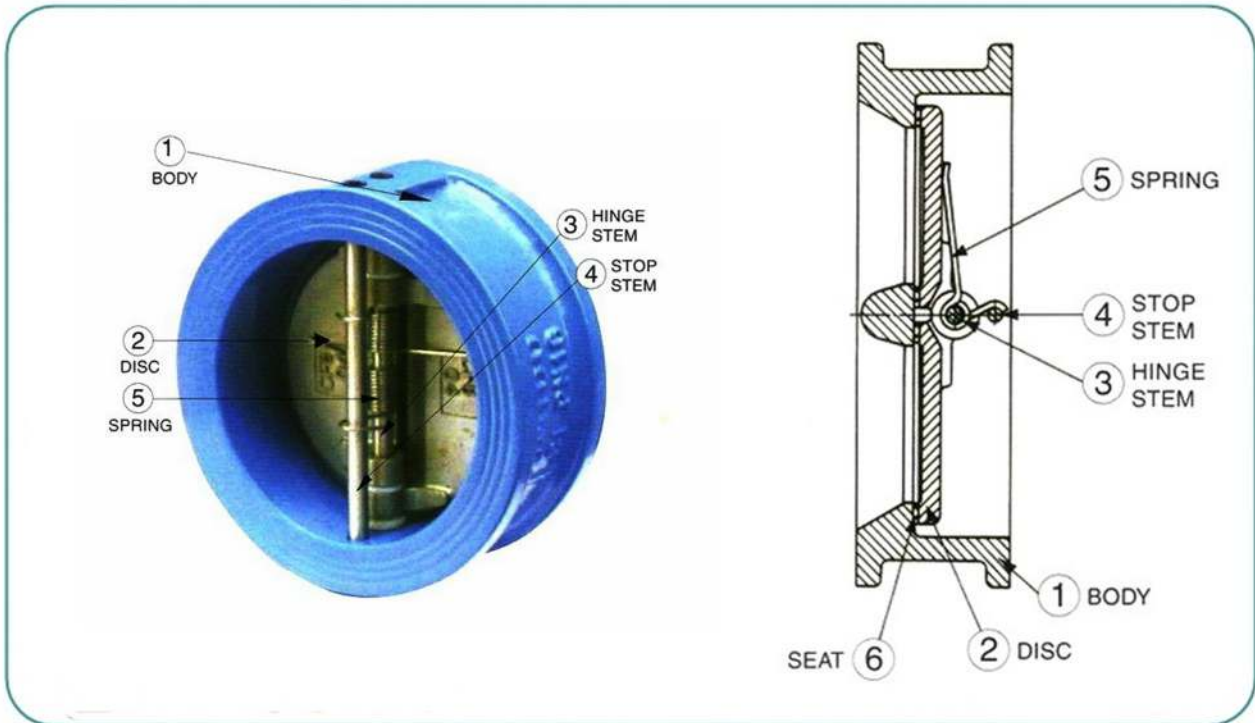
DIMENSIONS (mm)

DN	D	P	E	C	WEIGHT(Kgs)
50	109	32	14	87	0.8
65	129	45	14	109	1.2
80	144	56	16	119	1.45
100	164	75	18	147	2.3
125	194	98	18	167	3.5
150	220	120	20	198	4.15
200	275	164	22	248	7
250	330	210	26	308	12.1
300	380	235	28		



BRAVO DUO CHECK VALVE WAFER TYPE

MODEL : TDC-20



MATERIAL OF CONSTRUCTION

ITEM	PARTS NAME	STANDARD MATERIALS	ASTM SPEC.	OPTIONAL MATERIALS
1	BODY	CAST IRON	A126 CLASS B	DUCTILE IRON, CARBON STEEL, STAINLESS STEEL
2	DISC	STAINLESS STEEL 304	A 351 CF8	DUCTILE IRON, ALUMINIUM-BRONZE, STAINLESS STEEL 316
3	HINGE STEM	STAINLESS STEEL 316	A 276 TYPE 316	STAINLESS STEEL 304
4	STOP STEM	STAINLESS STEEL 316	A 276 TYPE 316	STAINLESS STEEL 304
5	SPRING	STAINLESS STEEL 316	A 276 TYPE 316	STAINLESS STEEL 304 , INCONEL
6	SEAT	EPDM		NBR , VITON

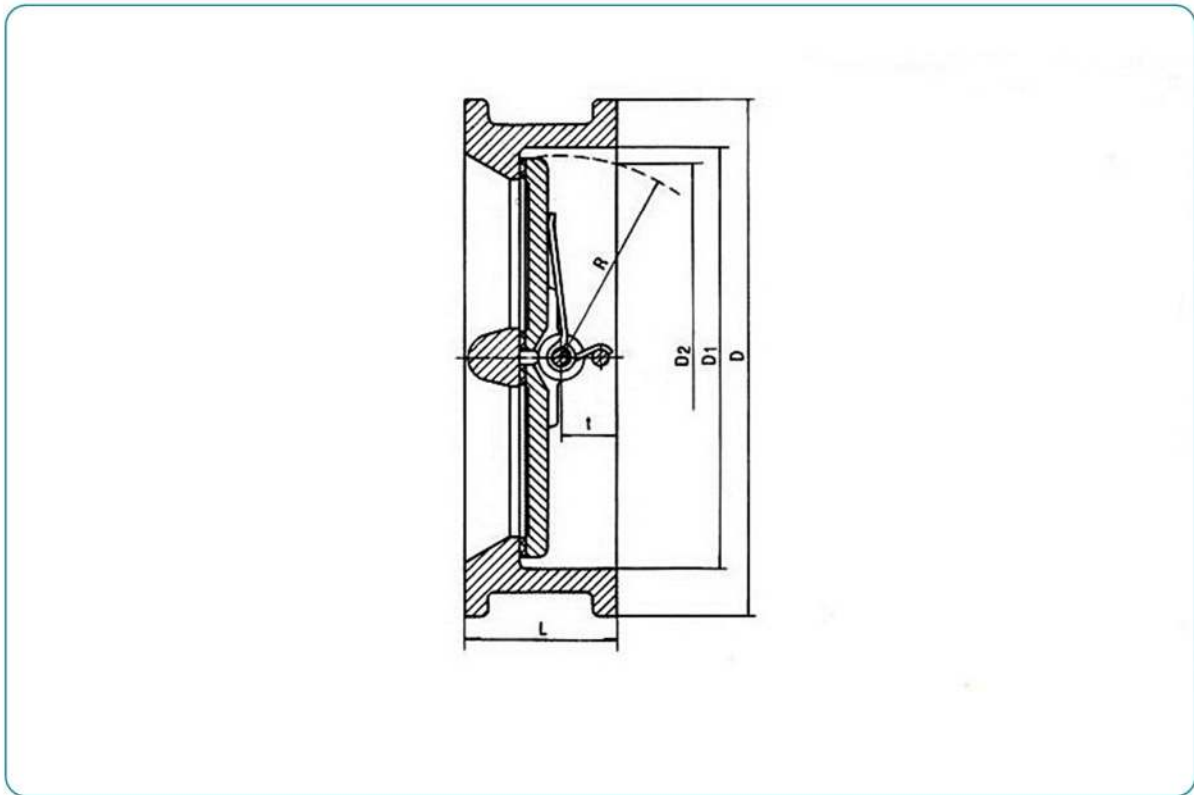
TECHNICAL DATA

NOMINAL DIAMETER	2" (50 MM) - 32" (800 MM)		
NOMINAL PRESSURE		10 BAR (145 PSI)	16 BAR (232 PSI)
TESTING PRESSURE	BODY	15 BAR (218 PSI)	24 BAR (348 PSI)
	SEAT	11 BAR (160 PSI)	17.6 BAR (255 PSI)
WORKING TEMPERATURE			
EPDM	-46 TO +120 DEGREE C,	INTERMITTENCE -50 TO +150 DEGREE C	
NBR	-23 TO +85 DEGREE C,	INTERMITTENCE -23 TO +93 DEGREE C	
VITON	-23 TO +150 DEGREE C		



BRAVO DUO CHECK VALVE WAFER TYPE

MODEL : TDC-20



OVERALL & STRUCTURE DIMENSIONS & WEIGHT

PN 10 / PN 16

SIZE DN		D	D1	D2	L	R	t	Approx. Weight kg
m m	inch							
50	2	103	64	43.3	44	28.8	19	1.6
65	2 1/2	122	79	60.2	46	36.1	20	2.2
80	3	132	94	66.4	64	43.4	28	3.5
100	4	156	115	90.8	64	52.8	27	5
125	5	187	144	116.9	70	65.7	30	6.3
150	6	213	170	144.6	76	78.6	31	9.2
200	8	268	224	198.2	89	104	33	15.3
250	10	327	265	233.7	114	127	50	26
300	12	377	310	283.9	114	148	43	38
350	14	420	360	332.9	127	172	45	55
400	16	483	410	381.0	140	197	52	75
450	18	537	450	419.9	152	218	58	101
500	20	592	505	467.8	152	241	58	111
600	24	695	624	572.6	178	295	73	172
700	28	800	720	680	229	354	98	291*
800	32	930	825	782.6	241	404	100	314