vahn-tech
international inc.

Resilient Seated Gate Valves & AWWA Butterfly Valves





For Water And Wastewater Industry

INTERTEK
ISO 9001:2000

RESILIENT SEATED GATE VALVES

Company Profile

Vahn-Tech International Inc. (An ISO 9001 Company) is a customer focused organization based on "Value-added" and "Quality Service" principles. Achieving long term partnership with our customers and being their supplier of choice is our prime mission. We develop, manufacture and market VAHN-TECH (vt) branded Valves, Actuators, Automatic Control Valves and various flow control accessories. Vahn-Tech actuators are available in both quarter-turn and multi-turn configurations and are available in both pneumatic and electrical operating types. Our Product Range includes:

Gate Valves (Metal and Resilient seated) API and Non API applications, including AWWA CS09 design gate valves
Butterfly Valves - Including AWWA C 504 type
Knife Gate Valves
Ball Valves
Globe Valves
Check Valves
Y-Strainers
Air Release Valves
Actuators
And a Variety of Control Valves e.g. Pressure reducing, Pressure sustaining, Slow check valve etc.

Our products conform to high quality standards and find extensive uses in:

Oil and Gas
Water and Sewage
Chemicals
Paper and pulp
Irrigation
Desalination and Power plants, and variety of other industrial uses

We can supply all types of valves with following material configurations:
Ductile Iron, Cast Iron, Carbon Steel, Stainless Steel SS304, SS304L, SS316, SS316L, Duplex Stainless Steel, Super Duplex, Alloy, Monel and Inconel with variety of seating and stem configurations.

We are a flexible and agile corporation that is able to adapt to the varying customer requirements.

Design Specifications:

Pressure Ratings

For AWWA C 509 Type : 125 LBS, 150 LBS & 250 LBS

For DIN & BS Standard Type : PN 10, PN 16 and PN 25

Product Features:

NSF and WRAS approved Powder Coatings and EPDM rubber are used to manufacture valves for use in Potable Water (drinking water) service.

- General design to:
  - ✓ AWWA C509, ASME B16.10 (ISO 5752-3 Series), AS 2638.2
  - ✓ DIN 3352, DIN 3202 F4 (ISO 5752 14 Series), DIN 3202 F5 (ISO 5752 15 Series)
  - ✓ BS5163 (ISO 5752 3 Series).
- Low torque due to special wedge design.
- Replaceable O-rings while in service.
- Perfomance Test as per AWWA C509, AS 2638.2, EN 12266-1, DIN 3230, BS 5163.

Material of Construction:

- Body, wedge and bonnet of Ductile Iron (GGG 40 / GGG 50) or Cast Iron (GG 25).
- Wedge fully encapsulated with EPDM or NBR by vulcanising process.
- Stem: Bronze, Stainless Steel SS 410/420/431/316 as per customer request – Forged & Machined for superior strength and performance.
- Stem Nut - Brass
- Inside and Outside Fusion Bonded Epoxy Coatings with a minimum thickness of 300 Microns

Field of Application:

- Mainly water and waste water industry, and similar applications.
- Max. Operating Temperature: 70 Deg C

RESILIENT SEATED GATE VALVES FOR WATER & WASTEWATER INDUSTRY

Fusion Bonded Epoxy Coating

Vahn-Tech uses only NSF and WRAS approved Epoxy Powder Coatings FBE Coating to comply with requirements of use in contact with 'Potable Water'. For other non-critical services, normal FBE coatings are used.

Step By Step Application Procedure




- SURFACE PREPARATION

  Metal burrs and sharp edges of castings are cleaned up using grinding machines. Oil/Grease etc is cleaned up using special cleaning chemicals to ensure that the casting is free of all impurities and ready to accept FBE coating. These are then sandblasted to create a rough texture on the surface of the casting to help provide a strong mechanical bond with the FBE coating.

- PRE-INSPECTION

  Castings are visually inspected to ensure cleanliness and roughness of the surfaces.

- PRE-HEATING

  Castings are then put inside an Oven to be heated to 280 Deg C.

- APPLICATION OF POWDER COATING

  Using Electro-static spray guns. the hot castings (min. Temperature 210 Deg C) are coated with Epoxy Powder Inside and outside creating an even film of approx. 300 Microns all round, paying special attention to corners and sharp edges.

- COOLING

  After the castings are completely coated, these are then allowed to cool down resulting in formation of a solid layer of Epoxy Film on the entire valve body both inside and outside.

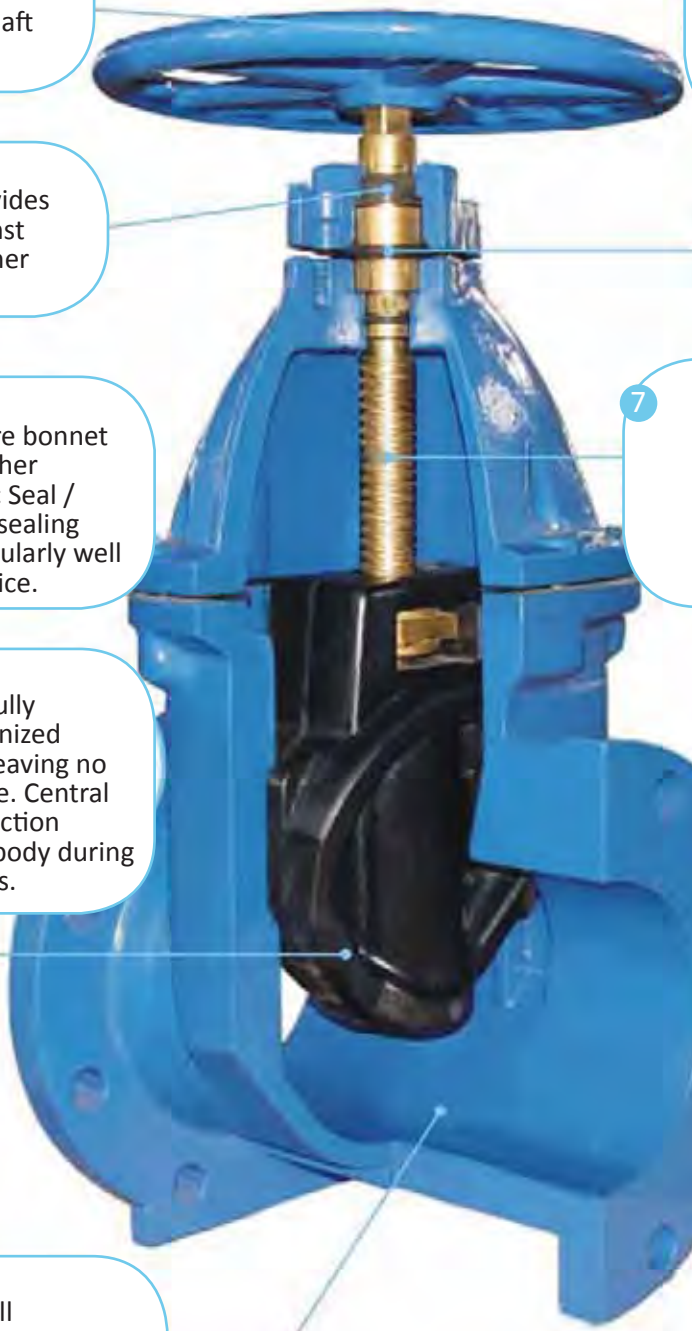
- POST-INSPECTION

  The cured valve bodies are inspected to ensure 'pin-hole' free coated surfaces using 'Pin-Hole Detection Tester'.

- STORAGE

  The approved castings are then put in the semi-finished goods warehouse before assembly.

Design Features



1 **Handwheel:**
Valves supplied with handwheel or bare shaft with square cap.

2 **Stem Guard:**
Stem seal design provides effective sealing against ingress of dirt and other impurities.

3 **Extra Protection:**
SS Bolts used to secure bonnet to valve body are further protected with Plastic Seal / Wax to provide extra sealing and protection. Particularly well suited for buried service.

4 **Wedge:**
Cast or Ductile Iron, fully encapsulated in vulcanized EPDM / NBR rubber leaving no exposed metal surface. Central guides help reduce friction between wedge and body during open/close operations.

5 **Waterway:**
Smooth waterway,well rounded, provides superior flow characteristics and venturi effect.

6 **Coating:**
Fusion Bonded Epoxy Coating to a min DFT of 300 micron provides an effective Corrosion Protection.

7 **Stem:**
Stem made of Bronze, SS410 / 420 / 431 / 316, Forged and machined to high strength and performance.

8 **Ease of Maintenance:**
Top Two O-Rings are replaceable with valve fully open and even under pressure.

RESILIENT SEATED GATE VALVES FOR WATER & WASTEWATER INDUSTRY

BS 5163 NRS

SPECIFICATIONS

Size	DN 40-DN600
Class	PN 1O-PN 16-PN 25
Design	BS 5163
Face to Face	BS 5163 / IS0 5752-3 Series
End Flange	BS 4505 / BS EN 1092
Test	BS 5163

AWWA C509 NRS MJ & FLANGED END TYPE

SPECIFICATIONS

Size	DN 80 - DN 600
Class	125, 150, 250 lbs
Design	C 509 / C 515
Face to Face	ISO 5257 3Series
End Flange	AWWA C 153 / A 21.53
Test	C 509 / C 515

BS 5163 NRS

SPECIFICATIONS

Size	DN 300-DN 600
Class	PN 10-PN 16
Design	BS 5163
Face to Face	BS 5163, ISO 5752-3 Series
End Flange	BS 4504, EN 1092
Test	BS 5163

DIN 3352-F4 NRS

SPECIFICATIONS

Size	DN 40-DN 600
Class	PN 10-PN 16-PN 25
Design	DIN 3352
Face to Face	DIN 3202-F4 ISO 5752-15 Series
End Flange	DIN 2532-2533
Test	DIN 3230

DIN 3352-F5 NRS

SPECIFICATIONS

Size	DN 40 - DN 600
Class	PN 10-PN 16-PN 25
Design	DIN 3352
Face to Face	DIN 3202-F5 ISO 5752-15 Series
End Flange	DIN 2532-2533
Test	DIN 3230

Socked End NRS (Push Fit Type)

SPECIFICATIONS

Size	DN 50-DN 300
Class	PN 10-PN 16-PN 25
Design	DIN 3352
Face to Face	ISO 5752-5 Series
End Flange	Suitable for PVC Pipelines
Test	DIN 3230

SPECIAL APPLICATIONS

STEM WITH OPEN / CLOSE INDICATOR

Size	DN 40-DN 600
Class	PN 10-PN 25

AWWA C509 OS&Y

SPECIFICATIONS

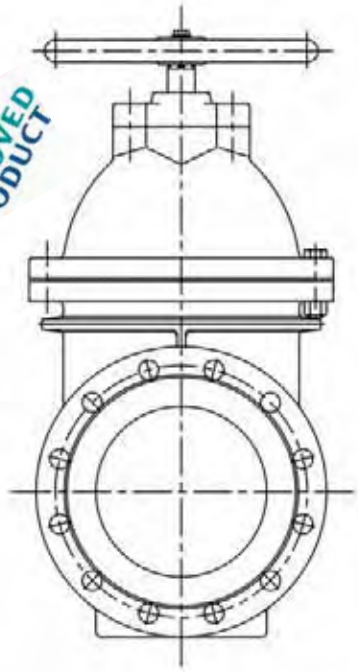
Size	1 ½" - 12" (DN40-DN300)
Class	125 lbs-150-250 lbs
Design	AWWA C 509
Face to Face	ASME A16.10 ISO 5752-3 Series
End Flange	ASME A16.10, ASME A16.42
Test	ANSI/AWWA C 509

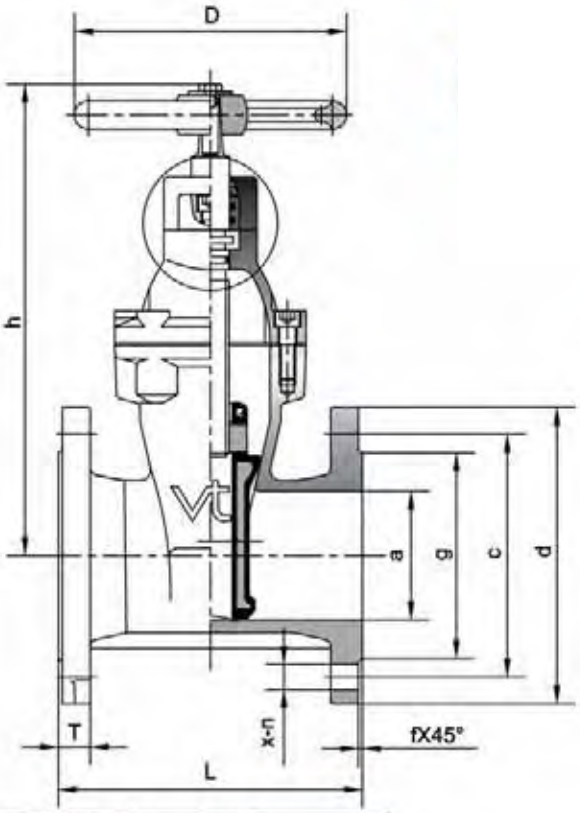
BS5150 0S & Y

SPECIFICATIONS

Size	DN 40 - DN 300
Class	PN 10- PN 25
Design	BS 5150
Face to Face	BS 5163, ISO 5752-3 Series
End Flange	BS 4504 / BS EN 1092
Test	BS 6755 Part 1

WRAS APPROVED PRODUCT



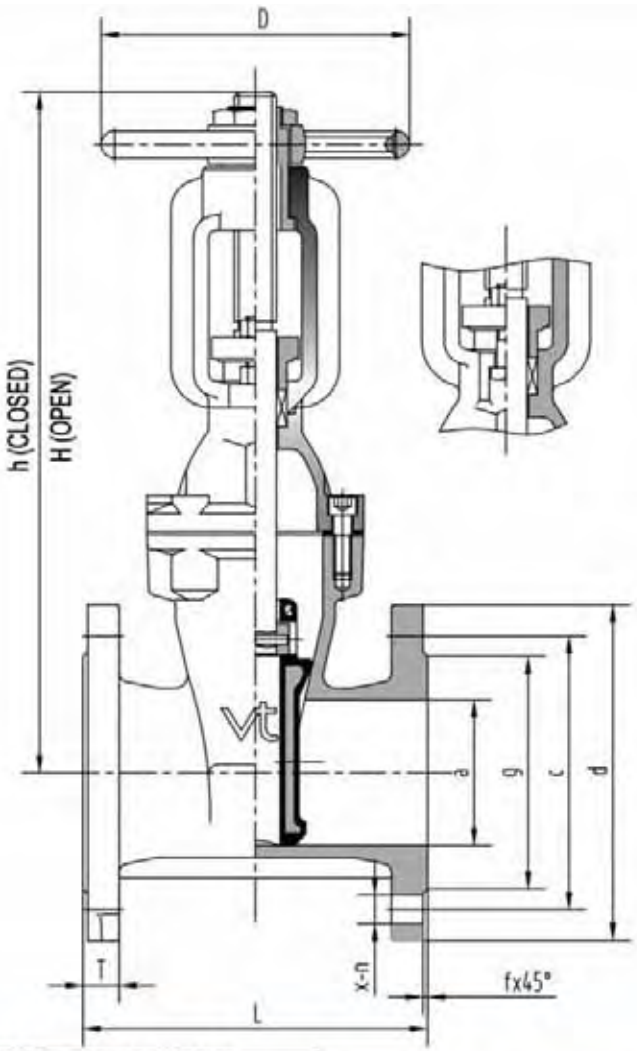


STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL	7	Sealing Ring	Brass
1	Body *	Ductile Iron	8	Gland	Ductile Iron
2	Disc	Ductile Iron+NBR / EPDM	9	Handwheel	Ductile Iron
3	Bonnet	Ductile Iron	10	Bonnet Gasket	NBR / EPDM
4	Stem	Stainless Steel 410, 431, 316	11	O Ring	NBR
5	Stem Nut	Brass	12	Dust Ring	NBR
6	Holding Ring	Brass	13	Bonnet Bolts	Stainless Steel

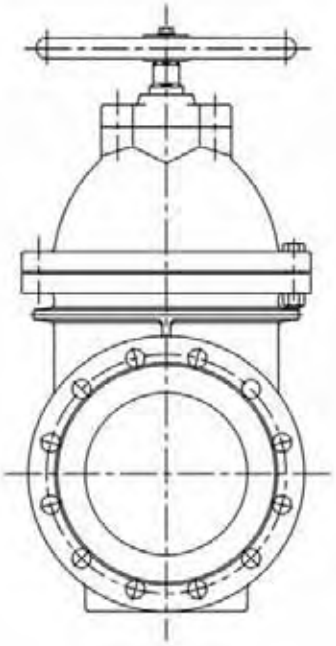
DIMENSIONS AND WEIGHTS

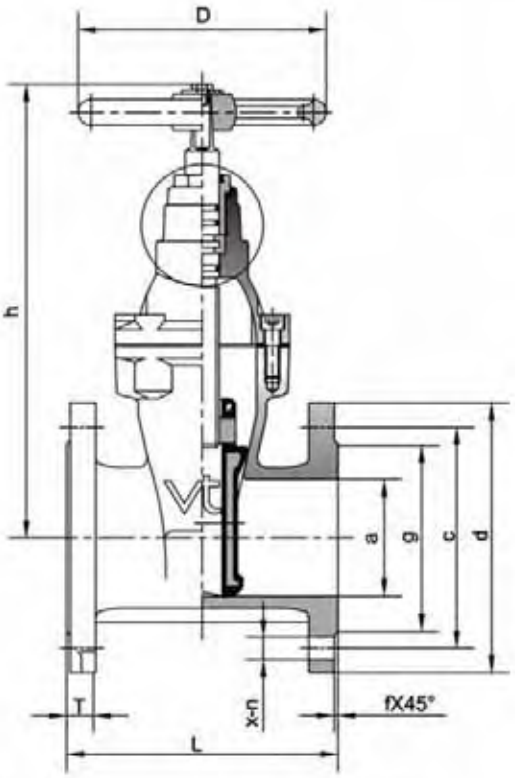
DN	OUTLINE mm				END FLANGE BS PN10/16 mm											WEIGHT
	L	h	D	h1	a	d		c		x-n		T	g		f	kg
40	165	275	180	345	40	150		110		4-Ø19		19	84		3	12
50	178	280	180	350	50	165		125		4-Ø19		19	99		3	13
65	190	300	180	370	65	185		145		4-Ø19		19	118		3	15
80	203	335	205	405	80	200		160		8-Ø19		19	132		3	22
100	229	341	240	411	100	220		180		8-Ø19		19	156		3	26
125	254	430	240	500	125	250		210		8-Ø19		19	184		3	35
150	267	485	280	555	150	285		240		8-Ø23		19	211		3	50
200	292	580	320	650	200	340		295		8-Ø23	12-Ø23	20	266		3	75
250	330	680	360	750	250	395	405	350	355	12-Ø23	12-Ø28	22	319		3	125
300	356	785	450	855	300	445	460	400	410	12-Ø23	12-Ø28	24.5	370		4	174
350	381	880	500	950	350	505	520	460	470	16-Ø23	16-Ø28	26.5	429		4	320
400	406	990	560	1060	400	565	580	515	525	16-Ø28	16-Ø31	28	480		4	430
450	432	1120	560	1200	450	615	640	565	585	20-Ø28	20-Ø31	30	530	548	4	540
500	457	1220	650	1300	500	670	715	620	650	20-Ø28	20-Ø34	31.5	582	609	4	690
600	508	1370	650	1470	600	780	840	725	770	20-Ø31	20-Ø37	36	682	720	5	840



ITEM	PART NAME	MATERIAL			
1	Body	Ductile Iron*	6	Packing	Graphite
2	Wedge	D I+NBR / EPDM	7	Gland	Ductile Iron
3	Bonnet	Ductile Iron	8	Handwheel	Ductile Iron
4	Stem	Stainless Steel	9	Bonnet Gasket	NBR / EPDM
5	Stem Nut	Brass	10	Bonnet Bolts	Stainless Steel

DIMENSIONS AND WEIGHTS													
DN	OUTLINE mm				END FLANGE BS PN10/16 mm								WEIGHT
	L	h	H	D	a	d	c	x-n		T	g	f	kg
40	165	320	365	180	40	150	110	4-Ø19		19	84	3	16
50	178	330	385	180	50	165	125	4-Ø19		19	99	3	17
65	190	345	415	180	65	185	145	4-Ø19		19	118	3	20
80	203	435	518	205	80	200	160	8-Ø19		19	132	3	29
100	229	465	570	240	100	220	180	8-Ø19		19	156	3	34
125	254	615	745	240	125	250	210	8-Ø19		19	184	3	42
150	267	630	790	280	150	285	240	8-Ø23		19	211	3	58
200	292	780	990	320	200	340	295	8-Ø23	12-Ø23	20	266	3	83
250	330	915	1175	360	250	395 405	350	355	12-Ø23	12-Ø28	22	319	3	138
300	356	1080	1390	450	300	445 460	400	410	12-Ø23	12-Ø28	24.5	370	4	192





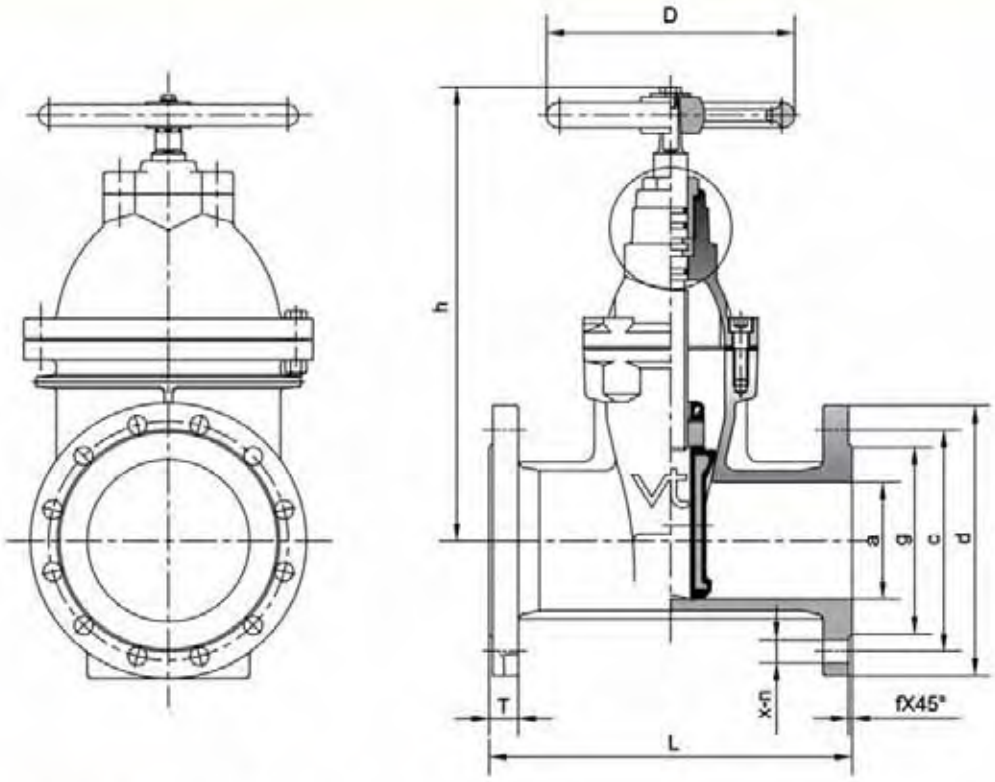
STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL			
1	Body	Ductile Iron	7	Sealing Ring	Brass
2	Disc	Ductile Iron+NBR / EPDM	8	Handwheel	Ductile Iron
3	Bonnet	Ductile Iron	9	Bonnet Gasket	NBR / EPDM
4	Stem	Stainless Steel 410, 431, 316	10	O Ring	NBR
5	Stem Nut	Brass	11	Dust Ring	NBR
6	Holding Ring	Brass	12	Bonnet Bolts	Stainless Steel

DIMENSIONS AND WEIGHTS

DN	OUTLINE mm				END FLANGE DIN PN10/16 mm										WEIGHT
	L	h	D	h1	a	d		c		x-n		T	g	f	kg
40	140	285	180	355	40	150		110		4-Ø19		19	84	3	12
50	150	290	180	360	50	165		125		4-Ø19		19	99	3	14
65	170	295	180	365	65	185		145		4-Ø19		19	118	3	15
80	180	340	205	410	80	200		160		8-Ø19*		19	132	3	20
100	190	370	240	440	100	220		180		8-Ø19		19	156	3	25
125	200	410	240	480	125	250		210		8-Ø19		19	184	3	36
150	210	465	280	535	150	285		240		8-Ø23		19	211	3	45
200	230	580	320	650	200	340		295		8-Ø23	12-Ø23	20	266	3	72
250	250	665	360	735	250	395	405	350	355	12-Ø23	12-Ø28	22	319	3	102
300	270	785	450	855	300	445	460	400	410	12-Ø23	12-Ø28	24.5	370	4	160
350	290	970	500	1040	350	505	520	460	470	16-Ø23	16-Ø28	26.5	429	4	288
400	310	1050	560	1120	400	565	580	515	525	16-Ø28	16-Ø31	28	480	4	387
450	330	1120	560	1200	450	615	640	565	585	20-Ø28	20-Ø31	30	530	548	4	490
500	350	1220	650	1300	500	670	715	620	650	20-Ø28	20-Ø34	31.5	582	609	4	620
600	390	1370	650	1470	600	780	840	725	770	20-Ø31	20-Ø37	36	682	720	5	760

* PN10: DIN2532 4-Ø19, BS EN1092 8-Ø19



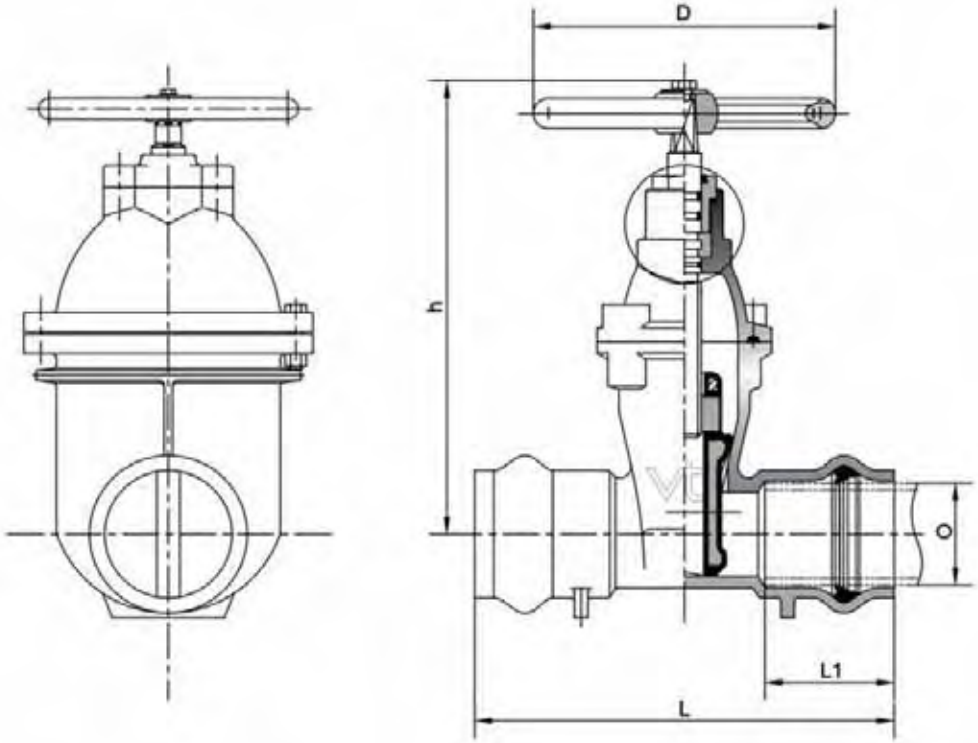
STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL			
1	Body	Ductile Iron	7	Sealing Ring	Brass
2	Disc	Ductile Iron+NBR / EPDM	8	Handwheel	Ductile Iron
3	Bonnet	Ductile Iron	9	Bonnet Gasket	NBR / EPDM
4	Stem	Stainless Steel 410, 431, 316	10	O Ring	NBR
5	Stem Nut	Brass	11	Dust Ring	NBR
6	Holding Ring	Brass	12	Bonnet Bolts	Stainless Steel

DIMENSIONS AND WEIGHTS

DN	OUTLINE mm				END FLANGE DIN PN10/16 mm										WEIGHT
	L	h	D	h1	a	d		c		x-n		T	g	f	kg
40	240	285	180	355	40	150		110		4-Ø19		19	84	3	13
50	250	290	180	360	50	165		125		4-Ø19		19	99	3	15
65	270	295	180	365	65	185		145		4-Ø19		19	118	3	16
80	280	340	205	410	80	200		160		8-Ø19*		19	132	3	23
100	300	370	240	440	100	220		180		8-Ø19		19	156	3	29
125	325	445	240	515	125	250		210		8-Ø19		19	184	3	44
150	350	465	280	535	150	285		240		8-Ø23		19	211	3	54
200	400	580	320	650	200	340		295		8-Ø23	12-Ø23	20	266	3	95
250	450	665	360	735	250	395	405	350	355	12-Ø23	12-Ø28	22	319	3	153
300	500	785	450	855	300	445	460	400	410	12-Ø23	12-Ø28	24.5	370	4	241
350	550	970	500	1040	350	505	520	460	470	16-Ø23	16-Ø28	26.5	429	4	355
400	600	1050	560	1120	400	565	580	515	525	16-Ø28	16-Ø31	28	480	4	475
450	650	1120	560	1200	450	615	640	565	585	20-Ø28	20-Ø31	30	530 548	4	590
500	700	1220	650	1300	500	670	715	620	650	20-Ø28	20-Ø34	31.5	582 609	4	730
600	800	1370	650	1470	600	780	840	725	770	20-Ø31	20-Ø37	36	682 720	5	890

* PN10: DIN2532 4-Ø19, BS EN1092 8-Ø19

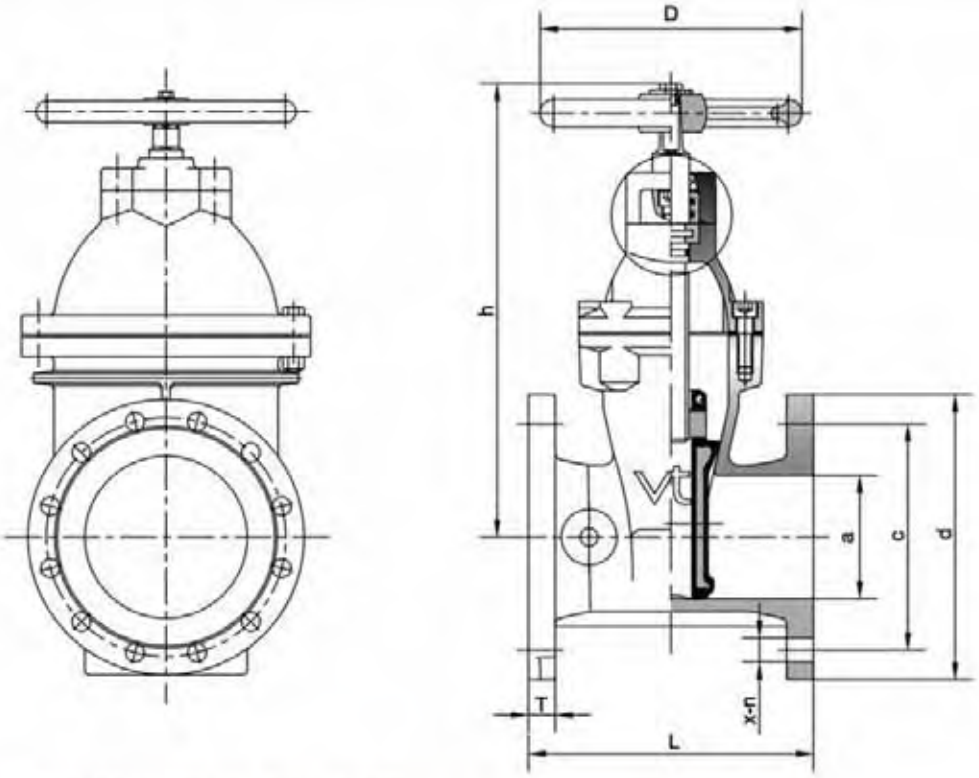


STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL			
1	Body	Ductile Iron	7	Sealing Ring	Brass
2	Disc	Ductile Iron+NBR / EPDM	8	Handwheel	Ductile Iron
3	Bonnet	Ductile Iron	9	Bonnet Gasket	NBR / EPDM
4	Stem	Stainless Steel 410, 431, 316	10	O Ring	NBR
5	Stem Nut	Brass	11	Dust Ring	NBR
6	Holding Ring	Brass	12	Bonnet Bolts	Stainless Steel

DIMENSIONS AND WEIGHTS

DN	PVC Tube O	L	L1	h	h1	D	WEIGHT kg
50	63	250	77	300	370	180	11
65	75	270	80	310	380	180	12
80	90	280	84	350	420	205	18
100	110	300	88	380	450	240	23
125	125	325	91	420	490	240	38
	140	325	91	420	490	240	40
150	160	350	94	470	540	280	47
200	200	400	100	590	660	320	74
	225	400	100	590	660	320	78
250	250	450	125	680	750	360	127
300	315	500	140	790	860	450	191

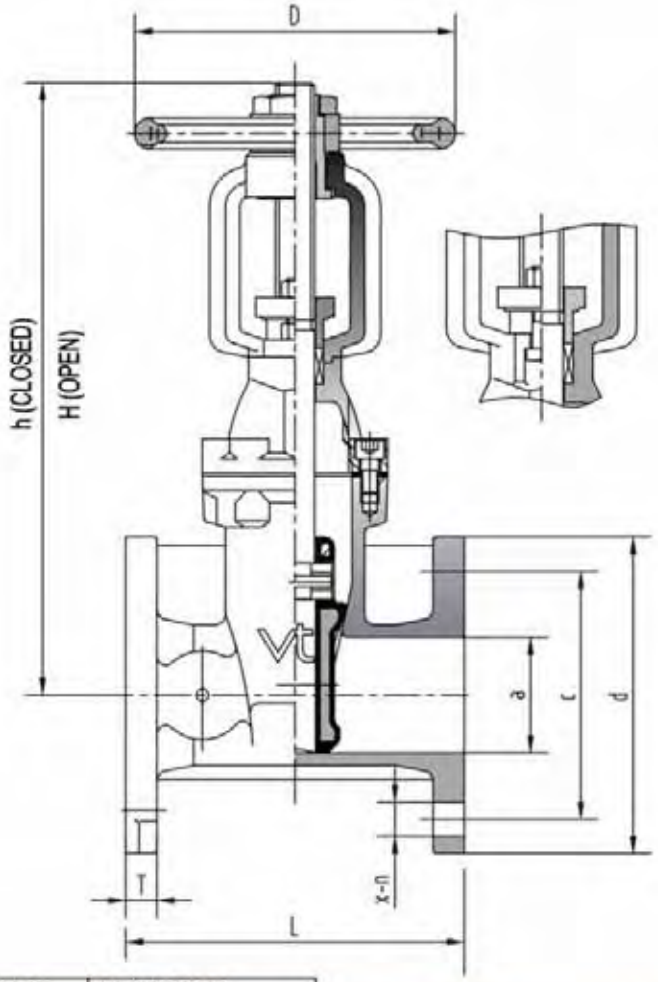


STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL	7	Sealing Ring	Brass
1	Body *	Ductile Iron	8	Gland	Ductile Iron
2	Disc	Ductile Iron+NBR / EPDM	9	Handwheel	Ductile Iron
3	Bonnet	Ductile Iron	10	Bonnet Gasket	NBR / EPDM
4	Stem	Stainless Steel 410, 431, 316	11	O Ring	NBR
5	Stem Nut	Brass	12	Dust Ring	NBR
6	Holding Ring	Brass	13	Bonnet Bolts	Stainless Steel

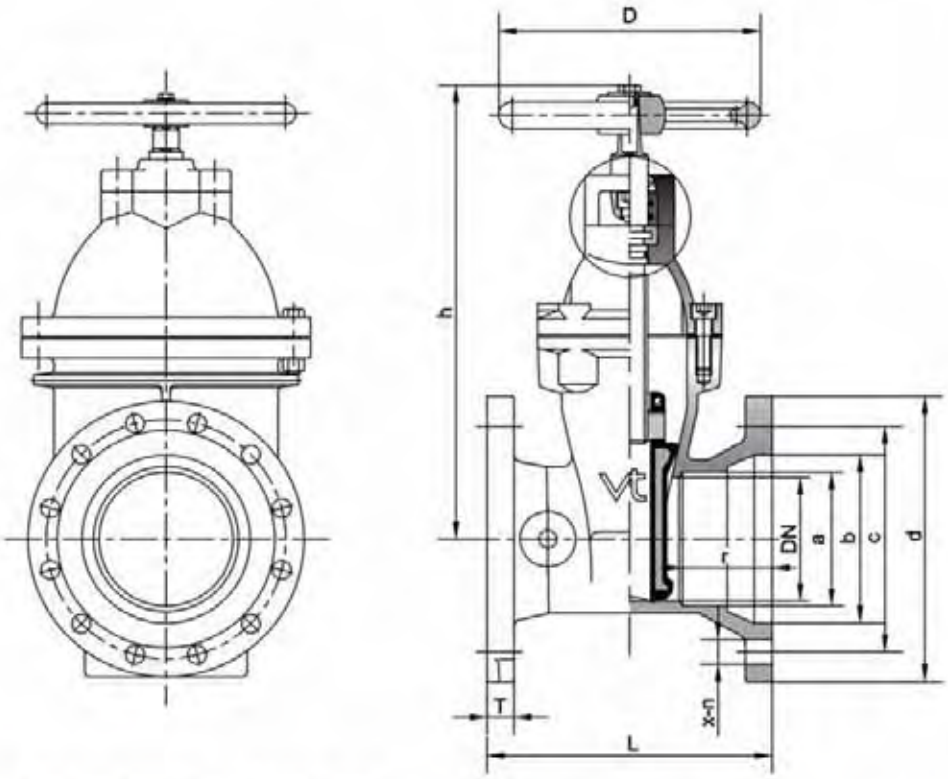
DIMENSIONS AND WEIGHTS

DN	OUTLINE mm				END FLANGE ANSI 125/150 mm					WEIGHT
	L	h	D	h1	a	d	c	x-n	T	kg
40	165	275	180	345	40	127	98.5	4-Ø16	14	13
50	178	280	180	350	50	152	120.5	4-Ø19	16	14
65	190	300	180	370	65	178	139.5	4-Ø19	17.5	16
80	203	335	205	405	80	191	152.5	4-Ø19	19.1	23
100	229	341	240	411	100	229	190.5	8-Ø19	24	27.5
125	254	430	240	500	125	254	216	8-Ø22	24	36.5
150	267	485	280	555	150	279	241.5	8-Ø22	25.4	52
200	292	580	320	650	200	343	298.5	8-Ø22	28.6	77
250	330	680	360	750	250	406	362	12-Ø25	30	127
300	356	785	450	855	300	483	432	12-Ø25	31.8	176
350	381	880	500	950	350	533	476	12-Ø29	35	322
400	406	990	560	1060	400	597	539	16-Ø29	37	432
450	432	1120	560	1200	450	635	578	16-Ø32	40	542
500	457	1220	650	1300	500	699	635	20-Ø32	43	695
600	508	1370	650	1470	600	813	749.5	20-Ø35	48	845



ITEM	PART NAME	MATERIAL			
1	Body	Ductile Iron*	6	Packing	Graphite
2	Wedge	D I+NBR / EPDM	7	Gland	Ductile Iron
3	Bonnet	Ductile Iron	8	Handwheel	Ductile Iron
4	Stem	Stainless Steel	9	Bonnet Gasket	NBR / EPDM
5	Stem Nut	Brass	10	Bonnet Bolts	Stainless Steel

DIMENSIONS AND WEIGHTS										
DN	OUTLINE mm				END FLANGE ANSI 125/150 mm					WEIGHT
	L	h	H	D	a	d	c	x-n	T	kg
40	165	320	365	180	40	127	98.5	4-Ø16	14	16
50	178	330	385	180	50	152	120.5	4-Ø19	16	18
65	190	345	415	180	65	178	139.5	4-Ø19	17.5	21
80	203	435	518	205	80	191	152.5	4-Ø19	19.1	30
100	229	465	570	240	100	229	190.5	8-Ø19	24	35
125	254	615	745	240	125	254	216	8-Ø22	24	48
150	267	630	790	280	150	279	241.5	8-Ø22	25.4	60
200	292	780	990	320	200	343	298.5	8-Ø22	28.6	85
250	330	915	1175	360	250	406	362	12-Ø25	30	139
300	356	1080	1390	450	300	483	432	12-Ø25	31.8	194



STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL	7	Sealing Ring	Brass
1	Body *	Ductile Iron	8	Gland	Ductile Iron
2	Disc	Ductile Iron+NBR / EPDM	9	Handwheel	Ductile Iron
3	Bonnet	Ductile Iron	10	Bonnet Gasket	NBR / EPDM
4	Stem	Stainless Steel 410, 431, 316	11	O Ring	NBR
5	Stem Nut	Brass	12	Dust Ring	NBR
6	Holding Ring	Brass	13	Bonnet Bolts	Stainless Steel

DIMENSIONS AND WEIGHTS

DN	OUTLINE mm				END FLANGE ANSI 125/150 mm							WEIGHT
	L	h	D	h1	a	b	d	c	x-n	T	r	kg
80	203	335	205	405	104.5	127	191	157.2	4-Ø22	17	63.5	23
100	229	341	240	411	126.3	154	229	190.5	4-Ø22	17	63.5	27.5
150	267	485	280	555	179.5	207.5	279	241.5	6-Ø22	17	63.5	52
200	292	580	320	650	234	262	343	298.5	6-Ø22	19	63.5	77
250	330	680	360	750	286	314	397	355.6	8-Ø22	19	63.5	127
300	356	785	450	855	339	367	454	413	8-Ø22	19	63.5	176
350	381	880	500	950	392	420	523	476	10-Ø22	20.1	88.9	322
400	406	990	560	1060	445	473.5	580	533.4	12-Ø22	21.6	88.9	432
450	432	1120	560	1200	499	526.8	635	590.6	12-Ø22	25.4	88.9	542
500	457	1220	650	1300	552	580	695	647.7	14-Ø22	25.9	88.9	695
600	508	1370	650	1470	659	686.8	810	762	16-Ø22	25.9	88.9	845

AWWA C 504 BUTTERFLY VALVES

PRODUCT FEATURES:

NSF Certified Fusion Bonded Epoxy Coating and EPDM rubber are used for valves to be used for in direct contact with potable (drinking) water, while all other components in contact with water being of Stainless Steel.

Vahn-tech manufactures butterfly valves fully compliant to AWWA C504 standards. We produce this valves with following end connections to suit varying customer needs.

Wafer Type

Sizes: NPS3~NPS20 (DN80~DN500) Pressure Rating: 150 psi / 25O psi

Flanged Ends Type

Size: NPS3~NPS72 (DN80~DN1800) Pressure Rating: 150 psi / 250 psi

We also manufacture valves larger than NPS72 on special requests.

Mechanical Joint End Type

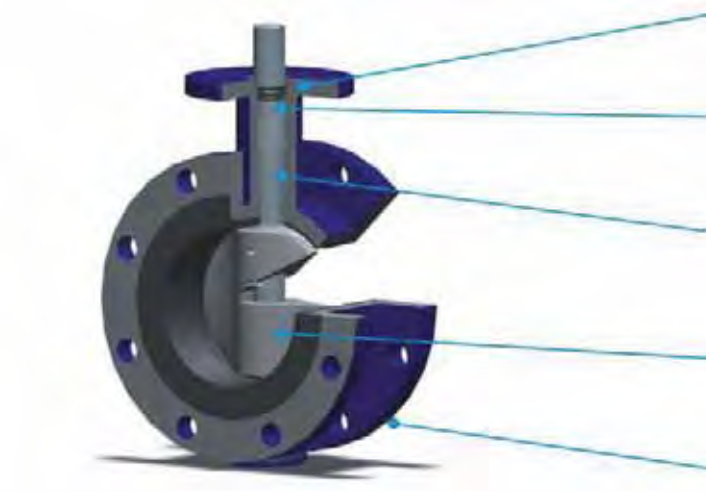
Size: NPS3~NPS48 (DN80~DN1200) Pressure Rating: 150 psi / 250 psi

* Our products are tested for Life Cycle tests as set down in AWWA C 504 standards. During these tests bi-directional sealing is tested under different pressure conditions.
* Our products are designed and tested to provide reliable performance during their entire service life.
  For Sizes DN 750 and above - The product design allows on-site maintenance and seat replacements option.
* NSF Certified Fusion Bonded Epoxy Coating and EPDM rubber are used for areas of valves coming in direct contact with potable (drinking) water , all other components being Stainless Steel
* The entire manufacturing process strictly complies with AWWA C 504 standards requirements.
* Our products provide high performance, reliable service and long service life.

Specifications and Standards:

1. Connection Flanges: ASME B16.10 Class 125 / AWWA C 111 / A21.11
2. Top Flange: MSS-SP-101/ISO 5211
3. Face to face: AWWA C504
4. Test standard: AWWA C504

3” ~ 24” AWWA Butterfly Valve Design Specifications



Shaft Seal
Self-sealing Y-type or V-type rings provide excellent sealing, low abrasion and long service life when fluid pressure increases

Self-Lubricating Bearing
Stainless steel backed PTFE bearing is designed for superior lubrication with low maintenance.

Corrosion Resistant Shaft
Shafts are ASTM A276 304 or 316 stainless steel. High strength stainless steel shaft is used for 250 psi pressure conforming to AWWA C504 standard.

Streamlined Disc
Disc is available in either ductile iron with stainless steel sealing edge or all stainless steel. The spherical design permit efficient sealing.

Body
Body is available in cast iron or cast steel. Flange dimensions conform to ASME B16.1 class 125 or class 250

Corrosion Resistant Shaft
Shaft is made of ASTM A 276 304 or High strength stainless steel. Upper and Lower pieces of shafts fully comply with the design requirements of AWWA C504 Class 150B.

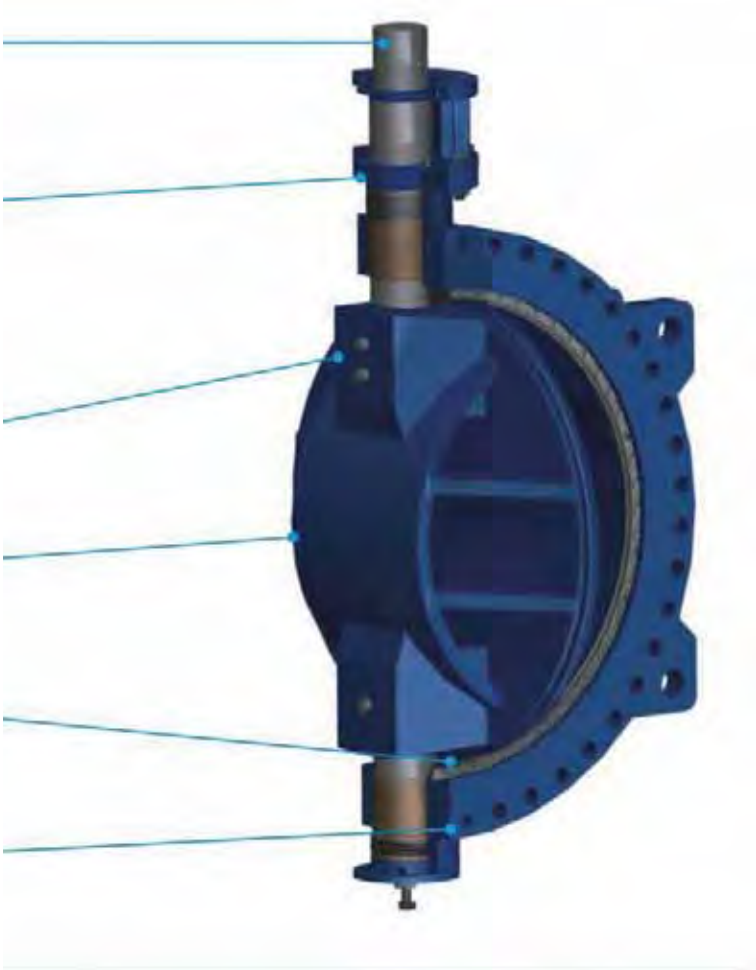
Shaft Sealing
Self-Sealing Y-type or V-type rings can provide excellent sealing, low abrasion, long service life when fluid pressure increases.

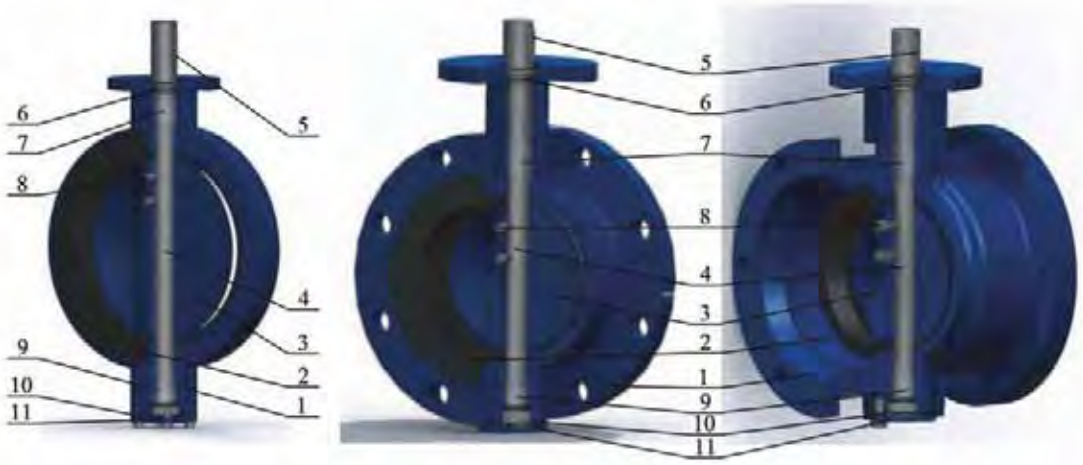
Shaft Connection
Disc-shaft connection is achieved by use of stainless steel pins and self-locking nuts or pin free design, that transmits the required torque and insures strong connection between disc and shaft performing in all conditions without loosening the disc-shaft connection.

Disc
The dome-shaped disc reduces the resistance to the fluid and enhances its strength to be more reliable in service.

Seat
NSF approved EPDM Rubber is used for seat material for applications requiring contact with Potable (drinking) water. The seat is designed to allow field removal/replacement.

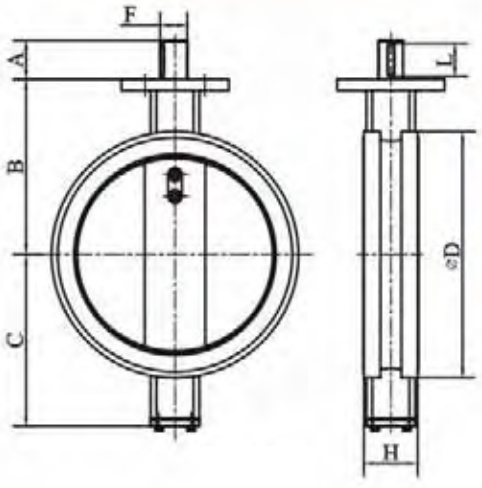
Body
Body is made of ASTM A536 cast iron or cast steel flange dimensions conform to ASME B16.1 Class I25 or Class 250.





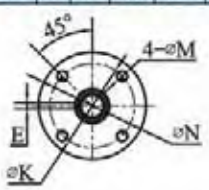
Material List(NPS3~NPS24)

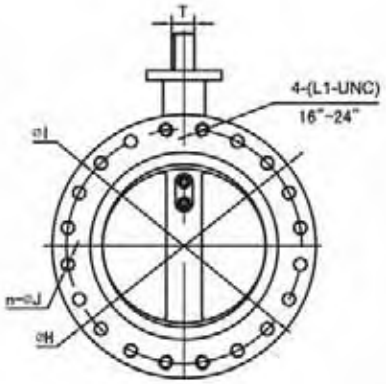
NO.	Name	Material	Optional Material
1	Body	ASTM A536 65-45-12	ASTM A126B, Cast Steel
2	Seat	EPDM	Buna
3	Disc	ASTM A536 65-45-12+SS316	Cast Steel/Alloy Steel+SS316, Stainless Steel
4	Shaft	Stainless Steel	——
5	Key	Carbon Steel	——
6	Combined Ring	Rubber	——
7	Upper Bushing	Stainless Steel+Teflon	——
8	Thread Taper Pin	Stainless Steel	——
9	Lower Bushing	Stainless Steel+Teflon	——
10	Bottom Cover Gasket	Rubber	——
11	Bottom Cover	ASTM A536 65-45-12	ASTM A126B, Cast Steel

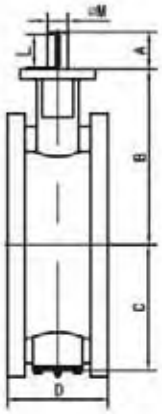


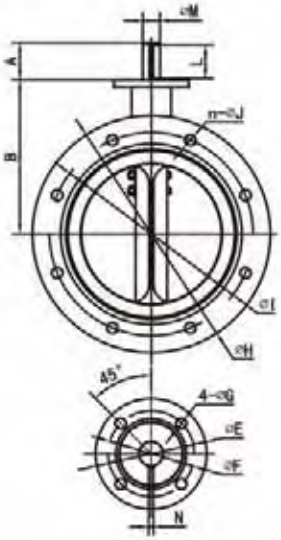
Dimensions(mm)

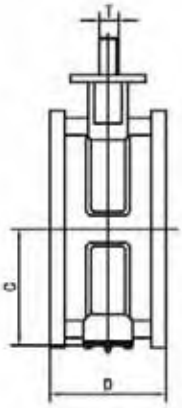
DN	NPS	A	B	C	H	ΦD	E	F	L	ΦN	ΦK	4-ΦM
80	3	39	120	91	50.8	132	3.18	15.69	32	90	69.9	8.8
100	4	39	140	111	57.2	167	4.76	17.91	32	90	69.9	8.8
150	6	52	165	141	71.4	213	6.35	31.39	40	150.1	125.7	14.3
200	8	52	200	171	74.6	270	6.35	31.39	40	150.1	125.7	14.3
250	10	76	228	233	79.4	326	7.94	38.44	66	150.1	125.7	14.3
300	12	76	268	253	85.7	400	7.94	38.44	66	150.1	125.7	14.3
350	14	76	300	287	96.3	440	9.53	45.5	66	150.1	125.7	14.3
400	16	76	342	335	105	480	12.7	53.11	66	209.6	165.1	20.6
450	18	89	365	350	117	535	12.7	61.19	80	209.6	165.1	20.6
500	20	89	406	385	130	590	12.7	61.19	80	209.6	165.1	20.6





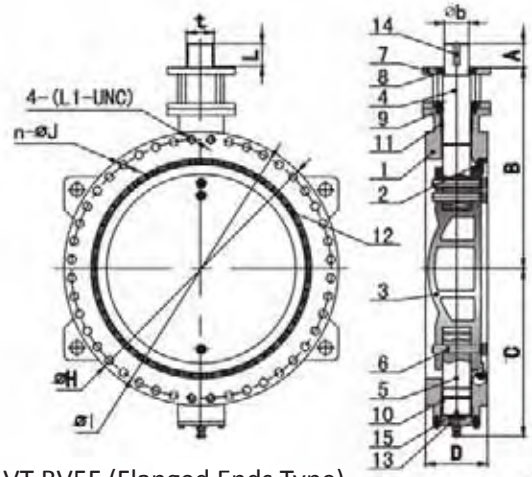




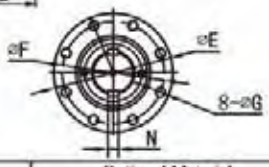


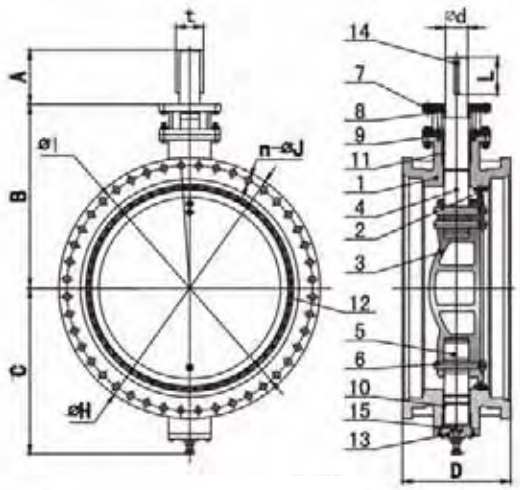
NPS3-NPS24 Dimensions(mm)

DN	NPS	A	B	C	D		øE	øF	øG	BV5F			BV5MJ			T	L	4-(L1-UNC)	N	M
					BV5F	BV5MJ				øH	n-øJ	øI	øH	n-øJ	øI					
80	3	39	159	90	127	216	90	69.9	8.8	190	4-ø19.05	152	195.3	4-19.05	157.2	15.7	32	—	3.18	14.3
100	4	39	178	101	127	216	90	69.9	8.8	230	8-ø19.05	191	231.6	4-22.23	190.5	17.89	32	—	4.76	15.9
150	6	52	203	149	127	216	150.1	125.7	14.3	280	8-ø22.23	241	282.4	6-22.23	241.3	31.39	40	—	6.35	28.6
200	8	52	242	159	152	219	150.1	125.7	14.3	345	8-ø22.23	299	339.6	6-22.23	298.5	31.39	40	—	6.35	28.6
250	10	76	274	195	203	235	150.1	125.7	14.3	405	12-ø25.4	362	398.5	8-22.23	355.6	38.44	66	—	7.94	34.9
300	12	76	313	231	203	235	150.1	125.7	14.3	485	12-ø25.4	432	455.7	8-22.23	412.8	38.44	66	—	7.94	34.9
350	14	76	356	261	203	292	150.1	125.7	14.3	535	12-ø28.58	476	515.9	10-22.23	476.3	45.47	66	—	9.53	41.3
400	16	76	382	288	203	305	209.6	165.1	20.6	595	12-ø28.58	540	573	12-22.23	533.4	53.11	66	4-(1-8UNC)	12.7	47.6
450	18	89	420	330	203	311	209.6	165.1	20.6	635	12-ø31.75	578	630.7	12-22.23	590.6	61.19	80	4-(1¼-7UNC)	12.7	57.2
500	20	89	459	362	203	318	209.6	165.1	20.6	700	16-ø31.75	635	687.8	14-22.23	647.7	61.19	80	4-(1¼-7UNC)	12.7	57.2
600	24	89	572	421.4	203	337	209.6	165.1	20.6	815	16-ø34.93	749	802.1	16-22.23	762	61.19	80	4-(1¼-7UNC)	12.7	57.2



Model VT-BV5F (Flanged Ends Type)





Model VT-BV5MJ (Mechanical Joint Type)

Material List

NO.	Name	Material	Optional Material
1	Body	ASTM A536 65-45-12	ASTM A126B,Cast Steel
2	Seat	EPDM	Buna
3	Disc	ASTM A536 65-45-12+SS316	Cast Steel/Alloy Steel+SS316,Stainless Steel
4	Upper Shaft	Stainless Steel	
5	Lower Shaft	Stainless Steel	
6	Taper Pin	Stainless Steel	
7	Yoke	ASTM A536 65-45-12	ASTM A126B,Cast Steel
8	Cover	ASTM A536 65-45-12	ASTM A126B,Cast Steel
9	Gland Cover	ASTM A536 65-45-12	ASTM A126B,Cast Steel
10	Bushing	Lubricated Copper	——
11	Combined Ring	Rubber	
12	Retained Plate	Stainless Steel	
13	Bottom Cover	ASTM A536 65-45-12	ASTM A126B,Cast Steel
14	Key	Carbon Steel	
15	Antifrictoin Ring	ASTM A536 65-45-12	ASTM A126B

Dimension(mm)

DN	NPS	A	B	C	D		øE	øF	øG	ød	BV5F			BV5MJ			L	t	N	4-(L1-UNC)
					BV5F	BV5MJ					øH	n-øJ	øI	øH	n-øJ	øI				
750	30	110	781	622	305	457.2	300	254	18	70	985	24-ø35	914	994	20-ø26.6	936.8	95	79	20	4-(1¼-7UNC)
900	36	150	850	727.5	305	558.8	350	298	23	85	1170	28-ø41	1088	1168	24-ø28.6	1111.3	140	107	28	4-(1½-6UNC)
1050	42	170	980	860	305	558.8	350	298	23	92	1345	32-ø41	1257	1349	28-ø35	1285.7	160	112	25	4-(1½-6UNC)
1200	48	170	1101	960	381	609.6	350	298	23	110	1510	40-ø41	1422	1524	32-ø35	1460.5	160	124	32	4-(1½-6UNC)
1350	54	150	1235	1040	381	——	415	356	33	150	1685	40-ø51	1594	——	——	——	140	166	36	4-(1¾-5UNC)
1500	60	315	1095	1215	381	——	475	406	39	140	1855	48-ø51	1759	——	——	——	280	156	36	4-(1¾-5UNC)
1650	66	320	1136	1320	457	——	475	406	39	170	2032	48-ø51	1930	——	——	——	300	206.5	44.5	4-(1¾-5UNC)
1800	72	340	1230	1490	457	——	475	406	39	188	2195	56-ø51	2096	——	——	——	320	208	45	4-(1¾-5UNC)

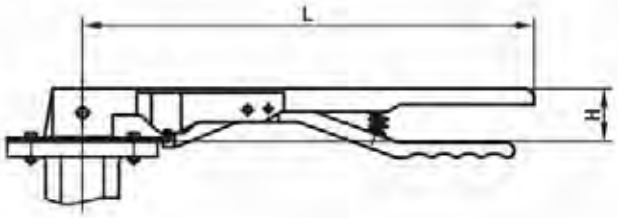
CV Value

DN	80	100	150	200	250	300	350	400	450	500	600
NPS	3	4	6	8	10	12	14	16	18	20	24
Cv	291	379	1072	2362	4387	6699	9574	12356	16898	21421	27889

Torque Value

DN	80	100	150	200	250	300	350	400	450	500	600
NPS	3	4	6	8	10	12	14	16	18	20	24
150B (N.m)	20	35	75	150	220	550	670	920	1375	1890	2850
250B (N.m)	53	65	150	275	502	913	1070	1473	1916	2591	3852

Lever



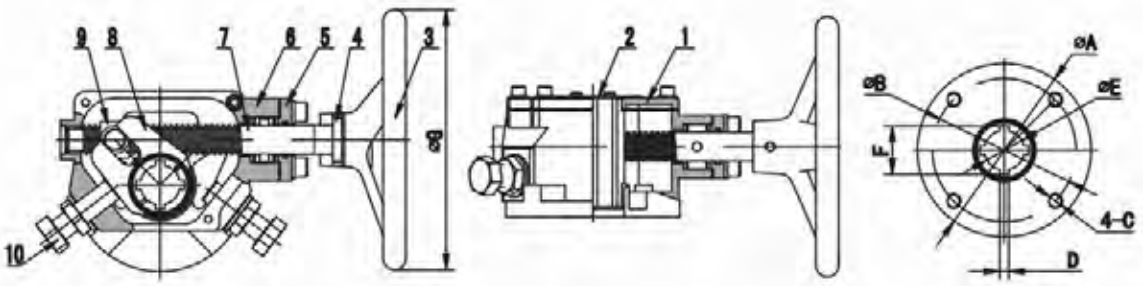
Lever Dimensions(mm)

Valve Size		H	L
DN	NPS		
80~100	3~4	40	200
150~200	6~8	52	450

The Hand Lever is designed to be lightweight, compact and easy to operate to provide a long term reliable performance. Hand Lever is made of Epoxy Coated Ductile Iron. The angle plate is made up of Chromium Plates Steel with 10 position notches.

AWWA C 504 design based travelling nut gear operator can be mounted on all valves sizes both for above and underground service. For Gear Box to be used above ground, a hand wheel and visual position indicator can be provided. Chainwheel with 2" Square Nut is also available as an option. Standard gear box for underground use is filled with 90% grease in the housing chamber & is also equipped with 2" Square Nut.

Traveling Nut Operator



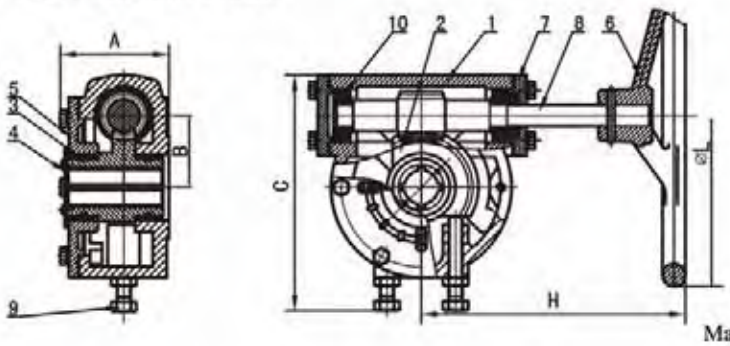
Material List

NO.	Name	Material
1	Cover	ASTM A536 65-45-12
2	Indicator	ASTM A283
3	Handwheel	ASTM A536 65-45-12
4	Pin	Carbon Steel
5	End Cover	ASTM A536 65-45-12
6	Housing	ASTM A536 65-45-12
7	Stem	Carbon Steel
8	Lever	ASTM A536 65-45-12
9	Nut	Copper Alloy
10	Bolt	Carbon Steel

Dimensions (mm)

Size		Model	A	B	C	D	E	F	øG
DN	NPS								
150	6	80:1	152	125.7	½-13UNC	6.35	28.6	34.44	308
200	8	80:1	152	125.7	½-13UNC	6.35	28.6	34.44	308
250	10	80:1	152	125.7	½-13UNC	7.94	34.93	42.18	308
300	12	80:1	152	125.7	½-13UNC	7.94	34.93	42.18	308
350	14	80:1	152	125.7	½-13UNC	9.54	41.28	50	308
400	16	140:1	205	165	¾-10UNC	12.7	47.63	58.85	700
450	18	140:1	205	165	¾-10UNC	12.7	57.15	65.48	700
500	20	140:1	205	165	¾-10UNC	12.7	57.15	65.48	700
600	24	140:1	205	165	¾-10UNC	12.7	57.15	65.48	700

NPS3-NPS14 Worm Gear Operator



Dimensions(mm)

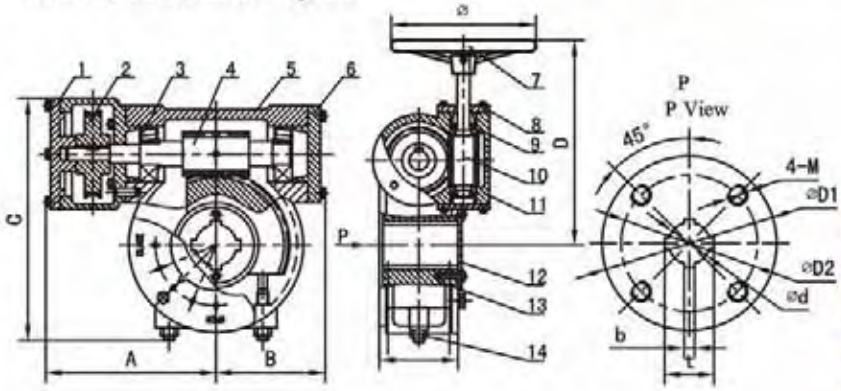
Size DN	Size NPS	A	B	C	ØD1	ØD2	H	ØL	E	4-N	4-M	Ratio	MAX. Output Torque (N.m)
80	3	95	63	206	90	69.9	231	300	17.37	4-3.18	4-(3/8-18UNC)	30:1	500
100	4	95	63	206	90	69.9	231	300	20.12	4-4.76	4-(3/8-18UNC)	30:1	500
150	6	95	63	206	152	125.7	231	300	34.44	4-6.35	4-(1/2-13UNC)	30:1	500
200	8	95	63	206	152	125.7	231	300	34.44	4-6.35	4-(1/2-13UNC)	30:1	500
250	10	93.5	80	230.5	152	125.7	234	300	42.18	4-7.94	4-(1/2-13UNC)	50:1	800
300	12	93.5	80	230.5	152	125.7	234	300	42.18	4-7.94	4-(1/2-13UNC)	50:1	800
350	14	93.5	80	230.5	152	125.7	234	300	49.96	4-9.53	4-(1/2-13UNC)	50:1	800

Material List

NO.	Name	Material
1	Housing	Ductile Iron
2	Worm Gear	Ductile Iron/Bronze
3	Bushing	Bronze
4	Indicator	Carbon Steel
5	Cover	Ductile Iron
6	Handwheel	Ductile Iron
7	End Cover	Ductile Iron
8	Worm Gear Shaft	Carbon Steel
9	Bolt	Carbon Steel
10	Combined Bushing	

NPS16-NPS24

NPS16-NPS24 Worm Gear Operator



Material List

NO.	Name	Material
1	Small Cover	Ductile Iron
2	Small Worm Gear	Ductile Iron
3	Bearing	
4	Big Worm Gear Shaft	Carbon Steel
5	Big Housing	Ductile Iron
6	Big End Cover	Ductile Iron
7	Handwheel	Ductile Iron
8	Small End Cover	Ductile Iron
9	Bearing	
10	Small Worm Gear Shaft	Carbon Steel
11	Small Cover	Ductile Iron
12	Indicator	Carbon Steel
13	Big Worm Gear	Copper Alloy Ductile Iron
14	Bolt	Carbon Steel

Dimensions(mm)

Size DN	Size NPS	Model	A	B	C	D	H	Ø	Ød	b	t	ØD2	ØD1	4-M	Ratio	MAX Out Put Torque(N.m)
400	16	3D-30/250	235	121	295	260	125	300	47.63	9.53	52.13	165	203	4-(3/4-10UNC)	192:1	2500
450	18	3D-30/250	235	121	295	260	125	300	57.15	12.7	61.6	165	203	4-(3/4-10UNC)	192:1	2500
500	20	3D-30/400	235	121	295	280	125	300	57.15	12.7	61.6	165	203	4-(3/4-10UNC)	192:1	4000
600	24	3D-30/400	235	121	295	280	125	300	57.15	19	63.3	165	203	4-(3/4-10UNC)	192:1	4000

vahn-tech
international inc.

WRAS
Water Regulations Advisory Scheme

This certifies that

VAHN-TECH INTERNATIONAL INC.

has had the undermentioned product examined, tested and found, when correctly installed, to comply with the requirements of the United Kingdom Water Supply (Water Fittings) Regulations/Scottish Water Byelaws.

VT RANGE OF GATE VALVES (DN50 - DN300)

Reference should be made to the accompanying acceptance letter for installation requirements

The product so mentioned will be listed in the Water Fittings and Materials Directory for a period until:

1 MAY 2011

0605150

WRAS APPROVED PRODUCT

Intertek

Certificate of Registration

The following organization's quality management system has been assessed and registered by Intertek Testing Services NA Ltd. as conforming to the requirements of:

ISO 9001:2000

Organization:

VAHN-TECH INTERNATIONAL INC.

2908 - 13, Port York Boulevard, Toronto, Ontario, M5V 3Y4 Canada

The Quality Management System is applicable to:

Manufacture and distribution of industrial valves, actuators and related accessories

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