

DT2212

Live Technology & Valuable Valves

DATEC®

**DBB
PLUG VALVE**





YOUR BEST PARTNER

A BRAND depicting superior quality and meeting global practice standards ABOUT US

We, DoTEC CO., LTD. are a professional & specialist valve manufacturing company with many years of proven track record.

We are dedicated to design, develop and manufacture a wide range of superior quality valves and customer-orientated in offering prompt service. This catalog illustrates the types and range of valves we manufacture and market; many of which are manufactured by us and some, with in-house QC tests and certification by our professional engineers.

Our products are supplied locally and overseas worldwide for new and upgrading projects in chemical plants, petrochemical & thermal plants, oil-field and refinery applications-both onshore and offshore.

We are capable of providing timely technical solutions to meet customers specific applications and needs and will promptly attend to any urgent enquiry.

With our long-standing experience & in-depth engineering knowledge in valve manufacturing we hope to satisfy your service & technical expectations in terms of quality, price, delivery and after sales service.

We always regard and value our customers as enduring partners in business and technological advancement.

With best wishes and kindness regards,
Yours sincerely.

Jonathan Koo

Ph. D. / President



Design Features

Zero Leakage

Selection of valve is very important in the petroleum industry. An incorrect selection of valve may cause a loss of income, Pollution of environments, and an increase of maintenance costs. DoTEC double block-and bleed valve was designed to Withstand frequent cycling and provide a tight seal shutoff, and used in metering stations, tank farms, marine loading docks, Air port and blending plants.



No Abrasion

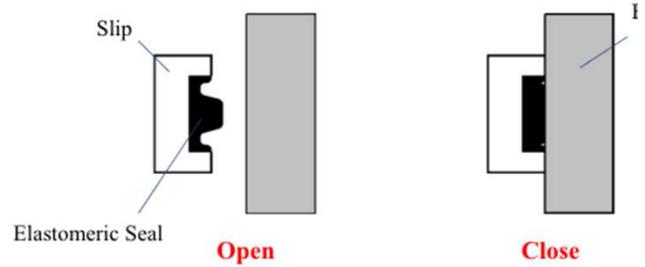
DoTEC double block-and bleed plug valve is designed that the seals do not come into contact with the valve body while operating. The seals come into contact with the body at the last moment of closing. This design eliminates abrasion of The seals and extends seal life without leakage.





High Integrity Shutoff

When the valve is closed, the elastomeric seals on the slips are compressed between the slips and valve body for tight sealing. As for being fire-safe, slips are seated by metal-to-metal with valve body. This results in both an elastomeric and metal-to-metal tight sealing.



In Line Repairability

DoTEC valve is possible to inspect and replace the sealing slips on the pipe line. Bolted bottom cover can be disassembled to replace the sealing slips on the pipe line.





How the DBB Plug Valve Works

1. Closing

As the plug down, it force the seating slips outwards, pushing the seals against the body and compressing them within the grooves. With the slips solidly seated against the body, a secondary metal-to metal seat is formed on both sides of each seal, providing double protection.

2. Lifting

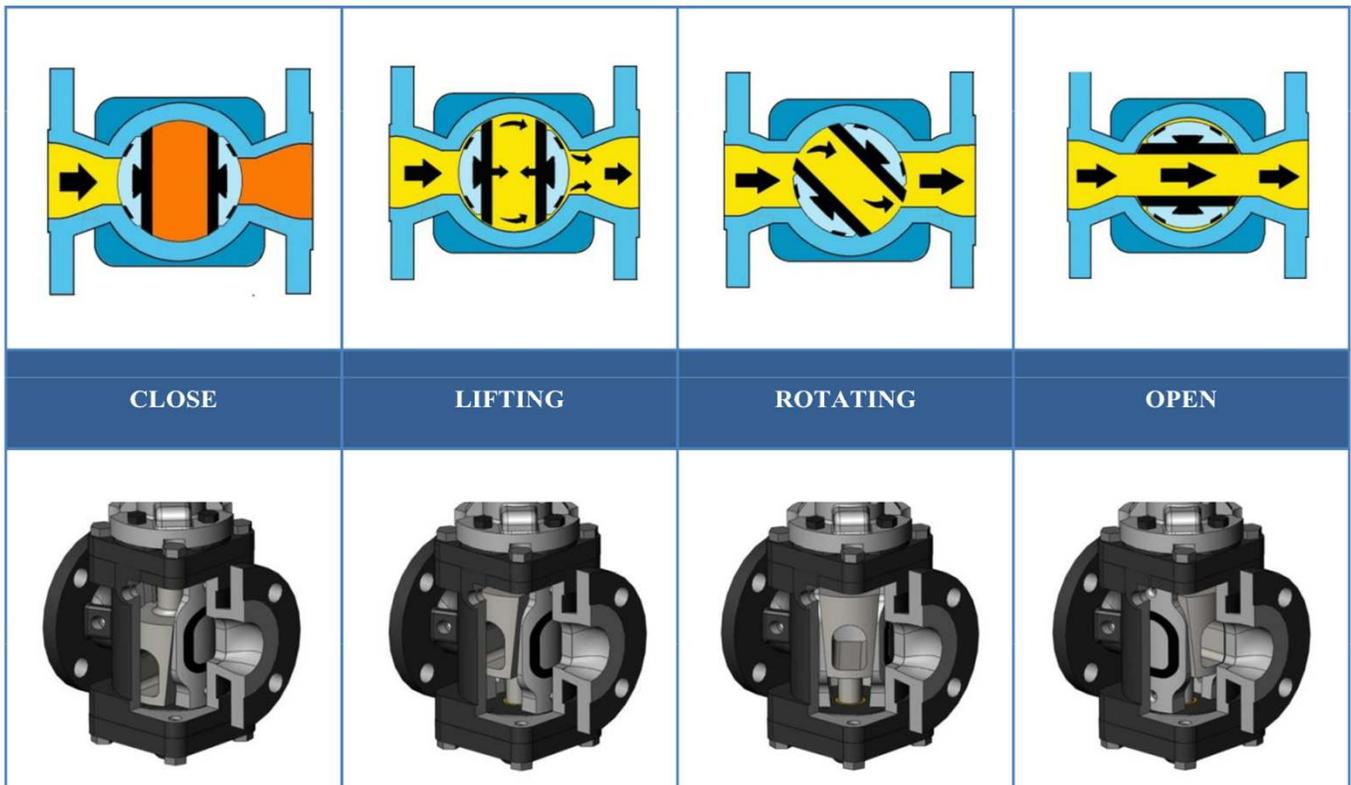
When opening, the plug moves upwards and the slips are pulled away from the body by dove-tail in plug and slip.

3. Rotating

After the slips are pulled away enough from the body, the plug rotate 90 degrees with slip.

4. Opening

In the full open position, the seals are not contacted with the flow directly. It protects the seals from scraping and rubbing by flow.





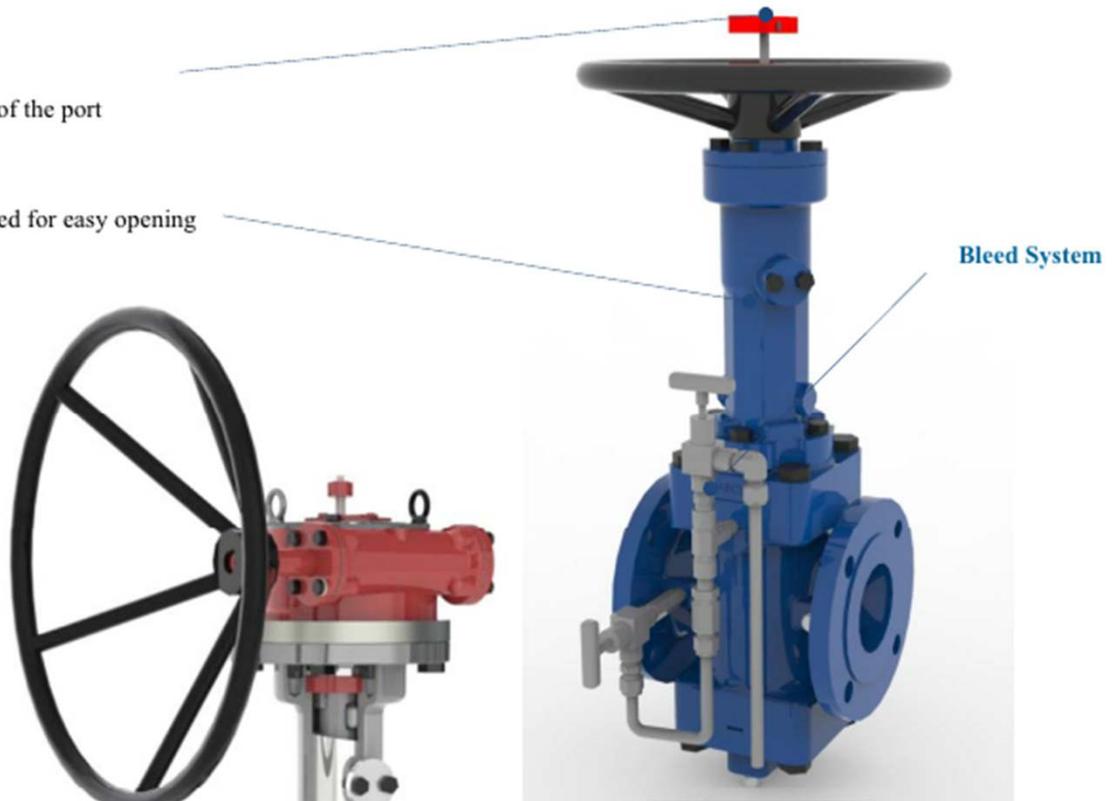
Design Features

Indicator:

This indicates the direction of the port

Mechanism:

This is designed for easy opening and closing.



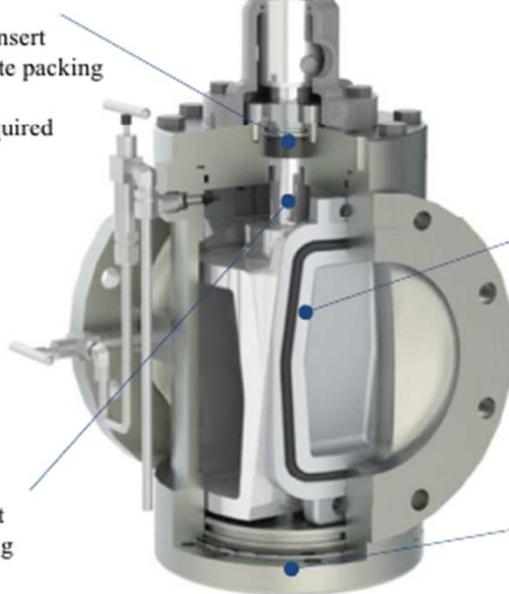
2" - 4" with hand wheel

Gland & Packing :

This is designed to insert both fire safe graphite packing and Viton O-ring or other customer's required material.

Plug & Trunnion:

This is designed to insure the trunnions (upper & lower) and maintain correct alignment of the plug during opening and closing.



Slip & Viton(Teflon) Seal:

The Viton(Teflon) seal within the slip executes high integrity shutoff for double block and bleed valve.

Bottom Cover:

Bolted bottom cover can be disassembled to replace the sealing slips on the pipe line

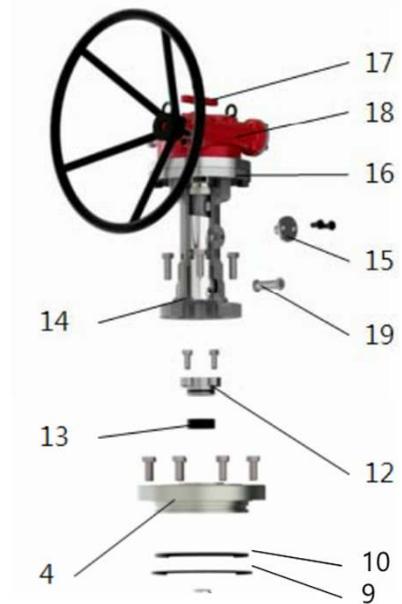
6" - 40" with gear operator



Parts and Materials

Construction Materials:

A variety of materials are available such as carbon steel, stainless steel, duplex stainless steel and special alloys. Materials are subject to change without notice. Other materials and combinations are also available.



Sample Construction of Material

Carbon Steel (VITON)

No	Parts	Specification
1	Body	A216 WCB + Cr plated
2	Plug	A216 WCB + ENP
3	Stem	17-4PH
4	Top cover	A216 WCB
5	Bottom cover	A216 WCB
6	Slip	A536 65-45-12 + MPC
7	Slip seal	VITON
8	Bushing	A436 Type 2
9	Gasket	(Graphite+316) SWG
10	O-ring	VITON
11	Cover bolt	A193 B7
12	Gland	A216 WCB + Zn plated
13	Gland packing	Graphite
14	Housing	A216 WCB
15	Guide	A322 4140
16	Housing cover	AISI 1045
17	Indicator	AISI 1020
18	Gear operator	Ductile iron
19	Plug pin	A322 4140
20	Drain plug	AISI 316/316L

316 Stainless (TEFLON)

No	Specification
1	A351 CF8M + Cr plated
2	A351 CF8M + ENP
3	17-4PH
4	A351 CF8M
5	A351 CF8M
6	A439 D-2C + MPC
7	TEFLON(PFA)
8	A436 Type 2
9	(Graphite+316) SWG
10	As per Client's request
11	A193 B8
12	A351 CF8M
13	Graphite
14	A216 WCB
15	A322 4140
16	AISI 1045
17	AISI 1020
18	Ductile iron
19	A322 4140
20	AISI 316/316L

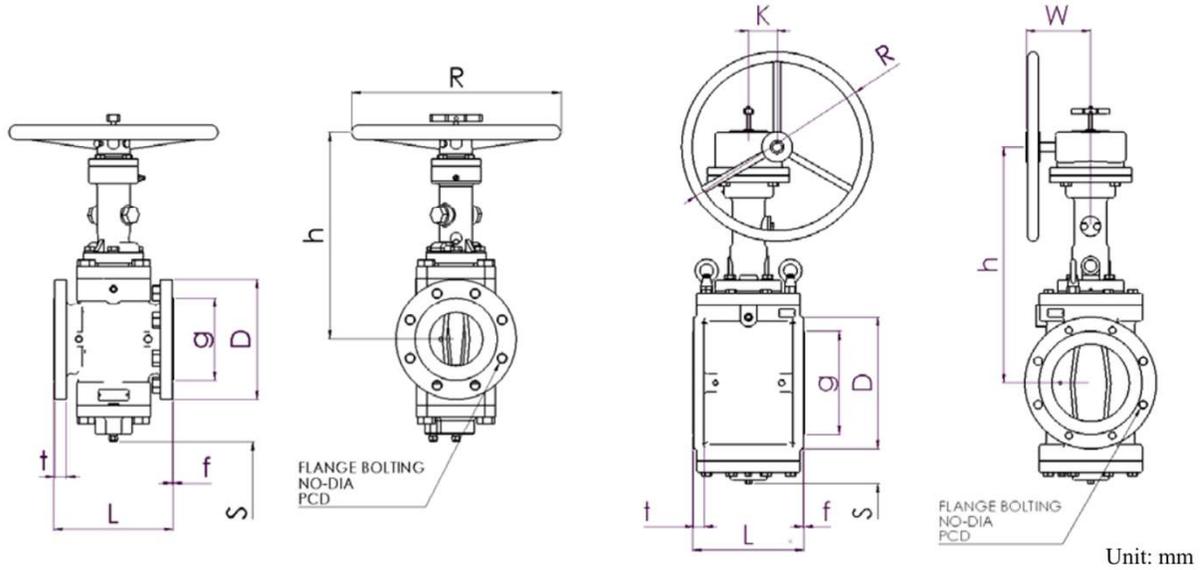
Lower temperature - (NBR)

No	Specification
1	A352 LCB + Cr plated
2	A352 LCB + ENP
3	17-4PH
4	A352 LCB
5	A352 LCB
6	LT-70 + MPC
7	Low Temp. NBR
8	A436 Type 2
9	(Graphite+316) SWG
10	Low Temp. NBR
11	A320 L7
12	A352 LCB + Zn plated
13	Graphite
14	A216 WCB
15	A322 4140
16	AISI 1045
17	AISI 1020
18	Ductile iron
19	A322 4140
20	AISI 316/316L



Standard Type Dimensions – Class 150

Figure No. 124 - Class 150 / Size 2” - 40” / Raised Face Flange



Unit: mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	+S
2	178	150	120.7	4	19	92.1	14.3	2	360	300	-	-	250
3	203	190	152.4	4	19	127	17.5	2	380	300	-	-	300
4	229	230	190.5	8	19	157.2	22.3	2	400	400	-	-	350
*6	267	280	241.3	8	22	215.9	23.9	2	485	300	70	230	320
*8	292	345	298.5	8	22	269.9	27.0	2	600	400	83	260	420
**10	330	405	362.0	12	25	323.8	28.6	2	710	500	97	294	470
**12	356	485	431.8	12	25	381.0	30.2	2	750	500	97	294	560
***14	381	535	476.3	12	29	412.8	33.4	2	830	560	112	324	630
***16	406	595	539.8	16	29	469.9	35.0	2	905	560	112	324	740
****18	432	635	577.9	16	32	533.4	38.1	2	1,035	630	112	324	820
20	914	700	635	20	32	584.2	41.3	2	1,170	710	32	413	840
22	++980	750	692.2	20	35	641.4	44.5	2	1,190	710	153	449	880
24	1,067	815	749.3	20	35	692.2	46.1	2	1,230	710	153	449	960
30	++1,270	985	914.4	28	35	857	73.1	2	1,410	800	180	479	1,220
36	++1,500	1,170	1,085.8	32	41	1,022	88.9	2	1,610	900	180	479	1,350
40	++1,700	1,290	1,200.2	36	41	1,124	88.9	2	2,040	900	230	579	1,600

- 2”~ 4”(Handle Operated) / 6”~40”(Gear Operated)

+ Minimum Clearance for installation, repair and replacement

++ Manufacturing Standard

* 2 top and bottom holes in flanges are tapped for 3/4-10UNC

** 2 top and bottom holes in flanges are tapped for 7/8-9UNC

*** 14” 2 top and bottom holes / 16” 4 Top and bottom holes in flanges are tapped for 1-8UNC

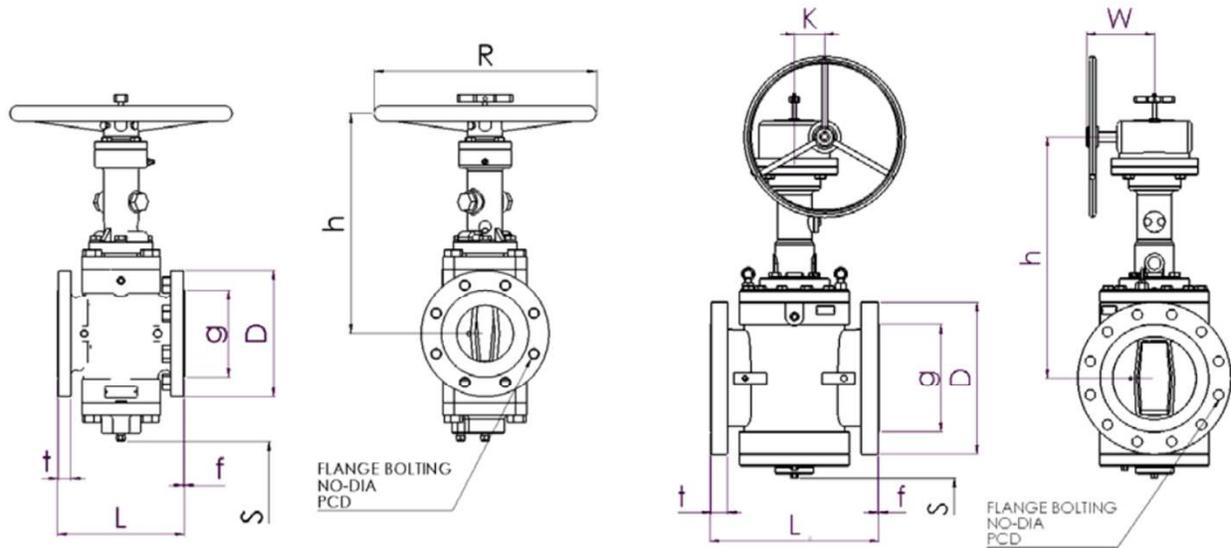
**** 4 top and bottom holes in flanges are tapped for 1.1/8-8UNC

- If additional classes and sizes are required, please consult the factory when ordering.



Standard Type Dimensions – Class 300

Figure No. 324 - Class 300 / Size 2” - 30” / Raised Face Flange



Unit: mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	+ S
2	216	165	127.0	8	19	92.1	20.7	2	350	300	-	-	200
3	282	210	168.3	8	22	127.0	27.0	2	360	300	-	-	220
4	305	255	200.0	8	22	157.2	30.2	2	380	400	-	-	250
6	403	320	269.9	12	22	215.9	35.0	2	485	300	70	230	320
8	419	380	330.2	12	25	269.9	39.7	2	600	400	83	260	420
*10	457	445	387.4	16	29	323.8	46.1	2	710	500	97	294	470
**12	502	520	450.8	16	32	381.0	49.3	2	805	560	112	324	560
14	762	585	514.4	20	32	412.8	52.4	2	925	630	43	349	630
16	838	650	571.5	20	35	469.9	55.6	2	1,090	710	32	413	700
18	914	710	628.6	24	35	533.4	58.8	2	1,200	710	153	370	800
20	991	775	685.8	24	35	584.2	62.0	2	1,310	800	180	479	870
24	1,143	915	812.8	24	41	692.2	68.3	2	1,410	800	180	479	1,050
28	1,346	1,035	939.8	28	45	800	84.2	2	1,560	800	230	579	1,200
30	1,397	1,090	997.0	28	48	857	90.5	2	1,720	900	281	634	1,350

- 2”~ 4”(Handle Operated) / 6”~30”(Gear Operated)

+ Minimum Clearance for installation, repair and replacement

++ Manufacturing Standard

* 2 top and bottom holes in flanges are tapped for 1-8UNC

** 2 top and bottom holes in flanges are tapped for 1.1/8-8UNC

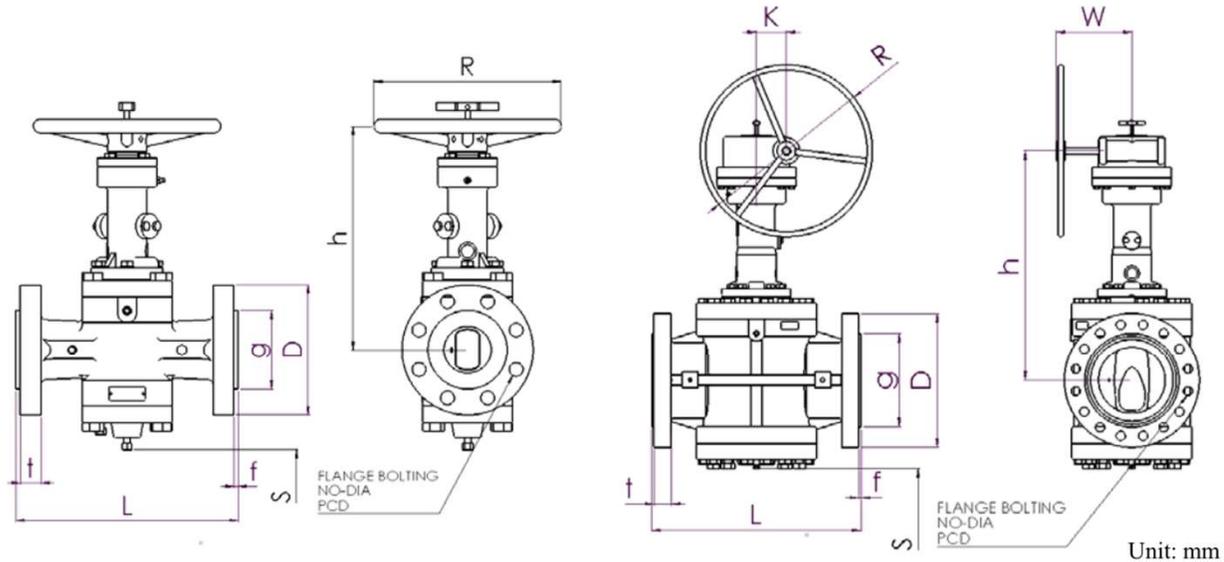
- If additional classes and sizes are required, please consult the factory when ordering.



Standard Type Dimensions – Class 600/900

Figure No. 624 - Class 600 / Size 2" - 24"/ Raised Face Flange

Figure No. 924 - Class 900 / Size 4" - 12"/ Raised Face Flange



Class	Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	+ S
600	2	292	165	127.0	8	19	92.1	25.4	7	350	400	-	-	220
	3	356	210	168.3	8	22	127.0	31.8	7	370	400	-	-	240
	4	432	275	215.9	8	25	157.2	38.1	7	445	300	70	230	260
	6	559	355	292.1	12	29	215.9	47.7	7	685	500	97	294	400
	8	660	420	349.2	12	32	269.9	55.6	7	775	560	112	324	470
	10	787	510	431.8	16	35	323.8	63.5	7	865	630	43	349	550
	12	838	560	489.0	20	35	381.0	66.7	7	1,050	710	153	449	620
	16	991	685	603.2	20	41	469.9	76.2	7	1,180	800	180	479	760
	20	1,194	815	723.9	24	45	584.2	88.9	7	1,300	800	180	479	900
	24	1,397	940	838.2	24	51	692.2	101.6	7	1,500	900	230	579	1,050
900	4	457	290	235	8	32	157.2	44.5	7	535	400	83	260	290
	6	610	380	317.5	12	32	215.9	55.6	7	745	560	112	324	480
	8	737	470	393.7	12	38	269.9	63.5	7	835	630	43	349	560
	10	838	545	469.9	16	38	323.8	69.9	7	1,020	710	32	413	640
	12	965	610	533.4	20	38	381.0	79.4	7	1,170	800	59	443	790

- 2"~3"(Handle Operated) / 4"~24"(Gear Operated)

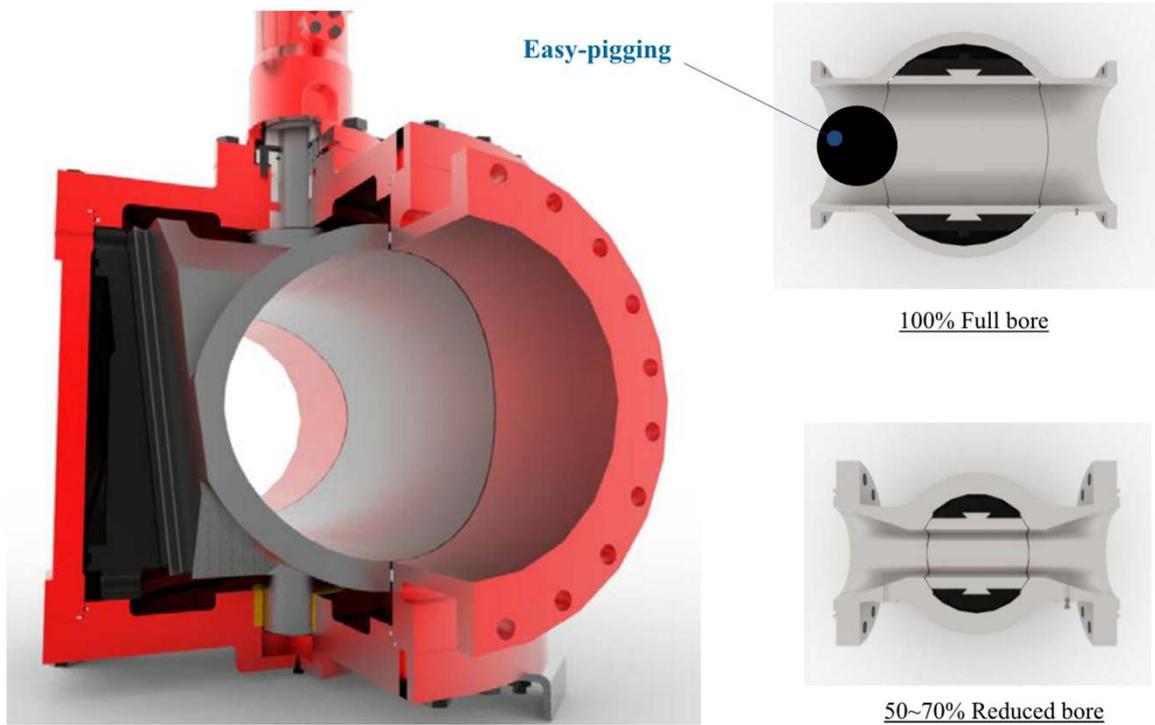
+ Minimum Clearance for installation, repair and replacement

- If additional classes and sizes are required, please consult the factory when ordering.



Full Port DBB Plug Valves

Feature: There is no diminished flow with the full bore port, and also easy to pigging. For application such as high viscosity condensable media, high efficiency is demonstrated with full bore port.



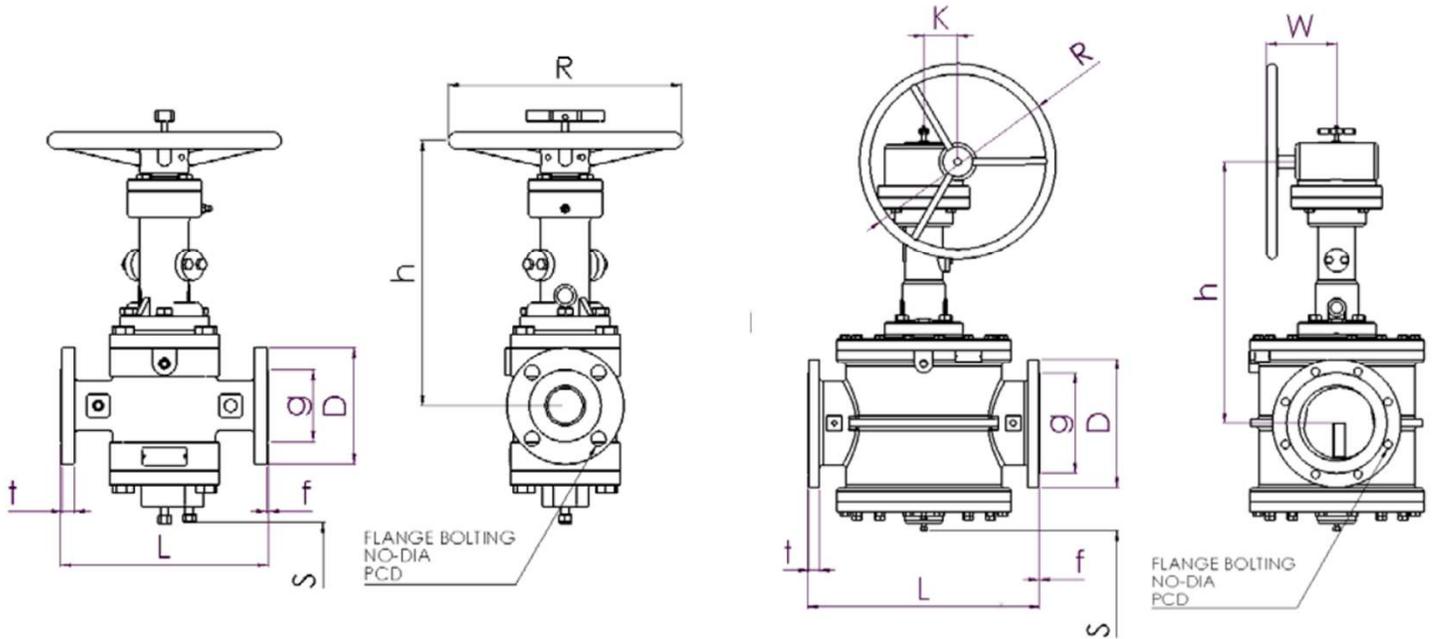
DoTEC double block- and-bleed full bore valves are designed to meet the requirement to minimize pressure drop in Oil and gas transmission, loading, unloading, and especially metering skid.





Full Port Type Dimensions – Class 150

Figure No. 124 FB - Class 150 / Size 2” - 24” / Raised Face Flange



Unit: mm

Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	+ S
2	267	150	120.7	4	19	92.1	14.3	2	350	300	-	-	190
3	343	190	152.4	4	19	127.0	17.5	2	445	300	70	230	230
4	432	230	190.5	8	19	157.2	22.3	2	460	300	70	230	280
6	*533	280	241.3	8	22	215.9	23.9	2	575	400	83	260	350
8	622	345	298.5	8	22	269.9	27.0	2	700	500	97	294	460
10	660	405	362.0	12	25	323.8	28.6	2	780	560	112	324	520
12	762	485	431.8	12	25	381.0	30.2	2	820	560	112	324	680
14	*864	535	476.3	12	29	412.8	33.4	2	910	630	112	324	710
16	*889	595	539.8	16	29	469.9	35.0	2	1,115	710	43	413	740
18	*1,219	635	577.9	16	32	533.4	38.1	2	1,220	800	180	400	880
20	*1,219	700	635.0	20	32	584.2	41.3	2	1,245	800	180	479	940
24	*1,524	815	749.3	20	35	692.2	46.1	2	1,325	800	180	479	1,020

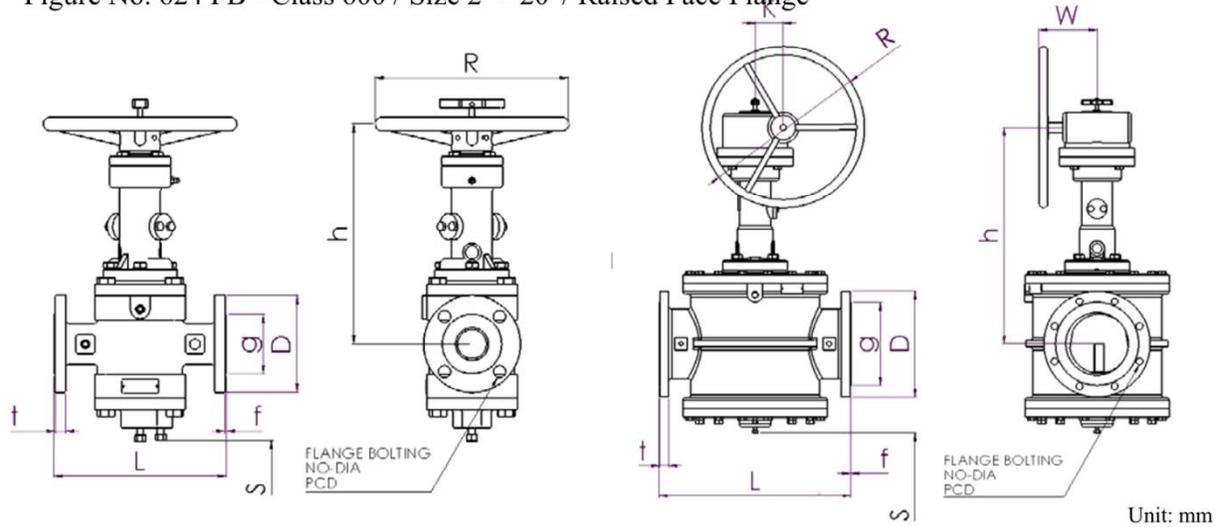
- 2”(Handle Operated) / 3”~24”(Gear Operated)
- + Minimum Clearance for installation, repair and replacement
- * Manufacturing Standard
- If additional classes and sizes are required, please consult the factory when ordering.



Full Port Type Dimensions – Class 300/600

Figure No. 324 FB - Class 300 / Size 2" - 20" / Raised Face Flange

Figure No. 624 FB - Class 600 / Size 2" - 20" / Raised Face Flange



Class	Size	L	D	PCD	NO	DIA	g	t	f	h	R	K	W	+ S
300	2	282	165	127.0	8	19	92.1	20.7	2	350	300	-	-	190
	3	387	210	168.3	8	22	127.0	27.0	2	445	300	70	230	230
	4	457	255	200.0	8	22	157.2	30.2	2	490	300	70	230	320
	6	559	320	269.9	12	22	215.9	35.0	2	610	400	83	260	410
	8	686	380	330.2	12	25	269.9	39.7	2	715	500	97	294	500
	10	826	445	387.4	16	29	323.8	46.1	2	780	560	112	324	540
	12	965	520	450.8	16	32	381.0	49.3	2	940	630	32	413	680
	14	*864	585	514.4	20	32	412.8	52.4	2	1080	710	32	413	710
	16	*1,042	650	571.5	20	35	469.9	55.6	2	1,190	710	59	443	740
	18	*1,219	710	628.6	24	35	533.4	58.8	2	1,290	800	180	400	900
	20	*1,219	775	685.8	24	35	584.2	62.0	2	1,350	800	180	479	970
	24	*1,524	915	812.8	24	41	692.2	68.3	2	1,420	900	230	579	1,060
600	2	330	165	127.0	8	19	92.1	25.4	7	430	300	70	230	230
	3	444	210	168.3	8	22	127.0	31.8	7	480	300	70	230	300
	4	508	275	215.9	8	25	157.2	38.1	7	570	400	83	260	340
	6	660	355	292.1	12	29	215.9	47.7	7	755	560	112	324	435
	8	794	420	349.2	12	32	269.9	55.6	7	850	630	43	349	515
	10	940	510	431.8	16	35	323.8	63.5	7	940	800	180	479	580
	12	1,067	560	489.0	20	35	381.0	66.7	7	1,040	800	180	479	700
	16	*1,200	685	603.2	20	41	469.9	76.2	7	1,420	900	180	479	760
	20	*1,500	815	723.9	24	45	584.2	88.9	7	1,580	1,000	230	579	900

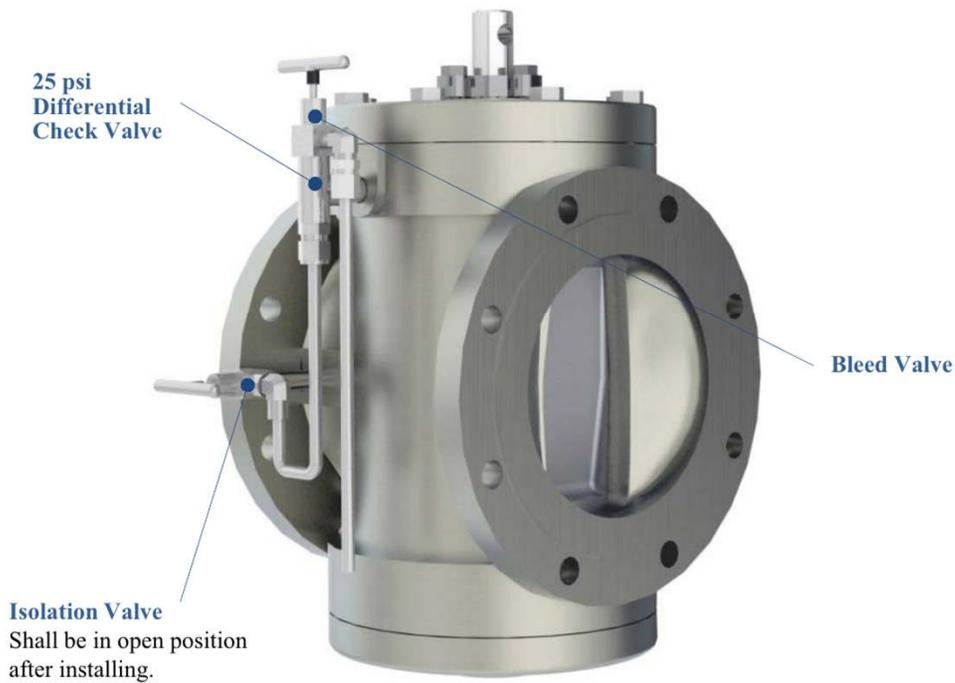
- 2" (Handle Operated) / 3"~24" (Gear Operated)
- + Minimum Clearance for installation, repair and replacement
- * Manufacturing Standard
- If additional classes and sizes are required, please consult the factory when ordering.



Bleeding System

The **bleeding system** is designed to relieve any excess rise of pressure in the body cavity, due to thermal expansion of the liquid when the valve is closed. The relief valve is set to open at 25 psi or above and bleeds excess pressure to the upstream side.

Note : The system performs a function when the valve is closed and the isolation valve is opened



Automatic Body Bleed Valve to Atmosphere or Upstream

(Customer Option)

The check valve is automatically operated by the device that installed on mechanism during the valve is closing.

This system removes human intervention and incorporates a complete automatic system.





Bleeding System Options



Manual Bleed Valve

The simplest structure in bleed system. When the valve is closed, line leakage can be checked by bleed valve.



Thermal Relief to Body

When the valve is closed, the thermal relief valve releases thermal expansion inside the body to the line.



Manual Bleed Valve with Thermal Relief

When the valve is closed, line leakage can be checked by bleed valve. And thermal relief valve releases thermal expansion inside the body to the line.



Thermal Relief Valve with Gauge

A thermal relief valve releases thermal expansion inside the body to the line. It is combined with a gauge to check the pressure inside body.



Automatic Body Bleed Valve

The check valve is automatically operated by the device that installed on mechanism during the valve is closing. This system removes human intervention and incorporates a complete automatic system.



Manual Bleed Valve with Gauge

A manual bleed valve is combined with a gauge. When the valve is closed, line leakage and pressure inside the body can be checked by bleed valve and gauge.



METAL SEAT BALL VALVE REPAIR



GLOBE VALVE



6D CHECK VALVE



GATE VALVE



CHECK VALVE



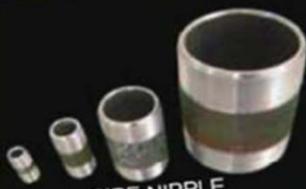
V-PORT BALL VALVES



6A BALL VALVE



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PIPE NIPPLE



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