



3Z[®]



**Double Block & Bleed Plug Valve
The Solution For The Valve Problems**

3Z[®] Plug Valves



3Z Standards Twin Slip Double Block and Bleed Valve

Figure # 124, 324, 624, 924, 1524

- Rating : ANSI Class 150/300/600/900/1500
- Size : 2" ~ 24"
- Temperature Range : -20°F(-29°C) TO + 350°F(+176.7°C)
- Connections : Flanged, Screwed, Welded (Butt, Socket)
- Wrench, enclosed gear operated or actuated

3Z Full Bore Twin Slip Double Block and Bleed Valves

- Rating : ANSI Class 150/300/600/900/1500
- Size : 2" ~ 24"
- Temperature Range : -20°F(-29°C) TO + 350°F(+176.7°C)
- Connections : Flanged, Screwed, Welded (Butt, Socket)
- Hand wheel, enclosed gear operated or actuated

3Z 4-Way Twin Slip Double Block and Bleed Valves

- Rating : ANSI Class 150/300/600/900/1500
- Size : 2" ~ 24"
- Temperature Range : -20°F(-29°C) TO + 350°F(+176.7°C)
- Connections : Flanged, Screwed, Welded (Butt, Socket)
- Hand wheel, enclosed gear operated or actuated

Materials of construction

Body	Carbon Steel	ASTM A216 WCB Chrome Plated
Top Cover	Carbon Steel	ASTM A216 WCB or ASTM A283D Plated
Bottom Cover	Carbon Steel	ASTM A216 WCB or ASTM A283D Plated
Wedge	Carbon Steel	ASTM A216 WCB Electroless Nickel Plated
Slips	Ductile Iron	ASTM A536-65-45-12
Gland	Stainless Steel	ASTM A276 410SS
Packing	Graphite Type	-
O-Ring & Slip	Viton	-
Studs / Nuts	Carbon Steel	ASTM A193 B7 / ASTM A194 2H

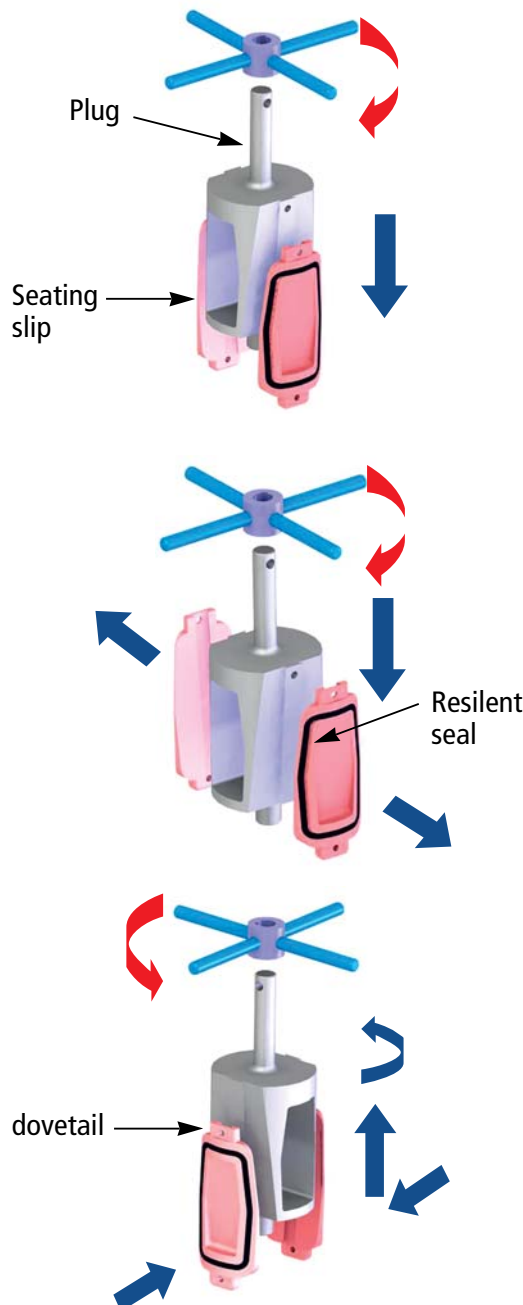




3Z Double Block & Bleed (DBB) Valve

Designed to meet Oil & Gas transmission, loading, unloading needs. Line sealing is achieved by body and wedges cut from each side of the plug with or without the assistance of soft seat rings.

The sealing is positively made on each side of the plug (double block), and the media kept in the plug port area can be bled into upstream or to the container to prevent from explosion. The Valve can be used for assuring metering accuracy and SCADA systems.



1. Closing

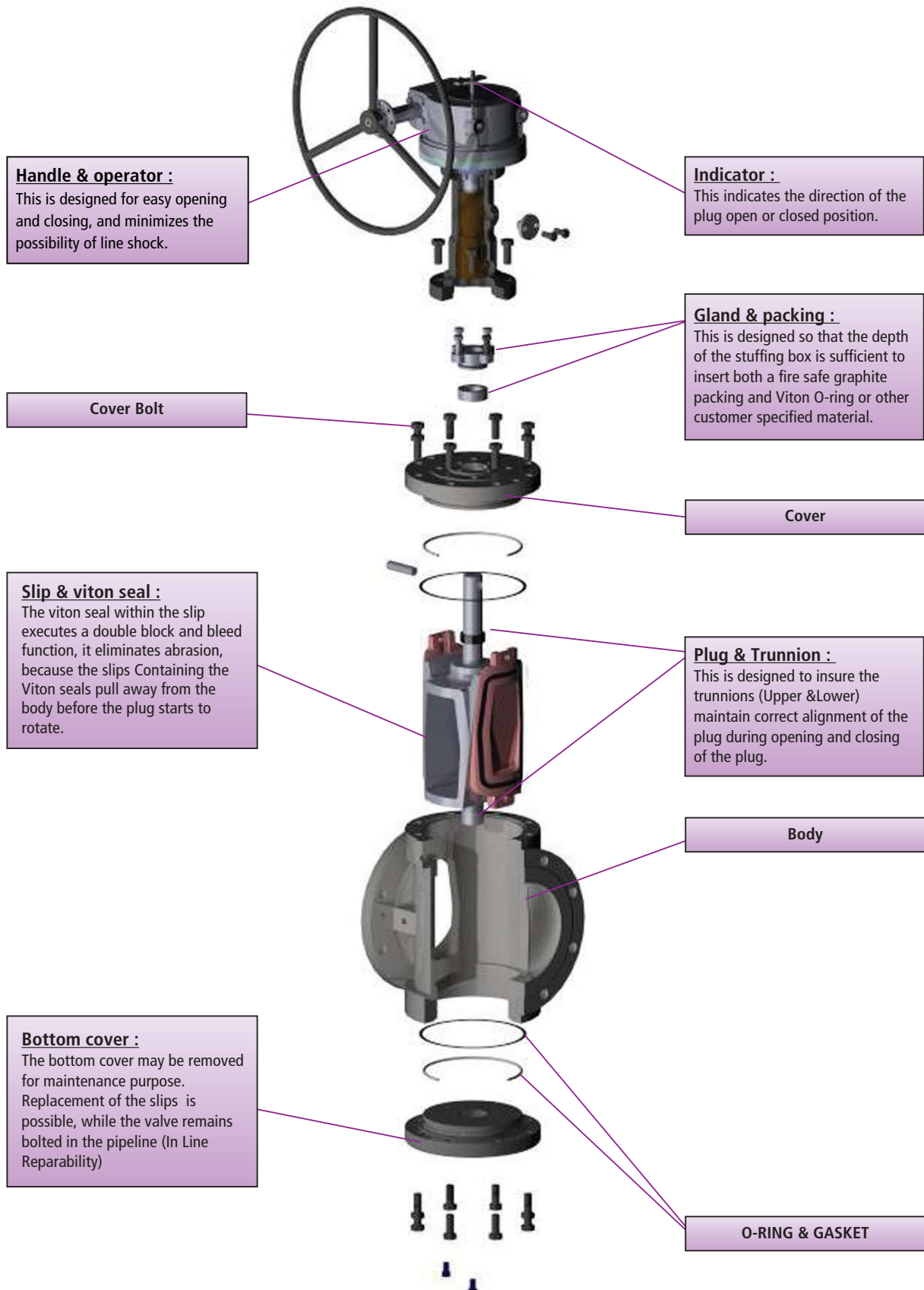
The small size Double Block and Bleed valves are handwheel operated and the larger sizes are equipped with waterproof of gearing but operate in the same manner, proportionately requiring more turns. Turning the handwheel rotates the wedge 90 degrees, aligning the seating slips. The elastomer seal rings are integrally bonded within the machined grooves of each slip.

2. Compressing

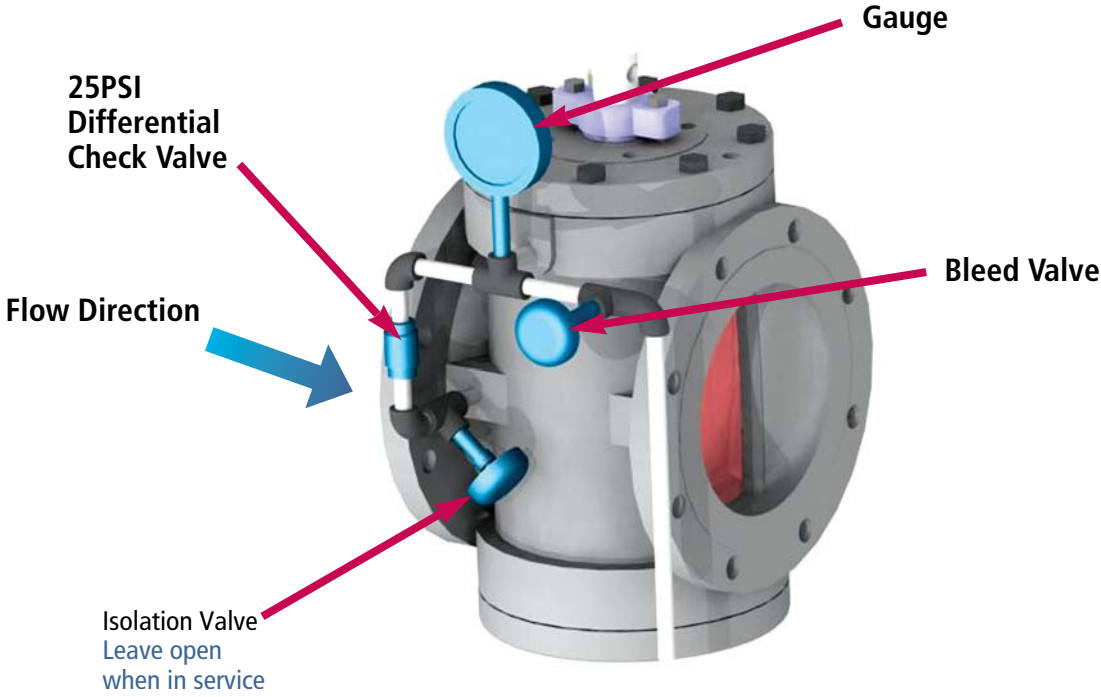
As the wedge lowers, it force the seating slips outwards, pushing the seals against the body and compressing them with in the grooves. With the slips solidly against the body, a secondary metal-to metal seat is formed on both sides of each seal, providing double protection. The wedging forces the seating slips outwards against the valve body and is perpendicular to the seats and the body. This eliminates all scraping and rubbing forces on the seals.

3. Opening

When opening, the wedge moves upwards and the dove-tailed (slips) are pulled away from the body. The wedge is guided by an upper and lower trunnion, and the wedge is rotated 90 degrees, aligning the seating slips. In the open position, the seals are completely out of the flow. Again, This action eliminates all scraping and rubbing forces on the seals.

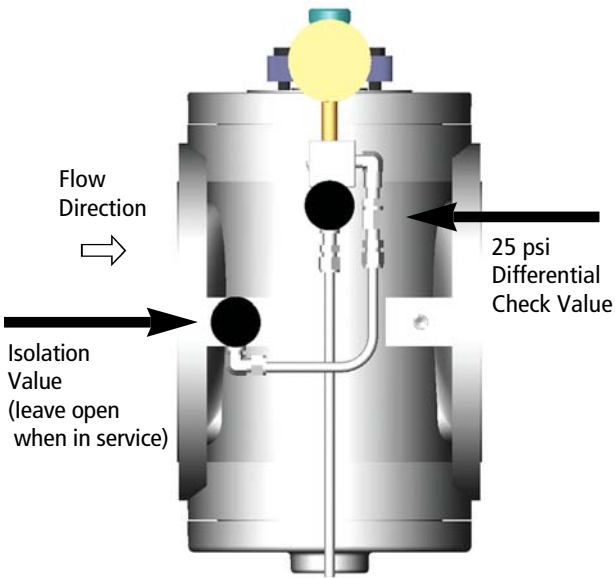


Bleeding Systems



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

Note : System will only function when valve is closed and the isolation valve is open.



Automatic Body Bleed Valve to Atmosphere or Upstream (Customer Option)

The check valve is operated by a plunger that opens the bleed valve by a coupling cam, during the closing of the valve. The valve may be operated by hand or an actuator.

This system incorporates a complete automatic system by removing the need for human intervention. An isolation valve is fixed in the open position to prevent the need for checking the seal.

Zero Leakage

Valves selection is very important in the petroleum industry. An incorrect valve may cause loss of income, pollution of product, and increase of product line maintenance costs. Multi-product system valves should be designed to withstand frequent cycling and provide a tight seal shut off. The double block and bleed valve was developed to cater for pump or metering station, tank farms, marine loading docks and blending plants.

No Abrasion

The 3Z Twin Slip Double Block and Bleed valve can completely isolate a line without leakage. The valve design is such that the seals do not come into contact with the valve body at any time while opening or closing of the valve. The seals come in contact with the body at the last moment force. This pressure force is perpendicular to the seating area and a shearing force is thus eliminated. When the valve is in the opening position, the seals are separated from the body, and are maintained at this state during wedge rotation. This eliminates abrasion forces from the seals and extends seal life.

Double Block & Bleed

With the 3Z Twin Slip Double Block and Bleed valve, there is an up-stream and down-stream seal, as well as a bleed point in between. This one D.B.B. may be substituted for two valves with one spool (drain). The spool sends any leaking fluid from the valve to the tank. The bleed system on the 3Z double block and bleed is provided to prove zero leakage. The ensures that if any leakage was to occur, it would be eliminated via the bleed. This in turn, guarantees complete and total product segregation.



High Integrity Shutoff

When the valve is closed the elastomeric seal rings are pushed against the seats each side of the valve body. The force is directed at a perpendicular direction by the wedging action of the slips. The elastomer seals on the slips are secured within a machined groove by a bonding agent. As for being fire-safe, the outside surface around the seals (on the slips) is a finished surface of metal, that is pushed against the metal body seat. This results in both an elastomeric and metal-to-metal bubble tight seal.

In Line Repairability

It is possible to inspect and replace the sealing slips with the valve still in line. The valve has a top and bottom bolted flange that is removable while the valve remains bolted in place.

Applications

3Z Double Block and Bleed valves are widely used for critical areas such as refinery, distribution center, Loading arm and air ports.



Loading Arm



Tank Farm



Metering Station



Air Port

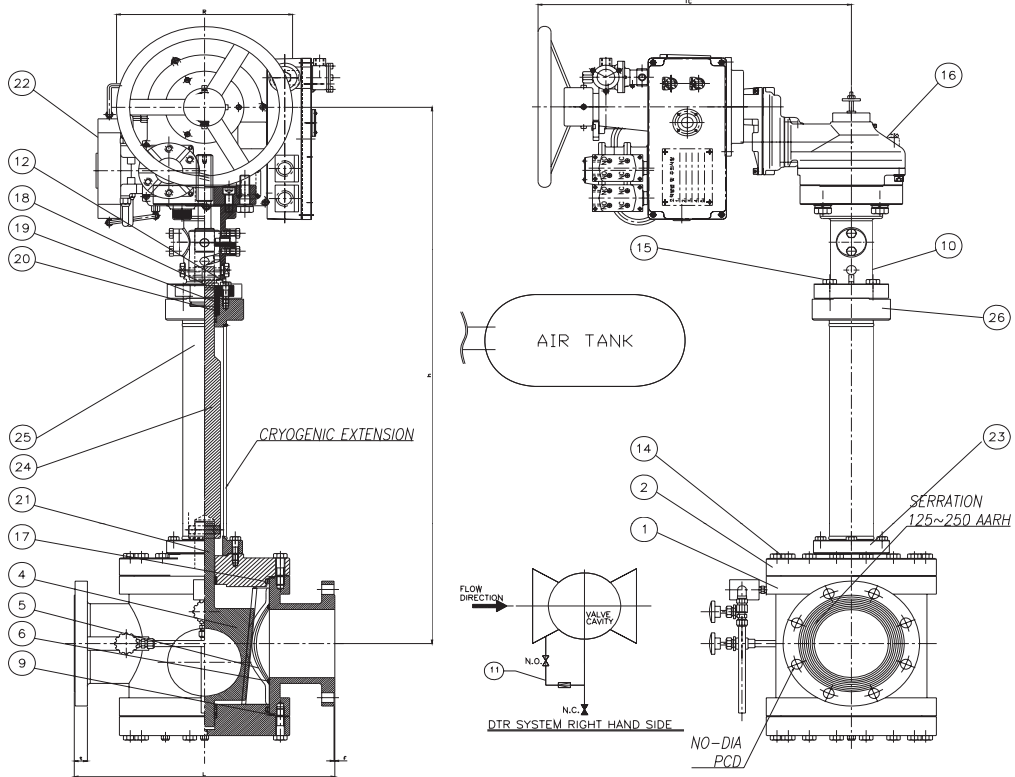


Tank Terminals



Pipe Line

Cryogenic Application (Construction)



NO	PART NAME	Q'TY	MATERIAL
1	BODY	1	STAINLESS STEEL
2	TOP COVER	1	STAINLESS STEEL
3	BOTTOM COVER	1	STAINLESS STEEL
4	PLUG	1	STAINLESS STEEL
5	SLIP	2	STAINLESS STEEL
6	SLIP INSERT	2	PFA
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHIT
10	MECHANISM OPERATOR	1S	STAINLESS STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	STAINLESS STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	STAINLESS STEEL
15	OPERATOR HOUSING BOLT	1S	STAINLESS STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	PTFE
18	INNER GLAND O-RING	1	PTFE
19	OUTER GLAND O-RING	1	PTFE
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL
22	ACTUATOR	1	COMMERCIAL
23	UNDER BONNET	1	STAINLESS STEEL
24	EXTENSION STEM	1	STAINLESS STEEL
25	EXTENSION BONNET	1	STAINLESS STEEL
26	TOP BONNET	1	STAINLESS STEEL

Cryogenic Application (At Site)



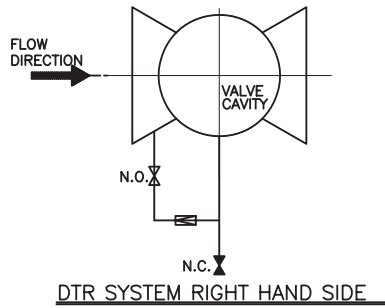
Loading Arm of LNG Terminal at one of the Middle East Country



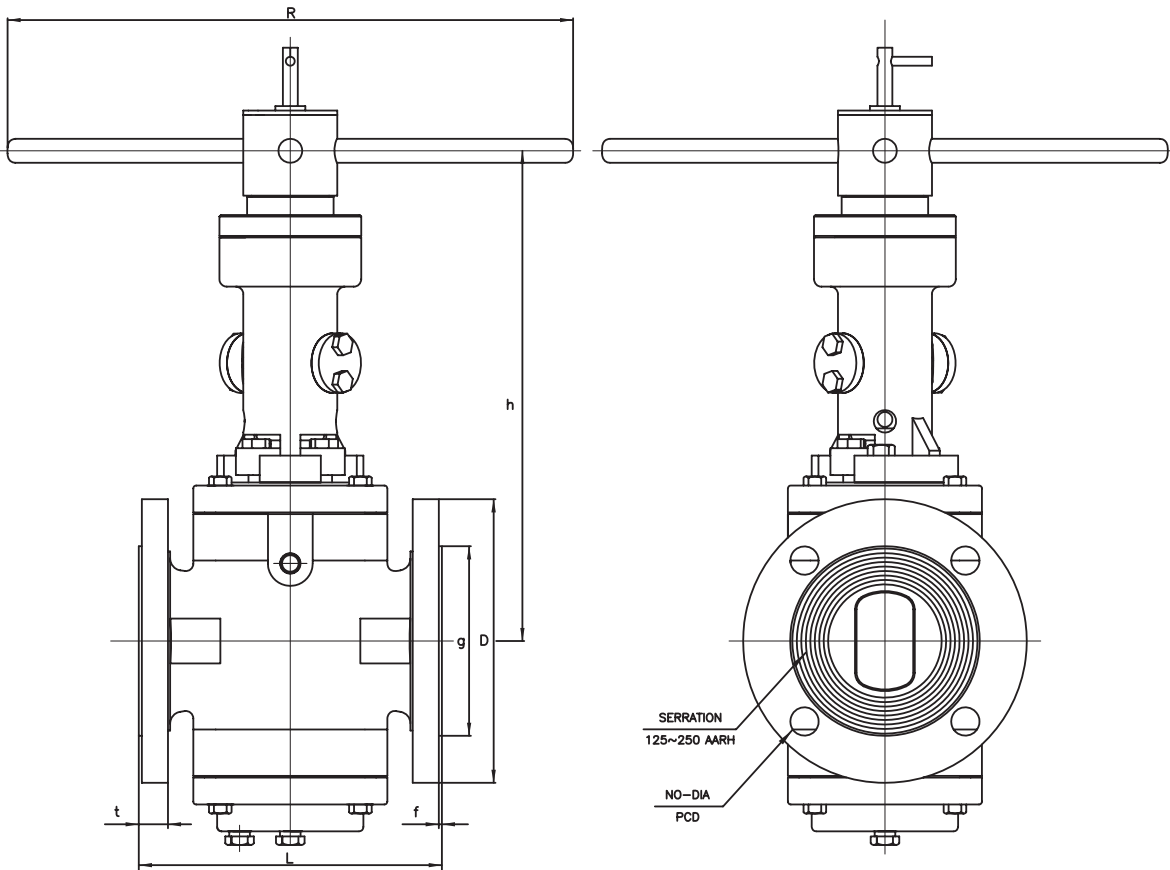
After Cryogenic Test at Factory



Actual Installation with Heavy Insulation



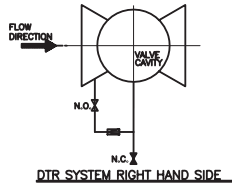
NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	TOP COVER	1	CARBON STEEL
3	BOTTOM COVER	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	INDICATOR	1	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	COVER BOLT	1S	ALLOY STEEL
14	BLEED SYSTEMS	1S	STAINLESS STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	HAND WHEEL	1	STEEL
17	BODY O-RING	2	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
22	STEM	1	STAINLESS STEEL



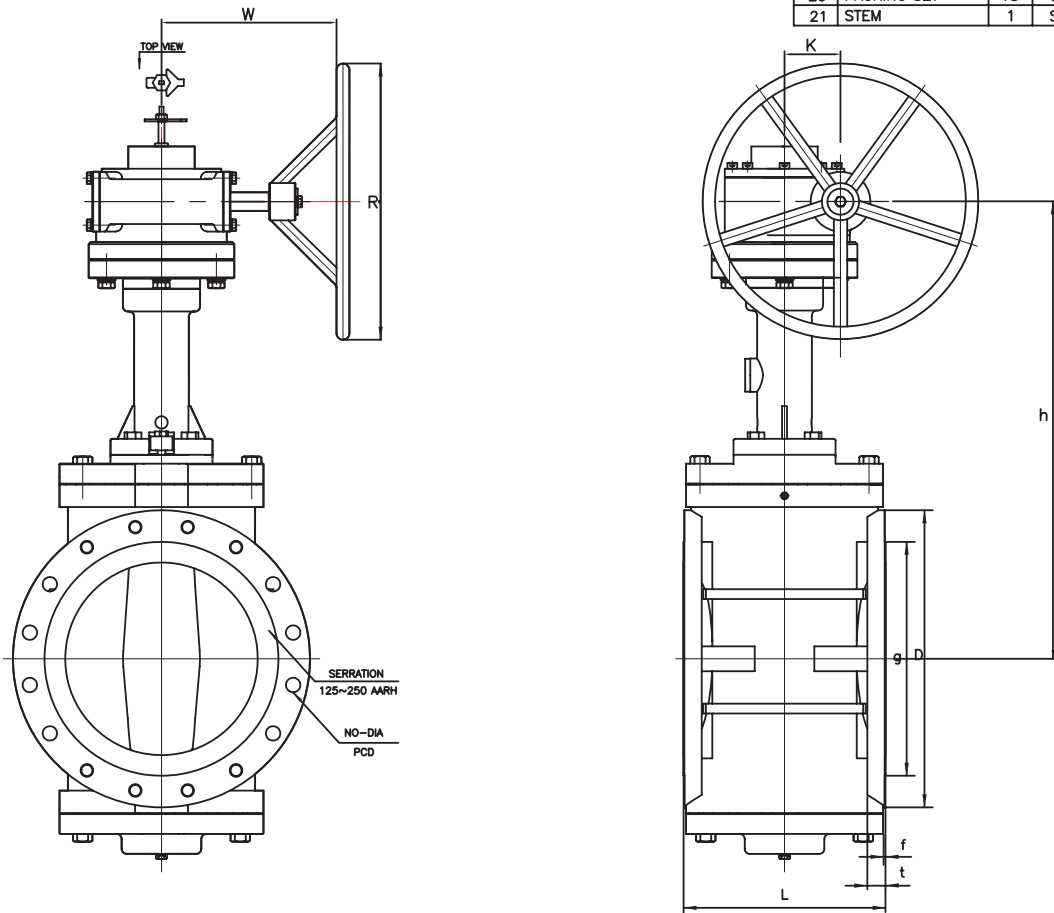
DIMENSIONS(mm)

NOMINAL SIZE		END FLANGES									
IN	MM	L	h	D	BOLT HOLE			g	t	f	R
					PCD	NO	DIA				
2	50	178	333	150	120.7	4	19	92.1	16.3	2	380
3	80	203	344	190	152.4	4	19	127	19.5	2	380
4	100	229	359	230	190.5	8	19	157.2	24.3	2	380

NOTE.		END CONNECTION : RF	
1. Manganese Phosphate Coated		TEST	API 6D
D I S		FACE TO FACE or END TO END	ANSI B 16.10 CLASS 150
		DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 150
		WALL THICKNESS	ANSI API 599
3Z DOUBLE BLOCK & BLEED PLUG VALVE		PRODUCTION NO.	
		124.1-W.W.DI	



NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	COVER	1	CARBON STEEL
3	PLUG	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	ALLOY STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL



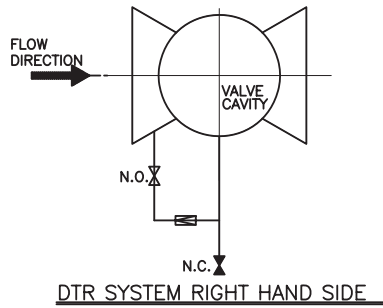
DIMENSIONS(mm)

NOMINAL SIZE	END FLANGES														
	IN	MM	L	h	D	BOLT HOLE		DIA	g	t	f	R	K	W	d
PCD						NO									
6	150	267	485	280	241.3	8	22	216	25.9	2	300	53	155	20	6*6
8	200	292	596	345	298.5	8	22	270	29	2	400	63	206	25	8*7
10	250	330	709	405	362	12	25	324	30.6	2	450	75	230	25	8*7
12	300	356	753	485	431.8	12	25	381	32.2	2	450	75	230	25	8*7
14	350	381	790	535	476.3	12	29	413	35.4	2	560	92	279	35	10*8
16	400	406	908	595	539.8	16	29	470	37	2	560	92	279	35	10*8
18	450	432	945	635	577.9	16	32	533.4	40.1	2	630	113	312	35	10*8
20	500	457	1055	700	635	20	32	584.2	43.3	2	630	113	312	35	10*8

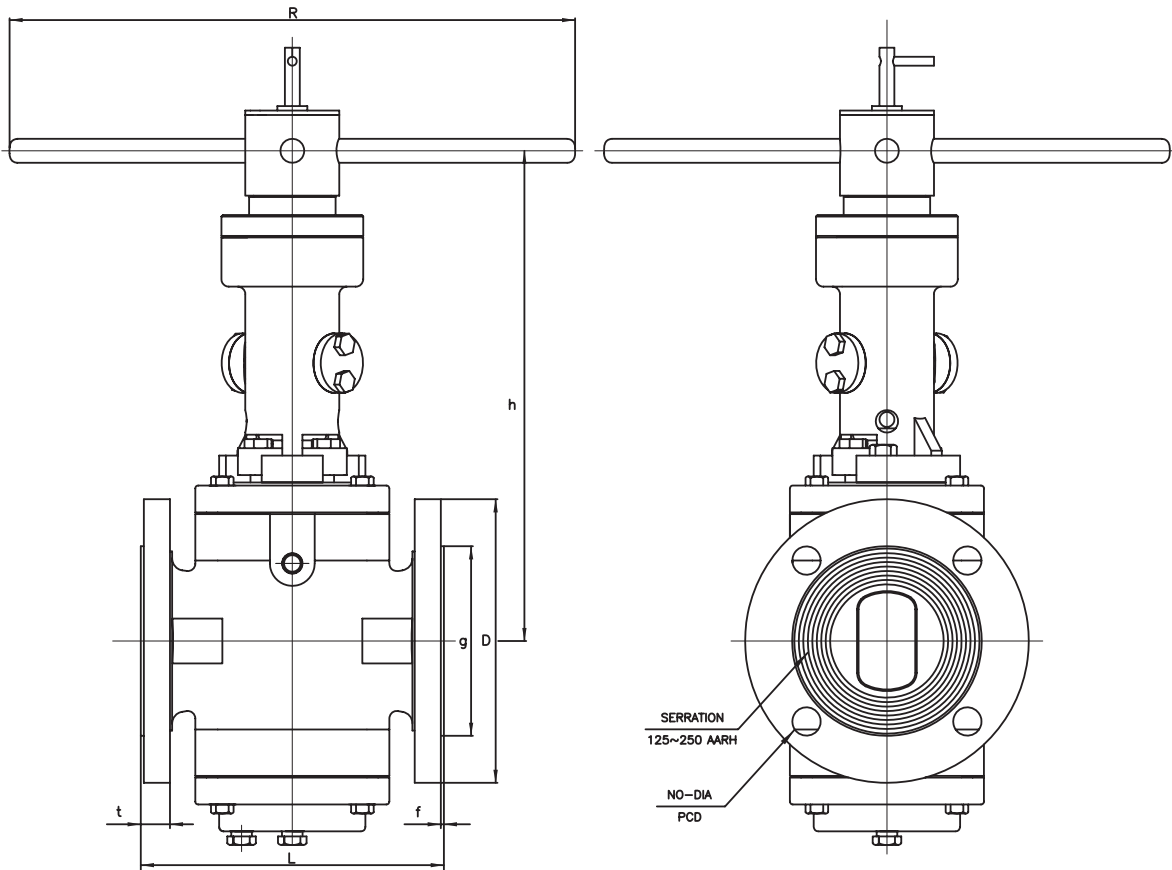
NOTE.		END CONNECTION : RF	
1. Manganese Phosphate Coated		TEST	API 6D
2. 6" 8" 2 Top and Bottom Holes In Flanges Are Tapped For 3/4-10UNC		FACE TO FACE or END TO END	ANSI B 16.10 CLASS 150
3. 10",12" 2 Top and Bottom Holes In Flanges Are Tapped For 7/8-9UNC		DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 150
4. 14" 2 Top and Bottom Holes In Flanges Are Tapped For 1-8UNC		WALL THICKNESS	ANSI API 599
5. 16" 4 Top and Bottom Holes In Flanges Are Tapped For 1-8UNC		PRODUCTION NO. 124.2-W.W.DI	
6. 18" 4 Top and Bottom Holes In Flanges Are Tapped For 1.1/8-8UNC			
7. 20" 4 Top and Bottom Holes In Flanges Are Tapped For 1.1/8-8UNC			

3Z

DOUBLE BLOCK & BLEED
PLUG VALVE



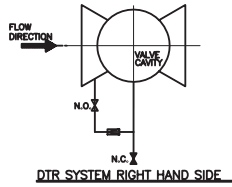
NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	TOP COVER	1	CARBON STEEL
3	BOTTOM COVER	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	INDICATOR	1	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	COVER BOLT	1S	ALLOY STEEL
14	BLEED SYSTEMS	1S	STAINLESS STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	HAND WHEEL	1	STEEL
17	BODY O-RING	2	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
22	STEM	1	STAINLESS STEEL



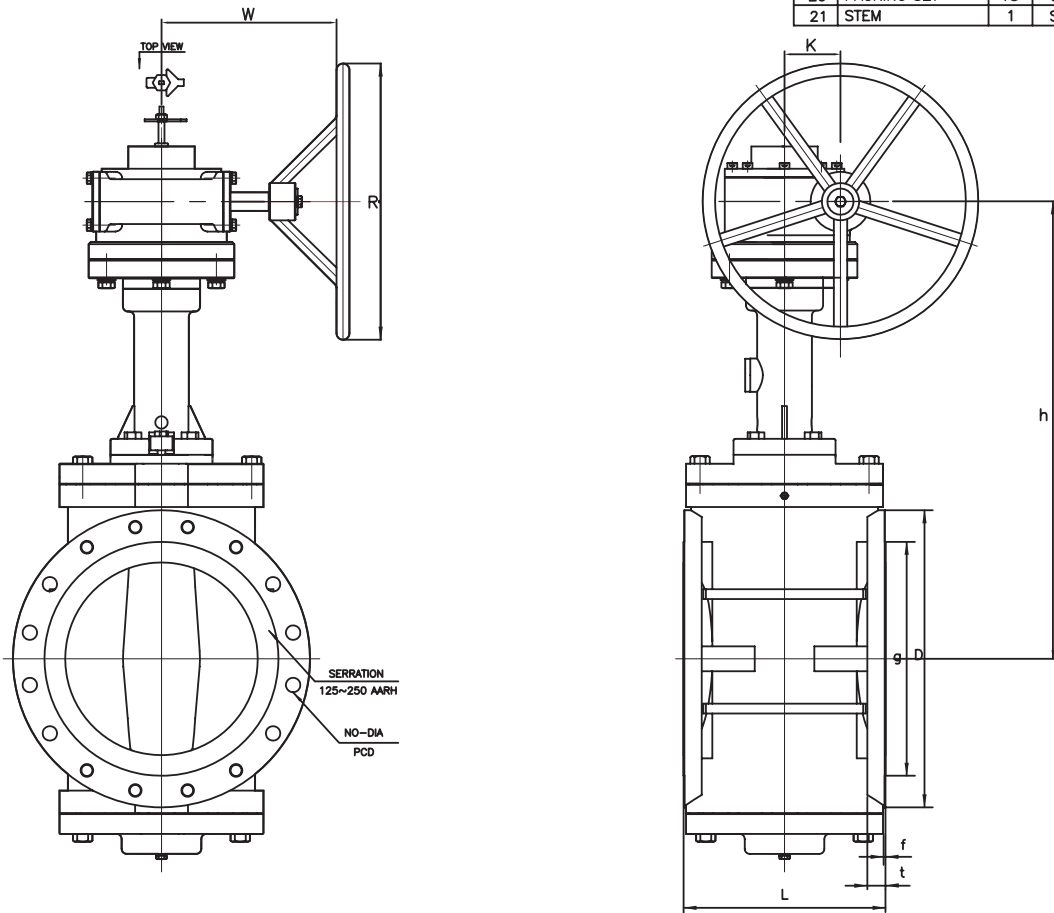
DIMENSIONS(mm)

NOMINAL SIZE		END FLANGES									
IN	MM	L	h	D	BOLT HOLE			g	t	f	R
					PCD	NO	DIA				
2	50	216	448	165	127	8	19	92.1	22.7	2	380
3	80	283	484	210	168	8	22	127	29	2	300
4	100	305	549	255	200	8	22	157.2	32.2	2	300

NOTE. 1. Manganese Phosphate Coated	END CONNECTION : RF	
	TEST	API 6D
	FACE TO FACE or END TO END	ANSI B 16.10 CLASS 300
	DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 300
	WALL THICKNESS	ANSI API 599
3Z DOUBLE BLOCK & BLEED PLUG VALVE		PRODUCTION NO.
		324.1-W.W.DI



NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	COVER	1	CARBON STEEL
3	PLUG	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	ALLOY STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL

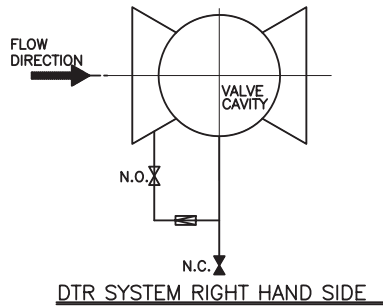


DIMENSIONS(mm)

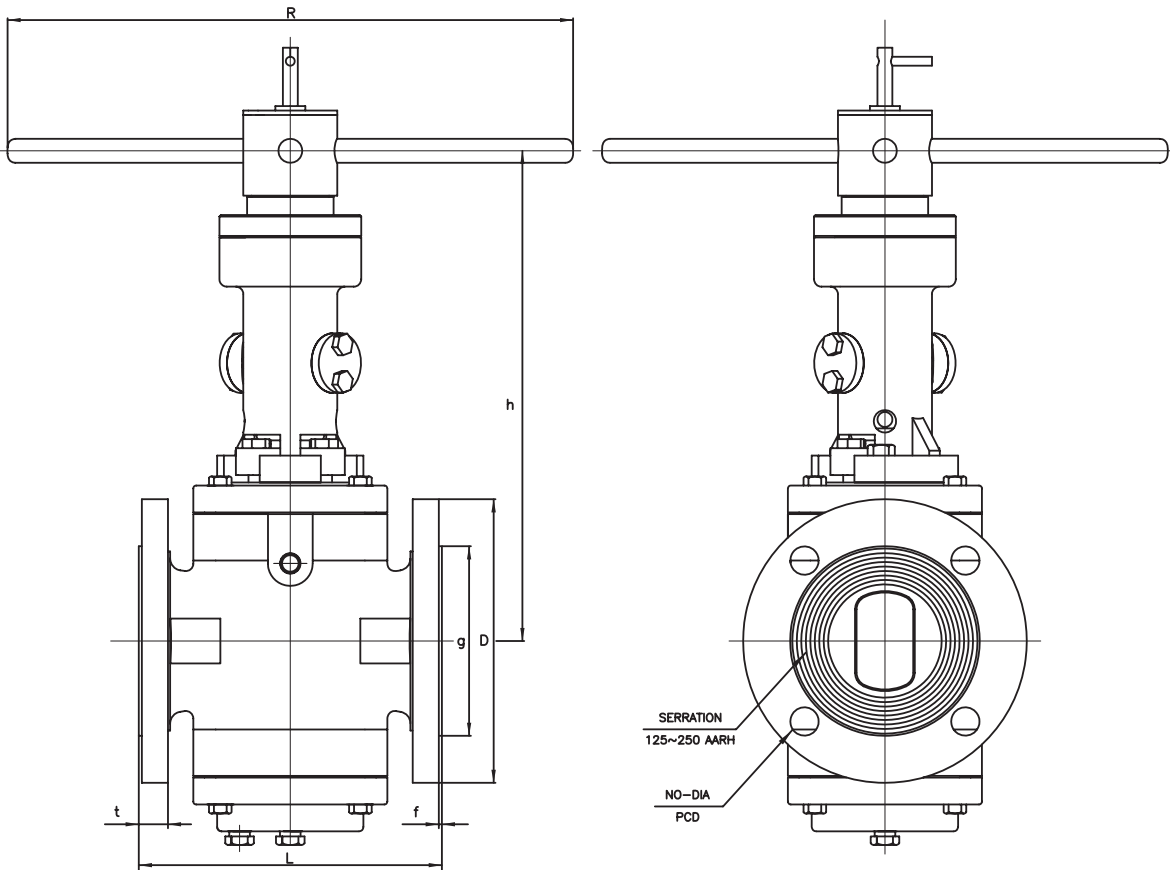
NOMINAL SIZE	END FLANGES														
	IN	MM	L	h	D	BOLT HOLE				f	R	K	W	d	Key
						PCD	NO	DIA	g						
6	150	403	470	320	269.9	12	22	215.9	37	2	300	53	155	20	6*6
8	200	419	610	380	330.2	12	25	269.9	41.7	2	400	63	206	25	8*7
10	250	457	690	445	387.4	16	29	323.8	48.1	2	450	75	230	25	8*7
12	300	502	750	520	450.8	16	32	381	51.3	2	560	92	279	35	10*8
16	400	838	930	650	571.5	20	35	469.9	57.6	2	710	144.5	371	40	12*8
24	500	1143	1400	915	812.8	24	41	692.2	70.3	2	710	184.5	425	40	12*8

NOTE.	END CONNECTION : RF	
	TEST	API 6D
	FACE TO FACE or END TO END	ANSI B 16.10 CLASS 300
	DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 300
	WALL THICKNESS	ANSI API 599
1. Manganese Phosphate Coated 2. 12" 4 Top and Bottom Holes In Flanges Are Tapped For 1.1/8-BUNCTEST		PRODUCTION NO. 324.2-W.W.DI

3Z DOUBLE BLOCK & BLEED
PLUG VALVE



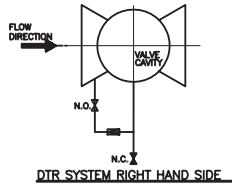
NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	TOP COVER	1	CARBON STEEL
3	BOTTOM COVER	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	INDICATOR	1	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	COVER BOLT	1S	ALLOY STEEL
14	BLEED SYSTEMS	1S	STAINLESS STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	HAND WHEEL	1	STEEL
17	BODY O-RING	2	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
22	STEM	1	STAINLESS STEEL



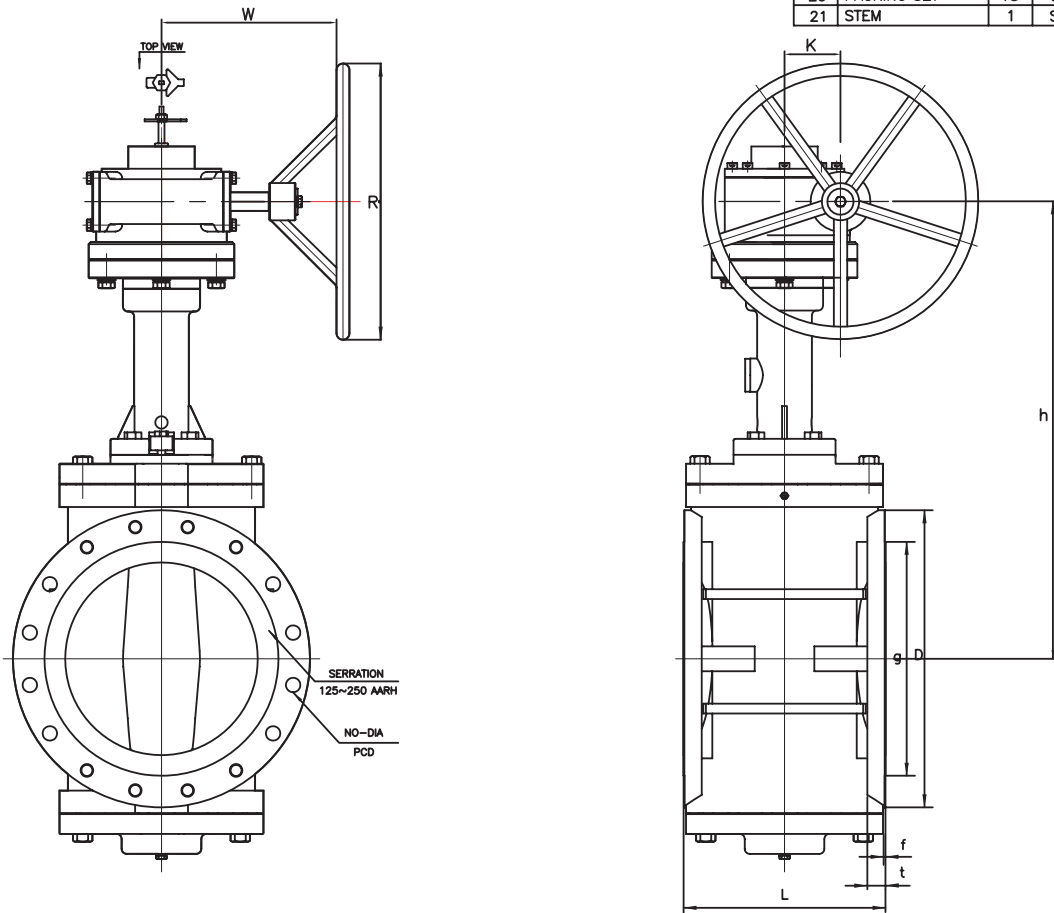
DIMENSIONS(mm)

NOMINAL SIZE		END FLANGES									
IN	MM	L	h	D	BOLT HOLE			g	t	f	R
					PCD	NO	DIA				
2	50	292	448	165	127	8	19	92.1	32.4	2	380
3	80	356	484	210	168.3	8	22	127	38.8	2	380

NOTE. 1. Manganese Phosphate Coated	END CONNECTION : RF	
	TEST	API 6D
	FACE TO FACE or END TO END	ANSI B 16.10 CLASS 600
	DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 600
	WALL THICKNESS	ANSI API 599
3Z	DOUBLE BLOCK & BLEED PLUG VALVE	
	PRODUCTION NO. 624.1-W.W.DI	



NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	COVER	1	CARBON STEEL
3	PLUG	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	ALLOY STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL

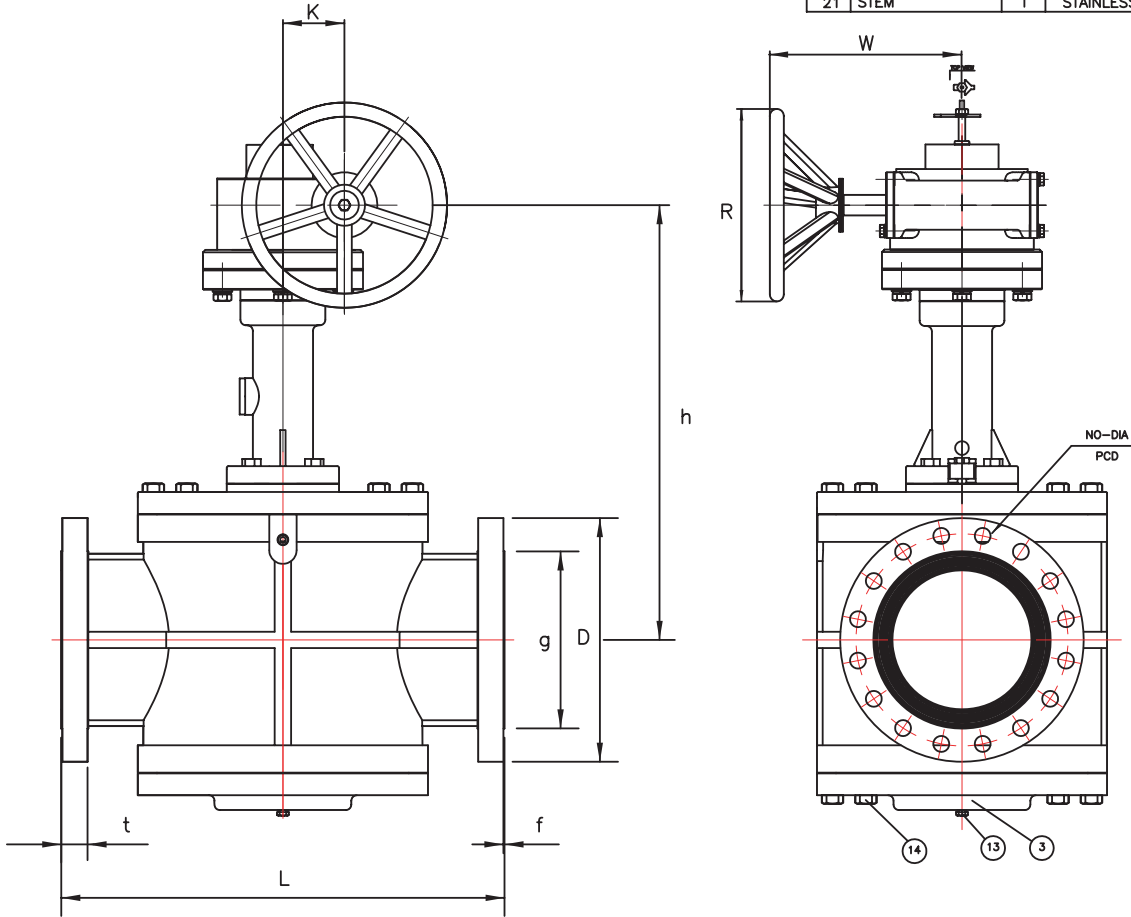
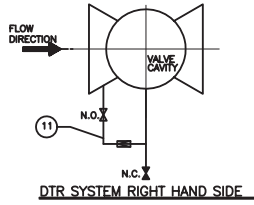


DIMENSIONS(mm)

NOMINAL SIZE	IN	MM	END FLANGES										R	K	W	d	Key
			L	h	D	BOLT HOLE			g	t	f						
						PCD	NO	DIA									
4	100	432	453	275	215.9	8	25	157.2	45.1	7	250	53	155	20	6*6		
6	150	559	688	355	292.1	12	29	215.9	54.7	7	400	75	230	25	8*7		
8	200	660	776	420	349.2	12	32	269.9	62.6	7	450	92	279	35	10*8		
10	250	787	813	510	431.8	16	35	323.8	70.5	7	560	92	279	35	10*8		
12	300	838	852	560	489	20	35	381	73.7	7	630	113	312	35	10*8		
16	400	991	1184	685	603.2	20	41	469.9	83.2	7	710	185	425	40	12*8		

NOTE. 1. Manganese Phosphate Coated	END CONNECTION : RF	
	TEST	API 6D
	FACE TO FACE or END TO END	ANSI B 16.10 CLASS 600
	DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 600
	WALL THICKNESS	ANSI API 599
3Z DOUBLE BLOCK & BLEED PLUG VALVE		PRODUCTION NO.
		624.2-W.W.DI

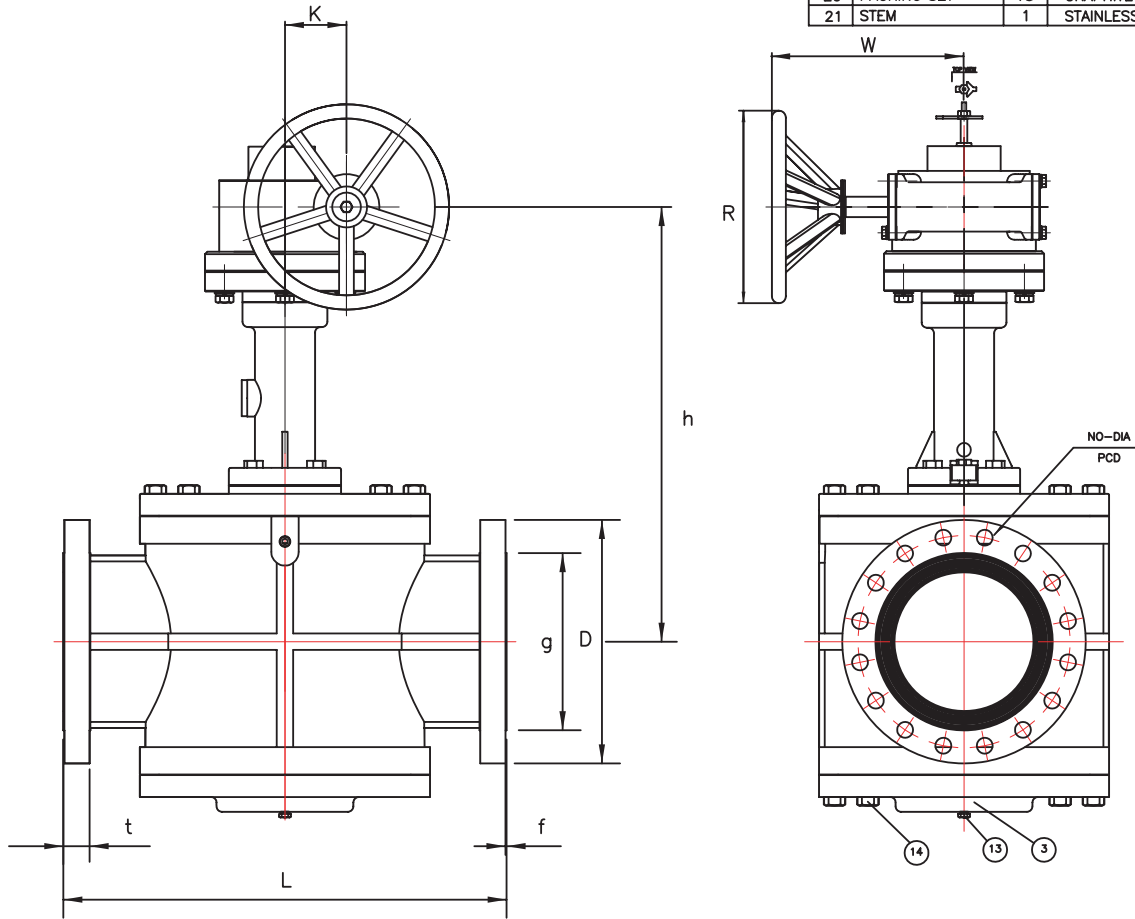
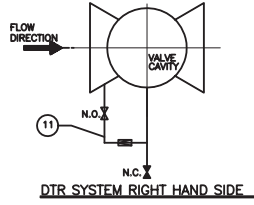
NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	COVER	1	CARBON STEEL
3	PLUG	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	ALLOY STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL



NOMINAL SIZE		DIMENSIONS(mm)													
IN	MM	L	h	D	BOLT HOLE			g	t	f	R	K	W	d	Key
					PCD	NO	DIA								
4	100	432	460	230	190.5	8	19	157.2	24.3	2	300	53	155	20	6*6
6	150	534	510	280	241.3	8	22	216	25.9	2	400	62.5	206	25	8*7
8	200	635	694	345	298.5	8	22	270	29	2	450	75	230	25	8*7
10	250	788	750	405	362	12	25	324	30.6	2	460	91.5	279	35	10*8
12	300	915	1010	485	431.8	12	25	381	32.2	2	630	113	312	35	10*8
18	450	1219	1270	625	577.9	16	32	533.4	40.1	2	800	184.5	425	40	12*8
20	500	1219	1300	700	635	20	32	584.2	43.3	2	800	184.5	425	40	12*8

NOTE. 1. Manganese Phosphate Coated	END CONNECTION : RF	
	TEST	API 6D
	FACE TO FACE or END TO END	ANSI B 16.10 CLASS 150/maker standard PD
	DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 150
	WALL THICKNESS	ANSI API 599
3Z DOUBLE BLOCK & BLEED PLUG VALVE		PRODUCTION NO.
		124FB.2-W.W.DI

NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	COVER	1	CARBON STEEL
3	PLUG	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	ALLOY STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL

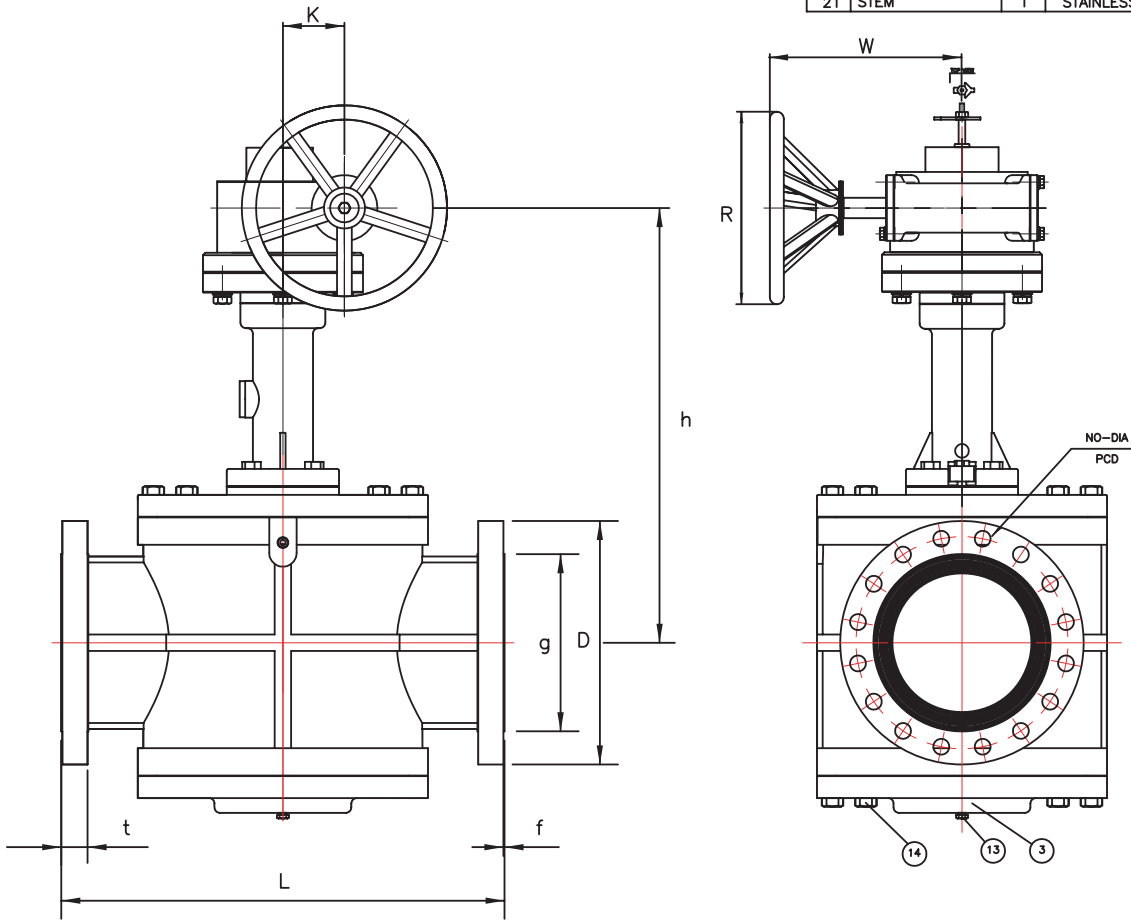
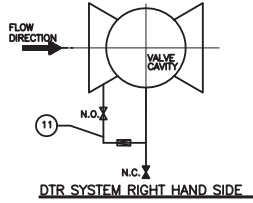


DIMENSIONS(mm)

NOMINAL SIZE	IN	MM	L	h	D	END FLANGES					R	K	W	d	Key
						BOLT HOLE		DIA	g	t					
					PCD	NO									
4	100	457	419	255	200	8	22	157.2	32.2	2	300	53	155	20	6*6
6	150	559	533	320	269.9	12	22	215.9	37	2	400	62.5	206	25	8*7
8	200	686	638	380	330.2	12	25	269.9	41.7	2	450	75	230	25	8*7
10	250	826	876	445	387.4	16	29	323.8	48.1	2	560	91.5	279	35	10*8
12	300	965	889	520	450.8	16	32	381	51.3	2	630	113	312	35	10*8
14	350	864	1086	585	514.4	20	32	412.8	54.4	2	710	144.5	371	40	12*8
16	400	1042	1219	650	571.5	20	35	469.9	57.6	2	800	184.5	425	40	12*8

NOTE. 1. Manganese Phosphate Coated	END CONNECTION : RF	
	TEST	API 6D
	FACE TO FACE or END TO END	ANSI B 16.10 CLASS 300/maker standard PD
	DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 300
	WALL THICKNESS	ANSI API 599
3Z DOUBLE BLOCK & BLEED PLUG VALVE		PRODUCTION NO.
		324FB.2-W.W.DI

NO.	PART NAME	Q'TY	MATERIALS
1	BODY	1	CARBON STEEL
2	COVER	1	CARBON STEEL
3	PLUG	1	CARBON STEEL
4	PLUG	1	CARBON STEEL
5	SLIP	2	DUCTILE IRON
6	SLIP INSERT	2	VITON
7	PACKING GLAND	1	STAINLESS STEEL
8	PIN(ANTISTATIC DEVICE)	1	ALLOY STEEL
9	GASKET	1S	STAINLESS STEEL/GRAPHITE
10	MECHANISM OPERATOR	1S	CARBON STEEL
11	BLEED SYSTEMS	1S	STAINLESS STEEL
12	PACKING GLAND BOLT	1S	ALLOY STEEL
13	BOTTOM DRAIN PIPE PLUG	2	STAINLESS STEEL
14	COVER BOLT	1S	ALLOY STEEL
15	OPERATOR HOUSING BOLT	1S	ALLOY STEEL
16	GEAR OPERATOR	1S	DUCTILE IRON
17	BODY O-RING	1S	VITON
18	INNER GLAND O-RING	1	VITON
19	OUTER GLAND O-RING	1	VITON
20	PACKING SET	1S	GRAPHITE
21	STEM	1	STAINLESS STEEL



NOMINAL SIZE		DIMENSIONS(mm)													
IN	MM	L	h	D	END FLANGES					R	K	W	d	Key	
					BOLT HOLE		DIA	g	t						f
					PCD	NO									
10	250	787	765	510	431.8	16	35	323.8	70.5	7	560	91.5	279	35	10*8
20	500	1194	1244	815	723.9	24	45	584.2	95.9	7	800	184.5	425	40	12*8

NOTE.	1. Manganese Phosphate Coated		END CONNECTION : RF	
	D I S	TEST	API 6D	
		FACE TO FACE or END TO END	ANSI B 16.10 CLASS 600/maker standard PD	
		DIMENSIONS OF FLANGE	ANSI B 16.5 CLASS 600	
	WALL THICKNESS	ANSI API 599		
3Z DOUBLE BLOCK & BLEED PLUG VALVE			PRODUCTION NO.	
			624FB.2-W.W.DI	