www.3Zvalve.com

The Solution for the Valve Problems

3Z® Rising Stem Ball Valves

Design Features

Low Torque
Low operation torque by enabling the dual action with special mechanism.

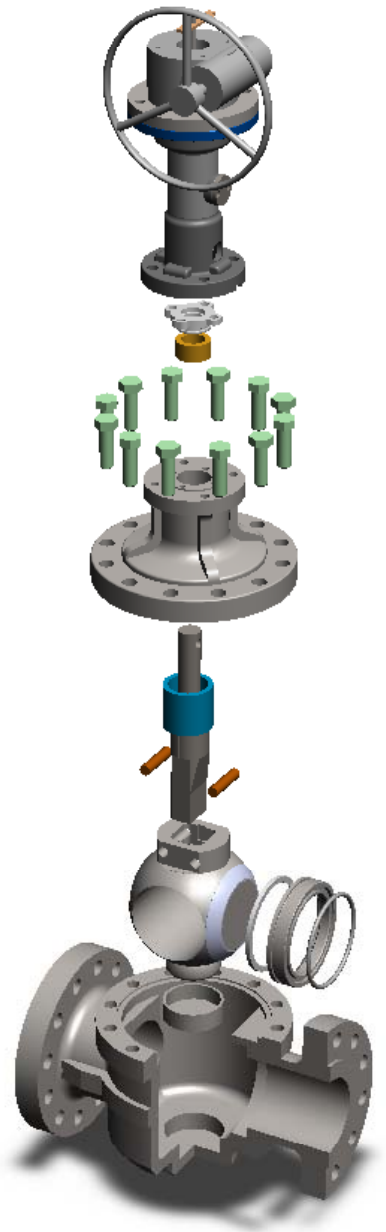
Fire Safe
Having passed the test of fire safety according to API 6FA.

Non-Slam
Not occurring the situation of slam as special mechanism induces stem to do linear action.

Energized Sealing
Perfect sealing mechanically, not using spring or other assistive devices.

Corrosion & Erosion Resistance Material
Strong corrosion and erosion to be applied on the seating part of core.

Customizing
Being responsible according to customer's request of position indicator, locking device, limit switch, jacket etc.



Optimum Flow
Enabling full bore or reduced bore products and having high Cv numerical value.

Special Mechanism
Operating after divided Tilting and Turn action clearly.

Perfect Friction Free
Reducing the seat abrasion by being rotated after core is separated from seat completely.

Self Cleaning
During core is open or close, self cleaning is performed for seat.

No Thermal Expansion
No thermal expansion situation as there is no closed space with the single seating design.

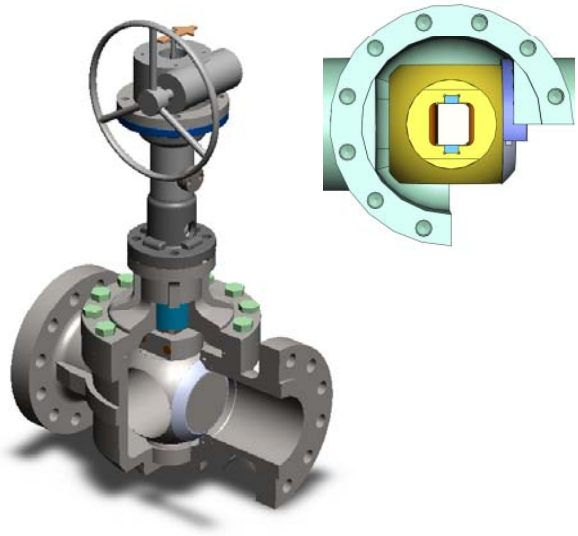
Trunnion with Rounded End
No impact even to the liquid of high pressure.

Inline Maintenance
Easy seat exchange and line inspection/cleaning with the top entry type.

Operation

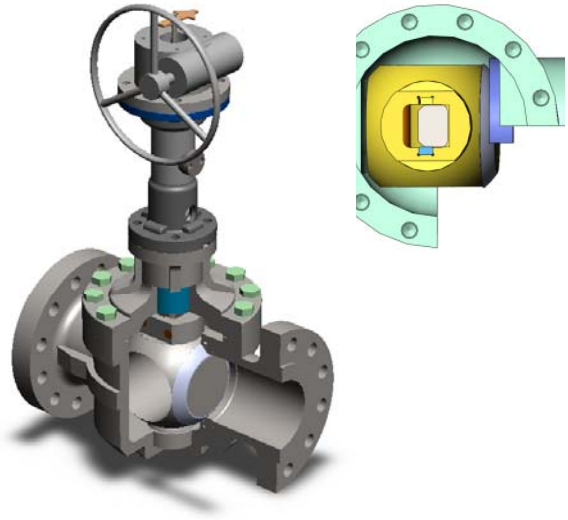
1.Close position

Perfect sealing in core and seat by the working of cam after stem's falling.



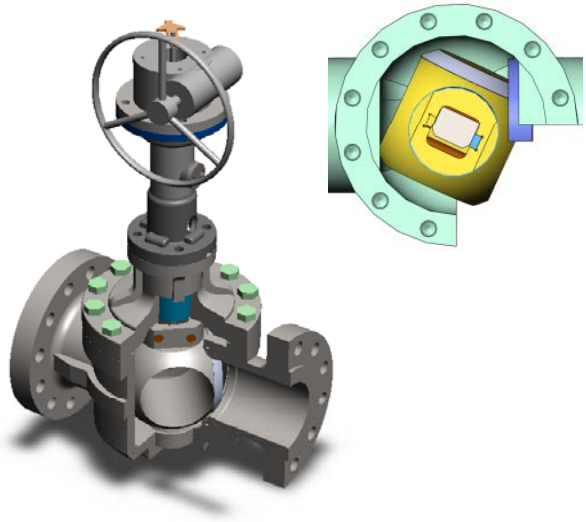
2.Tilting

As stem is rising, core becomes tilting and then core gets separated from seat.



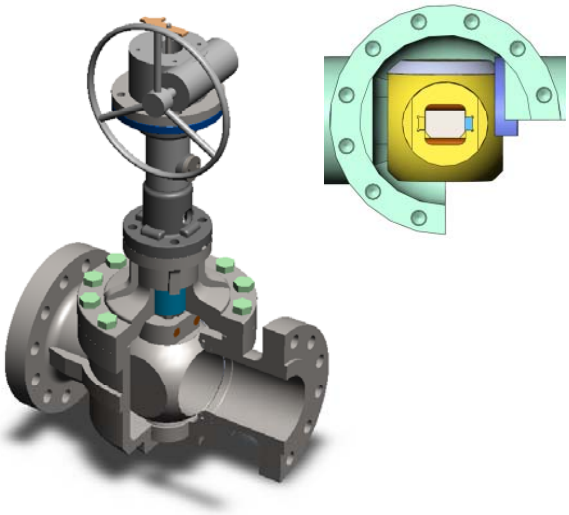
3.Rotating

Core is turned by rotating of stem in order to be perfect open position of port.



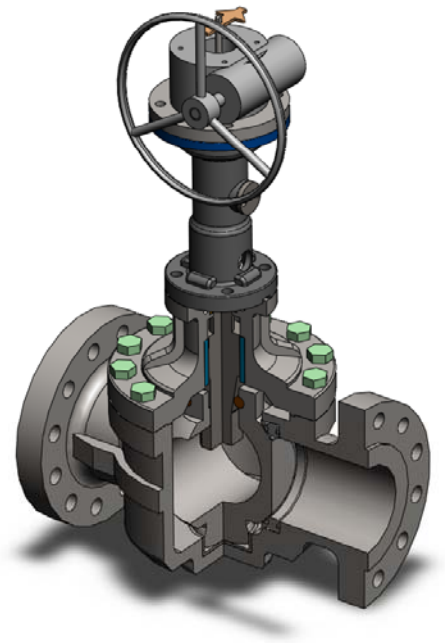
4.Open position

Core becomes open completely after stem has rotated.



* The above is opening sequence, and in case of closing sequence the process is in the opposite direction.

Specification



• **3Z Rising stem ball valve(RBV**) has mechanism to enable dual action and gets sealing by the acting of tilting & turn. Generally, it has low torque prominen tly compared to other ball valves. So, the size of act uator is to be small and our customer can adjust it if there is some leakage in using. Basically 3Z Rising st em ball valve is perfect in sealing. It is easy to excha nge seat because of top entry type, based on the fiel d situation, and it has long life cycle as there is no fr iction and abrasion.

- Zero Leakage.
- Low Operation Torque.
- Long life of seat because of no seat abrasion.
- Easy Seat Exchange with Top entry type.
- Protecting seat as there is divided action with dual action.
- Easy and continuous sealing as stem is cam type.

Materials of Construction

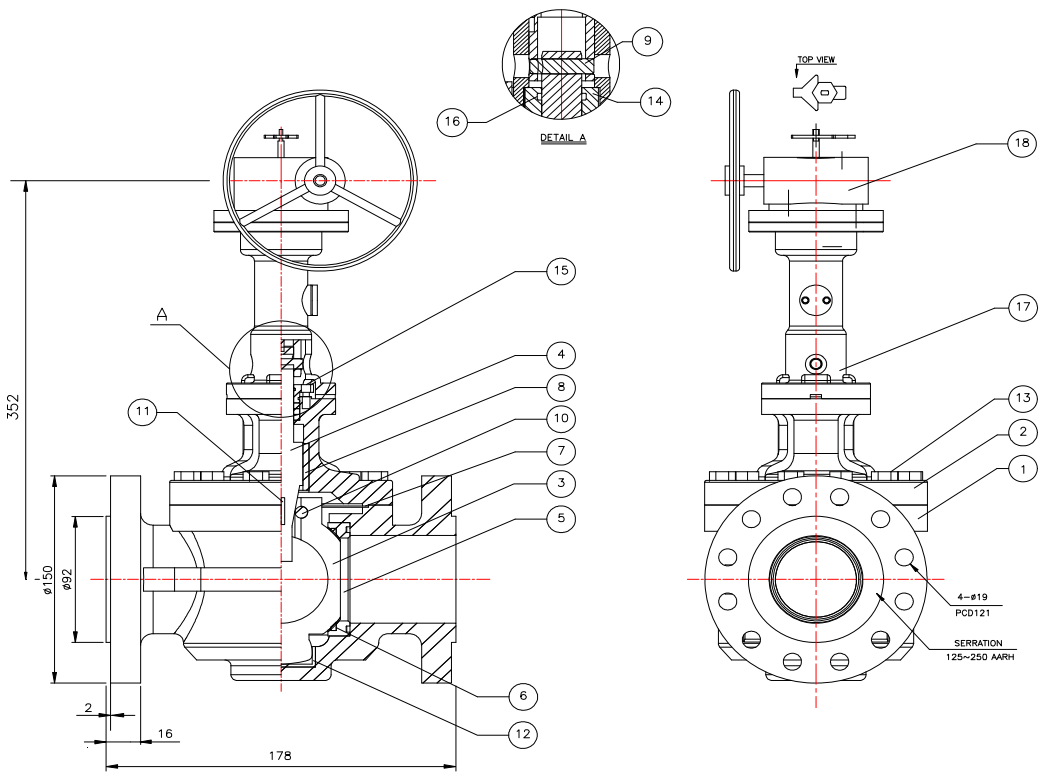
Body	Carbon Steel	ASTM A216 Gr.WCB
Core	Carbon Steel	ASTM A216 Gr.WCB
Bonnet	Carbon Steel	ASTM A216 Gr.WCB
Stem	Alloy Steel	SNCM21
Seat body	Carbon Steel	ASTM A-106 GR B
Insert	Teflon	-
Bushing	Stainless Steel	AISI 410
Packing	Graphite Type	-
Bolt	Carbon Steel	ASTM A193 B7

Availability

- Flow lines
- Gas metering
- Oil metering
- Low temperature service
- High temperature service
- Steam service
- Hydrocarbon service
- Emergency Blow Down service
- Sand slurry service
- Lethal service

Design

Class : 150~1500(PN 20~250)
NPS : 2~20(DN 50~500)



Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
150	2"	27	100	5	32	23	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
15	PACKING GLAND BOLT	4	ASTM A193 Gr.B7
16	GLAND O-RING	2	VITON
17	MECHANISM	1S	-
18	GEAR OPERATOR	1S	-
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NOTES

STANDARD		
	INSPECTION & TEST	API 598
	FACE TO FACE	ANSI B 16.10
	DIMENSION OF FLANGE	ANSI B 16.5
	WALL THICKNESS	API 599

Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

3Z CORPORATION

Rising Stem Ball Valve

02-RV06AGSBCCC3

Product Code

ANSI	150	2	GEAR
Standard	Class	Size	Operator

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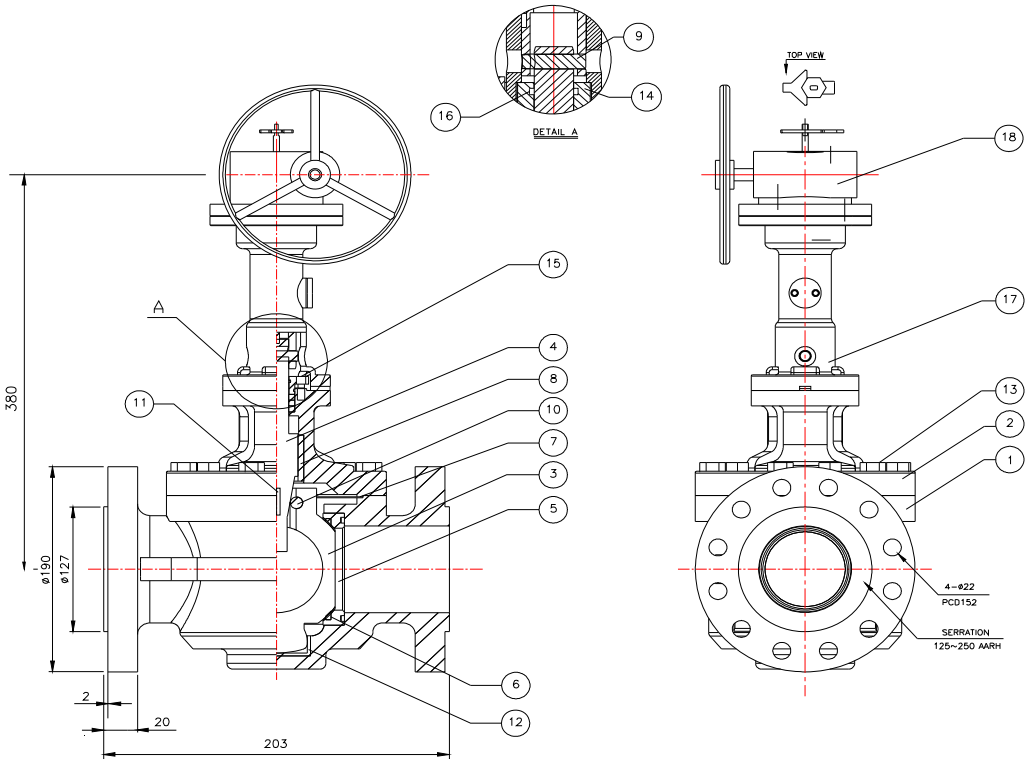

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
150	3"	44	100	6	32	23	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
15	PACKING GLAND BOLT	4	ASTM A193 Gr.B7
16	GLAND O-RING	2	VITON
17	MECHANISM	1S	-
18	GEAR OPERATOR	1S	-
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1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

3Z CORPORATION

Rising Stem Ball Valve

03-RV06AGSBCCC3

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ANSI	150	3	GEAR
Standard	Class	Size	Operator

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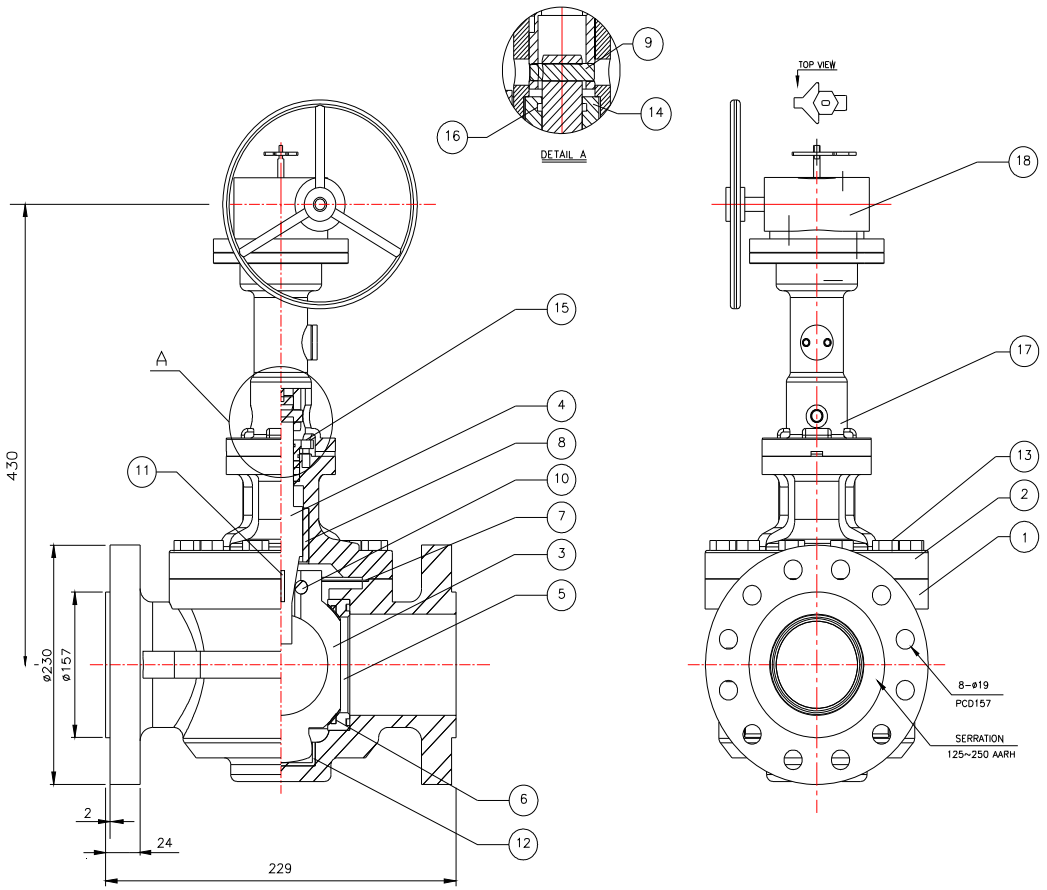

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
150	4"	92	100	10	32	23	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
15	PACKING GLAND BOLT	4	ASTM A193 Gr.B7
16	GLAND O-RING	2	VITON
17	MECHANISM	1S	-
18	GEAR OPERATOR	1S	-
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	WALL THICKNESS	API 599

Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

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Rising Stem Ball Valve

04-RV06AGSBCCC3

Product Code

ANSI	150	4	GEAR
Standard	Class	Size	Operator

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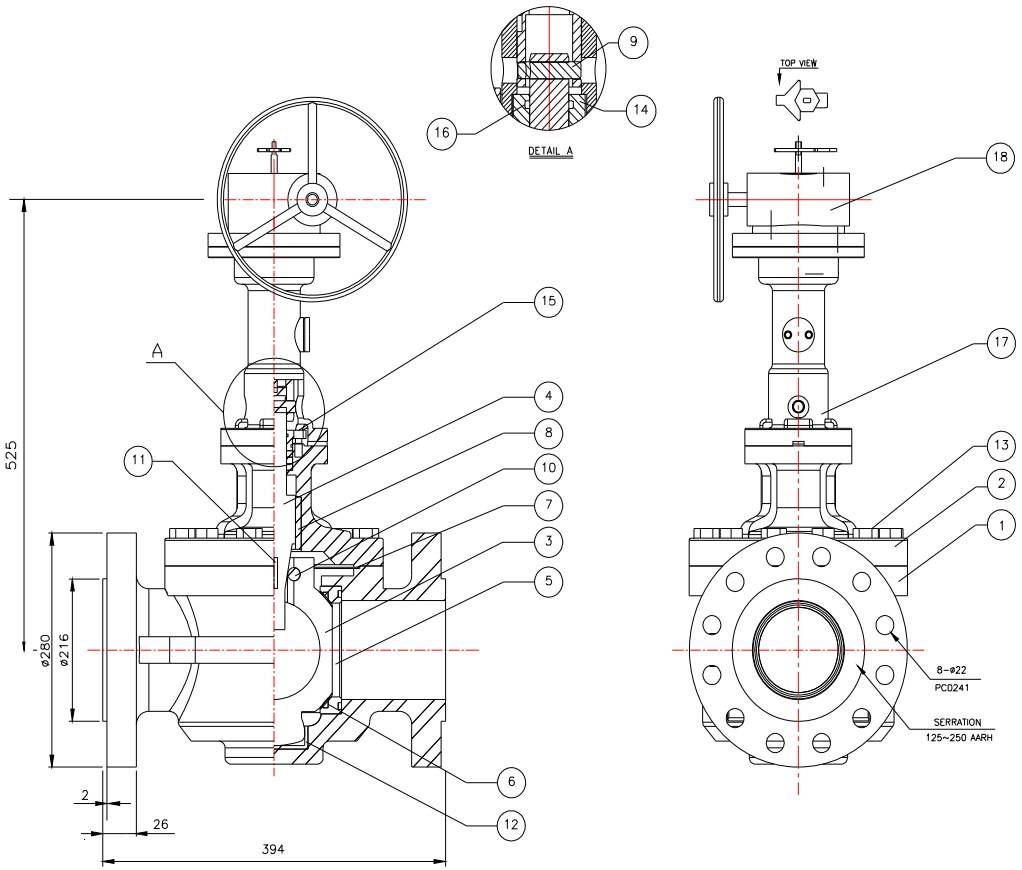

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
150	6"	189	100	28	32	20	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
15	PACKING GLAND BOLT	4	ASTM A193 Gr.B7
16	GLAND O-RING	2	VITON
17	MECHANISM	1S	-
18	GEAR OPERATOR	1S	-
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NOTES

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	DIMENSION OF FLANGE	ANSI B 16.5
	WALL THICKNESS	API 599

Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

3Z CORPORATION

Rising Stem Ball Valve

06-RV06AGSBCCC3

Product Code

ANSI	150	6	GEAR
Standard	Class	Size	Operator

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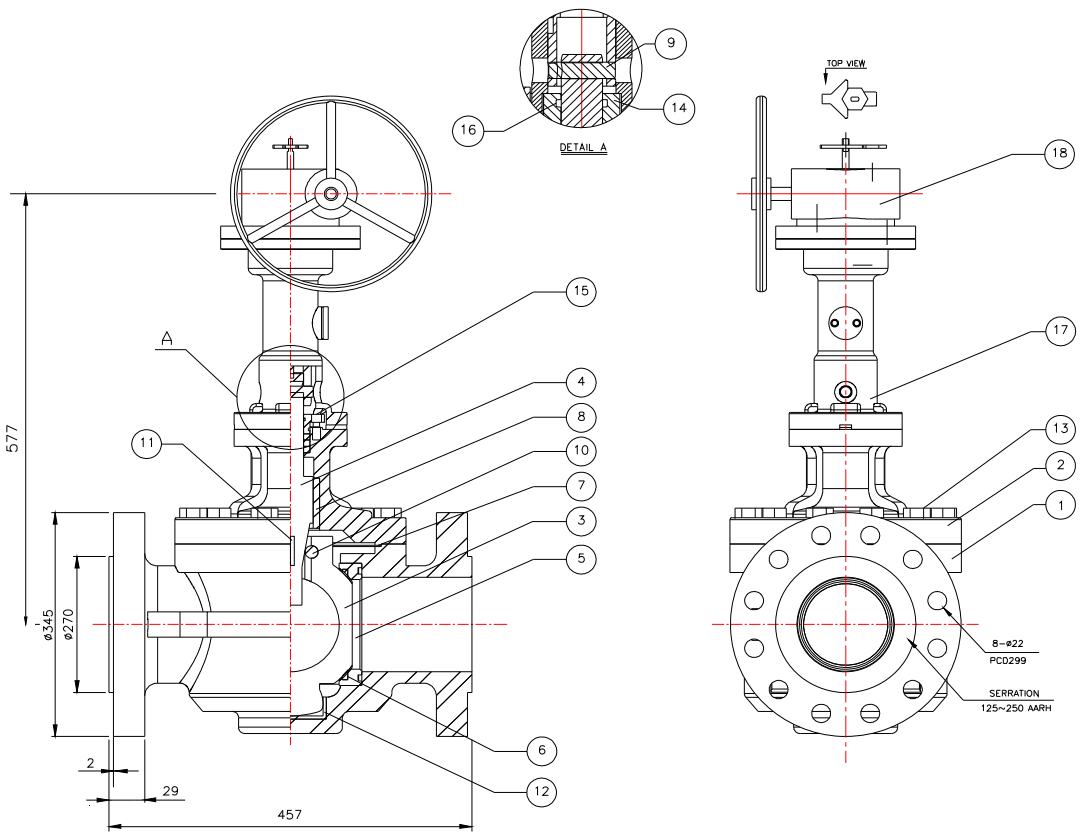

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
150	8"	247	100	51	32	23	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
15	PACKING GLAND BOLT	4	ASTM A193 Gr.B7
16	GLAND O-RING	2	VITON
17	MECHANISM	1S	-
18	GEAR OPERATOR	1S	-
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NOTES

STANDARD	
INSPECTION & TEST	API 598
FACE TO FACE	ANSI B 16.10
DIMENSION OF FLANGE	ANSI B 16.5
WALL THICKNESS	API 599

Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

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Rising Stem Ball Valve

08-RV06AGSBCCC3

Product Code

ANSI	150	8	GEAR
Standard	Class	Size	Operator

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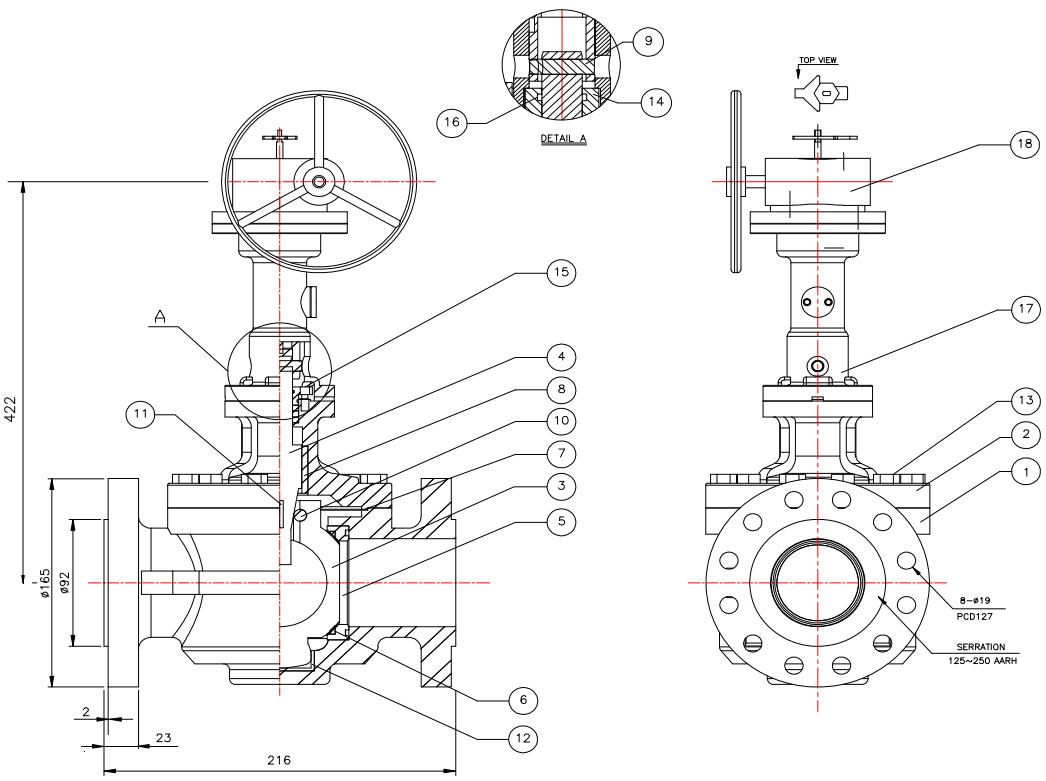

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
300	2"	30	100	5	97	58	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
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Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

3Z CORPORATION

Rising Stem Ball Valve

02-RV06AGSBCCC3

Product Code

Standard	Class	Size	Operator
ANSI	300	2	GEAR

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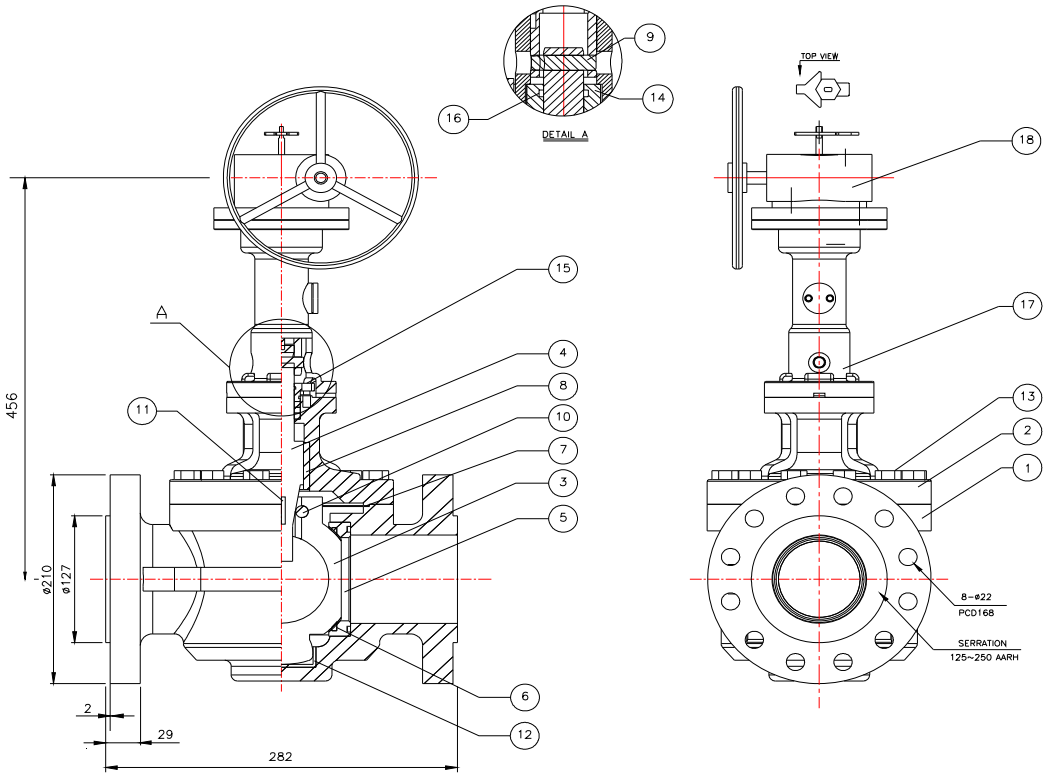

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
300	3"	44	100	6	79	58	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
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Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

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ANSI	300	3	GEAR
Standard	Class	Size	Operator

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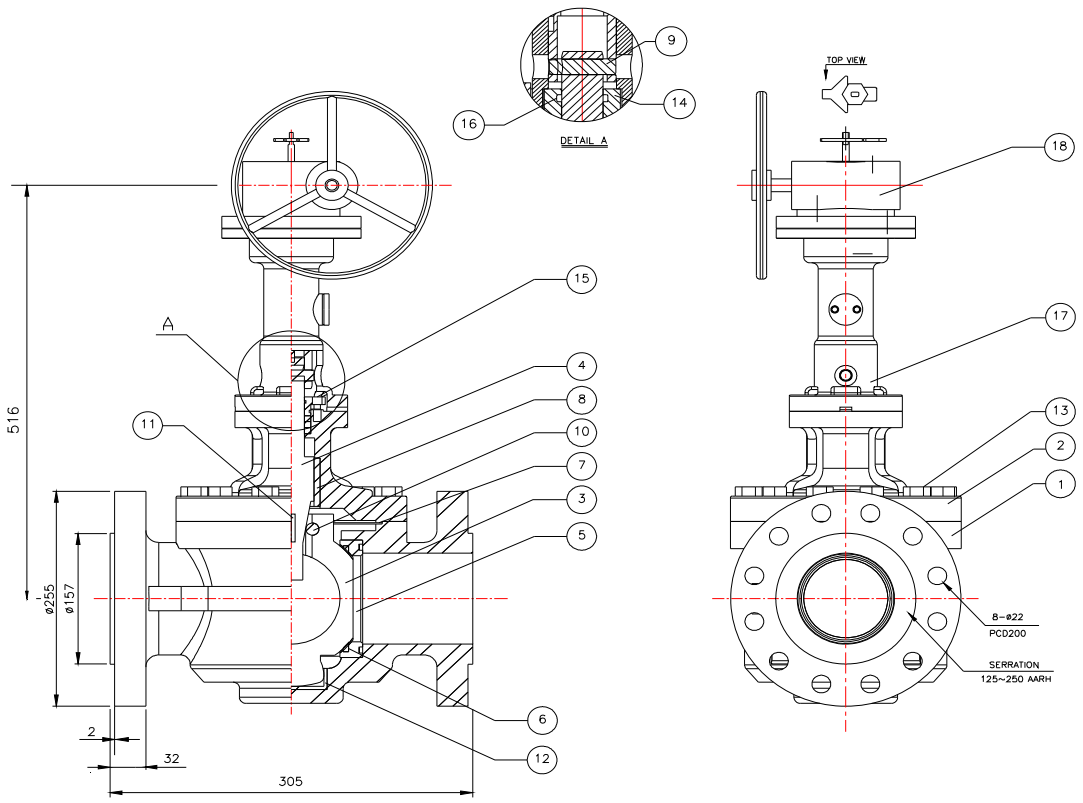

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
300	4"	92	100	13	79	58	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
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3	CORE	1	ASTM A216 Gr.WCC
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Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

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Rising Stem Ball Valve

04-RV06AGSBCCC3

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Standard	Class	Size	Operator

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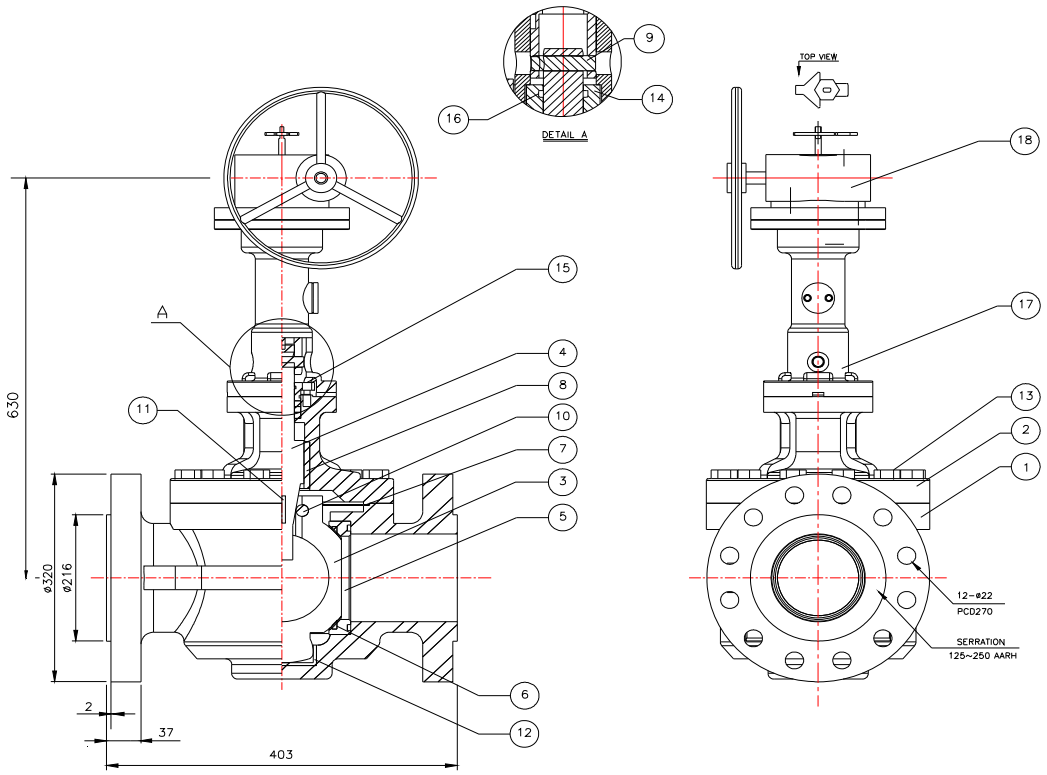

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
300	6"	189	100	34	79	58	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
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DIMENSION OF FLANGE	ANSI B 16.5
WALL THICKNESS	API 599

Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

3Z CORPORATION

Rising Stem Ball Valve

06-RV06AGSBCCC3

Product Code

Standard	Class	Size	Operator
ANSI	300	6	GEAR

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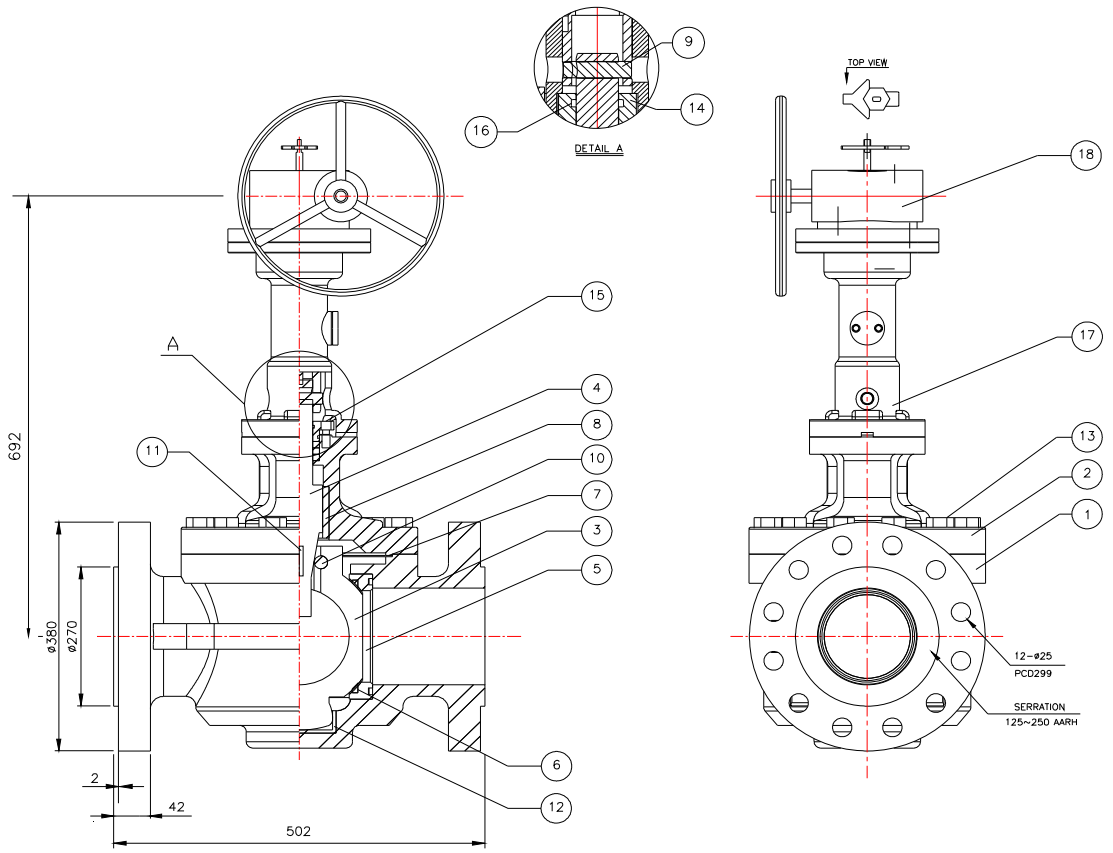

Class	Size	Weight(kg)	Port Ratio(%)	Torque (N.m)	Test Pressure(bar)		Tag No.
					Shell	Seat	
300	8"	247	100	60	79	58	

*For actuator sizing, safety factor of 30% to be considered.

NO	PART NAME	Q'TY	SPECIFICATION
1	BODY	1	ASTM A216 Gr.WCC
2	BONNET	1	ASTM A216 Gr.WCC
3	CORE	1	ASTM A216 Gr.WCC
4	STEM	1	ASTM A564 Gr.630
5	SEAT BODY	1	ASTM A351 CF8
6	SEAT INSERT	1	PTFE
7	GASKET	1	GRAPIHTE
8	STEM BUSHING	1	AISI 410
9	STEM PIN(ANTI STATIC)	1	SCM440
10	CORE PIN	2	SCM440
11	SURPPOT PIN	2	-
12	TRUNNION BUSING	1	AISI 440
13	BONNET BOLT	12	ASTM A193 Gr.B7
14	PACKING GLAND	3	GRAPIHTE
15	PACKING GLAND BOLT	4	ASTM A193 Gr.B7
16	GLAND O-RING	2	VITON
17	MECHANISM	1S	-
18	GEAR OPERATOR	1S	-
19			
20			
21			
22			

NOTES

STANDARD		
	INSPECTION & TEST	API 598
	FACE TO FACE	ANSI B 16.10
	DIMENSION OF FLANGE	ANSI B 16.5
	WALL THICKNESS	API 599

Rev.	Date	Drawn by	Chkd by	Appd by	Scale
1					N/S
0		K.T.YANG	H.S.KIM	H.S.KIM	

3Z CORPORATION

Rising Stem Ball Valve

08-RV06AGSBCCC3

Product Code

ANSI	300	8	GEAR
Standard	Class	Size	Operator

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