

2 Way / 3 Way Pneumatic / Electric Actuated  
**Ball Valves**

**1362SERIES**  
**1363SERIES**  
**1352SERIES**  
**1353SERIES**



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# 2 Way / 3 Way Electric / Pneumatic Actuated **Ball Valves**

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## Introduction - Ball Valve

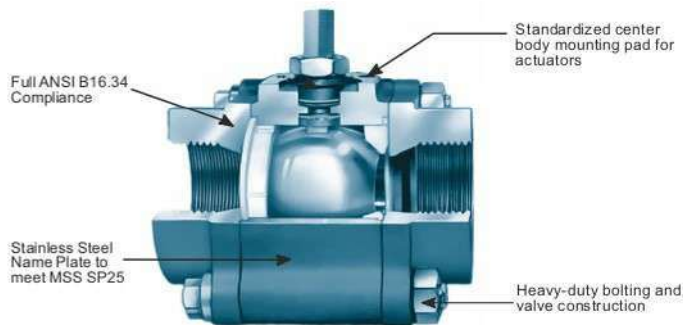
A ball valve, one type of quarter turn valve, is quite literally a ball placed in a passageway through which fluid flows. The ball has a hole through it, by which the valve opens and closes. When the ball is positioned so that the hole runs the same direction as the passageway, the fluid simply flows through the hole, and the valve is open. However, when the ball is positioned so that the hole is perpendicular to the passageway, the fluid cannot pass through, and the valve is closed. The ball is controlled from outside the valve, often with Electric and Pneumatic actuator which will turned the Ball to 90 degrees, or a quarter turn, back and forth to open and close the valve. Refer typical cut section of the Ball valve. (Refer Figure 1).

The basic ball valve, described above, is a two-way valve. This ball valve has a single, straight passageway bored through the ball, making two openings: one on each side, an inlet and an outlet. A ball valve can also be a three-way valve if a third hole is bored partially through the ball, until it meets the main hole, forming a T or L type. A three-way ball valve can shut off one or all of the three passageways it connects.

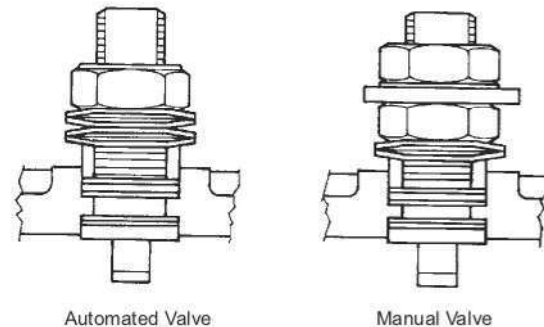
Because of the nature of the ball valve, it does not work well in situations in which fine control of the valve is needed. However, a ball valve works very well for situations in which a flow needs to work on On/Off mode almost suitable for all medias. Ball valves also do not tend to develop problems if they are not used for long periods of time; they will still work perfectly when needed again.

There are three different types of ball valve. A full port ball valve offers no flow restriction, which means that when the ball valve is open, the liquid can flow freely through it. This is achieved by making the ball larger than the passage size, so that the hole bored through it can be the same size as the passage. A standard port ball valve does not have an oversized ball, and as a result the hole is one size smaller than the passageway. This presents a small amount of flow restriction as the fluid passes through the ball valve. A reduced port ball valve, on the other hand, has an even smaller ball and an even smaller hole, which creates significant flow restriction as the fluid passes through the valve.





**Figure-1 – Cut section of standard Ball valve**



**Figure 2 - Stem seal arrangement of Ball valve**

## Design features of 3 way Ball valve:

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- Valve are of three-piece design available in both full and reduced port design and in a wide selection of body materials (stainless steel, carbon steel and alloys), and seats to meet a broad range of fluid types, pressures and temperatures.
- End connection available in BSP, NPT, Socket Weld, and Butt Weld or flanged. Socket weld and butt weld valves shall have fully-encapsulated body seal to facilitate inline welding without the need for disassembly.
- Weld-ends shall be "L" grade 316 stainless steel or carbon steel as required by the application.
- Stem seal shall be live-loaded using high-performance stainless steel disc springs (Belleville Washers).
- Actuator attachment shall be by integral mounting surface as part of the valve center section to eliminate the use of pressure-containing body bolts for actuator mounting. Refer Figure-2 which indicated the types of washers used for manual/automated valves.

## Dimension and Design as per ISO-5211.

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- Product tagging shall be permanently affixed using spot welding, etching or riveting.
- Ball and stem shall be stainless steel.
- Valve shall provide modified equal-percentage flow characteristics when used in throttling control application, with ball having 'V'port design.
- Valve shall be designed, manufactured and tested to meet applicable industry standard.

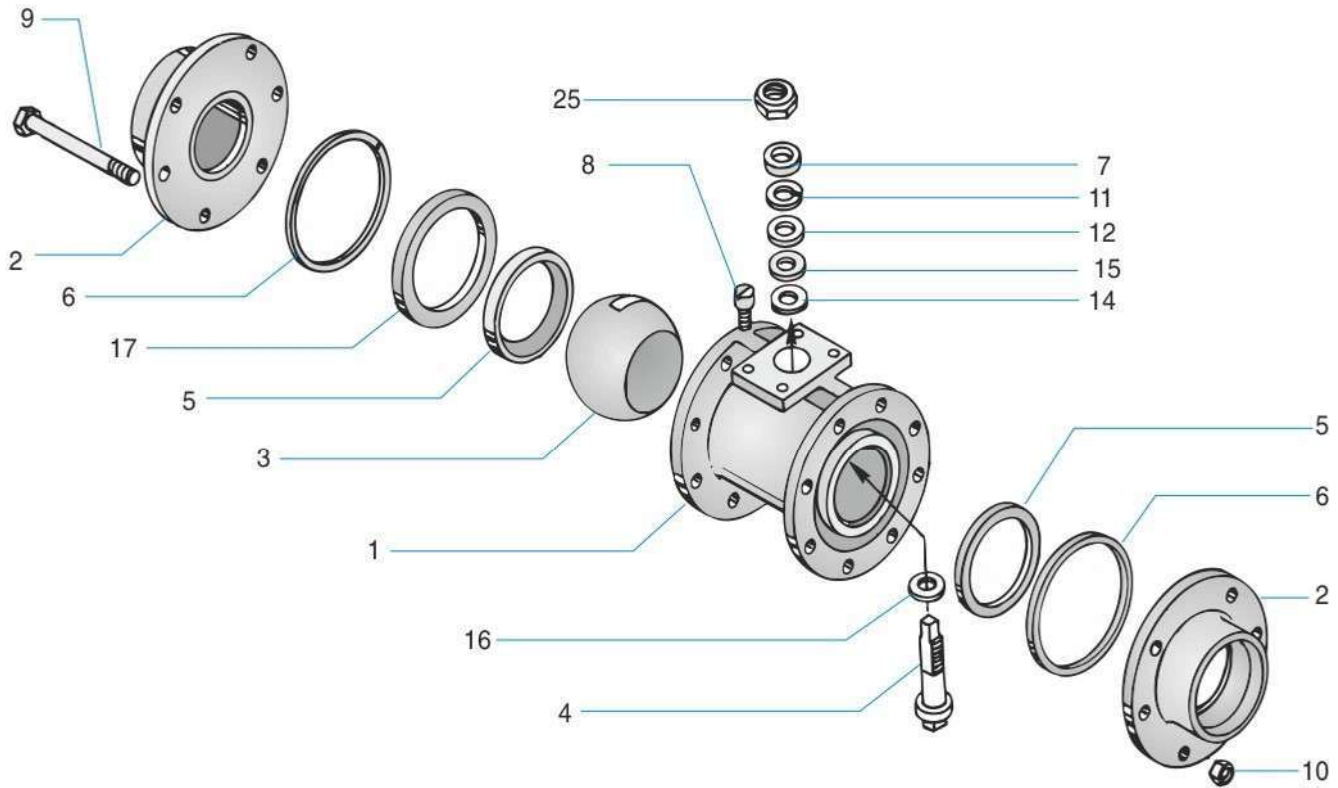
2 Way/3 Way Ball valves are available in General purpose & Fire Safe Design.

Ball valves can be furnished with special seals to with stand vacuum of  $10^{-3}$  torr, also with special treatment provision can be made for  $10^{-6}$  torr application.

## Specifications Ball Valve

Valve Size	:	2 way Socket Weld, screwed & Flanged ends (Size ½” to 10”) and 3 way Mixing or Diverting design are available with a Size ½” to 2” standard in screwed and flanged up to 200mm). These valves can be made available with Double Acting, Spring return type Pneumatic actuators and Single/Three Phase Electric Actuators. (Typical exploded view of Ball valve, refer Figure 3)
Port Size	:	Refer Dimensional assembly drawing Tabular column
End Connection	:	Screwed / Flanged / Socket Weld.
Type of Construction	:	Single Piece / 2 Piece / 3 Piece Reduce Bore / Full Bore design.
Body Material	:	Carbon steel / S.S.316 / S.S.304 / PVC / PP / PE / Teflon.
Ball Material	:	S.S.316 / S.S.304 / PVC / PP / PE / Teflon.
Seating Material	:	Teflon / Acetyl Resin / Any other.
Action of Valve	:	Normally opened / normally closed / 3 way Diverting or Mixing in case of 3 way Valves.
Characteristic	:	On, Off / Modified Control Up to 60 Degree opening.

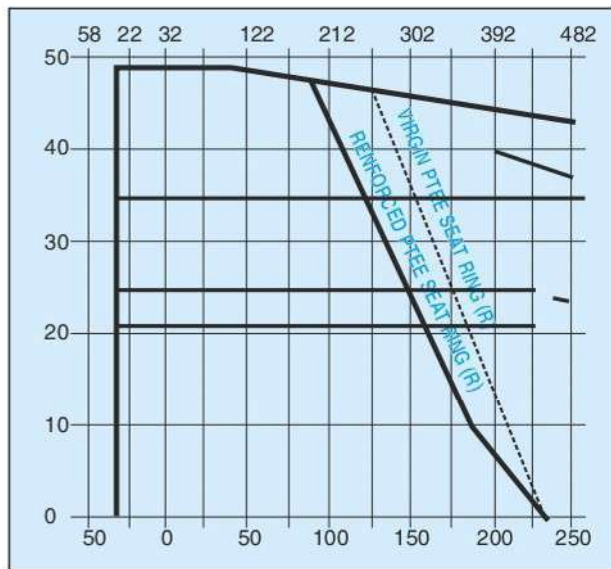
# Exploded View of Ball Valve



**Figure 3 – Exploded view of Ball valve**

Sr. No.	Parts	Material
1	Body	C.S., 316 S.S., Brass
2	Pipe End	C.S., 316 S.S., (316L for weld ends)
3	Ball	316 S.S., Chrome-Plated Brass
4	Stem	316 S.S., Brass
5	Seat	TFE, Reinforced TFE, Buna, Neoprene, Polyfill, UHMWPE, High-per Fill, Delrin
6	Body Seal	Buna, Viton, EPR, TFE, Neoprene, TFE Coated 316 S.S. "S" Gaskets, Graphite Coated 316 S.S. "S" Gasket. UHMWPE Graphite (2" only)
7	Stem Seal Follower	316 S.S.
8	Stop Pin (1" and up)	¼"- 1½" S.S. or C.S.Zinc-Plated;
	Stop Pin (¼"-¾")	2"-4" C.S., Black Oxide-Coated
9	Body Bolts	¼"-2" C.S.:ASTM A193 GR-B7 S.S.: ASTM A193 GR-B8 3"-4" C.S.:Clack Oxide-Coated
10	Body Nuts	¼"-2" C.S.:ASTM A194 GR-2H S.S.: ASTM A194 GR-B8 3"-4" C.S.:Black Oxide-Coated
11	Lock washer	Carbon Steel: Zinc-Plated or S.S.
12	Seal Protector	PEEK
13	Nameplate (not shown)	304 Stainless Steel
14	Stem Seal	Size 2", 3", 4" Valves Glass-filled TFE
15	Centering Washer	C.S.; 316 S.S. (3" & 4" only)
16	Thrust Bearing	Glass-filled TFE
17	Seat Retainer	Carbon Steel or 316 S.S.
18	Retaining Nut	Carbon Steel: Zinc-Plated or S.S.

## Pressure Temperature Rating



## Assembled with :

- **Pneumatic Rotary Double Acting Stay put type Actuator**  
OR
- **Spring Return Actuator available for Fail safe operation.**

Pneumatic actuators are available in rotary construction in Double and spring return in on/off and modulating duty format. Actuators will be inherently failed safe but fail position (open or closed) should be noted. Pneumatic actuators are supplied with Electro pneumatic positioners which work on continuous pressurized air of 60 psi and input signal of 4 to 20mA with feed back 4 to 20mA For details refer Actuator catalogue.

## Actuator Construction

The piston incorporates racks and end covers are die casted in aluminum alloy. Barrel is extruded aluminium alloy hardened and treated, further finished with deep anodized process to form a protective layer to resist atmospheric corrosion. The actuators are also available in stainless steel 316 & Nylon plastic construction for food grade and chemical industries application. The internal materials of the aluminum, SS 316 & Nylon plastic actuator are having pinion which is made up of steel, precision cut, heat treated and ground & also has a high grade of synthetic seals. The actuators before assembly is lubricated with high temperature resistant smooth grease. The actuators are with compact design operates through 90 degree angle of actuation. The Actuator is also available in 180 degree rotation. The exploded view of Actuator Refer Figure 4.

### Air Pressure Requirement :

- For Double Acting Actuator - 3.5 kg / cm<sup>2</sup> (Minimum) & 8.5 kg / cm<sup>2</sup> (Maximum)
- For Spring Return Actuator - 4.0 kg / cm<sup>2</sup> (Minimum) & 8.5 kg / cm<sup>2</sup> (Maximum)

However Air Pressure Requirement is much dependent on size of the valve, working pressure, quality of Ball Valve and many other factors.

### For Double Acting Actuator:

4 way 5 port single Coil / Double Coil solenoid valve in general purpose or Flame proof and explosion coils construction.

### For Spring Return Actuator:

3 way Single Coil / Double Coil solenoid valve in General purpose or Flame proof and explosion Coils construction.

## Accessory Common for Double Acting / Spring Return Actuator :

- a) Pressure Regulator
- b) Limit Switches
- c) Filter Regulator with Lubricator
- d) Gear Box with hand wheel for manual operation
- e) Valve Positioner for characteristic controlled application.
- f) I to P Converter.
- g) Electro pneumatic positioners
- h) Position Indicator
- i) Position Transmitter
- j) Cyclic Timer OR Sequential Timer
- k) 3 Way / 4 Way Key operated valves
- l) Stimulator
- m) Travel Stops
- n) Flow Restrictor
- o) Silencers with Flow Control Valve

## Optional :

- a) PID Controller along with PT - 100 Senso supplied with panel.
- b) Pressure Transmitter supplied with panel.

# Application

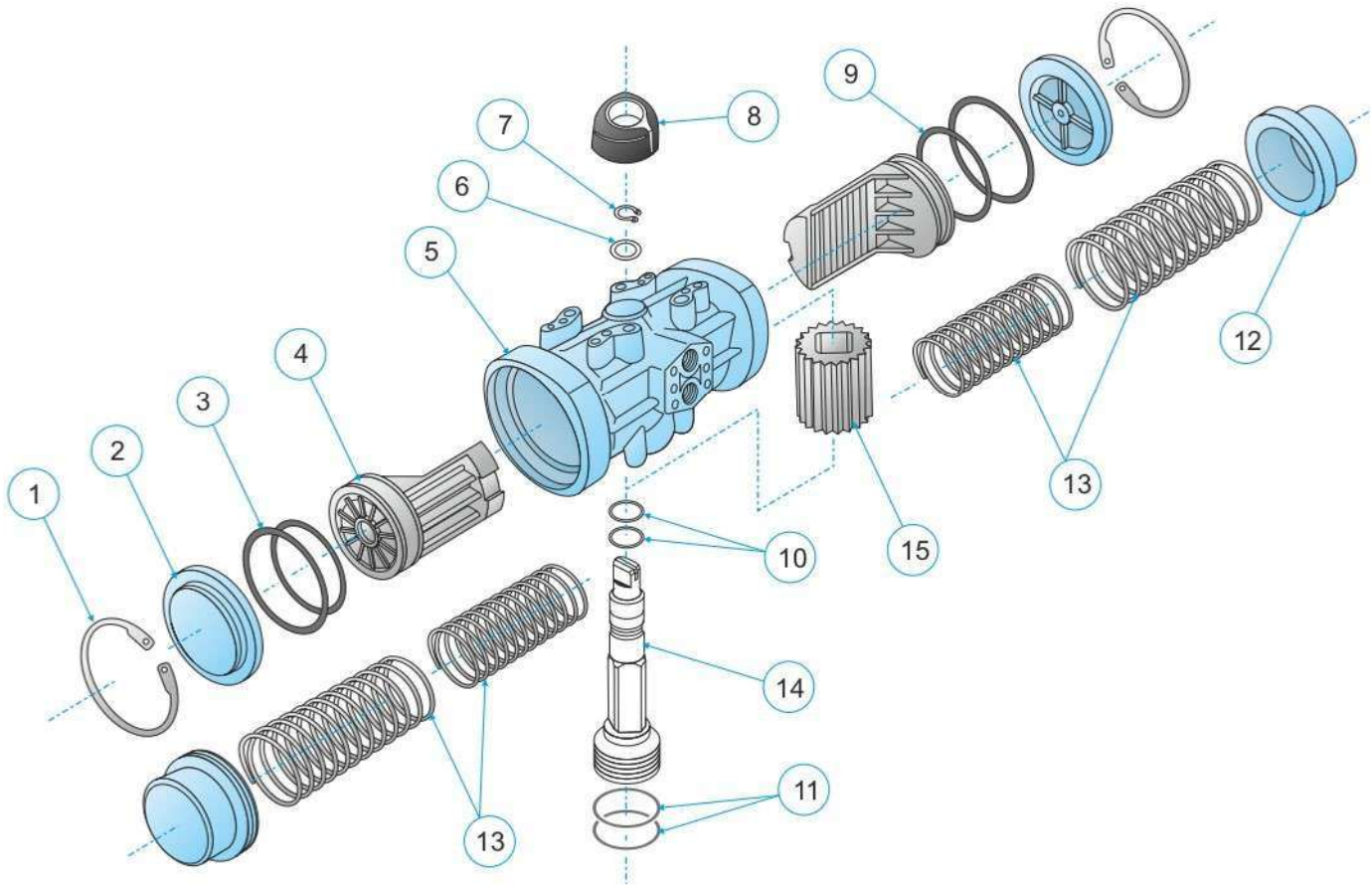
For control of Air, water, oil, gas, steam, power generation, atomic energy pulp & paper, chemical, petrochemicals, printing, plastic processing, food & beverages, wood industries, tea & coffee plant and others.

# Tests

The valves are tested according to their respective standards for hydrostatic, seat leakage and working pressure tests. Unless and otherwise specified Ball valves are Constructed and tested for 10 kg/cm<sup>2</sup> working pressure with modified construction they can be made to suit a pressure of 300 bar.

## Notes :

- a) Actuator rating is for valve working pressure 10 kg / cm<sup>2</sup>
- b) Timing given is approximate and is useful as an indicating figure only when solenoid valve is directly coupled with the Actuator. Average time under 50% load condition is 80 PSI working pressure.
- c) All data is complied in laboratory test, in actual field, working may differ.



**Figure – 4 – Exploded View of Pneumatic Actuator**

No.	Description	Quantity	Material
1	Allen Screw / Spring Clip	12 / 2	AISI -304 Stainless Steel
2	Double Acting Cap	2	Aluminium Alloy (2) + (1)
3	Cap O-ring	2	N.B.R.
4	Piston	2	Aluminium Alloy
5	Cylinder / Body	1	Aluminium Alloy (2) + (1)
6	Washer	1	Polyamide 6
7	Spring Clip	1	Steel (3)
8	Position Indicator	1	Polymide
9	Guide Ring	4	P.T.F.E. + Bronze
10	O-Ring	2	N.B.R.
11	O-Ring	4	N.B.R.
12	Single Acting Cap	2	N.B.R.
13	Springs Set	2	DIN - 17223-C (2) (4)
14	Shaft	1	Steel (2)
15	Gear	1	Aluminium Alloy (5)

## Single Phase

Single phase SDTORK Actuator is provided with Stall duty motor used for quarter turn application. Actuator is suitable for inching operation too and they can be supplied with extra limit switches for remote position indication.

The Actuator are available in general purpose, Dust proof & Flame proof & Explosion proof housing approved by CMRS Dhanbad.

Three phases SDTORK Actuator is basically a worm gear type reduction gear box. A single stage grease bath worm gear gives quietness and reliability in operation. The valve can be fully opened, fully closed or adjusted to any intermediate position. The rectory force on the worm shaft which is a 'Floating one' is directly proportional to the out put torque and is absorbed by a set of disc springs.

The lateral movement of the worm shaft under load, trips closes the Torque switch. The driving motor is a TEFC/TESC squirrel cage class F IP 65 enclosure motor combining low inertia with a high starting and stalling torque.



## Three Phase

Three phase Actuator are fitted with torque limit switches & travel limit switches & also they are in built with manual hand wheel used for operating the actuator manually in case of power failure. Actuator is also supplied with various shaft designs to suit rising & non rising stem valve. Three phases are also provided with space heater. This actuator is also available in slow mode operation which is used for multi turn application.



## Assembled with :

- Single phase 230V AC Actuator Alternatively 24V AC & 110V AC OR
- Three phase 415V AC Actuator

Easier interface with digital control devices. Electrical actuators must have a voltage selection, typical actuators voltages are 24V AC, 110V AC, 240V AC and 415V AC. Fail safe electric actuators are also called spring return and the fail positioning (open or closed) should be noted. For detail on the Electric actuator refer Sdtork pune and asked for detailed literature. The spring return Electrical actuators are available for low torque, for higher values we suggest you

- a) Travel Limit Switches - 2 nos
- b) Auxiliary Limit Switches - 2 nos
- c) Hand wheel for Manual operation
- d) Local position indicator
- e) Potentiometer for feed back
- f) Torque limit switches
- g) Position Transmitter

**The Actuators can be supplied with a panel having Auto Calibration facility.**

### Actuator can also be supplied with :

Single Phase OR Three phase Panel for switching the valve On / Off through Push Buttons for local operation under manual mode OR through PLC under Auto mode through 4-20 mA, 0 to 10V DC.

### Common Accessory for Single Phase / Three Phase Actuator :

- a) Honeywell / any other make PID Controller along with PT 100 sensor with built in panel as an option.
- b) Honeywell / any other make pressure Transmitter where based on setting pressure valve will open & close through PID with built in panel as a option.
- c) Sequential timer 0 to 30 channel for sequence operation.
- d) Cyclic timer having On time 1 to 60 seconds & Off time 1 to 60 min for sequencing operation.

## Control Panel Specification :

- a) Input : Single Phase 230V AC OR 3 Phase 415V AC, 4 wire supply.
- b) Output supply: Single Phase 230V AC OR 3 phase 415V AC Reversible supply.
- c) Auto / Manual selection : Selector switch provided. In Auto mode open & close operation is controlled by 4-20mA Input & under Manual mode operation is through Push buttons.
- d) Indications : Zero to a100% valve position display, R, Y, B Phase Indication [applicable only for 3 phase] Open & Close, Fully open & Fully close indication.
- e) Main switch - Single Phase OR 3 Phase MCB for mains On / Off.
- f) Phase fail / error protection provided.
- g) Fuse protection provided for each phase.
- h) Protection from over torque - If Actuator gets over torque the torque switch trips & the system protects the motor. Also provided with 10 metres cable for Motor & Feed back with connectors.

### Notes:

- Actuator rating is for valve working pressure 10 kg / cm<sup>2</sup>.
- Timing given is approximate and is useful as an indicating figure.
- All data is compiled in laboratory test, in actual field, working may differ.
- Width and weight will change with option of flanges and accessories.



Wall mounted control panel.



Integral Starter

# Typical Lined Valves which can be Automated when Assembled with Actuators.



## A) TEFLON LINED TWO PIECE BALL VALVE

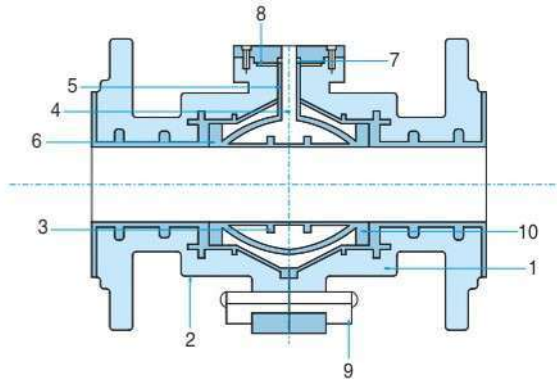


Figure 5 – Two Pieces Lined Ball Valves

SLNO.	PART NAME	MATERIAL
1	Center Piece	ASTM A 216 GR WCB
2	Side Piece	ASTM A 216 GR WCB
3	Ball	TEFLON WITH METAL CORE (ALUMINIUM, SS)
4	Steam	TEFLON LINED C. STEEL
5	Gland	S.S.
6	Seat Ring	PTFE/TEFLON
7	Gland Packing	PTFE/TEFLON
8	Gland Washer	S.S.
9	Stud & Nuts	S.S.
10	Lining Material	TEFLON

## B) PFA or FEP or PVDF LINED BALL VALVE IN 3 PIECE DESIGN

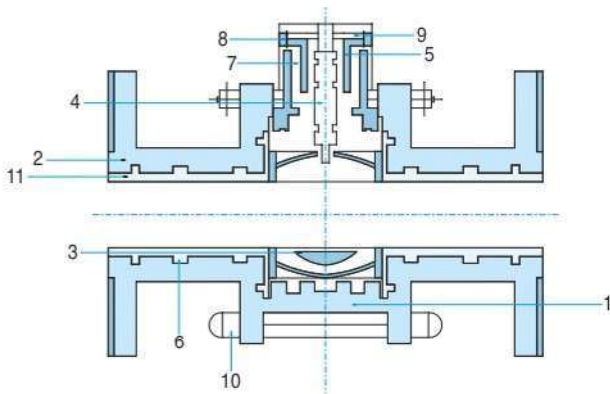


Figure 6 – Three Piece Lined Ball valves

SLNO.	PART NAME	MATERIAL
1	Center Piece	ASTM A 216 GR WCB
2	Side Piece	ASTM A 216 GR WCB
3	Ball	TEFLON WITH METAL CORE (ALUMINIUM, SS)
4	Steam	TEFLON LINED C. STEEL
5	Gland	S.S.
6	Seat Ring	PTFE/TEFLON
7	Gland Packing	PTFE/TEFLON
8	Gland Washer	S.S.
9	Cap & Handle	M.S. or S.S.
10	Stud & Nuts	S.S.
11	Lining Material	PFA or FEP or PVDF

## C) HIGH PRESSURE BALL VALVE

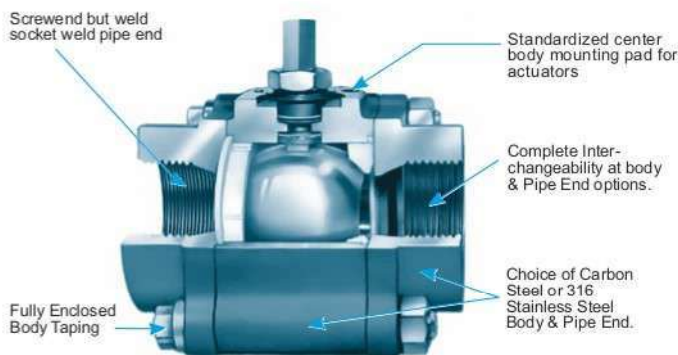


Figure 7 – Cut section of High Pressure Ball valve

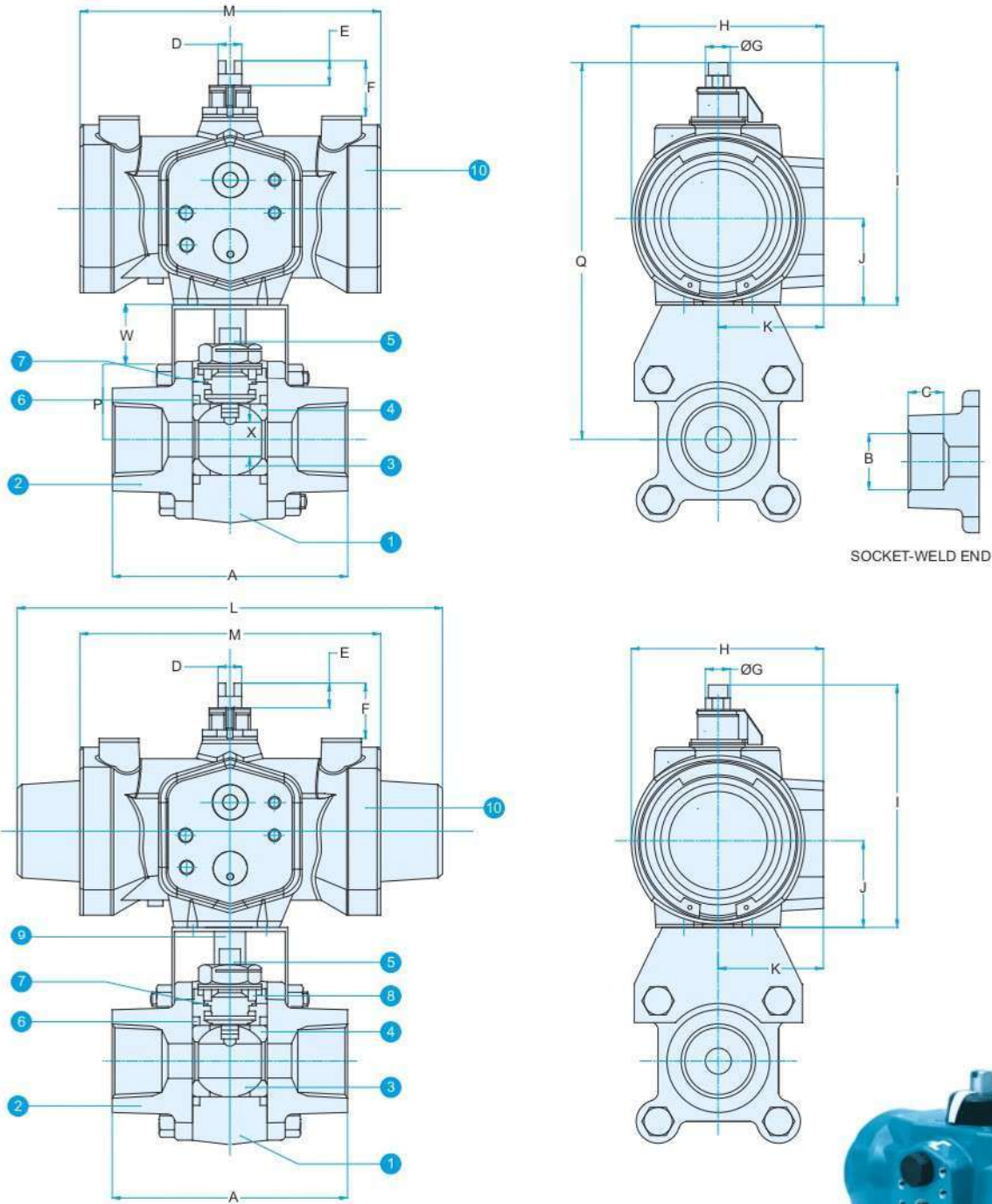
Specifications	
VALVE SIZES	¼", 3/8", 1/2", 3/4", 1", 1¼", 1½", 2"
VALVE PRESSURE RATINGS	From 20 micron absolute to: ¼"-¾"-3000 psi 1"-2500 psi 1¼"-2"-2000 psi
BODY AND PIPE END MATERIALS	Carbon Steel, Stainless Steel
BALL/STEM	Stainless Steel, Monel, Alloy 20, Hastelloy C
SEALS	Lubetal Delrin-Maximum temp. 180°F. Lubetal will handle the full range of pressure within the valves rating
THRUST BEARING	Delrin
STEM SEALS	Polyfill and PEEK
BODY SEALS	Buna, Viton, EPR, Neoprene
VALVE TEMPERATURE RANGE	-20°F to 180°F

# 2-way Pneumatically Operated

## Full Bore Screwed Ball Valve

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1362



### PART LIST

S.No.	BODY	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTMA216 Gr. WCB	ASTMA351 Gr. CF8M
2	BODY CONNECTOR	ASTMA216 Gr. WCB	ASTMA351 Gr. CF8M
3	BALL	ASTMA351 Gr. CF8M	ASTMA351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	COUPLER	EN8	SS
10	PNEUMATIC ACTUATOR	ALUMINIUM	ALUMINIUM

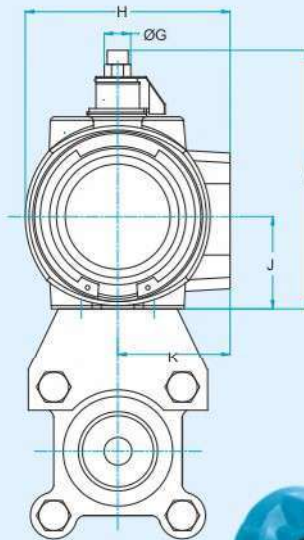
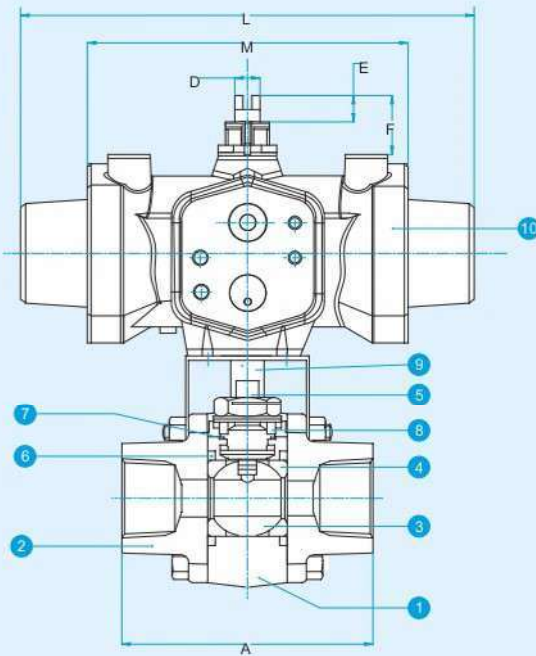
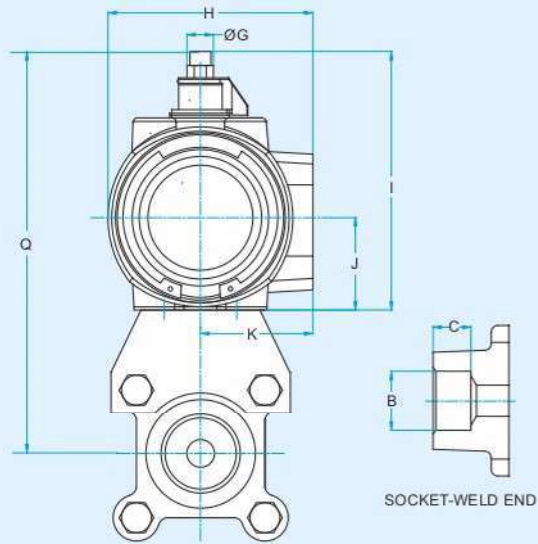
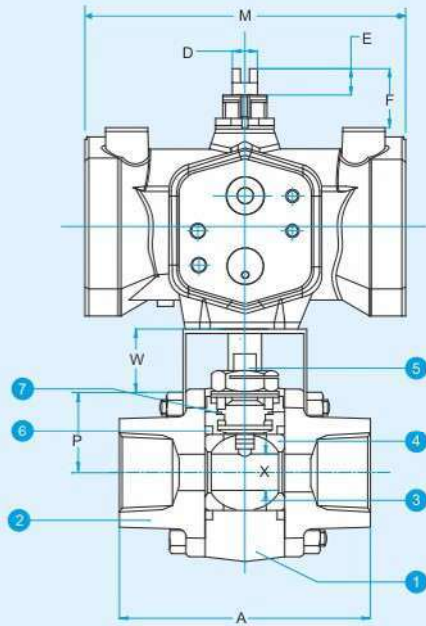
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	P	Q	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR	
																					OPEN (SEC)	CLOSE (SEC)	TO OPEN	TO CLOSE
15	1362/15/BSP/FB/DAW	73	22.2	9.7	8	7.5	20	9	68.5	85	31	37.5	-	109	27	252	50	15	1.5	12	0.1	0.1	0.075	0.05
	1362/15/BSP/FB/SAW	73	22.2	9.7	8	7.5	20	9	68.5	85	31	37.5	143.5	109	27	252	50	15	1.6	12	0.15	0.15	0.075	-
20	1362/20/BSP/FB/DAW	95	27.6	12.7	8	7.5	20	9	68.5	85	31	37.5	-	109	28.8	253.8	50	20	1.75	32	0.1	0.1	0.075	0.05
	1362/20/BSP/FB/SA00	95	27.6	12.7	10	11	30	13.8	80	110	45	44	160	125	28.8	253.8	50	20	1.9	32	0.2	0.2	0.15	-
25	1362/25/BSP/FB/DA00	116	34.3	12.7	10	11	30	13.8	80	110	45	44	-	125	35.4	280.4	70	25	5	46	0.15	0.15	0.15	0.1
	1362/25/BSP/FB/SA05	116	34.3	12.7	10	11	30	13.8	98	122	47	53	194	146	35.4	280.4	70	25	5.5	46	0.25	0.25	0.28	-
40	1362/40/BSP/FB/DA00	128	49.2	13.8	10	11	30	13.8	80	110	45	44	-	125	45	290	70	40	5	120	0.15	0.15	0.15	0.1
	1362/40/BSP/FB/SA05	128	49.2	13.8	10	11	30	13.8	98	122	47	53	194	146	45	290	70	40	5.5	120	0.25	0.25	0.28	-

# 2-way Pneumatically Operated

## Reduced Bore Screwed Ball Valve

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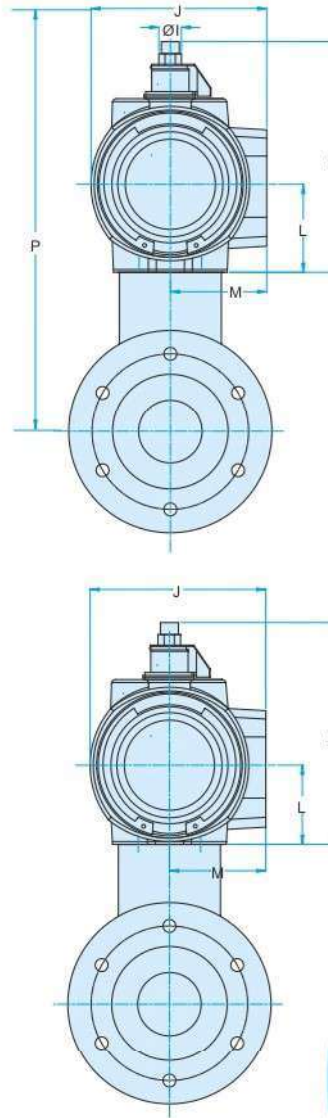
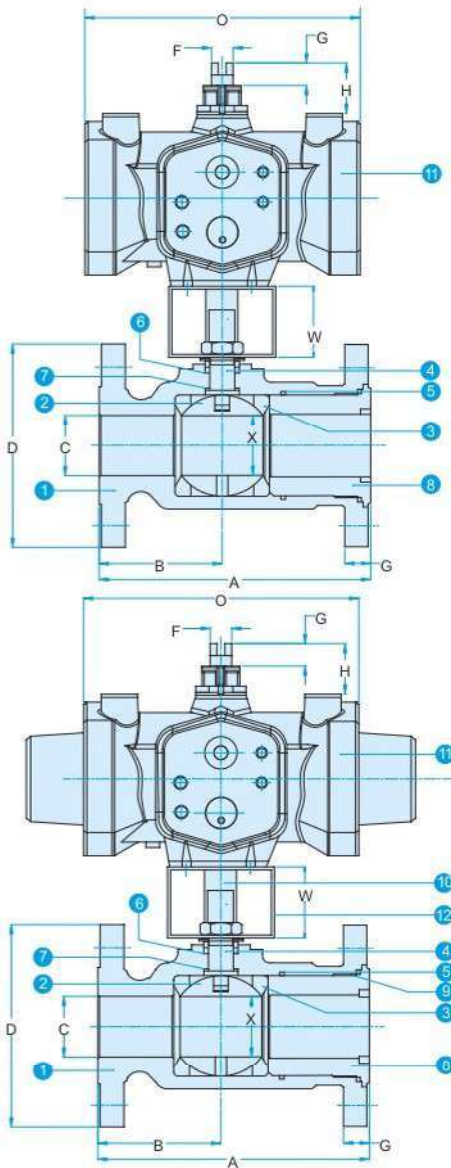
1362



### PART LIST

S.No.	BODY	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	COUPLER	EN8	SS
10	PNEUMATIC ACTUATOR	ALUMINIUM	ALUMINIUM

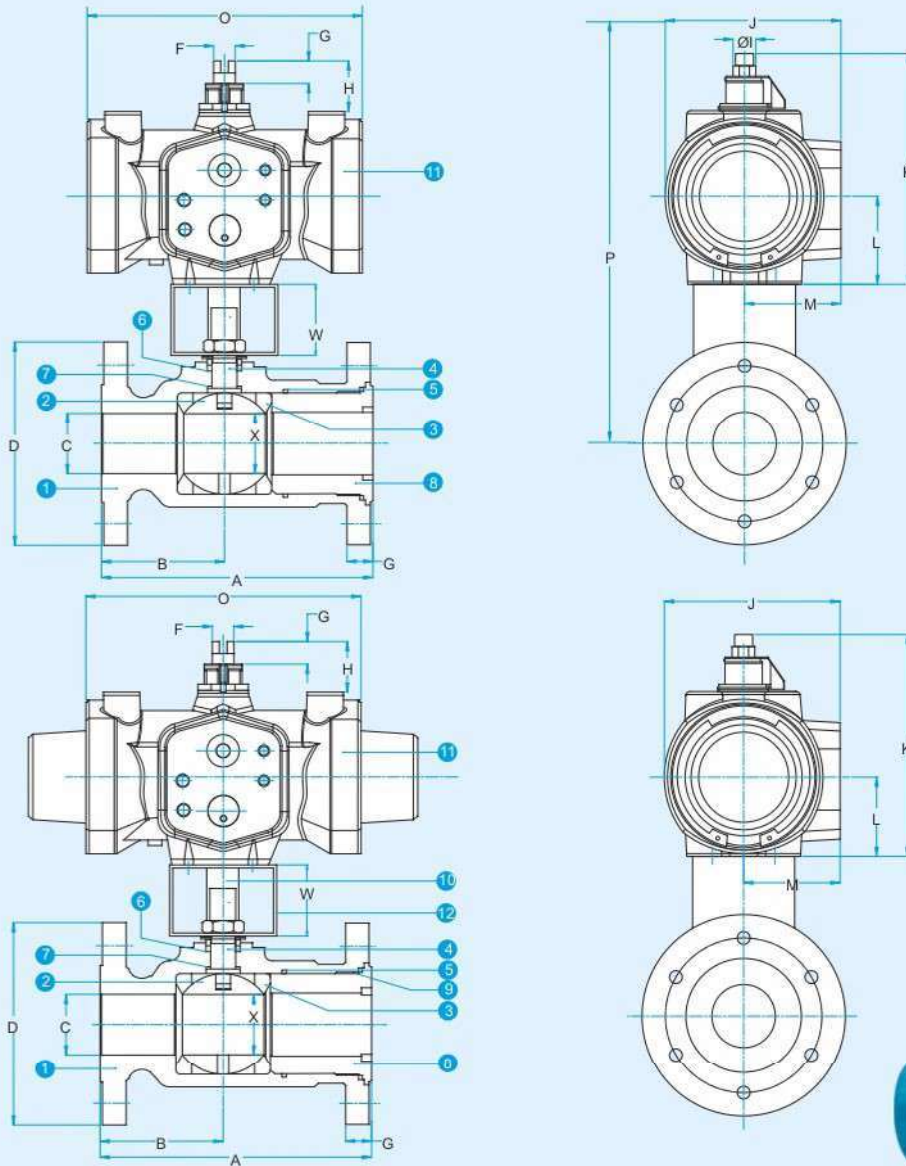
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	P	Q	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR	
																					OPEN (SEC.)	CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1362/15/BSPIRB/DAW	67	22.2	9.7	8	7.5	20	9	68.5	86	31	37.5	-	109	27	162	50	15	1.5	8	0.1	0.1	0.075	0.05
	1362/15/BSPIRB/SAW	67	22.2	9.7	8	7.5	20	9	68.5	86	31	37.5	143.5	109	27	162	50	15	1.6	8	0.15	0.15	0.075	-
20	1362/20/BSPIRB/DAW	73	27.6	12.7	8	7.5	20	9	68.5	86	31	37.5	-	109	28.8	163.8	50	20	1.75	12	0.1	0.1	0.075	0.05
	1362/20/BSPIRB/SAW	73	27.6	12.7	8	7.5	20	9	68.5	86	31	37.5	143.5	109	28.8	163.8	50	20	1.9	12	0.15	0.15	0.075	-
25	1362/25/BSPIRB/DAW	96	34.3	12.7	8	7.5	20	9	68.5	86	31	37.5	-	109	35.4	170.4	50	25	2.5	32	0.1	0.1	0.075	0.05
	1362/25/BSPIRB/SA00	96	34.3	12.7	10	11	30	13.8	80	110	45	44	160	125	35.4	170.4	50	25	2.7	32	0.2	0.2	0.15	-
32	1362/32/BSPIRB/DA00	107	43.1	12.7	10	11	30	13.8	80	110	45	44	-	125	38	218	70	32	4.2	46	0.15	0.15	0.15	0.1
	1362/32/BSPIRB/SA05	107	43.1	12.7	10	11	30	13.8	98	122	47	53	194	146	38	230	70	32	4.7	46	0.25	0.25	0.28	-
40	1362/40/BSPIRB/DA00	116	49.2	12.7	10	11	30	13.8	80	110	45	44	-	125	45	225	70	40	5	82	0.15	0.15	0.15	0.1
	1362/40/BSPIRB/SA05	116	49.2	12.7	10	11	30	13.8	98	122	47	53	194	146	45	237	70	40	5.5	82	0.25	0.25	0.28	-
50	1362/50/BSPIRB/DA00	128	61.7	15.9	10	11	30	13.8	80	110	45	44	-	125	48	228	70	50	6	120	0.15	0.15	0.15	0.1
	1362/50/BSPIRB/SA05	128	61.7	15.9	10	11	30	13.8	98	122	47	53	194	146	48	240	70	50	7	120	0.25	0.25	0.28	-



**PART LIST**

S.No.	BODY	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
3	SEAT	PTFE	PTFE
4	STEM	AlSi 316	AlSi 316
5	BODY SEAL	GRAPHITE	GRAPHITE
6	GLAND PACKING	GRAPHITE	GRAPHITE
7	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
8	INSERT	ASTM A 105/ASTM A216 GR. WCB15 1875 C 12	AlSi 316 OR ASTM A351 Gr. CF8M
9	INSERT GASKET	GRAPHITE	GRAPHITE
10	COUPLER	EN8	SS
11	PNEUMATIC ACTUATOR	ALUMINIUM	ALUMINIUM
12	BRACKET	IS 2062	IS 2062

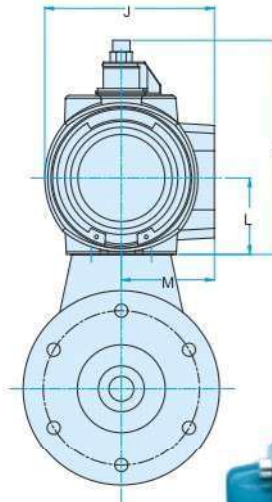
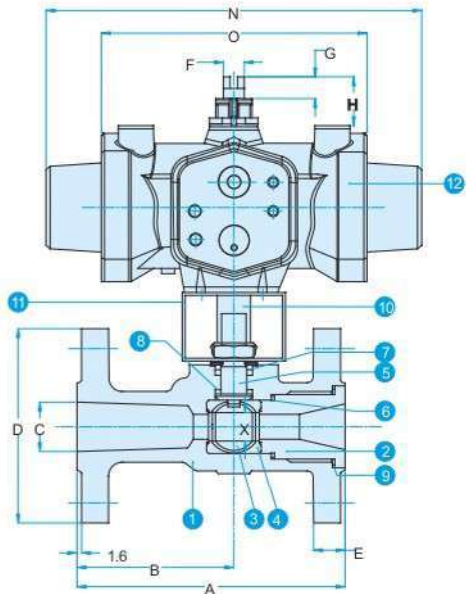
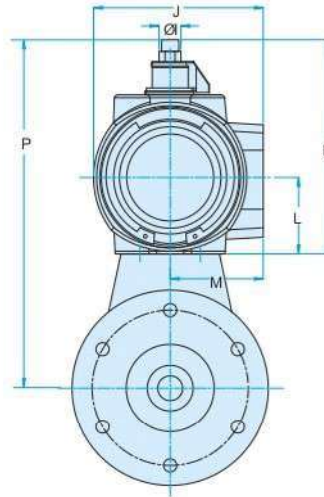
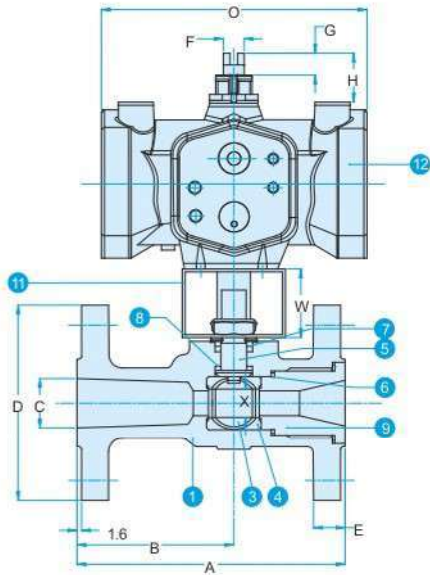
VALVE SIZE	MODEL NUMBER	A	B	C	D	F	G	H	I	J	K	L	M	N	O	P	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR.	
																					OPEN (SEC.)	CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1362/15/FL150/FB/DAW	108	46	12.7	89	8	7.5	20	9	68.5	85	31	37.5	-	109	179.5	50	14	2.75	12	0.1	0.1	0.075	0.05
	1362/15/FL150/FB/SAW	108	46	12.7	89	8	7.5	20	9	68.5	85	31	37.5	143.5	109	179.5	50	14	2.9	12	0.15	0.15	0.075	-
	1362/20/FL150/FB/DAW	117	50	19.1	98	8	7.5	20	9	68.5	85	31	37.5	-	109	184	50	20	4	32	0.1	0.1	0.075	0.05
20	1362/20/FL150/FB/SA00	117	50	19.1	98	10	11	30	13.8	80	110	45	44	160	125	209	50	20	4.25	32	0.2	0.2	0.15	-
	1362/25/FL150/FB/DA00	127	56	25.4	108	10	11	30	13.8	80	110	45	44	-	125	214	50	25	4.9	46	0.15	0.15	0.15	0.1
	1362/25/FL150/FB/SA05	127	56	25.4	108	10	11	30	13.8	98	122	47	53	194	146	226	50	25	6.2	46	0.25	0.25	0.28	-
40	1362/40/FL150/FB/DA05	165	75	38.1	127	10	11	30	13.8	98	122	47	53	-	146	255.5	70	38	10.7	120	0.2	0.2	0.28	0.25
	1362/40/FL150/FB/SA05	165	75	38.1	127	10	11	30	13.8	98	122	47	53	194	146	255.5	70	38	11.5	120	0.25	0.25	0.28	-
	1362/50/FL150/FB/DA10	178	84	50.8	152	10	11	30	13.8	102	127	50.5	56	-	182	273	70	51	14.7	240	0.25	0.25	0.35	0.32
50	1362/50/FL150/FB/SA10	178	84	50.8	152	10	11	30	13.8	102	127	50.5	55	236	182	273	70	51	15.5	240	0.3	0.3	0.35	-
	1362/65/FL150/FB/DA20	191	77	64.1	178	16	11	30	21.8	127	161	71	67	-	234	330	80	64	21.4	325	0.4	0.4	0.8	0.7
	1362/65/FL150/FB/SA20	191	77	64.1	178	16	11	30	21.8	127	161	71	67	312	234	330	80	64	22	325	0.5	0.5	0.8	-
80	1362/80/FL150/FB/DA25	203	99	76.2	191	16	11	30	21.8	152	191	86	78	-	276	366.5	80	76	28	600	0.5	0.5	1.5	1.2
	1362/80/FL150/FB/SA25	203	99	76.2	191	16	11	30	21.8	152	191	86	78	362	276	366.5	80	76	30.3	600	0.8	0.8	1.5	-
	1362/100/FL150/FB/DA30	229	108	101.6	229	16	11	30	21.8	177	211	96	94	-	349	405.5	80	102	50.5	800	0.6	0.6	2.05	1.9
100	1362/100/FL150/FB/SA40	229	108	101.6	229	32	20	50	41.9	226	212	116	120	598	444	405.5	80	102	54	830	2.4	1.2	2.05	-
	1362/150/FL150/FB/DA40	394	179	150.8	279	32	20	50	41.9	226	212	116	120	-	444	452.5	100	152	101.5	2100	1.2	1.2	5.3	5.3
	1362/150/FL150/FB/SA50	394	179	150.8	279	32	20	50	41.9	258	313	133	136	694	524	562.5	100	152	109	2100	6	6	10.5	-
200	1362/200/FL150/FB/DA60	457	206	203	-	32	20	50	41.9	258	313	133	136	-	524	-	100	203	192	3000	2	2	10.5	7



**PART LIST**

S.No.	BODY	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BALL	ASTM A351 Gr.CFSM	ASTM A351 Gr.CFSM
3	SEAT	PTFE	PTFE
4	STEM	AISI 316	AISI 316
5	BODY SEAL	GRAPHITE	GRAPHITE
6	GLAND PACKING	GRAPHITE	GRAPHITE
7	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
8	INSERT	ASTM A 105/ASTM A216 GR. WCB/IS 1875 C12	AISI 316 OR ASTMA351 Gr. CF 8M
9	INSERT GASKET	GRAPHITE	GRAPHITE
10	COUPLER	EN8	SS
11	PNEUMATIC ACTUATOR	ALUMINIUM	ALUMINIUM
12	BRACKET	IS 2062	IS 2062

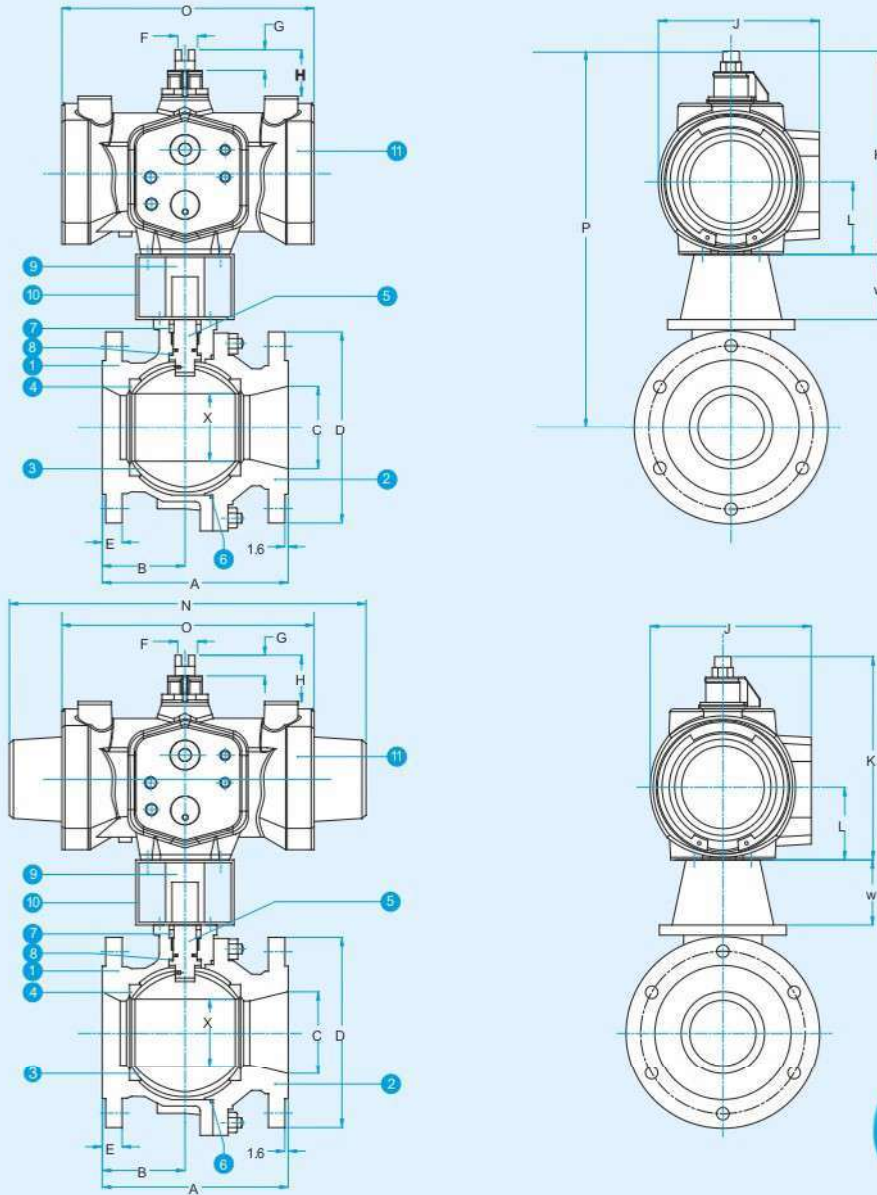
VALVE SIZE	MODEL NUMBER	A	B	C	D	F	G	H	I	J	K	L	M	N	O	P	W	X	WE.OF ASSY INKGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR	
																					OPEN (SEC.)	CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1362/15/FL300/FBDAW	140	78	12.7	95	8	7.5	20	9	68.5	85	31	37.5	-	109	182.5	50	15	3.5	12	0.1	0.1	0.075	0.05
	1362/15/FL300/FBSAW	140	78	12.7	95	8	7.5	20	9	68.5	85	31	37.5	143.5	109	182.5	50	15	3.6	12	0.15	0.15	0.075	-
20	1362/20/FL300/FBDA00	153	85	19.1	117	10	11	30	13.8	80	110	45	44	-	125	218.5	50	20	4.3	32	0.15	0.15	0.15	0.1
	1362/20/FL300/FBSA00	153	85	19.1	117	10	11	30	13.8	80	110	45	44	160	125	218.5	50	20	5.6	32	0.2	0.2	0.15	-
25	1362/25/FL300/FBDA05	165	94	25.4	124	10	11	30	13.8	98	122	47	53	-	146	234	50	25	6.8	46	0.2	0.2	0.28	0.25
	1362/25/FL300/FBSA05	165	94	25.4	124	10	11	30	13.8	98	122	47	53	194	146	234	50	25	7	46	0.25	0.25	0.28	-
40	1362/40/FL300/FBDA05	191	100	38.1	156	10	11	30	13.8	98	122	47	53	-	146	270	70	38	11.7	120	0.2	0.2	0.28	0.25
	1362/40/FL300/FBSA10	191	100	38.1	156	10	11	30	13.8	102	127	50.5	56	236	182	275	70	38	12.5	120	0.3	0.3	0.35	-
50	1362/50/FL300/FBDA10	216	84	50.8	165	10	11	30	13.8	102	127	50.5	56	-	182	279.5	70	51	17.7	240	0.25	0.25	0.35	0.32
	1362/50/FL300/FBSA15	216	84	50.8	165	10	11	30	13.8	115	148	63	60	266	203	300.5	70	51	18.5	240	0.4	0.4	0.65	-
65	1362/65/FL300/FBDA20	241	83	64.1	191	16	11	30	21.8	127	161	71	67	-	234	336.5	80	64	29.4	325	0.4	0.4	0.8	0.7
	1362/65/FL300/FBSA20	241	83	64.1	191	16	11	30	21.8	127	161	71	67	312	234	336.5	80	64	30	325	0.5	0.5	0.8	-
80	1362/80/FL300/FBDA30	283	99	76.2	210	16	11	30	21.8	177	211	96	94	-	349	396	80	76	37.7	600	0.6	0.6	2.05	1.9
	1362/80/FL300/FBSA30	283	99	76.2	210	16	11	30	21.8	177	211	96	94	479	349	396	80	76	40	600	1.2	1.2	2.05	-
100	1362/100/FL300/FBDA40	305	122	101.6	254	32	20	50	41.9	226	212	116	120	-	444	419	80	102	67	830	1.2	1.2	5.3	5.3
	1362/100/FL300/FBSA50	305	122	101.6	254	32	20	50	41.9	258	313	133	257.5	694	524	520	80	102	70	830	6	6	10.5	-
150	1362/150/FL300/FBDA60	403	179	150.8	318	32	20	50	41.9	258	313	133	257.5	-	572	572	100	152	133	2100	2	2	10.5	7
	1362/150/FL300/FBSA70	403	179	150.8	318	43.5	50	50	43.5	403	428	191	216	742.5	-	687	100	152	140	2100	15	10	31	-
200	1362/200/FL300/FBDA60	502	231	203	-	32	20	50	41.9	258	313	133	257.5	-	524	-	100	203	223	3000	2	2	10.5	7



**PART LIST**

S.No.	BODY	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	INSERT	ASTM A105 OR ASTM A21 6 Gr. WCB	ASTM A316 OR ASTM A351 Gr.WCB
3	BALL	ASTM A315 Gr.CF8M	ASTM A315 Gr.CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	PTFE	PTFE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	35% CARBON-FILLED PTFE	35% CARBON-FILLED PTFE
9	INSERT SEAL	15mm-40mm, 200mm: METAL-TO-METAL 50mm-150mm: GRAPHITE	15mm-40mm, 200mm: METAL-TO-METAL, 50mm-150mm: GRAPHITE
10	COUPLER	EN8	EN8
11	BRACKET	IS 2062	IS 2062
12	PNEUMATIC ACTUATOR	ALUMINIUM	ALUMINIUM

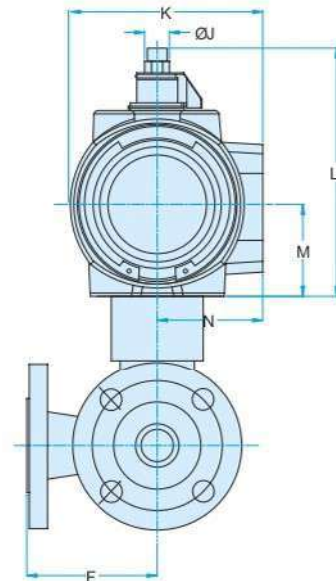
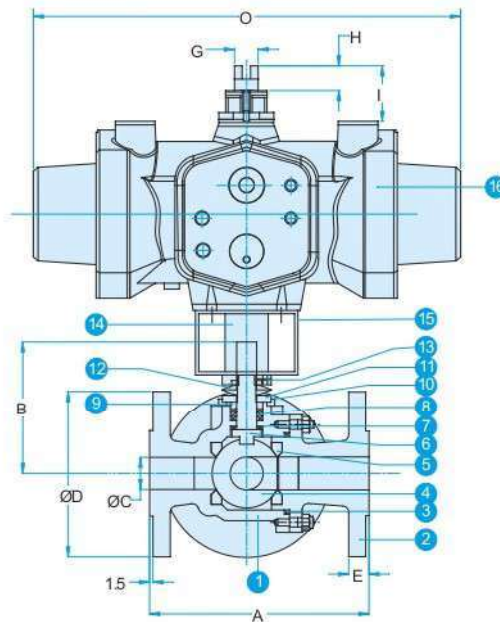
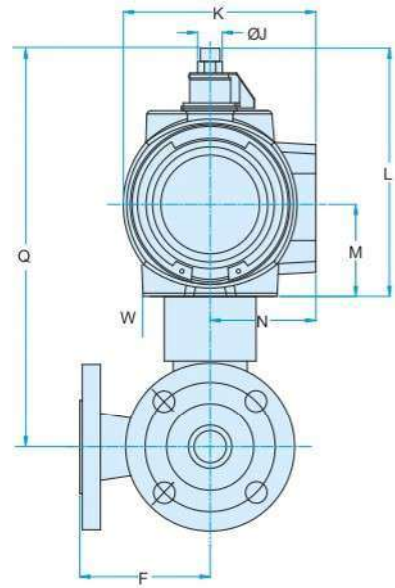
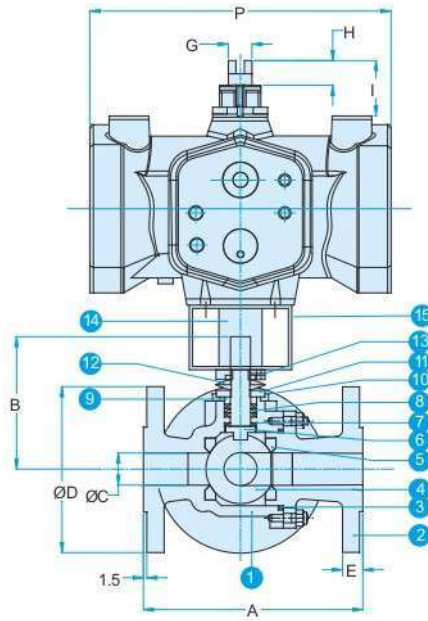
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME (SEC.)			AIR CONSUMPTION IN LTR		
																						OPEN	TO CLOSE	TO OPEN	TO CLOSE	TO OPEN	TO CLOSE
15	1362/15FL150RB/DAW	108	62	12.7	89	11.5	8	7.5	20	9	68.5	85	31	37.5	-	109	136	50	12	2.5	8	0.1	0.1	0.075	0.05		
	1362/15FL150RB/SAW	108	62	12.7	89	11.5	8	7.5	20	9	68.5	85	31	37.5	143.5	109	136	50	12	2.6	8	0.15	0.15	0.075	-		
20	1362/20FL150RB/DAW	117	68	19.1	99	11.5	8	7.5	20	9	68.5	85	31	37.5	-	109	184.5	50	15	3	12	0.1	0.1	0.075	0.05		
	1362/20FL150RB/SAW	117	68	19.1	99	11.5	8	7.5	20	9	68.5	85	31	37.5	143.5	109	184.5	50	15	3.2	12	0.15	0.15	0.075	-		
25	1362/25FL150RB/DAW	127	70	25.4	108	11.5	8	7.5	20	9	68.5	85	31	37.5	-	125	209	70	32	6.75	32	0.1	0.1	0.075	0.05		
	1362/25FL150RB/SAO0	127	70	25.4	108	11.5	10	11	30	13.8	80	110	45	44	160	125	234	70	32	7	32	0.2	0.2	0.15	-		
40	1362/40FL150RB/DA00	165	70	38.1	127	14.5	10	11	30	13.8	80	110	45	44	-	125	243.5	70	32	6.75	46	0.15	0.15	0.15	0.1		
	1362/40FL150RB/SA05	165	70	38.1	127	14.5	10	11	30	13.8	98	122	47	53	194	146	255.5	70	32	7	46	0.25	0.25	0.28	-		
50	1362/50FL150RB/DA00	178	107	50.8	152	16	10	11	30	13.8	80	110	45	44	-	125	256	70	38	10	120	0.15	0.15	0.15	0.1		
	1362/50FL150RB/SA05	178	107	50.8	152	16	10	11	30	13.8	98	122	47	53	194	146	268	70	38	10.5	120	0.25	0.25	0.28	-		
80	1362/80FL150RB/DA05	178	107	50.8	152	16	10	11	30	13.8	98	122	47	53	-	146	268	70	38	11.5	120	0.2	0.2	0.28	0.25		
	1362/80FL150RB/DA20	203	120	76.2	191	19.5	16	11	30	21.8	127	161	71	67	-	234	336.5	80	64	22	325	0.4	0.4	0.8	0.7		
100	1362/80FL150RB/SA20	203	120	76.2	191	19.5	16	11	30	21.8	127	161	71	67	312	234	336.5	80	64	24.2	325	0.5	0.5	0.8	-		
	1362/100FL150RB/DA25	229	130	102	229	24	16	11	30	21.8	152	191	86	78	-	276	385.5	80	76	36.2	600	0.5	0.5	1.5	1.2		
150	1362/100FL150RB/SA25	229	130	102	229	24	16	11	30	21.8	152	191	86	78	362	276	385.5	80	76	39.5	600	0.8	0.8	1.5	-		
	1362/150FL150RB/DA30	267	138	151	280	25.4	16	11	30	21.8	177	211	96	94	-	349	451	100	102	59	830	0.6	0.6	2.05	1.9		
200	1362/150FL150RB/SA40	267	138	151	280	25.4	32	20	50	41.9	226	212	116	120	598	444	451	100	102	86.5	830	2	2	5.3	-		
	1362/200FL150RB/DA40	292	148	203	343	28.4	32	20	50	41.9	226	212	116	120	-	444	483.5	100	152	136	2100	1.2	1.2	5.3	5.3		
250	1362/200FL150RB/SA50	292	148	203	343	28.4	32	20	50	41.9	258	313	133	135	694	524	584.5	100	152	177	2100	6	6	10.5	-		
	1362/250FL150RB/DA50	330	165	254	406	30.5	32	20	50	41.9	258	313	133	135	-	524	641	125	203	245	3000	2	2	10.5	7		



**PART LIST**

S.No.	BODY	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	INSERT	ASTM A1 05 OR ASTM A21 6 Gr. WCB	ASTM A316 OR ASTM A351 Gr. WCB
3	BALL	ASTM A315 Gr. CF8M	ASTM A315 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	PTFE	PTFE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	35% CARBON-FILLED PTFE	35% CARBON-FILLED PTFE
9	COUPLER	EN8	EN8
10	BRACKET	IS 2062	IS 2062
11	PNEUMATIC ACTUATOR	ALUMINIUM	ALUMINIUM

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR	
																						OPEN (SEC.)	CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1362/15/FL300/RB/DAW	140	94	12.7	96	15	8	7.5	20	9	68.5	85	31	37.5	-	109	183	50	12	3.15	8	0.1	0.1	0.075	0.05
	1362/15/FL300/RB/SAW	140	94	12.7	96	15	8	7.5	20	9	68.5	85	31	37.5	143.5	109	183	50	12	3.3	8	0.15	0.15	0.075	-
	1362/20/FL300/RB/DAW	152	103	19.1	118	16	8	7.5	20	9	68.5	85	31	37.5	-	109	194	50	15	4.15	12	0.1	0.1	0.075	0.05
20	1362/20/FL300/RB/SAW	152	103	19.1	118	16	8	7.5	20	9	68.5	85	31	37.5	143.5	109	194	50	15	4.7	12	0.15	0.15	0.075	-
	1362/25/FL300/RB/DA0	165	108	25.4	124	18	10	11	30	13.8	80	110	45	44	-	125	222	50	20	6.2	32	0.15	0.15	0.15	0.1
	1362/25/FL300/RB/SA0	165	108	25.4	124	18	10	11	30	13.8	80	110	45	44	160	125	222	50	20	6.5	32	0.2	0.2	0.15	-
40	1362/40/FL300/RB/DA05	190	116	38.1	156	21	10	11	30	13.8	98	122	47	53	-	146	270	70	32	11.2	82	0.2	0.2	0.28	0.25
	1362/40/FL300/RB/SA05	190	116	38.1	156	21	10	11	30	13.8	98	122	47	53	194	146	270	70	32	12	82	0.25	0.25	0.28	-
	1362/50/FL300/RB/DA05	216	145	50.8	166	22.5	10	11	30	13.8	98	122	47	53	-	146	275	70	38	13.3	120	0.2	0.2	0.28	0.25
50	1362/50/FL300/RB/SA10	216	145	50.8	166	22.5	10	11	30	13.8	102	127	50.5	55	236	182	280	70	38	14.1	120	0.3	0.3	0.35	-
	1362/80/FL300/RB/DA20	283	199	76.2	210	29	16	11	30	21.8	127	161	71	67	-	234	346	80	64	29.2	325	0.4	0.4	0.8	0.7
	1362/80/FL300/RB/SA20	283	199	76.2	210	29	16	11	30	21.8	127	161	71	67	312	234	346	80	64	31.4	325	0.5	0.5	0.8	-
100	1362/100/FL300/RB/DA30	305	206	102	254	32	16	11	30	21.8	177	211	96	94	-	349	418	80	76	50	600	0.6	6	2.05	1.9
	1362/100/FL300/RB/SA30	305	206	102	254	32	16	11	30	21.8	177	211	96	94	479	349	418	80	76	49.2	600	1.2	1.2	2.05	-
	1362/150/FL300/RB/DA40	403	274	151	318	36.6	32	20	50	41.9	226	212	116	120	-	444	471	100	102	79.1	830	1.2	1.2	5.3	5.3
150	1362/150/FL300/RB/SA50	403	274	151	318	36.6	32	20	50	41.9	226	212	116	120	598	524	471	100	102	86	830	6	6	10.5	-
	1362/200/FL300/RB/DA60	419	275	203	381	41.1	32	20	50	41.9	313	133	136	257.5	-	524	424	100	152	188.5	2100	2	2	10.5	7
	1362/200/FL300/RB/SA70	419	275	203	381	41.1	16	11	30	41.9	258	313	133	133	694	524	604	100	152	207.5	2100	15	10	31	-
200	1362/250/FL300/RB/DA60	612	305	254	406	45	32	20	50	41.9	313	133	136	257.5	-	524	461	125	203	319	3000	2	2	10.5	7

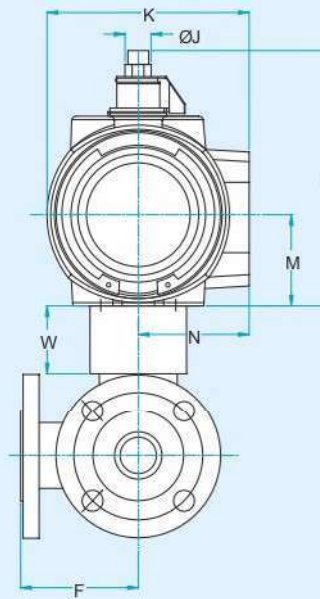
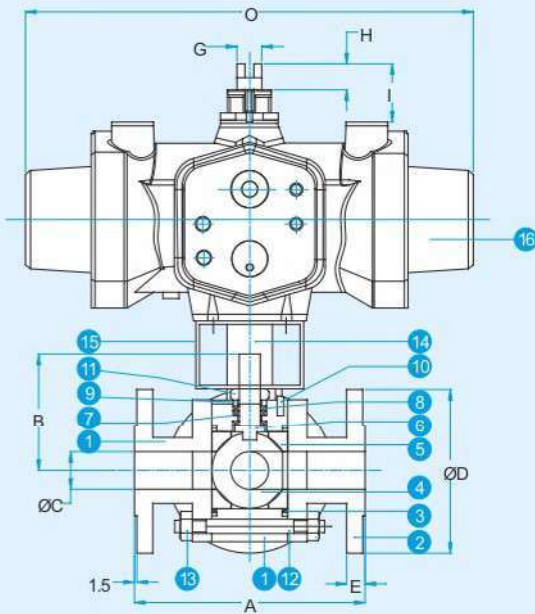
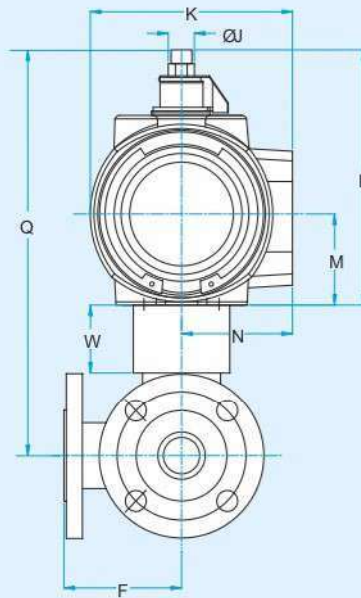
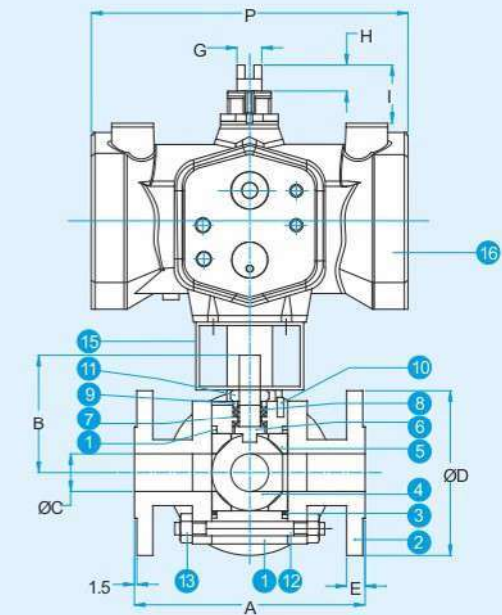


**PART LIST**

S.No.	BODY	MATERIAL
1	BODY	CS 304/316/A-20 HAST-B/HAST-C
2	TAILPIECE	CS 304/316/A-20 HAST-B/HAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20 HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20 HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE

S.No.	BODY	MATERIAL
9	GLAND	316/304/316/A-20 HAST-B/HAST-C
10	STOP PIN	STEEL
11	GLAND NUT	304
12	BODY STUD	ASTMA193Gr. B7/304
13	BODY NUT	ASTMA193Gr. 2H/304
14	COUPLER	E18
15	BRACKET	IS 2062
16	PNEUMATIC ACTUATOR	ALUMINUM

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	Q	WT. OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR.	
																						OPEN (SEC.)	TO CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1363/15/FL150/FB/DAW	108	49	13	89	11.5	70	8	7.5	20	9	68.5	85	31	37.5	-	109	25	154.5	5.5	12	0.1	0.1	0.075	0.05
	1363/15/FL150/FB/SAW	108	49	13	89	11.5	70	8	7.5	20	9	68.5	85	31	37.5	143.5	109	25	154.5	5.6	12	0.15	0.15	0.075	-
	1363/20/FL150/FB/DAW	117	56	19	98	13	76	8	7.5	20	9	68.5	85	31	37.5	-	109	25	159	7	32	0.1	0.1	0.75	0.1
20	1363/20/FL150/FB/SA00	117	56	19	98	13	76	10	11	30	13.8	80	110	45	44	160	125	25	184	7.25	32	0.2	0.2	0.15	-
	1363/25/FL150/FB/DA00	127	58	25	108	11.5	80	10	11	30	13.8	80	110	45	44	-	125	32	196	8.5	46	0.15	0.15	0.15	0.1
	1363/25/FL150/FB/SA05	127	58	25	108	11.5	80	10	11	30	13.8	98	122	47	53	194	146	32	208	8.8	46	0.25	0.25	0.28	-
32	1363/32/FL150/FB/DA05	140	76	32	117	13	86	10	11	30	13.8	98	122	47	53	-	146	40	220.5	10.5	82	0.2	0.2	0.28	0.25
	1363/32/FL150/FB/SA05	140	76	32	117	13	86	10	11	30	13.8	98	122	47	53	194	146	40	220.5	11.3	82	0.25	0.25	0.28	-
	1363/40/FL150/FB/DA05	165	80	38	127	14.5	92	10	11	30	13.8	98	122	47	53	-	146	40	225.5	14.5	120	0.2	0.2	0.28	0.25
40	1363/40/FL150/FB/SA05	165	80	38	127	14.5	92	10	11	30	13.8	98	122	47	53	194	146	40	225.5	15.3	120	0.25	0.25	0.28	-
	1363/50/FL150/FB/DA10	178	132	51	152	16	107	10	11	30	13.8	102	127	50.5	55	-	182	70	273	18	240	0.25	0.25	0.35	0.32
	1363/50/FL150/FB/SA10	178	132	51	152	16	107	10	11	30	13.8	102	127	50.5	55	236	182	70	273	18.5	240	0.3	0.3	0.35	-
65	1363/65/FL150/FB/DA20	190	147	65	178	17.5	125	16	11	30	21.8	127	161	71	67	-	234	80	330	26	325	0.4	0.4	0.8	0.7
	1363/65/FL150/FB/SA20	190	147	65	178	17.5	125	16	11	30	21.8	127	161	71	67	312	234	80	330	28.5	325	0.5	0.5	0.8	-
	1363/80/FL150/FB/DA25	203	168	76	191	19.5	133	16	11	30	21.8	152	191	86	78	-	276	80	365.5	35	600	0.5	0.5	1.5	1.2
80	1363/80/FL150/FB/SA25	203	168	76	191	19.5	133	16	11	30	21.8	152	191	86	78	362	276	80	365.5	40	600	0.8	0.8	1.5	-
	1363/100/FL150/FB/DA30	229	190	102	229	24	157	16	11	30	21.8	177	211	96	94	-	349	80	405.5	51.5	830	0.6	0.6	2.05	1.9
	1363/100/FL150/FB/SA40	229	190	102	229	24	157	32	20	50	41.9	226	272	116	120	598	444	80	466.5	62	830	2.4	1.2	2.05	-
150	1363/150/FL150/FB/DA40	267	245	152	279	25.5	184	32	20	50	41.9	226	272	116	120	-	444	100	511.5	87	2100	1.2	1.2	5.3	5.3



**PART LIST**

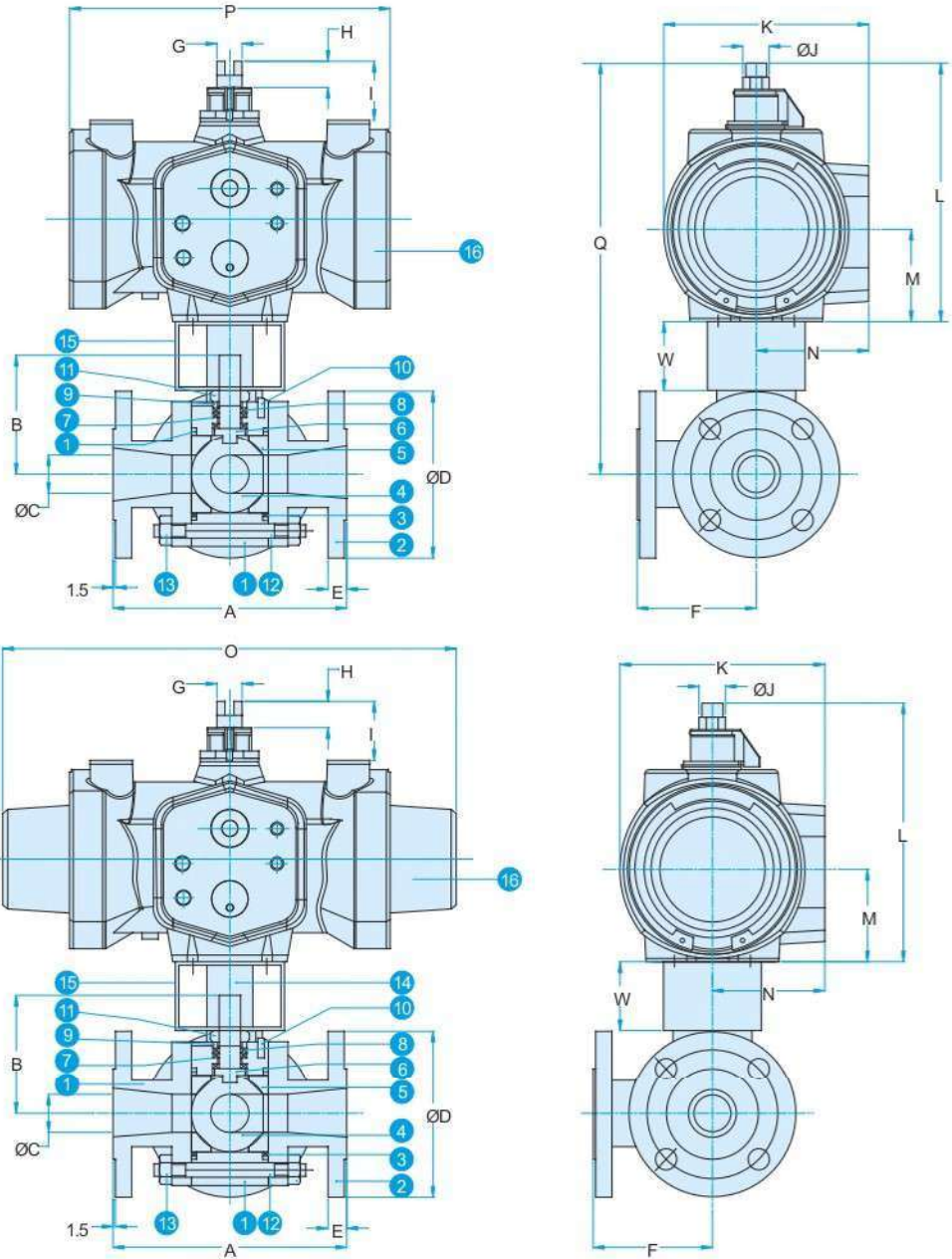
S.No.	BODY	MATERIAL
1	BODY	CS/304/316/A-20/HAST-BHAST-C
2	TAILPIECE	CS/304/316/A-20/HAST-BHAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-BHAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-BHAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE

S.No.	BODY	MATERIAL
9	GLAND	316/304/316/A-20/HAST-BHAST-C
10	STOP PIN	STEEL
11	GLAND NUT	304
12	BODY STUD	ASTMA193Gr. E7/304
13	BODY NUT	ASTMA193Gr. 2H/304
14	COUPLER	EN8
15	BRACKET	IS 2062
16	PNEUMATIC ACTUATOR	ALUMINIUM

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	Q	WT.OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR	
																						OPEN (SEC.)	CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1363/15/FL300/FB/DAW	140	49	13	95	14.5	76	8	7.5	20	9	68.5	85	31	37.5	-	109	50	182.5	6.5	12	0.1	0.1	0.075	0.05
	1363/15/FL300/FB/SAW	140	49	13	95	14.5	76	8	7.5	20	9	68.5	85	31	37.5	143.5	109	50	182.5	6.6	12	0.15	0.15	0.075	-
	1363/20/FL300/FB/DA00	152	56	19	117	16	96	10	11	30	13.8	80	110	45	44	-	125	50	218.5	9	32	0.15	0.15	0.15	0.1
	1363/20/FL300/FB/SA00	152	56	19	117	16	96	10	11	30	13.8	80	110	45	44	160	125	50	218.5	9.25	32	0.2	0.2	0.15	-
25	1363/25/FL300/FB/DA05	165	58	25	124	17.5	100	10	11	30	13.8	98	122	47	53	-	146	50	234	11	46	0.2	0.2	0.28	0.25
	1363/25/FL300/FB/SA05	165	58	25	124	17.5	100	10	11	30	13.8	98	122	47	53	194	146	50	234	11.25	46	0.25	0.25	0.28	-
32	1363/32/FL300/FB/DA05	178	76	32	133	19.5	106	10	11	30	13.8	98	122	47	53	-	146	50	238.5	12.5	82	0.2	0.2	0.28	0.25
	1363/32/FL300/FB/SA10	178	76	32	133	19.5	106	10	11	30	13.8	102	127	50.5	55	236	182	50	243.5	13.3	82	0.3	0.3	0.35	-
40	1363/40/FL300/FB/DA05	190	80	38	156	21	120	10	11	30	13.8	98	122	47	53	-	146	70	270	17.5	120	0.2	0.2	0.28	0.25
	1363/40/FL300/FB/SA10	190	80	38	156	21	120	10	11	30	13.8	102	127	50.5	55	236	182	70	275	18.3	120	0.3	0.3	0.35	-
50	1363/50/FL300/FB/DA10	216	132	51	165	22.5	125	10	11	30	13.8	102	127	50.5	55	-	182	70	279.5	25	240	0.25	0.25	0.35	0.32
	1363/50/FL300/FB/SA15	216	132	51	165	22.5	125	10	11	30	13.8	115	148	63	60	266	203	70	300.5	26	240	0.4	0.4	0.65	-
65	1363/65/FL300/FB/DA20	241	147	65	191	25.5	140	16	11	30	21.8	127	161	71	67	-	234	80	336.5	37	325	0.4	0.4	0.8	0.7
	1363/65/FL300/FB/SA20	241	147	65	191	25.5	140	16	11	30	21.8	127	161	71	67	312	234	80	336.5	39	325	0.5	0.5	0.8	-
80	1363/80/FL300/FB/DA30	283	168	76	210	29	155	16	11	30	21.8	177	211	96	94	-	349	80	396	44.5	600	0.6	0.6	2.05	1.9
	1363/80/FL300/FB/SA30	283	168	76	210	29	155	16	11	30	21.8	177	211	96	94	479	349	80	396	50	600	1.2	1.2	2.05	-
100	1363/100/FL300/FB/DA40	305	190	102	254	32	180	32	20	50	41.9	226	272	116	120	-	444	80	479	68.5	830	1.2	1.2	5.3	5.3
	1363/100/FL300/FB/SA50	305	190	102	254	32	180	32	20	50	41.9	257.5	313	133	135	694	524	80	519	78.5	830	6	6	10.5	-
150	1363/150/FL300/FB/DA60	403	245	152	318	37	218	32	20	50	41.9	257.5	313	133	135	-	524	100	572	117	2100	2	2	10.5	7

# 3-way Pneumatically Operated

## Reduced Bore Ball Valve Class 150 SUDE 1363

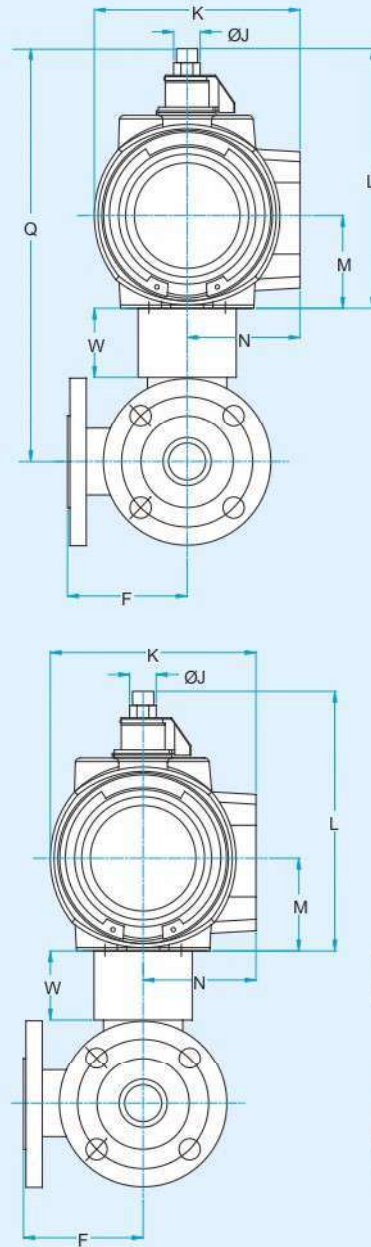
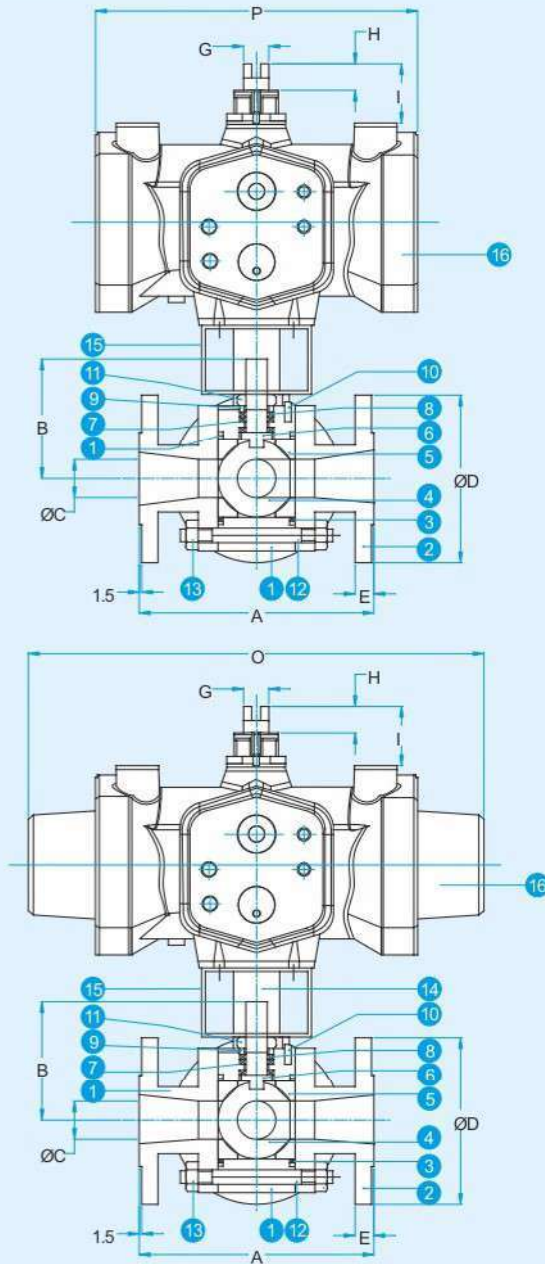


### PART LIST

S.No.	BODY	MATERIAL
1	BODY	CS 3/04/316/A-20/ HAST-B/HAST-C
2	TAILPIECE	CS 3/04/316/A-20/ HAST-B/HAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-B/HAST-C
7	STEMWASHER	GFT
8	STEMSEAL	PTFE

S.No.	BODY	MATERIAL
9	GLAND	316/304/316/A-20/HAST-B/HAST-C
10	STOP PIN	STEEL
11	GLAND NUT	304
12	BODY STUD	ASTMA193Gr. B7/304
13	BODY NUT	ASTMA193Gr. 2H/304
14	COUPLER	EN8
15	BRACKET	IS 2062
16	PNEUMATIC ACTUATOR	ALUMINIUM

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	W	WT OF ASSY IN KGS.	Cv	OPERATING TIME		AIR CONSUMPTION IN LTR.	
																						OPEN (SEC.)	CLOSE (SEC.)	TO OPEN	TO CLOSE
15	1363/15/FL150/RB/DAW	108	43	9.5	89	11.5	70	8	7.5	20	9	68.5	85	31	37.5	-	109	50	179.5	5.5	8	0.1	0.1	0.075	0.05
	1363/15/FL150/RB/SAW	108	43	9.5	89	11.5	70	8	7.5	20	9	68.5	85	31	37.5	143.5	109	50	179.5	5.6	8	0.15	0.15	0.075	-
20	1363/20/FL150/RB/DAW	117	49	13	98	13	76	8	7.5	20	9	68.5	85	31	37.5	-	109	50	184	6.5	12	0.1	0.1	0.075	0.05
	1363/20/FL150/RB/SAW	117	49	13	98	13	76	8	7.5	20	9	68.5	85	31	37.5	143.5	109	50	184	6.6	12	0.15	0.15	0.075	-
25	1363/25/FL150/RB/DAW	127	56	19	108	11.5	80	8	7.5	20	9	68.5	85	31	37.5	-	109	50	189	7.5	32	0.1	0.1	0.075	0.05
	1363/25/FL150/RB/SA00	127	56	19	108	11.5	80	10	11	30	13.8	80	110	45	44	160	125	50	214	7.6	32	0.2	0.2	0.15	-
32	1363/32/FL150/RB/DA00	140	58	25	117	13	86	10	11	30	13.8	80	110	45	44	-	125	50	218.5	9	46	0.15	0.15	0.15	0.1
	1363/32/FL150/RB/SA05	140	58	25	117	13	86	10	11	30	13.8	98	122	47	53	194	146	50	230.5	9.25	46	0.25	0.25	0.28	-
40	1363/40/FL150/RB/DA00	165	76	32	127	14.5	92	10	11	30	13.8	80	110	45	44	-	125	70	243.5	15.5	82	0.15	0.15	0.15	0.1
	1363/40/FL150/RB/SA05	165	76	32	127	14.5	92	10	11	30	13.8	98	122	47	53	194	146	70	255.5	15.75	82	0.25	0.25	0.28	-
50	1363/50/FL150/RB/DA00	178	80	38	132	16	107	10	11	30	13.8	80	110	45	44	-	125	70	256	20	120	0.15	0.15	0.15	0.1
	1363/50/FL150/RB/SA05	178	80	38	132	16	107	10	11	30	13.8	98	122	47	53	194	146	70	268	20.8	120	0.25	0.25	0.28	-
65	1363/50/FL150/RB/DA05	178	80	38	132	16	107	10	11	30	13.8	98	122	47	53	-	146	70	268	20.8	120	0.2	0.2	0.28	0.25
	1363/65/FL150/RB/DA10	190	132	51	178	17.5	125	10	11	30	13.8	102	127	50.5	55	-	182	80	296	23	240	0.25	0.25	0.35	0.32
80	1363/65/FL150/RB/SA10	190	132	51	178	17.5	125	10	11	30	13.8	102	127	50.5	55	236	182	80	296	23.6	240	0.3	0.3	0.35	-
	1363/80/FL150/RB/DA20	203	147	58	191	19.5	133	16	11	30	21.8	127	161	71	67	-	234	80	336.5	31	325	0.4	0.4	0.8	0.7
100	1363/80/FL150/RB/SA20	203	147	58	191	19.5	133	16	11	30	21.8	127	161	71	67	312	234	80	336.5	33.5	325	0.5	0.5	0.8	-
	1363/100/FL150/RB/DA30	229	168	76	229	24	157	16	11	30	21.8	177	211	96	94	-	349	80	405.5	46.5	600	0.6	0.6	2.05	1.9
150	1363/100/FL150/RB/SA40	229	168	76	229	24	157	32	20	50	41.9	226	272	116	120	598	444	80	466.5	50	600	1.6	1.6	1.5	-
	1363/150/FL150/RB/DA40	267	190	111	279	25.5	184	32	20	50	41.9	226	272	116	120	-	444	100	511.5	65	630	1.2	1.2	5.3	5.3
200	1363/150/FL150/RB/SA50	267	190	111	279	25.5	184	32	20	50	41.9	257.5	313	133	135	694	524	100	552.5	72	830	6	6	10.5	-
	1363/200/FL150/RB/DA50	457	245	144	343	29	220	32	20	50	41.9	257.5	313	133	135	-	524	100	584.5	184	2100	2	2	10.5	7

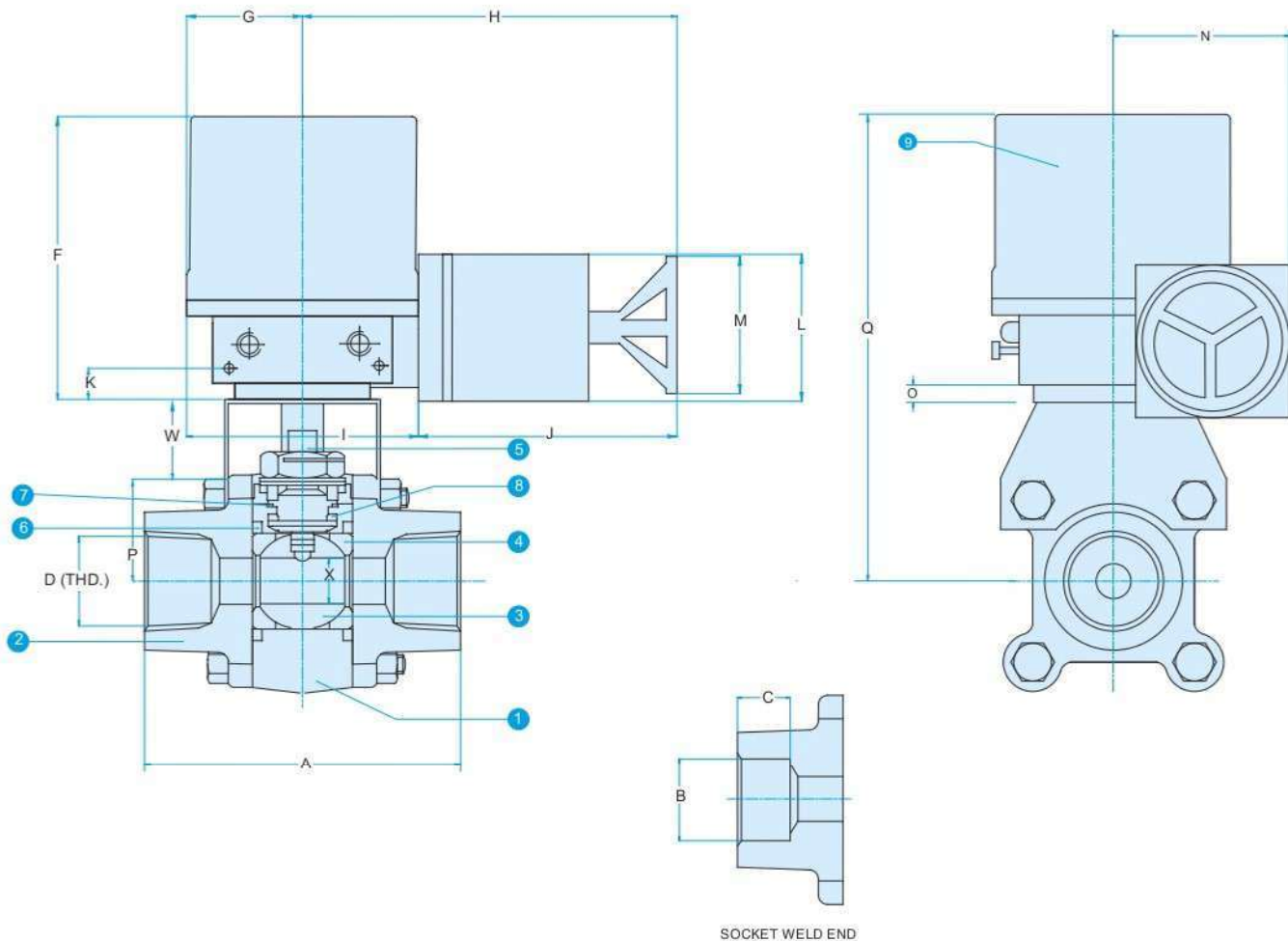


**PART LIST**

S.No.	BODY	MATERIAL
1	BODY	CS304/316/A-20/ HAST-BHAST-C
2	TAILPIECE	CS304/316/A-20/ HAST-BHAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-BHAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-BHAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE

S.No.	BODY	MATERIAL
9	GLAND	316/304/316/A-20/HAST-BHAST-C
10	STOP PIN	STEEL
11	GLAND NUT	304
12	BODY STUD	ASTMA193Gr. B7/304
13	BODY NUT	ASTMA193Gr. 2H/304
14	COUPLER	EN8
15	BRACKET	IS 2062
16	PNEUMATIC ACTUATOR	ALUMINIUM

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	Q	WT. OF ASSY IN KGS.	Cv	OPERATING TIME (SEC.)			AIR CONSUMPTION IN LTR.		
																						OPEN	TO OPEN	TO CLOSE	OPEN	TO OPEN	TO CLOSE
15	1363/15/FL300/RB/DAW	140	43	9.5	95	14.5	76	8	7.5	20	9	68.5	85	31	37.5	-	109	50	182.5	6.9	8	0.1	0.1	0.075	0.05		
	1363/15/FL300/RB/SAW	140	43	9.5	95	14.5	76	8	7.5	20	9	68.5	85	31	37.5	143.5	109	50	182.5	7.1	8	0.15	0.15	0.075	-		
20	1363/20/FL300/RB/DAW	152	49	13	117	16	96	8	7.5	20	9	68.5	85	31	37.5	-	109	50	193.5	8.5	12	0.1	0.1	0.075	0.05		
	1363/20/FL300/RB/SAW	152	49	13	117	16	96	8	7.5	20	9	68.5	85	31	37.5	143.5	109	50	193.5	9.25	12	0.15	0.15	0.075	-		
25	1363/25/FL300/RB/DA00	165	56	19	124	17.5	100	10	11	30	13.8	80	110	45	44	-	125	50	222	11	32	0.15	0.15	0.15	1		
	1363/25/FL300/RB/SA00	165	56	19	124	17.5	100	10	11	30	13.8	80	110	45	44	160	125	50	222	11.25	32	0.2	0.2	0.15	-		
32	1363/32/FL300/RB/DA05	178	58	25	133	19.5	106	10	11	30	13.8	98	122	47	53	-	146	50	238.5	12	46	0.2	0.2	0.28	0.25		
	1363/32/FL300/RB/SA05	178	58	25	133	19.5	106	10	11	30	13.8	98	122	47	53	194	146	50	238.5	12.25	46	0.25	0.25	0.28	-		
40	1363/40/FL300/RB/DA05	190	76	32	156	21	120	10	11	30	13.8	98	122	47	53	-	146	70	270	21	82	0.2	0.2	0.28	0.25		
	1363/40/FL300/RB/SA05	190	76	32	156	21	120	10	11	30	13.8	98	122	47	53	194	146	70	270	21.8	82	0.25	0.25	0.28	-		
50	1363/50/FL300/RB/DA05	216	80	38	166	22.5	125	10	11	30	13.8	98	122	47	53	-	146	70	274.5	23	120	0.2	0.2	0.28	0.25		
	1363/50/FL300/RB/SA10	216	80	38	166	22.5	125	10	11	30	13.8	102	127	50.5	55	236	182	70	279.5	23.8	120	0.3	0.3	0.35	-		
65	1363/65/FL300/RB/DA10	241	132	51	191	25.5	142	10	11	30	13.8	102	127	50.5	55	-	182	80	302.5	31	240	0.25	0.25	0.35	0.32		
	1363/65/FL300/RB/SA15	241	132	51	191	25.5	142	10	11	30	13.8	115	148	63	60	266	203	80	323.5	33	240	0.4	0.4	0.65	-		
80	1363/80/FL300/RB/DA20	283	147	58	210	29	155	16	11	30	21.8	127	161	71	67	-	234	80	346	38.5	325	0.4	0.4	0.8	0.7		
	1363/80/FL300/RB/SA20	283	147	58	210	29	155	16	11	30	21.8	127	161	71	67	312	234	80	346	41	325	0.5	0.5	0.8	-		
100	1363/100/FL300/RB/DA30	305	168	76	254	32	180	16	11	30	21.8	177	211	96	94	-	349	80	418	53.5	600	0.6	0.6	2.05	1.9		
	1363/100/FL300/RB/SA30	305	168	76	254	32	180	16	11	30	21.8	177	211	96	94	479	349	80	418	57	600	1.2	1.2	2.05	-		
150	1363/150/FL300/RB/DA40	403	190	111	318	37	218	32	20	50	41.9	226	272	116	120	-	444	100	531	102	830	1.2	1.2	5.3	5.3		
	1363/150/FL300/RB/SA50	403	190	111	318	37	218	32	20	50	41.9	257.5	313	133	135	694	524	100	413	109	830	6	6	10.5	-		
200	1363/200/FL300/RB/DA60	502	245	144	381	41.5	255	32	20	50	41.9	257.5	313	133	135	-	524	100	603.5	197	2100	2	2	10.5	7		



SOCKET WELD END



**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A105	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A105	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	PTFE	GRAPHITE
7	GLAND PACKING	35% CARBON-FILLED PTFE	GRAPHITE
8	STEM SEAL	35% CARBON-FILLED PTFE	35% CARBON-FILLED PTFE
9	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE	-

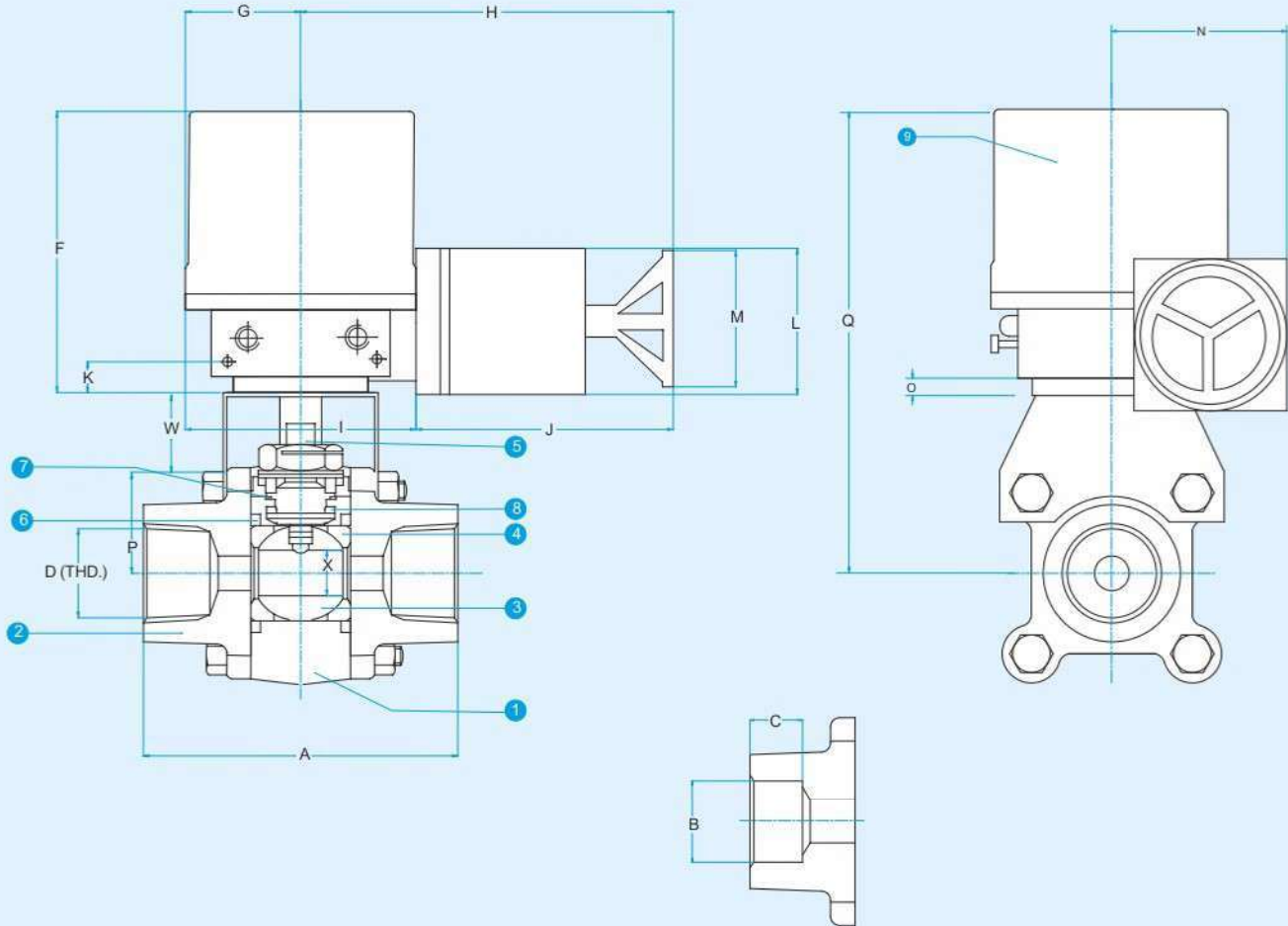
VALVE SIZE	MODEL NUMBER	A	B	C	D	F	G	H	I	J	K	L	M	N	O	P	Q	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																						TO OPEN (SEC)		TO CLOSE (SEC)	
																					MIN	MAX	MIN	MAX	
15	1352/15BSP/FBSD-03	73	22.2	9.7	9	175	68	215	138	145	32	110	100	117	10	27	252	50	15	9.6	12	3.5	24	3.5	24
20	1352/20BSP/FBSD-03	95	27.6	12.7	9	175	68	215	138	145	32	110	100	117	10	28.8	253.8	50	20	9.8	32	3.5	24	3.5	24
25	1352/25BSP/FBSD-03	116	34.3	12.7	9	175	68	215	138	145	32	110	100	117	10	35.4	260.4	50	25	11.1	46	3.5	24	3.5	24

# 2-way Single Phase Electrically Operated

## Reduced Bore Screwed Ball Valve

SUDE

1352



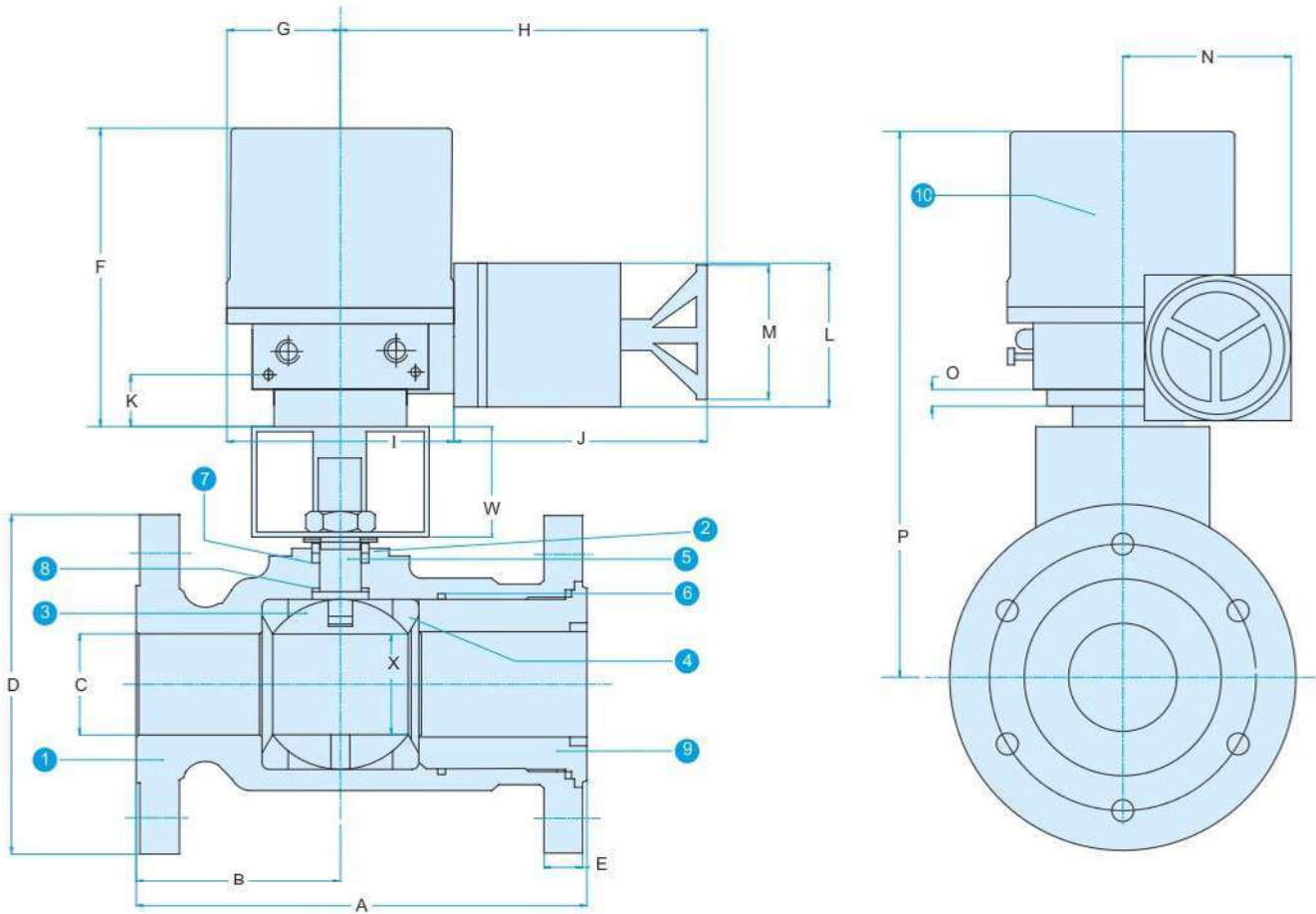
SOCKET WELD END



### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTMA105	ASTMA351 Gr. CF8M
2	BODY CONNECTOR	ASTMA105	ASTMA351 Gr. CF8M
3	BALL	ASTMA351 Gr. CF8M	ASTMA351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	ANSI 316	ANSI 316
6	BODY SEAL	PTFE	GRAPHITE
7	GLAND PACKING	35% CARBON-FILLED PTFE	GRAPHITE
8	STEM SEAL	35% CARBON-FILLED PTFE	35% CARBON-FILLED PTFE
9	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE	-

VALVE SIZE	MODEL NUMBER	A	B	C	D	F	G	H	I	J	K	L	M	N	O	P	Q	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																						TO OPEN (SEC.)		TO CLOSE (SEC.)	
																						MIN	MAX	MIN	MAX
15	1352/15/BSP/RB/SD-03	67	22.2	9.7	9	175	68	215	138	145	32	110	100	117	10	27	252	50	12	9.6	8	3.5	24	3.5	24
20	1352/20/BSP/RB/SD-03	73	27.6	12.7	9	175	68	215	138	145	32	110	100	117	10	28.8	253.8	50	15	9.8	12	3.5	24	3.5	24
25	1352/25/BSP/RB/SD-03	95	34.3	12.7	9	175	68	215	138	145	32	110	100	117	10	35.4	260.4	50	20	11.1	32	3.5	24	3.5	24
32	1352/32/BSP/RB/SD-03	107	43.1	12.7	13.8	175	68	215	138	145	32	110	100	117	10	38	263	50	25	12	46	3.5	24	3.5	24
40	1352/40/BSP/RB/SD-05	116	49.2	12.7	13.8	175	68	225	138	160	32	110	100	117	10	45	290	70	32	13.8	82	3.5	24	3.5	24



**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BCDY	ASTMA216Gr. WCB	ASTMA351 Gr. CF8M
2	BODY CONNECTOR	ASTMA216Gr. WCB	ASTMA351 Gr. CF8M
3	BALL	ASTMA351 Gr. CF8M	ASTMA351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTMA105/ASTMA216 GR. WCB/IS 1875C12	AISI316 OR ASTMA351 Gr. CF 8M
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE	

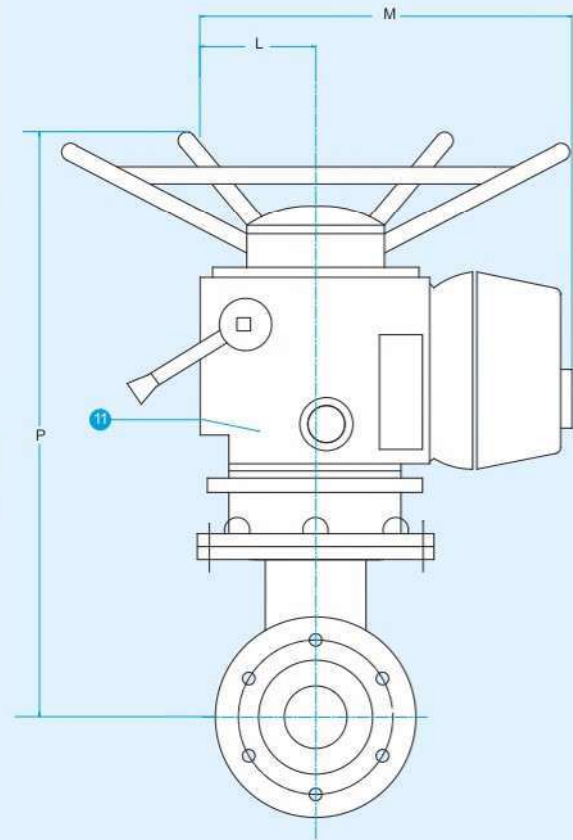
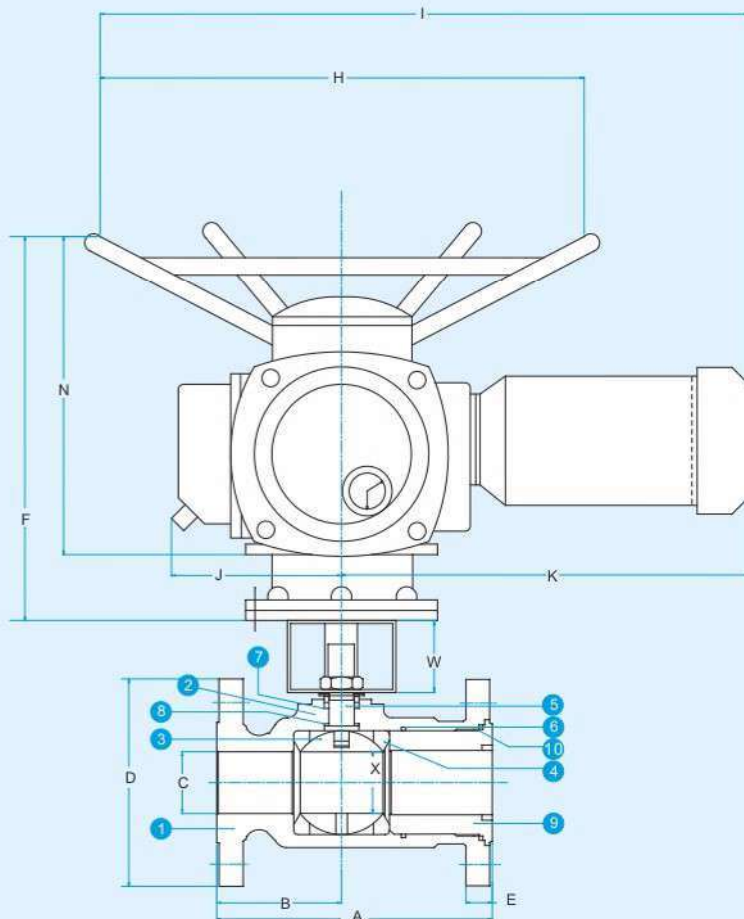
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	1352/15/FL150/FB/SD-03	108	46	12.7	89	7.5	175	68	215	138	145	32	110	100	117	10	268.5	50	14	10.5	12	17	17
20	1352/20/FL150/FB/SD-03	117	50	19.1	98	11	175	68	215	138	145	32	110	100	117	10	274	50	20	11.5	32	17	17
25	1352/25/FL150/FB/SD-03	127	56	25.4	108	11	175	68	215	138	145	32	110	100	117	10	279	50	25	12.9	46	17	17
40	1352/40/FL150/FB/SD-05	165	75	38.1	127	11	175	68	225	138	160	32	110	100	117	10	308.5	70	38	19	120	17	17
50	1352/50/FL150/FB/SD-10	178	84	50.8	152	11	250	95	270	195	170	37	110	100	148	6	396	70	51	26.2	240	20	20
65	1352/65/FL150/FB/SD-20	191	77	64.1	178	11	250	95	285	195	185	37	110	100	148	6	419	80	64	33.5	325	20	20
80	1352/80/FL150/FB/SD-30	203	99	76.2	191	11	261	123	355	134	242	57	110	100	182	3	436.5	80	76	50.5	600	26	26

# 2 Way Three Phase **Electrically Operated**

## **Full Bore** Ball Valve **Class 150** **1352**

SUDE

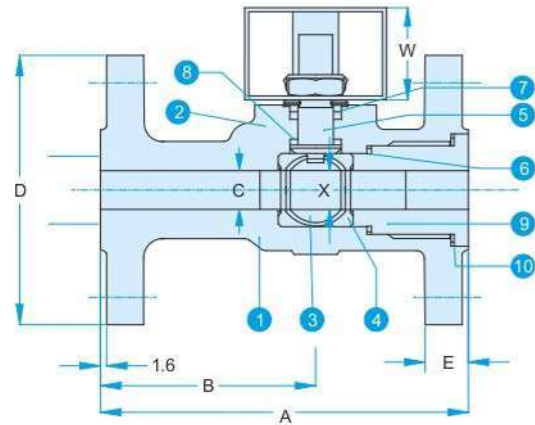
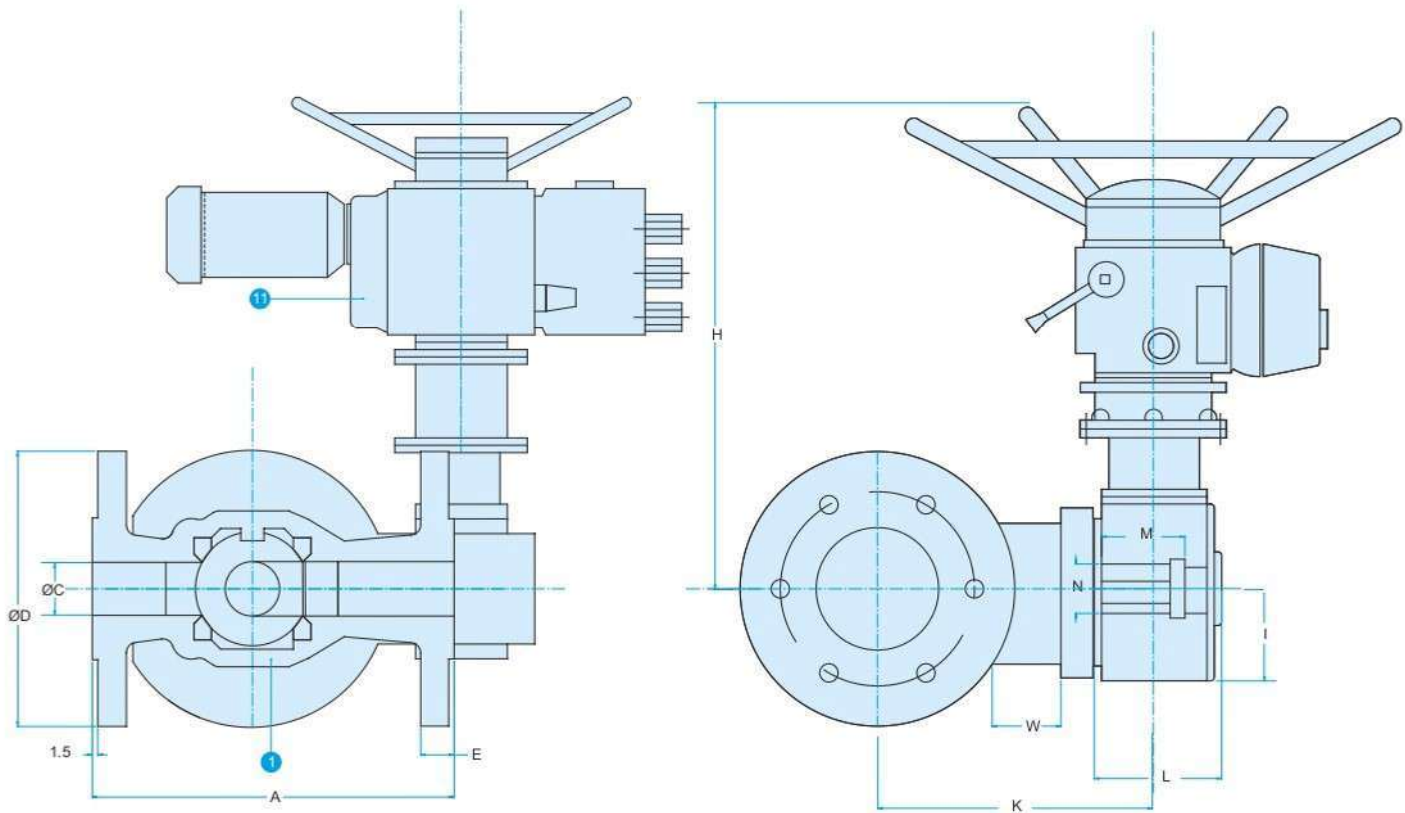
1352



### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTM A216 GR. WCB/IS 1875 C12	AISI 316 OR ASTM A351 Gr. CF 8M
10	INSERT GASKET	GRAPHITE	GRAPHITE
11	INSERT GASKET ELECTRICAL ACTUATOR (SDTOR/MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	H	I	J	K	L	M	N	X	W	P	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																				TO OPEN (SEC.)	TO CLOSE (SEC.)	MIN	MAX
65	1352/65/FL150/FB/SD-4000-20	191	77	64.1	178	11	450	485	685	225	440	85	400	340	64	80	619	70.5	325	3.5	24	3.5	24

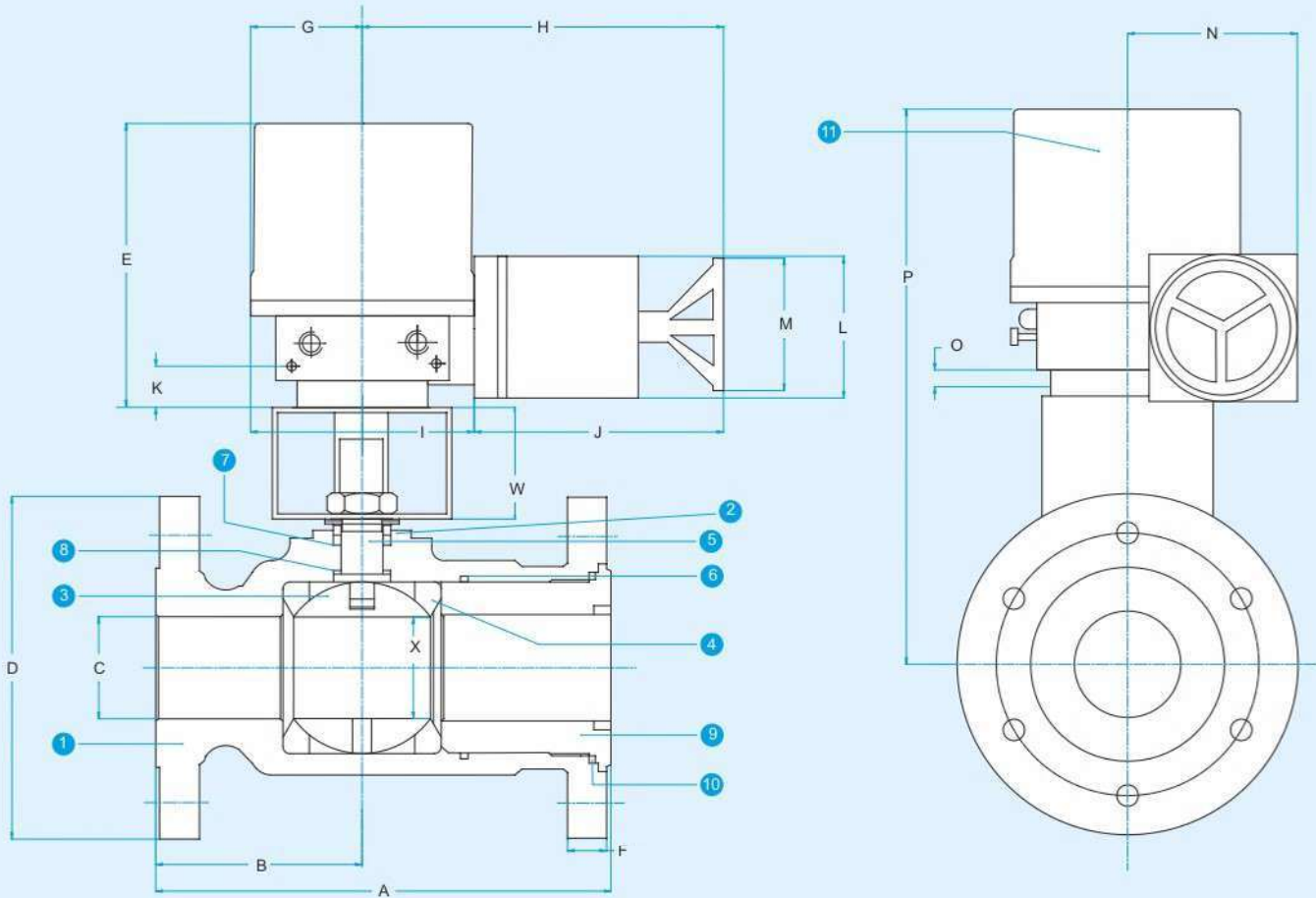


VALVE DETAIL

**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTM A216 GR. WCB/IS 1875 C12	AISI 316 CR/ASTM A351 Gr. CF8M
10	INSERT GASKET	GRAPHITE	GRAPHITE
11	ELECTRICAL ACTUATOR (SDTORK/MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	H	I	K	L	M	N	X	W	WT OF ASSY IN KGS.	Cv	OPERATING TIME			
																	TO OPEN (SEC.)		TO CLOSE (SEC.)	
																	MIN	MAX	MIN	MAX
100	1352/100FL150FB/SD4000-08-WG40	229	108	101.6	229	11	450	75	177	88	75	45	102	80	105.6	830	1.6	60	1.6	60
150	1352/150FL150FB/SD4000-20-WG60	394	179	150.8	279	11	580	110	212	118	100	55	152	100	178	2100	7.5	94	7.5	94

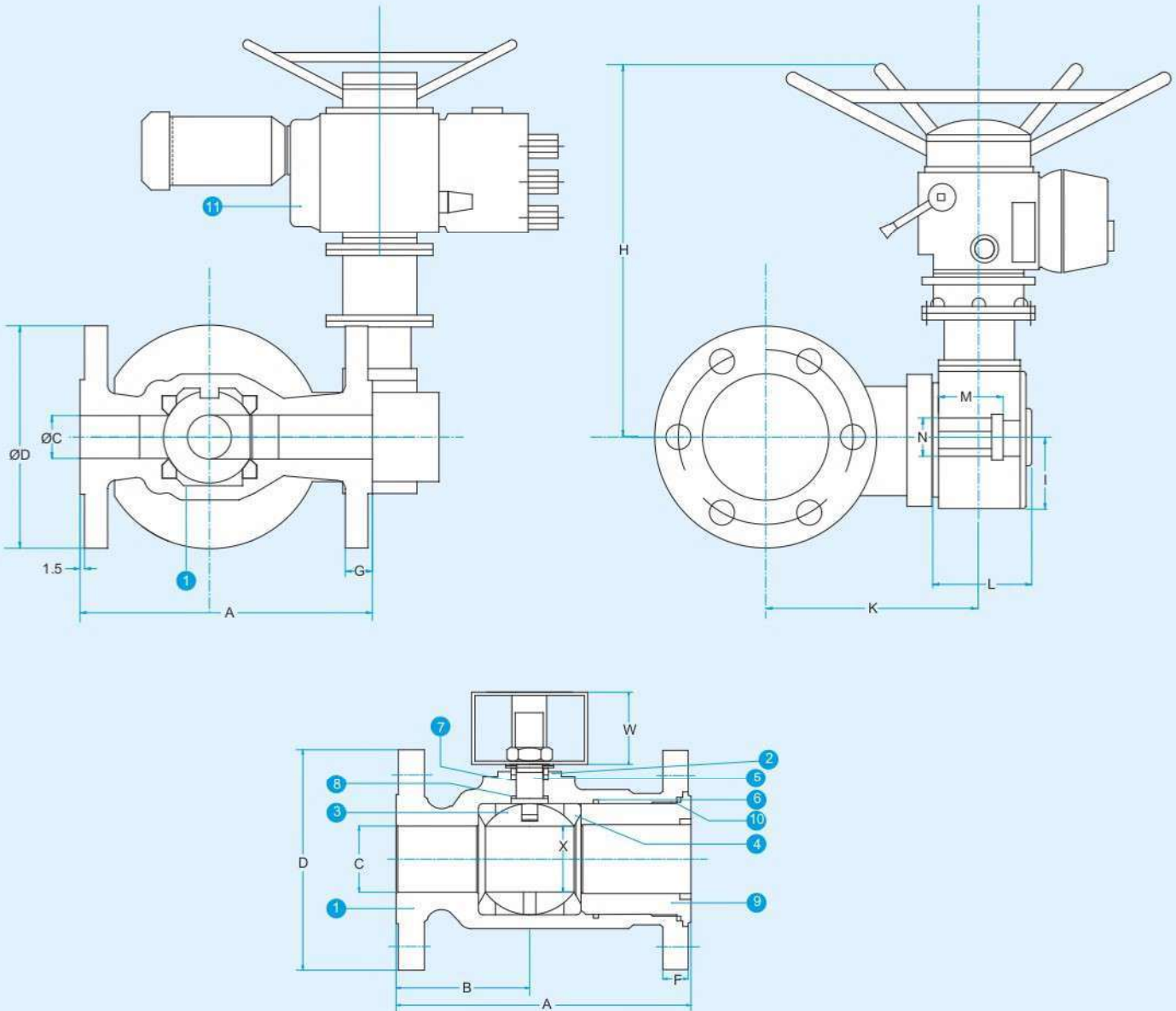


**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY/CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr.CF8M	ASTM A351 Gr.CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTM A216	AISI 316 OR ASTM A351 Gr. CF8M
10	INSERT GASKET	GR. WCB/IS 1875 C12	CF8M
11	ELECTRICAL ACTUATOR (SDTORCK MAKE)	GRAPHITE	GRAPHITE
		FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	1352/15/FL300/FB/SD-03	140	78	12.7	95	175	7.5	68	215	138	145	32	110	100	117	10	272.5	50	15	11.5	12	17	17
20	1352/20/FL300/FB/SD-05	153	85	19.1	117	175	11	68	225	138	160	32	110	100	117	10	283.5	50	20	12.8	32	17	17
25	1352/25/FL300/FB/SD-05	165	94	25.4	124	175	11	68	225	138	160	32	110	100	117	10	287	50	25	14.6	46	17	17
40	1352/40/FL300/FB/SD-10	191	100	38.1	156	250	11	95	270	195	170	37	110	100	148	6	398	70	38	20	120	17	17
50	1352/50/FL300/FB/SD-10	216	84	50.8	165	250	11	95	270	195	170	37	110	100	148	6	402.5	70	51	26.2	240	17	17
65	1352/65/FL300/FB/SD-30	241	83	64.1	191	261	11	123	355	195	242	57	110	100	182	3	436.5	80	64	40	325	20	20

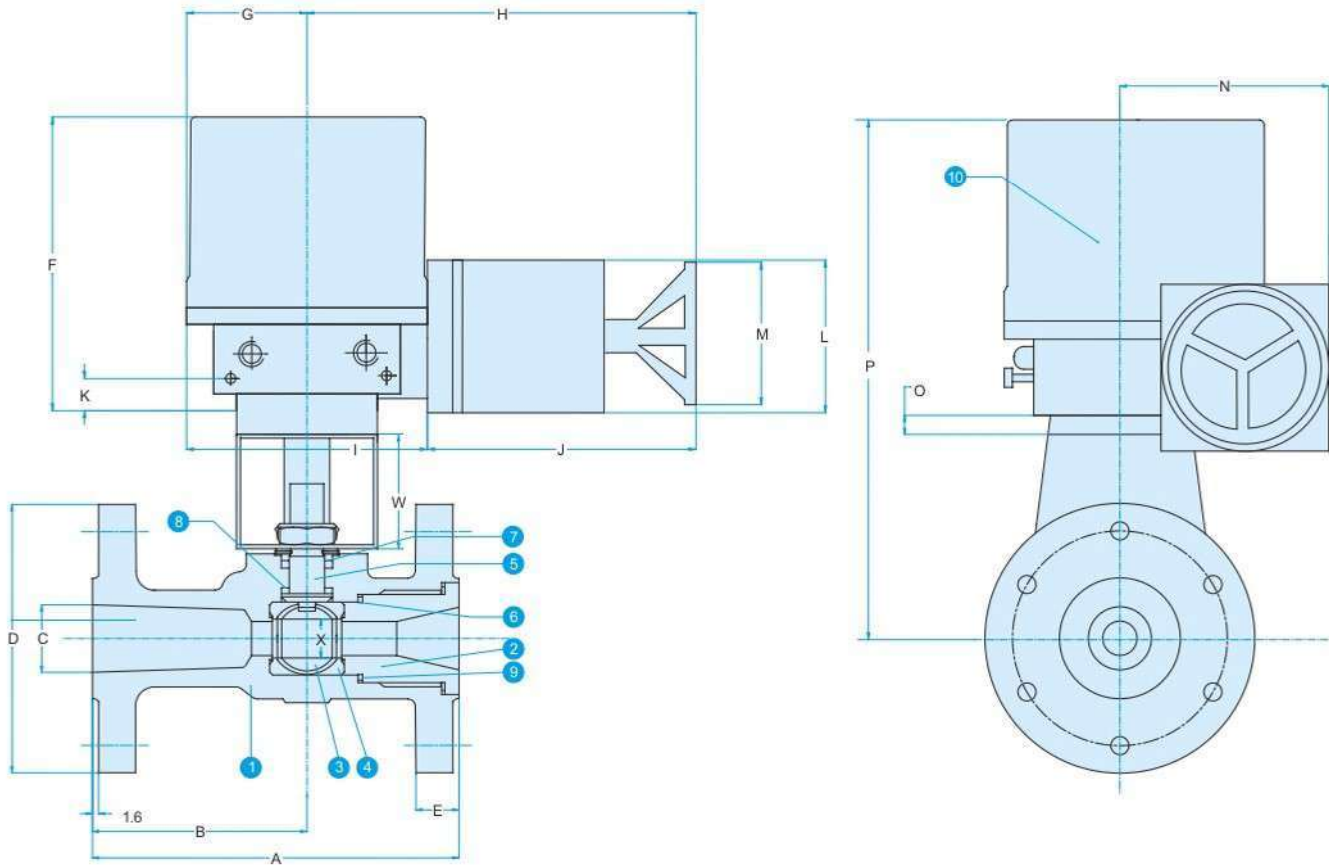




**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTM A216 GR. WCB/IS 1875 C12	AISI 316 CR/ASTM A351 Gr. CF 8M
10	INSERT GASKET	GRAPHITE	GRAPHITE
11	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	G	H	I	K	L	M	N	X	W	WT OF ASSY IN KGS.	Cv	OPERATING TIME			
																	TO OPEN (SEC)		TO CLOSE (SEC)	
																	MIN	MAX	MIN	MAX
80	1352/80/FL300/FB/SD-4000-08-WG40	283	99	76.2	210	11	450	75	277	88	75	45	76	80	133.1	600	1.6	60	1.6	60
100	1352/100/FL300/FB/SD-4000-20-WG60	305	122	101.6	254	11	580	110	285	118	100	55	102	80	147	830	1.6	60	1.6	60
150	1352/150/FL300/FB/SD-4000-20-WG136	403	179	150.8	318	20	700	140	300	148	110	65	152	100	239	2100	7.5	94	7.5	94



**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	INSERT	ASTM A105 OR ASTM 216 Gr. WCB	ASTM A316 CR/ASTMA315 Gr. CF8M
3	BALL	ASTM A315 Gr. CF8M	ASTM A315 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	PTFE	PTFE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	35% CARBON-FILLED PTFE	35% CARBON-FILLED PTFE
9	INSERT SEAL	15mm-40mm, 200mm METAL TO METAL 50mm-150mm GRAPHITE	15mm-40mm, 200mm METAL TO METAL 50mm-150mm GRAPHITE
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.	

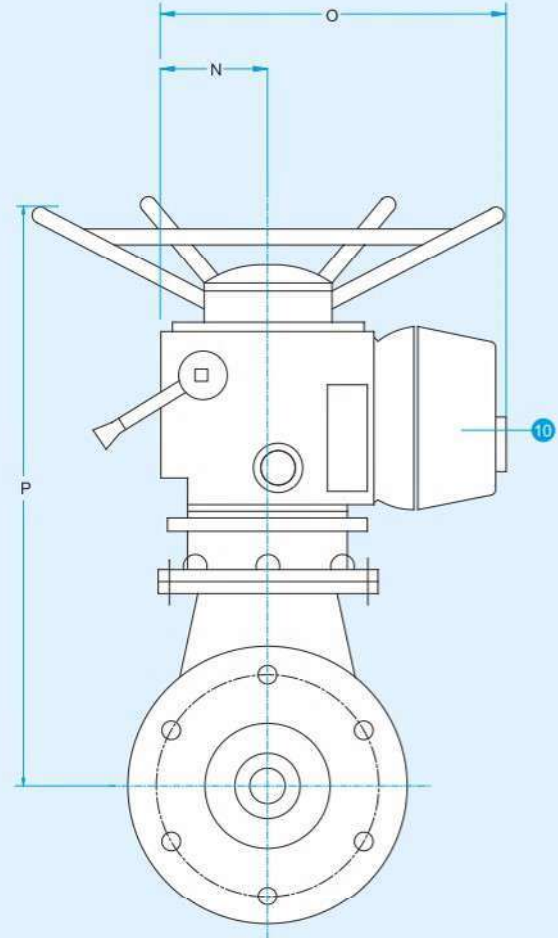
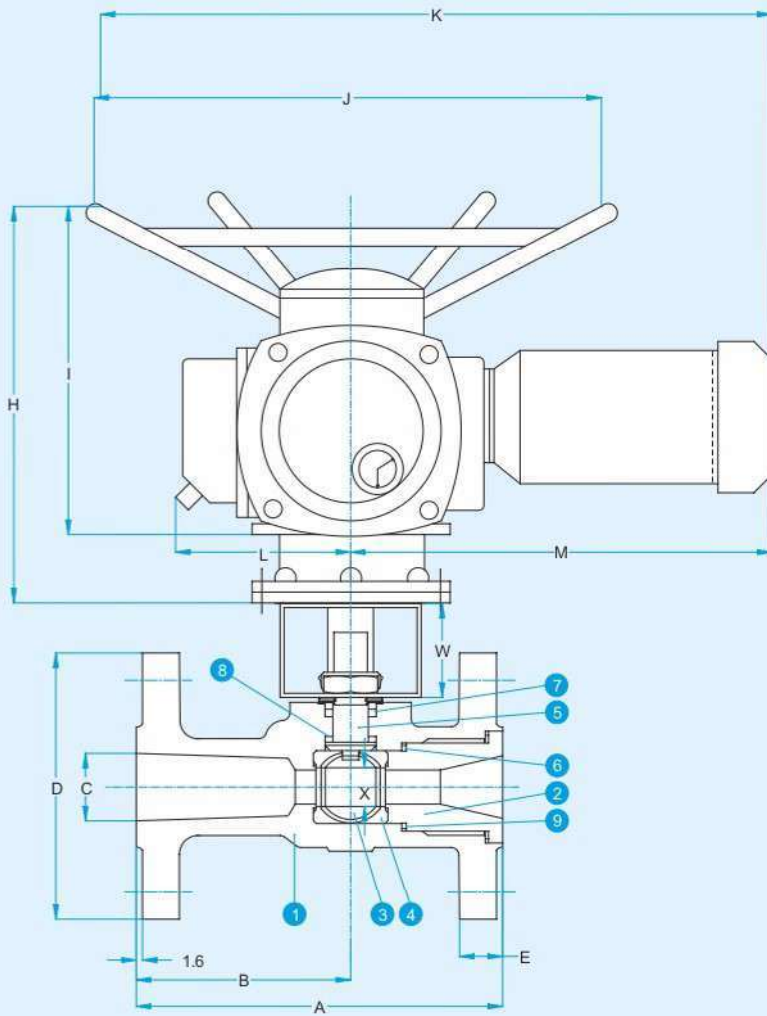
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	1352/15/FL150/RB/SD-03	108	62	12.7	89	11.5	175	68	215	138	145	32	110	100	117	10	269.5	50	12	10.5	8	17	17
20	1352/20/FL150/RB/SD-03	117	68	19.1	99	11.5	175	68	215	138	145	32	110	100	117	10	274.5	50	15	11	12	17	17
25	1352/25/FL150/RB/SD-03	127	70	25.4	108	11.5	175	68	215	138	145	32	110	100	117	10	279	50	20	12.5	32	17	17
40	1352/40/FL150/RB/SD-05	165	78	38.1	127	14.5	175	68	225	138	160	32	110	100	117	10	308.5	70	32	15.5	82	17	17
50	1352/50/FL150/RB/SD-05	178	107	50.8	152	16	175	68	225	138	160	32	110	100	117	10	321	70	38	19.1	120	17	17
80	1352/80/FL150/RB/SD-20	203	120	76.2	191	19.5	250	95	285	195	185	37	110	100	148	6	425.5	80	64	32.5	325	20	20
100	1352/100/FL150/RB/SD-30	229	130	102	229	24	261	123	355	134	242	57	110	100	182	3	455.5	80	76	55.8	600	26	26

# 2-way Three Phase **Electrically Operated**

## **Reduced Bore** Ball Valve **Class 150**

SUDE

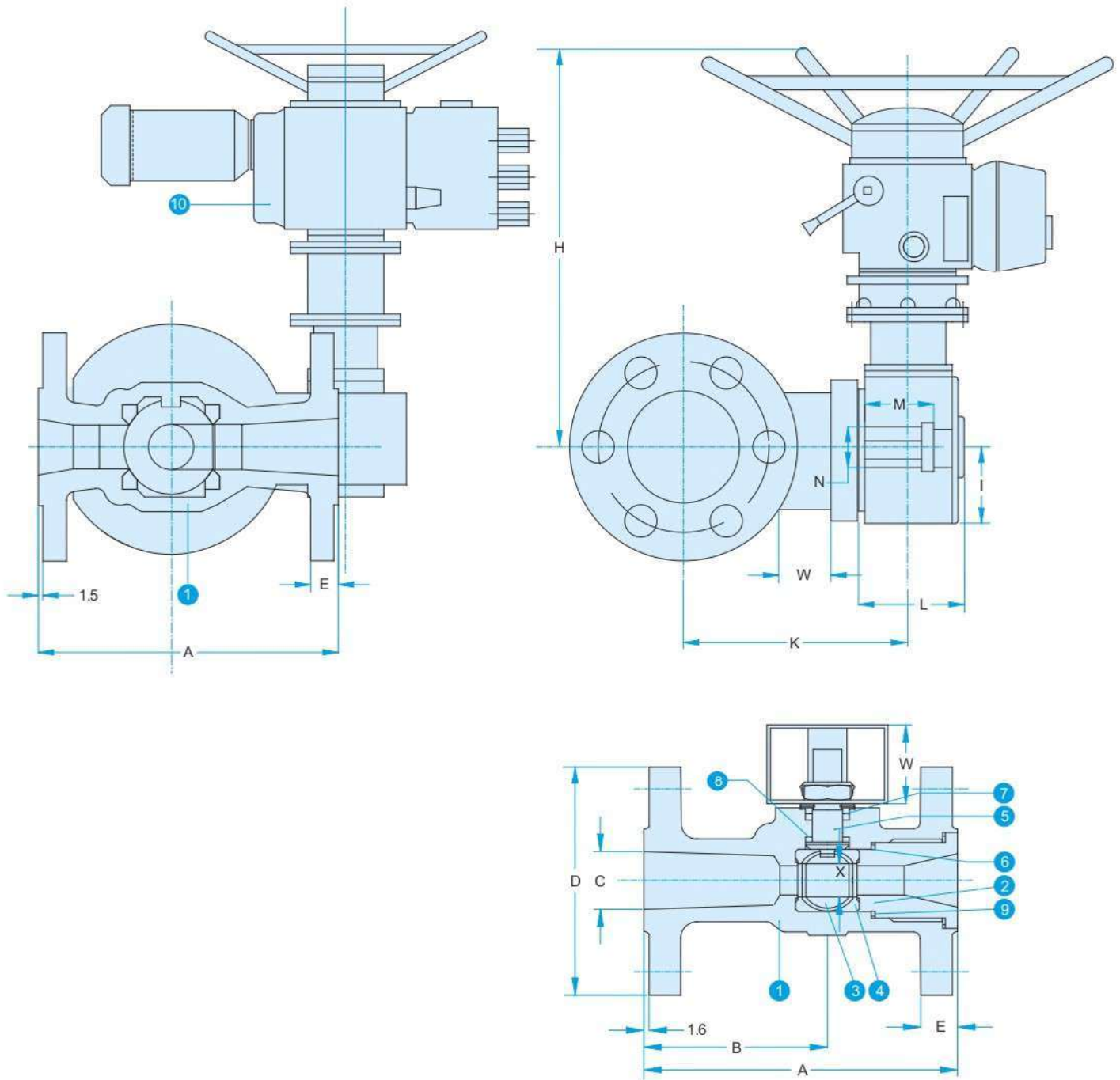
**1352**



### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTMA216 Gr. WCB	ASTMA351 Gr. CF8M
2	INSERT	ASTMA105 CR/ASTM 216 Gr. WCB	ASTMA316 CR/ASTMA315 Gr. CF8M
3	BALL	ASTMA315 Gr. CF8M	ASTMA315 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	PTFE	PTFE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	35% CARBON-FILLED PTFE	35% CARBON-FILLED PTFE
9	INSERT SEAL	15mm-40mm, 200mm METAL TO METAL 50mm-150mm GRAPHITE	15mm-40mm, 200mm METAL TO METAL 50mm-150mm GRAPHITE
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	H	I	J	K	L	M	N	X	W	P	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																			TO OPEN (SEC.)		TO CLOSE (SEC.)	
																		MIN	MAX	MIN	MAX	
80	135280/FL150/PB/SD-4000-20	203	120	76.2	191	19.5	450	340	485	685	225	440	85	64	80	625.5	69.5	325	3.5	24	3.5	24



**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	INSERT	ASTM A105 OR ASTM 216 Gr. WCB	ASTM A316 OR ASTM A315 Gr. CF8M
3	BALL	ASTM A315 Gr. CF8M	ASTM A315 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	PTFE	PTFE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	36% CARBON-FILLED PTFE	36% CARBON-FILLED PTFE
9	INSERT SEAL	15mm-40mm, 200mm METAL TO METAL 50mm-150mm GRAPHITE	15mm-40mm, 200mm METAL TO METAL 50mm-150mm GRAPHITE
10	ELECTRICAL ACTUATOR (SDTORK/MAKE)	FOR DETAIL REFER MANUFACTURE.	

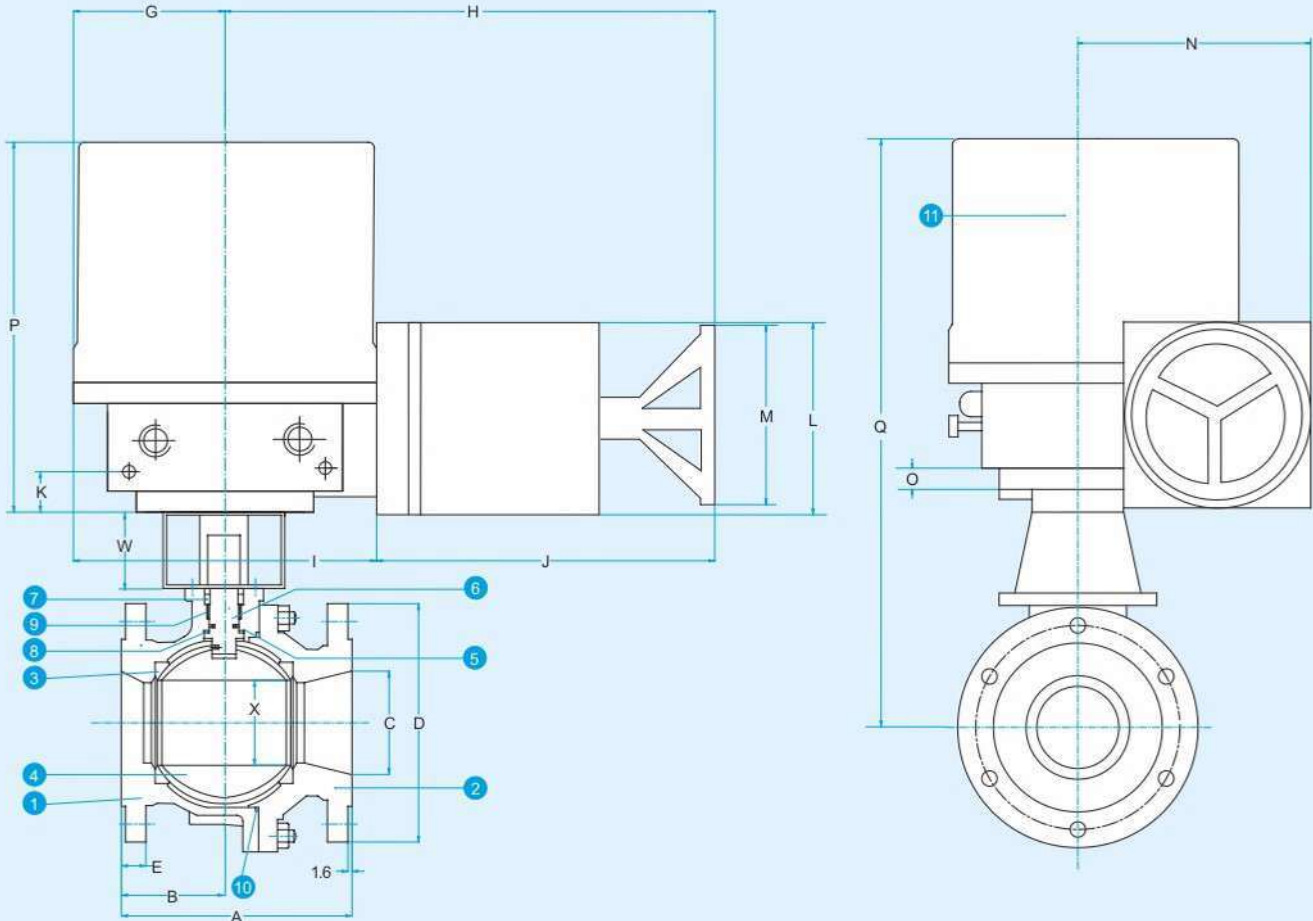
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	H	I	K	L	M	N	X	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																	TO OPEN (SEC.)		TO CLOSE (SEC.)	
																	MIN	MAX	MIN	MAX
150	1352/150/FL150/FB/SD4000-08-WG40	267	138	150.8	280	25.4	450	75	277	88	75	45	102	100	110	600	1.6	60	1.6	60
200	1352/200/FL150/FB/SD4000-08-WG40	292	148	203	343	28.4	450	75	285	118	75	55	152	100	204	830	7.5	94	7.5	94

# 2-way Single Phase Electrically Operated

## Reduced Bore Ball Valve Class 300

SUDE

1352



### PART LIST

S.No.	PART	MATERIAL
1	BODY	CS/304/316/A-20/HAST-BHAST-C
2	TAILPIECE	CS/304/316/A-20/HAST-BHAST-C
3	SEAT	PTFE
4	BALL	316/304/316/A-20/HAST-BHAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-BHAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20/HAST-BHAST-C
10	BODY SEAT	PTFE
11	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	G	H	I	J	K	L	M	N	O	P	Q	W	X	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																						TO OPEN (SEC.)		TO CLOSE (SEC.)	
																					MIN	MAX	MIN	MAX	
15	1352/15/FL300RB/SD-03	140	94	12.7	96	15	68	215	138	145	32	110	100	117	10	175	273	50	12	9.6	11.2	3.5	24	3.5	24
20	1352/20/FL300RB/SD-03	152	103	19.1	118	16	68	215	138	145	32	110	100	117	10	175	284	50	15	9.8	12.2	3.5	24	3.5	24
25	1352/25/FL300RB/SD-03	165	108	25.4	124	18	68	215	138	145	32	110	100	117	10	175	287	50	20	11.1	22.2	3.5	24	3.5	24
40	1352/40/FL300RB/SD-05	190	116	38.1	156	21	68	225	138	160	37	110	100	117	10	175	323	70	32	12	24.8	3.5	24	3.5	24
50	1352/50/FL300RB/SD-10	216	145	50.8	166	22.5	95	270	195	170	37	110	100	148	6	250	402.5	70	38	13.8	27.8	3.5	24	3.5	24

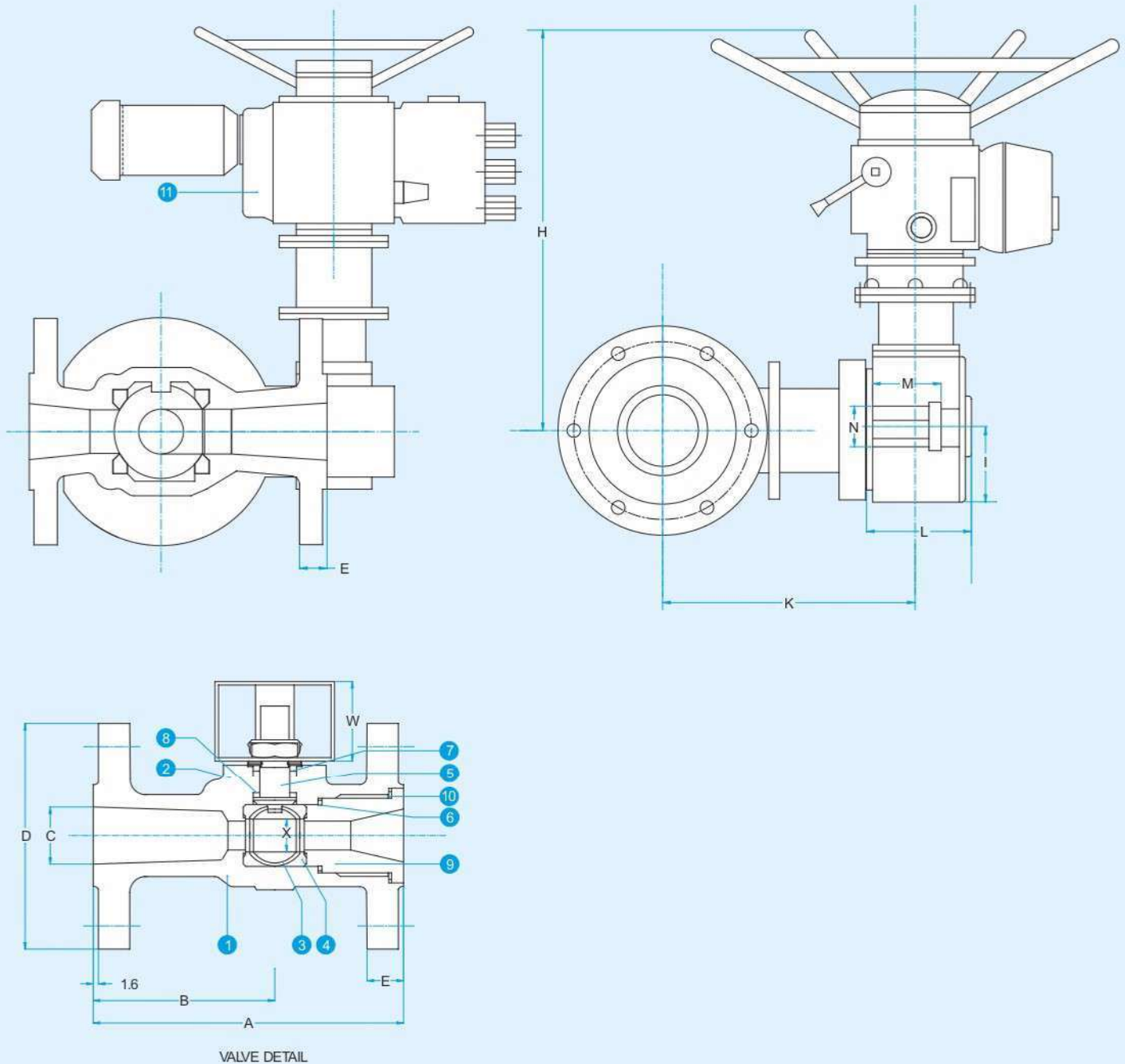


# 2-way Three Phase **Electrically Operated**

## **Reduced Bore** Ball Valve **Class 300**

SUDE

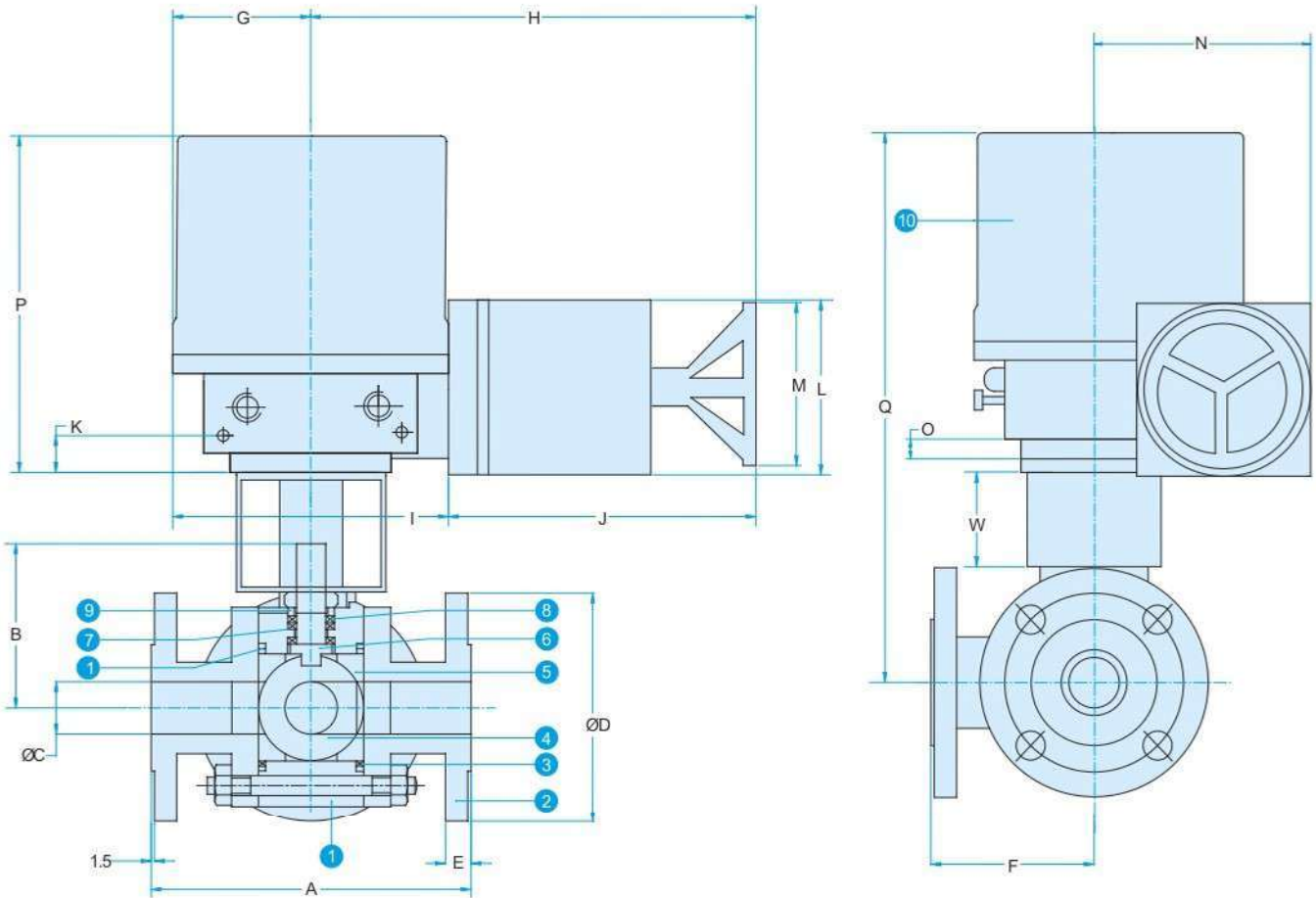
**1352**



### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTMA216 GR. WCB/S 1875 C12	AISI 316 CR ASTM A351 Gr. CF 8M
10	INSERT GASKET	GRAPHITE	GRAPHITE
11	ELECTRICAL ACTUATOR (SDTORCK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	H	I	K	L	M	N	P	W	X	WT OF ASSY IN KGS.	Cv	OPERATING TIME			
																		TO OPEN (SEC.)		TO CLOSE (SEC.)	
																		MIN	MAX	MIN	MAX
100	1352/100FL300FB/SD-4000-08-VG40	305	206	102	254	32	450	75	277	88	75	45	80	80	76	100.5	600	1.6	60	1.6	60
150	1352/150FL300FB/SD-4000-08-VG40	403	274	150.8	318	37	450	75	277	88	75	45	100	100	102	115.2	830	7.5	94	7.5	94
200	1352/200FL300FB/SD-4000-08-VG60	419	275	203	381	41	580	110	312	118	100	55	100	100	152	125.5	2100	1.6	60	1.6	60



**PART LIST**

S.No.	PART	MATERIAL
1	BODY	CS/304/316/A-20/ HAST-B/HAST-C
2	TAILPIECE	CS/304/316/A-20/ HAST-B/HAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20/HAST-B/HAST-C
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.

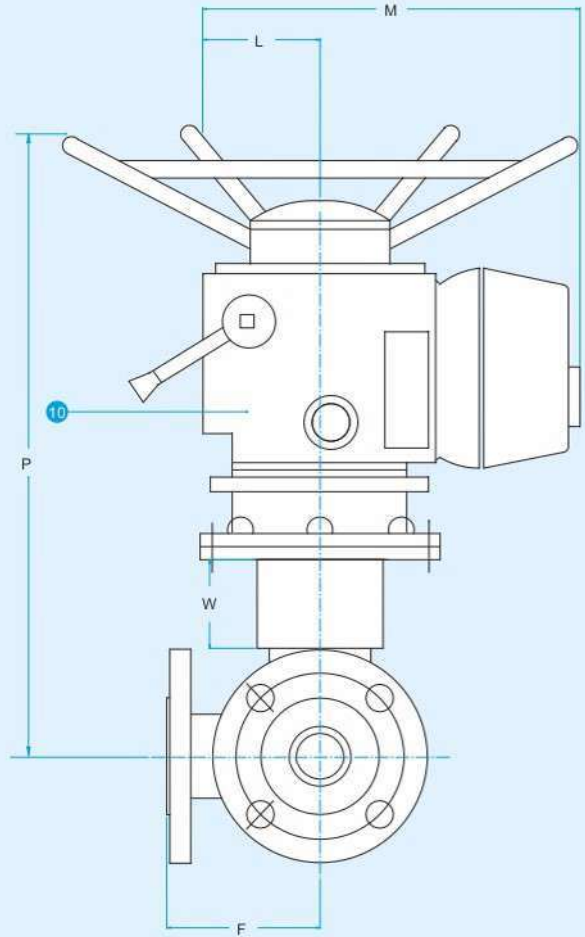
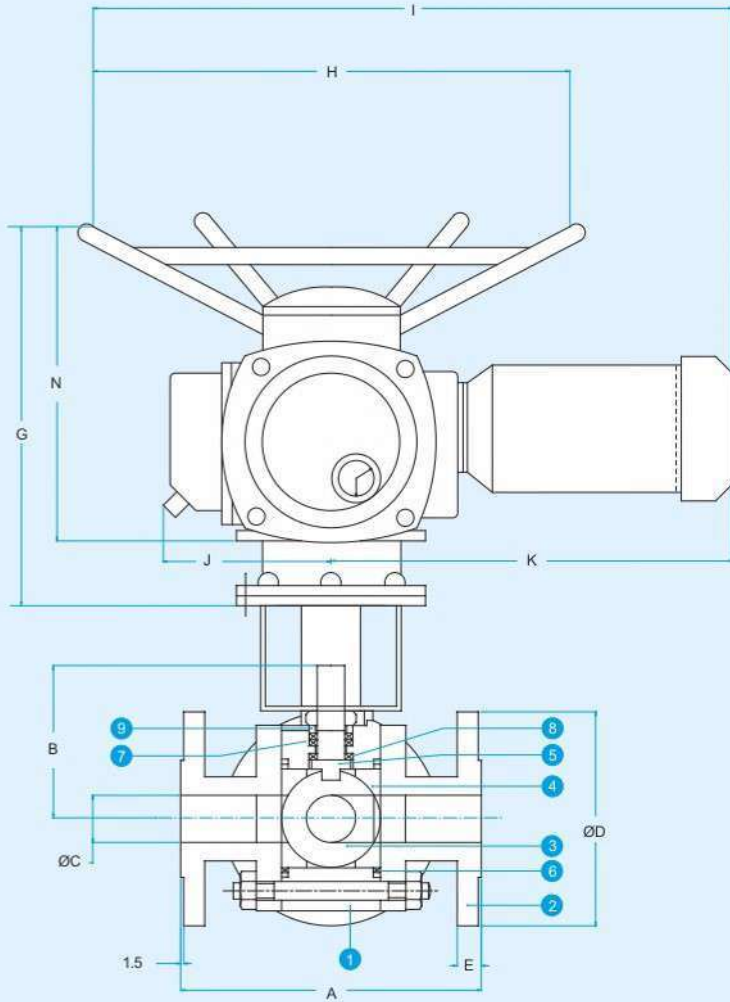
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	1353/15/FL150/FB/SD-03	108	49	13	89	11.5	70	68	215	138	145	32	110	100	117	10	175	244.5	25	10.8	12	17	17
20	1353/20/FL150/FB/SD-03	117	56	19	98	13	76	68	215	138	145	32	110	100	117	10	175	249	25	11.5	32	17	17
25	1353/25/FL150/FB/SD-03	127	58	25	108	11.5	80	68	215	138	145	32	110	100	117	10	175	254	25	12.9	46	17	17
32	1353/40/FL150/FB/SD-05	140	76	32	117	13	86	68	225	138	160	32	110	100	117	10	175	258.5	25	14.5	82	17	17
40	1353/50/FL150/FB/SD-05	165	80	38	127	14.5	92	68	225	138	160	32	110	100	117	10	175	308.5	70	19	120	17	17
50	1353/50/FL150/FB/SD-10	178	132	51	152	16	107	95	270	195	170	37	110	100	148	6	250	396	70	26.2	240	17	17
65	1353/100/FL150/FB/SD-20	190	147	65	178	17.5	125	95	285	195	185	37	110	100	148	6	250	419	80	33.5	325	20	20

# 3-way Three Phase **Electrically Operated**

## **Full Bore** Ball Valve **Class 150**

SUDE

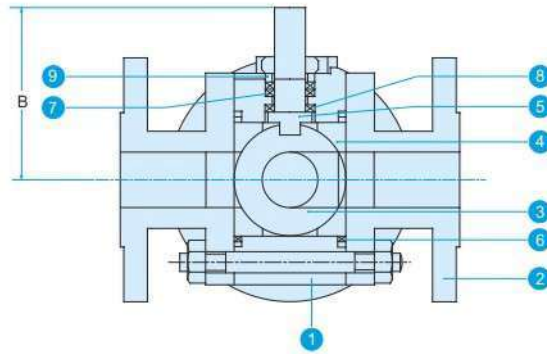
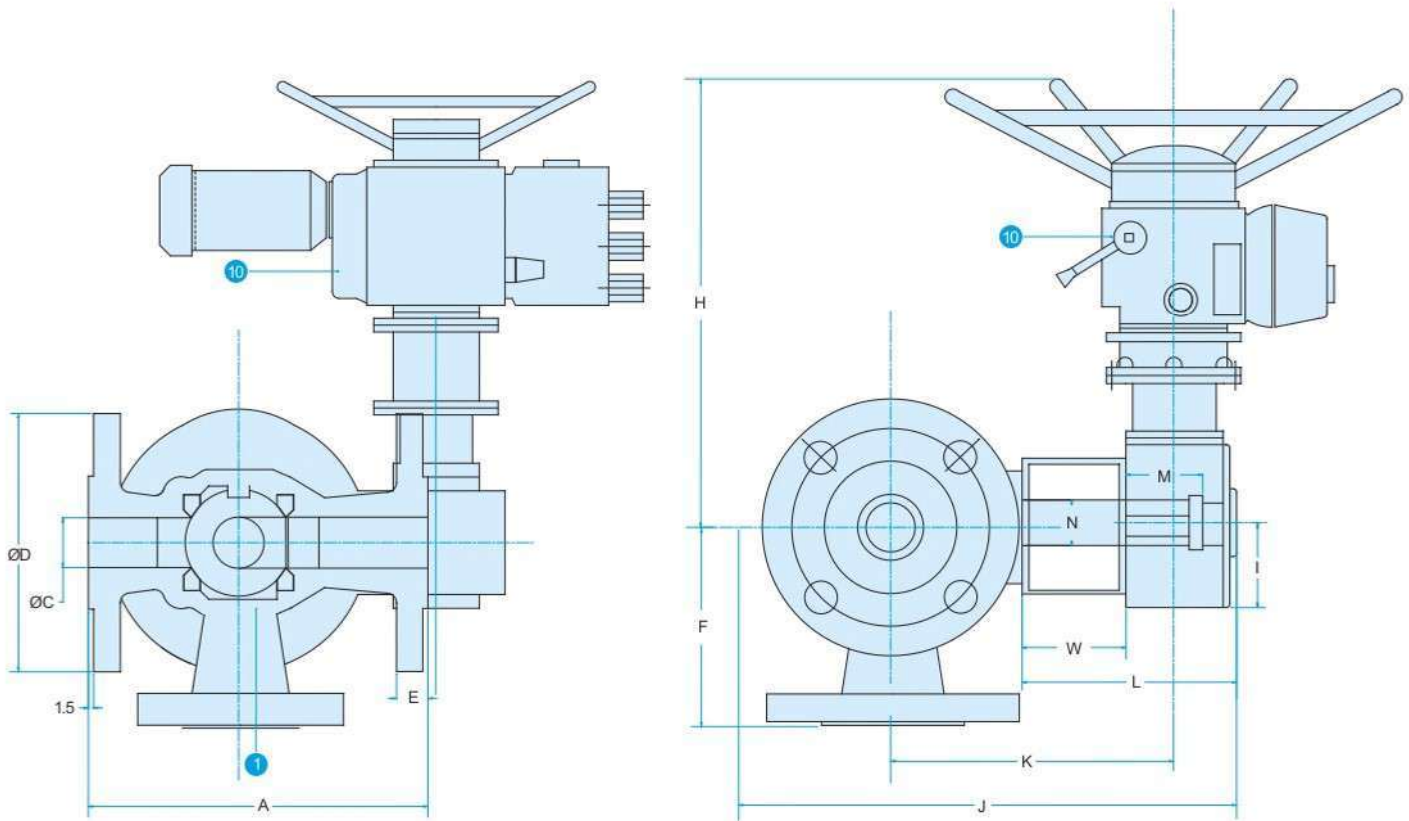
**1353**



### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTMA216 GR. WCB/S 1875 C12	AISI 316 CR.ASTM A351 Gr. CF8M
10	ELECTRICAL ACTUATOR (SDTCRK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	W	P	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																				TO OPEN (SEC.)		TO CLOSE (SEC.)	
																				MIN	MAX	MIN	MAX
65	1353/65/FL150/FB/SD-4000-20	190	147	65	178	17.5	125	450	485	685	225	440	85	400	340	80	619	70.5	325	3.5	24	3.5	24



VALVE DETAIL

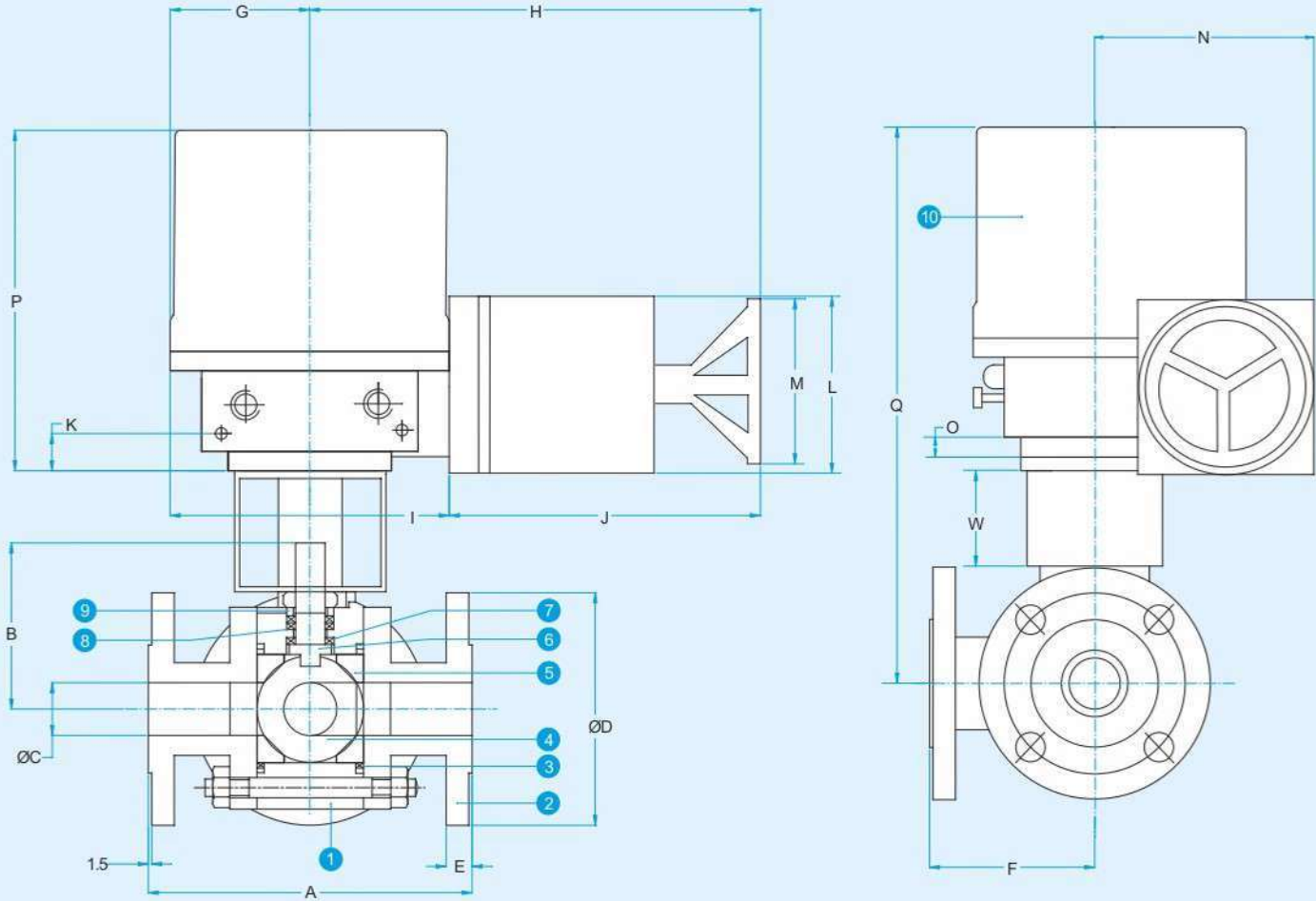
**PART LIST**

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTMA216 GR. WCB/IS 1875 C12	AISI 316 OR ASTM A351 Gr. CF8M
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	H	I	J	K	L	M	N	W	WT. OF ASSY. IN KGS.	Cv	OPERATING TIME			
																		TO OPEN (SEC.)		TO CLOSE (SEC.)	
																		MIN	MAX	MIN	MAX
100	1363/100/FL150/FB/SD-4000-08-WG40	229	190	102	229	24	157	450	75	165	77	88	75	45	80	105.6	830	1.6	60	1.6	60

# 3-way Single Phase Electrically Operated

## Full Bore Ball Valve Class 300 SUDE 1353



### PART LIST

S.No.	PART	MATERIAL
1	BCDY	CS/304/316/A-20/ HAST-B/HAST-C
2	TAILPIECE	CS/304/316/A-20/ HAST-B/HAST-C
3	BCDY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20/HAST-B/HAST-C
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	W	WT OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	1353/15/FL300/FB/SD-03	140	49	13	95	14.5	76	68	215	138	145	32	110	100	117	10	175	272.5	50	11.5	12	17	17
20	1353/20/FL300/FB/SD-05	152	56	19	117	16	96	68	225	138	160	32	110	100	117	10	175	283.5	50	12.8	32	17	17
25	1353/25/FL300/FB/SD-05	165	58	25	124	17.5	100	68	225	138	160	32	110	100	117	10	175	287	50	15.6	46	17	17
32	1353/32/FL300/FB/SD-05	178	76	32	133	19.5	106	68	225	138	160	32	110	100	117	10	175	291.5	50	20.5	82	20	20
40	1353/40/FL300/FB/SD-10	190	80	38	156	21	120	95	270	195	170	37	110	100	148	6	250	398	70	23	120	20	20
50	1353/50/FL300/FB/SD-10	216	132	51	165	22.5	125	95	270	195	170	37	110	100	148	6	250	402.5	70	30.2	240	20	20

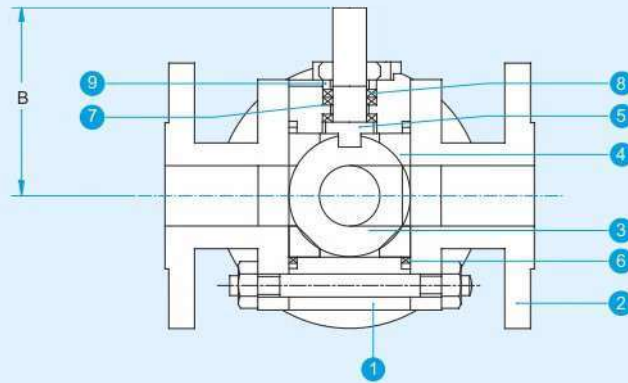
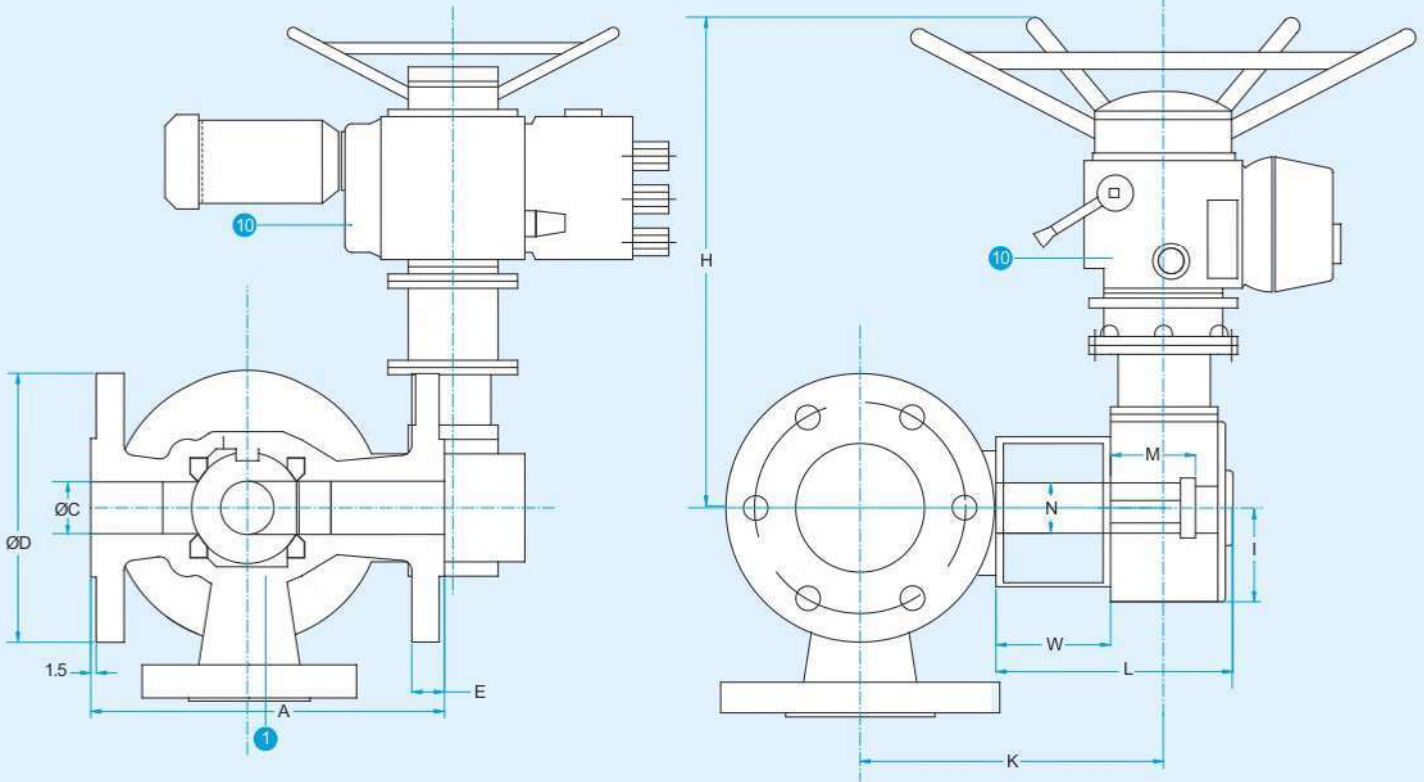


# 3-way Three Phase **Electrically Operated**

## **Full Bore** Ball Valve **Class 300**

SUDE

**1353**

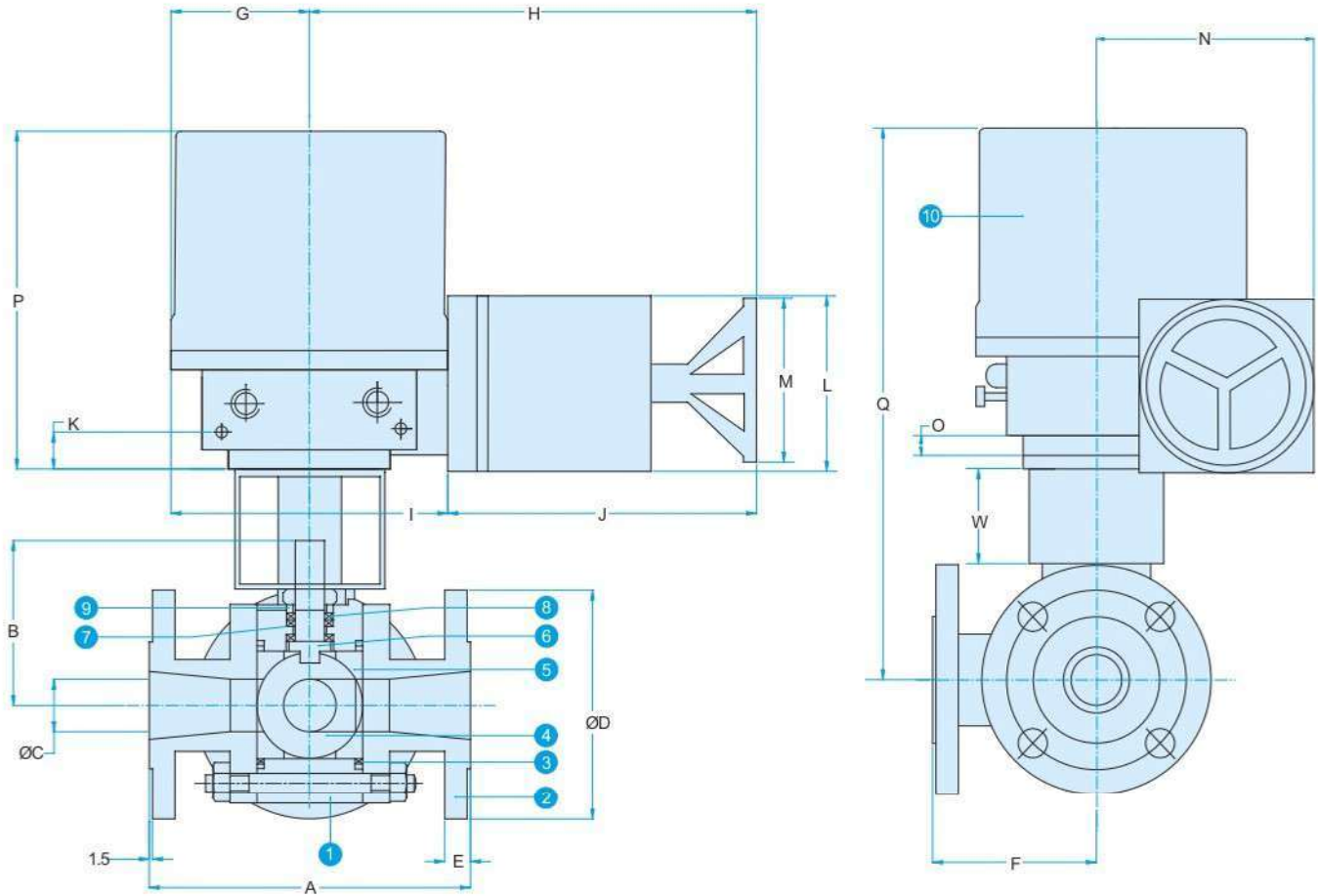


VALVE DETAIL

### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTMA216 GR. WCB/IS 1875 C12	AISI 316 CR ASTMA351 Gr. CF 8M
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	H	I	K	L	M	N	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																	TO OPEN (SEC.)		TO CLOSE (SEC.)	
																	MIN	MAX	MIN	MAX
100	1353/100/FL300/FB/SD-4000-20-WG60	305	190	102	254	32	180	580	110	312	218	100	55	100	122	830	1.6	60	1.6	60



**PART LIST**

S.No.	PART	MATERIAL
1	BCDY	CS/304/316/A-20/ HAST-B/HAST-C
2	TAILPIECE	CS/304/316/A-20/ HAST-B/HAST-C
3	BCDY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20/HAST-B/HAST-C
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.

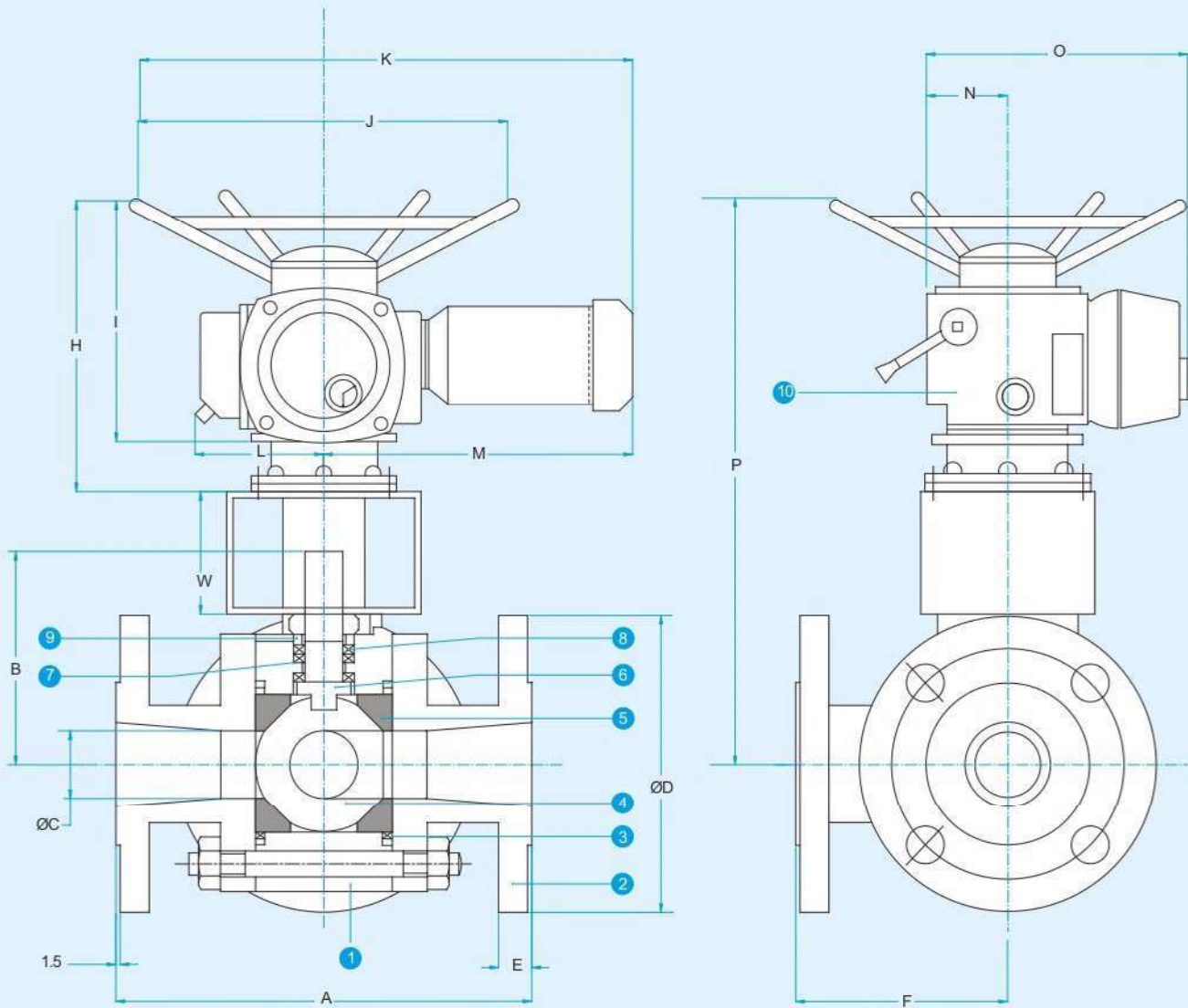
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	W	WT OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	1353/15FL150/RB/SD-03	108	43	9.5	89	11.5	70	68	215	138	145	32	110	100	117	10	175	269.5	50	10.5	8	17	17
20	1353/20FL150/RB/SD-03	117	49	13	98	13	76	68	215	138	145	32	110	100	117	10	175	274	50	11	12	17	17
25	1353/25FL150/RB/SD-03	127	56	19	108	11.5	80	68	215	138	145	32	110	100	117	10	175	279	50	12.5	32	17	17
32	1353/32FL150/RB/SD-03	140	58	25	117	13	86	68	215	138	145	32	110	100	117	10	175	283.5	50	14.5	46	17	17
40	1353/40FL150/RB/SD-05	165	76	32	127	14.5	92	68	225	138	160	32	110	100	117	10	175	288.5	70	15.5	82	17	17
50	1353/50FL150/RB/SD-05	178	80	38	152	16	107	68	225	138	160	32	110	100	117	10	175	321	70	21.5	120	17	17
65	1353/65FL150/RB/SD-10	190	132	51	178	17.5	125	95	270	195	170	37	110	100	148	6	250	419	80	28	240	20	20
80	1353/80FL150/RB/SD-20	203	147	58	191	19.5	133	95	285	195	185	37	110	100	148	6	250	425.5	80	44	325	20	20
100	1353/100FL150/RB/SD-30	229	168	76	229	24	157	123	365	134	242	57	110	100	182	3	261	465.5	80	55	600	26	26

# 3 Way Three Phase **Electrically Operated**

## **Reduced Bore** Ball Valve **Class 150**

SUDE

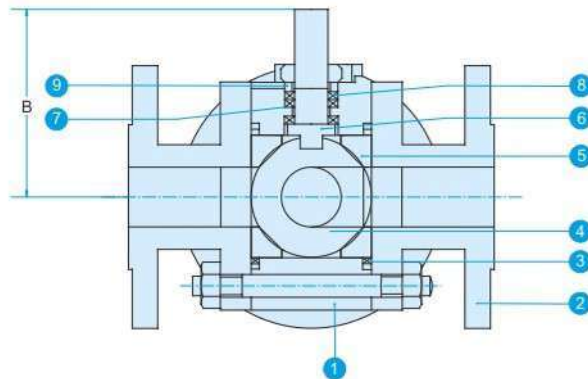
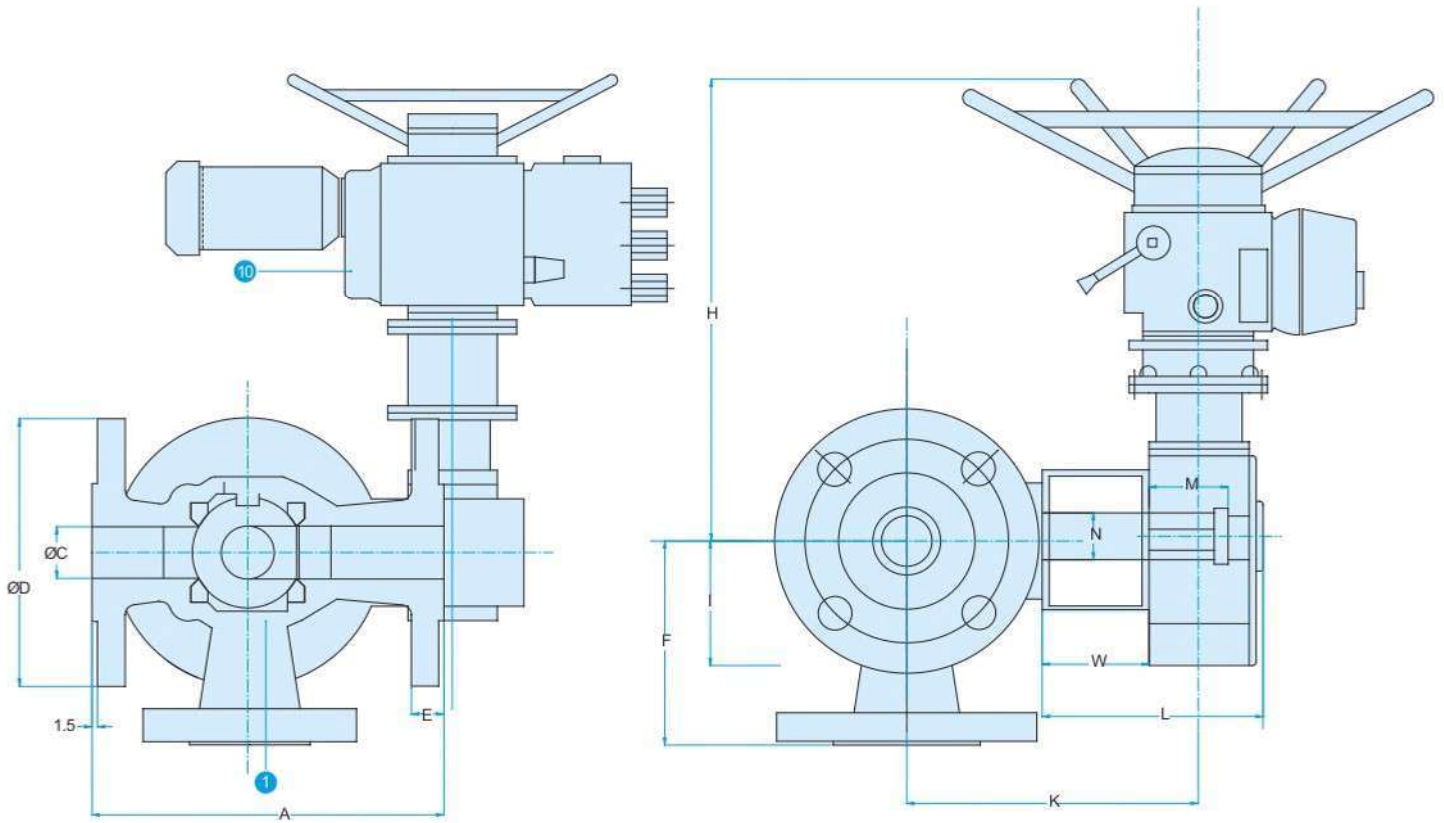
**1353**



### PART LIST

S.No.	PART	MATERIAL
1	BODY	CS/304/316/A-20/HAST-B/HAST-C
2	TAILPIECE	CS/304/316/A-20/HAST-B/HAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20/HAST-B/HAST-C
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	H	I	J	K	L	M	N	O	P	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																				TO OPEN (SEC.)		TO CLOSE (SEC.)	
																				MIN	MAX	MIN	MAX
65	135365/FL150/RB/SD4000-20	190	132	51	178	17.5	125	450	340	485	685	225	440	85	400	604	65	65	240	3.5	24	3.5	24
80	135380/FL150/RB/SD4000-20	203	147	58	191	19.5	133	450	340	485	685	225	440	85	400	625.5	80	69.5	325	3.5	24	3.5	24



VALVE DETAIL

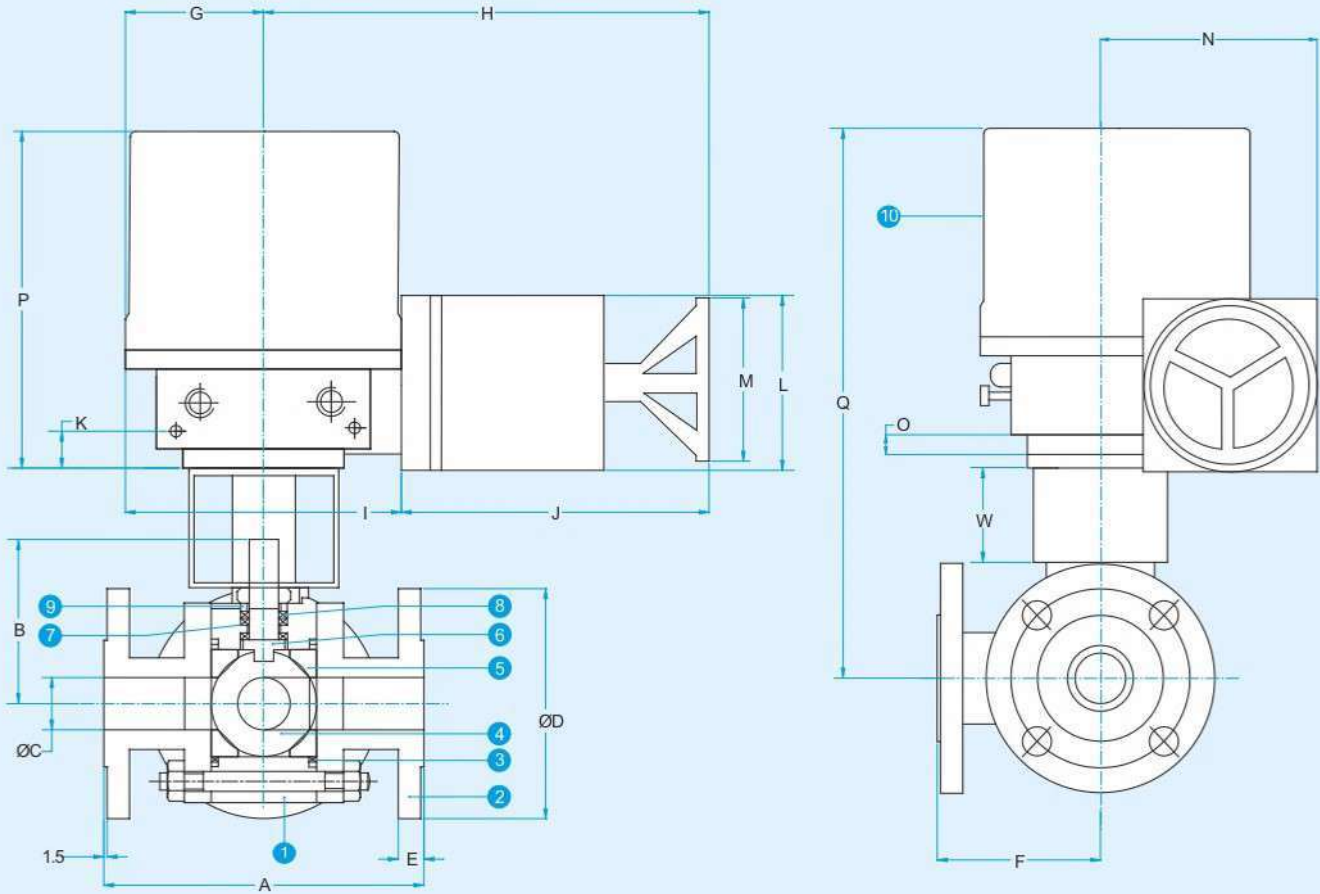
**PART LIST**

S.No.	PART	MATERIAL
1	BCDY	CS'304/316/A-20' HAST-B/HAST-C
2	TAILPIECE	CS'304/316/A-20' HAST-B/HAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20'HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20'HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20'HAST-B/HAST-C
10	ELECTRICAL ACTUATOR (SDTORK/MAKE)	FOR DETAIL REFER MANUFACTURE.

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	H	I	K	L	M	N	P	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																		TO OPEN (SEC.)		TO CLOSE (SEC.)	
																		MIN	MAX	MIN	MAX
150	1353/150/FL150/RB/SD-4000-08-VG40	267	190	111	279	25.5	184	450	75	277	188	75	45	100	100	110	830	1.6	60	1.6	60

# 3-way Single Phase Electrically Operated

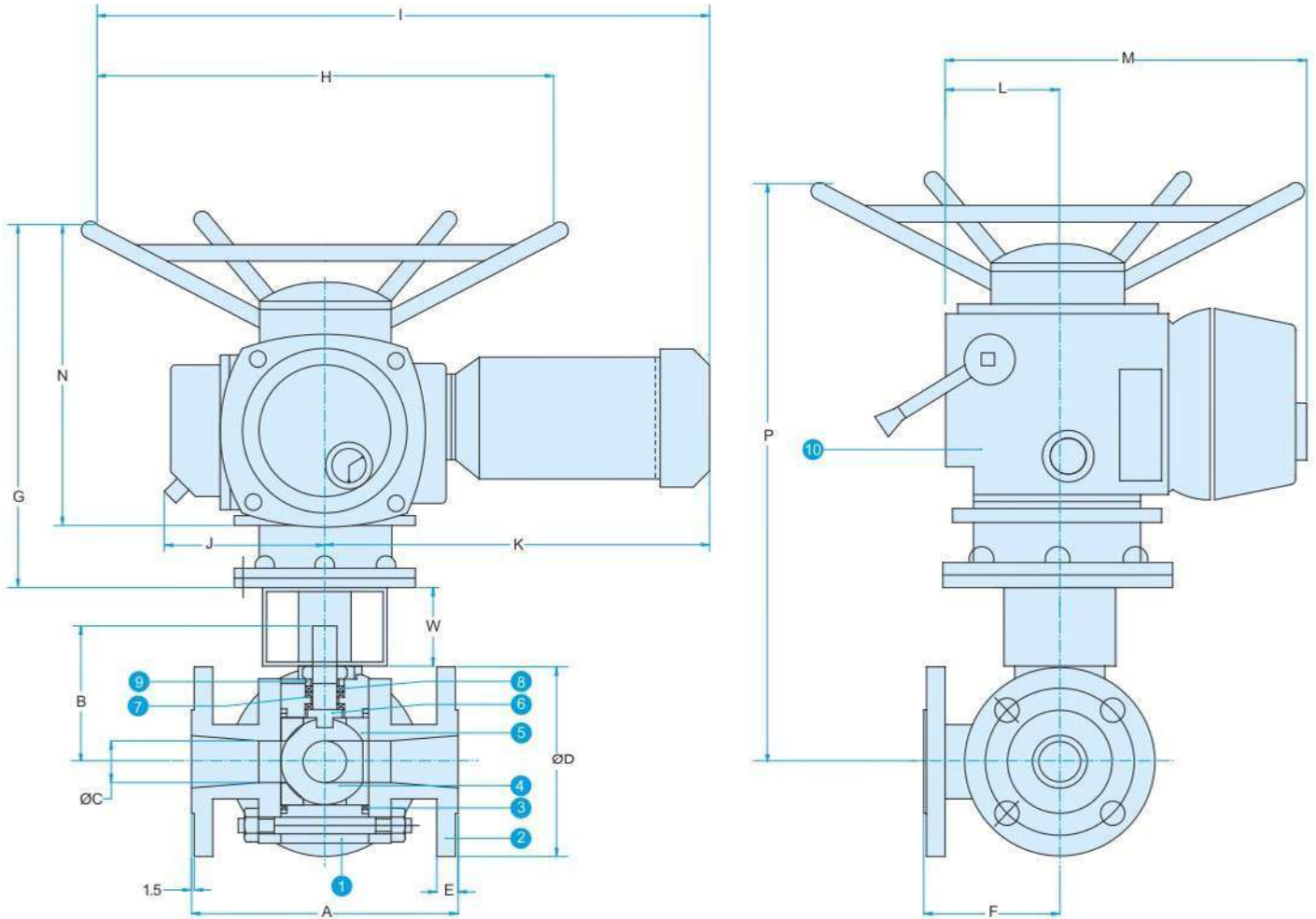
## Reduced Bore Ball Valve Class 300 SUDE 1353



### PART LIST

S.No.	PART	MATERIAL
1	BODY	CS304/316/A-20 HAST-BHAST-C
2	TAILPIECE	CS304/316/A-20 HAST-BHAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20HAST-BHAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20HAST-BHAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20HAST-BHAST-C
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME	
																						TO OPEN (SEC.)	TO CLOSE (SEC.)
15	135315FL300RB/SD-03	140	43	9.5	95	14.5	76	68	215	138	145	32	110	100	117	10	175	272.5	50	11.2	8	17	17
20	135320FL300RB/SD-03	152	49	13	117	16	96	68	215	138	145	32	110	100	117	10	175	283.5	50	12.2	12	17	17
25	135325FL300RB/SD-03	165	56	19	124	17.5	100	68	215	138	145	32	110	100	117	10	175	287	50	14	32	17	17
32	135332FL300RB/SD-05	178	58	25	133	19.5	106	68	225	138	160	32	110	100	117	10	175	291.5	50	20.5	46	20	20
40	135340FL300RB/SD-05	190	76	32	156	21	120	68	225	138	160	32	110	100	117	10	175	303	50	22.2	82	20	20
50	135350FL300RB/SD-10	216	80	38	165	22.5	125	95	270	195	170	37	110	100	148	6	250	402.5	70	24.8	120	20	20
65	135365FL300RB/SD-30	241	132	51	191	25.5	142	123	355	195	242	57	110	100	182	3	261	436.5	80	32	240	20	20
80	135380FL300RB/SD-30	283	147	58	210	29	155	123	355	195	242	57	110	100	182	3	261	446	80	51.6	325	26	26



**PART LIST**

S.No.	PART	MATERIAL
1	BODY	CS/304/316/A-20/ HAST-B/HAST-C
2	TAILPIECE	CS/304/316/A-20/ HAST-B/HAST-C
3	BODY SEAL	PTFE
4	BALL	316/304/316/A-20/HAST-B/HAST-C
5	SEAT	PTFE/REINFORCED
6	STEM	316/304/316/A-20/HAST-B/HAST-C
7	STEM WASHER	GFT
8	STEM SEAL	PTFE
9	GLAND	316/304/316/A-20/HAST-B/HAST-C
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.

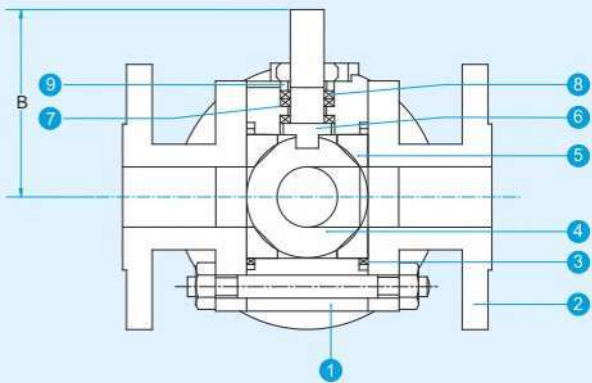
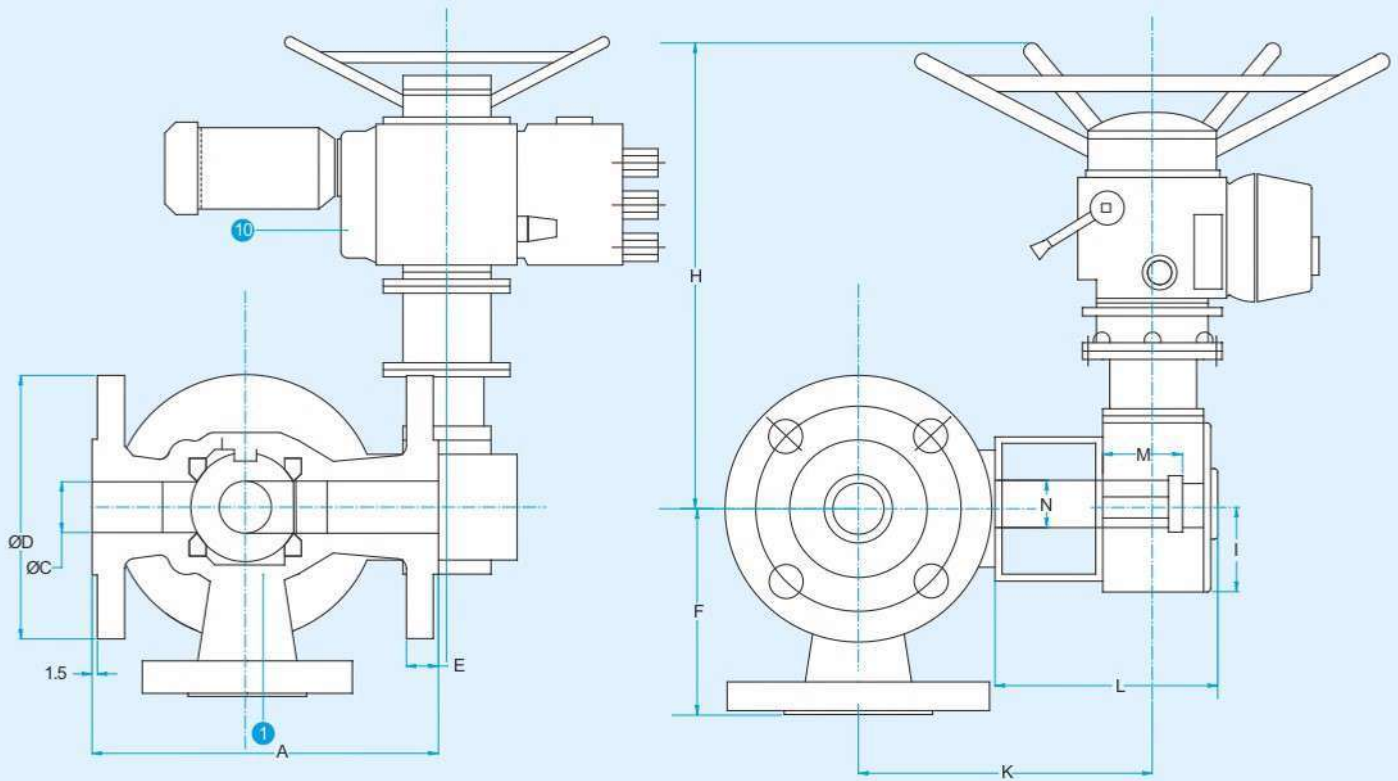
VALVE SIZE	MODEL NUMBER	A	B	C	D	E	G	H	I	J	K	L	M	N	P	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																			TO OPEN (SEC.)		TO CLOSE (SEC.)	
																			MIN	MAX	MIN	MAX
65	1353/65/FL300/FB/SD4000-20	241	132	51	191	25.5	450	485	685	225	440	85	450	340	625.5	80	69	240	3.5	24	3.5	24

# 3-way Three Phase **Electrically Operated**

## **Reduced Bore** Ball Valve **Class 300**

SUDE

**1353**



VALVE DETAIL

### PART LIST

S.No.	PART	CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	BODY CONNECTOR	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
3	BALL	ASTM A351 Gr. CF8M	ASTM A351 Gr. CF8M
4	SEAT	PTFE	PTFE
5	STEM	AISI 316	AISI 316
6	BODY SEAL	GRAPHITE	GRAPHITE
7	GLAND PACKING	GRAPHITE	GRAPHITE
8	STEM SEAL	25% CARBON-FILLED PTFE	25% CARBON-FILLED PTFE
9	INSERT	ASTM A105/ASTMA216 GR. WCB/IS 1875 C12	AISI 316 CR. ASTMA351 Gr. CF8M
10	ELECTRICAL ACTUATOR (SDTORK MAKE)	FOR DETAIL REFER MANUFACTURE.	

VALVE SIZE	MODEL NUMBER	A	B	C	D	E	F	H	I	K	L	M	N	W	WT. OF ASSY IN KGS.	Cv	OPERATING TIME			
																	TO OPEN (SEC.)		TO CLOSE (SEC.)	
																	MIN	MAX	MIN	MAX
100	1353/100/FL300/RB/SD-4000-08-VG40	305	168	76	254	25.5	180	450	75	277	188	75	45	80	69	240	3.5	24	3.5	24

## Ball Valves



## Zero Bacteria



NOTE : TECHNICAL SPECIFICATIONS, DETAILS & DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. DIMENSIONS IN THE TABLE ARE APPROXIMATE SUBJECT TO FINAL CONFIRMATION BY SUDE.

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## Other Product

- Solenoid Valves.
- Pneumatically operated Control Valves.
- Motorised Valves.
- Pneumatic & Electric Operated Ball / Butterfly Valves.
- Pneumatic & Motorised Dampers.
- Pneumatic & Motorised VIV Dampers.
- Motorised Rising & Non-rising Sluice Valve.
- Heavy duty – Single phase & Three phase actuators for operating Gates & Chutes.
- Pneumatic & Motorised Pinch Valve.
- Pneumatic & Motorised Flush Bottom Valve.
- Entire range of Electrical Actuator.
- And Instrumentation Product likes Pressure Transmitter, PID Controller, Flow meter etc. for System Integration.

# SUDE

An ISO 9001:2008 Certified Company

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