Application
Sanitary ball valves are used in stainless steel piping systems for isolation, either manually or automatically operated. The full port design with zero flow restriction makes it an optimum choice for viscous or particulate liquids.

Working Principle
A precision ball with a full port is positioned inside the valve body between two flanges and two PTFE valve seats. The 90° rotation of the valve stem, through the handle or a pneumatic actuator, is transferred to the ball thereby opening or closing the valve.

Compact and Robust Design
The valve consists of a two flanges, PTFE valve seats, EPDM O'Rings, ball, stem, PTFE stem seal and a handle or actuator. All Seats and Seals are made from FDA approved materials.

The valve flanges and ball are made of forged 316L or 304L stainless steel which ensures non porous, smooth and dimensionally stable construction.

The valve is designed to maintain a full flow rate, with a minimum pressure drop and it is fully drainable. Precision machined stem with a live loaded PTFE thrust washer ensures a smooth rotation at various temperatures and pressure conditions.

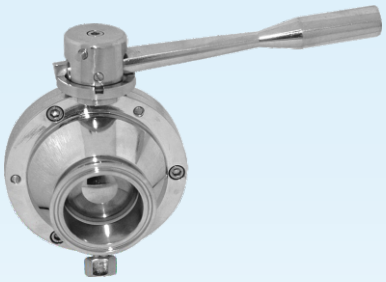
Purge ports are provided on the valve flange for SIP / CIP applications.

Available Sizes
1",1½",2", 2½" ,3", 4"
DN25, DN40, DN50, DN65, DN80, DN100

Options
Automatic operation by vertical/horizontal pneumatic actuator.
Electrical control unit with micro switches or proximity switches and solenoid valve for remote operation.

End connections : Sanitary Clamp, Butt - Weld, or others on request.

Material : AISI 316L or AISI 304L
Handle : Universal Snapping



Cipriani Harrison Valves Pvt. Ltd.
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Technical Specification

Material

Product wetted steel parts.....AISI 316L/AISI 304L
Other steel parts.....AISI 304

FDA Seals

Valve Seat.....TFM PTFE
O'ring.....EPDM
Cavity filler (optional).....PTFE / TFM PTFE available upon request
*Other material available upon request

Nominal Pressure:

Maximum product pressure.....200 PSI maximum (14 Bars)
Test pressure 235 PSI (16 Bars)
(Leakage test according to BS EN 12266-1)

Supply Pressure for
Air Actuator (Min. - Max. Range).....70-115 PSI (Dry & Filtered Compressed Air)

Temperature Range.....60 Degree Fahrenheit to +300 Degree Fahrenheit
*Other seal material available for higher temperatures

Surface Finish

Surface in contact with product.....Ra </= 25 µ in (Grit 220g)
Optional.....Ra </= 15 µ in (Grit 320g)
*Electropolishing available upon request.

Connections .....Sanitary Clamp (ISO 2852 / BS 4825-3 / DIN 32676)
Optional .....Butt Weld (ISO 2037 / BS 4825-01 / DIN 11850)
I-Line, Threaded Union End
Intermediate Flange
Other connections on request

Purge Port Connection.....1/4" Male BSP
*Please see page 11 for purge port adaptor

Torque values (for rotating the valve stem)

Size	lbf.ft	Nm
1"	6	8
1.5"	15	20
2"	20	27
2.5"	28	38
3"	38	52
4"	54	84

Size	Cv GPM	Kv m^3/hr
1"	66	56.4
1.5"	192	164
2"	434	370
2.5"	723	618
3"	1124	960
4"	2100	1795

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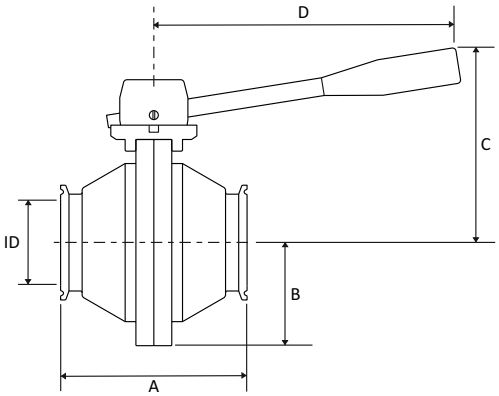
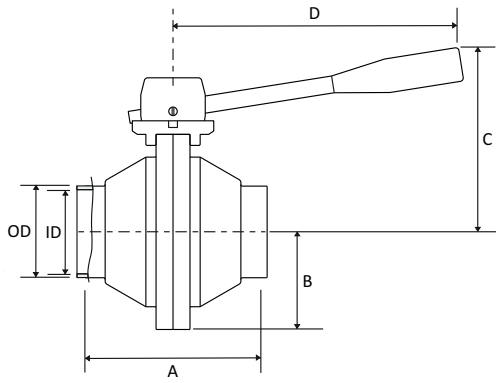
Dimensions

Dimensions ISO (mm)



Sanitary Clamp

Dimensions	1”	1 ½”	2”	2 ½”	3”	4”
A	79	91	104	123	136	170
B	40	50	58	67	79	98
C	66	75	108	118	167	187
D	152	152	152	152	216	216
ID	22.2	34.9	47.6	60.3	72.6	97.6



Butt Weld

Dimensions	1”	1 ½”	2”	2 ½”	3”	4”
A	79	91	104	123	136	170
B	40	50	58	67	79	98
C	66	75	108	118	167	187
D	152	152	152	152	216	216
OD	25.4	38.1	50.8	63.5	76.2	101.6
ID	22.2	34.9	47.6	60.3	72.6	97.6

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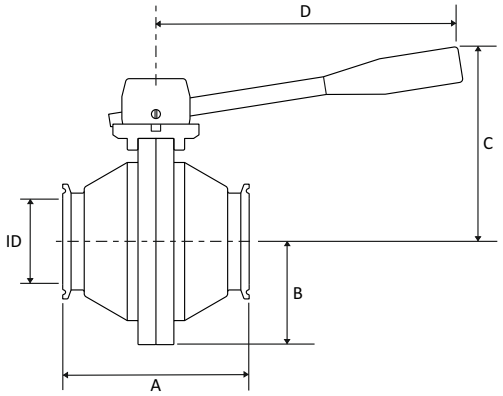
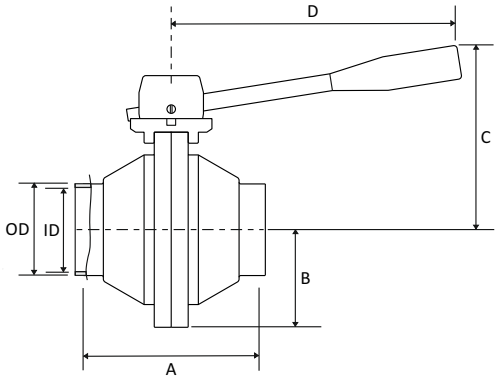
Dimensions ISO (DIN)



Sanitary Clamp

Dimensions	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
A	79	91	104	123	136	170
B	40	50	58	67	79	98
C	66	75	108	118	167	187
D	152	152	152	152	216	216
ID	26	38	50	66	81	100



Butt Weld

Dimensions	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
A	79	91	104	123	136	170
B	40	50	58	67	79	98
C	66	75	108	118	167	187
D	152	152	152	152	216	216
OD	29	41	53	70	85	104
ID	26	38	50	66	81	100

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Vertical Actuator Specifications

Pressure	:	Upto 120 PSI (8 bar)
Temperature	:	-4 F to 176 Fahrenheit (-20 to 80 C)
Media	:	Filtered dry air, preferably lubricated
Construction	:	Suitable for indoor or outdoor installation
Material	:	AISI 304 Stainless steel
Finish	:	Polished
Rotation (Standard)	:	Air to open, spring to close and air to open, Air to closes
Movement (Std.)	:	90
Lubrication	:	Factory lubricated for the normal life of Actuators
Life	:	100,000 operations minimum

Actuator Torque - AT 90 PSI

MODEL			8C435	8C440	8C450
AIR TO AIR TORQUE (lbf.ft)			4.93	5.76	14.39
AIR TO SPRING TORQUE (lbf.ft)	SPRING STROKE	END	2.40	2.74	8.22
		START	1.78	1.92	4.45
	AIR STROKE	END	3.15	5.07	17.13
		START	2.33	2.74	13.70

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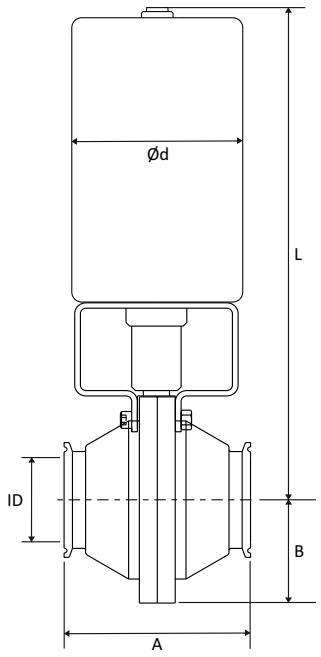
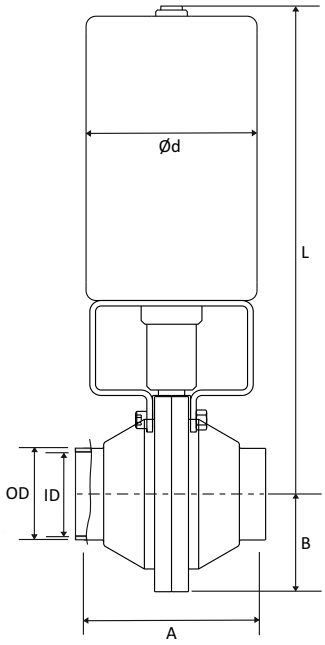
Dimensions ISO (mm)



Sanitary Clamp

Dimensions	1"	1 ½"	2"	2 ½"	3"	4"
A	79	91	104	123	136	170
B	40	50	58	67	79	98
ID	22.2	34.9	47.6	60.3	72.6	97.6
Ød	89	89	89	89	108	108
L	236	246	254	263	275	294



Butt Weld

Dimensions	1"	1 ½"	2"	2 ½"	3"	4"
A	79	91	104	123	136	170
B	40	50	58	67	79	98
OD	25.4	38.1	50.8	63.5	76.2	101.6
ID	22.2	34.9	47.6	60.3	72.6	97.6
Ød	89	89	89	89	108	108
L	236	246	254	263	275	294

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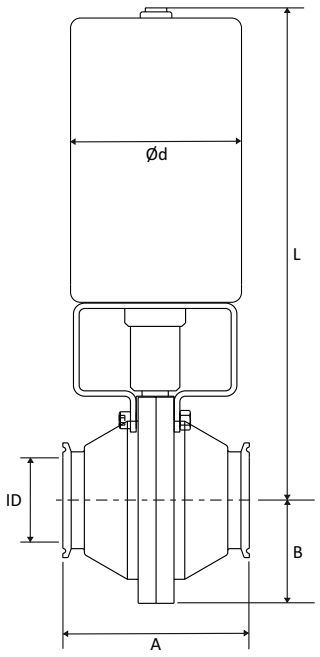
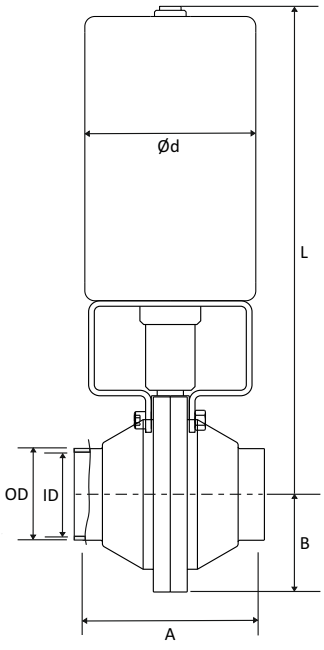
Dimensions ISO (DIN)



Sanitary Clamp

Dimensions	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
A	79	91	104	123	136	170
B	40	50	58	67	79	98
ID	26	38	50	66	81	100
Ød	89	89	89	89	108	108
L	236	246	254	263	275	294



Butt Weld

Dimensions	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
A	79	91	104	123	136	170
B	40	50	58	67	79	98
OD	29	41	53	70	85	104
ID	26	38	50	66	81	100
Ød	89	89	89	89	108	108
L	236	246	254	263	275	294

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Horizontal Actuator Specifications

Pressure	:	Upto 120 PSI (8 bar)
Temperature	:	-4° F to 176° Fahrenheit (-20° to 80° C)
Media	:	Filtered dry air, preferably lubricated
Construction	:	Suitable for indoor or outdoor installation
Material	:	Housing-Aluminium Alloy
Finish	:	Two coat polyurethane paint
Rotation (Standard)	:	Counter clockwise to open with port 'A' pressurized Spring return Actuators air fail to close clockwise
Movement (Std.)	:	90°
Lubrication	:	Factory lubricated for the normal life of Actuators
Life	:	500,000 operations minimum

Actuator Torque - AT 90 PSI

MODEL			CH 52	CH 83	CH 105	CH 125	CH 125	CH 140
SR TORQUE (Nm)								
SR TORQUE (Nm)	SPRING STROKE	END	9.3	31.6	56.9	125	206	251
		START	13.6	46.0	88.6	188	310	375
	AIR STROKE	END	10.4	48.0	109.8	113	203	423
		START	14.6	62.4	141.5	176	307	546

MODEL			CH 52	CH 83	CH 105	CH 125	CH 125	CH 140
DA TORQUE (Nm)								
DA TORQUE (Nm)	AIR STROKE	END	-	-	-	-	-	-
		START	24	94	198	301	513	798

Recommended Horizontal Actuator Model (Double Acting / Spring Return)

	1"/DN25	1.5"/DN40	2"/DN50	2.5"/DN65	3"/DN80	4"/DN100
Double Acting	CHD-52	CHD-52	CHD-63	CHD-63	CHD-105	CHD-125
Spring Return	CHS-52	CHS-83	CHS-105	CHS-125	CHS-125	CHS-140

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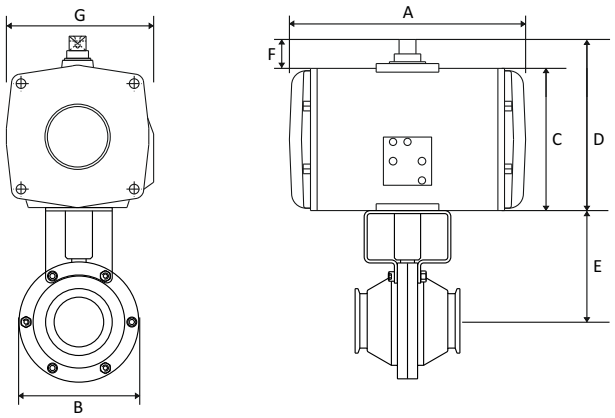
Dimensions ISO (mm)



Horizontal Actuators Spring Return (Air to Spring)

VALVE SIZE	1”	1 ½”	2”	2 ½”	3”	4”
ACTUATOR SIZE	CHS-52	CHS-83	CHS-105	CHS-125	CHS-125	CHS-140
A	147	204	268	301	390	458
B	81	100	115	134	157	197
C	65.5	98.5	122.5	145.5	161	184
D	92	128.7	153	185	202	227
E	88	93	103	107	119	135
F	12	12	12	12	12	12
G	71.5	103	121.5	142	152	174

Horizontal Actuators Double Acting (Air to Air)

VALVE SIZE	1”	1 ½”	2”	2 ½”	3”	4”
ACTUATOR SIZE	CHD-52	CHD-52	CHD-63	CHD-63	CHD-105	CHD-125
A	147	147	168	168	268	301
B	81	100	115	134	157	197
C	65.5	65.5	81	81	122.5	145.5
D	92	92	108	108	153	185
E	88	93	103	107	119	135
F	12	12	12	12	12	12
G	71.5	71.5	83	83	121.5	142

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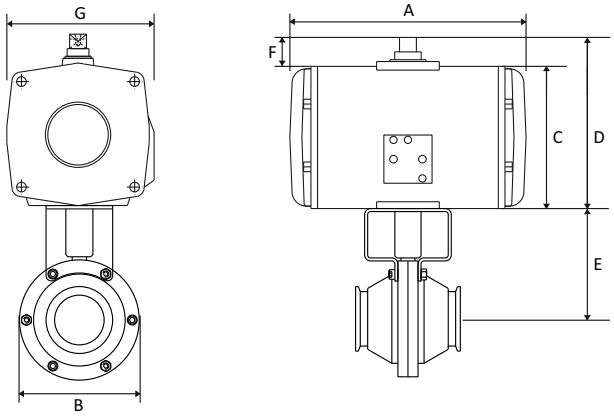
Dimensions ISO (DIN)



Horizontal Actuators Spring Return (Air to Spring)

VALVE SIZE	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
ACTUATOR SIZE	CHS-52	CHS-83	CHS-105	CHS-125	CHS-125	CHS-140
A	147	204	268	301	390	458
B	81	100	115	134	157	197
C	65.5	98.5	122.5	145.5	161	184
D	92	128.7	153	185	202	227
E	88	93	103	107	119	135
F	12	12	12	12	12	12
G	71.5	103	121.5	142	152	174

Horizontal Actuators Double Acting (Air to Air)

VALVE SIZE	DN 25	DN 40	DN 50	DN 65	DN 80	DN 100
ACTUATOR SIZE	CHD-52	CHD-52	CHD-63	CHD-63	CHD-105	CHD-125
A	147	147	168	168	268	301
B	81	100	115	134	157	197
C	65.5	65.5	81	81	122.5	145.5
D	92	92	108	108	153	185
E	88	93	103	107	119	135
F	12	12	12	12	12	12
G	71.5	71.5	83	83	121.5	142

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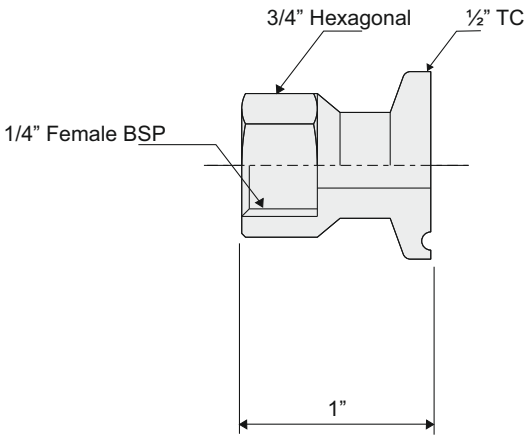
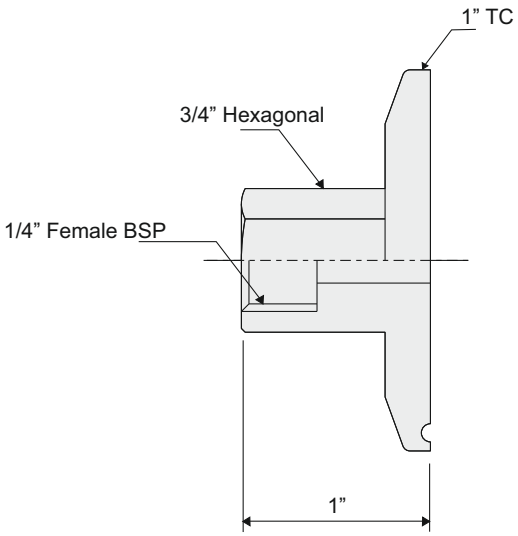
Purge Port Adapters

Material : AISI 316L

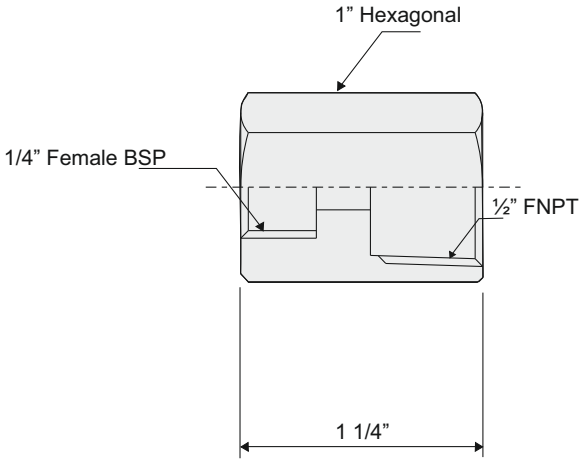
Surface Finish :Ra </= 25 µ in



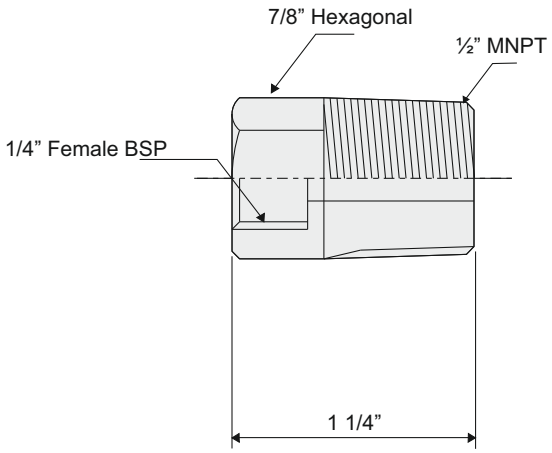
5C ½" Clamp



1C 1" Clamp



5F ½" FNPT



5M ½" MNPT

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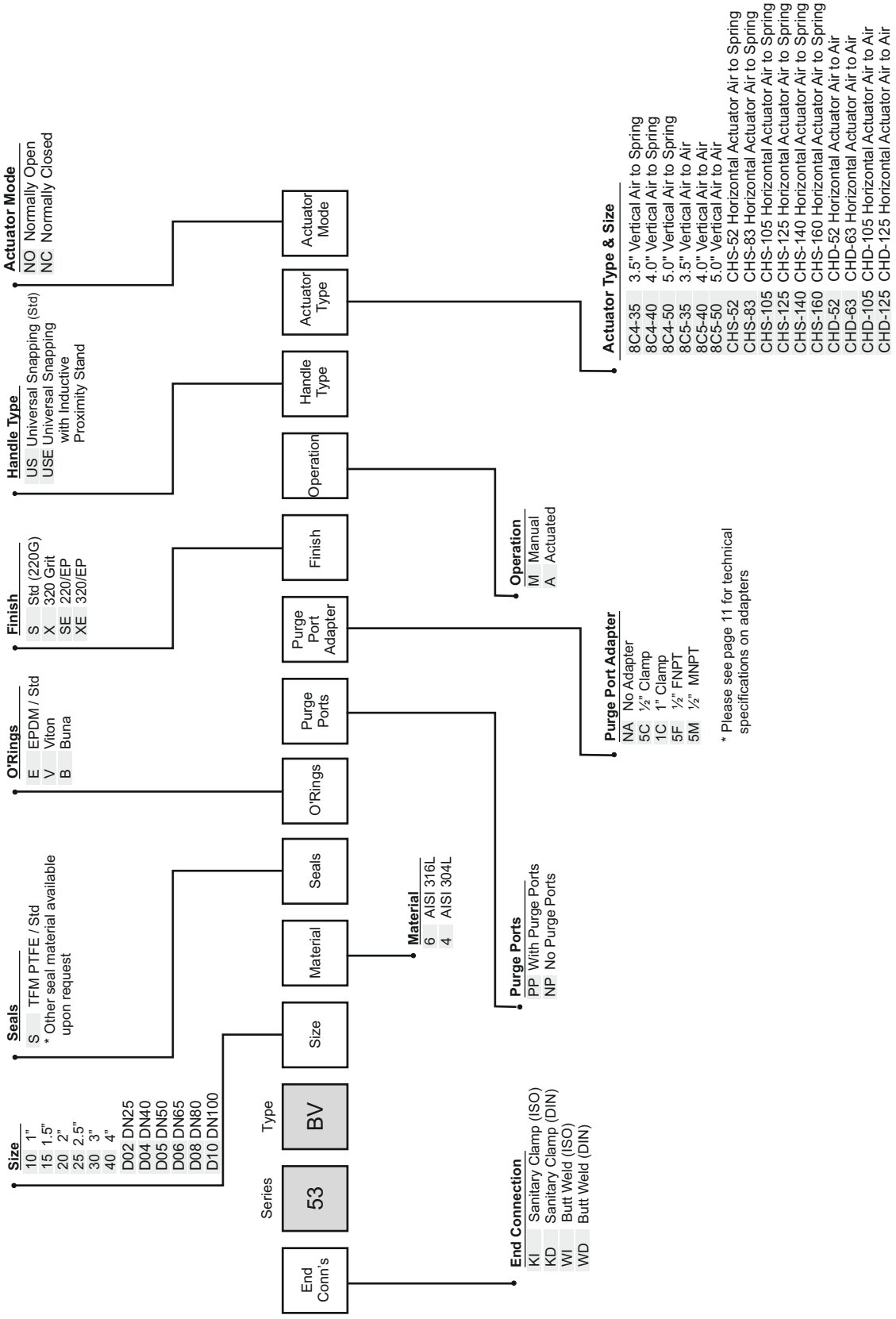
53 Series Ball Valve Ordering System



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