



*Cipriani Harrison Valves Corp.*

**Ball Valve**  
52 Series

**New**

#### **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.

#### **Standard Design**

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

The valve body, flanges and ball are made of forged 316L and 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. A Bottom entry, 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 body for SIP / CIP applications.

#### **Available Sizes**

1", 1 1/2", 2", 2 1/2", 3", 4"

#### **Options**

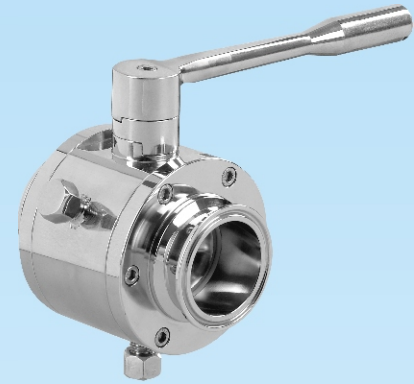
Automatic operation by vertical pneumatic actuator.  
\* Consult the factory regarding horizontal actuators.

Electrical control unit with micro switches or proximity switches and solenoid valve for remote operation.

**End connections:** Sanitary Clamp, Butt-Weld, Extended Butt Weld (for high purity applications), I-Line or others on request.

**Material:** AISI 316L or AISI 304L

**Handle Options:** 90° Open/Close  
Universal Snapping



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# Ball Valve

## 52 Series

### TECHNICAL SPECIFICATIONS :

#### 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).....TFM PTFE  
 \*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)

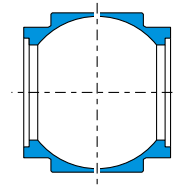
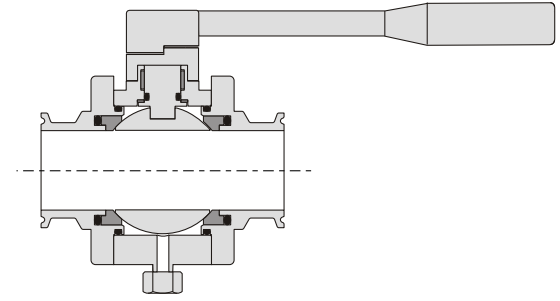
Temperature Range :.....-60° Degrees Fahrenheit to +300° Degrees Fahrenheit  
 \*Other seal material available for higher temperatures

#### 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)  
 Optional.....Butt Weld (ISO 2037 / BS 4825-01)  
 I-Line  
 Other connections on request

Purge Port Connections.....1/4" Male BSP  
 \* Please see page 8 for purge port adapters



Cavity fillers on request  
 \* Consult the factory  
 for torque values with  
 cavity fillers.

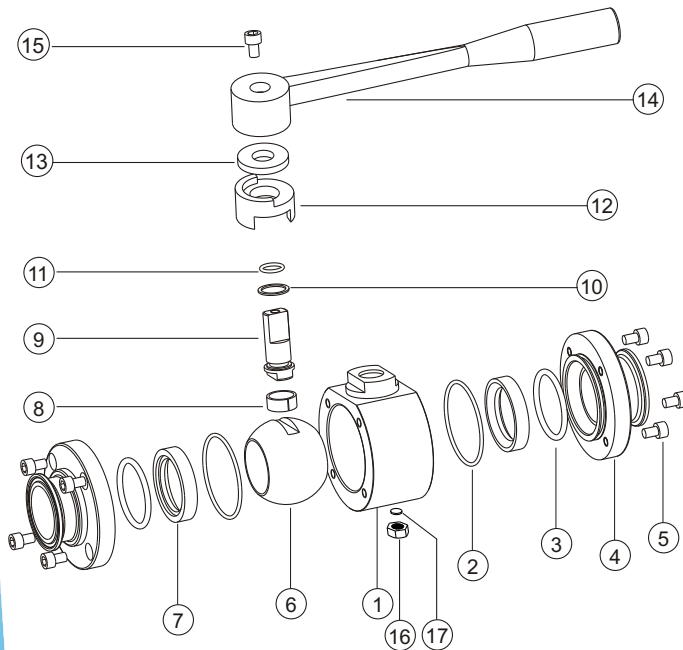
### Torque values (for rotating the valve stem)

Size	ft.lb	Nm	Cv GPM	Kv m <sup>3</sup> /hr	
1"	6	8	1"	66	56.4
1.5"	15	20	1.5"	192	164
2"	20	27	2"	434	370
2.5"	28	38	2.5"	723	618
3"	38	52	3"	1124	960
4"	54	84	4"	2100	1795



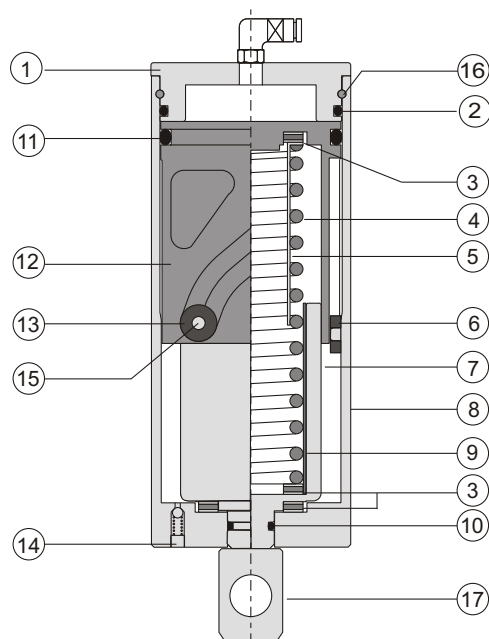
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## Ball Valve 52 Series



### Exploded view of standard Ball Valve

NO.	PART NO.	DESCRIPTION	MATERIAL
1	5201	BODY	AISI 316L / AISI 304L
2	5202	O'RING	EPDM
3	5203	O'RING	EPDM
4	5204	FLANGE	AISI 316L / AISI 304L
5	5205	CAP SCREW	AISI 304
6	5206	BALL	AISI 316L / AISI 304L
7	5207	SEAT	TFM PTFE
8	5208	BUSHING	PTFE
9	5209	STEM	AISI 316L / AISI 304L
10	5210	THRUST RING	PTFE
11	5211	O'RING	EPDM
12	5212	INDEX BASE	AISI 304
13	5213	THRUST WASHER	PTFE
14	5214	HANDLE	AISI 304
15	5215	CAP SCREW	AISI 304
16	5216	DRAIN CAP	AISI 316L / AISI 304L
17	5217	WASHER	PTFE



### Cross sectional view of standard Actuator

NO	DESCRIPTION	MATERIAL
1	COVER	AISI 304
2	O'RING	EPDM
3	THRUST BEARING	AISI 304
4	SPRING	AISI 304
5	SPRING GUIDE	AISI 304
6	ROLLER	BRONZE
7	ROTARY PLUNGER	AISI 304
8	ACTUATOR HOUSING	AISI 304
9	BUSHING	NYLON
10	O'RING	EPDM
11	O'RING	EPDM
12	PISTON	ALUMINIUM
13	ROLLER	BRONZE
14	AIR VENT	BRASS
15	ROLLER PIN	AISI 304
16	CIRCLIP	AISI 304
17	ADAPTER	AISI 304

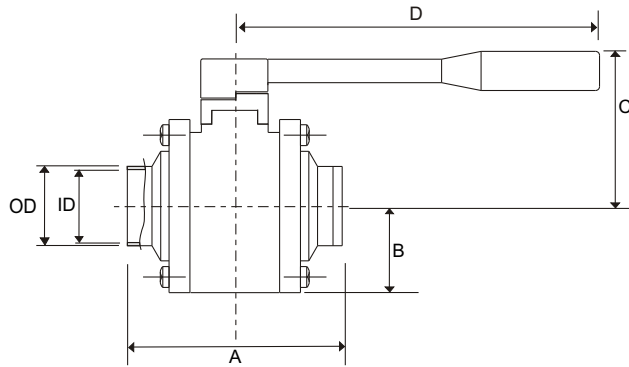
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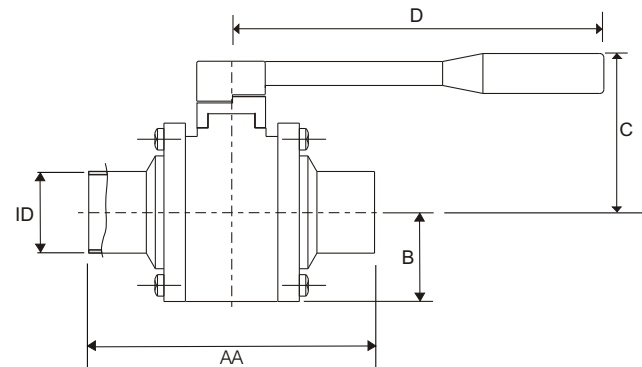
# Ball Valve

## 52 Series

### Dimensions (Inches)



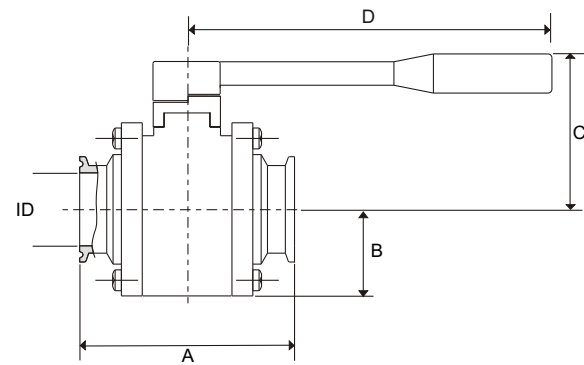
**Butt-weld**



**Extended Butt-weld Valve**

Dimensions	1"	1 1/2"	2"	2 1/2"	3"	4"
A	3 45/64	4 7/32	4 39/64	5 11/32	6 7/32	6 45/64
B	1 11/32	1 5/8	1 15/16	2 11/32	2 19/32	3 27/64
C	2 27/32	3 13/64	4 1/2	3 7/8	4 7/32	5
D	7	7	7	7	8	8
OD	1"	1 1/2"	2"	2 1/2"	3"	4"
ID	7/8	1 3/8	1 7/8	2 3/8	2 55/64	3 27/32
AA	4 29/64	4 31/32	5 23/64	5 27/32	6 15/32	7 61/64

\*AA=Extended Butt-weld



**Sanitary Clamp**

Dimensions	1"	1 1/2"	2"	2 1/2"	3"	4"
A	3 45/64	4 7/32	4 39/64	5 11/32	6 7/32	6 45/64
B	1 11/32	1 5/8	1 15/16	2 11/32	2 19/32	3 27/64
C	2 27/32	3 13/64	4 1/2	3 7/8	4 7/32	5
D	7	7	7	7	8	8
ID	7/8	1 3/8	1 7/8	2 3/8	2 55/64	3 27/32

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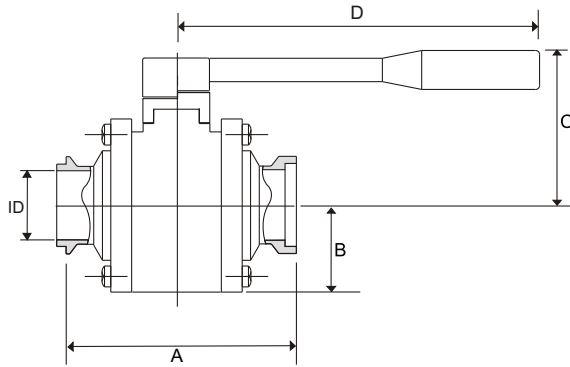
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# Ball Valve

## 52 Series

### Dimensions (Inches)



#### I-Line

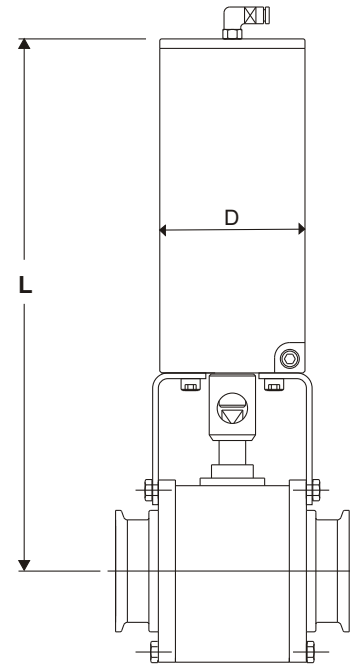
Dimensions	1"	1 1/2"	2"	2 1/2"	3"	4"
A	4 1/64	4 21/64	5 17/32	5 19/32	6 23/32	7 61/64
B	1 11/32	1 5/8	1 15/16	2 11/32	2 19/32	3 27/64
C	2 27/32	3 13/64	4 1/2	3 7/8	4 7/32	5
D	7	7	7	7	8	8
ID	7/8	1 3/8	1 7/8	2 3/8	2 55/64	3 27/32

\* Consult the factory for I-line Male x Male or I-line Female x Female "A" Dimensions.

#### Vertical Actuator - 7C4 & 7C5

VALVE SIZE	1"	1 1/2"	2"	2 1/2"	3"	4"
ACTUATOR SIZE (D)	3.5			4		5
L (air to air)	10 19/64	10 57/64	11 13/64	11 31/64	11 29/32	12 57/64
L (air to spring)	9 53/64	10 27/64	10 47/64	11 1/64	11 7/16	12 25/64

\* Please Consult the factory regarding horizontal actuators.

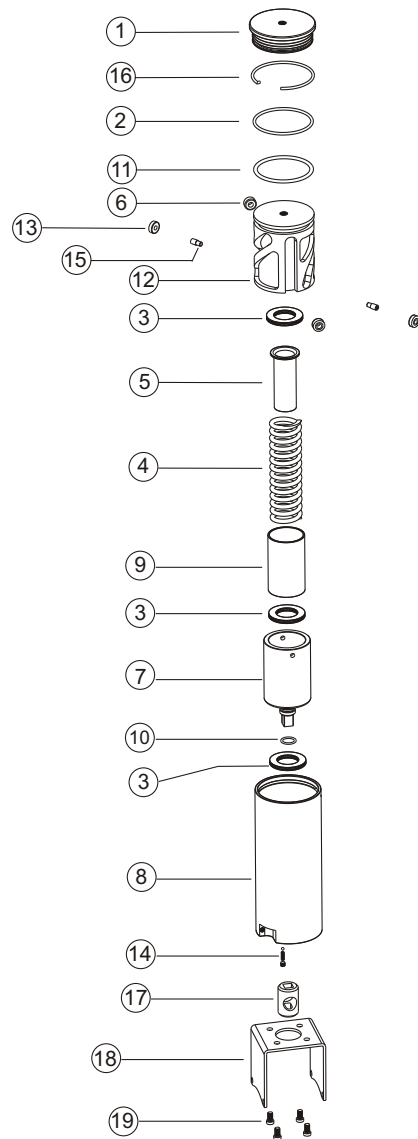


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# Ball Valve

## 52 Series



Vertical air to spring actuator - 7C4

### Exploded view of standard Actuator (Air to Spring - 7C4)

NO.	PART NO. (7C4 - 3.5")	PART NO. (7C4 - 4.0")	PART NO. (7C4 - 5.0")	DESCRIPTION	MATERIAL
1	7C4 3501	7C4 4001	7C4 5001	COVER	AISI 304
2	7C4 3502	7C4 4002	7C4 5002	O'RING	EPDM
3	7C4 3503	7C4 4003	7C4 5003	THRUST BEARING	AISI 304
4	7C4 3504	7C4 4004	7C4 5004	SPRING	AISI 304
5	7C4 3505	7C4 4005	7C4 5005	SPRING GUIDE	AISI 304
6	7C4 3506	7C4 4006	7C4 5006	ROLLER	BRONZE
7	7C4 3507	7C4 4007	7C4 5007	ROTARY PLUNGER	AISI 304
8	7C4 3508	7C4 4008	7C4 5008	ACTUATOR HOUSING	AISI 304
9	7C4 3509	7C4 4009	7C4 5009	BUSHING	NYLON
10	7C4 3510	7C4 4010	7C4 5010	O'RING	EPDM
11	7C4 3511	7C4 4011	7C4 5011	O'RING	EPDM
12	7C4 3512	7C4 4012	7C4 5012	PISTON	ALUMINIUM
13	7C4 3513	7C4 4013	7C4 5013	ROLLER	BRONZE
14	7C4 3514	7C4 4014	7C4 5014	AIR VENT	BRASS
15	7C4 3515	7C4 4015	7C4 5015	ROLLER PIN	AISI 304
16	7C4 3516	7C4 4016	7C4 5016	CIRCLIP	AISI 304
17	7C4 3517	7C4 4017	7C4 5017	ADAPTER	AISI 304
18	7C4 3518	7C4 4018	7C4 5018	MOUNTING PAD	AISI 304
19	7C4 3519	7C4 4019	7C4 5019	SCREW	AISI 304

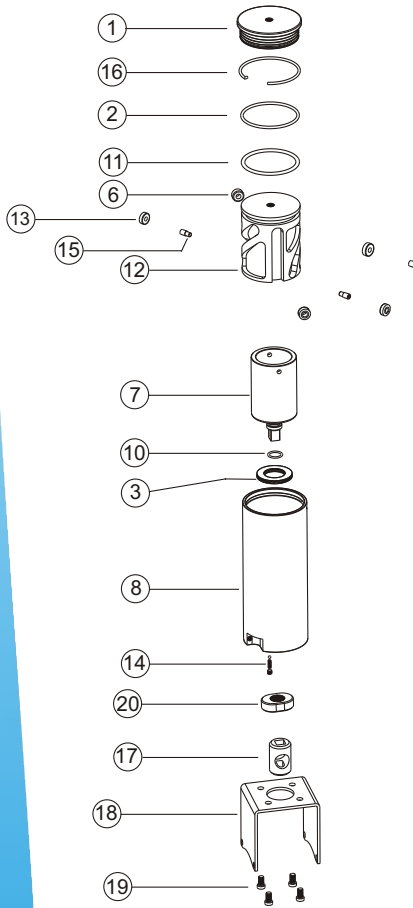
\*Supply Pressure for Air Actuator : 70 - 115 PSI



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# Ball Valve

## 52 Series



Exploded view of standard Actuator (Air to Air - 7C5)

NO.	PART NO. (7C5 - 3.5")	PART NO. (7C5 - 4.0")	PART NO. (7C5 - 5.0")	DESCRIPTION	MATERIAL
1	7C5 3501	7C5 4001	7C5 5001	COVER	AISI 304
2	7C5 3502	7C5 4002	7C5 5002	O'RING	EPDM
3	7C5 3503	7C5 4003	7C5 5003	THRUST BEARING	AISI 304
6	7C5 3506	7C5 4006	7C5 5006	ROLLER	BRONZE
7	7C5 3507	7C5 4007	7C5 5007	ROTARY PLUNGER	AISI 304
8	7C5 3508	7C5 4008	7C5 5008	ACTUATOR HOUSING	AISI 304
10	7C5 3510	7C5 4010	7C5 5010	O'RING	EPDM
11	7C5 3511	7C5 4011	7C5 5011	O'RING	EPDM
12	7C5 3512	7C5 4012	7C5 5012	PISTON	ALUMINIUM
13	7C5 3513	7C5 4013	7C5 5013	ROLLER	BRONZE
14	7C5 3514	7C5 4014	7C5 5014	AIR VENT	BRASS
15	7C5 3515	7C5 4015	7C5 5015	ROLLER PIN	AISI 304
16	7C5 3516	7C5 4016	7C5 5016	CIRCLIP	AISI 304
17	7C5 3517	7C5 4017	7C5 5017	ADAPTER	AISI 304
18	7C5 3518	7C5 4018	7C5 5018	MOUNTING PAD	AISI 304
19	7C5 3519	7C5 4019	7C5 5019	SCREW	AISI 304
20	7C5 3520	7C5 4020	7C5 5020	NUT	AISI 304

\*Supply Pressure for Air Actuator : 70 - 115 PSI

Vertical air to air actuator - 7C5

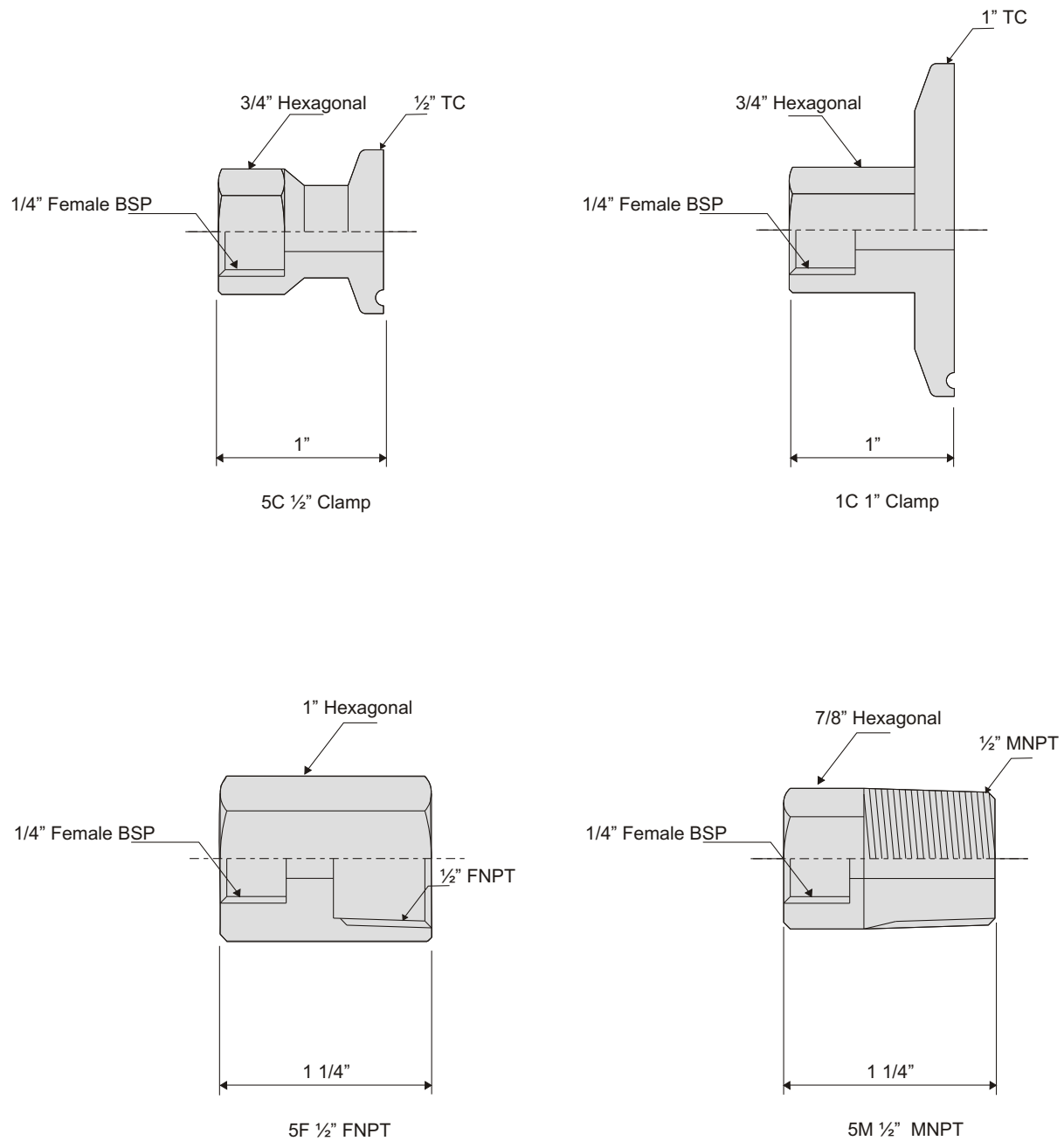
# Ball Valve

## 52 Series

### Purge Port Adapters

Material : AISI 316L

Surface Finish : Ra  $\leq$  25  $\mu$ in



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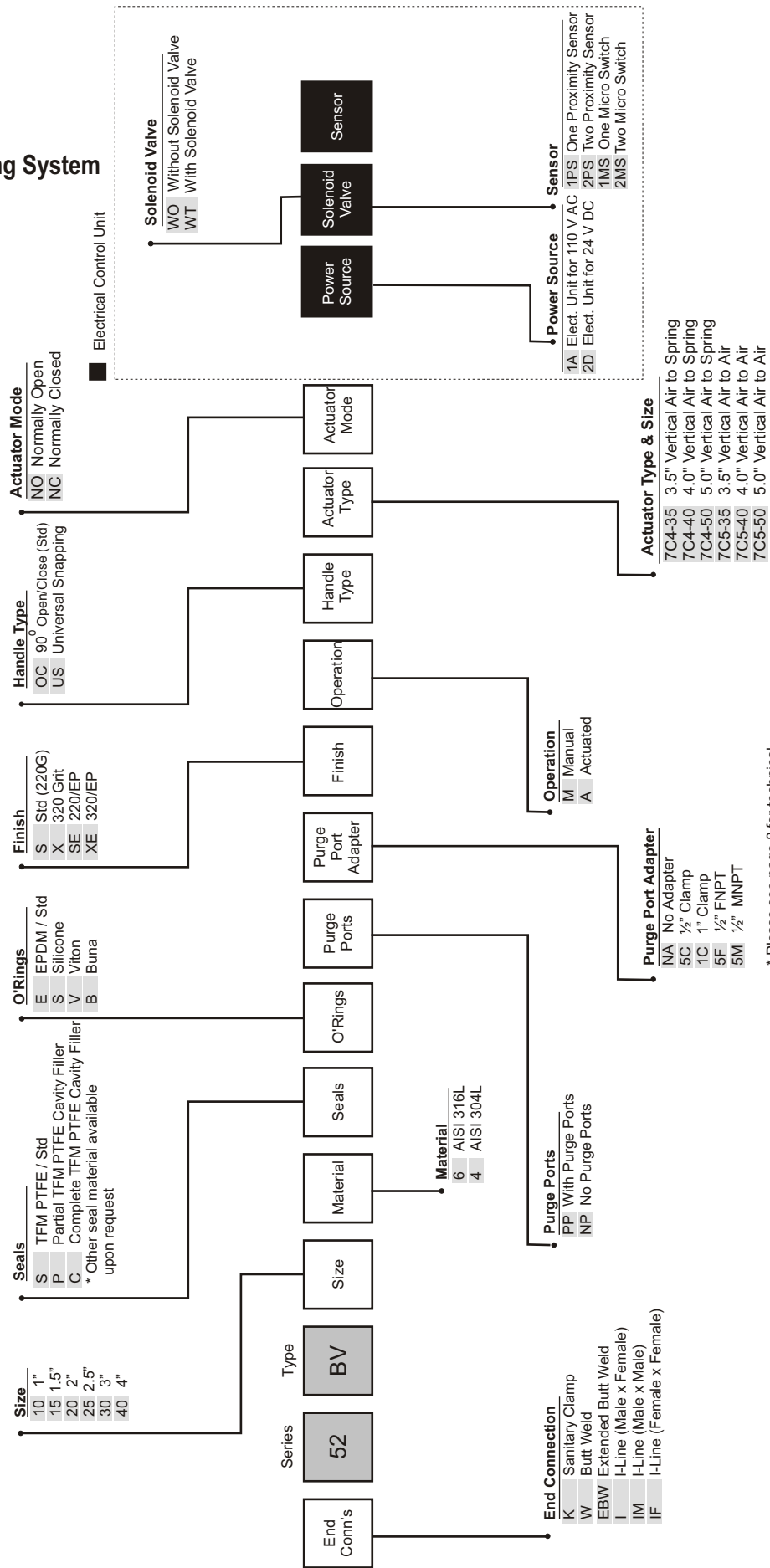
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# Ball Valve

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### 52 Series Ball Valve Ordering System



\* Please see page 8 for technical specifications on adapters



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