



36 Series

Stainless Steel 2-way Full Port Ball Valves



The 36 is a full port, 316 stainless steel, 3 piece ball valve. It is available with threaded ends (36N), socket weld ends (36S), or quick clamp ends with cavity filler seats (36CPF). It can be equipped with a manual handle or with pneumatic or electric actuators.

A full range of accessory items are available including limit switches, solenoid valves, positioners and manual override devices.

END CONNECTIONS

NPT Threaded: ¼" to 3"

Socket Weld: ¼" to 3"

T-clamp with cavity filler: ½" to 4"

PRESSURE RANGE

29 inHg vacuum to 1000 PSI

[see Pressure/Temperature Curve](#)

TEMPERATURE RANGE

-30°F to 380°F

[see Pressure/Temperature Curve](#)

FEATURES

- Silicone free
- Full port for unobstructed flow
- Live-loaded pyramidal stem seal design
- High cycle stem design
- ISO5211 Direct Mount
- Vented Bore

TYPICAL APPLICATIONS

- Air drying equipment
- Sterilizers and autoclaves
- Pollution control equipment
- Process control applications
- Laundry equipment
- Textile dyeing and drying
- Bottling and dispensing
- Ink and paint dispensing
- Industrial compressors
- Chemical process industry
- Pharmaceutical chemical industry

ACTUATORS

Pneumatic

- Spring return
- Double acting

Electric

- Various NEMA ratings and voltages
- Modulating or on/off

Manual

- Geared Hand Wheel
- Hand Lever

[see page 5 for actuator details](#)

ACCESSORIES

- Limit switches
- Solenoid valves
- Positioners
- Feedback units
- Push fittings
- ¼" poly tubing
- Manual Override devices

[see page 8 for accessory details](#)



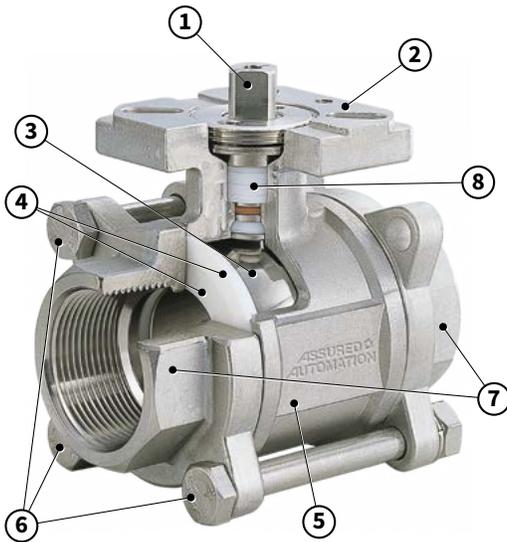


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PARTS & FEATURES



- 1. Stem:** The 36 sturdy blow-out proof stem is designed for direct mounting of actuator that meets ISO5211 specifications. Stem top is drilled for optional installation of handle for manual operation.
- 2. Mounting Pad:** Two sets of ISO5211 mounting patterns are available to accommodate a great range of actuators. Machined flat surface ensures correct alignment of actuator to the stem top for minimum side loading during operation.
- 3. Ball:** Precision machined and polished to a mirror finish for bubble tight shut-off. Each ball is designed to have minimum torque and provides high cycle life.
- 4. Seat and Gasket Set:** The 36 ball seat is set inside of a heavy duty gasket - ensuring the sealing integrity of the valve body. Elasticity of the seat-gasket union enables a bubble tight shut-off at every level of rated pressure range.
- 5. Body:** Three-piece swing out design enables in line maintenance of the ball valve.
- 6. Body Bolting:** Heavy duty body bolts or studs made of 304 SS are standard.
- 7. End Connections:** Various end connections are available (NPT, socket weld, and tri-clamp, butt welds as special order).
- 8. Stem Packing:** High cycle, 3-stage design - see below for details.

HIGH CYCLE STEM DESIGN FEATURES

Live Loading Stem Sealing (Disc Plate and Belleville Washers):

The disc plate uniformly compresses the pair of Belleville washers to store energy for live loading. Live loading extends the time required between maintenance. During high cycle operation, the system works independently to maintain sealing integrity.

Independent Stem Rotation:

The rotational movement of the stem is independent of disc plate and Belleville washers (the live loading system). The action of stem rotation does not disrupt the sealing tightness of the disc plate.

Anti-Static Device:

To eliminate the possibility of static electrical charges within the valve, two grounding connections are set in the stem to ensure electrical continuity for the entire ball valve.

3 stages of stem sealing for prevention of stem leakage:

1st Stage

Pyramidal Body & Stem Seal:

Internal pressure of the valve pushes the pyramidal stem sealing upward. Because of its shape, the sealing expands to fill all the air pockets that might become a potential leakage path in the lower stem area.

2nd Stage

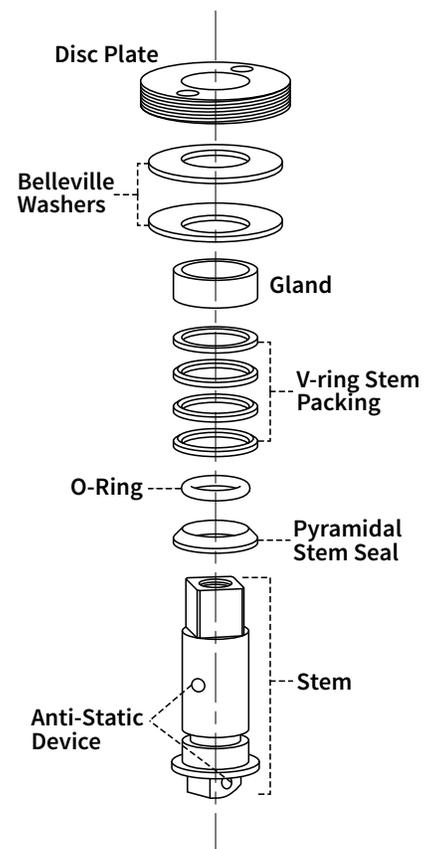
Viton® O-Ring:

The elastic nature of the Viton® O-Ring serves as an effective sealing for gaseous medium that might escape the 1st stage sealing.

3rd Stage

V-Ring Stem Packing:

Live loading action of the Belleville washer expands the V-Ring stem packing, filling all the air pockets in the outer stem area. It effectively seals internal media within as well as keeping external media from entering the system.



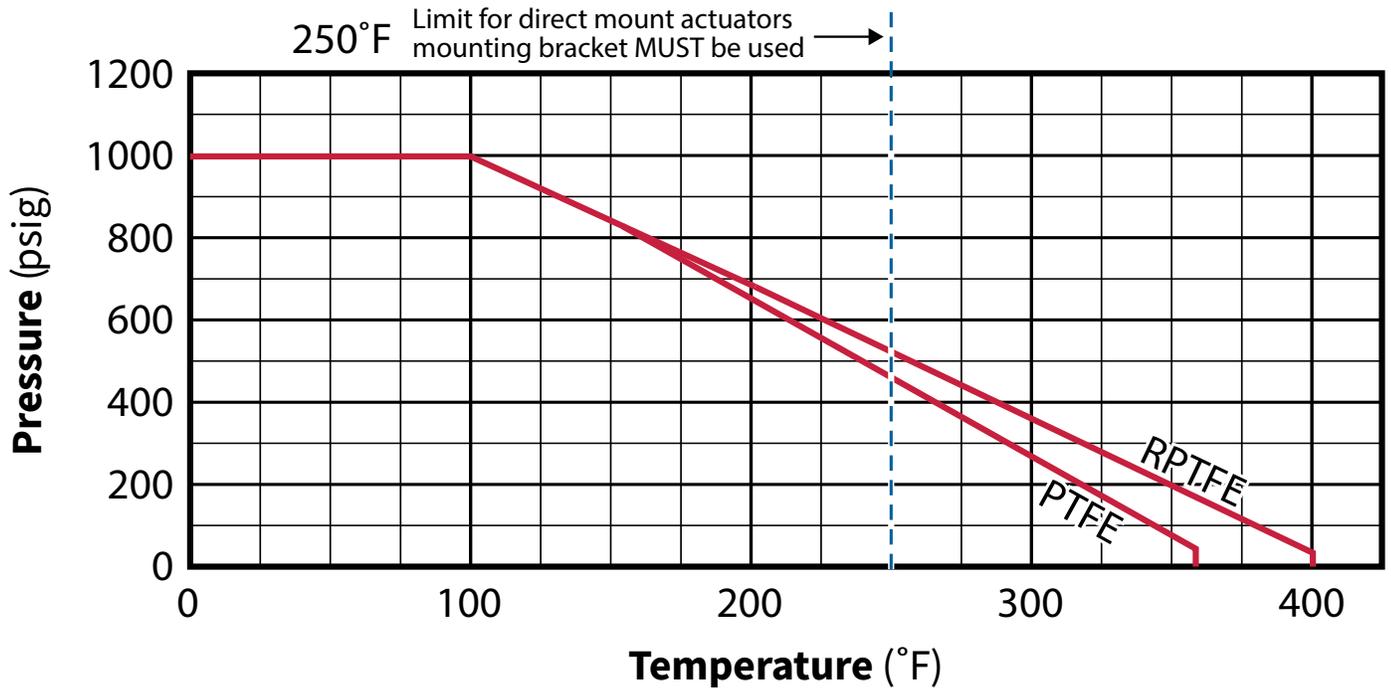


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PRESSURE / TEMPERATURE CURVE



C_v FACTORS

Size	Connection Type	
	NPT & Socket Weld	Tri-Clamp
1/4"	13	-
3/8"	13	-
1/2"	23	13
3/4"	70	23
1"	116	88
1-1/4"	151	-
1-1/2"	197	168
2"	325	290
3"	901	1142
4"	1321	2052

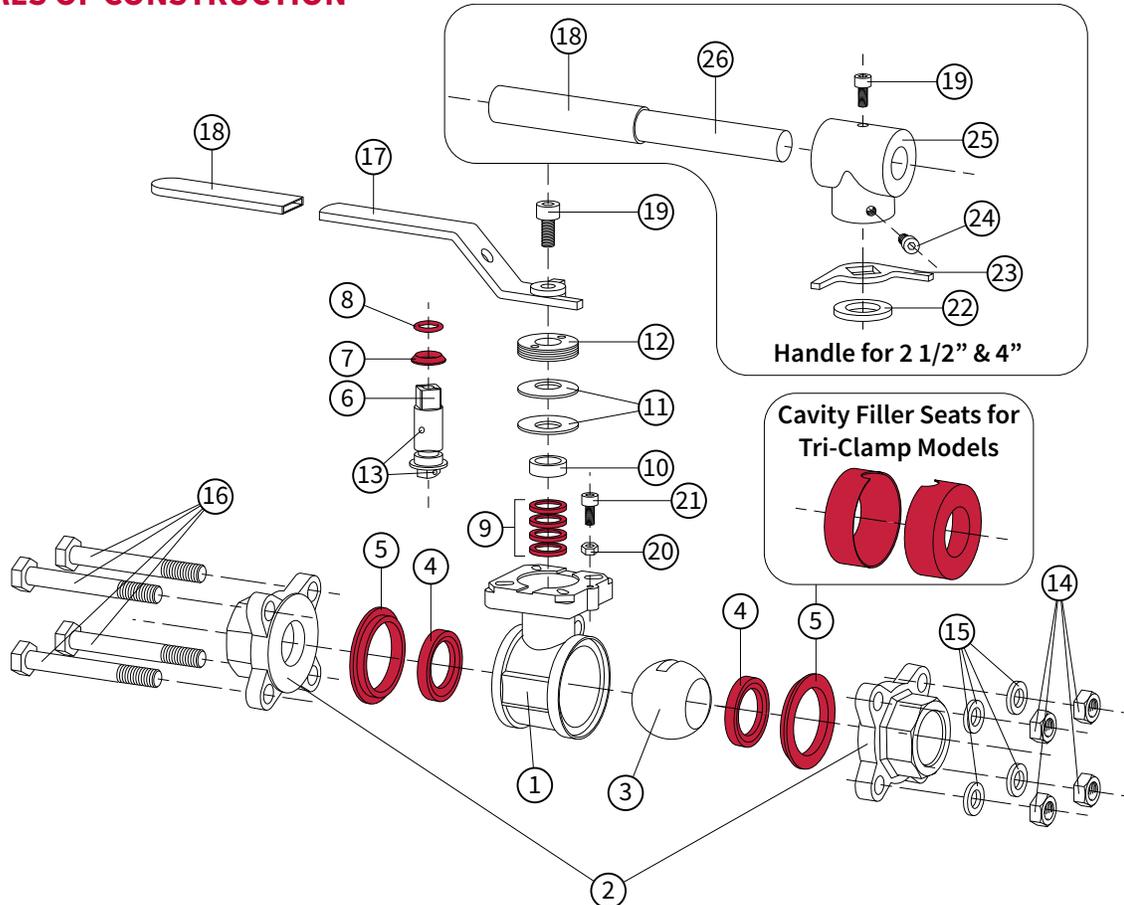


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MATERIALS OF CONSTRUCTION



Note: Red items are included in the repair kit. [Order a repair kit](#)

Item	Name	Material	Qty.
1	Valve Body	Stainless Steel (CFM8)	1
2	End Caps	Stainless Steel (CFM8)	2
3	Ball	SUS 316	1
4	Seat	PTFE	2
5	Body Gasket	PTFE	2
6	Stem	SUS 316	1
7	Pyramidal Stem Seal	PTFE	1
8	O-ring	Viton®	1
9	V-ring Stem Packing	PTFE	2*
10	Gland	SUS 304	1
11	Bellville Washers	SUS 301	2
12	Disc Plate	SUS 304	1
13	Anti-static Devices	SUS 316	2

Item	Name	Material	Qty.
14	Body Nuts	ISO-3506 (A2-70)	4**
15	Body Washers	ISO-3506 (A2-70)	4**
16	Body Bolts/Studs	ISO-3506 (A2-70)	4***
17	Handle	SUS 304	1
18	Handle Sleeve	Vinyl	1
19	Handle Bolt	SUS 304	1
20	Stop Bolt	SUS 304	1
21	Stop Nut	SUS 304	1
22	Handle Spacer	PTFE	1
23	Stop Plate	SUS 304	1
24	Adapter Bolt	SUS 304	1
25	Handle Adapter	SUS 304	1
26	Round Handle	SUS 304	1

* 1/4" to 3/4" = 2 pieces; 1" to 4" = 4 pieces

** 1/4" to 2" = 4 pieces; 2 1/2" = 8 pieces; 3" to 4" = 12 pieces

*** 1/4" to 2" = 4 bolts; 2 1/2" = 4 studs; 3" to 4" = 6 studs

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ACTUATORS AVAILABLE

A full range of actuators are available to choose from. All sizing is done by Assured Automation to make selecting your assembly easy. Any accessories ordered with the actuator will be installed and tested by our ISO certified facility.

Pneumatic

P Series Dual Scotch Yoke



Spring Return
fail Open or Closed

[\(see P series web page\)](#)



Double Acting
fail last place

F Series Rack and Pinion



Spring Return
fail Open or Closed

[\(see F series web page\)](#)



Double Acting
fail last place

Accessories

- NAMUR direct mount solenoid valves
- Variety of limit switches
- Modulating positioners
- 1/4" NPT x 1/4" tube push fittings
- 1/4" NPT x 1/4" compression fittings
- SS and poly tubing

Electric

Weatherproof

V4 Series



- 12 to 120 VAC/VDC**
- Manual override
 - NEMA-4/4X housing
 - External wire leads
 - High Strength Gears

[\(see V4 series web page\)](#)

R4 Series



- 12 to 120 VAC/VDC**
- Compact Design
 - Thermally protected motor
 - Spur Gear Drive

[\(see R4 series web page\)](#)

S4 Series



- 12 to 240 VAC/VDC**
- Isolated end of travel limit switches
 - Manual override
 - Electronic torque limiter

[\(see S4 series web page\)](#)

K4 Series



- 12 to 120 VAC/VDC**
- Built-in thermal protector
 - Worm-gear drive
 - Manual override

[\(see K4 series web page\)](#)

Explosion Proof

B7 Series



- 24 VDC and 120 VAC**
- NEMA 4/4X/7 enclosure
 - Heater and thermostat installed in all actuators
 - Manual override on all units

[\(see B7 series web page\)](#)

Manual

Manual Lever





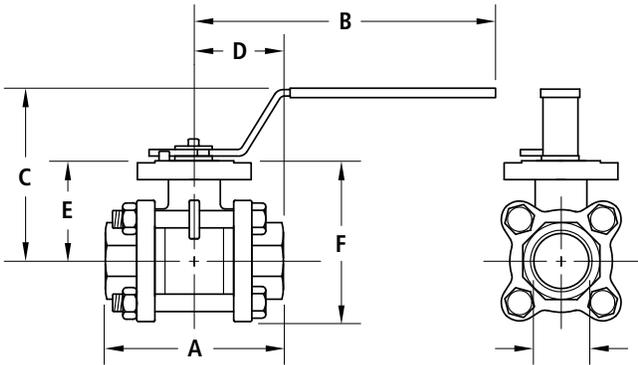
36 Series



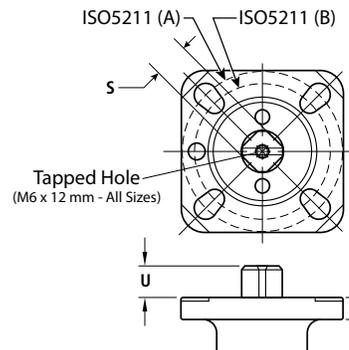
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DIMENSIONS

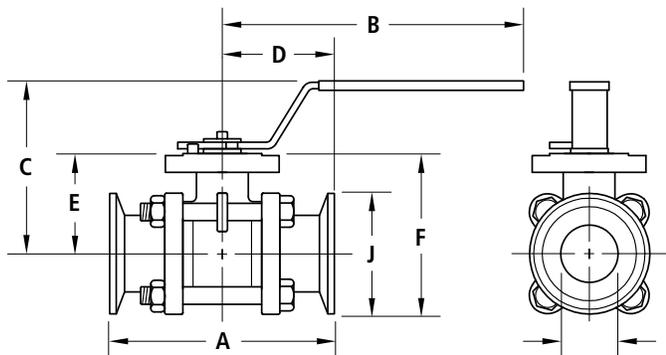
NPT Threaded and Socket Weld Connections



ISO5211 Direct Mount Actuator Pad



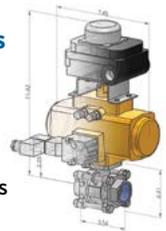
Tri-Clamp Connections



**Complete Valve Assembly
CAD Models & Datasheets
ON DEMAND!**



- Complete Specs for Each Component in **ONE Document**
- Dimension Drawings of Exact Assembly



Line Size	A	B	C	D	E	F	ØJ	ØI	S	T	U	ISO5211 (A/B)	Weight (lbs.)
NPT & Socket Weld Connections													
1/4"	2.56"	5.14"	3.00"	1.28"	1.65"	2.56"	-	0.453"	9 mm	9 mm	7 mm	F03/F04	1.2
3/8"	2.56"	5.14"	3.00"	1.28"	1.65"	2.56"	-	0.500"	9 mm	9 mm	7 mm	F03/F04	1.2
1/2"	2.95"	5.14"	3.00"	1.47"	1.65"	2.56"	-	0.591"	9 mm	9 mm	7 mm	F03/F04	1.2
3/4"	3.15"	5.14"	3.16"	1.57"	1.77"	2.78"	-	0.787"	9 mm	9 mm	8 mm	F03/F04	1.4
1"	3.54"	7.50"	3.75"	1.77"	2.05"	3.31"	-	0.984"	11 mm	10 mm	11 mm	F04/F05	2.8
1 1/4"	4.33"	7.50"	3.75"	2.16"	2.28"	3.69"	-	1.260"	11 mm	10 mm	11 mm	F04/F05	3.7
1 1/2"	4.72"	8.10"	4.54"	2.36"	2.68"	4.31"	-	1.575"	14 mm	13 mm	14 mm	F05/F07	5.8
2"	5.51"	8.10"	4.54"	2.75"	3.03"	4.95"	-	1.970"	14 mm	13 mm	14 mm	F05/F07	8.8
3"	8.07"	11.85"	6.72"	4.03"	4.37"	7.64"	-	3.152"	17 mm	13 mm	17 mm	F07/F10	12.5
Tri-Clamp Connections with Cavity Fillers													
1/2"	3.66"	4.93"	3.03"	1.83"	1.58"	2.56"	0.98"	0.378"	9 mm	9 mm	7 mm	F03/F04	1.0
3/4"	4.14"	4.93"	3.15"	2.07"	1.73"	2.78"	0.98"	0.626"	9 mm	9 mm	8 mm	F03/F04	1.0
1"	4.49"	5.52"	3.78"	2.24"	2.05"	3.31"	1.98"	0.875"	10 mm	10 mm	11 mm	F04/F05	3.0
1 1/2"	4.89"	7.88"	4.57"	2.49"	2.68"	4.31"	1.98"	1.375"	13 mm	13 mm	14 mm	F05/F07	6.0
2"	5.71"	7.88"	4.88"	2.85"	3.03"	4.95"	2.52"	1.872"	13 mm	13 mm	14 mm	F05/F07	10
3"	7.60"	9.85"	7.13"	3.80"	4.33"	7.64"	3.54"	2.872"	13 mm	13 mm	17 mm	F07/F10	28
4"	9.30"	9.85"	7.88"	4.65"	5.44"	8.95"	4.68"	3.837"	13 mm	13 mm	17 mm	F07/F10	44



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ORDERING INFORMATION



VALVE BODY

Size: _____

- A** = 1/4" (N or S connections only)
- B** = 3/8" (N or S connections only)
- C** = 1/2"
- D** = 3/4"
- E** = 1"
- F** = 1 1/4" (N or S connections only)
- G** = 1 1/2"
- H** = 2"
- J** = 3"
- K** = 4" (C connections only)

Connection Type: _____

- N** = FNPT
- S** = Socket Weld
- C** = T-clamp

Seat & Seal Material: _____

- R** = RPTFE
- P** = PTFE

Cavity Filler: _____

- X** = none - standard seats (N or S connections only)
- F** = same as seat material (C connections only)

Note: only one actuator may be chosen

ACTUATOR

Pneumatic Actuators



Series: _____

- F** = F series Dual Rack & Pinion
- P** = P series Dual Scotch Yoke

Air Pressure: _____

- 6** = 60psi
- 8** = 80psi

Function: _____

- S** = spring return
- D** = double acting

Fail Safe Position: _____

- C** = fail to CLOSED
 - O** = fail to OPEN
- omit for direct acting*

Electric Actuators



Series: _____

- V4, R4, K4** = weatherproof (NEMA 4X)
- S4UV** = universal-voltage - weatherproof (NEMA 4X)
- B7** = explosion proof (NEMA 7)

Voltage: _____

- A** = 120vAC
- B** = 24vDC
- F** = 12vDC (all BUT S4UV)

Manual Operators



Series: _____

- M** = basic lever

Code continues to specify additional accessories and options

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Solenoid Valves

NAMUR solenoid valves for direct mount to the actuator. Various coil and connector options are available including weatherproof, explosion proof, corded, NPT conduit, and cable gland.

3-way
for spring return models



3/4-way for
for double acting models



[Solenoid valve web page](#)

Limit Switches (valve position indicators)

Used to communicate the position of the valve to a PLC, HMI, or simple remote indicator lamp. Various switch technologies are available. All include a local visual indicator as well.

UA/UB Series
2x Solid state proximity switches; 1 for Open, 1 for Closed



YF Series
2x SPDT mechanical switches; 1 for Open, 1 for Closed



YE, YH, YO Series
2x Solid State Proximity Sensors or SPDT mechanical switches



Other limit switches are available [Limit switch web page](#)

Modulating Positioners

Add modulating control to either of our pneumatic actuator series. These positioners mount to the top of the actuator using the NAMUR standard mounting hole and stem pattern.

Pneumatic
0-15 psi control signal



Electro-pneumatic
4-20mA or 0-10VDC control signal



With feedback unit
4-20mA or 0-10VDC feedback signal



[Positioner web page](#)