





API 607 FIRE SAFE

Three-Piece Ball Valve



✓ INTRODUCTION

The Series S300 is a heavy-duty, three-piece ball valve engineered for exceptional reliability and performance in demanding industrial applications. It features a unique encapsulated body bolt system that facilitates efficient cleaning and minimizes residue buildup, while also allowing convenient in-line maintenance without full disassembly. Equipped with a patented stem seal system for superior leak protection, the Series 83 is ideal for managing liquids, gases, vapors, and oils. A fire-safe option is available, with the valve ATEX-approved and certified to API 607, ensuring enhanced safety and dependability.

The Series S303, designed as a reduced-bore variation of S300, offers the same robust construction and innovative design as the S300, making it a versatile option for applications requiring precise flow control. Both models deliver dependable performance and reliability for a wide range of industrial uses.

TECHNICAL SUMMARY

SIZE RANGE Full Port 1/4" ~ 2"

Reduced Port 1/2" ~ 2-1/2"

PRESSURE RATING Full Port 1/4" ~ 1-1/2" : 1500 PSI / CLASS 600 / PN 100

2" : 1000 PSI / CLASS 400 / PN 63

Reduced Port 1/2" ~ 2" : 1500 PSI / CLASS 600 / PN 100

2-1/2" : 1000 PSI / CLASS 400 / PN 63

END CONNECTIONS Threaded, Butt Weld, Socket Weld, Flanged, Tube Butt Weld

VALVE TYPE Full / Reduced Bore

BODY & END CAP MATERIAL (ASTM) CF8M, CF3M, CF3, WCB, CN7M, CD3MN, CE3MN,

CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

BODY & END CAP MATERIAL (EN) 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

SEAT MATERIAL PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK,

Delrin, UHMWPE, PCTFE

HANDLE TYPE Flat (with / without SR lock) , Oval, Cast, T-Bar,

Economical Stem Extension

HANDLE MATERIAL Flat, Oval, T-Bar - 304, 316, Cast - CF8, CF8M

V-PORT OPTION Yes
WITH ANTI-STATIC DEVICE OPTION Yes

OPERATION Pneumatic or Electric Actuated



■ STANDARD OF COMPLIANCE

MATERIAL CERTIFICATION EN 10204-3.1

DESIGN ASME B16.34 / EN12516-1 / EN 12516-3

THREADED END CONNECTIONS NPT ASME B1.20.1

BSPP ISO 228-1 BSPT ISO 7-1

DIN 2999

SOCKET WELD END CONNECTIONS ASME B16.11
BUTT WELD END CONNECTIONS ASME B16.25

FLANGED END CONNECTIONS EN 1092-1 PN 16 / PN 40

ASME B16.5 CLASS 150

PRESSURE TESTING API 598
MOUNTING PAD ISO 5211

FIRE SAFE API 607 7th Edition

MARKING ISO 5209

CE APPROVAL 2014 / 68 / EU Module H

QUALITY ASSURANCE ISO 9001: 2015

DESIGN FEATURE

Dual Pattern ISO 5211 Direct Mount Pad

Facilitating straightforward and cost-effective automation, the need for brackets and couplings for actuator installation is eliminated.

Patented Leak-Observation Display

By identifying potential stem leaks before they escalate, this feature acts as an early alert system, helping to avert hazardous situations and minimize downtime.

Blow Out Proof Stem

The stem is inserted from inside of the body. This feature prevents the stem from being ejected due to internal pressure.

O-Ring Stem Seal

Serves to prevent emissions and helps to maintain precise alignment of the stem while strengthens its durability.

Smooth Stem Surface

By minimizing abrasion against the seal, this feature effectively lowers the torque required.

Locking Handle

Prevent unauthorized adjustments and help to avoid accidental opening or closing, to ensure a reliable fluid flow control.

Anti-Static Device

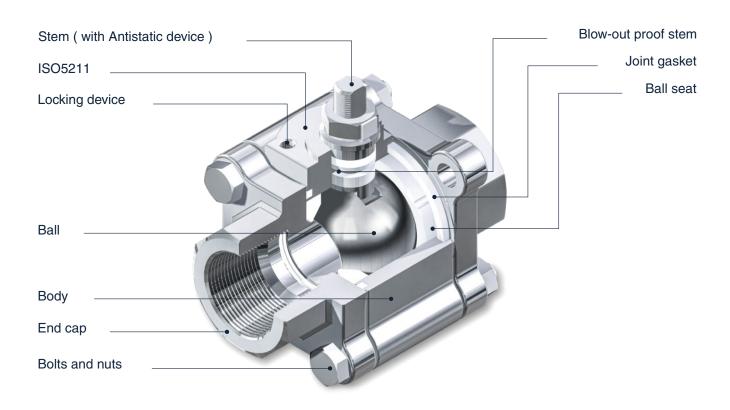
Located between the ball and stem and between the stem and valve body. It enables safe discharge of static electricity while minimizing the risk of fire.

Seats

A groove is designed to achieve pressure relief, contributing to decreased in valve torque and preventing seat damage.

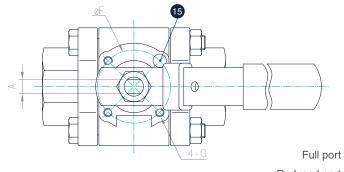
Ball

Designed with a pressure-equalizing hole, the mirror-polished ball ensures both a bubble-tight shut-off and an extended service life.



✓ CONSTRUCTION - BILL OF MATERIAL

SERIES S300/S303 1/4" ~ 2-1/2" Full port / Reduced port



Full port 1/4", 3/8"

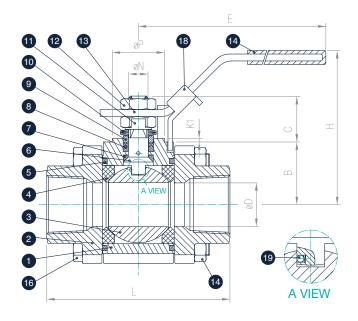
Reduced port 1/2", 1" ~ 2"

Bolts design Encapsu

", 3/8" 1/2" ~ 1-1/2" 2" 2" 1" ~ 2-1/2"

Encapsulated Bolts

Not Encapsulated Bolts



| NO. | Parts | Material | Qty |
|-----|--------------------|------------|-------|
| 1 | Body | CF8M / WCB | 1 |
| 2 | End cap | CF8M / WCB | 2 |
| 3 | Ball | SS316 | 1 |
| 4 | Seat | RTFE | 2 |
| 5 | Joint Gasket | PTFE | 2 |
| 6 | Stem | SS316 | 1 |
| 7 | Thrust Washer | RTFE | 1 |
| 8 | Gland Packing | MG1241 | 1 Set |
| 9 | Gland Bush | SS304 | 1 |
| 10 | Belleville Washer | SS301 | 2 |
| 11 | Stop Washer | SS304 | 1 |
| 12 | Stem Nut | SS304 | 2 |
| 13 | Handle | SS304 | 1 |
| 14 | Handle Cover | VINYL | 1 |
| 15 | Stop Pin | SS304 | 1 |
| 16 | Bolt | SS304 | * |
| 17 | Bolt Nut | SS304 | * |
| 18 | Locking Device | SS304 | 1 |
| 19 | Anti-Static Device | SS316 | 2 |

Full Bore 1/4" to 1-1/2" (4pcs)

Full Bore 2" (6pcs)

DIMENSIONS(mm)

| SIZE | SIZE ØD | | øD A | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | Α | | E | 3 | (| C | | | Ø | F | C | à . | ı | 1 | K | 1 | | L | N | 1 | Ø | P | Ø | N | ISO | 5211 |
|--------|---------|----|------|-----|------|------|------|------|-----|-----|----|----|----|----|-------|-------|-----|-----|-------|-------|------|------|----|----|------|------|-----|-----|---|--|---|--|---|--|---|---|---|----------|--|--|---|---|---|-----|---|---|---|---|--|---|---|---|---|---|---|---|-----|------|
| SIZE | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | F | R | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1/4" | 10 | - | 6.5 | - | 29.8 | - | 7.4 | - | 134 | - | 36 | - | M5 | - | 64.3 | - | 0.5 | - | 64.8 | - | 29.5 | - | 25 | - | 9.5 | - | F03 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/8" | 10 | - | 6.5 | - | 29.8 | - | 7.4 | - | 134 | - | 36 | - | M5 | - | 64.3 | - | 0.5 | - | 64.8 | - | 29.5 | - | 25 | - | 9.5 | - | F03 | - | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1/2" | 15 | 10 | 6.5 | 6.5 | 29 | 29.8 | 16.1 | 7.4 | 134 | 134 | 36 | 36 | M5 | M5 | 71.5 | 64.3 | 2 | 0.5 | 72.5 | 64.8 | 30 | 29.5 | 25 | 25 | 9.5 | 9.5 | F03 | F03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3/4" | 20 | 15 | 6.5 | 6.5 | 33 | 29 | 18.1 | 16.1 | 134 | 134 | 36 | 36 | M5 | M5 | 76 | 71.5 | 2 | 2 | 85.4 | 72.5 | 36 | 36 | 25 | 25 | 9.5 | 9.5 | F03 | F03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1" | 25 | 20 | 8 | 6.5 | 36 | 33 | 24.6 | 18.1 | 170 | 134 | 42 | 36 | M5 | M5 | 82.3 | 76 | 2 | 2 | 105.3 | 85.4 | 44.5 | 44.5 | 30 | 25 | 11.1 | 9.5 | F04 | F03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-1/4" | 32 | 25 | 8 | 8 | 40 | 36 | 24.3 | 24.6 | 170 | 170 | 42 | 42 | M5 | M5 | 87.3 | 52.3 | 2 | 2 | 111 | 105.3 | 54 | 54 | 30 | 30 | 11.1 | 11.1 | F04 | F04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1-1/2" | 38 | 32 | 9.7 | 8 | 47.3 | 40 | 30.2 | 24.3 | 207 | 170 | 50 | 42 | M6 | M5 | 103.6 | 87.3 | 2.2 | 2 | 127.3 | 111 | 60 | 60 | 35 | 30 | 14.3 | 11.1 | F05 | F04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2" | 50 | 38 | 9.7 | 9.7 | 69.5 | 47.3 | 26 | 30.2 | 207 | 207 | 50 | 50 | M6 | M6 | 121.6 | 103.6 | 1.5 | 2.2 | # | 127.3 | 73.2 | 73.2 | 35 | 35 | 14.3 | 14.3 | F05 | F05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2-1/2" | - | 50 | - | 9.7 | - | 69.5 | - | 26 | - | 207 | - | 50 | - | M6 | - | 121.6 | - | 1.5 | - | 145 | - | 86 | - | 35 | - | 14.3 | - | F05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

142.8(Flower shape) / 145(Round shape) F

F: Full port R: Reduced port

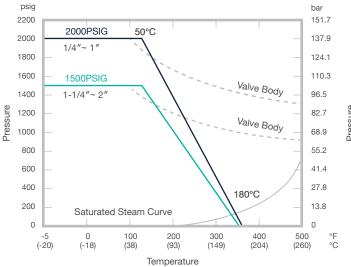
▼ TECHNICAL DATA | Breakaway torque / Cv and Kv values / Weight

| Valve size | Torque | e (N.m) | Torque | (lbs.in) | Cv v | alues | Kv values (M³/h) | Weight (Kg) | | |
|------------|--------|---------|--------|----------|------|-------|------------------|-------------|------|--|
| Valve Size | F | R | F | R | F | R | F | F | R | |
| 1/4" | 7 | - | 60 | - | 8 | - | 7 | 0.68 | - | |
| 3/8" | 7 | 7 | 60 | - | 8 | - | 7 | 0.68 | - | |
| 1/2" | 8 | 7 | 70 | 60 | 15 | 8 | 13 | 0.83 | 0.68 | |
| 3/4" | 10 | 8 | 92 | 70 | 40 | 15 | 34 | 1.37 | 0.86 | |
| 1″ | 14 | 10 | 127 | 92 | 70 | 40 | 60 | 2.05 | 1.43 | |
| 1-1/4" | 23 | 14 | 207 | 127 | 110 | 70 | 94 | 2.74 | 1.97 | |
| 1-1/2" | 31 | 23 | 276 | 207 | 250 | 110 | 213 | 3.99 | 2.77 | |
| 2" | 33 | 31 | 292 | 276 | 430 | 250 | 366 | 5.83 | 3.95 | |
| 2-1/2" | - | 33 | - | 292 | - | 430 | - | - | - | |

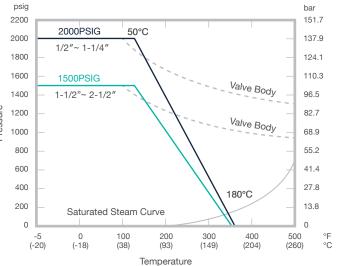
F: Full port R: Reduced port

▼ TECHNICAL DATA | Pressure - Temperature diagram

1/2" ~ 2" Full port Seat material : PTFE / RTFE



1/2" ~ 2-1/2" Reduced port Seat material : PTFE / RTFE





OPTIONAL ACCESSORIES

| Handle Options







Flat (with / without Spring Return Lock)



Economical stem extension



T-Handle



S.S. investment casting handle

V-Port Ball







Accessories



TSM



TSM with handle



Actuator





Transworld Steel Enterprise Co., Ltd.



Established in 1992 TAWD has dedicated over 30 years to manufacturing premium ball valves