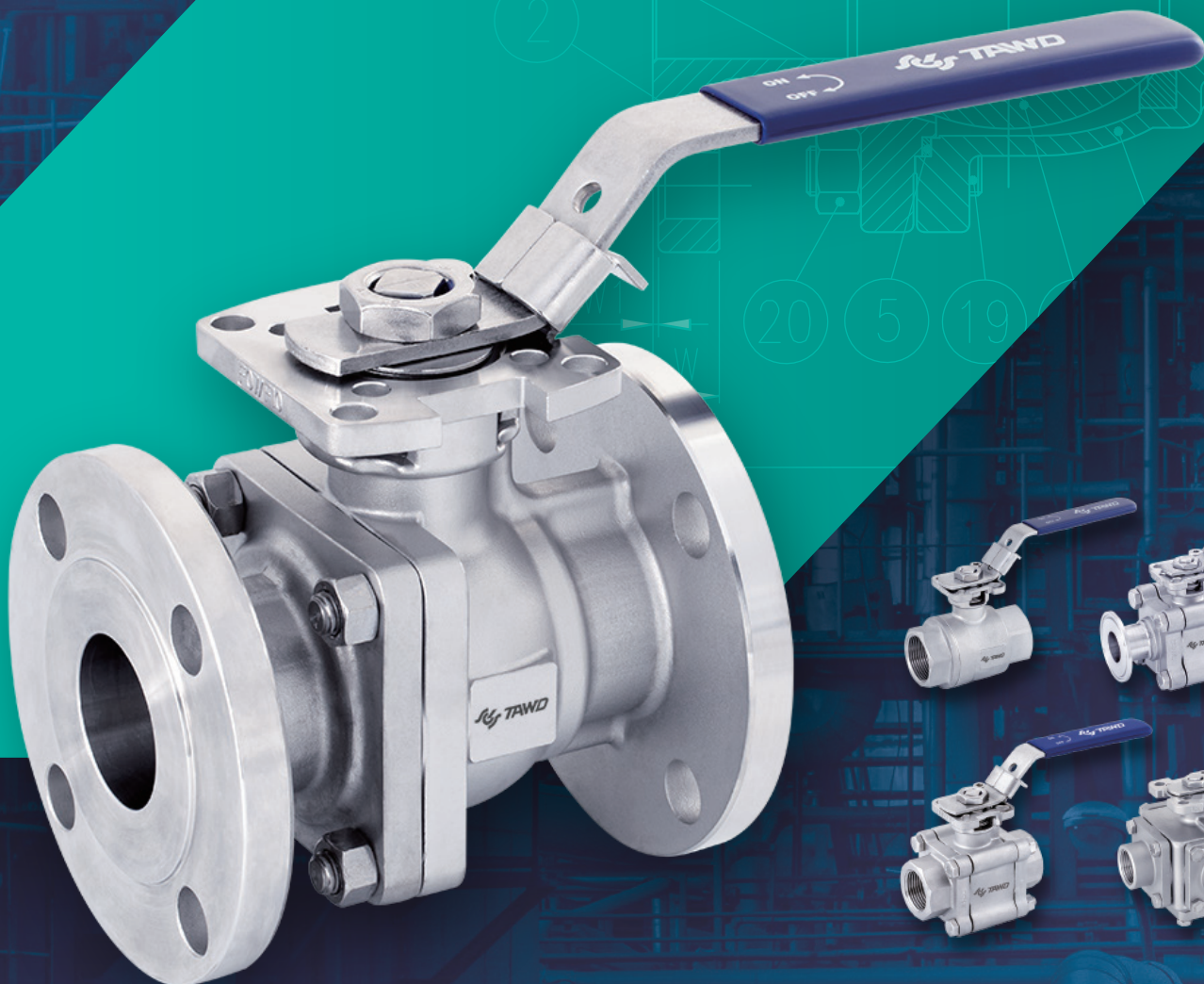




THREE DECADES OF INNOVATION

PRODUCT OVERVIEW



PREMIUM BALL VALVE MANUFACTURING / MADE IN TAIWAN

Transworld Steel Enterprise

Three Decades of Innovation

Since its establishment in 1992, Transworld Steel Enterprise Co., Ltd. (TAWD) has devoted over three decades to manufacturing high-quality ball valves, with exports to more than 30 countries across industries such as pharmaceuticals, food and beverage, pulp and paper, chemicals, oil and gas, and power generation. Managing the entire production cycle—from design to finished product—we provide our customers with comprehensive and reliable solutions.

In 1999, founder Michael Huang pioneered the innovative direct-mounting ball valve, earning patents in the United States, Germany, and China. This breakthrough reinforced TAWD's position in the international market. Recognizing the need for continuous innovation in the dynamic valve industry, TAWD has built a strong portfolio of nearly 30 patents, with more in progress.



In response to growing market demands, TAWD established an investment casting foundry in Vietnam in 2008. This strategic move not only strengthened the company's manufacturing capabilities but also created a distinct competitive advantage. By integrating both upstream and downstream processes, TAWD ensures operational efficiency, stringent quality control, and the flexibility to adapt to evolving market conditions.

Embracing the Industry 4.0 era, the company has made substantial investments in Industrial Internet of Things (IIoT) initiatives, including the deployment of robotic arms and intelligent vision monitoring systems. In line with this, the second manufacturing facility, founded in 2010, is equipped with a fully automated machining line, significantly enhancing production precision and capacity.

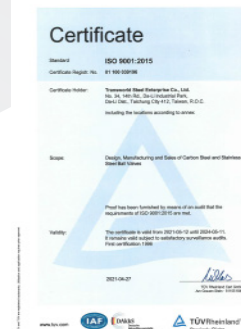
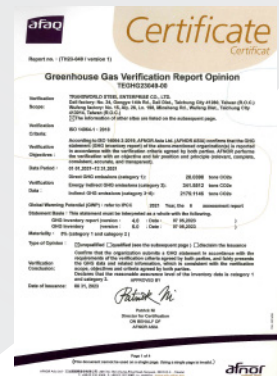
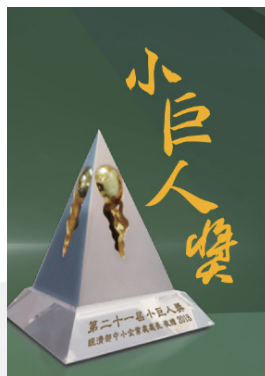
Additionally, TAWD operates an advanced valve laboratory equipped with comprehensive testing instruments, alongside a certified clean room classified at Class 10,000, dedicated to high quality sanitary valve manufacturing. To ensure product integrity, the facility also features Class 100 vacuum packing, safeguarding cleanliness and quality prior to delivery.



Transworld's Commitment to Excellence

Transworld holds key international certifications, including ISO 9001, API Q1/6D, PED 2014/68/EU Module H, EN 10204-3.1, API 607, ATEX, REACH, and ROHS. Demonstrating its strong commitment to sustainability, the company has integrated solar energy into its operations and achieved ISO 14001 and ISO 14064-1 certifications, positioning Transworld as a trailblazer in Taiwan's valve industry.

In recognition of these efforts, Transworld has received prestigious awards, such as the "Rising Star Award" from the Ministry of Economic Affairs and the "Model of Entrepreneurs Award" from the National Innovation and Entrepreneurship Association. These awards, together with the company's consistent track record, further reinforce Transworld's reputation as a trusted and respected partner in the industry.



One-Piece Ball Valve

E301-10

Size : NPS 1/4 to 2 (DN 8 to 50)
 Rating : WOG 800
 Bore : Reduced Bore
 Body & Caps (ASTM) : CF8M, WCB
 Body & Caps (EN) : 1.4408, 1.0619
 Seats : PTFE, RTFE, STFE
 Handle Type : Flat, Butterfly, Oval
 V-Port Ball Option : N/A

CE



E301-30

Size : NPS 1/4 to 1 (DN 8 to 25)
 Rating : WOG 800
 Bore : Reduced Bore
 Body & Caps (ASTM) : CF8M
 Body & Caps (EN) : 1.4408
 Seats : PTFE, RTFE, STFE
 Handle : Flat
 V-Port Ball Option : N/A

CE



Two-Piece Ball Valve

R301

Size : NPS 1/4 to 4 (DN 8 to 100)
 Rating : WOG 1000
 Bore : Full / Reduced Bore
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB,
 Titanium Alloy (Gr. C-2)
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Butterfly, Oval, Economical Stem Extension
 V-Port Ball Option : N/A

CE

SIL 3 ATEX IIB / IIC



R502

Size : NPS 1/4 to 3 (DN 8 to 80)
 Rating : WOG 1000
 Bore : Full Bore
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Oval, Cast, SRS, Economical Stem Extension
 V-Port Ball Option : N/A
 With Anti-static Device Option : Yes

CE

SIL 3 ATEX IIB / IIC
 DIRECT MOUNT PAD



R701

Size : NPS 1/4 to 2 (DN 8 to 50)
 Rating : WOG 800, 1000
 Bore : Full Bore
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Economical Stem Extension
 V-Port Ball Option : N/A
 With Anti-static Device Option : Yes

CE

SIL 3 ATEX IIB / IIC
 API 607



Three-Piece Ball Valve

S400

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 1000, 1500, 2000

Bore : Full / Reduced Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M, CD3MN, CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK, Delrin, UHMWPE, PCTFE

Handle Type : Flat, Oval, Cast, T-Bar, SRS,

Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

API 607 ATEX IIB / IIC
DIRECT MOUNT PAD CE
BIGGER ISO TOP SIL 3



S600

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 1000, 1500, 2000

Bore : Full / Reduced Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M, CD3MN, CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK, Delrin, UHMWPE, PCTFE

Handle : Flat, Oval, Cast, T-Bar, SRS, Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

Reduced Port Version : S603

Firesafe Version : S60X-XF

Sanitary Version : S604

Diverter Version : S605 (T, L)

CE API 607
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



S701

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 800, 1000

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, Oval, Economical Stem Extension

V-Port Ball Option : Yes

CE
SIL 3 ATEX IIB / IIC



S900

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 800, 1000

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, Oval, Cast, T-Bar, SRS,

Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



S300

Size : NPS 1/4 to 2 (DN 8 to 50)

Rating : WOG 1500, 2000

Bore : Full / Reduced Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M, CD3MN, CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK, Delrin, UHMWPE, PCTFE

Handle : Flat, Oval, Cast, T-Bar,

Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE ATEX IIB / IIC
SIL 3 API 607



S501

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 800, 1000

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, Butterfly, Oval, Economical Stem Extension

V-Port Ball Option : Yes

CE ATEX IIB / IIC



Three-Piece Ball Valve

S900

Loose Flange

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 800, 1000

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, Oval, Cast, T-Bar, SRS,

Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



T801

Double Block and Bleed

Size : NPS 1/4 to 2-1/2 (DN 8 to 65)

Rating : WOG 1000, 1500, 2000

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK,

Delrin, UHMWPE, PCTFE

Handle : Flat

V-Port Ball Option : N/A

With Anti-static Device Option : Yes

CE
SIL 3



Flange End Ball Valve

F301

Size : NPS 1/2 to 6 (DN 15 to 150)

Rating : CLASS 150 / PN16, PN40

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
API 607
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



F303

Size : NPS 1/2 to 6 (DN 15 to 150)

Rating : CLASS 150, CLASS 300

Bore : Reduced Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M,

CD3MN, CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, T-Bar, Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
API 607
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



F501

Size : NPS 1/2 to 4 (DN 15 to 100)

Rating : CLASS 150 / PN16, PN40

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M,

CD3MN, CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK, Delrin,

UHMWPE, PCTFE

Handle : Flat, Oval, T-Bar,

Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
API 607
SIL 3 ATEX IIB / IIC



F502

Size : NPS 1/2 to 12 (DN 15 to 300)

Rating(ANSI) : CLASS 150, 300, 600

Rating(DIN) : PN16, 40

Pressure(JIS) : 10K

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M, CD3MN,

CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE, PEEK,

Delrin, UHMWPE, PCTFE

Handle : Flat, Oval, T-Bar,

Economical Stem Extension

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
API 607
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



Sanitary Ball Valve

S304

Size : NPS 1/2 to 2 (DN 15 to 50)
 Rating : WOG 1000
 Bore : Full Bore (True Bore)
 End Connections : Clamp / Tube End
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Oval,
 Economical Stem Extension
 V-Port Ball Option : N/A
 With Anti-static Device Option : Yes

FDA
 CE EC 1935
 SIL 3 ATEX IIB / IIC



S504

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 800, 1000
 Bore : Full Bore (True Bore)
 End Connections : Clamp / Tube End
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Butterfly, Oval,
 Economical Stem Extension
 V-Port Ball Option : Yes

CE EC 1935
 FDA ATEX IIB / IIC



S604

Size : NPS 1/2 to 4 (DN 15 to 50)
 Rating : WOG 800, 1000
 Bore : Full Bore (True Bore)
 End Connections : Clamp / Tube End
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Oval, Cast, T-Bar, SRS,
 Economical Stem Extension
 V-Port Ball Option : N/A
 With Anti-static Device Option : Yes

FDA
 CE EC 1935
 SIL 3 ATEX IIB / IIC
 DIRECT MOUNT PAD



S704

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 800, 1000
 Bore : Full Bore (True Bore)
 End Connections : Clamp / Tube End
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Oval, Economical Stem Extension
 V-Port Ball Option : Yes
 With Anti-static Device Option : Yes

FDA
 CE EC 1935
 SIL 3 ATEX IIB / IIC



S904

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 800, 1000
 Bore : Full Bore (True Bore)
 End Connections : Clamp / Tube End
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, Oval, Cast, T-Bar, SRS,
 Economical Stem Extension
 V-Port Ball Option : Yes
 With Anti-static Device Option : Yes

FDA
 CE EC 1935
 SIL 3 ATEX IIB / IIC
 DIRECT MOUNT PAD



M304

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 300, 600, 800, 1000
 Bore : Full Bore (True Bore)
 End Connections : Clamp / Tube End
 Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3
 Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309
 Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE
 Handle : Flat, T-Bar, , Economical Stem Extension
 V-Port Ball Option : N/A
 With Anti-static Device Option : Yes

FDA
 CE EC 1935
 SIL 3 ATEX IIB / IIC
 DIRECT MOUNT PAD



Multi-port Ball Valve

M302

Multi-port 3-4-5 way Ball Valve

Size : NPS 1/4 to 4 (DN 8 to 100)

Rating : WOG 300, 600, 800, 1000

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, T-Bar, Economical Stem Extension

V-Port Ball Option : N/A

With Anti-static Device Option : Yes

Option : NACE MR-0175

CE
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



M602

Size : NPS 1-1/2 to 6 (DN 40 to 150)

Rating : CLASS 150, CLASS 300

Bore : Full Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB, CN7M, CD3MN, CE3MN, CW12MW, 904L, LCC, Titanium Alloy (Gr. C-2)

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619, 1.4470

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Cast, T-Bar, Economical Stem Extension

V-Port Ball Option : N/A

With Anti-static Device Option : Yes

CE
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



M202

Size : NPS 1/4 to 2 (DN 8 to 50)

Rating : WOG 1000

Bore : Full / Reduced Bore

Body & Caps (ASTM) : CF8M, CF3M, CF8, CF3, WCB

Body & Caps (EN) : 1.4408, 1.4409, 1.4308, 1.4309, 1.0619

Seats : PTFE, RTFE, CTFE, TFM1600, MG1241, STFE

Handle : Flat, Economical Stem Extension

V-Port Ball Option : N/A

With Anti-static Device Option : Yes

CE
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



Cryogenic Ball Valve

S320

Size : NPS 1/4 to 2 (DN 8 to 50)

Rating : WOG 1000

Bore : Full / Reduced Bore

Body & Caps (ASTM) : CF8M, CF3M

Body & Caps (EN) : 1.4408, 1.4409

Seats : PCTFE

Handle : Cast

V-Port Ball Option : Yes

With Anti-static Device Option : Yes

CE
SIL 3 ATEX IIB / IIC
DIRECT MOUNT PAD



Check Valve

T701

Size : NPS 3/8 to 4 (DN 10 to 100)

Rating : WOG 800,1000

Bore : Full Bore

Body & Caps (ASTM) : CF8M

Body & Caps (EN) : 1.4408

Handle : N/A

V-Port Ball Option : N/A

CE



Valve Accessories

Handle Options



Oval Handle
Material : 304, 316



Flat (with / without Spring Return Lock)
Material : 304, 316



Economical Stem Extension



Spring Return Safety (SRS) Handle
Option : Fail Open / Fail Close assembly



T-Bar Handle
Material : 304, 316

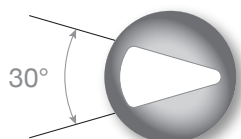


S.S Investment Casting Handle
Material : CF8, CF8M

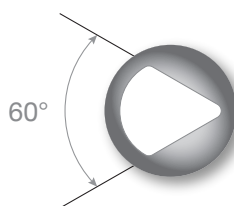


Butterfly Handle

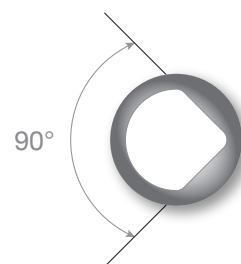
V-Port Ball



30°



60°



90°

Accessories



TSM



TSM with Handle

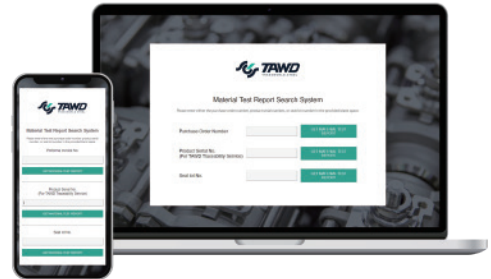


Actuator

Digital Traceability Passport

Rapid Traceability System

The Digital Traceability Passport (DTP) is a groundbreaking tool that enhances traceability and transparency in supply chain management. By making material test report accessible, DTP advances the digital revolution in manufacturing, focusing on efficiency, reliability, and quality. It reflects our commitment to ethics and helps businesses quickly identify and address issues.



Key Benefits of the Digital Traceability Passport



Comprehensive Traceability Service (Optional)

Each valve is assigned a unique number in the DTP system, providing complete traceability. This allows for precise issue tracking back to the specific valve and supplier, enhancing accountability.



Transparency and Reliability

DTPs offer detailed, secure insights into material composition, boosting transparency and reliability while ensuring all stakeholders understand their chemical components.



Streamlined Process

The DTP system integrates seamlessly into digital workflows. This integration streamlines business process in material management and enhance supply chain coordination.



Verifying Compliance

The DTP system ensures the materials comply with industry standards and regulations, while also maintaining adherence to quality standards and ensuring material conformity.

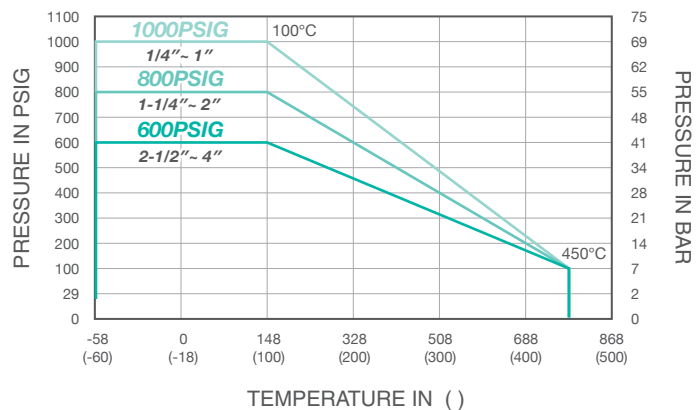
Available Seats

PTFE	100% Virgin Polytetrafluoroethylene
RTFE	Reinforced Teflon : 85% PTFE, 15% Glass Fiber
50/50 STFE	50% 316 SST Powder, 50% PTFE
TFM 1600	TFM Modified PTFE 1600
CTFE	25% Carbon Graphite, 75% PTFE
MG1241	5% Graphite, 20% Glass Fiber, 75% PTFE
PCTFE	Polychlorotrifluoroethylene
PEEK	Polyether Ether Ketone
UHMWPE	Ultra High Molecular Weight Polyethylene
Delrin	DuPont Polyoxymethylene

Hard Graphite Seat

High Temperatures
High Performance

Pressure vs. Temperature Chart



SS 316 + Graphite Seat

Unidirectional ball valve / Recommended for low abrasion application

Specification	
Body material	Standard in WCB, CF8M (Special material is available according to application)
Nominal size	1/4" to 4"
End connections	Thread / Socket Weld / Butt Weld / Flanged
Temperature range	-60 °C to 450 °C
Body pressure testing	EN 12266-1 / API 598
Seat leakage testing	EN 12266-1 Rate A



Transworld Steel Enterprise Co., Ltd.

Tel +886 4 2271 6107 **Fax** +886 4 2271 6127

Address No. 34, Gongye 14th Rd., Dali Dist.,
Taichung City, 412038, Taiwan (R.O.C.)



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

INNOVATION

INTEGRITY

STRICT SELECTION