



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 dedicated over 30 years to manufacturing premium ball valves, supplying to over 30 countries in sectors like pharmaceuticals, food and beverage, pulp and paper, chemistry, oil and natural gas, and electricity, etc. We manage the entire production process, from design to final product, offering a comprehensive services to our customers.

In 1999, founder Michael Huang introduced the innovative direct mounting ball valve, securing patents in the USA, Germany, and China, which solidified the company's presence in the international market. Acknowledging the need for persistent innovation in the dynamic valve industry, Transworld has a notable portfolio with around 30 patents and is on track to obtain more.



In response to market demands, an investment casting foundry was established in Vietnam in 2008. This strategic decision enhances the manufacturing capabilities and provides a unique advantage over competitors. With an integrated approach connecting upstream and downstream processes, the company ensures efficiency and quality control, and adaptability to market shifts.

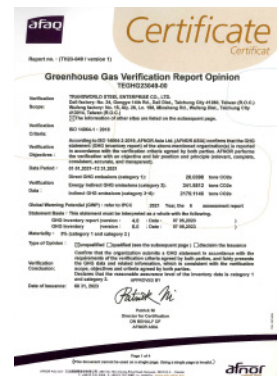
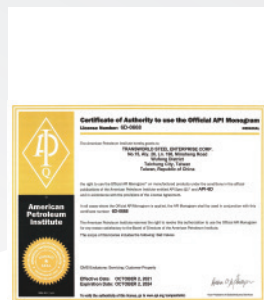
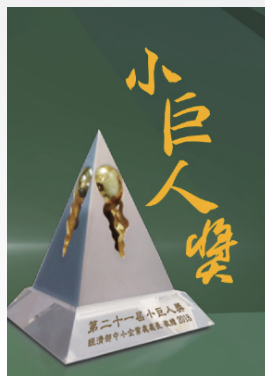
Adhering to Industry 4.0 trends, significant investments have been made in IIoT initiatives, such as the integration of robotic arms and intelligent visual monitors. Consequently, the second factory, established in 2010, features an automated machining line. Furthermore, the advanced valve lab houses a wide range of testing equipment, and a certified clean room with a classification of 10,000 and 100 for vacuum packing is also part of the infrastructure.



Transworld's Commitment to Excellence

Transworld holds key certifications, including ISO9001, API 6D, PED 2014/68/EU Module H, EN10204-3.1, SIL, API 607, ISO 15848, TA-Luft, ISO 10497, ATEX, REACH, ROHS ...etc. Moreover, commitment to sustainability values is evident by the integration of solar panels and by securing certifications like ISO 14001 and ISO 14064-1, Transworld stand as trailblazers in Taiwan's valve industry.

In recognition of the efforts invested, Transworld has received prestigious awards from Taiwanese authorities, including the "Rising Star Award" from the Ministry of Economic Affairs and the "Model of Entrepreneurs" from the National Innovation and Entrepreneurship Association. These esteemed awards, along with the consistent track record, further underscore Transworld's position as a trusted and esteemed collaborator in the industry.



One-Piece Ball Valve

E301-10

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

Rating : WOG 800

Bore : Full Bore

Body & Caps (ASTM) :

CF8M, WCB

Body & Caps (EN) :

1.4408, 1.0619

Seats : PTFE, RTFE, CTFE,

TFM1600, MG1241, STFE

Handle : Flat

V-Port Ball Option : N/A

CE



E301-30

Size : NPS 1/4 to 1 (DN 8 to 25)

Rating : WOG 800

Bore : Full 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 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

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,

Spring Return Safety (SRS) Handle

V-Port Ball Option : N/A

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

V-Port Ball Option : N/A

CE

API 607

SIL 3

ATEX IIB / IIC



Three-Piece Ball Valve

S400

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

Rating : WOG 1500, 2000

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, Cast, T-Bar,

Spring Return Safety (SRS) Handle

V-Port Ball Option : Yes

CE API 607

SIL 3 ATEX IIB / IIC

BIGGER ISO TOP

DIRECT MOUNT PAD



S600

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

Rating : WOG 1000, 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,

Spring Return Safety (SRS) Handle

V-Port Ball Option : Yes

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

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,

Spring Return Safety (SRS) Handle

V-Port Ball 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

V-Port Ball Option : Yes

CE API 607

SIL 3 ATEX IIB / IIC



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

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

V-Port Ball 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

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, PEEK, Delrin,

UHMWPE, PCTFE

Handle : Flat, T-Bar

V-Port Ball 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, PEEK, Delrin,

UHMWPE, PCTFE

Handle : Flat, T-Bar

V-Port Ball Option : N/A

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

V-Port Ball Option : Yes

CE

API 607

SIL 3

ATEX IIB / IIC

DIRECT MOUNT PAD



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, Cast, T-Bar

V-Port Ball 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
 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
 V-Port Ball Option : N/A

CE

SIL 3

ATEX IIB / IIC

FDA

EC 1935



S504

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 800, 1000
 Bore : Full 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
 V-Port Ball Option : N/A

CE

ATEX IIB / IIC

FDA

EC 1935



S604

Size : NPS 1/2 to 4 (DN 15 to 50)
 Rating : WOG 800, 1000
 Bore : Full 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,
 Spring Return Safety (SRS) Handle
 V-Port Ball Option : N/A

CE

SIL 3

ATEX IIB / IIC

FDA

EC 1935

DIRECT MOUNT PAD



S704

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 800, 1000
 Bore : Full 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
 V-Port Ball Option : N/A

CE

SIL 3

ATEX IIB / IIC

FDA

EC 1935



S904

Size : NPS 1/2 to 4 (DN 15 to 100)
 Rating : WOG 800, 1000
 Bore : Full 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,
 Spring Return Safety (SRS) Handle
 V-Port Ball Option : Yes

CE

SIL 3

ATEX IIB / IIC

FDA

EC 1935

DIRECT MOUNT PAD



M304

Size : NPS 1/4 to 4 (DN 15 to 100)
 Rating : WOG 300, 1000
 Bore : Full 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,
 Spring Return Safety (SRS) Handle
 V-Port Ball Option : N/A

CE

SIL 3

ATEX IIB / IIC

FDA

EC 1935

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, 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,
 Spring Return Safety (SRS) Handle
 V-Port Ball Option : N/A

CE

SIL 3

ATEX IIB / IIC

DIRECT MOUNT PAD



M602

Size : NPS 1-1/2 to 6 (DN 40 to 150)
 Rating : WOG 1500, 2000
 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
 V-Port Ball Option : N/A

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 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
 V-Port Ball Option : N/A

CE

SIL 3

ATEX IIB / IIC

DIRECT MOUNT PAD



Cryogenic 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 : N/A

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 : N/A
 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



Spring Return Sliding Lock



Economical Stem Extension



Spring Return Safety (SRS) Handle

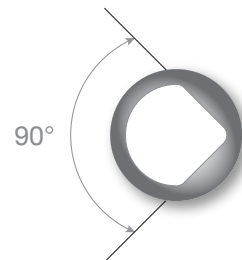
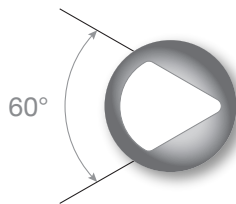
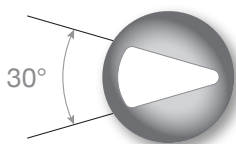


T-Bar Handle



S.S Investment Casting Handle

V-Port Ball



Accessories



TSM



TSM with Handle

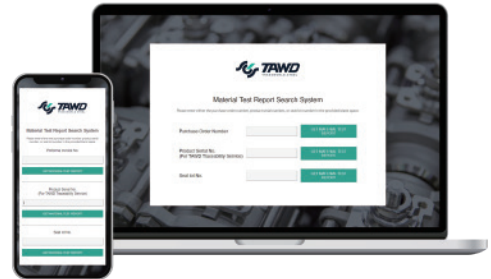


Actuator

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.

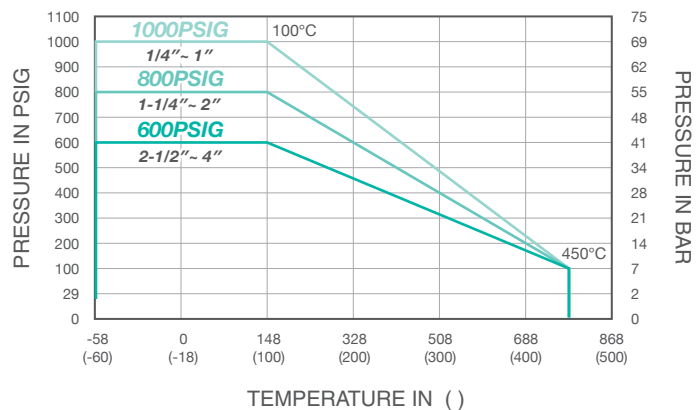
Available Seats

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



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

INNOVATION

INTEGRITY

STRICT SELECTION