GWC Italia

Proven technology for individual valve solutions worldwide

TRUNNION MOUNTED BALL VALVES

API 6D - API 6DSS - API 6A
MANUAL- MOV- ESDV - HIPPS
GWC Italia
Worldwide Network

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GWC Italia SpA with its Headquarters in Milan, Italy designs, manufacturers and markets valves with one of the most extensive lines you will find in the Industry today. GWC Italia SpA which is founded by an Italian Group & USA Entrepreneurial Management team, has become the Parent Company of the long standing GWC Worldwide Companies. This Italian & USA team has a history of building and managing successful valve manufacturing companies over the past 40 years. The valves manufactured in Italy will be complementary to the existing GWC line consisting of diversified flow control packages in a variety of alloys, trims, configurations, sizes and pressure classes, from general to severe applications. GWC Valves are used in major applications for Upstream, Downstream & Transportation Segments of the Oil & Gas Industry, E&P, Petrochemical, Chemical, Mining/Minerals, Power, Marine and Industrial markets.

GWC Italia SpA extensive line of valve and flow control products include:

- Trunnion Mounted Ball Valves
  (soft & metal seated)
- Split Body
- Top Entry
- Welded Body
- Subsea
- Cryogenic & High Temperature
- Two Balls One Body DBBV
- Pipeline Gate and Check Valves
- Floating Ball Valves
- Gate, Globe and Check Valves including Cast & Forged
- Butterfly Valves including Triple Offset, High Performance and Resilient Seated
- Dual Plate Check Valves
- Needle and Gauge Valves
- Wellhead Gate Valves

GWC Italia Spa products are designed, engineered and manufactured to exceed its customer’s stringent process requirements including API 6D, API 6A, API 6DSS, API 600, API 602, API 608, ISO 9001, PED, ATEX, SIL 3 and TA – Luft.

CERTIFICATIONS & STANDARDS

American Standards

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<th>Description</th>
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<td>Specification for Pipeline Valves</td>
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<td>API-6D SS</td>
<td>Specification for Subsea Pipeline Valves</td>
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<td>API-Q1</td>
<td>Specification for Quality Programs for the Petroleum, Petrochemical &amp; Natural Gas</td>
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International Standards

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<td>CE/PED</td>
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<tr>
<td>CU-TR</td>
<td>Technical Reglament Conformity Certificate TRCU</td>
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<tr>
<td>CRN</td>
<td>Canadian Registration Number</td>
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<tr>
<td>Z245.15.96</td>
<td>Pipeline Steel Valves</td>
</tr>
<tr>
<td>ATEX</td>
<td>European for explosive atmosphere</td>
</tr>
<tr>
<td>SIL3</td>
<td>Measurement of performance required for safety instrument function</td>
</tr>
</tbody>
</table>
FACILITIES AND PRODUCTION

GWC ITALIA SpA
API License
API 6D, API 6DSS, API 6A-PSL4

Valve Type
Ball Valves:
  . Floating
  . Trunnion
  Side Entry Bolted

Gate Valves
  . Slab & Expanding

Check Valves
  . Full opening

Size Range
1” to 56”

Pressure Range
ASME 150 to 4500 - API 2000 to 15000

Service
Standard, NACE,
High Temp. (above 300 °C/572 °F)
Cryogenic (down to -196 °C/ -320 °F)
Sub sea (shallow & deep water)

Trezzo Sull’Adda (Italy)
(Headquarters and Main Manufacturing Unit)

86,000 sq ft manufacturing space, 21,500 sq ft office space, 129,000 sq ft open air space.

GWC USA

Bakersfield, CA (USA)

32,300 sq ft manufacturing space, 8,600 sq ft office space, 65,340 sq ft open air space.

GWC CHINA

Shanghai (China)

53,750 sq ft manufacturing space, 8,600 sq ft office space, 64,500 sq ft open air space.

GWC ITALIA – PROVEN TECHNOLOGY FOR INDIVIDUAL VALVE SOLUTIONS WORLDWIDE
**COMMITMENT TO QUALITY**

**GWC ITALIA Spa** is committed to supply products designed and manufactured to satisfy our Customer's requirements, in accordance with contractual obligations, product specifications and Quality Management System respecting environment, workers safety and business ethics towards all types of Company stakeholders.


**GWC ITALIA Spa** management assumes the responsibility to ensure the effectiveness of Quality System. It defines “general and specific quality objectives” annually while monitoring progress through the analysis and review of appropriate/measurable indicators monitored during execution of management review processes.

**All GWC ITALIA Spa** employees actively contribute to achieve specified organizational objectives & to accomplish desired level of Customer satisfaction. Our Quality System strategic planning foresees allocation of adequate resources required to implement the necessary objectives in place. The compliance with the desired Quality standard demands involvement and commitment at each level per the responsibilities defined under company hierarchy. **GWC ITALIA Spa** personnel who manages, executes and verifies the activities within the Quality Management System are specially trained and educated to perform their job duties. The organizational structure, the consistent definition of responsibilities, procedures, instructions and the resources destined to achieve the strategic objectives constitutes **GWC ITALIA Spa** Quality Management System & delineates our commitment to Quality.

**GWC ITALIA Spa** is committed to implement & make use of highest standard to safeguard company, Employees, Customers & environment. Health, and Safety norms too are integral objectives in view of achieving flawless operation of intended business.

**COMMITTMENT TO SAFETY**

**GWC ITALIA Spa** successfully enforced following principle for it’s Commitments to Safety:

• Respecting surrounding environment, worker’s Safety, maintaining Business ethics and ensuring full participation of it’s workers in these activities (stakeholders)

• Implementation of programs for continual improvement in the field of Health, Safety and Environment which are constantly monitored by management.

• Timely enforcement of the company Management Systems, concerning Safety and environmental protection,

• Developing culture of full commitment towards preventing LTI and accidents at work place, thereby protecting workers health and supporting risk free environment.
API 6A Valves

Valves for Cryogenic and Low Temperature Service

Test at -196 °C (-320 °F) in Nitrogen filled cold box

API 6A PSL4 Valve
Gas-test water immersion
### ORDERING GUIDE

**Example: 12” Figure # FF600-1-CF-E2-GO**

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<th>2. RATING</th>
<th>3. END CONNECTION</th>
<th>4. TYPE</th>
<th>5. MATERIAL (BODY + TRIM)</th>
<th>6. MATERIAL (SEAT)</th>
<th>7. MATERIAL (O-RING SEAL)</th>
<th>8. OPERATOR</th>
<th>9. SPECIAL REQUIREMENTS</th>
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<td>FF - TRUNNION BALL, 2 PIECE, SPLIT BODY, FULL BORE</td>
<td>15 - CLASS 150</td>
<td>0 - RF FLANGED</td>
<td>1 – SINGLE PISTON EFFECT (SPE)</td>
<td>AC - WCB + 304</td>
<td>B - NYLON 12</td>
<td>1 - HNBR AED</td>
<td>L - LEVER</td>
<td>S - SUPPLY COMPLETE INFORMATION</td>
</tr>
<tr>
<td>G - TRUNNION BALL, 2 PIECE, SPLIT BODY, REDUCED BORE</td>
<td>30 - CLASS 300</td>
<td>7 - BUTTWELD (SCHEDULE REQUIRED)</td>
<td>2 – DOUBLE PISTON EFFECT (DPE)</td>
<td>AF - A105 + 304</td>
<td>C - NYLON 6</td>
<td>3 - VITON GLT AED</td>
<td>GO - GEAR</td>
<td></td>
</tr>
<tr>
<td>FF - TRUNNION BALL, 3 PIECE, SPLIT BODY, FULL BORE</td>
<td>60 - CLASS 600</td>
<td>8 - BUTTWELD X RF ENDS</td>
<td></td>
<td>BC - WCB + 316</td>
<td>E - DEVLON</td>
<td>4 - EPDM</td>
<td></td>
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</tr>
<tr>
<td>GG - TRUNNION BALL, 3 PIECE, SPLIT BODY, REDUCED BORE</td>
<td></td>
<td>9 - RING JOINT</td>
<td></td>
<td>BF - A105 + 316</td>
<td>F - VITON AED</td>
<td>5 - AFLAS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FT - TRUNNION BALL, 1 PIECE, TOP ENTRY, FULL BORE</td>
<td></td>
<td></td>
<td></td>
<td>CF - A105 + A105/ENP (.003)</td>
<td>U - PCTFE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GT - TRUNNION BALL, 1 PIECE, TOP ENTRY, REDUCED BORE</td>
<td></td>
<td></td>
<td></td>
<td>GC - LCC + LF2/ENP (.003)</td>
<td>V - PEEK</td>
<td></td>
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<tr>
<td>FW - TRUNNION BALL, FULLY WELDED BODY, FULL BORE</td>
<td></td>
<td></td>
<td></td>
<td>DC - WCB + F6A/13CR</td>
<td></td>
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<td></td>
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<tr>
<td>GW - TRUNNION BALL, FULLY WELDED BODY, REDUCED BORE</td>
<td></td>
<td></td>
<td></td>
<td>DF - A105 + F6A/13CR</td>
<td></td>
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<td></td>
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<tr>
<td>FC - TRUNNION DOUBLE BALL, COMPACT BODY, FULL BORE</td>
<td></td>
<td></td>
<td></td>
<td>EC - LCC + LF2/ENP (.003)</td>
<td></td>
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<tr>
<td>GC - TRUNNION DOUBLE BALL, COMPACT BODY, REDUCED BORE</td>
<td></td>
<td></td>
<td></td>
<td>EF - LF2 + LF2/ENP (.003)</td>
<td></td>
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</tbody>
</table>

16” CLASS 600 TRUNNION BALL VALVE, FLG-RF, FULL BORE, SINGLE PISTON EFFECT,
A105 BODY x A105 + (.003) ENP TRIM, DEVLON SEAT INSERTS, HNBR AED O-RINGS, NACE, FIRESAFE, GEAR OP

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**Example:** 12” Figure # FF600-1-CF-E2-GO

16” CLASS 600 TRUNNION BALL VALVE, FLG-RF, FULL BORE, SINGLE PISTON EFFECT,
A105 BODY x A105 + (.003) ENP TRIM, DEVLON SEAT INSERTS, HNBR AED O-RINGS, NACE, FIRESAFE, GEAR OP

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**Example:** 12” Figure # FF600-1-CF-E2-GO

16” CLASS 600 TRUNNION BALL VALVE, FLG-RF, FULL BORE, SINGLE PISTON EFFECT,
A105 BODY x A105 + (.003) ENP TRIM, DEVLON SEAT INSERTS, HNBR AED O-RINGS, NACE, FIRESAFE, GEAR OP
MODEL FF & GG
FORGED SIDE ENTRY BOLTED BODY

- GWC Italia Side Entry ball valves are used in pipelines, pumping and compression stations, offshore, onshore, subsea and cryogenic as well as abrasive and high temp applications.

- The extensive size range and pressure class are available in a variety of materials including Carbon, Alloy & Stainless steel suitable for general to severe service conditions.

- Cast Two Piece bolted body are available as well for 2”-24” class 150/300 & 2”-12” class 600.

SIZE RANGE: 2” - 64”
PRESSURE CLASS: ASME 150 - 2500
API: 2000 - 15000
API STANDARDS: 6D, 6DSS & 6A
ASME: B16.34

FEATURES
- 2-3 PIECE BODY
- FULL AND REDUCED BORE
- TRUNNION MOUNTED
- DOUBLE BLOCK AND BLEED
- SINGLE OR DOUBLE PISTON EFFECT DESIGN
- ANTI-BLOW OUT STEM
- ANTI-STATIC DEVICE
- FIRESAFE TO API-607 / 6FA / ISO 10497
- SPRING LOADED SEATS
- SEALANT INJECTION ON REQUEST
- NACE MR-01-75
GWC Italia Fully Welded Body Valves are used in pipelines and pumping compression stations as well as subsea applications.

Our welded design reduces the leakage path and makes the valves ideal for underground and subsea installations.

Welding of the two or three piece body parts are performed with a special technique so that post welding heat treatment is not required and soft seals are not subject to damage during the welding.

The extensive size range and pressure class are available in a variety of materials including Carbon, Alloy & Stainless steel suitable for general to severe service conditions.

MODEL FW & GW FORGED SIDE ENTRY WELDED BODY

<table>
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<th>FEATURES</th>
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<td>1 PIECE BODY</td>
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<td>FULL AND REDUCED BORE</td>
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<tr>
<td>TRUNNION MOUNTED</td>
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<tr>
<td>DOUBLE BLOCK AND BLEED</td>
</tr>
<tr>
<td>SINGLE OR DOUBLE PISTON EFFECT DESIGN</td>
</tr>
<tr>
<td>ANTI-BLOW OUT STEM</td>
</tr>
<tr>
<td>ANTI-STATIC DEVICE</td>
</tr>
<tr>
<td>FIRESAFE TO API-607 / 6FA / ISO 10497</td>
</tr>
<tr>
<td>SPRING LOADED SEATS</td>
</tr>
<tr>
<td>SEALANT INJECTION</td>
</tr>
<tr>
<td>NACE MR-01-75</td>
</tr>
</tbody>
</table>

SIZE RANGE: 2” - 64”

PRESSURE CLASS: ASME 150 - 1500

API STANDARDS: 6D & 6DSS

ASME: B16.34
GWC ITALIA – PROVEN TECHNOLOGY FOR INDIVIDUAL VALVE SOLUTIONS WORLDWIDE

MODEL FT & GT TOP ENTRY BOLTED BONNET

- GWC Italia Top Entry ball valves are used in pipelines, pumping and compression stations, offshore, onshore, subsea and cryogenic as well as abrasive and high temp applications.
- The Top Entry design permits full repair in line and also allows the valve to be welded in line allowing easy maintenance.
- The cast or forged one piece body and bolted bonnet allows for the use of a full range of materials including Carbon, Alloy & Stainless steel suitable for general to severe service conditions.

SIZE RANGE: 2” - 56”
PRESSURE CLASS: ASME 150 - 2500
API: 5000-15000
API STANDARDS: 6D & 6A
ASME: B16.34

FEATURES
- 1-PIECE BODY
- FULL AND REDUCED BORE
- TRUNNION MOUNTED
- DOUBLE BLOCK AND BLEED
- SINGLE OR DOUBLE PISTON EFFECT DESIGN
- ANTI-BLOW OUT STEM
- ANTI-STATIC DEVICE
- FIRESAFE TO API-607 / 6FA / ISO 10497
- SPRING LOADED SEATS
- SEALANT INJECTION ON REQUEST
- NACE MR-01-75
• GWC Italia Twin ball design are used in pipelines, pumping and compression stations, offshore, onshore, subsea and cryogenic as well as abrasive and high temp applications.

• This ultimate trunnion mounted ball valve double block & bleed feature is achieved by two ball valves housed in a single body.

• Each valve maintains all the standard and optional features of a side entry valve with floating independent seat rings, SPE or DPE seat rings, soft or metal seats, Internal overlay and extended stem if required.

• The space between the two valves houses a drain valve, the upstream and down stream side of the valve are completely isolated.

• The two valves can be operated with any type of actuation.

• The main advantages of the twin balls valve are reduced face to face, weight, costs savings and increased line structure.

MODEL FC & GC
FORGED COMPACT BODY (DB&B)

FEATURES
► 1-3 PIECE BODY
► FULL AND REDUCED BORE
► TRUNNION MOUNTED
► DOUBLE BLOCK AND BLEED
► SINGLE OR DOUBLE PISTON EFFECT DESIGN
► ANTI-BLOW OUT STEM
► ANTI-STATIC DEVICE
► FIRESAFE TO API-607 / 6FA / ISO 10497
► SPRING LOADED SEATS
► SEALANT INJECTION ON REQUEST
► NACE MR-01-75

SIZE RANGE: 1" - 36"
PRESSURE CLASS: ASME 150 - 2500
API: STANDARD API 6D
ASME: B16.34
TRUNNION MOUNTED FEATURES - SEAT FEATURES

GWC can supply a range of seat types and configurations to meet specific process needs:

GWC ITALIA SpA trunnion mounted ball valves standard seat rings are soft-seated by the use of a thermoplastic or elastomeric or Metal Seats – Tungsten / Chrome carbide / ENP

Single Piston (SPE) , Double Piston effect (DPE) and Combination (SPE x DPE) seats are available.

Seat Principle:
- Two independent seat rings grant the sealing barrier against the line pressure acting on the upstream and downstream sides of the valve which allows the valve to be bidirectional.
- A set of coil springs acting between the upstream side of each seat ring and the body, generate an uniform thrust on the seat which push the same against the ball and grant the sealing feature with no or very low pressure in the line, when the line pressure increase the thrust acting on the seat increases proportionally and the sealing feature is granted throughout the full pressure range.
- The GWC ITALIA SpA trunnion mounted ball valves are available with Double Block & Bleed independent of the seat type.

Valve seating variations:

<table>
<thead>
<tr>
<th>Seat Design</th>
<th>Single piston effect (SPE)</th>
<th>Double piston effect (DPE)</th>
<th>Combined DIB 2</th>
</tr>
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<tbody>
<tr>
<td>Bi-directional sealing</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Body - Cavity Self relieving</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Double Barrier</td>
<td>No</td>
<td>Yes</td>
<td>Yes (preferred direction only)</td>
</tr>
</tbody>
</table>
SINGLE PISTON EFFECT

Single piston effect (SPE) is the standard feature for the seat rings of the GWC ITALIA SpA trunnion mounted ball valves.

On a SPE seat ring:
The pressure acting on the upstream side of the seat ring generates a force which push the seat towards the ball.
The pressure acting on the downstream side of the seat ring generates a force which pull the seat ring away from the ball.

Any overpressure which may be generated by the thermal expansion of the fluid trapped in the body cavity with the ball in fully closed position, will be automatically discharged in the line on the lower pressure side.

DOUBLE PISTON EFFECT

Double piston effect (DPE) is a standard feature for the seat rings of the GWC ITALIA SpA trunnion mounted ball valves & recommended for welded body valves. On a DPE seat ring, both the pressure acting on the upstream side of the seat ring and the pressure acting on the down stream side of the seat ring, generate a force which push the seat towards the ball.

With this type of seat ring, the eventual overpressure which may be generated by the thermal expansion of the fluid trapped in the body cavity with the ball in fully closed position, can be discharged by the use of:

- an external safety relief device.

The Double Piston Effect grants a double sealing feature, if the upstream seat ring is damaged, the down stream seat grant the sealing feature of the valve.
**TRUNNION MOUNTED BALL VALVES**

**STANDARD FEATURES**

**Stem**
- The stem is independent from the ball and is not subject to the side load generated by the line pressure acting on the ball.
- Two O-Rings and a graphite gasket grant a triple barrier and the fire safe sealing on the stem.
- A built in stem sealant injection system is provided as a standard feature.
- The standard anti blow-out feature of the stem is in accordance to API 6D and is granted by the body cover. By removing the gland bushing the upper stem gasket can be replaced for maintenance with the valve in service.

**Ball**
- In side entry valves 4” and smaller the ball is kept in position by an upper and a lower trunnion, housed in the primary body.
- In side entry valves 6” and larger the ball is kept in position by an upper and a lower trunnion housed in two bearing blocks.
- Both the trunnions absorb the side load generated by the line pressure acting on the ball, without affecting the rotation of the stem.
- Large diameter trunnions minimize the torque required to operate the valve.
- The trunnions rotate into metal-backed self-lubricating bearings.

**Emergency Seat Injection**
- Emergency grease injection fitting for seat rings are standard for 6” and larger valves.
- A needle valve, complete with non return check valve is screwed in the body and connected to the seat rings.
- The emergency sealant injection can temporarily solve leakage problems, seats shall be repaired at the first opportunity.
- For valves smaller than 6” seat sealant injection fitting can be provided in the body cavity.

**Body Vent & Drain**
- All GWC ITALIA SpA TMBV are complete with a screwed NPT Plug, located in the lower side of the body complete draining of the body cavity.
- For valves up to size 4” the drain and vent are combined in one port.
**TRUNNION MOUNTED FEATURES**

**Double Block and Bleed**
This feature permits to check the integrity of the seats without interfering with the operation of the line and the replacement of the upper stem seal with the valve in line. The body cavity can be drained and depressurized with the ball in fully closed position, this feature which is available with all type of seats (SPE, DPE or Combination) permits.

**Extended Stem:**
- Extended stem is supplied for Underground installation.
- The stem seals are located in the body Gland Plate.
- The stem extension is not affected by eventual stem seal failure.

**Extended Bonnet:**
Extended bonnets are available for Cryogenic or high temperature service or special applications requiring this facility features.
**TRUNNION MOUNTED FEATURES**

**Low Emission Stem Sealing:**
GWC ITALIA SpA
Standard stem sealing arrangement offers Low emission using a triple barrier arrangement certified to the latest ISO 15848 standard.

**Anti-Blow Stem:**
Stem is retained by the cover, the gland plate can be removed with valve in fully closed position with the body cavity vented to atmosphere. The upper stem O-ring can be replaced for maintenance with valve in service.

**Antistatic device:**
All GWC ITALIA SpA TMBV, are equipped with an antistatic device to assure the total electrical conductance between all metal parts of the valves.

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**Valves ends**
Valves are available with:
- Flanged Ends (RF or RTJ) to ASME B16.5 or ASME B16.47
- Welding Ends to ASME B16.25
- Hub Ends
- Customer specific

**Bore:**
Valve can be supplied with Full or Reduced bore in accordance with table 1 of API 6D, unless otherwise required or advised.

Valves with special Bore are available.

**Face to Face/End to End**
Dimensions are in accordance with API 6D and ASME B16.10.
Special dimensions are available.

**Painting:**
Standard external painting is Sky Blue Ral 5015, and system is suitable to protect the valve external surface during transportation and storage. Other types of painting are available on request.
TRUNNION MOUNTED FEATURES

Valve Transition pieces:
Transition pieces (pups), can be supplied for Welding Ends Valves to facilitate the welding of the valve to the line for:
• Material compatibility.
• Excessive difference in strengths and thickness between valve closures and line pipe (limit is 1.5 times).
• Avoiding damages to the valve soft seals.

Important note: when transition pieces are supplied by the customers, it is imperative to verify if the strength of the same, suitable to undergo the hydro-test of the valve without damages or deformations (1.5 times the valve maximum rated pressure).

Weld overlays
Welded overlays, with Stainless Steel, Duplex and Inconel are available on request for:
• All wetted parts
• Body wetted parts
• Seat rings housing pocket
• Stem sealing area
• Balls
ITALY production and test facilities
USA production and test facilities
Body, Ball, Seats & Stem Materials

Carbon Steel & Low Temperature Carbon Steel (Forged)
- A105N, AISI 4140, AISI4130, API 60K, API 65K, A350LF2, A350LF3, A694F52, A694F60, A694F65

Carbon Steel & Low Temperature Carbon Steel (Cast)
- A216 WCB, A352LCB, A352LCC

Martensitic Stainless Steel (Forged)
- A182F6A, A182F6ANM

Austenitic Stainless Steel (Forged)

Precipitation Hardening Stainless Steel (Forged)
- 17.4PH (A705-S17400)

Austenitic Stainless Steel (Cast)
- A351CF8, A351CF8M, A351CF3M

Super Austenitic Stainless Steel (Forged)
- A182F44 (BMO)

Super austenitic Stainless Steel (Cast)
- A351CK3MCUN

Duplex & Super Duplex (Forged)
- A182F51 (S32205), A182F53 (S32750), A182F55 (S32760)

Duplex & Super Duplex (Cast)
- A890-J92205, A8905A (A351CD4MCU)

Nickel Alloy (Forged)
- Incoloy 800 (B564-N08800), Incoloy 825 (B564-N08825), Inconel 600 (B564-N06600), Inconel 625 (B564-N06625)

Nickel Alloy (Cast)
- Incoloy B25 (A494-CU5MCUC), Inconel 600 (A94-CY40), Inconel 625 (A694-CW6MC)

Nickel-Copper Alloys (Forged)
- Monel 400(B56-N04400), Monel 500 (B564-N05500)

Nickel-Copper Alloys (Cast)
- Monel 400 (A94-M35-1)

High Alloys (Forged)
- Hastelloy C (B564-N10276)

Bolts & Nuts Materials

Carbon Steel & Low Temperature Carbon Steel
- ASTM A193 GR B7 – A194 GR 2H
- ASTM A193 GR B7M – A194 GR 2HM (NACE)
- ASTM A193 GR L7 – A194 GR 4, A193 GR L7 – A194.GR 7
- ASTM A193 GR L7M – A194 GR4M, A193 GR L7M – A194 GR 7GR M (NACE)

Austenitic Stainless Steel
- ASTM A320 GR B8 – A194 GR 8MA
- ASTM A320 GR B8M – A194 GR 8MA (NACE)

Duplex Stainless Steel
- ASTM A 453 GR 660

Material & Seal Inserts – Elastomerics

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Seals & Seat Inserts – Thermoplastic

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### RATING AND TEST PRESSURES AT AMBIENT TEMPERATURE

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(1) Ratings for Group 1.1 Materials of ASME B16.34

### Cv FLOW COEFFICIENTS (API6D)

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### Cv FLOW COEFFICIENTS (API6A)

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Cv = flow rate of water expresses in gallons per minute, at 60°F, with a pressure drop of one psig across the valve.
GWC ITALIA – PROVEN TECHNOLOGY FOR INDIVIDUAL VALVE SOLUTIONS WORLDWIDE