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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PRODUCTION & SALES GWC Valve Manufacturing (Shanghai) Co., Ltd. No 3600 Jihe Rd, Huaxin Town, Qingpu, Shanghai 201708, China ph: +86-21.597.987.99 fax: +86-21.597.987.90 Email: sales@gwcitalia.com 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

American Petroleum Institute

API-6D	Specification for Pipeline Valves
API-6D SS	Specification for Subsea Pipeline Valves
API-6A	Specification for Wellhead
	and Christmas Tree Equipment
API-6FA	Specification for Fire Test for Valves
API-607	Fire Test for Soft-Seated
	Quarter-Turn Valves
API-608	Metal Ball Valves - Flanged,
	Threaded, and Welding End
API-Q1	Specification for Quality Programs for the
	Petroleum, Petrochemical & Natural Gas

International Standards

ISO 9001:2008	Quality Management Systems
ISO 14001	Environmental Management
OHSAS 18001:2007	Occupational Health and Safety
	Management System
ISO/TS 29001	Petroleum, Petrochemical and
	Natural Gas Industries - Sector Specific
	Quality Management Systems
CE/PED	Pressure Equipment Directive
CU-TR	Technical Reglament Conformity Certificate TRCU
CRN	Canadian Registration Number
Z245.15.96	Pipeline Steel Valves
ATEX	European for explosive atmosphere
SIL3	Measurement of performance required
	for safety instrument function



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

API License API 6D Valve Type Ball Valves: Floating & Trunnion . Side Entry Bolted

Gate Valves . Slab & Expanding

Check Valves . Full opening

Size Range . ½" – 36"

Pressure Range ASME 150 to 2500

Service

Standard, NACE, High Temp. (above 300 °C/572 °F).

Bakersfield, CA (USA)



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

GWC CHINA

API License API 6D, API 6A-PSL3

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

Size Range 1" to 36"

Pressure Range ASME 150 to 2500 - API 2000 to 15000.

Service

Standard, NACE, High Temp. (above 300 °C/572 °F).

Shanghai (China)



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

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 Quality System complies with UNI EN ISO 9001:2008, API Q1 standards and CE Directive 97/23/CE (PED Directive).Responsibilities and controls concerning, implementation, maintenance and continuous improvement of the

Company Quality Management

System are fully documented via effective Quality processes.

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.



GWC ITALIA – *PROVEN TECHNOLOGY FOR INDIVIDUAL VALVE SOLUTIONS WORLDWIDE*

Valves for Cryogenic and Low Temperature Service

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





API 6A Valves API 6A PSL4 Valve Gas-test water immersion



GO - GEAR

B - BARE STEM

8. OPERATOR

L - LEVER

9. SPECIAL REQUIREMENTS

S - SUPPLY COMPLETE INFORMATION

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

- 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

MODEL FW & GW FORGED SIDE ENTRY WELDED BODY

- 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.



SIZE RANGE:2" - 64"PRESSURE CLASS:ASME 150 - 1500API STANDARDS:6D & 6DSS	ASME:	B16.34	
SIZE RANGE:2" - 64"PRESSURE CLASS:ASME 150 - 1500	API STANDARDS:	6D & 6DSS	
SIZE RANGE: 2" - 64"	PRESSURE CLASS:	ASME 150 - 1500	
	SIZE RANGE:	2" - 64"	

- ▶ 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
- ▶ NACE MR-01-75

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

- ▶ 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

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

- 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.
- This ultimate 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.



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

- 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

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:

Seat Design	Single piston effect (SPE)	Double piston effect (DPE) - DIB 1	Combined DIB 2
Bi-directional sealing	Yes	Yes	Yes
Body - Cavity Self relieving	Yes	No	Yes
Double Barrier	No	Yes	Yes (preferred direction only)







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 selflubricating 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.



Fire safe

All GWC ITALIA's complete range of Side entry, Top Entry and Welded body ball valves are certified fire safe according to API 607 / ISO 10497 - API 6 FA

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 hydrotest 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









MATERIALS

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)

 A182F304, A182F316, A182F316L, A316LN-Mod, A182F321, A182F347, XM19 (Nitronic 50)

Precipitation Hardening Stainless Steel (Forged)

• 17.4PH (A705-S17400)

Austenitic Stainless Steel (Cast)

• A351CF8, A351CF8M, A351CF3M

Super Austenitic Stainless Steel (Forged) • A182F44 (6MO)

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-N0880), Incoloy 825 (B564-N08825), Inconel 600 (B564-N06600), Inconel 625 (B564-N006625)

Nickel Alloy (Cast)

 Incoloy 825 (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

- ASTMA320 GR B8 A194 GR 8MA
- ASTMA320 GR B8M A194 GR 8MA (NACE)

Duplex Stainless Steel

• ASTM A 453 GR 660

Seals & Seat Inserts – Elastomerics

Material	Use	Seal Type	Temperature	Max Rating
HNBR	Seal	O-Ring	-25°F / 302°F (-31 °C / 150 °C)	2500
Viton AED	Seal	O-Ring	-15°F / 356°F (-26 °C / 180 °C)	2500
Viton GLT AED	Seal	O-Ring	-40°F / 356°F (-40 °C / 180 °C)	2500
Viton AED	Insert	O-Ring	-15°F / 356°F (-26 °C / 180 °C)	600
Viton GLT AED	Insert	O-Ring	40°F / 356°F (-40 °C / 180 °C)	600

Seat Inserts – Thermoplastic

Material	Seal Type	Temperature	Max Rating
Devlon	Insert	-58°F / 350°F (-50 °C / 176 °C)	2500
PTFE (Reinforced)	Insert	-148°F / 450°F (-100 °C / 220 °C)	300
PEEK	Insert	-112°F / 500°F (-80 °C / 260 °C)	2500
PCTFE	Insert	-320°F / 320°F (-196 °C / 160 °C)	1500
Nylon 6	Insert	-76°F / 284°F (-60 °C / 140 °C)	2500
Nylon 6 Mos2	Insert	-40°F / 248°F (-40 °C / 120 °C)	2500
Nylon 12	Insert	-76°F / 212°F (-60 °C / 100 °C)	2500

RATING AND TEST PRESSURES AT AMBIENT TEMPERATURE												
		RATING (1)			BODY TEST		H.P. SEAT TEST		AIR SEAT TEST			
ASIVIE CLASS	Psi	Bar	MPa	Psi	Bar	MPa	Psi	Bar	MPa	Psi	Bar	MPa
150	285	19,6	2.0	427.5	29.4	2.9	313.5	21.6	2.2	100	7	0.7
300	740	51,1	5.1	1110	76.7	7.7	814	56.2	5.6	100	7	0.7
600	1480	102,1	10.2	2220	153.2	15.3	1628	112.3	11.2	100	7	0.7
900	2220	153,2	15.3	3330	229.8	23.0	2442	168.5	16.9	100	7	0.7
1500	3705	255,3	25.5	5557.5	383.0	38.3	4075.5	280.8	28.1	100	7	0.7
2500	6170	425,5	42.6	9255	638.3	63.8	6787	468.1	46.8	100	7	0.7
API 3000	3000	207	20.7	4500	310.5	31.1	3000	207.0	20.7	100	7	0.7
API 5000	5000	345	34.5	7500	517.5	51.8	5000	345.0	34.5	100	7	0.7
API 10000	10000	690	69.0	15000	1035	103.5	10000	690.0	69.0	100	7	0.7
API 15000	15000	1035	103.5	22500	1552.5	155.25	15000	1035	103.5	100	7	0.7

 $^{\scriptscriptstyle (1)}$ Ratings for Group 1.1 Materials of ASME B16.34

Cv FLOW COEFFICIENTS (API6D)								
ASME CLASSES								
	150	300	600	900	1500	2500		
(INCITES)		[gal/min]						
2	490	430	360	320	320	190		
3 x 2	320	290	260	260	240	150		
3	1300	1060	930	900	800	460		
4 x 3	760	700	630	620	590	360		
4	2620	2220	1820	1770	1610	1020		
6 x 4	1330	1320	1200	1170	1110	740		
6	5540	5470	4570	4370	3650	2510		
8 x 6	3130	3070	2880	2800	2470	1870		
8	10970	10430	9000	8490	7100	5350		
10 x 8	5890	5820	5430	5350	4640	3690		
10	18080	17470	14690	14220	11410	8440		
12 x 10	9710	9600	9120	8840	7560	6100		
14 x 10	9120	8940	8680	8450	7120	-		
12	27170	26300	22960	21330	17160	-		
14 x 12	16440	16050	15460	16300	12520	-		
16 x 12	13530	13310	12900	12740	10680	-		
14	33200	31400	28960	24490	20900	-		
16 x 14	18330	18010	17410	15500	14280	-		
16	45160	42960	39350	33960	27990	-		
18 x 16	25230	24960	24070	21850	19210	-		
20 x 16	22230	21950	21250	19470	17130	-		
18	58410	56710	51690	45270	36260	-		
20 x 18	33860	33340	32080	29500	25180	-		
20	75730	72600	65910	57540	46620	-		
24 x 20	37260	36870	35660	32520	-	-		
24	113360	109380	98610	86160	-	-		
30 x 24	53330	52760	51400	46770	-	-		
26	132120	126410	116940	102550	-	-		
28	154110	148030	137710	125230	-	-		
30	182380	175390	160980	139120	-	-		
36 x 30	87620	86030	83440	75850	-	-		
36	264700	248260	225600	203660	-	-		

Cv FLOW COEFFICIENTS (API6A)							
5055		CLASSES					
BORE (INCHES)	3000	3000 5000					
([gal/min]					
1 13/16	270	270	240				
2 1/16	370	370	310				
3 1/8	1060	950	880				
4 1/16	1910	1730	1560				
5 1/8	2770	2770	2710				
7 1/16	5890	5890	5690				

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*







HEADQUARTERS

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