

FCX3[®]
— VALVES & CONTROLS MANUFACTURER —



**HEAVY DUTY VALVES
& CONTROLS, MADE TO LAST.[®]**

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INDEX

	ABOUT FCX3		BUTTERFLY VALVES
01	OUR MISSION	19	SERIES L1
02	INNOVATIVE TECHNOLOGY	20	SERIES L2
03	ADVANCED MANUFACTURING	21	SERIES L3
04	QUALITY CONTROL	22	SERIES L4
	BALL VALVES	23	SERIES L5
06	SERIES 3PT	24	SERIES L7
07	SERIES FWB	25	SERIES LDO & LTO
08	SERIES TET	26	SERIES L700
09	SERIES MSF & MST		CHECK VALVES
10	SERIES CTB & CFB	28	SERIES 800
11	SERIES 1PC & 2PC	29	SERIES 810 & 820
12	SERIES 2PF & 3PF		RGV VALVES
13	SERIES WOG	31	SERIES RGT
	GGC (GATE, GLOBE & CHECK) VALVES	32-33	OTHER VALVES
15	SERIES WGT	34	MARKETS
16	SERIES GLB		HOW TO SPECIFY FCX3 VALVES
17	SERIES SCH	35	SIZE / PRESSURE CLASS
		36	TYPE (SERIES) / BODY MATERIAL
		37	TRIM MATERIAL / STEM MATERIAL
		38	SEAT MATERIAL / SEAL MATERIAL
		39	END CONNECTION 1 / END CONNECTION 2
		40	OPERATION
		41	OTHER





OUR MISSION

FCX3 Inc., also known as **FCX3 USA Valves & Controls**, is a Valve, Controls & Technologies Manufacturer with headquarters in Houston, TX [U.S], with domestic and International branches that prides in providing the highest quality products, engineering and services.

Our mission and objective is to **provide the highest quality engineered products at capital projects and/or MRO (Maintenance | Repair | Operations).**

What makes FCX3 solutions unique, is our **extensive knowledge in manufacturing the highest quality valves, automation, control, technological products, supply chain network**, and our capabilities to supply tailor-made solutions to the needs of our customers. We support expansions of facilities, upgrades and/or maintenance programs (immediate | predictive | preventive stages) in order to provide safety, cost savings, supply chain solutions and process optimization to our customers.

We are a specialty valve and controls company that provides the **highest customer service**, with simplified distribution by combining tailor made solutions and we thrive on serving our customers and their projects.

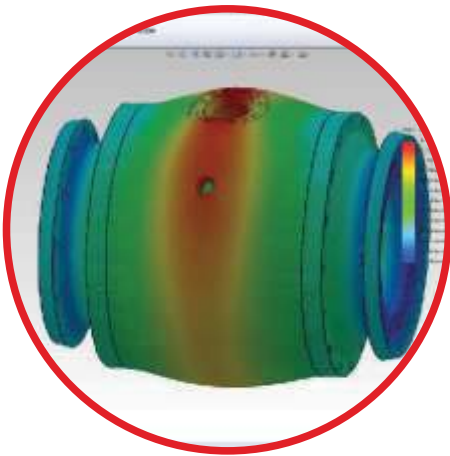
We cover process applications in the oil & gas, mining, power generation, marine, food, aerospace & specialty industrial processes.





INNOVATIVE TECHNOLOGY

Know How, Software & Testing Equipment



Robust Valve Engineering solutions

Implemented with:

- **Advanced technologies**
- **Highly engineered software**
- **Testing equipments**

Our Research & Development team research, test our newest materials, designs and valve innovations.



Technical team is dedicate to customize solutions to meet your specific applications:

- **Top-entry ball valves:** with in-line maintenance.
- **Fully-welded ball valves:** for underground service.
- **Metal to metal seated ball valves:** for high temperature service.
- **Cryogenic ball valves:** for low temperature service.
- **Gate, Globe, Check, Butterfly Valves:** Include wireless sensors to monitor valve position.
- **Valve Automation Solutions:** Customized solution for corrosive, abrasive and severe applications.





ADVANCED MANUFACTURING

Know How, Software & Testing Equipements



Our top objective is to focus in our P3 Core standards:
People , Products & Pricing.



Just in time and tailor made.



Heavy Duty Valves & Controls, made to last.®



QUALITY CONTROL

Know How, Software & Testing Equipments



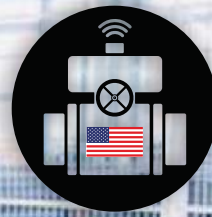
At FCX3 Inc, our Quality management team thrives to continually improve our quality in our product. Our strict guidelines and productions plans are implemented from our first steps of design, manufacturing, assembling, testing, delivery, installation and commissioning of all our valves & controls solutions. At FCX3 Inc, as part of our process inspection and testing facilities we provide the following additional services:

- Amoco 54C Inspection
- Bevel & Worm Gear Installation
- Bore Buildups & Reductions in BWE Valves
- Bypass Fabrication
- Casting Upgrades
- Cleaning for Oxygen & Special Services
- Conversion of Bolted Bonnet to Welded Bonnet
- Cryogenic Valve Fabrication
- Cryogenic Valve Testing
- Dye Penetrant Inspection
- Elastomer Inserts in Discs & Seats
- Fabrication Work
- Flange Attachments
- Flange Facing
- Fugitive Emissions Testing
- Hardness Testing
- Hydrogen Service Upgrades
- High Temperature testing
- Live Loading of Packing
- Magnetic Particle Inspection
- NACE MR0175 Upgrades
- Outside Lever & Weight on Check Valves
- Packing & Gasket Changes
- Pressure Testing Per API 598 & API 6D
- Radiographic Inspection
- Ring Type Joint (RTJ) Conversions
- Trim Change- All Alloys & Base Materials
- X-Ray Radiography
- Valve Extension



All records of valve series numbers, testing procedures, inspection, operation information and results, are traceable and kept in our records.





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BALL VALVES

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BALL VALVE - SERIES 3PT

3 Piece Body Forged Trunnion Mounted Ball Valves



Specifications

- | | |
|---------------------|---------------------------------|
| • Size Range: | 2"~48" |
| • Pressure Ratings: | 150~2500 |
| • Design Standard: | ASME B16.34/API 6D |
| • End Connection: | RF, RTJ, BW |
| • Main Material: | Carbon, Stainless, Duplex Steel |
| • Operation: | Lever, Gear, Pneumatic Actuator |



Features

- ✓ Three Pieces Forged Steel Body
- ✓ Trunnion Mounted Ball, Full & Reduced Bore
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Cavity Pressure Relief Seat
- ✓ Double Block & Bleed
- ✓ Fire Safe Design
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design
- ✓ Mechanical Stop



Optional Features

- SS304 Overlay On Seat Pocket Area
- Double Piston Effect Seats
- Combination Seats:
 - Upstream Single Piston Effect
 - Downstream Double Piston Effect Seats
- Primary Metal to Metal Seal Secondary O-Ring Seal Seats
- Emergency Sealant Injection (Standard for 6" & Larger)
- Vent Valve (Standard for 6" & Larger)
- Lifting Lugs & Supporting Feet (Standard for 8" & Larger)





BALL VALVE - SERIES FWB

Fully Welded Ball Valves



Specifications

- | | |
|---------------------|------------------------------------|
| • Size Range: | 2"~40" |
| • Pressure Ratings: | 150~2500 |
| • Design Standard: | ASME B16.34/API 6D |
| • End Connection: | RF, RTJ, BW |
| • Main Material: | Carbon, Stainless, |
| • Operation: | Lever, Gear,
Pneumatic Actuator |



Features

- ✓ Welded Forged Steel Body
- ✓ Trunnion Mounted Ball, Full & Reduced Bore
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Cavity Pressure Relief Seat
- ✓ Double Block & Bleed
- ✓ Fire Safe Design
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design
- ✓ Mechanical Stop



Optional Features

- SS304 Overlay On Seat Pocket Area
- Double Piston Effect Seats
- Combination Seats:
 - Upstream Single Piston Effect
 - Downstream Double Piston Effect Seats
- Primary Metal to Metal Seal Secondary O-Ring Seal Seats
- Emergency Sealant Injection (Standard for 6" & Larger)
- Vent Valve (Standard for 6" & Larger)
- Lifting Lugs & Supporting Feet (Standard for 8" & Larger)
- Underground Extended Stem Design





BALL VALVE - SERIES TET

Top Entry Forged Trunnion Mounted Ball Valves



Specifications

• Size Range:	2"~28"
• Pressure Ratings:	150~1500
• Design Standard:	ASME B16.34/API 6D
• End Connection:	RF, RTJ, BW
• Main Material:	Carbon, Stainless, Duplex Steel
• Operation:	Lever, Gear, Pneumatic Actuator



Features

- ✓ Three Pieces Forged Steel Body
- ✓ Trunnion Mounted Ball, Full & Reduced Bore
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Cavity Pressure Relief Seat
- ✓ Double Block & Bleed
- ✓ Fire Safe Design
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design
- ✓ Online Maintenance
- ✓ Mechanical Stop
- ✓ Emergency Sealant Injection
- ✓ Vent Valve



Optional Features

- Double Piston Effect Seats
- Combination Seats:
 - Upstream Single Piston Effect
 - Downstream Double Piston Effect Seats
- Primary Metal to Metal Seal Secondary O-Ring Seal Seats
- Lifting Lugs & Supporting Feet (Standard for 8" & Larger)





BALL VALVE - SERIES MSF & MST

Metal to Metal Seat Ball Valves



Specifications

- | | |
|---------------------|------------------------------------|
| • Size Range: | 1/2"~24" |
| • Pressure Ratings: | 150~2500 |
| • Design Standard: | ASME B16.34/BS5351/API6D |
| • End Connection: | RF, RTJ, BW |
| • Main Material: | Carbon, Stainless,
Duplex Steel |
| • Operation: | Lever, Gear,
Pneumatic Actuator |



Features

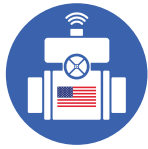
- ✓ Forged Steel Body
- ✓ Floating & Trunnion Mounted Ball
- ✓ Metal to Metal Seated Design
- ✓ Tungsten Carbide Coated Ball & Seats
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Abrasive Service With O-Ring Seals
- ✓ Leakage Rate Class V
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design



Optional Features

- High Temperature Service with Graphite Seal Design
- Emergency Sealant Injection (Standard for 6" & Larger)
- Vent Valve (Standard for 6" & Larger)
- Lifting Lugs & Supporting Feet (Standard for 8" & Larger)





BALL VALVE - SERIES CTB & CFB

Cryogenic Ball Valves



Specifications

• Size Range:	1/2"~24"
• Pressure Ratings:	150~600
• Design Standard:	ASME B16.34/BS5351/API6D
• End Connection:	RF, RTJ, BW
• Main Material:	Stainless Steel Duplex Steel
• Operation:	Lever, Gear, Pneumatic Actuator



Features

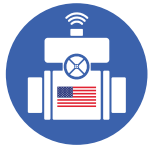
- ✓ Forged or Cast Steel Body
- ✓ Floating & Trunnion Mounted Ball
- ✓ Extended Bonnet Design
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Cavity Pressure Relief Seat
- ✓ Fire Safe Design
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design Service to - 196 C



Optional Features

- Cryogenic
- Lip Seal Available
- Emergency Sealant Injection (Standard for 6" & Larger)
- Vent Valve (Standard for 6" & Larger)
- Lifting Lugs & Supporting Feet (Standard for 8" & Larger)





BALL VALVE - SERIES 1PC & 2PC

2 Piece / 1 Piece Body Cast Floating Ball Valves



Specifications

- | | |
|---------------------|---|
| • Size Range: | 1/2"~10" (Series FC)
3/4"~6" (Series FR) |
| • Pressure Ratings: | 150~300 |
| • Design Standard: | ASME B16.34/BS5351/ API6D/API608 |
| • End Connection: | RF |
| • Main Material: | Carbon, Stainless,
Duplex Steel |
| • Operation: | Lever, Gear,
Pneumatic Actuator |



Features

- ✓ Two Pieces Forged Steel Body (Series FC)
- ✓ One Piece Cast Steel Body (Series FR)
- ✓ Floating Ball, Full & Reduce Bore
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Fire Safe Design
- ✓ Low Emission Design
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design
- ✓ Silica Sol Binder Casting
 - for WCB Size 1/2 to 1-1/2"
 - for CF8M Size 1/2 to 4"
- ✓ Extended Stem for Isolation (Optional)





BALL VALVE - SERIES 2PF & 3PF

Body Forged Floating Ball Valves



Specifications

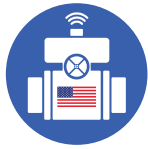
• Size Range:	1/2"~10"
• Pressure Ratings:	150~2500
• Design Standard:	ASME B16.34/BS5351/API6D
• End Connection:	RF, RTJ, BW
• Main Material:	Carbon, Stainless, Duplex Steel
• Operation:	Lever, Gear, Pneumatic Actuator



Features

- ✓ Two Pieces Forged Steel Body (Series FC)
- ✓ Floating Ball, Full & Reduce Bore
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Fire Safe Design
- ✓ Low Emission Design
- ✓ ISO 5211 Top Mounting Connection
- ✓ Lockable Design
- ✓ Extended Stem for Isolation (Optional)





BALL VALVE - SERIES WOG

Small Sizes Forged Floating Ball Valves



Specifications

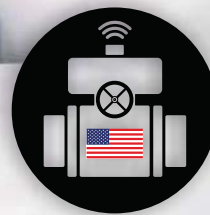
- | | |
|---------------------|---------------------------------|
| • Size Range: | 1/2"~2" |
| • Pressure Ratings: | 800~1500 |
| • Design Standard: | ASME B16.34/BS5351 |
| • End Connection: | BW, SW, NPT |
| • Main Material: | Carbon, Stainless, Duplex Steel |
| • Operation: | Lever |



Features

- ✓ Two Pieces/Three Pieces Forged Steel Body
- ✓ Floating Ball, Full & Reduce Bore
- ✓ Anti-Static Device
- ✓ Blow-out Proof Stem Design
- ✓ Fire Safe Design
- ✓ Low Emission Design
- ✓ Lockable Design
- ✓ Extended Stem for Isolation (Optional)

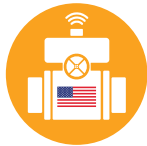




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GATE, GLOBE & CHECK VALVES

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GGC VALVE - SERIES WGT

Cast Steel Gate Valves



Specifications

- | | |
|----------------------------|--|
| • Size Range: | 2"~48" |
| • Pressure Ratings: | 150~2500 |
| • Design Standard: | ASME B16.34/API 600 |
| • End Connection: | RF, RTJ, BW |
| • Main Material: | Carbon, Alloy, Stainless, Duplex Steel |
| • Operation: | Handwheel, Gear, Motor Actuator |



Features

- ✓ Rising Stem
- ✓ Bolted Bonnet
- ✓ Flexible Wedge Design
- ✓ Swing Bolted Packing



Optional Features

- Extended Bonnet Design Available
- By-pass System
- Locking Device
- Chain Wheel Operation
- Bellow Seal Design Available
- Low Emission Design
- Double Packing Design
- Extended Stem
- ISO 5210 Top Mounting Pad
- Pressure Seal Available For Class 900 & Above





GGC VALVE - SERIES GLB

Cast Steel Globe Valves



Specifications

- | | |
|----------------------------|--|
| • Size Range: | 2"~18" |
| • Pressure Ratings: | 150~2500 |
| • Design Standard: | ASME B16.34/BS1873 |
| • End Connection: | RF, RTJ, BW |
| • Main Material: | Carbon, Alloy, Stainless, Duplex Steel |
| • Operation: | Handwheel, Gear, Motor Actuator |



Features

- ✓ Rising Stem
- ✓ Bolted Bonnet
- ✓ Conic Disc
- ✓ Swing Bolted Packing
- ✓ Impact Handwheel Standard For 6" & Above



Optional Features

- Extended Bonnet Design Available
- Locking Device
- Chain Wheel Operation
- Bellow Seal Design Available
- Low Emission Design
- Double Packing Design
- Extended Stem
- ISO 5210 Top Mounting Pad
- Pressure Seal Available For Class 900 & Above
- Stop Check Design - Screwed Down Non Return





GGC VALVE - SERIES SCH

Cast Steel Check Valves



Specifications

- | | |
|---------------------|--|
| • Size Range: | 2"~30" |
| • Pressure Ratings: | 150~2500 |
| • Design Standard: | ASME B16.34/BS1868 |
| • End Connection: | RF, RTJ, BW |
| • Main Material: | Carbon, Alloy, Stainless, Duplex Steel |
| • Operation: | N/A |



Features

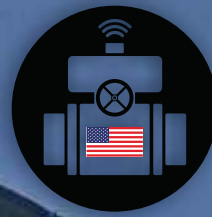
- ✓ Blot Cover
- ✓ Swing Type Disc
- ✓ Full Port
- ✓ Internal Hinge Pin Design or External Hinge Pin Design



Optional Features

- Damping Device Available
- Full Opening Pigable
- Pressure Seal Available For Class 900 & Above





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BUTTERFLY VALVES

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BUTTERFLY VALVE - SERIES L1

Pin Through Shaft Concentric Butterfly Valves



Specifications

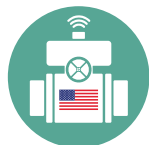
• Size Range:	DN40 ~ DN1200 (1-1/2" ~ 48")
• Pressure Ratings:	PN10 ~ PN16 (150PSI ~ 200PSI)
• Face to Face:	API609, BS EN 558, DIN3202, ISO5752
• Flange:	DIN, BS, UNI, ISO, ANSI, AS, JIS
• Body Material:	Ductil Iron, Carbon Steel,
• Operation:	Lever, Gear, Motor, Pneumatic Actuator



Features

- ✓ Wafer, Lugged or U-Flanged Type
- ✓ Pin through One Piece Shaft
- ✓ Concentric Disc
- ✓ Phenolic-backed Rubber Seat
- ✓ Bubble Tight Shut Off
- ✓ Low Torque, Long Life Cycle
- ✓ ISO5211 Top Flange





BUTTERFLY VALVE - SERIES L2

Two Shaft No Pins Concentric Butterfly Valves



Specifications

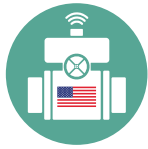
• Size Range:	DN50 ~ DN600 (2" ~ 24")
• Pressure Ratings:	PN10 ~ PN16 (150PSI ~ 200PSI)
• Face to Face:	API609, BS EN 558, DIN3202, ISO 5752
• Flange:	DIN, BS, UNI, ISO, ANSI, AS, JIS
• Body Material:	Ductil Iron
• Operation:	Lever, Gear, Motor, Pneumatic Actuator



Features

- ✓ Wafer & Lugged Type
- ✓ Two Shafts Without Pins
- ✓ Concentric Disc
- ✓ Phenolic-backed Rubber or PTFE Seat
- ✓ Bubble Tight Shut Off
- ✓ Low Torque, Long Life Cycle
- ✓ ISO5211 Top Flange





BUTTERFLY VALVE - SERIES L3

One Shaft No Pins Concentric Butterfly Valves



Specifications

• Size Range:	DN50 ~ DN400 (2" ~ 16")
• Pressure Ratings:	PN10 ~ PN16 (150PSI ~ 200PSI)
• Face to Face:	API609, BS EN 558, DIN3202, ISO 5752
• Flange:	DIN, BS, UNI, ISO, ANSI, AS, JIS
• Body Material:	Ductil Iron
• Operation:	Lever, Gear, Motor, Pneumatic Actuator



Features

- ✓ Wafer & Lugged Type
- ✓ One Shaft Without Pins
- ✓ Concentric Disc
- ✓ Soft Seat the Tongue-and-Groove Type or Vulcanized to Body
- ✓ Bubble Tight Shut Off
- ✓ Low Torque, Long Life Cycle
- ✓ ISO5211 Top Flange





BUTTERFLY VALVE - SERIES L4

PTFE Seat Split Body Concentric Butterfly Valves



Specifications

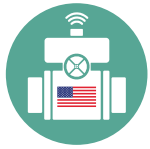
- | | |
|---------------------|--|
| • Size Range: | DN40 ~ DN400 (1-1/2" ~ 16") |
| • Pressure Ratings: | PN10 ~ (150PSI) |
| • Face to Face: | API609, BS EN 558, DIN3202, ISO 5752 |
| • Flange: | DIN, BS, UNI, ISO, ANSI, AS, JIS |
| • Body Material: | Ductil Iron |
| • Operation: | Lever, Gear, Motor, Pneumatic Actuator |



Features

- ✓ Wafer & Lugged Type
- ✓ One Shaft Without Pins
- ✓ Concentric SS Disc or SS with Teflon Coated Disc
- ✓ PTFE Over EPDM Seat For Corrosive Fluid
- ✓ Bubble Tight Shut Off
- ✓ Split Body for Easy Maintenance and Replacement
- ✓ ISO5211 Top Flange





BUTTERFLY VALVE - SERIES L5

Heavy PTFE Seat Split Body Concentric Butterfly Valves



Specifications

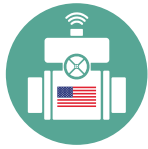
- | | |
|---------------------|--|
| • Size Range: | DN40 ~ DN400 (1-1/2" ~ 16") |
| • Pressure Ratings: | PN10 ~ (150PSI) |
| • Face to Face: | API609, BS EN 558, DIN3202, ISO 5752 |
| • Flange: | DIN, BS, UNI, ISO, ANSI, AS, JIS |
| • Body Material: | Ductil Iron, Stainless Steel |
| • Operation: | Lever, Gear, Motor, Pneumatic Actuator |



Features

- ✓ Water & Lugged Type
- ✓ Concentric SS Disc or SS with Teflon Coated Disc
- ✓ Heavy PTFE Seat For High Corrosive Fluid
- ✓ Stainless Steel Lever (Optional)
- ✓ Bubble Tight Shut Off
- ✓ ISO5211 Top Flange





BUTTERFLY VALVE - SERIES L7

Concentric Double Flange End Butterfly Valves



Specifications

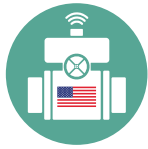
• Size Range:	DN50 ~ DN1200 (2" ~ 48")
• Pressure Ratings:	PN10 ~ PN16 (150PSI ~ 200PSI)
• Face to Face:	DIN3202, ISO 5752
• Flange:	DIN, BS, UNI, ISO, ANSI
• Body Material:	Ductil Iron
• Operation:	Lever, Gear, Motor, Pneumatic Actuator



Features

- ✓ Double Flanged Type
- ✓ Pin through One Piece or Two Pieces Shaft
- ✓ Concentric Disc
- ✓ Vulcanized Rubber Seat
- ✓ Bubble Tight Shut Off Flanged Type





BUTTERFLY VALVE - SERIES LDO & LTO

Flange End Double and Triple Offset Butterfly Valves



Specifications

• Size Range:	DN100 ~ DN1600 (4" ~ 64")
• Pressure Ratings:	Pn10 ~ Pn16 (150PSI ~ 200PSI)
• Face to Face:	DIN3202, ISO 5752
• Flange:	DIN, BS, UNI, ISO, ANSI
• Body Material:	Ductil Iron
• Operation:	Lever, Gear, Motor, Pneumatic Actuator



Features

- ✓ Two Pieces Shaft
- ✓ Double and Triple Offset Disc
- ✓ Rubber Seat Seal to Welded Deposited Body Ring
- ✓ Bubble Tight Shut Off





BUTTERFLY VALVE - SERIES L700

Grooved End Butterfly Valves



Specifications

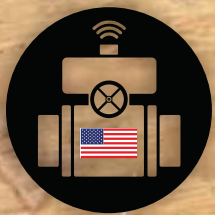
• Size Range:	DN50 ~ DN300 (2" ~ 12")
• Pressure Ratings:	Pn16 (200PSI)
• Face to Face:	MSS SP-67
• Flange:	ANSI/AWWA C606
• Body Material:	Ductil Iron
• Operation:	Lever, Gear



Features

- ✓ Grooved End Type
- ✓ Two Pieces Shaft
- ✓ Concentric Disc with Rubber Coated
- ✓ Bubble Tight Shut Off
- ✓ ISO5211 Top Flange

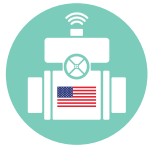




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CHECK VALVES

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CHECK VALVE - SERIES 800

Dual Plate Check Valve



Specifications

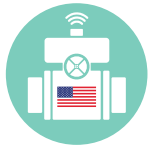
- | | |
|---------------------|-------------------------------|
| • Size Range: | DN50 ~ DN800 (2" ~ 32") |
| • Pressure Ratings: | PN10 ~ PN16 (150PSI ~ 200PSI) |
| • Face to Face: | DIN3202, ISO 5752 |
| • Flange: | DIN, BS, UNI, ISO, ANSI |
| • Body Material: | Ductil Iron, Cast Iron |
| • Operation: | N/A |



Features

- ✓ Dual Plate Wafer Type
- ✓ Rubber Seat Vulcanized to Body
- ✓ Dual Corrosion Resistant Springs
- ✓ Bubble Tight Shut Off





CHECK VALVE - SERIES 810 & 820

Clappet Check Valve



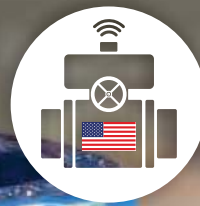
Specifications

• Size Range:	DN32 ~ DN600 (1-1/4" ~ 24")
• Pressure Ratings:	Pn10 ~ PN40
• Face to Face:	Manufacturer Standard
• Flange:	DIN, BS, UNI, ISO, ANSI
• Body Material:	Carbon, Stainless Steel
• Operation:	N/A



Features

- ✓ Single Plate type
- ✓ Non-Spring Loaded (Series 810)
- ✓ Spring Loaded (Series 820)
- ✓ Rubber O-ring or PTFE O-ring
- ✓ With Lifting Eye Bolt



FCX3[®]
— VALVES & CONTROLS MANUFACTURER —

RESILIENT GATE VALVES (RGT)

WWW.FCX3.COM



RGV VALVE - SERIES RGT

Resilient Gate Valve



Specifications

End or Socket End (For PVC Pipe)

- | | |
|---------------------|--|
| • Size Range: | DN40 ~ DN800 (1-1/2" ~ 32") |
| • Pressure Ratings: | Pn10 ~ Pn16 (150PSI ~ 200PSI) |
| • Face to Face: | DIN 3352/3202 F4 & F5, Bs5163, AWWA C509 |
| • Flange: | DIN, BS, UNI, ISO, ANSI, AWWA, AS |
| • Body Material: | Ductil Iron |
| • Operation: | Handwheel, Cap, Gear, Motor Actuator |



Features

- ✓ Flanged
- ✓ Non-Rising Stem
- ✓ Rubber Coated Wedge
- ✓ Full and Straight Bore
- ✓ Epoxy Coated Internally and Externally
- ✓ SS Bolts with Plastic Sealed
- ✓ Class PN25 Heavy Body (Optional)
- ✓ Extended Stem for Underground Use (Optional)
- ✓ WRAS Standard (Optional)





OTHER VALVES

Specialty Valves & Valves Automation

Pig Launcher /
Receiver Ball Valve



Subsea Ball Valves



Twin Ball Valves/
Double block & bleed



Plug Valve



API 602 Gate Valves



API 603 Gate Valves



Pressure Bellow Seal
Gate Valves



API 594 Water Check Valve



Series 410 Butterfly Valve



High Performance
Butterfly Valves



Metal Seat Cast
Iron Gate Valves



Y-Stainer





OTHER VALVES

Specialty Valves & Valves Automation

Push Through Knife Gate Valve



Zero Leakage Knife Gate Valve



Double Expanding Gate Valves



Control Valve Modulation Solutions



Electric Actuator and Valves



Pneumatic Actuators and Valves



Direct Gas Actuators and Valves



Gas Over Oil Actuators and Valves



Electrohydraulic Actuators and Valves



Partial Stroke



Hydraulic Power unit



Push Button Enclosures





MARKETS



★ Head Quarters Factory

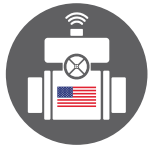
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- Brazil
- Peru
- Australia
- Indonesia
- Malaysia
- Singapore
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- Pakistan
- UAE
- Oman
- Germany
- France
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- Netherlands

OTHER MARKETS

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- Bahrain
- Belgium
- Czech Republic
- Denmark
- Egypt
- Greece
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- Kazakhstan
- Korea
- Kuwait
- Mexico
- New Zeland
- Nigeria
- Philippines
- Poland
- Portugal
- Puerto Rico
- Qatar
- South Africa
- Sweden
- Thailand
- Turkey
- Vietnam





HOW TO SPECIFY FCX3 VALVES

Size / Pressure Class



SIZE		CODE 1	CODE 2
INCHES	MM		
1/4"	8	0	25
3/8"	10	0	375
1/2"	15	0	5
3/4"	20	0	75
1"	25	0.1	0
1-1/4"	32	0.1	25
1-1/2"	40	0.1	5
2"	50	0.2	0
2-1/2"	65	0.2	5
3"	80	0.3	0
4"	100	0.4	0
6"	150	0.6	0
8"	200	0.8	0
10"	250	10	0
12"	300	12	0
14"	350	14	0
16"	400	16	0
18"	450	18	0
20"	500	20	0
22"	550	22	0
24"	600	24	0
26"	650	26	0
28"	700	28	0
30"	750	30	0
32"	800	32	0
40"	900	40	0
42"	1050	42	0
48"	1200	48	0
60"	1500	60	0
70"	1750	70	0
72"	1800	72	0
90"	2250	90	0
96"	2400	96	0

PRESSURE CLASS	CODE
ANSI 150	150
ANSI 300	300
ANSI 600	600
ANSI 900	900
ANSI 1500	1500
ANSI 2200	220
800	800
1000	1K
1500	1.5K
2000	2K
3000	3K
4000	4K
5000	5K
10000	10K
20000	20K
30000	30K





HOW TO SPECIFY FCX3 VALVES

Type - Series / Body Material



TYPE	SERIES
WOG BALL	WOG (800-1500)
1 PIECE CAST FLOATING BALL VALVE	1PC
2 PIECE CAST FLOATING BALL VALVE	2PC
1 PIECE FORGED FLOATING BALL VALVE	1PF
2 PIECE FORGED FLOATING BALL VALVE	2PF
3 PIECE FORGED FLOATING BALL VALVE	3PF
2 PIECE TRUNNION BALL VALVE	2PT
3 PIECE TRUNNION BALL VALVE	3PT
FULLY WELDED BALL VALVE	FWB
TOP ENTRY FORGED TRUNNION	TET
METAL SEATED FLOATING BALL VALVE	MSF
METAL SEATED TRUNNION BALL VALVE	MST
SWING CHECK VALVES	SCH
WEDGE GATE VALVES	WGT
SLAB GATE VALVES	SGT
THROU CONDUIT GATE VALVES	TCG
GLOBE VALVES	GLB
ZERO LEAKAGE KNIFE GATE	ZLK
PUSH THROUGH KNIFE GATE	TKG
DOUBLE OFFSET BUTTERFLY VALVE	LDO
TRIPLE OFFSET BUTTERFLY VALVE	LTO
NEEDLE VALVE	NEE
PLUG DOUBLE BLOCK AND BLEED	DBB
PLUG SLEEVE	PLS
CRYOGENIC TRUNNION BALL VALVES	CTB
CRYOGENIC FLOATING BALL VALVES	CFB
DOUBLE EXPANDING GATE VALVE	DGT
BUTTERFLY VALVE SERIES L1	BL1
BUTTERFLY VALVE SERIES L2	BL2
BUTTERFLY VALVE SERIES L3	BL3
BUTTERFLY VALVE SERIES L4	BL4
BUTTERFLY VALVE SERIES L5	BL5
BUTTERFLY VALVE SERIES L7	BL7

BODY MATERIAL	CODE
BRASS	1
CAST IRON	CI
ASTM A105	105
LF2	4
STAINLESS STEEL (CF8M)/F316	5
ALLOY 20 (CN-7M)	A2
MONEL	8
HASTELLOY C (CW12MW)	HC
ALLOY 31	31
INCONEL	I
NI-RESIST	NR
17.4 PH SS (CB7CU1)	CB
2205 (CD3M)	22
2507 (CE3MN)	25
AL6XN (CN3MN) (254SMO EQUIV)	6X
TITANIUM GRADE 2	T5
TITANIUM GRADE 8	T8
OTHER	XX
STELLITE	STE
BLANK	0
CARBON STEEL	CS
ASTM A216 WCB	216
ASTM A216 WCB+SS316	216+316





HOW TO SPECIFY FCX3 VALVES

Trim Material / Stem Material



TRIM MATERIAL	CODE
BRASS	1
CAST IRON	CI
CARBON STEEL (ASTM A 105)	CS
LF2	4
STAINLESS STEEL (CF8M)/F316	5
ALLOY 20 (CN-7M)	A2
MONEL	8
HASTELLOY C (CW12MW)	HC
ALLOY 31	31
INCONEL	I
NI-RESIST	NR
17.4 PH SS (CB7CU1)	174
2205 (CD3M)	22
2507 (CE3MN)	25
AL6XN (CN3MN)(254SMO EQUIV)	6X
TITANIUM GRADE 2	T5
TITANIUM GRADE 8	T8
OTHER	XX
STELLITE	STE
BLANK	0
LF2+0.001 ENP	L1E
LF2+0.003 ENP	L3E
ASTM A216 WCB	216
ASTM A216 WCB+SS316	216+316
ASE	A 105+STAINLESS STEEL+ENP

STEM MATERIAL	CODE
BRASS	1
CAST IRON	CI
CARBON STEEL (ASTM A 105)	CS
LF2	4
STAINLESS STEEL (CF8M)/F316	5
ALLOY 20 (CN-7M)	A2
MONEL	8
HASTELLOY C (CW12MW)	HC
ALLOY 31	31
INCONEL	I
NI-RESIST	NR
17.4 PH SS (CB7CU1)	CB
2205 (CD3M)	22
2507 (CE3MN)	25
AL6XN (CN3MN)(254SMO EQUIV)	6X
TITANIUM GRADE 2	T5
TITANIUM GRADE 8	T8
OTHER (SPECIFY)	XX
BLANK	0
ASTM A182 FS1+STL	18F51
410	410





HOW TO SPECIFY FCX3 VALVES

Seat Material / Seal Material



SEAT MATERIAL	CODE
BRASS	1
CAST IRON	CI
CARBON STEEL (ASTM A 105)	CS
LF2	4
STAINLESS STEEL (CF8M)/F316	5
ALLOY 20 (CN-7M)	A2
MONEL	8
HASTELLOY C (CW12MW)	HC
ALLOY 31	31
INCONEL	I
NI-RESIST	NR
17.4 PH SS (CB7CU1)	CB
2205 (CD3M)	22
2507 (CE3MN)	25
AL6XN (CN3MN) (254SMO EQUIV)	6X
TITANIUM GRADE 2	T5
TITANIUM GRADE 8	T8
OTHER (SPECIFY)	XX
BLANK	0
ASTM A182 FS1+STL	AFS

SEAL MATERIAL	CODE
BRUNA	L1
VITON	L2
TEFLON	L3
EPDM	L4
AFLS	L5
GRAPHITE O-RING WITH AFLAN TRANSEAL	L6
POLYURETHANE O RING WITH AFLAS TRANSEAL	L7
CHEMRAZ	L8
GFLT VITON	L9
SPECIAL	LX
BLANK	0
PTFE	PT





HOW TO SPECIFY FCX3 VALVES

End Connection 1 / End Connection 2

SIZE	—	PRESSURE CLASS	—	TYPE-SERIES	—	BODY MATERIAL	—	TRIM MATERIAL	—	STEM MATERIAL
SEAT MATERIAL	—	SEAL MATERIAL	—	END CONNECTION 1	—	END CONNECTION 2	—	OPERATION	—	OTHER

END CONNECTION 1	CODE
RF	RF
BW	BW
SW	SW
RTJ	RTJ
WAFER	WF
LUG	LG
FLANGED	FL
CLAMP	CL
THREADED	TH
FNPT	FNP
MNPT	MNP
BLANK	0
BUTTWELD SCH5	BW5
BUTTWELD SCH10	BW1
BUTTWELD SCH40	BW4
BUTTWELD SCH80	BW8
BUTTWELD SCH160	BW6

END CONNECTION 2	CODE
RF	RF
BW	BW
SW	SW
RTJ	RTJ
WAFER	WF
LUG	LG
FLANGED	FL
CLAMP	CL
THREADED	TH
FNPT	FNP
MNPT	MNP
BLANK	0
BUTTWELD SCH5	BW5
BUTTWELD SCH10	BW1
BUTTWELD SCH40	BW4
BUTTWELD SCH80	BW8
BUTTWELD SCH160	BW6



HOW TO SPECIFY FCX3 VALVES

Operation



OPERATION	CODE
HANDWHEEL	HWH
CHAINWHEEL	CWH
PNEUMATIC SCOTCH YOKE FAIL OPEN	PSO
PNEUMATIC SCOTCH YOKE FAIL CLOSE	PSC
PNEUMATIC SCOTCH YOKE FAIL LAST	PSL
PNEUMATIC RACK AND PINION FAIL OPEN	PRO
PNEUMATIC RACK AND PINION FAIL CLOSE	PRC
PNEUMATIC RACK AND PINION FAIL LAST	PRL
ELECTRIC ACTUATOR FAIL LAST	EFL
ELECTRIC ACTUATOR FAIL OPEN	EFO
ELECTRIC ACTUATOR FAIL CLOSE	EAC
HYDRAULIC ACTUATOR FAIL OPEN	HAO
HYDRAULIC ACTUATOR FAIL CLOSE	HAC
HYDRAULIC ACTUATOR FAIL LAST	HAL
BEVEL GEAR	BGE
WORM GEAR	WGE
RATCHET HANDLE	RHA
HAND LEVER	HLE
BARE STEM	BRS
MANUAL	MAN





HOW TO SPECIFY FCX3 VALVES

Other

SIZE	—	PRESSURE CLASS	—	TYPE-SERIES	—	BODY MATERIAL	—	TRIM MATERIAL	—	STEM MATERIAL
SEAT MATERIAL	—	SEAL MATERIAL	—	END CONNECTION 1	—	END CONNECTION 2	—	OPERATION	—	OTHER

OTHER	CODE
VALVE FULL PORT	FPOR
VALVE REDUCED PORT	RPOR
LIMIT SWITCHES (MECHANICAL)	LSWM
LIMIT SWITCHES (PROXIMITY)	LSWP
FILTER	FILT
REGULATOR	REGU
SS TUBBING/FITTINGS	SSTF
POSITIONER 4-20MA	P420
3 WAY 2 POSITION SOLENOID SS VALVE	3W2S
4 WAY 2 POSITION SOLENOID SS VALVE	4W2S
5 WAY 2 POSITION SOLENOID SS VALVE	5W2S
SS BOLTS/SS NUTS	SSBN
CLOSED LOOP	CLOL
BLANK	0
SOLAR PANELS 24 VDC	SP24
CLASS 1 DIV 1 GR C&D	CL11
CLASS 1 DIV 2 GR C&D	CL12
NEMA 4X	NE4X
NEMA 7X	NE7X
IP65	IP65
IP66	IP66
IP67	IP67
IP68	IP68
MECHANICAL PARTIAL STROKE DEVICE	MPST
ELECTRICAL PARTIAL STROKE DEVICE	EPST
PUSH BUTTON ENCLOSURE WEATHER PROOF	PBEW
PUSH BUTTON ENCLOSURE CLASS 1 DIV 1 GR C&D	PBEX
MANUAL HANDWHEEL ADAPTER	MHAA
HYDRAULIC PUMP	HYDP
V MAP SOLENOIDS	V MAP1
UL1709 FIREPROOF JACKETS	ULFIR
K-GUARD° FIRE RETARDANT COATING	KGfir
WIRELESS MONITOR SENSOR SERIES 200	F200
OTHER	9999



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