



# BALL VALVES & AUTOMATION PRODUCT OVERVIEW



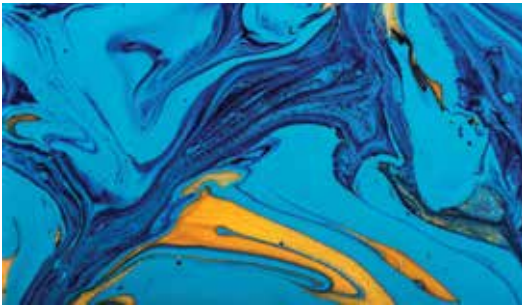
# INTRODUCTION

Marwin Valve is a leading manufacturer of high quality quarter-turn ball valves and automated accessories. Marwin recognizes that many applications are unique and may require specialized attention. Our creative engineering department and quality manufacturing practices enable Marwin Valve to offer the convenience of standard features with the option of customizing for specific processes. Our extensive product range includes two piece, three piece, flanged and multi-port valves. In addition, Marwin specializes in non-standard ball valves including metal-seated, cryogenic, control and special-seated ball valves.



## TWO PIECE BALL VALVES (4-6)

- » Direct mount options
- » Body materials include brass, stainless steel and carbon steel
- » Pressures up to 6000 psi (414 bar)



## THREE WAY BALL VALVES (12-14)

- » Direct mount options
- » Body materials include brass, stainless steel and carbon steel
- » Pressures up to 1000 psi (70 bar)
- » L or T port combinations
- » Standard and customized automation packages



## AUTOMATION (17-19)

- » Standard and customized automation packages



## THREE PIECE BALL VALVES (7-11)

- » Direct mount options
- » Wide range of body materials including brass, stainless steel, carbon steel and alloy materials
- » Pressures up to 6000 psi (414 bar)
- » Wide range of seat options including metal seated
- » Standard and customized automation packages



## FLANGED BALL VALVES (15-16)

- » ISO 5211 mounting pad
- » API 607 fire safe option
- » Wide range of body materials including brass, stainless steel, carbon steel and alloy materials
- » Standard and customized automation packages



# TWO PIECE BALL VALVES

Two piece valves have one piece that includes an end connection and the body, plus a second piece that fits into the first that will hold the trim in place and provide the second end connection. The two pieces allows disassembly of the valve for replacement of the internals.

Two piece ball valves are probably the most widely used ball valve. The 2 piece valve will open or shut off flow on most liquids and gases quickly and easily and is suitable for almost any application where a simple on/off action is needed.

Marwin Valve offers five different styles of two piece ball valves including a variety of body materials, direct mount options, and pressure ratings up to 6000 psi (414 bar).

Refer to pages 15-19 for two piece flanged ball valves.

# 9000

## Two-Piece Ball Valves

2-piece 1000 CWP carbon and stainless steel ball valve; cost effective valve for common fluid control applications.



Sizes	1/2" - 2" (DN15-50) Reduced Port; 1/4" - 3" (DN8-80) Full Port
Maximum Pressure	up to 1000 psi (69 bar)
Temperature Range	-20°F to +400°F (-29°C to +204°C)
Steam Pressure	up to 125 psig (8,6 bar)
Body Materials	Carbon Steel and Stainless Steel
End Connections	NPT
Options	-

# DM9900

## Two-Piece Ball Valves

2-piece direct mount 1000 CWP stainless steel ball valve with O-ring energized Teflon seat; for low torque, ISO 5211 direct mount actuator pad

Sizes	1/2" - 2" (DN15-50) Full Port
Maximum Pressure	up to 1000 psi (69 bar)
Temperature Range	-20°F to +325°F (-29°C to +163°C)
Steam Pressure	-
Body Materials	Stainless Steel
End Connections	NPT
Options	Automation



# 9700

## Two-Piece Ball Valves

2-piece direct mount 6000 psi ball valve designed for oil and natural gas. Class 2500, API 607 fire-safe, seal-welded API 608 ball valve with locking handle



Sizes	1/2" - 2" (DN15-50) Reduced Port; 1/4" - 1-1/2" (DN8-40) Full Port
Maximum Pressure	up to 6000 psi (414 bar)(Class 2500) CWP; 150 psi (10 bar) with saturated steam
Temperature Range	-4°F to +176°F (-20°C to +80°C) Delrin seats; -4°F to +464°F (-20°C to +240°C) PEEK seats
Steam Pressure	-
Body Materials	Stainless Steel or Carbon Steel
End Connections	ASME B1.20.1 (NPT); ASME B16.11 (SW); SAE J1926 (ORB)
Options	Automation

# 600

## Two -Piece Ball Valves



2-piece 600 CWP brass ball valve; cost effective valve for common fluid control applications.

Sizes	1/2" - 2" (DN15-50) Reduced Port; 1/4" - 4" (DN8-100) Full Port
Maximum Pressure	up to 600 psi (40 bar)
Temperature Range	-20°F to +325°F (-29°C to +163°C)
Steam Pressure	up to 125 psi (8,6 bar)
Body Materials	Brass
End Connections	NPT, Solder
Options	-

# DM600

## Two -Piece Ball Valves

2-piece direct mount 600 CWP brass ball valve, with O-ring energized Teflon seats for low torque, ISO 5211 direct mount actuator pad

Sizes	1/4" - 4" (DN8-100) Full Port
Maximum Pressure	up to 600 psi (40 bar)
Temperature Range	-20°F to +325°F (-29°C to +163°C)
Steam Pressure	-
Body Materials	Brass
End Connections	NPT
Options	Automation





# THREE PIECE BALL VALVES

Three piece ball valves consist of three pieces, two end caps and a body. The end caps are threaded, flanged or welded on both sides for them to connect to the desired pipe.

If your processes put heavy pressure or demand on valves, you need to routinely maintain the valve's components in order to ensure they are working optimally at all times. Three piece valves are very reliable in high-demand process that require routine maintenance. It is easy to replace seats, seals and any other components that are worn out. It is also easy to disassemble, service and reassemble - all without having to cut the pipe.

Marwin Valve offers a robust selection of three piece valves including API 607 fire tested certified, metal seated, and direct mount. In addition, a selection of high performance valves that come with a variety of body materials, end connections and options are also available.

# 4700

## Three-Piece Ball Valves



3-piece 2000 CWP carbon or stainless steel ball valve, API 607 fire tested (standard), ISO 5211 direct mount actuator pad, locking handle, tongue & groove body seal, spring loaded packing, in-line maintainable

Sizes	1/2" - 4" (DN15-100) Full Port
Maximum Pressure	1/2" - 2": up to 2000 psi (138 bar); 2-1/2" - 4": up to 1000 psi (69 bar)
Temperature Range	-20°F to +450°F (-29°C to +232°C)
Steam Pressure	up to 150 psig (10,36 bar) RPTFE seats; up to 250 psi (17,2 bar) CRPTFE seats
Body Materials	Carbon Steel and Stainless Steel
End Connections	NPT, Socket Weld
Options	Seat and packing materials, special service preparation, upstream vented ball, fusible link, gear operator, automation

# 8700

## Three-Piece Ball Valves

3-piece 1000 CWP carbon or stainless steel ball valve, ISO 5211 direct mount actuator pad, locking handle, tongue & groove body seal, live loaded packing, in-line maintainable

Sizes	1/2" - 2" (DN15-50) Full Port
Maximum Pressure	up to 1000 psi (69 bar)
Temperature Range	-20°F to +450°F (-29°C to +232°C)
Steam Pressure	up to 175 psi (12,1 bar) RPTFE seats
Body Materials	Carbon Steel and Stainless Steel
End Connections	NPT, Socket Weld
Options	Seat and packing materials, special service preparation, upstream vented ball, fusible link, gear operator, automation



# 4600

## Three-Piece Ball Valves



Brass, 3-piece 600 CWP ball valve, swing-out design, cost effective valve for common fluid control applications

Sizes	1/4" - 2-1/2" (DN8-65) Full Port
Maximum Pressure	up to 600 psi (40 bar)
Temperature Range	-20°F to +325°F (-29°C to +163°C)
Steam Pressure	up to 125 psig (8,6 bar)
Body Materials	Brass
End Connections	NPT, Solder
Options	-



## CV4700

### V-Port Three-Piece Ball Valves



Characterized control valve with V-port ball, ISO 5211 actuator mounting pad, locking lever handle, Graphoil packing, API 607, 5th Edition fire tested

Sizes	1/2" - 2" (DN15-50) Full Port
Maximum Pressure	up to 2000 psi (138 bar)
Temperature Range	-20°F to +450°F (-29°C to +232°C)
Body Materials	Carbon Steel and Stainless Steel
End Connections	NPT, Socket Weld
Options	30° or 60° V-Port, seat and packing materials, special service preparation, automation

## FW4700

### Boiler Feedwater Three-Piece Ball Valves

Characterized V-port ball control valve with industrial proportional control valve/damper motor for economical control and tight shutoff.

Sizes	1/2" - 2" (DN15-50) Full Port
Maximum Pressure	ASME Class 300 / 740 psi (51 bar) CWP
Temperature Range	325°F ( +163°C)
Body Materials	Carbon Steel and Stainless Steel
End Connections	NPT, Socket Weld
Options	30° or 60° V-Port, 4-20mA and 0-135 ohm proportional control, 120 VAC transformer, 0-135 ohm feedback potentiometer





# 3000

## High Performance Three -Piece Ball Valves

High pressure valve with encapsulated seats up to 4000 (275) CWP, triple stem seal, dual body seals and individually bolted end caps, API 607 fire tested

Sizes	1/2" - 4" (DN15-100) Reduced Port; 1/4" - 3" (DN8-80) Full Port
Maximum Pressure	up to 4000 psi (275 bar)
Temperature Range	-20°F to +600°F (-29°C to +316°C)
Steam Pressure	up to 450 psi (31 bar) CPEEK seats
Body Materials	WCB/A105, CF8M/316SS, CF3M/316L, Alloy 20, Duplex, Hastelloy B and C, Monel, 254SMO, Titanium and other alloys
End Connections	NPT, BSPT, Extended SWE or BWE, Tube Ends, Clamp Ends, Grooved Ends, Inverted Tube Nut, SAE O-Ring Boss, Flanged (ANSI or DIN), Raised Face, Ring Type Joint, Smooth Facing
Options	Assemble dry, chlorine prep., anhydrous ammonia service, extended bonnet, locking device, limit switch, NACE service, oxygen prep, fusible link, gear operator, automation

# 10000

## High Performance Three -Piece Ball Valves

Super high pressure valve with encapsulated seats (up to Class 2500/6000 CWP), triple stem seal, dual body seals and individually bolted end caps

Sizes	1/2" - 4" , 3" x 2" (DN15-50, DN80 x 50) Sch. 160 pipe I.D.
Maximum Pressure	up to 6000 psi (415 bar)
Temperature Range	-20°F to +600°F (-29°C to +316°C)
Steam Pressure	up to 450 psi (31 bar) CPEEK seats
Body Materials	WCB/A105, CF8M/316SS, CF3M/316L, Alloy 20, Duplex, Hastelloy B and C, Monel, 254SMO, Titanium and other alloys
End Connections	NPT, BSPT, Extended SWE or BWE, Tube Ends, Clamp Ends, Grooved Ends, Inverted Tube Nut, SAE O-Ring Boss, Flanged (ANSI or DIN), Raised Face, Ring Type Joint, Smooth Facing
Options	Assemble dry, chlorine prep., NACE service, oxygen prep., extended bonnet, locking device, limit switch, gear operator, automation



## CV3000

### High Performance Three -Piece Ball Valves

Control valve with interchangeable upstream characterized plate, encapsulated seats, triple stem seal and dual body seals



Sizes	1/2" - 4" (DN15-100) Reduced Port; 1/4" - 3" (DN8-80) Full Port
Maximum Pressure	up to 4000 psi (275 bar)
Temperature Range	-20°F to +550°F (-29°C to +288°C)
Steam Pressure	up to 450 psi (31 bar) CPEEK seats
Body Materials	WCB/A105, CF8M/316SS, CF3M/316L, Alloy 20, Duplex, Hastelloy B and C, Monel, 254SMO, Titanium and other alloys
End Connections	NPT, BSPT, Extended SWE or BWE, Tube Ends, Clamp Ends, Grooved Ends, Inverted Tube Nut, SAE O-Ring Boss, Flanged (ANSI or DIN), Raised Face, Ring Type Joint, Smooth Facing
Options	Characterized inserts available; round full flow; slotted linear control; 30°, 60°, 90° V-slot and custom control slots, locking device, gear operator, automation

## MS3000

### High Performance Three -Piece Ball Valves

Carbon or metal seated valve for high temperature and wear applications, extended bonnet, enhanced packing and dual body seals, Class V shutoff

Sizes	1/4" - 2" (DN8-50) Sch. 160 pipe I.D.
Maximum Pressure	up to 990 psi (69 bar)
Temperature Range	-20°F to +1000°F (-29°C to +538°C)
Steam Pressure	up to 600 psi (41 bar) Marwear W5 seats
Body Materials	WCB/A105, CF8M/316SS
End Connections	NPT, BSPT, Extended SWE or BWE, Tube Ends, Clamp Ends, Grooved Ends, Inverted Tube Nut, SAE O-Ring Boss, Flanged (ANSI or DIN), Raised Face, Ring Type Joint, Smooth Facing
Options	Double packing, locking device, automation



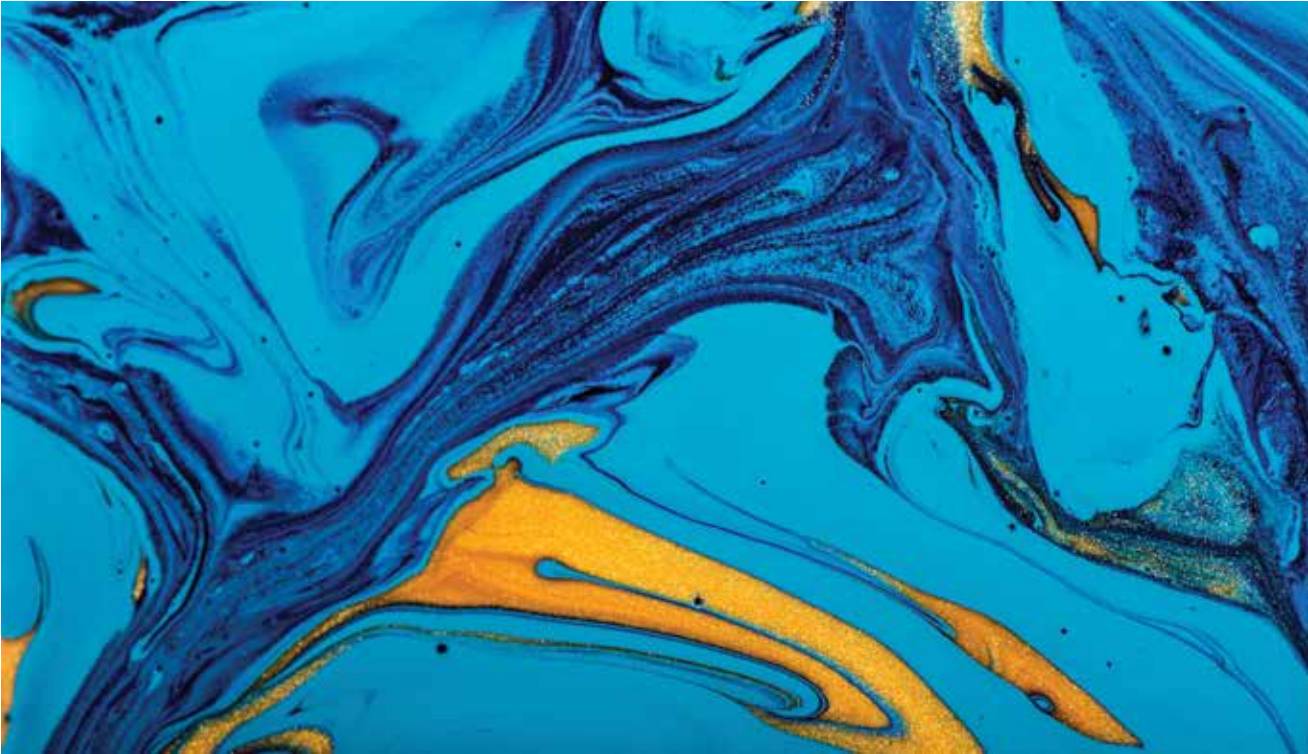
## MS11000

### High Performance Three -Piece Ball Valves

Metal seated valve for high temperature, pressure and wear applications, enhanced packing and dual body seals



Sizes	1/2" - 2" (DN15-50) Sch 160 pipe I.D. (other sizes upon request)
Maximum Pressure	up to 4500 psi (255 bar)
Temperature Range	-20°F to +1000°F (-29°C to +538°C)
Steam Pressure	-
Body Materials	A105, F11, F22, F91, 316SS, Alloys
End Connections	NPT, BSPT, Extended SWE or BWE, Tube Ends, Clamp Ends, Grooved Ends, Inverted Tube Nut, SAE O-Ring Boss, Flanged (ANSI or DIN), Raised Face, Ring Type Joint, Smooth Facing
Options	Class V, VI shut-off, limit switches, gear operator, automation



# THREE WAY BALL VALVES

Three way ball valves are used in applications with more than one source of media or to divert media in two different directions. Depending on the flow direction, the three ports are assigned as either one outlet and two inlets, or one inlet and two outlets.

Three way ball valves have three ports and can be manually operated or automated with an electric or pneumatic actuator. The bore through the ball comes in two varieties: "L" and "T" port. Three way valves can:

- » Cut off or shut off flow
- » Switch flow between two different sources
- » Combine the flow from two different sources
- » Alternate flow between two different destinations
- » Divert flow coming from one source to another destination
- » Split flow coming from one source between two outgoing destinations

## 3-L/T-2100

### Three Way Ball Valves



3-way L or T port ball valve, 4 seated, bolted-on end caps, anti-static stem, ISO 5211 actuator mounting pad, locking handle

Sizes	3/8" - 6" (DN10-150) Full Port
Maximum Pressure	up to 1000 psi (70 bar)
Temperature Range	-20°F to +400°F (-29°C to +205°C)
Body Materials	Stainless Steel and Carbon Steel
Seat Materials	PTFE
End Connections	NPT, 150# Flange
Options	L or T Port, automation

## 3T-3100/3L-3201

### Three Way Ball Valves

3-way brass bottom entry ball valve, 2-seated, T port transflow mixing valve (3T-3100) or L port non-transflow diverting valve (3L-3201), threaded-in end cap, ISO 5211 direct mount 1/4" - 2"

Sizes	1/4" - 3" (DN8-80) Full Port
Maximum Pressure	up to 300 psi (20 bar)
Temperature Range	-20°F to +400°F (-29°C to +205°C)
Body Materials	Brass
Seat Materials	PTFE
End Connections	NPT
Options	L or T Port, automation (consult factory)



# 3T-3300/3L-3400

## Three Way Ball Valves

3-way brass ball valve, 4 seated T port (3T-3300) or L (3L-3400), threaded-in end caps, ISO 5211 direct mount actuator pad, locking handle



Sizes	1/4" - 2" (DN8-50) Reduced Port
Maximum Pressure	up to 400 psi (28 bar)
Temperature Range	-20°F to +400°F (-29°C to +205°C)
Body Materials	Brass
Seat Materials	PTFE
End Connections	NPT
Options	L or T Port, automation

# 3T-3700/3L-3800

## Three Way Ball Valves

3-way reduced port stainless steel ball valve, 4 seated T port (3T-3700) or L port (3L-3800), threaded-in end caps, ISO 5211 actuator mounting pad, locking handle

Sizes	1/4" - 2" (DN8-50) Reduced Port
Maximum Pressure	up to 800 psi (55 bar)
Temperature Range	-20°F to +450°F (-29°C to +235°C)
Body Materials	Stainless Steel
Seat Materials	RPTFE
End Connections	NPT
Options	L or T Port, automation





# FLANGED VALVES

A flanged ball valve refers to a ball valve designed with flanged ends. Marwin's flanged ball valves come in Stainless Steel and Carbon Steel. However, you may contact the factory if you need flanged valves made with special alloys such as Alloy 20, Bronze, Duplex, Hastelloy B & C, Monel, 254 SMO or Titanium.

Flanged ball valves are utilized in a wide range of fluid and gas applications. Industries include energy supply and generation plants, pipeline construction, waste water plants, steel work facilities and power stations.

Flanged valves can be operated manually by positioning its lever in certain angles for open and closed positions. They can also be operated through the use of electric or pneumatic actuators.

# 2000

## Flanged Ball Valves



Cost effective, Class 150 flanged end ball valves, uni-body design and split body design, anti-static stem and ISO 5211 actuator mounting pad, locking handle

Sizes	1" - 4" (DN25-100) Reduced Port; 1/2" - 6" (DN15 - 150) Full Port
Maximum Pressure	up to 285 psi (20 bar) Class 150
Temperature Range	-20°F to +400°F (-29°C to +204°C) RPTFE seats
Steam Pressure	-
Body Materials	Stainless Steel and Carbon Steel
End Connections	Class 150 RF
Options	Seat and packing materials, special service preparation, vented ball, steam jacket, limit switches, gear operator, automation

# 5801/6801

## Flanged Ball Valves

API 607 fire safe, Class 150 and 300 flanged end ball valves, split body design, anti-static stem, live loaded packing, ISO 5211 actuator mounting pad

Sizes	5801 Series: 1/2" - 10" (DN15-250) Reduced Port; 6801 Series: 1/2" - 8" (DN15-200) Full Port
Maximum Pressure	up to 285 psi (20 bar) CL 150; up to 740 psi (51 bar) CL 300
Temperature Range	-20°F to +475°F (-29°C to +246°C) CRPTFE Seats
Steam Pressure	up to 200 psi (13,8 bar) RPTFE Seats; up to 300 psi (21 bar) CRPTFE Seats
Body Materials	Stainless Steel and Carbon Steel
End Connections	Class 150 RF & Class 300 RF
Options	Seat and packing materials, NACE, vented ball, drain tap, special service preparation, locking device, steam jacket, limit switches, fusible link, gear operator, automation







# AUTOMATION

Marwin offers a variety of automation packages - both standard and customized. Our Engineering and Sales departments work closely with our customers to ensure we provide the correct automation package for their specifications and applications.

Our electrically automated valves offer convenient and economical assemblies that cover a wide range of flow control applications. Our assemblies are available in a variety of valve materials, configurations and voltages to suit your automation needs.

For your pneumatic actuation requirements, we offer a range of air actuated valve/ actuator assemblies. Our UT Series is available in both double acting and spring return. The spring return models can be ordered in either the fail closed or fail open configuration. Optional direct mounted pilot solenoid valves reduce response time and allow for efficient operation. Other common assembly options include valve position limit switches and pneumatic or electro-pneumatic positioners.



# UT

## Pneumatic Actuators

- Double acting & spring return
- 15 sizes - torque to 44,900 in-lb (DA) and 126,500 in-lb (SR) @ 80 psi air supply
- Center located externally adjustable stops
- -4°F to +185°F (-20°C to +85°C) operating temperature standard, lower and higher temperature versions available
- Rack and pinion design
- ISO 5211 valve mounting
- NAMUR solenoid valve mounting
- VDI/VDE top accessory mounting

# ER

## Electric Actuators

- 14 sizes - torque to 27,000 in-lb
- All common currents/voltages
- NEMA 4 & 7 enclosures
- Permanently lubricated reversing SPC motors controlled by cam-adjusted limit switches
- Heavy duty gears
- All common options available



# SOLENOID VALVES

- NAMUR or nipple mount
- 3-way or 4-way
- NEMA 4 or 7
- All common currents/voltages
- High Cv



## VALVE FEEDBACK & SWITCHES

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- NEMA 4 or 7
- NAMUR mount
- Many switch options
- Sealed aluminum housing
- Visual indicator



## FUSIBLE LINK SPRING RETURN

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- Compound linkage
- Valve handle functional
- 5 link yield temperatures - 135, 165, 212, 280 and 380°F
- Heavy duty spring assemblies
- 4 styles depending upon valve size and torque
- For fire tested valves



## VALVE POSITIONERS

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- Pneumatic or electro-pneumatic
- Used on pneumatic actuators
- Compares and adjusts valve position to input control signal



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