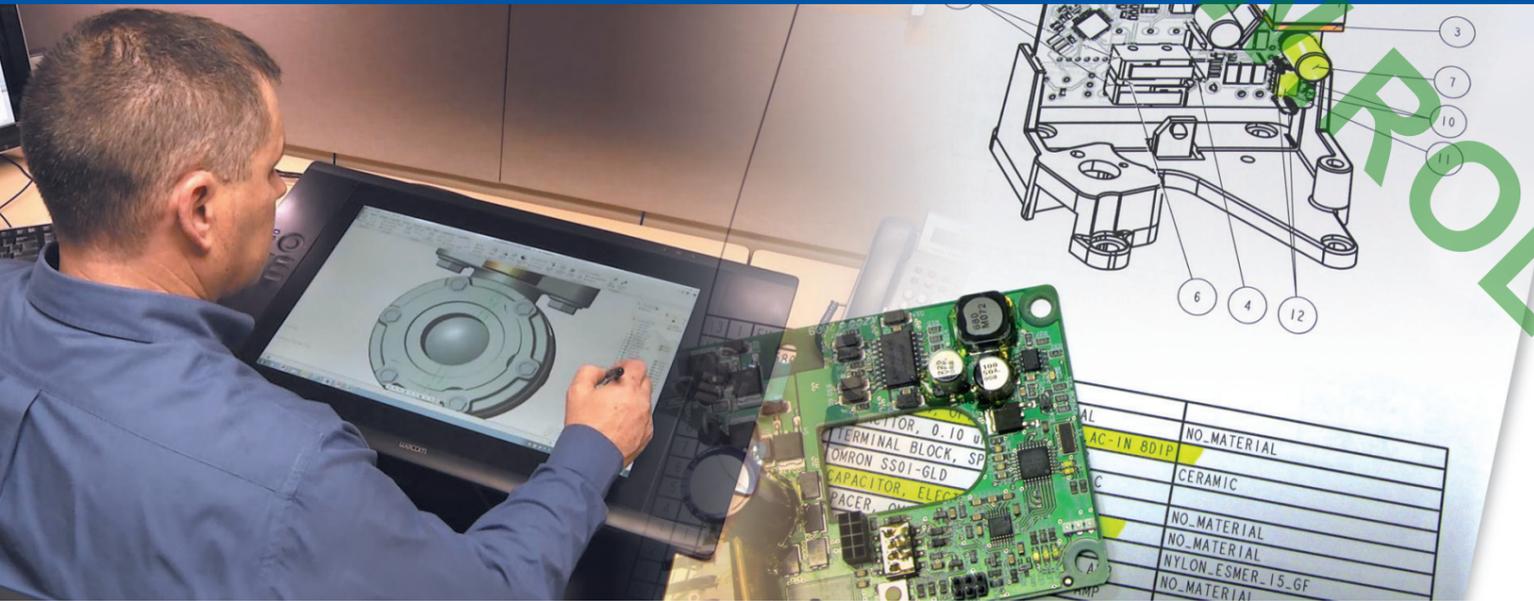


# PRECISION PLUMBING

## CUSTOM VALVE & ACTUATOR DESIGN



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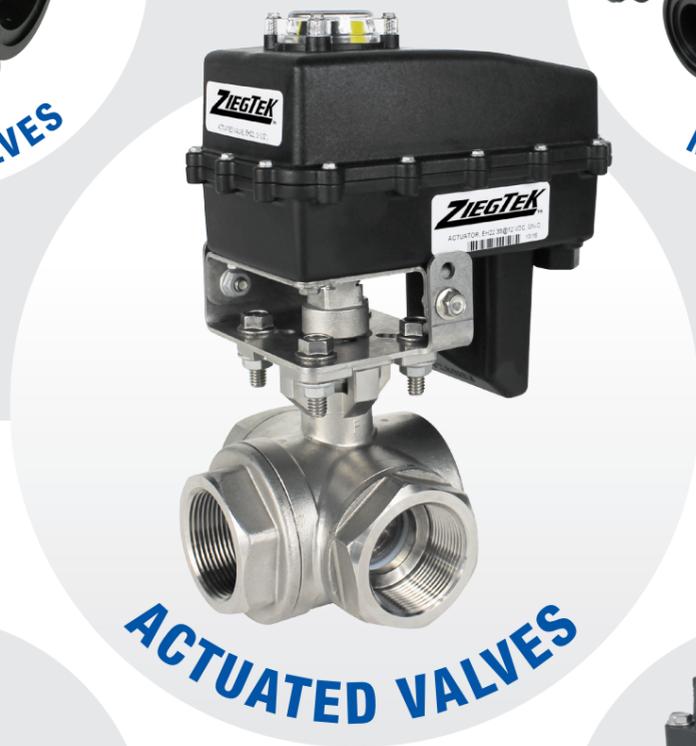


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**ZIEGTEK**  
 2018 CATALOG

WATERPROOF MOTORIZED VALVES

# 2018 PRODUCT CATALOG



CATALOG #27



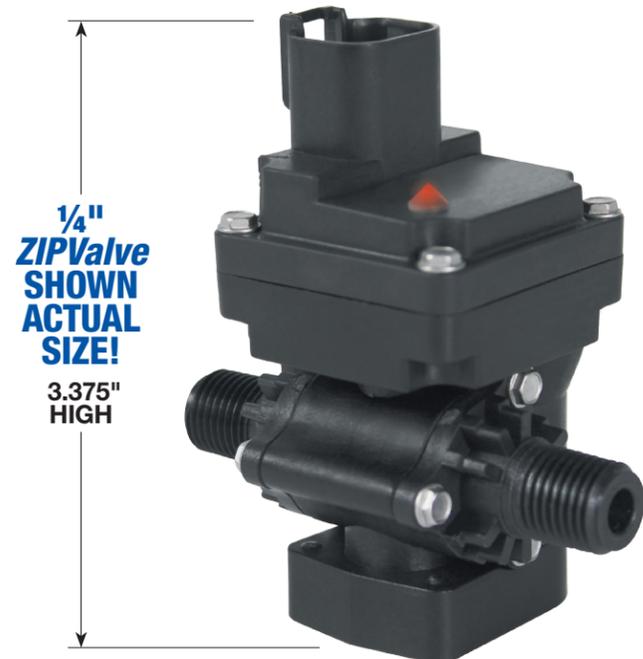


The **ZIPValve™** from ZiegTek brings innovation with its Deutsch lid connector, adding to the already popular M12 connector. Additionally, a prominent new LED indicator has been added to the **ZIPValve** lid, enhancing the visual feedback at open and close. There are also new outlet fittings, including 1/4" or 3/8" push-to-connect, and 1/4" MNPT fittings (1/4" **ZIPValve**), and 1/2" push-to-connect, and QD fork connection (3/8" **ZIPValve**).

- On/Off flow control with instantaneous shutoff to reduce wasted product
- Robust ball valve design, for the harshest conditions
- 1/4" and 3/8" standard port stainless steel balls, with multiple options for fittings
- Two types of mounting brackets are available

For more information see pages **3-4**

Or call ZiegTek at 800-288-1112 or visit [ZiegTek.com](http://ZiegTek.com)



# S SERIES

## 3-Way SS Bottom Load Valves

Whether you need a valve as a diverter, selector style, or as a more linear-regulating v-ball valve, ZiegTek's newest stainless steel valve line allows you to accomplish precision plumbing with your application.

- More linear V-ball control
- Selector style valve
- 3-way BL diverter
- 41,4 Bar (600 PSI) rating at 21°C
- 3-piece stainless steel valve

For more information see pages **55-56**

Or call ZiegTek at +1 800-288-1112 or visit [ZiegTek.com](http://ZiegTek.com)



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# WHY CHOOSE ZIEGTEK Electric Motorized Valves?

ZiegTek actuated valves are field tested not just to prove they are waterproof and durable, but to ensure maintenance free performance and long operating life. Actuator housings, electrical components, and valve components are all designed with your needs in mind—which is why leading original equipment manufacturers specify ZiegTek actuated valves for their products.

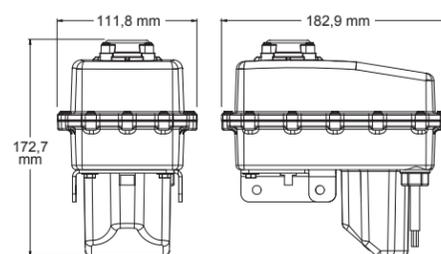
- **Waterproof actuator housings rated NEMA 6P, meets IP68**, to protect internal components from corrosion and extends actuator life
- **One-year Limited Warranty** We believe a solid warranty package allows you to purchase ZiegTek products with confidence, and it confirms the quality, reliability and long operating life our products are built to deliver.
- **Constructed with solid state components** for increased durability and maintenance-free performance
- **Valves engineered for actuation** Internal components are selected to provide long operating life and superior performance for the valve and actuator
- **CAN and ISOBUS control** of individual electric valves giving you flexible and reliable valve control
- **Custom products** ZiegTek will help you to integrate one of our existing valves into your system, or design and build almost any actuated valve to your specifications. If you can't find it anywhere else, we'll make it to meet your requirements.



## KEY FEATURES

- **Waterproof: Rated NEMA 6P, meets IP68**
- **Ignition safe: Rated NEMA 7D**
- **Solid-state components**
- **Available in various sizes and cycle times**
- **Custom products available**

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

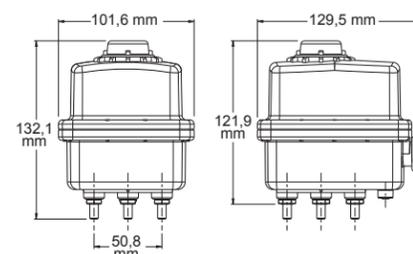


## EH2 ACTUATOR

- Valve sizes 3/4" to 3"
- 12/24 volt DC and 24 volt AC
- Weight 1.814,37 grams

Cycle Time	Maximum Breakaway Torque	Maximum Operating Torque
0,5 sec.	19,0 N·m	13,6 N·m
1,5 sec.*	34,8 N·m	24,9 N·m
3,0 sec.*	34,8 N·m	24,9 N·m
7,0 sec.*	34,8 N·m	24,9 N·m

\* Standard line cycle times

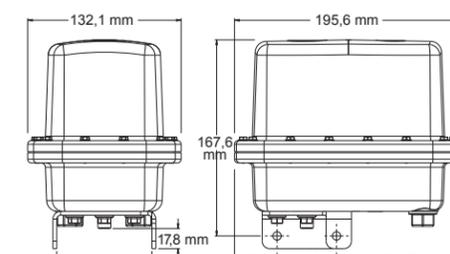


## EH3 ACTUATOR

- Valve sizes 1/4" to 1"
- 12/24 volt DC and 24 volt AC
- Weight 907,19 grams

Cycle Time	Maximum Breakaway Torque	Maximum Operating Torque
0,8 sec.*	11,9 N·m	8,5 N·m
1,5 sec.	8,5 N·m	6,2 N·m
2,5 sec.*	6,3 N·m	4,5 N·m
7,0 sec.*	6,3 N·m	4,5 N·m

\* Standard line cycle times



## EH5 ACTUATOR

- Valve sizes 1 1/2" to 5"
- 12/24 volt DC and 24 volt AC
- Weight 2.721,55 grams

Cycle Time	Maximum Breakaway Torque	Maximum Operating Torque
3,0 sec.*	62,1 N·m	39,5 N·m
7,0 sec.*	62,1 N·m	39,5 N·m
10,0 sec.*	62,1 N·m	39,5 N·m
25,0 sec.	62,1 N·m	39,5 N·m

\* Standard line cycle times

Please consult your Distributor/Key Account Manager for additional options.

## RATINGS EXPLANATION:

**Waterproof actuator housing meets the IP68 rating of the ISO 60529 Standard and is rated NEMA 6P.**

NEMA 6P: National Electrical Manufacturers Association Enclosure Type 6P - (waterproof) - Enclosures constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts; to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt); to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (hose directed water and the entry of water during prolonged submersion at a limited depth); that provides an additional level of protection against corrosion and that will be undamaged by the external formation of ice on the enclosure.

**Ignition safe actuator housing is rated NEMA 7D and meets the USCG Electrical Systems Standard.**

NEMA 7D: National Electrical Manufacturers Association Enclosure Type 7D - (ignition safe) - Enclosures are for indoor use in locations classified as Class I, Groups A, B, C, or D and shall be capable of withstanding the pressures resulting from an internal explosion of specified gases, and contain such an explosion sufficiently that an explosive gas-air mixture existing in the atmosphere surrounding the enclosure will not be ignited.

Enclosed heat generating devices shall not cause external surfaces to reach temperatures capable of igniting explosive gas-air mixtures in the surrounding atmosphere. Enclosures shall meet explosion, hydro-static, and temperature design tests. **Class I** locations are areas where flammable gases may be present in sufficient quantities to produce explosive or flammable mixtures. **Division 1** designates an environment where flammable gases, vapors, liquids, combustible dusts or ignitable fibers and flyings are likely to exist under normal operating conditions. **Group D:** Atmospheres containing gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone, benzol, lacquer solvent vapors, or natural gas.

### Standard one-year Limited Warranty

All ZiegTek standard line products come with a one-year Limited Warranty. ZiegTek will warranty all new actuators sold against defective material and/or workmanship under normal use, maintenance, and service for a period of ONE YEAR after the date of purchase. This warranty coverage applies only to the original customer and is non-transferrable. This warranty is effective as long as the goods are used for the normal purposes for which they are intended and are used in conformance with industry established engineering, installation, operating, and maintenance specifications, recommendations and instructions. Visit [www.ZiegTek.com](http://www.ZiegTek.com) for complete warranty details.



- Designed with extreme precision in mind
- **Instantaneous On/Off Control** in a compact valve design allows you to place the valve in the optimal position to provide the best possible fluid or air control
- 1/4" and 3/8" standard port motorized ball valves
- **Lid Options:** Deutsch receptacle or M12 connectors
- **Inlet/Outlets:**  
 1/4" ZIPValve 1/4" and 3/8" push-to-connect, or 1/4" MPT fittings  
 3/8" ZIPValve 1/2" push-to-connect and/or QD fork connection
- **Valve body:** Nylon
- **Ball:** 316 stainless steel
- **Stem:** 316 stainless steel
- **Valve seat:** PTFE
- **Stem seal:** Viton™
- **Compact design weighing only 113,4 grams**, which allows for more options when mounting
- **Valves are made for Actuation with a ZiegTek Waterproof EH8 Series Actuator**, providing longer valve and actuator life
- **Robust, quarter-turn electric ball valves are highly reliable** compared to solenoid and plunger valves
- **Available in two control options:**
  - **Simple 12/24 volt on/off actuation**  
 Deutsch receptacle - 12VDC only  
 M12 lid connectors - 12VDC or 24VDC
  - **Operating as an individually addressed valve on a LINBUS system (M12 only)**



**KEY FEATURES**

- Instantaneous On/Off control
- Waterproof
- Low power consumption
- Compact design
- LED open/close indication

**ZIPVALVE 2-way Motorized Ball Valves**

1/4" and 3/8" valve standard port, stainless steel ball, nylon valve body, stainless steel valve stem

- **Maximum operating pressure: 10,3 Bar (150 psi) at 21°C (push-to-connect & QD), 20,7 Bar (300 psi) at 21°C (MNPT fittings)**
- **Flow characteristics (estimated): 1/4" = 5,3 LPM at 0,07 Bar (1 PSI) drop, water 3/8" = 18,9 LPM at 0,07 Bar (1 PSI) drop, water**
- **Cycle Time: 0,2 second cycle time at 90°**
- **Voltage: 12VDC or 24VDC • 0,18 Amp current draw**

1/4" ZIPValve Part #	M12 Lid Connectors (12VDC or 24VDC)
Z00094	1/4" Male NPT fittings, M12 lid connectors, 12VDC, EH8 Actuator, On/Off
Z00095	1/4" Male NPT fittings, M12 lid connectors, 24VDC, EH8 Actuator, On/Off
Z00096	1/4" push-to-connect fittings, M12 lid connectors, 12VDC, EH8 Actuator, On/Off
Z00097	1/4" push-to-connect fittings, M12 lid connectors, 24VDC, EH8 Actuator, On/Off
Z00098	3/8" push-to-connect fittings, M12 lid connectors, 12VDC, EH8 Actuator, On/Off
Z00099	3/8" push-to-connect fittings, M12 lid connectors, 24VDC, EH8 Actuator, On/Off

Deutsch Lid Receptacle (12VDC only)	
Z00100	1/4" Male NPT fittings, Deutsch lid receptacle, 12VDC, EH8 Actuator, On/Off
Z00101	1/4" push-to-connect fittings, Deutsch lid receptacle, 12VDC, EH8 Actuator, On/Off
Z00102	3/8" push-to-connect fittings, Deutsch lid receptacle, 12VDC, EH8 Actuator, On/Off

1/4" MAXIMUM DIMENSIONS



3/8" ZIPValve Part #	M12 Lid Connectors (12VDC or 24VDC)
Z00106	QD fork connection fittings*, M12 lid connectors, 12VDC, EH8 Actuator, On/Off
Z00107	QD fork connection fittings*, M12 lid connectors, 24VDC, EH8 Actuator, On/Off
Z00104	1/2" push-to-connect fittings, M12 lid connectors, 12VDC, EH8 Actuator, On/Off
Z00108	1/2" push-to-connect fittings, M12 lid connectors, 24VDC, EH8 Actuator, On/Off

Deutsch Lid Receptacle (12VDC only)	
Z00105	QD fork connection fittings*, Deutsch lid receptacle, 12VDC, EH8 Actuator, On/Off
Z00103	1/2" push-to-connect fittings, Deutsch lid receptacle, 12VDC, EH8 Actuator, On/Off

3/8" MAXIMUM DIMENSIONS



Please consult your Distributor/Key Account Manager for additional options.

\*QD fittings used are the same as TX2 fittings. Refer to TX2 Series catalog pages or individual TX2 sheets.

**Optional Mounting Brackets for ZIPValve**



**BASE BRACKET (FITS 1/4" AND 3/8")**

KIT PART #511-0154  
INCLUDES BRACKETS AND HARDWARE

- 16-gauge stainless steel
- Accepts size 1/4" – #20 bolt
- Recommend #6 hi-low fastener for plastics to attach bracket to the valve
- Valve body mounting hole is 9,53 mm deep
- Do not use a fastener that is longer than the mounting surface thickness plus 9,53 mm



**END-CAP BRACKET (FITS 1/4" ONLY)**

KIT PART #511-0155  
INCLUDES TWO BRACKETS

- 18-gauge stainless steel
- Accepts size #10 bolt
- Multiple mounting positions
- 30° increment positions

- **Designed with precision in mind.** ZiegTek's innovative design allows for the most versatile valve configuration options yet.
- **1/2" full port 2-Way motorized valve**
- **Valve body: Polypropylene, glass-filled**
- **Ball: 316 stainless steel**
- **Stem: 316 stainless steel**
- **Valve seat: PTFE**
- **Stem seal: Viton™**
- **Compact design weighing only 538,6 grams,** which allows for more options when mounting
- **90° and straight hose barbs, FNPT, hairpin fittings and flanged connections** provide a vast number of plumbing solutions
- **Valves are made for actuation with a ZiegTek Waterproof EH7 Actuator** providing longer valve and actuator life
- **EH7 Electric Actuator housing is rated NEMA 6P (waterproof)** to protect internal components from corrosion and extends actuator life
- **EH7 Electric Actuator housing meets the IP68 rating of ISO 60529** standard degree of protection provided by enclosures against water intrusion
- **Available in various cycle times** to meet specific needs of multiple applications



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

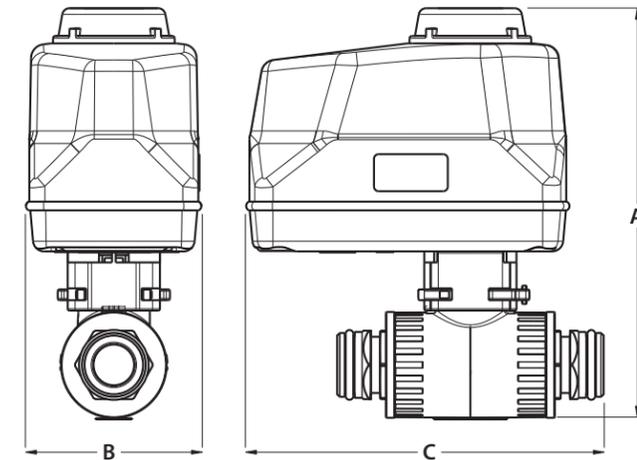
## 2-Way Motorized Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem

1/2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	A	B	C
Z10002	1/2"	On/Off	140,5 mm	60,5 mm	125,5 mm

Please consult your Distributor/Key Account Manager for additional options.



QD x QD valve  
Part Z10002



QD x M100 flange  
Part Z10003



M100 flange x M100 flange  
Part Z10004

Part #	Fittings and Accessories Description
A 511-0006	Mounting Bracket for stand-alone TX2 valve (not shown)
B 511-0012*	Fitting kit 3/4" straight hose barb x female OD quick-connect
C 511-0014*	Fitting kit 3/4" 90° hose barb x female OD quick-connect
D 511-0013*	Fitting kit 1" straight hose barb x female OD quick-connect
E 511-0015*	Fitting kit 1" 90° hose barb x female OD quick-connect
F 511-0017*	Fitting kit Metered Bypass Assembly
G 511-0010*	Fitting kit end cap female OD quick-connect
H 511-0011*	Fitting kit end cap male OD quick-connect
I 511-0019*	Fitting kit 1/2" FNPT x female OD quick-connect
J 511-0016*	Fitting kit 3/4" FNPT x female OD quick-connect
K 511-0018	Clamp kit V-clamp for 1" flange and O-ring
L 210-0030	Valve repair kit, TX2 (not shown)

\* Fitting kits include fitting and hairpin retainer



## KEY FEATURES

- **Waterproof: Rated NEMA 6P, meets IP68**
- **1/2" 2-Way full port ball valve**
- **Single valve weighs only 538,6 grams**
- **Compact design**

- **Designed with precision in mind.** ZiegTek's innovative design allows for the most versatile valve configuration options yet.
- **1/2" full port 2-Way manual valve**
- **Valve body: Polypropylene, glass-filled**
- **Ball: 316 stainless steel**
- **Stem: 316 stainless steel**
- **Valve seat: PTFE**
- **Stem seal: Viton™**
- **Compact design weighing only 113,4 grams,** which allows for more options when mounting
- **90° and straight hose barbs, FNPT, hairpin fittings and flanged connections** provide a vast number of plumbing solutions
- **Valves are made for actuation with a ZiegTek Waterproof EH7 Actuator** providing longer valve and actuator life



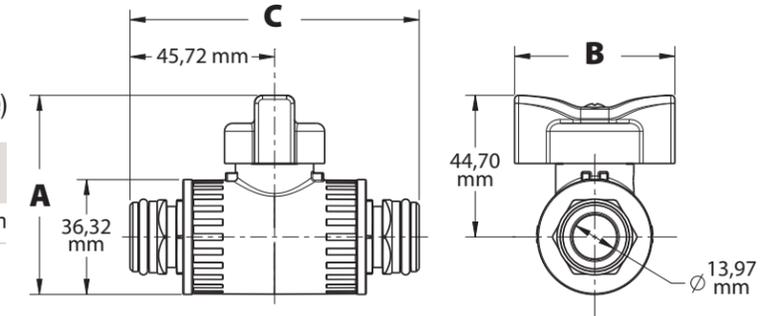
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 2-Way Manual Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem  
 1/2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	A	B	C
Z100005	1/2"	On/Off	63,0 mm	50,8 mm	91,7 mm

Please consult your Distributor/Key Account Manager for additional options.



QD x QD valve  
Part Z10005



QD x M100 flange  
Part Z10006



M100 flange x M100 flange  
Part Z10007

## KEY FEATURES

- 1/2" 2-Way full port ball valve
- Single valve weighs only 113,4 grams
- Compact design
- Many plumbing options

Part #	Fittings and Accessories Description
A 511-0006	Mounting Bracket for stand-alone TX2 valve (not shown)
B 511-0012*	Fitting kit 3/4" straight hose barb x female OD quick-connect
C 511-0014*	Fitting kit 3/4" 90° hose barb x female OD quick-connect
D 511-0013*	Fitting kit 1" straight hose barb x female OD quick-connect
E 511-0015*	Fitting kit 1" 90° hose barb x female OD quick-connect
F 511-0017*	Fitting kit Metered Bypass Assembly
G 511-0010*	Fitting kit end cap female OD quick-connect
H 511-0011*	Fitting kit end cap male OD quick-connect
I 511-0019*	Fitting kit 1/2" FNPT x female OD quick-connect
J 511-0016*	Fitting kit 3/4" FNPT x female OD quick-connect
K 511-0018	Clamp kit V-clamp for 1" flange and O-ring
L 210-0030	Valve repair kit, TX2 (not shown)

\* Fitting kits include fitting and hairpin retainer



- **Designed with precision in mind.** ZiegTek's innovative design allows for the most versatile valve configuration options yet.
- **1/2" full port 3-Way motorized valve**
- **Valve body: Polypropylene, glass-filled**
- **Ball: 316 stainless steel**
- **Stem: 316 stainless steel**
- **Valve seat: PTFE**
- **Stem seal: Viton™**
- **Compact design weighing only 538,6 grams,** which allows for more options when mounting
- **90° and straight hose barbs, FNPT, hairpin fittings and flanged connections** provide a vast number of plumbing solutions
- **Valves are made for actuation with a ZiegTek Waterproof EH7 Actuator** providing longer valve and actuator life
- **EH7 Electric Actuator housing is rated NEMA 6P (waterproof)** to protect internal components from corrosion and extends actuator life
- **EH7 Electric Actuator housing meets the IP68 rating of ISO 60529** standard degree of protection provided by enclosures against water intrusion
- **Available in various cycle times** to meet specific needs of multiple applications



## KEY FEATURES

- **Waterproof: Rated NEMA 6P, meets IP68**
- **1/2" 3-Way full port ball valve**
- **Single valve weighs only 538,6 grams**
- **Compact design**

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

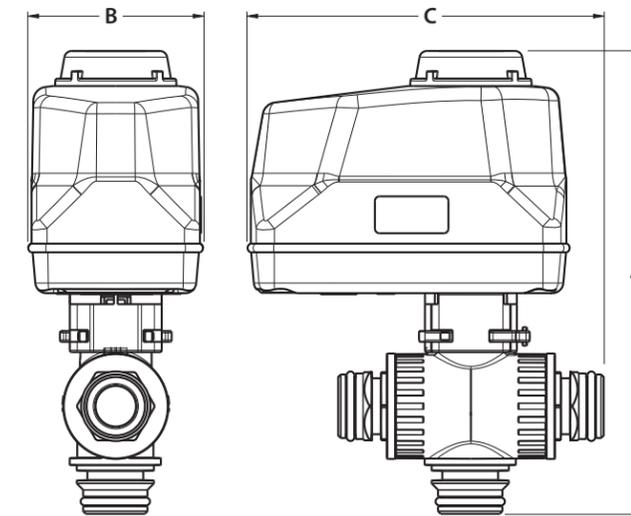
## 3-Way Motorized Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem

1/2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	A	B	C
Z10008	1/2"	On/On	161,3 mm	60,5 mm	123,0 mm

Please consult your Distributor/Key Account Manager for additional options.



QD x QD valve  
Part Z10008-10DK0-P31



QD x M100 flange  
Part Z10009-10DK0-P31



M100 flange x M100 flange  
Part Z10010-10DK0-P31

Part #	Fittings and Accessories Description
A 511-0006	Mounting Bracket for stand-alone TX2 valve (not shown)
B 511-0012*	Fitting kit 3/4" straight hose barb x female OD quick-connect
C 511-0014*	Fitting kit 3/4" 90° hose barb x female OD quick-connect
D 511-0013*	Fitting kit 1" straight hose barb x female OD quick-connect
E 511-0015*	Fitting kit 1" 90° hose barb x female OD quick-connect
F 511-0017*	Fitting kit Metered Bypass Assembly
G 511-0010*	Fitting kit end cap female OD quick-connect
H 511-0011*	Fitting kit end cap male OD quick-connect
I 511-0019*	Fitting kit 1/2" FNPT x female OD quick-connect
J 511-0016*	Fitting kit 3/4" FNPT x female OD quick-connect
K 511-0018	Clamp kit V-clamp for 1" flange and O-ring
L 210-0030	Valve repair kit, TX2 (not shown)

\* Fitting kits include fitting and hairpin retainer



- **Designed with precision in mind.** ZiegTek's innovative design allows for the most versatile valve configuration options yet.
- **1/2" full port 3-Way manual valve**
- **Valve body: Polypropylene, glass-filled**
- **Ball: 316 stainless steel**
- **Stem: 316 stainless steel**
- **Valve seat: PTFE**
- **Stem seal: Viton™**
- **Compact design weighing only 113,4 grams,** which allows for more options when mounting
- **90° and straight hose barbs, FNPT, hairpin fittings and flanged connections** provide a vast number of plumbing solutions
- **Valves are made for actuation with a ZiegTek Waterproof EH7 Actuator** providing longer valve and actuator life



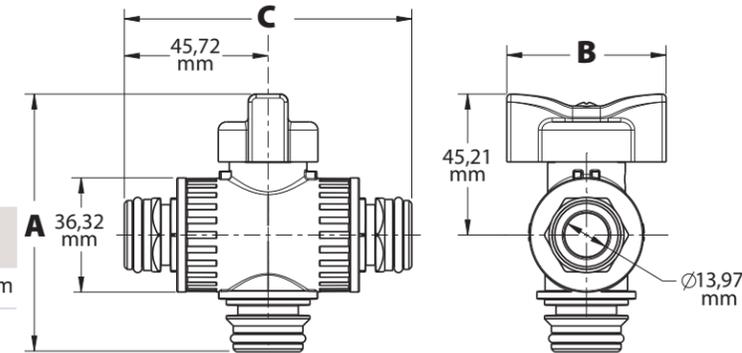
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 3-Way Manual Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem  
 1/2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	A	B	C
Z100011	1/2"	On/On	82,3 mm	50,8 mm	91,7 mm

Please consult your Distributor/Key Account Manager for additional options.



QD x QD valve  
Part Z100011



QD x M100 flange  
Part Z100012



M100 flange x M100 flange  
Part Z100013

## KEY FEATURES

- 1/2" 3-Way full port ball valve
- Single valve weighs only 113,4 grams
- Compact design
- Many plumbing options

Part #	Fittings and Accessories Description
A 511-0006	Mounting Bracket for stand-alone TX2 valve (not shown)
B 511-0012*	Fitting kit 3/4" straight hose barb x female OD quick-connect
C 511-0014*	Fitting kit 3/4" 90° hose barb x female OD quick-connect
D 511-0013*	Fitting kit 1" straight hose barb x female OD quick-connect
E 511-0015*	Fitting kit 1" 90° hose barb x female OD quick-connect
F 511-0017*	Fitting kit Metered Bypass Assembly
G 511-0010*	Fitting kit end cap female OD quick-connect
H 511-0011*	Fitting kit end cap male OD quick-connect
I 511-0019*	Fitting kit 1/2" FNPT x female OD quick-connect
J 511-0016*	Fitting kit 3/4" FNPT x female OD quick-connect
K 511-0018	Clamp kit V-clamp for 1" flange and O-ring
L 210-0030	Valve repair kit, TX2 (not shown)

\* Fitting kits include fitting and hairpin retainer





- **Designed with precision in mind.** ZiegTek's innovative design allows for the most versatile valve configuration options yet.
- **1/2" full port 3-Way valve manifold**
- **Valve body: Polypropylene, glass-filled**
- **Ball: 316 stainless steel**
- **Stem: 316 stainless steel**
- **Valve seat: PTFE**
- **Stem seal: Viton™**
- **Valve and Electric Actuator weigh 567 grams,** resulting in increased overall performance
- **Waterproof nylon actuator case is IP68 and NEMA 6P rated** for long life and lower cost of service
- **90° and straight hose barbs, FNPT, hairpin fittings and flanged connections** provide a vast number of plumbing solutions
- **Mounting bosses are molded under the manifold,** providing consistent valve performance time after time



## KEY FEATURES

- **Waterproof: Rated NEMA 6P, meets IP68**
- **2-Way, 3-Way, and metered bypass configurations**
- **Single valve with motor weighs only 567 grams**
- **Modular design allows for a multitude of options**
- **Molded mounting bosses**

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

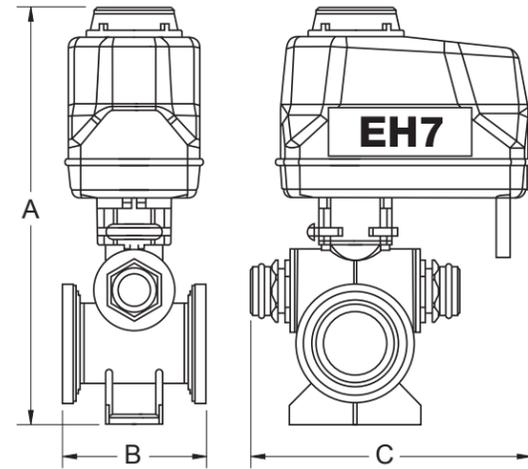
## 1/2" Polypropylene 2-Way, 3-Way and Metered Bypass Ball Valves - Single Valves, Manifolds

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12-volt DC actuator.

1/2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	Cycle Time	A	B	C
Z100014	1/2"	On/On	,5 sec	184,2 mm	63,5 mm	120,7 mm

Please consult your Distributor/Key Account Manager for additional options.



Z100014-10DK0-P31

2-WAY VALVE

3-WAY VALVE

METERED BYPASS VALVE

Part #	Fittings and Accessories Description
A 511-0006	Mounting Bracket for stand-alone TX2 valve (not shown)
B 511-0012*	Fitting kit 3/4" straight hose barb x female OD quick-connect
C 511-0014*	Fitting kit 3/4" 90° hose barb x female OD quick-connect
D 511-0013*	Fitting kit 1" straight hose barb x female OD quick-connect
E 511-0015*	Fitting kit 1" 90° hose barb x female OD quick-connect
F 511-0017*	Fitting kit Metered Bypass Assembly
G 511-0010*	Fitting kit end cap female OD quick-connect
H 511-0011*	Fitting kit end cap male OD quick-connect
I 511-0019*	Fitting kit 1/2" FNPT x female OD quick-connect
J 511-0016*	Fitting kit 3/4" FNPT x female OD quick-connect
K 511-0018	Clamp kit V-clamp for 1" flange and O-ring
L 210-0030	Valve repair kit, TX2 (not shown)

\* Fitting kits include fitting and hairpin retainer



- **Designed with precision in mind.** ZiegTek's innovative design allows for the most versatile valve configuration options yet.
- **1/2" full port 3-Way valve manifold**
- **Valve body: Polypropylene, glass-filled**
- **Ball: 316 stainless steel**
- **Stem: 316 stainless steel**
- **Valve seat: PTFE**
- **Stem seal: Viton™**
- **Valve weighs only 170,1 grams**, resulting in increased overall performance
- **90° and straight hose barbs, FNPT, hairpin fittings and flanged connections** provide a vast number of plumbing solutions
- **Mounting bosses are molded under the manifold**, providing consistent valve performance time after time
- **Valves are made for actuation with a ZiegTek Waterproof EH7 Actuator:** Any of these valves can be actuated



Valves come standard with yellow manual handle; red and green handles are optional

## KEY FEATURES

- **2-Way, 3-Way, and metered bypass configurations**
- **Single valve weighs only 170,1 grams**
- **Modular design allows for a multitude of options**
- **Molded mounting bosses**

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

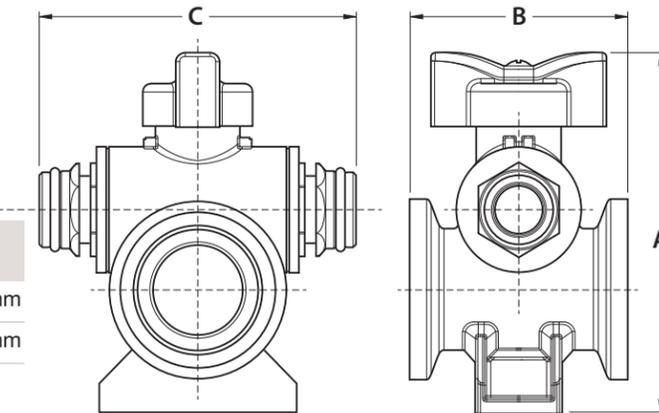
## Manual 2-Way, 3-Way, Metered Bypass Configurations

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem

1/2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	A	B	C
Z100015	1/2"	On/On	104,1 mm	63,0 mm	91,7 mm
Z100093	1/2"	V-ball regulating	104,1 mm	63,0 mm	91,7 mm

Please consult your Distributor/Key Account Manager for additional options.



QD Connect  
Part Z100015

2-Way Valve

3-Way Valve

Metered Bypass Valve

Part #	Fittings and Accessories Description
A 511-0006	Mounting Bracket for stand-alone TX2 valve (not shown)
B 511-0012*	Fitting kit 3/4" straight hose barb x female OD quick-connect
C 511-0014*	Fitting kit 3/4" 90° hose barb x female OD quick-connect
D 511-0013*	Fitting kit 1" straight hose barb x female OD quick-connect
E 511-0015*	Fitting kit 1" 90° hose barb x female OD quick-connect
F 511-0017*	Fitting kit Metered Bypass Assembly
G 511-0010*	Fitting kit end cap female OD quick-connect
H 511-0011*	Fitting kit end cap male OD quick-connect
I 511-0019*	Fitting kit 1/2" FNPT x female OD quick-connect
J 511-0016*	Fitting kit 3/4" FNPT x female OD quick-connect
K 511-0018	Clamp kit V-clamp for 1" flange and O-ring
L 210-0030	Valve repair kit, TX2 (not shown)

\* Fitting kits include fitting and hairpin retainer



## Electronic Control Types

- Negative signal to open (DC only)
  - 3-wire on/off
  - 4-wire regulating PWM capable
- Positive signal to open (12/24V DC/AC)
  - 3-wire on/off
  - 4-wire regulating PWM capable
- 4 ~ 20 mA proportional positioning (12/24V DC/AC)
- 0 ~ 5v proportional positioning (12/24V DC/AC)
- 0 ~ 10v proportional positioning (12/24V DC/AC)
- Reversing polarity (two wires)
- RS232
- CAN/ISO BUS

## Position Feedback Options

- None
- Negative @ open and/or closed (system voltage DC) fused to 0,5 amp
- Positive @ open and/or closed (system voltage DC) fused to 0,5 amp
- Dry-contacts (NO and COM) @ open and/or closed fused to 0,5 amp
- Dry pot, 5K  $\Omega$  0,1 amp resistive load
- Digital RS232
- CAN/ISO BUS

## Operating Voltage

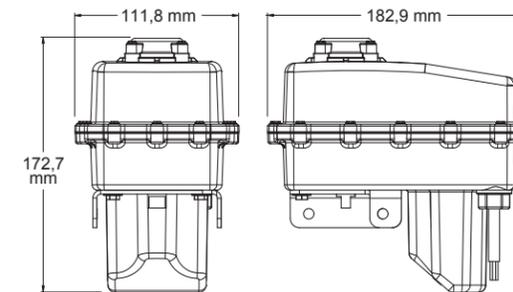
- 12V DC
- 12/24V DC
- 24V DC
- 24V AC and 12/24V DC

## KEY FEATURES

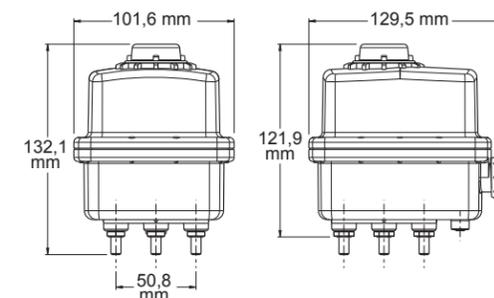
- Waterproof: Rated NEMA 6P, meets IP68 rating of the ISO 60529 Standard
- NEMA 7D rated ignition safe
- Solid-state components
- Stainless steel hardware



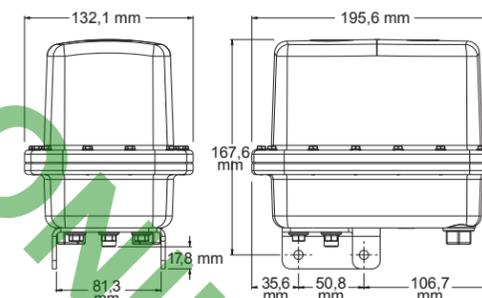
## EH2 SERIES ACTUATORS



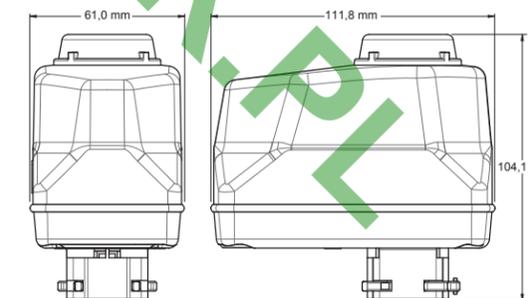
## EH3 SERIES ACTUATORS



## EH5 SERIES ACTUATORS



## EH7 SERIES ACTUATORS



## 90° Cycle Time in Seconds (no load)

- EH2 Series Actuators
  - 0,5 seconds
  - 1,5 seconds
  - 7,0 seconds
  - 0,75 seconds @ 24 volts
  - 3,0 seconds
- EH3 Series Actuators
  - 0,8 seconds
  - 2,5 seconds
  - 10,0 seconds
  - 1,5 seconds
  - 7,0 seconds
- EH5 Series Actuators
  - 3,0 seconds
  - 10,0 seconds
  - 7,0 seconds
  - 25,0 seconds
- EH7 Series Actuators
  - 0,5 seconds
  - 7,0 seconds

## Waterproof Connectors

- Deutsch
- Weather Pack
- Amp Seal
- Metri-Pack

## Actuator Case Options

- Indicator flag (standard)
- No indicator flag

## Other Options

- 180° operation
- 225° operation (regulating v-ball application)
- Manual override equipped
- Valve normally closed (standard)
- Valve normally open
- Multiple turn (currently available in EH3 actuator with CAN/ISO BUS only)

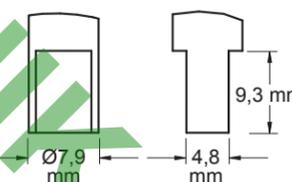
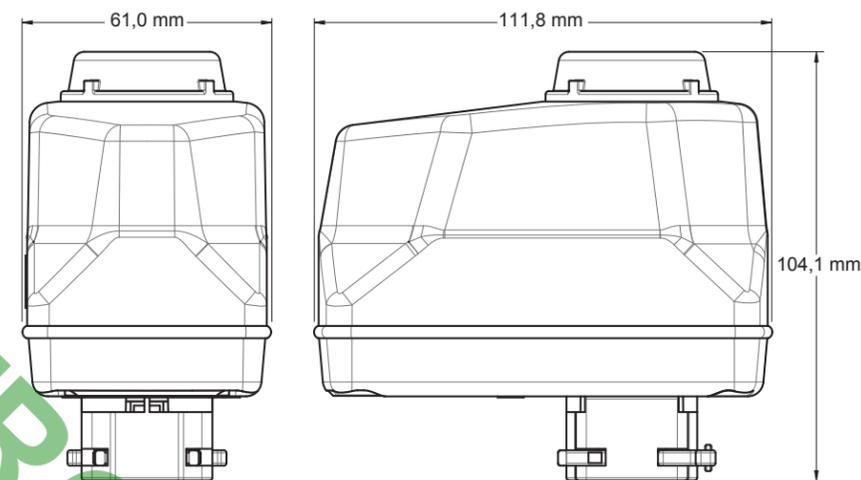
- Designed to perform operation essential fluid control applications in extreme conditions
- Constructed with solid state components for increased durability and maintenance-free performance
- UV-modified, glass-filled nylon housing is durable, impact-resistant, provides long life and lower maintenance costs
- Waterproof actuator housing meets the IP68 rating of the ISO 60529 standard degree of protection provided by enclosures against water intrusion
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extends actuator life
- Sub-compact design (453,6 grams) allows for use in numerous applications
- Powerful actuator motor designed to cycle 1/2" ball valves in multiple applications
- Available in various cycle times to meet specific needs of multiple applications
- Actuators available in 12-Volt DC with On/Off and Regulating valve control



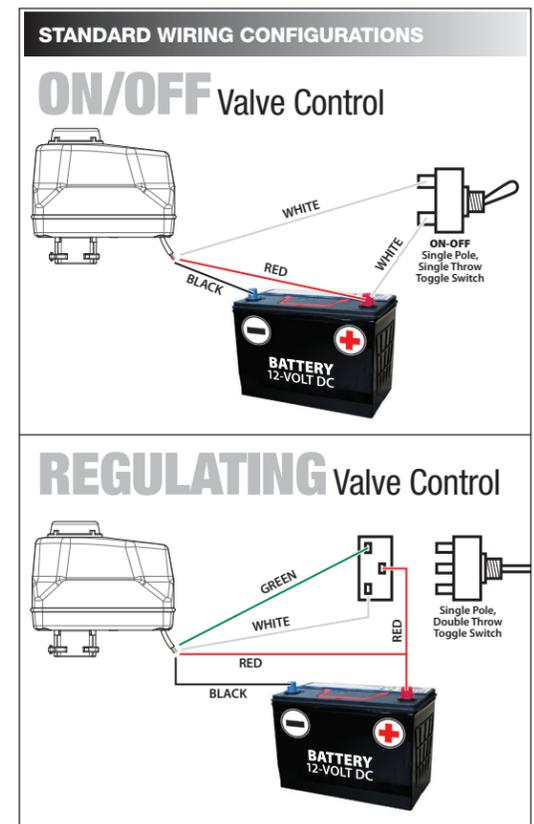
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

Part	Cycle Time	Valve Control	Maximum Breakaway Torque	Nominal Operating Torque
Z100016	0,5 sec.	On/Off	6,8 N·m	2,3 N·m
Z100017	7,0 sec.	On/Off	5,6 N·m	2,3 N·m
Z100018	7,0 sec.	Regulating	5,6 N·m	2,3 N·m
Z100019	16,0 sec.	Regulating	5,6 N·m	2,3 N·m

Please consult your Distributor/Key Account Manager for additional options.



OUTPUT Shaft Detail



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Actuates 1/2" 2-Way and 3-Way ball valves
- Sub-compact design
- Weighs only 454,6 grams

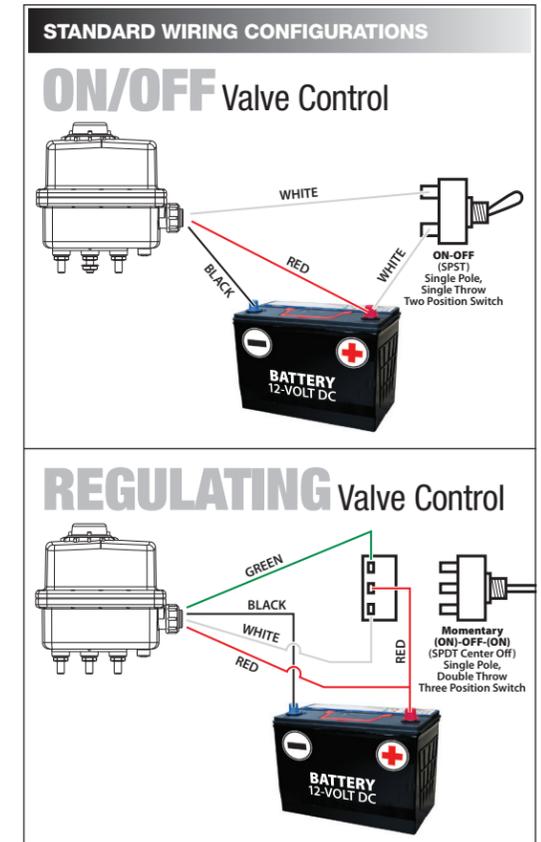
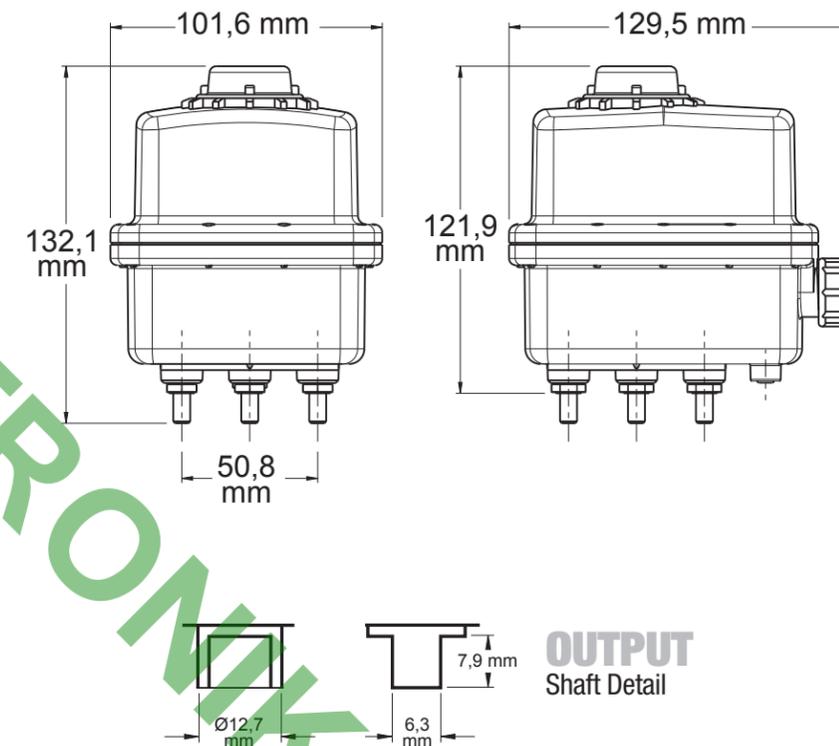
- Designed to perform operation essential fluid control applications in extreme conditions
- Constructed with solid state components for increased durability and maintenance-free performance
- UV-modified, glass-filled nylon housing is durable, impact-resistant, provides long life and lower maintenance costs
- Waterproof actuator housing meets the IP68 rating of the ISO 60529 standard degree of protection provided by enclosures against water intrusion
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extends actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection
- Compact design (907,19 grams.) allows for use in numerous applications
- Powerful actuator motor designed to cycle 1/4" to 1" valves in multiple applications
- Available in various cycle times to meet specific needs of multiple applications
- Actuators available in 12-Volt DC and also 24-Volt AC and/or DC



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

Part	Cycle Time	Valve Control	Maximum Breakaway Torque	Maximum Operating Torque
Z000M	0,8 sec.	On/Off	11,9 N·m	8,5 N·m
Z000PR	2,5 sec.	Regulating	6,3 N·m	4,5 N·m
Z000QR	7,0 sec.	Regulating	6,3 N·m	4,5 N·m

Please consult your Distributor/Key Account Manager for additional options.



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- Solid-state components
- Actuate 1/4" to 1" valves
- Compact design

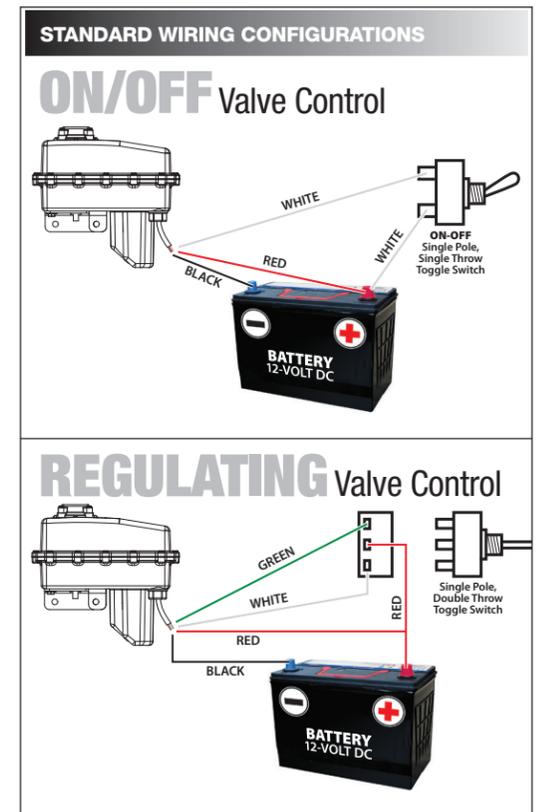
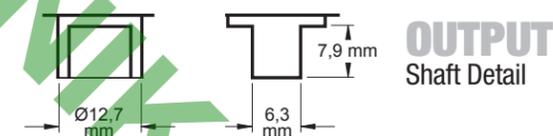
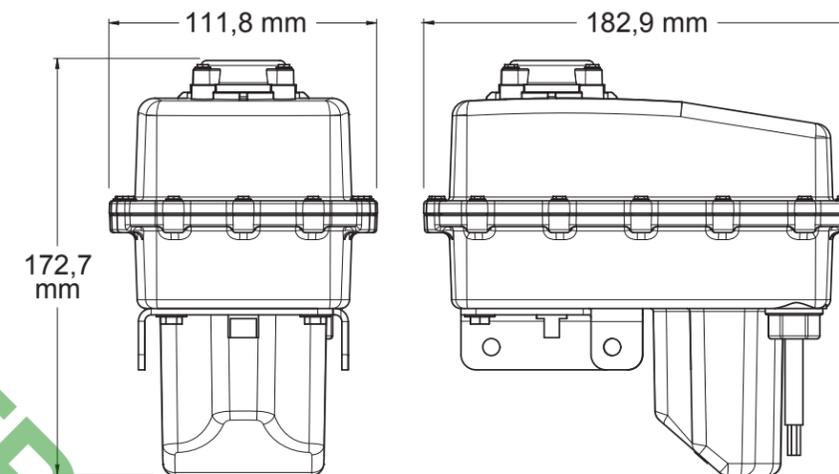
- Designed to perform operation essential fluid control applications in extreme conditions
- Constructed with solid state components for increased durability and maintenance-free performance
- UV-modified, glass-filled nylon housing is durable, impact-resistant, provides long life and lower maintenance costs
- Waterproof actuator housing meets the IP68 rating of the ISO 60529 standard degree of protection provided by enclosures against water intrusion
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extends actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection
- Mid-size design (1.814,37 grams) allows for use in numerous applications
- Powerful actuator motor designed to cycle 3/4" to 3" valves in multiple applications
- Available in various cycle times to meet specific needs of multiple applications
- Actuators available in 12-Volt DC and also 24-Volt AC and/or DC



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

Part	Cycle Time	Valve Control	Maximum Breakaway Torque	Maximum Operating Torque
Z000Y	1,5 sec.	On/Off	34,8 N·m	24,9 N·m
Z000W	3,0 sec.	On/Off	34,8 N·m	24,9 N·m
Z000WR	3,0 sec.	Regulating	34,8 N·m	24,9 N·m
Z000UR	7,0 sec.	Regulating	34,8 N·m	24,9 N·m

Please consult your Distributor/Key Account Manager for additional options.



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- Round cable strain relief
- Dual cable entrances
- Actuate 3/4" to 3" valves
- Mid-size design

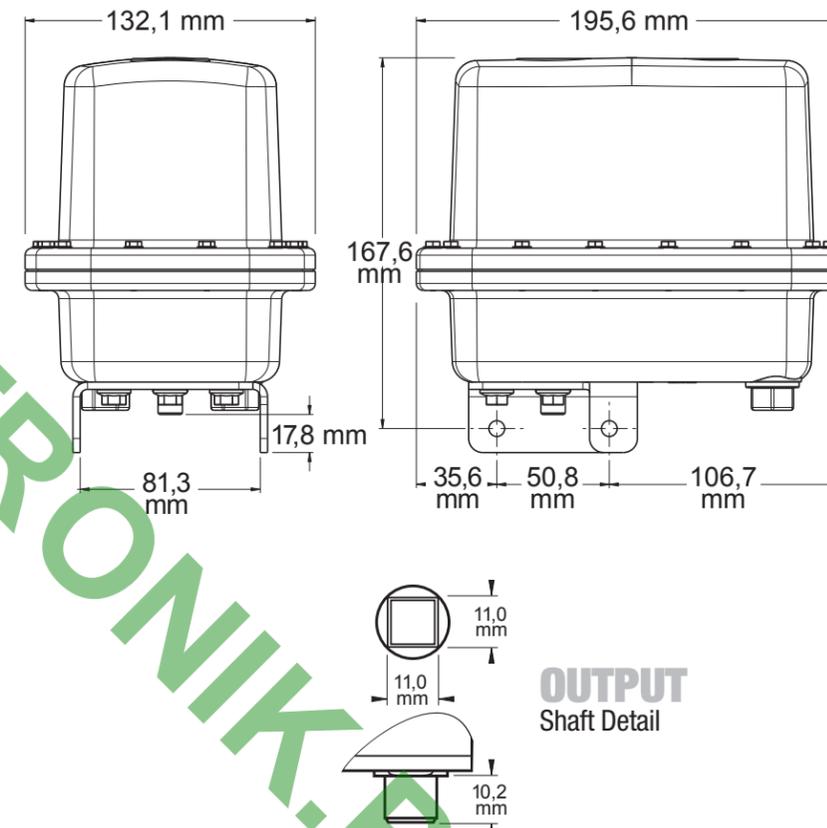
- Designed to perform operation essential fluid control applications in extreme conditions
- Constructed with solid state components for increased durability and maintenance-free performance
- UV-modified, glass-filled nylon housing is durable, impact-resistant, provides long life and lower maintenance costs
- Waterproof actuator housing meets the IP68 rating of the ISO 60529 standard degree of protection provided by enclosures against water intrusion
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extends actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection
- Heavy duty design (2.721,55 grams) allows for use in numerous applications
- Powerful actuator motor designed to cycle 1½" to 5" valves in multiple applications
- Available in various cycle times to meet specific needs of multiple applications
- Actuators available in 12-Volt DC and also 24-Volt AC and/or DC



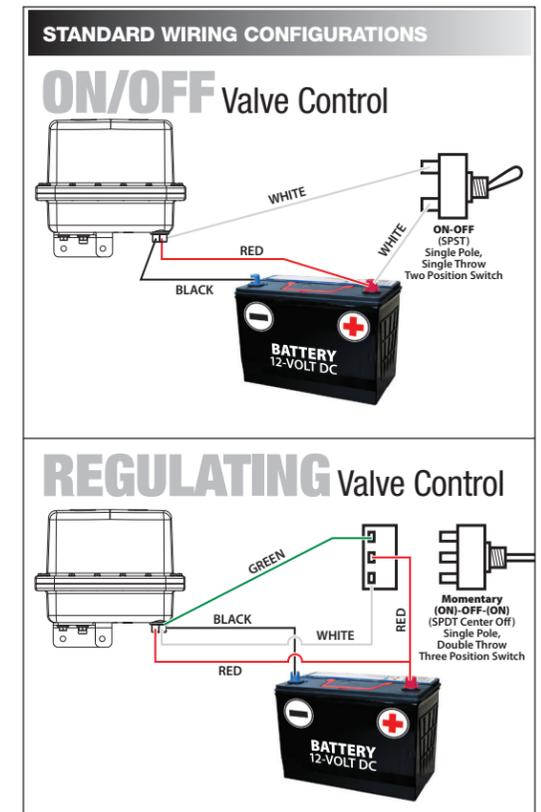
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

Part	Cycle Time	Valve Control	Maximum Breakaway Torque	Maximum Operating Torque
Z0003	3,0 sec.	On/Off	62,1 N·m	39,5 N·m
Z0007R	7,0 sec.	Regulating	62,1 N·m	39,5 N·m
Z000AR	10,0 sec.	Regulating	62,1 N·m	39,5 N·m

Please consult your Distributor/Key Account Manager for additional options.



OUTPUT Shaft Detail



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- Solid-state components
- Actuate 1½" to 5" valves
- Heavy duty design

# CANBUS & ISOBUS ACTUATORS

- Designed to mount directly to a ZiegTek ball or butterfly valve
- Allows more precise control of the actuator to help pinpoint any system problems quickly and simplify your entire application
- Compatible with CAN, J1939 and ISO11783 networks
- Available in the ZiegTek EH2, EH3, and EH5 series actuators
- Modes of operation can be selected at any time and can switch back and forth between available modes:
  - **ABSOLUTE MODE** The user sends desired position (0-100% in 1% increments) and the actuator runs to that spot
  - **JOG MODE** The user can send run open, run close, or stop commands
- Actuator speed control and positioning
- Advanced diagnostics capability allows for quick troubleshooting and saves time
- Able to control multiple actuators with one controller and simplified wiring
- Waterproof nylon actuator case is IP68, NEMA 6P, and NEMA 7D rated for long life and lower cost of service



## KEY FEATURES

- More precise control over actuators
- Advanced diagnostics capability
- Compatible with CAN, J1939 and ISO11783 networks

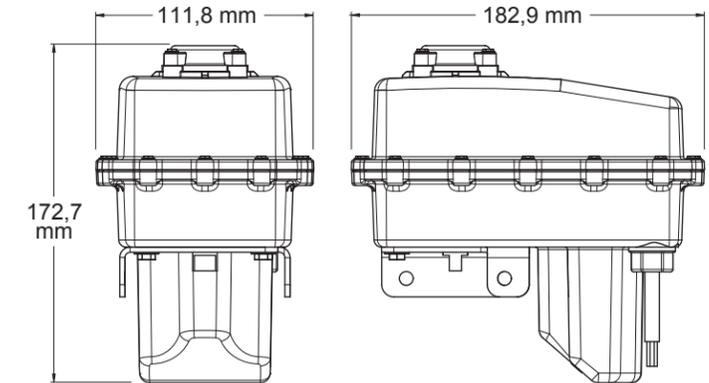
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## EH2 ACTUATOR

- Valve sizes 3/4" to 3"
- 12/24 volt DC and 24 volt AC
- Weight: 1.814,37 grams

Cycle Time	Maximum Breakaway Torque	Maximum Operating Torque
0,5 sec.	19,0 N·m	13,6 N·m
1,5 sec.*	34,8 N·m	24,9 N·m
3,0 sec.*	34,8 N·m	24,9 N·m
7,0 sec.*	34,8 N·m	24,9 N·m

\* Standard line cycle times

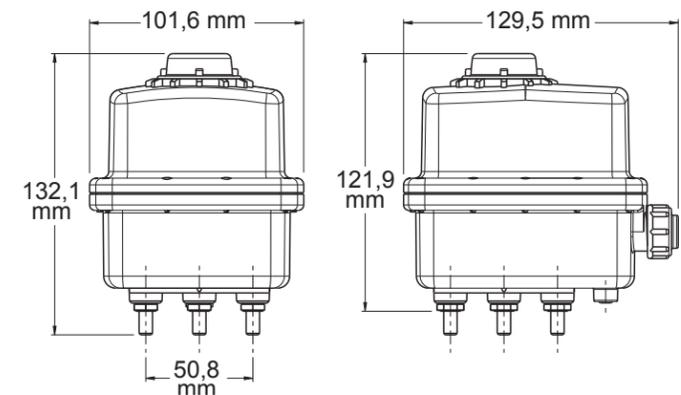


## EH3 ACTUATOR

- Valve sizes 1/4" to 1"
- 12/24 volt DC and 24 volt AC
- Weight: 907,19 grams

Cycle Time	Maximum Breakaway Torque	Maximum Operating Torque
0,8 sec.*	11,9 N·m	8,5 N·m
1,5 sec.	8,5 N·m	6,2 N·m
2,5 sec.*	6,3 N·m	4,5 N·m
7,0 sec.*	6,3 N·m	4,5 N·m

\* Standard line cycle times

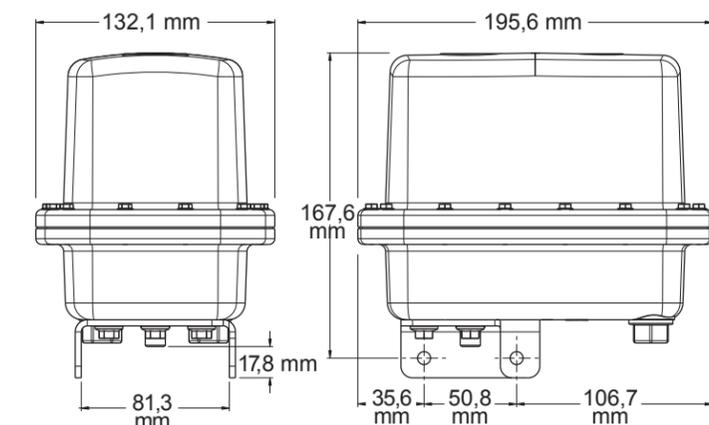


## EH5 ACTUATOR

- Valve sizes 1 1/2" to 5"
- 12/24 volt DC and 24 volt AC
- Weight: 2.721,55 grams

Cycle Time	Maximum Breakaway Torque	Maximum Operating Torque
3,0 sec.*	62,1 N·m	39,5 N·m
7,0 sec.*	62,1 N·m	39,5 N·m
10,0 sec.*	62,1 N·m	39,5 N·m
25,0 sec.	62,1 N·m	39,5 N·m

\* Standard line cycle times



Please consult your Distributor/Key Account Manager for additional options.



- Designed to mount directly to a ZiegTek EH Series actuator
- 2" and 3" full port 2-Way ball valves
- Valve body: Polypropylene, EPDM O-rings
- Ball: Polypropylene
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem seal: Dual fluorocarbon O-rings
- Mounting bosses are molded into the valve body which reduces mounting time and maintains undisturbed torque specifications of the ball and end caps, a common problem for plastic, bolted ball valves
- Waterproof nylon actuator case is IP68, NEMA 6P, and NEMA 7D rated for long life and lower cost of service



## KEY FEATURES

- Motorized 2" and 3" 2-Way full port sizes
- Waterproof: Rated NEMA 6P, meets IP68
- Direct mount to ZiegTek EH actuators
- Mounting bosses are separate from valve end cap, offering undisturbed valve torque

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 2" and 3" Polypropylene 2-Way Ball Valves

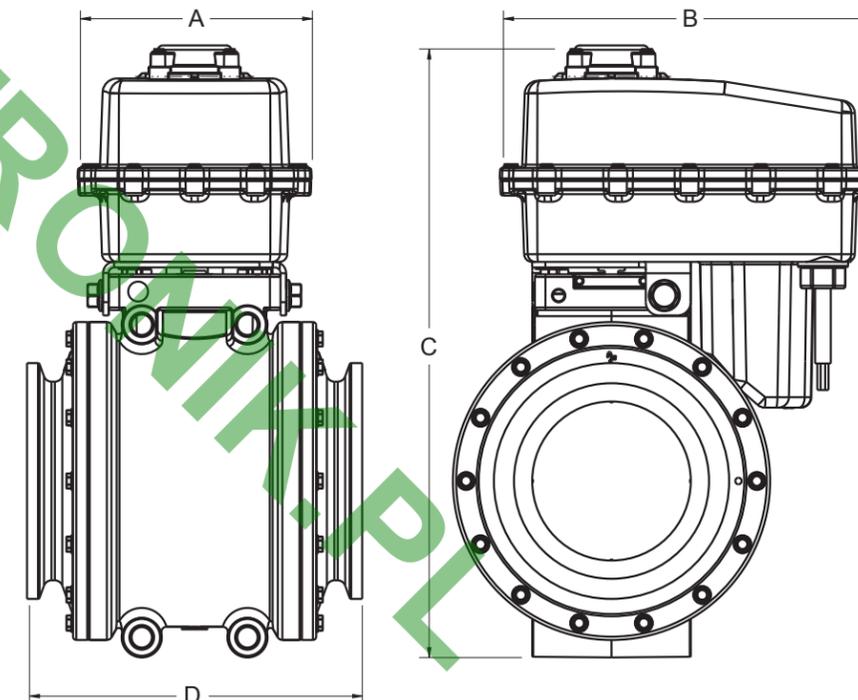
Full port, polypropylene ball, polypropylene valve body, stainless steel valve stem, flange connection, 12 volt DC actuator.

- 2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)
- 3" valve operating pressure: 6,9 Bar at 21° C (polypropylene)

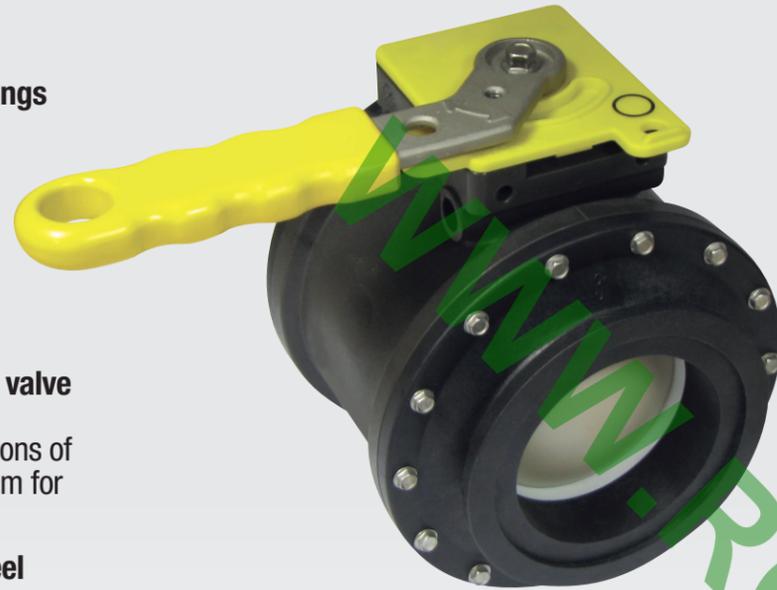
Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A	B	C	D
Z100020	2"	On/Off	1,5 sec.	1.400,5	111,8 mm	182,9 mm	251,5 mm	132,1 mm
Z100021	2"	Regulating	3,0 sec.	1.400,5	111,8 mm	182,9 mm	251,5 mm	132,1 mm
Z100022	2"	Regulating	7,0 sec.	1.400,5	111,8 mm	182,9 mm	251,5 mm	132,1 mm
Z100023	3"	On/Off	3,0 sec.	3.766,1	111,8 mm	182,9 mm	292,1 mm	160,0 mm
Z100024	3"	Regulating	7,0 sec.	3.766,1	111,8 mm	182,9 mm	292,1 mm	160,0 mm

\* l/m at 0,069 Bar drop, water

Please consult your Distributor/Key Account Manager for additional options.



- Premium quality, consistently smooth operating manual valve
- 2" and 3" full port 2-Way ball valves
- Valve body: Polypropylene, EPDM O-rings
- Ball: Polypropylene
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem seal: Dual fluorocarbon O-rings
- Mounting bosses are molded into the valve body which reduces mounting time and maintains undisturbed torque specifications of the ball and end caps, a common problem for plastic, bolted ball valves
- Molded handle grip with stainless steel handle core enhances durability and eliminates broken handles once and for all
- Actuator-ready in a few easy steps!  
Waterproof electric actuator is available from ZiegTek, which is IP68, NEMA 6P, and NEMA 7D rated for long life and lower cost of service



## KEY FEATURES

- Manual 2" and 3" 2-Way full port sizes
- Molded handle grip with stainless steel handle core
- Mounting bosses are separate from valve end cap, offering undisturbed valve torque

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 2" and 3" Polypropylene 2-Way Ball Valves

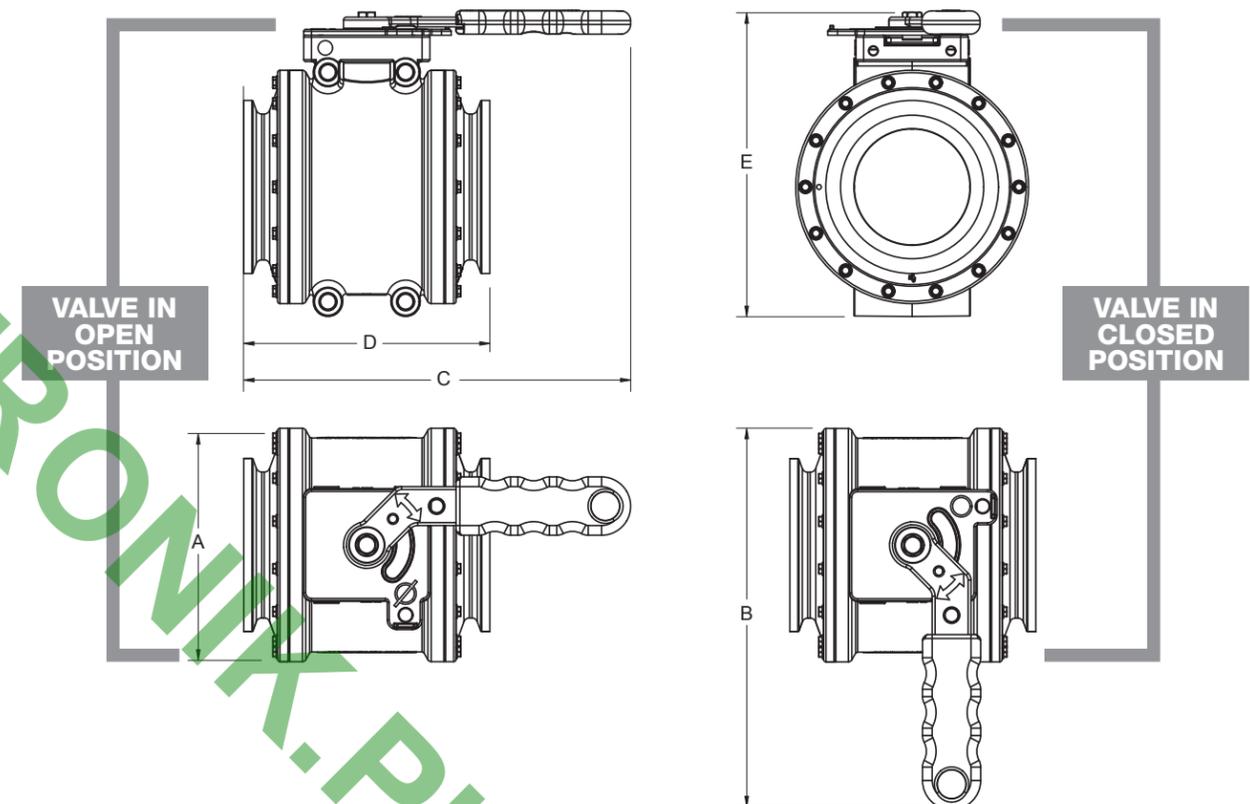
Full port, polypropylene ball, polypropylene valve body, stainless steel valve stem, flange connection, molded comfort-grip handle with stainless steel handle core.

- 2" valve operating pressure: 10,3 Bar at 21° C (polypropylene)
- 3" valve operating pressure: 6,9 Bar at 21° C (polypropylene)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A	B	C	D	E
K100025	2"	Manual	N/A	1.400,5	106,7 mm	226,1 mm	238,8 mm	132,1 mm	160,0 mm
K100026	3"	Manual	N/A	3.766,1	152,4 mm	248,9 mm	254,0 mm	160,0 mm	200,7 mm

\* l/m at 0,069 Bar drop, water

Please consult your Distributor/Key Account Manager for additional options.



- Designed to mount directly to a ZiegTek EH Series actuator
- 1½", 2" and 3" full port 3-Way ball valves
- Valve body: Polypropylene, EPDM O-rings
- Ball: Polypropylene
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem seal: Dual fluorocarbon O-rings
- Mounting bosses are molded into the valve body which reduces mounting time and maintains undisturbed torque specifications of the ball and end caps, a common problem for plastic, bolted ball valves
- Waterproof nylon actuator case is IP68, NEMA 6P, and NEMA 7D rated for long life and lower cost of service
- Designed flows for 180° rotation On/Off/On with no mixing or On/On with no mixing



## KEY FEATURES

- Motorized 1½", 2" & 3" 3-Way bottom load full port sizes
- Designed as a premium quality ball valve
- Mounting bosses are separate from valve end cap, offering undisturbed valve torque

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 1½", 2" and 3" Polypropylene 3-Way Ball Valves - On/Off/On with No Mixing and On/On with No Mixing

Full port, polypropylene ball, polypropylene valve body, stainless steel valve stem, flange connection, 12-volt DC actuator

1½" valve operating pressure: 6,9 Bar at 21° C (polypropylene)

2" valve operating pressure: 6,9 Bar at 21° C (polypropylene)

3" valve operating pressure: 4,8 Bar at 21° C (polypropylene)

### 2 Position On/On Valve

Part	Size	Control	180° Cycle Time	Flow l/m*	A	B	C	D	E
Z100027	1½"	On/On	3,0 sec.	113,6	112,5 mm	182,4 mm	96,5 mm	114,3 mm	232,9 mm
Z100028	2"	On/On	6,0 sec.	219,5	112,5 mm	182,4 mm	106,7 mm	131,4 mm	240,5 mm
Z100029	3"	On/On	6,0 sec.	719,2	112,5 mm	182,4 mm	152,4 mm	161,0 mm	304,8 mm

\* l/m at 0,069 Bar drop, water

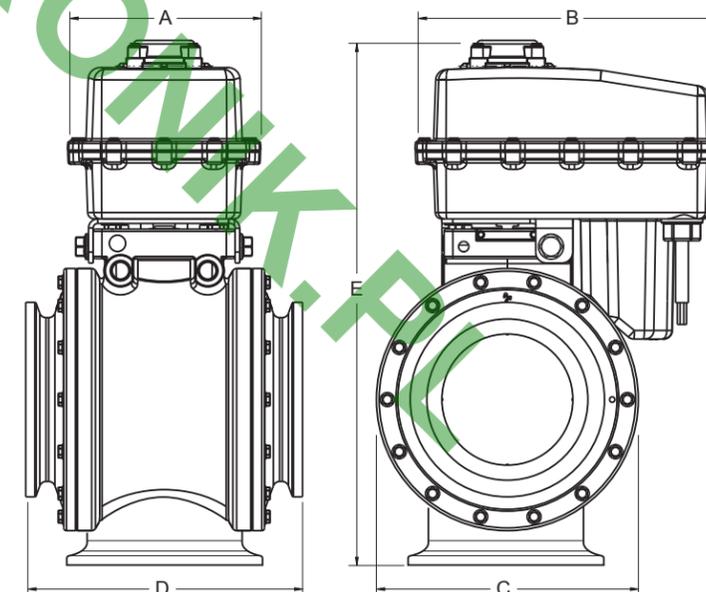
Please consult your Distributor/Key Account Manager for additional options.

### 3 Position On/Off/On Valve

Part	Size	Control	90° Cycle Time	Flow l/m*	A	B	C	D	E
Z100094	1½"	On/Off/On	1,5 sec.	113,6	112,5 mm	182,4 mm	96,5 mm	114,3 mm	232,9 mm
Z100095	2"	On/Off/On	3,0 sec.	219,5	112,5 mm	182,4 mm	106,7 mm	131,4 mm	240,5 mm
Z100096	3"	On/Off/On	3,0 sec.	719,2	112,5 mm	182,4 mm	152,4 mm	161,0 mm	304,8 mm

\* l/m at 0,069 Bar drop, water

Please consult your Distributor/Key Account Manager for additional options.



- Premium quality, consistently smooth operating manual valve
- 1½", 2" and 3" full port 3-Way ball valves
- Valve body: Polypropylene, EPDM O-rings
- Ball: Polypropylene
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem seal: Dual fluorocarbon O-rings
- Mounting bosses are molded into the valve body which reduces mounting time and maintains undisturbed torque specifications of the ball and end caps, a common problem for plastic, bolted ball valves
- Molded handle grip with stainless steel handle core enhances durability and eliminates broken handles once and for all
- Actuator-ready in a few easy steps! Waterproof electric actuator is available from ZiegTek, which is IP68, NEMA 6P, and NEMA 7D rated for long life and lower cost of service
- Designed for 180° rotation On/Off/On with no mixing



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 1½", 2" and 3" Polypropylene 3-Way Ball Valves - On/Off/On with No Mixing

Full port, polypropylene ball, polypropylene valve body, stainless steel valve stem, flange connection, molded comfort grip handle with stainless steel handle core

1½" valve operating pressure: 6,9 Bar at 21° C (polypropylene)

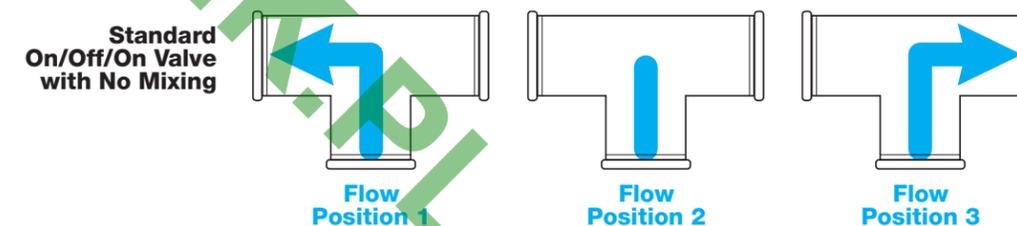
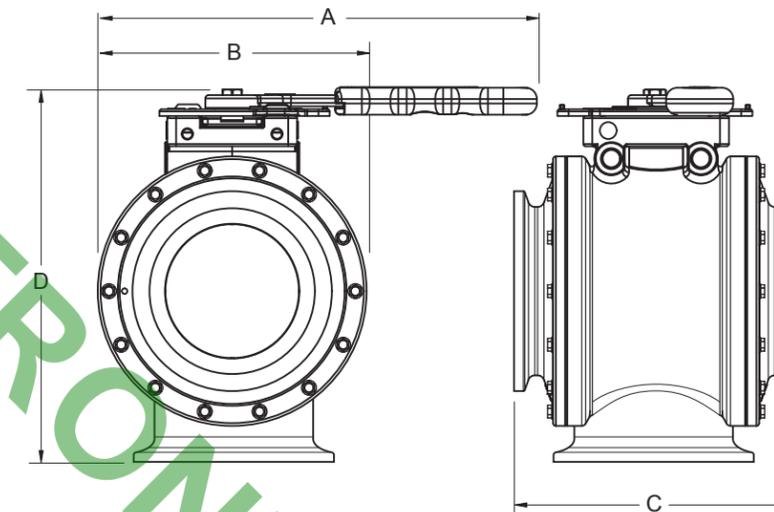
2" valve operating pressure: 6,9 Bar at 21° C (polypropylene)

3" valve operating pressure: 4,8 Bar at 21° C (polypropylene)

Part	Size	Control	Cycle Time	Flow l/m*	A	B	C	D
K100030	1½"	Manual	N/A	113,6	221,0 mm	96,5 mm	114,3 mm	154,9 mm
K100031	2"	Manual	N/A	219,5	226,1 mm	109,2 mm	132,1 mm	162,6 mm
K100032	3"	Manual	N/A	719,2	248,9 mm	152,4 mm	160,0 mm	200,7 mm

\* l/m at 0,069 Bar drop, water

Please consult your Distributor/Key Account Manager for additional options.



## KEY FEATURES

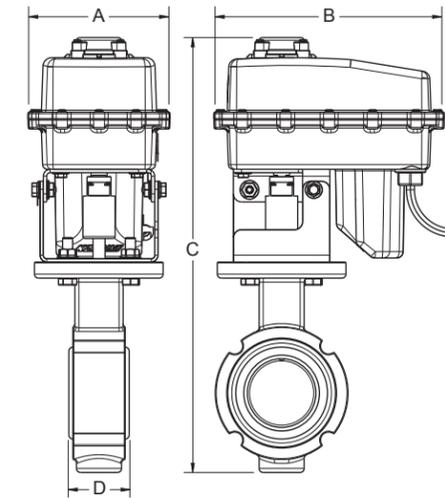
- Manual 1½", 2" & 3" 3-Way bottom load full port sizes
- Molded handle grip with stainless steel handle core
- Mounting bosses are separate from valve end cap, offering undisturbed valve torque

- Engineered for actuation and designed to work with the ZiegTek actuators
- 2" and 3" cast iron valves
- 4" and 5" aluminum valves
- Disk: 316 stainless steel
- Stem: 316 stainless steel
- Valve body: Cast iron or aluminum
- Seat: EPDM
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D) and meets the USCG Electrical Systems Standard to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 2" to 5" valve sizes
- 316 stainless steel stem and disk



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

### 2" Cast Iron Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12 volt DC motor. Operating pressure: 10,3 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z59iY	2"	On/Off	1,5 sec.	1.048,4	132,1	182,9	342,9	48,3
Z59iWR	2"	Regulating	3,0 sec.	1.048,4	132,1	182,9	342,9	48,3
Z59iUR	2"	Regulating	7,0 sec.	1.048,4	132,1	182,9	342,9	48,3

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water

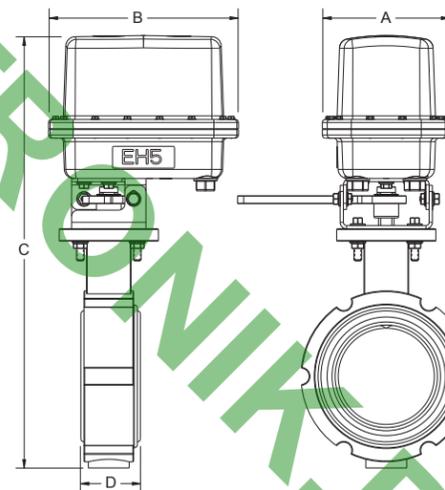
### 3" Cast Iron Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12 volt DC motor. Operating pressure: 10,3 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z59K3	3"	On/Off	3,0 sec.	2.725,2	132,1	195,6	398,8	45,7
Z59K7R	3"	Regulating	7,0 sec.	2.725,2	132,1	195,6	398,8	45,7
Z59KAR	3"	Regulating	10,0 sec.	2.725,2	132,1	195,6	398,8	45,7

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### 4" and 5" Aluminum Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12 volt DC motor. Operating pressure: 3,4 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z59L3	4"	On/Off	3,0 sec.	5.170,3	131,2	195,6	442,0	50,8
Z59L7R	4"	Regulating	7,0 sec.	5.170,3	131,2	195,6	442,0	50,8
Z59LAR	4"	Regulating	10,0 sec.	5.170,3	131,2	195,6	442,0	50,8
Z59M3	5"	On/Off	3,0 sec.	8.296,7	132,1	195,6	454,7	53,3
Z59M7R	5"	Regulating	7,0 sec.	8.296,7	132,1	195,6	454,7	53,3
Z59MAR	5"	Regulating	10,0 sec.	8.296,7	132,1	195,6	454,7	53,3

Please consult your Distributor/Key Account Manager for additional options.

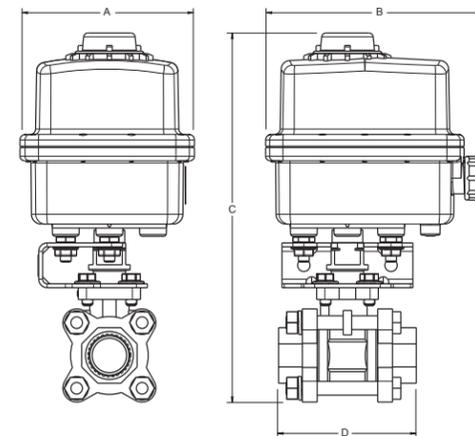
\* l/m at 0,069 Bar drop, water

- ANSI/NSF 61 certified, Low-Lead certified, and approved for drinking water applications in all 50 states
- Engineered for actuation and designed to work with ZiegTek actuators
- 1/2", 3/4", 1", 1 1/2" and 2" stainless steel valves
- 3-piece swing-out style, 2-Way ball valve
- All valve sizes are actuator ready (ISO 5211 mounting pad)
- Available with or without manual handle
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Virgin PTFE
- Stem packing: PTFE
- Stem O-ring: EPDM
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P
- Ignition safe: Rated NEMA 7D
- 1/2" to 2" valve sizes
- NSF/ANSI 61 Certified
- Low-Lead Certified
- Approved for drinking water in all 50 states



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

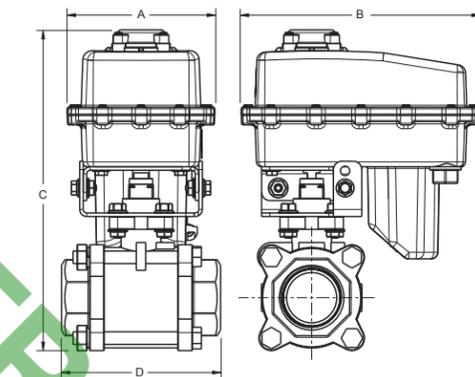
### 1/2" and 3/4" Stainless Steel 3-piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, ANSI/NSF 61 certified, meets the Uniform Plumbing Code (UPC), is Low-Lead certified and approved for drinking water applications in all 50 states. 12 volt DC motor. Operating pressure: 68,9 Bar at 21° C

Part	Size	Valve Control	Manual Handle	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z100033	1/2"	On/Off	Yes	0,8 sec.	113,6	101,6	129,5	210,8	76,2
Z100034	1/2"	On/Off	No	0,8 sec.	113,6	101,6	129,5	210,8	76,2
Z100035	3/4"	On/Off	Yes	0,8 sec.	193,0	101,6	129,5	210,8	81,3
Z100036	3/4"	On/Off	No	0,8 sec.	193,0	101,6	129,5	210,8	81,3

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



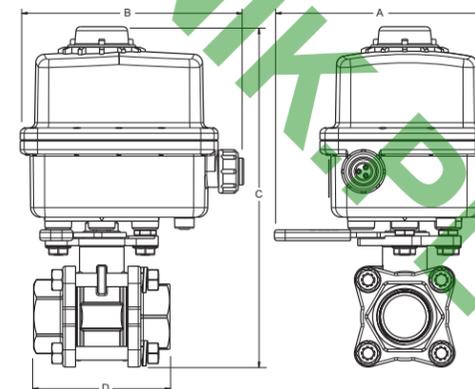
### 1", 1 1/2" and 2" Stainless Steel 3-piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, ANSI/NSF 61 certified, meets the Uniform Plumbing Code (UPC), is Low-Lead certified and approved for drinking water applications in all 50 states. 12 volt DC motor. Operating pressure: 68,9 Bar at 21° C

Part	Size	Valve Control	Manual Handle	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z100037	1"	On/Off	Yes	3,0 sec.	257,4	109,2	180,3	213,4	91,4
Z100038	1"	On/Off	No	3,0 sec.	257,4	109,2	180,3	213,4	91,4
Z100039	1 1/2"	On/Off	Yes	3,0 sec.	643,5	109,2	180,3	238,8	121,9
Z100040	1 1/2"	On/Off	No	3,0 sec.	643,5	109,2	180,3	238,8	121,9
Z100041	2"	On/Off	Yes	3,0 sec.	1.423,3	109,2	180,3	238,8	137,2
Z100042	2"	On/Off	No	3,0 sec.	1.423,3	109,2	180,3	238,8	137,2

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### 1" Stainless Steel 3-piece, 2-Way Direct Mount Ball Valve

Full port, stainless steel ball, FNPT, ball valve, direct mount to actuator with manual handle, ANSI/NSF 61 certified, meets the Uniform Plumbing Code (UPC), is Low-Lead certified and approved for drinking water applications in all 50 states. 12 volt DC motor. Operating pressure: 41,4 Bar at 21° C

Part	Size	Valve Control	Manual Handle	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z100043	1"	On/Off	Yes	0,8 sec.	257,4	127,0	129,5	198,1	78,7

Please consult your Distributor/Key Account Manager for additional options.

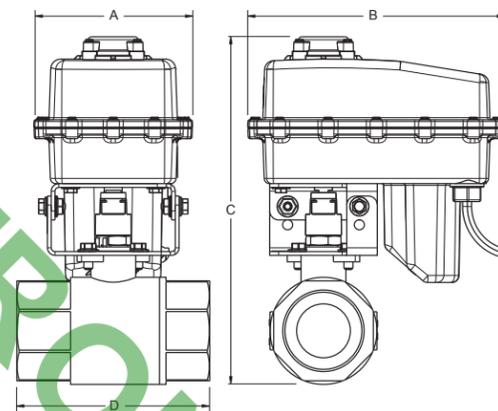
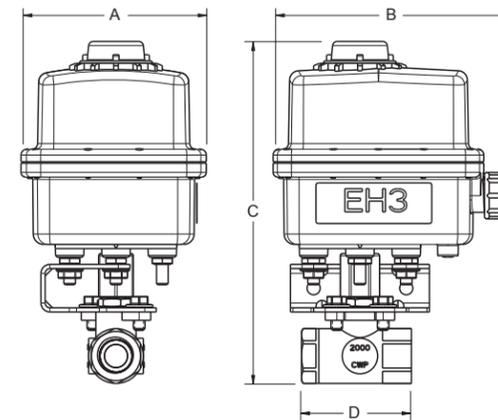
\* l/m at 0,069 Bar drop, water

- 1/4" to 2" vented 2-Way stainless steel valves
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel (vented)
- Stem: 316 stainless steel with EPDM O-ring
- Seat: Molecularly Enhanced Virgin Teflon® (ME-PTFE)
- Stem packing: Adjustable molecularly enhanced virgin Teflon® (ME-PTFE)
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Vented ammonia ball valve
- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1/4" to 2" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

### 1/4" and 1/2" Vented Stainless Steel Ammonia Valves

2-Way, full port, stainless steel vented ball, FNPT, ammonia ball valve, 12 volt DC motor.  
Operating pressure: 137.90 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z67BM	1/4"	On/Off	0,8 sec.	31,8	101,6	129,5	188,0	55,9
Z67BPR	1/4"	Regulating	2,5 sec.	31,8	101,6	129,5	188,0	55,9
Z67BQR	1/4"	Regulating	7,0 sec.	31,8	101,6	129,5	188,0	55,9
Z67DM	1/2"	On/Off	0,8 sec.	56,8	101,6	129,5	188,0	55,9
Z67DPR	1/2"	Regulating	2,5 sec.	56,8	101,6	129,5	188,0	55,9
Z67DQR	1/2"	Regulating	7,0 sec.	56,8	101,6	129,5	188,0	55,9

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water

### 3/4", 1", 1 1/2" and 2" Vented Stainless Steel Ammonia Valves

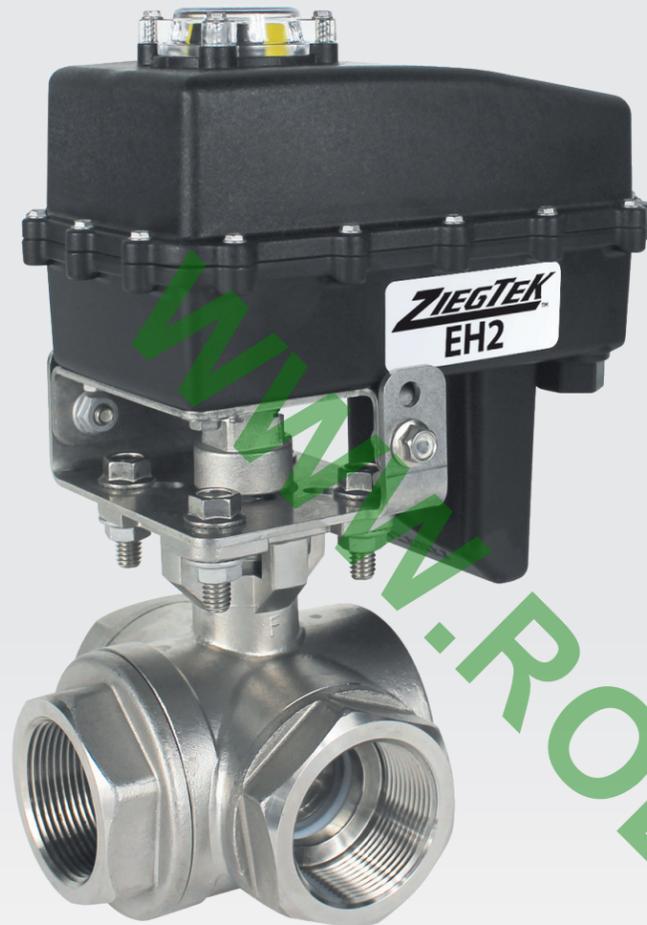
2-Way, standard port, stainless steel vented ball, FNPT, ammonia ball valve, 12 volt DC motor. 3/4" and 1" operating pressure: 137.90 Bar at 21° C • 1 1/2" and 2" operating pressure: 103.42 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z67EY	3/4"	On/Off	1,5 sec.	113,6	111,8	182,9	203,2	81,3
Z67EWR	3/4"	Regulating	3,0 sec.	113,6	111,8	182,9	203,2	81,3
Z67EUR	3/4"	Regulating	7,0 sec.	113,6	111,8	182,9	203,2	81,3
Z67FY	1"	On/Off	1,5 sec.	162,8	111,8	182,9	213,4	86,4
Z67FWR	1"	Regulating	3,0 sec.	162,8	111,8	182,9	213,4	86,4
Z67FUR	1"	Regulating	7,0 sec.	162,8	111,8	182,9	213,4	86,4
Z67HY	1 1/2"	On/Off	1,5 sec.	317,9	111,8	182,9	236,2	111,8
Z67HWR	1 1/2"	Regulating	3,0 sec.	317,9	111,8	182,9	236,2	111,8
Z67HUR	1 1/2"	Regulating	7,0 sec.	317,9	111,8	182,9	236,2	111,8
Z67iW	2"	On/Off	3,0 sec.	408,8	111,8	182,9	246,4	137,2
Z67iWR	2"	Regulating	3,0 sec.	408,8	111,8	182,9	246,4	137,2
Z67iUR	2"	Regulating	7,0 sec.	408,8	111,8	182,9	246,4	137,2

Please consult your Distributor/Key Account Manager for additional options.

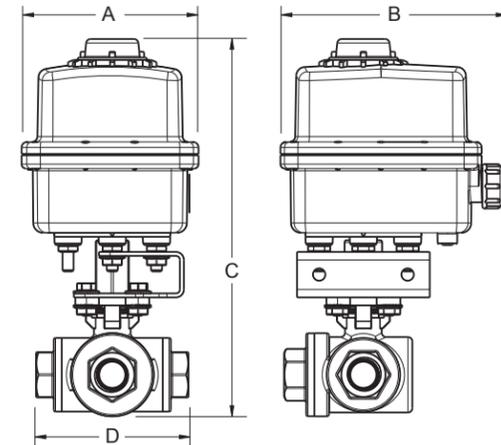
\* l/m at 0,069 Bar drop, water

- 3/8" to 2" 3-Way diverter stainless steel valves
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Molecularly Enhanced Virgin Teflon® (ME-PTFE)
- Stem packing: Adjustable molecularly enhanced virgin Teflon® (ME-PTFE)
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 3/8" to 2" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

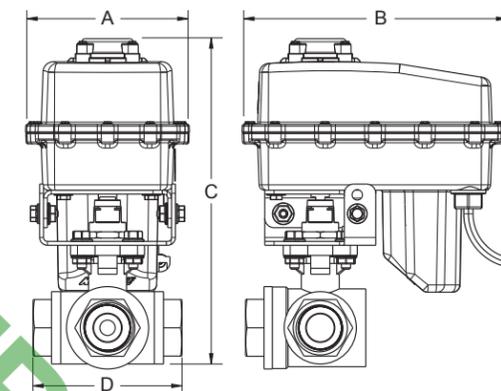
### 3/8" and 1/2" Stainless Steel 3-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 68,9 Bar at 21° C

Part	Size	Control	Cycle Time	Flow L/m*	A mm	B mm	C mm	D mm
Z73CM	3/8"	On/On	0,8 sec.	22,7	101,6	129,5	205,7	76,2
Z73DM	1/2"	On/On	0,8 sec.	45,4	101,6	129,5	215,9	86,4

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



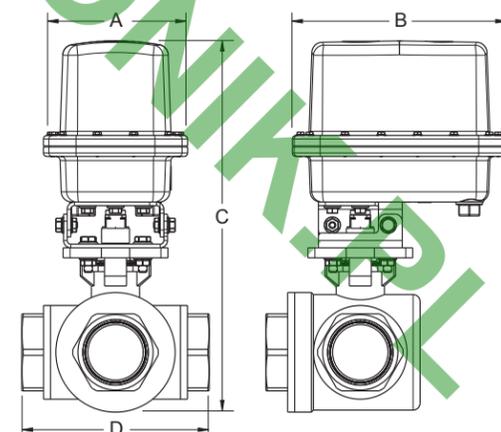
### 3/4", 1" and 1 1/2" Stainless Steel 3-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 68,9 Bar at 21° C

Part	Size	Control	Cycle Time	Flow L/m*	A mm	B mm	C mm	D mm
Z73EY	3/4"	On/On	1,5 sec.	60,6	111,8	182,9	208,3	86,4
Z73FY	1"	On/On	1,5 sec.	75,7	111,8	182,9	226,1	101,6
Z73HW	1 1/2"	On/On	3,0 sec.	389,9	111,8	182,9	259,1	127,0

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### 2" Stainless Steel 3-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 68,9 Bar at 21° C

Part	Size	Control	Cycle Time	Flow L/m*	A mm	B mm	C mm	D mm
Z73i3	2"	On/On	3,0 sec.	541,3	132,1	195,6	294,6	149,9

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water

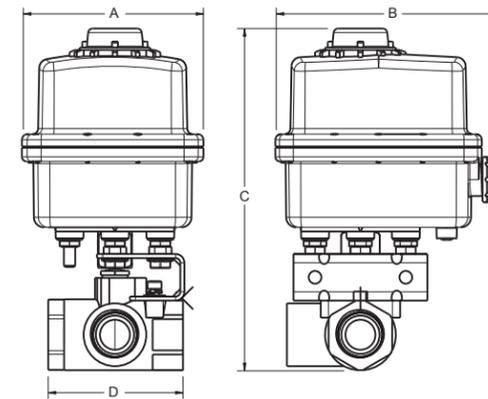


- ½" to 2" bronze 3-Way ball valves
- Valve body: C84400 bronze
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Virgin PTFE
- Stem packing: PTFE
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- ½" to 2" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

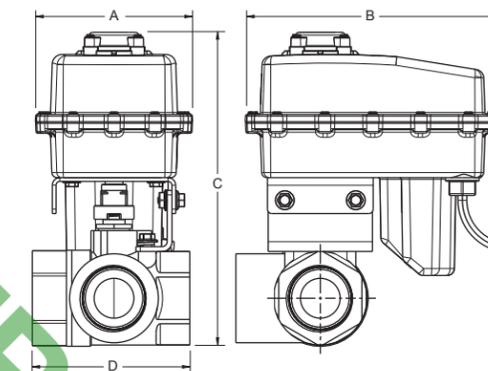
### ½" Bronze Ball Valves

3-Way, full port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 27,6 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z78DM	½"	On/On	0,8 sec.	20,4	101,6	129,5	177,8	58,4

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### ¾", 1", 1½" and 2" Bronze Ball Valves

3-Way, standard port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 27,6 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z78EY	¾"	On/On	1,5 sec.	45,4	111,8	182,9	182,9	76,2
Z78FY	1"	On/On	1,5 sec.	53,0	111,8	182,9	190,5	83,8
Z78HW	1½"	On/On	3,0 sec.	128,7	111,8	182,9	223,5	111,8
Z78iW	2"	On/On	3,0 sec.	177,9	111,8	182,9	233,7	119,4

Please consult your Distributor/Key Account Manager for additional options.

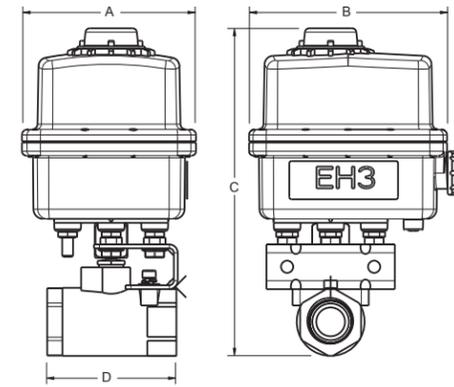
\* l/m at 0,069 Bar drop, water

- 1/4" to 2" bronze 2-Way ball valves
- Valve body: C84400 bronze
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Virgin PTFE
- Stem packing: PTFE
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1/4" to 2" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

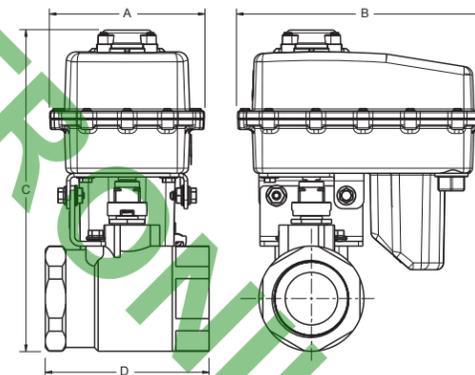
### 1/4", 3/8" and 1/2" Bronze Ball Valves

2-Way, full port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 41,4 Bar at 21° C

Part	Size	Control	Cycle Time	Flow L/m*	A mm	B mm	C mm	D mm
Z84BM	1/4"	On/Off	0,8 sec.	31,8	101,6	129,5	210,8	76,2
Z84BPR	1/4"	Regulating	2,5 sec.	31,8	101,6	129,5	210,8	76,2
Z84BQR	1/4"	Regulating	7,0 sec.	31,8	101,6	129,5	210,8	76,2
Z84CM	3/8"	On/Off	0,8 sec.	27,3	101,6	129,5	210,8	76,2
Z84CPR	3/8"	Regulating	2,5 sec.	27,3	101,6	129,5	210,8	76,2
Z84CQR	3/8"	Regulating	7,0 sec.	27,3	101,6	129,5	210,8	76,2
Z84DM	1/2"	On/Off	0,8 sec.	56,8	101,6	129,5	210,8	76,2
Z84DPR	1/2"	Regulating	2,5 sec.	56,8	101,6	129,5	210,8	76,2
Z84DQR	1/2"	Regulating	7,0 sec.	56,8	101,6	129,5	210,8	76,2

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### 3/4", 1", 1 1/2" and 2" Bronze Ball Valves

2-Way, standard port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 41,4 Bar at 21° C

Part	Size	Control	Cycle Time	Flow L/m*	A mm	B mm	C mm	D mm
Z84EY	3/4"	On/Off	1,5 sec	113,6	111,8	182,9	182,9	76,2
Z84EWR	3/4"	Regulating	3,0 sec	113,6	111,8	182,9	182,9	76,2
Z84EUR	3/4"	Regulating	7,0 sec	113,6	111,8	182,9	182,9	76,2
Z84FY	1"	On/Off	1,5 sec	162,8	111,8	182,9	190,5	86,4
Z84FWR	1"	Regulating	3,0 sec	162,8	111,8	182,9	190,5	86,4
Z84FUR	1"	Regulating	7,0 sec	162,8	111,8	182,9	190,5	86,4
Z84HY	1 1/2"	On/Off	1,5 sec	317,9	111,8	182,9	223,5	109,2
Z84HWR	1 1/2"	Regulating	3,0 sec	317,9	111,8	182,9	223,5	109,2
Z84HUR	1 1/2"	Regulating	7,0 sec	317,9	111,8	182,9	223,5	109,2
Z84iW	2"	On/Off	3,0 sec	408,8	111,8	182,9	233,7	119,4
Z84iWR	2"	Regulating	3,0 sec	408,8	111,8	182,9	233,7	119,4
Z84iUR	2"	Regulating	7,0 sec	408,8	111,8	182,9	233,7	119,4

Please consult your Distributor/Key Account Manager for additional options.

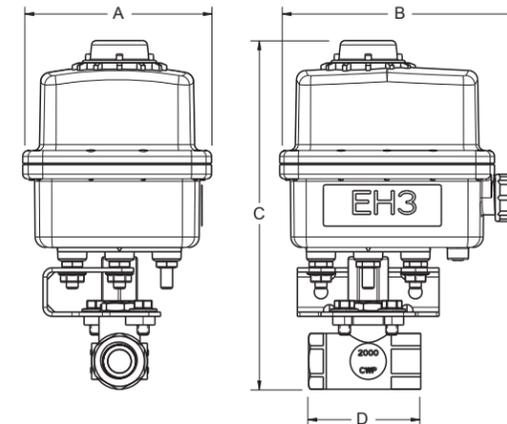
\* l/m at 0,069 Bar drop, water

- 1/4" to 2" stainless steel 2-Way ball valves
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel with Viton™ O-ring
- Seat: Molecularly Enhanced Virgin Teflon® (ME-PTFE)
- Stem packing: Adjustable molecularly enhanced virgin Teflon® (ME-PTFE)
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1/4" to 2" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

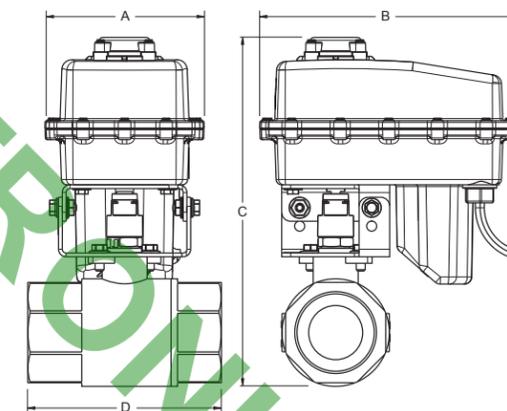
### 1/4", 3/8", and 1/2" Stainless Steel 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
Operating pressure: 137.90 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z88BM	1/4"	On/Off	0,8 sec.	31,8	101,6	129,5	188,0	55,9
Z88BPR	1/4"	Regulating	2,5 sec.	31,8	101,6	129,5	188,0	55,9
Z88BQR	1/4"	Regulating	7,0 sec.	31,8	101,6	129,5	188,0	55,9
Z88CM	3/8"	On/Off	0,8 sec.	27,3	101,6	129,5	188,0	55,9
Z88CPR	3/8"	Regulating	2,5 sec.	27,3	101,6	129,5	188,0	55,9
Z88CQR	3/8"	Regulating	7,0 sec.	27,3	101,6	129,5	188,0	55,9
Z88DM	1/2"	On/Off	0,8 sec.	56,8	101,6	129,5	188,0	61,0
Z88DPR	1/2"	Regulating	2,5 sec.	56,8	101,6	129,5	188,0	61,0
Z88DQR	1/2"	Regulating	7,0 sec.	56,8	101,6	129,5	188,0	61,0

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### 3/4", 1", 1 1/2" and 2" Stainless Steel 2-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 volt DC motor.  
3/4" and 1" operating pressure: 137.90 Bar at 21° C  
1 1/2" and 2" operating pressure: 103.42 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z88EY	3/4"	On/Off	1,5 sec.	113,6	111,8	182,9	203,2	81,3
Z88EWR	3/4"	Regulating	3,0 sec.	113,6	111,8	182,9	203,2	81,3
Z88EUR	3/4"	Regulating	7,0 sec.	113,6	111,8	182,9	203,2	81,3
Z88FY	1"	On/Off	1,5 sec.	162,8	111,8	182,9	213,4	86,4
Z88FWR	1"	Regulating	3,0 sec.	162,8	111,8	182,9	213,4	86,4
Z88FUR	1"	Regulating	7,0 sec.	162,8	111,8	182,9	213,4	86,4
Z88HY	1 1/2"	On/Off	1,5 sec.	317,9	111,8	182,9	236,2	111,8
Z88HWR	1 1/2"	Regulating	3,0 sec.	317,9	111,8	182,9	236,2	111,8
Z88HUR	1 1/2"	Regulating	7,0 sec.	317,9	111,8	182,9	236,2	111,8
Z88iW	2"	On/Off	3,0 sec.	408,8	111,8	182,9	246,4	137,2

Please consult your Distributor/Key Account Manager for additional options.

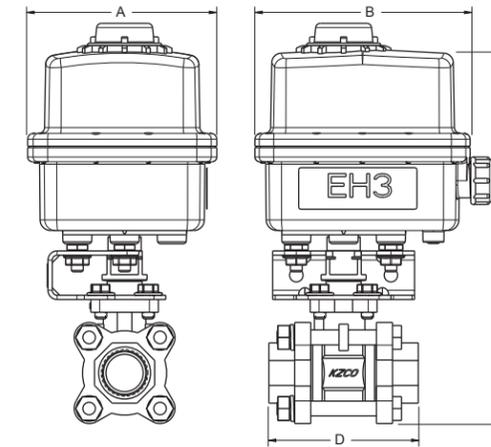
\* l/m at 0,069 Bar drop, water

- 1/2" to 3" stainless steel 3-piece swing out style, 2-Way ball valves
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Virgin PTFE
- Stem packing: PTFE and Viton™
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1/2" to 3" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

### 1/2" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 volt DC motor. Operating pressure: 68,9 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z89DM	1/2"	On/Off	0,8 sec.	113,6	101,6	129,5	210,8	76,2
Z89DPR	1/2"	Regulating	2,5 sec.	113,6	101,6	129,5	210,8	76,2
Z89DQR	1/2"	Regulating	7,0 sec.	113,6	101,6	129,5	210,8	76,2

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water

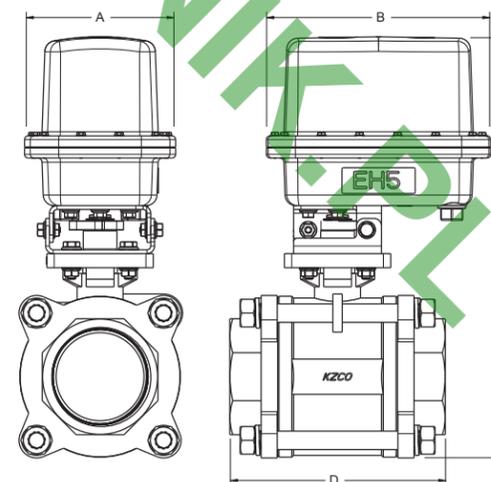
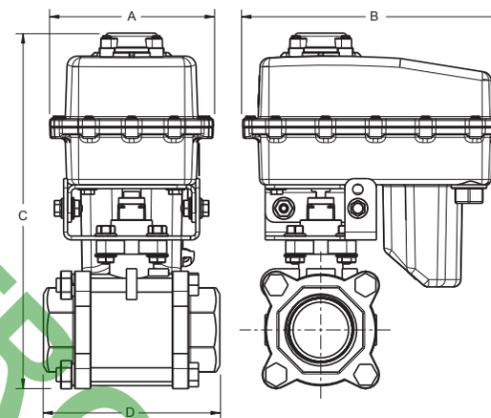
### 3/4", 1", 1 1/4" and 1 1/2" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 volt DC motor. Operating pressure: 68,9 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z89EY	3/4"	On/Off	1,5 sec.	193,0	111,8	182,9	208,3	81,3
Z89EWR	3/4"	Regulating	3,0 sec.	193,0	111,8	182,9	208,3	81,3
Z89EUR	3/4"	Regulating	7,0 sec.	193,0	111,8	182,9	208,3	81,3
Z89FY	1"	On/Off	1,5 sec.	257,4	111,8	182,9	218,4	91,4
Z89FWR	1"	Regulating	3,0 sec.	257,4	111,8	182,9	218,4	91,4
Z89FUR	1"	Regulating	7,0 sec.	257,4	111,8	182,9	218,4	91,4
Z89GY	1 1/4"	On/Off	1,5 sec.	423,9	111,8	182,9	231,1	111,8
Z89GWR	1 1/4"	Regulating	3,0 sec.	423,9	111,8	182,9	231,1	111,8
Z89GUR	1 1/4"	Regulating	7,0 sec.	423,9	111,8	182,9	231,1	111,8
Z89HY	1 1/2"	On/Off	1,5 sec.	643,5	111,8	182,9	243,8	121,9
Z89HWR	1 1/2"	Regulating	3,0 sec.	643,5	111,8	182,9	243,8	121,9
Z89HUR	1 1/2"	Regulating	7,0 sec.	643,5	111,8	182,9	243,8	121,9

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water



### 2", 2 1/2" and 3" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 volt DC motor. Operating pressure: 68,9 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z89i3	2"	On/Off	3,0 sec.	1.423,2	132,1	195,6	281,9	111,8
Z89i7R	2"	Regulating	7,0 sec.	1.423,2	132,1	195,6	281,9	111,8
Z89iAR	2"	Regulating	10,0 sec.	1.423,2	132,1	195,6	281,9	111,8
Z89J3	2 1/2"	On/Off	3,0 sec.	2.838,8	132,1	195,6	281,9	111,8
Z89J7R	2 1/2"	Regulating	7,0 sec.	2.838,8	132,1	195,6	281,9	111,8
Z89JAR	2 1/2"	Regulating	10,0 sec.	2.838,8	132,1	195,6	281,9	111,8
Z89K3	3"	On/Off	3,0 sec.	4.920,5	132,1	195,6	292,1	139,7
Z89K7R	3"	Regulating	7,0 sec.	4.920,5	132,1	195,6	292,1	139,7
Z89KAR	3"	Regulating	10,0 sec.	4.920,5	132,1	195,6	292,1	139,7

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water

- 1" full port stainless steel valve with manual handle
- Mounts directly to actuator
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Virgin PTFE
- Stem packing: PTFE and Viton™
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1" direct mount valve
- 316 stainless steel ball and stem
- 3-piece swing-out-style ball valve

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 1" Stainless Steel 3-Piece, 2-Way Direct Mount Ball Valves

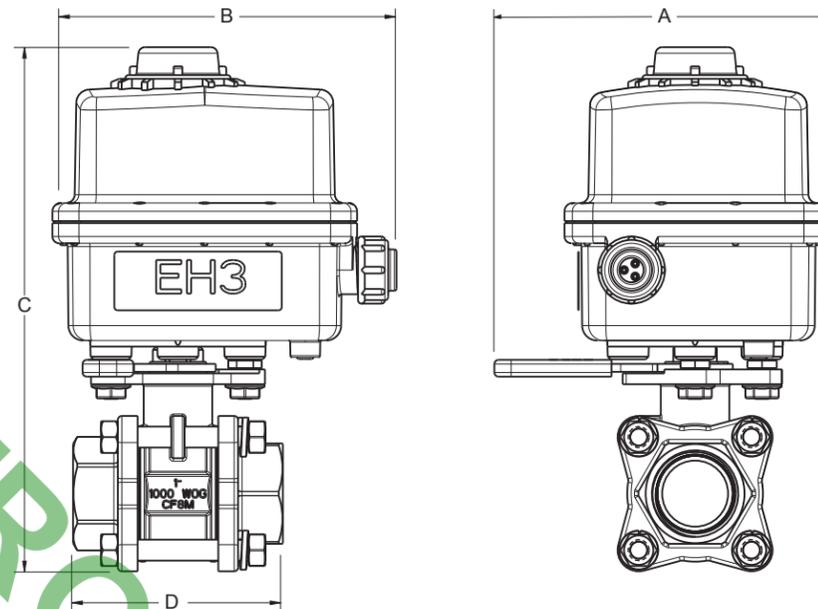
Full port, stainless steel ball, FNPT, ball valve, direct mount to actuator, with manual handle, 12 volt DC motor.

Operating pressure: 41,4 Bar at 21° C

Part	Size	Control	Cycle Time	Flow l/m*	A	B	C	D
Z92FM	1"	On/Off	0,8 sec.	257,4	127,0 mm	129,5 mm	198,1 mm	78,7 mm

Please consult your Distributor/Key Account Manager for additional options.

\* l/m at 0,069 Bar drop, water

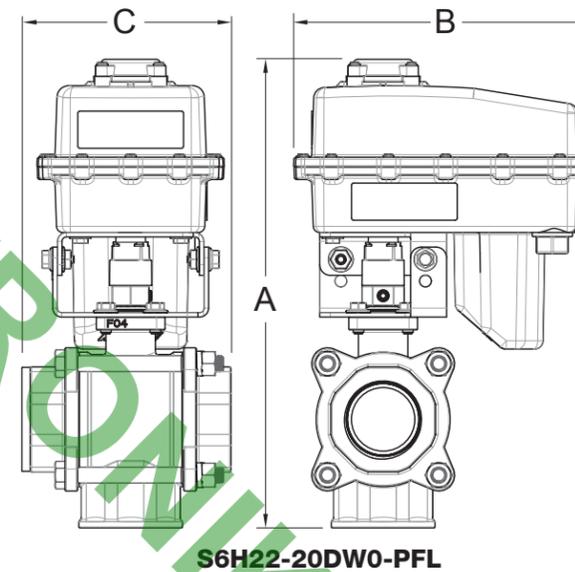
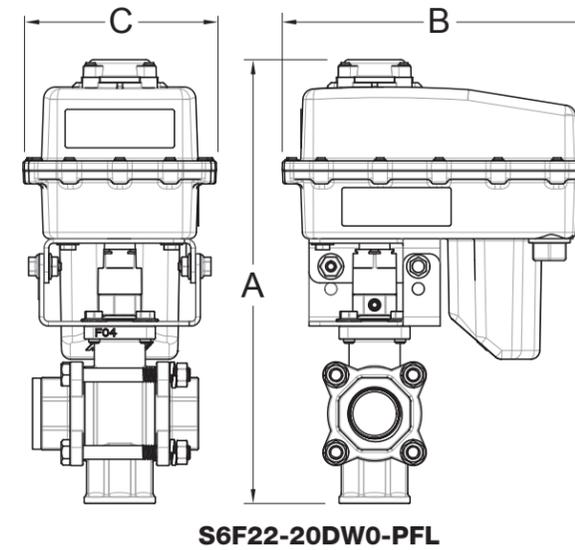


- Designed with extreme precision in mind
- Use as a diverter, selector style, or as a more linear-regulating v-ball valve for precision plumbing with your application
- 1" and 1½" full port valves
- Valve body: 3-piece CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Carbon-graphite-filled PTFE
- Valve style: 3-Way Bottom Load SS Valve provides selector option, diverter option, and V-ball regulating valve
- 3-piece valve body makes servicing easier, giving S Series valves the longevity and ease of operation for the most demanding applications



## KEY FEATURES

- More linear V-ball control
- Selector style valve
- 3-way BL diverter
- 41,4 Bar rating at 21° C
- 3-piece stainless steel valve



### 1" and 1½" 3-Way Bottom Load Valve Specifications

Full port, stainless steel ball, stainless steel valve body, stainless steel valve stem  
 1" Valve Maximum Pressure: 41,4 Bar at 21° C  
 1½" Valve Maximum Pressure: 41,4 Bar at 21° C

* Example ZiegTek Part #	Size	A (mm)	B (mm)	C (mm)
S6F22-20DW0-PFL	1"	256,5	182,9	111,8
S6H22-20DW0-PFL	1½"	281,9	182,9	124,5

\* Part numbers listed above are examples, please contact your Account Manager or Distributor if you would like to discuss additional options.

### 1" and 1½" Bottom Load Valve Example Options

Valve Size	Assembly Number*		Description
	Valve Kit Part #	Actuator Part #	
<b>3-Way Bottom Load "Selector"</b>			
1"	S4F22 - 10DW0-PFV	10DW0-PFV	2 position ON-ON option (180° rotation)
1½"	S4H22 - 10DW0-PFV	10DW0-PFV	2 position ON-ON option (180° rotation)
1"	S4F22 - 90EY0-DFV	90EY0-DFV	3 position ON-OFF-ON option (180° rotation)
1½"	S4H22 - 90EY0-DFV	90EY0-DFV	3 position ON-OFF-ON option (180° rotation)
<b>3-Way Bottom Load "Regulating" V-Ball</b>			
1"	S6F22 - 20DW0-PFL	20DW0-PFL	Requires 225° operation
1½"	S6H22 - 20DW0-PFL	20DW0-PFL	Requires 225° operation
<b>3-Way Bottom Load "Diverter"</b>			
1"	S7F22 - 10DW0-P31	10DW0-P31	2 position (90° rotation)
1½"	S7H22 - 10DW0-P31	10DW0-P31	2 position (90° rotation)

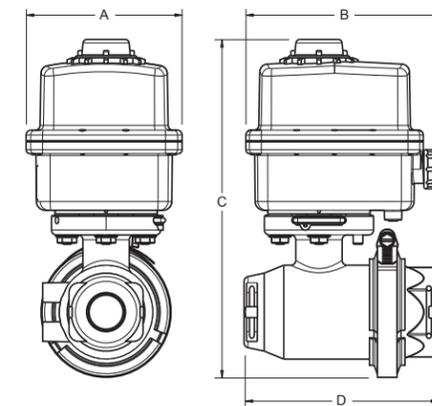
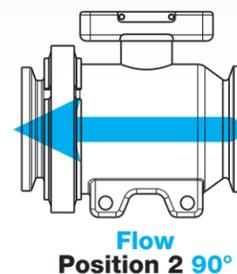
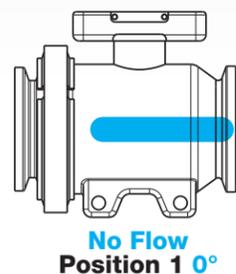
\* Part numbers listed above are examples, please contact your Account Manager or Distributor if you would like to discuss additional options.

- 3/4" to 2" full port 2-Way ball valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT
- Quick hairpin outlet and flanged outlets also available
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 3/4" to 2" valve sizes
- 316 stainless steel ball and stem



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

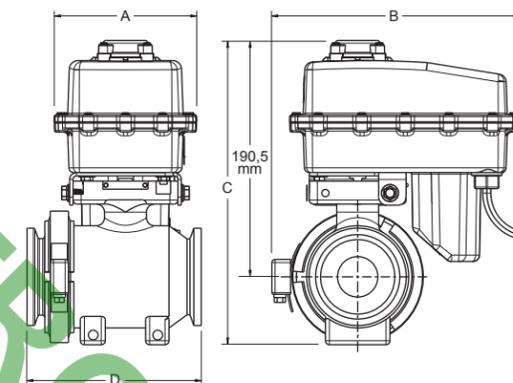
### 3/4" and 1" Polypropylene and Nylon 2-Way Ball Valves

Full port, stainless steel ball, FNPT, 12 volt DC motor.  
Operating pressure: 10,3 Bar at 21° C (polypropylene), 20,7 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z11EM	3/4"	On/Off	0,8 sec	193,0	101,6	129,5	218,4	127,0
Z11EPR	3/4"	Regulating	2,5 sec	193,0	101,6	129,5	218,4	127,0
Z11EQR	3/4"	Regulating	7,0 sec	193,0	101,6	129,5	218,4	127,0
Z11FM	1"	On/Off	0,8 sec	257,4	101,6	129,5	218,4	127,0
Z11FPR	1"	Regulating	2,5 sec	257,4	101,6	129,5	218,4	127,0
Z11FQR	1"	Regulating	7,0 sec	257,4	101,6	129,5	218,4	127,0

Please consult your Distributor/Key Account Manager for additional options.  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

\* l/m at 0,069 Bar drop, water



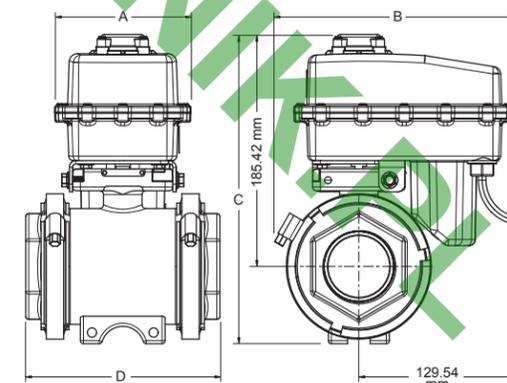
### 1/4" and 1/2" Polypropylene and Nylon 2-Way Ball Valves

Full port, stainless steel ball, FNPT, 12 volt DC motor.  
Operating pressure: 8,6 Bar at 21° C (polypropylene), 13,8 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z11GY	1/4"	On/Off	1,5	454,2	111,8	195,6	238,8	137,2
Z11GWR	1/4"	Regulating	3,0	454,2	111,8	195,6	238,8	137,2
Z11GUR	1/4"	Regulating	7,0	454,2	111,8	195,6	238,8	137,2
Z11HY	1/2"	On/Off	1,5	643,5	111,8	195,6	238,8	137,2
Z11HWR	1/2"	Regulating	3,0	643,5	111,8	195,6	238,8	137,2
Z11HUR	1/2"	Regulating	7,0	643,5	111,8	195,6	238,8	137,2

Please consult your Distributor/Key Account Manager for additional options.  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

\* l/m at 0,069 Bar drop, water



### 2" Polypropylene and Nylon 2-Way Ball Valves

Full port, stainless steel ball, FNPT, 12 volt DC motor.  
Operating pressure: 6,9 Bar at 21° C (polypropylene), 10,3 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z11iY	2"	On/Off	1,5	1.423,2	111,8	195,6	254,0	160,0
Z11iWR	2"	Regulating	3,0	1.423,2	111,8	195,6	254,0	160,0
Z11iUR	2"	Regulating	7,0	1.423,2	111,8	195,6	254,0	160,0

Please consult your Distributor/Key Account Manager for additional options.  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

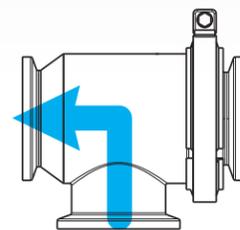
\* l/m at 0,069 Bar drop, water

- 3/4", 1" and 1 1/2" full port valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT
- Quick hairpin outlet available on 1" valve
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection

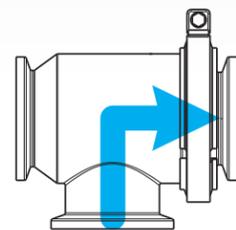


## KEY FEATURES

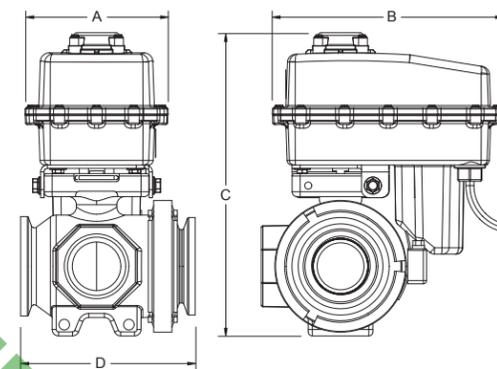
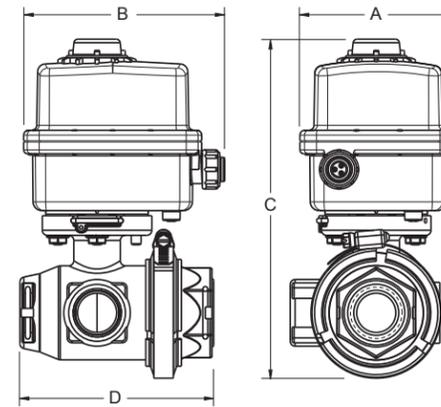
- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 3/4", 1" and 1 1/2" valve sizes
- 316 stainless steel ball and stem
- 3-way side load diverter ball valve



Flow Position 1 0°



Flow Position 2 90°



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 3/4" and 1" Polypropylene and Nylon 3-Way Side Load, Diverter Ball Valves

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12 volt DC motor.  
Operating pressure: 10,3 Bar at 21° C (polypropylene), 20,7 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z13EM	3/4"	On/On	0,8 sec	56,8	101,6	129,5	218,4	127,0
Z13FM	1"	On/On	0,8 sec	94,6	101,6	129,5	218,4	127,0

Please consult your Distributor/Key Account Manager for additional options. \* l/m at 0,069 Bar drop, water  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

## 1 1/2" Polypropylene and Nylon 3-Way Side Load, Diverter Ball Valves

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12 volt DC motor.  
Operating pressure: 8,6 Bar at 21° C (polypropylene), 13,8 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z13HY	1 1/2"	On/On	1,5 sec	177,9	109,2	180,3	233,7	137,2

Please consult your Distributor/Key Account Manager for additional options. \* l/m at 0,069 Bar drop, water  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

WATERELECTRONIK.PL

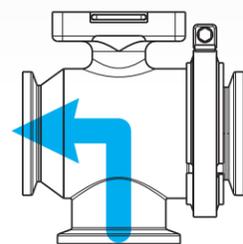


- 1½" and 2" full port valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT outlet
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection

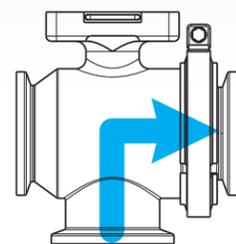


## KEY FEATURES

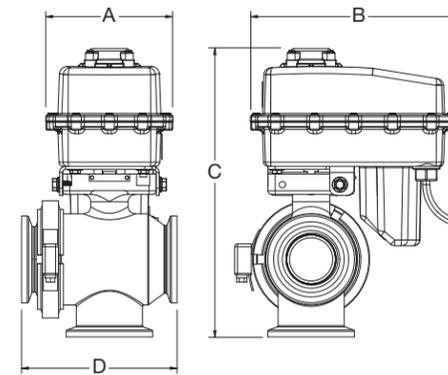
- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1½" and 2" valve sizes
- 316 stainless steel ball and stem
- 3-way bottom load diverter ball valve



Flow  
Position 1 0°



Flow  
Position 2 90°



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

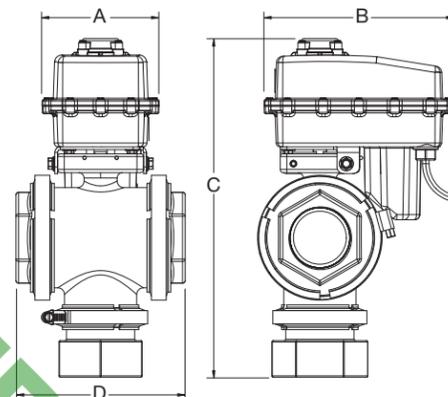
## 1½" Polypropylene and Nylon 3-Way Bottom Load, Diverter Ball Valves

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12 volt DC motor.  
Operating pressure: 8,6 Bar at 21° C (polypropylene), 13,8 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z23HY	1½"	On/On	1,5 sec	177,9	109,2	180,3	248,9	137,2

Please consult your Distributor/Key Account Manager for additional options.  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

\* l/m at 0,069 Bar drop, water



## 2" Polypropylene and Nylon 3-Way Bottom Load, Diverter Ball Valves

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12 volt DC motor.  
Operating pressure: 6,9 Bar at 21° C (polypropylene), 10,3 Bar at 21° C (nylon)

Poly Part	Size	Valve Control	Cycle Time	Flow l/m*	A mm	B mm	C mm	D mm
Z23iY	2"	On/On	1,5 sec	227,1	109,2	180,3	320,0	160,0

Please consult your Distributor/Key Account Manager for additional options.  
NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

\* l/m at 0,069 Bar drop, water

- On-Off jet back to tank, designed to work with ZiegTek actuators
- ACeR – Automatic Compression Relief valve *Boom decompresses back to tank on nozzle shutoff*
- 3/4" and 1" full port 3-way bottom load valves (On-Off Jet Back To Tank)
- Valve body: Polypropylene
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT
- Quick hairpin outlet and flanged outlets also available
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

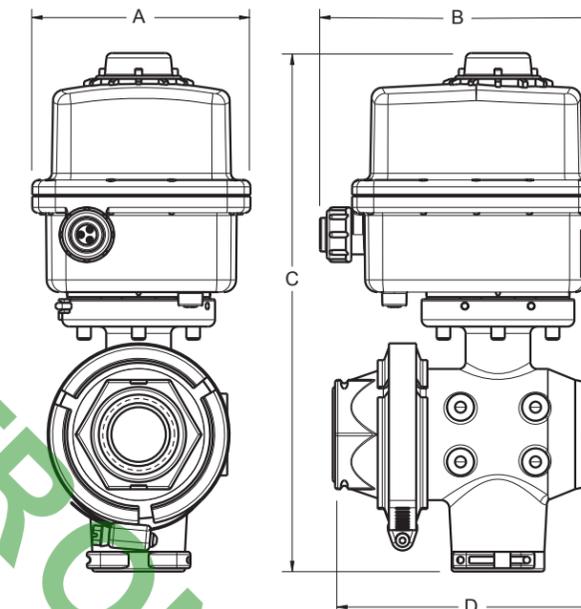
## 3/4" and 1" Polypropylene ACeR 3-Way Bottom Load Valves

Full port, stainless steel ball, ACeR ball (on-off, jet back to tank ball valve), FNPT, 12 volt DC motor.  
**Operating pressure:** 10,3 Bar at 21° C (polypropylene)

Part	Size	Valve Control	Cycle Time	Flow l/m*	A	B	C	D
Z17EM	3/4"	On/Off	0,8 sec	56,8	101,6 mm	129,5 mm	241,3 mm	127,0 mm
Z17FM	1"	On/Off	0,8 sec	94,6	101,6 mm	129,5 mm	241,3 mm	127,0 mm

\* l/m at 0,069 Bar drop, water

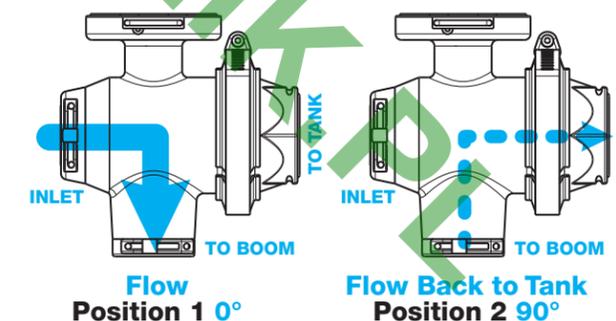
Please consult your Distributor/Key Account Manager for additional options.



**Automatic Compression Relief Valve**  
*Boom decompresses back to tank on nozzle shutoff*

## KEY FEATURES

- Automatic compression relief valve
- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 3/4" and 1" valve sizes
- 316 stainless steel ball and stem



- 1" full port valves
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve/manifold body: Polypropylene
- Valve seat: Virgin PTFE
- Stem seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with quick hairpin fittings, FNPT or flange outlet
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- Modular design allows multiples of three valves on the manifold
- 1" full port valves
- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 316 stainless steel ball and stem
- Fewer connections and reduced leak points

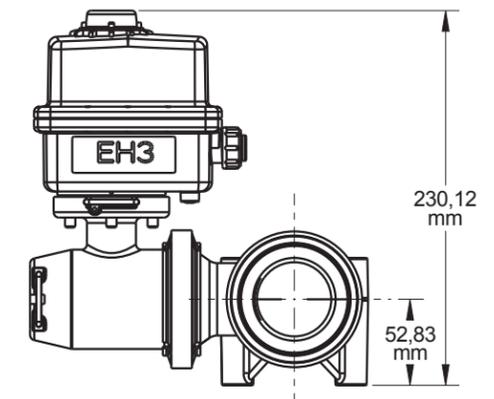
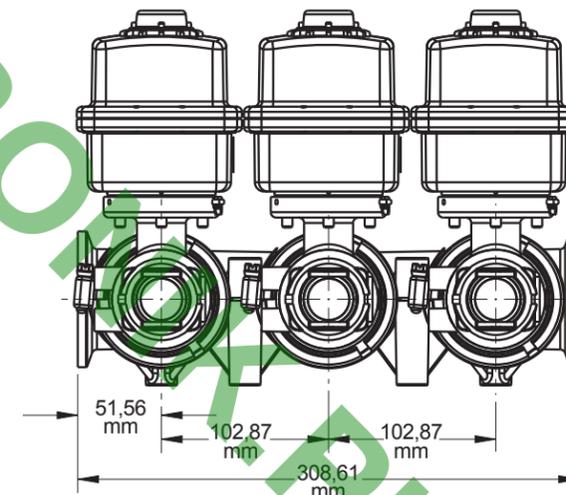
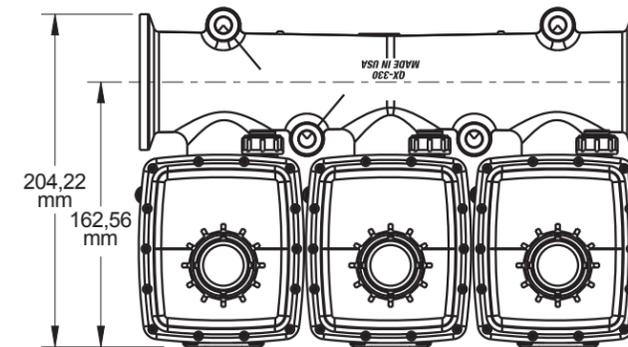
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 1" Polypropylene 3-Section, 1-Piece, Ball Valve Manifold

2-way, full port, stainless steel ball, FNPT, ball valve manifold, 12 volt DC motor.  
**Operating pressure:** 10,3 Bar at 21° C (polypropylene)

Part	Size	Valves	Control	Cycle Time
Z3QFM	1"	3	On/Off	0,8 sec.

Please consult your Distributor/Key Account Manager for additional options.



- 1" full port valves
- 2 to 9 valves on the manifold
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve/manifold body: Polypropylene
- Valve seat: Virgin PTFE
- Stem seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with quick hairpin fittings, FNPT or flange outlet
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- 2 to 9 valves on the manifold
- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 316 stainless steel ball and stem

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

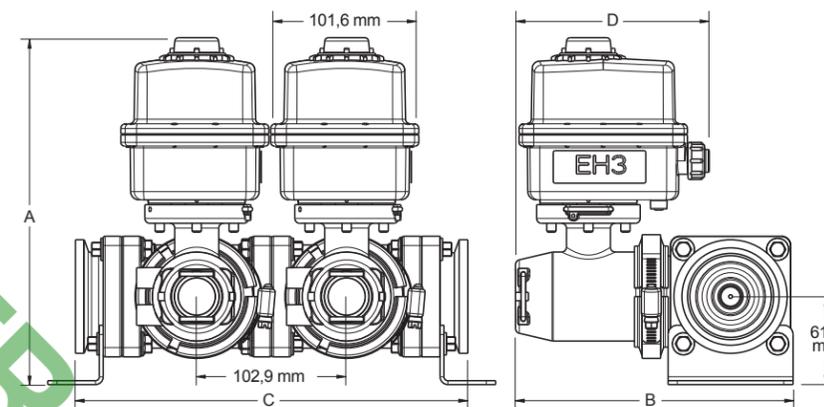
## 1" Polypropylene Modular Ball Valve Manifold

2-way, full port, stainless steel ball, FNPT, ball valve manifold, 12 volt DC motor.  
**Operating pressure:** 10,3 Bar at 21° C (polypropylene)

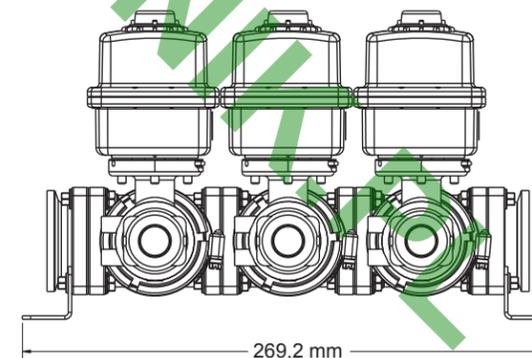
**NOTE:** Add 1.950,45 grams per each additional section • Add 102,87 mm per each additional section

Part	Size	Valves	Cycle Control	Time	A	B	C	D
Z1SFM	1"	1	On/Off	0,8 sec.	238,8	190,5	167,6	132,1
Z2SFM	1"	2	On/Off	0,8 sec.	238,8	190,5	269,2	132,1
Z3SFM	1"	3	On/Off	0,8 sec.	238,8	190,5	373,4	132,1
Z4SFM	1"	4	On/Off	0,8 sec.	238,8	190,5	475,0	132,1
Z5SFM	1"	5	On/Off	0,8 sec.	238,8	190,5	579,1	132,1

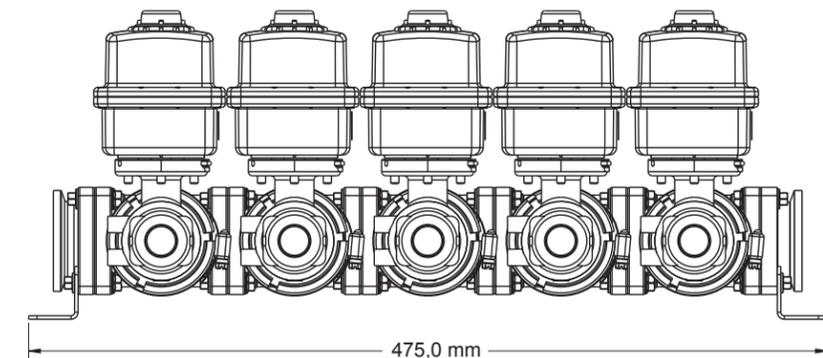
Please consult your Distributor/Key Account Manager for additional options.



**Z3SFM**  
3 stack manifold • 1" full port valves



**Z5SFM**  
5 stack manifold • 1" full port valves



- 3/4" full port valves
- 2 to 9 valves on the manifold
- **Ball:** 316 stainless steel
- **Stem:** 316 stainless steel
- **Valve/manifold body:** Nylon
- **Valve seat:** Virgin PTFE
- **Stem seal:** Dual Viton™ O-ring
- **Body seals:** EPDM
- **Available with quick hairpin fittings, FNPT or flange outlet**
- **UV modified, glass-filled nylon housing** is durable, impact resistant, provides long life and lower maintenance cost
- **Waterproof actuator housing is rated NEMA 6P** to protect internal components from corrosion and extend actuator life
- **Actuator housing is ignition safe** (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## KEY FEATURES

- 2 to 9 valves on the manifold
- **Waterproof:** Rated NEMA 6P, meets IP68
- **Ignition safe:** Rated NEMA 7D
- 3/4" valve size
- 316 stainless steel ball and stem

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

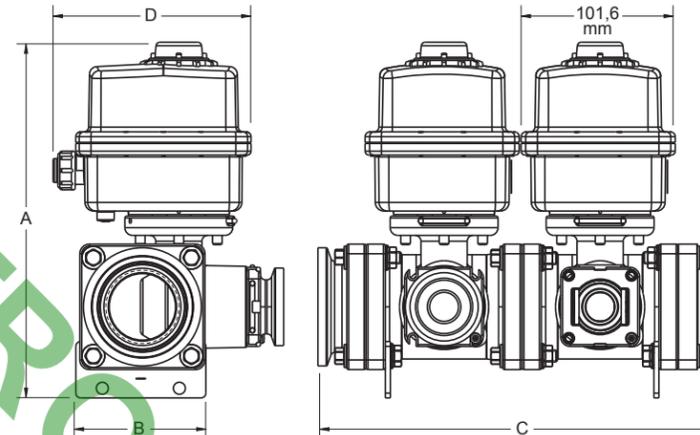
## 3/4" Nylon Compact Ball Valve Manifold

2-way, full port, stainless steel ball, 1 stack, quick hairpin fitting, ball valve manifold, 12 volt DC motor.  
**Operating pressure:** 20,7 Bar at 21° C (nylon)

**NOTE:** Add 1.496,9 grams per each additional section • Add 102,9 mm per each additional section

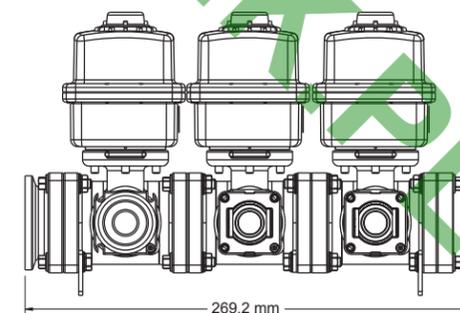
Part	Size	Valves	Control	Cycle Time	A	B	C	D
Z1CEM	3/4"	1	On/Off	0,8 sec.	238,8	124,5	167,6	132,1
Z2CEM	3/4"	2	On/Off	0,8 sec.	238,8	124,5	269,2	132,1
Z3CEM	3/4"	3	On/Off	0,8 sec.	238,8	124,5	372,1	132,1
Z4CEM	3/4"	4	On/Off	0,8 sec.	238,8	124,5	475,0	132,1
Z5CEM	3/4"	5	On/Off	0,8 sec.	238,8	124,5	577,9	132,1

Please consult your Distributor/Key Account Manager for additional options.



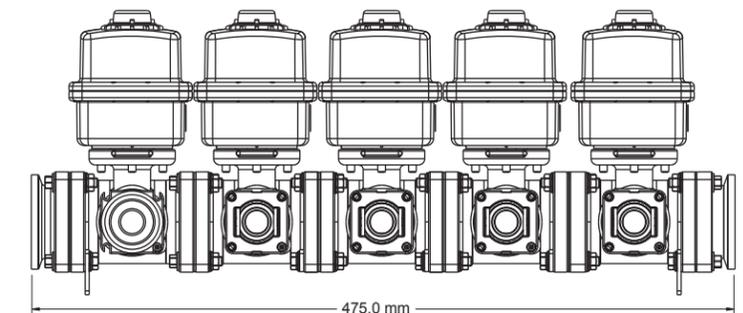
### Z3CEM

3 stack manifold • 3/4" full port valves



### Z5CEM

5 stack manifold • 3/4" full port valves



- 1" full port valves
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve/manifold body: Polypropylene
- Valve seat: Virgin PTFE
- Stem seal: Dual Viton™ O-ring
- Body seals: EPDM
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



TOP VIEW

## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Ignition safe: Rated NEMA 7D
- 1" full port valves
- 316 stainless steel ball and stem
- Fewer connections and reduced leak points

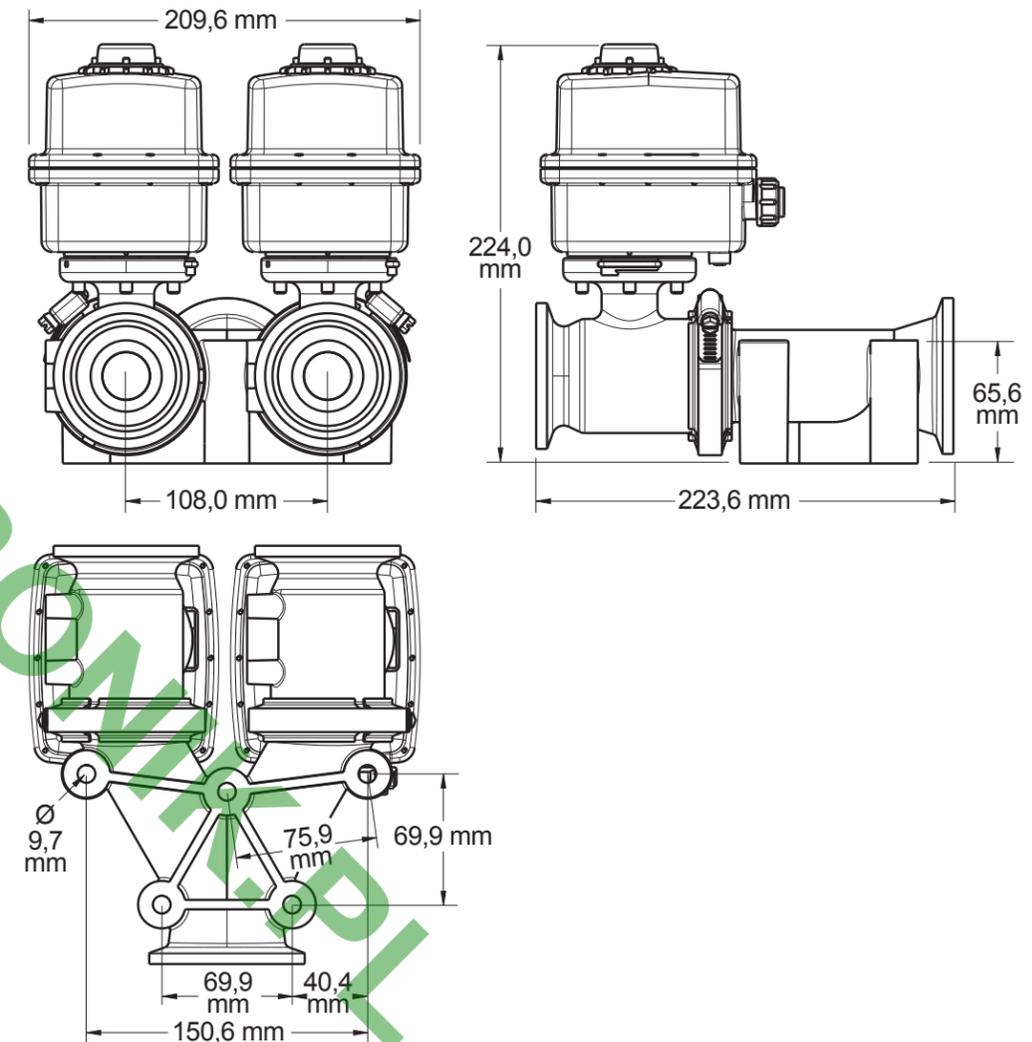
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## 1" 2-Section, 1-Piece, Ball Valve Y-Manifold

Polypropylene 2-way, full port, stainless steel ball, 2-section, 1-piece, Y-manifold, flange clamp, ball valve, 12 volt DC motor. **Operating pressure:** 10,3 Bar at 21° C (Polypropylene)

Part	Size	Valves	Control	Cycle Time
Z2YFM	1"	2	On/Off	0,8 sec

Please consult your Distributor/Key Account Manager for additional options.



- Retrofit kits will allow ZiegTek actuators to be used with RAVEN systems
- Use a ZiegTek actuator and stainless steel valve or retrofit a ZiegTek actuator onto the RAVEN valve
- Designed for use in anhydrous ammonia applications and extreme conditions
- Actuator with vented stainless steel valve:  
EH3 Series Actuator (1/4" to 3/4")  
EH2 Series Actuator (1" to 2")
- Actuator retrofit kits for Raven Valve:  
EH2 Series Actuator (1" to 1 1/4")
- Actuators are constructed with solid state components for increased durability and maintenance-free performance
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



## 1/4" to 2" Vented Stainless Steel Ammonia Valves with Conxall Plug

- Retrofit kit includes actuator with Conxall Plug and 67 Series Stainless Steel Vented Ammonia Valve
- ZiegTek ammonia valves are made for actuation with ZiegTek electric actuators
- 2-way stainless steel vented ball valves are rated to a maximum of 137,9 Bar (1/4" to 1" valves) and 103,4 Bar (1 1/4" to 2" valves)
- Valves come standard with stainless steel ball and stem and dual stem seals

Part	Valve Size	Description
Z100044	1/4"	EH3, ON/OFF, 0,8 seconds, Conxall Plug, with valve
Z100045	1/2"	EH3, ON/OFF, 0,8 seconds, Conxall Plug, with valve
Z100046	3/4"	EH2, ON/OFF, 1,5 seconds, Conxall Plug, with valve
Z100047	1"	EH2, ON/OFF, 1,5 seconds, Conxall Plug, with valve
Z100048	1 1/4"	EH2, ON/OFF, 1,5 seconds, Conxall Plug, with valve
Z100049	1 1/2"	EH2, ON/OFF, 1,5 seconds, Conxall Plug, with valve
Z100050	2"	EH2, ON/OFF, 3,0 seconds, Conxall Plug, with valve
Z100051	1/4"	EH3, FLOW CONTROL, 0,8 seconds, Conxall Plug, with valve
Z100052	1/2"	EH3, FLOW CONTROL, 0,8 seconds, Conxall Plug, with valve
Z100053	3/4"	EH2, FLOW CONTROL, 1,5 seconds, Conxall Plug, with valve
Z100054	1"	EH2, FLOW CONTROL, 1,5 seconds, Conxall Plug, with valve
Z100055	1"	EH2, FLOW CONTROL, 8,0 seconds, Conxall Plug, with valve
Z100056	1 1/4"	EH2, FLOW CONTROL, 1,5 seconds, Conxall Plug, with valve
Z100057	1 1/4"	EH2, FLOW CONTROL, 8,0 seconds, Conxall Plug, with valve
Z100058	1 1/2"	EH2, FLOW CONTROL, 1,5 seconds, Conxall Plug, with valve
Z100059	1 1/2"	EH2, FLOW CONTROL, 8,0 seconds, Conxall Plug, with valve
Z100060	2"	EH2, FLOW CONTROL, 3,0 seconds, Conxall Plug, with valve
Z100061	2"	EH2, FLOW CONTROL, 8,0 seconds, Conxall Plug, with valve

Please consult your Distributor/Key Account Manager for additional options.

## KEY FEATURES

- Waterproof: Rated NEMA 6P, meets IP68
- Solid-state components
- Vented ball for safety
- Conxall plug
- Direct replacement for Raven actuators



## Actuator Retrofit Kits for Raven Systems

- Kit includes actuator, coupler, mounting bracket, and fasteners for mounting to 1" or 1 1/4" Jamesbury Clincher Valves
- Use with 1" and 1 1/4" Jamesbury Carbon Steel Ammonia Valves
- Direct replacement for Raven actuators with a Conxall plug

Part	Description
Z100062	EH2 Actuator, ON/OFF, 1,5 second, with Conxall Plug
Z100063	EH2 Actuator, FLOW CONTROL, 1,5 seconds, with Conxall Plug
Z100064	EH2 Actuator, FLOW CONTROL, 8,0 seconds, with Conxall Plug

Please consult your Distributor/Key Account Manager for additional options.

# RETROFIT KITS AKRON & ELKHART VALVES

- Designed for use in fire apparatus applications and extreme conditions
- Actuator retrofit kits for Akron valves:
  - Gen II series valves (2" to 4")
  - 7800 series valves (1" to 3")
  - 8800 series valves (1" to 3")
- Actuator retrofit kits for Elkhart valves:
  - Unibody series valves (2" to 3")
- Meets NFPA 1901 Standard for automotive fire apparatus
- Manual override handle is available with these retrofit kits
- Actuators require low amp draw for optimum electrical performance of your system
- Actuators are constructed with solid state components for increased durability and maintenance-free performance
- UV modified, glass-filled nylon housing is durable, impact resistant, provides long life and lower maintenance cost
- Waterproof actuator housing is rated NEMA 6P to protect internal components from corrosion and extend actuator life
- Actuator housing is ignition safe (Rated NEMA 7D and meets the USCG Electrical Systems Standard) to support user and environment protection



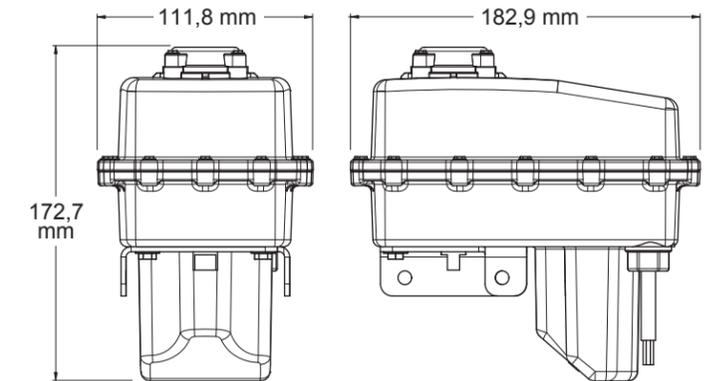
All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

## ZiegTek Retrofit Kits

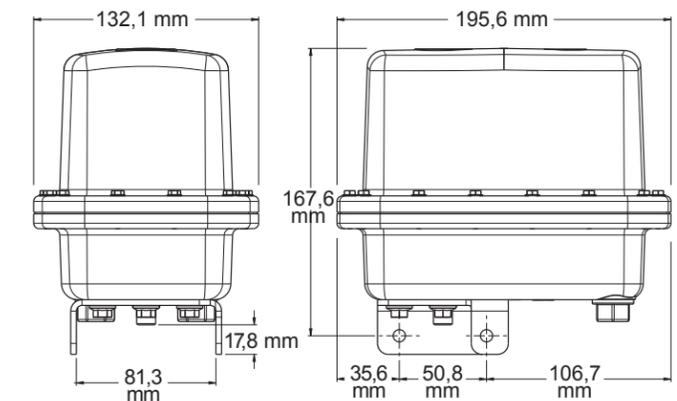
	Size	Kit Part Actuator	Number
Akron 7800 & 8800	1"	EH2	Z100065
	1½"	EH2	Z100066
Akron 7800	2"	EH2	Z100067
	2½"	EH5	Z100068
	3"	EH5	Z100069
Akron 8800	2"	EH2	Z100070
	2½"	EH5	Z100071
	3"	EH5	Z100072
Akron Generation II	2"	EH2	Z100073
	2½"	EH5	Z100074
	3"	EH5	Z100075
	3½"	EH5	Z100076
Elkhart Unibody	2"	EH2	Z100078
	2½"	EH5	Z100079
	3"	EH5	Z100080

Please consult your Distributor/Key Account Manager for additional options.

## EH2 Actuator



## EH5 Actuator



## KEY FEATURES

- NFPA 1901 Compliant
- Low amp draw
- Waterproof: Rated NEMA 6P, meets IP68
- Solid-state components
- Manual override available



- **Manifold fittings: inlet, outlet, straight, 90°, MNPT, FNPT, hairpin and more**, allow for flexibility within your system to obtain the desired results
- **Flange clamps available in M200 and M220 styles**, provide industry wide universal fitting solutions
- **Manifold configurations are numerous**, offering plumbing options that maximize performance
- **Bracket options allow for easy mounting**, saving valuable time and providing peace-of-mind
- **Connectors include Deutsch, Weather Pack, Conxall, Metri-Pack, and Ampseal**, providing the solutions needed when lasting performance is on the line



## KEY FEATURES

- Numerous inlet and outlet fittings and clamps
- Bracket options allow for easy mounting
- Connector options available
- Many manifold configurations

All threads are NPT (National Pipe Thread), not BSP (British Standard Pipe) or metric.

Part	Fittings and Accessories Description
A	<b>QHP-050</b> Fitting 1/2" straight hose barb x QH hairpin quick-connect, polypropylene
B	<b>QHP-050L</b> Fitting 1/2" 90° hose barb x QH hairpin quick-connect, polypropylene
C	<b>QHP-075</b> Fitting 3/4" straight hose barb x QH hairpin quick-connect, polypropylene
D	<b>QHP-075L</b> Fitting 3/4" 90° hose barb x QH hairpin quick-connect, polypropylene
E	<b>QHP-075F</b> Fitting 3/4" FNPT x QH hairpin quick-connect, polypropylene
F	<b>QHP-100</b> Fitting 1" straight hose barb x QH hairpin quick-connect, polypropylene
G	<b>QHP-100L</b> Fitting 1" 90° hose barb x QH hairpin quick-connect, polypropylene
H	<b>QHP-100M</b> Fitting 1" MNPT x QH hairpin quick-connect, polypropylene
I	<b>QX-132</b> Fitting M220 flange x 2" straight hose barb, polypropylene
J	<b>QX-183</b> Fitting M200 flange x 1 1/2" 90° hose barb, polypropylene
K	<b>211-0031</b> Fitting M200 flange x 1 1/4" straight hose barb, polypropylene
L	<b>100264</b> Fitting M220 flange blank with 3/8" gauge port, polypropylene
M	<b>QX4-200</b> Flange Clamp M200 flange clamp, stainless steel
N	<b>100266</b> Flange Clamp M220 flange clamp, stainless steel
O	<b>QX-112</b> Bracket Fits QX modular valve manifold, stainless steel
P	<b>QX-109</b> Bracket Fits QX modular valve manifold, stainless steel
Q	<b>EHPT-196</b> Bracket Fits QX modular valve manifold, stainless steel
R	<b>QX-111</b> Bracket Fits QX modular valve manifold, stainless steel
S	<b>QX-100</b> Bracket Fits QX modular valve manifold, stainless steel
T	<b>QX-102</b> Retainer Hairpin, stainless steel
U	<b>QX-120</b> Manifold Y, M220 flange inlet x M200 flange outlets
V	<b>QX-330</b> Manifold 1-piece, 3-section, linear, M220 flange inlets, M200 flange outlets
W	<b>100349</b> Manifold Poly tri-fork, M220 flange, 1-inlet x 3-outlets
X	* Connector Deutsch DT Series
Y	* Connector Conxall plugs
Z	* Connector Packard Weather Pack
◆	* Connector Metri-Pack 150 & 280 Series
❖	* Connector Ampseal
●	<b>211-0075</b> Fitting M200 flange x M100 flange, reducer coupling
+	<b>203-0021</b> Tee Manifold M200 flange X M200 flange X M200 flange, polypropylene
■	<b>203-0030</b> Tee Manifold M100 flange X M200 flange X M200 flange, polypropylene
★	<b>203-0040</b> Tee Fitting M200 flange X 1 1/2" hose barb X 1 1/2" hose barb
▼	<b>203-0042</b> Tee Fitting M100 flange X 1 1/2" hose barb X 1 1/2" hose barb

\* Please consult your Distributor/Key Account Manager for connector options



**3/4", 1" and 1 1/2" Polypropylene and Stainless Steel 3-Way, Throttling V-Ball Valves**

Full port valves with stainless steel ball, FNPT. Requires 225° operation.

**Operating pressure: 3/4" and 1" Valves**

10,3 Bar (150 psi) at 21° C (70° F) Polypropylene  
41,4 Bar (600 psi) at 21° C (70° F) Stainless Steel

**1 1/2" Valve**

8,6 Bar (125 psi) at 21° C (70° F) Polypropylene  
41,4 Bar (600 psi) at 21° C (70° F) Stainless Steel

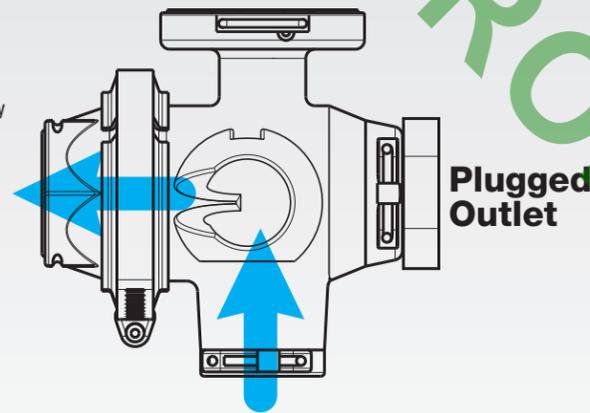
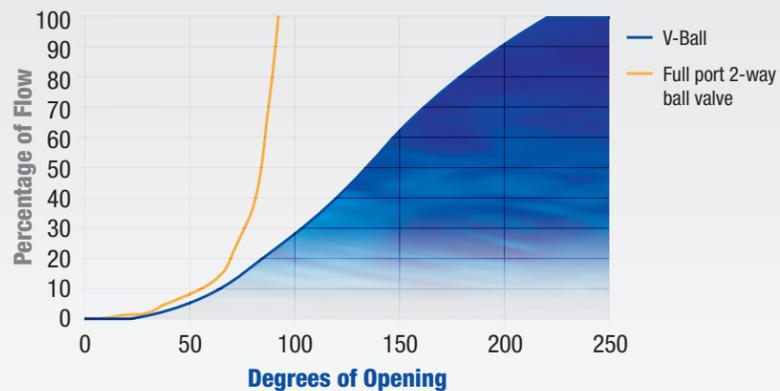
Poly Part	SS Part	Size	GPM Flow Rate*	l/m Flow Rate**
Z100081	—	3/4"	15,0	56,6
Z100082	Z100087	1"	25,0	94,6
Z100083	Z100088	1 1/2"	47,0	177,9

\* Flow rate at 1 psi drop, water  
\*\* l/m at 0,069 Bar drop, water



Please consult your Distributor/Key Account Manager for additional options.

**V-Ball Flow Profile**



**KEY FEATURES**

- Near linear flow control
- Larger range of fluid control
- 225° rotation V-Ball
- From low volume to full port

**1/4", 3/8", 1/2", and 1 1/2" Stainless Steel 2-Way, Throttling Q-Ball Valves**

Stainless steel valves with stainless steel ball, FNPT. 90° operation.

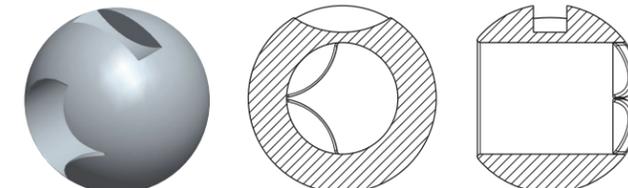
**Operating pressure: 1/4", 3/8" and 1/2" Valves**

137,9 Bar (2,000 psi) at 21° C (70° F)

**1 1/2" Valves**

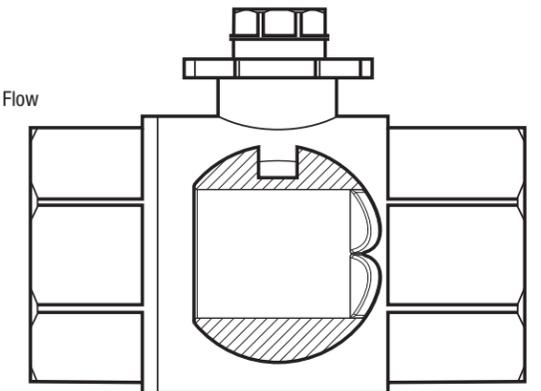
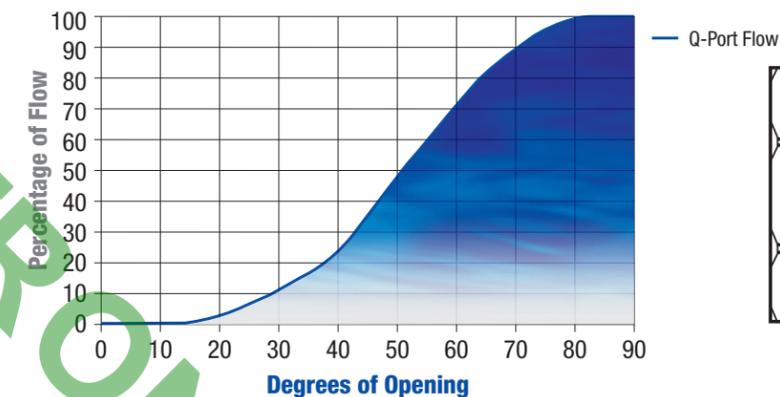
103,4 Bar (1,500 psi) at 21° C (70° F)

Part	Size	Valve Control
Z100089	1/4"	Throttling
Z100090	3/8"	Throttling
Z100091	1/2"	Throttling
Z100092	1 1/2"	Throttling



Please consult your Distributor/Key Account Manager for additional options.

**Q-Ball Flow Profile**



**KEY FEATURES**

- More precise flow control with a 2-way ball valve
- 90° rotation
- Various valve sizes available

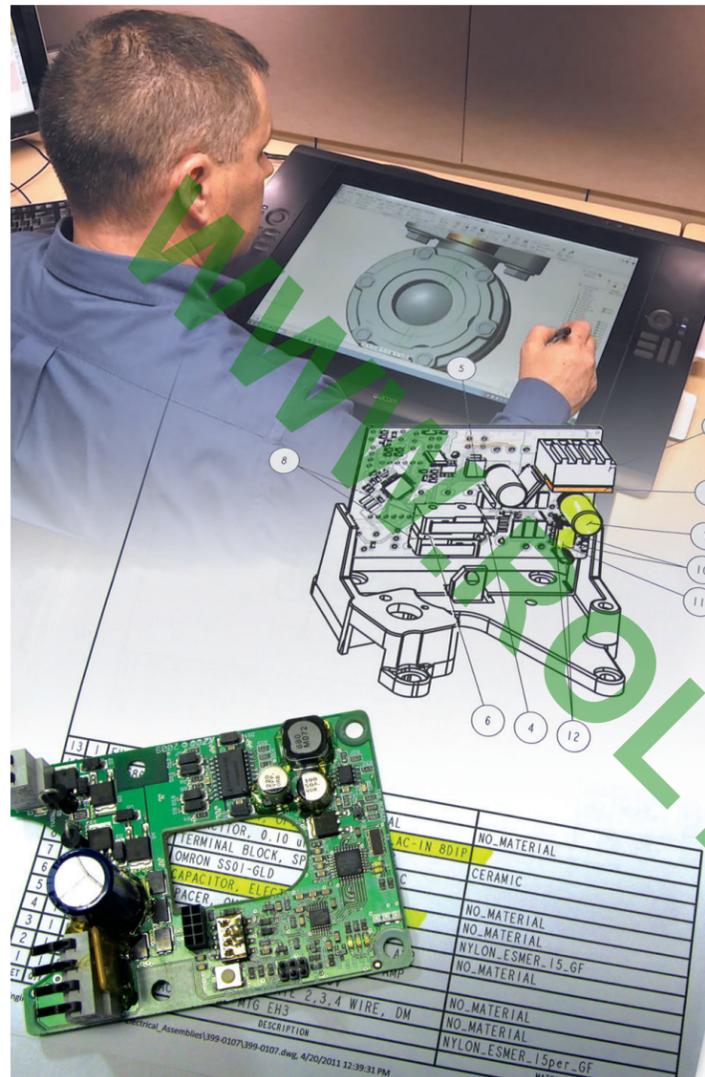


**ZiegTek provides engineering design and consulting service for all your actuator, valve, controller, and plumbing/piping needs.**

**Our engineering and development team can design and/or build almost any actuated valve to your specifications.\***

- ZiegTek has designed and manufactured quality motorized valves for over 39 years
- Our engineering and development team has designed numerous custom products for use in a wide range of applications:
  - Controlling the flow of chemicals on self-propelled agriculture sprayers
  - Managing the proper air, water, and foam solution mixtures on fire trucks
  - Controlling de-icing and brine systems on snow and ice management vehicles
- Design and production of private label products is available with qualifying quantities
- ZiegTek offers valve bodies available in nylon, polypropylene, bronze, carbon steel, aluminum, stainless steel and cast iron
- Stock valve sizes range from 1/4" to 5"

\* May require a qualified minimum quantity



Whether you're interested in inventoried goods or you need parts that have never been made before, you can count on our engineers to design products that get the job done, day in and day out. In addition, we manage the procurement and inventory management of stock and custom goods for a number of customers — and we can do it for you, too!

Our engineering and design services have been used in numerous applications from controlling the flow of chemicals on self-propelled agriculture sprayers to managing the proper air, water, and foam solution mixture on a fire truck to protecting households from water damage. Our engineers stay up-to-date on the newest valve designs and electronics using the most powerful design tools available.

As leaders in our field, we can help you integrate one of our existing actuated valves or design a solution specific to your unique needs.

**Recent projects completed for our clients include:**

- Engineering a wireless leak detection system with active controls
- Developing a Smart Control system that can function in harsh environments and is feature-rich, yet affordable
- Designing a Quality Management System to meet the world's largest agriculture company's standards
- Bringing a line of NSF61 low-lead and Uniform Plumbing Code-approved valves to market
- Designing and manufacturing water flow control valves used on oil rigs in the North Sea

At ZiegTek, we provide turnkey production for more and more of North America's largest companies who benefit from our inventioneering attitude: actuator, valve kits, manifold sections, flange fittings, hose barbs, and custom wiring harnesses — we do it all.

**Contact us today and see what we can do for you!**



*An example of ZiegTek Design Services, including bracket, valve manifold, fittings, cables, and plugs — ready for installation!*

**The ZiegTek actuator housings are waterproof (rated NEMA 6P and meets the IP68 rating of the ISO 60529 Standard) and ignition-proof (rated NEMA 7D and meet USCG Electrical System Standards).**

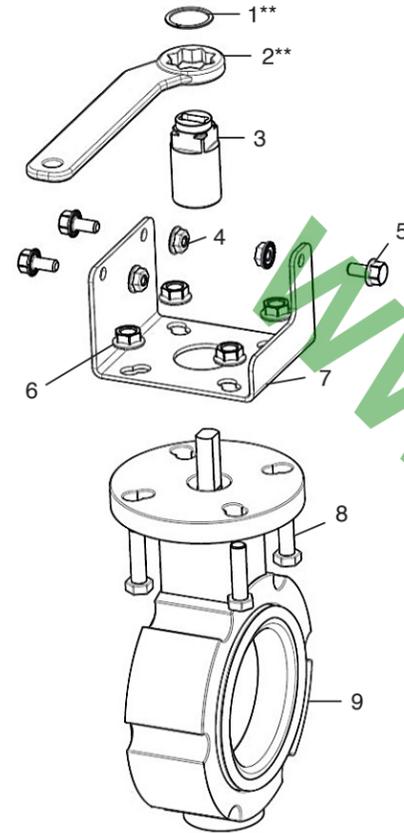
## KEY CAPABILITIES

- Custom actuator and valve design
- Custom controller design
- Private label is available
- Ball, butterfly and manifold valves
- Valve sizes from 1/4" to 5"

## 50 Series - EH2

### Design Features

- 2-3" Butterfly Valve
- Maximum 10,3 Bar at 21° C
- Manual Override Capabilities
- Valve Body:
  - Cast Iron (2-3")
  - Stainless Steel (3")
- Disk: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: BUNA, Viton, EPDM



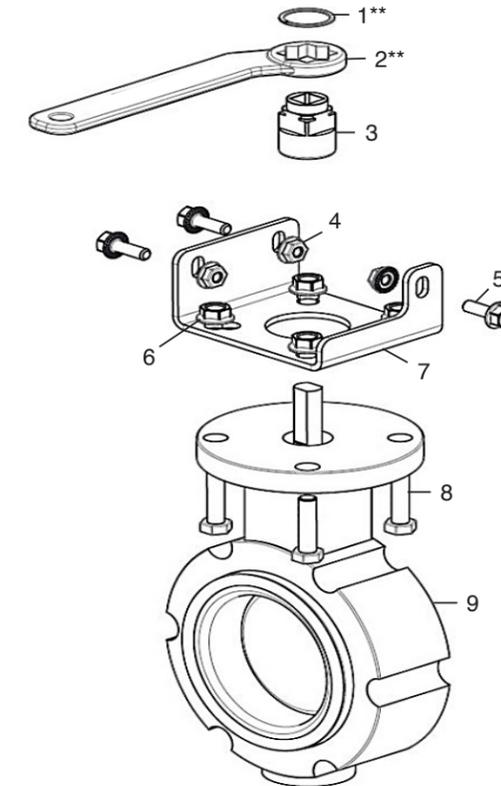
No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0016	coupler - 2" (57i, 58i, 59i), 3" (57K, 58K, 59K)	1
4	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	
5	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
6	EHPT-191	nut, 5/16 - 18, stainless steel, hex	4
	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	
7	100255	bracket, stainless steel - 2" (57i, 58i, 59i), 3" (57K, 58K, 59K)	1
8	EHPT-101	bolt, 5/16 - 18 x 1 1/4, stainless steel	4
9	EHPT-57i	valve, 2" cast iron/ stainless steel butterfly, BUNA seat	1
	EHPT-57K	valve, 3" cast iron/ stainless steel butterfly, BUNA seat	
	EHPT-58i	valve, 2" cast iron/ stainless steel butterfly, VITON seat	
	EHPT-58K	valve, 3" cast iron/ stainless steel butterfly, VITON seat	
	EHPT-59i	valve, 2" cast iron/ stainless steel butterfly, EPDM seat	
	EHPT-59K	valve, 3" cast iron/ stainless steel butterfly, EPDM seat	

\*\*Manual handle override only

## 50 Series - EH5

### Design Features

- 3-5" Butterfly Valve
- Maximum 10,3 Bar at 21° C (3")
- Maximum 3,4 Bar at 21° C (4-5")
- Manual Override Capabilities
- Valve Body:
  - Cast Iron (3")
  - Stainless Steel (3")
  - Cast Aluminum (3-5")
- Disk: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: BUNA, Viton, EPDM (5" valve only available with EPDM seats)



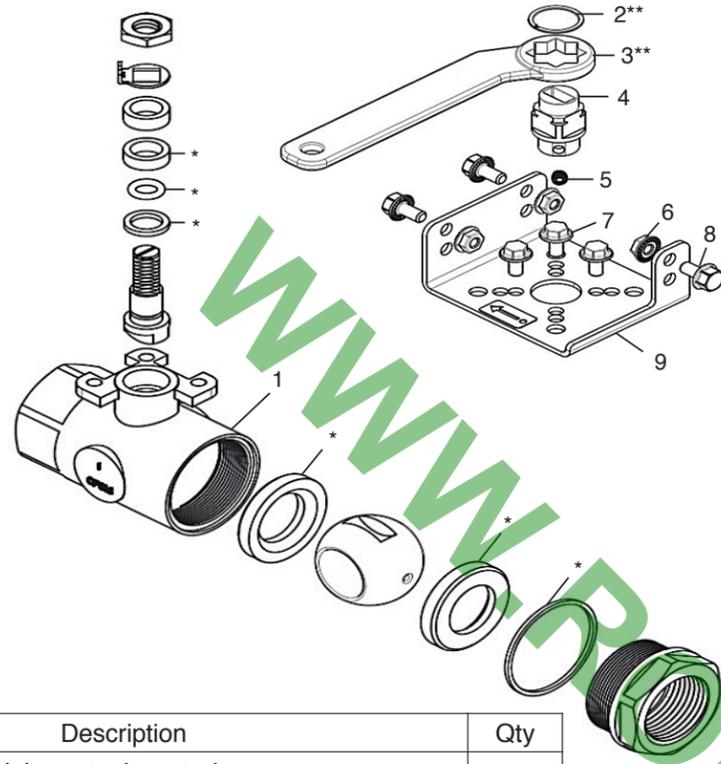
No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0007	coupler - 4" (57L, 58L, 59L), 5" (59M)	1
	208-0024	coupler - 2" (57i, 58i, 59i), 3" (57K, 58K, 59K)	
4	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
5	100338	bolt, serrated flange, 1/4 - 20 x 3/4	3
6	EHPT-191	nut, 5/16 - 18, stainless steel, hex	4
	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	
7	105-0002	bracket, stainless steel - 3" (57K, 58K, 59K), 4" (57L, 58L, 59L), 5" (59M)	1
8	EHPT-101	bolt, 5/16 - 18 x 1 1/4, stainless steel	4
9	EHPT-57K	valve, 3" cast iron/stainless steel butterfly, BUNA seats	1
	EHPT-58K	valve, 3" cast iron/stainless steel butterfly, VITON seats	
	EHPT-59K	valve, 3" cast iron/stainless steel butterfly, EPDM seats	
	EHPT-57L	valve, 4" aluminum/stainless steel butterfly, BUNA seats	
	EHPT-58L	valve, 4" aluminum/stainless steel butterfly, VITON seats	
	EHPT-59L	valve, 4" aluminum/stainless steel butterfly, EPDM seats	
	EHPT-59M	valve, 5" aluminum/stainless steel butterfly, EPDM seats	

\*\*Manual handle override only

## 67 Series - EH2

### Design Features

- 3/4"-2" Vented 2-Way Stainless Steel Ammonia Ball Valves
- Maximum 137,9 Bar at 21° C (3/4"-1")
- Maximum 103,4 Bar at 21° C (1 1/4"-2")
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel (vented)
- Stem: 316 Stainless Steel with EPDM O-ring
- Seat: ME-PTFE (molecularly enhanced virgin Teflon®)
- Stem Packing: Adjustable ME-PTFE (molecularly enhanced virgin Teflon®)



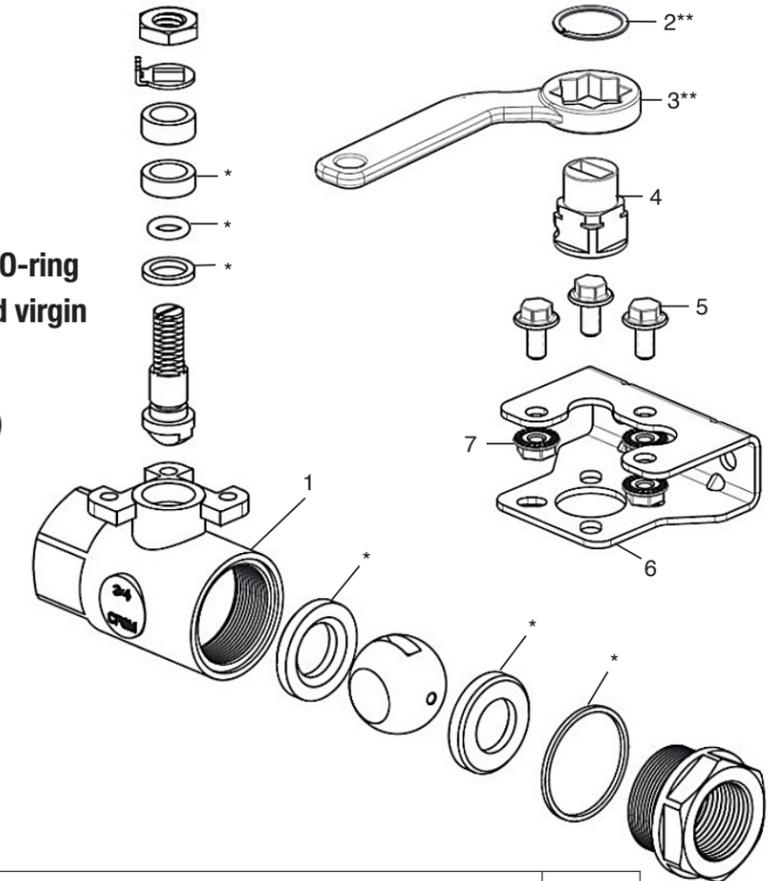
No.	Part Number	Description	Qty
1	200-0033	valve, 2-way, 1" stainless steel, vented	1
	200-0042	valve, 2-way, 1 1/4" stainless steel, vented	
	200-0075	valve, 2-way, 1 1/2" stainless steel, vented	
	299-0007	valve, 2-way, 3/4" stainless steel, vented	
	299-0008	valve, 2-way, 2" stainless steel, vented	
2**	100289	retaining ring, spiral	1
3**	212-0002	handle	1
4	208-0023	coupler - 1 1/4" (67G), 1 1/2" (67H), 2" (67i)	1
	208-0043	coupler - 3/4" (67E), 1" (67F)	
	208-0072	coupler - 1 1/2" (67H)	
5	100-0036	set screw, 1/4 - 20 x 1/4	1
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
7	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	3
8	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
9	100042	bracket, stainless steel - 1 1/4" (67G), 1 1/2" (67H), 2" (67i)	1
	105-0025	bracket, stainless steel - 3/4" (67E), 1" (67F)	
*	210-0003-1	valve repair kit - 3/4" (67E)	
	210-0013-1	valve repair kit - 1" (67F)	
	210-0017-1	valve repair kit - 1 1/4" (67G)	
	210-0001-1	valve repair kit - 1 1/2" (67H)	
	210-0002-1	valve repair kit - 2" (67i)	

\*Items included in valve repair kits  
 \*\*Manual handle override only

## 67 Series - EH3

### Design Features

- 1/4"-3/4" Vented 2-Way Stainless Steel Ammonia Ball Valves
- Maximum 137,9 Bar at 21° C
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel (vented)
- Stem: 316 Stainless Steel with EPDM O-ring
- Seat: ME-PTFE (molecularly enhanced virgin Teflon®)
- Stem Packing: Adjustable ME-PTFE (molecularly enhanced virgin Teflon®)



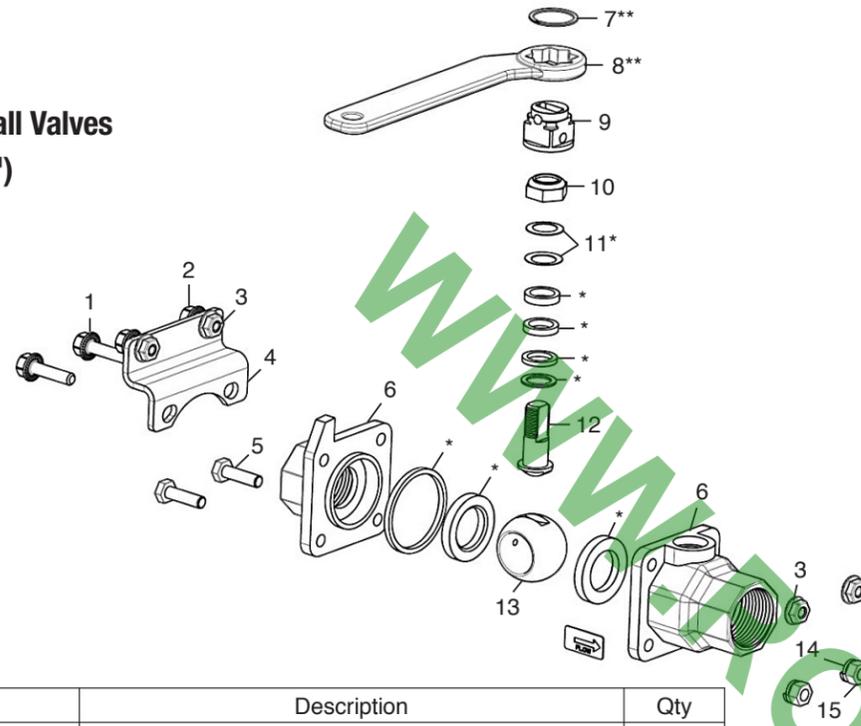
No.	Part Number	Description	Qty
1	200-0029	valve, 2-way, 1/4" stainless steel, vented	1
	200-0073	valve, 2-way, 1/2" stainless steel, vented	
	299-0007	valve, 2-way, 3/4" stainless steel, vented	
	299-0013	valve, 2-way, 1/2" stainless steel, vented	
2**	100289	retaining ring, spiral	1
3**	212-0006	handle	1
4	208-0040	coupler - 1/4" (67B), 1/2" (67D), 3/4" (67E)	1
5	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	3
6	105-0045	bracket, stainless steel - 1/4" (67B), 1/2" (67D), 3/4" (67E)	1
7	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
*	210-0007-1	valve repair kit - 1/4" (67B), 1/2" (67D)	
	210-0003-1	valve repair kit - 3/4" (67E)	

\*Items included in valve repair kit  
 \*\*Manual handle override only

## 68 Series - EH2

### Design Features

- 1"-1 1/4" Vented 2-Way Ammonia Ball Valves
- Maximum 55,2 Bar at 21° C (3/4"-1")
- Manual Override Capabilities
- Valve Body: Carbon Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



No.	Part Number	Description	Qty
1	100340	bolt, serrated flange, 1/4 - 20 x 1	2
2	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	2
3	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
4	EHPT-164	bracket, stainless steel - 1" (68F), 1 1/4" (68G)	1
5	EHPT-68F body bolt EHPT-68G body bolt	body bolt (68F) body bolt (68G)	2
6	299-0016	valve sub, 1" vented	1
7**	100289	retaining ring, spiral	1
8**	212-0002	handle	1
9	208-0025	coupler - 1" (68F), 1 1/4" (68G)	1
10	EHPT-68F stem nut EHPT-68G stem nut	stem nut (68F) stem nut (68G)	1
11*	EHPT-68F spring washer EHPT-68G spring washer	spring washer (68F) spring washer (68G)	2
12	EHPT-68F stem EHPT-68G stem	stem, 1" threaded-end ball valve stem, 1 1/4" threaded-end ball valve	1
13	EHPT-68F valve ball EHPT-68G valve ball	valve ball, 1" threaded-end ball valve valve ball, 1 1/4" threaded-end ball valve	1
14	EHPT-68F split lock washer EHPT-68G split lock washer	1/4 split lock washer 5/16 split lock washer	2
15	EHPT-68F hex nut EHPT-68G hex nut	hex nut (68F) hex nut (68G)	2
*	EHPT-720 EHPT-721	valve repair kit - 1" (68F) valve repair kit - 1 1/4" (68G)	

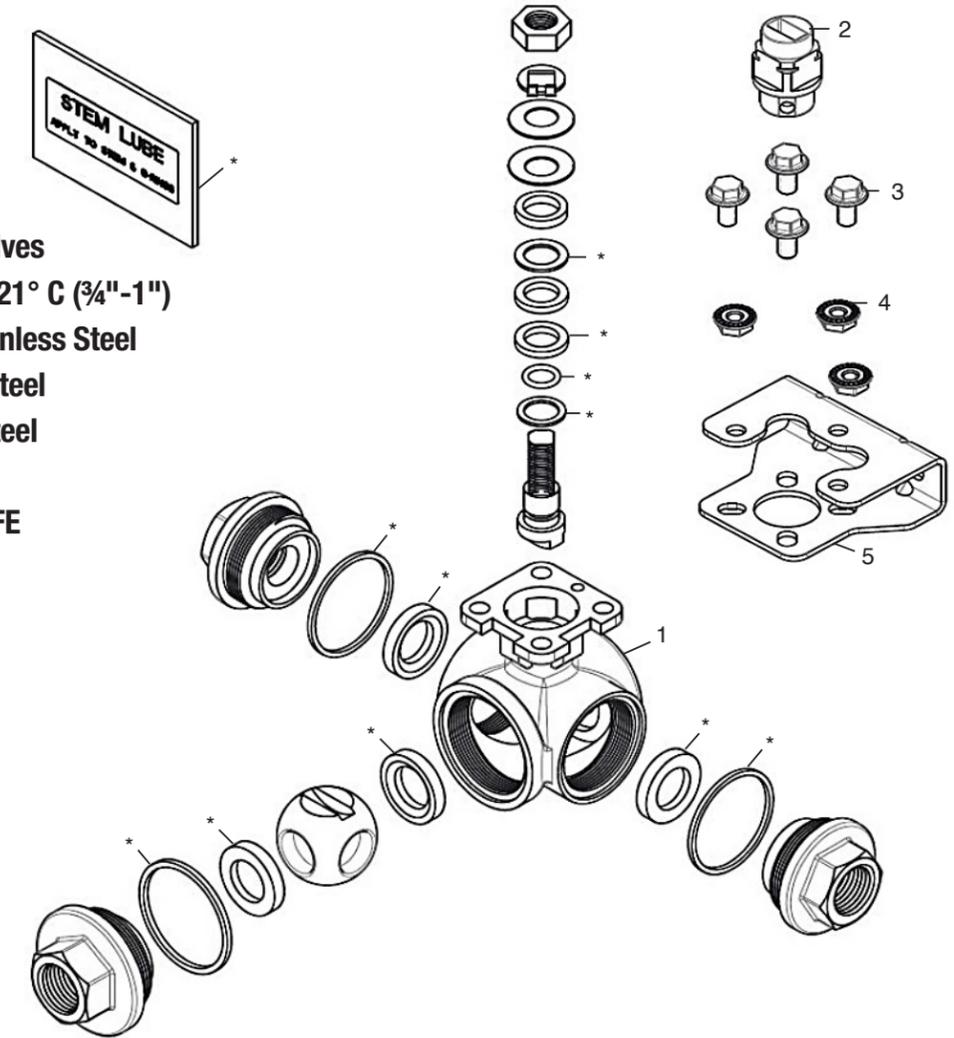
\*Items included in valve repair kits

\*\*Manual handle override only

## 73 Series - EH3

### Design Features

- 3/8"-1/2" 3-Way Ball Valves
- Maximum 68,9 Bar at 21° C (3/4"-1")
- Valve Body: CF8M Stainless Steel
- Ball: CF8M Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE
- Stem Packing: ME-PTFE



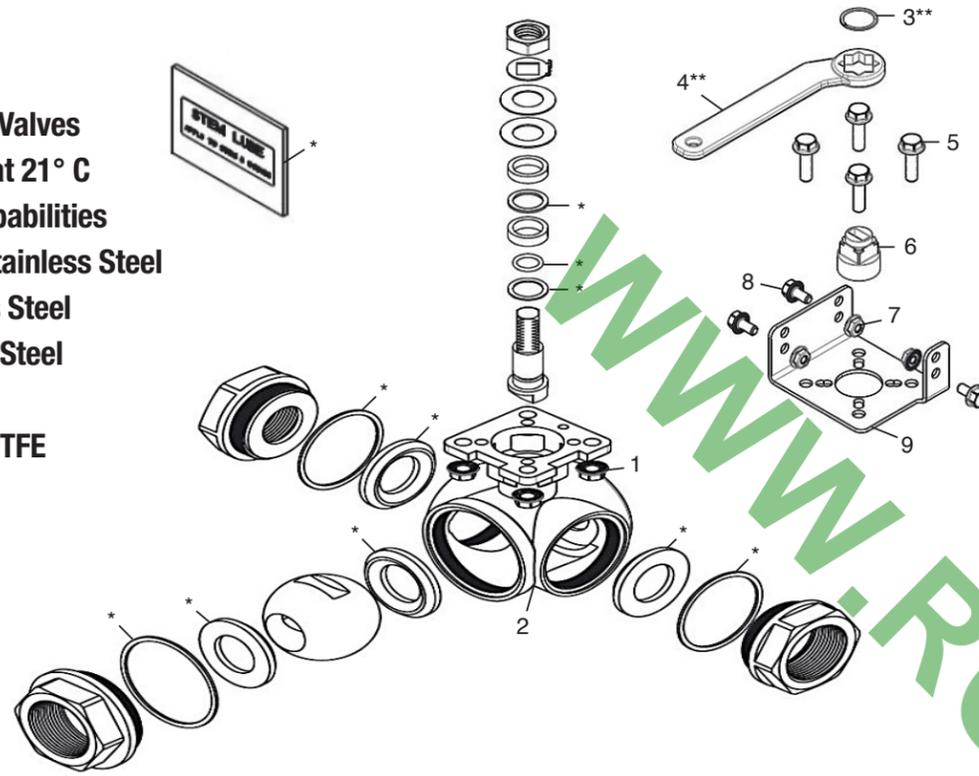
No.	Part Number	Description	Qty
1	299-0021 299-0023	valve, 3-way, 3/8" standard port 4-seat valve, 3-way, 1/2" 4-piece, 4-seat	1
2	208-0043	coupler - 3/8" (73C), 1/2" (73D)	1
3	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	4
4	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
5	105-0045	bracket, stainless steel - 3/8" (73C), 1/2" (73D)	1
*	210-0008-1 210-0029	valve repair kit - 3/8" (73C) valve repair kit - 1/2" (73D)	

\*Items included in valve repair kits

## 73 Series - EH2

### Design Features

- 3/4"-1 1/2" 3-Way Ball Valves
- Maximum 68,9 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: CF8M Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE
- Stem Packing: ME-PTFE



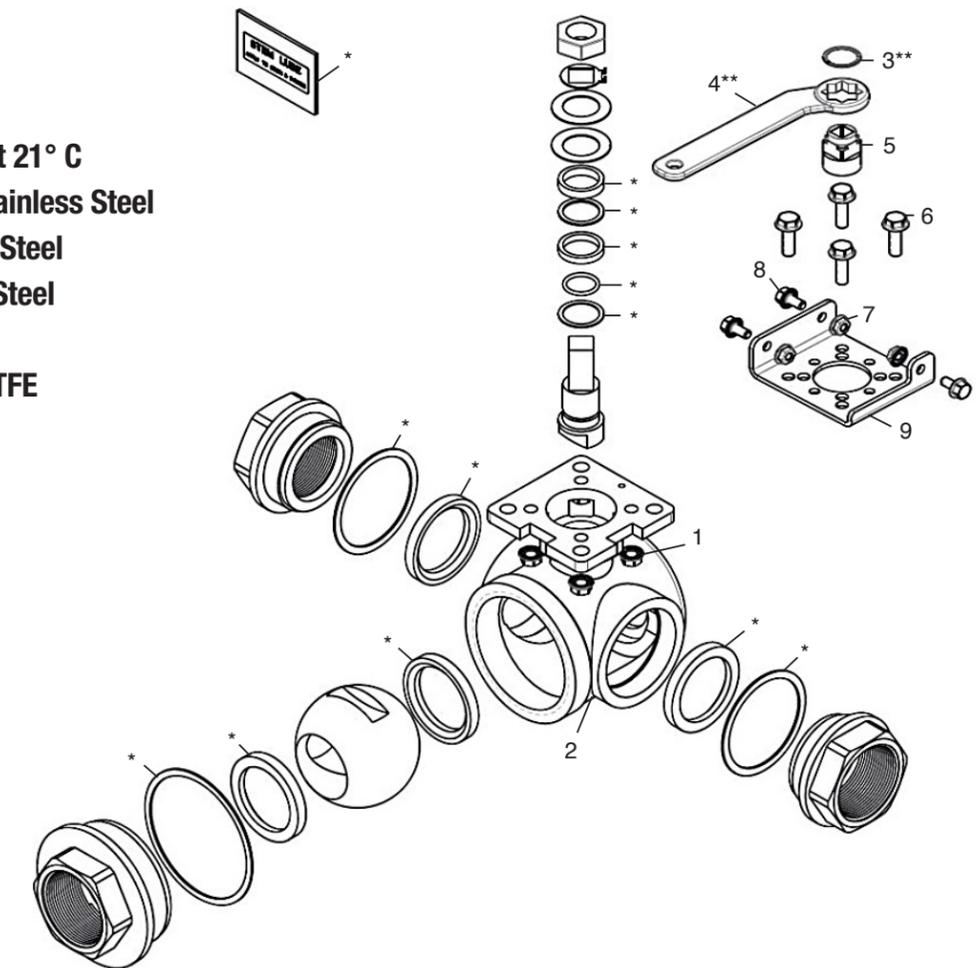
No.	Part Number	Description	Qty
1	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
2	299-0025	valve, 3-way, 1 1/2" 4-piece, 4-seat	1
	299-0005	valve, 3-way, 3/4" 4-piece, 4-seat	
	299-0024	valve, 3-way, 1" 4-piece, 4-seat	
3**	100289	retaining ring, spiral	1
4**	212-0002	handle	1
5	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	4
	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel hex	
6	208-0008	coupler - 1" (73F), 1 1/2" (73H)	1
	208-0023	coupler - 1" (73F)	
	208-0043	coupler - 3/4" (73E)	
7	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
8	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
9	100042	bracket, stainless steel - 3/4" (73E), 1" (73F), 1 1/2" (73H)	1
*	210-0009-1	valve repair kit - 3/4" (73E)	
	210-0010-1	valve repair kit - 1" (73F)	
	210-0011-1	valve repair kit - 1 1/2" (73H)	

\*Items included in valve repair kits  
 \*\*Manual handle override only

## 73 Series - EH5

### Design Features

- 2" 3-Way Ball Valves
- Maximum 68,9 Bar at 21° C
- Valve Body: CF8M Stainless Steel
- Ball: CF8M Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE
- Stem Packing: ME-PTFE



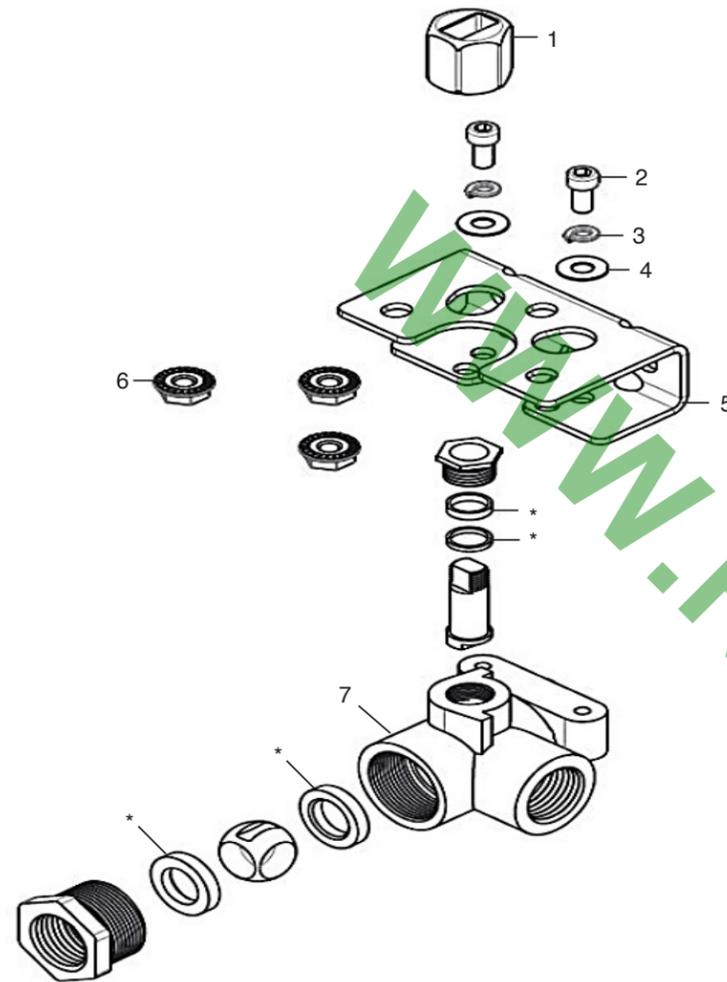
No.	Part Number	Description	Qty
1	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
2	299-0026	valve, 3-way, 2" stainless steel, L-port, 4-seat	1
3**	100289	retaining ring, spiral	1
4**	212-0002	handle	1
5	208-0005	coupler - 2" (73i)	1
6	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel, hex	4
7	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
8	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
9	105-0026	bracket, stainless steel - 2" (73i)	1
*	210-0012-1	valve repair kit - 2" (73i)	
	210-0033	valve repair kit - 2" (73i)	

\*Items included in valve repair kits  
 \*\*Manual handle override only

## 78 Series - EH3

### Design Features

- 1/2-3/4" 3-Way Ball Valves
- Maximum 27,6 Bar at 21° C
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



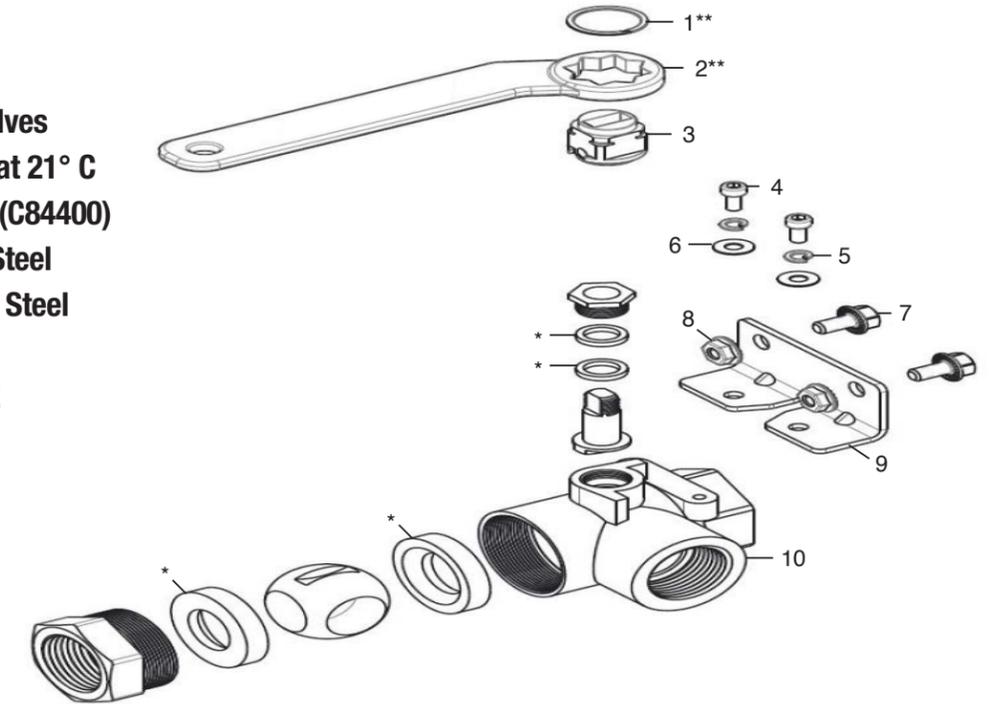
No.	Part Number	Description	Qty
1	EH-145	coupler - 1/2" (78D)	1
	EH-146	coupler - 3/4" (78E)	
2	EH-158	screw, 10 - 24 x 3/8, stainless steel socket head	2
3	EHPT-109	washer, #10, split lock, 18 - 8, stainless steel	2
4	EHPT-150	washer, #10, flat, 18 - 8, stainless steel	2
5	EH3-174	bracket, stainless steel - 1/2" (78D), 3/4" (78E)	1
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
7	EH3-78D	valve, 3-way, bronze, 1/2" diverter	1
	EHPT-78E	valve, 3-way, bronze, 3/4"	
*	EHPT-710	valve repair kit - 3/4" (78E)	

\*Items included in valve repair kits

## 78 Series - EH2

### Design Features

- 3/4-2" 3-Way Ball Valves
- Maximum 27,6 Bar at 21° C
- Valve Body: Bronze (C84400)
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0034	coupler - 1 1/2" (78H), 2" (78i)	1
	208-0050	coupler - 3/4" (78E), 1" (78F)	
4	EH-158	screw, 10 - 24 x 3/8, stainless steel socket head	2
5	EHPT-109	washer, #10, split lock, 18 - 8, stainless steel	2
6	EHPT-150	washer, #10, flat, 18 - 8, stainless steel	2
7	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	2
	101-0002	nut, serrated flanged, 1/4 - 20, stainless steel, coated	
9	EHPT-161	bracket, stainless steel - 3/4" (78E), 1" (78F)	1
	EHPT-161-L	bracket, stainless steel - 1 1/2" (78H), 2" (78i)	
10	EHPT-78E	valve, 3-way, bronze, 3/4"	1
	EHPT-78F	valve, 3-way, bronze, 1"	
	EHPT-78H	valve, 3-way, bronze, 1 1/2"	
	EHPT-78I	valve, 3-way, bronze, 2"	
*	EHPT-710	valve repair kit - 3/4" (78E)	
	EHPT-711	valve repair kit - 1" (78F)	
	EHPT-713	valve repair kit - 1 1/2" (78H)	
	EHPT-714	valve repair kit - 2" (78i)	

\*Items included in valve repair kits

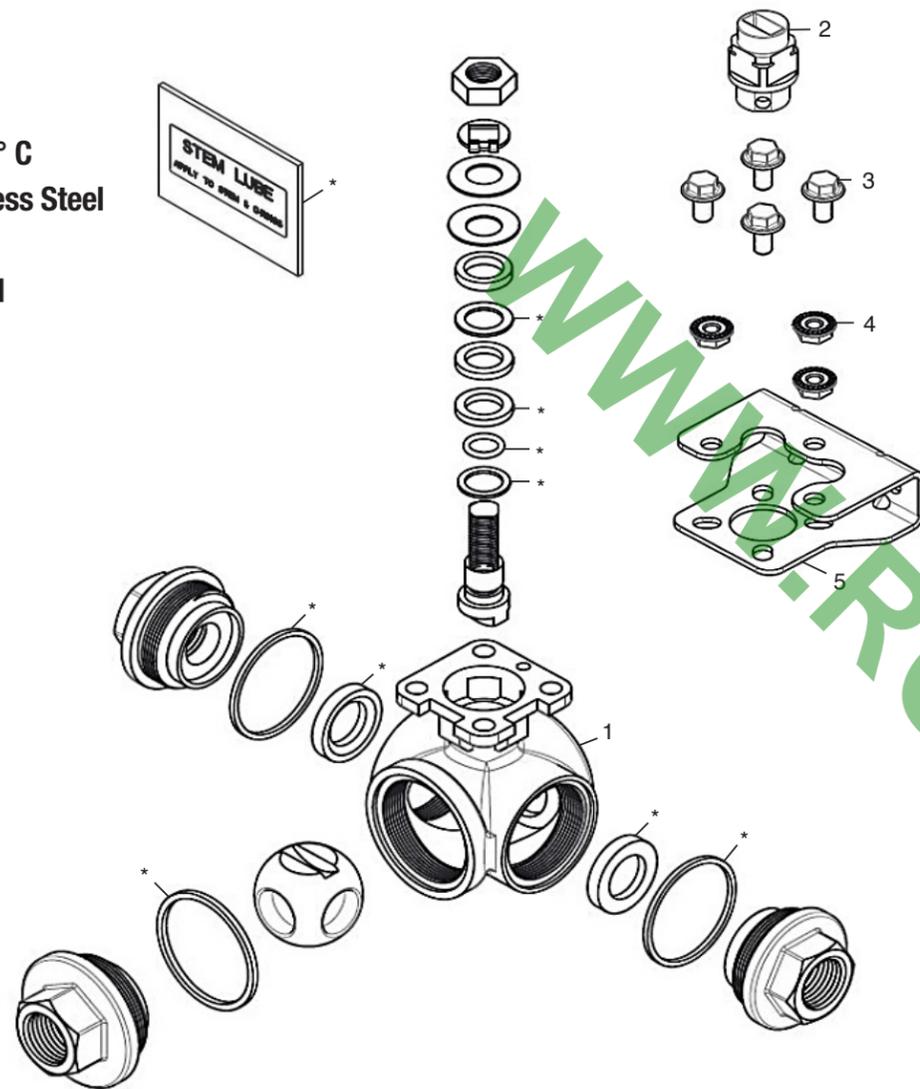
\*\*Manual handle override only



## 79 Series - EH3

### Design Features

- 1/2-3/4" 3-Way Ball Valves
- Maximum 55,2 Bar at 21° C
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



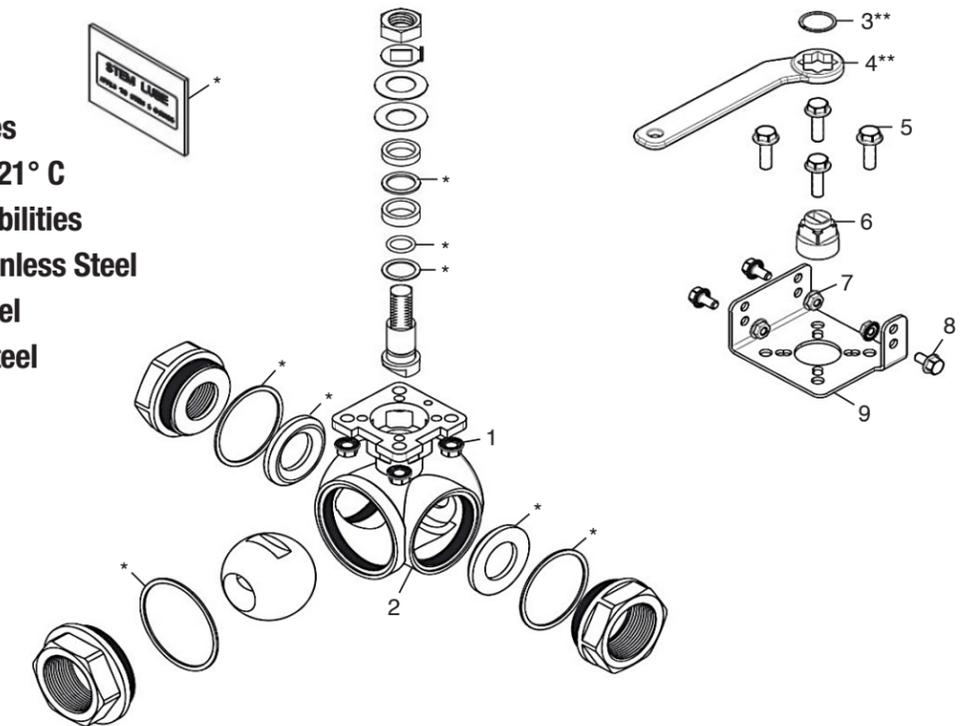
No.	Part Number	Description	Qty
1	299-0027	valve, 3-way, 1/2" 2-seat, stainless steel	1
	EHPT-79E	valve, 3-way, 3/4" stainless steel	
2	208-0043	coupler - 1/2" (79D), 3/4" (79E)	1
3	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	4
4	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
5	105-0045	bracket, stainless steel - 1/2" (79D)	1
	EH3-174	bracket, stainless steel - 3/4" (79E)	
*	210-0009-1	valve repair kit - 3/4" (79E)	
	EHPT-710	valve repair kit - 3/4" (79E)	

\*Items included in valve repair kits

## 79 Series - EH2

### Design Features

- 3/4-2" 3-Way Ball Valves
- Maximum 55,2 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



No.	Part Number	Description	Qty
1	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
2	299-0020	valve, 3-way, 1 1/2" 4-piece, 2-seat	1
	299-0028	valve, 3-way, 1" 4-piece, 2-seat	
	299-0029	valve, 3-way, 2" 2-seat	
	EHPT-79E	valve, 3-way, 3/4" stainless steel	
3**	100289	retaining ring, spiral	1
4**	212-0002	handle	1
5	100338	bolt, serrated flange, 1/4 - 20 x 3/4	4
	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel, hex	
	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	
6	208-0008	coupler - 1 1/2" (79H), 2" (79i)	1
	208-0023	coupler - 1" (79F)	
	208-0050	coupler - 3/4" (79E)	
7	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
8	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
9	100042	bracket, stainless steel - 1" (79F), 1 1/2" (79H), 2" (79i)	1
	EHPT-161	bracket, stainless steel - 3/4" (79E)	
*	EHPT-710	valve repair kit - 3/4" (79E)	
	210-0009-1	valve repair kit - 3/4" (79E)	
	210-0010-1	valve repair kit - 1" (79F)	
	210-0011-1	valve repair kit - 1 1/2" (79H)	
	210-0012-1	valve repair kit - 2" (79i)	

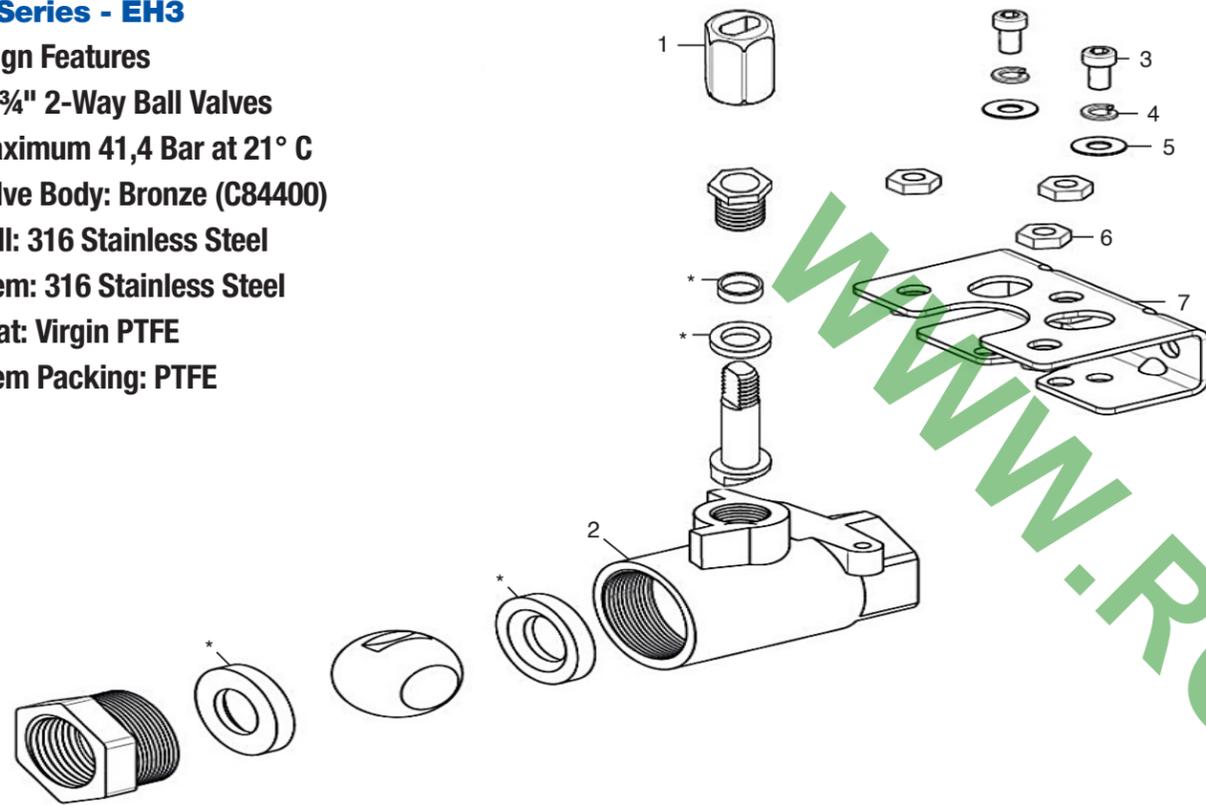
\*Items included in valve repair kits

\*\*Manual handle override only

## 84 Series - EH3

### Design Features

- 1/4-3/4" 2-Way Ball Valves
- Maximum 41,4 Bar at 21° C
- Valve Body: Bronze (C84400)
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



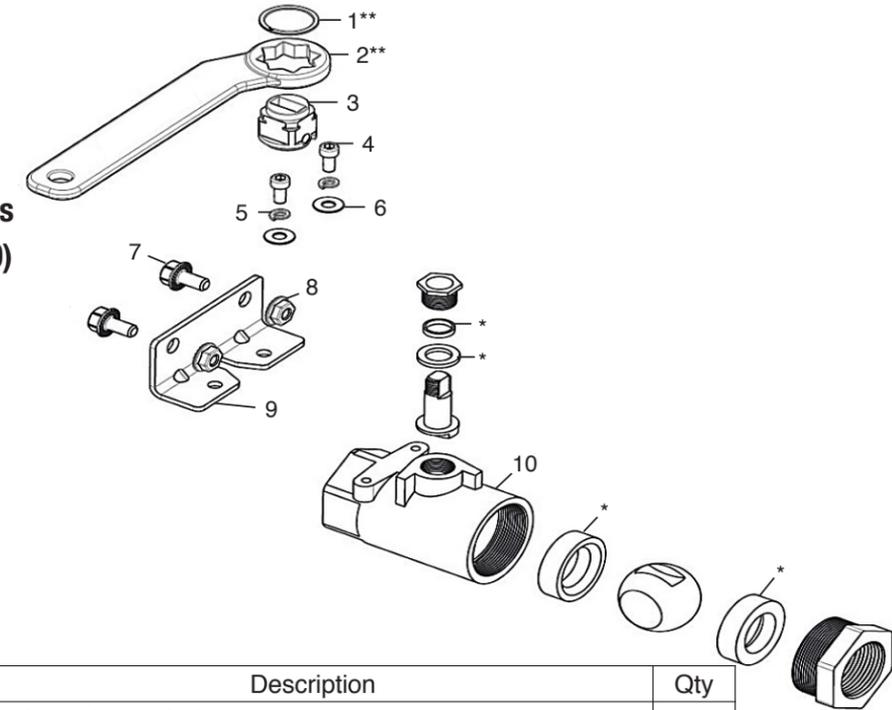
No.	Part Number	Description	Qty
1	EH-145 EH-146	coupler - 1/4" (84B), 3/8" (84C), 1/2" (84D) coupler - 3/4" (84E)	1
2	EH3-84B EH3-84C EH3-84D EHPT-84E	valve, 2-way, bronze, 1/4" valve, 2-way, bronze, 3/8" valve, 2-way, bronze, 1/2" valve, 2-way, bronze, 3/4"	3
3	EH-158	screw, 10 - 24 x 3/8, stainless steel socket head	2
4	EHPT-109	washer, #10, split lock, 18 - 8, stainless steel	2
5	EHPT-150	washer, #10, flat, 18 - 8, stainless steel	2
6	EH-105	nut, 1/4 - 20, stainless steel	3
7	EH3-174	bracket, stainless steel - 1/4" (84B), 3/8" (84C), 1/2" (84D), 3/4" (84E)	1
*	EHPT-710	valve repair kit - 3/4" (84E)	

\*Items included in valve repair kits

## 84 Series - EH2

### Design Features

- 3/4-2" 2-Way Ball Valves
- Maximum 41,4 Bar at 21° C
- Manual Override Capabilities
- Valve Body: Bronze (C84400)
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0034 208-0050 EH-146	coupler - 1 1/4" (84G), 1 1/2" (84H), 2" (84i) coupler - 3/4" (84E), 1" (84F) coupler - 3/4" (84E), 1" (84F)	1
4	EH-158	screw, 10 - 24 x 3/8, stainless steel socket head	2
5	EHPT-109 EHPT-152	washer, #10, split lock, 18 - 8, stainless steel washer, split lock, 1/4, stainless steel	2
6	EHPT-150	washer, #10, flat, 18 - 8, stainless steel	2
7	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	2
8	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	2
9	EHPT-161 EHPT-161-L	bracket, stainless steel - 3/4" (84E), 1" (84F) bracket, stainless steel - 1 1/4" (84G), 1 1/2" (84H), 2" (84i)	1
10	EHPT-84E EHPT-84F EHPT-84G-1 EHPT-84H-1 EHPT-84I-1	valve, 2-way, bronze, 3/4" valve, 2-way, bronze, 1" valve, 2-way, bronze, 1 1/4" valve, 2-way, bronze, 1 1/2" valve, 2-way, bronze, 2"	1
*	EHPT-710 EHPT-711 EHPT-712 EHPT-713 EHPT-714	valve repair kit - 3/4" (84E) valve repair kit - 1" (84F) valve repair kit - 1 1/4" (84G) valve repair kit - 1 1/2" (84H) valve repair kit - 2" (84i)	

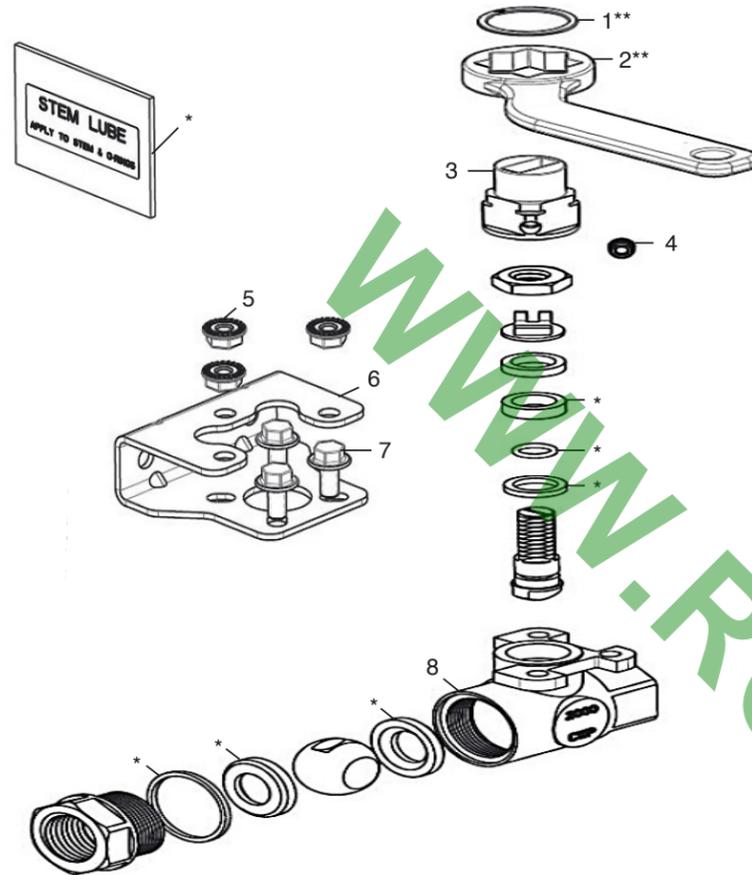
\*Items included in valve repair kits

\*\*Manual handle override only

## 88 Series - EH3

### Design Features

- 1/4-3/4" 2-Way Ball Valves
- Maximum 137,9 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE (molecularly enhanced virgin Teflon®)
- Stem Packing: Adjustable ME-PTFE (molecularly enhanced virgin Teflon®)



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0006	handle	1
3	208-0040	coupler - 1/4" (88B), 3/8" (88C), 1/2" (88D), 3/4" (88E)	1
4	100-0036	set screw, 1/4 - 20 x 1/4	1
5	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
6	105-0045	bracket, stainless steel - 1/4" (88B), 3/8" (88C), 1/2" (88D)	1
	105-0058	bracket, stainless steel - 3/4" (88E)	
7	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	3
8	200-0001	valve, 2-way, 1/4" 2-piece, stainless steel	1
	200-0002	valve, 2-way, 3/8" 2-piece, stainless steel	
	200-0003	valve, 2-way, 1/2" 2-piece, stainless steel	
	200-0004	valve, 2-way, 3/4" 2-piece, stainless steel	
*	210-0014	valve repair kit - 1/4" (88B), 3/8" (88C), 1/2" (88D)	
	210-0015	valve repair kit - 3/4" (88E)	

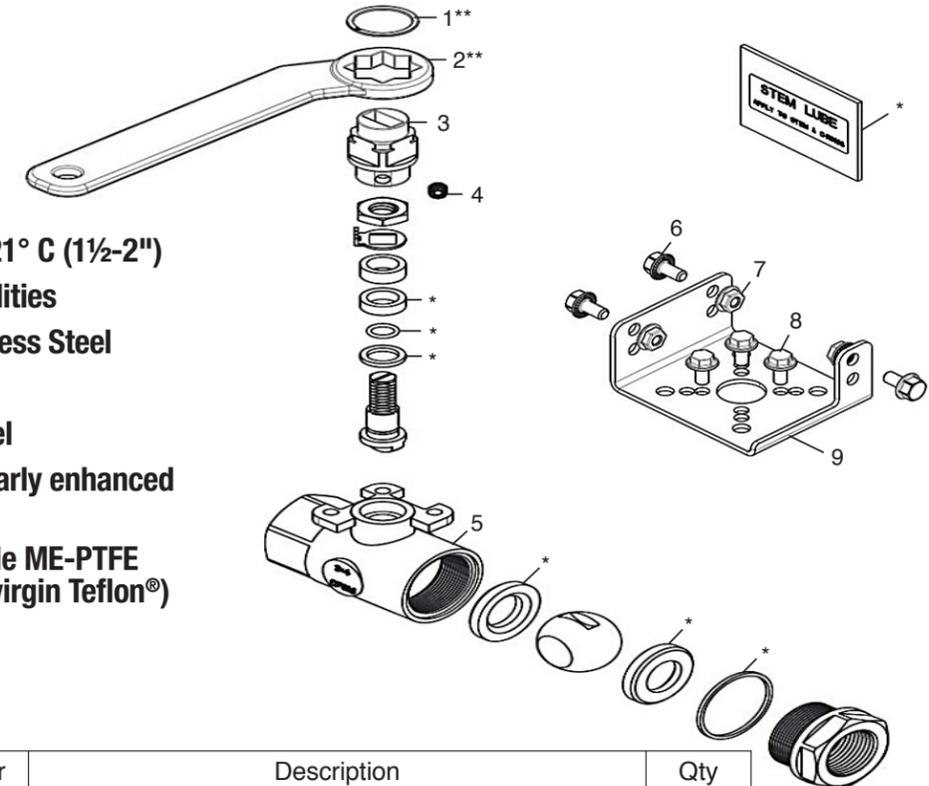
\*Items included in valve repair kits

\*\*Manual handle override only

## 88 Series - EH2

### Design Features

- 3/4-2" 2-Way Ball Valves
- Maximum 137,9 Bar at 21° C (3/4-1")
- Maximum 103,4 Bar at 21° C (1 1/2-2")
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE (molecularly enhanced virgin Teflon®)
- Stem Packing: Adjustable ME-PTFE (molecularly enhanced virgin Teflon®)



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0023	coupler - 1 1/2" (88H), 2" (88i)	1
	208-0043	coupler - 3/4" (88E), 1" (88F)	
	208-0072	coupler - 1 1/2" (88H)	
4	100-0036	set screw, 1/4 - 20 x 1/4	1
5	200-0003	valve, 2-way, 1/2" 2-piece, stainless steel	1
	200-0004	valve, 2-way, 3/4" 2-piece, stainless steel	
	200-0005	valve, 2-way, 1" 2-piece, stainless steel	
	200-0007	valve, 2-way, 1 1/2" 2-piece, stainless steel	
	200-0008	valve, 2-way, 2" 2-piece, stainless steel	
6	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
7	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
8	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	3
9	100042	bracket, stainless steel - 1 1/2" (88H), 2" (88i)	1
	105-0025	bracket, stainless steel - 3/4" (88E), 1" (88F)	
*	210-0015	valve repair kit - 3/4" (88E)	
	210-0016	valve repair kit - 1" (88F)	
	210-0001-1	valve repair kit - 1 1/2" (88H)	
	210-0002-1	valve repair kit - 2" (88i)	

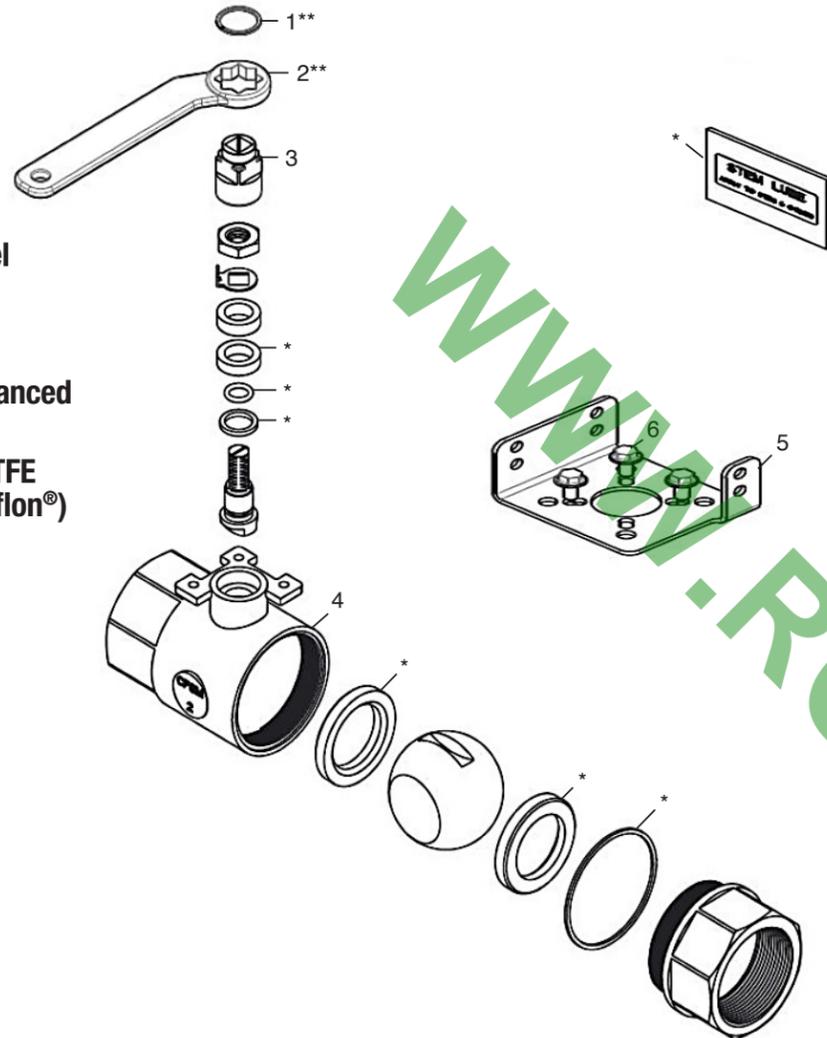
\*Items included in valve repair kits

\*\*Manual handle override only

## 88 Series - EH5

### Design Features

- 1½-2" 2-Way Ball Valves
- Maximum 103,4 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE (molecularly enhanced virgin Teflon®)
- Stem Packing: Adjustable ME-PTFE (molecularly enhanced virgin Teflon®)



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0023	coupler - 1 1/2" (88H), 2" (88i)	1
4	200-0007	valve, 2-way, 1 1/2" 2-piece, stainless steel	1
	200-0008	valve, 2-way, 2" 2-piece, stainless steel	
5	100042	bracket, stainless steel - 1 1/2" (88H), 2" (88i)	1
6	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	3
*	210-0031	valve repair kit - 1 1/2" (88H)	
	210-0032	valve repair kit - 2" (88i)	

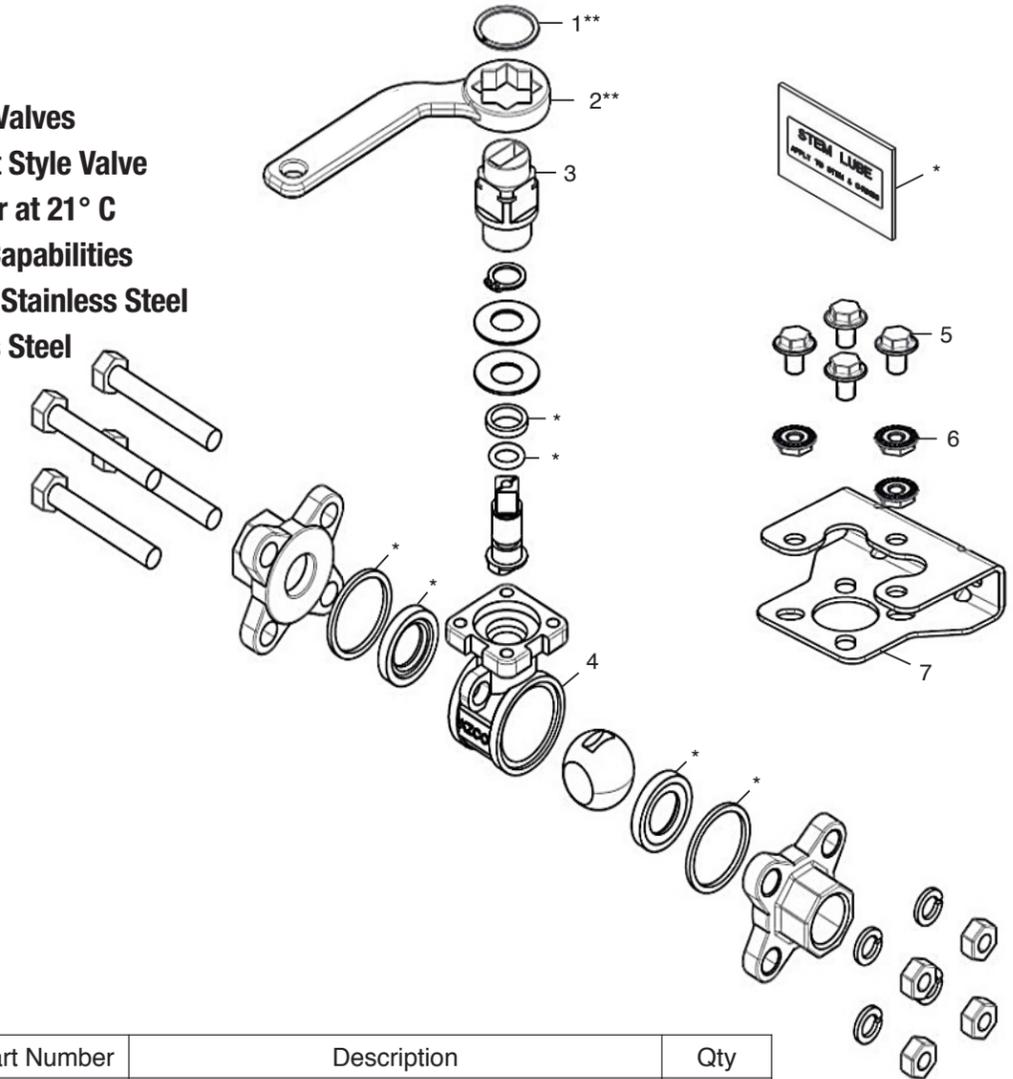
\*Items included in valve repair kits

\*\*Manual handle override only

## 89 Series - EH3

### Design Features

- ½-¾" 2-Way Ball Valves
- 3-Piece Swing Out Style Valve
- Maximum 68,9 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE and Viton



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0006	handle	1
3	208-0043	coupler - 1/2" (89D), 3/4" (89E)	1
4	EH-89D	valve, 2-way, 1/2" 3-piece, stainless steel	1
	EH-89E	valve, 2-way, 3/4" 3-piece, stainless steel	
5	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	4
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
7	105-0045	bracket, stainless steel - 1/2" (89D), 3/4" (89E)	1
*	EH-124-1	valve repair kit - 1/2" (89D)	
	EH-125-1	valve repair kit - 3/4" (89E)	

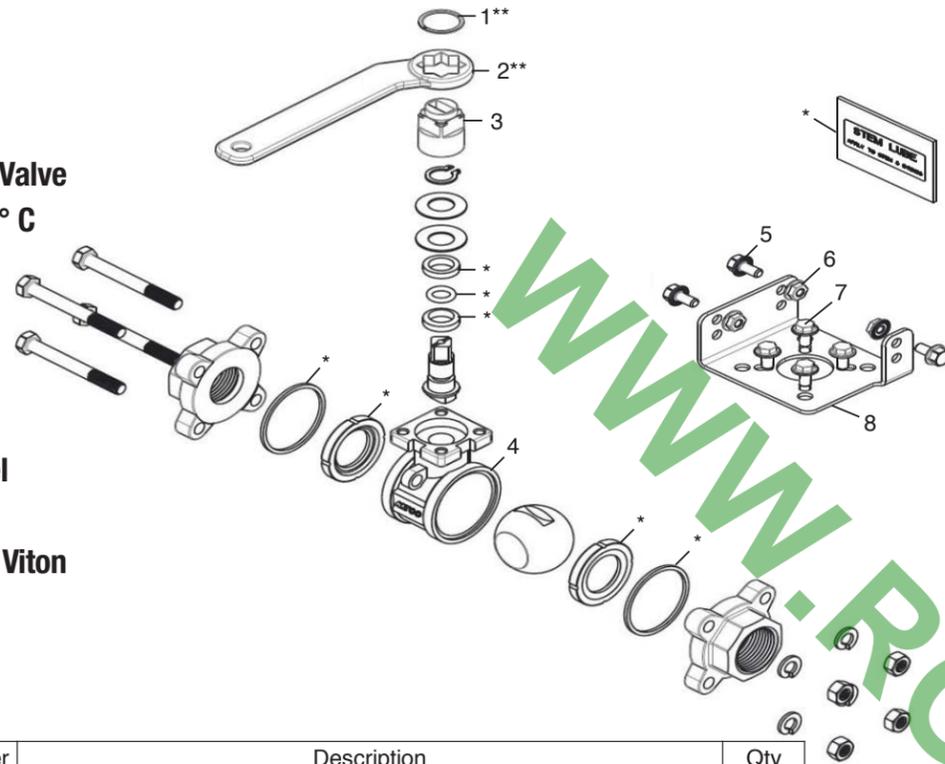
\*Items included in valve repair kits

\*\*Manual handle override only

## 89 Series - EH2

### Design Features

- 1/2"-2" 2-Way Ball Valves
- 3-Piece Swing Out Style Valve
- Maximum 68,9 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE and Viton



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	100043	coupler, inline mount - 1" (89F)	1
	208-0008	coupler, offset mount - 1 1/2" (89H), 2" (89i)	
	208-0015	coupler, inline mount - 1 1/2" (89H), 2" (89i)	
	208-0023	coupler, offset mount - 1" (89F), 1 1/4" (89G)	
	208-0043	coupler, offset mount - 1/2" (89D), 3/4" (89E)	
4	EH-89D	valve, 2-way, 1/2" 3-piece, stainless steel	1
	EH-89E	valve, 2-way, 3/4" 3-piece, stainless steel	
	EH-89F	valve, 2-way, 1" 3-piece, stainless steel	
	EH-89G	valve, 2-way, 1 1/4" 3-piece, stainless steel	
	EH-89H	valve, 2-way, 1 1/2" 3-piece, stainless steel	
	EH-89I	valve, 2-way, 2" 3-piece, stainless steel	
5	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
6	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
7	100338	bolt, serrated flange, 1/4 - 20 x 3/4	4
	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	
8	100042	bracket, stainless steel - 1" (89F), 1 1/4" (89G), 1 1/2" (89H), 2" (89i)	1
	105-0025	bracket, stainless steel - 1/2" (89D), 3/4" (89E)	
*	EH-124-1	valve repair kit - 1/2" (89D)	
	EH-125-1	valve repair kit - 3/4" (89E)	
	EH-126-1	valve repair kit - 1" (89F)	
	EH-127-1	valve repair kit - 1 1/4" (89G)	
	EH-128-1	valve repair kit - 1 1/2" (89H)	
	EH-129-1	valve repair kit - 2" (89i)	

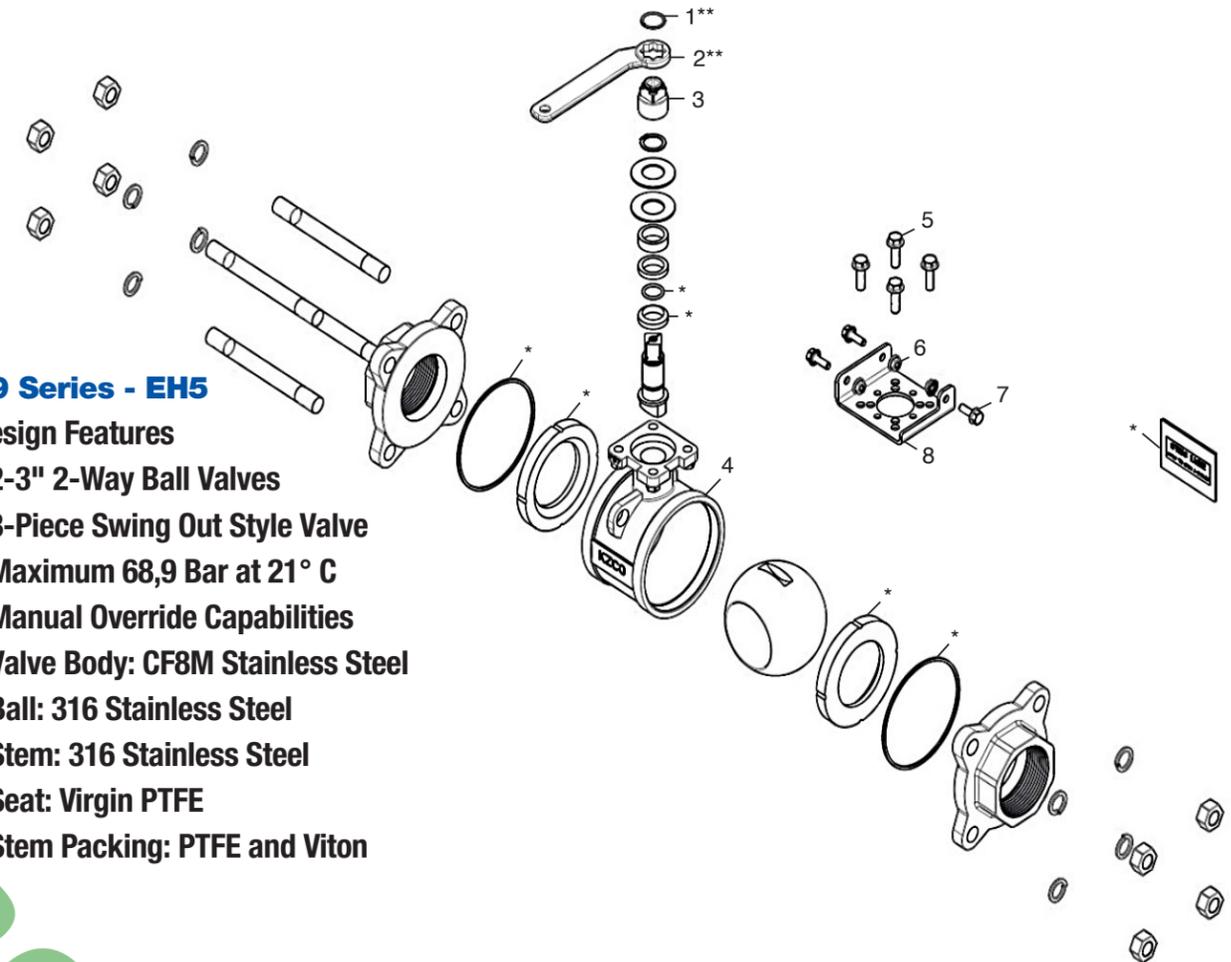
\*Items included in valve repair kits

\*\*Manual handle override only

## 89 Series - EH5

### Design Features

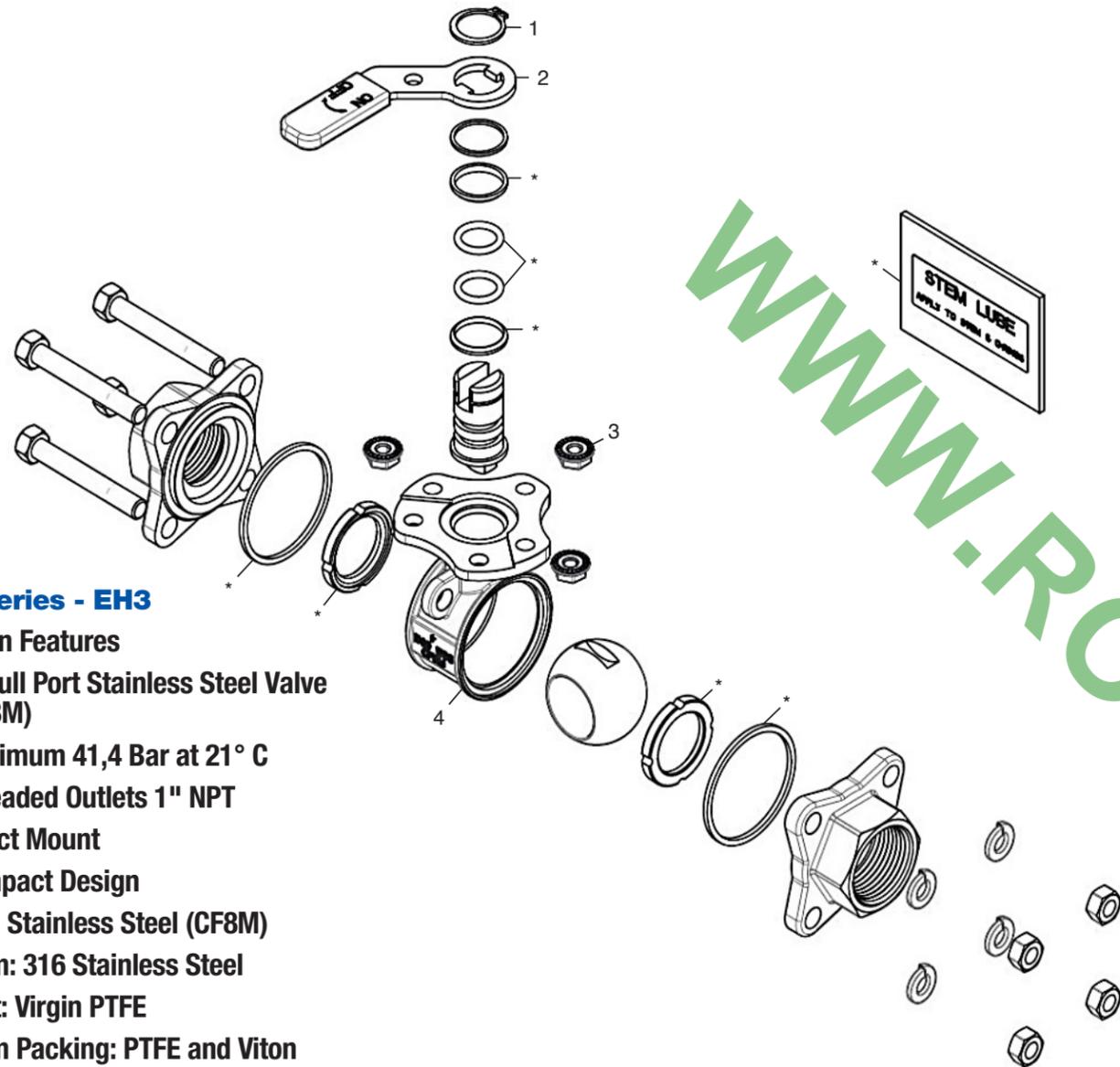
- 2-3" 2-Way Ball Valves
- 3-Piece Swing Out Style Valve
- Maximum 68,9 Bar at 21° C
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE and Viton



No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0013	coupler - 2 1/2" (89J), 3" (89K)	1
4	EH-89J	valve, 2 1/2", 3-piece, full port, stainless steel	1
	EH-89K	valve, 3", 3-piece, full port, stainless steel	
5	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel hex	4
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	3
7	100338	bolt, serrated flange, 1/4 - 20 x 3/4	3
8	105-0026	bracket, stainless steel - 2 1/2" (89J), 3" (89K)	1
*	210-0005-1	valve repair kit - 2 1/2" (89J)	
	210-0006-1	valve repair kit - 3" (89K)	

\*Items included in valve repair kits

\*\*Manual handle override only



### 92 Series - EH3

#### Design Features

- 1" Full Port Stainless Steel Valve (CF8M)
- Maximum 41,4 Bar at 21° C
- Threaded Outlets 1" NPT
- Direct Mount
- Compact Design
- Ball: Stainless Steel (CF8M)
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE and Viton

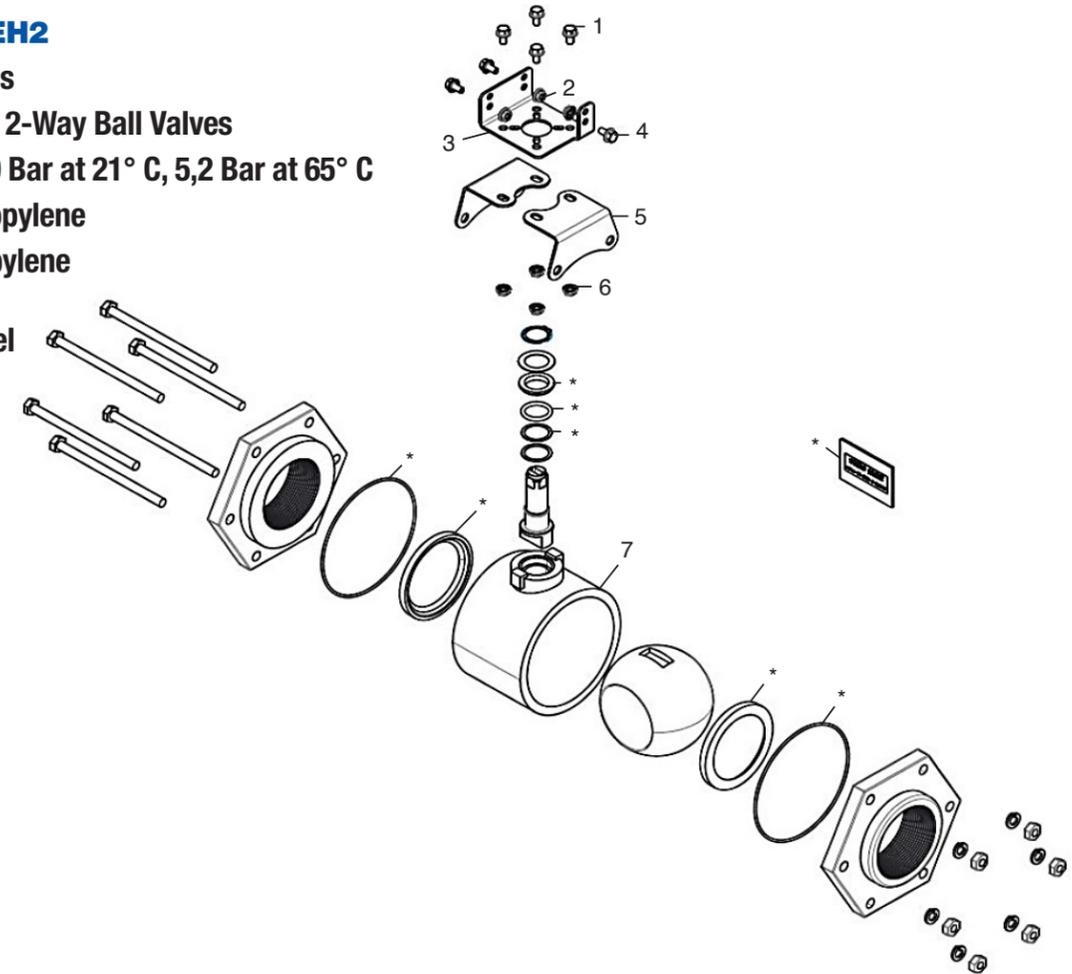
No.	Part Number	Description	Qty
1	EH-712	snap ring	1
2	EH-711	handle	1
3	EHPT-191	nut, 5/16 - 18, stainless steel, hex	3
4	EH-92FM	valve, 1", 3-piece, full port, stainless steel, direct mount	1
*	100200	valve repair kit - 1" (EH-92FM)	

\*Items included in valve repair kits

### 99 Series - EH2

#### Design Features

- 3-4" Full Port 2-Way Ball Valves
- Maximum 6,9 Bar at 21° C, 5,2 Bar at 65° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem O-ring: Viton



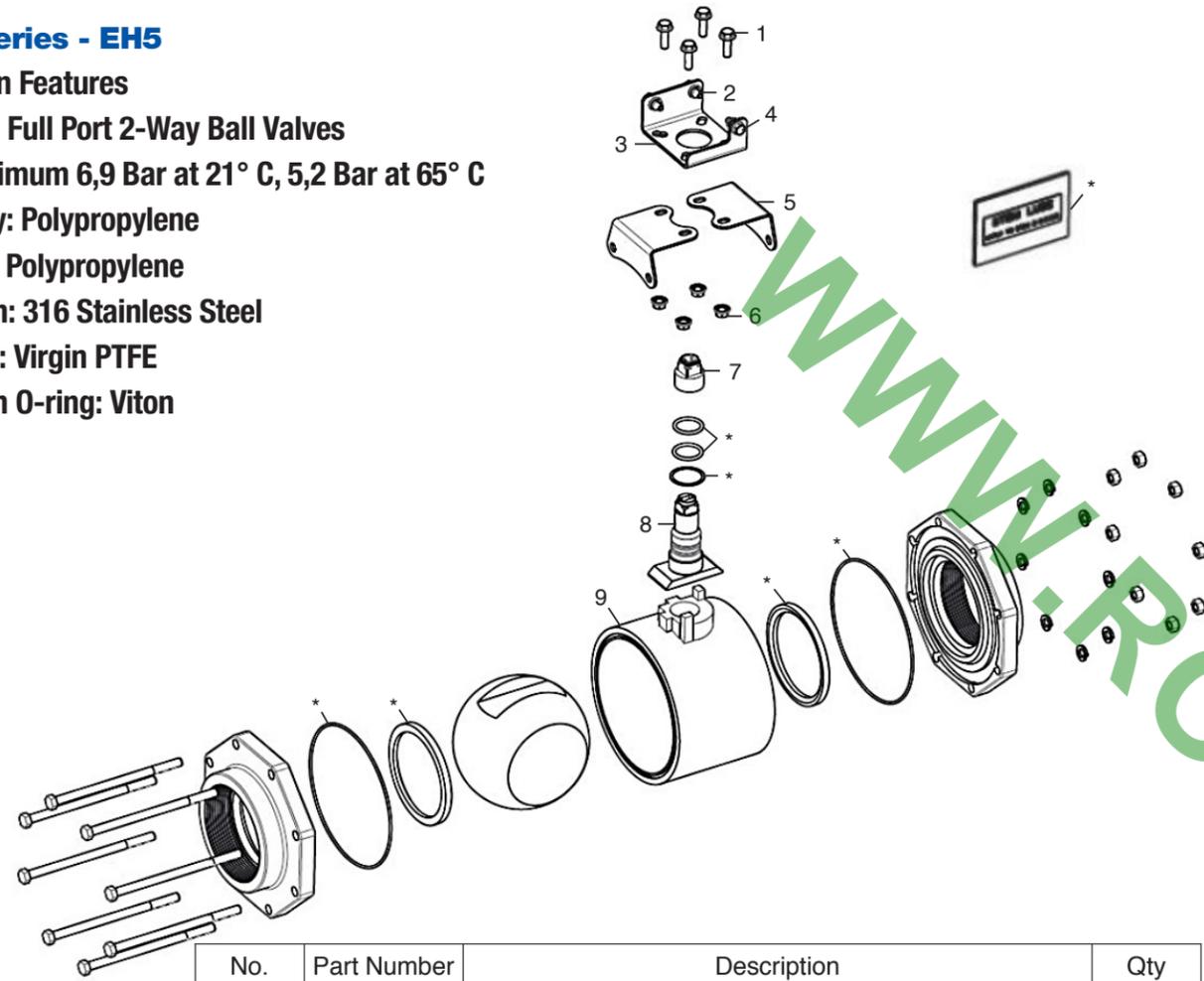
No.	Part Number	Description	Qty
1	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel, hex	4
2	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
3	100042	bracket, stainless steel - 3" (99K), 4" (99L)	1
4	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
5	100190	bracket, stainless steel - 4" (99L)	2
	100210	bracket, stainless steel - 3" (99K)	
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
7	EH2-1180	valve, 3" polypropylene	1
	EH2-1185	valve, 4" polypropylene	
*	EHPT-704-1	valve repair kit - 3" (99K)	
	EH2-1181-1	valve repair kit - 3" (99K)	
	210-0004-1	valve repair kit - 4" (99L)	

\*Items included in valve repair kits

## 99 Series - EH5

### Design Features

- 3-4" Full Port 2-Way Ball Valves
- Maximum 6,9 Bar at 21° C, 5,2 Bar at 65° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem O-ring: Viton



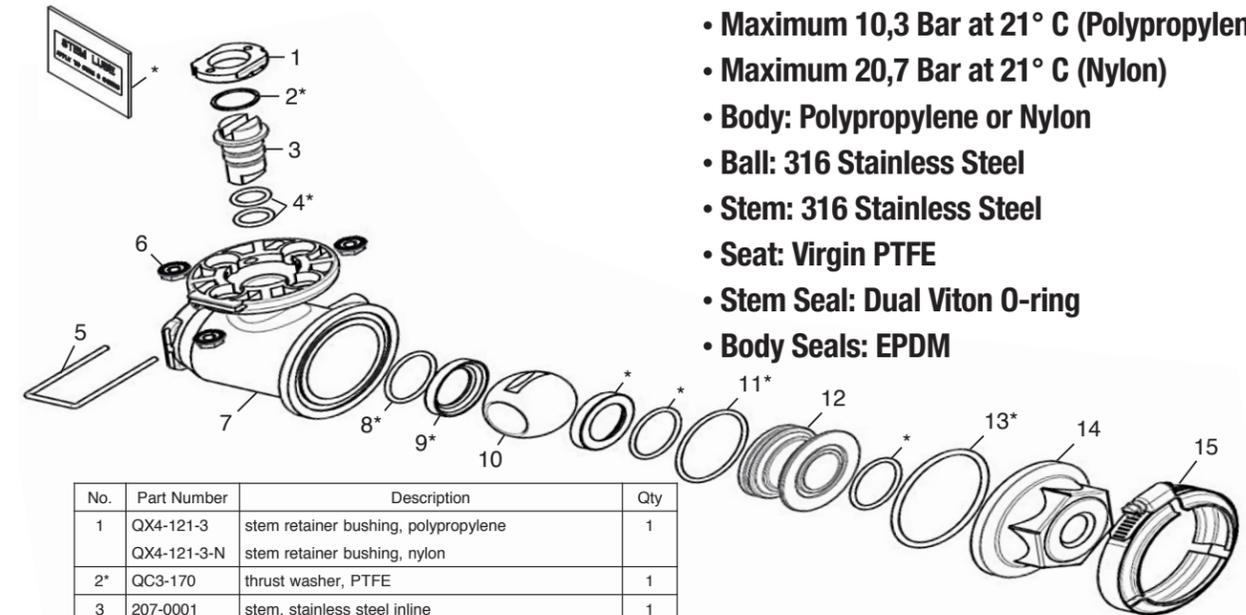
No.	Part Number	Description	Qty
1	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel, hex	4
2	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
3	105-0002	bracket, stainless steel - 3" (99K), 4" (99L)	1
4	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
5	100190	bracket, stainless steel - 4" (99L)	2
	100210	bracket, stainless steel - 3" (99K)	
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
7	208-0020	coupler - 3" (99K), 4" (99L)	1
8	800098	stem assembly	1
9	EH2-1180	valve, 3" polypropylene	1
	EH2-1185	valve, 4" polypropylene	
*	EHPT-704-1	valve repair kit - 3" (99K)	
	EH2-1181-1	valve repair kit - 3" (99K)	
	210-0004-1	valve repair kit - 4" (99L)	

\*Items included in valve repair kits

## QX3 QX4 2-Way

### Design Features

- 3/4-1" Full Port 2-Way Ball Valves
- Maximum 10,3 Bar at 21° C (Polypropylene)
- Maximum 20,7 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
	QX4-121-3-N	stem retainer bushing, nylon	
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stem retainer stainless steel	1
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
	201-0005	valve body, 3/4" 2-way, 1" flange & NPT connection	
	201-0015	valve body, 1" flange & 3/4" NPT connection	
	QX4-110	valve body, 2-way, 1" polypropylene QHP outlet	
7	QX4-110-N	valve body, 2-way, 1" nylon QHP	1
	QX4-115	valve body, 2-way, 2" standard port flange	
	QX4-140	valve body, 2-way, 1" polypropylene NPT	
	QX4-140-N	valve body, 2-way, 1" nylon NPT	
	QX4-170	valve body, 2-way, 3/4" polypropylene NPT	
8*	QX4-161	o-ring, #123, EPDM	3
	QC3-131	o-ring, #119, EPDM	
9*	QC3-168	seat, 3/4" virgin teflon, PTFE	2
	QX4-119	seat, 1" virgin, PTFE	
10	QX4-130	valve ball, 2-way, 1" full port stainless steel	1
11*	QX4-162	o-ring, #132, EPDM	1
12	QX4-118	donut seat, polypropylene	1
13*	QC3-134	o-ring, #229, EPDM	1
	QX4-126	endcap, 1" polypropylene QHP	
	QX4-126-N	endcap, 1" nylon QHP	
14	QX4-127	endcap, 1" polypropylene NPT	1
	QX4-127-N	endcap, 1" nylon NPT	
	QX4-128	endcap, 3/4" polypropylene NPT	
	QX4-128-N	endcap, 3/4" nylon NPT	
15	QX4-200	v-clamp, stainless steel, 2" standard port flange	1
16**	QX-102	hairpin, outlet fitting stainless steel	1
*	QX4-RKT	valve repair kit, QX3 & QX4 series (3/4" - 1")	
	QX4-RKT-C	valve repair kit, with CG PTFE seat (3/4" - 1")	
	QX4-RKTV	valve repair kit, VITON (3/4" - 1")	

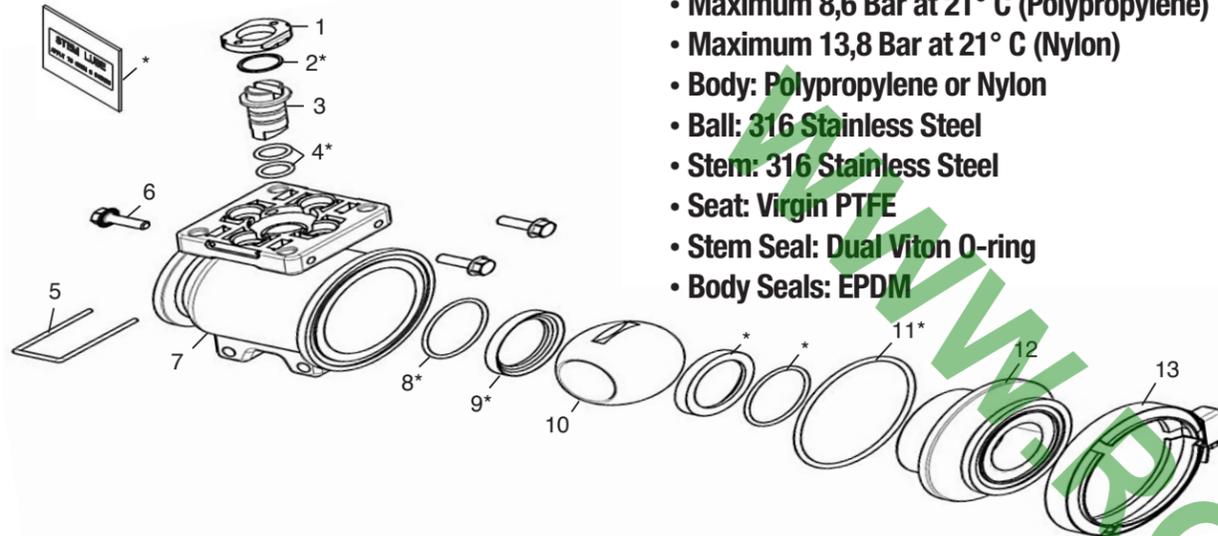
Polypropylene standard, nylon available

\* Items included in valve repair kits \*\* Not pictured in assembly

## QX5 QX6 2-Way

### Design Features

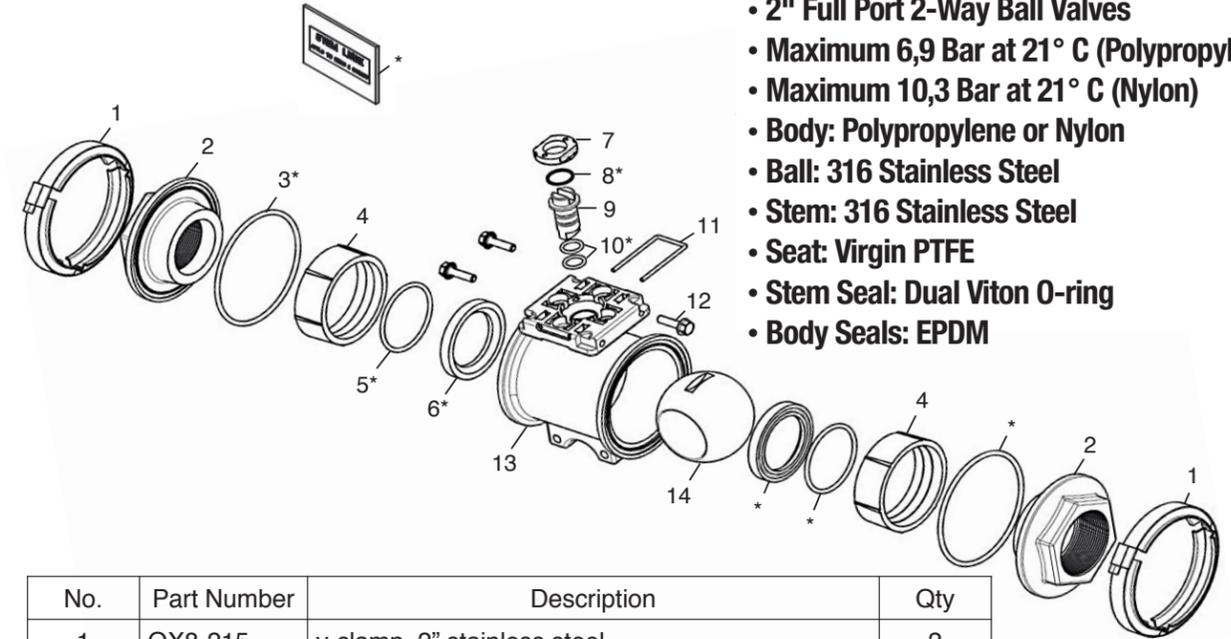
- 1¼-1½" Full Port 2-Way Ball Valves
- Maximum 8,6 Bar at 21° C (Polypropylene)
- Maximum 13,8 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



## QX8 2-Way

### Design Features

- 2" Full Port 2-Way Ball Valves
- Maximum 6,9 Bar at 21° C (Polypropylene)
- Maximum 10,3 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
2*	QC3-170	thrust washer, PTFE	1
3	QX-101	stem, stainless steel offset	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	100340	bolt, serrated flange, 1/4 - 20 x 1	3
7	QX5-125	valve body, 2-way, 1 1/4" NPT	1
	QX5-125-N	valve body, 2-way, 1 1/4" nylon NPT	
	QX5-140	valve body, 2-way, M200, 2" polypropylene smooth standard port	
	QX5-160	valve body, 2-way, 1 1/2" NPT	
	QX5-160-N	valve body, 2-way, 1 1/2" nylon NPT	
8*	QX5-180	o-ring, #131, EPDM	2
9*	QX5-149	seat, PTFE	2
10	QX5-150	valve ball, 2-way, 1 1/2" full port stainless steel	1
11*	QX5-181	o-ring, #236, EPDM	1
12	QX5-145	endcap, M200, 2" polypropylene smooth standard port	1
	QX5-146	endcap, 1 1/2" NPT	
	QX5-146-N	endcap, 1 1/2" nylon NPT	
	QX5-147	endcap, 1 1/4" polypropylene NPT	
	QX5-147-N	endcap, 1 1/4" nylon NPT	
13	QX5-210	v-clamp, stainless steel	1
*	QX5-RKT	valve repair kit, QX5 & QX6 series (1 1/4" - 1 1/2")	

Polypropylene standard, nylon available

\*Items included in valve repair kits

No.	Part Number	Description	Qty
1	QX8-215	v-clamp, 2" stainless steel	2
2	QX8-110	endcap, 2" polypropylene NPT	2
	QX8-110-N	endcap, 2" nylon NPT	
	QX8-112	endcap, M220, 2" polypropylene full port flange	
3*	QX8-182	o-ring, #98-4, EPDM	2
4	QX8-111	seat donut, polypropylene	2
	QX8-111-N	seat donut, nylon	
5*	QX8-183	o-ring, #228, EPDM	2
6*	QX8-120	seat, virgin PTFE	2
7	QX4-121-3	stem retainer bushing, polypropylene	1
	QX4-121-3-N	stem retainer bushing, nylon	1
8*	QC3-170	thrust washer, PTFE	1
9	QX-101	stem, stainless steel offset	1
10*	QC3-130	o-ring, #113, VITON	2
11	QX-103	hairpin, stainless steel	1
12	100340	bolt, serrated flange, 1/4 - 20 x 1	3
13	QX8-100	valve body, 2-way, 2" polypropylene	1
	QX8-100-N	valve body, 2-way, 2" nylon	
14	QX8-115	valve ball, 2-way, 2" full port, stainless steel	1
*	QX8-RKT	valve repair kit, QX8 series (2")	

Polypropylene standard, nylon available

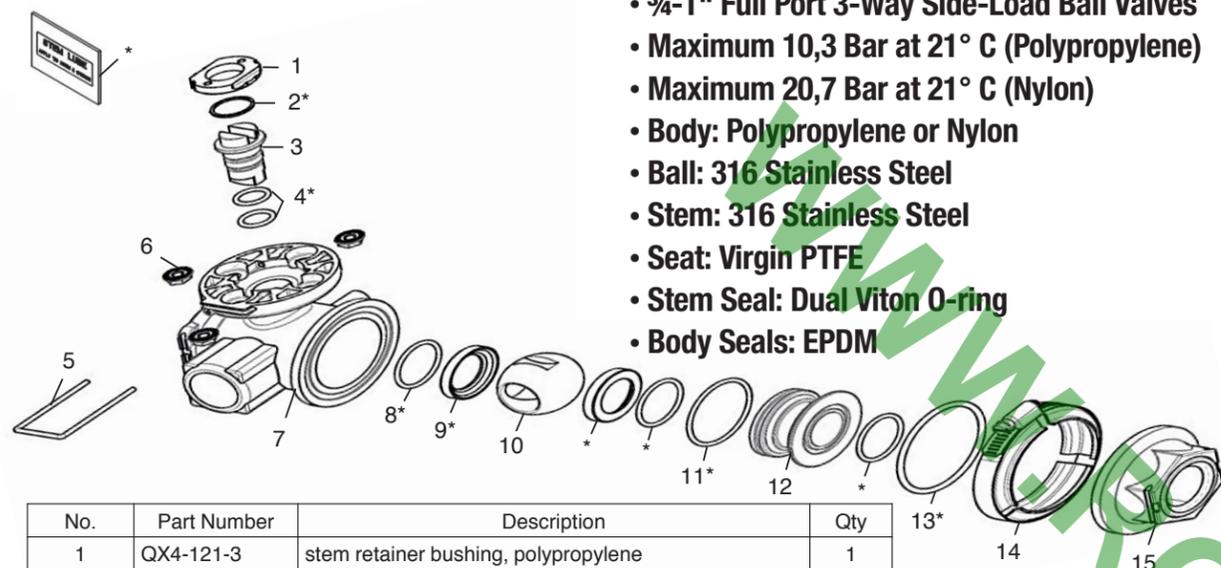
\*Items included in valve repair kits



## QX3 QX4 Side Load

### Design Features

- 3/4-1" Full Port 3-Way Side-Load Ball Valves
- Maximum 10,3 Bar at 21° C (Polypropylene)
- Maximum 20,7 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
	QX4-121-3-N	stem retainer bushing, nylon	
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
7	QX4-111	valve body, 3-way, side load, polypropylen QHP	1
	QX4-141	valve body, 3-way, side load, 1" NPT	
	QX4-141-N	valve body, 3-way, side load, 1" nylon NPT	
	QX4-171	valve body, 3-way, side load, 3/4" NPT	
	QX4-171-N	valve body, 3-way, side load, 3/4" nylon NPT	
8*	QX4-161	o-ring, #123, EPDM	3
9*	QX4-119	seat, 1" virgin, PTFE	2
10	QX4-131	valve ball, 3-way, side load, 1" L-port	1
11*	QX4-162	o-ring, #132, EPDM	1
12	QX4-118	donut seat, polypropylene	1
13*	QC3-134	o-ring, #229, EPDM	1
14	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	1
15	QX4-126	endcap, 1" polypropylene QHP	1
	QX4-127	endcap, 1" polypropylene NPT	
	QX4-127-N	endcap, 1" nylon NPT	
	QX4-128	endcap, 3/4" polypropylene NPT	
	QX4-128-N	endcap, 3/4" nylon NPT	
16**	QX-102	hairpin, stainless steel	1
*	QX4-RKT	valve repair kit, QX3 & QX4 series (3/4" - 1")	
	QX4-RKTV	valve repair kit, VITON (3/4" - 1")	

Polypropylene standard, nylon available

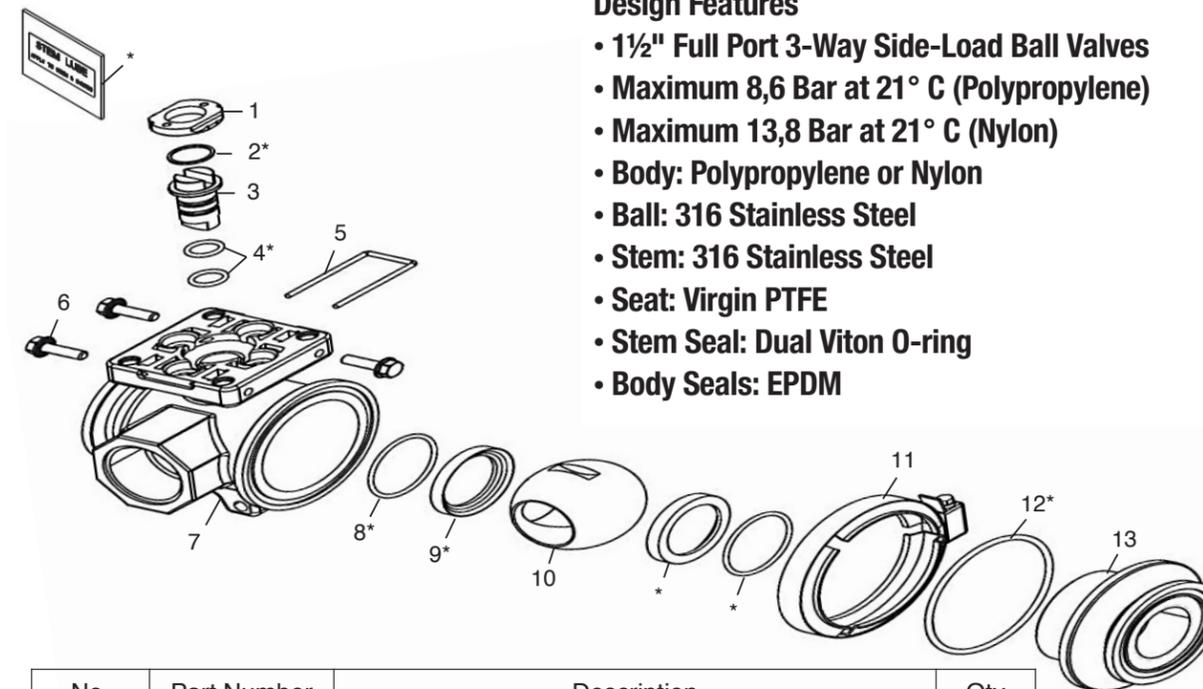
\*Items included in valve repair kits

\*\*Not pictured in assembly

## QX6 Side Load

### Design Features

- 1 1/2" Full Port 3-Way Side-Load Ball Valves
- Maximum 8,6 Bar at 21° C (Polypropylene)
- Maximum 13,8 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
	QX4-121-3-N	stem retainer bushing, nylon	
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	100340	bolt, serrated flange, 1/4 - 20 x 1	3
7	QX5-142	valve body, 3-way, side load, 1 1/2" NPT	1
	QX5-142-N	valve body, 3-way, side load, 1 1/2" nylon NPT	
8*	QX5-180	o-ring, #131, EPDM	2
9*	QX5-149	seat, PTFE	2
10	QX5-155	valve ball, 3-way, side load, 1 1/2" L-port	1
11	QX5-210	v-clamp, stainless steel	1
12*	QX5-181	o-ring, #236, EPDM	1
13	QX5-146	endcap, 1 1/2" NPT x M200, 2" standard port flange	1
	QX5-146-N	endcap, 1 1/2" nylon NPT flange	
*	QX5-RKT	valve repair kit, QX5 & QX6 series (1 1/2")	

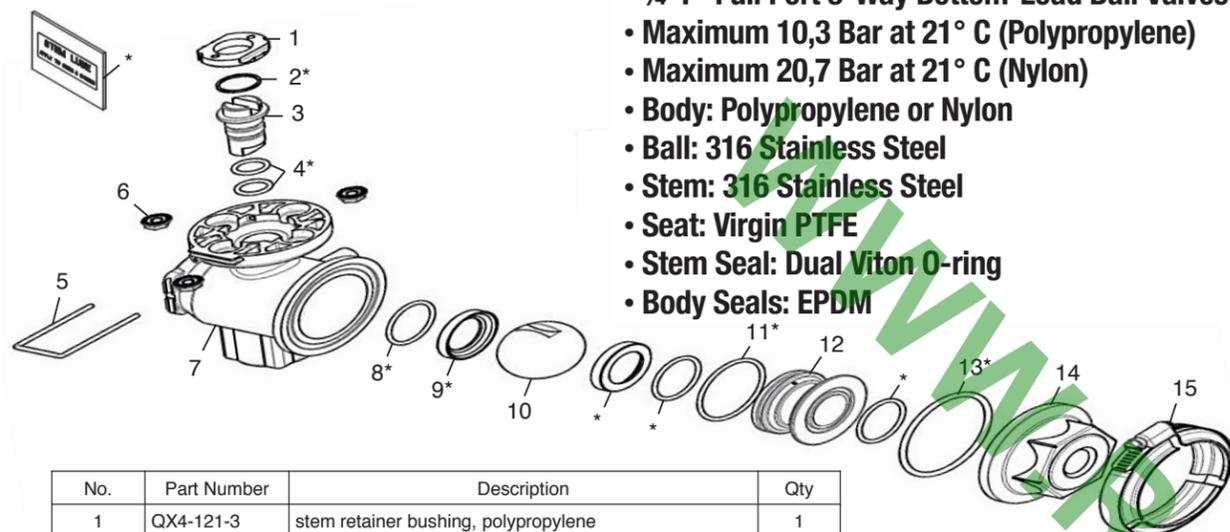
Polypropylene standard, nylon available

\*Items included in valve repair kits

## QX3 QX4 Bottom Load

### Design Features

- 3/4-1" Full Port 3-Way Bottom-Load Ball Valves
- Maximum 10,3 Bar at 21° C (Polypropylene)
- Maximum 20,7 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3 QX4-121-3-N	stem retainer bushing, polypropylene stem retainer bushing, nylon	1
2*	QC3-170	thrust washer, PTFE	1
3	207-0001 QX-101	stem, stainless steel inline stem, stainless steel offset	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
7	QX4-112 QX4-142 QX4-142-N QX4-172 QX4-172-N	valve body, 3-way, bottom load, polypropylene QHP valve body, 3-way, bottom load, 1" NPT valve body, 3-way, bottom load, 1" nylon NPT valve body, 3-way, bottom load, 3/4" NPT valve body, 3-way, bottom load, 3/4" nylon NPT	1
8*	QX4-161	o-ring, #123, EPDM	3
9*	QX4-119	seat, PTFE	2
10	QX4-132 QX4-136	valve ball, 3-way, bottom load, L-port valve ball, 3-way, bottom load, 1" L-port	1
11*	QX4-162	o-ring, #132, EPDM	1
12	QX4-118 QX4-118-N	donut seat, polypropylene donut seat, nylon	1
13*	QC3-134	o-ring, #229, EPDM	1
14	QX4-126 QX4-127 QX4-127-N QX4-128 QX4-128-N	endcap, 1" polypropylene QHP endcap, 1" polypropylene NPT endcap, 1" nylon NPT endcap, 3/4" polypropylene NPT endcap, 3/4" nylon NPT	1
15	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	1
*	QX4-RKT QX4-RKT-C QX4-RKTV	valve repair kit, QX3 & QX4 series (3/4" - 1") valve repair kit, with CG PTFE seat (3/4" - 1") valve repair kit, VITON (3/4" - 1")	

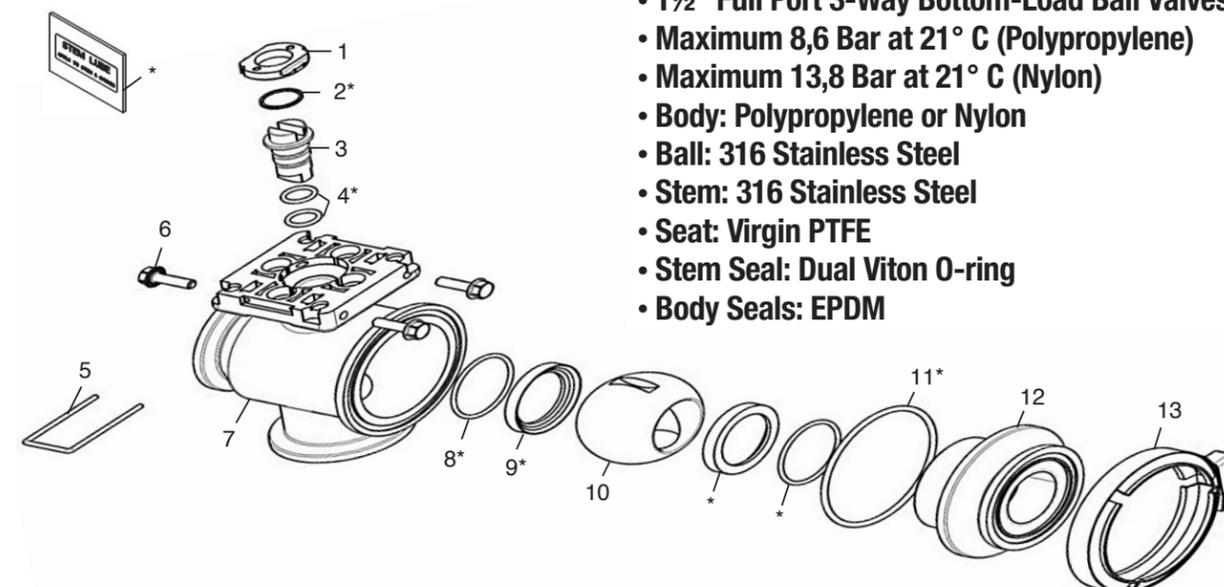
Polypropylene standard, nylon available

\*Items included in valve repair kits

## QX6 Bottom Load

### Design Features

- 1 1/2" Full Port 3-Way Bottom-Load Ball Valves
- Maximum 8,6 Bar at 21° C (Polypropylene)
- Maximum 13,8 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3 QX4-121-3-N	stem retainer bushing, polypropylene stem retainer bushing, nylon	1
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	100340	bolt, serrated flange, 1/4 - 20 x 1	3
7	QX5-141 QX5-161 QX5-161-N	valve body, 3-way, bottom load, M200, 1 1/2" smooth standard port valve body, 3-way, bottom load, 1 1/2" polypropylene NPT valve body, 3-way, bottom load, 1 1/2" nylon NPT	1
8*	QX5-180	o-ring, #131, EPDM	2
9*	QX5-149	seat, PTFE	2
10	QX5-152 QX5-153	valve ball, 3-way, bottom load, 1 1/2" L-port valve ball, 3-way, bottom load, 1 1/2" diverter style	1
11*	QX5-181	o-ring, #236, EPDM	1
12	QX5-146 QX5-146-N	endcap, 1 1/2" NPT x 2" standard port flange endcap, 1 1/2" nylon NPT flange	1
13	QX5-210	v-clamp, stainless steel	1
*	QX5-RKT	valve repair kit, QX5 & QX6 series (1 1/2")	

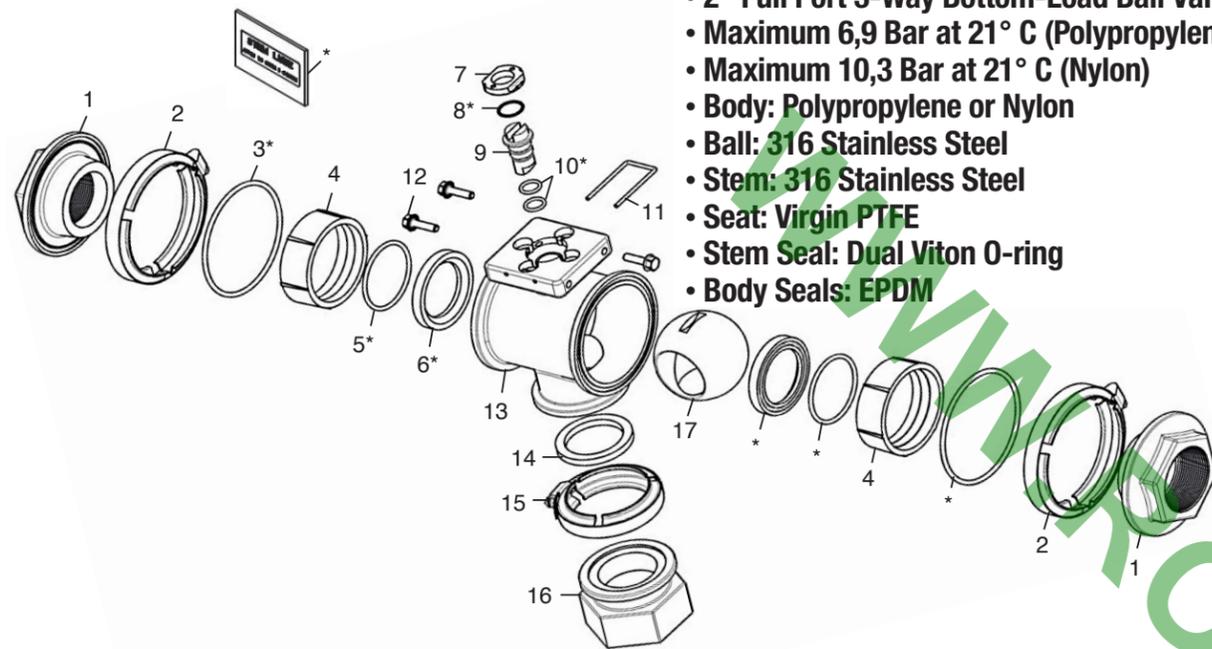
Polypropylene standard, nylon available

\*Items included in valve repair kits

## QX8 Bottom Load

### Design Features

- 2" Full Port 3-Way Bottom-Load Ball Valves
- Maximum 6,9 Bar at 21° C (Polypropylene)
- Maximum 10,3 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX8-110	endcap, 2" polypropylene NPT	2
	QX8-110-N	endcap, 2" nylon NPT	
	QX8-112	endcap, M220, 2" polypropylene full port flange	
2	QX8-215	v-clamp, 2" stainless steel	2
3*	QX8-182	o-ring, #98-4, EPDM	2
4	QX8-111	seat donut, polypropylene	2
	QX8-111-N	seat donut, nylon	
5*	QX8-183	o-ring, #228, EPDM	2
6*	QX8-120	seat, virgin PTFE**	2
7	QX4-121-3	stem retainer bushing, polypropylene	1
8*	QC3-170	thrust washer, PTFE	1
9	207-0001	stem, stainless steel inline	1
10*	QC3-130	o-ring, #113, VITON	2
11	QX-103	hairpin, stainless steel	1
12	100340	bolt, serrated flange, 1/4 - 20 x 1	3
	QX8-102	valve body, 3-way, bottom load, 2" polypropylene	
	QX8-102-N	valve body, 3-way, bottom load, 2" nylon	1
14	100389	gasket, M220, 2" full port, flat cut EPDM	1
15	100266	v-clamp, M220, 2" full port flange, stainless steel	1
16	100391	fitting, M220, 2" full port flange x 2" polypropylene NPT	1
17	QX8-116	valve ball, bottom load, 2" L-port	1
	QX8-117	valve ball, bottom load, 2" 3-port diverter	
*	QX8-RKT	valve repair kit, QX8 series (2")	

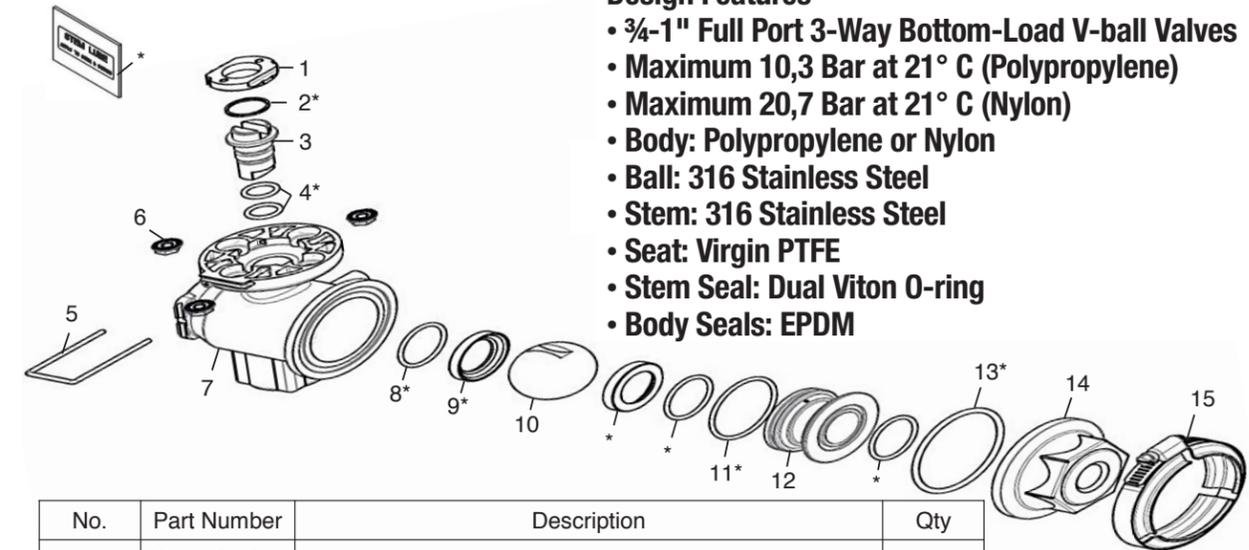
Polypropylene standard, nylon available

\*Items included in valve repair kits

## QX3 QX4 Bottom Load V-ball

### Design Features

- 3/4-1" Full Port 3-Way Bottom-Load V-ball Valves
- Maximum 10,3 Bar at 21° C (Polypropylene)
- Maximum 20,7 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
	QX4-121-3-N	stem retainer bushing, nylon	
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
	QX-101	stem, stainless steel offset	
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
7	QX4-142	valve body, 3-way, 1" NPT	1
	QX4-172	valve body, 3-way, 3/4" NPT	
	QX4-172-N	valve body, 3-way, 3/4" nylon NPT	
8*	QX4-161	o-ring, #123, EPDM	3
9*	QX4-119	seat, 1" virgin, PTFE	3
	QX4-123	seat, valve OX4 carbon graphite PTFE	
10	QX4-135	valve ball, stainless steel V-ball	1
11*	QX4-162	o-ring, #132, EPDM	1
12	QX4-118	donut seat, polypropylene	1
	QX4-118-N	donut seat, nylon	
13*	QC3-134	o-ring, #229, EPDM	1
14	QX4-129	endcap, blank, 1" polypropylene	1
	QX4-129-N	endcap, blank, 1" nylon NPT	
15	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	1
*	QX4-RKT	valve repair kit, QX3 & QX4 series (3/4" - 1")	
	QX4-RKTV	valve repair kit, VITON (3/4" - 1")	

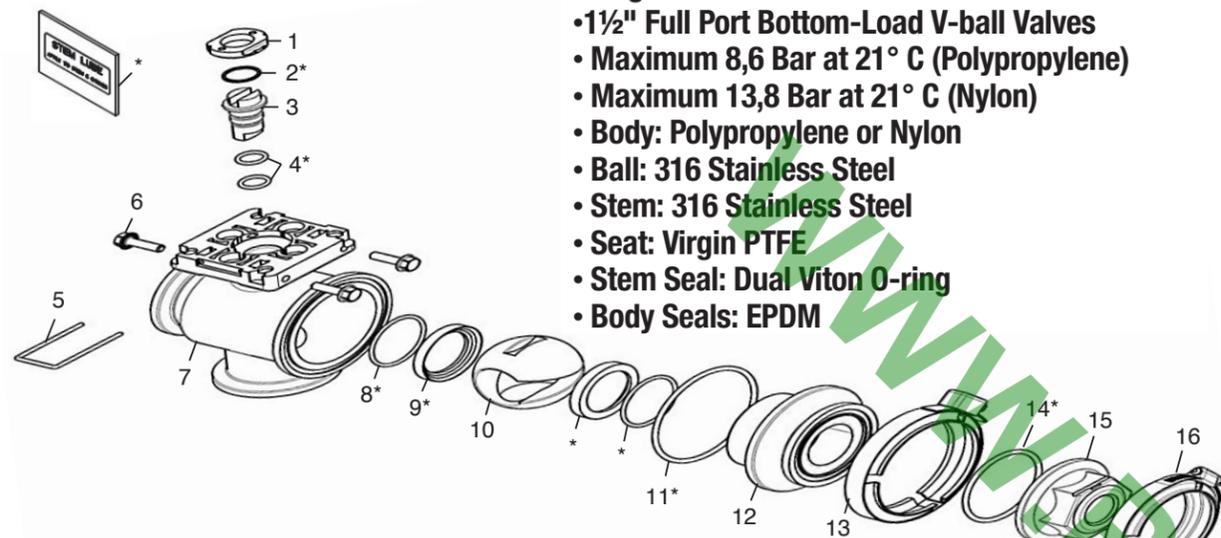
Polypropylene standard, nylon available

\*Items included in valve repair kits

## QX6 Bottom Load V-ball

### Design Features

- 1½" Full Port Bottom-Load V-ball Valves
- Maximum 8,6 Bar at 21° C (Polypropylene)
- Maximum 13,8 Bar at 21° C (Nylon)
- Body: Polypropylene or Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3 QX4-121-3-N	stem retainer bushing, polypropylene stem retainer bushing, nylon	1
2*	QC3-170	thrust washer, PTFE	1
3	207-0001 QX-101	stem, stainless steel inline stem, stainless steel offset	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	100340	bolt, serrated flange, 1/4 - 20 x 1	3
7	QX5-141 QX5-161 QX5-161-N	valve body, 3-way, bottom load, M200, 1 1/2" smooth standard port valve body, 3-way, bottom load, 1 1/2" polypropylene NPT valve body, 3-way, bottom load, 1 1/2" nylon NPT	1
8*	QX5-180	o-ring, #131, EPDM	2
9*	QX5-149	seat, PTFE	2
10	QX5-154	valve ball, stainless steel V-port	1
11*	QX5-181	o-ring, #236, EPDM	1
12	QX5-145 QX5-146 QX5-146-N	endcap, M200, 1 1/2" smooth standard port flange endcap, 1 1/2" NPT x 2" standard port flange endcap, 1 1/2" nylon NPT flange	1
13	QX5-210	v-clamp, stainless steel	1
14*	QC3-134	o-ring, #229, EPDM	1
15	QX4-129 QX4-129-N	endcap blank, 1" NPT x M200 endcap, blank, 1" nylon NPT	1
16	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	1
*	QX5-RKT	valve repair kit, QX5 & QX6 series (1 1/2")	

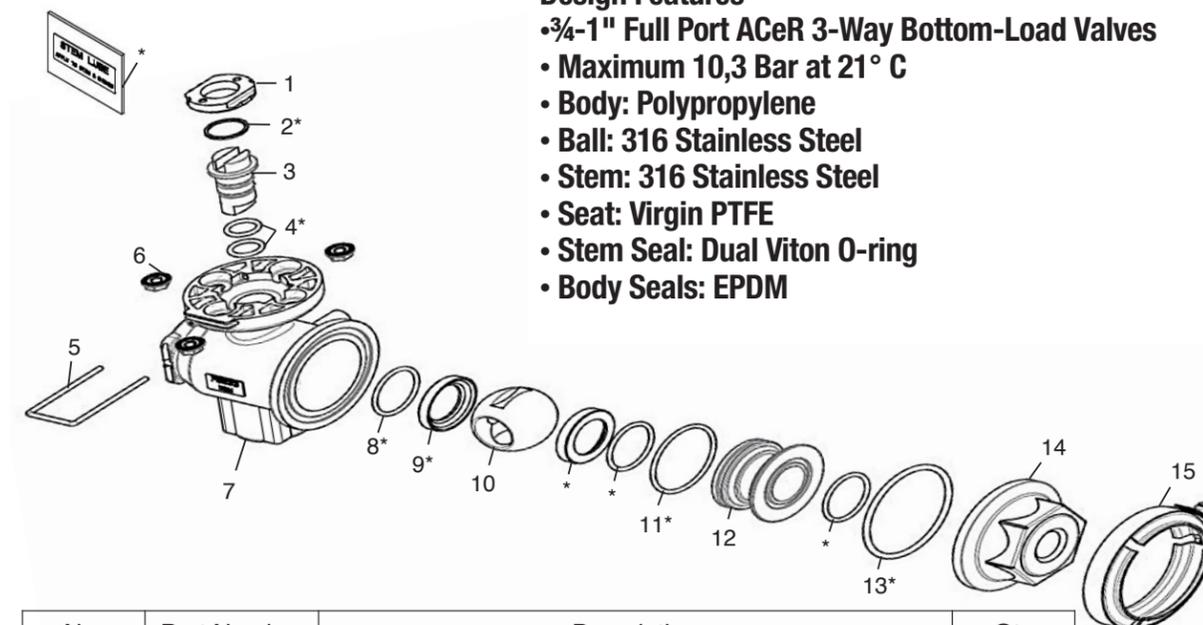
Polypropylene standard, nylon available

\*Items included in valve repair kits

## ACeR Bottom Load

### Design Features

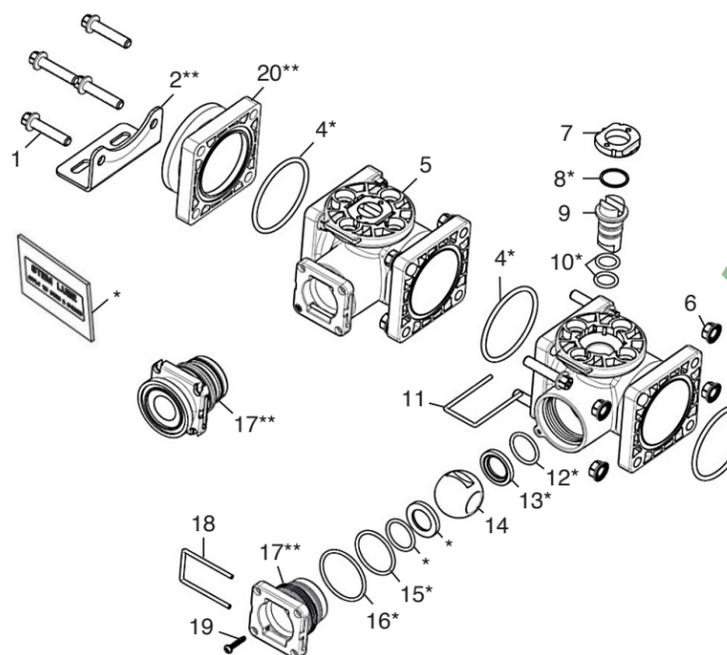
- ¾-1" Full Port ACeR 3-Way Bottom-Load Valves
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
7	QX4-142 QX4-172	valve body, 3-way, 1" NPT valve body, 3-way, 3/4" NPT	1
8*	QX4-161	o-ring, #123, EPDM	3
9*	QX4-119	seat, 1" virgin, PTFE	2
10	QX4-133	valve ball, 1" ACeR bottom load, 3-port	1
11*	QX4-162	o-ring, #132, EPDM	1
12	QX4-118	donut seat, polypropylene	1
13*	QC3-134	o-ring, #229, EPDM	1
14	QX4-127 QX4-128	endcap, 1" polypropylene NPT endcap, 3/4" polypropylene NPT	1
15	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	1
*	QX4-RKT QX4-RKTV	valve repair kit, QX3 & QX4 series (3/4" - 1") valve repair kit, VITON (3/4" - 1")	

Polypropylene standard, nylon available

\*Items included in valve repair kits



### QC3 3/4" Manifold

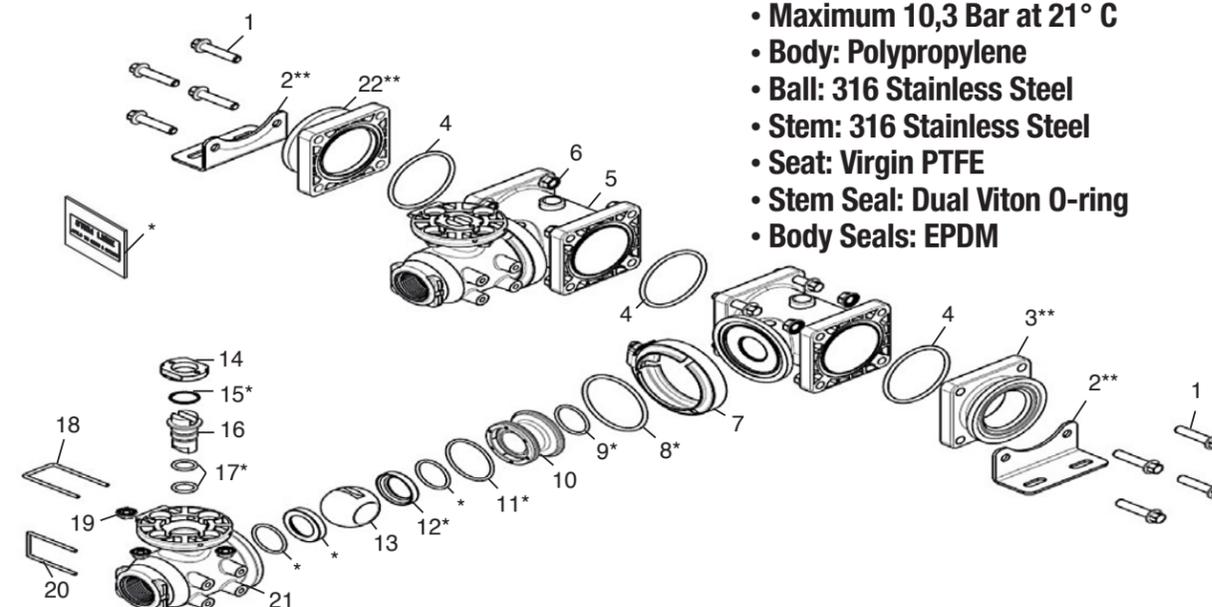
#### Design Features

- 3/4" Full Port Nylon Compact Valves
- Maximum 20,7 Bar at 21° C
- Body: Nylon
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM

No.	Part Number	Description	Qty
1	QX-220	bolt, flanged hex head, 5/16 - 18 x 1 1/2	12
2**	QX-111	bracket, stainless steel	2
	EHPT-196	bracket, 1 1/4" - 1 1/2", adapter bracket	
3**	QX-180-N	endcap, 1 1/2" NPT with M200, 2" nylon standard port flange	1
4*	QC3-134	o-ring, #229, EPDM	3
5	QC3-300	valve body, 3/4" nylon	2
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel	12
7	QX4-121-3-N	stem retainer bushing, nylon	2
8*	QC3-170	thrust washer, PTFE	2
9	207-0001	stem, stainless steel inline	2
10*	QC3-130	o-ring, #113, VITON	4
11	QX-103	hairpin, stainless steel	2
12*	QC3-131	o-ring, #119, EPDM	4
13*	QC3-168	seat, 3/4" virgin, PTFE	4
14	QC3-315	valve ball, 2-way, 3/4" full port	2
15*	QC3-133	o-ring, #126, EPDM	2
16*	QC3-136	o-ring, #130, EDPM	2
17**	QC3-153	buttress fitting, 3/4" QHN, nylon	2
	QC3-157	buttress fitting, M100, 1" nylon flange QC3 outlet x 3/4" NPT	
18	QX-102	hairpin, stainless steel	2
19	DJPT-101E	screw, #8, 3/4" stainless steel	2
20**	QX-181-N	endcap, 3/8" NPT closed port, nylon	1
*	QC3-RKT	valve repair kit, QC3 series (3/4")	

\*Items included in valve repair kits

\*\*Other brackets and endcaps available



### QX4 1" Manifold

#### Design Features

- 1" Full Port 2-Way Ball Valves
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM

No.	Part Number	Description	Qty
1	QX-220	bolt, flanged hex head, 5/16 - 18 x 1 1/2	12
2**	QX-111	bracket, stainless steel	2
3**	QX-181	endcap, 3/8" NPT, closed port	1
4	QX-201	o-ring, EPDM	3
5	QX4-100	manifold, section, M200, 2" standard port flange, 1" polypropylene port	2
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	12
7	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	2
8*	QC3-134	o-ring, #229, EPDM	1
9*	QX4-161	o-ring, #123, EPDM	3
10	QX4-118	donut seat, polypropylene	2
11*	QX4-162	o-ring, #132, EPDM	1
12*	QX4-119	seat, 1" virgin, PTFE	2
13*	QX4-130	valve ball, 2-way, 1" full port, stainless steel	2
14	QX4-121-3	stem retainer bushing, polypropylene	2
	QX4-121-3-N	stem retainer bushing, nylon	
15*	QC3-170	thrust washer, PTFE	1
16	207-0001	stem, stainless steel inline	2
17*	QC3-130	o-ring, #113, VITON	2
18	QX-103	hairpin, stainless steel	2
19	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
20	QX-102	hairpin, stainless steel	2
	QX4-110	valve body, 2-way, 1" polypropylene QHP outlet	
	QX4-115	valve body, 2-way, M200, 2" standard port flange	
	QX4-140	valve body, 2-way, 1" polypropylene NPT	
21			2
22**	QX-180	endcap, 1 1/2" NPT with M200, 2" standard port flange	1
*	QX4-RKT	valve repair kit, QX3 & QX4 series (1")	

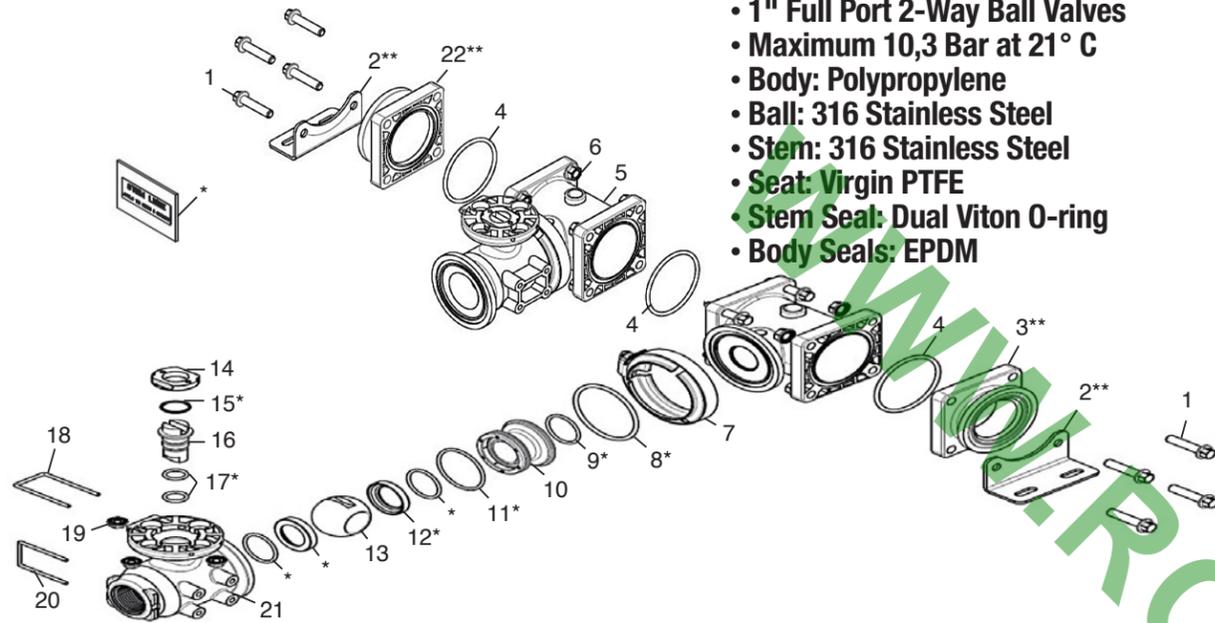
Polypropylene standard, nylon available

\*Items included in valve repair kits \*\*Other brackets and endcaps available

## QX4 1" Manifold (Valve Bodies)

### Design Features

- 1" Full Port 2-Way Ball Valves
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX-220	bolt, flanged hex head, 5/16 - 18 x 1 1/2	12
2**	QX-111	bracket, stainless steel	2
3**	QX-181	endcap, 3/8" NPT, closed port	1
4	QX-201	o-ring, EPDM	3
5	QX4-100	manifold, section, M200, 2" standard port flange, 1" polypropylene port	2
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	12
7	QX4-200	v-clamp, stainless steel, M200, 2" standard port flange	2
8*	QC3-134	o-ring, #229, EPDM	1
9*	QX4-161	o-ring, #123, EPDM	3
10	QX4-118	donut seat, polypropylene	2
11*	QX4-162	o-ring, #132, EPDM	1
12*	QX4-119	seat, 1" virgin, PTFE	2
13*	QX4-130	valve ball, 2-way, 1" full port, stainless steel	2
14	QX4-121-3 QX4-121-3-N	stem retainer bushing, polypropylene stem retainer bushing, nylon	2
15*	QC3-170	thrust washer, PTFE	1
16	207-0001	stem, stainless steel inline	2
17*	QC3-130	o-ring, #113, VITON	2
18	QX-103	hairpin, stainless steel	2
19	QX-222	nut, serrated flange, 1/4 - 20, stainless steel	3
20	QX-102	hairpin, stainless steel	2
21	QX4-110 QX4-115 QX4-140	valve body, 2-way, 1" polypropylene QHP outlet valve body, 2-way, M200, 2" standard port flange valve body, 2-way, 1" polypropylene NPT	2
22**	QX-180	endcap, 1 1/2" NPT with M200, 2" standard port flange	1
*	QX4-RKT	valve repair kit, QX3 & QX4 series (1")	

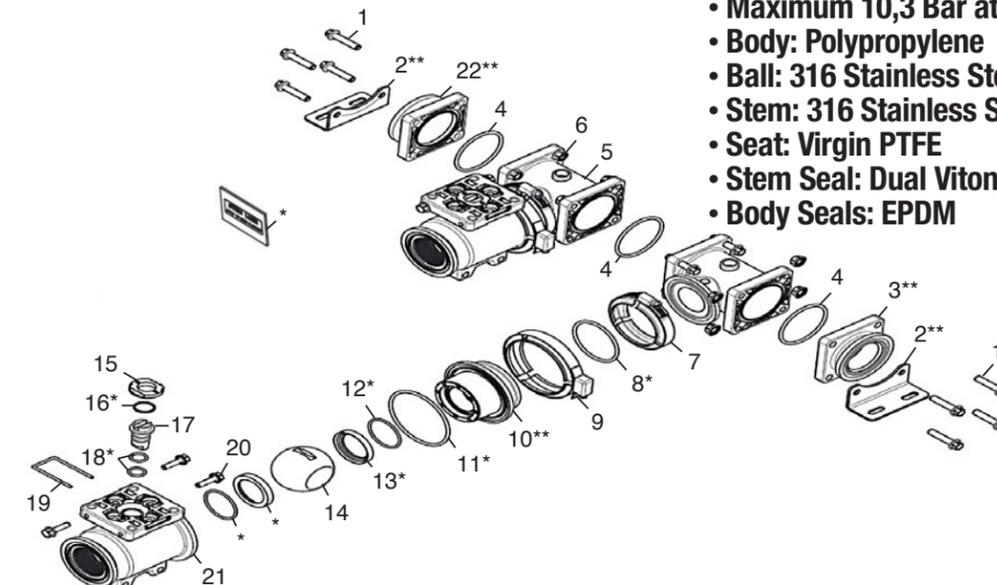
Polypropylene standard, nylon available

\*Items included in valve repair kits \*\*Other brackets and endcaps available

## QX6 1 1/2" Manifold

### Design Features

- 1 1/2" Full Port 2-Way Ball Valves
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Viton O-ring
- Body Seals: EPDM



No.	Part Number	Description	Qty
1	QX-220	bolt, flanged hex head, 5/16 - 18 x 1 1/2	12
2**	QX-111	bracket, stainless steel	2
3**	EHPT-196	bracket, stainless steel, 1 1/4 - 1 1/2	1
3**	QX-181	endcap, 3/8" NPT, closed port	3
4	QX-201	o-ring, EPDM	2
5	QX4-101	manifold, 1 1/2" polypropylene	12
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	2
7	QX4-200	v-clamp, stainless steel, 2" standard port flange	2
8*	QC3-134	o-ring, #229, EPDM	2
9	QX5-210	v-clamp, stainless steel	2
10**	QX5-145	endcap, M200, 2" polypropylene smooth port flange	2
10**	QX5-146	endcap, 1 1/2" NPT x M200, 2" standard port flange	2
11*	QX5-181	o-ring, #236, EPDM	2
12*	QX5-180	o-ring, #131, EPDM	2
13*	QX5-149	seat, PTFE	4
14	QX5-150	valve ball, 2-way, 1 1/2" full port, stainless steel	2
15	QX4-121-3	stem retainer bushing, polypropylene	2
16*	QC3-170	thrust washer, PTFE	2
17	QX-101	stem, stainless steel inline	2
18*	QC3-130	o-ring, #113, VITON	4
19	QX-103	hairpin, stainless steel	2
20	100340	bolt, serrated flange, 1/4 - 20 x 1	3
21	QX5-141 QX5-160	valve body, 3-way, bottom load, M200, 2" smooth standard port flange valve body, 2-way, 1 1/2" NPT	2
22**	QX-180	endcap, 1 1/2" NPT with M200, 2" standard port flange	1
*	QX5-RKT	valve repair kit, QX5 & QX6 series (1 1/2")	

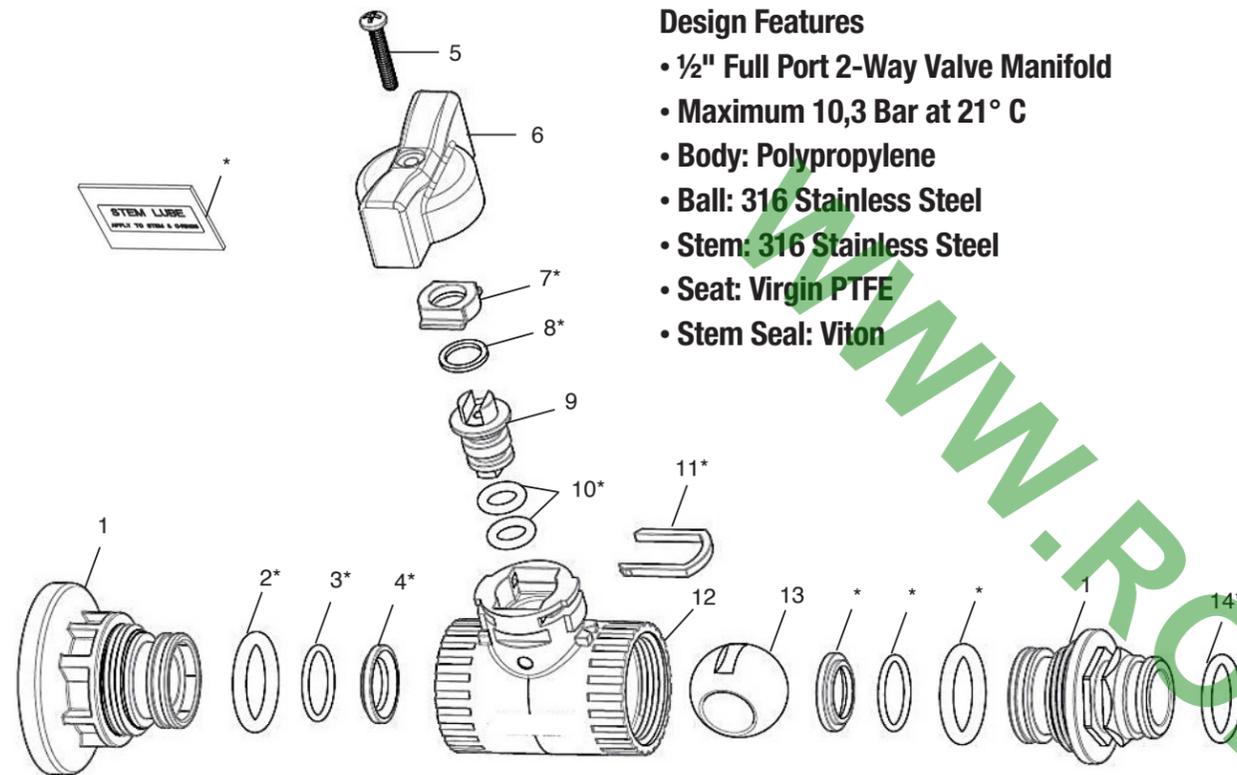
Polypropylene standard, nylon available

\*Items included in valve repair kits \*\*Other endcaps and brackets available

## TX2 2-Way Valve - EH7

### Design Features

- 1/2" Full Port 2-Way Valve Manifold
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Viton



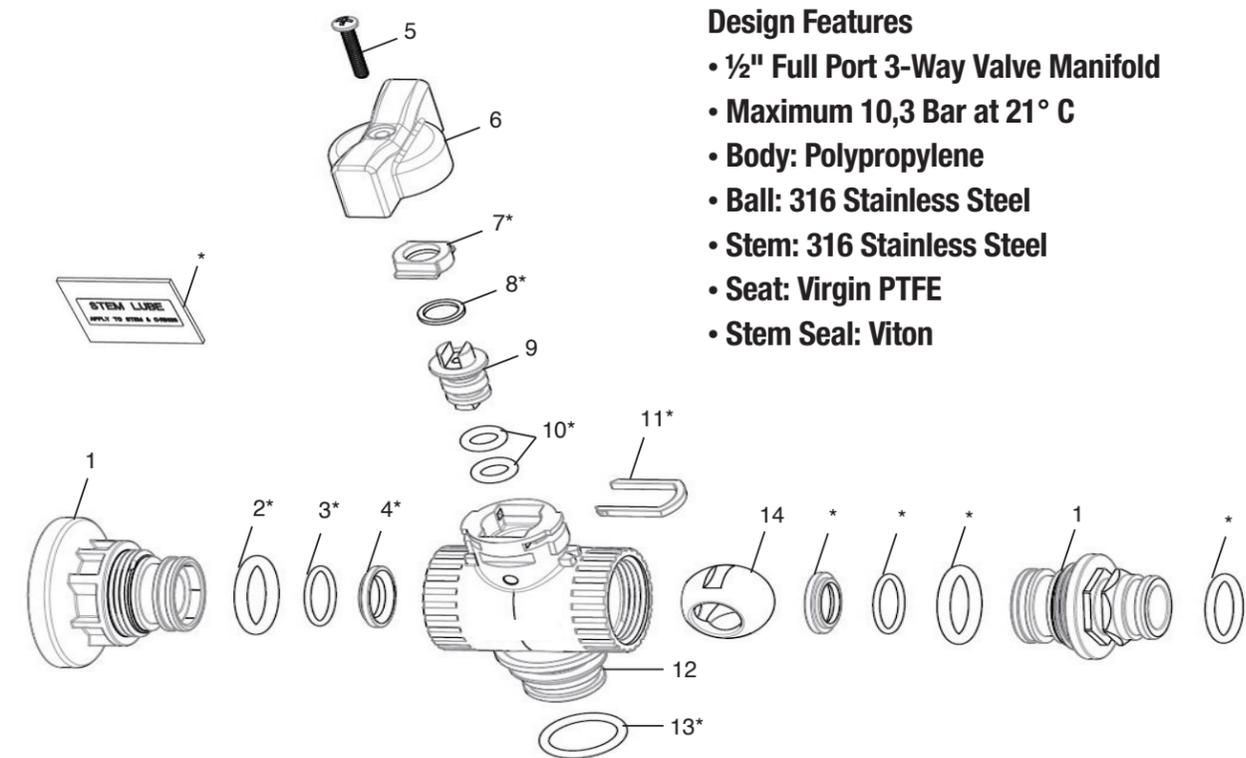
No.	Part Number	Description	Qty
1	202-0020	endcap, 1/2" Male QD	2
	202-0023	endcap, 1/2" M100 Flange	
2*	205-0096	o-ring, #211	2
3*	205-0060	o-ring, #017	2
4*	206-0016	seat, 1/2" full port, carbon graphite, PTFE	2
5	100-0021	screw, stainless steel	1
6	212-0026	handle, yellow, 90°	1
7*	106-0012	stem retainer	1
8*	102-0042	thrust washer	1
9	207-0012	stem, stainless steel	1
10*	205-0095	o-ring, #109	2
11*	106-0011	stem capture retainer	1
12	201-0185	valve body, 2-way, 1/2" polypropylene	1
13	204-0111	valve ball, 2-way, 1/2" stainless steel	1
14*	205-0062	o-ring, #116	1
*	210-0030	valve repair kit, TX2, 1/2"	

\*Items included in valve repair kits

## TX2 3-Way Valve - EH7

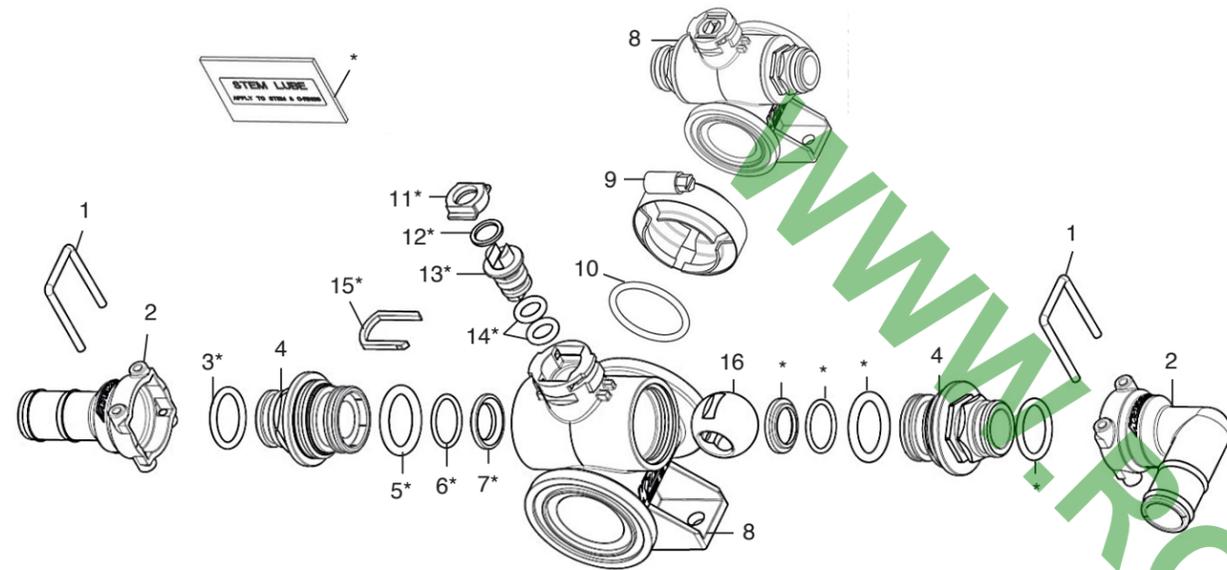
### Design Features

- 1/2" Full Port 3-Way Valve Manifold
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Viton



No.	Part Number	Description	Qty
1	202-0020	endcap, 1/2" Male QD	2
	202-0023	endcap, 1/2" M100 Flange	
2*	205-0096	o-ring, #211	2
3*	205-0060	o-ring, #017	2
4*	206-0016	seat, 1/2" full port, carbon graphite, PTFE	2
5	100-0021	screw, stainless steel	1
6	212-0026	handle, yellow, 90°	1
	212-0027	handle, red, 255°	
7*	106-0012	stem retainer	1
8*	102-0042	thrust washer	1
9	207-0012	stem, stainless steel	1
10*	205-0095	o-ring, #109	2
11*	106-0011	stem capture retainer	1
12	201-0191	valve body, 3-way, 1/2" polypropylene	1
13*	205-0062	o-ring, #116	2
14	204-0100	valve ball, 3-way, 1/2" stainless steel, diverter	1
	204-0112	valve ball, 1/2" stainless steel, regulating v-ball	
*	210-0030	valve repair kit, TX2, 1/2"	

\*Items included in valve repair kits



No.	Part Number	Description	Qty
1	106-0018	hairpin, stainless steel	2
2	211-0017	fitting, QC x 3/4" FNPT	1
	211-0118	fitting, 3/4" 90 degree hose barb	
	211-0119	fitting, 1" 90 degree hose barb	
	211-0062	fitting, QD 1/2" female blank cap	
	211-0064	fitting, QD 1/2" male blank plug	
	211-0066	fitting, 3/4" straight hose barb	
	211-0074	fitting, 1" straight hose barb	
299-0030	fitting, QD - Metered Bypass		
3*	205-0062	o-ring, #116	2
4	202-0020	endcap, quick fitting connect	2
5*	205-0096	o-ring, #211, EPDM	2
6*	205-0060	o-ring, #017, EPDM	2
7*	206-0016	seat, 1/2" full port, PTFE	2
8	201-0181	valve body, 3-way, M100, 1" flange, diverter	1
9	100450	v-clamp, M100, 1" flange	1
10	205-0074	o-ring, EPDM	1
11*	106-0012	stem retainer, polypropylene	1
12*	102-0042	thrust washer, PTFE	1
13	207-0012	stem, stainless steel	1
14*	205-0095	o-ring, #109, VITON	2
15*	106-0011	stem capture retainer	1
16	204-0100	valve ball, 1/2" 3-port diverter	1
*	210-0030	valve repair kit, TX2, 1/2"	

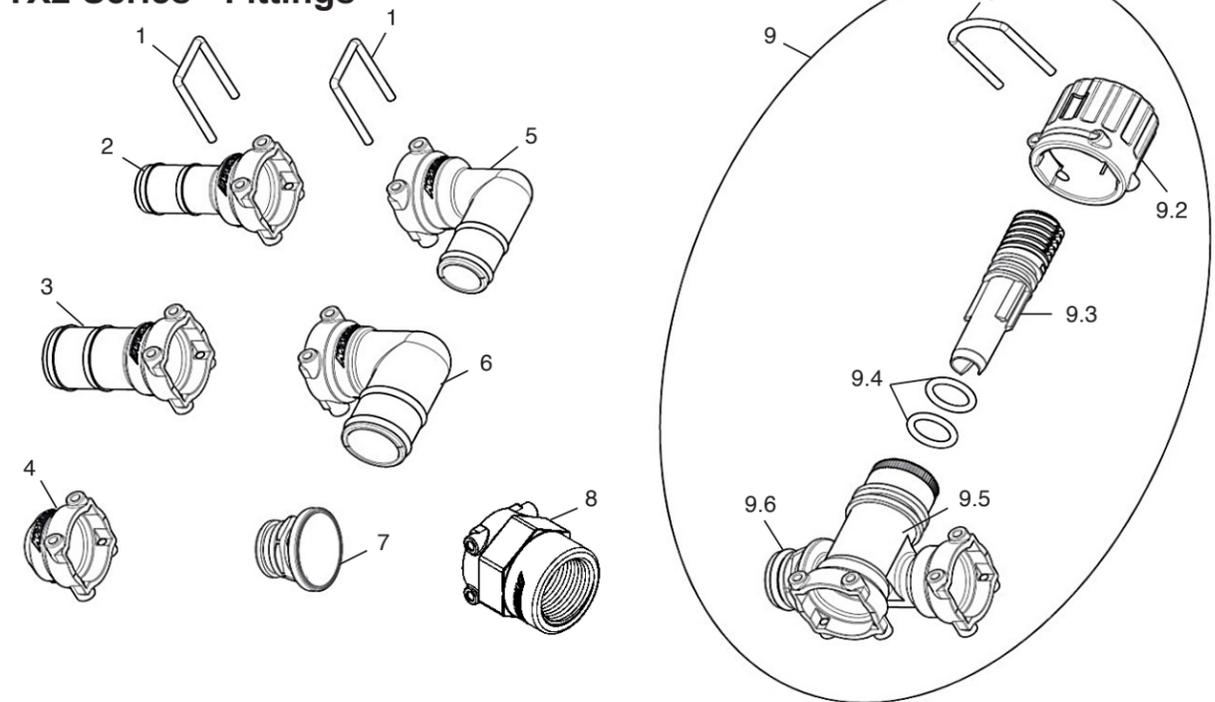
\*Items included in valve repair kits

### TX2 Series - EH7

#### Design Features

- 1/2" Full Port 3-Way Valve
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Viton

### TX2 Series - Fittings



No.	Part Number	Description	Qty
1	106-0018	hairpin, stainless steel	2
2	211-0066	fitting, 3/4" straight hose barb	1
*	KZ1146	fitting kit, 3/4" straight hose barb with stainless steel hairpin	
3	211-0074	fitting, 1" straight hose barb	1
*	KZ1147	fitting kit, 1" straight hose barb with stainless steel hairpin	
4	211-0062	fitting, 1/2" female blank cap	1
*	KZ1128	fitting kit, 1/2" female blank cap with stainless steel hairpin	
5	211-0118	fitting, 3/4" 90 degree hose barb	1
*	KZ1148	fitting kit, 3/4" 90 degree hose barb with stainless steel hairpin	
6	211-0119	fitting, 1" 90 degree hose barb	1
*	KZ1149	fitting kit, 1" 90 degree hose barb with stainless steel hairpin	
7	211-0064	fitting, 1/2" male blank plug	1
*	KZ1129	fitting kit, 1/2" male blank plug with stainless steel hairpin	
8	211-0017	fitting, QC x 3/4" FNPT	1
*	KZ1150	fitting kit, QC x 3/4" FNPT with stainless steel hairpin	
9	299-0030	fitting, metered bypass	1
*	KZ1152	fitting kit, metered bypass with stainless steel hairpin	
9		Fitting, Metered Bypass	
9.1	106-0017	hairpin, stainless steel	1
9.2	212-0040	yellow metering adjustment knob	1
9.3	207-0020	metering rod stem	1
9.4	QC3-130	o-ring, #113, EPDM	2
9.5	201-0190	fitting, metering bypass	1
9.6	205-0062	o-ring, #116, EPDM	1

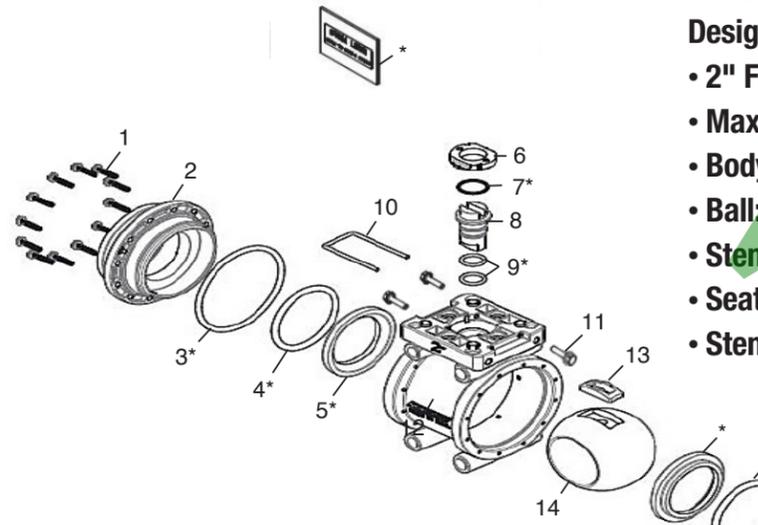
\*Fitting Kit includes hairpin connector



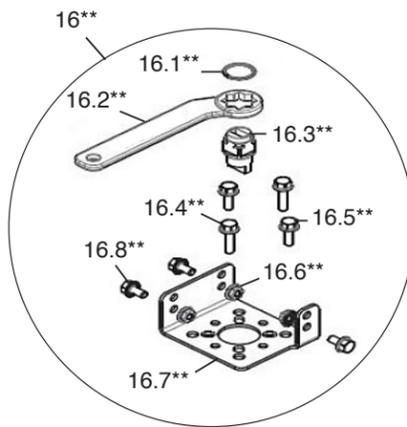
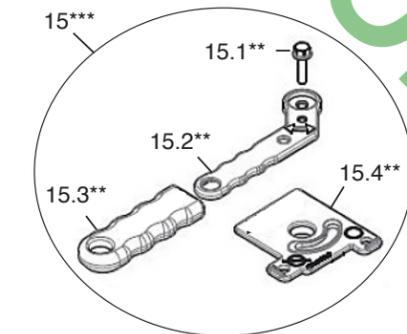
## MX8 2-Way

### Design Features

- 2" Full Port 2-Way Ball Valves
- Maximum 10,3 Bar at 21° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Fluorocarbon O-rings



No.	Part Number	Description	Qty
1	100-0002	screw, #8, 3/4, stainless steel, 18-8	24
2	202-0090	endcap, M220, 2" full port flange	2
3*	205-0050	o-ring, EPDM	2
4*	205-0049	o-ring, EPDM	2
5	206-0027	seat, 2" full port	2
6	QX4-121-3	stem retainer bushing, polypropylene	1
7*	QC3-170	thrust washer, PTFE	1
8	207-0001	stem, stainless steel inline	1
	207-0009***	stem, stainless steel inline, tapped for manual valve	1
9*	QC3-130	o-ring, #113, VITON	2
10	QX-103	hairpin, stainless steel	1
11	100340	bolt, serrated flange, 1/4 - 20 x 1	3
12	201-0130	valve body, 2-way, M220, 2" polypropylene full port	1
13	250-0060	shoe, ball/stem engagement	1
14	204-0047	valve ball, 2-way, 2" polypropylene	1
Manual Valve Only			
15***			
15.1***	100340	bolt, serrated flange, 1/4 - 20 x 1	1
15.2***	212-0010	handle	1
15.3***	212-0015	handle cover	1
15.4***	250-0030-P	retainer, stop plate	1
Manual Handle Override			
16**			
16.1**	100289	retaining ring, spiral	1
16.2**	212-0002	handle	1
16.3**	208-0070	coupler - 2" (M2i)	1
16.4**	100340	bolt, serrated flange, 1/4 - 20 x 1	2
16.5**	100338	bolt, serrated flanged, 1/4 - 20 x 3/4	2
16.6**	QX-222	nut, serrated flanged, 1/4 - 20, stainless steel	3
16.7**	100042X	bracket, stainless steel - 2" (M2i)	1
16.8**	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
*	210-0025	valve repair kit, MX - 2" (M2i)	



\*Items included in valve repair kits

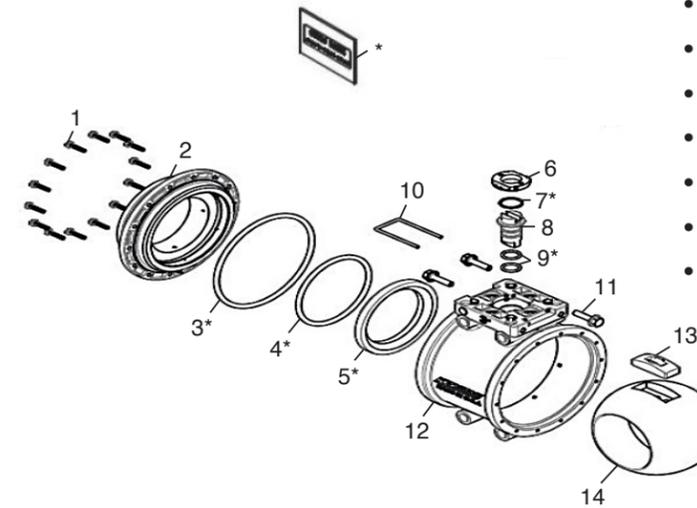
\*\*Manual handle override only

\*\*\*Manual valve only

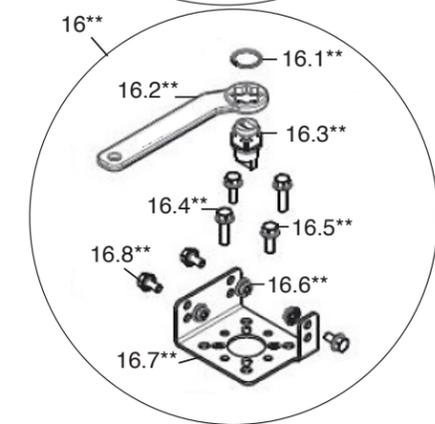
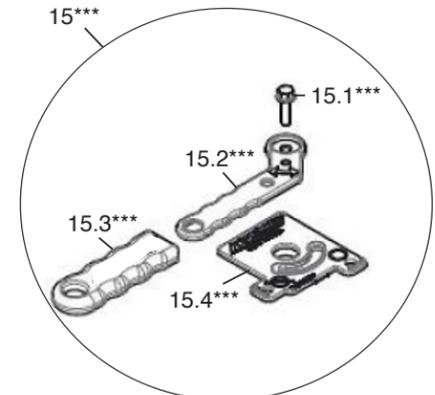
## MX12 2-Way

### Design Features

- 3" Full Port 2-Way Ball Valves
- Maximum 6,9 Bar at 21° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Fluorocarbon O-rings



No.	Part Number	Description	Qty
1	100-0002	screw, #8, 3/4, stainless steel, 18-8	28
2	202-0080	endcap, M300, 3" full port flange	2
3*	205-0030	o-ring, EPDM**	2
4*	205-0041	o-ring, EPDM**	2
5*	206-0025	seat, 3" full port**	2
6	QX4-121-3	stem retainer bushing, polypropylene	1
7*	QC3-170	thrust washer, PTFE**	1
8	207-0001	stem, stainless steel inline	1
	207-0009***	stem, stainless steel inline, tapped for manual valve	1
9*	QC3-130	o-ring, #113, VITON**	2
10	QX-103	hairpin, stainless steel	1
11	100340	bolt, serrated flange, 1/4 - 20 x 1	3
12	201-0110	valve body, 2-way, M300, 3" polypropylene full port	1
13	250-0050	shoe, ball/stem engagement	1
14	204-0055	valve ball, 3" full port polypropylene	1
Manual Valve Only			
15***			
15.1***	100340	bolt, serrated flange, 1/4 - 20 x 1	1
15.2***	212-0010	handle	1
15.3***	212-0015	handle cover	1
15.4***	250-0030-P	retainer, stop plate	1
Manual Handle Override			
16**			
16.1**	100289	retaining ring	1
16.2**	212-0002	handle	1
16.3**	208-0070	coupler - 3" (M2K)	1
16.4**	100340	bolt, serrated flange, 1/4 - 20 x 1	2
16.5**	100338	bolt, serrated flanged, 1/4 - 20 x 3/4	2
16.6**	QX-222	nut, serrated flanged, 1/4 - 20, stainless steel	3
16.7**	100042X	bracket, stainless steel - 3" (M2K)	1
16.8**	100204	bolt, hex flange, 1/4 - 20 x 1/2 stainless steel	3
*	210-0026	valve repair kit, MX - 3" (M2K)	



\*Items included in valve repair kits

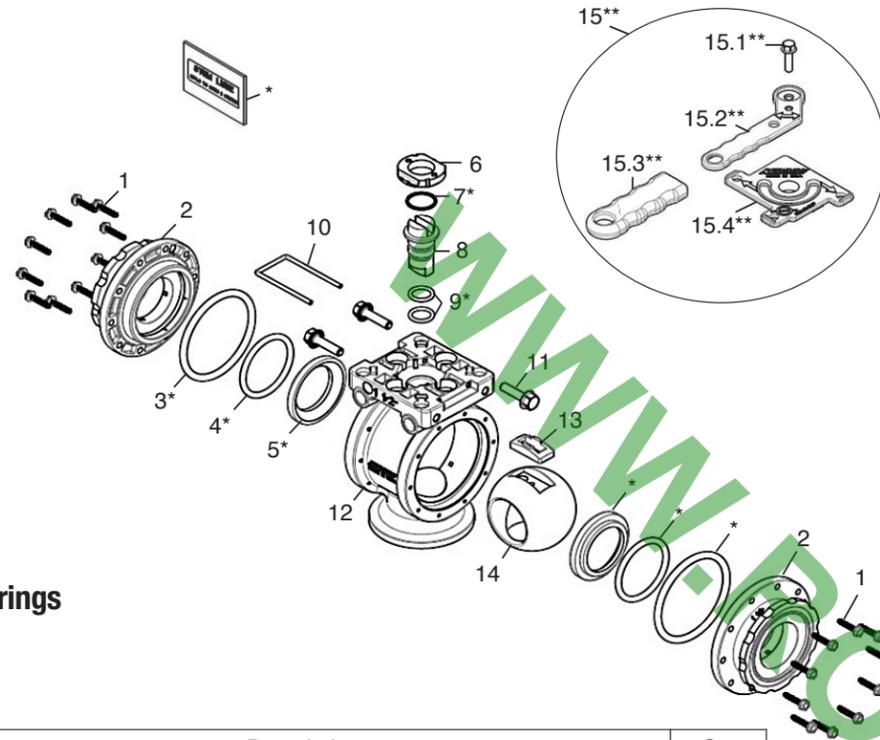
\*\*Manual handle override only

\*\*\*Manual valve only

## MX6 3-Way

### Design Features

- 1½" Full Port 3-Way Ball Valves
- Maximum 6,9 Bar at 21° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Fluorocarbon O-rings



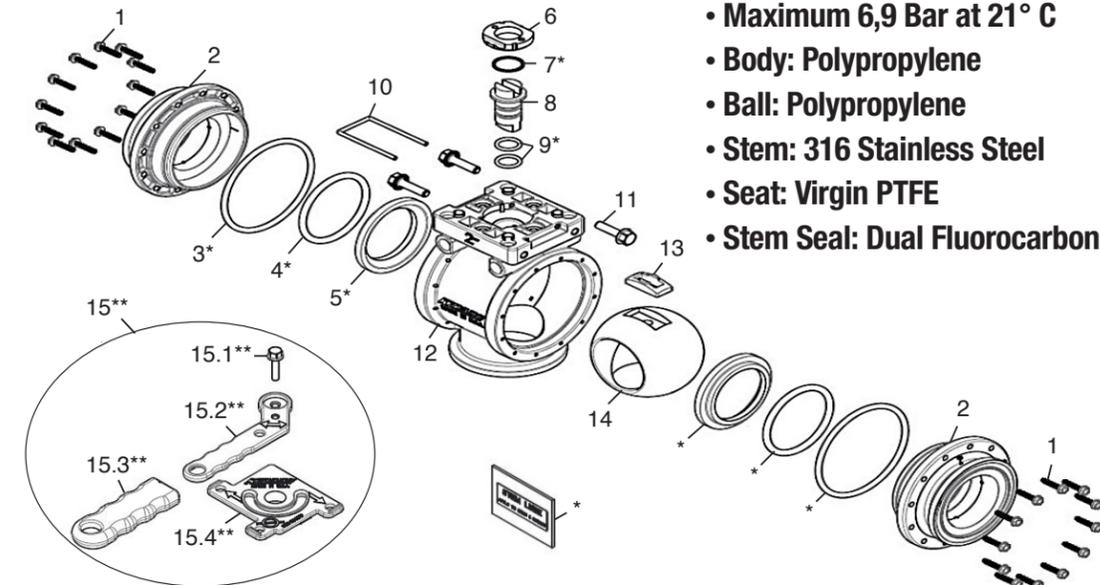
No.	Part Number	Description	Qty
1	100-0002	screw, #8, 3/4, stainless steel, 18-8	20
2	202-0100	endcap, M200, 2" standard port flange	2
3*	205-0047	o-ring, EPDM	2
4*	205-0070	o-ring, EPDM	2
5*	206-0026	seat, 1 1/2, virgin PTFE	2
6	QX4-121-3	stem retainer bushing, polypropylene	1
7*	QC3-170	thrust washer, PTFE	1
8	207-0001	stem, stainless steel inline	1
	207-0009**	stem, stainless steel inline, tapped for manual valve	
9*	QC3-130	o-ring, #113, VITON	2
10	QX-103	hairpin, stainless steel	1
11	100340	bolt, serrated flange, 1/4 - 20 x 1	3
12	201-0145	valve body, 3-way, bottom load, M200, 2" polypropylene standard port	1
13	250-0060	shoe, ball/stem engagement	1
14	204-0029	valve ball, 3-way, 1 1/2" diverter with relief slot	1
	204-0071	valve ball, 1 1/2" polypropylene, 2-port	
15**		Manual Valve	
15.1**	100340	bolt, serrated flange, 1/4 - 20 x 1	1
15.2**	212-0010	handle	1
15.3**	212-0015	handle cover	1
15.4**	250-0040-P	retainer, stop plate	1
*	210-0024	valve repair kit, MX - 1 1/2" (M4H)	

\*Items included in valve repair kits  
\*\*Manual valve only

## MX8 3-Way

### Design Features

- 2" Full Port 3-Way Ball Valves
- Maximum 6,9 Bar at 21° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Fluorocarbon O-rings



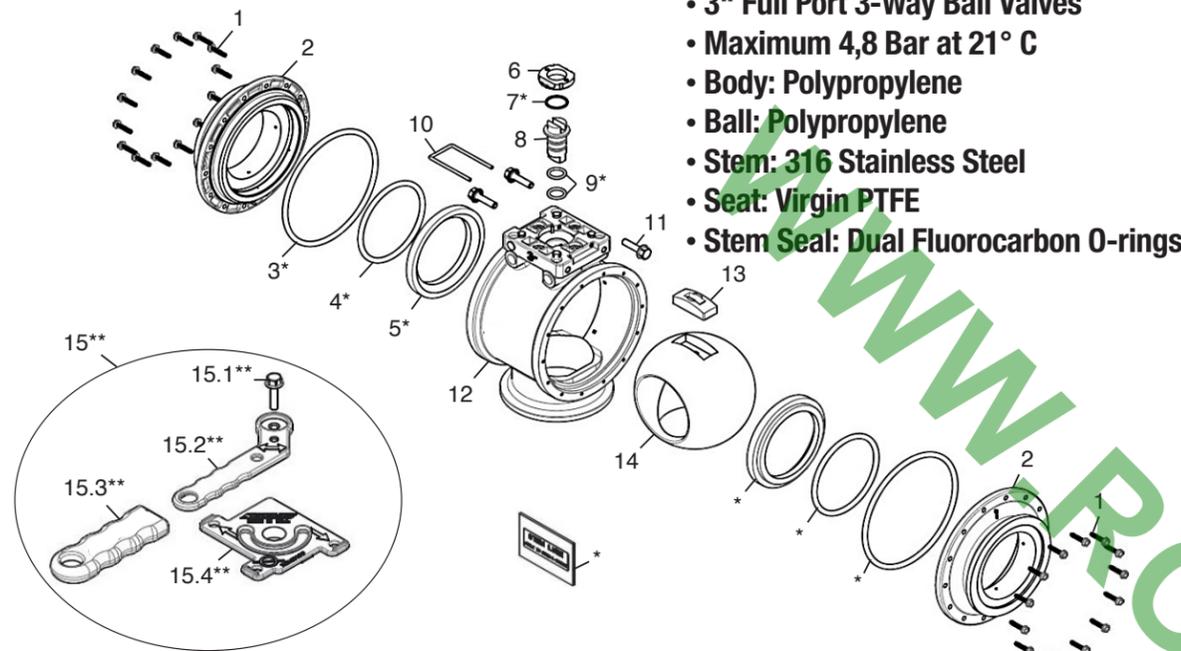
No.	Part Number	Description	Qty
1	100-0002	screw, #8, 3/4, stainless steel, 18-8	24
2	202-0090	endcap, M220, 2" full port flange	2
3*	205-0050	o-ring, EPDM	2
4*	205-0049	o-ring, EPDM	2
5*	206-0027	seat, 2" full port	2
6	QX4-121-3	stem retainer bushing	1
7*	QC3-170	thrust washer, PTFE	1
8	207-0001	stem, stainless steel inline	1
	207-0009**	stem, stainless steel inline, tapped for manual valve	
9*	QC3-130	o-ring, #113, VITON	2
10	QX-103	hairpin, stainless steel	1
11	100340	bolt, serrated flange, 1/4 - 20 x 1	3
12	201-0135	valve body, 3-way, bottom load, M220, 3" polypropylene full port	1
13	250-0060	shoe, ball/stem engagement	1
	204-0044	valve ball, 3-way, 2" diverter	
14	204-0045	valve ball, 2" 2-port	1
	204-0110	valve ball, 2" V-port	
	QX8-116	valve ball, 2" L-port	
15**		Manual Valve	
15.1**	100340	bolt, serrated flange, 1/4 - 20 x 1	1
15.2**	212-0010	handle	1
15.3**	212-0015	handle cover	1
15.4**	250-0040-P	retainer, stop plate	1
*	210-0025	valve repair kit, MX - 2" (M4i)	

\*Items included in valve repair kits  
\*\*Manual valve only

## MX12 3-Way

### Design Features

- 3" Full Port 3-Way Ball Valves
- Maximum 4,8 Bar at 21° C
- Body: Polypropylene
- Ball: Polypropylene
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Seal: Dual Fluorocarbon O-rings

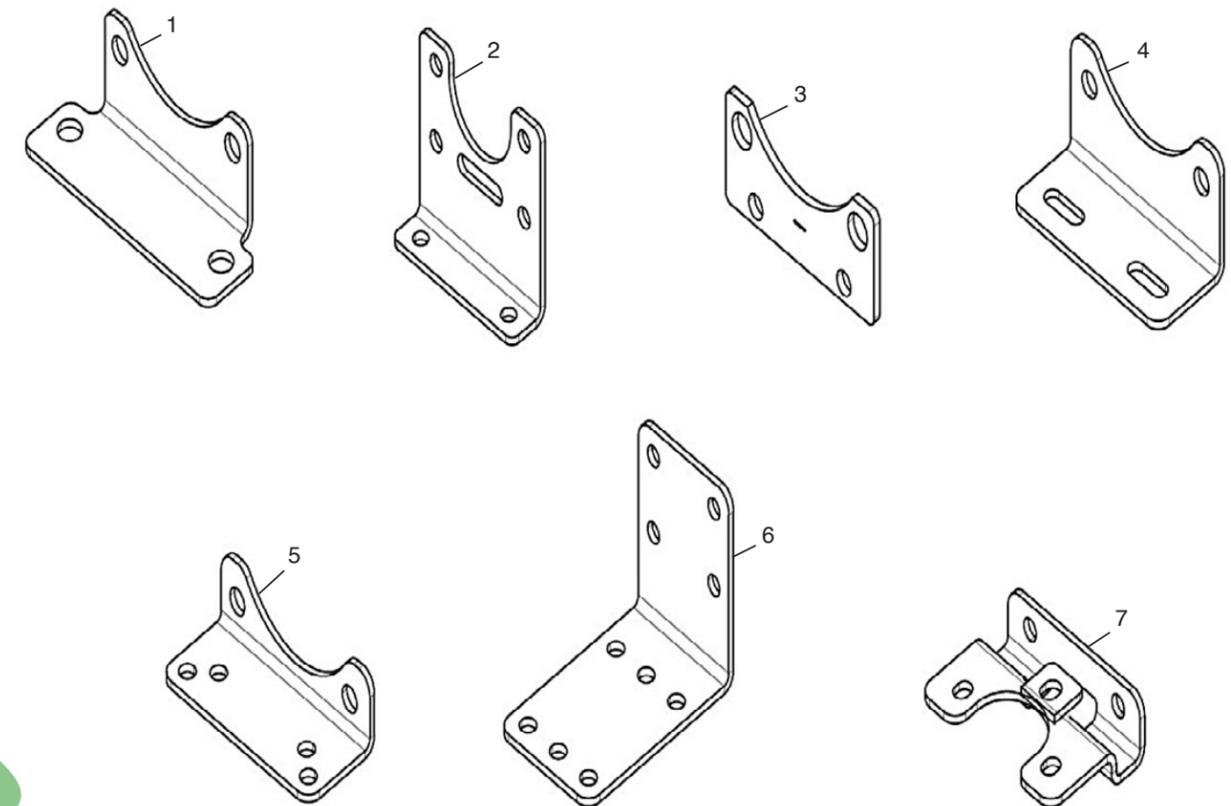


No.	Part Number	Description	Qty
1	100-0002	screw, #8, 3/4, stainless steel, 18-8	28
2	202-0080	endcap, M300, 3" full port flange	2
3*	205-0030	o-ring, EPDM	2
4*	205-0040	o-ring, EPDM	2
5*	206-0025	seat, 3" full port	2
6	QX4-121-3	stem retainer bushing, polypropylene	1
7*	QC3-170	thrust washer, PTFE	1
8	207-0001	stem, stainless steel inline	1
	207-0009**	stem, stainless steel inline, tapped for manual valve	
9*	QC3-130	o-ring, #113, VITON	2
10	QX-103	hairpin, stainless steel	1
11	100340	bolt, serrated flange, 1/4 - 20 x 1	3
12	201-0115	valve body, 3-way, bottom load, M300, 3" polypropylene full port	1
13	250-0050	shoe, ball/stem engagement	1
14	204-0030	valve ball, 3-way, 2" diverter	1
	204-0057	valve ball, 3" polypropylene full port	
15**		Manual Valve	
15.1**	100340	bolt, serrated flange, 1/4 - 20 x 1	1
15.2**	212-0010	handle	1
15.3**	212-0015	handle cover	1
15.4**	250-0040-P	retainer, stop plate	1
*	210-0026	valve repair kit, MX - 3" (M4K)	

\*Items included in valve repair kits

\*\*Manual valve only

## Brackets



No.	Part Number	Description	Qty
1	QX-112	bracket, mounting Q series manifolds	1
2	QX-109	bracket, mounting QX4/99F adapter	1
3	EHPT-196	bracket, 1 1/4" - 1 1/2", polypropylene adapter	1
4	QX-111	bracket, mounting QX3-QX4 series	1
5	QX-100	bracket, mounting Q series manifolds	1
6	100411	bracket, mounting QX3-QX4 series	1
7	105-0048	bracket, EH2 to QX4 adapter	1

## EH2 Series

NEMA 6P, NEMA 7D, Motorized Valve Actuator, 12/24 VDC, 24 VAC



• **Torque minimum 24,9 N-m for control of quarter turn valves**

Technical Data		EH2 Series Actuator
Power Supply		12/24VDC, 24VAC
Power	Running	1 to 2 Amps
Consumption	Stall	2 to 9 Amps
Electrical Connection		1.5' 18 awg tinned copper terminated in Deutsch DT, Weatherpack, Metripack, Ampseal
Control		On/Off, three wire; 2 power 1 signal < 5mA
Input Impedance 15K Switching Threshold 2.5 V @ 12 VDC		Positioning, four wire; 2 power, 2 signal < 5mA
		3 Position, four wire; 2 power, 2 signal, default to center
		Proportional, 0-5, 0-10, 4-20 mA
		Direct Drive, two wire; reverse polarity
		Other; CAN J1939, Digital RS232
Torque	Running	150 to 220 in/lb
	Stall	Max 440 in/lb
Direction of Rotation		CCW to On, CW to Off
Mechanical Angle of Rotation		Factory set to 91°, adjustable up to 300°
Running Time		0.5 to 7 sec no load @ 13.8 VDC
Position Indication		Visual indicator, yellow – on/off, red – positioning, aux. limit switches, 5K potentiometer
Manual Override		Capable with intermediate coupled valves, power disconnected
Enclosure Material		Glass filled Nylon
Enclosure Rating		NEMA 6P, 7D, IP68
Operating Temperature		-32°F to 125°F (-36°C to 52°C)
Storage Temperature		-40°F to 185°F (-40°C to 85°C)
Servicing		Maintenance Free
Weight		3.8 lbs (1.72kg)

### Application

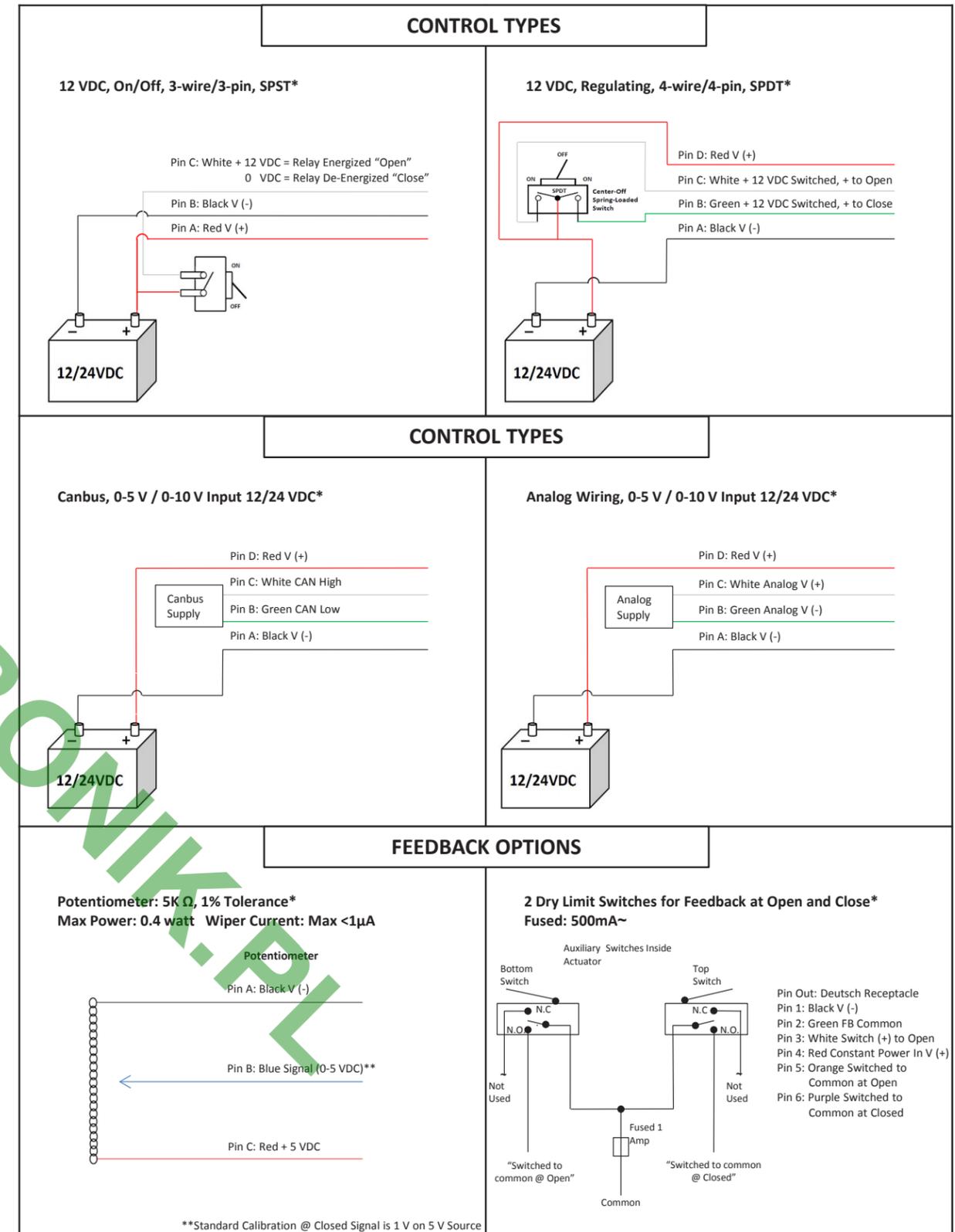
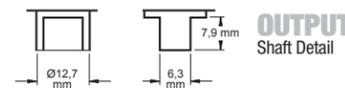
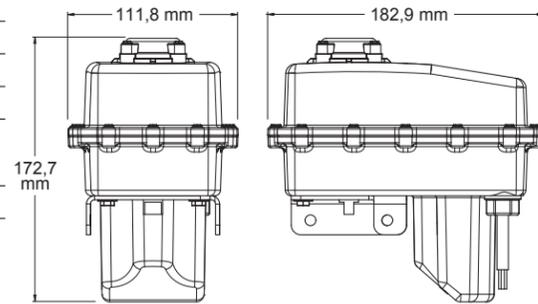
For on/off and regulating control of liquid or gas in various systems. Actuator sizing should be done in accordance with valve manufacturer's specifications. Depending on valve type, the actuator is mounted directly or via adapter bracket and drive coupling. Common ISO 5211 mounting hardware available. Control is typically from PLC contact/s, or a manual switch capable of min. 5mA.

### Operation

The EH2 series actuators provide maintenance free operation for reliable application or torque throughout their capable range. The EH2 is available with up to 300° of rotation with or without visual position indication. Optional, built-in auxiliary switches are available for position indication at the extents of travel.

### Installation

The actuator may be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuator/valve combination it is not necessary to independently support or mount the actuator.



\* Typical Pin Out

## EH3 Series

NEMA 6P, NEMA 7D, Motorized Valve Actuator, 12/24 VDC, 24 VAC



• **Torque minimum 7,9 N-m for control of quarter turn valves**

Technical Data		EH3 Series Actuator
Power Supply		12/24VDC, 24VAC
Power Consumption	Running Stall	1 to 1.5 Amps 3 to 5.5 Amps
Electrical Connection		1.5' 18 awg tinned copper terminated in Deutsch DT, Weatherpack, Metripack, Ampseal
Control		On/Off, three wire; 2 power 1 signal < 5mA
Input Impedance 15K Switching Threshold 2.5 V @ 12 VDC		Positioning, four wire; 2 power, 2 signal < 5mA each
		3 Position, four wire; 2 power, 2 signal, default to center
		Proportional, 0-5, 0-10, 4-20 mA Other; CAN J1939, Digital RS232
Torque	Running Stall	40 to 70 in/lb Max 150 in/lb
Direction of Rotation		CCW to On, CW to Off
Mechanical Angle of Rotation		Factory set to 91°, adjustable up to 300°
Running Time		1 to 10 sec no load @ 13.8 VDC
Position Indication		Visual indicator, yellow – on/off, red – positioning, aux. limit switches, 5K potentiometer
Manual Override		Capable with intermediate coupled valves, power disconnected
Enclosure Material		Glass filled Nylon
Enclosure Rating		NEMA 6P, 7D, IP68
Operating Temperature		-32°F to 125°F (-36°C to 52°C)
Storage Temperature		-40°F to 185°F (-40°C to 85°C)
Servicing		Maintenance Free
Weight		1.76 lbs (0.8kg)

### Application

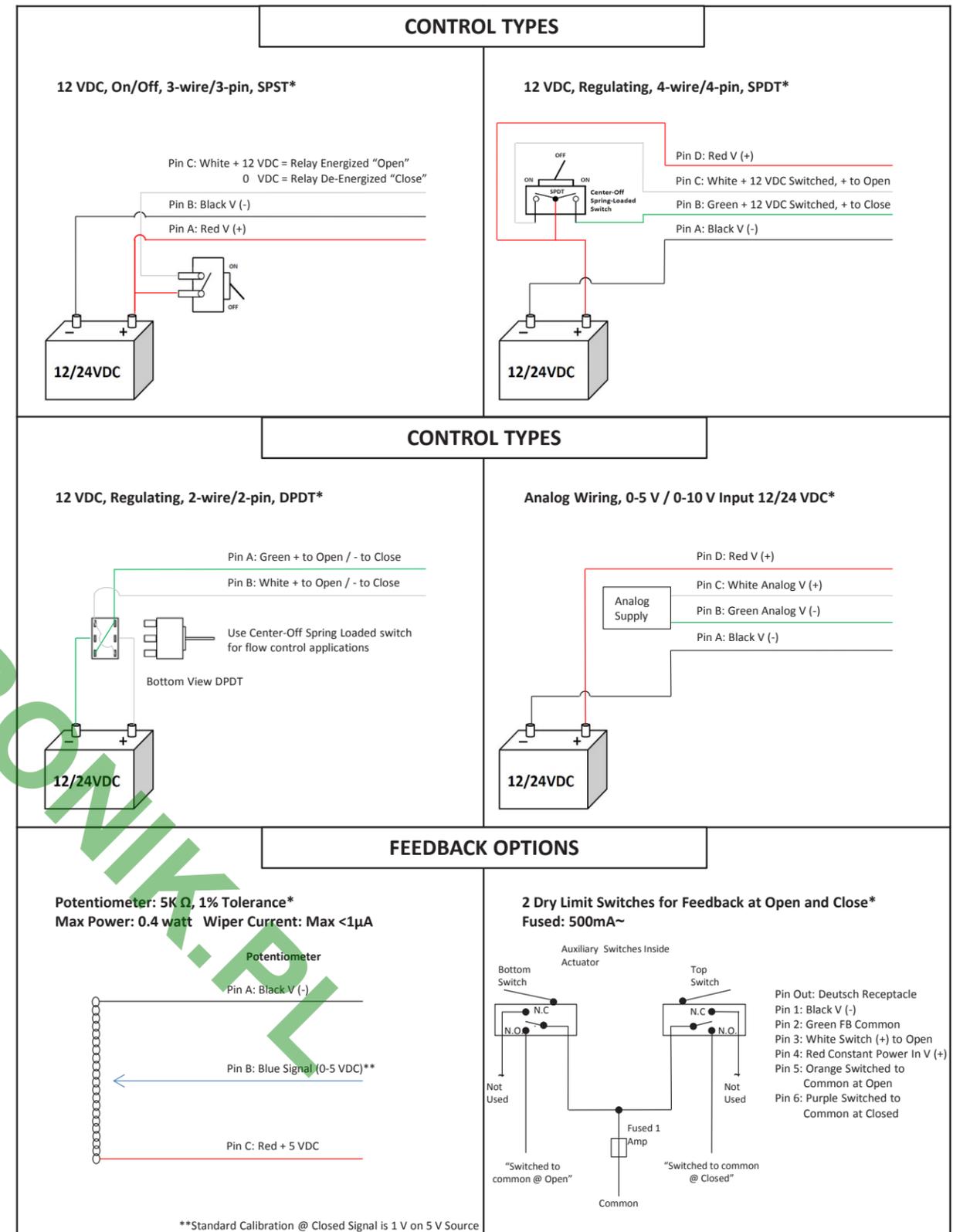
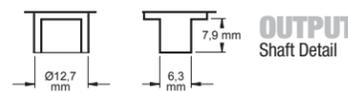
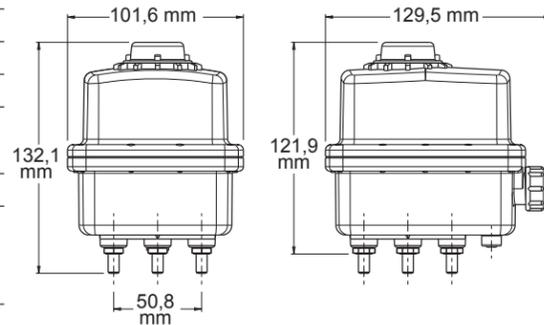
For on/off and regulating control of liquid or gas in various systems. Actuator sizing should be done in accordance with valve manufacturer's specifications. Depending on valve type, the actuator is mounted directly or via adapter bracket and drive coupling. Common ISO 5211 mounting hardware available. Control is typically from PLC contact/s, or a manual switch capable of min. 5mA.

### Operation

The EH3 series actuators provide maintenance free operation for reliable application or torque throughout their capable range. The EH3 is available with up to 300° of rotation with or without visual position indication. Optional, built-in auxiliary switches are available for position indication at the extents of travel.

### Installation

The actuator may be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuator/valve combination it is not necessary to independently support or mount the actuator.



\* Typical Pin Out

\*\*Standard Calibration @ Closed Signal is 1 V on 5 V Source

## EH5 Series

NEMA 6P, NEMA 7D, Motorized Valve Actuator, 12/24 VDC, 24 VAC



• **Torque minimum 39,5 N-m for control of quarter turn valves**

Technical Data		EH2 Series Actuator
Power Supply		12/24VDC, 24VAC
Power	Running	2.5 Amps
Consumption	Stall	8 Amps
Electrical Connection		1.5' 18 awg tinned copper terminated in Deutsch DT, Weatherpack, Metripack, Ampseal
Control		On/Off, three wire; 2 power 1 signal < 5mA Positioning, four wire; 2 power, 2 signal < 5mA 3 Position, four wire; 2 power, 2 signal, default to center Proportional, 0-5, 0-10, 4-20 mA Other; CAN J1939, Digital RS232
	Input Impedance 15K Switching Threshold 2.5 V @ 12 VDC	
Torque	Running Stall	350 in/lb Max 750 in/lb
Direction of Rotation		CCW to On, CW to Off
Mechanical Angle of Rotation		Factory set to 91°, adjustable up to 300°
Running Time		3 sec no load @ 13.8 VDC, digital speed control available
Position Indication		Aux. limit switches, 5K potentiometer
Manual Override		Capable with intermediate coupled valves, power disconnected
Enclosure Material		Glass filled Nylon
Enclosure Rating		NEMA 6P, 7D, IP68
Operating Temperature		-32°F to 125°F (-36°C to 52°C)
Storage Temperature		-40°F to 185°F (-40°C to 85°C)
Servicing		Maintenance Free
Weight		5.36 lbs (2.43 kg)

### Application

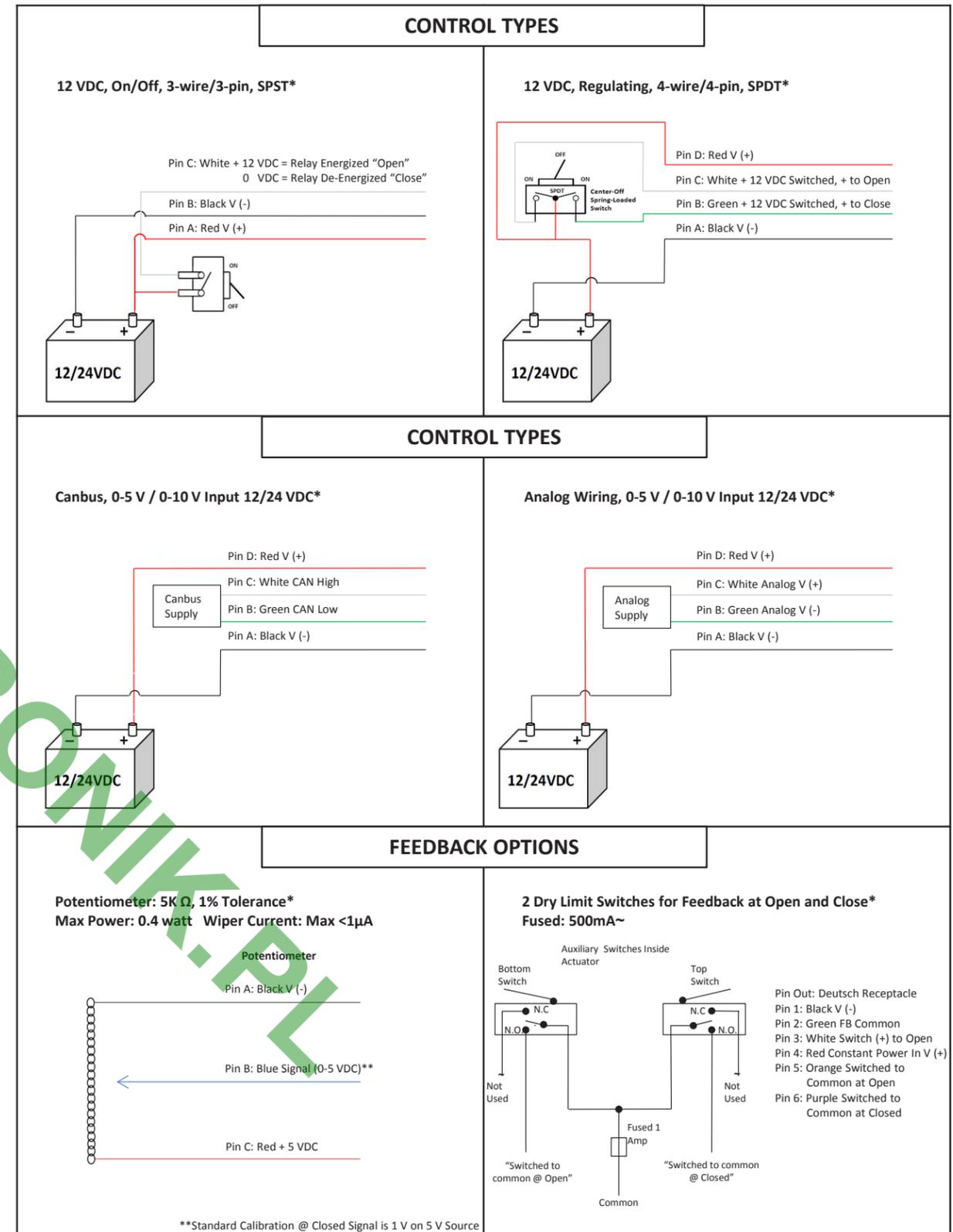
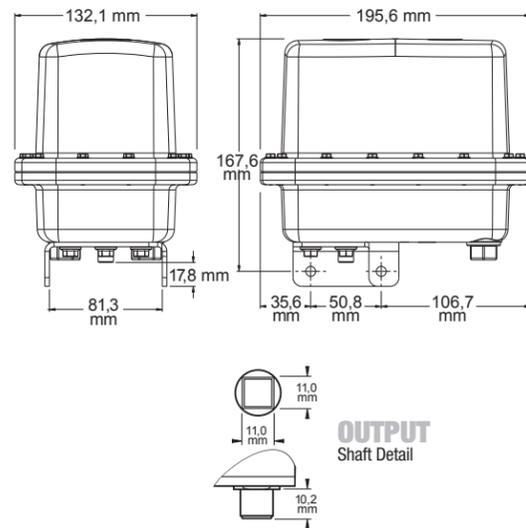
For on/off and regulating control of liquid or gas in various systems. Actuator sizing should be done in accordance with valve manufacturer's specifications. Depending on valve type, the actuator is mounted directly or via adapter bracket and drive coupling. Common ISO 5211 mounting hardware available. Control is typically from PLC contact/s, or a manual switch capable of min. 5mA.

### Operation

The EH5 series actuators provide maintenance free operation for reliable application or torque throughout their capable range. The EH5 is available with up to 300° of rotation with or without visual position indication. Optional, built-in auxiliary switches are available for position indication at the extents of travel.

### Installation

The actuator may be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuator/valve combination it is not necessary to independently support or mount the actuator.



\* Typical Pin Out

## EH7 Series

NEMA 6P, Motorized Valve Actuator, 12 VDC



• **Torque minimum 2,3 N-m for control of quarter turn valves**

Technical Data		EH7 Series Actuator
Power Supply		12 VDC
Power Consumption	Running	0.3 – 1.5 Amps
	Stall	1.0 - 6.0 Amps
Electrical Connection		1.5' 18 AWG tinned copper terminated in Deutsch DT, Weatherpack, Metripack, Ampseal
Control		On/Off, three wire; 2 power 1 signal < 5mA
Input Impedance 15K Switching Threshold 2.5 V @ 12 VDC		Positioning, four wire; 2 power, 2 signal < 5mA
Torque	Running	20 in/lb
	Stall	Max 60 in/lb
Direction of Rotation		CCW to On, CW to Off
Mechanical Angle of Rotation		Factory set to 91°, adjustable up to 300°
Running Time		0.5 to 6.0 sec no load @ 13.8 VDC
Position Indication		Visual indicator, yellow – on/off, red – positioning, aux. limit switches at open or close
Manual Override		Capable with quick disconnect from valve
Enclosure Material		Glass filled Nylon, Polycarbonate Dome optional with stainless steel hardware
Enclosure Rating		NEMA 6P, IP68
Operating Temperature		-32°F to 125°F (-36°C to 52°C)
Storage Temperature		-40°F to 185°F (-40°C to 85°C)
Servicing		Maintenance Free
Weight		0.94 lbs (0.43kg)

### Application

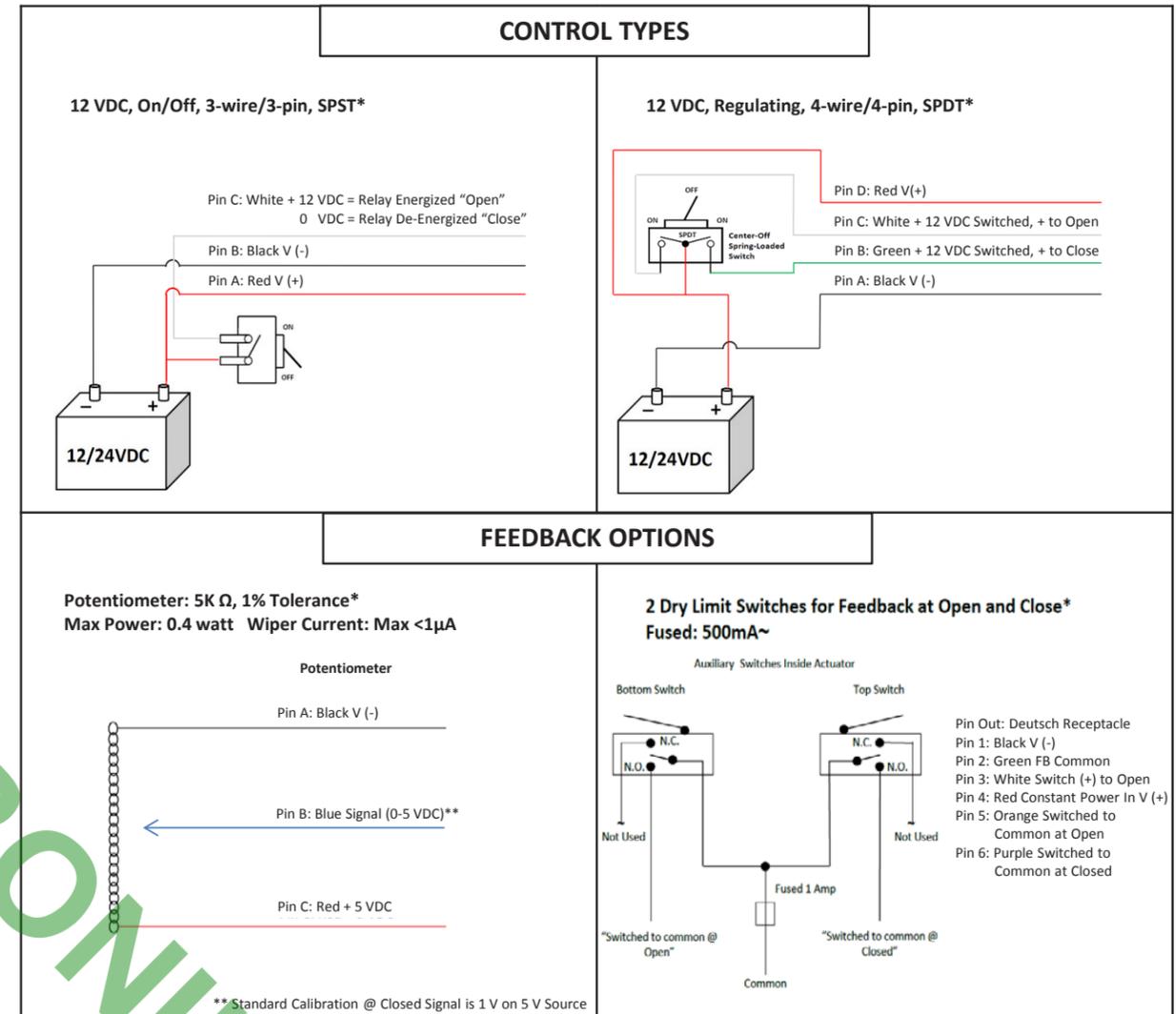
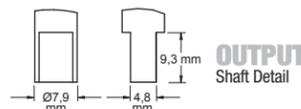
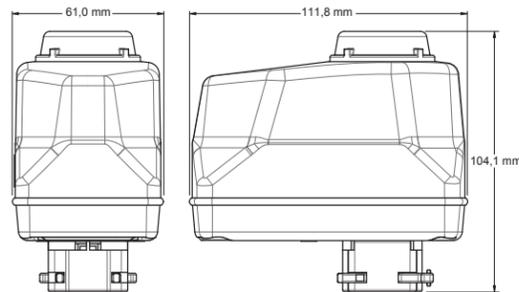
For on/off and regulating control of liquid or gas in various systems. Actuator sizing should be done in accordance with valve manufacturer's specifications. Depending on valve type, the actuator is mounted directly or via adapter bracket and drive coupling. Control is typically from PLC contact/s, or a manual switch capable of min. 5mA.

### Operation

The EH7 series actuators provide maintenance free operation for reliable application or torque throughout their capable range. The EH7 is available with up to 300° of rotation with or without visual position indication. Optional, built-in auxiliary switches are available for position indication at the extents of travel.

### Installation

The actuator may be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuator/valve combination it is not necessary to independently support or mount the actuator.



\*Consult Factory for Actuator Only Mounting Options

- **Case:** Nylon
- **Position Indicator:** Dome enclosure, clear polycarbonate
- **Hardware:** Stainless steel, 300 Series
- **Wire Leads:** Standard 406,4 mm wire length, black PVC jacket, round or flat wire, color-coded 18-gauge multi-strand tinned copper
- **Wire Connectors:** Weather Pak, AMPSEAL, Conxall, Metri-Pak, Deutsch, with mating bare wire pigtail available
- **Input Voltage:** 12VDC, 24VDC, 24VAC
- **Control:** Switching signal current 100mA-150mA (excludes 2-wire reverse polarity regulating "50K")
- **Shaft Rotation:** Standard ¼ turn 90°; multi-stop available, up to 300° rotation
- **Normal Operating Temperature Range:** -35,6° C to 51,7° C
- **Duty Cycle:** 50%
- **Life:** Application and duty dependent. Estimated life up to 500.000 cycles with proper installation.

Actuator Model	Motor Code	90° Rotation Cycle Time (seconds)	Recommended Torque 12VDC (N-m)	Maximum Torque 12VDC (N-m)	Current Amps Run/Stall 12VDC
EH7	K	0,5	2,6	4,7	1,5 / 6,0
EH7	J	7,0	2,6	4,7	0,3 / 1,0
EH3	M	0,8	4,5	6,3	1,0 / 3,0
EH3	2	0,8	8,5	11,9	1,0 / 5,0
EH3	N	1,5	6,8	9,5	1,0 / 2,5
EH3	P	2,5	4,5	6,3	1,0 / 2,5
EH3	Q	7,0	4,5	6,3	1,0 / 2,0
EH3	O	12,0	4,5	6,3	0,8 / 1,5
EH2	Z	0,5	11,3	15,8	1,5 / 9,0
EH2	Y	1,5	24,9	34,8	1,5 / 9,0
EH2	V (24VDC)	1,5	19,8	27,7	1,5 / 4,0
EH2	W	3,0	24,9	34,8	1,5 / 4,0
EH2	U	7,0	24,9	34,8	1,0 / 2,5
EH5	5	3,0	39,5	59,3	2,5 / 8,0

Series	Valve	Repair Kit
<b>61 Series</b>		
	61B	200-0052 210-0018-1
	61E	200-0053 210-0019-1
	61F	200-0054 210-0020-1
	61FM	200-0055 210-0021-1
	61H	200-0056 210-0022-1
	61I	200-0057 210-0023-1
<b>67 Series</b>		
	67B	200-0029 210-0007-1
	67D	200-0031 210-0007-1
	67E	299-0007 210-0003-1
	67F	200-0033 210-0013-1
	67G	200-0042 210-0017-1
	67H	200-0075 210-0001-1
	67I	299-0008 210-0002-1
<b>68 Series</b>		
	EHPT-68F	EHPT-720
	EHPT-68G	EHPT-721
<b>73 Series</b>		
	73C	200-0022 210-0008-1
	73D	200-0013 210-0029-1
	73E	200-0023 210-0009-1
	73F	200-0024 210-0010-1
	73H	200-0021 210-0011-1
	73i	200-0010 210-0012-1
	73i (NH3)	200-0035 210-0033
<b>79 Series</b>		
	79C	299-0022 210-0008-1
	79D	299-0027 210-0029-1
	79E *	not set up yet 210-0009-1
	79F	299-0028 210-0010-1
	79H	299-0020 210-0011-1
	79i	299-0029 210-0012-1
<b>79 Series</b>		
	EH3-79D	N/A
	EHPT-79E	EHPT-710
	EHPT-79F	EHPT-715
	EHPT-79H	EHPT-713
	EHPT-79I	EHPT-714
<b>84 Series</b>		
	EH3-84B	EHPT-709
	EH3-84C	EHPT-709
	EH3-84D	EHPT-709
	EHPT-84E	EHPT-710
	EHPT-84F	EHPT-711
	EHPT-84G-1	EHPT-712
	EHPT-84H-1	EHPT-713
	EHPT-84I-1	EHPT-714
<b>89 Series</b>		
	EH-89D	EH-124-1
	EH-89E	EH-125-1
	EH-89F	EH-126-1
	EH-89G	EH-127-1
	EH-89H	EH-128-1
	EH-89i	EH-129-1
	EH89J	210-0005-1
	EH-89K	210-0006-1

Series	Valve	Repair Kit
<b>78 Series</b>		
	EH3-78D	N/A
	EHPT-78E	EHPT-710
	EHPT-78F	EHPT-711
	EHPT-78H	EHPT-713
	EHPT-78I	EHPT-714
<b>88 Series</b>		
	88B	200-0001 210-0014
	88C	200-0002 210-0014
	88D	200-0003 210-0014
	88E	200-0004 210-0015
	88F	200-0005 210-0016
	88G	200-0006 N/A
	88H	200-0007 210-0031
	88i	200-0008 210-0032
	Square stem & full U-Bend Bracket	
<b>88 Series</b>		
	EH3-88B	N/A
	EH3-88C	N/A
	EH3-88D	N/A
	EHPT-88E	EHPT-710
	EHPT-88F	EHPT-711
	EHPT-88G	EHPT-712
	EHPT-88H	EHPT-713
	EHPT-88i	EHPT-714
	Double D Stem/L shaped bracket	
<b>92 Series</b>		
	EH-92FM	100200
<b>99 Series</b>		
	EHPT-99E	EHPT-700
	EHPT-99F	EHPT-701-1
	EHPT-99H	EHPT-702-1
	EHPT-99i	EHPT-703-1
	EHPT-99K	EHPT-704-1
	EH2-1180	EH2-1181-1
	EH2-1185	210-0004-1 (disc)
<b>3-Way SS Bottom Load</b>		
	S4F	SVF-RKT
	S6F	SVF-RKT
	S7F	SVF-RKT
<b>MX Series</b>		
	M2HMO	210-0024
	M4H22	210-0024
	T4H22	210-0024
	M2i22	210-0025
	M4i22	210-0025
	T4i2B	210-0025
	T6i2B	210-0025
	M2K22	210-0026
	M4K2B	210-0026
<b>QX Series</b>		
	¾" - 1"	QX4-RKT
	1¼" - 1½"	QX5-RKT
	2"	QX8-RKT

Please visit [www.ZiegTek.com](http://www.ZiegTek.com) for more detail on repair kits.



ZiegTek motorized valve actuators are built to provide years of maintenance-free use when properly installed in compatible applications.

Disregarding feedback signals, there are two primary types of control circuits; **variable positioning** (commonly polarity reversing) and **on/off** (commonly one or two switched signals).

Always refer to the standard wiring diagrams for testing of the control harness before opening the actuator housing. As a general rule, standard actuators will rotate clockwise (viewed from top) while running to a valve closed position and counterclockwise while running to a valve open position. All ZiegTek motorized valve actuators currently require power to operate in either direction. Actuators are operable in any direction, even upside down.

**IF UNIT IS UNDER WARRANTY, CONTACT A ZIEGTEK AUTHORIZED SERVICE/REPAIR CENTER. OPENING ACTUATOR VOIDS WARRANTY.**

## Actuator Issues

Problem	Possible Cause	Solution
<b>Actuator will not run at all</b>	a) Limit switch problem	a) Check and adjust limit switches per instructions
	b) Cam assembly problem	b) Check and adjust cams per instructions
	c) Integrated circuit breaker tripped	c) Disconnect power to unit for 20 seconds; reconnect power
	d) Dead or open short in control harness	d) Check harness for cuts in insulation or sharp pinch point. Check for continuity of each wire in the harness. Check connectors for damage or corrosion. Repair or replace as needed.
	e) Dead or open short in actuator control circuit	e) Check actuator housing for damage or missing hardware. Check actuator for internal corrosion. Check for loose motor lead. Clean circuit with electrical contact cleaner and compressed air. Solder connections if necessary. Replace circuit board assembly if required.
	f) Failed gear motor	f) Disconnect motor leads at circuit board or motor. Apply power directly to motor terminals. Motor should run continuously when power is applied. Replace motor if rotation is not smooth.
<b>Motor runs continuously</b>	a) Limit switch problem	a) Check and adjust limit switches per instructions
	b) Cam assembly problem	b) Check and adjust cams per instructions
	c) Defective or damaged circuit board component	c) Replace circuit board assembly
<b>Constantly tripping integrated circuit breaker or blowing line fuse</b>	a) Valve operating torque excessive; tight from incompatible valve or media, or buildup	a) Remove motorized actuator from valve. Manually turn valve with torque wrench when possible. Confirm that valve torque is within actuator capability. Refer to Actuator Information chart in Actuator Data Spec Sheet section of catalog. Disassemble and clean valve.
	b) Defective or damaged circuit board component	b) Many models have internal relays. Listen for audible click upon activation. Bypass circuit board assembly to test motor, see <b>c) Failed gear motor</b> . Replace motor if rotation is not smooth.
	c) Failed gear motor	c) Disconnect motor leads at circuit board or motor. Apply power directly to motor terminals. Motor should run continuously when power is applied. Replace motor if rotation is not smooth.

## Valve Issues

Problem	Possible Cause	Solution
<b>Valve is leaking past ball</b>	a) Seats damaged or worn out	a) Install valve repair kit
	b) Valve is not stopping at proper closed position	b) Adjust limit switches of actuator
<b>Valve stem leaks</b>	a) Worn stem seals	a) On metal valves: tighten stem packing nut ~ ¼- ½ turn. <b>CAUTION!</b> Over tightening stem nut could cause excessive operating torque and trip internal circuit breaker. If leak continues or for plastic valves, install repair kit.
	b) Damaged stem or stem bore	b) Replace valve stem if available, otherwise replace valve.
<b>Valve body leaks</b>	a) Loose body bolts or excessive operating pressure.	a) Check bolts and confirm application is within recommended pressure ratings
	b) Defective body seals	b) Install repair kit or replace valve
<b>Valve operating torque excessive</b>	a) Swollen seals or particulate buildup in valve chamber	a) Check valve for compatibility with product. May require valve cleaning, repair kit, or new valve.
	b) Valve bolts too tight	b) Loosen bolts slightly. Plastic, bolted valves only.
	c) Stem nut too tight or damaged stem seal	c) Loosen stem nut slightly. Install repair kit if needed.

## WARRANTY REPAIRS ONLY

**AG EXPRESS**  
ELECTRONICS

308 Claude Road  
Grand Island, NE 68803  
+1 308 381 2905

**Reference RMA Number Given by ZiegTek**

## NON-WARRANTY REPAIRS (ANY 3 LOCATIONS)

**AG EXPRESS**  
ELECTRONICS

308 Claude Road  
Grand Island, NE 68803  
+1 308 381 2905

**AG EXPRESS**  
ELECTRONICS

6280 NE 14<sup>TH</sup> Street  
Des Moines, IA 50313  
+1 515 289 2746

**AG EXPRESS**  
ELECTRONICS

106 West Main Street  
Sulphur Springs, IN 47388  
+1 765 533 4809

## CANADIAN REPAIR CENTER

**FARMTRONICS**

380 Henderson Drive  
Regina, SK Canada S4N 5W9  
+1 800 667 8001

# TERMS AND CONDITIONS OF SALE

## TERMS

Our standard terms are net 30 days. Shipments will be billed at the prices in effect at the time of shipment.

All new accounts are required to complete, sign and return a confidential credit application and receive credit approval prior to shipment. This credit application may be obtained from us and faxed to +1 402 944 2402 or emailed to your point-of-contact at ZiegTek.

## CONDITIONS OF SALE

All sales made by ZiegTek are subject to these terms and conditions unless otherwise agreed to in writing by a duly authorized representative of KZCO, Inc. In all cases of conflict between these terms and conditions and the requirements of the purchase order, these terms and conditions shall prevail.

## ORDERING

Orders may be faxed to Customer Service at +1 402 944 2402; or phoned in at +1 800 288 1112 during regular business hours (United States Central Time Zone).

To ensure proper shipment, please order by complete part number and description. All prices are in U.S. dollars, FOB ZiegTek, Greenwood, NE. Standard lead time is two weeks (10 business days).

Returned items will be accepted on a case-by-case basis. If ZiegTek agrees to return stocked items, they will be subject to a 20% restocking fee.

## PRICES

Prices, discounts, quotations and specifications are subject to change without notice and will be applied as in effect at time of shipment.

## SHIPMENTS

All shipments are FOB, ZiegTek, Greenwood, NE, USA. If specified on the order, we will make every attempt to follow the routing requested for shipment if it is available to us. Otherwise, routing is subject to our choice. Collect small package shipments will be charged a \$5.00 handling fee.

## PRODUCT SHORTAGES

All claims for product shortages must be made within seven (7) days after receipt of merchandise. Claims for product shortages must be received at ZiegTek. Please call +1 402 944 2767 or fax your claim to Customer Service at +1 402 944 2402.

## FREIGHT CLAIMS or DAMAGED SHIPMENTS

If any shipment is received in damaged condition, your claim must be filed with the delivering carrier and noted on the freight bill before you accept your merchandise.

## TAXES

Any U. S. Federal, sales, excise or similar tax for which we may be liable on any sale will be charged to and paid by the buyer. Buyer is responsible for furnishing a resale certificate prior to purchase.

# WARRANTY AND RETURNS

## Limited Warranty

ZiegTek will warranty all new actuators sold against defective material and/or workmanship under normal use, maintenance, and service for a period of ONE YEAR after the date of purchase.

This warranty coverage applies only to the original customer and is non-transferrable. This warranty is effective as long as the goods are used for the normal purposes for which they are intended and are used in conformance with industry established engineering, installation, operating, and maintenance specifications, recommendations and instructions.

Any defective part will be repaired or replaced at ZiegTek's discretion, at no charge, providing the customer returns the defective unit to ZiegTek (pre-paid) along with a factory issued Return Authorization Number and briefly describes the problem.

This warranty does not apply to valves to which the actuator is mounted to unless the valve leaks or is otherwise defective when new. This warranty does not apply if the product has been damaged by improper installation, neglect, accident, misuse, or as a result of service or modification by other than an authorized ZiegTek service center.

All costs of removing and re-installing the product are the customer's responsibility. ZiegTek will not pay for shipping charges incurred in sending the defective product from the customer to ZiegTek, but will pay for standard FedEx return shipment.

This warranty is expressly in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on the part of ZiegTek. In no event shall ZiegTek be liable for any direct, incidental, or consequential damages of any nature, or losses or expenses resulting from any defective product or the use of any product.

The repair or replacement of a product is the customer's exclusive remedy. By its acceptance of the goods, customer hereby specifically and expressly waives all other liability or obligation of any kind or character of company, including

without limitation liability predicated upon strict liability or tort, and all damages and losses as a result thereof, including but not limited to all known, unknown, foreseeable, unforeseeable, absolute, contingent, liquidated, non-liquidated, compensatory, general, special, consequential, incidental, or punitive damages, and with respect to the goods, their return, repair, restoration and replacement. With respect to such waiver, customer hereby waives all statutory, common law rights, defenses and limitations which would seek to limit application of the above general release.

This warranty gives the customer specific legal rights, and the customer may also have other legal rights which vary from country to country.

**New product or product less than one year old returned for warranty consideration must be accompanied by a Return Authorization Number available only from ZiegTek. To obtain an authorization number, phone: +1 402 944 2767.**

## ENVIRONMENTAL REGULATIONS

Product sent to ZiegTek or to any of ZiegTek's Authorized Repair Centers for repair must be thoroughly cleaned, decontaminated, and dried per OSHA Regulations. Product received that has not been decontaminated will not be returned. MDS and Decontamination Statement are required. To receive a copy of this form, call +1 402 944 2767.

## Non-Warranty Repairs

**Product needing repair that is over one year old or that does not meet the terms of our Limited Warranty should be returned to a ZiegTek Authorized Repair Center. ZiegTek Authorized Repair Centers are listed on page 142.**

When returning product, please include company name, contact person, address, telephone number and a short description of the problem you are having. MSDS must be included for all chemicals in contact with the equipment.