



CUSTOMIZED FLUID MANAGEMENT SOLUTIONS
TO MEET YOUR UNIQUE CHALLENGES



'22
PRODUCT CATALOG #31

**WATERPROOF MOTORIZED VALVES
MANUAL VALVES | MANIFOLDS
ACCESSORIES | CONTROLLERS**

**CUSTOMIZED
FLUID
MANAGEMENT
SOLUTIONS**





Fluid management is a key component of your equipment. You need it to work as specified and hassle-free. At **KZValve** we realize there are many other pieces to your system which require your attention. Leave the fluid management design, manufacturing and multi-component assembly to us so you can focus on the many projects on your desk.

Custom Manufacturing

At **KZValve** we take time to understand your needs for your specific project. You won’t find our full offering in a catalog. We design most products for our OEM customers specifically to suit their exact needs.

Engineering Design Services

When you work with **KZValve** you are assigned a lead Engineer and have access to a full team of design, mechanical and electrical engineers to provide your solution.

Professional Account Management

Each major OEM is assigned an experienced account manager to handle every detail of your project and your account.

Test & Validation

Each component of every system manufactured at **KZValve** is tested and validated before it is shipped ready to install. This information is documented and archived electronically.

Shipping & Packaging

Paying attention to small details doesn’t stop after your order is placed. We take shipping and packaging very seriously. Packaging in efficient quantities and quick fulfillment of your order to meet the demands of your schedule is exactly what you will get.

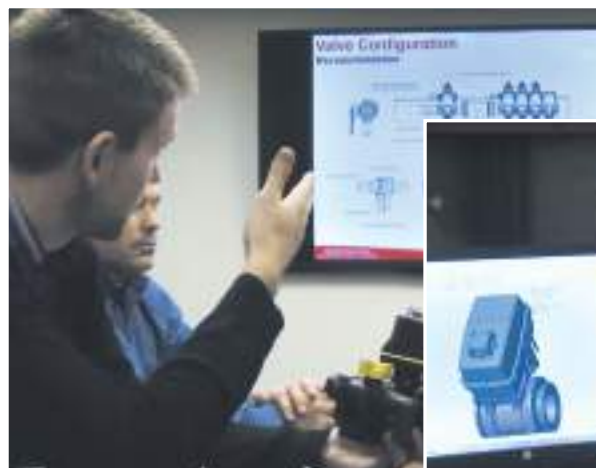
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DESIGN SERVICES

Built, tested, validated, packaged and shipped to meet the demands of the largest OEMs.

- KZValve has designed and manufactured quality motorized valves for over 40 years
- Our engineering and development team has designed numerous custom products for use



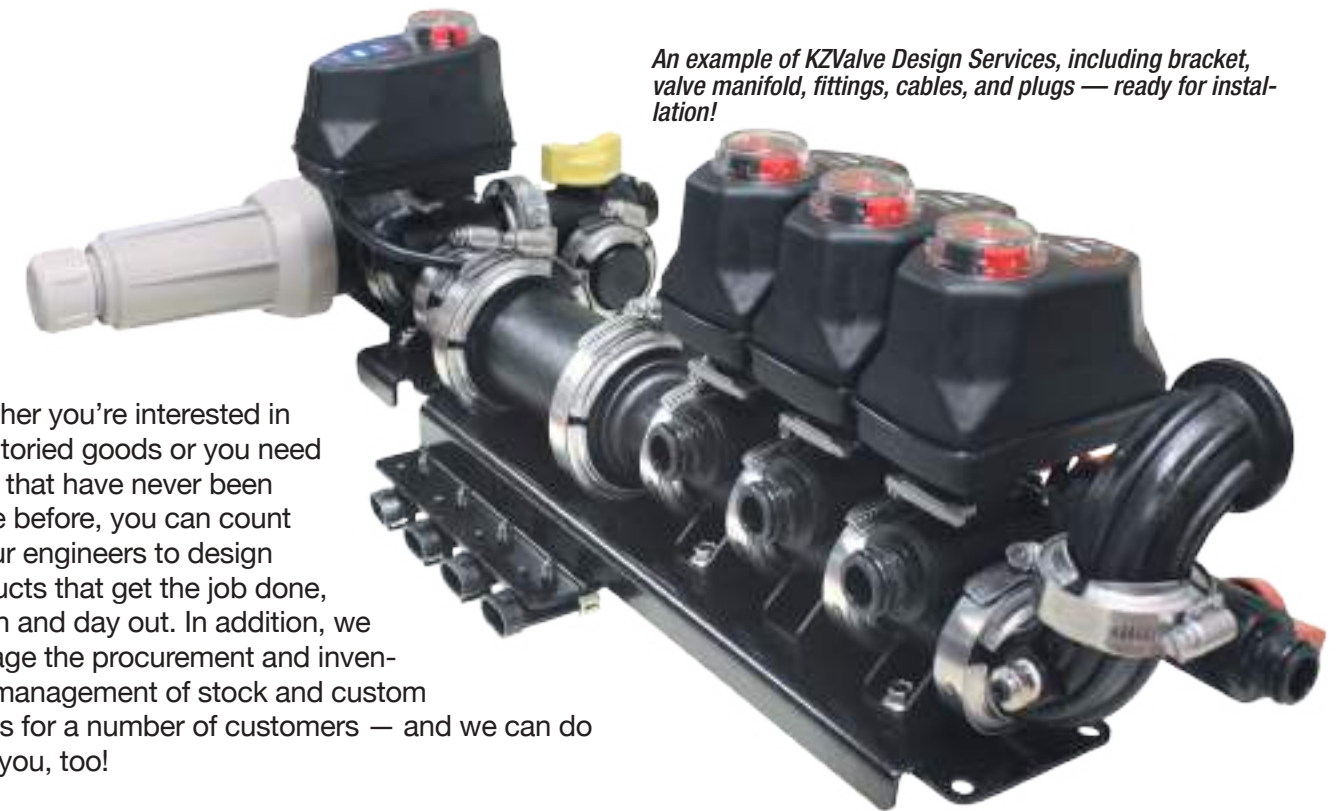
in a wide range of applications and industries:

- Our experienced procurement department will source and inventory parts for your custom assembly
- Production teams are skilled in assembling custom OEM equipment
- We provide custom packaging solutions for unique assemblies
- Every assembly is leak and function tested and validated

KEY CAPABILITIES

- Engineering design and development
- Professional account management
- Sourcing
- Assembly
- Custom packaging
- Testing and validation

Engineering and Consulting



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

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:

- Custom chemical injection assemblies for the fracking and concrete industries
- 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

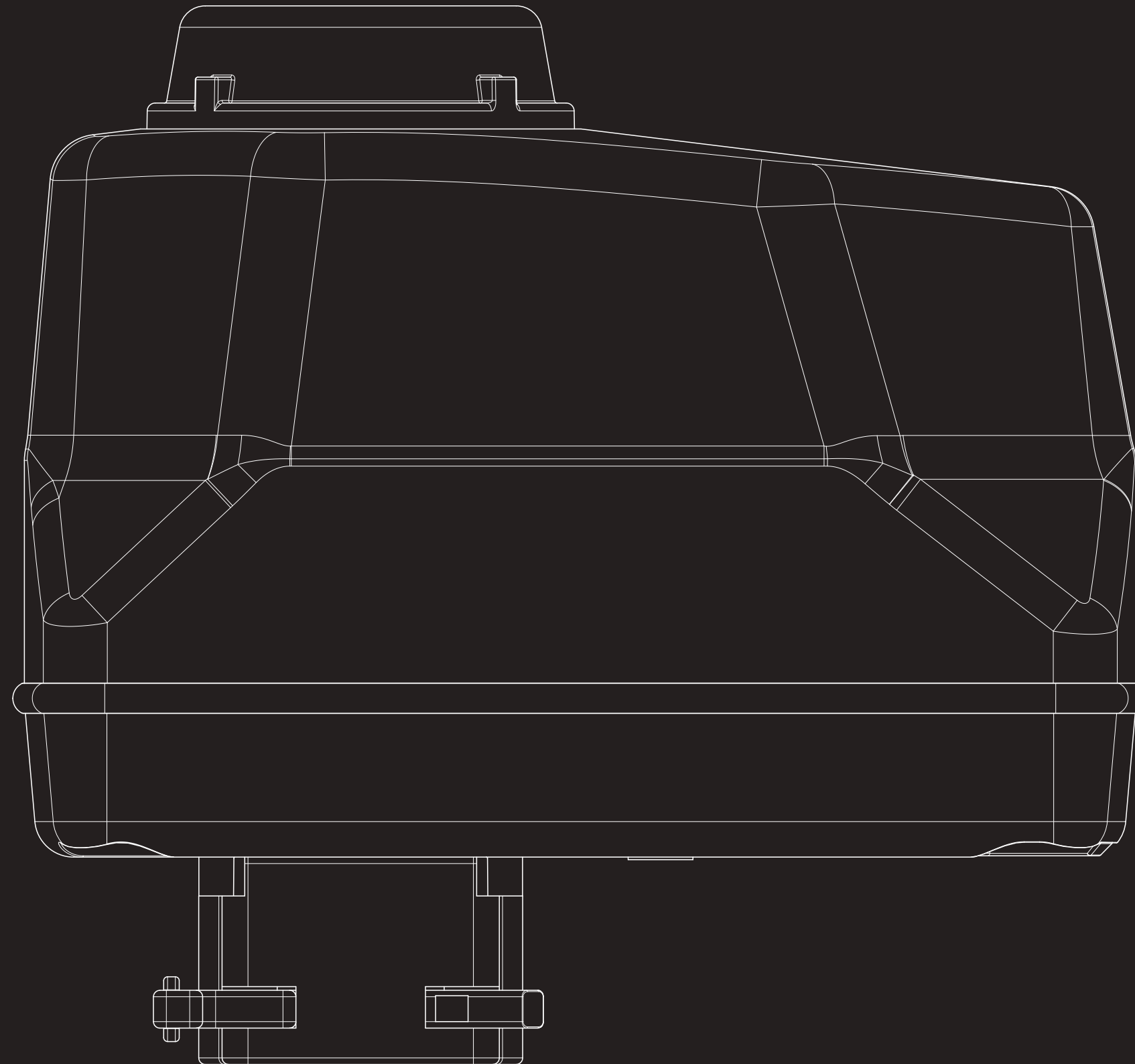
At KZValve, we provide turnkey production for more and more of North America's largest companies who benefit from our invention attitude: actuator, valve kits, manifold sections, flange fittings, hose barbs, and custom wiring harnesses — we do it all.

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

KZValve actuator housings are waterproof (rated NEMA 6P and meet the IP68 rating of the ISO 20653 Standard) and ignition-proof (rated NEMA 7D and meet USCG Electrical System Standards).

ACTUATORS

Pages 7-10



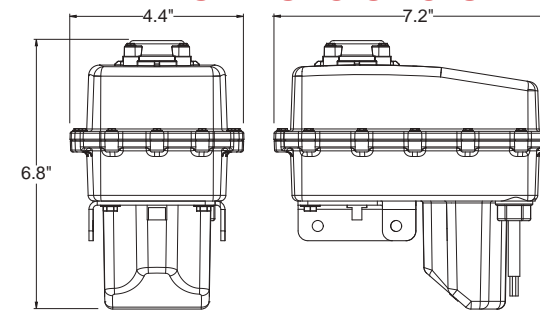
WHY CHOOSE *KZValve* Electric Motorized Valves?

KZValve 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 *KZValve* actuated valves for their products.

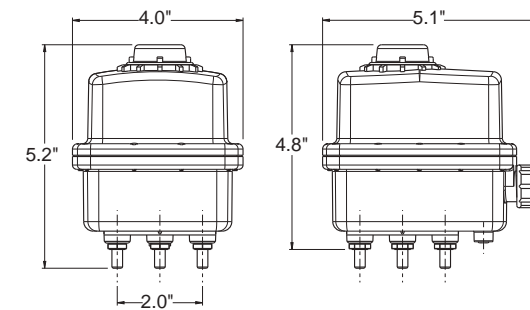
- **Waterproof actuator housings rated NEMA 6P or NEMA 7D** to protect internal components from corrosion and extends actuator life
- **One-year Limited Warranty** We believe a solid warranty package allows you to purchase *KZValve* products with confidence, and it confirms the quality, reliability and 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/ISO BUS control** of individual electric valves giving you flexible and reliable valve control
- **Custom products** *KZValve* 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.



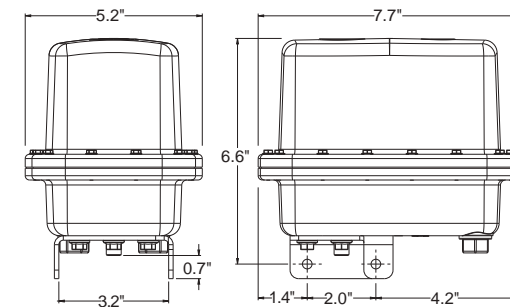
EH2 SERIES ACTUATORS



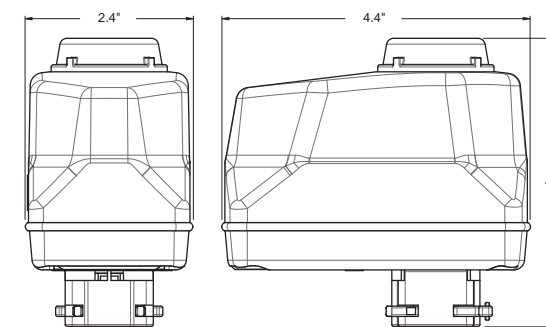
EH3 SERIES ACTUATORS



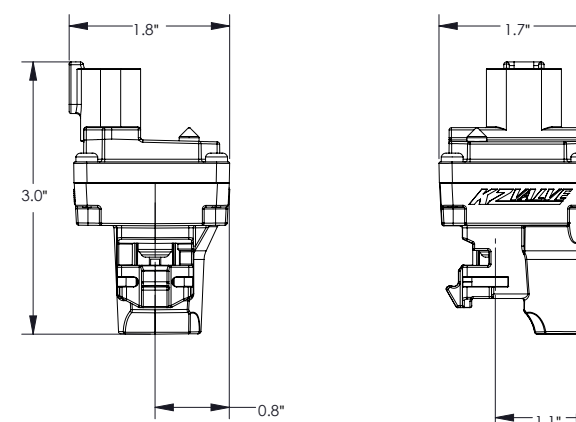
EH5 SERIES ACTUATORS



EH7 SERIES ACTUATORS



EH8 SERIES ACTUATORS



90° Cycle Time in Seconds (no load)

- **EH2 Series Actuators**
 - 0.5 seconds
 - 1.5 seconds
 - 8.0 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 Actuator**
 - 3.0 seconds
- **EH7 Series Actuators**
 - 0.5 seconds
 - 7.0 seconds
- **EH8 Series Actuator**
 - 0.2 seconds

Waterproof Connectors

- Deutsch
- WeatherPak
- Amp Seal
- Metri-Pak
- M12

Actuator Case Options

- Indicator flag (standard)
- No indicator flag

Other Options

- 180° operation
- 225°/255° operation (regulating v-ball application)
- Manual override equipped
- Valve normally closed (standard)
- Valve normally open

See actuator technical data for more options or information on pg. 87-98

EH SERIES

Electric Actuator Options

Electronic Control Types

- Negative signal to open (12/24 VDC)
 - 3-wire on/off
 - 4-wire positionable PWM speed control
- Positive signal to open (12/24 VDC & 24 VAC)
 - 3-wire on/off
 - 4-wire positionable PWM speed control
- 4 - 20 mA proportional positioning (12/24 VDC & 24 VAC)
- 0 - 5v proportional positioning (12/24 VDC & 24 VAC)
- 0 - 10v proportional positioning (12/24 VDC & 24 VAC)
- Reversing polarity (two wires)
- CAN/ISO BUS

Position Feedback Options

- Negative @ open and/or closed limits (system voltage DC)
- Positive @ open and/or closed limits (system voltage DC)
- Dry-contacts (NO and COM) @ open and/or closed fused to 0.5 amp
- Dry pot, 5K Ω 0.1 Amp resistive load
- CAN/ISO BUS

Operating Voltage

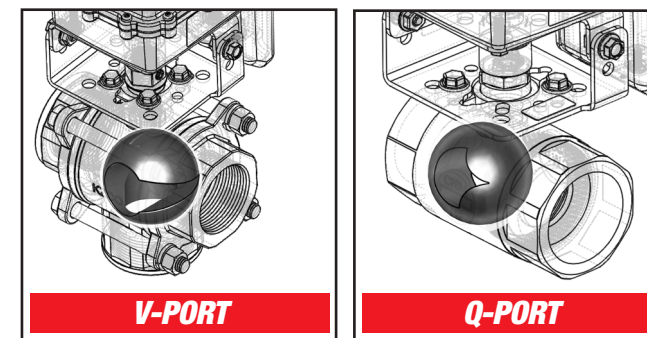
- 12 VDC
- 24 VDC
- 12/24 VDC
- 24 VAC and 12/24 VDC



*See Actuator Technical Data Section for additional details.

CAN/ISO BUS ACTUATORS

- Designed to mount directly to a *KZValve* 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 ISO 11783 networks
- Available in the *KZValve* EH2, EH3, EH5, EH7, and EH8 series actuators
- Multiple operating modes to fit your needs:
 - Control of precision increments of 1% or 1°
 - Basic open/close commands
- Customize speed in application
- Advanced diagnostics capability allows for quick Voltage and Diagnostic trouble codes that alert issues in real 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

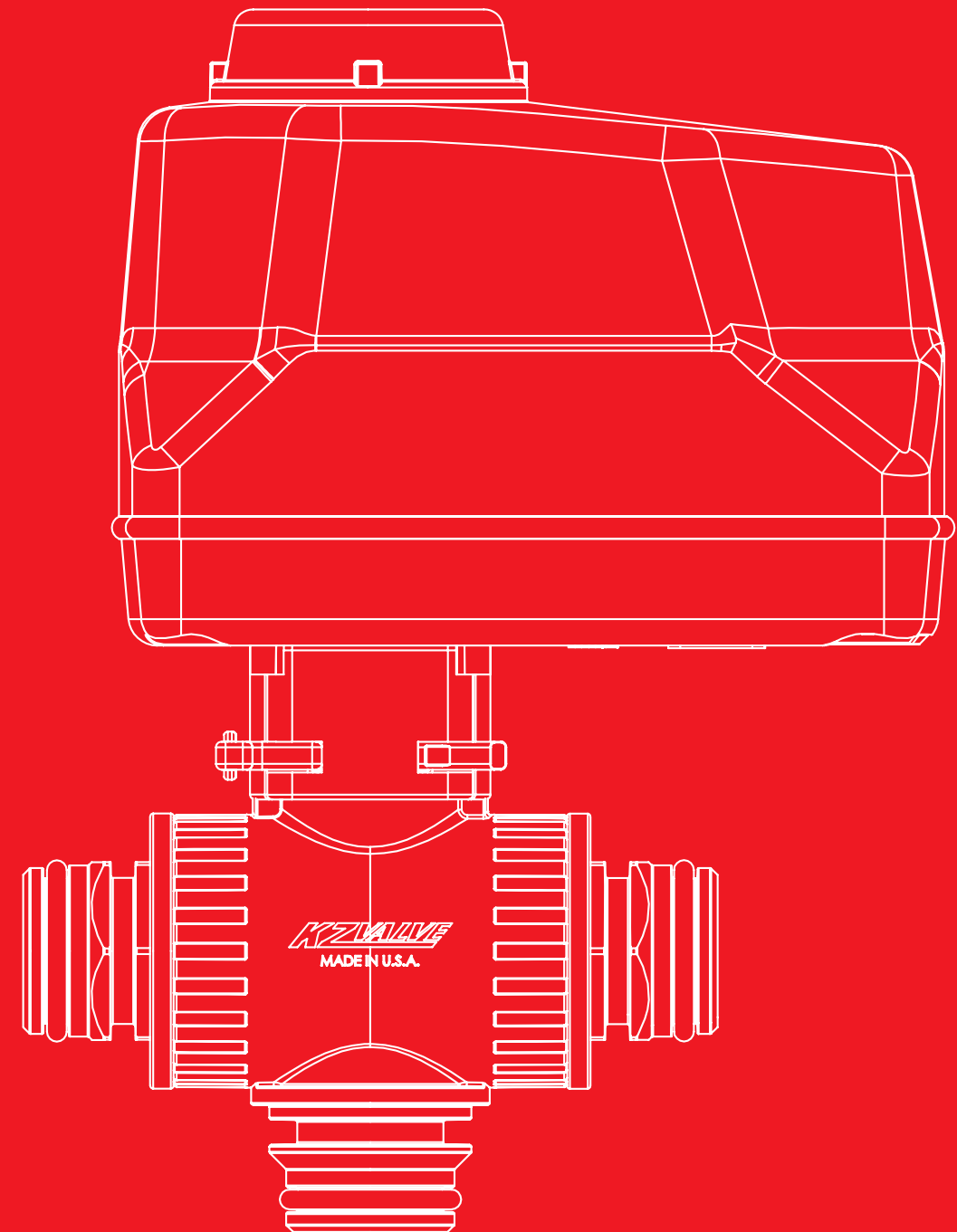
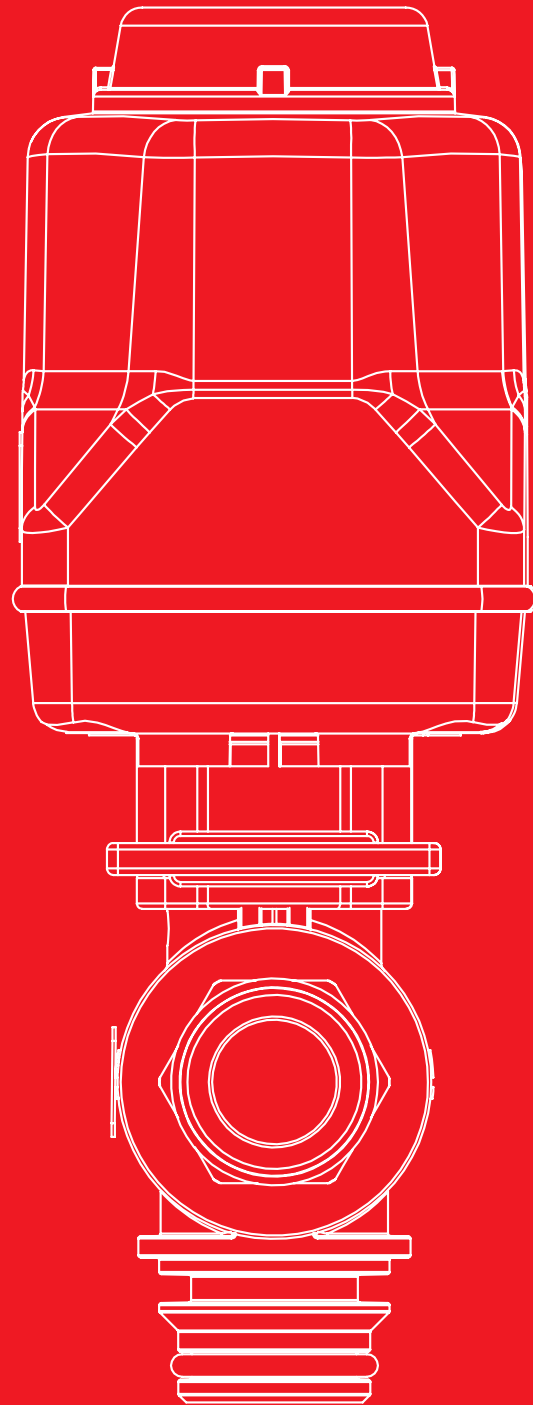


Combine with Q-Port or V-Ball for precision flow management.



VALVES

Pages 13-64



ZIPValve

2 & 3-Way Ball Valve

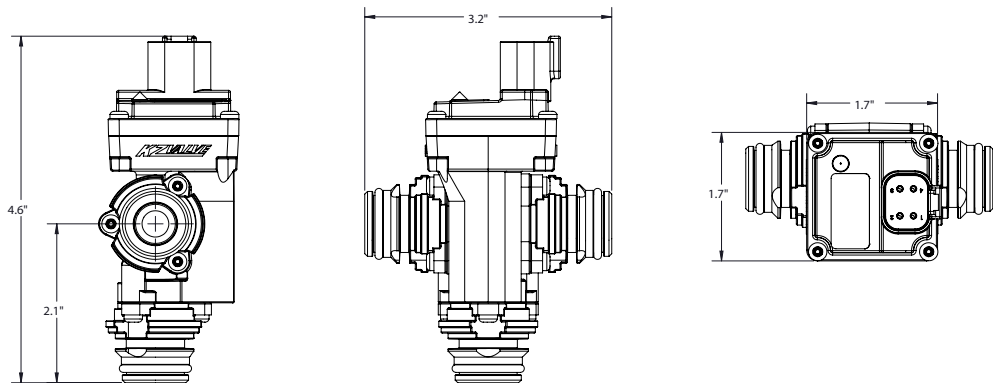
- Fast acting On/Off control with a standard port ball valve for unparalleled reliability and peace of mind
- Valve seat: Carbon graphite filled PTFE with Viton back-up O-rings
- Stem seal: Viton™
- Compact design weighing only 4-6 ounces, which allows for more options when mounting
- Robust, quarter-turn electric ball valves are highly reliable in the most demanding fluid control applications

3-way Motorized Ball Valves

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

- Max PSI: 150 psi at 70°F (push-to-connect & QD), 300 psi at 70°F (MNPT fittings)
- Flow: 1/4" = 0.4 - 0.8 GPM at 1 PSI drop, water 3/8" = 1.0 - 3.1 GPM at 1 PSI drop, water
- Cycle Time: 0.4 second cycle time at 180°
- Voltage: 12 VDC or 24 VDC
- 0.4 Amp current draw

1/4" Part #	M12 Lid Receptacle (12 VDC or 24 VDC)
NM4B28-1CEBS-R0V	1/4" Male NPT fittings, M12 lid connectors, 12/24 VDC, EH8, On/On
NN4B28-1CEBS-R0V	1/4" push-to-connect fittings, M12 lid connectors, 12/24 VDC, EH8, On/On
NP4B28-1CEBS-R0V	3/8" push-to-connect fittings, M12 lid connectors, 12/24 VDC, EH8, On/On
Deutsch DT Series (12 VDC or 24 VDC)	
NM4B28-1CEBS-D0V	1/4" Male NPT fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/On
NN4B28-1CEBS-D0V	1/4" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/On
NP4B28-1CEBS-D0V	3/8" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/On
3/8" Part #	Deutsch DT Series (12 VDC or 24 VDC)
NA4C28-1CEBS-D0V	QD fork connection fittings*, Deutsch lid receptacle, 24 VDC, EH8, On/On
NP4C28-1CEBS-D0V	3/8" push-to-connect, Deutsch lid receptacle, 12/24 VDC, EH8, On/On
NQ4C28-1CEBS-D0V	1/2" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/On
M12 Lid Receptacle (12 VDC or 24 VDC)	
NA4C28-1CEBS-R0V	QD fork connection fittings*, M12 Lid connectors, 12/24 VDC, EH8, On/On
NP4C28-1CEBS-R0V	3/8" push-to-connect, M12 Lid connectors, 12/24 VDC, EH8, On/On
NQ4C28-1CEBS-R0V	1/2" push-to-connect, M12 Lid, 12/24 VDC connectors, EH8, On/On



2-way Motorized Ball Valves

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

- Max PSI: 150 psi at 70°F (push-to-connect & QD), 300 psi at 70°F (MNPT fittings)
- Flow: 1/4" = 1.4 GPM at 1 PSI drop, water 3/8" = 1.4 - 5.0 GPM at 1 PSI drop, water
- Cycle Time: 0.2 second cycle time at 90°
- Voltage: 12/24 VDC
- 0.4 Amp current draw

1/4" Part #	M12 Lid Receptacle (12 VDC or 24 VDC)
NM2B28-1CEBS-R01	1/4" Male NPT fittings, M12 lid connectors, 12/24 VDC, EH8, On/Off
NN2B28-1CEBS-R01	1/4" push-to-connect fittings, M12 lid connectors, 12/24 VDC, EH8, On/Off
NP2B28-1CEBS-R01	3/8" push-to-connect fittings, M12 lid connectors, 12/24 VDC, EH8, On/Off
Deutsch DT Series (12 VDC or 24 VDC)	
NM2B28-1CEBS-D01	1/4" Male NPT fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/Off
NN2B28-1CEBS-D01	1/4" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/Off
NP2B28-1CEBS-D01	3/8" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/Off

3/8" Part #	Deutsch DT Series (12 VDC or 24 VDC)
NA2C28-1CEBS-D01	QD fork connection fittings*, Deutsch lid receptacle, 12/24 VDC, EH8, On/Off
NP2C28-1CEBS-D01	3/8" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/Off
NQ2C28-1CEBS-D01	1/2" push-to-connect fittings, Deutsch lid receptacle, 12/24 VDC, EH8, On/Off

M12 Lid Receptacle (12 VDC or 24 VDC)	
NA2C28-1CEBS-R01	QD fork connection fittings*, M12 Lid connectors, 12/24 VDC, EH8, On/Off
NP2C28-1CEBS-R01	3/8" push-to-connect, M12 Lid, 12/24 VDC, EH8, On/off
NQ2C28-1CEBS-R01	1/2" push-to-connect, M12 Lid, 12/24 VDC connectors, EH8, On/off

Please consult your Distributor/Key Account Manager for additional options.
*QD fittings on pages 75-76.

1/4" MAXIMUM DIMENSIONS



3/8" MAXIMUM DIMENSIONS



Optional Mounting Brackets for ZIPValve

BASE BRACKET

(OPTIONS AVAILABLE FOR 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 3/8" deep
- Do not use a fastener that is longer than the mounting surface thickness plus 3/8"

END-CAP BRACKET

(OPTIONS AVAILABLE FOR 1/4" AND 3/8")
KIT PART # 511-0155 (1/4" valves)
511-0159 (3/8" valves QD)
511-0160 (3/8" valves PTC)
INCLUDES TWO BRACKETS

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

NYLON BRACKET

(FITS 3/8" ONLY)
Kit Part # 511-0156
INCLUDES BRACKETS AND HARDWARE

- Nylon bracket with M6 stainless steel threaded inserts
- Connects to the 3/8" 2-way ball valve with three stainless steel screws
- Threaded inserts accept M6 x 1.0 bolt
- M6 stainless steel insert has .05" (12.7 mm) usable threads

TX2 SERIES

2-Way Motorized Ball Valve

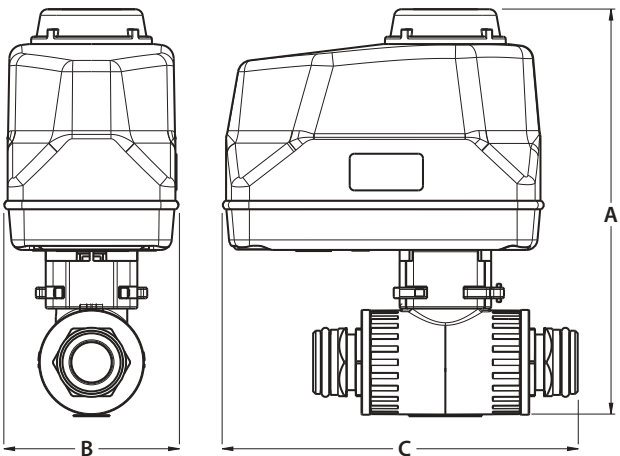
- 1/2" full port 2-Way motorized valve
- Valve body: Polypropylene, glass-filled
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Carbon graphite filled PTFE with EPDM back-up O-rings
- Stem seal: Viton™
- Compact design weighing only 19 ounces, which allows for more options when 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 KZ Valve 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 IEC 60529 & ISO 20653 standard degree of protection provided by enclosures against water intrusion
- Available in various cycle times to meet specific needs of multiple applications



2-Way Motorized Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12 VDC actuator
1/2" valve maximum PSI: 150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	A	B	C
H2D37-10DK0-P01	1/2"	On/Off	5.5"	2.4"	4.8"

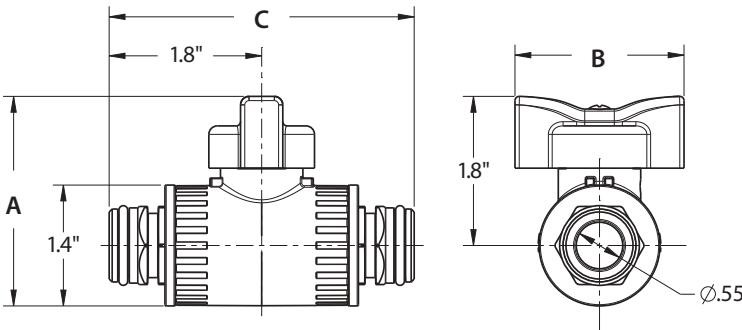


*QD x QD valve	*QD x M100 flange	M100 flange x M100 flange	PTC x PTC valve
Part #H2D37-10DK0-P01	Part #G2D37-10DK0-P01	Part #C2D37-10DK0-P01	Part #Q2D37-10DK0-P01
*QD fittings on pages 77-78			

2-Way Manual Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem
1/2" valve maximum PSI: 150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	A	B	C
H2DM0	1/2"	On/Off	2.5"	2.0"	3.6"



QD x QD valve	QD x M100 flange	M100 flange x M100 flange	PTC x PTC valve	Optional Mounting Bracket
Part #H2DM0	Part #G2DM0	Part #C2DM0	Part #Q2DM0	Kit # 511-0006

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

TX2 SERIES

3-Way Motorized Ball Valve

- 1/2" full port 3-Way motorized valve
- Valve body: Polypropylene, glass-filled
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Carbon graphite filled PTFE with EPDM back-up O-rings
- Stem seal: Viton™
- Compact design weighing only 19 ounces, 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 **KZValve 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 IEO 60529 & ISO 20653 standard degree of protection provided by enclosures against water intrusion
- Available in various cycle times to meet specific needs of multiple applications



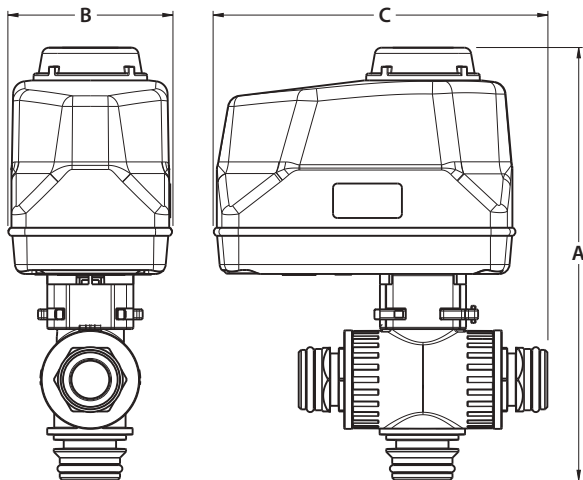
Also available as 1/2" 3-Way full port manual valves. Single valve weighs only 4 ounces.



3-Way Motorized Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12 VDC actuator
1/2" valve maximum PSI: 150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	A	B	C
H7D37-10DK0-P31	1/2"	On/On	6.4"	2.4"	4.8"



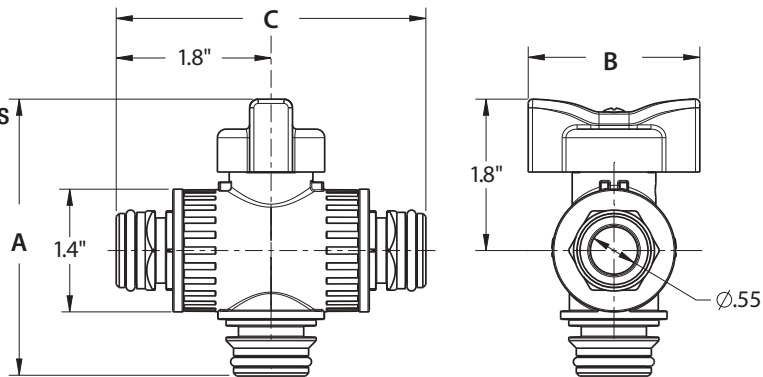
*QD x QD valve	*QD x M100 flange	M100 flange x M100 flange	Optional Mounting Bracket
Part #H7D37-10DK0-P31	Part #G7D37-10DK0-P31	Part #C7D37-10DK0-P31	Kit # 511-0006

*QD fittings on pages 77-78

3-Way Manual Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem
1/2" valve maximum PSI: 150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	A	B	C
H7DM0	1/2"	On/On	3.2"	2.0"	3.6"



QD x QD valve	QD x M100 flange	M100 flange x M100 flange
Part #H7DM0	Part #G7DM0	Part #C7DM0

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

TX2 MANIFOLD SERIES

Motorized 2-Way • 3-Way • Metered Bypass

- ½" full port 3-Way valve manifold
- Valve body: Polypropylene, glass-filled
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Carbon graphite filled PTFE with EPDM back-up O-rings
- Stem seal: Viton™
- Valve and Electric Actuator weigh 20 ounces, 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



Also available as ½" 2-Way, 3-Way and metered bypass full port manual valves. Single valve weighs only 6 ounces.

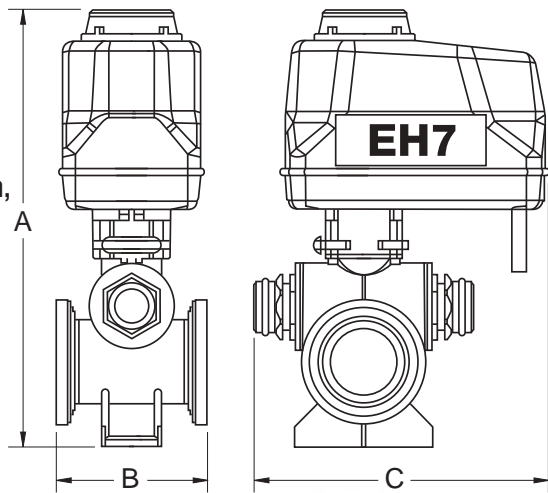


½" Polypropylene 2-Way, 3-Way and Metered Bypass Ball Valves Single Valves, Manifolds

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12 VDC actuator.

½" valve maximum PSI:150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	Cycle Time	A	B	C
21CA7-10DK0-P31	½"	On/On	0.5 sec.	7.3"	2.5"	4.8"



21CA7-10DK0-P31



2-Way valve



3-Way valve



Metered bypass valve

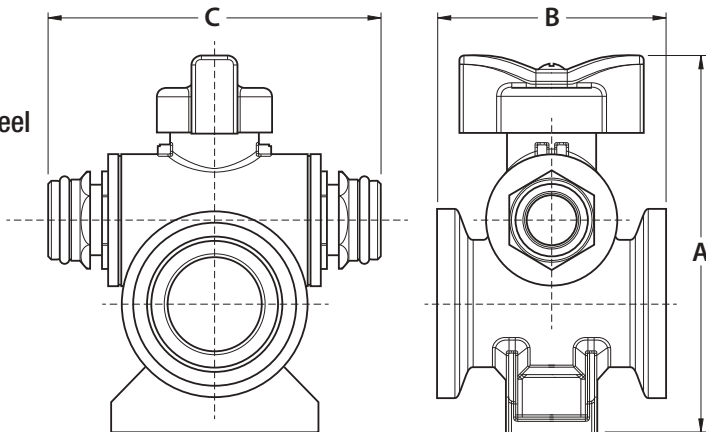
*QD fittings on pages 77-78

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

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

½" valve maximum PSI: 150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	A	B	C
21CA7M	½"	On/On	4.1"	2.5"	3.6"
21CA6M	½"	V-ball regulating	4.1"	2.5"	3.6"



QD connect

Part #21CA7M



2-Way valve



3-Way valve



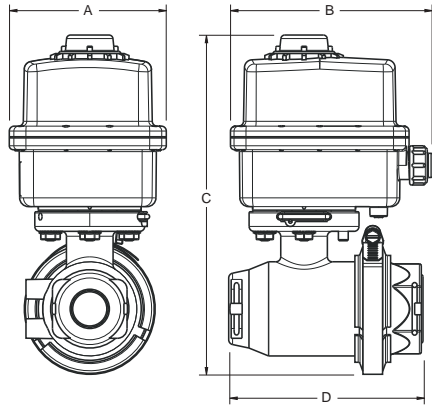
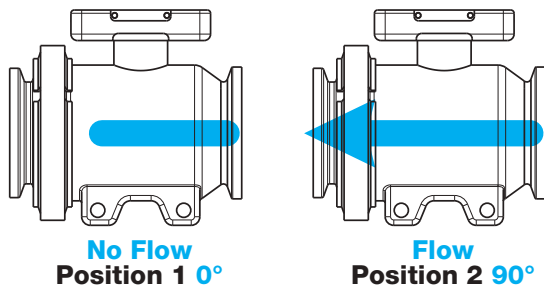
Metered bypass valve

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

QX SERIES

2-Way Motorized Ball Valves

- 3/4" to 1 1/2" full port 2-Way ball valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT
- Quick hairpin outlet and flanged outlets also available
- 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
- EH3 Electric Actuator housing meets the IP68 rating of IEC 60529 & ISO 20653 standard degree of protection provided by enclosures against water intrusion

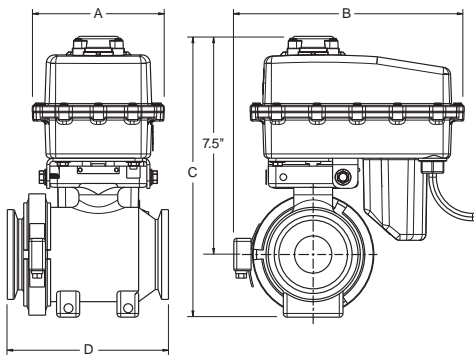


3/4" and 1" Polypropylene and Nylon 2-Way Ball Valves

Full port, stainless steel ball, FNPT, 12 VDC actuator.
Maximum PSI: 150 psi at 70° F (polypropylene), 300 psi at 70° (nylon)

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F2E33-10D20-P01	3/4"	On/Off	0.8 sec.	51	4.0"	5.1"	8.6"	5.0"
F2E33-20DP0-P01	3/4"	Positionable	2.5 sec.	51	4.0"	5.1"	8.6"	5.0"
F2E33-20DQ0-P01	3/4"	Positionable	7.0 sec.	51	4.0"	5.1"	8.6"	5.0"
F2F33-10D20-P01	1"	On/Off	0.8 sec.	68	4.0"	5.1"	8.6"	5.0"
F2F33-20DP0-P01	1"	Positionable	2.5 sec.	68	4.0"	5.1"	8.6"	5.0"
F2F33-20DQ0-P01	1"	Positionable	7.0 sec.	68	4.0"	5.1"	8.6"	5.0"

* GPM at 1 PSI drop, water



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

Full port, stainless steel ball, FNPT, 12 VDC actuator.
Maximum PSI: 125 psi at 70° F (polypropylene), 200 psi at 70° (nylon)

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F2G22-10DY0-PF1	1 1/4"	On/Off	1.5 sec.	120	4.4"	7.7"	9.4"	5.4"
F2G22-20DW0-PF1	1 1/4"	Positionable	3.0 sec.	120	4.4"	7.7"	9.4"	5.4"
F2G22-20DU0-PF1	1 1/4"	Positionable	8.0 sec.	120	4.4"	7.7"	9.4"	5.4"
F2H22-10DY0-PF1	1 1/2"	On/Off	1.5 sec.	170	4.4"	7.7"	9.4"	5.4"
F2H22-20DW0-PF1	1 1/2"	Positionable	3.0 sec.	170	4.4"	7.7"	9.4"	5.4"
F2H22-20DU0-PF1	1 1/2"	Positionable	8.0 sec.	170	4.4"	7.7"	9.4"	5.4"

NYLON AND FLANGED OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

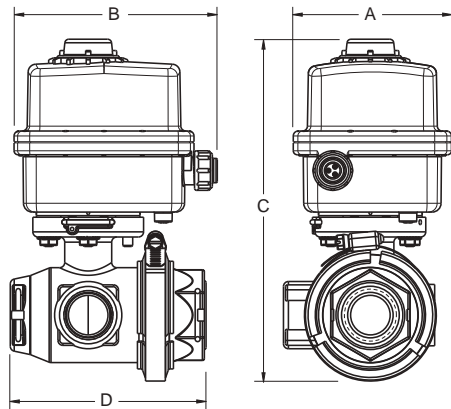
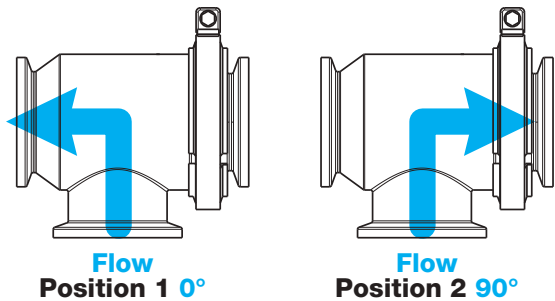
* GPM at 1 PSI drop, water

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

QX SERIES

3-Way, Side Load Diverter Ball Valves

- 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 with EPDM back-up O-rings
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT
- Quick hairpin outlet available on 1" valve
- 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
- EH3 Electric Actuator housing meets the IP68 rating of IEC 60529 & ISO 20653 standard degree of protection provided by enclosures against water intrusion

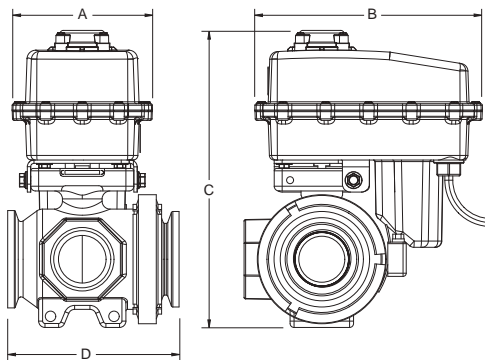


3/4" and 1" Polypropylene and Nylon 3-Way Side Load, Diverter Ball Valves

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12 VDC actuator.
Maximum PSI: 150 psi at 70° F (polypropylene), 300 psi at 70° (nylon)

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F3E23-10D20-P31	3/4"	On/Off	0.8 sec.	15	4.0"	5.1"	8.6"	5.0"
F3F23-10D20-P31	1"	On/Off	0.8 sec.	25	4.0"	5.1"	8.6"	5.0"

* GPM at 1 PSI drop, water



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 VDC actuator.
Maximum PSI: 125 psi at 70° F (polypropylene), 200 psi at 70° (nylon)

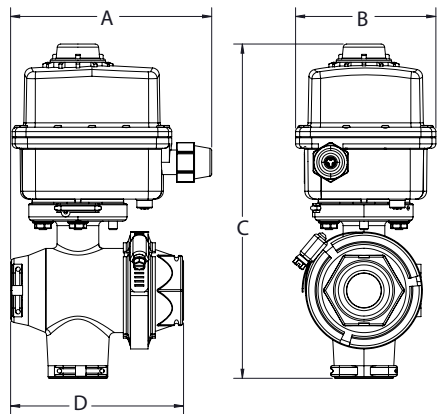
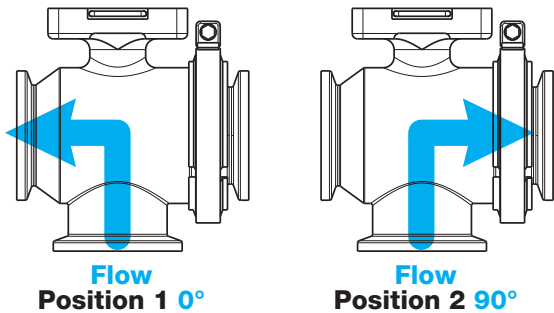
KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F3H22-10DY0-P31	1 1/2"	On/Off	1.5 sec.	47	4.3"	7.1"	9.2"	5.4"

NYLON OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.
* GPM at 1 PSI drop, water
Please consult your Distributor/Key Account Manager for additional options.

QX SERIES

3-Way, Bottom Load Diverter Ball Valves

- 1" and 1½" full port valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT outlet
- 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" and 1½" Polypropylene and Nylon 3-Way Bottom Load, Diverter Ball Valves

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12 VDC actuator. Maximum PSI: 125 psi at 70° F (polypropylene), 200 psi at 70° (nylon)

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F7F33-10D20-P31	1"	On/Off	0.8 sec.	25	5.7"	4.0"	9.5"	4.9"
F7H22-10DY0-P31	1½"	On/Off	1.5 sec.	47	4.3"	7.1"	9.8"	5.4"

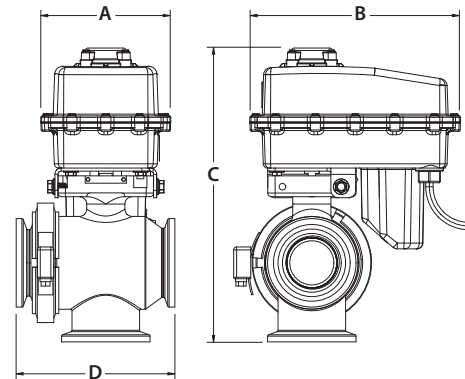
* GPM at 1 PSI drop, water

1" and 1½" Polypropylene and Nylon 3-Way Bottom Load, Selector Ball Valves

Full port, stainless steel ball, FNPT, on-on selector ball valve, 12 volt DC actuator. Maximum PSI: 100 psi at 70° F (polypropylene), 150 psi at 70° (nylon)

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F4F33-10D20-P0V	1"	On/Off	0.8 sec.	25	5.7"	4.0"	9.5"	4.9"
F4H22-10DY0-P31	1½"	On/Off	1.5 sec.	47	4.3"	7.1"	12.6"	6.3"

* GPM at 1 PSI drop, water



1" and 1½" Polypropylene and Nylon 3-Way Bottom Load, V-Ball Valves

Full port, stainless steel ball, FNPT, on-on V-ball valve, 12 volt DC actuator. Maximum PSI: 100 psi at 70° F (polypropylene), 150 psi at 70° (nylon)

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F6F33-20D20-P0L	1"	Positionable	2.0 sec.	25	5.7"	4.0"	9.5"	4.9"
F6H22-20DY0-PFL	1½"	Positionable	3.8 sec.	47	4.3"	7.1"	12.6"	6.3"

NYLON AND FLANGED OPTIONS OF VALVES ABOVE MAY BE AVAILABLE UPON REQUEST.

* GPM at 1 PSI drop, water

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

QX SERIES

Polypropylene 3-Section, 1-Piece Ball Valve Manifold

- 1" full port valves
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve/manifold body: Polypropylene
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with quick hairpin fittings, FNPT or flange outlet
- 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

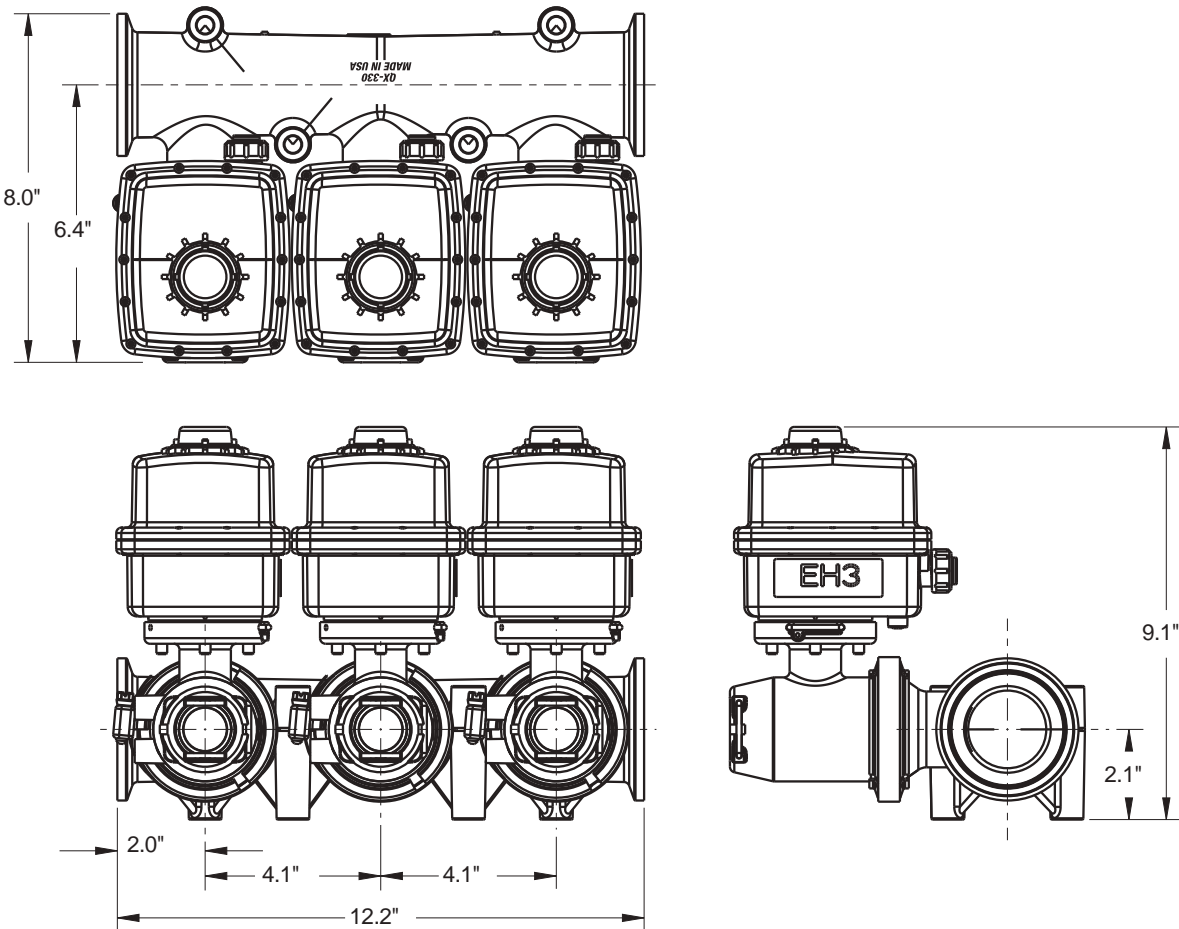


1" Polypropylene 3-Section, 1-Piece, Ball Valve Manifold

2-way, full port, stainless steel ball, FNPT, ball valve manifold, 12 VDC actuator.
Maximum PSI: 150 psi at 70° F (polypropylene)

KZValve StandardPart#	Size	Valves	Control	Cycle Time
403-320-10D20-P01	1"	3	On/Off	0.8 sec.

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



QX SERIES

2-Way, Full Port Modular Valve Manifold

- 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 with EPDM back-up O-rings
- Stem seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with quick hairpin fittings, FNPT or flange outlet
- 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



Mounting Bracket Accessories



QX-100



QX-111



QX-112



EHPT-196

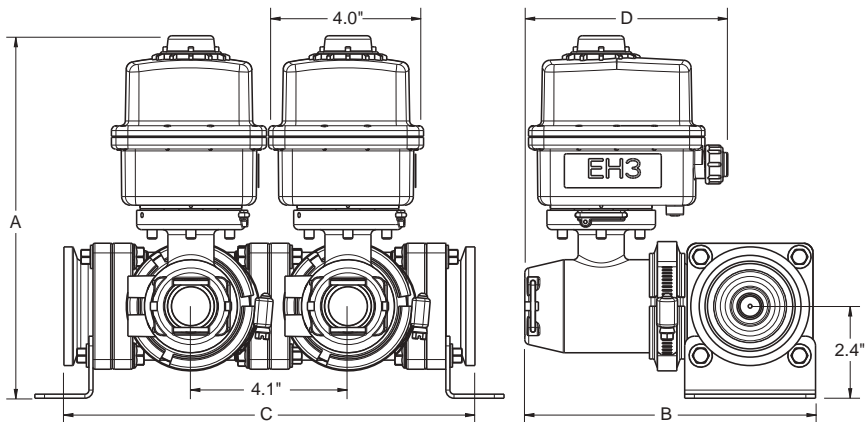
1" Polypropylene Modular Ball Valve Manifold

2-way, full port, stainless steel ball, FNPT, ball valve manifold, 12 VDC actuator.
Maximum PSI: 150 psi at 70° F (polypropylene)

NOTE: Add 4.3 lbs. per each additional section • Add 4.1" per each additional section

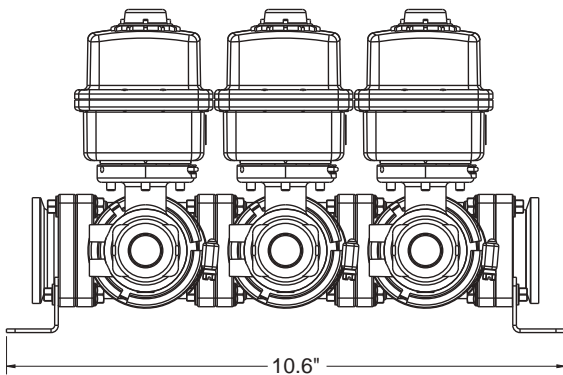
KZ Valve Standard Part #	Size	Valves	Control	Cycle Time	A	B	C	D
400-1F-10D20-P01	1"	1	On/Off	0.8 sec.	9.4"	7.5"	6.6"	5.2"
400-2F-10D20-P01	1"	2	On/Off	0.8 sec.	9.4"	7.5"	10.6"	5.2"
400-3F-10D20-P01	1"	3	On/Off	0.8 sec.	9.4"	7.5"	14.7"	5.2"
400-4F-10D20-P01	1"	4	On/Off	0.8 sec.	9.4"	7.5"	18.7"	5.2"
400-5F-10D20-P01	1"	5	On/Off	0.8 sec.	9.4"	7.5"	22.8"	5.2"

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



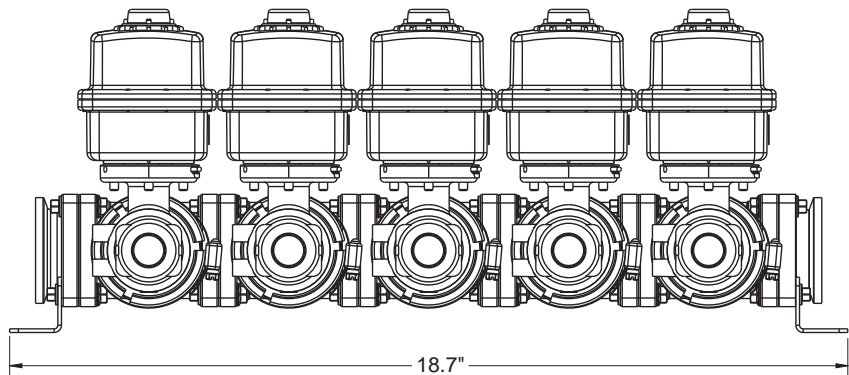
400-3F-10D20-P01

3 section manifold • 1" full port valves



400-5F-10D20-P01

5 section manifold • 1" full port valves



TRU-TORQ SERIES

2-Way Motorized Ball Valves

- Designed to mount directly to a KZ Valve EH Series actuator
- 1½", 2" and 3" full port 2-Way ball valves
- Valve body: Polypropylene, EPDM O-rings
- Ball: Stainless Steel (1½" and 2")
Polypropylene (2" and 3")
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem seal: Dual Viton™ 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

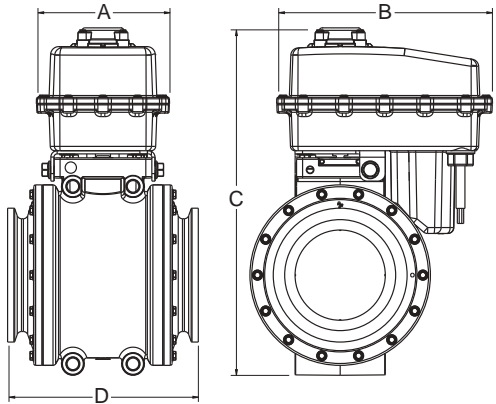


1½" Polypropylene 2-Way Ball Valves **FLANGED**

Full port, **stainless steel ball**, polypropylene valve body, stainless steel valve stem, flange connection, 12 VDC actuator.
• 1½" Valve Maximum PSI: 150 psi at 70° F

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
T2H22-10DY0-PF1	1½"	On/Of	1.5 sec.	170	4.4"	7.2"	9.1"	4.5"
T2H22-20DU0-PF1	1½"	Positionable	8.0 sec.	170	4.4"	7.2"	9.1"	4.5"

* GPM at 1 PSI drop, water



2" and 3" Polypropylene 2-Way Ball Valves **FLANGED**

Full port, **polypropylene ball**, polypropylene valve body, stainless steel valve stem, flange connection, 12 VDC actuator.
• 2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)
• 3" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
M2i22-10DY0-PF1	2"	On/Off	1.5 sec.	370	4.4"	7.2"	9.9"	5.2"
M2i22-20DU0-PF1	2"	Positionable	8.0 sec.	370	4.4"	7.2"	9.9"	5.2"
M2K22-10DW0-PF1	3"	On/Off	3.0 sec.	995	4.4"	7.2"	11.5"	6.3"
M2K22-20DU0-PF1	3"	Positionable	8.0 sec.	995	4.4"	7.2"	11.5"	6.3"

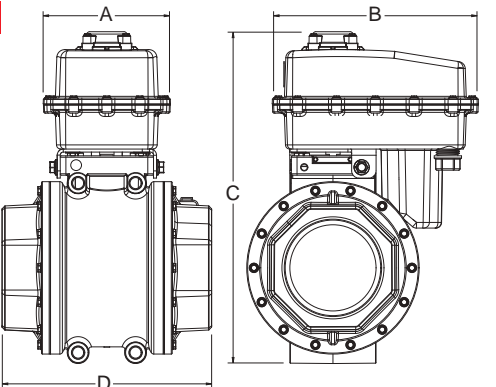
* GPM at 1 PSI drop, water

2" and 3" Polypropylene 2-Way Ball Valves **FNPT**

Full port, **polypropylene ball**, polypropylene valve body, stainless steel valve stem, FNPT connection, 12 VDC actuator.
• 2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)
• 3" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
FM2i22-10DW0-PF1	2"	On/Off	3.0 sec.	370	4.4"	7.2"	9.9"	5.2"
FM2i22-20DU0-PF1	2"	Positionable	8.0 sec.	370	4.4"	7.2"	9.9"	5.2"
FM2K22-10DW0-PF1	3"	On/Off	3.0 sec.	995	4.4"	7.2"	11.5"	7.3"
FM2K22-20DU0-PF1	3"	Positionable	8.0 sec.	995	4.4"	7.2"	11.5"	7.3"

* GPM at 1 PSI drop, water

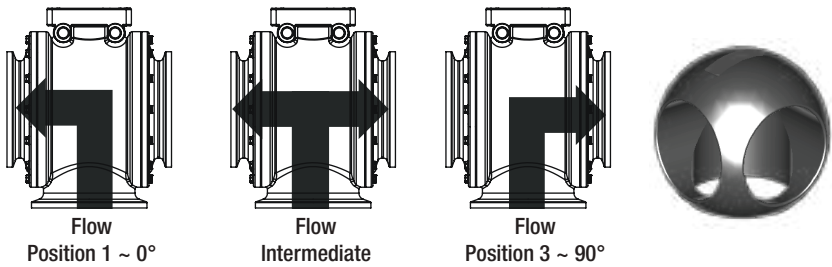


Please consult your Distributor/Key Account Manager for additional options.

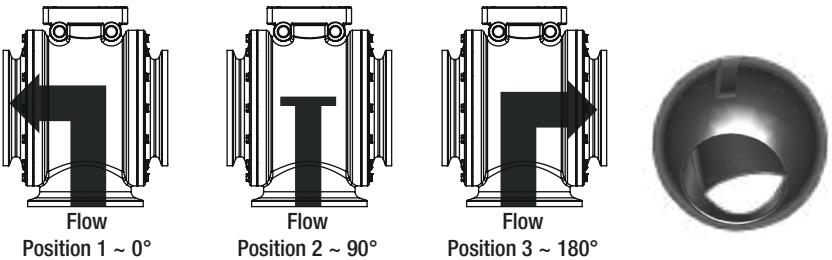
TRU-TORQ SERIES

3-Way Motorized Ball Valves

- Designed to mount directly to a *KZValve* 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 Viton™ 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



3-Way, Bottom-Load Diverter Valves
*On/On *Mixing *3-Port Ball



3-Way, Bottom-Load Selector Valves
*On/Off/On *No-Mixing *L-Port Ball

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 VDC actuator

1½" valve maximum PSI: 100 psi at 70° F (polypropylene)
2" valve maximum PSI: 100 psi at 70° F (polypropylene)
3" valve maximum PSI: 70 psi at 70° F (polypropylene)

Selector 2 Position On/On Valve - No Mixing

Part #	Size	Control	180° Cycle Time	Flow GPM*	FLANGED			
					A	B	C	D
M4H22-10DY0-PFV	1½"	On/On	3.0 sec.	30	7.2"	3.8"	4.5"	9.2"
M4i22-10DW0-PFV	2"	On/On	6.0 sec.	58	7.2"	4.2"	5.2"	9.5"
M4K22-10DW0-PFV	3"	On/On	6.0 sec.	190	8.1"	6.0"	6.3"	12.0"

Part #	Size	Control	180° Cycle Time	Flow GPM*	FNPT			
					A	B	C	D
FM4i22-10DW0-PFV	2"	On/On	6.0 sec.	58	7.2"	4.2"	5.2"	12.6"
FM4K22-10DW0-PFV	3"	On/On	6.0 sec.	190	8.1"	6.0"	7.3"	14.7"

* GPM at 1 PSI drop, water

Selector 3 Position On/Off/On Valve - No Mixing

Part #	Size	Control	90° Cycle Time	Flow GPM*	FLANGED			
					A	B	C	D
M4H22-90DY0-PFV	1½"	On/Off/On	1.5 sec.	30	7.2"	3.8"	4.5"	9.2"
M4i22-90DW0-PFV	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	9.5"
M4K22-90DW0-PFV	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	6.3"	12.0"

Part #	Size	Control	90° Cycle Time	Flow GPM*	FNPT			
					A	B	C	D
FM4i22-90DW0-PFV	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	9.5"
FM4K22-90DW0-PFV	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	7.3"	14.7"

* GPM at 1 PSI drop, water

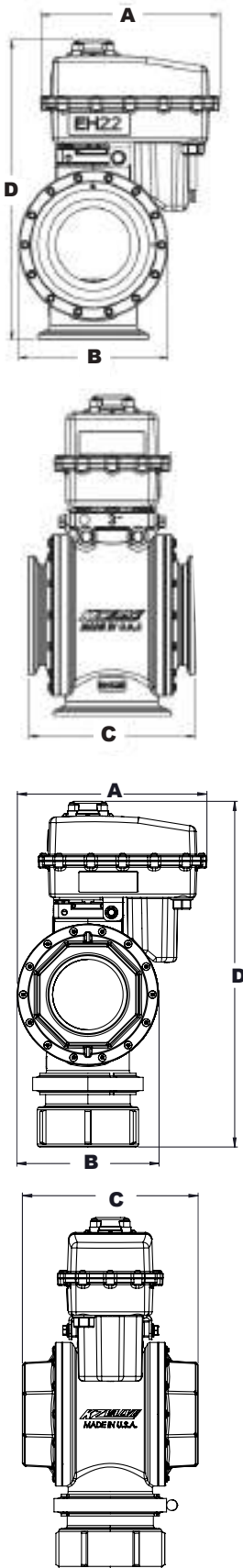
Diverter 3 Position On/Off/On Valve - Mixing

Part #	Size	Control	90° Cycle Time	Flow GPM*	FLANGED			
					A	B	C	D
T7H22-10DW0-PFI	1½"	On/Off/On	1.5 sec.	30	7.2"	3.8"	4.5"	9.2"
T7i22-10DW0-PFI	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	9.5"
M7K22-10DW0-PFI	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	6.3"	12.0"

Part #	Size	Control	90° Cycle Time	Flow GPM*	FNPT			
					A	B	C	D
FT7i22-10DW0-PFI	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	9.5"
FT7K22-10DW0-PFI	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	7.3"	14.7"

* GPM at 1 PSI drop, water

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



TRU-TORQ SERIES

Manual Ball Valves

- Premium quality, consistently smooth operating manual valve
- 1½", 2" and 3" full port 3-Way ball valves and 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 Viton™ 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 **KZ Valve**, which is IP68, NEMA 6P, and NEMA 7D rated for long life and lower cost of service
- 3-Way ball valves designed flows for 180° rotation On/Off/On with no mixing



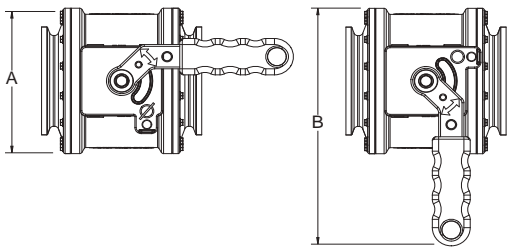
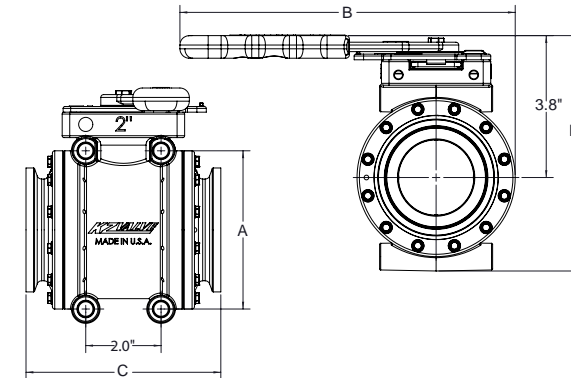
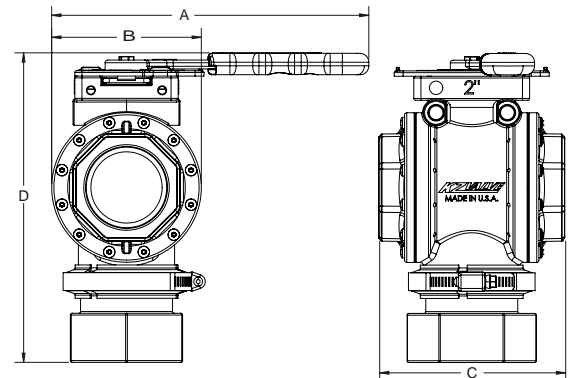
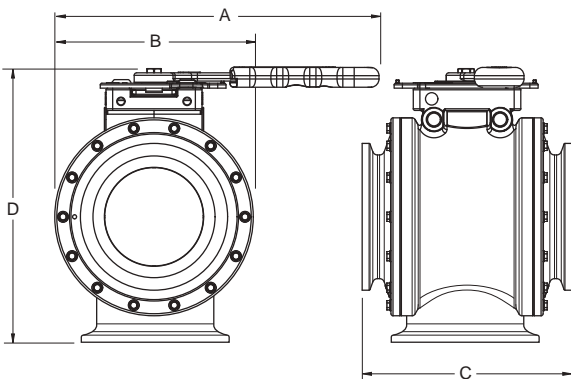
FLANGED

1½", 2" and 3" valves



FNPT THREADS

2" and 3" valves



VALVE IN OPEN POSITION VALVE IN CLOSED POSITION

1½", 2" and 3" Polypropylene 3-Way Ball Valves

On/Off/On with No Mixing **FLANGED**

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

1½" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

2" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

3" Valve Maximum PSI: 70 psi at 70° F (polypropylene)

Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
M4HMO	1½"	Manual	N/A	30	3.8"	8.7"	4.5"	6.1"
M4iMO	2"	Manual	N/A	58	4.3"	8.9"	5.2"	6.4"
M4KMO	3"	Manual	N/A	190	6.0"	9.8"	6.3"	7.9"

* GPM at 1 PSI drop, water

2" and 3" Polypropylene 3-Way Ball Valve **FNPT**

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

• 2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)

• 3" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
FM4iMO	2"	Manual	N/A	58	4.2"	8.9"	5.2"	6.4"
FM4KMO	3"	Manual	N/A	190	6.0"	9.8"	7.3"	7.9"

* GPM at 1 PSI drop, water

2" and 3" Polypropylene 2-Way Ball Valves **FLANGED**

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

• 2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)

• 3" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
M2iMO	2"	Manual	N/A	370	4.2"	8.9"	5.2"	6.3"
M2KMO	3"	Manual	N/A	995	6.0"	9.8"	6.3"	7.9"

* GPM at 1 PSI drop, water

2" and 3" Polypropylene 2-Way Ball Valve **FNPT**

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

• 2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)

• 3" Valve Maximum PSI: 100 psi at 70° F (polypropylene)

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
FM2iMO	2"	Manual	N/A	370	4.2"	9.4"	5.2"	6.3"
FM2KMO	3"	Manual	N/A	995	6.0"	10.5"	7.3"	7.9"

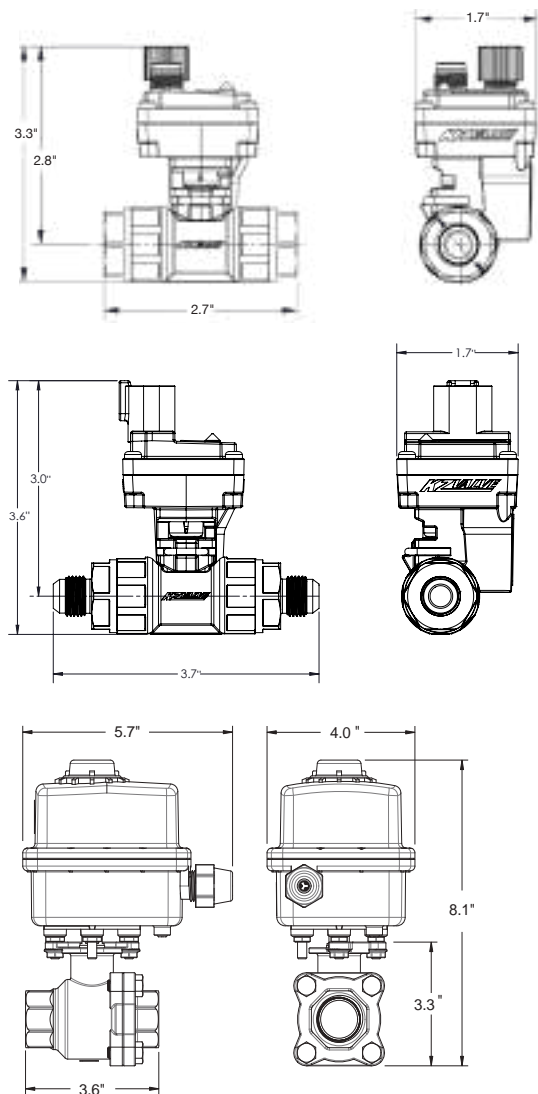
* GPM at 1 PSI drop, water

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

S SERIES

2 Way S Series

- 1/4", 1" and 1 1/2" full port valves
- Inlets/Outlets: AN -6, 1/2", 3/4" MNPT, 1/4", 3/8", & 1" FNPT
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Carbon-graphite-filled PTFE or Virgin PTFE with Viton back-up O-rings



1/4" - 1" Stainless Steel Valves

2-Way, 1/4-3/4" standard port, 1" full port, stainless steel ball, FNPT, 12 VDC actuator.
Maximum PSI: 250 PSI @ 70° F operating pressure differential • 600 PSI @ 70° F (Valve Body)

Part #	Size	Control	Cycle Time	CV
S2B28-1CEBS-D01	1/4"	On/On	0.2 sec.	3.5
S2B28-1CEBS-R01	1/4"	On/On	0.2 sec.	3.5
S2C28-1CEBS-D01	3/8"	On/On	0.2 sec.	5.2
S2C28-1CEBS-R01	3/8"	On/On	0.2 sec.	5.2
J2C28-1CEBS-D01	AN-6	On/On	0.2 sec.	2.1
J2C28-1CEBS-R01	AN-6	On/On	0.2 sec.	2.1

MNPT Part #	Size	Control	Cycle Time	CV
KZ1754-1CEBS-D01	1/2"	On/On	0.2 sec.	5.2
KZ1733-1CEBS-D01	3/4"	On/On	0.2 sec.	5.2

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

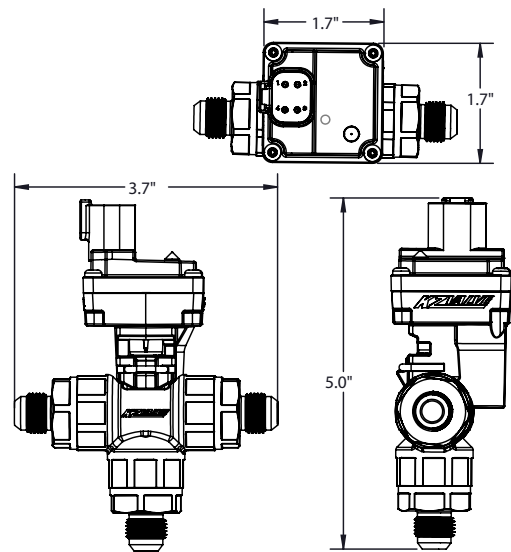
Part #	Size	Control	Cycle Time	CV
S2F33-10D20-P01	1"	On/Off	0.8 sec.	24
S2F22-20DW0-PF1	1"	Positionable	3.0 sec.	24
S2F22-20DU0-PF1	1"	Positionable	8.0 sec.	24

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

S SERIES

3 Way S Series

- Use as a diverter, selector style, or as a more linear-regulating v-ball valve for precision plumbing with your application
- 1/4", 1" and 1 1/2" full port valves
- Inlets/Outlets: AN -6, 1/2" MNPT, 1/4", 3/8", 1" & 1 1/2" FNPT
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Carbon-graphite-filled PTFE or Virgin PTFE with Viton back-up O-rings

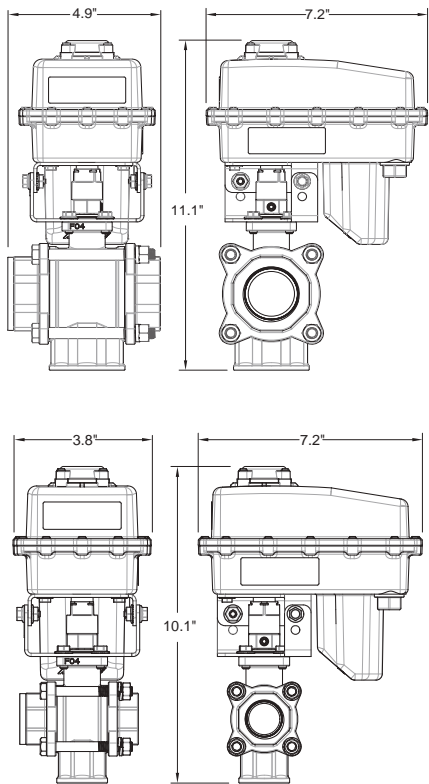


1/4" and 3/8" 3-Way Bottom Load Valves
Standard port, stainless steel ball, stainless steel valve body, stainless steel valve stem
1/4" & 3/8" Maximum PSI: 150 PSI @ 70° F operating pressure differential • 600 PSI @ 70° F (Valve Body)

Part #	Size	CV	Description
S4B28-1CEBS-D0V	1/4"	3.5	2 position ON-ON option (180° rotation)
S4B28-1CEBS-R0V	1/4"	3.5	2 position ON-ON option (180° rotation)
S4C28-1CEBS-D0V	3/8"	5.2	2 position ON-ON option (180° rotation)
S4C28-1CEBS-R0V	3/8"	5.2	2 position ON-ON option (180° rotation)
J4B28-1CEBS-D0V	AN-6	2.1	2 position ON-ON option (180° rotation)
J4B28-1CEBS-R0V	AN-6	2.1	2 position ON-ON option (180° rotation)

Please consult your Distributor/Key Account Manager for additional options such as MNPT or BSPT.

1" and 1 1/2" 3-Way Bottom Load Valves
Full port, stainless steel ball, stainless steel valve body, stainless steel valve stem
1" & 1 1/2" Maximum PSI: 150 PSI @ 70° F operating pressure differential • 600 PSI @ 70° F (Valve Body)



Part #	Size	CV	Description
3-Way Bottom Load "Selector"			
S4F22-10DW0-PFV	1"	20	2 position ON-ON option (180° rotation)
S4H22-10DW0-PFV	1 1/2"	47	2 position ON-ON option (180° rotation)
S4F22-90EY0-DFV	1"	20	3 position ON-OFF-ON option (180° rotation)
S4H22-90EY0-DFV	1 1/2"	47	3 position ON-OFF-ON option (180° rotation)
3-Way Bottom Load "Regulating" V-Ball			
S6F22-20DW0-PFL	1"	20	Requires 225° operation
S6H22-20DW0-PFL	1 1/2"	47	Requires 225° operation
3-Way Bottom Load "Diverter"			
S7F22-10DW0-P31	1"	20	2 position (90° rotation)
S7H22-10DW0-P31	1 1/2"	47	2 position (90° rotation)

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

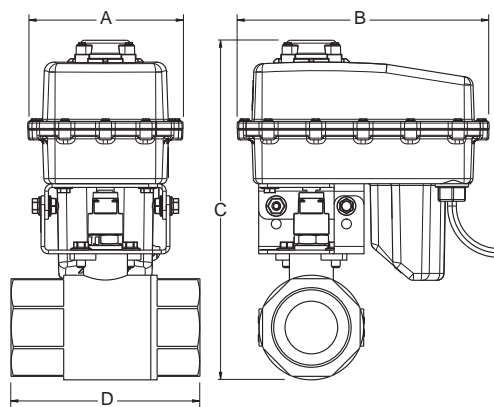
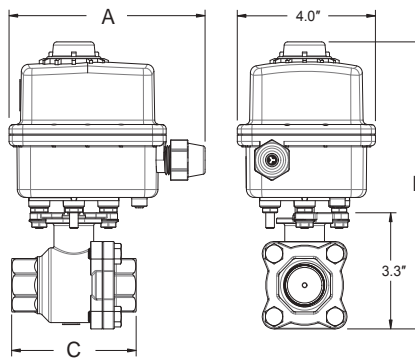
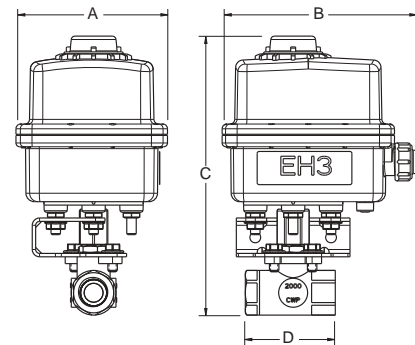
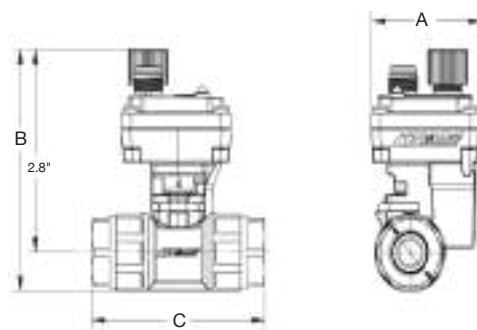
NH3

Vented Stainless Steel Ammonia Ball Valves



- 1/4"- 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 Teflon® (ME-PTFE) or virgin PTFE
- Stem packing: Adjustable molecularly enhanced Teflon®(ME-PTFE) or virgin PTFE with EPDM back-up O-rings
- 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

* Conxall connector available on some models.



1/4", 3/8", 1/2" & 3/4" Vented Stainless Steel Ammonia Valves

2-Way, standard port, stainless steel vented ball, FNPT, ammonia ball valve, 12 VDC actuator.
Maximum PSI: 250 PSI @ 70° F operating pressure differential • 600 PSI @ 70° F (Valve Body)

Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C
S8B28-1CEBS-D01	1/4"	On/Off	0.2 sec.	3.5	1.7"	3.3"	2.7"
S8B28-1CEBS-R01	1/4"	On/Off	0.2 sec.	3.5	1.7"	3.3"	2.7"
J8C28-1CEBS-D01	AN -6	On/Off	0.2 sec.	2.1	1.7"	3.3"	2.7"***
J8C28-1CEBS-R01	AN -6	On/Off	0.2 sec.	2.1	1.7"	3.3"	2.7"***
S8C28-1CEBS-D01	3/8"	On/Off	0.2 sec.	5.2	1.7"	3.3"	2.7"
S8C28-1CEBS-R01	3/8"	On/Off	0.2 sec.	5.2	1.7"	3.3"	2.7"

* GPM at 1 PSI drop, water

*** OAL AN -6 threaded connection 3.7"

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

2-Way, full port, stainless steel vented ball, FNPT, ammonia ball valve, 12 VDC actuator.
Maximum PSI: 2,000 psi at 70° F

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
67B33-10D20-P01	1/4"	On/Off	0.8 sec.	3.5	4.0"	5.1"	7.4"	2.2"
67B33-20DP0-P01	1/4"	Positionable	2.5 sec.	3.5	4.0"	5.1"	7.4"	2.2"
67B33-20DQ0-P01	1/4"	Positionable	7.0 sec.	3.5	4.0"	5.1"	7.4"	2.2"
67D33-10D20-P01	1/2"	On/Off	0.8 sec.	15	4.0"	5.1"	7.4"	2.4"
67D33-20DP0-P01	1/2"	Positionable	2.5 sec.	15	4.0"	5.1"	7.4"	2.4"
67D33-20DQ0-P01	1/2"	Positionable	7.0 sec.	15	4.0"	5.1"	7.4"	2.4"

1" Vented Stainless Steel Ammonia Valves

2-Way, full port, stainless steel vented ball, FNPT, ammonia ball valve, 12 VDC actuator.
Maximum PSI: 600 PSI at 70° F

Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C
S8F33-10D20-P01	1"	On/Off	0.8 sec.	24	5.7"	8.1"	3.6"
S8F22-20DW0-PF1	1"	Positionable	3.0 sec.	24	7.2"	8.6"	3.6"
S8F22-20DU0-PF1	1"	Positionable	8.0 sec.	24	7.2"	8.6"	3.6"

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

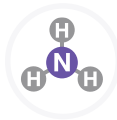
2-Way, standard port, stainless steel vented ball, FNPT, ammonia ball valve, 12 VDC actuator.
3/4" Maximum PSI: 2,000 psi at 70° F • 1 1/2" and 2" Maximum PSI: 1,500 psi at 70° F

KZ Valve Standard Part #	Size	Control	Time	Cycle GPM*	Flow A	B	C	D
67E22-10DY0-PF1	3/4"	On/Off	1.5 sec.	30	4.4"	7.2"	8.0"	3.2"
67E22-20DW0-PF1	3/4"	Positionable	3.0 sec.	30	4.4"	7.2"	8.0"	3.2"
67E22-20DU0-PF1	3/4"	Positionable	8.0 sec.	30	4.4"	7.2"	8.0"	3.2"
67H22-10DY0-PF1	1 1/2"	On/Off	1.5 sec.	84	4.4"	7.2"	9.3"	4.4"
67H22-20DW0-PF1	1 1/2"	Positionable	3.0 sec.	84	4.4"	7.2"	9.3"	4.4"
67H22-20DU0-PF1	1 1/2"	Positionable	8.0 sec.	84	4.4"	7.2"	9.3"	4.4"
67I22-10DW0-PF1	2"	On/Off	3.0 sec.	108	4.4"	7.2"	9.7"	5.4"
67I22-20DW0-PF1	2"	Positionable	3.0 sec.	108	4.4"	7.2"	9.7"	5.4"
67I22-20DU0-PF1	2"	Positionable	8.0 sec.	108	4.4"	7.2"	9.7"	5.4"

Please consult your Distributor/Key Account Manager for additional options such as MNPT and BSPT.

RETROFIT KITS RAVEN SYSTEMS

Ammonia Valves



- Retrofit kits will allow *KZValve* actuators to be used with common RAVEN systems valves
- Use a *KZValve* actuator and stainless steel valve or retrofit a *KZValve* actuator onto the RAVEN valve
- Raven retrofit kits for 3 valve types: Jamesbury Eliminator, Raven Clincher, and Jamesbury Clincher valves
- Actuator retrofit kits for Raven Valve: EH2 Series Actuator (1" to 1½")
- Actuators are constructed with solid state components for increased durability and maintenance-free performance
- 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



1½" RAVEN VALVE



JAMESBURY ELIMINATOR VALVE

RAVEN CLINCHER VALVE

JAMESBURY CLINCHER VALVE

Actuator Retrofit Kits for Raven 1" and 1¼" NH3 Valves

Part #	Description
KR-ONOFF	EH2 Waterproof Actuator, ON/OFF CONTROL, 1.5 seconds, with Conxall Connector, mounting kit
KR-FC	EH2 Waterproof Actuator, FLOW CONTROL, 1.5 seconds, with Conxall Connector, mounting kit
KR-FC8	EH2 Waterproof Actuator, FLOW CONTROL, 8.0 seconds, with Conxall Connector, mounting kit

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

Actuator Retrofit Kits for Raven 1½" Valve

Part #	Description
KR-15ONOFF	EH2 Waterproof Actuator, ON/OFF CONTROL, 1.5 seconds, with Conxall Connector, mounting kit
KR-15FC8	EH2 Waterproof Actuator, FLOW CONTROL, 8.0 seconds, with Conxall Connector, mounting kit

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



1½" RAVEN VALVE

ALL RAVEN RETROKITS INCLUDE:

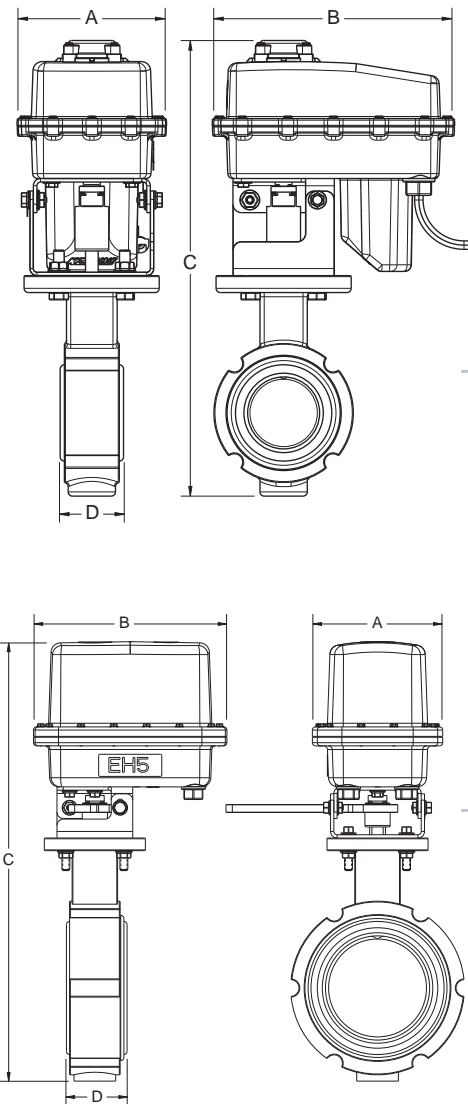
- Waterproof *KZValve* EH2 Actuator
- Conxall connector plug for Raven System
- Coupler
- Mounting bracket
- Fasteners
- Simple replacement instructions

NOTE: These kits do not include the valves

50 SERIES

Cast Iron and Aluminum Butterfly Valves

- Engineered for actuation and designed to work with the *KZValve* 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 (BUNA or Viton™ available)
- 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



2" Cast Iron Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12 VDC actuator. Maximum PSI: 150 psi at 70° F

KZValve StandardPart#	Size	Control	Time	Cycle GPM*	Flow A	B	C	D
59i22-10DY0-PF1	2"	On/Off	1.5 sec.	277	4.4"	7.2"	13.5"	1.9"
59i22-20DW0-PF1	2"	Positionable	3.0 sec.	277	4.4"	7.2"	13.5"	1.9"
59i22-20DU0-PF1	2"	Positionable	8.0 sec.	277	4.4"	7.2"	13.5"	1.9"

* GPM at 1 PSI drop, water

3" Cast Iron Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12 VDC actuator. Maximum PSI: 150 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
59K35-10D50-DB1	3"	On/Off	3.0 sec.	720	5.2"	7.7"	15.7"	1.8"
59K35-20D57-DB1	3"	Positionable	7.0 sec.	720	5.2"	7.7"	15.7"	1.8"
59K35-20D5A-DB1	3"	Positionable	10.0 sec.	720	5.2"	7.7"	15.7"	1.8"

* GPM at 1 PSI drop, water

4" and 5" Aluminum Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12 VDC actuator. Maximum PSI: 50 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
59L35-10D50-DB1	4"	On/Off	3.0 sec.	1,366	5.2"	7.7"	17.4"	2.0"
59L35-20D57-DB1	4"	Positionable	7.0 sec.	1,366	5.2"	7.7"	17.4"	2.0"
59L35-20D5A-DB1	4"	Positionable	10.0 sec.	1,366	5.2"	7.7"	17.4"	2.0"
59M35-10D50-DB1	5"	On/Off	3.0 sec.	2,192	5.2"	7.7"	17.9"	2.1"
59M35-20D57-DB1	5"	Positionable	7.0 sec.	2,192	5.2"	7.7"	17.9"	2.1"
59M35-20D5A-DB1	5"	Positionable	10.0 sec.	2,192	5.2"	7.7"	17.9"	2.1"

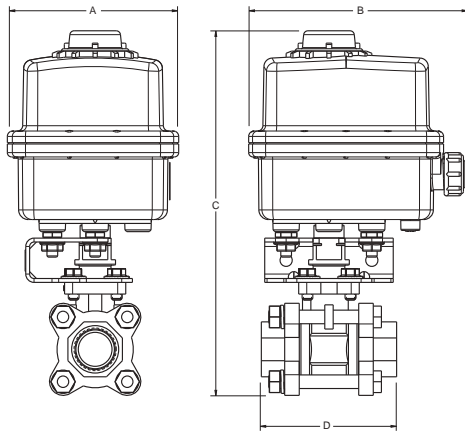
Please consult your Distributor/Key Account Manager for additional options.

* GPM at 1 PSI drop, water

61 SERIES

NSF 61 Stainless Steel Ball Valves

- ANSI/NSF 61 certified, Low-Lead certified, and approved for drinking water applications
- Engineered for actuation and designed to work with *KZValve* actuators
- ½", ¾", 1", 1½" 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
- 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

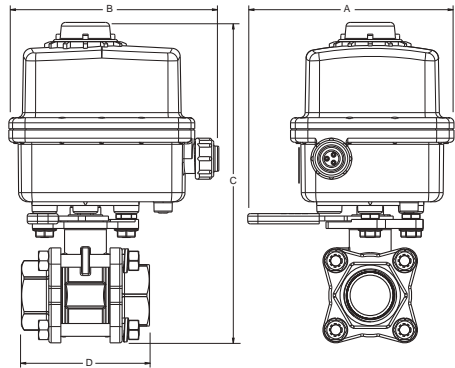


½" and ¾" Stainless Steel 3-piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, ANSI/NSF 61 certified, Low-Lead certified and approved for drinking water applications in all 50 states. 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

Part #	Size	Valve Control	Manual Handle	Cycle Time	Flow GPM*	A	B	C	D
61DG3-10D20-P01	½"	On/Off	Yes	0.8 sec.	30	6.1"	5.1"	8.3"	3.0"
61D33-10D20-P01	½"	On/Off	No	0.8 sec.	30	4.0"	5.1"	8.3"	3.0"
61EG3-10D20-P01	¾"	On/Off	Yes	0.8 sec.	51	6.1"	5.1"	8.3"	3.2"
61E33-10D20-P01	¾"	On/Off	No	0.8 sec.	51	4.0"	5.1"	8.3"	3.2"

* GPM at 1 PSI drop, water

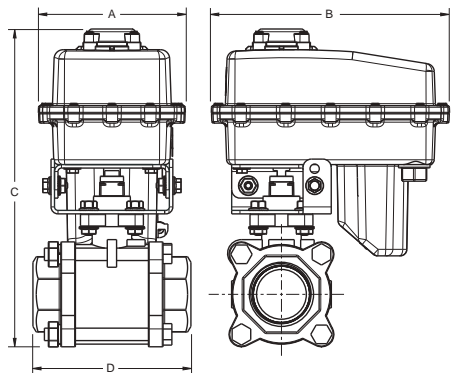


1" Stainless Steel 3-piece, 2-Way Direct Mount Ball Valve

Full port, stainless steel ball, FNPT, ball valve, direct mount to actuator with manual handle, ANSI/NSF 61 certified, Low-Lead certified and approved for drinking water applications in all 50 states. 12 VDC actuator. Maximum PSI: 600 psi at 70° F

Part #	Size	Valve Control	Manual Handle	Cycle Time	Flow GPM*	A	B	C	D
61FM33-10D20-P03	1"	On/Off	Yes	0.8 sec.	68	5.0"	5.1"	7.8"	3.1"

* GPM at 1 PSI drop, water



1", 1½" and 2" Stainless Steel 3-piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, ANSI/NSF 61 certified, Low-Lead certified and approved for drinking water applications in all 50 states. 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

Part #	Size	Valve Control	Manual Handle	Cycle Time	Flow GPM*	A	B	C	D
61FF2-10DW0-PF1	1"	On/Off	Yes	3.0 sec.	68	4.3"	11.1"	8.4"	3.6"
61F22-10DW0-PF1	1"	On/Off	No	3.0 sec.	68	4.3"	7.1"	8.4"	3.6"
61HF2-10DW0-PF1	1½"	On/Off	Yes	3.0 sec.	170	4.3"	11.1"	9.4"	4.8"
61H22-10DW0-PF1	1½"	On/Off	No	3.0 sec.	170	4.3"	7.1"	9.4"	4.8"
61IF2-10DW0-PF1	2"	On/Off	Yes	3.0 sec.	376	4.3"	11.1"	9.4"	5.4"
61I22-10DW0-PF1	2"	On/Off	No	3.0 sec.	376	4.3"	7.1"	9.4"	5.4"

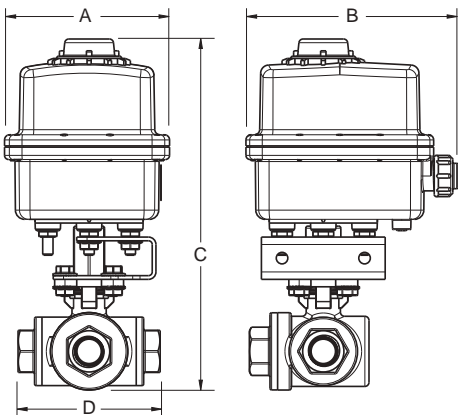
Please consult your Distributor/Key Account Manager for additional options.

* GPM at 1 PSI drop, water

73 SERIES

Stainless Steel 3-Way Ball Valves

- 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) with Viton O-ring
- 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

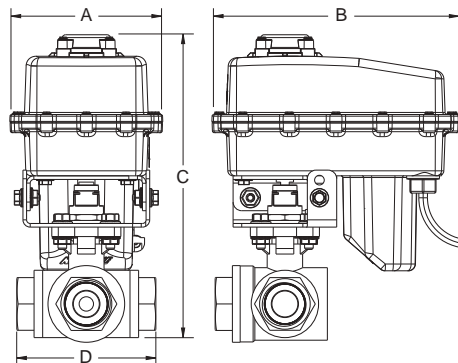


3/8" and 1/2" Stainless Steel 3-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
73C23-10D20-P31	3/8"	On/On	0.8 sec.	6	4.0"	5.1"	8.1"	3.0"
73D23-10D20-P31	1/2"	On/On	0.8 sec.	12	4.0"	5.1"	8.5"	3.4"

* GPM at 1 PSI drop, water

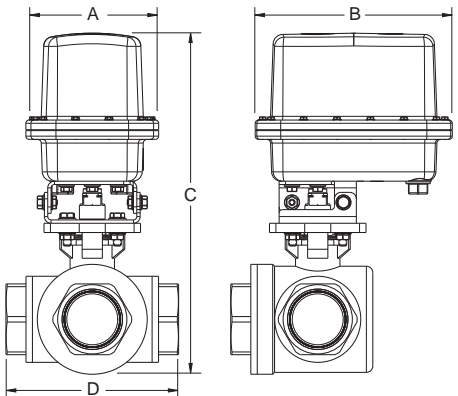


3/4", 1" and 1 1/2" Stainless Steel 3-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
73E22-10DY0-P31	3/4"	On/On	1.5 sec.	16	4.4"	7.2"	8.2"	3.4"
73F22-10DY0-P31	1"	On/On	1.5 sec.	20	4.4"	7.2"	8.9"	4.0"
73H22-10DW0-P31	1 1/2"	On/On	3.0 sec.	103	4.4"	7.2"	10.2"	5.0"

* GPM at 1 PSI drop, water



2" Stainless Steel 3-Way Ball Valves

Standard port, stainless steel ball, FNPT, ball valve, 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
73I25-10D50-DB1	2"	On/On	3.0 sec.	143	5.2"	7.7"	11.6"	5.9"

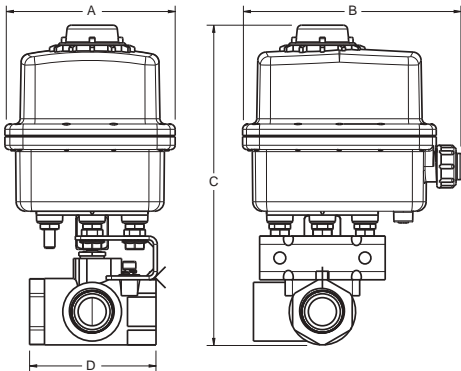
Please consult your Distributor/Key Account Manager for additional options.

* GPM at 1 PSI drop, water

78 SERIES

3-Way Bronze Ball Valves

- ½" to 2" bronze 3-Way diverter ball valves
- Valve body: C84400 bronze
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Seat: Virgin PTFE
- Stem packing: PTFE
- 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

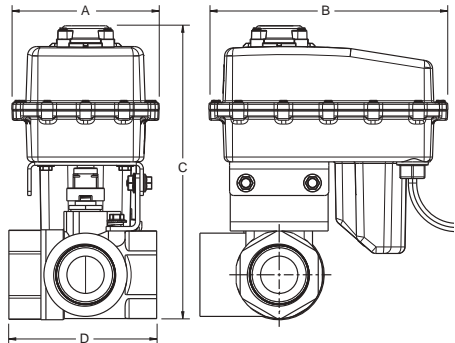


½" Bronze Ball Valves

3-Way, full port, stainless steel ball, FNPT, ball valve, 12 VDC actuator.
Maximum PSI: 400 psi at 70° F

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
78D23-10D20-P31	½"	On/On	0.8 sec.	5.4	4.0"	5.1"	7.0"	2.3"

* GPM at 1 PSI drop, water



¾", 1", 1½" and 2" Bronze Ball Valves

3-Way, standard port, stainless steel ball, FNPT, ball valve, 12 VDC actuator.
Maximum PSI: 400 psi at 70° F

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
78E22-10DY0-P3U	¾"	On/On	1.5 sec.	12	4.4"	7.2"	7.2"	3.0"
78F22-10DY0-P3U	1"	On/On	1.5 sec.	14	4.4"	7.2"	7.5"	3.3"
78H22-10DW0-P3U	1½"	On/On	3.0 sec.	34	4.4"	7.2"	8.8"	4.4"
78I22-10DW0-P3U	2"	On/On	3.0 sec.	47	4.4"	7.2"	9.2"	4.7"

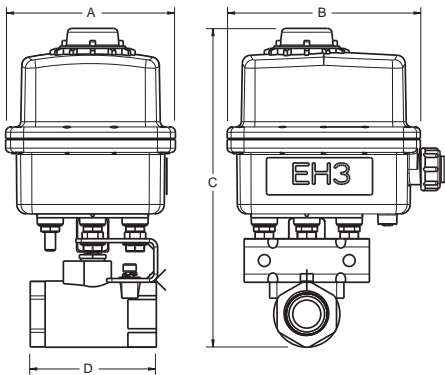
* GPM at 1 PSI drop, water

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

84 SERIES

2-Way Bronze Ball Valves

- 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
- 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

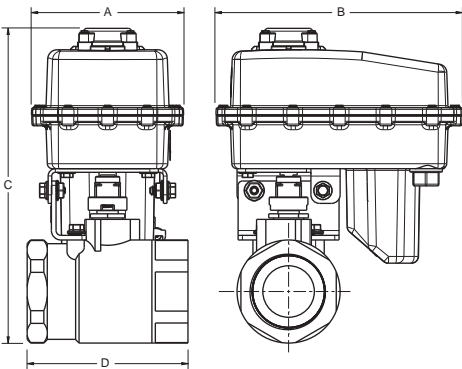


1/4", 3/8" and 1/2" Bronze Ball Valves

2-Way, full port, stainless steel ball, FNPT, ball valve, 12 VDC actuator.
Maximum PSI: 600 psi at 70° F

KZ Valve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
84B23-10D20-P41	1/4"	On/Off	0.8 sec.	8.4	4.0"	5.1"	8.3"	3.0"
84B23-20DP0-P41	1/4"	Positionable	2.5 sec.	8.4	4.0"	5.1"	8.3"	3.0"
84B23-20DQ0-P41	1/4"	Positionable	7.0 sec.	8.4	4.0"	5.1"	8.3"	3.0"
84C23-10D20-P41	3/8"	On/Off	0.8 sec.	7.2	4.0"	5.1"	8.3"	3.0"
84C23-20DP0-P41	3/8"	Positionable	2.5 sec.	7.2	4.0"	5.1"	8.3"	3.0"
84C23-20DQ0-P41	3/8"	Positionable	7.0 sec.	7.2	4.0"	5.1"	8.3"	3.0"
84D23-10D20-P41	1/2"	On/Off	0.8 sec.	15	4.0"	5.1"	8.3"	3.0"
84D23-20DP0-P41	1/2"	Positionable	2.5 sec.	15	4.0"	5.1"	8.3"	3.0"
84D23-20DQ0-P41	1/2"	Positionable	7.0 sec.	15	4.0"	5.1"	8.3"	3.0"

* GPM at 1 PSI drop, water



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

2-Way, standard port, stainless steel ball, FNPT, ball valve, 12 VDC actuator.
Maximum PSI: 600 psi at 70° F

KZ Valve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
84E22-10DY0-PF1	3/4"	On/Off	1.5 sec	30	4.4"	7.2"	7.2"	3.0"
84E22-20DW0-PF1	3/4"	Positionable	3.0 sec	30	4.4"	7.2"	7.2"	3.0"
84E22-20DU0-PF1	3/4"	Positionable	8.0 sec	30	4.4"	7.2"	7.2"	3.0"
84F22-10DY0-PF1	1"	On/Off	1.5 sec	43	4.4"	7.2"	7.5"	3.4"
84F22-20DW0-PF1	1"	Positionable	3.0 sec	43	4.4"	7.2"	7.5"	3.4"
84F22-20DU0-PF1	1"	Positionable	8.0 sec	43	4.4"	7.2"	7.5"	3.4"
84H22-10DY0-PF1	1 1/2"	On/Off	1.5 sec	84	4.4"	7.2"	8.8"	4.3"
84H22-20DW0-PF1	1 1/2"	Positionable	3.0 sec	84	4.4"	7.2"	8.8"	4.3"
84H22-20DU0-PF1	1 1/2"	Positionable	8.0 sec	84	4.4"	7.2"	8.8"	4.3"
84I22-10DW0-PF1	2"	On/Off	3.0 sec	108	4.4"	7.2"	9.2"	4.7"
84I22-20DW0-PF1	2"	Positionable	3.0 sec	108	4.4"	7.2"	9.2"	4.7"
84I22-20DU0-PF1	2"	Positionable	8.0 sec	108	4.4"	7.2"	9.2"	4.7"

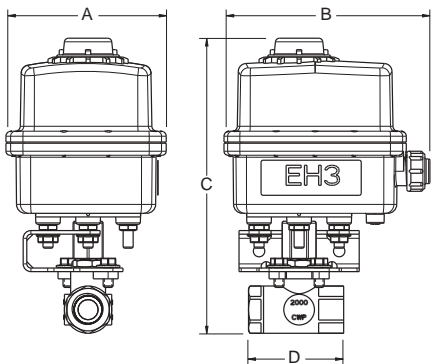
* GPM at 1 PSI drop, water

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

88 SERIES

2-Way Stainless Steel Ball Valves

- 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)
- 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

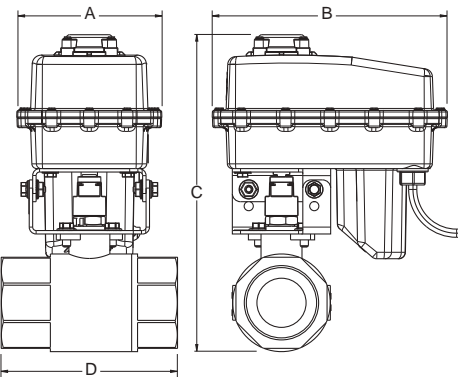


1/4", 3/8", and 1/2" Stainless Steel 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 VDC actuator.
Maximum PSI: 2,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
88B33-10D20-P01	1/4"	On/Off	0.8 sec.	8.4	4.0"	5.1"	7.4"	2.2"
88B33-20DP0-P01	1/4"	Positionable	2.5 sec.	8.4	4.0"	5.1"	7.4"	2.2"
88B33-20DQ0-P01	1/4"	Positionable	7.0 sec.	8.4	4.0"	5.1"	7.4"	2.2"
88C33-10D20-P01	3/8"	On/Off	0.8 sec.	7.2	4.0"	5.1"	7.4"	2.2"
88C33-20DP0-P01	3/8"	Positionable	2.5 sec.	7.2	4.0"	5.1"	7.4"	2.2"
88C33-20DQ0-P01	3/8"	Positionable	7.0 sec.	7.2	4.0"	5.1"	7.4"	2.2"
88D33-10D20-P01	1/2"	On/Off	0.8 sec.	15	4.0"	5.1"	7.4"	2.4"
88D33-20DP0-P01	1/2"	Positionable	2.5 sec.	15	4.0"	5.1"	7.4"	2.4"
88D33-20DQ0-P01	1/2"	Positionable	7.0 sec.	15	4.0"	5.1"	7.4"	2.4"

* GPM at 1 PSI 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 VDC actuator.
3/4" and 1" Maximum PSI: 2,000 psi at 70° F • 1 1/2" and 2" Maximum PSI: 1,500 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
88E22-10DY0-PF1	3/4"	On/Off	1.5 sec.	30	4.4"	7.2"	8.0"	3.2"
88E22-20DW0-PF1	3/4"	Positionable	3.0 sec.	30	4.4"	7.2"	8.0"	3.2"
88E22-20DU0-PF1	3/4"	Positionable	8.0 sec.	30	4.4"	7.2"	8.0"	3.2"
88F22-10DY0-PF1	1"	On/Off	1.5 sec.	43	4.4"	7.2"	8.4"	3.4"
88F22-20DW0-PF1	1"	Positionable	3.0 sec.	43	4.4"	7.2"	8.4"	3.4"
88F22-20DU0-PF1	1"	Positionable	8.0 sec.	43	4.4"	7.2"	8.4"	3.4"
88H22-10DY0-PF1	1 1/2"	On/Off	1.5 sec.	84	4.4"	7.2"	9.3"	4.4"
88H22-20DW0-PF1	1 1/2"	Positionable	3.0 sec.	84	4.4"	7.2"	9.3"	4.4"
88H22-20DU0-PF1	1 1/2"	Positionable	8.0 sec.	84	4.4"	7.2"	9.3"	4.4"
88I22-10DW0-PF1	2"	On/Off	3.0 sec.	108	4.4"	7.2"	9.7"	5.4"

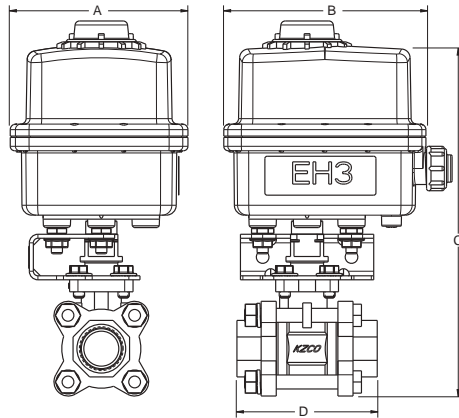
* GPM at 1 PSI drop, water

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

89 SERIES

Stainless Steel 3-Piece, 2-Way Ball Valves

- ½" 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™
- 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

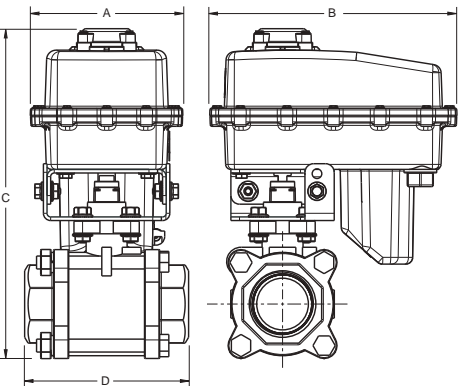


½" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
89D33-10D20-P01	½"	On/Off	0.8 sec.	30	4.0"	5.1"	8.3"	3.0"
89D33-20DP0-P01	½"	Positionable	2.5 sec.	30	4.0"	5.1"	8.3"	3.0"
89D33-20DQ0-P01	½"	Positionable	7.0 sec.	30	4.0"	5.1"	8.3"	3.0"

* GPM at 1 PSI drop, water



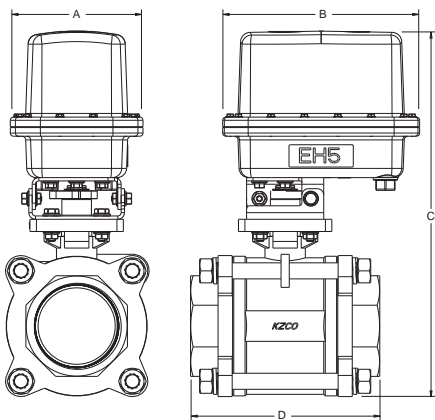
¾", 1", 1¼" and 1½" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
89E22-10DY0-PF1	¾"	On/Off	1.5 sec.	51	4.4"	7.2"	8.2"	3.2"
89E22-20DW0-PF1	¾"	Positionable	3.0 sec.	51	4.4"	7.2"	8.2"	3.2"
89E22-20DU0-PF1	¾"	Positionable	8.0 sec.	51	4.4"	7.2"	8.2"	3.2"
89F22-10DY0-PF1	1"	On/Off	1.5 sec.	68	4.4"	7.2"	8.6"	3.6"
89F22-20DW0-PF1	1"	Positionable	3.0 sec.	68	4.4"	7.2"	8.6"	3.6"
89F22-20DU0-PF1	1"	Positionable	8.0 sec.	68	4.4"	7.2"	8.6"	3.6"
89G22-10DY0-PF1	1¼"	On/Off	1.5 sec.	112	4.4"	7.2"	9.1"	4.4"
89G22-20DW0-PF1	1¼"	Positionable	3.0 sec.	112	4.4"	7.2"	9.1"	4.4"
89G22-20DU0-PF1	1¼"	Positionable	8.0 sec.	112	4.4"	7.2"	9.1"	4.4"
89H22-10DY0-PF1	1½"	On/Off	1.5 sec.	170	4.4"	7.2"	9.6"	4.8"
89H22-20DW0-PF1	1½"	Positionable	3.0 sec.	170	4.4"	7.2"	9.6"	4.8"
89H22-20DU0-PF1	1½"	Positionable	8.0 sec.	170	4.4"	7.2"	9.6"	4.8"

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

* GPM at 1 PSI drop, water



2", 2½" and 3" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12 VDC actuator. Maximum PSI: 1,000 psi at 70° F

KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
89I35-10D50-DB1	2"	On/Off	3.0 sec.	376	5.2"	7.7"	11.1"	4.4"
89I35-20D57-DB1	2"	Positionable	7.0 sec.	376	5.2"	7.7"	11.1"	4.4"
89I35-20D5A-DB1	2"	Positionable	10.0 sec.	376	5.2"	7.7"	11.1"	4.4"
89J35-10D50-DB1	2½"	On/Off	3.0 sec.	750	5.2"	7.7"	11.1"	4.4"
89J35-20D57-DB1	2½"	Positionable	7.0 sec.	750	5.2"	7.7"	11.1"	4.4"
89J35-20D5A-DB1	2½"	Positionable	10.0 sec.	750	5.2"	7.7"	11.1"	4.4"
89K35-10D50-DB1	3"	On/Off	3.0 sec.	1,300	5.2"	7.7"	11.5"	5.5"
89K35-20D57-DB1	3"	Positionable	7.0 sec.	1,300	5.2"	7.7"	11.5"	5.5"
89K35-20D5A-DB1	3"	Positionable	10.0 sec.	1,300	5.2"	7.7"	11.5"	5.5"

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

* GPM at 1 PSI drop, water

92 SERIES

Stainless Steel 3-Piece, 2-Way Ball Valves

- 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™
- 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



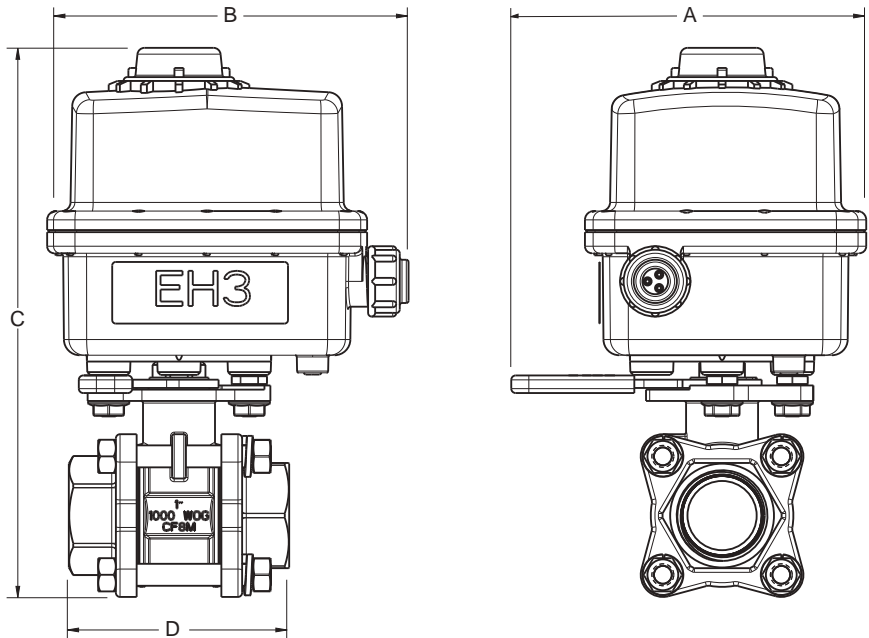
1" Stainless Steel 3-Piece, 2-Way Direct Mount Ball Valves

Full port, stainless steel ball, FNPT, ball valve, direct mount to actuator, with manual handle, 12 VDC actuator.
Maximum PSI: 600 psi at 70° F

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
92FM33-10D20-P03	1"	On/Off	0.8 sec.	68	5.0"	5.1"	7.8"	3.1"

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

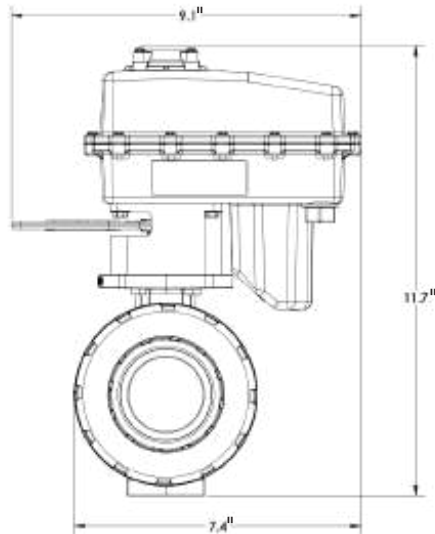
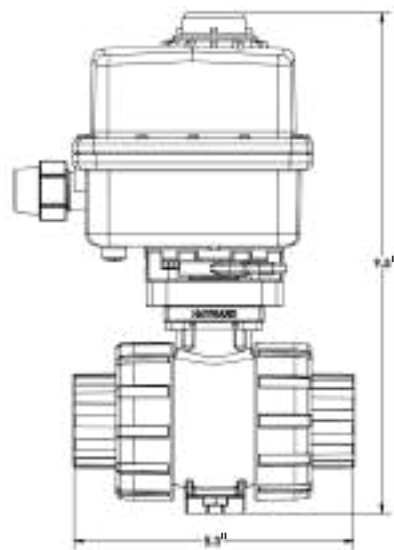
* GPM at 1 PSI drop, water



95 SERIES

2-Way PVC Ball Valves

- Valve Sizes
 - EH3 actuator 1/4", 3/8", 1/2", 3/4", 1"
 - EH2 actuator 1 1/4", 1 1/2", 2"
- Valve body: PVC
- Ball: PVC
- Stem: PVC
- Seats: Reversible PTFE or optional Viton
- Body seals: EPDM
- Stem seals: EPDM dual o-rings
- Valves come with a KZValve waterproof actuator providing longer valve and actuator life
- Available control options include 12/24 VDC and 24 VAC on/off actuation
- Consistent operating torque allowing for adjustment-free design
- Integral mounting pad for skid or panel mount
- Manual override handle option available
- Retrofit kits available for new and existing valves
- Hayward TBH Series NSF Rating, etc.
 - NSF/ANSI 61and NSF/ANSI 372 Listed
 - PVC per ASTM D1784 Cell Class 12454



1/4", 3/8", 1/2", 3/4", & 1" Full Port, 2-Way Motorized Ball Valves

Maximum PSI: 250 psi at 70° F operating pressure differential
Flow: CV = 1-29 1-29 GPM @ 1 PSI drop, water
 2.53-75.11 GPM @ 5 PSI drop, water
Cycle Time: 0.8 second cycle time @ 90°
Voltage: 12/24 VDC and 24 VAC Available
Amperage: 1 amp operating

KZValve StandardPart#	Description (includes Hayward PVC valve)
95B33-10D20-POP	1/4", 2-way, PVC ball valve, EH3, 12 VDC, on/off, 0.8 sec, 3-pin
95C33-10D20-POP	3/8", 2-way, PVC ball valve, EH3, 12 VDC, on/off, 0.8 sec, 3-pin
95D33-10D20-POP	1/2", 2-way, PVC ball valve, EH3, 12 VDC, on/off, 0.8 sec, 3-pin
95E33-10D20-POP	3/4", 2-way, PVC ball valve, EH3, 12 VDC, on/off, 0.8 sec, 3-pin
95F33-10D20-POP	1", 2-way, PVC ball valve, EH3, 12 VDC, on/off, 0.8 sec, 3-pin

1 1/4", 1 1/2", & 2" Full Port, 2-Way Motorized Ball Valves

Maximum PSI: 250 psi at 70° F operating pressure differential
Flow: CV = 75-150 75-150 GPM @ 1 PSI drop, water
 194.27-388.5 GPM @ 5 PSI drop, water
Cycle Time: 1.5 second cycle time @ 90°
Voltage: 12/24 VDC and 24 VAC Available
Amperage: 1.5 amp operating

KZValve StandardPart#	Description (includes Hayward PVC valve)
95G22-10DY0-PFP	1 1/4", 2-way, PVC ball valve, EH2, 12 VDC, on/off, 1.5 sec, 3-pin
95H22-10DY0-PFP	1 1/2", 2-way, PVC ball valve, EH2, 12 VDC, on/off, 1.5 sec, 3-pin
95I22-10DY0-PFP	2", 2-way, PVC ball valve, EH2, 12 VDC, on/off, 1.5 sec, 3-pin

KZValve EH3 or EH2 waterproof motorized actuator and adapter kit only available in 12/24VDC and 24VAC.

KZValve StandardPart#	Description (For use with Hayward PVC valve, not included)
10D20-POP	Actuator w/adapter 1/2", 3/4", 1", EH3, on/off, 0.8 sec, 12 VDC, 3-pin
10DY0-PFP	Actuator w/adapter 1 1/4", 1 1/2", 2", EH2, on/off, 1.5 sec, 12 VDC, 3-pin
10DW0-PFP	Actuator w/adapter 1 1/4", 1 1/2", 2", EH2, on/off, 3.0 sec, 12 VDC, 3-pin

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
- 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

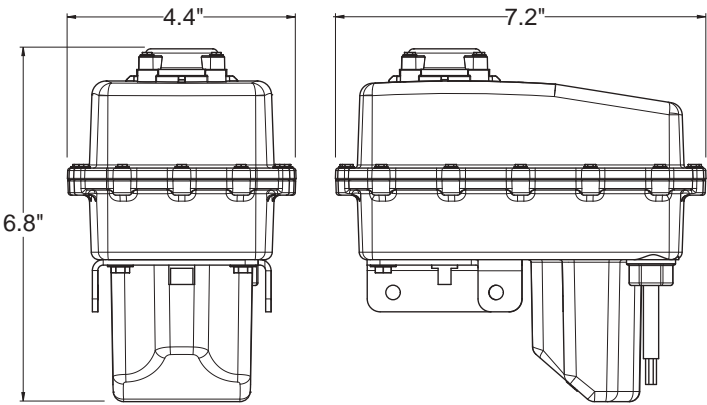


KZValve Retrofit Kits

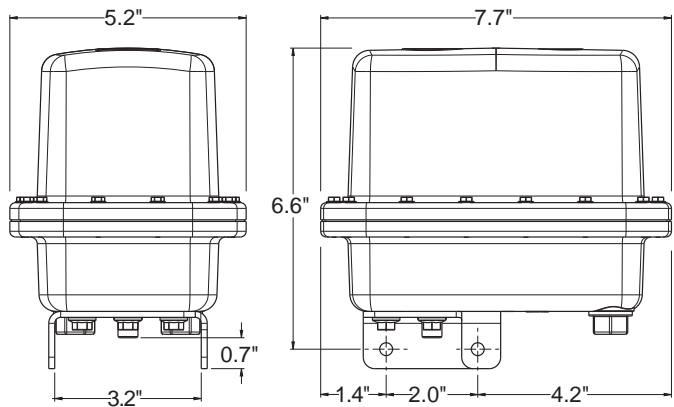
	Size	Kit Part Actuator	Number
Akron 7800 & 8800	1"	EH2	EH-120
	1½"	EH2	EH-121
Akron 7800	2"	EH2	EH-122
	2½"	EH5	A7235
	3"	EH5	A7335
Akron 8800	2"	EH2	AK822
	2½"	EH5	AK835
	3"	EH5	AK835
Akron Generation II	2"	EH2	AG222
	2½"	EH5	AG235
	3"	EH5	AG235
	3½"	EH5	AG235
Elkhart Unibody	4"	EH5	AK435
	2"	EH2	ELK22
	2½"	EH5	ELK25
	3"	EH5	ELK25

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

EH2 Actuator

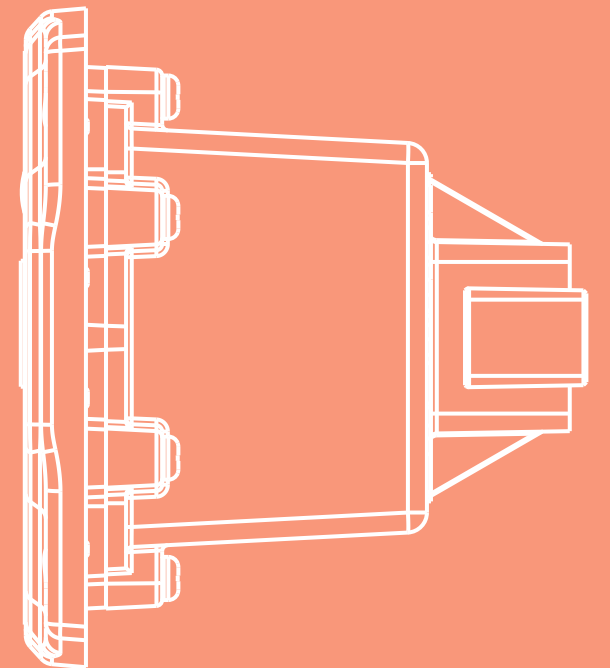
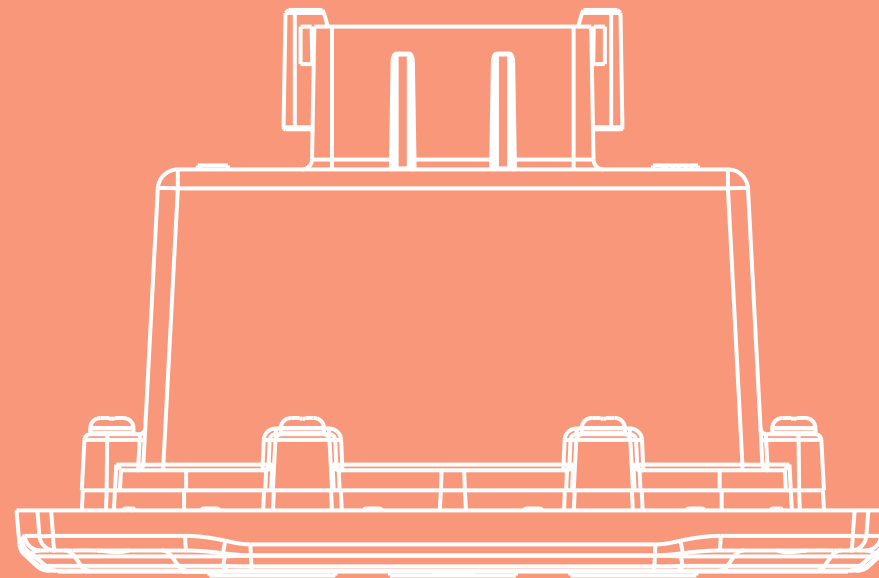
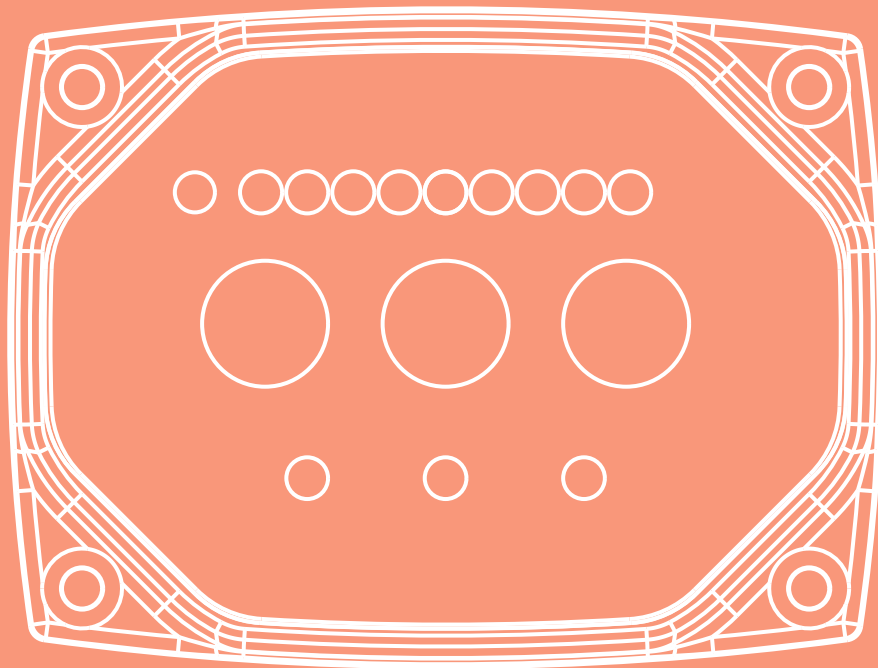


EH5 Actuator



Controllers

Pages 67-72



SC SERIES CONTROLLERS

TSL Plus & Dial-A-Matic

- Switch membrane is UV-coated to extend the life of the controller
- Sealed, waterproof case protects internal components and extends controller life
- Glass-filled nylon case is durable and impact-resistant, providing long life and lower maintenance costs
- Easy-to-calibrate controller allows the user to make fast control adjustments for multiple applications
- Long lasting, flush switch membrane is ergonomically designed and user friendly to increase user efficiency
- Compact, lightweight design allows use in space-constrained applications
- High-intensity LEDs with automatic light sensor to increase or dim LEDs and improve visibility in dark or direct sunlight conditions
- Customizable graphics and displays to meet manufacturer or user preferences
- Multiple controllers can be utilized to control a single valve, increasing operator efficiency and safety
- Controllers have 12/24 VDC capability, providing design efficiency and universal function
- Dial-A-Matic controllers feature four digit alpha numeric display and programmable presets providing quick and easy, repeatable settings for improved efficiency, cost savings and environmental safety
- Dial-A-Matic Plus controller is available with pressure and temperature sensing
- TSL PLUS is designed to perform accurate valve control including the following functions: On-Off, On-Preset-Off, and incremental Open/Close (positional) operation.

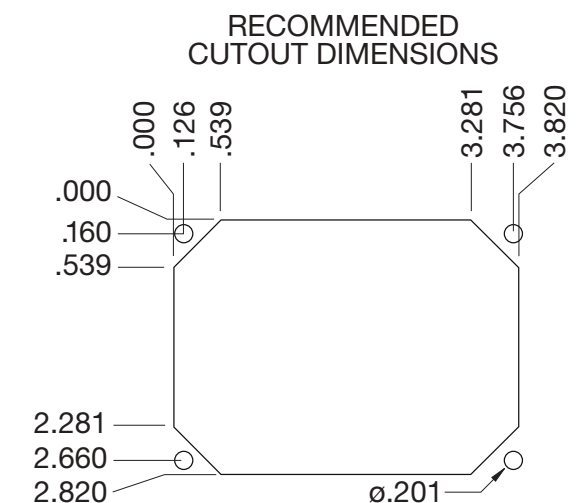
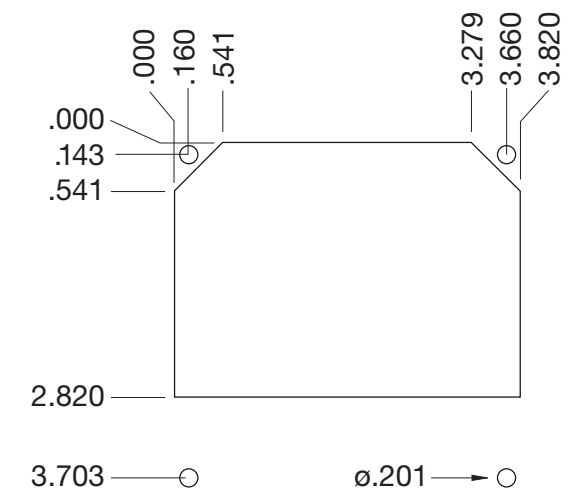
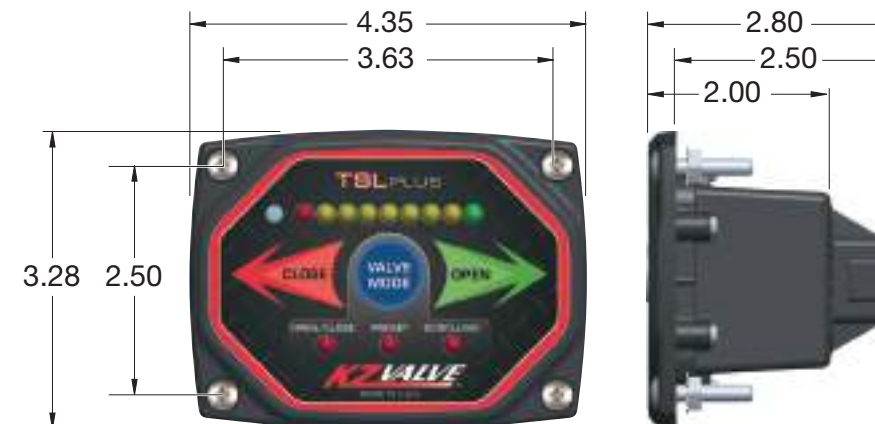
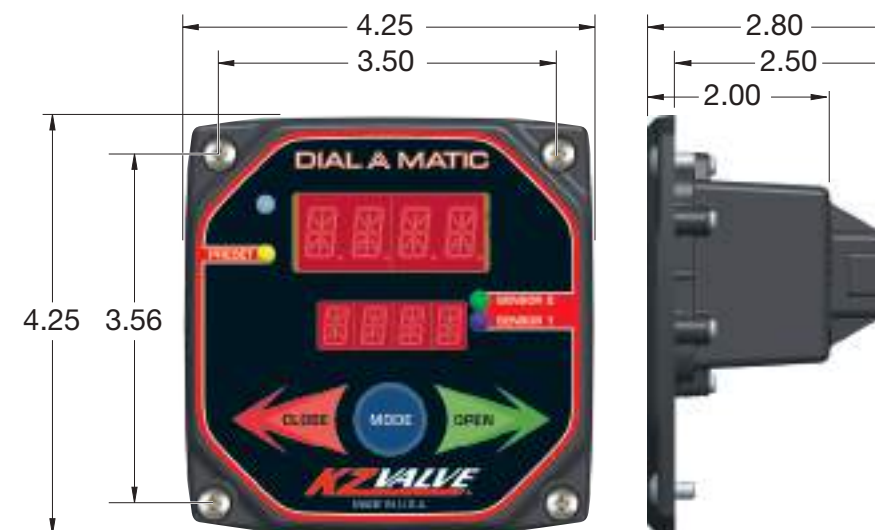
Dial-A-Matic



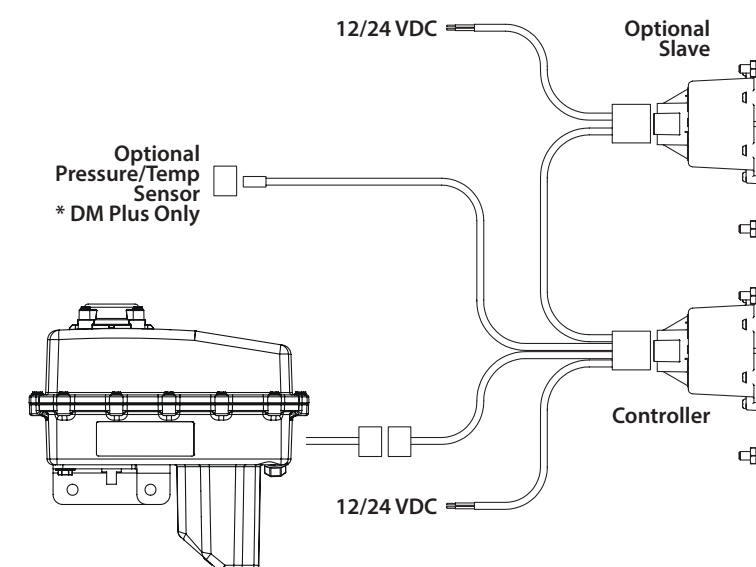
Dial-A-Matic Plus



TSL Plus



*All dimensions are in inches.



SC SERIES CONTROLLERS

SC-25

- SC waterproof controller allows users to control one regulating and three section valves, with the convenience of Master On/Off buttons
- Sealed, waterproof case protects internal components and extends controller life
- Switch membrane is UV-coated to extend the life of the controller
- High Intensity LEDs with automatic light sensor to increase or dim LEDs and improve visibility in dark or direct sunlight conditions
- Controllers have 12/24 VDC capability, providing design efficiency and universal function
- Compact, lightweight design allows use in space-constrained applications



Part #	Description
SC-25	SC controller with 3 On/Off, 1 regulating, 25-ft. harness and bracket
699-0032	SC controller only
398-0484	25-ft. harness only

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



SC-25 Mounting Options

BRACKET MOUNT



PANEL MOUNT



SWITCHBOX CONTROLLERS

- Control up to five ON/OFF and one Rate Control Valve in addition to a master ON/OFF switch
- Control switches for EH2, EH3, EH5 and EH7 KZValve Waterproof Electric Actuators
- Up to five ON/OFF switches on the faceplate
- One Rate Control switch option available
- Master ON/OFF switch comes standard with each Switchbox
- 12-foot power lead
- ON/OFF 5' cord with sealed terminals
- 25' extension cord available
- Feedback lights give ON position indication



HOW TO BUILD A SWITCH BOX

Switch Box Type		Description		Flow Control
Examples: EHPT-16A (single switch box without 25' extension cord), EHSX-36A (three switch box with 25' extension cord)				
EHPT	Switch Box only No Extension Cord	16A	One Switch, ON/OFF 3-Wire/3-Pin WeatherPak Tower SPST	K* = DPDT Paddle Switch R**
		26A	Two Switches	
EHSX	Includes 25' Extension Cord	36A	Three Switches	
		46A	Four Switches	
		56A	Five Switches	
Examples: EHPT-620 (two switch box without 25' extension cord), EHSX-640-K (four switch box with 25' extension cord and additional switch for one flow control valve)				
EHPT	Switch Box only No Extension Cord	610	One Switch, ON/OFF 4-Wire/4-Pin WeatherPak Tower SPST Feedback at open	K* = DPDT Paddle Switch R**
		620	Two Switches	
EHSX	Includes 25' Extension Cord	630	Three Switches	
		640	Four Switches	
		650	Five Switches	
Examples: EHPT-1550 (single switch box without 25' extension cord), EHSX-355 (three switch box with 25' extension cord)				
EHPT	Switch Box only No Extension Cord	155 (0)	One Switch, ON/OFF 4-Wire/4-Pin WeatherPak Tower SPST	K* = DPDT Paddle Switch R**
		255 (0)	Two Switches	
EHSX	Includes 25' Extension Cord	355 (0)	Three Switches	
		455 (0)	Four Switches	
		555 (0)	Five Switches	

*K signifies flow control - 2-wire option. Switch boxes with the 25' extension cord have a total cord length of 30'.
**R 4-wire flow control available as a service item. Not for new applications.

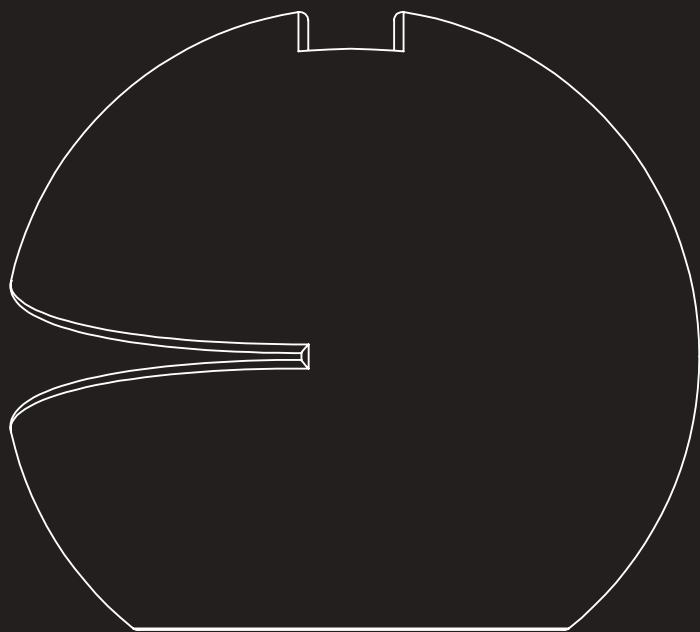
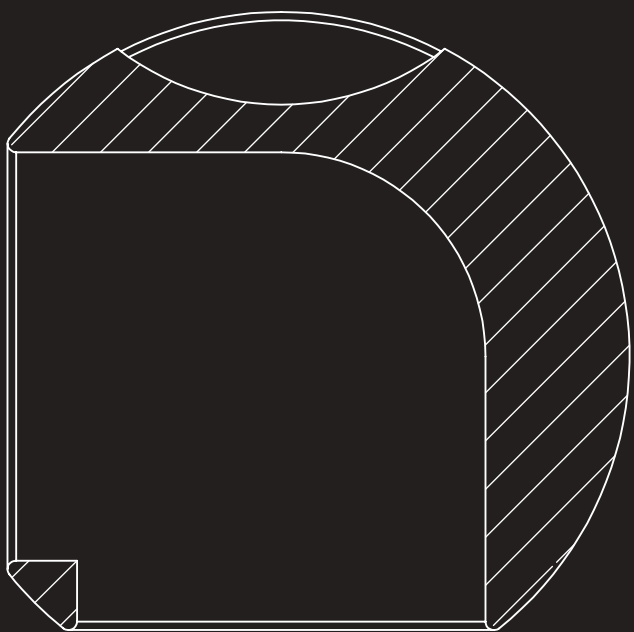
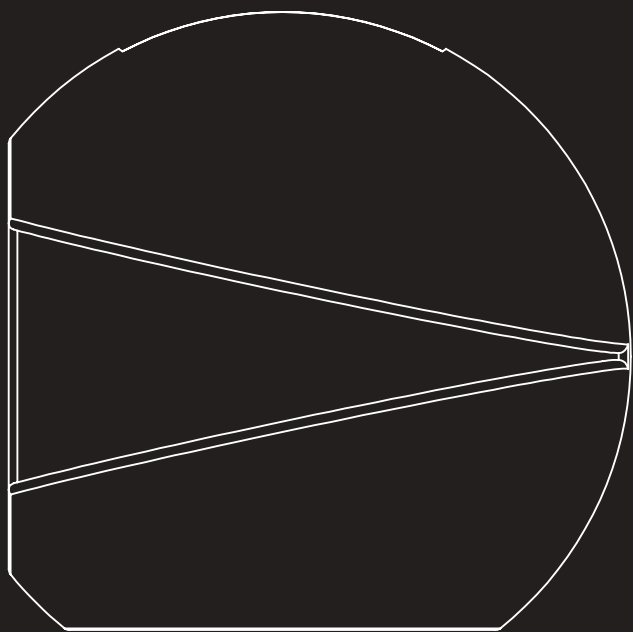
REPLACEMENT PART NUMBERS

Part #	Description
EHPT-157	EHSX Switch Box and Cover
EHPT-388	SPDT Rocker Switch
EHPT-390	DPDT Paddle Switch for Flow Control
EHPT-391	Mini-Spade Fuse, 5 AMP
EHPT-393	Mini-Spade Fuse, 10 AMP
EHPT-395	25' Harness Extension Cord with WeatherPak, 4-Strand/4 Tower
EHPT-395-12	12' Extension Cord with WeatherPak, 4-Strand/4 Tower
800315	Harness, Extension, 60A, 3-Strand, 25' Cable

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

Accessories

Pages 75-84



ACCESSORIES

Electrical Connectors

KZValve offers a wide variety of weather proof electrical connectors to solve connectivity needs when performance is on the line.

- Deutsch DT Series: 2, 3, 4, 6, & 8 position available. Overmold Options available.
- ConXAll Series: 3 and 4 Pin available.
- Ampseal 16 Series: 4 and 6 Pin available.
- WeatherPak Series: 2, 3, 4, 5, 6, & 8 Pin available.
- Metri-Pak 150 & 280 Series: 2, 3, 4, & 6 Pin available.
- M12 Series: 4 & 5 Pin available.



Deutsch DT Series



ConXAll Series



M12 Series



Ampseal 16 Series



Metri-Pak 150 & 280 Series



WeatherPak Series

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

ACCESSORIES

Flanged Manifolds and Clamps

To improve plumbing efficiency, KZValve offers custom manifolds and flanged accessories to maximize performance.



Part #	Male Hose Barbs
211-0035	M200 x 1" Straight HB
211-0031	M200 x 1 1/4" Straight HB
QX-132	M200 x 2" Straight HB
QX-183	M200 x 1 1/2" 90° HB



Part #	Specialty Manifolds
QX-330	3-Section, Linear, M220 Inlet with 3 M200 Outlets
QX-120	2-Section, Y, M220 Inlet with 2 M200 Outlets
100349	3-Section, Tree, M220 Inlet with 3 M220 Outlets



Part #	Tee Fittings
203-0030	M100 Outlet x M200 Inlets
203-0021	M200 Inlet x M200 Outlets
203-0040	M220 Inlet x 1 1/2" HB Outlets
203-0042	M100 Inlet x 1 1/2" HB Outlets



Part #	Description
209-0004	Clamp, M100, Stainless Steel
QX4-200	Clamp, M200, Stainless Steel
100266	Clamp, M220, Stainless Steel
100447	Gasket, M100, EPDM



Part #	Description
211-0075	M200 x M100 Reducer
100264	M200 Cap with Blink 3/8" Gauge Port

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

ACCESSORIES

QD Fittings



KZValve offers a wide variety of fittings and manifold configurations for the TX2 family and 3/8" ZIPValve.



Kit #	Part #	FNPT
511-0019	211-0224	1/2" FNPT x Female QD
511-0016	211-0017	3/4" FNPT x Female QD
511-0164	412-0008	1/2" FNPT x Male QD
511-0163	412-0007	1/4" FNPT x Male QD
511-0162	412-0006	3/4" FNPT x Male QD



Kit #	Part #	Blank Caps
511-0010	211-0062	Female QD End Cap
511-0011	412-0004	Male QD End Cap



Kit #	Part #	Additional Accessories
511-0023	412-0001	1/2" ID Tee Fitting, Female QD x Female QD x Male QD (use to build manifolds)
511-0028	211-0239	M100 Flange x Female QD
	106-0018	Hairpin Retainer
511-0017	299-0030	Metered Bypass Assembly



Kit #	Part #	90° Hose Barbs
511-0027	211-0228	1/2" 90° Hose Barb x Female QD
511-0014	211-0118	3/4" 90° Hose Barb x Female QD
511-0015	211-0119	1" 90° Hose Barb x Female QD



Kit #	Part #	Female Hose Barbs
511-0026	211-0227	1/2" Straight Hose Barb x Female QD
511-0012	211-0066	3/4" Straight Hose Barb x Female QD
511-0013	211-0074	1" Straight Hose Barb x Female QD



Kit #	Part #	Male Hose Barbs
511-0024	412-0002	1/2" Straight Hose Barb x Male QD
511-0025	412-0003	3/4" Straight Hose Barb x Male QD

All Female QD kits include Hairpin, EPDM O-Rings, and Silicone pack.

All Male QD kits include EPDM O-Rings, and Silicone pack.

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

ACCESSORIES

QF Fittings

KZValve introduces the new QF Series to add to a wide variety of fittings and manifold configurations for the TX2 family and 3/8" ZIPValve.



Kit #	Part #	MNPT
511-0169	211-0313	1/4" QF Male Cap NPT
511-0172	211-0357	3/8" QF Male Cap NPT



Kit #	Part #	Blank Caps
511-0170	211-0316	Male QF End Cap



Kit #	Part #	Additional Accessories
511-0167	211-0312	M100 Flange x Female QF
	106-0031	Hairpin 3/16"
511-0181	203-0064	QF x QD Manifold Tee



Kit #	Part #	Gaskets
511-0179	205-0161	QF EPDM Gasket
	205-0181	QF Viton Gasket



Kit #	Part #	Female Hose Barbs
511-0168	211-0315	1" Straight Hose Barb x Female QF



Kit #	Part #	Male Hose Barbs
511-0171	211-0314	1" Straight Hose Barb x Male QF

All Female QF fitting kits include Hairpin and Silicone Grease Pack.

All Male QF fitting kits include EPDM Gasket and Silicone Grease Pack.

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

ACCESSORIES

QH Fittings

Designed to fit the QX Series Valves, KZValve offers the QH Series connections to accomodate a wide variety of fluid plumbing solution needs.



Part #	Male Hose Barbs
QHP-050	1/2" Straight Hose Barb x QH Hairpin Quick-Connect, Polypropylene
QHP-075	3/4" Straight Hose Barb x QH Hairpin Quick-Connect, Polypropylene
QHP-100	1" Straight Hose Barb x QH Hairpin Quick-Connect, Polypropylene



Part #	90° Hose Barbs
QHP-050L	1/2" 90° HB x Male QH Hairpin Quick-Connect, Polypropylene
QHP-075L	3/4" 90° HB x Male QH Hairpin Quick-Connect, Polypropylene
QHP-100L	1" 90° HB x Male QH Hairpin Quick-Connect, Polypropylene



Part #	Description
QX-102	Hairpin, Stainless Steel



Part #	Description
QHP-075F	3/4" Female NPT x QH Hairpin Quick-Connect, Polypropylene
QHP-100M	1" Male NPT x QH Hairpin Quick-Connect, Polypropylene

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

CHARACTERIZED
V-PORT BALL VALVES

3-Way Bottom Load

1/2", 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.

Maximum PSI: 1" Valves

150 psi (10.3 bar) at 70° F (21° C) Polypropylene
600 psi (41.4 bar) at 70° F (21° C) Stainless Steel

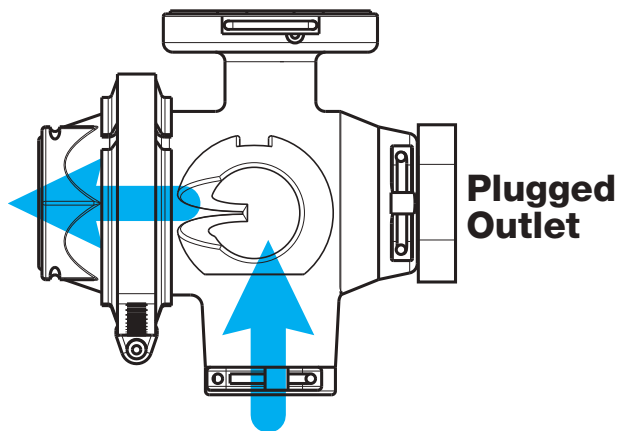
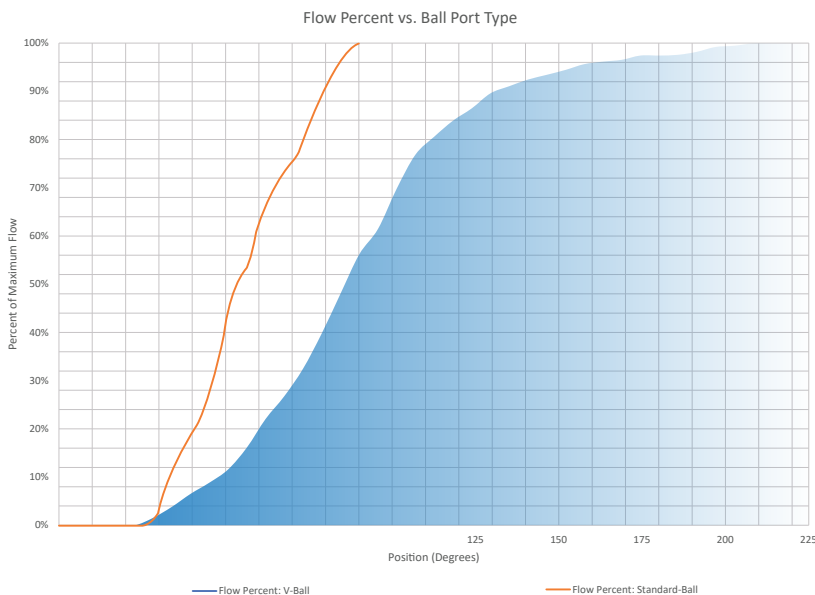
1 1/2" Valve

150 psi (8.6 bar) at 70° F (21° C) Polypropylene
600 psi (41.4 bar) at 70° F (21° C) Stainless Steel

Poly Part #	SS Part #	Size	GPM Flow Rate*	Liter/min Flow Rate*
H6D37	S6F22	1/2"	6	22.7
F6F33	S6F22	1"	25	94
F6H22	S6H22	1 1/2"	47	177

*Flow rate at 1 psi drop, water

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



KEY
FEATURES

- Near linear flow control
- Larger range of fluid control
- 225° or 255° rotation V-Ball
- From low volume to full port

CHARACTERIZED
Q-PORT BALL VALVES

2-Way Stainless Steel

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

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

Maximum PSI: 1/4", 3/8" and 1/2" Valves

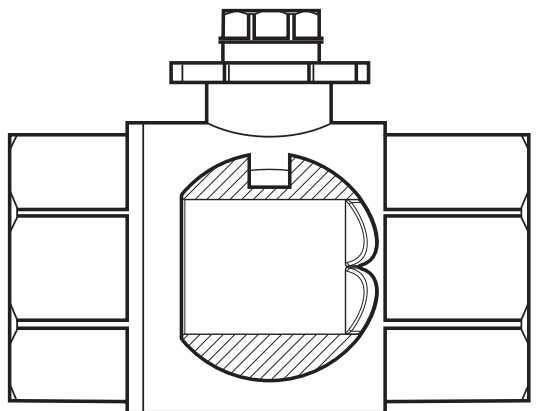
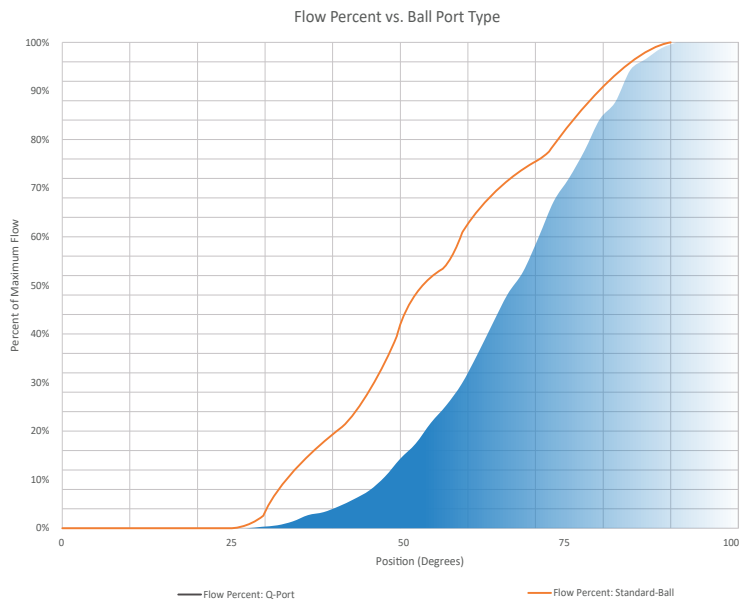
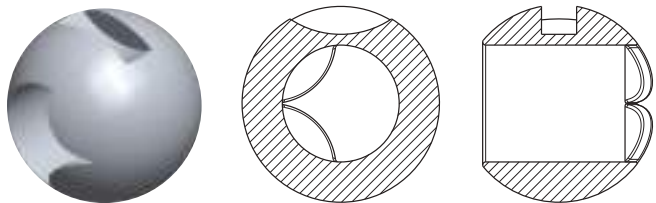
2,000 psi (137.9 bar) at 70° F (21° C)

1 1/2" Valves

1,500 psi (103.4 bar) at 70° F (21° C)

Part #	Size	Valve Control
88BQ3	1/4"	Regulating
88CQ3	3/8"	Regulating
88DQ3	1/2"	Regulating
S2FQ2	1"	Regulating
88HQ2	1 1/2"	Regulating

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

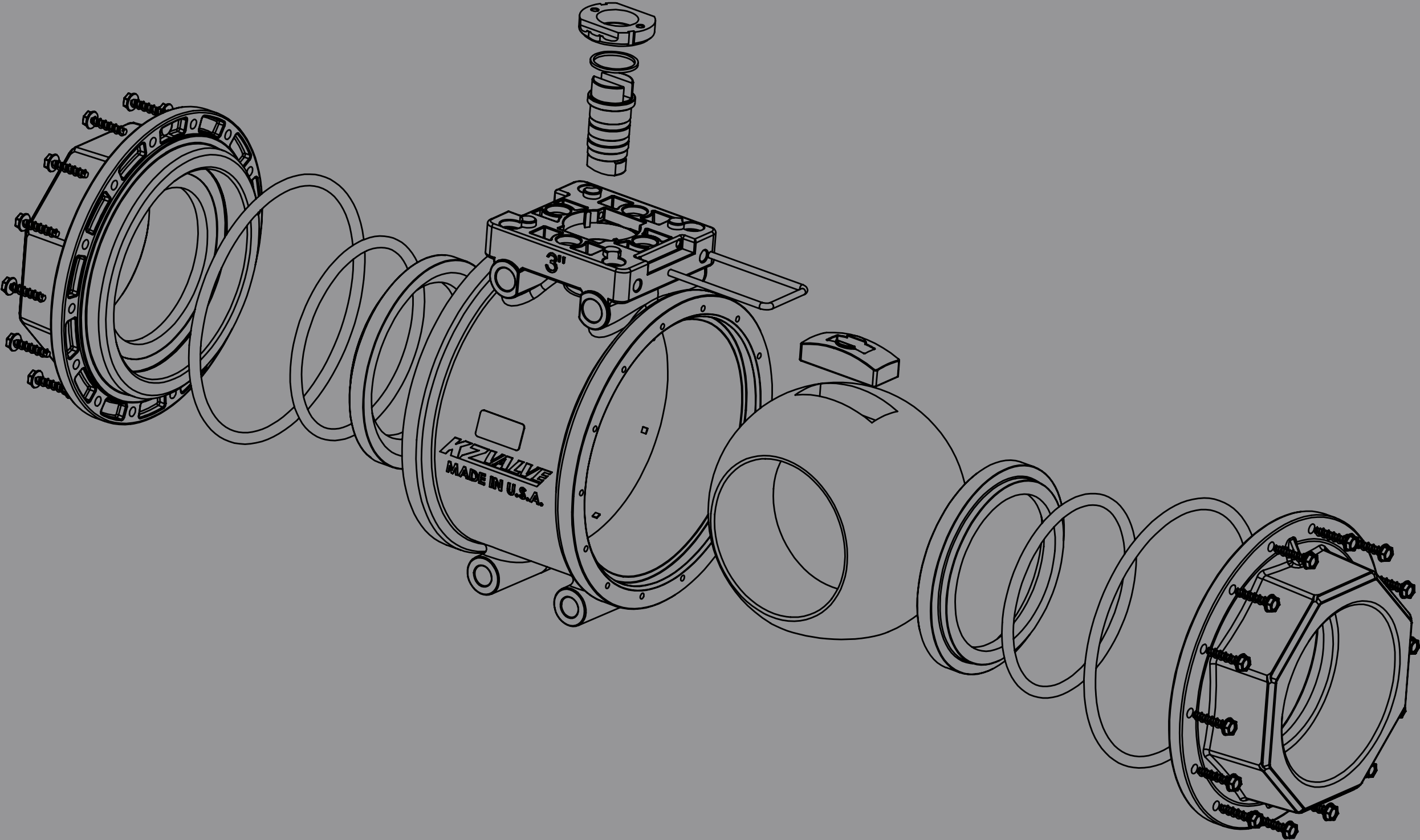


KEY
FEATURES

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

Technical Data & Wiring Diagrams

Pages 87-148



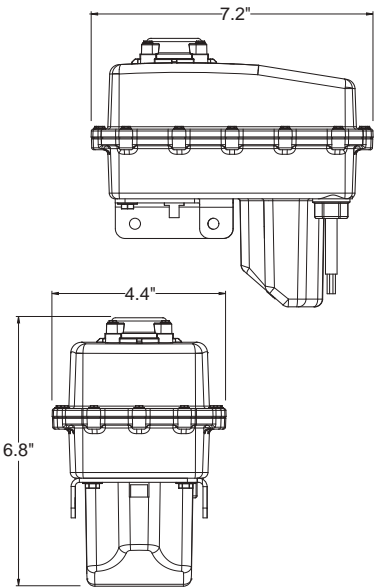
EH2 SERIES Technical Data & Wiring Diagrams



Technical Data		EH2 Series
Power Supply		12/24 VDC, 24 VAC
Power Consumption	Running	1.0 - 2.0 Amps
	Stall	2.0 - 9.0 Amps
Electrical Connection		1.5' 18 AWG Tinned Copper terminated in Deutsch DT, WeatherPak, Metri-Pak, Ampseal
Control		On/Off, three-wire; 2 power, 1 signal < 5mA Input Impedance 1.2K Switching Threshold 2.5V @ 12VDC
Torque		Running: 150 to 220in/lb Stall: Max 440in/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 7.0 sec. No Load @ 13.8 VDC
Position Indication		Visual Indicator, Yellow = On/Off, Red = Positioning, Aux. Limit Switches, 5 K Potentiometer
Manual Override		Capable with intermediate coupled valves, power disconnected
Enclosure Material		Glass-filled Nylon
Enclosure Rating		NEMA 6P, 7D, IP68, ISO 20653 & IEC 60529
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. (1.72 kg.)

- Application** For on/off and regulating control of liquid or gas in various systems. Control is typically from PLC contact(s), agricultural monitor, or a manual switch capable of minimum 5mA.
- Operation** Provides maintenance-free operation for compatible applications. Available with various electrical connection types, feedback, and built-in position indication showing the extents of travel.
- Installation** May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.*

*Consult factory for mounting options only.



Specification Sheet

Control Types

On/Off, 3-wire, SPST

Positionable, 4-wire, SPDT

Feedback Options

Positionable, 2-wire, DPDT

CAN/ISO BUS

Potentiometer: 1% Tolerance Max Power: 0.4 Watt Wiper Current: Max <1 µA

Potentiometer calibrated on 5 V source.
Signal/wiper set to 1 V @ Closed.

2 Dry Limit Switches, Fused to 500 mA

DRY AUXILIARY CONTACTS INSIDE ACTUATOR

EH3 SERIES

Technical Data & Wiring Diagrams



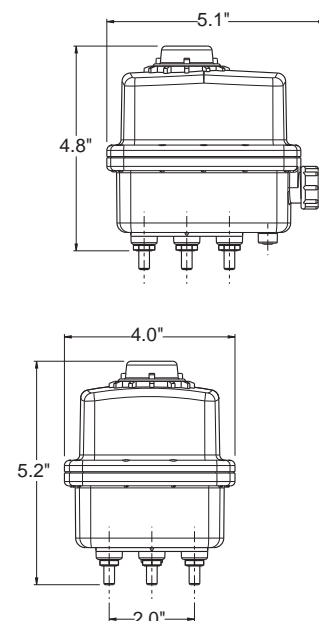
Technical Data		EH3 Series
Power Supply		12/24 VDC, 24 VAC
Power Consumption	Running	1.0 - 1.5 Amps
	Stall	3.0 - 5.5 Amps
Electrical Connection		1.5' 18 AWG Tinned Copper terminated in Deutsch DT, WeatherPak, Metri-Pak, Ampseal
Control		On/Off, three-wire; 2 power, 1 signal < 5mA Input Impedance 0.41K Switching Threshold 2.5V @ 12VDC 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
Torque	Running	40 to 70in/lb
	Stall	Max 150in/lb
Direction of Rotation		CCW to On, CW to Off
Mechanical Angle of Rotation		Factory set to 91°, Adjustable up to 300°
Running Time		1.0 to 10.0 sec. No Load @ 13.8 VDC
Position Indication		Visual Indicator, Yellow = On/Off, Red = Positioning, Aux. Limit Switches, 5 K Potentiometer
Manual Override		Capable with intermediate coupled valves, power disconnected
Enclosure Material		Glass-filled Nylon
Enclosure Rating		NEMA 6P, 7D, IP68, ISO 20653 & IEC 60529
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. (0.8 kg.)

• **Application** For on/off and regulating control of liquid or gas in various systems. Control is typically from PLC contact(s), agricultural monitor, or a manual switch capable of minimum 5mA.

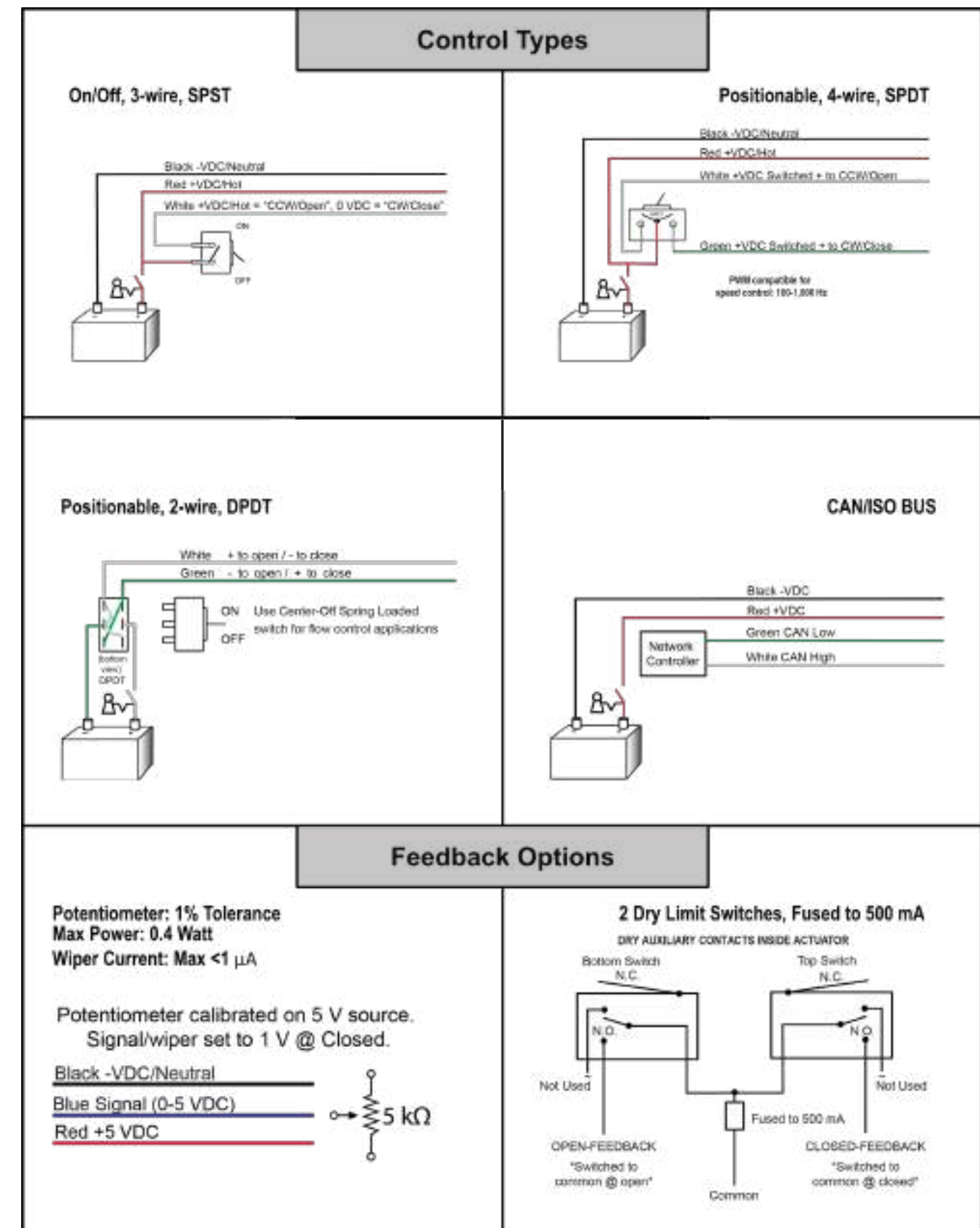
• **Operation** Provides maintenance-free operation for compatible applications. Available with various electrical connection types, feedback, and built-in position indication showing the extents of travel.

• **Installation** May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.*

*Consult factory for mounting options only.



Specification Sheet



EH5 SERIES

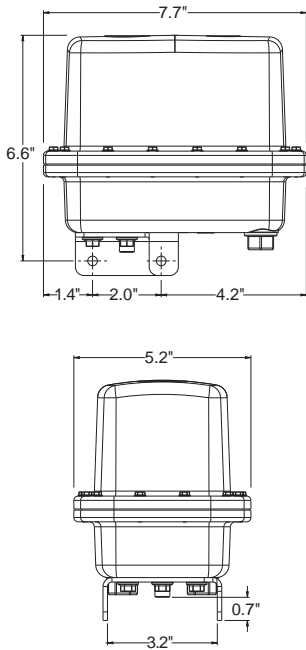
Technical Data & Wiring Diagrams



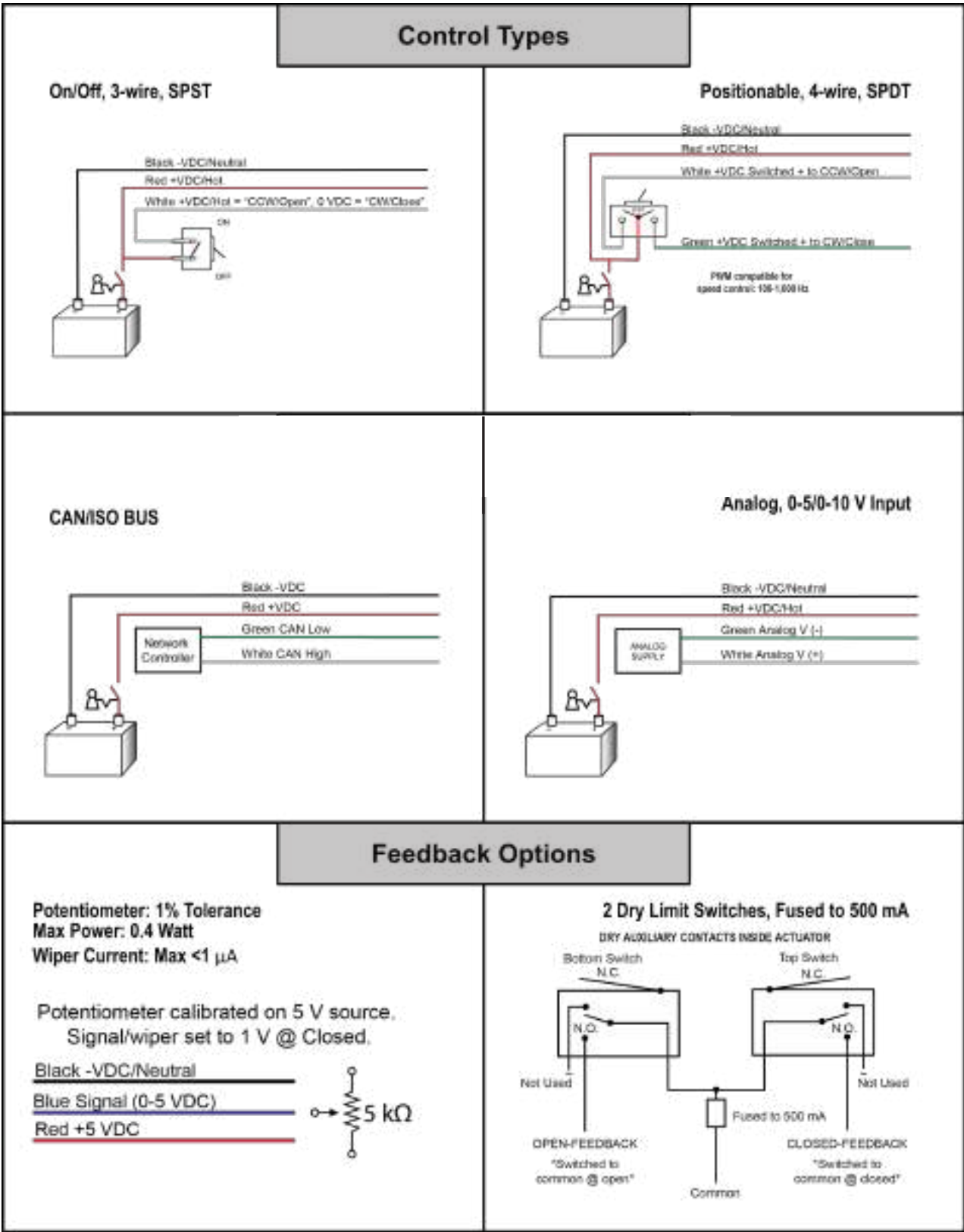
Technical Data		EH5 Series
Power Supply		12/24 VDC, 24 VAC
Power Consumption	Running	2.5 Amps
	Stall	8.0 Amps
Electrical Connection		1.5' 18 AWG Tinned Copper terminated in Deutsch DT, WeatherPak, Metri-Pak, Ampseal
Control		On/Off, three-wire; 2 power, 1 signal < 5mA Positioning, four-wire; 2 power, 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
Torque	Running	350in/lb
	Stall	Max 750in/lb
Direction of Rotation		CCW to On, CW to Off
Mechanical Angle of Rotation		Factory set to 91°, Adjustable up to 300°
Running Time		3.0 sec. No Load @ 13.8 VDC, Digital Speed Control Available
Position Indication		Aux. Limit Switches, 5 K Potentiometer
Manual Override		Capable with intermediate coupled valves, power disconnected
Enclosure Material		Glass-filled Nylon
Enclosure Rating		NEMA 6P, 7D, IP68, ISO 20653 & IEC 60529
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. Control is typically from PLC contact(s), agricultural monitor, or a manual switch capable of minimum 5mA.
- **Operation** Provides maintenance-free operation for compatible applications. Available with various electrical connection types and feedback.
- **Installation** May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.*

*Consult factory for mounting options only.



Specification Sheet



Feedback Options

Potentiometer: 1% Tolerance
Max Power: 0.4 Watt
Wiper Current: Max <1 µA

2 Dry Limit Switches, Fused to 500 mA
DRY AUXILIARY CONTACTS INSIDE ACTUATOR

EH7 SERIES

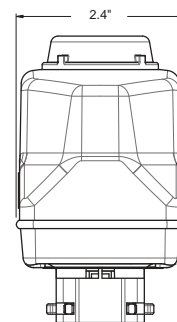
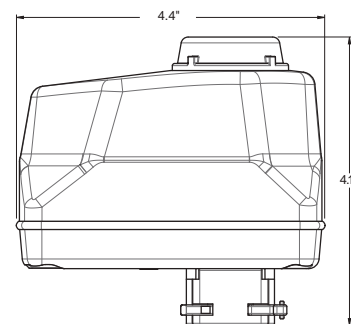
Technical Data & Wiring Diagrams



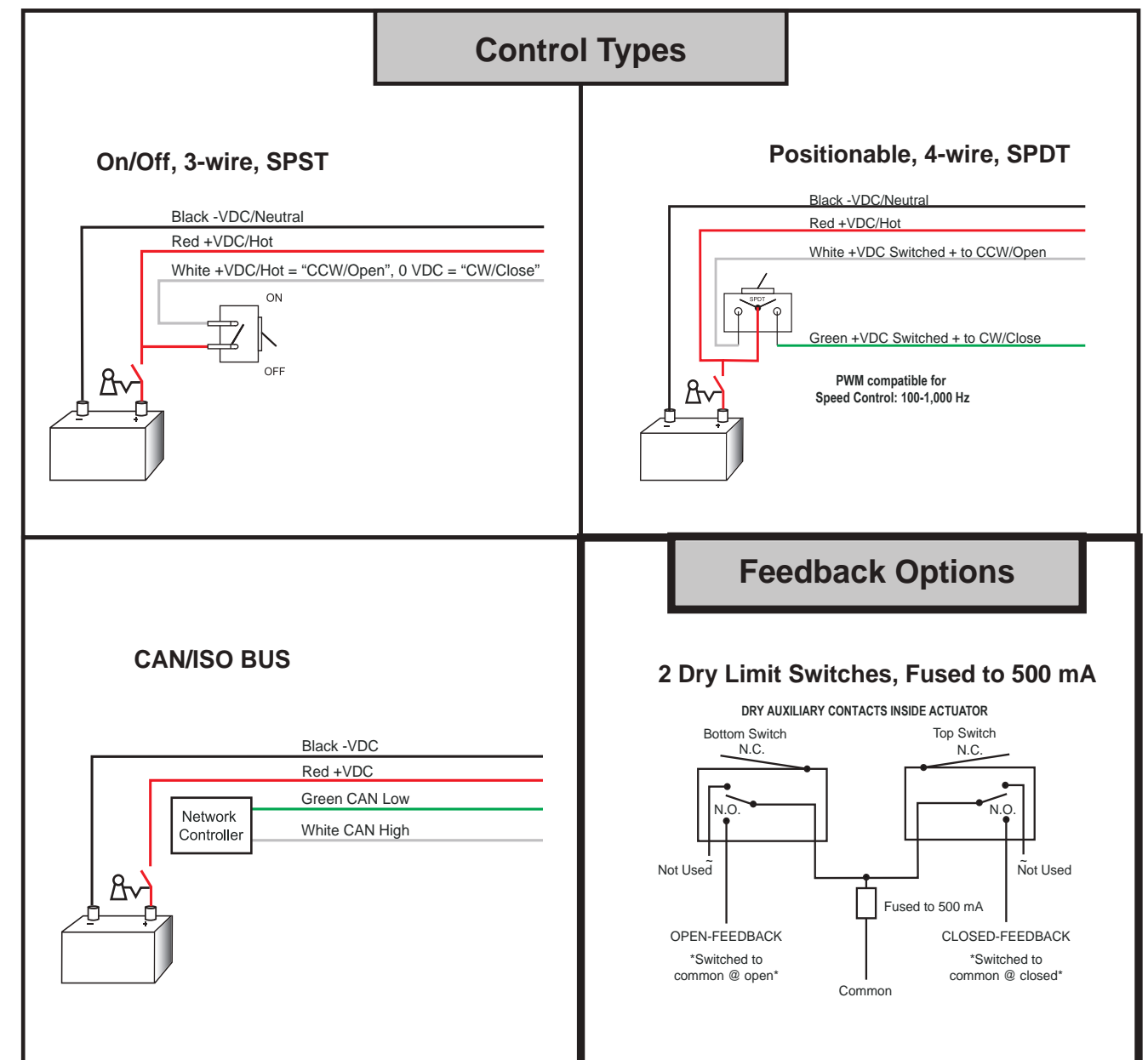
Technical Data		EH7 Series
Power Supply		12 VDC, 24 VDC
Power Consumption	Running	0.3 Amps - 1.5 Amps
	Stall	1.0 Amps - 6.0 Amps
Electrical Connection		1.5' 18 AWG Tinned Copper terminated in Deutsch DT, WeatherPak, Metri-Pak, Ampseal
Control	On/Off, three-wire; 2 power, 1 signal < 5mA	
	Input Impedance 15K Switching Threshold 2.5V @ 12VDC	
Torque	Running	10in/lb
	Stall	Max 40in/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 0.6 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, ISO 20653 & IEC 60529
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. (0.43 kg.)

- **Application** For on/off and regulating control of liquid or gas in various systems. Control is typically from PLC contact(s), agricultural monitor, or a manual switch capable of minimum 5mA.
- **Operation** Provides maintenance-free operation for compatible applications. Available with various electrical connection types, feedback, and built-in position indication showing the extents of travel.
- **Installation** May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.*

*Consult factory for mounting options only.



Specification Sheet



EH8 SERIES Technical Data & Wiring Diagrams

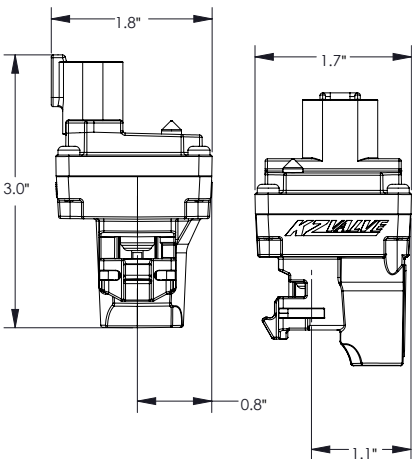


Technical Data		EH8 Series
Power Supply		12 VDC, 24 VDC
Power Consumption	Running	0.40 Amps
	Stall	1.6 Amps
	Idle	0.03 Amps
Electrical Connection		M12 4-pin, Deutsch DT or Ampseal 16 4-pin receptacle
Control		On/Off, four-wire; 2 power, 1 signal < 5mA
Input Impedance 3.3K		three-wire; 2 power, 1 signal
Switching Threshold 2.5V @ 12VDC		
2-Way Direction of Rotation		Counter-clockwise to On, clockwise to Off
3-Way Direction of Rotation		Counter-clockwise to On, clockwise to On
2-Way Mechanical Angle of Rotation		Factory set to 91°
3-Way Mechanical Angle of Rotation		Factory set to 180°
2-Way Running Time		0.2 sec., no load @ 13.8VDC
3-Way Running Time		0.4 sec., no load @ 13.8VDC
Position Indication		Visual Indicator LED; Green = Open, Red = Closed
Enclosure Material		Glass-filled nylon, polycarbonate indicator with stainless steel hardware
Enclosure Rating		NEMA 6P, 7D, IP68, ISO 20653 & IEC 60529
Operating Temperature		-40°F to 185°F (-40°C to 85°C)
Storage Temperature		-67°F to 221°F (-55°C to 105°C)
Servicing		Maintenance-free
Weight 1/4"	2-Way	4.0 oz.
	3-Way	5.5 oz.
Weight 3/8"	2-Way	4.0 oz.
	3-Way	6.5 oz.

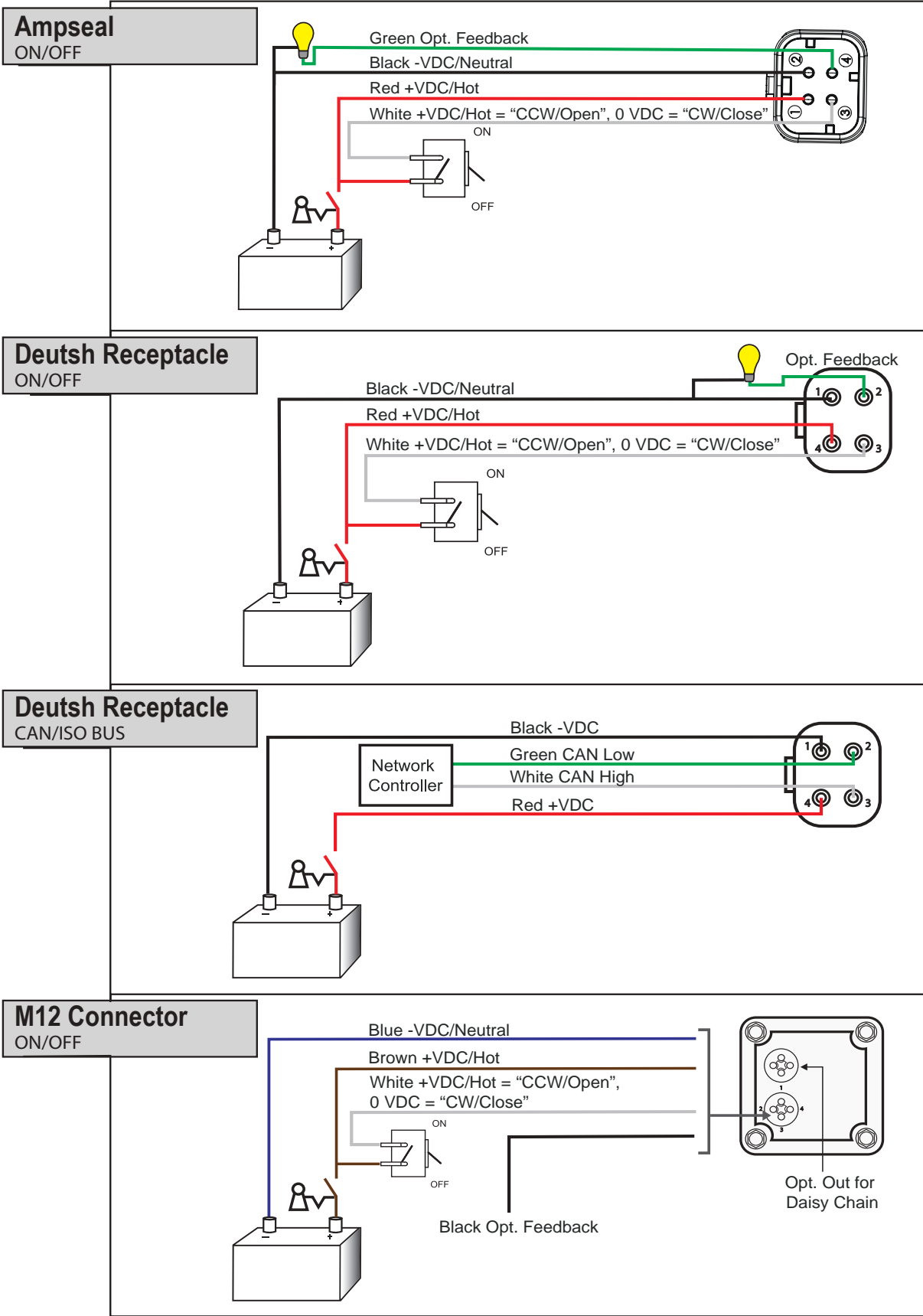
- Application** For on/off control of liquid or gas in various systems. Control is typically from PLC contact(s), agricultural monitor, or a manual switch capable of minimum 5mA.
- Operation** Provides maintenance-free operation for compatible applications. Available with various electrical connection types, feedback, and built-in position indication showing the extents of travel.
- Installation** May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.*

*Consult factory for mounting options only.

LED INDICATOR STATES			
INDICATOR	RATE	COLOR	STATUS
BLINKING	2.8Hz	RED	FAULT
SOLID	-	RED	CLOSED
SOLID	-	GREEN	OPEN



Specification Sheet



ACTUATOR

Data Spec Sheet

TROUBLESHOOTING GUIDE

Case: Glass Filled Nylon
Position Indicator: Dome Enclosure, Clear Polycarbonate
Hardware: Stainless Steel, 300 Series, 400 Series with Coating
Wire Leads: Standard 16" wire length, Black PVC Jacket, Round or Flat Wire, Color Coded 18 or 20 gauge multi-strand, tinned copper
Wire Connectors: Weather Pak, AMPSEAL, Conxall, Metri-Pak, Deutsch DT, M12, with mating bare wire pigtail available
Input Voltage: 12 VDC, 24 VDC, 24 VAC
Control: Switching signal current ~5 mA (Excludes 2 wire reverse polarity regulating "50K" control type)
Shaft Rotation: Standard ¼ Turn 90°, multi stop available, up to 300° rotation
Normal Operating Temperature Range: -32 °F up to 125 °F
Storage Temperature Range: -40 °F up to 185 °F
Duty Cycle: 50%

KZValve 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 **KZValve** 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 KZValve AUTHORIZED SERVICE/REPAIR CENTER. OPENING ACTUATOR VOIDS WARRANTY.

Actuator Issues

Problem	Possible Cause	Solution
Actuator will not run at all	i) Limit switch problem	i) Check and adjust limit switches per instructions.
	ii) Cam assembly problem	ii) Check and adjust cams per instructions.
	iii) Integrated circuit breaker tripped	iii) Disconnect power to unit for 20 seconds; reconnect power.
	iv) Dead or open short in control harness	iv) 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.
	v) Dead or open short in actuator control circuit	v) 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.
Motor runs continuously	vi) Failed gear motor	vi) 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.
	i) Limit switch problem	i) Check and adjust limit switches per instructions.
	ii) Cam assembly problem	ii) Check and adjust cams per instructions.
Constantly tripping integrated circuit breaker or blowing line fuse	iii) Defective or damaged circuit board component	iii) Replace circuit board assembly.
	i) Valve operating torque excessive; tight from incompatible valve or media, or buildup	i) 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.
	ii) Defective or damaged circuit board component	ii) Many models have internal relays. Listen for audible click upon activation. Bypass circuit board assembly to test motor, see vi) Failed gear motor. Replace motor if rotation is not smooth.
	iii) Failed gear motor	iii) 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.

*For additional trouble shooting information regarding device LED feedback options, please reference the **KZValve LED Feedback Manual**, available upon request.

Valve Issues

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

Actuator Gear Motor Specs

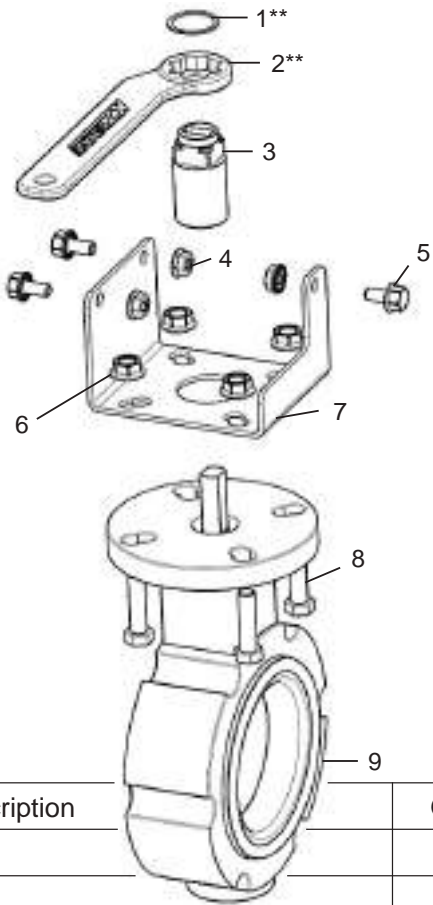
Actuator Model	Motor Code	90° Rotation Cycle Time sec. @ 12VDC	Recommended Torque @ 12 VDC (inch lbs)	Max Torque @ 12 VDC (inch lbs)	Current Amps Run/Stall @ 12 VDC
EH8	A	0.2	consult engineering		0.5/1.1
EH8	B	0.2	consult engineering		0.3/1.6
EH7	K	0.5	consult engineering		1.5/6
EH7	J	7.0	consult engineering		0.3/1
EH3	2	0.8	75	105	1/5
EH3	N	1.5	60	84	1/2.5
EH3	P	2.5	40	56	1/2.5
EH3	Q	7.0	40	56	1/2
EH3	O	12.0	40	56	0.8/1.5
EH2	Z	0.5	100	140	4/12
EH2	Y	1.5	220	308	1.5/9
EH2	V (24 VDC)	1.5	175	245	1.5/4
EH2	W	3.0	220	308	2/6
EH2	U	8.0	220	308	0.7/2.5
EH5	5	3.0	350	525	2.5/8

VALVE PARTS

50 Series – EH2

Design Features:

- 2" - 3" Butterfly Valve
- Max PSI: 150 at 70° F
- 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 EHPT-57K EHPT-58i EHPT-58K EHPT-59i EHPT-59K	valve, 2" cast iron/ stainless steel butterfly, BUNA seat valve, 3" cast iron/ stainless steel butterfly, BUNA seat valve, 2" cast iron/ stainless steel butterfly, VITON seat valve, 3" cast iron/ stainless steel butterfly, VITON seat valve, 2" cast iron/ stainless steel butterfly, EPDM seat valve, 3" cast iron/ stainless steel butterfly, EPDM seat	1

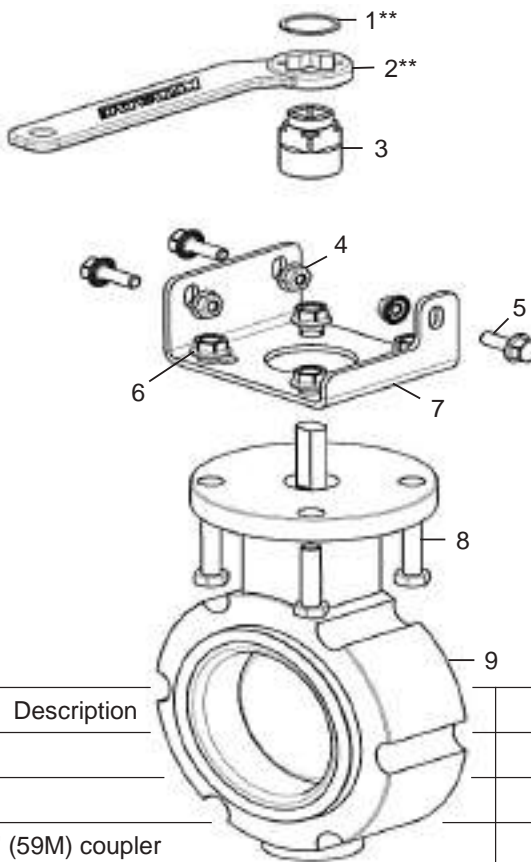
**Manual handle override only

Exploded View Diagrams

50 Series – EH5

Design Features:

- 3" - 5" Butterfly Valve
 - Max PSI: 150 at 70° F (3")
 - Max PSI: 50 at 70° F (4" - 5")
 - Manual Override Capabilities
 - Valve Body:
 - Cast Iron (3")
 - Stainless Steel (3")
 - Cast Aluminum (4" - 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 208-0024	coupler - 4" (57L, 58L, 59L), 5" (59M) - 2" (57I, 58I, 59I), 3" (57K, 58K, 59K)	1
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 QX-221	nut, 5/16 - 18, stainless steel, hex nut, serrated flange, 5/16 - 18, stainless steel, coated	4
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 EHPT-58K EHPT-59K EHPT-57L EHPT-58L EHPT-59L EHPT-59M	valve, 3" cast iron/stainless steel butterfly, BUNA seats valve, 3" cast iron/stainless steel butterfly, VITON seats valve, 3" cast iron/stainless steel butterfly, EPDM seats valve, 4" aluminum/stainless steel butterfly, BUNA seats valve, 4" aluminum/stainless steel butterfly, VITON seats valve, 4" aluminum/stainless steel butterfly, EPDM seats valve, 5" aluminum/stainless steel butterfly, EPDM seats	1

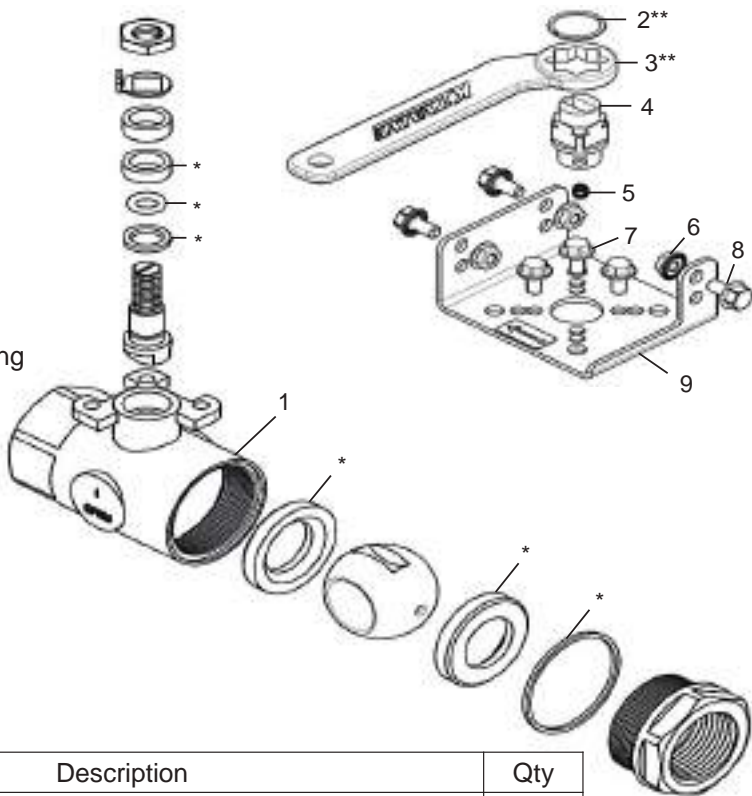
**Manual handle override only

VALVE PARTS

67 Series – EH2

Design Features:

- 3/4" - 2" Vented 2-Way Stainless Steel Ammonia Ball Valves
 - Max PSI: 2,000 at 70° F (3/4" - 1")
 - Max PSI: 1,500 at 70° F (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***
 - 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)	

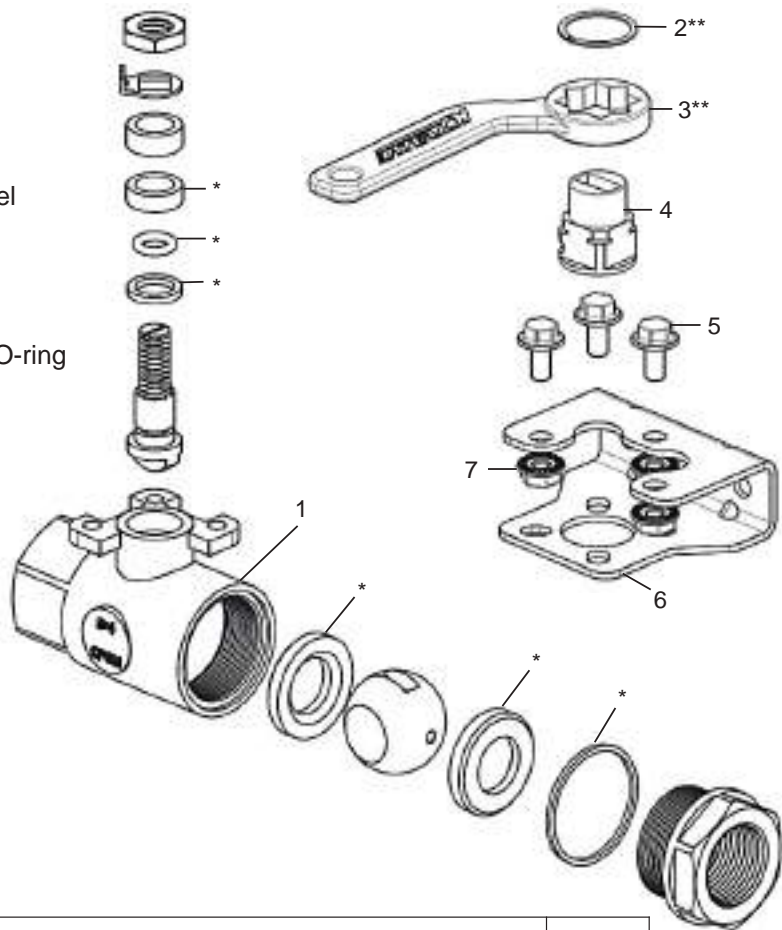
*Items included in valve repair kits
**Manual handle override only

Exploded View Diagrams

67 Series – EH3

Design Features:

- 1/4" - 3/4" Vented 2-Way Stainless Steel Ammonia Ball Valves
 - Max PSI: 2,000 at 70° F (1/4" - 3/4")
 - Valve Body: CF8M Stainless Steel
 - Ball: 316 Stainless Steel (vented)
 - Stem: 316 Stainless Steel with EPDM O-ring
 - Seat: ME-PTFE***
 - 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)	

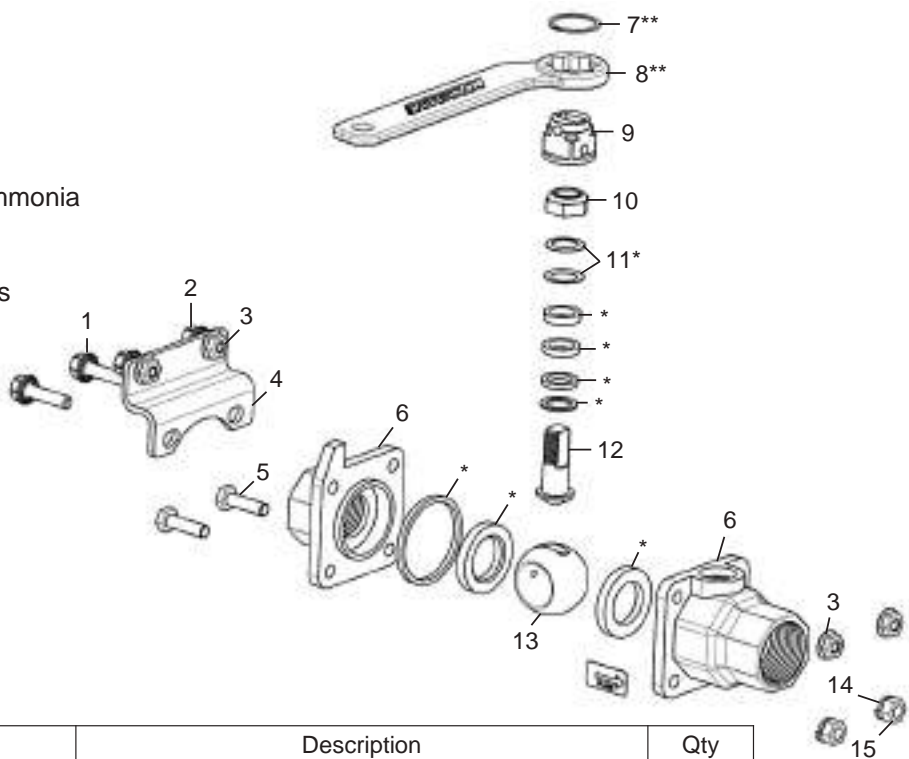
*Items included in valve repair kit
**Manual handle override only

VALVE PARTS

68 Series – EH2

Design Features:

- 1" - 1 1/4" Vented 2-Way Ammonia Ball Valves
- Mas PSI: 800 at 70° F
- 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)	

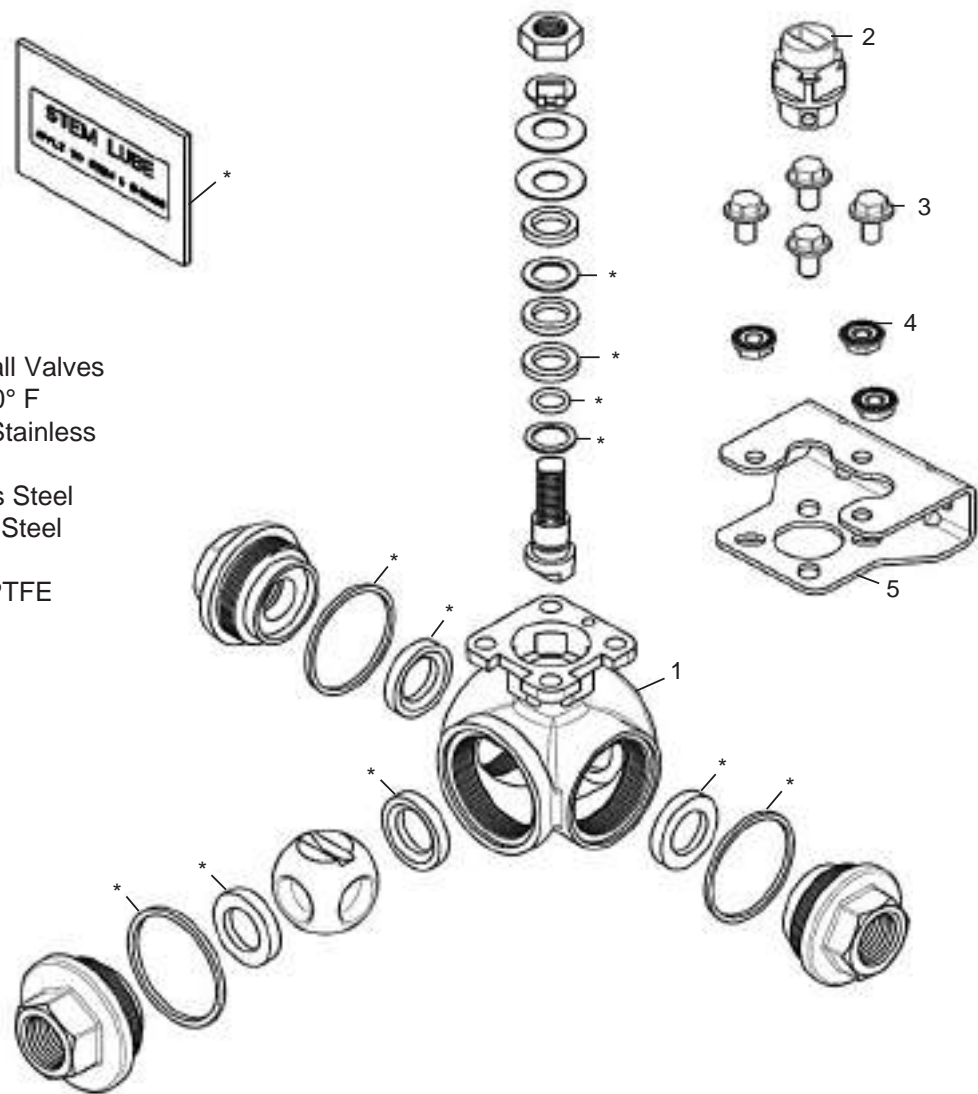
*Items included in valve repair kits
**Manual handle override only

Exploded View Diagrams

73 Series – EH3

Design Features:

- 3/8" - 1/2" 3-Way Ball Valves
- Max PSI: 1,000 at 70° F
- Valve Body: CF8M Stainless Steel
- Ball: CF8M Stainless Steel
- Stem: 316 Stainless Steel
- Seat: ME-PTFE
- Stem Packing: ME-PTFE



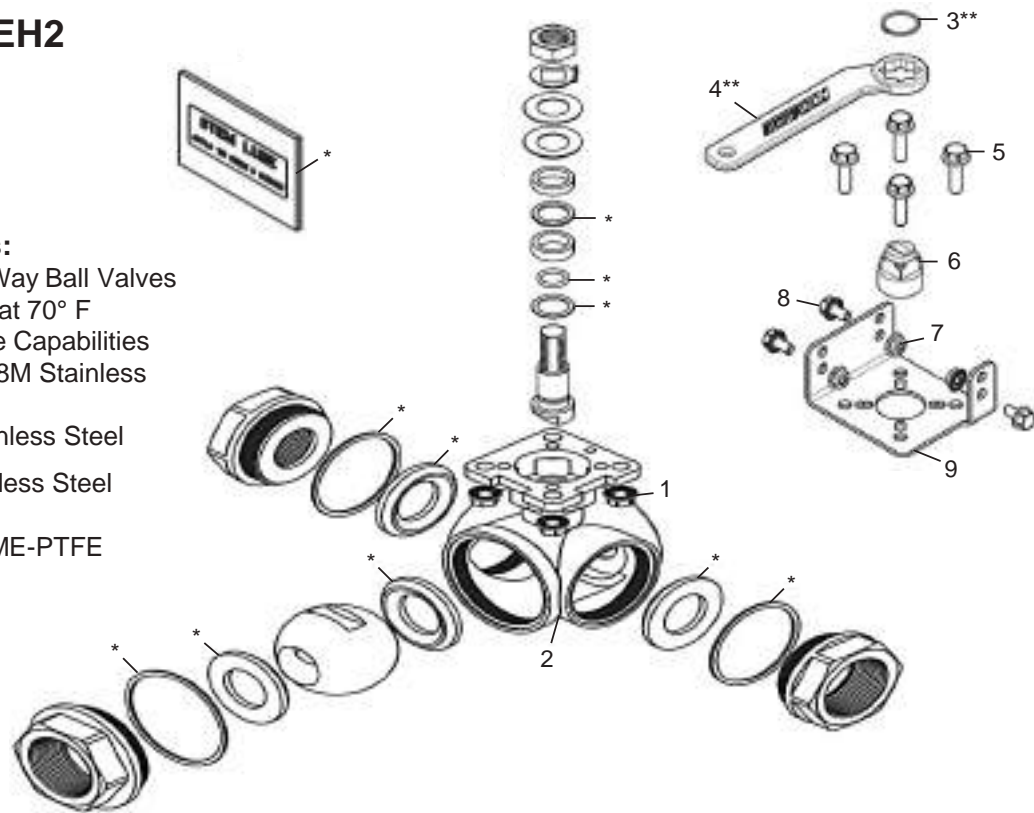
No.	Part Number	Description	Qty
1	299-0021 299-0023	valve, 3-way, 3/8" standard port 4-seat valve, 3-way, 1/2" 4-piece, 4-seat	1
2	208-0043	coupler - 3/8" (73C), 1/2" (73D)	1
3	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	4
4	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
5	105-0045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

VALVE PARTS

73 Series – EH2

- Design Features:**
- 3/4" - 1 1/2" 3-Way Ball Valves
 - Max PSI: 1,000 at 70° F
 - Manual Override Capabilities
 - Valve Body: CF8M Stainless Steel
 - Ball: CF8M Stainless Steel
 - Stem: 316 Stainless Steel
 - Seat: ME-PTFE
 - Stem Packing: ME-PTFE



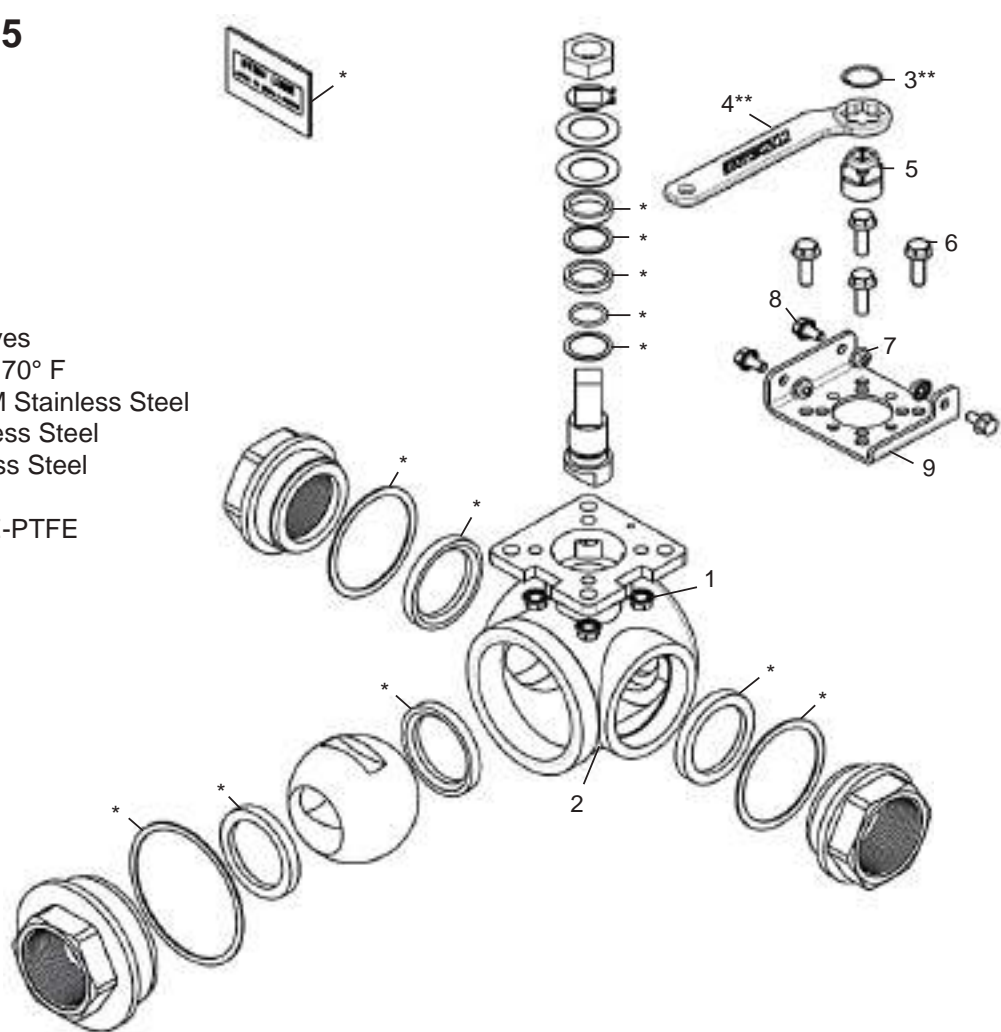
No.	Part Number	Description	Qty
1	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
2	299-0025	valve, 3-way, 1 1/2" 4-piece, 4-seat	1
	299-0005	valve, 3-way, 3/4" 4-piece, 4-seat	
	299-0024	valve, 3-way, 1" 4-piece, 4-seat	
3**	100289	retaining ring, spiral	1
4**	212-0002	handle	1
5	100-0011	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

Exploded View Diagrams

73 Series – EH5

- Design Features:**
- 2" 3-Way Ball Valves
 - Max PSI: 1,000 at 70° F
 - 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)	

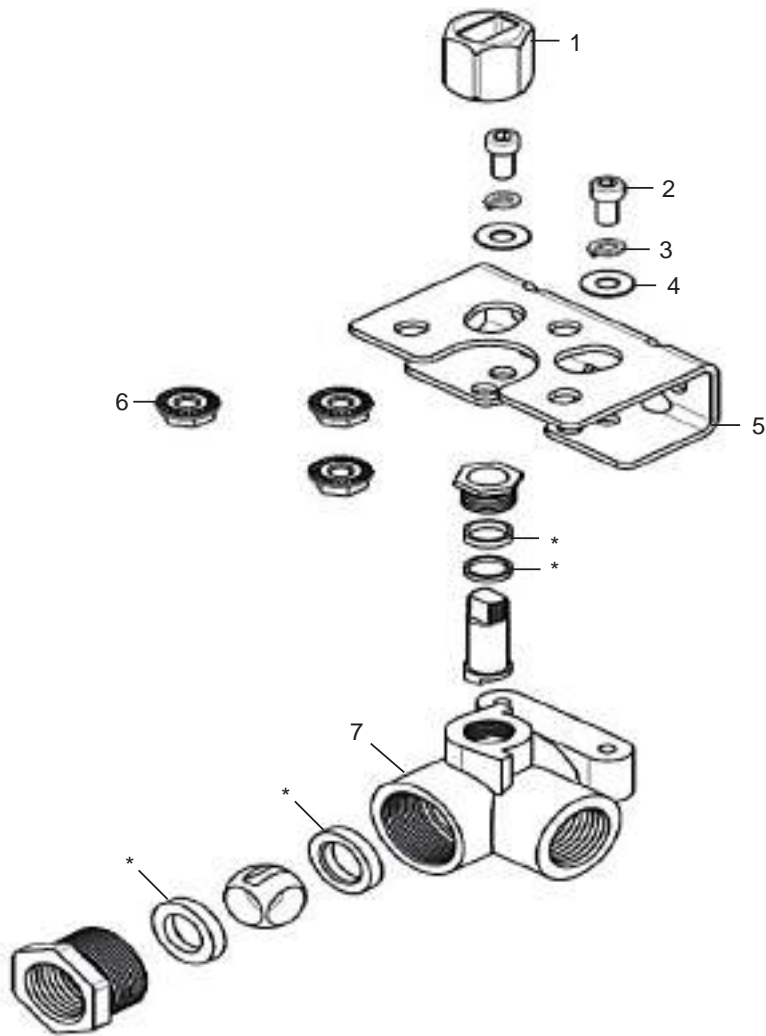
*Items included in valve repair kits
**Manual handle override only

VALVE PARTS

78 Series – EH3

Design Features:

- 1/2" - 3/4" 3-Way Ball Valves
- Max PSI: 400 at 70° F
- 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)	

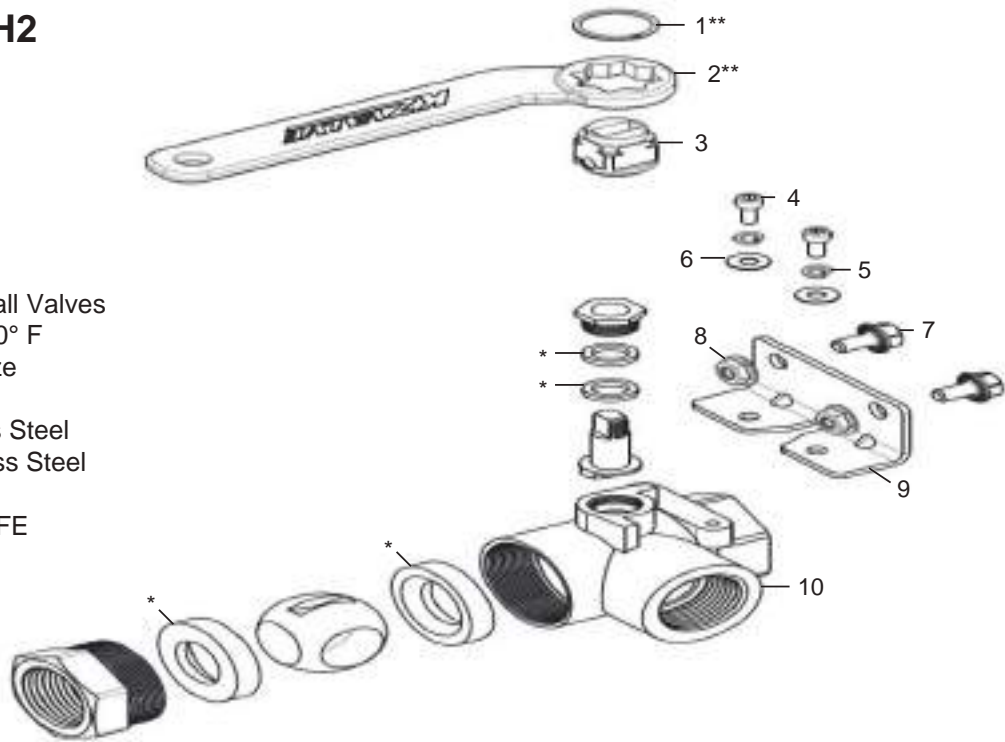
*Items included in valve repair kits

Exploded View Diagrams

78 Series – EH2

Design Features:

- 3/4" - 2" 3-Way Ball Valves
- Max PSI: 400 at 70° F
- 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
8	101-0002	nut, serrated flanged, 1/4 - 20, stainless steel, coated	2
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

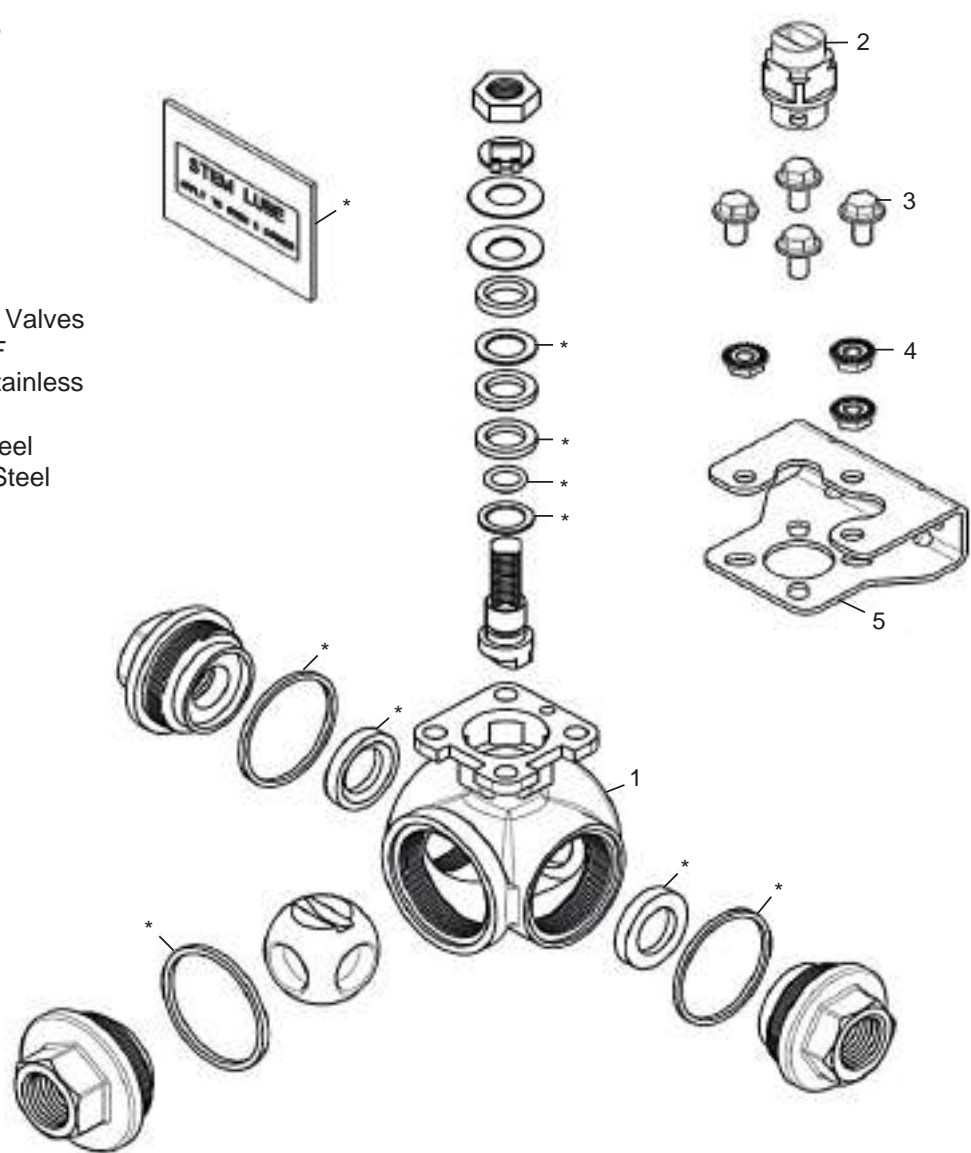
**Manual handle override only

VALVE PARTS

79 Series – EH3

Design Features:

- 1/2" - 3/4" 3-Way Ball Valves
- Max PSI: 800 at 70° F
- 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)	

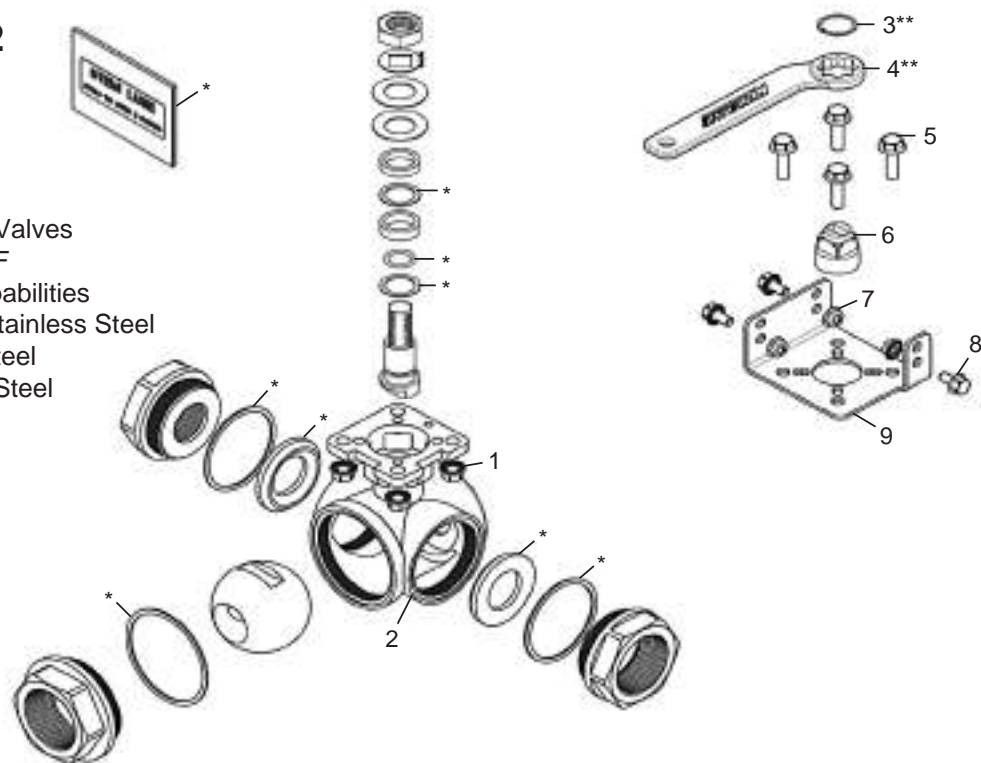
*Items included in valve repair kits

Exploded View Diagrams

79 Series – EH2

Design Features:

- 3/4" - 2" 3-Way Ball Valves
- Max PSI: 800 at 70° F
- 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) - Before 2008	
	210-0009-1	valve repair kit - 3/4" (79E) - 2008 to present	
	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

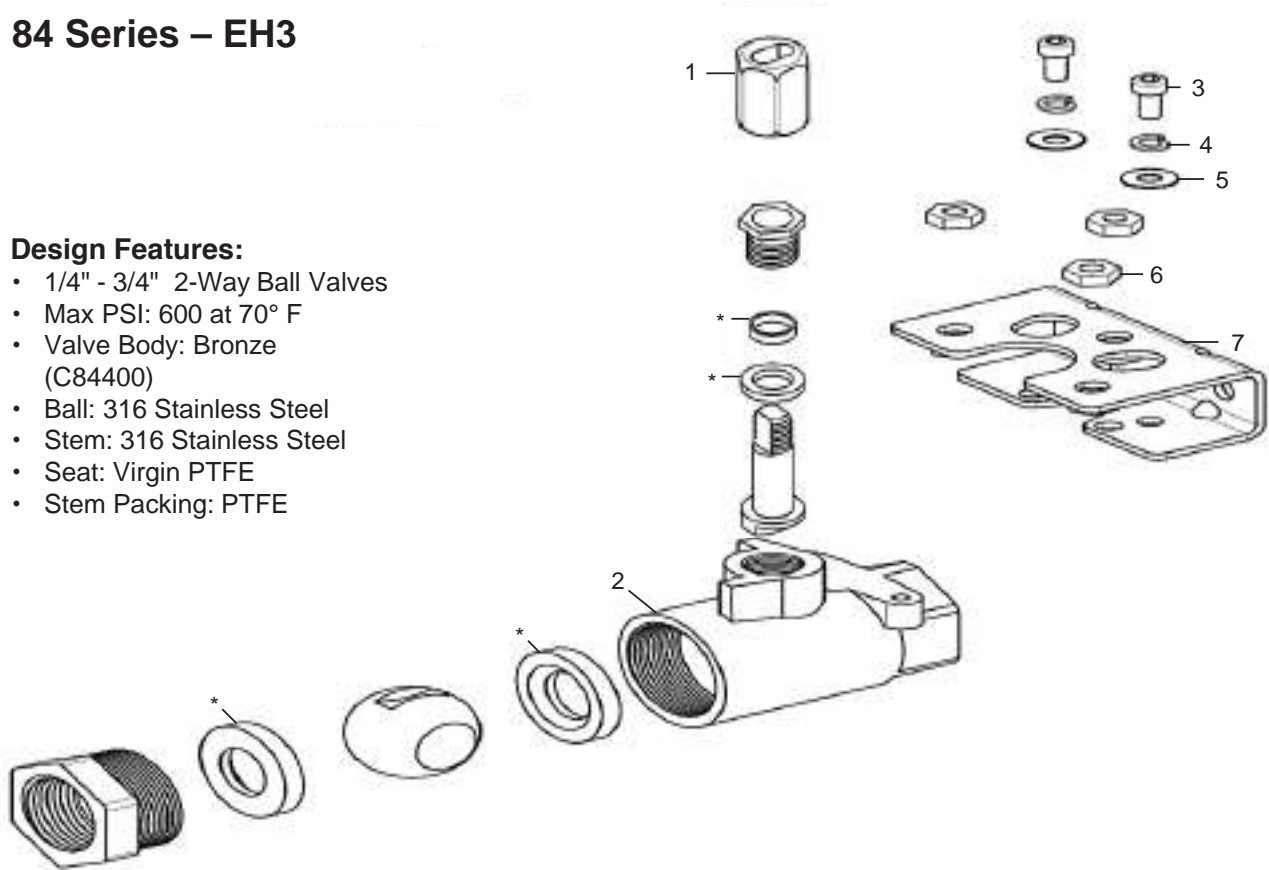
**Manual handle override only

VALVE PARTS

84 Series – EH3

Design Features:

- 1/4" - 3/4" 2-Way Ball Valves
- Max PSI: 600 at 70° F
- 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)	

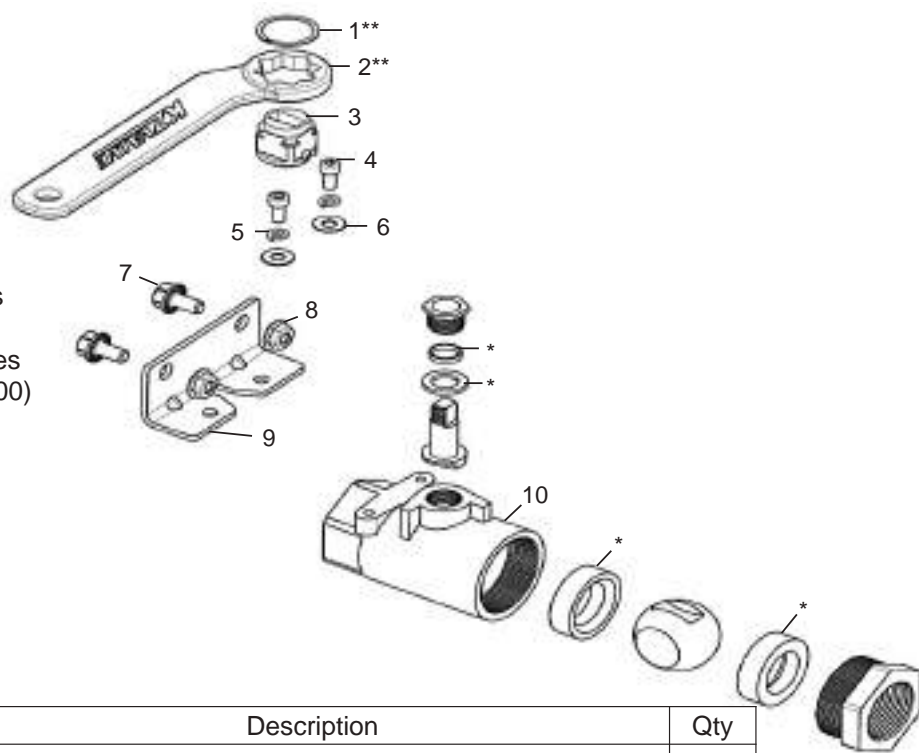
*Items included in valve repair kits

Exploded View Diagrams

84 Series – EH2

Design Features:

- 3/4" - 2" 2-Way Ball Valves
- Max PSI: 600 at 70° F
- 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

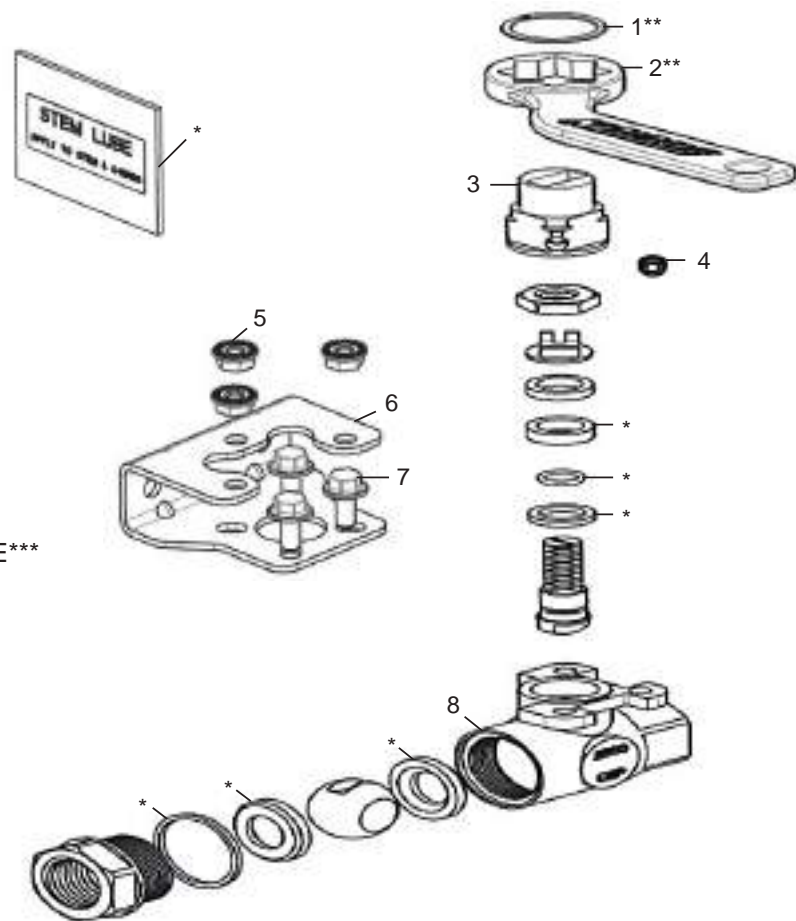
**Manual handle override only

VALVE PARTS

88 Series – EH3

Design Features:

- 1/4" - 3/4" 2-Way Ball Valves
 - Max PSI: 2,000 at 70° F
 - Manual Override Capabilities
 - Valve Body: CF8M Stainless Steel
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Seat: ME-PTFE***
 - 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)	

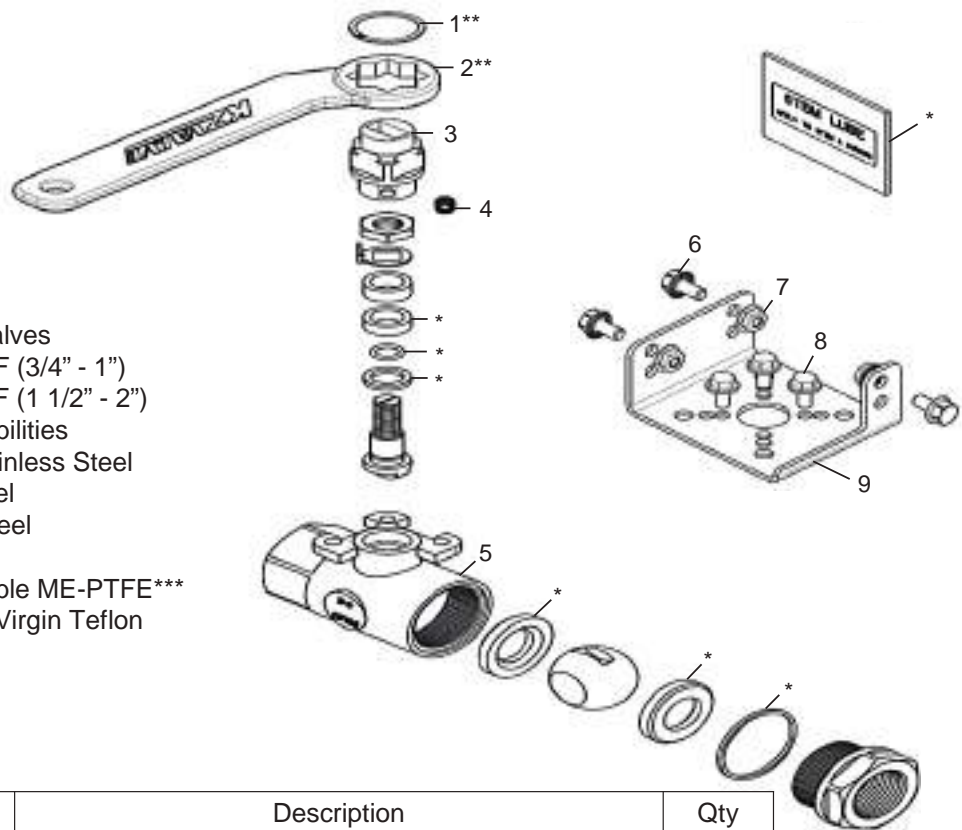
*Items included in valve repair kits
**Manual handle override only

Exploded View Diagrams

88 Series – EH2

Design Features:

- 3/4" - 2" 2-Way Ball Valves
 - Max PSI: 2,000 at 70° F (3/4" - 1")
 - Max PSI: 1,500 at 70° F (1 1/2" - 2")
 - Manual Override Capabilities
 - Valve Body: CF8M Stainless Steel
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Seat: ME-PTFE***
 - Stem Packing: Adjustable ME-PTFE***
- ***Molecularly Enhanced Virgin Teflon



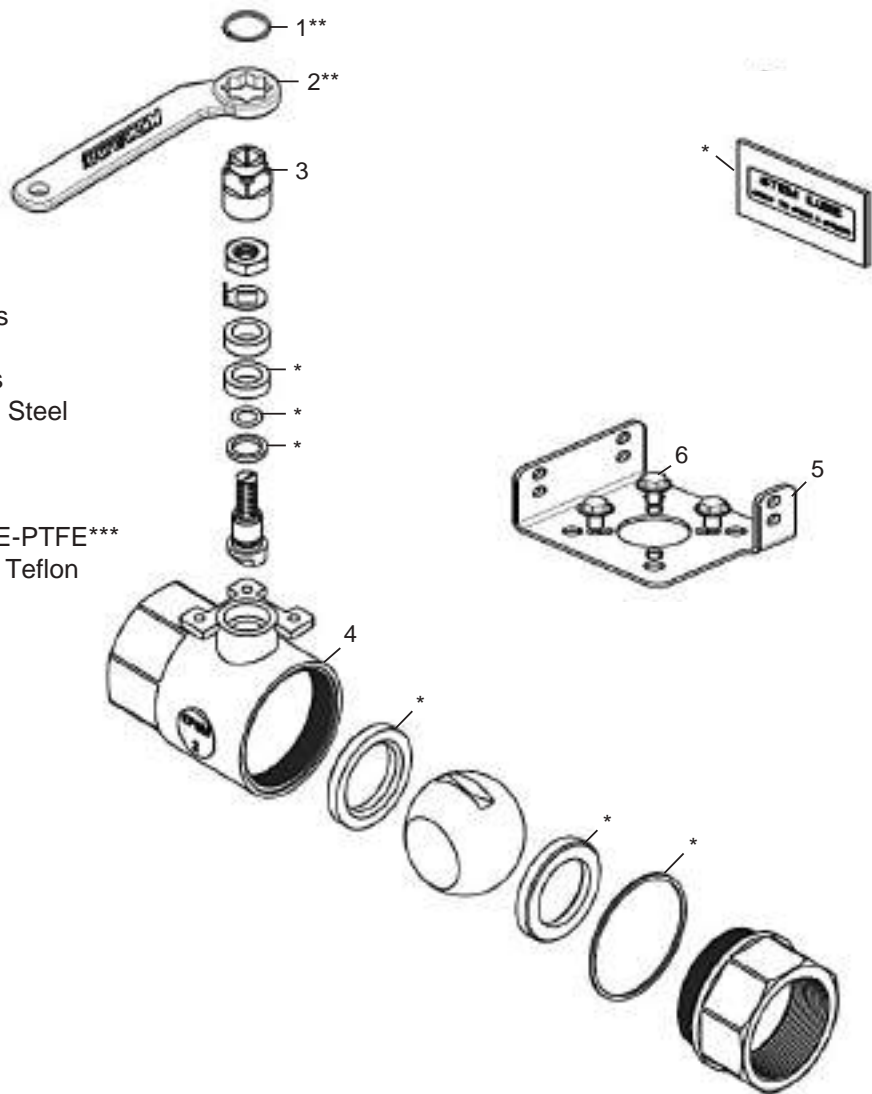
No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0023	coupler - 1 1/2" (88H), 2" (88i)	1
	208-0043	coupler - 3/4" (88E), 1" (88F)	
	208-0072	coupler - 1 1/2" (88H)	
4	100-0036	set screw, 1/4 - 20 x 1/4	1
5	200-0003	valve, 2-way, 1/2" 2-piece, stainless steel	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

VALVE PARTS

88 Series – EH5

- Design Features:**
- 1 1/2" - 2" 2-Way Ball Valves
 - Max PSI: 1,500 at 70° F
 - Manual Override Capabilities
 - Valve Body: CF8M Stainless Steel
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Seat: ME-PTFE***
 - Stem Packing: Adjustable ME-PTFE***
- ***Molecularly Enhanced Virgin Teflon



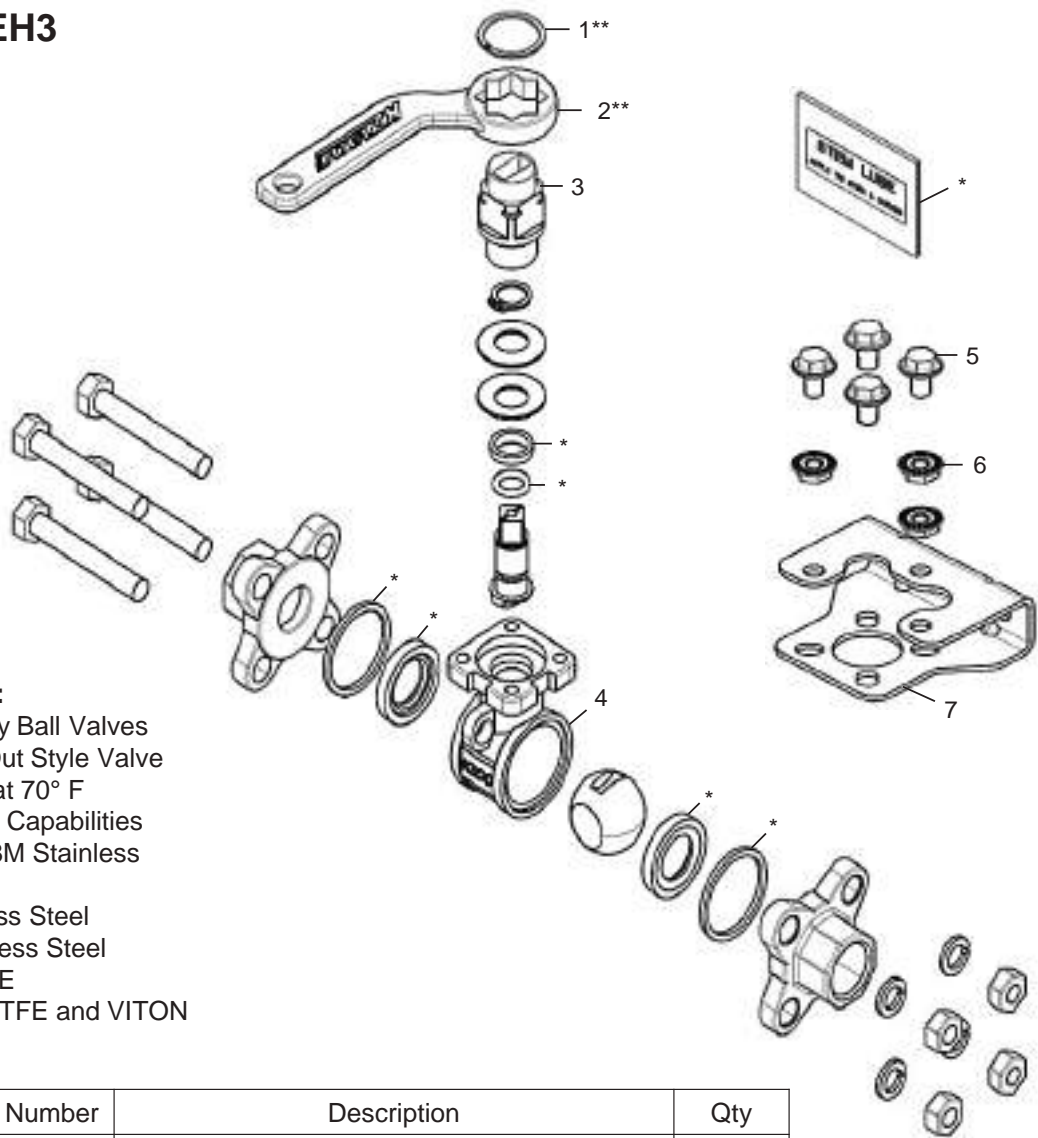
No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0023	coupler - 1 1/2" (88H), 2" (88i)	1
4	200-0007	valve, 2-way, 1 1/2" 2-piece, stainless steel	1
	200-0008	valve, 2-way, 2" 2-piece, stainless steel	
5	100042	bracket, stainless steel - 1 1/2" (88H), 2" (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

Exploded View Diagrams

89 Series – EH3

- Design Features:**
- 1/2" - 3/4" 2-Way Ball Valves
 - 3-Piece Swing Out Style Valve
 - Max PSI: 1,000 at 70° F
 - Manual Override Capabilities
 - Valve Body: CF8M Stainless Steel
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Seat: Virgin PTFE
 - Stem Packing: PTFE and VITON

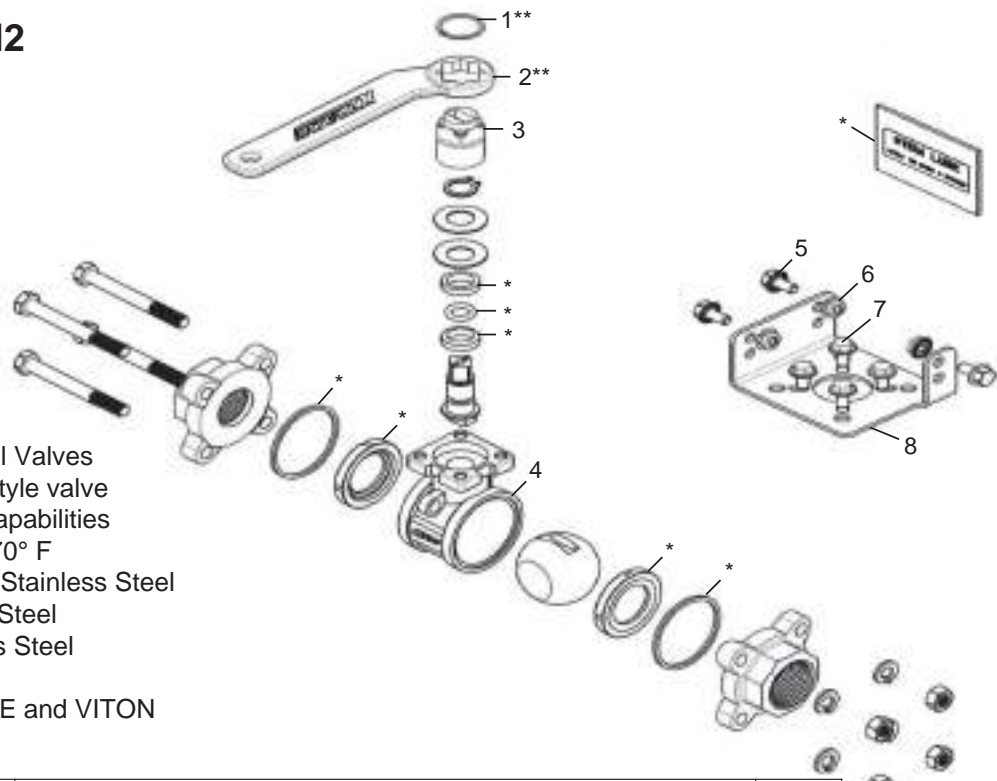


No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0006	handle	1
3	208-0043	coupler - 1/2" (89D), 3/4" (89E)	1
4	EH-89D	valve, 2-way, 1/2" 3-piece, stainless steel	1
	EH-89E	valve, 2-way, 3/4" 3-piece, stainless steel	
5	100-0011	bolt, hex flange, 1/4 - 20 x 1/2, coated	4
6	QX-222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

VALVE PARTS

89 Series – EH2



Design Features:

- 1/2" - 2" 2-Way Ball Valves
- 3-piece swing out style valve
- Manual Override Capabilities
- Max PSI: 1,000 at 70° F
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE and VITON

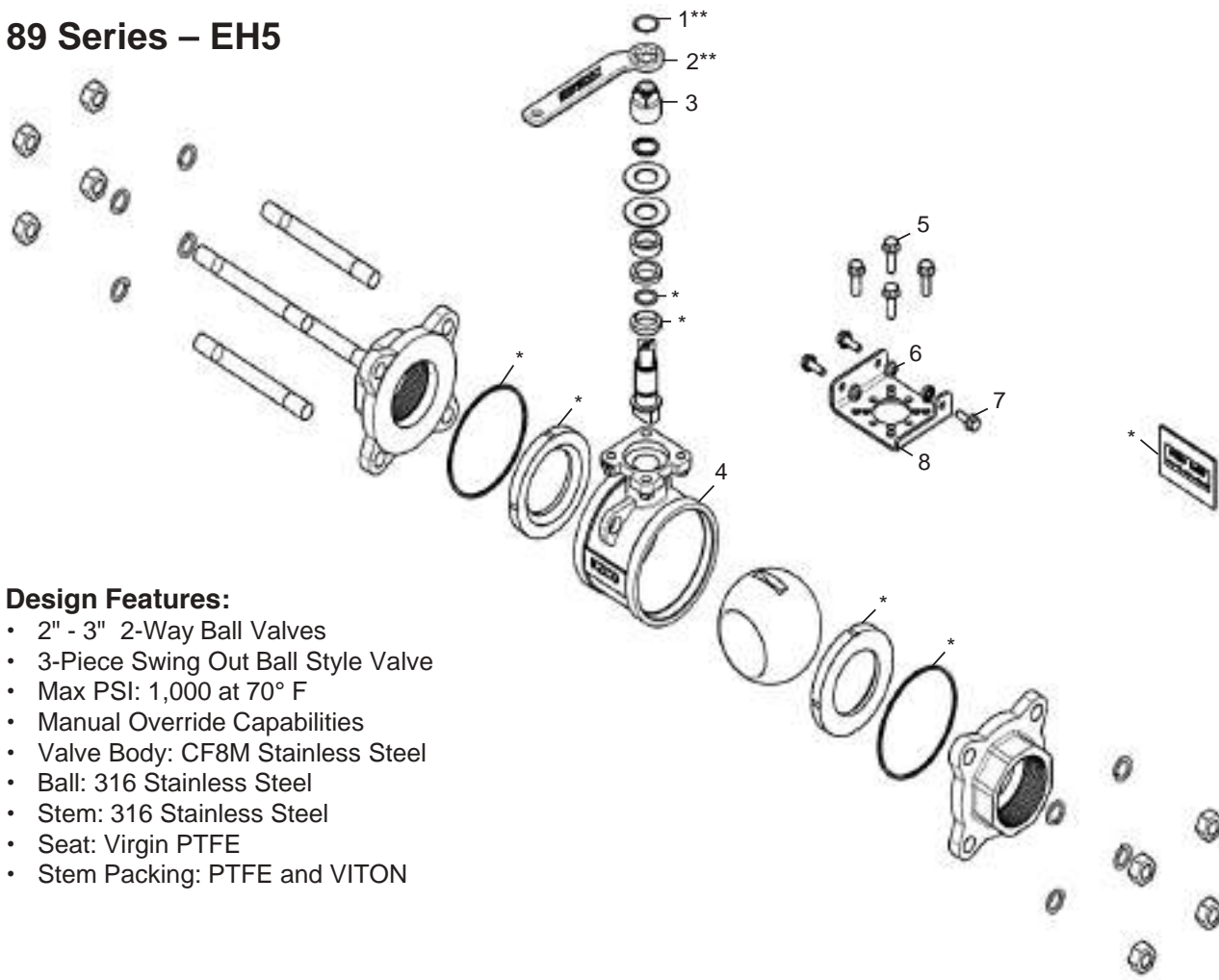
No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	100043	coupler, inline mount - 1" (89F)	1
	208-0008	coupler, offset mount - 1 1/2" (89H), 2" (89i)	
	208-0015	coupler, inline mount - 1 1/2" (89H), 2" (89i)	
	208-0023	coupler, offset mount - 1" (89F), 1 1/4" (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

Exploded View Diagrams

89 Series – EH5



Design Features:

- 2" - 3" 2-Way Ball Valves
- 3-Piece Swing Out Ball Style Valve
- Max PSI: 1,000 at 70° F
- Manual Override Capabilities
- Valve Body: CF8M Stainless Steel
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Seat: Virgin PTFE
- Stem Packing: PTFE and VITON

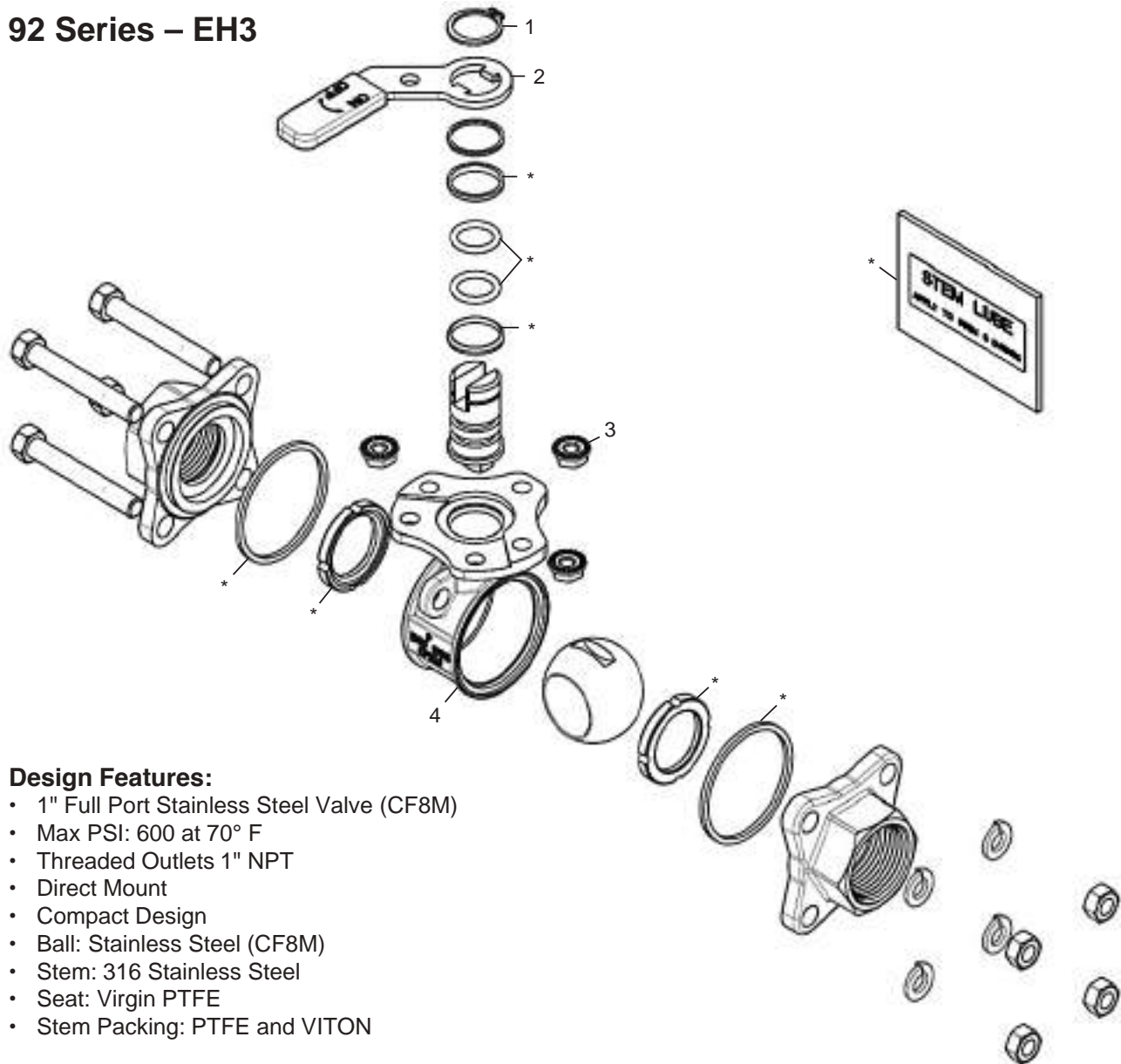
No.	Part Number	Description	Qty
1**	100289	retaining ring, spiral	1
2**	212-0002	handle	1
3	208-0013	coupler - 2 1/2" (89J), 3" (89K)	1
4	EH-89J	valve, 2 1/2", 3-piece, full port, stainless steel	1
	EH-89K	valve, 3", 3-piece, full port, stainless steel	
5	100433	bolt, serrated flange, 5/16 - 18 x 1, 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

VALVE PARTS

92 Series – EH3



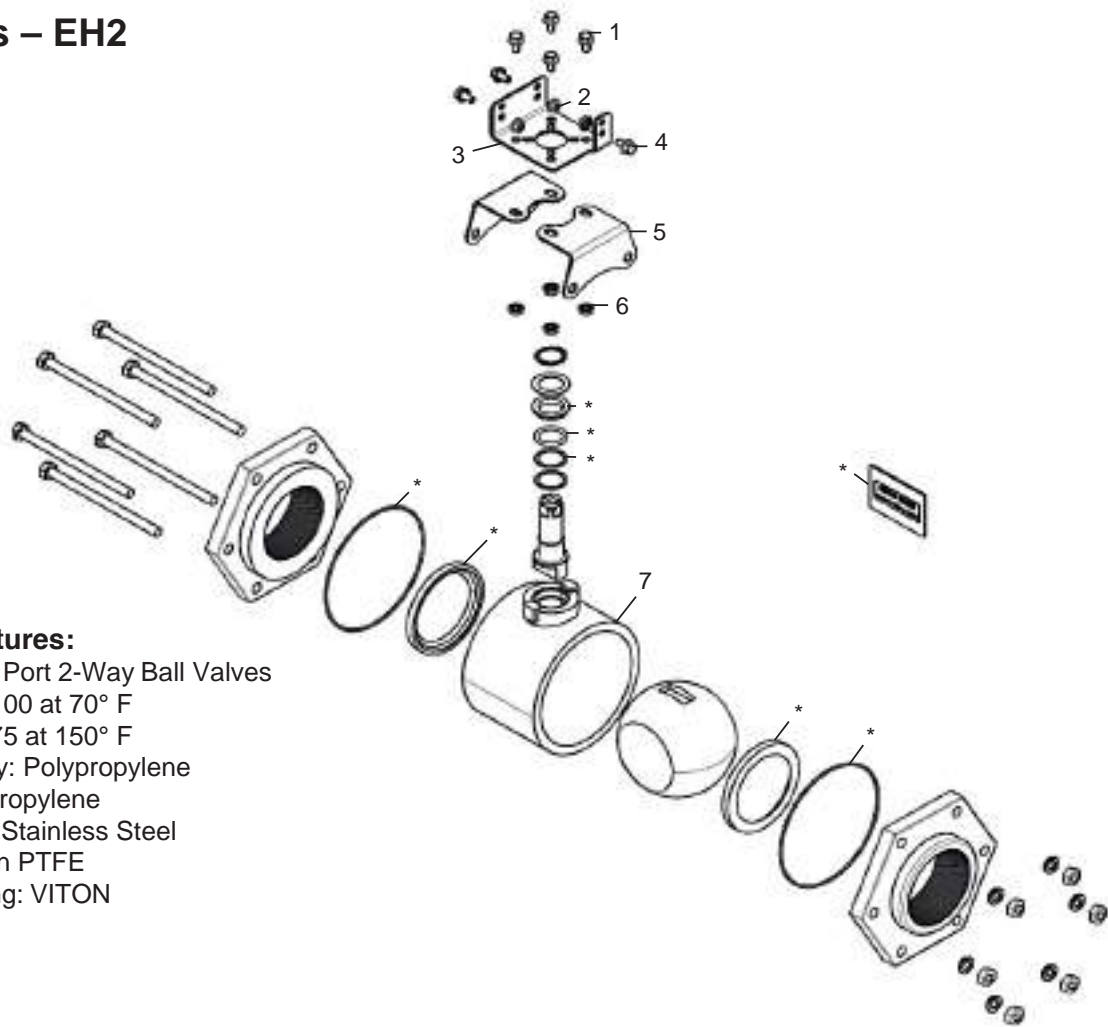
- Design Features:**
- 1" Full Port Stainless Steel Valve (CF8M)
 - Max PSI: 600 at 70° F
 - Threaded Outlets 1" NPT
 - Direct Mount
 - Compact Design
 - Ball: Stainless Steel (CF8M)
 - Stem: 316 Stainless Steel
 - Seat: Virgin PTFE
 - Stem Packing: PTFE and VITON

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

Exploded View Diagrams

99 Series – EH2



- Design Features:**
- 3" - 4" Full Port 2-Way Ball Valves
 - Max PSI: 100 at 70° F
 - Max PSI: 75 at 150° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Seat: Virgin PTFE
 - Stem O-ring: VITON

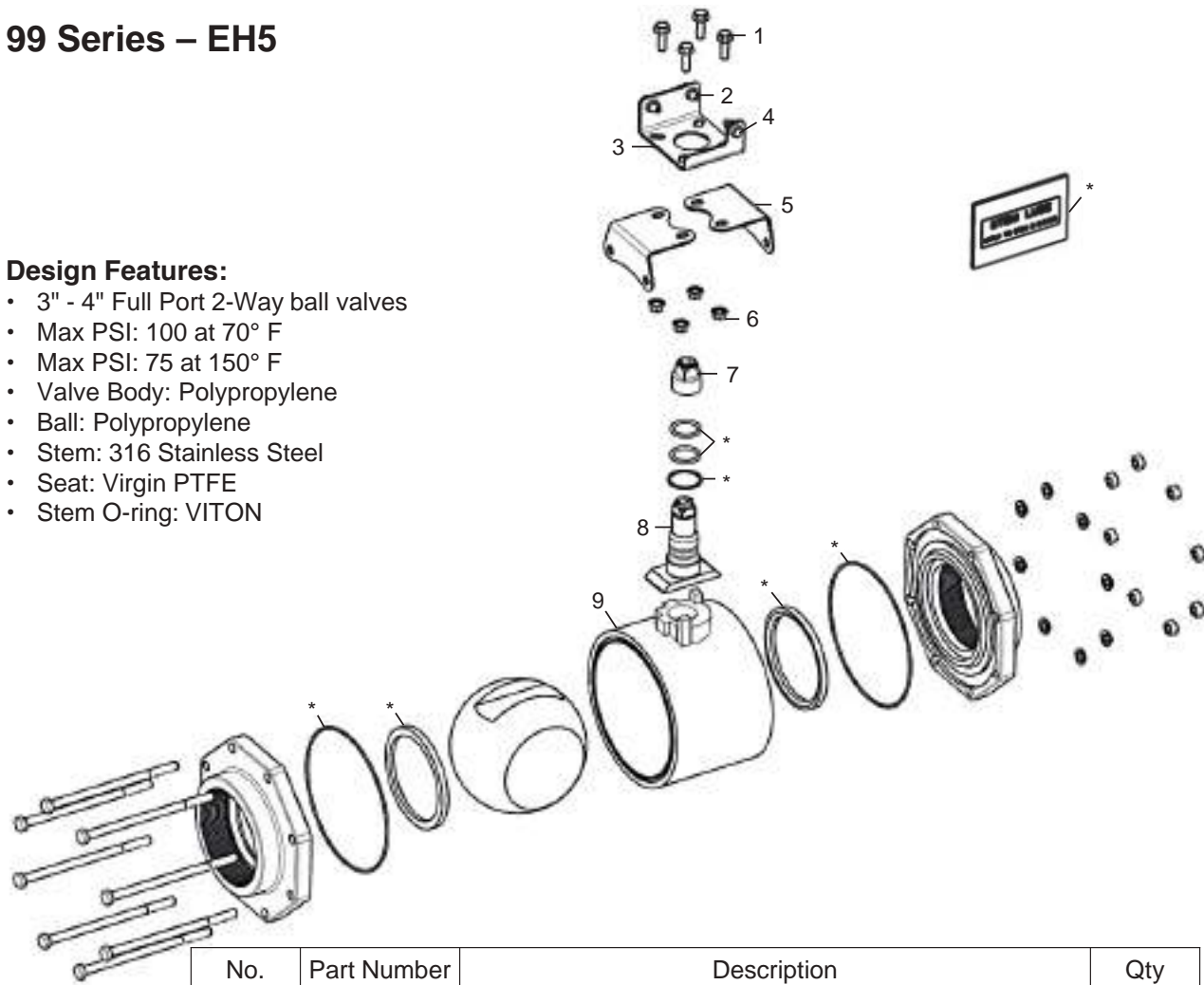
No.	Part Number	Description	Qty
1	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel, hex	4
2	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
3	100042	bracket, stainless steel - 3" (99K), 4" (99L)	1
4	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
5	100190 100210	bracket, stainless steel - 4" (99L) bracket, stainless steel - 3" (99K)	2
6	QX-221	nut, serrated flange, 5/16 - 18, stainless steel, coated	4
7	EH2-1180 EH2-1185	valve, 3" polypropylene valve, 4" polypropylene	1
*	EHPT-704-1 EH2-1181-1 210-0004-1	valve repair kit - 3" (99K) - Before 2002 valve repair kit - 3" (99K) - 2002 to present valve repair kit - 4" (99L)	

*Items included in valve repair kits

VALVE PARTS

99 Series – EH5

- Design Features:**
- 3" - 4" Full Port 2-Way ball valves
 - Max PSI: 100 at 70° F
 - Max PSI: 75 at 150° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Seat: Virgin PTFE
 - Stem O-ring: VITON

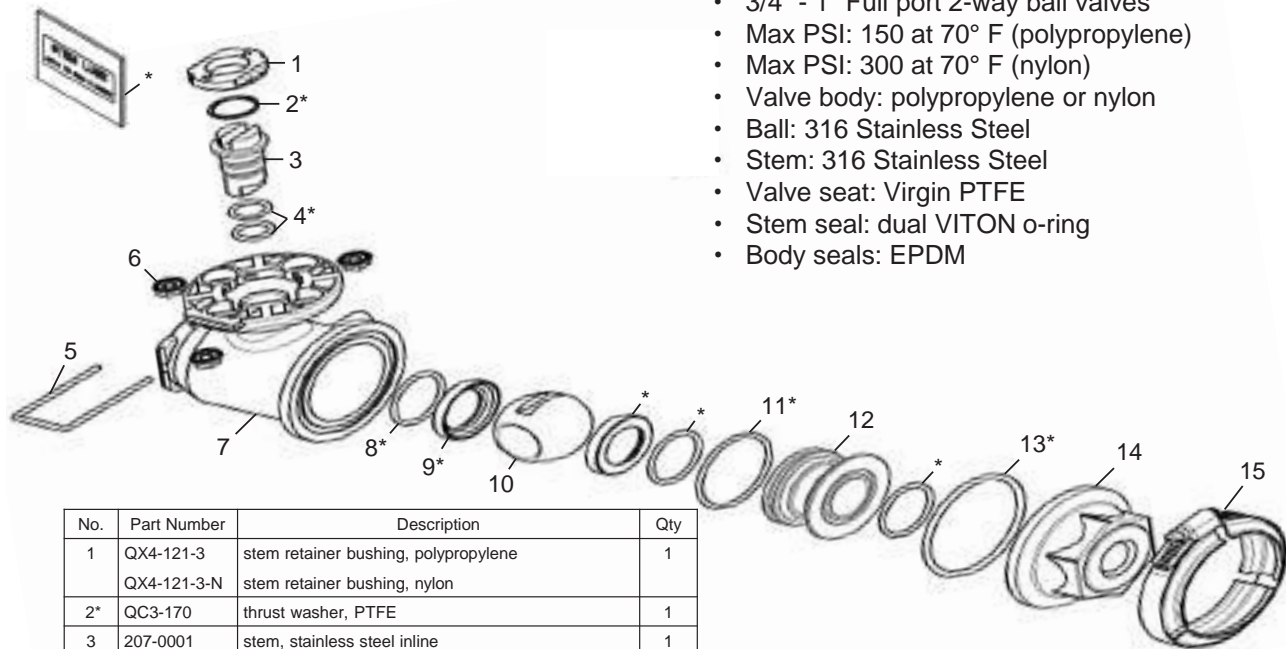


No.	Part Number	Description	Qty
1	100433	bolt, serrated flange, 5/16 - 18 x 1, stainless steel, hex	4
2	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
3	105-0002	bracket, stainless steel - 3" (99K), 4" (99L)	1
4	100204	bolt, hex flange, 1/4 - 20 x 1/2, stainless steel	3
5	100190	bracket, 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) - Before 2002	
	EH2-1181-1	valve repair kit - 3" (99K) - 2002 to present	
	210-0004-1	valve repair kit - 4" (99L)	

*Items included in valve repair kits

Exploded View Diagrams

QX3 QX4 2-way



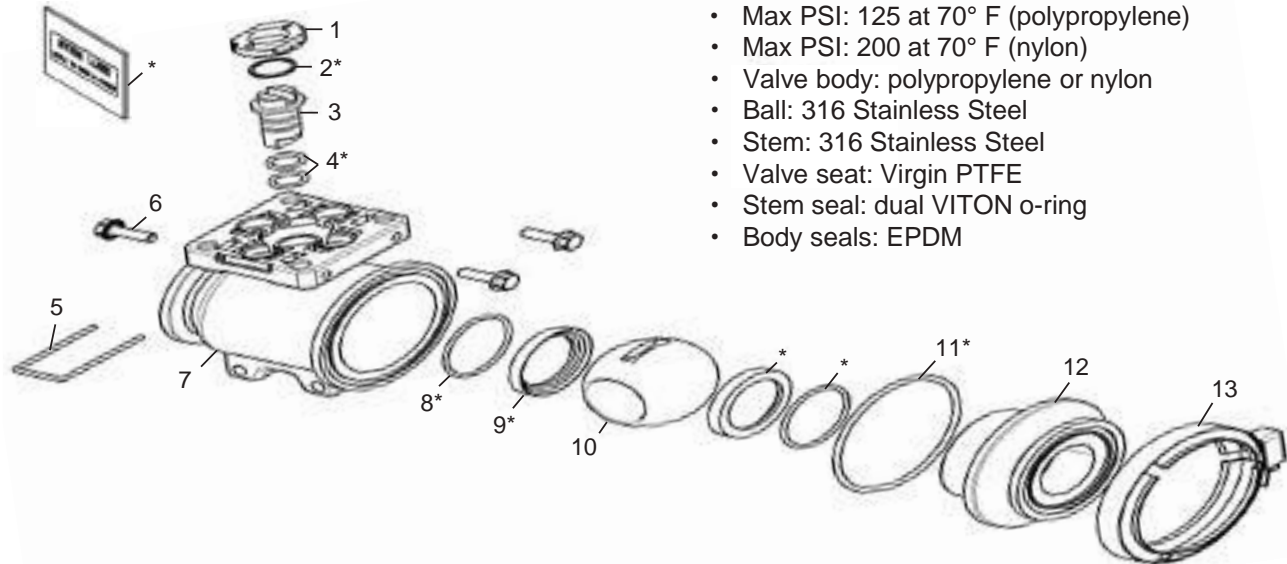
- Design Features:**
- 3/4" - 1" Full port 2-way ball valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Max PSI: 300 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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
7	201-0005	valve body, 3/4" 2-way, 1" flange & NPT connection	1
	201-0015	valve body, 1" flange & 3/4" NPT connection valve	
	QX4-110	body, 2-way, 1" polypropylene QHP outlet valve	
	QX4-110-N	body, 2-way, 1" nylon QHP	
	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	3
	QX4-170	valve body, 2-way, 3/4" polypropylene NPT	
8*	QX4-161	o-ring, #123, EPDM	2
	QC3-131	o-ring, #119, EPDM	
9*	QC3-168	seat, 3/4" virgin teflon, PTFE	1
	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
14	QX4-126	endcap, 1" polypropylene QHP	1
	QX4-126-N	endcap, 1" nylon QHP	
	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	1
15	QX4-200	v-clamp, stainless steel, 2" standard port flange	
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

VALVE PARTS

QX5 QX6 2-way



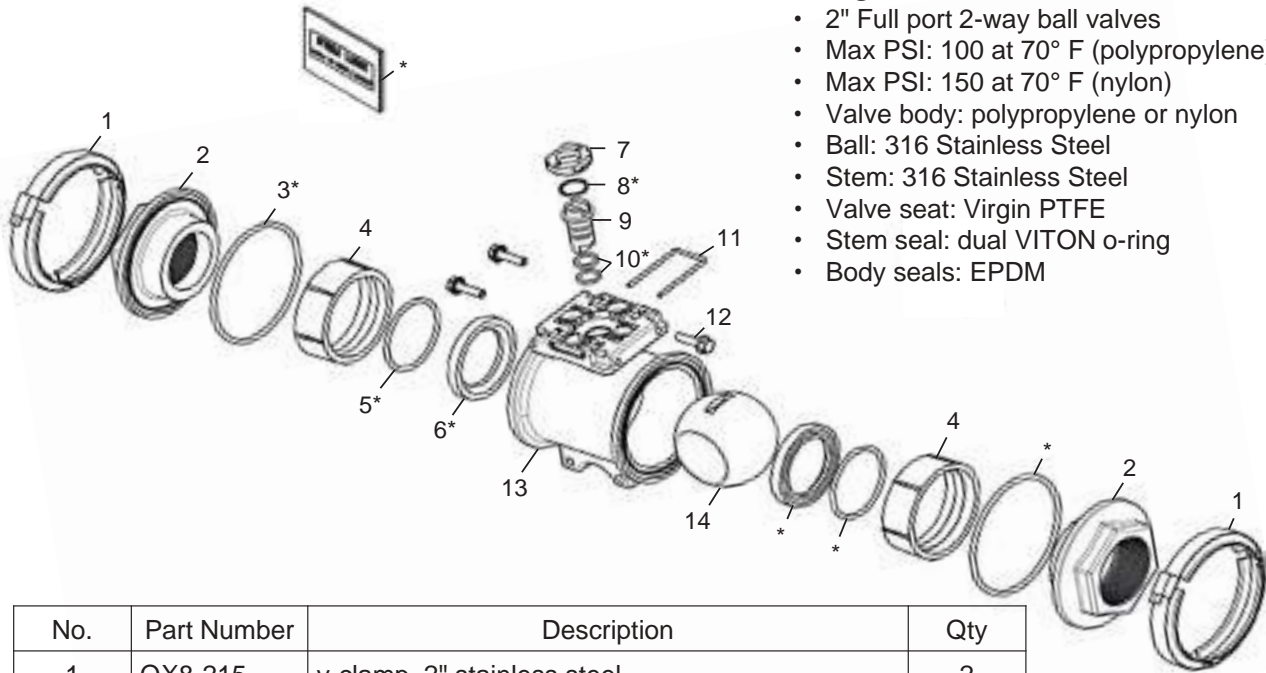
- Design Features:**
- 1 1/4" - 1 1/2" Full port 2-way ball valves
 - Max PSI: 125 at 70° F (polypropylene)
 - Max PSI: 200 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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 QX5-125-N QX5-140 QX5-160 QX5-160-N	valve body, 2-way, 1 1/4" NPT valve body, 2-way, 1 1/4" nylon NPT valve body, 2-way, M200, 2" polypropylene smooth standard port valve body, 2-way, 1 1/2" NPT valve body, 2-way, 1 1/2" nylon NPT	1
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 QX5-146 QX5-146-N QX5-147 QX5-147-N	endcap, M200, 2" polypropylene smooth standard port endcap, 1 1/2" NPT endcap, 1 1/2" nylon NPT endcap, 1 1/4" polypropylene NPT endcap, 1 1/4" nylon NPT	1
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

Exploded View Diagrams

QX8 2-way



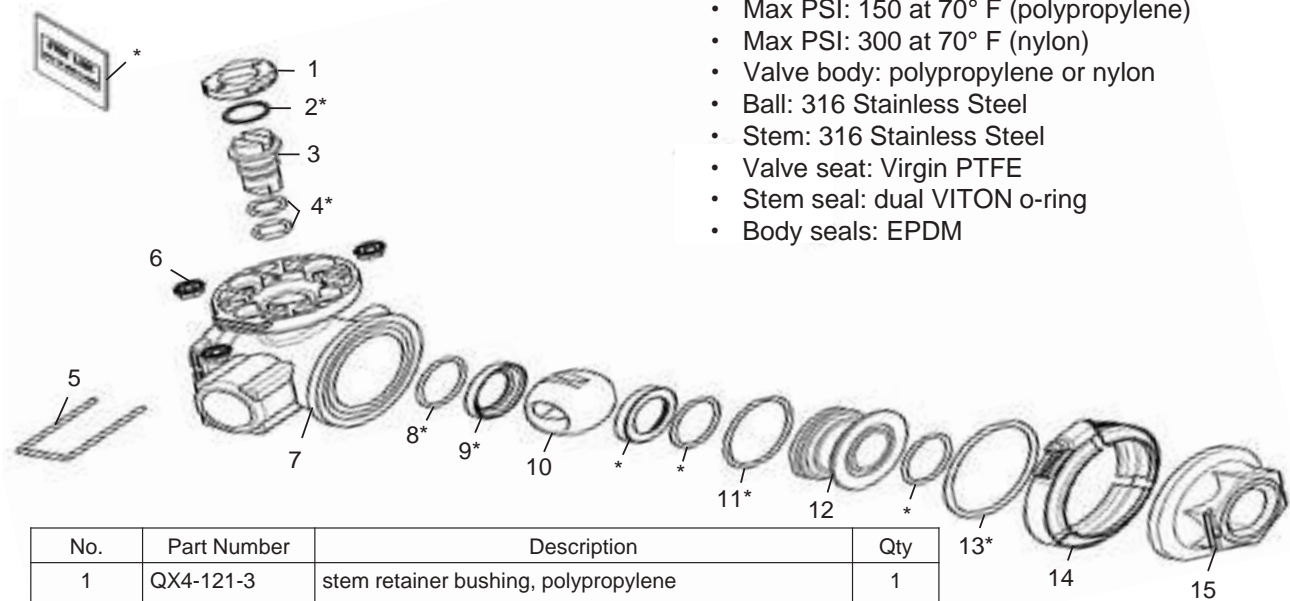
- Design Features:**
- 2" Full port 2-way ball valves
 - Max PSI: 100 at 70° F (polypropylene)
 - Max PSI: 150 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

No.	Part Number	Description	Qty
1	QX8-215	v-clamp, 2" stainless steel	2
2	QX8-110 QX8-110-N QX8-112	endcap, 2" polypropylene NPT endcap, 2" nylon NPT endcap, M220, 2" polypropylene full port flange	2
3*	QX8-182	o-ring, #98-4, EPDM	2
4	QX8-111 QX8-111-N	seat donut, polypropylene seat donut, nylon	2
5*	QX8-183	o-ring, #228, EPDM	2
6*	QX8-120	seat, virgin PTFE	2
7	QX4-121-3 QX4-121-3-N	stem retainer bushing, polypropylene stem retainer bushing, nylon	1 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 QX8-100-N	valve body, 2-way, 2" polypropylene valve body, 2-way, 2" nylon	1
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

VALVE PARTS

QX3 QX4 Side Load



- Design Features:**
- 3/4" - 1" Full port 3-way side-load ball valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Max PSI: 300 at 70° F (nylon)
 - 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

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, polypropylene 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")	

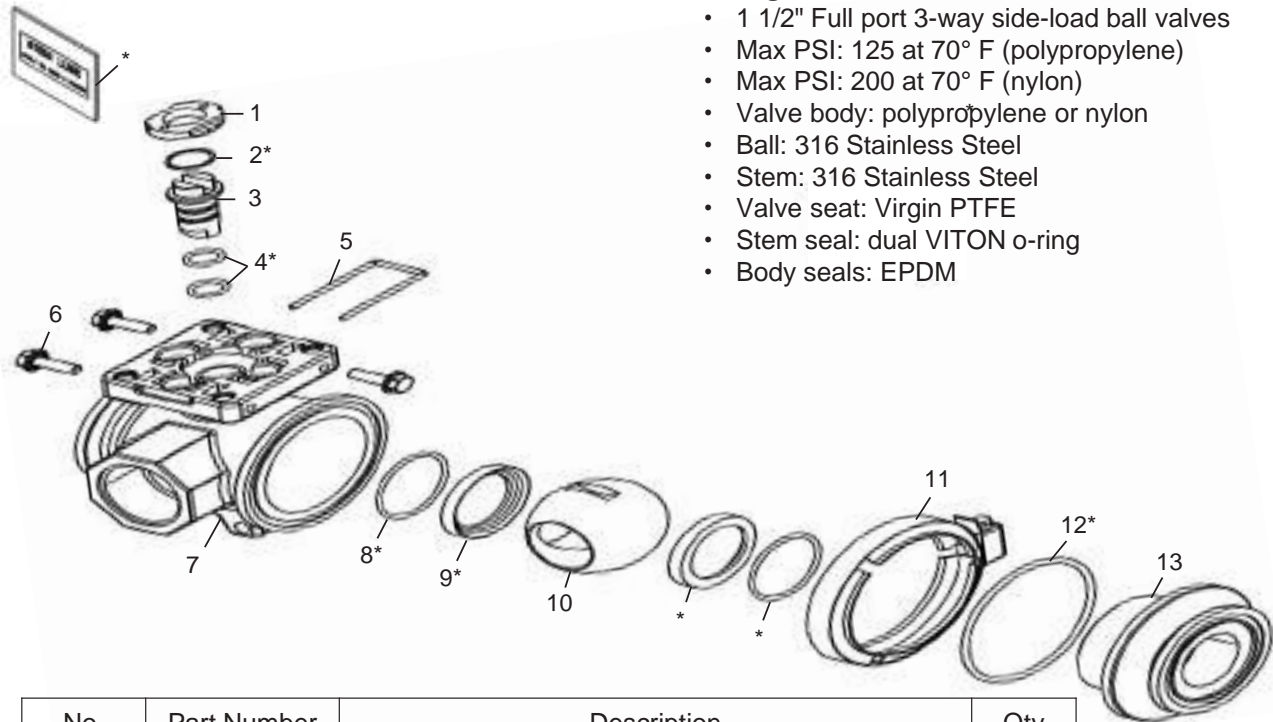
Polypropylene standard, nylon available

*Items included in valve repair kits

**Not pictured in assembly

Exploded View Diagrams

QX6 Side Load



- Design Features:**
- 1 1/2" Full port 3-way side-load ball valves
 - Max PSI: 125 at 70° F (polypropylene)
 - Max PSI: 200 at 70° F (nylon)
 - 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

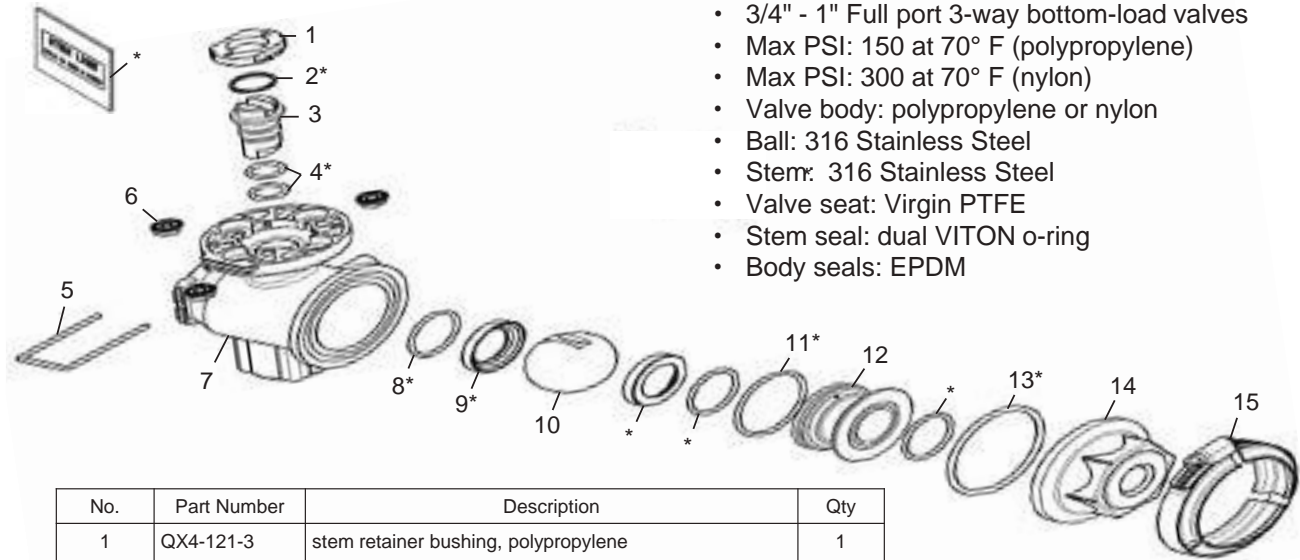
No.	Part Number	Description	Qty
1	QX4-121-3	stem retainer bushing, polypropylene	1
	QX4-121-3-N	stem retainer bushing, nylon	
2*	QC3-170	thrust washer, PTFE	1
3	207-0001	stem, stainless steel inline	1
4*	QC3-130	o-ring, #113, VITON	2
5	QX-103	hairpin, stainless steel	1
6	100340	bolt, serrated flange, 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	1
*	QX5-RKT	valve repair kit, QX5 & QX6 series (1 1/2")	

Polypropylene standard, nylon available

*Items included in valve repair kits

VALVE PARTS

QX3 QX4 Bottom Load



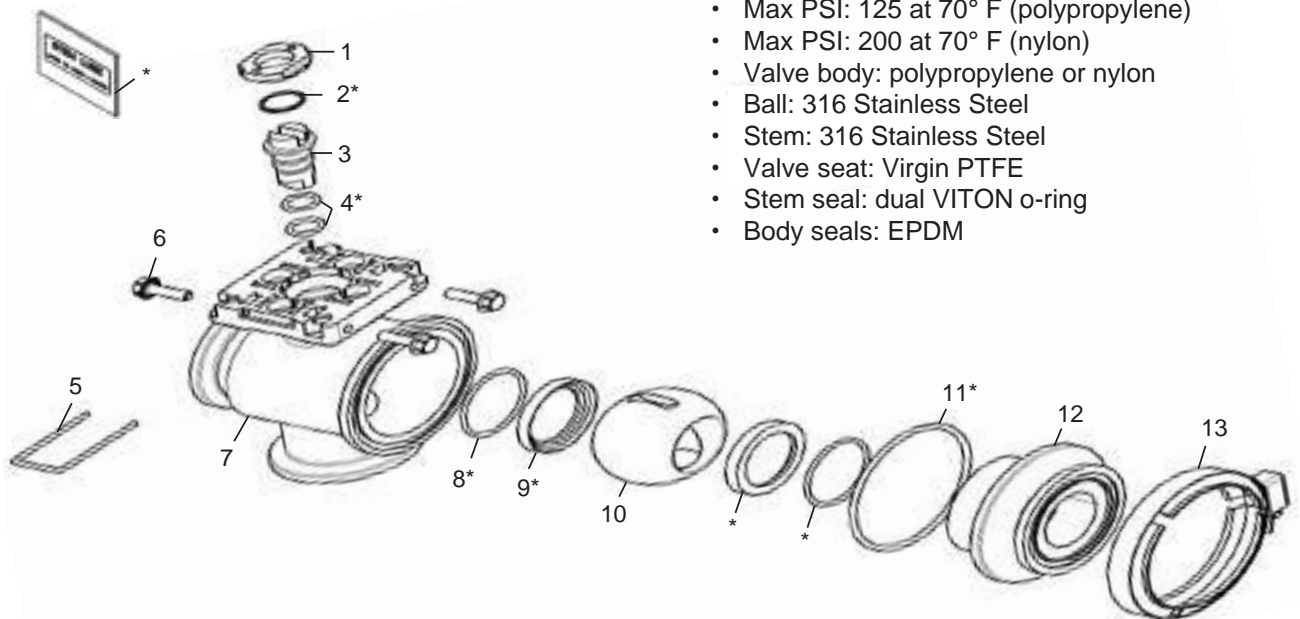
- Design Features:**
- 3/4" - 1" Full port 3-way bottom-load valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Max PSI: 300 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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	101-0002	nut, serrated flange, 1/4 - 20, stainless steel, coated	3
7	QX4-112	valve body, 3-way, bottom load, polypropylene QHP	1
	QX4-142	valve body, 3-way, bottom load, 1" NPT	
	QX4-142-N	valve body, 3-way, bottom load, 1" nylon NPT	
	QX4-172	valve body, 3-way, bottom load, 3/4" NPT	
	QX4-172-N	valve body, 3-way, bottom load, 3/4" nylon NPT	
8*	QX4-161	o-ring, #123, EPDM	3
9*	QX4-119	seat, PTFE	2
10	QX4-132	valve ball, 3-way, bottom load, L-port	1
	QX4-136	valve ball, 3-way, bottom load, 1" L-port	
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	QX4-126	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	
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-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

Exploded View Diagrams

QX6 Bottom Load



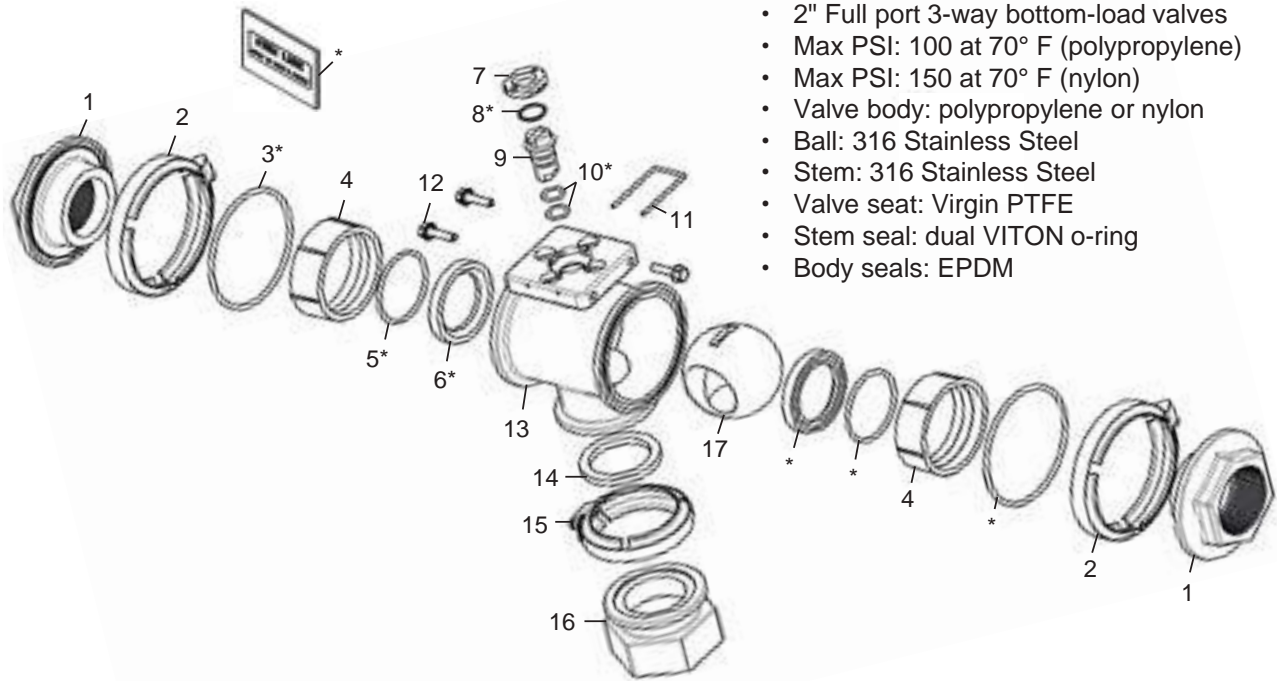
- Design Features:**
- 1 1/2" Full port 3-way bottom-load valves
 - Max PSI: 125 at 70° F (polypropylene)
 - Max PSI: 200 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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	QX5-141	valve body, 3-way, bottom load, M200, 1 1/2" smooth standard port	1
	QX5-161	valve body, 3-way, bottom load, 1 1/2" polypropylene NPT	
	QX5-161-N	valve body, 3-way, bottom load, 1 1/2" nylon NPT	
8*	QX5-180	o-ring, #131, EPDM	2
9*	QX5-149	seat, PTFE	2
10	QX5-152	valve ball, 3-way, bottom load, 1 1/2" L-port	1
	QX5-153	valve ball, 3-way, bottom load, 1 1/2" diverter style	
11*	QX5-181	o-ring, #236, EPDM	1
12	QX5-146	endcap, 1 1/2" NPT x 2" standard port flange	1
	QX5-146-N	endcap, 1 1/2" nylon NPT flange	
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

VALVE PARTS

QX8 Bottom Load



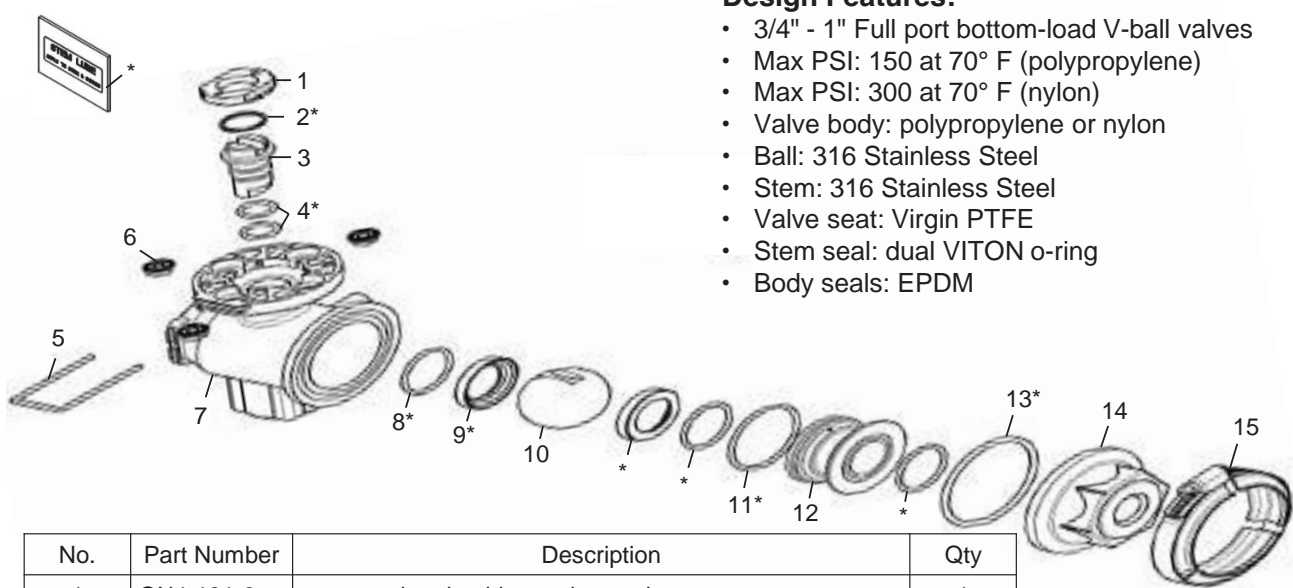
- Design Features:**
- 2" Full port 3-way bottom-load valves
 - Max PSI: 100 at 70° F (polypropylene)
 - Max PSI: 150 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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
13	QX8-102	valve body, 3-way, bottom load, 2" polypropylene	1
	QX8-102-N	valve body, 3-way, bottom load, 2" nylon	
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

Exploded View Diagrams

QX3 QX4 Bottom Load V-ball



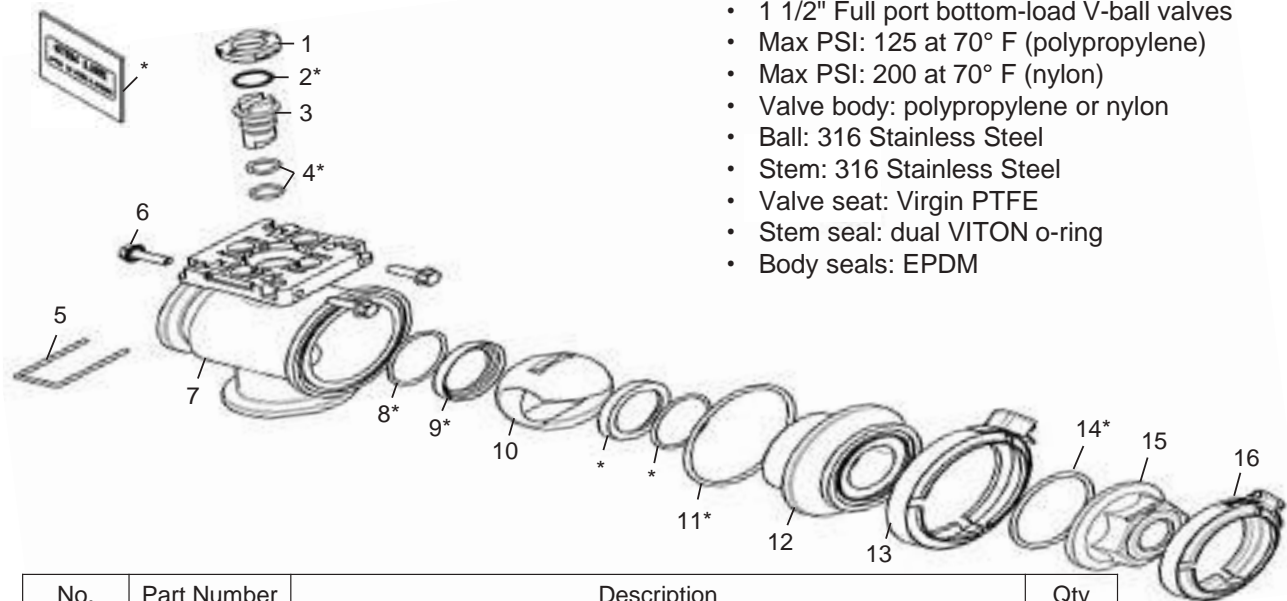
- Design Features:**
- 3/4" - 1" Full port bottom-load V-ball valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Max PSI: 300 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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

VALVE PARTS

QX6 Bottom Load V Ball



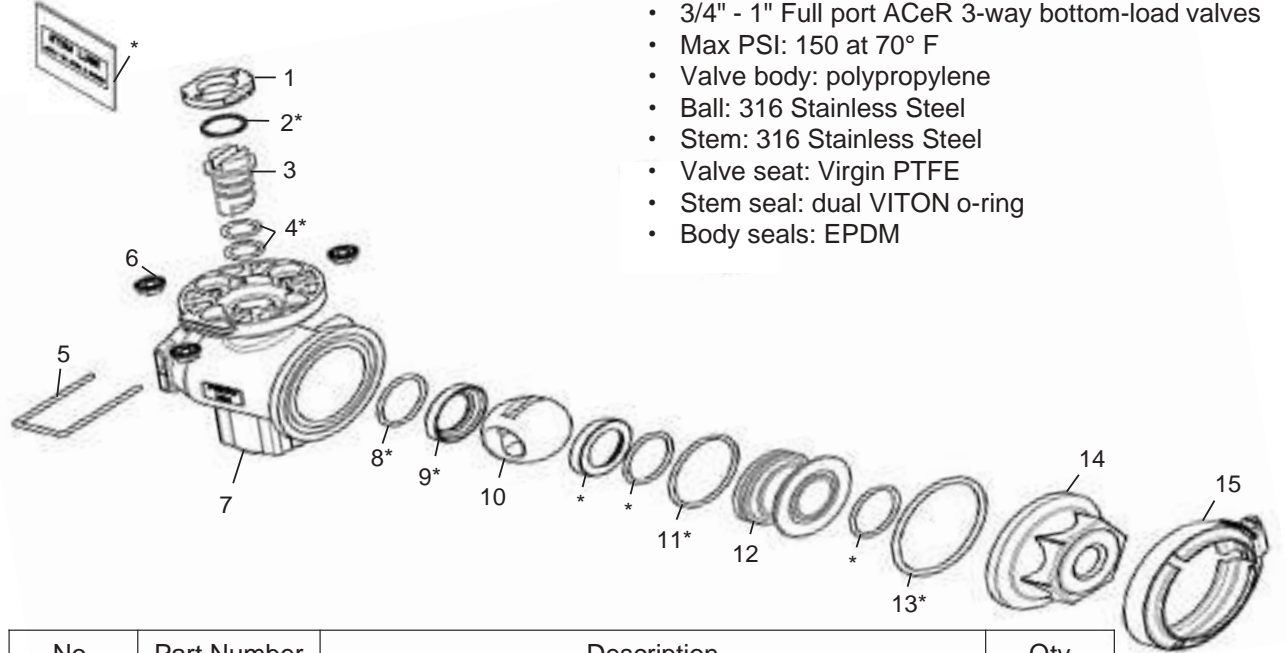
- Design Features:**
- 1 1/2" Full port bottom-load V-ball valves
 - Max PSI: 125 at 70° F (polypropylene)
 - Max PSI: 200 at 70° F (nylon)
 - Valve body: polypropylene or nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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	100340	bolt, serrated flange, 1/4 - 20 x 1	3
7	QX5-141	valve body, 3-way, bottom load, M200, 1 1/2" smooth standard port	1
	QX5-161	valve body, 3-way, bottom load, 1 1/2" polypropylene NPT	
	QX5-161-N	valve body, 3-way, bottom load, 1 1/2" nylon NPT	
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	endcap, M200, 1 1/2" smooth standard port flange	1
	QX5-146	endcap, 1 1/2" NPT x 2" standard port flange	
	QX5-146-N	endcap, 1 1/2" nylon NPT flange	
13	QX5-210	v-clamp, stainless steel	1
14*	QC3-134	o-ring, #229, EPDM	1
15	QX4-129	endcap blank, 1" NPT x M200	1
	QX4-129-N	endcap, blank, 1" nylon NPT	
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

Exploded View Diagrams

ACeR Bottom Load



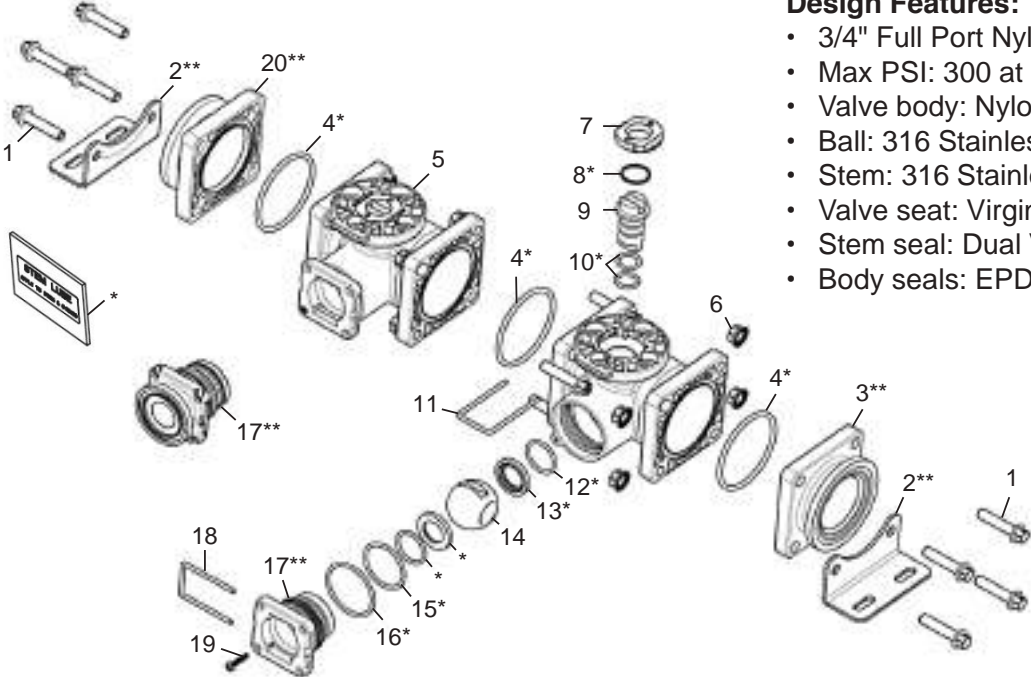
- Design Features:**
- 3/4" - 1" Full port ACeR 3-way bottom-load valves
 - Max PSI: 150 at 70° F
 - Valve body: polypropylene
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: dual VITON o-ring
 - Body seals: EPDM

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	valve body, 3-way, 1" NPT	1
	QX4-172	valve body, 3-way, 3/4" NPT	
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	endcap, 1" polypropylene NPT	1
	QX4-128	endcap, 3/4" polypropylene 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

VALVE PARTS

QC3 3/4" Manifold



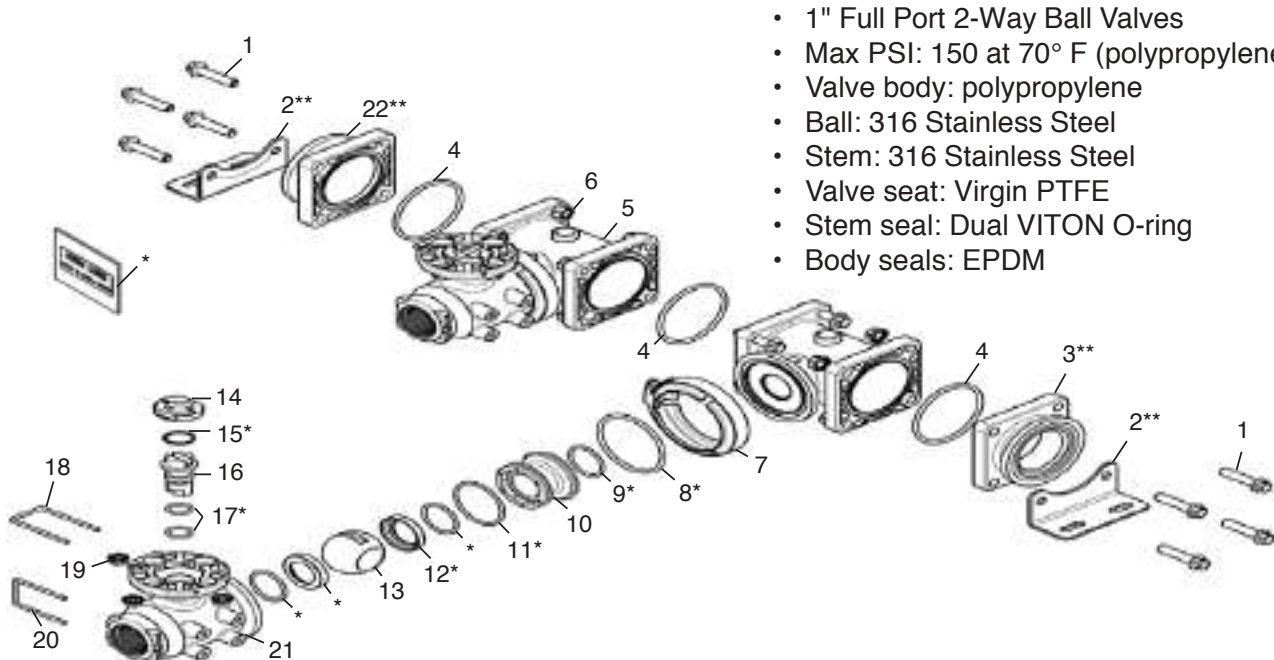
- Design Features:**
- 3/4" Full Port Nylon Compact Valves
 - Max PSI: 300 at 70° F (Nylon)
 - Valve body: Nylon
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: Dual VITON O-ring
 - Body seals: EPDM

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	buttness fitting, 3/4" QHN, nylon	2
	QC3-157	buttness 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

Exploded View Diagrams

QX4 1" Manifold



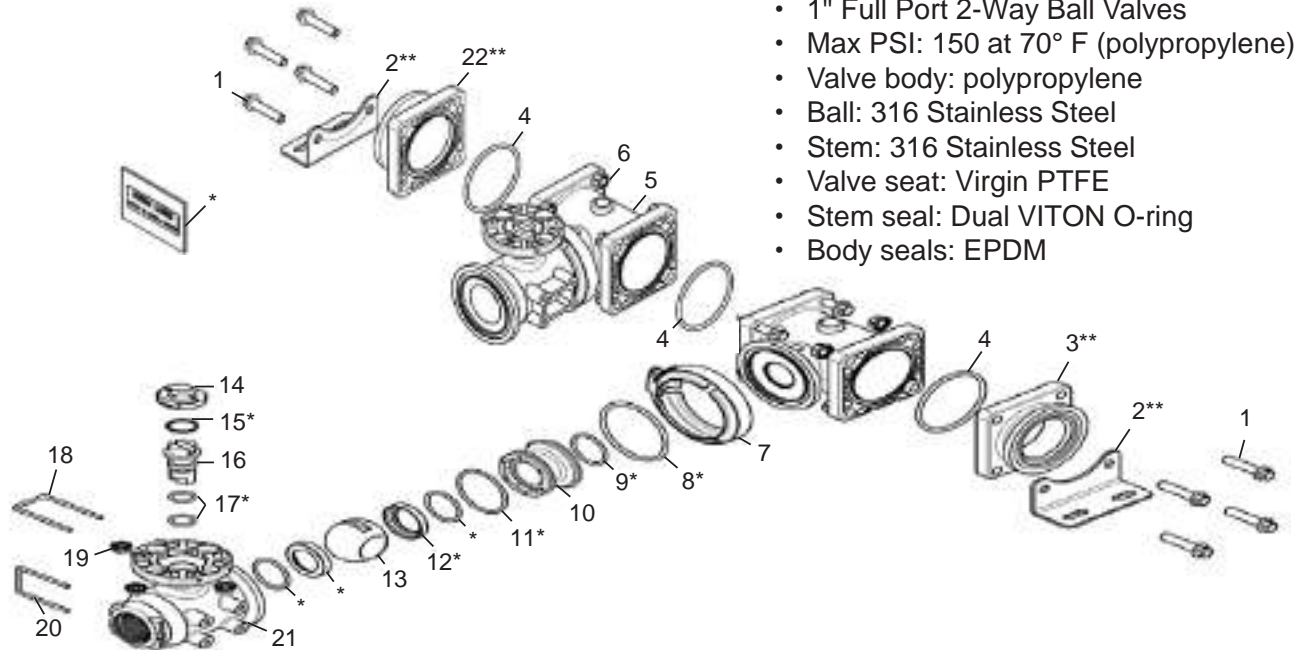
- Design Features:**
- 1" Full Port 2-Way Ball Valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Valve body: polypropylene
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: Dual VITON O-ring
 - Body seals: EPDM

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	2
	QX4-115	valve body, 2-way, M200, 2" standard port flange	
	QX4-140	valve body, 2-way, 1" polypropylene NPT	
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

VALVE PARTS

QX4 1" Manifold (valve bodies)



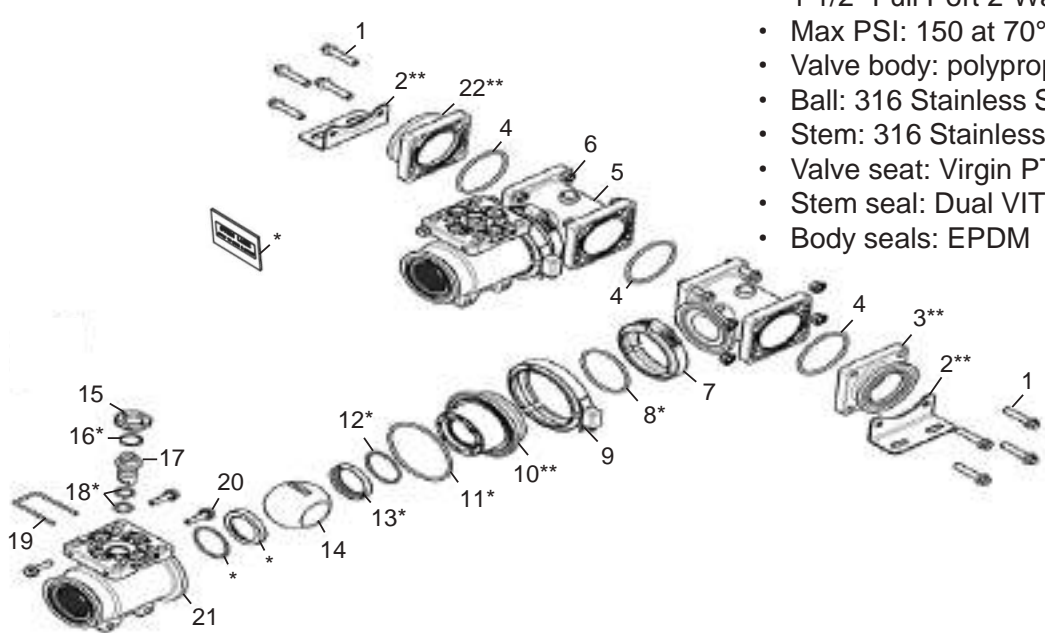
- Design Features:**
- 1" Full Port 2-Way Ball Valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Valve body: polypropylene
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: Dual VITON O-ring
 - Body seals: EPDM

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
21	QX4-110	valve body, 2-way, 1" polypropylene QHP outlet	2
	QX4-115	valve body, 2-way, M200, 2" standard port flange	
	QX4-140	valve body, 2-way, 1" polypropylene NPT	
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

Exploded View Diagrams

QX6 1 1/2" Manifold



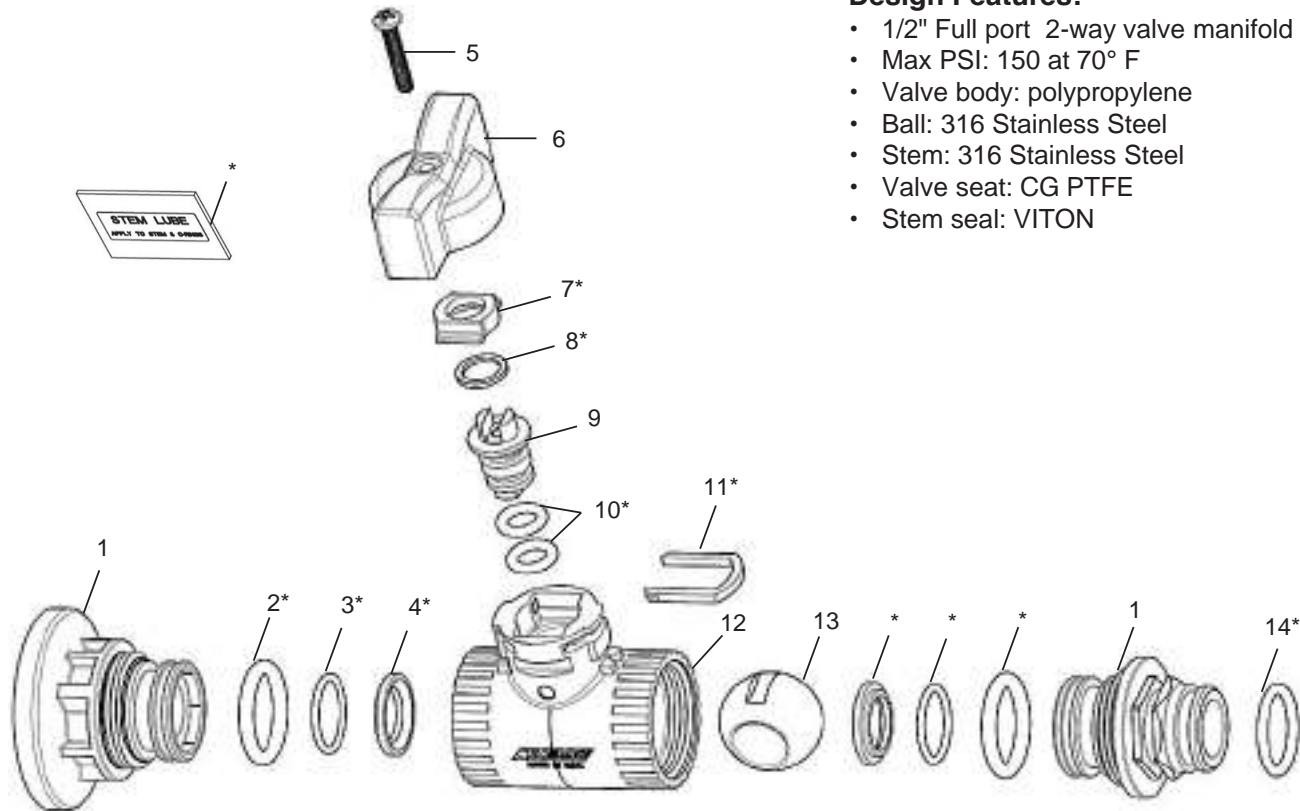
- Design Features:**
- 1 1/2" Full Port 2-Way Ball Valves
 - Max PSI: 150 at 70° F (polypropylene)
 - Valve body: polypropylene
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: Virgin PTFE
 - Stem seal: Dual VITON O-ring
 - Body seals: EPDM

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, 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
	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	valve body, 3-way, bottom load, M200, 2" smooth standard port flange	2
	QX5-160	valve body, 2-way, 1 1/2" NPT	
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

VALVE PARTS

TX2 2-way Valve – EH7



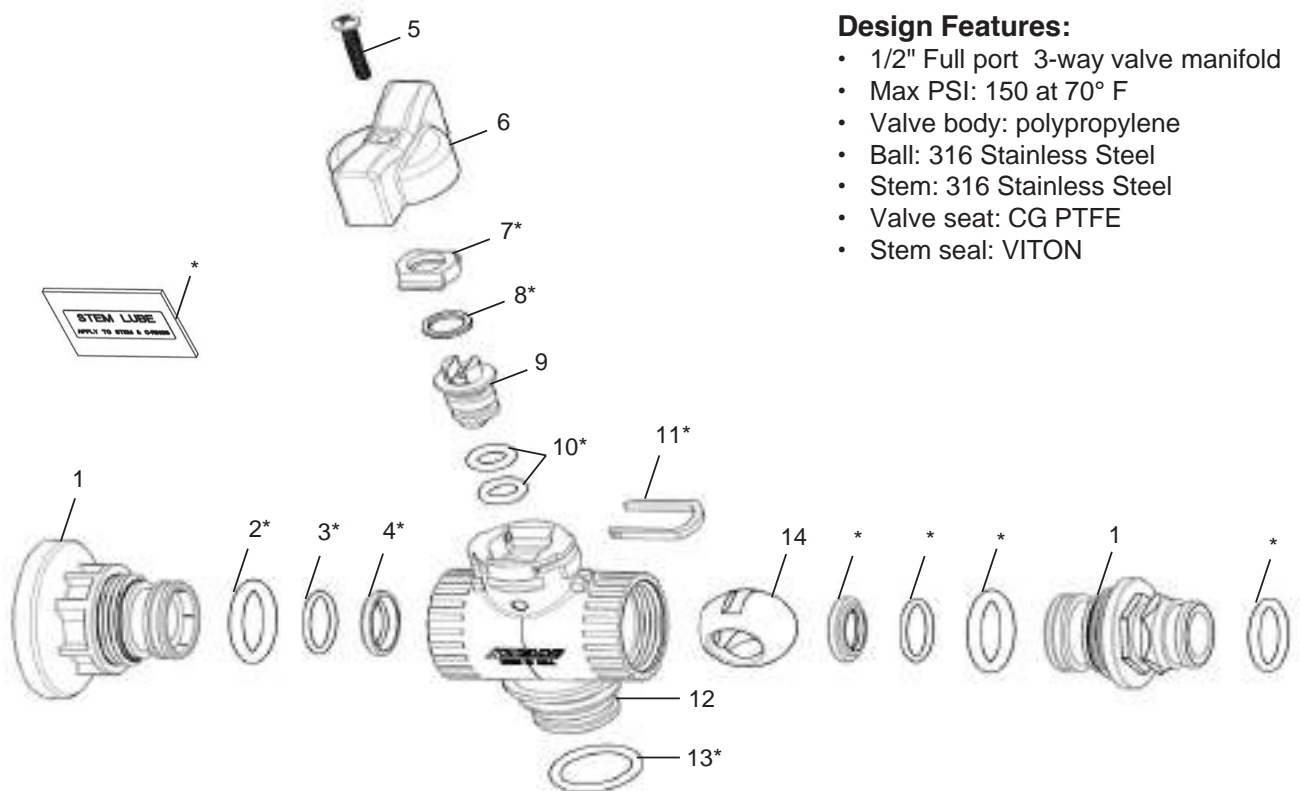
- Design Features:**
- 1/2" Full port 2-way valve manifold
 - Max PSI: 150 at 70° F
 - Valve body: polypropylene
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: CG PTFE
 - Stem seal: VITON

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

Exploded View Diagrams

TX2 3-way Valve – EH7



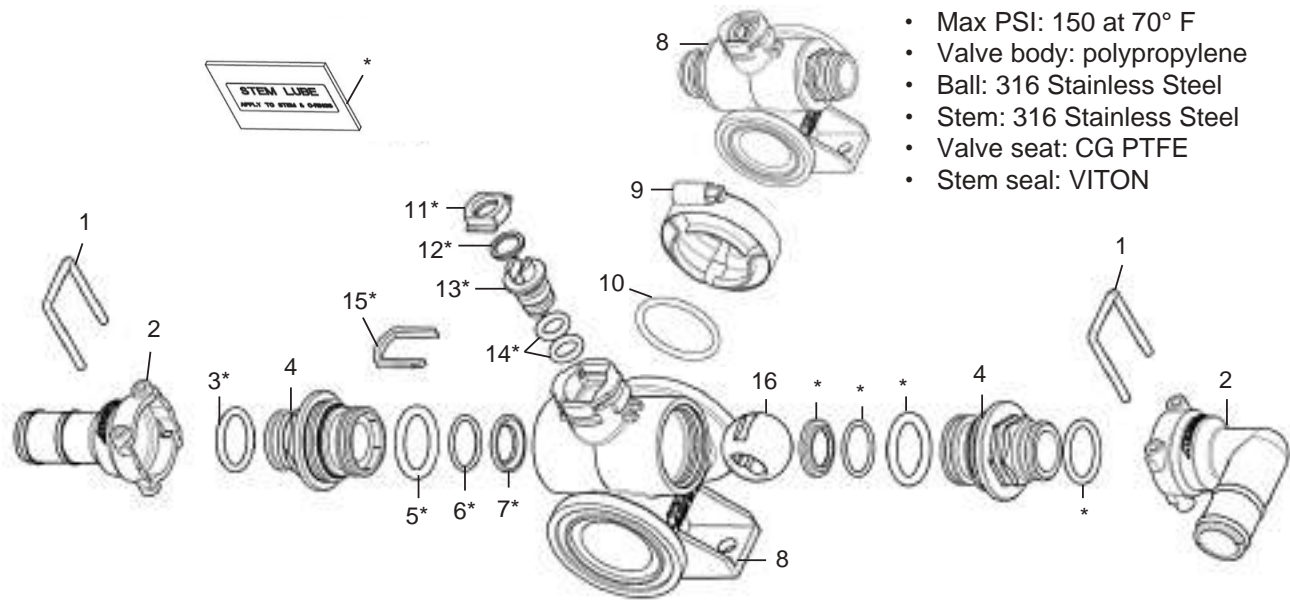
- Design Features:**
- 1/2" Full port 3-way valve manifold
 - Max PSI: 150 at 70° F
 - Valve body: polypropylene
 - Ball: 316 Stainless Steel
 - Stem: 316 Stainless Steel
 - Valve seat: CG PTFE
 - Stem seal: VITON

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

VALVE PARTS

TX2 Series – EH7



Design Features:

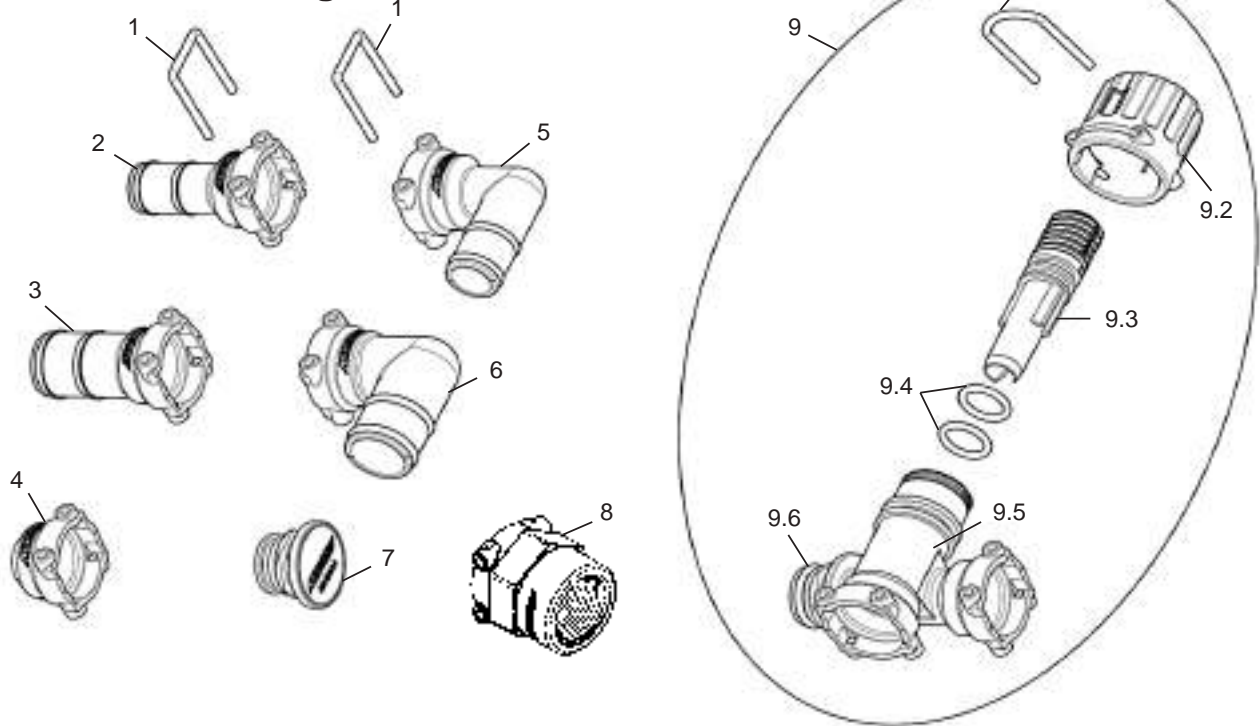
- 1/2" Full port 3-way valve manifold
- Max PSI: 150 at 70° F
- Valve body: polypropylene
- Ball: 316 Stainless Steel
- Stem: 316 Stainless Steel
- Valve seat: CG PTFE
- Stem seal: VITON

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	
3*	299-0030	fitting, QD - Metered Bypass	1
	205-0062	o-ring, #116	
	202-0020	endcap, quick fitting connect	
	205-0096	o-ring, #211, EPDM	
	205-0060	o-ring, #017, EPDM	
	206-0016	seat, 1/2" full port, carbon graphite PTFE	
	201-0181	valve body, 3-way, M100, 1" flange, diverter	
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

Exploded View Diagrams

TX2 Series - Fittings

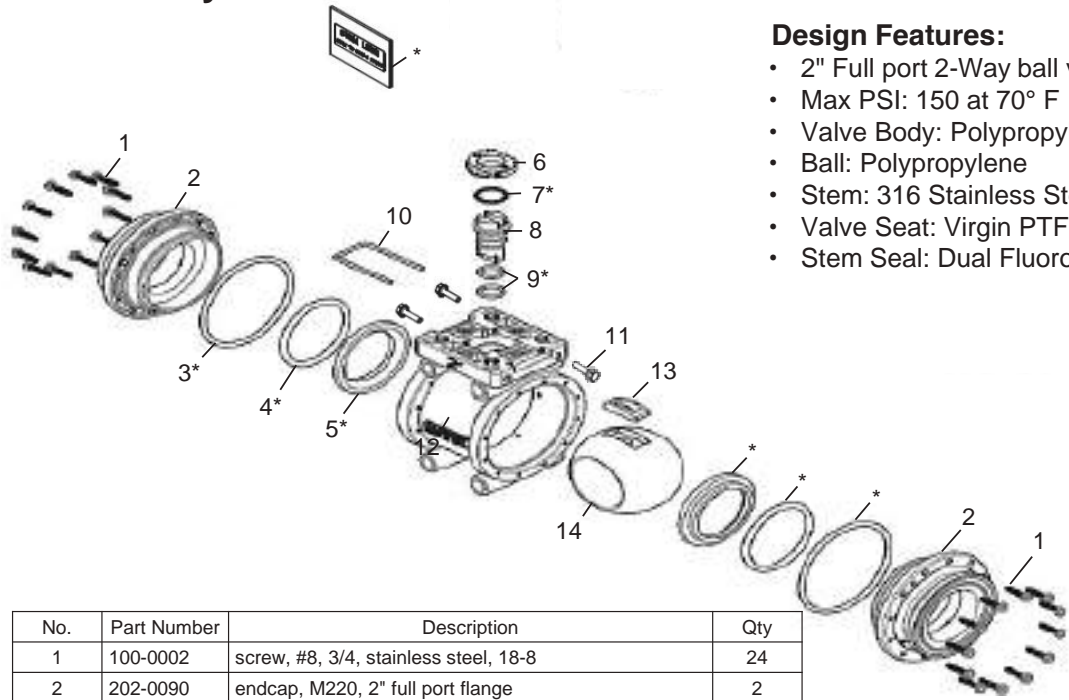


No.	Part Number	Description	Qty
1	106-0018	hairpin, stainless steel	2
2	211-0066	fitting, 3/4" straight hose barb	1
*	KZ1146	fitting kit, 3/4" straight hose barb with stainless steel hairpin	
3	211-0074	fitting, 1" straight hose barb	1
*	KZ1147	fitting kit, 1" straight hose barb with stainless steel 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

VALVE PARTS

MX8 2-way



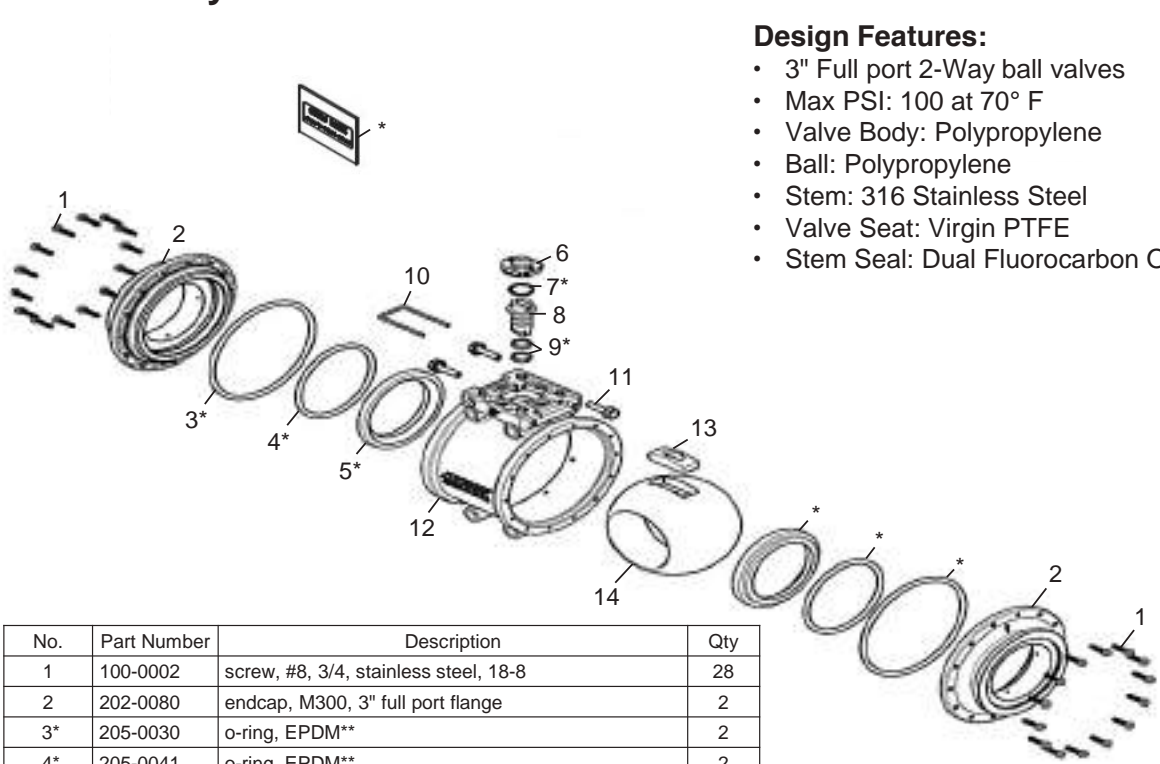
- Design Features:**
- 2" Full port 2-Way ball valves
 - Max PSI: 150 at 70° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Valve Seat: Virgin PTFE
 - Stem Seal: Dual Fluorocarbon O-rings

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	
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
15***	Manual Valve Only		
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
16**	Manual Handle Override		
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

Exploded View Diagrams

MX12 2-way



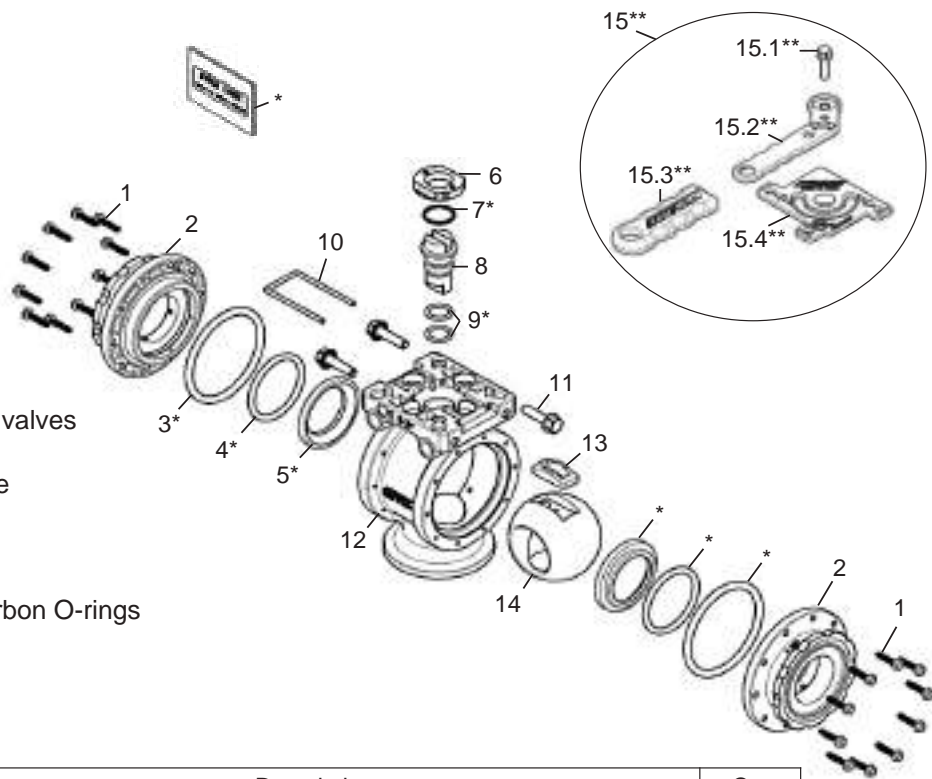
- Design Features:**
- 3" Full port 2-Way ball valves
 - Max PSI: 100 at 70° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Valve Seat: Virgin PTFE
 - Stem Seal: Dual Fluorocarbon O-rings

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	
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
15***	Manual Valve Only		
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
16**	Manual Handle Override		
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

VALVE PARTS

MX6 3-way



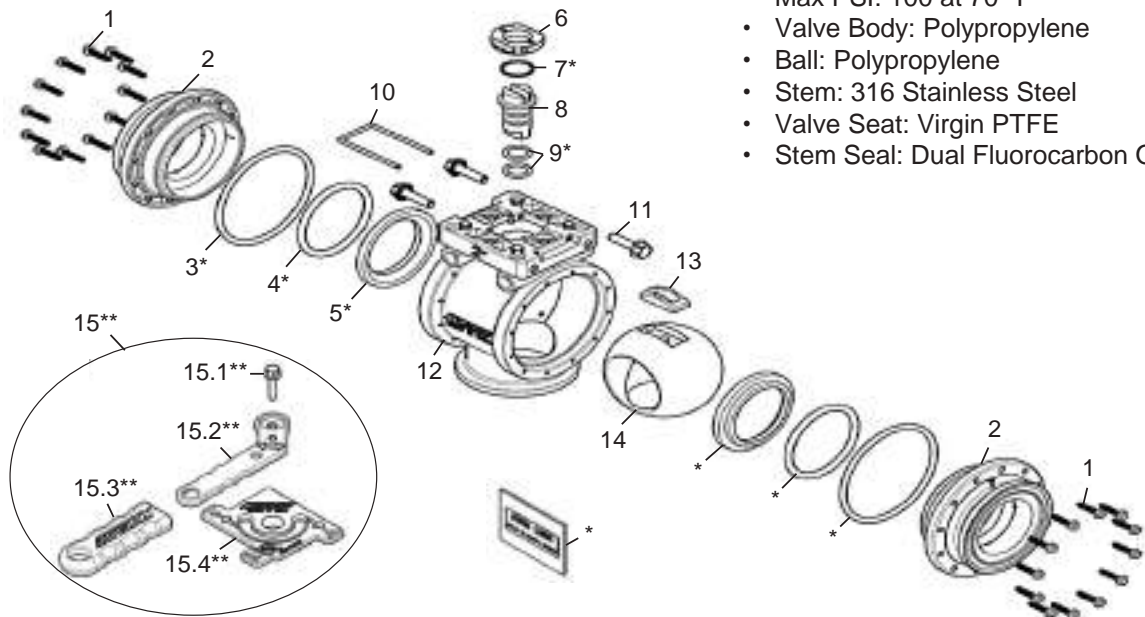
- Design Features:**
- 1 1/2" Full port 3-Way ball valves
 - Max PSI: 100 at 70° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Valve Seat: Virgin PTFE
 - Stem Seal: Dual Fluorocarbon O-rings

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 207-0009**	stem, stainless steel inline 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	201-0145	valve body, 3-way, bottom load, M200, 2" polypropylene standard port	1
13	250-0060	shoe, ball/stem engagement	1
14	204-0029 204-0071	valve ball, 3-way, 1 1/2" diverter with relief slot valve ball, 1 1/2" polypropylene, 2-port	1
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

Exploded View Diagrams

MX8 3-way



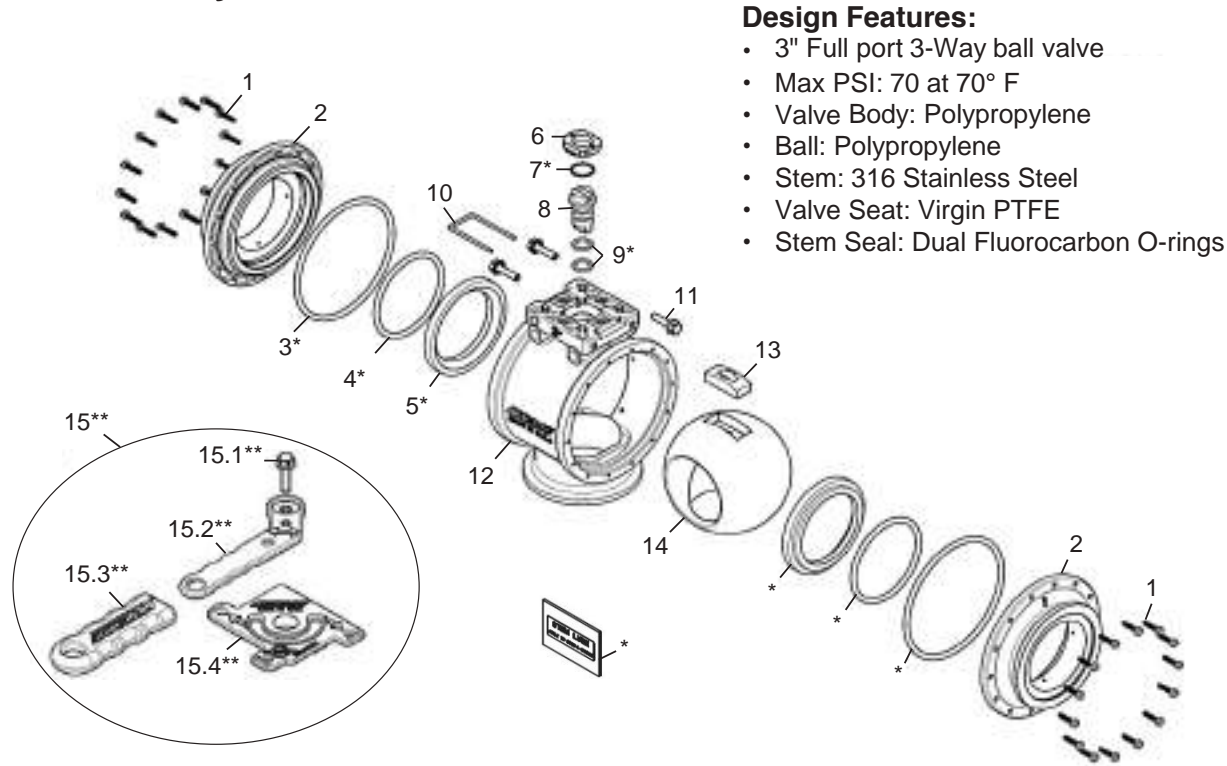
- Design Features:**
- 2" Full port 3-Way ball valves
 - Max PSI: 100 at 70° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Valve Seat: Virgin PTFE
 - Stem Seal: Dual Fluorocarbon O-rings

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 207-0009**	stem, stainless steel inline 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	201-0135	valve body, 3-way, bottom load, M220, 3" polypropylene full port	1
13	250-0060	shoe, ball/stem engagement	1
14	204-0044 204-0045 204-0110 QX8-116	valve ball, 3-way, 2" diverter valve ball, 2" 2-port valve ball, 2" V-port valve ball, 2" L-port	1
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

VALVE PARTS

MX12 3-way



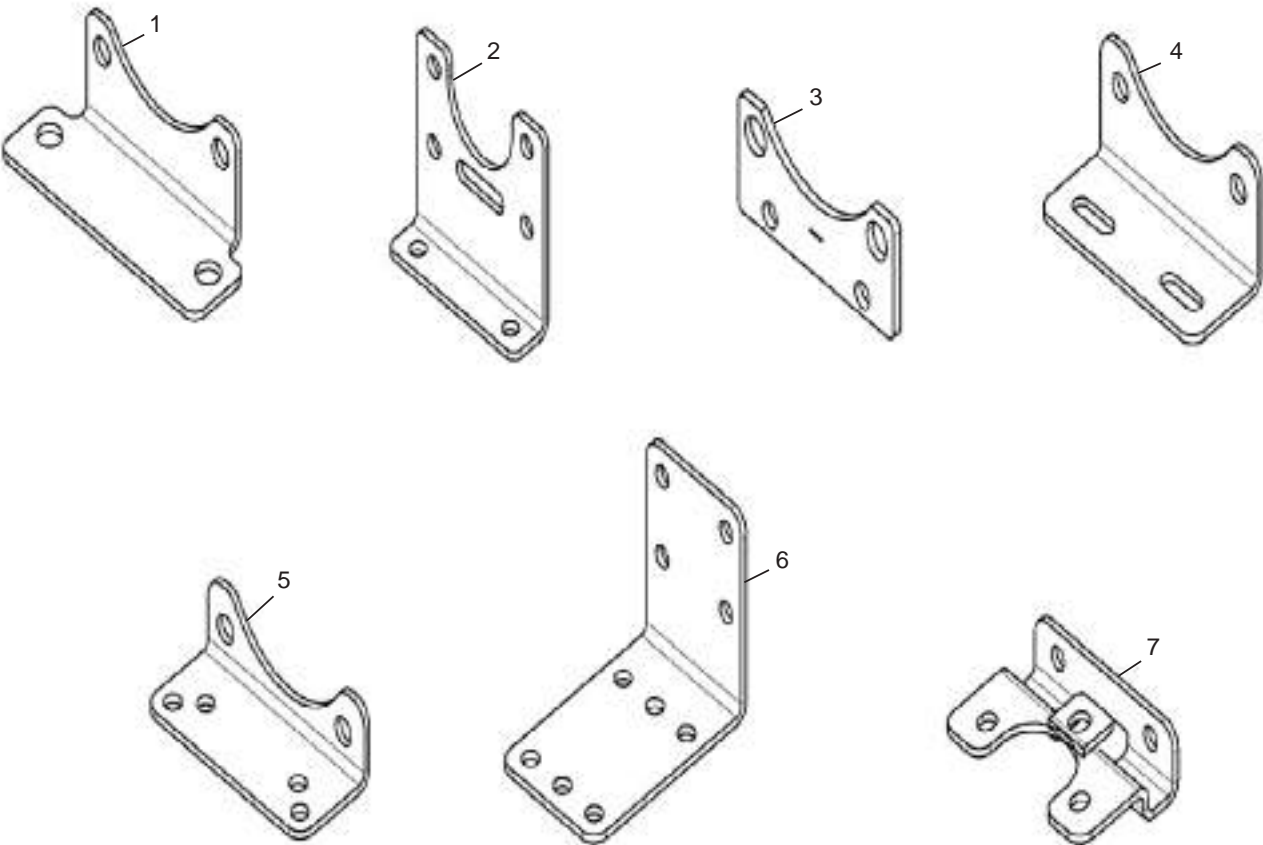
- Design Features:**
- 3" Full port 3-Way ball valve
 - Max PSI: 70 at 70° F
 - Valve Body: Polypropylene
 - Ball: Polypropylene
 - Stem: 316 Stainless Steel
 - Valve Seat: Virgin PTFE
 - Stem Seal: Dual Fluorocarbon O-rings

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

Exploded View Diagrams

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

VALVE REPAIR KIT GUIDE

61 Series		Valve	Repair Kit
	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
67 Series		Valve	Repair Kit
	67B	200-0029	210-0007-1
	67D	200-0031	210-0007-1
	67E	299-0007	210-0003-1
	67F	N/A	210-0013-1
	67G	200-0042	210-0017-1
	67H	200-0075	210-0001-1
	67I	299-0008	210-0002-1
68 Series		Valve	Repair Kit
		EHPT-68F	EHPT-720
		EHPT-68G	EHPT-721
73 Series		Valve	Repair Kit
4 seat Square Stem - Ta Chen	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
79 Series		Valve	Repair Kit
2 seat Square Stem - Ta Chen	79C	299-0022	210-0008-1
	79D	299-0027	210-0029-1
	79E	299-0047	210-0009-1
	79F	299-0028	210-0010-1
	79H	299-0020	210-0011-1
	79i	299-0029	210-0012-1
79 Series		Valve	Repair Kit
"Double D Stem" "Old style"	EH3-79D	N/A	
	EHPT-79E	EHPT-710	
	EHPT-79F	EHPT-715	
	EHPT-79H	EHPT-713	
	EHPT-79I	EHPT-714	
84 Series		Valve	Repair Kit
	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	
89 Series		Valve	Repair Kit
	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	

78 Series		Valve	Repair Kit
		EH3-78D	N/A
		EHPT-78E	EHPT-710
		EHPT-78F	EHPT-711
		EHPT-78H	EHPT-713
		EHPT-78I	EHPT-714
88 Series		Valve	Repair Kit
	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			
88 Series		Valve	Repair Kit
"Double D Stem" "Old style"		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			
92 Series		Valve	Repair Kit
		EH-92FM	100200
99 Series		Valve	Repair Kit
Disc.	Banjo	EHPT-99E	EHPT-700
Disc.	Banjo	EHPT-99F	EHPT-701-1
Disc.	Banjo	EHPT-99H	EHPT-702-1
Disc.	Banjo	EHPT-99I	EHPT-703-1
Disc.	Banjo	EHPT-99K	EHPT-704-1
Greenleaf	99K	EH2-1180	EH2-1181-1
Greenleaf	99L	EH2-1185	210-0004-1 (disc)
S Series		Valve	Repair Kit
		J2C	210-0038
		S2B	210-0038
		S2C	210-0038
		S4F	SVF-RKT
		S4H	SVF-RKT
		S6F	SVF-RKT
		S6H	SVF-RKT
		S7F	SVF-RKT
		S7H	SVF-RKT
		S8B	210-0039
		S8C	210-0039
		S8F	210-0038
TRU TORQ Series		Valve	Repair Kit
		1 1/2"	210-0024
		2"	210-0025
		3"	210-0026
TX2 Series		Valve	Repair Kit
		1/2"	210-0030
QX Series		Valve	Repair Kit
		1/2" - 1"	QX4-RKT
		1 1/4" - 1 1/2"	QX5-RKT
		2"	QX8-RKT

AUTHORIZED REPAIR CENTERS

WARRANTY REPAIRS ONLY

AG EXPRESS
ELECTRONICS

308 Claude Road
Grand Island, NE 68803
(308) 381-2905

⚠ Reference RMA Number Given by KZValve

NON-WARRANTY REPAIRS (ANY 3 LOCATIONS)

AG EXPRESS
ELECTRONICS

308 Claude Road
Grand Island, NE 68803
(308) 381-2905

AG EXPRESS
ELECTRONICS

6280 NE 14TH Street
Des Moines, IA 50313
(515) 289-2746

AG EXPRESS
ELECTRONICS

106 West Main Street
Sulphur Springs, IN 47388
(765) 533-4809

CANADIAN REPAIR CENTER

FARMTRONICS

380 Henderson Drive
Regina, SK Canada S4N 5W9
(800) 667-8001

Please visit www.KZValve.com for more detail on repair kits.

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 402-944-2402 or emailed to your point-of-contact at **KZValve**.

CONDITIONS OF SALE

All sales made by **KZValve** 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 submitted using the following:

EMAIL: sales@kzco.com

PHONE: 800-288-1112

FAX: 402-944-2402

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

Returned items will be accepted on a case-by-case basis. If **KZValve** 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, **KZValve**, 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 **KZValve**. Please call 402-944-2767 or fax your claim to Customer Service at 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 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

KZValve 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 **KZValve**'s discretion, at no charge, providing the customer returns the defective unit to **KZValve** (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 **KZValve** service center.

All costs of removing and re-installing the product are the customer's responsibility. **KZValve** will not pay for shipping charges incurred in sending the defective product from the customer to **KZValve**, but will pay for standard ground 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 **KZValve**. In no event shall **KZValve** 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 state to state.

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

ENVIRONMENTAL REGULATIONS

Product sent to **KZValve** or to any of **KZValve**'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 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 **KZValve** Authorized Repair Center. **KZValve** Authorized Repair Centers are listed on page 148.

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.