



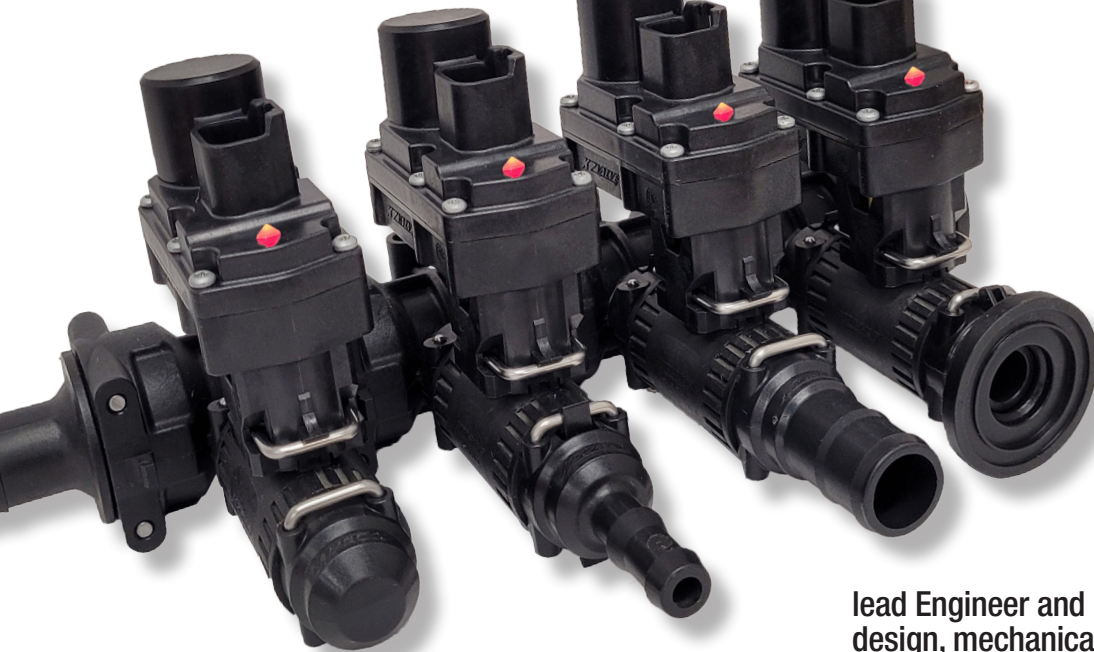
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PRODUCT CATALOG #34

**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.

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 **KZValve**. 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: kzvsales@idexcorp.com, or contact your customer service representative.

To ensure proper shipment, please order by complete part number and description. All prices are in U.S. dollars, INCOTERMS FCA – Seller Dock – Greenwood, NE. Lead times are determined by product line demand. 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 in effect at time of shipment.



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SHIPMENTS

All shipments are INCOTERMS FCA – Seller's Dock – Greenwood, NE. 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.

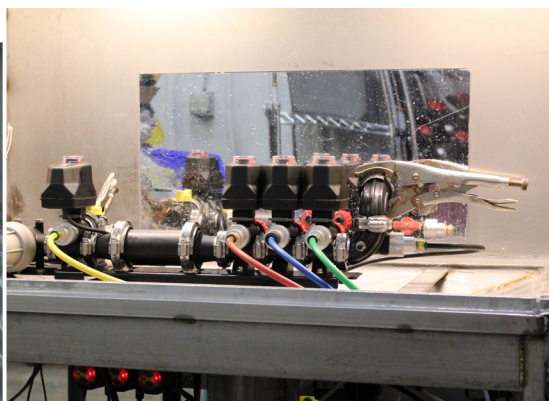
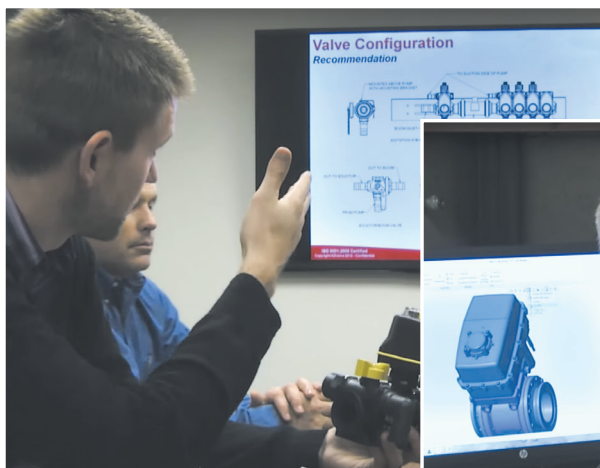
DESIGN SERVICES

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.

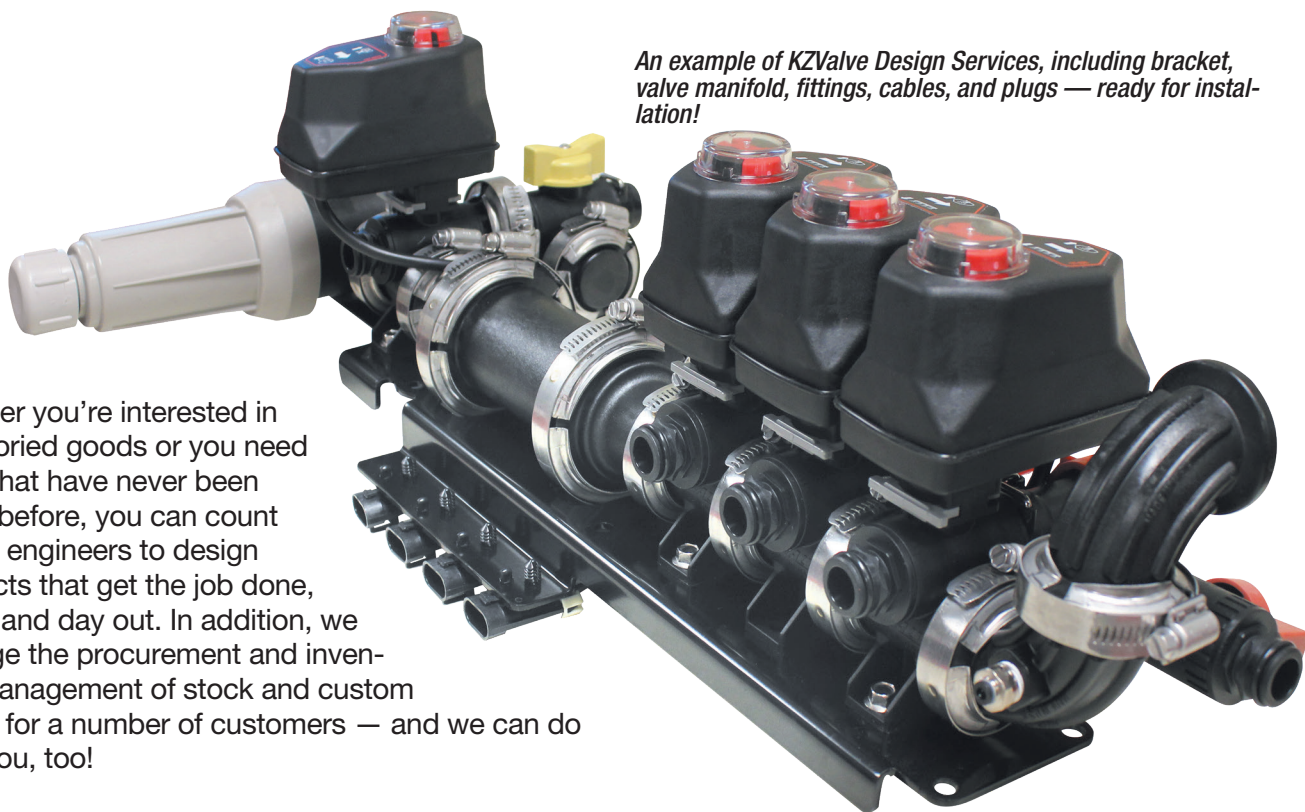
- Our experienced procurement department will source and inventory parts for your custom assembly
- Production teams are skilled in assembling custom OEM equipment
- We provide custom packaging solutions for unique assemblies
- Every assembly is leak and function tested and validated



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

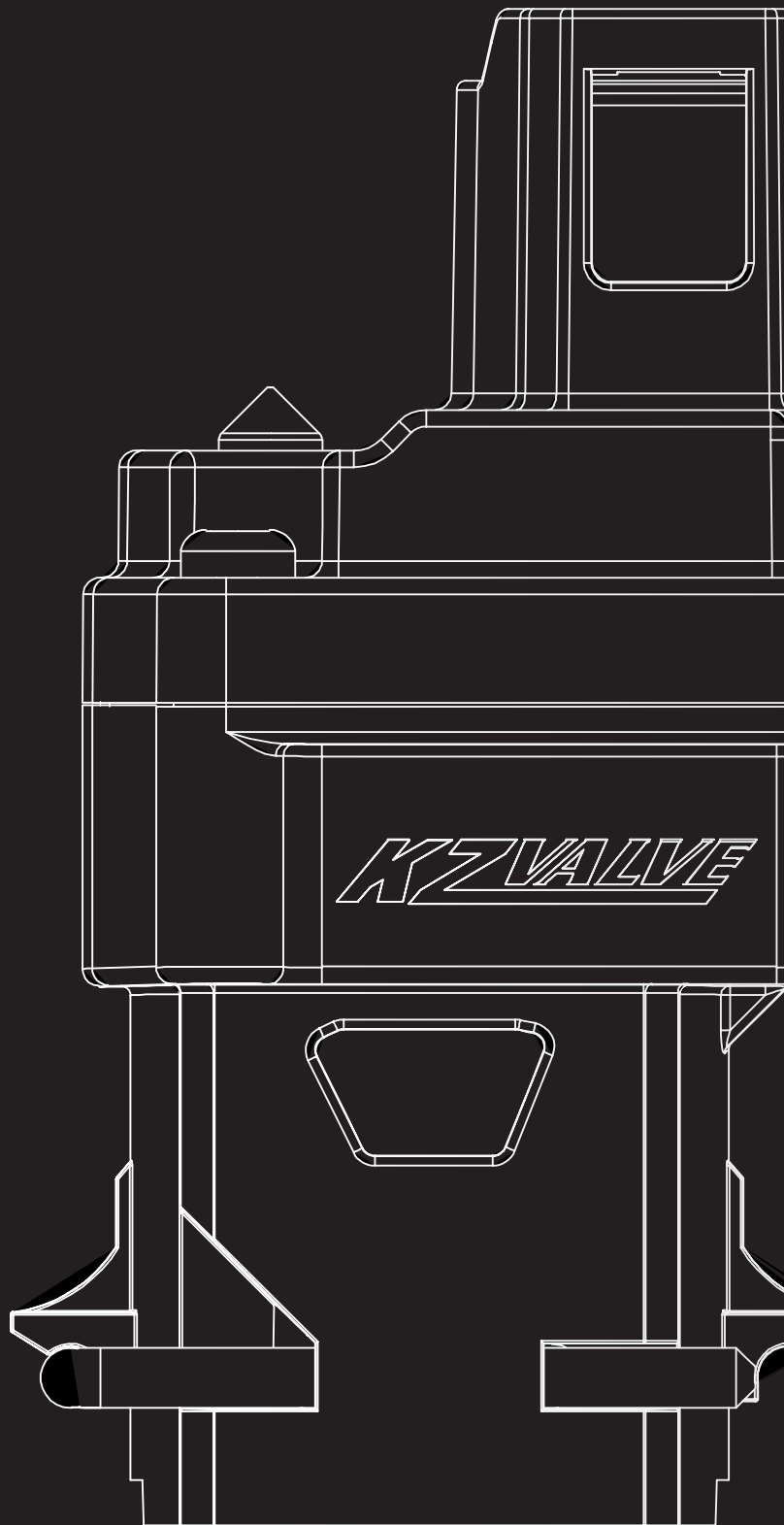
At **KZValve**, we provide turnkey production for more and more of North America's largest companies who benefit from our inventioneering attitude: actuator, valve kits, manifold sections, flange fittings, hose barbs, and custom wiring harnesses — we do it all.

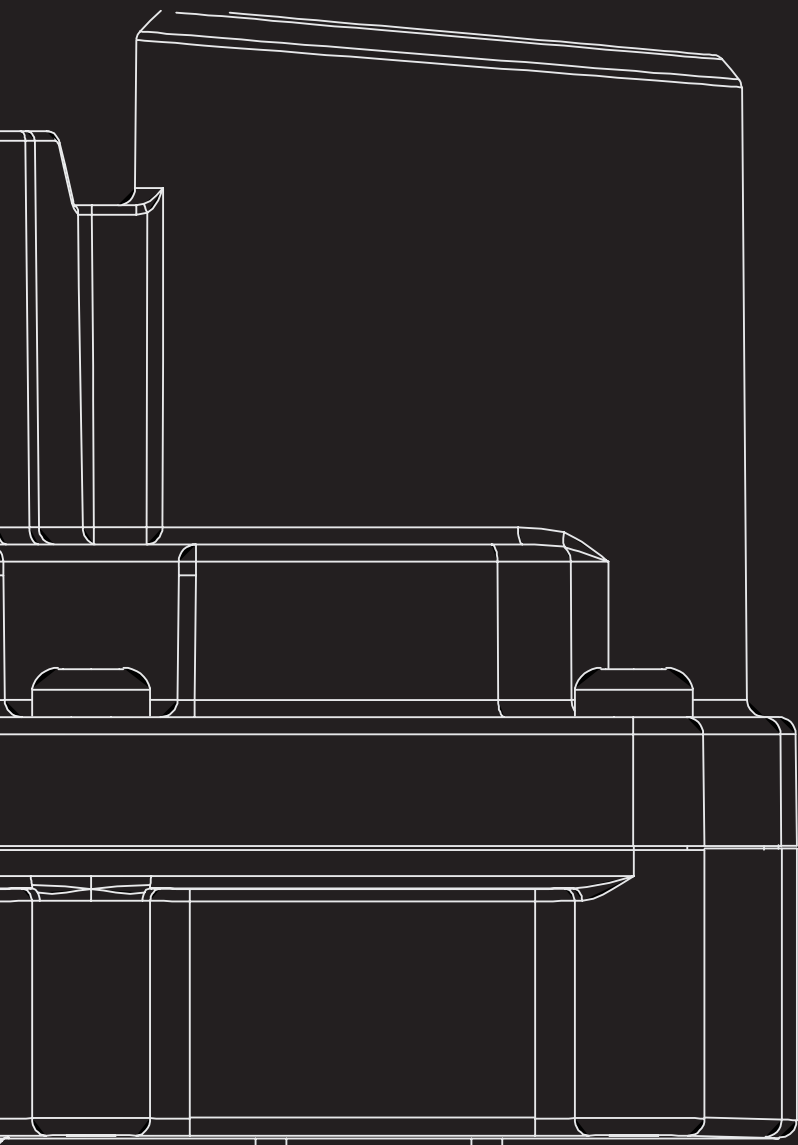
Contact us today and see what we can do for you!

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

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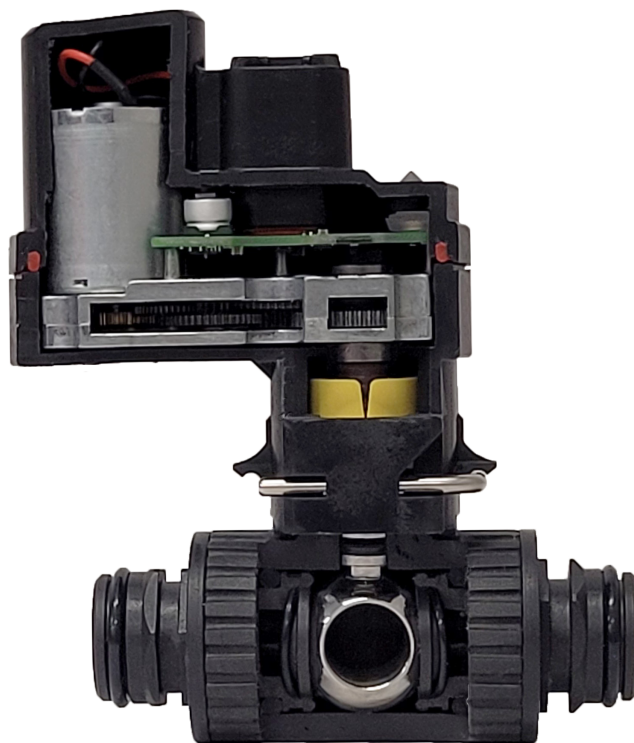




WHY CHOOSE *KZValve* Electric Motorized Valves?

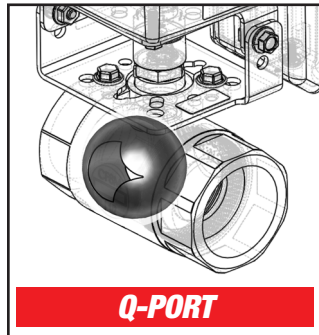
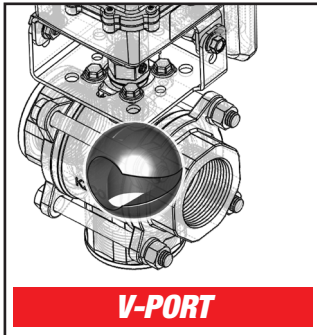
KZValve actuated valves are field tested not just to prove they are waterproof and durable, but to ensure maintenance free performance and long operating life. Actuator housings, electrical components, and valve components are all designed with your needs in mind—which is why leading original equipment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



CAN/ISO BUS ACTUATORS

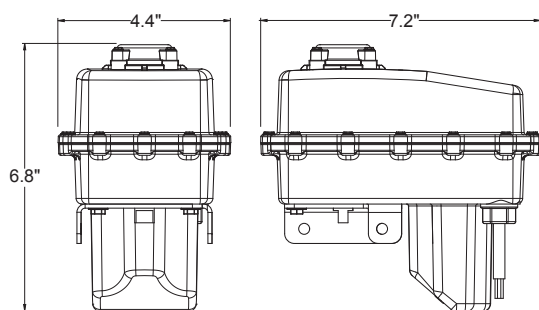
- Designed to mount directly to a **KZValve** ball or butterfly valve
- Allows more precise control of the actuator to help pinpoint any system problems quickly and simplify your entire application
- Compatible with CAN, J1939 and ISO 11783 networks
- Available in the **KZValve** EH2, EH3, EH5, EH6, EH7, EH8, and EH9 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.

ACTUATOR OVERVIEW

EH2 SERIES ACTUATORS



90° Cycle Time in Seconds (no load)

•EH2 Series Actuators

- 1.5 seconds
- 3.0 seconds
- 8.0 seconds

•EH5 Series Actuator

- 3.0 seconds

•EH6 Series Actuator

- 0.5 seconds

•EH7 Series Actuators

- 0.5 seconds
- 7.0 seconds

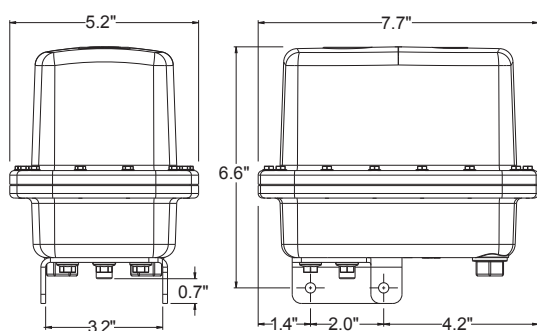
•EH8 Series Actuator

- 0.2 seconds

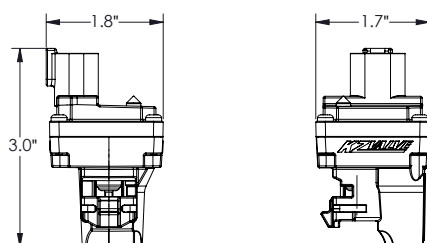
• EH9 Series Actuator

- 0.7 seconds
- 1.7 seconds
- 3.0 seconds

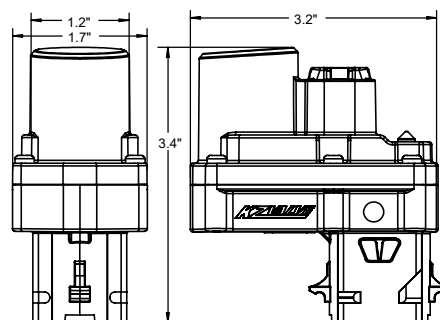
EH5 SERIES ACTUATORS



EH8 SERIES ACTUATORS



EH6 SERIES ACTUATORS



Waterproof Connectors

- Deutsch
- WeatherPak
- Amp Seal 16
- Metri-Pak
- M12
- Conxall

Actuator Case Options

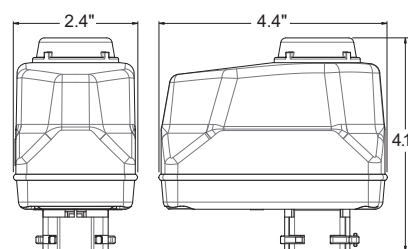
- Indicator flag
- Indicator LED

Other Options

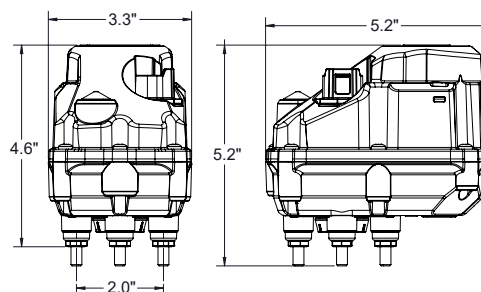
- 180° operation
- 225°/255° operation (regulating v-ball application)
- Valve normally closed (standard)
- Valve normally open

See actuator technical data for more options or information on pg. 71-86.

EH7 SERIES ACTUATORS



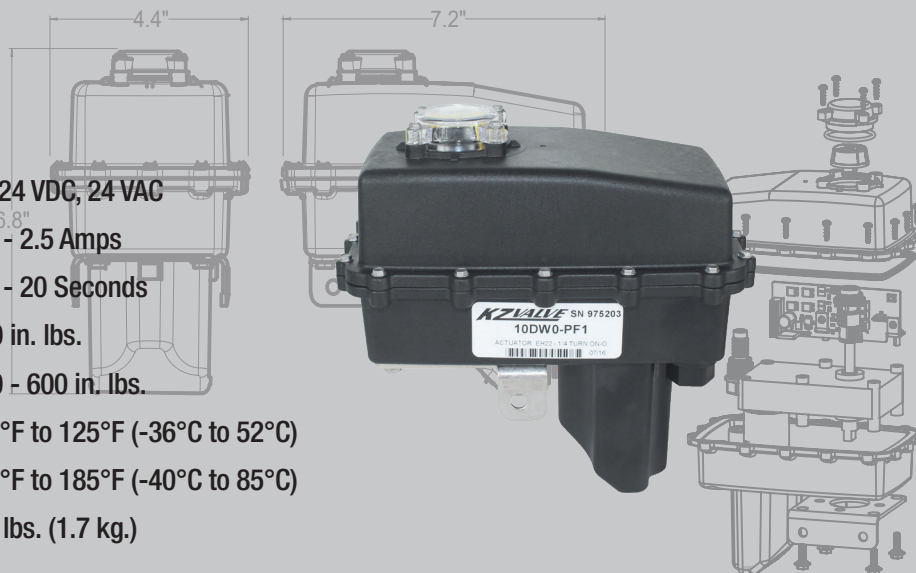
EH9 SERIES ACTUATORS



EH2 SERIES

Specifications

Operating Voltage	12/24 VDC, 24 VAC
Operating Amperage	0.3 - 2.5 Amps
Speed	0.5 - 20 Seconds
Operating Torque	100 in. lbs.
Stall Torque	500 - 600 in. lbs.
Operating Temperature	-32°F to 125°F (-36°C to 52°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)
Weight	3.8 lbs. (1.7 kg.)



Features and Benefits

- Corrosion Resistant Enclosure
- Mechanical Indicator for Position and Fault Indication
- 50% Duty Cycle
- Maintenance Free
- Able to Be Installed in Any Orientation
- Available with a Wide Variety of Electrical Connections
- Rated NEMA 6P per NEMA 250
- Rated NEMA 7D per NEMA 250
- Rated IP68 per ISO 20653 and IEC 60529

Control Types Available

- Positive Signal to Operate
- ON/OFF, ON/ON, ON/OFF/ON
- Positionable/Regulating
- Proportional
- 4-20 mA
- CAN/ISO BUS
- Reverse Polarity (2-Wire)

Position Feedback

- Positive Signal @ Open/Closed Limits
- CAN/ISO BUS
- 5K Ω Potentiometer Feedback

Diagnostic Feedback Available

- Device Position

Mounts On



**1" - 1½"
S-Series Valves**



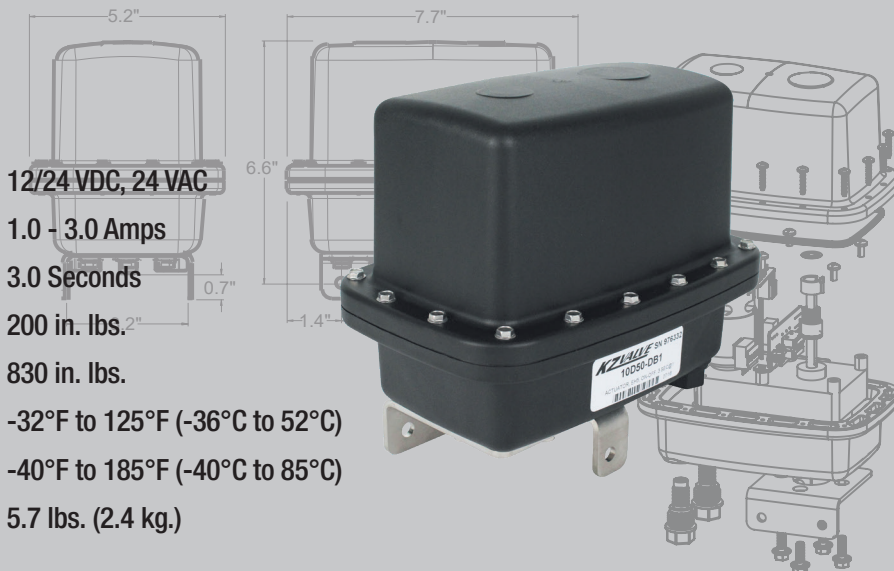
**1½" - 3"
Tru-Torq Series Valves**

*See Actuator Technical Data Section for additional details.

EH5 SERIES

Specifications

Operating Voltage	12/24 VDC, 24 VAC
Operating Amperage	1.0 - 3.0 Amps
Speed	3.0 Seconds
Operating Torque	200 in. lbs.
Stall Torque	830 in. lbs.
Operating Temperature	-32°F to 125°F (-36°C to 52°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)
Weight	5.7 lbs. (2.4 kg.)



Features and Benefits

- Corrosion Resistant Enclosure
- 50% Duty Cycle
- Maintenance Free
- Able to Be Installed in Any Orientation
- Available with a Wide Variety of Electrical Connections
- Rated NEMA 6P per NEMA 250
- Rated NEMA 7D per NEMA 250
- Rated IP68 per ISO 20653 and IEC 60529

Control Types Available

- Positive Signal to Operate
- ON/OFF, ON/ON, ON/OFF/ON

Positionable/Regulating

CAN/ISO BUS

Position Feedback

Positive Signal @ Open/Closed Limits

CAN/ISO BUS

5K Ω Potentiometer Feedback

Diagnostic Feedback Available

Device Position

Mounts On



2" - 3"
89 Series Valves



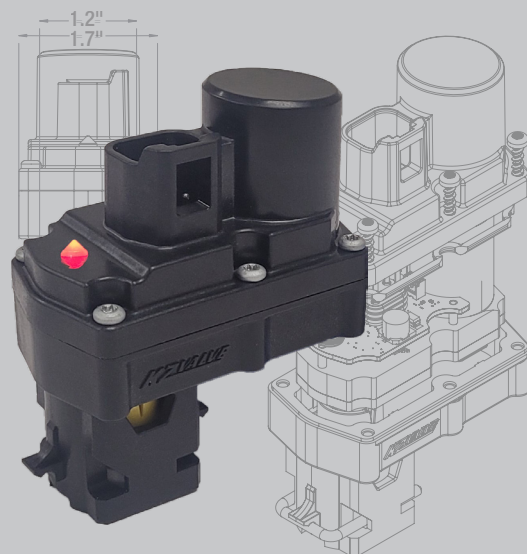
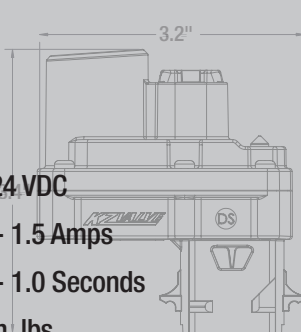
3" - 5"
50 Series Valves

*See Actuator Technical Data Section for additional details.

EH6 SERIES

Specifications

Operating Voltage	12/24 VDC
Operating Amperage	1.0 - 1.5 Amps
Speed	0.5 - 1.0 Seconds
Operating Torque	10 in. lbs.
Stall Torque	35 in. lbs.
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Storage Temperature	-67°F to 221°F (-55°C to 105°C)
Weight	0.5 lbs. (0.23 kg.)



Features and Benefits

- Corrosion Resistant Enclosure
- 50% Duty Cycle
- LED Position and Fault Indication
- Maintenance Free
- Able to Be Installed in Any Orientation
- Available with Integrated Electrical Connector
- Rated NEMA 6P and 7D per NEMA 250
- Rated IP68M, IP69K per ISO 20653 and IEC 60529

Control Types Available

Positive Signal to Operate

ON/OFF, ON/ON

CAN/ISO BUS

Position Feedback

Positive Signal @ Open or Closed Limits

CAN/ISO BUS

Diagnostic Feedback Available

- Device Voltage
- Device Position
- Command Timeout
- Stall Conditions
- Signal Input Error

Mounts On



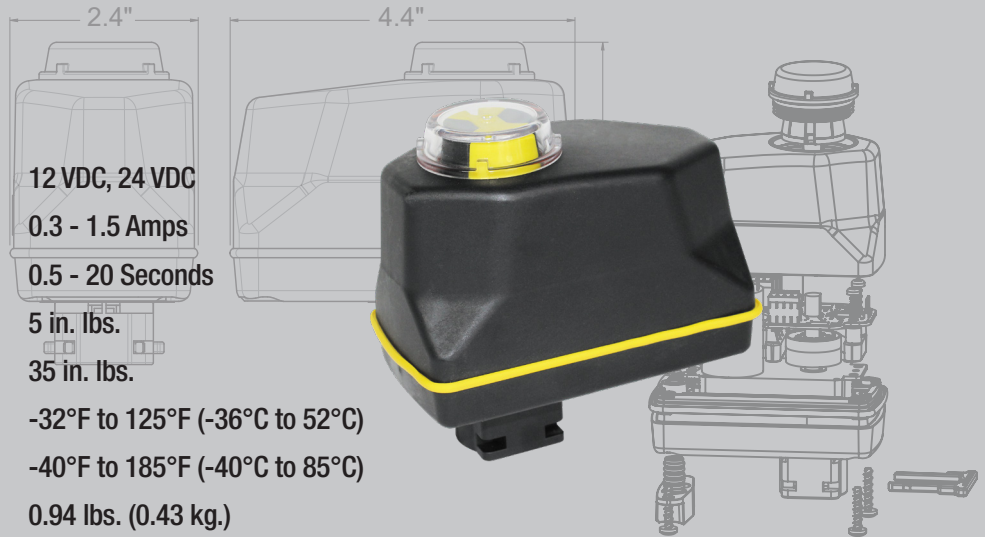
TX2 Series Valves

*See Actuator Technical Data Section for additional details.

EH7 SERIES

Specifications

Operating Voltage	12 VDC, 24 VDC
Operating Amperage	0.3 - 1.5 Amps
Speed	0.5 - 20 Seconds
Operating Torque	5 in. lbs.
Stall Torque	35 in. lbs.
Operating Temperature	-32°F to 125°F (-36°C to 52°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)
Weight	0.94 lbs. (0.43 kg.)



Features and Benefits

- Corrosion Resistant Enclosure
- LED Position and Fault Indication
- 50% Duty Cycle
- Maintenance Free
- Able to Be Installed in Any Orientation
- Available with a Wide Variety of Electrical Connections
- Rated NEMA 6P per NEMA 250
- Rated IP68 per ISO 20653 and IEC 60529

Control Types Available

- Positive Signal to Operate
- ON/OFF, ON/ON, ON/OFF/ON

Positionable/Regulating

CAN/ISO BUS

Position Feedback

- Positive Signal @ Open/Closed Limits
- CAN/ISO BUS

Diagnostic Feedback Available

- Device Voltage
- Device Position
- Command Timeout
- Stall Conditions
- Signal Input Error

Mounts On



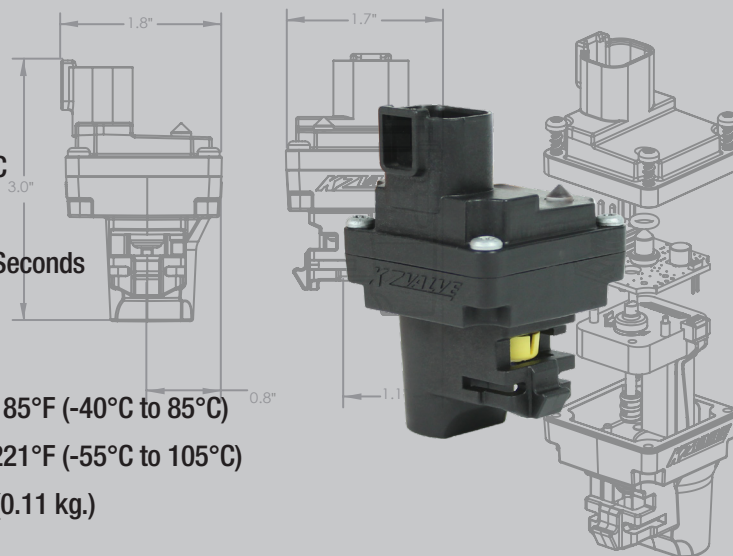
TX2 Series Valves

*See Actuator Technical Data Section for additional details.

EH8 SERIES

Specifications

Operating Voltage	12/24 VDC
Operating Amperage	0.4 Amps
Speed	0.2 - 0.4 Seconds
Operating Torque	2 in. lbs.
Stall Torque	8 in. lbs.
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Storage Temperature	-67°F to 221°F (-55°C to 105°C)
Weight	0.25 lbs. (0.11 kg.)



Features and Benefits

- Corrosion Resistant Enclosure
- LED Position and Fault Indication
- 50% Duty Cycle
- Maintenance Free
- Able to Be Installed in Any Orientation
- Available with Integrated Electrical Connection
- Rated NEMA 6P per NEMA 250
- Rated NEMA 7D per NEMA 250
- Rated IP68 per ISO 20653 and IEC 60529

Control Types Available

Positive Signal to Operate

ON/OFF, ON/ON

CAN/ISO BUS

Position Feedback

Positive Signal @ Open/Closed Limits

CAN/ISO BUS

Diagnostic Feedback Available

- Device Voltage
- Device Position
- Command Timeout
- Stall Conditions
- Signal Input Error

Mounts On



**1/4" - 3/8"
ZIPValve**



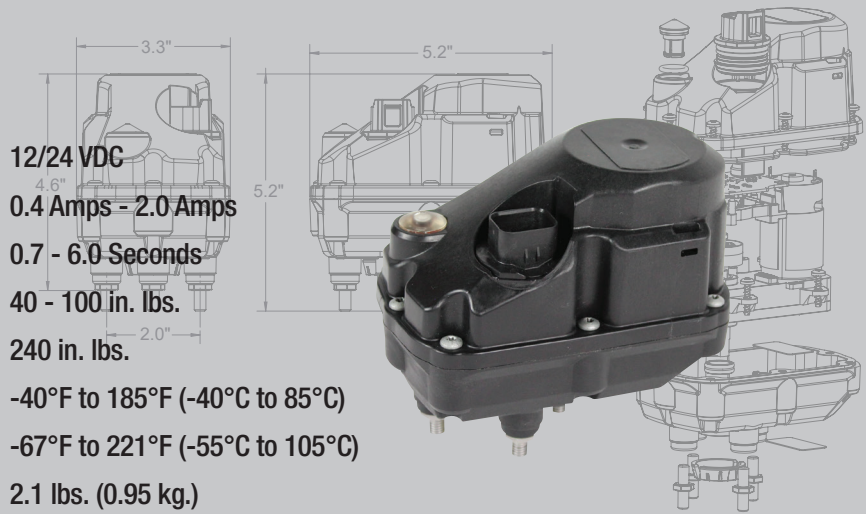
**1/4" - 3/8"
S-Series Valves**

*See Actuator Technical Data Section for additional details.

EH9 SERIES

Specifications

Operating Voltage	12/24 VDC
Operating Amperage	0.4 Amps - 2.0 Amps
Speed	0.7 - 6.0 Seconds
Operating Torque	40 - 100 in. lbs.
Stall Torque	240 in. lbs.
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Storage Temperature	-67°F to 221°F (-55°C to 105°C)
Weight	2.1 lbs. (0.95 kg.)



Features and Benefits

- Corrosion Resistant Enclosure
- LED Position and Fault Indication
- 50% Duty Cycle
- Maintenance Free
- Able to Be Installed in Any Orientation
- Available with a Wide Variety of Electrical Connections
- Rated NEMA 6P per NEMA 250
- Rated NEMA 7D per NEMA 250
- Rated IP68 and IP69K per ISO 20653 and IEC 60529

Control Types Available

- Positive Signal to Operate
- ON/OFF, ON/ON, ON/OFF/ON

- Positionable/Regulating
- CAN/ISO BUS

Position Feedback

- Positive Signal @ Open/Closed Limits
- CAN/ISO BUS

Diagnostic Feedback Available

- Device Voltage
- Device Position
- Command Timeout
- Stall Conditions
- Signal Input Error

Mounts On



1" QX Series Valves



1" S-Series Valves

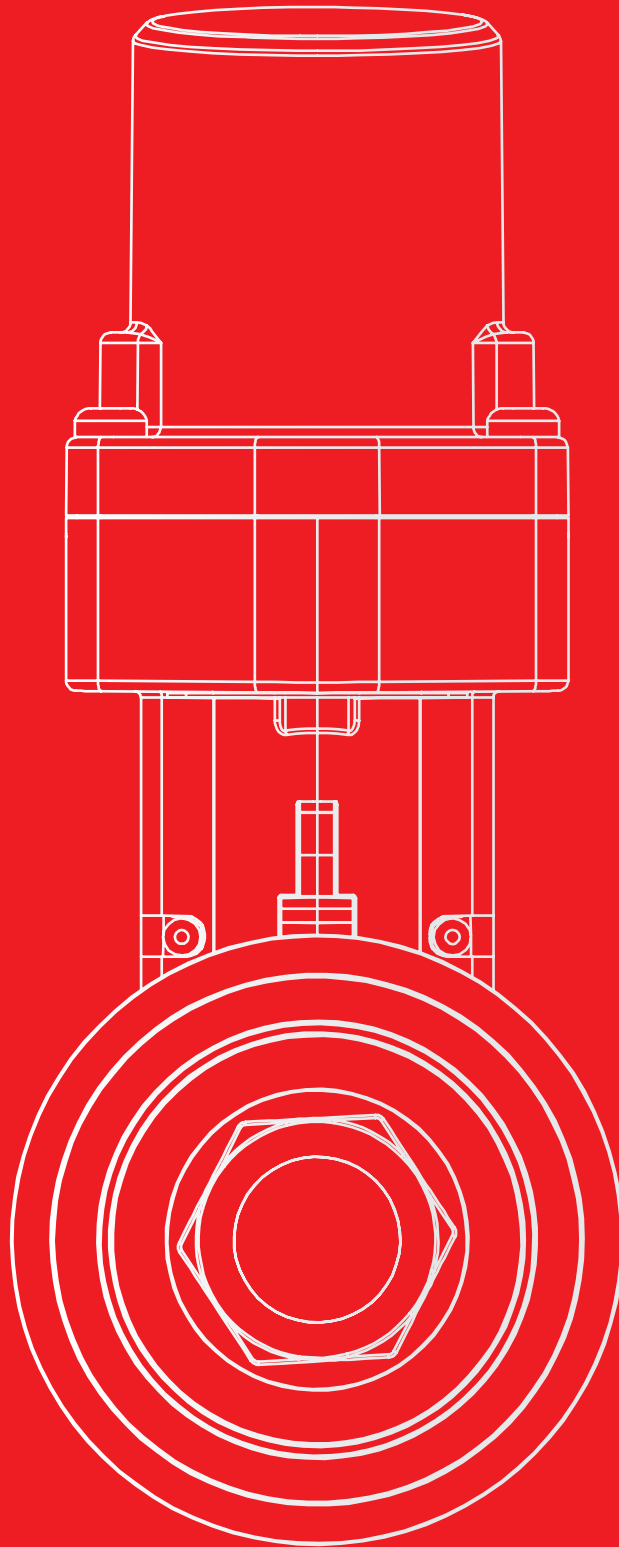


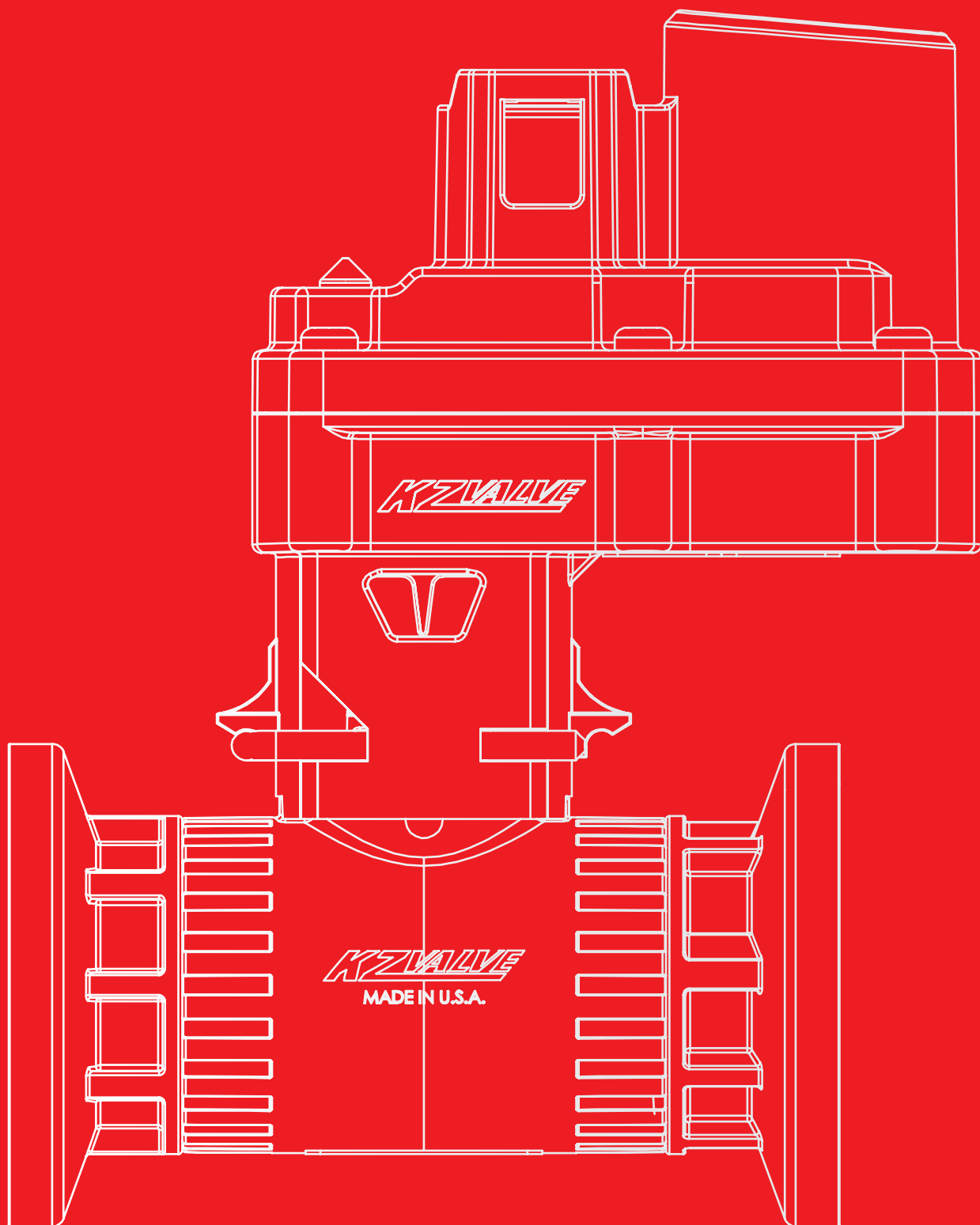
**1/4" - 2"
95 Series Valves**

*See Actuator Technical Data Section for additional details.

VALVES

Pages 19-58





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: 12/24 VDC
- 0.4 Amp current draw



1/4"

Part #

M12 Lid Receptacle (12 VDC or 24 VDC)

MM4B28-1CEBS-ROV

1/4" Male NPT fittings, M12 connectors, 12/24 VDC, EH8, On/On

NN4B28-1CEBS-ROV

1/4" push-to-connect fittings, M12 connectors, 12/24 VDC, EH8, On/On

Deutsch DT Series (12 VDC or 24 VDC)

MM4B28-1CEBS-DOV

1/4" Male NPT fittings, Deutsch receptacle, 12/24 VDC, EH8, On/On

NN4B28-1CEBS-DOV

1/4" push-to-connect fittings, Deutsch receptacle, 12/24 VDC, EH8, On/On

3/8"

Part #

Deutsch DT Series (12 VDC or 24 VDC)

NA4C28-1CEBS-DOV

QD fork connection fittings*, Deutsch receptacle, 24 VDC, EH8, On/On

NP4C28-1CEBS-DOV

3/8" push-to-connect, Deutsch receptacle, 12/24 VDC, EH8, On/On

NQ4C28-1CEBS-DOV

1/2" push-to-connect fittings, Deutsch receptacle, 12/24 VDC, EH8, On/On

M12 Lid Receptacle (12 VDC or 24 VDC)

NA4C28-1CEBS-ROV

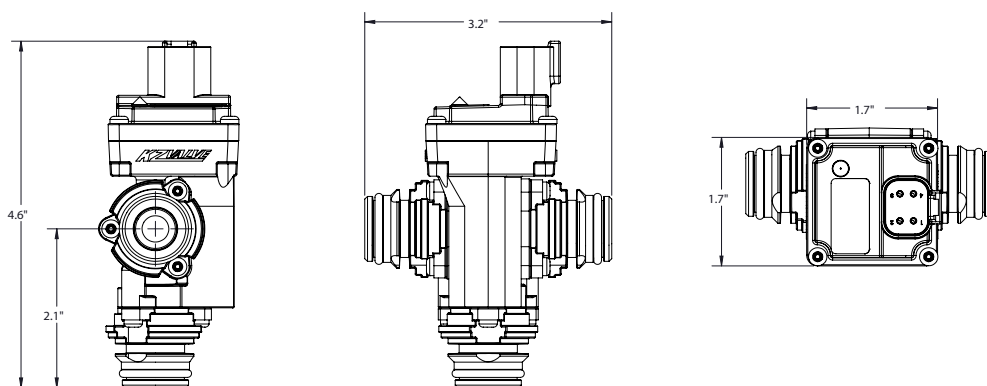
QD fork connection fittings*, M12 connectors, 12/24 VDC, EH8, On/On

NP4C28-1CEBS-ROV

3/8" push-to-connect, M12 connectors, 12/24 VDC, EH8, On/On

NQ4C28-1CEBS-ROV

1/2" push-to-connect, M12 connectors, 12/24 VDC, 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)

NMZB28-1CEBS-R01

1/4" Male NPT fittings, M12 connectors, 12/24 VDC, EH8, On/Off

NNZB28-1CEBS-R01

1/4" push-to-connect fittings, M12 connectors, 12/24 VDC, EH8, On/Off

Deutsch DT Series (12 VDC or 24 VDC)

NMZB28-1CEBS-D01

1/4" Male NPT fittings, Deutsch receptacle, 12/24 VDC, EH8, On/Off

NNZB28-1CEBS-D01

1/4" push-to-connect fittings, Deutsch receptacle, 12/24 VDC, EH8, On/Off

3/8"

Part #

Deutsch DT Series (12 VDC or 24 VDC)

NAZC28-1CEBS-D01

QD fork connection fittings*, Deutsch receptacle, 12/24 VDC, EH8, On/Off

NPZC28-1CEBS-D01

3/8" push-to-connect fittings, Deutsch receptacle, 12/24 VDC, EH8, On/Off

NQZC28-1CEBS-D01

1/2" push-to-connect fittings, Deutsch receptacle, 12/24 VDC, EH8, On/Off

M12 Lid Receptacle (12 VDC or 24 VDC)

NAZC28-1CEBS-R01

QD fork connection fittings*, M12 connectors, 12/24 VDC, EH8, On/Off

NPZC28-1CEBS-R01

3/8" push-to-connect, M12 connectors, 12/24 VDC, EH8, On/Off

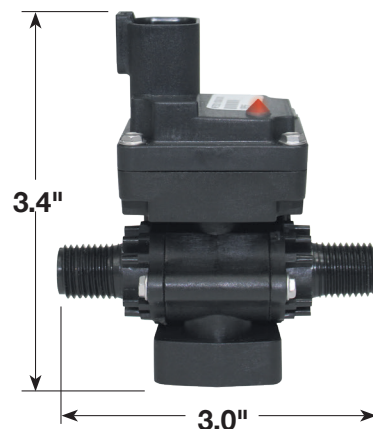
NQZC28-1CEBS-R01

1/2" push-to-connect, M12 connectors, 12/24 VDC, EH8, On/Off

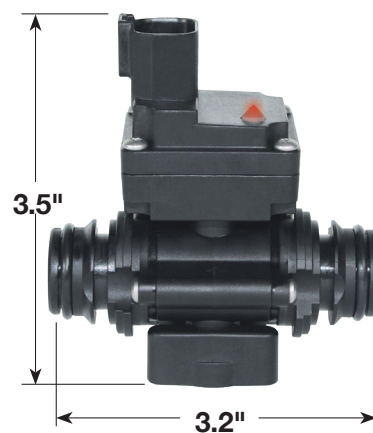
Please consult your Distributor/Key Account Manager for additional options.

*QD & QF Fittings on pages 63-66

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"



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 3/8" (10 mm) usable threads

TX2 SERIES

2-Way Motorized Ball Valve

- ½" 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 8 - 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 **KZValve Waterproof EH6 & EH7 Actuators** providing longer valve and actuator life
- **EH6 Electric Actuator housing is rated NEMA 6P (waterproof) and 7D (explosion proof) per NEMA 250 EH7 Electric Actuator housing is rated NEMA 6P** to protect internal components from corrosion and extends actuator life
- **EH6 Electric Actuator housing meets the IP68M and IP69K per ISO 20653 and IEC 60529 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

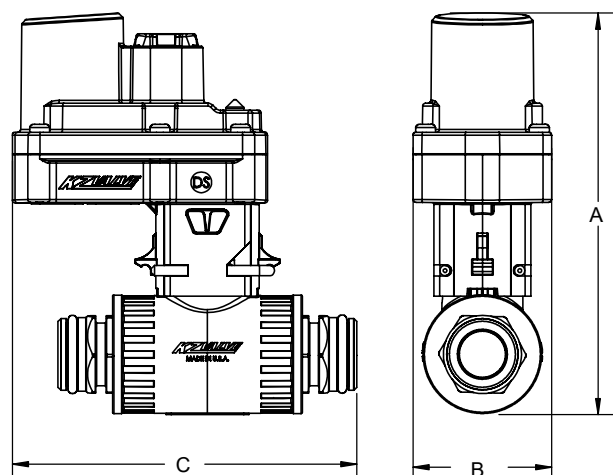


*Also available as
½" 2-Way full port
manual valves.
Single valve weighs
only 4 ounces.*

2-Way Motorized Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12/24 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**

Part #H2D37-10DK0-P01



***QD x M100 Flange**

Part #G2D37-10DK0-P01



M100 Flange x M100 Flange

Part #C2D37-10DK0-P01



PTC x PTC Valve

Part #Q2D37-10DK0-P01

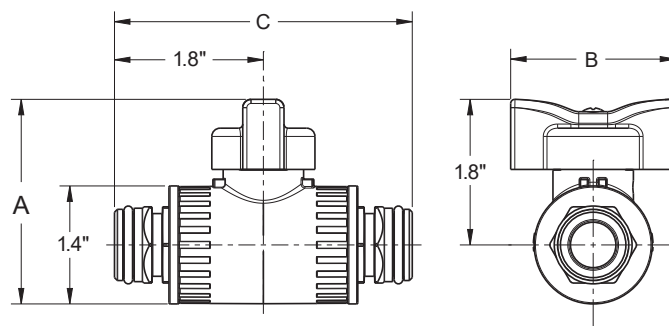
***QD & QF Fittings on pages 63-66**

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

Kit # 511-0006

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

TX2 SERIES

3-Way Motorized Ball Valve

- ½" 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 8 - 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 **KZValve Waterproof EH6 & EH7 Actuators** providing longer valve and actuator life
- **EH6 Electric Actuator housing is rated NEMA 6P (waterproof) and 7D (explosion proof)** per NEMA 250 **EH7 Electric Actuator housing is rated NEMA 6P** to protect internal components from corrosion and extends actuator life
- **EH6 Electric Actuator housing meets the IP68M and IP69K per ISO 20653 and IEC 60529 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



*Also available as
½" 3-Way full port
manual valves.
Single valve weighs
only 4 ounces.*

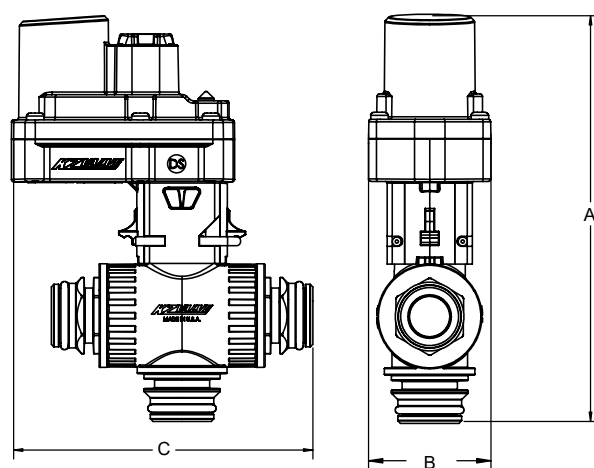


3-Way Motorized Ball Valve

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12/24 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**

Part #H7D37-1CEFS-D01

***QD x M100 Flange**

Part #G7D37-1CEFS-D01

M100 Flange x M100 Flange

Part #C7D37-1CEFS-D01

Optional Mounting Bracket

Kit # 511-0006

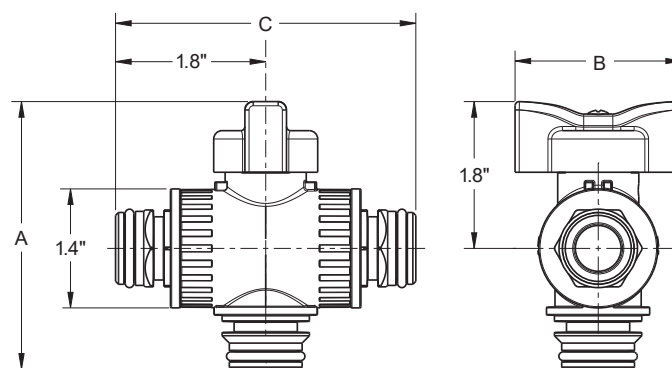
***QD & QF Fittings** on pages 63-66

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

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.

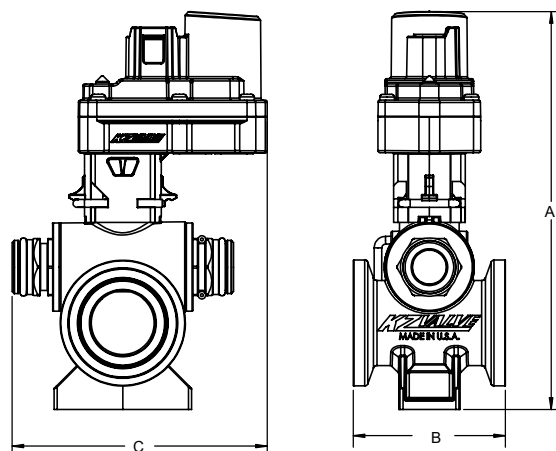


1/2" Polypropylene 2-Way, 3-Way and Metered Bypass Ball Valves Single Valves, Manifolds

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, 12/24 VDC actuator.

1/2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)

Part #	Size	Valve Control	Cycle Time	A	B	C
21CA7-1C EFS-D01	1/2"	On/On	0.5 sec.	7.3"	2.5"	4.8"



21CA7-1CEFS-D01



2-Way Valve



3-Way Valve



Metered Bypass Valve

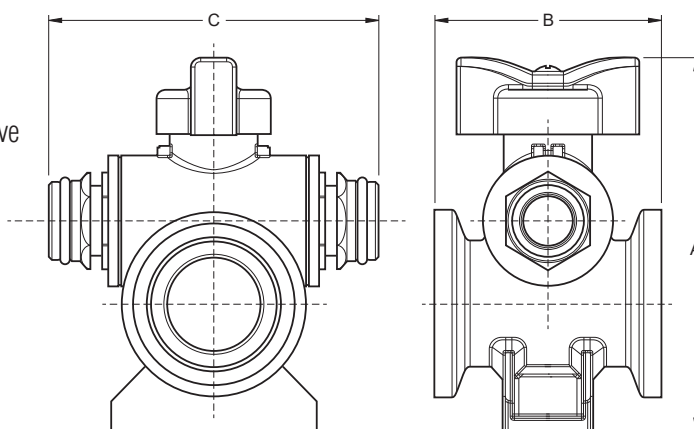
*QD & QF Fittings on pages 63-66

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

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

1/2" Valve Maximum PSI: 150 psi at 70° F (polypropylene)

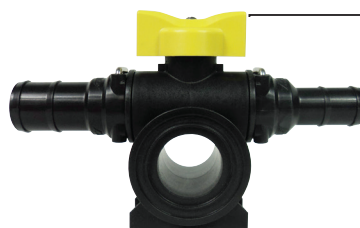
Part #	Size	Valve Control	A	B	C
21CA7M	1/2"	On/On	4.1"	2.5"	3.6"
21CA6M	1/2"	V-ball Regulating	4.1"	2.5"	3.6"



QD Connect



2-Way Valve



3-Way Valve



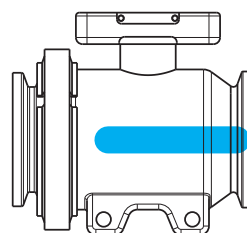
Metered Bypass Valve

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

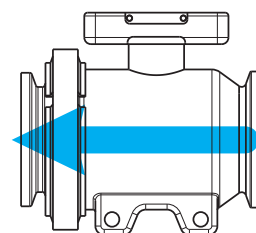
QX SERIES

2-Way Motorized Ball Valves

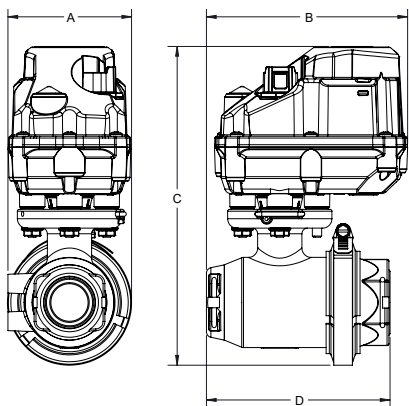
- $\frac{3}{4}$ " to $1\frac{1}{2}$ " full port 2-Way ball valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT
- Quick hairpin outlet 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 and EH9 Electric Actuator housings meets the IP68 rating of IEC 60529 & ISO 20653 standard degree of protection provided by enclosures against water intrusion



No Flow
Position 1 0°



Flow
Position 2 90°



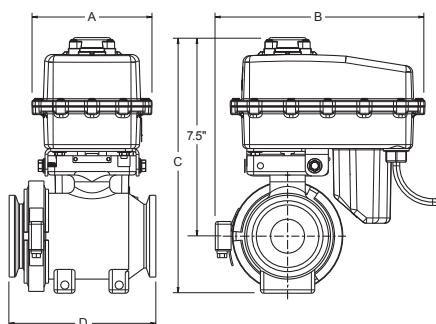
3/4" and 1" Polypropylene and Nylon 2-Way Ball Valves

Full port, stainless steel ball, FNPT, 12/24 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
F2E33-1CE9S-D01	3/4"	On/Off	0.7 sec.	18	3.3"	5.4"	8.5"	4.9"
F2E33-20E8S-D01	3/4"	Positionable	1.7 sec	18	3.3"	5.4"	8.5"	4.9"
F2E33-20E7S-D01	3/4"	Positionable	3.0 sec	18	3.3"	5.4"	8.5"	4.9"
F2F33-1CE9S-D01	1"	On/Off	0.7 sec.	24	3.3"	5.4"	8.5"	4.9"
F2F33-20E8S-D01	1"	Positionable	1.7 sec	24	3.3"	5.4"	8.5"	4.9"
F2F33-20E7S-D01	1"	Positionable	3.0 sec	24	3.3"	5.4"	8.5"	4.9"

* GPM at 1 PSI drop, water



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

Full port, stainless steel ball, FNPT, 12/24 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
F2H22-10DY0-PF1	1 1/2"	On/Off	1.5 sec.	48	4.4"	7.7"	9.4"	5.4"
F2H22-20EWS-PF1	1 1/2"	Positionable	3.0 sec.	48	4.4"	7.7"	9.4"	5.4"
F2H22-20EUS-PF1	1 1/2"	Positionable	8.0 sec.	48	4.4"	7.7"	9.4"	5.4"

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

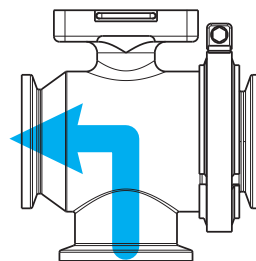
* GPM at 1 PSI drop, water

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

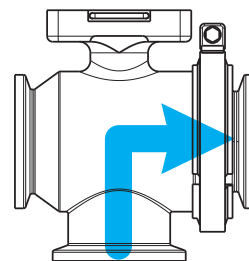
QX SERIES

3-Way, Bottom Load Diverter Ball Valves

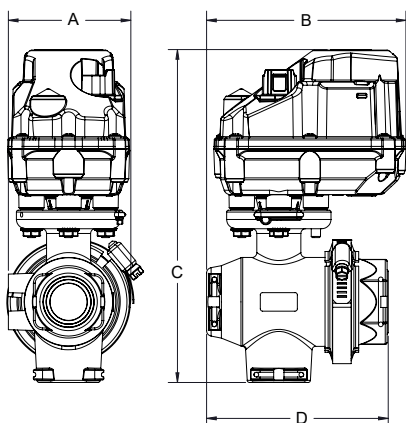
- 1" and 1½" full port valves
- Valve body: Polypropylene or nylon
- Ball: 316 stainless steel
- Stem: 316 stainless steel
- Valve seat: Virgin PTFE with EPDM back-up O-rings
- Stem Seal: Dual Viton™ O-ring
- Body seals: EPDM
- Available with FNPT outlet
- **Glass-filled nylon housing** is durable, impact 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



Flow
Position 1 0°



Flow
Position 2 90°



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

Full port, stainless steel ball, FNPT, on-on diverter ball valve, 12/24 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
F7F33-20E8S-D01	1"	Positionable	1.7 sec.	8	3.3"	5.4"	9.0"	4.9"

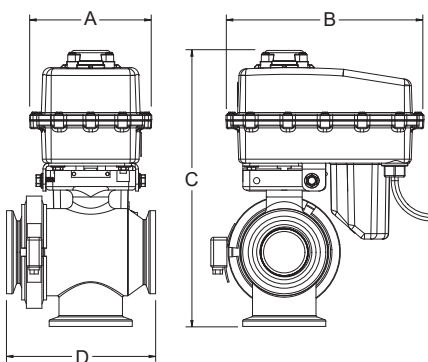
* GPM at 1 PSI drop, water

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

Full port, stainless steel ball, FNPT, on-on selector ball valve, 12/24 VDC actuator.
Maximum PSI: 100 psi at 70° F (polypropylene), 150 psi at 70° (nylon)

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F4F33-1CE9S-D0V	1"	On/Off	1.4 sec.	8	3.3"	5.4"	9.0"	4.9"

* 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 or 12/24 VDC actuator.
Maximum PSI: 100 psi at 70° F (polypropylene), 150 psi at 70° (nylon)

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
F6F33-20E9S-P0L	1"	Positionable	1.8 sec.	24	5.7"	4.0"	9.5"	4.9"
F6H22-20DY0-PFL	1½"	Positionable	3.8 sec.	48	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, IP68 and IP69K** 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



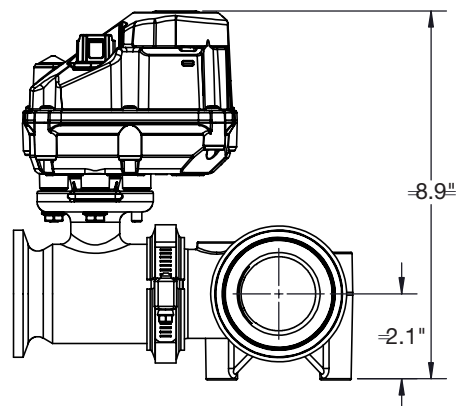
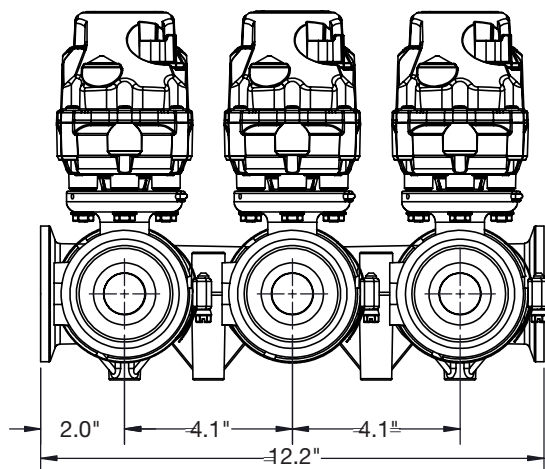
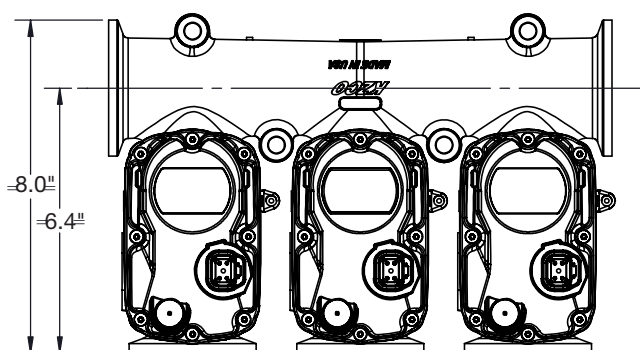
1" Polypropylene 3-Section, 1-Piece, Ball Valve Manifold

2-Way, full port, stainless steel ball, FNPT, ball valve manifold, 12/24 VDC actuator.

Maximum PSI: 150 psi at 70° F (polypropylene)

Size	Valves	Control	Cycle Time
1"	3	On/Off	0.7 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



1" Polypropylene Modular Ball Valve Manifold

2-Way, full port, stainless steel ball, FNPT, ball valve manifold, 12 VDC actuator.

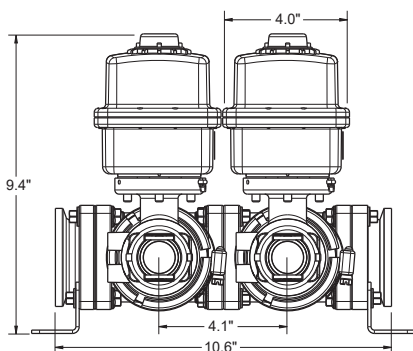
Maximum PSI: 150 psi at 70° F (polypropylene)

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

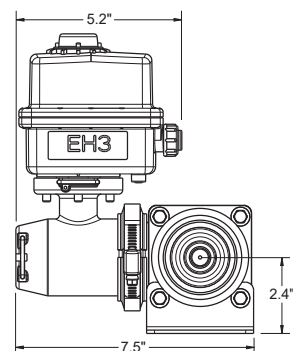
Please consult your Distributor/Key Account Manager for additional options.

*Also available with EH9 Actuator

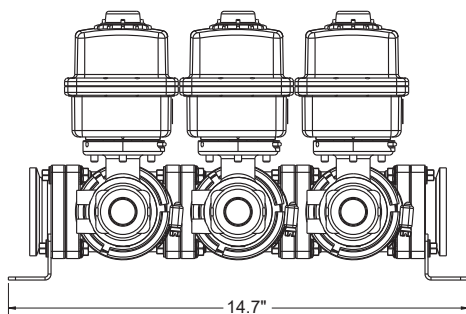
2 Section manifold • 1" Full port valves



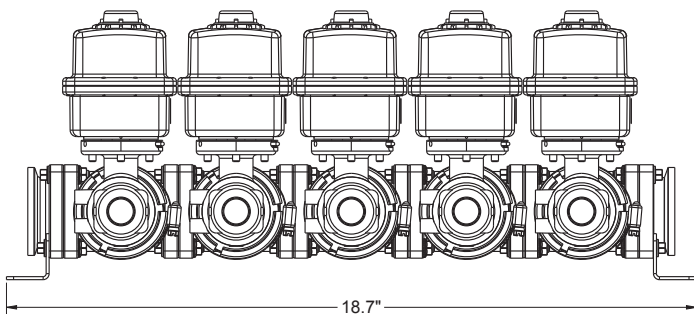
1 Section manifold • 1" Full port valve



3 Section manifold • 1" Full port valves



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



Also available in premium quality, consistently smooth operating manual valve



FLANGED

1½", 2" and 3" Valves



FNPT THREADS

2" and 3" Valves

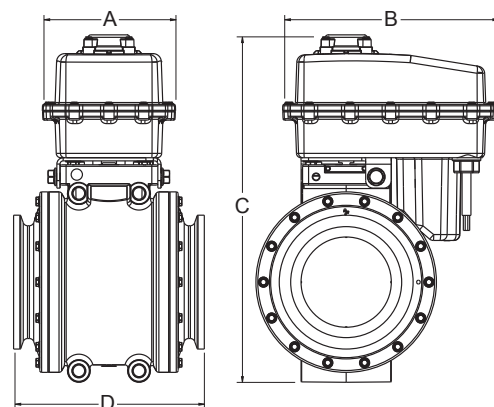
1½" Polypropylene 2-Way Ball Valves **FLANGED**

Full port, stainless steel ball, polypropylene valve body, stainless steel valve stem, flange connection, 12/24 VDC actuator.

- 1½" Valve Maximum PSI: 150 psi at 70° F

Poly Part #	Size	Valve Control	Cycle Time	Flow GPM*	A	B	C	D
T2H22-10EYS-PF1	1½"	On/Of	1.5 sec.	48	4.4"	7.2"	9.1"	4.5"
T2H22-20EUS-PF1	1½"	Positionable	8.0 sec.	48	4.4"	7.2"	9.1"	4.5"

* GPM at 1 PSI drop, water



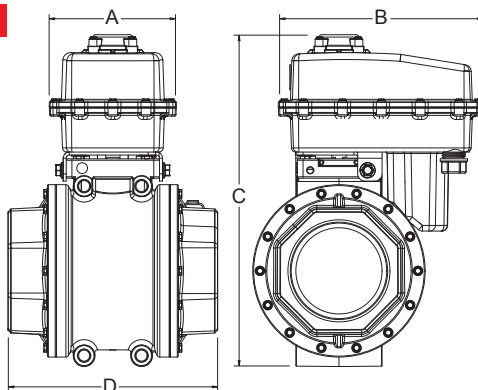
2" and 3" Polypropylene 2-Way Ball Valves **FLANGED**

Full port, polypropylene ball, polypropylene valve body, stainless steel valve stem, flange connection, 12/24 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.	96	4.4"	7.2"	9.9"	5.2"
M2i22-20EWS-PF1	2"	Positionable	3.0 sec.	96	4.4"	7.2"	9.9"	5.2"
M2K22-10DW0-PF1	3"	On/Off	3.0 sec.	384	4.4"	7.2"	11.5"	6.3"
M2K22-20EWS-PF1	3"	Positionable	3.0 sec.	384	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, 12/24 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.	96	4.4"	7.2"	9.9"	5.2"
FM2i22-20EWS-PF1	2"	Positionable	3.0 sec.	96	4.4"	7.2"	9.9"	5.2"
FM2K22-10DW0-PF1	3"	On/Off	3.0 sec.	384	4.4"	7.2"	11.5"	7.3"
FM2K22-20EWS-PF1	3"	Positionable	3.0 sec.	384	4.4"	7.2"	11.5"	7.3"

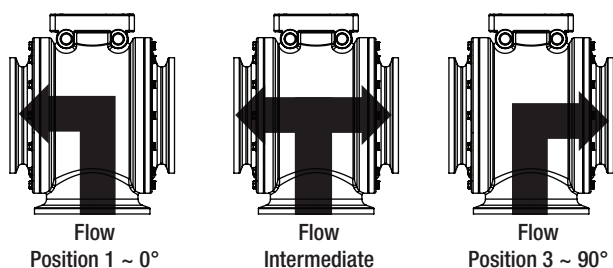
* GPM at 1 PSI drop, water

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

TRU-TORQ SERIES

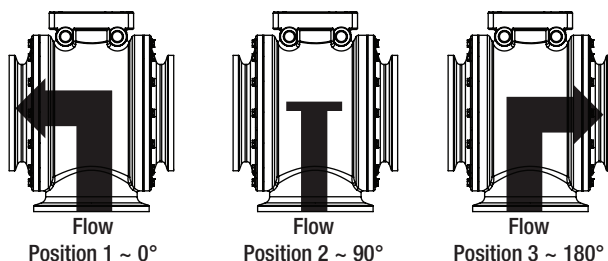
3-Way Motorized Ball Valves

- 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, 12/24 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

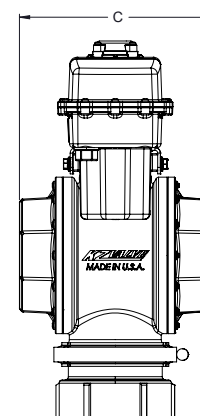
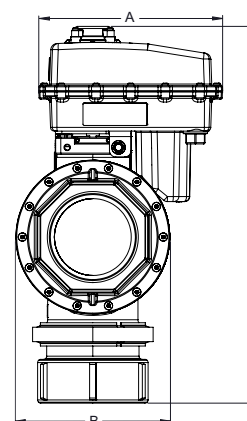
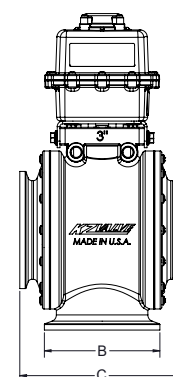
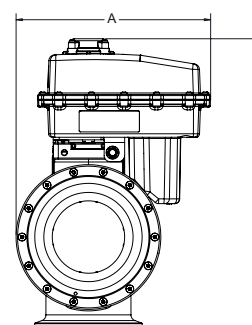
FLANGED

Part #	Size	Control	180° Cycle Time	Flow GPM*	A	B	C	D
M4H22-10DYS-PFV	1½"	On/On	3.0 sec.	30	7.2"	3.8"	4.5"	9.8"
M4i22-10EWS-PFV	2"	On/On	6.0 sec.	58	7.2"	4.2"	5.2"	10.1"
M4K22-10EWS-PFV	3"	On/On	6.0 sec.	190	8.1"	6.0"	6.3"	12.0"

FNPT

FM4i22-10EWS-PFV	2"	On/On	6.0 sec.	58	7.2"	4.2"	5.2"	12.4"
FM4K22-10EWS-PFV	3"	On/On	6.0 sec.	190	8.1"	6.0"	7.4"	14.7"

* GPM at 1 PSI drop, water



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

FLANGED

Part #	Size	Control	90° Cycle Time	Flow GPM*	A	B	C	D
M4H22-90EYS-PFV	1½"	On/Off/On	1.5 sec.	30	7.2"	3.8"	4.5"	9.8"
M4i22-90EWS-PFV	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	10.1"
M4K22-90EWS-PFV	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	6.3"	12.0"

FNPT

FM4i22-90EWS-PFV	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	12.4"
FM4K22-90EWS-PFV	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	7.4"	14.7"

* GPM at 1 PSI drop, water

Diverter 2 Position On/On Valve - Mixing

FLANGED

Part #	Size	Control	90° Cycle Time	Flow GPM*	A	B	C	D
T7H22-10EWS-P31	1½"	On/Off/On	1.5 sec.	30	7.2"	3.8"	4.5"	9.8"
T7i22-10EWS-P31	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	10.1"
M7K22-10EWS-P31	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	6.3"	12.0"

FNPT

FM7i22-10EWS-P31	2"	On/Off/On	3.0 sec.	58	7.2"	4.2"	5.2"	12.4"
FM7K22-10EWS-P31	3"	On/Off/On	3.0 sec.	190	8.1"	6.0"	7.4"	14.7"

* GPM at 1 PSI drop, water

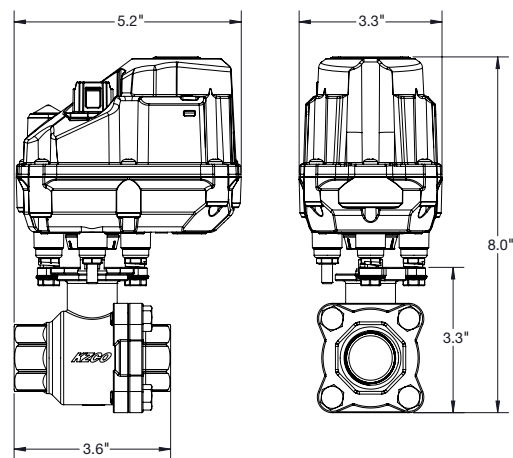
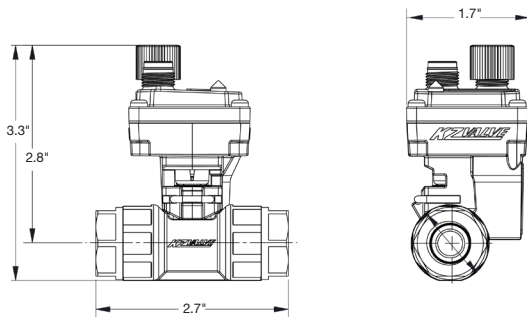
Please consult your Distributor/Key Account Manager for additional options.

S SERIES

2 Way S Series

- 1/4", 1" and 1 1/2" full port valves
- Inlets/Outlets: 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: 600 PSI @ 70° F • 250 PSI @ 70° F operating pressure differential (Valve Body)

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

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

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

Part #	Size	Control	Cycle Time	CV
S2F33-1CE9S-D01	1"	On/Off	.7 sec.	24
S2F33-20E8S-D01	1"	Positionable	1.7 sec.	24
S2F33-20E7S-D01	1"	Positionable	3.0 sec.	24

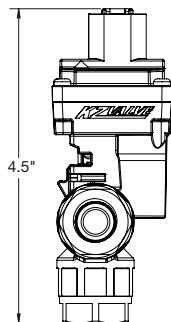
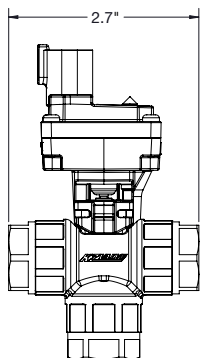
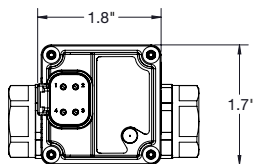
Please consult your Distributor/Key Account Manager for additional options.

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: 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

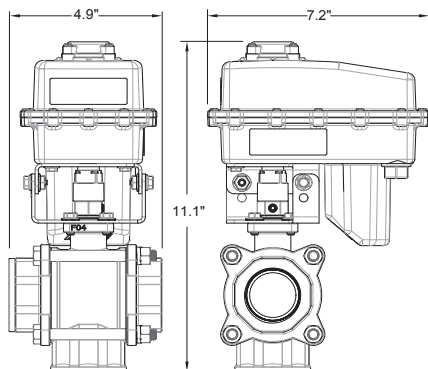
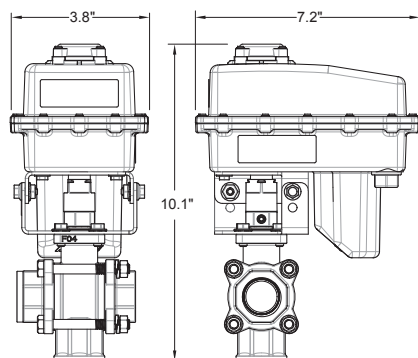
Standard port, stainless steel ball, stainless steel valve body, stainless steel valve stem
 1/4" & 3/8" Maximum PSI: 600 PSI @ 70° F • 150 PSI @ 70° F operating pressure differential (Valve Body)

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)

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: 600 PSI @ 70° F • 150 PSI @ 70° F operating pressure differential (Valve Body)

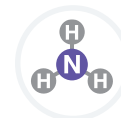


Part #	Size	CV	Description
3-Way Bottom Load "Selector"			
S4F22-10EWS-PFV	1"	20	2 position ON-ON option (180° rotation)
S4H22-10EWS-PFV	1 1/2"	47	2 position ON-ON option (180° rotation)
S4F22-90EYS-DFV	1"	20	3 position ON-OFF-ON option (180° rotation)
S4H22-90EYS-DFV	1 1/2"	47	3 position ON-OFF-ON option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

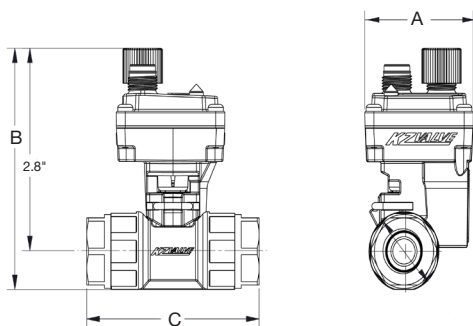


- ¼" - 2" vented 2-Way stainless steel valves
- Valve body: CF8M stainless steel
- Ball: 316 stainless steel (vented)
- Stem: 316 stainless steel with EPDM O-rings
- Seat: Molecularly Enhanced Teflon® (ME-PTFE) or virgin PTFE
- Stem packing: Adjustable molecularly enhanced Teflon® (ME-PTFE) or virgin 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/adaptor harness available





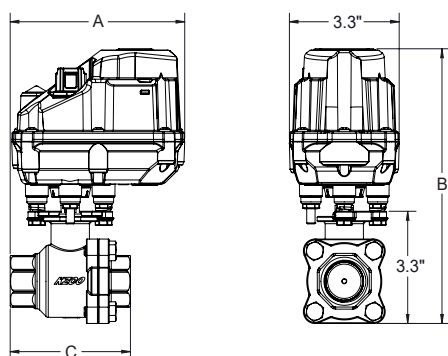
1/4", 3/8", 1/2", & 3/4" Vented Stainless Steel Ammonia Valves

2-Way, standard port, stainless steel vented ball, FNPT, ammonia ball valve, 12 VDC actuator.
Maximum PSI: 600 PSI @ 70° F • 250 PSI @ 70° F operating pressure differential (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"
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" Vented Stainless Steel Ammonia Valves

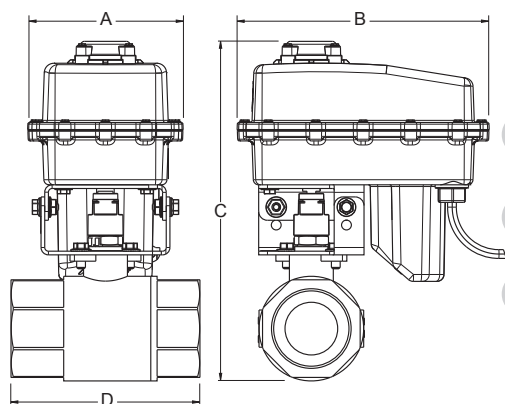
2-Way, full port, stainless steel vented ball, FNPT, ammonia ball valve, 12 VDC actuator.
Maximum PSI: 600 PSI at 70° F • 250 PSI @ 70° F operating pressure differential (Valve Body)

Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C
S8F33-1CE9S-D01	1"	On/Off	0.7 sec.	24	5.2"	8.0"	3.6"
S8F33-20E8S-D01	1"	Positionable	1.7 sec.	24	5.2"	8.0"	3.6"

* GPM at 1 PSI drop, water

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



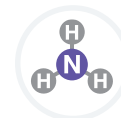
KZValve StandardPart#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
67H22-10EYS-PF1	1 1/2"	On/Off	1.5 sec.	48	4.4"	7.2"	9.3"	4.4"
67H22-20EWS-PF1	1 1/2"	Positionable	3.0 sec.	48	4.4"	7.2"	9.3"	4.4"
67H22-20EUS-PF1	1 1/2"	Positionable	8.0 sec.	48	4.4"	7.2"	9.3"	4.4"
67I22-10EWS-PF1	2"	On/Off	3.0 sec.	96	4.4"	7.2"	9.7"	5.4"
67I22-20EWS-PF1	2"	Positionable	3.0 sec.	96	4.4"	7.2"	9.7"	5.4"

* GPM at 1 PSI drop, water

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

RETROFIT KITS RAVEN SYSTEMS

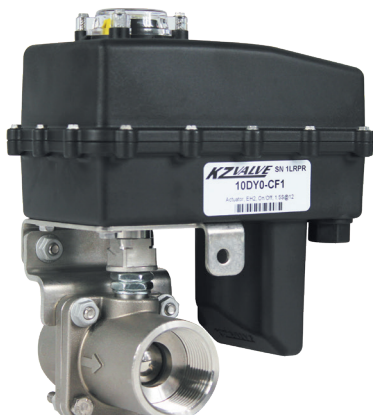
Ammonia Valves



- 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 Capabilities for Raven 1", 1¼", and 1½" NH3 Valves

Part #	Description
KR-KIT+10DY0-CF1	EH2 Waterproof Actuator, ON/OFF CONTROL, 1.5 seconds, with Conxall Connector, mounting kit
KR-KIT+20DY0-CF1	EH2 Waterproof Actuator, FLOW CONTROL, 1.5 seconds, with Conxall Connector, mounting kit
KR-KIT+K0HU0-CF1	EH2 Waterproof Actuator, FLOW CONTROL, 8.0 seconds, with Conxall Connector, mounting kit

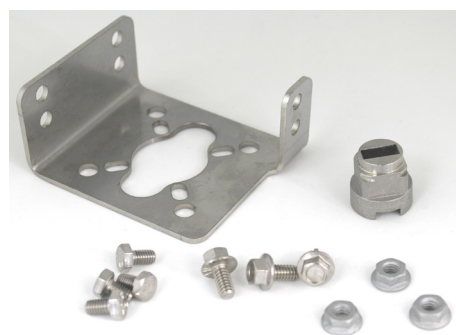
Please consult your Distributor/Key Account Manager for additional options.

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

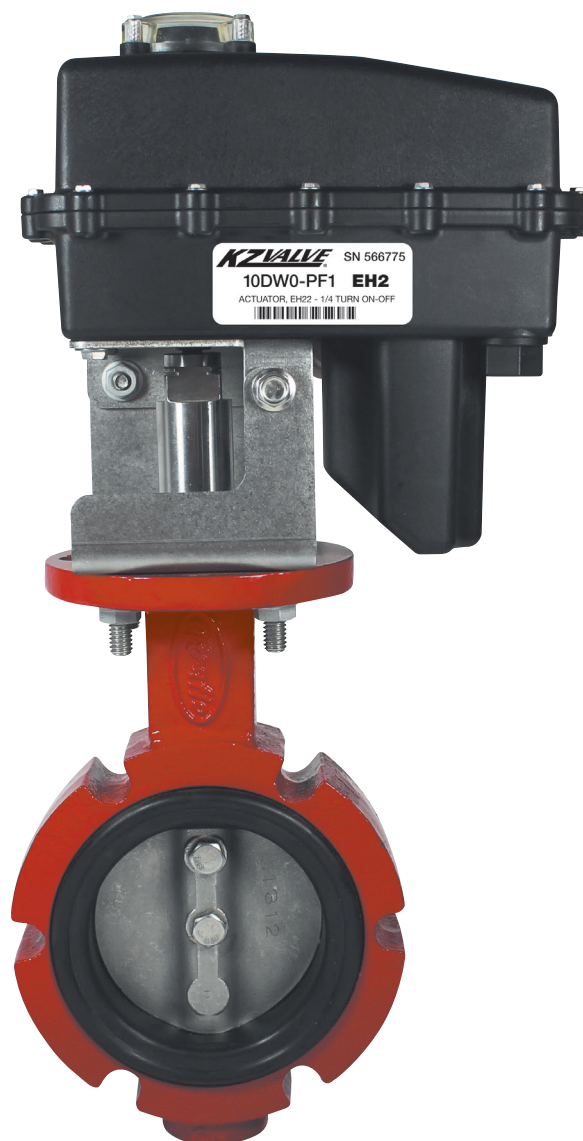
KR - KIT (1" - 1 ¼")
KR-15KIT (1½")

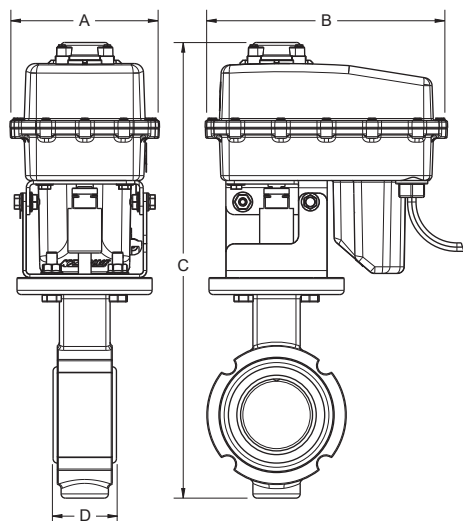


50 SERIES

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, 12/24 VDC actuator. **Maximum PSI: 150 psi at 70° F**

KZ Valve Standard Part #	Size	Control	Time	Cycle GPM*	Flow A	B	C	D
59i22-10EYS-PF1	2"	On/Off	1.5 sec.	277	4.4"	7.2"	13.5"	1.9"
59i22-20EWS-PF1	2"	Positionable	3.0 sec.	277	4.4"	7.2"	13.5"	1.9"
59i22-20EUS-PF1	2"	Positionable	8.0 sec.	277	4.4"	7.2"	13.5"	1.9"

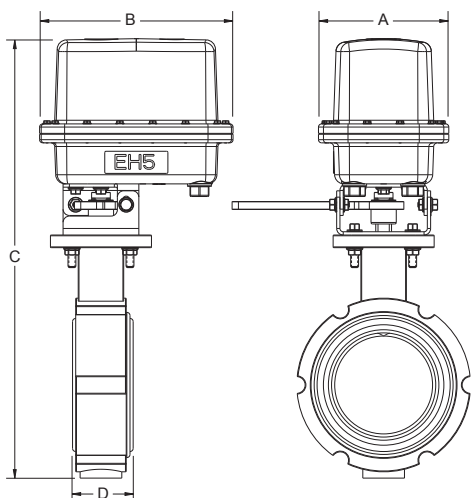
* GPM at 1 PSI drop, water

3" Cast Iron Butterfly Valves

EPDM seats, stainless steel disk and valve stem, 12/24 VDC actuator. **Maximum PSI: 150 psi at 70° F**

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
59K35-10E5S-DB1	3"	On/Off	3.0 sec.	720	5.2"	7.7"	15.7"	1.8"
59K35-20E5S-DB1	3"	Positionable	3.0 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, 12/24 VDC actuator. **Maximum PSI: 50 psi at 70° F**

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
59L35-10E5S-DB1	4"	On/Off	3.0 sec.	1,366	5.2"	7.7"	17.4"	2.0"
59L35-20E5S-DB1	4"	Positionable	3.0 sec.	1,366	5.2"	7.7"	17.4"	2.0"
59M35-10E5S-DB1	5"	On/Off	3.0 sec.	2,192	5.2"	7.7"	17.9"	2.1"
59M35-20E5S-DB1	5"	Positionable	3.0 sec.	2,192	5.2"	7.7"	17.9"	2.1"

* GPM at 1 PSI drop, water

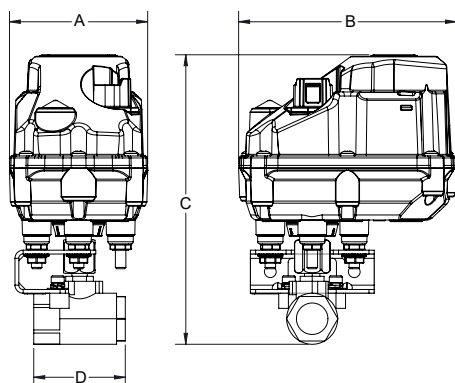
Please consult your Distributor/Key Account Manager for additional options.

84 SERIES

2-Way Bronze Ball Valves

- ¼" 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



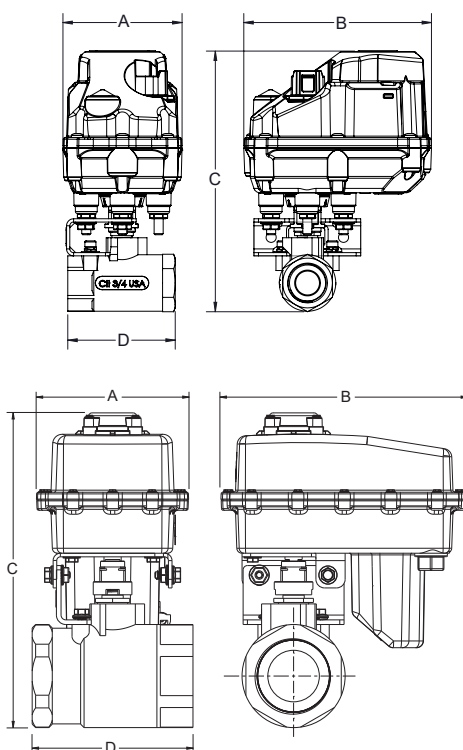


1/4", 3/8", and 1/2" Bronze Ball Valves

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

KZValve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
84B23-1CE9S-D01	1/4"	On/Off	0.7 sec.	8.4	3.3"	5.2"	6.9"	2.2"
84B23-20E8S-D01	1/4"	Positionable	1.7 sec.	8.4	3.3"	5.2"	6.9"	2.2"
84B23-20E7S-D01	1/4"	Positionable	3.0 sec.	8.4	3.3"	5.2"	6.9"	2.2"
84D23-1CE9S-D01	1/2"	On/Off	0.7 sec.	15	3.3"	5.2"	6.9"	2.2"
84D23-20E8S-D01	1/2"	Positionable	1.7 sec.	15	3.3"	5.2"	6.9"	2.2"
84D23-20E7S-D01	1/2"	Positionable	3.0 sec.	15	3.3"	5.2"	6.9"	2.2"

* 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

KZValve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
84E23-1CE9S-D01	3/4"	On/Off	0.7 sec	30	3.3"	5.2"	7.2"	3.0"
84E22-20E7S-D01	3/4"	Positionable	3.0 sec	30	3.3"	5.2"	7.2"	3.0"
84F23-1CE9S-D01	1"	On/Off	0.7 sec	43	3.3"	5.2"	7.5"	3.4"
84F22-20E7S-D01	1"	Positionable	3.0 sec	43	3.3"	5.2"	7.5"	3.4"
84H22-10EYS-PF1	1 1/2"	On/Off	1.5 sec	84	4.4"	7.2"	8.8"	4.3"
84H22-20EWS-PF1	1 1/2"	Positionable	3.0 sec	84	4.4"	7.2"	8.8"	4.3"
84H22-20EUS-PF1	1 1/2"	Positionable	8.0 sec	84	4.4"	7.2"	8.8"	4.3"
84i22-10EWS-PF1	2"	On/Off	3.0 sec	108	4.4"	7.2"	9.2"	4.7"
84i22-20EWS-PF1	2"	Positionable	3.0 sec	108	4.4"	7.2"	9.2"	4.7"
84i22-20EUS-PF1	2"	Positionable	8.0 sec	108	4.4"	7.2"	9.2"	4.7"

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

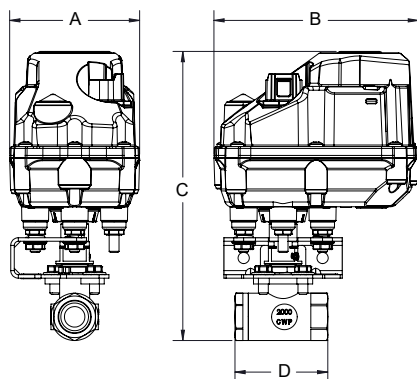
* GPM at 1 PSI drop, water

88 SERIES

2-Way Stainless Steel Ball Valves

- ¼" 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



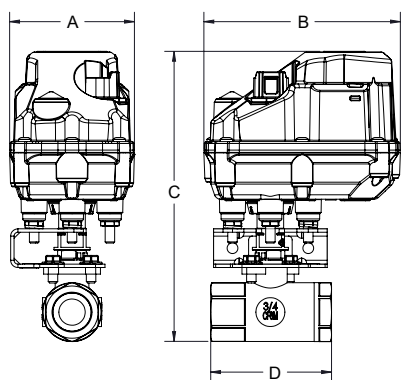


1/4", 3/8", and 1/2" Stainless Steel 2-Way Ball Valves

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

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
88B33-1CE9S-D01	1/4"	On/Off	0.7 sec.	7..2	3.3"	5.2"	7.3"	2.2"
88B33-20E8S-D01	1/4"	Positionable	1.7 sec.	7.2	3.3"	5.2"	7.3"	2.2"
88B33-20E7S-D01	1/4"	Positionable	3.0 sec.	7.2	3.3"	5.2"	7.3"	2.2"
88C33-1CE9S-D01	1/4"	On/Off	0.7 sec.	7.2	3.3"	5.2"	7.3"	2.2"
88C33-20E8S-D01	1/4"	Positionable	1.7 sec.	7.2	3.3"	5.2"	7.3"	2.2"
88C33-20E7S-D01	1/4"	Positionable	3.0 sec.	7.2	3.3"	5.2"	7.3"	2.2"
88D33-1CE9S-D01	1/2"	On/Off	0.7 sec.	15	3.3"	5.2"	7.3"	2.4"
88D33-20E8S-D01	1/2"	Positionable	1.7 sec.	15	3.3"	5.2"	7.3"	2.4"
88D33-20E7S-D01	1/2"	Positionable	3.0 sec.	15	3.3"	5.2"	7.3"	2.4"

* GPM at 1 PSI drop, water



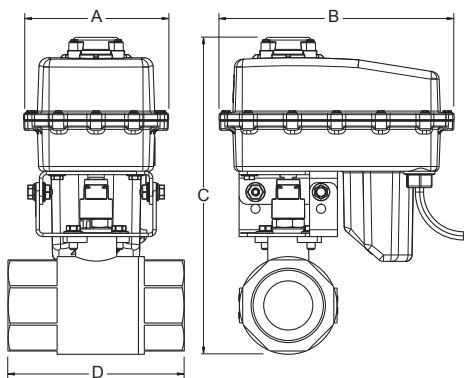
3/4", 1", 1 1/2", and 2" Stainless Steel 2-Way Ball Valves

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

KZ Valve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
88E22-1CE8S-D01	3/4"	On/Off	1.7 sec.	18	3.3"	5.2"	7.7"	3.2"
88E22-20E8S-D01	3/4"	Positionable	1.7 sec.	18	3.3"	5.2"	7.7"	3.2"
88E22-20E7S-D01	3/4"	Positionable	3.0 sec.	18	3.3"	5.2"	7.7"	3.2"
88F22-1CE8S-D01	1"	On/Off	1.7 sec.	24	3.3"	5.2"	8.1"	3.4"
88F22-20E8S-D01	1"	Positionable	1.7 sec.	24	3.3"	5.2"	8.1"	3.4"
88F22-20E7S-D01	1"	Positionable	3.0 sec.	24	3.3"	5.2"	8.1"	3.4"
88H22-10EYS-PF1	1 1/2"	On/Off	1.5 sec.	48	4.4"	7.2"	9.3"	4.4"
88H22-20EWS-PF1	1 1/2"	Positionable	3.0 sec.	48	4.4"	7.2"	9.3"	4.4"
88i22-10EWS-PF1	2"	On/Off	3.0 sec.	96	4.4"	7.2"	9.7"	5.4"

* GPM at 1 PSI drop, water

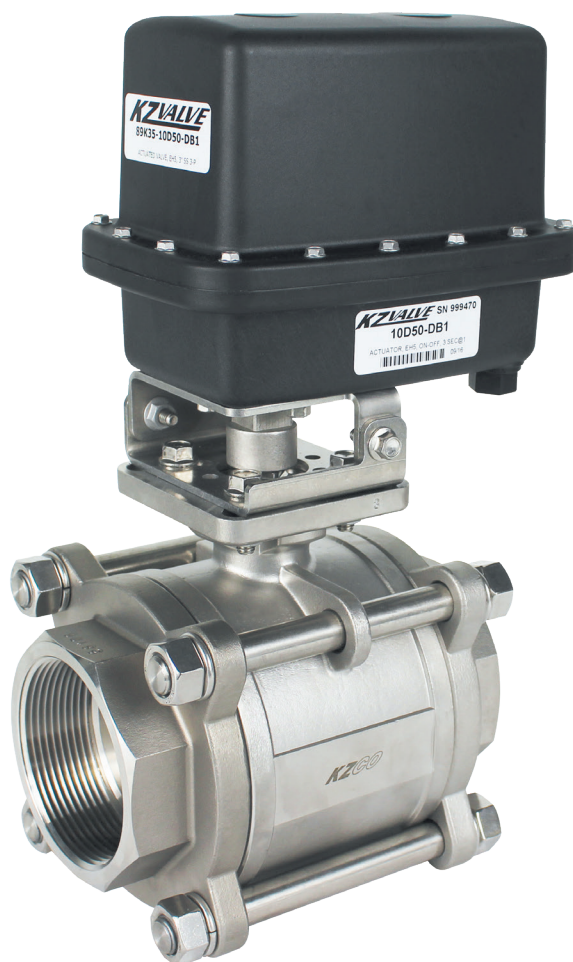
Please consult your Distributor/Key Account Manager for additional options.

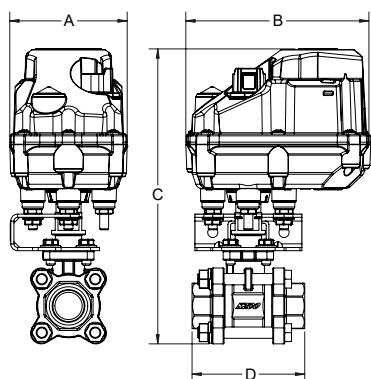


89 SERIES

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



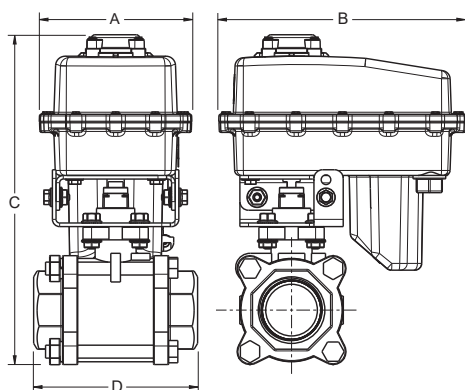


1/2", 3/4", and 1", Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12/24 VDC actuator. **Maximum PSI: 1,000 psi at 70° F**

KZ Valve Standard Part#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
89D33-1CE9S-D01	1/2"	On/Off	0.7 sec.	15	3.3"	5.2"	8.3"	3.0"
89D33-20E9S-P01	1/2"	Positionable	0.7 sec.	15	3.3"	5.2"	8.3"	3.0"
89D33-20E7S-D01	1/2"	Positionable	3.0 sec.	15	3.3"	5.2"	8.3"	3.0"
89E23-1CE8S-D01	3/4"	On/Off	1.7 sec.	18	3.3"	5.2"	8.3"	3.2"
89E23-20E8S-D01	3/4"	Positionable	1.7 sec.	18	3.3"	5.2"	8.3"	3.2"
89F33-10E8S-D01	1"	On/Off	1.7 sec.	24	3.3"	5.2"	8.7"	3.6"
89F33-20E7S-D01	1"	Positionable	3.0 sec.	24	3.3"	5.2"	8.7"	3.6"

* GPM at 1 PSI drop, water

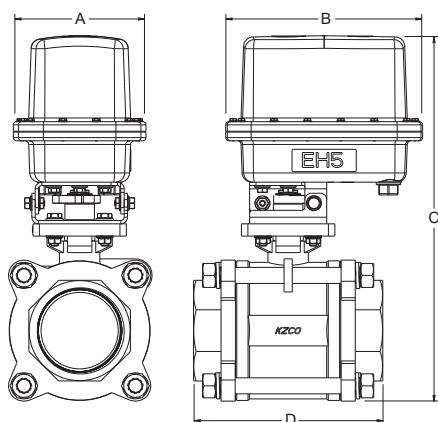


1 1/4" and 1 1/2" Stainless Steel 3-Piece, 2-Way Ball Valves

Full port, stainless steel ball, FNPT, ball valve, 12/24 VDC actuator. **Maximum PSI: 1,000 psi at 70° F**

KZ Valve Standard Part#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
89G22-10EYS-PF1	1 1/4"	On/Off	1.5 sec.	30	4.4"	7.2"	9.1"	4.4"
89G22-20EWS-PF1	1 1/4"	Positionable	3.0 sec.	30	4.4"	7.2"	9.1"	4.4"
89G22-20EUS-PF1	1 1/4"	Positionable	8.0 sec.	30	4.4"	7.2"	9.1"	4.4"
89H22-10EYS-PF1	1 1/2"	On/Off	1.5 sec.	48	4.4"	7.2"	9.6"	4.8"
89H22-20EWS-PF1	1 1/2"	Positionable	3.0 sec.	48	4.4"	7.2"	9.6"	4.8"
89H22-20EUS-PF1	1 1/2"	Positionable	8.0 sec.	48	4.4"	7.2"	9.6"	4.8"

* GPM at 1 PSI drop, water



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

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

KZ Valve Standard Part#	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
89i35-10E5S-DB1	2"	On/Off	3.0 sec.	96	5.2"	7.7"	11.1"	4.4"
89i35-20E5S-DB1	2"	Positionable	3.0 sec.	96	5.2"	7.7"	11.1"	4.4"
89J35-10E5S-DB1	2 1/2"	On/Off	3.0 sec.	192	5.2"	7.7"	11.1"	4.4"
89J35-20E5S-DB1	2 1/2"	Positionable	3.0 sec.	192	5.2"	7.7"	11.1"	4.4"
89K35-10E5S-DB1	3"	On/Off	3.0 sec.	384	5.2"	7.7"	11.5"	5.5"
89K35-20E5S-DB1	3"	Positionable	3.0 sec.	384	5.2"	7.7"	11.5"	5.5"

* GPM at 1 PSI drop, water

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

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



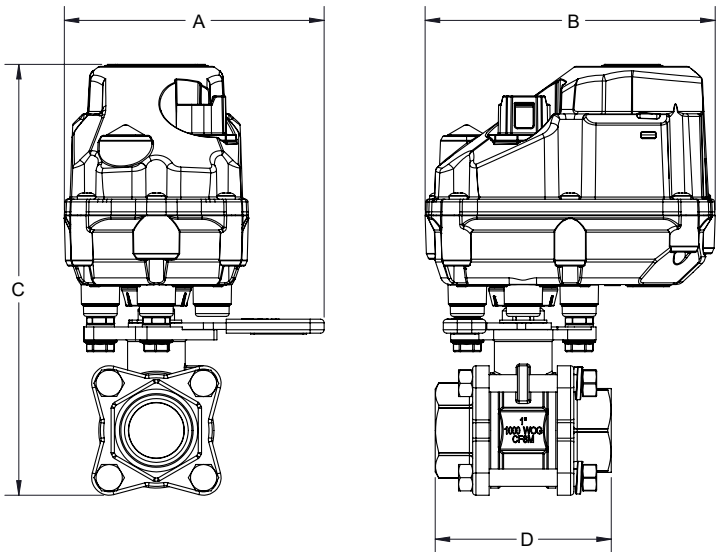
1" Stainless Steel 3-Piece, 2-Way Direct Mount Ball Valves

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

KZValve Standard Part #	Size	Control	Cycle Time	Flow GPM*	A	B	C	D
92FM33-1CE9S-D03	1"	On/Off	0.7 sec.	24	4.6"	5.2"	7.7"	3.1"

* GPM at 1 PSI drop, water

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



95 SERIES

2-Way PVC Ball Valves

- Valve Sizes:
- Valve body: PVC
- Ball: PVC
- Stem: PVC
- Body Seals: EPDM
- Stem Seals: EPDM dual o-rings
- Valves come with a KZValve EH9 actuator, providing longer valve and actuator life. .
- Available control options available in 12/24 VDC actuation.
- 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
- Consistent operating torque allowing for adjustment-free design
- Integral mounting pad for skid or panel mount
- Retrofit kits available for new and existing valves
- Hayward TBH Series, NSF Rating, etc:
 - NSF/ANSI 61 and NSF/ANSI 372 Listed
 - PVC per ASTM D1784 Cell Class 12454



1/2", 3/4", 1", 1 1/2", and 2" PVC Motorized Ball Valves

2-Way, full port, PVC ball, FNPT/Socket Weld, 12/24 VDC actuator

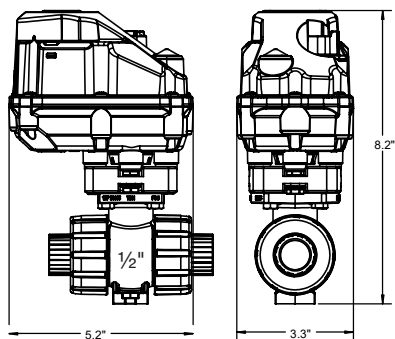
Maximum PSI: 400 psi at 70° F

Flow: CV = 1-29 1-29 GPM @ 1 psi drop, water
2.53-75.11 GPM @ 5 PSI drop, water

Cycle time: 0.8 - 0.3 second cycle time @ 90°

Voltage: 12/24 VDC

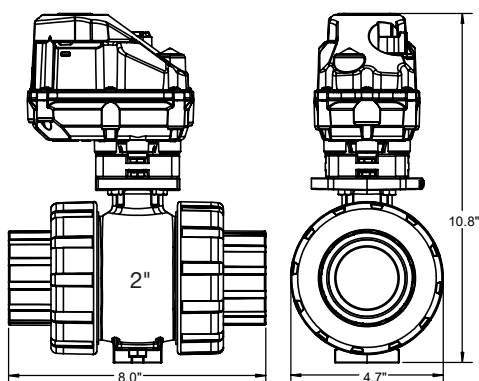
Amperage: 1 amp operating



KZValve Standard Part #	Size	Control	Cycle Time
95D33-1CE9S-D0P	1/2"	On/Off	0.7 sec.
95E33-1CE9S-D0P	3/4"	On/Off	0.7 sec.
95F33-1CE9S-D0P	1"	On/Off	0.7 sec.
95H39-1CE8S-D0P	1 1/2"	On/Off	1.7 sec.
95I39-1CE7S-D0P	2"	On/Off	3.0 sec.

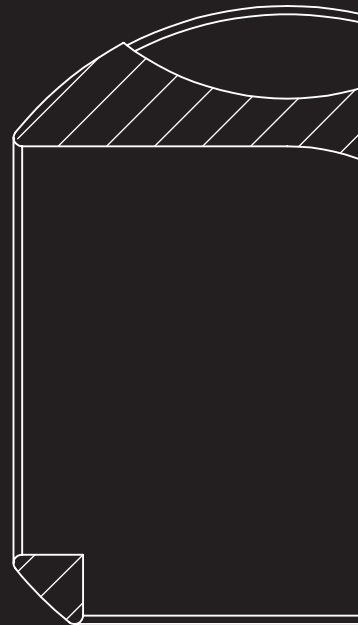
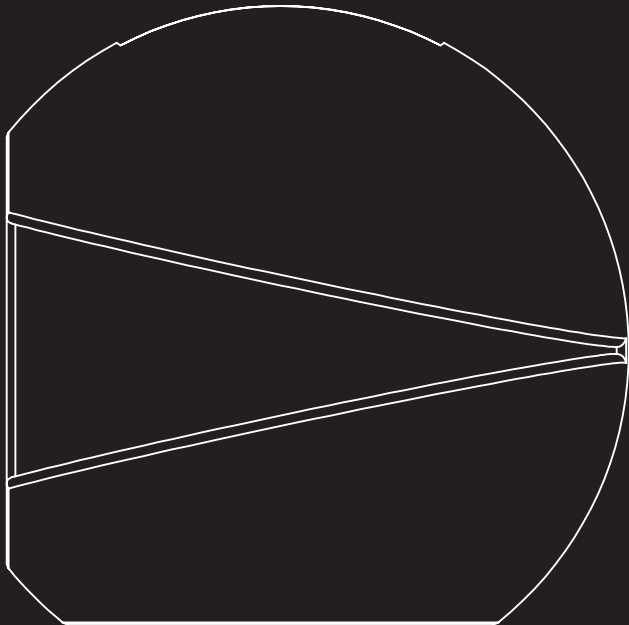
Please consult your Distributor/Key Account Manager for additional options.

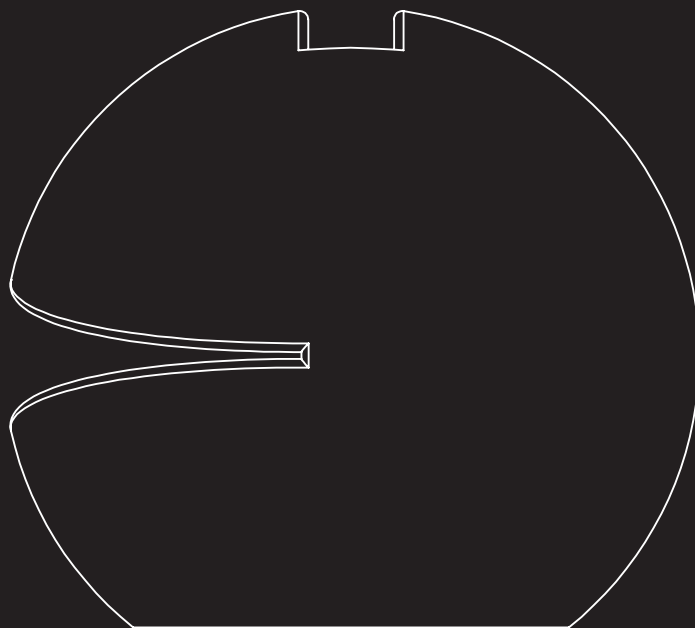
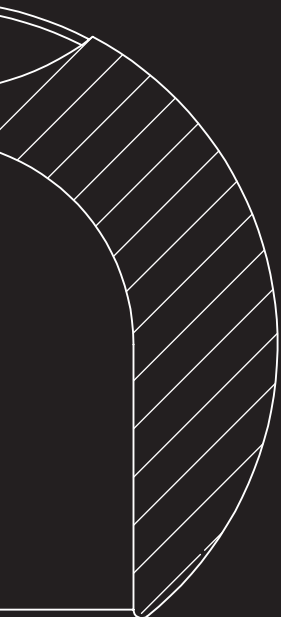
* GPM at 1 PSI drop, water



Accessories

Pages 61-70





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.



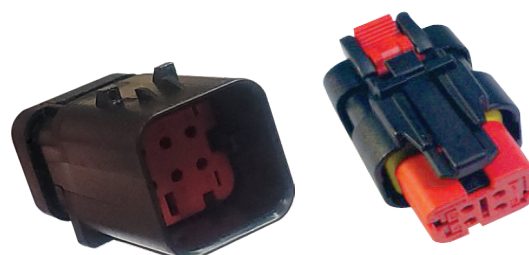
Deutsch DT Series



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, *KZ Valve* offers custom manifolds and flanged accessories to maximize performance.



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 M200 Outlets



Part #	Description
209-0004	Clamp, M100, Stainless Steel
QX4-200	Clamp, M200, Stainless Steel
100266	Clamp, M220, Stainless Steel
QX5-210	Clamp, M300, Stainless Steel



Part #	Male Hose Barbs
211-0035	M200 x 1" Straight HB
211-0031	M200 x 1¼" Straight HB
QX-132	M220 x 2" Straight HB



Part #	Tee Fittings
203-0030	M100 Outlet x M200 Inlets
203-0021	M200 Inlet x M200 Outlets
203-0040	M200 Inlet x 1½" HB Outlets
203-0042	M100 Inlet x 1½" HB Outlets



Part #	Description
211-0075	M200 x M100 Reducer
100264	M220 Cap with Blank ¾" Gauge Port

Part #	Description
100449	Gasket, M100, EPDM
205-0010	Gasket, M200, EPDM
100389	Gasket, M220, EPDM
205-0072	Gasket, M300, EPDM
QC3-134	O-Ring, M200, EPDM

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 #	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

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

All Female QD kits include Hairpin 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 QF Series adds to a wide variety of fittings and manifold configurations for the TX2 family and 3/8" ZIPValve.





Kit #	Part #	MNPT
412-0009	211-0313	1/4" QF Male Cap NPT, EPDM Gasket
412-0014	211-0313	1/4" QF Male Cap NPT, Viton Gasket
511-0169	412-0009	1/4" QF Male Cap NPT, EPDM Gasket
412-0012	211-0357	3/8" QF Male Cap NPT, EPDM Gasket
412-0017	211-0357	3/8" QF Male Cap NPT, Viton Gasket
511-0172	412-0012	3/8" QF Male Cap NPT, EPDM Gasket



Kit #	Part #	Blank Caps
511-0170	412-0010	Male QF End Cap, EPDM Gasket
511-0176	412-0015	Male QF End Cap, Viton Gasket
	211-0316	Male QF End Cap, <i>fitting only</i>



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 #	Additional Accessories
511-0167	211-0312	M100 Flange x Female QF
	106-0031	Hairpin 3/16"
511-0181	412-0013	QF x QD Tee Manifold, EPDM Gasket
511-0181	412-0018	QF x QD Tee Manifold, Viton Gasket
	203-0064	QF x QD Tee Manifold, <i>fitting only</i>
	211-0369	Female QF x M200 Flange Fitting
	211-0370	Male QF x M200 Flange Fitting
	211-0372	Male QF x M100 Fitting



Kit #	Part #	Male Hose Barbs
511-0171	412-0011	1" Straight Hose Barb x Male QF, EPDM Gasket
511-0177	412-0016	1" Straight Hose Barb x Male QF, Viton Gasket
	211-0314	1" Straight Hose Barb x Male QF, <i>fitting only</i>

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

QHN-075 3/4" Straight Hose Barb x QH Hairpin Quick-Connect, Nylon

QHN-100 1" Straight Hose Barb x QH Hairpin Quick-Connect, Nylon

Part # 90° Hose Barbs
QHN-075L 3/4" 90° HB x Male QH Fork Connection Nylon

QHN-100L 1" 90° HB x Male QH Fork Connection Nylon

Part # Description
QX-102 Hairpin, Stainless Steel

Part # Description
QHN-075F 3/4" Female NPT x QH Hairpin Quick-Connect, Nylon

QHN-100M 1" Male MNPT x Male QH Fork Connection, Nylon

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

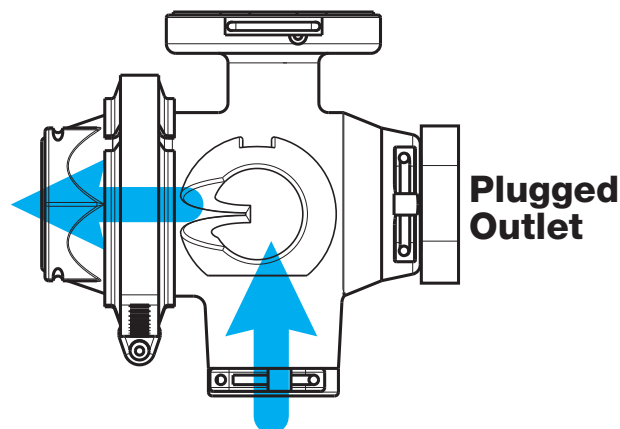
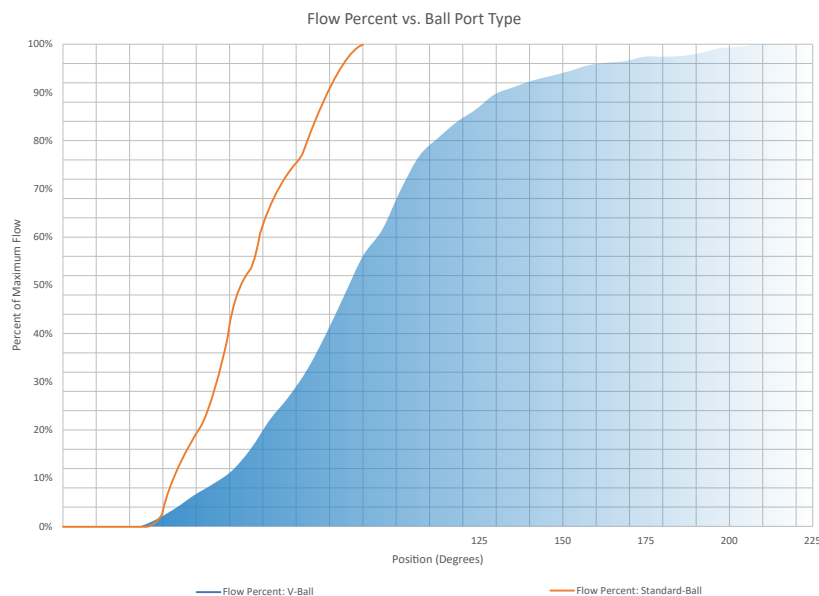
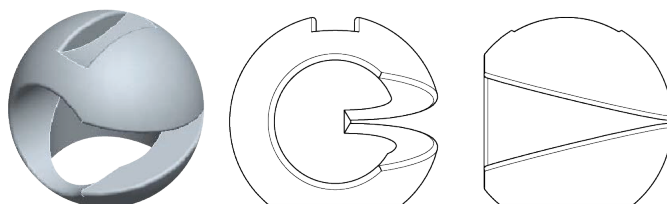
1 1/2" Valve

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		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.

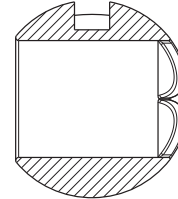
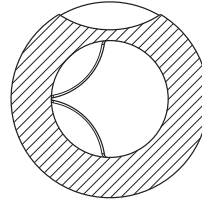
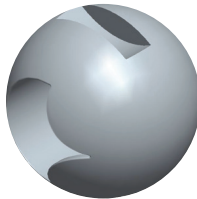
Maximum PSI: 1/4", 3/8", and 1/2" Valves

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

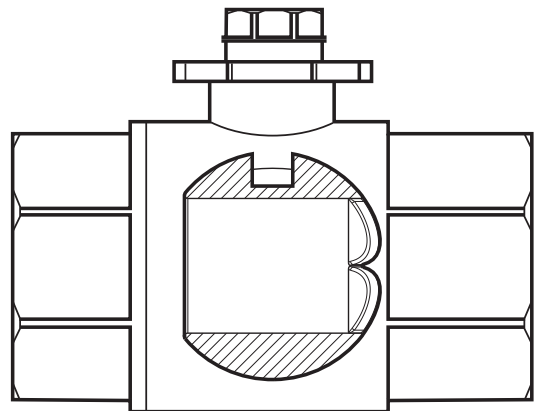
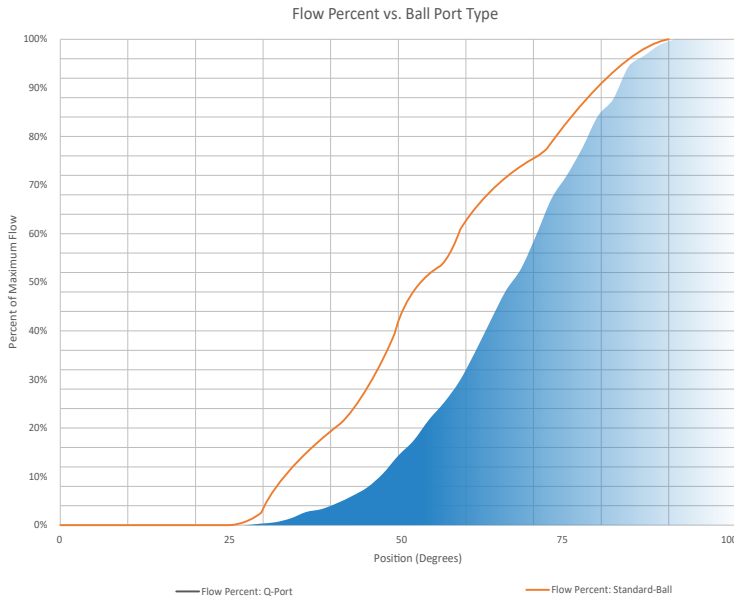
1 1/2" Valves

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

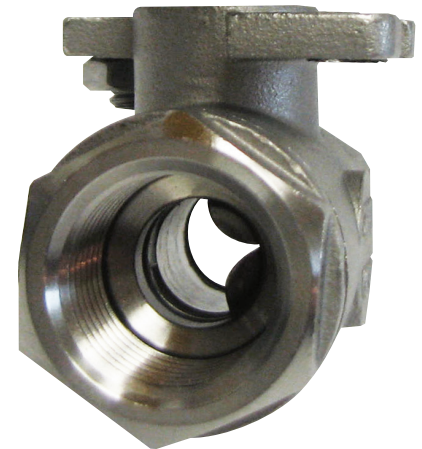


Please consult your Distributor/Key Account Manager for additional options.



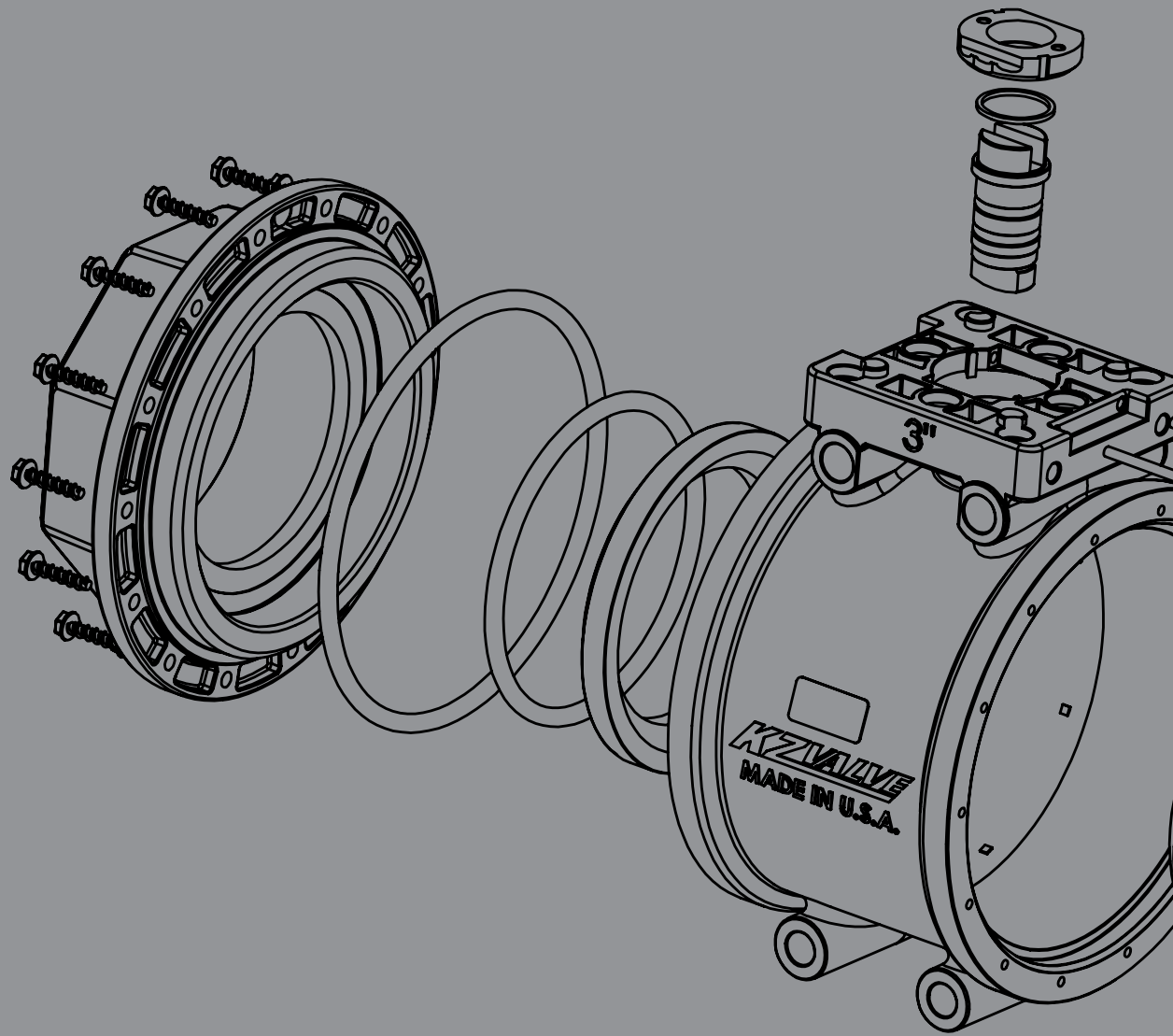
KEY FEATURES

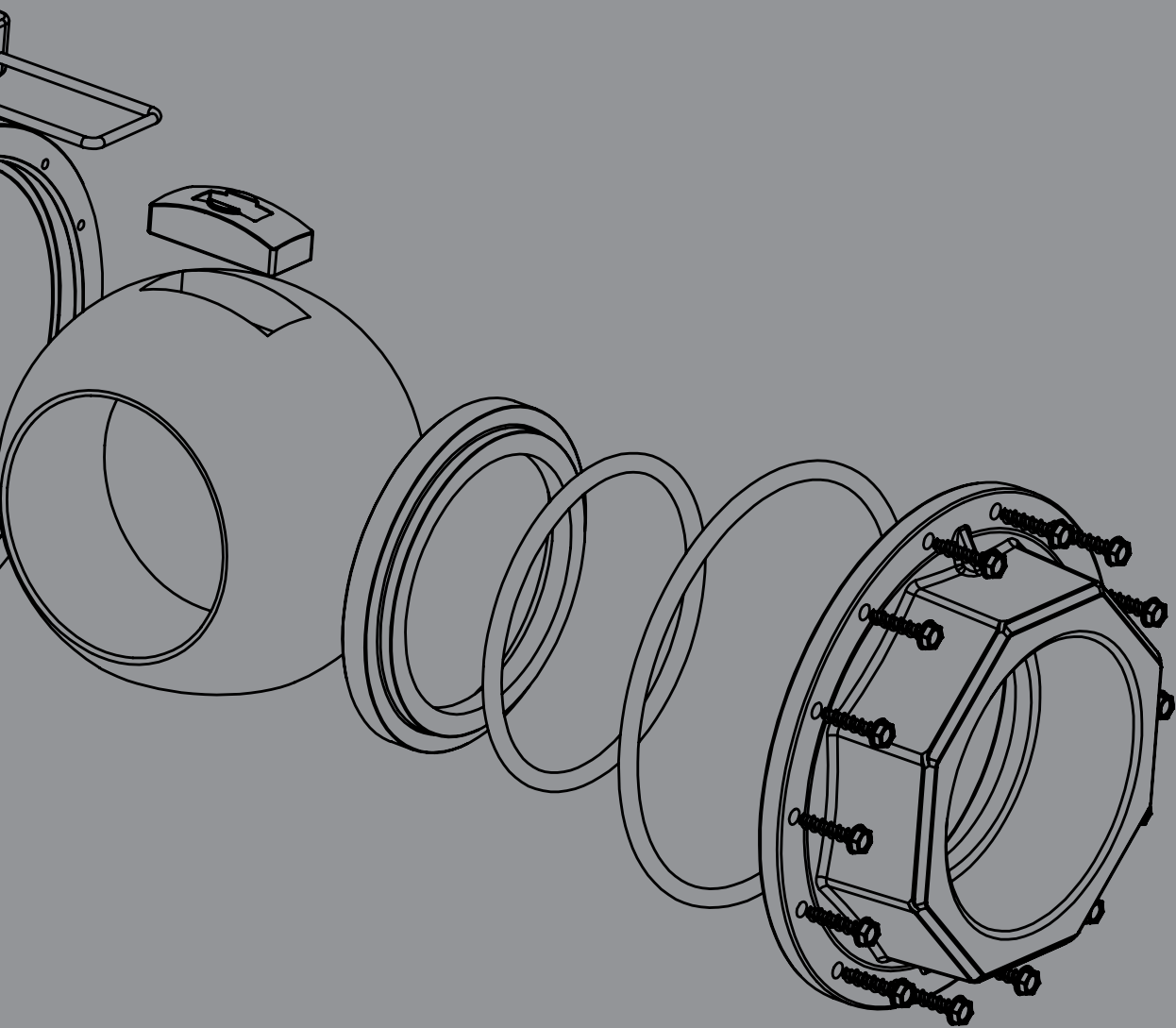
- More precise low end flow control with a 2-way ball valve
- 90° rotation
- Various valve sizes available



Technical Data & Wiring Diagrams

Pages 73-88





EH2 SERIES

Technical Data & Wiring Diagrams

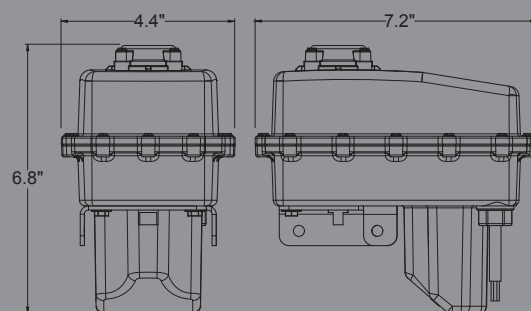
Specifications

Motor Options*	5 RPM Brushed Motor	2 RPM Brushed Motor
Operating Amperage	0.8 - 2.5 Amps @ 12 VDC	0.3 - 0.8 Amps @ 12 VDC
Stall Amperage	7.5 Amps @ 12 VDC	2.0 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC	0.040 Amps @ 12 VDC
Speed - No Load	5 RPM/ 3.0 Sec. per ¼ Turn	2 RPM/ 7.5 Sec. per ¼ Turn
Speed - On Load	4 RPM/ 3.8 Sec. per ¼ Turn	1.5 RPM/ 10 Sec. per ¼ Turn
Operating Torque	100 in. lbs.	100 in. lbs.
Stall Torque	600 in. lbs.	500 in. lbs.
Operating Voltage	12 VDC (9-18 VDC)	
	24 VDC (18-32 VDC)	
Operating Frequency	50% Duty Cycle at 70°F	
Input Impedance	1.2KΩ @ 9 - 18 VDC	
	15KΩ @ 18 - 32 VDC	
Switching Threshold	2.5 VDC @ 12 VDC	
In-Rush Current	4.4 - 11.5 Amps @ 12 VDC, 35 mS Duration	
Signal Line Current	Minimum of 10 mA Input	
Feedback Line Current	Maximum of 40 mA Output	
Operating Temperature	-32°F to 125°F (-36°C to 52°C)	
Storage Temperature	-40°F to 185°F (-40°C to 85°C)	
Weight	3.8 lbs. (1.7 kg.)	
Enclosure Material	Glass Filled Nylon, Stainless Steel	
	Hardware and Output Shaft, Silicone and Viton Seals, Optional Polycarbonate Indicator Dome	
Enclosure Ratings	NEMA 6P per NEMA 250	
	NEMA 7D per NEMA 250	
	IP68 per ISO 20653 and IEC 60529	
Electrical Connections	16" Free Length as standard, 18 AWG Tinned Copper, XLPE Conductor Insulation and PVC Jacket	
	Terminated in a Variety of Different Connector Options	
Electrical Protections	Internally Fused, Self Resetting	
	Electrical Cable Meets SAE-J1128 and USCG 33 C.F.R. Part 183	
Available Diagnostics	Position Feedback	

LED INDICATOR STATES

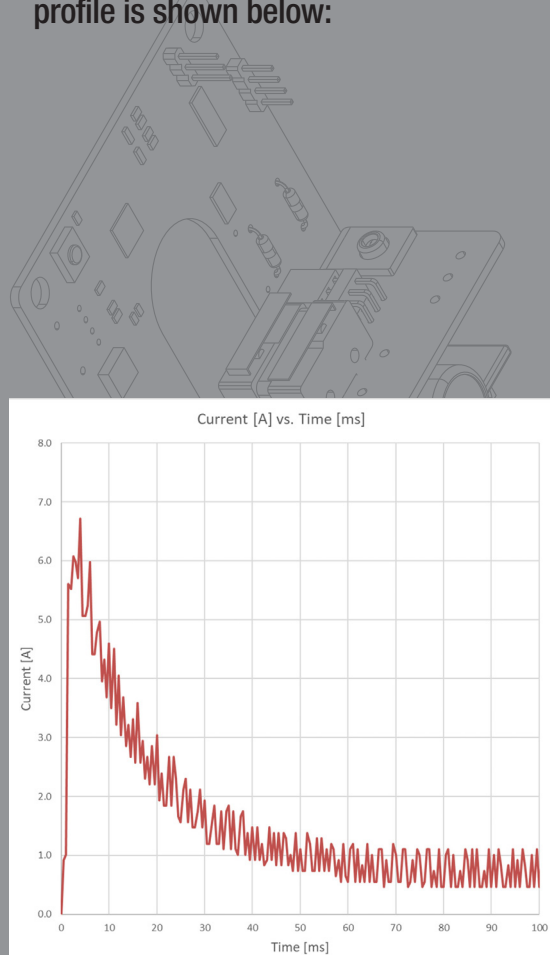
INDICATOR	RATE	COLOR	STATUS
BLINKING	2.8Hz	RED	FAULT
SOLID	-	RED	CLOSED
SOLID	-	GREEN	OPEN

*Other Motor and Speed Options Available on Request. Please Consult your Distributor/ Key Account Manager for Additional Options and Technical Details.



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.

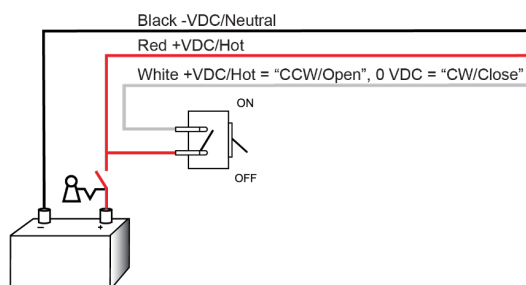
KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:



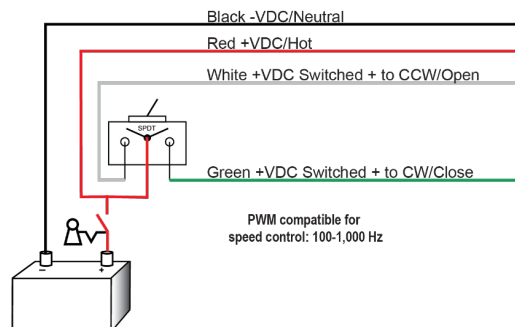
Specification Sheet

Control Types

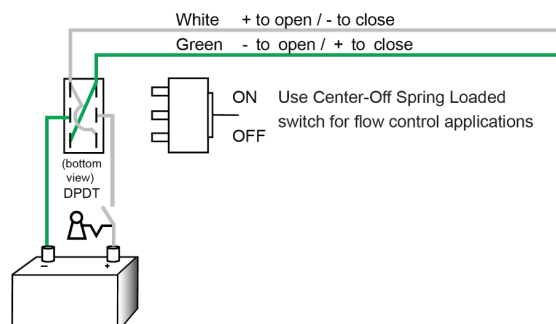
On/Off, 3-wire, SPST



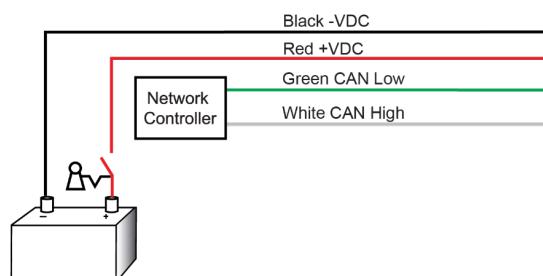
Positionable, 4-wire, SPDT



Positionable, 2-wire, DPDT



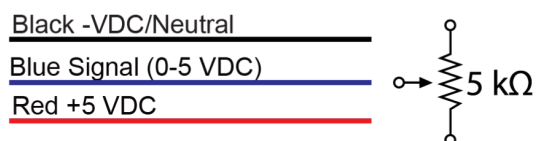
CAN/ISO BUS



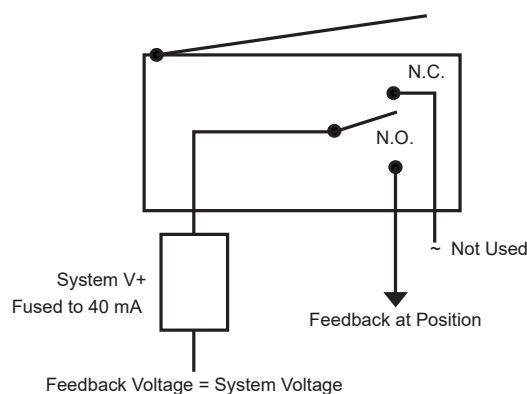
Feedback Options

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

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



POSITIVE ENERGIZED AUXILIARY CONTACT(S) INSIDE ACTUATOR

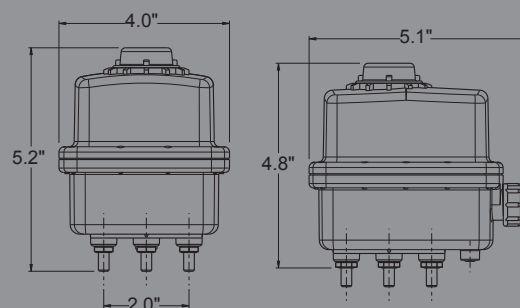


EH3 SERIES

Technical Data & Wiring Diagrams

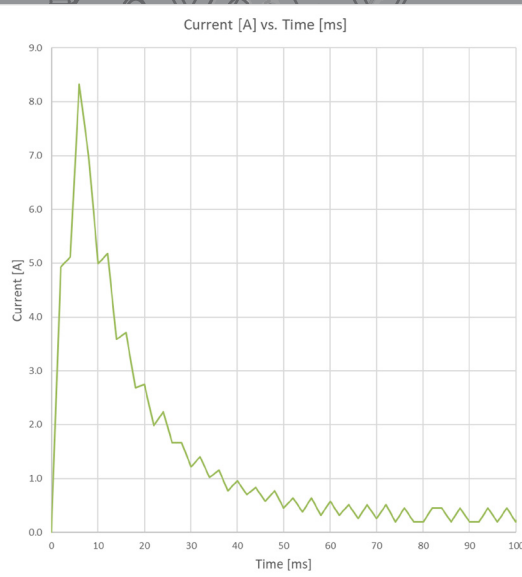
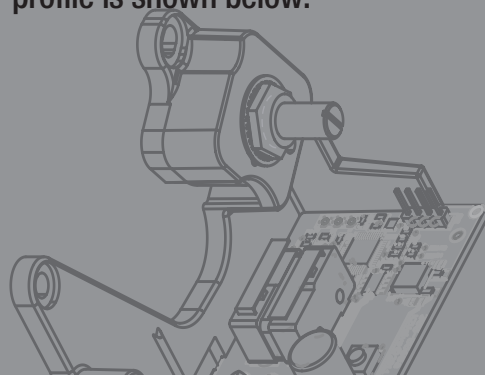
Specifications

Motor Options*	17 RPM Brushed Motor	2 RPM Brushed Motor
Operating Amperage	0.8 - 2.5 Amps @ 12 VDC	0.3 - 0.8 Amps @ 12 VDC
Stall Amperage	7.0 Amps @ 12 VDC	1.0 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC	0.040 Amps @ 12 VDC
Speed - No Load	18 RPM/ 0.8 Sec. per ¼ Turn	2 RPM/ 7.5 Sec. per ¼ Turn
Speed - On Load	14 RPM/ 1.1 Sec. per ¼ Turn	1.8 RPM/ 8.3 Sec. per ¼ Turn
Operating Torque	40 in. lbs.	40 in. lbs.
Stall Torque	175 in. lbs	140 in. lbs
Operating Voltage	12 VDC (9-18 VDC)	
	24 VDC (18-32 VDC)	
Operating Frequency	50% Duty Cycle at 70°F	
Input Impedance	1.2KΩ @ 9 - 18 VDC	
	15KΩ @ 18 - 32 VDC	
Switching Threshold	2.5 VDC @ 12 VDC	
In-Rush Current	7.9 - 9.9 Amps @ 12 VDC, 35 mS Duration	
Signal Line Current	Minimum of 10 mA Input	
Feedback Line Current	Maximum of 40 mA Output	
Operating Temperature	-32°F to 125°F (-36°C to 52°C)	
Storage Temperature	-40°F to 185°F (-40°C to 85°C)	
Weight	1.8 lbs. (0.8 kg.)	
Enclosure Material	Glass Filled Nylon, Stainless Steel	
	Hardware and Output Shaft, Silicone and	
	Viton Seals, Optional Polycarbonate Indicator Dome	
Enclosure Ratings	NEMA 6P per NEMA 250	
	NEMA 7D per NEMA 250	
	IP68 per ISO 20653 and IEC 60529	
Electrical Connections	16" Free Length as standard, 18 AWG Tinned Copper,	
	XLPE Conductor Insulation and PVC Jacket	
	Terminated in a Variety of Different Connector Options	
Electrical Protections	Internally Fused, Self Resetting	
	Electrical Cable Meets SAE-J1128 and	
	USCG 33 C.F.R. Part 183	
Available Diagnostics	Position 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.

KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:

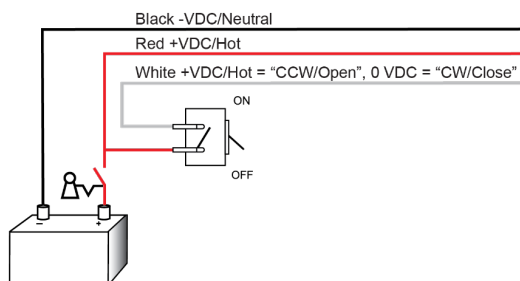


*Other Motor and Speed Options Available on Request. Please Consult your Distributor/ Key Account Manager for Additional Options and Technical Details.

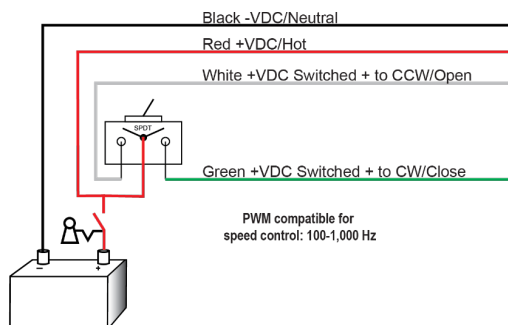
Specification Sheet

Control Types

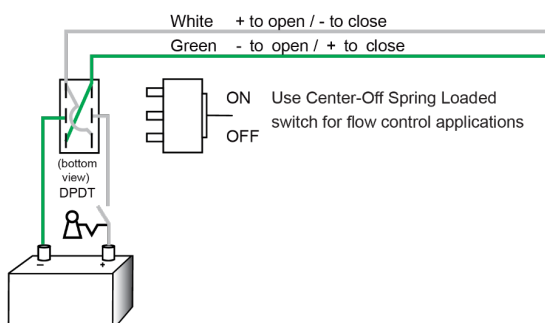
On/Off, 3-wire, SPST



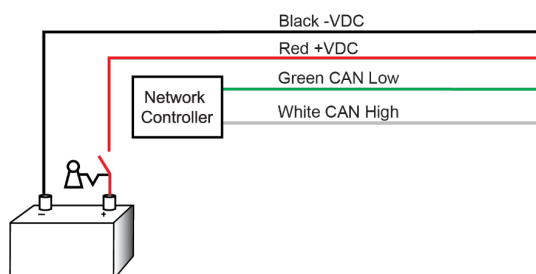
Positionable, 4-wire, SPDT



Positionable, 2-wire, DPDT



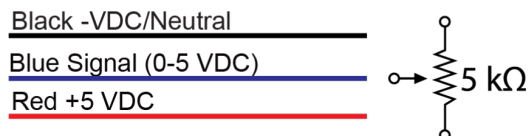
CAN/ISO BUS



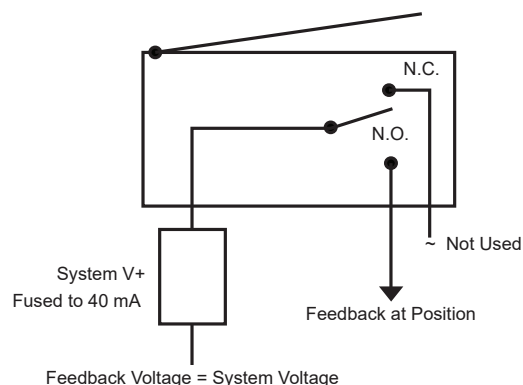
Feedback Options

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

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



POSITIVE ENERGIZED AUXILIARY CONTACT(S) INSIDE ACTUATOR

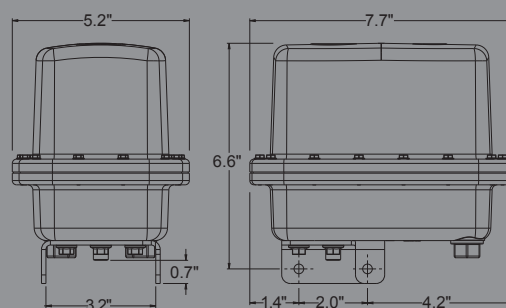


EH5 SERIES

Technical Data & Wiring Diagrams

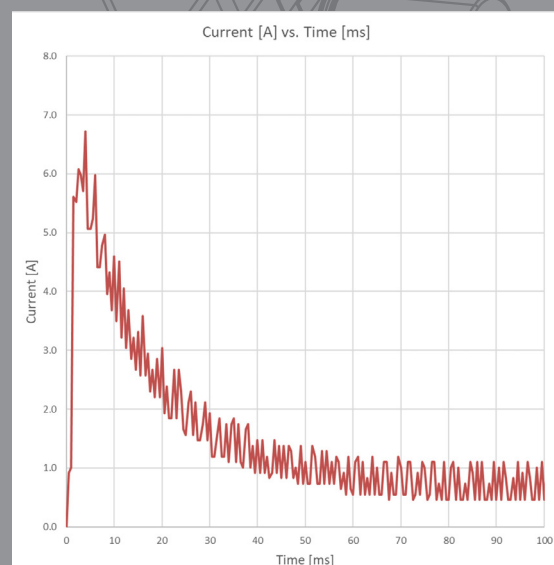
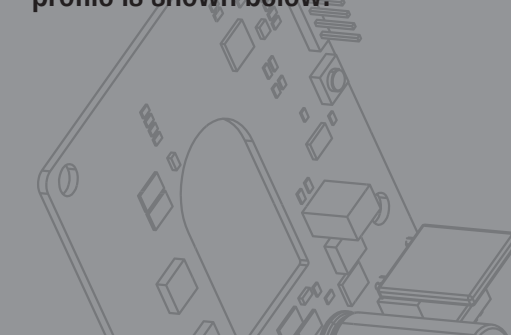
Specifications

Motor Options	5 RPM Brushed Motor
Operating Amperage	1.0 - 3.0 Amps @ 12 VDC
Stall Amperage	10 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC
Speed - No Load	5 RPM/ 3.0 Sec. per ¼ Turn
Speed - On Load	4 RPM/ 3.8 Sec. per ¼ Turn
Operating Torque	200 in. lbs.
Stall Torque	830 in. lbs
Operating Voltage	12 VDC (9-18 VDC) 24 VDC (18-32 VDC)
Operating Frequency	50% Duty Cycle at 70°F
Input Impedance	1.2KΩ @ 9 - 18 VDC 15KΩ @18 - 32 VDC
Switching Threshold	2.5 VDC @ 12 VDC
In-Rush Current	6.6 - 7.2 Amps @ 12 VDC, 35 mS Duration
Signal Line Current	Minimum of 10 mA Input
Feedback Line Current	Maximum of 40 mA Output
Operating Temperature	-32°F to 125°F (-36°C to 52°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)
Weight	5.7 lbs. (2.4 kg.)
Enclosure Material	Glass Filled Nylon, Stainless Steel Hardware and Output Shaft, Silicone and Viton Seals
Enclosure Ratings	NEMA 6P per NEMA 250 NEMA 7D per NEMA 250 IP68 per ISO 20653 and IEC 60529
Electrical Connections	16" Free Length as standard, 18 AWG Tinned Copper, XLPE Conductor Insulation and PVC Jacket Terminated in a Variety of Different Connector Options
Electrical Protections	Internally Fused, Self Resetting Electrical Cable Meets SAE-J1128 and USCG 33 C.F.R. Part 183
Available Diagnostics	Position 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.

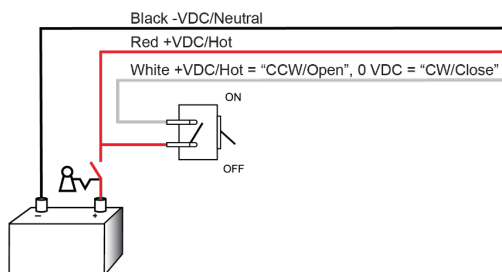
KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:



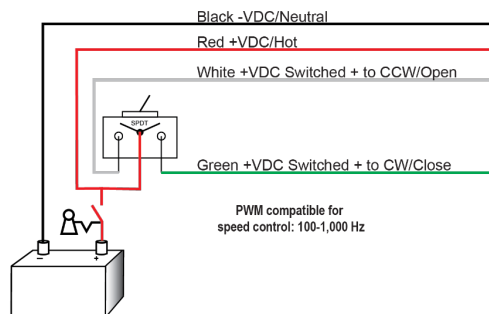
Specification Sheet

Control Types

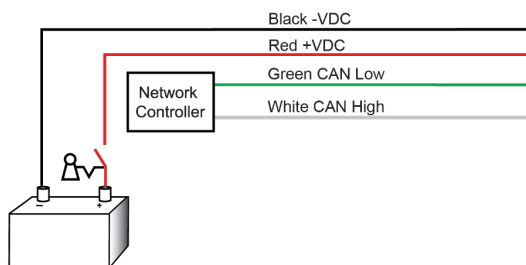
On/Off, 3-wire, SPST



Positionable, 4-wire, SPDT



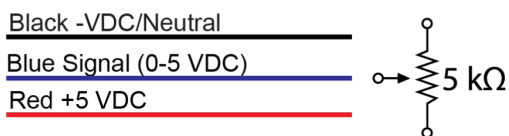
CAN/ISO BUS



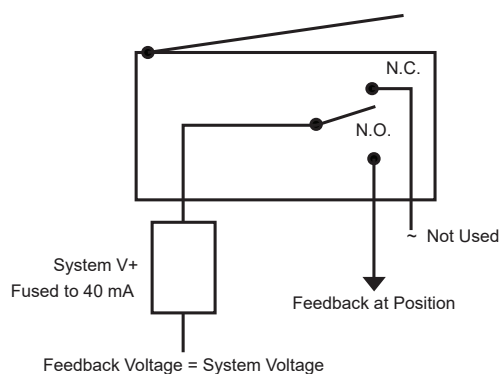
Feedback Options

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

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



POSITIVE ENERGIZED AUXILIARY CONTACT(S) INSIDE ACTUATOR



EH6 SERIES

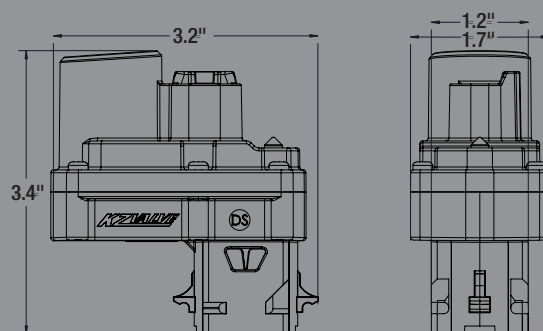
Technical Data & Wiring Diagrams

Specifications

Motor Options	50 RPM Brushed Motor
Operating Amperage	1.0 - 1.5 Amps @ 12 VDC
Stall Amperage	2.6 - 3.6 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC
Speed - No Load	35 RPM/ 0.5 Sec. per ¼ Turn
Speed - On Load	29 RPM/ 0.5 Sec. per ¼ Turn
Operating Torque	10 in. lbs.
Stall Torque	35 in. lbs
Operating Voltage	12 VDC (9-18 VDC) 24 VDC (18-32 VDC)
Operating Frequency	50% Duty Cycle at 70°F
Input Impedance	1.2KΩ @ 9 - 18 VDC 2.4KΩ @ 18 - 32 VDC
Switching Threshold	2.5 VDC @ 12 VDC
In-Rush Current	3.0 - 4.0 Amps @ 12 VDC, 35 mS Duration
Signal Line Current	Minimum of 10 mA Input
Feedback Line Current	Maximum of 40 mA Output
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Storage Temperature	-67°F to 221°F (-55°C to 105°C)
Weight	0.49 lbs. (0.22 kg.)
Enclosure Material	Glass Filled Nylon, Stainless Steel Hardware and Output Shaft, Silicone and Viton Seals, Nylon Indicator Lens
Enclosure Ratings	NEMA 6P per NEMA 250 NEMA 7D per NEMA 250 IP68 per ISO 20653 and IEC 60529 IP69K per ISO 20653 and IEC 60529
Electrical Connections	Integrated Direct Plug Available in Duetsch DT series
Electrical Protections	Internally Fused, Self Resetting
Available Diagnostics	Voltage Feedback, Position Feedback, Stall Conditions, Signal Input Error, and Device Timeout

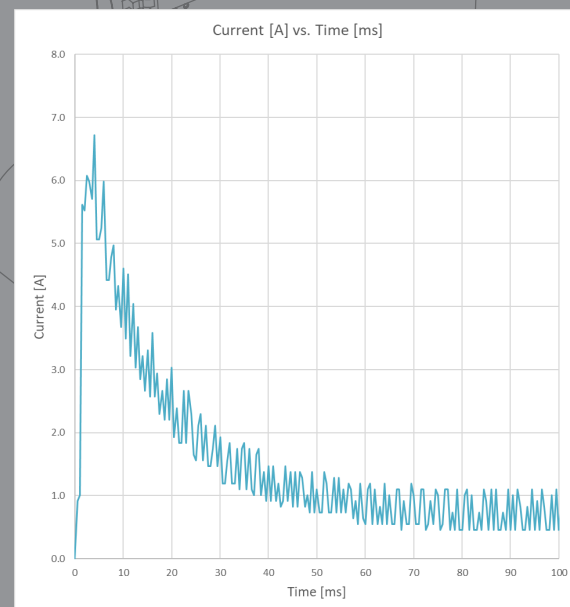
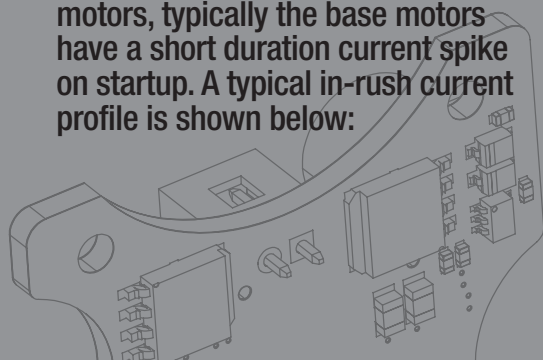
LED INDICATOR STATES

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



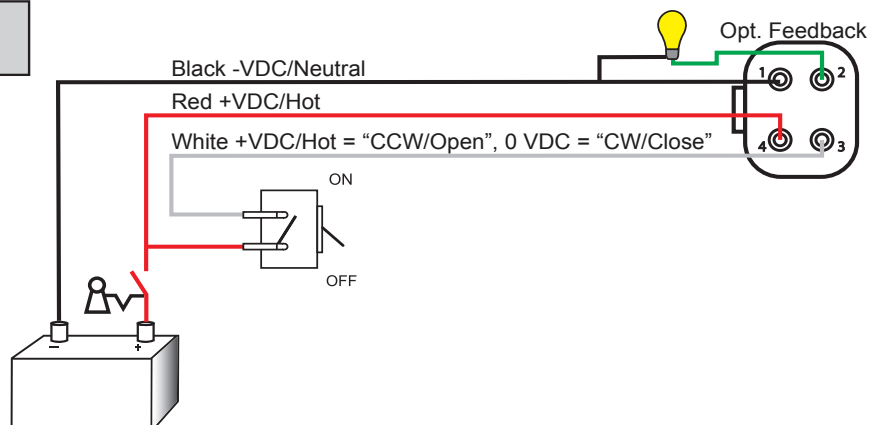
Installation May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.

KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:

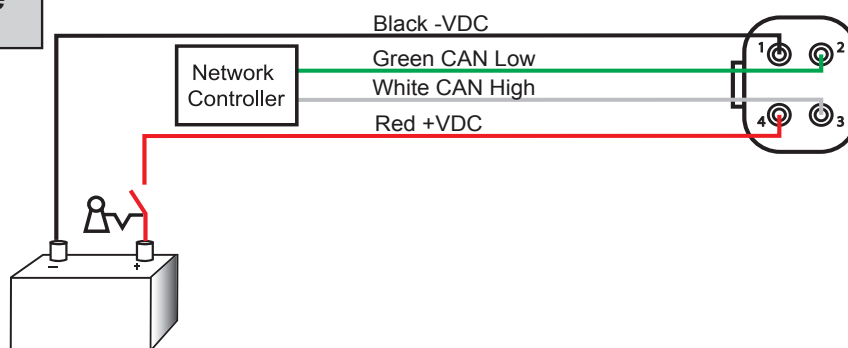


Specification Sheet

Deutsch Receptacle ON/OFF



Deutsch Receptacle CAN/ISO BUS



EH7 SERIES

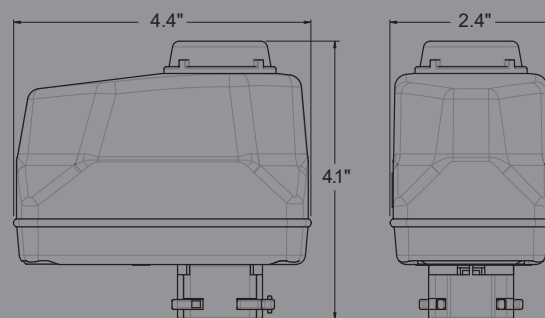
Technical Data & Wiring Diagrams

Specifications

Motor Options	50 RPM Brushed Motor	3 RPM Brushed Motor
Operating Amperage	1.0 - 1.5 Amps @ 12 VDC	0.3 - 0.5 Amps @ 12 VDC
Stall Amperage	5.0 - 6.0 Amps @ 12 VDC	0.7 - 1.0 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC	0.040 Amps @ 12 VDC
Speed - No Load	50 RPM/ 0.4 Sec. per ¼ Turn	3 RPM/ 5.0 Sec. per ¼ Turn
Speed - On Load	32 RPM/ 0.5 Sec. per ¼ Turn	2 RPM/ 7.5 Sec. per ¼ Turn
Operating Torque	10 in. lbs.	10 in. lbs.
Stall Torque	35 in. lbs	48 in. lbs
Operating Voltage	12 VDC (9-18 VDC)	
	24 VDC (18-32 VDC)	
Operating Frequency	50% Duty Cycle at 70°F	
Input Impedance	1.2KΩ @ 9 - 18 VDC	
	15KΩ @ 18 - 32 VDC	
Switching Threshold	2.5 VDC @ 12 VDC	
In-Rush Current	5.0 - 6.5 Amps @ 12 VDC, 35 mS Duration	
Signal Line Current	Minimum of 10 mA Input	
Feedback Line Current	Maximum of 40 mA Output	
Operating Temperature	-32°F to 125°F (-36°C to 52°C)	
Storage Temperature	-40°F to 185°F (-40°C to 85°C)	
Weight	0.94 lbs. (0.43 kg.)	
Enclosure Material	Glass Filled Nylon, Stainless Steel	
	Hardware and Output Shaft, Silicone and	
	Viton Seals, Optional Polycarbonate Indicator Dome	
Enclosure Ratings	NEMA 6P per NEMA 250	
	IP68 per ISO 20653 and IEC 60529	
Electrical Connections	16" Free Length as standard, 20 AWG Tinned Copper,	
	XLPE Conductor Insulation and PVC Jacket	
	Terminated in a Variety of Different Connector Options	
Electrical Protections	Internally Fused, Self Resetting	
	Electrical Cable Meets SAE-J1128 and	
	USCG 33 C.F.R. Part 183	
Available Diagnostics	Voltage Feedback, Position Feedback, Stall Conditions,	
	Signal Input Error, and Device Timeout	

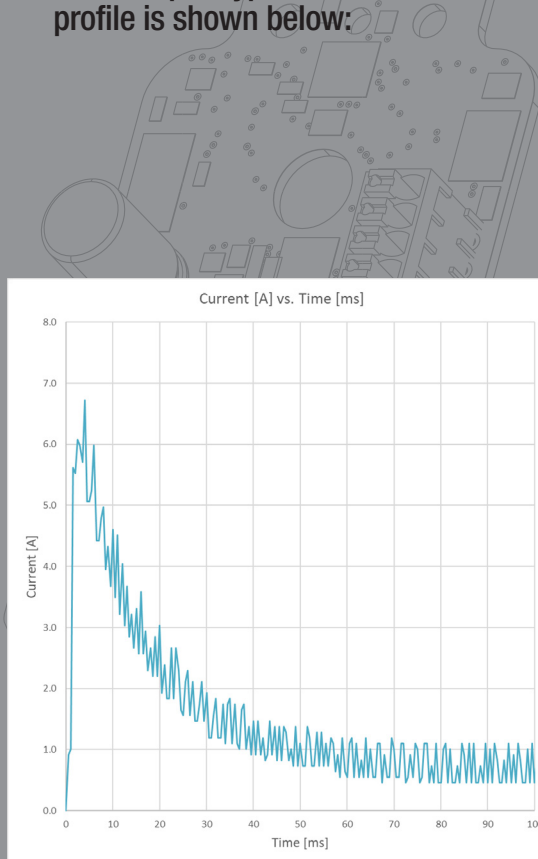
LED INDICATOR STATES

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

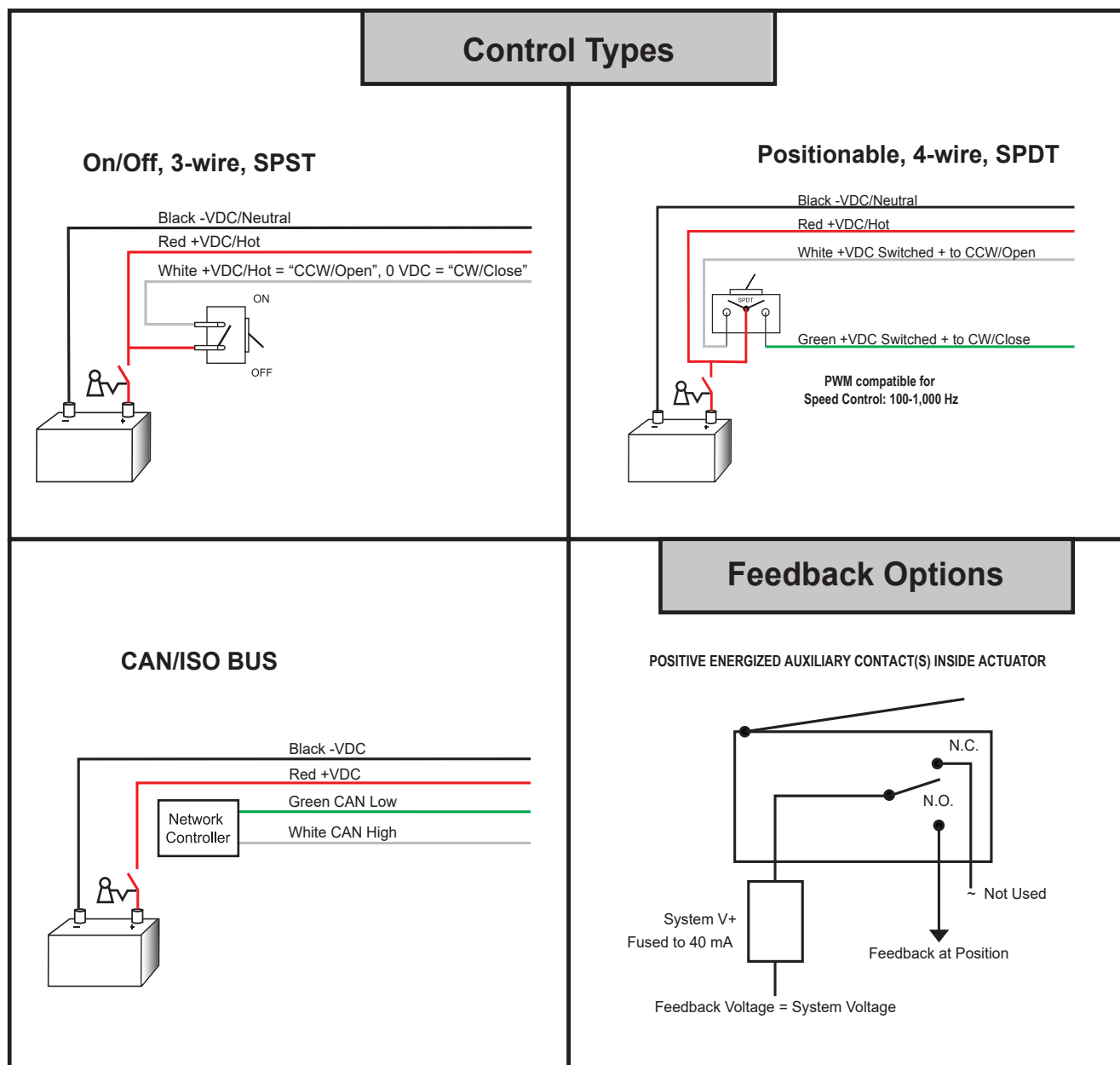


Installation May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.

KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:



Specification Sheet



EH8 SERIES

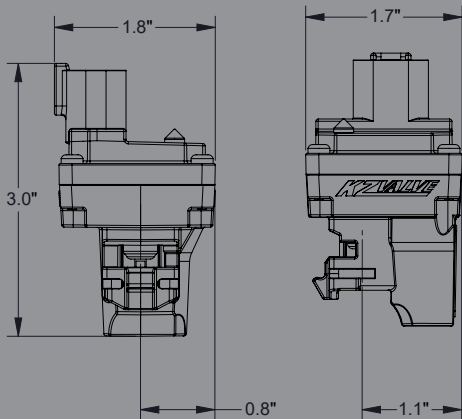
Technical Data & Wiring Diagrams

Specifications

Motor Options	110 RPM Brushed Motor
Operating Amperage	0.4 Amps @ 12 VDC
Stall Amperage	1.8 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC
Speed - No Load	110 RPM/ 0.2 Sec. per ¼ Turn
Speed - On Load	90 RPM/ 0.25 Sec. per ¼ Turn
Operating Torque	2 in. lbs.
Stall Torque	8 in. lbs
Operating Voltage	12 VDC (9-18 VDC) 24 VDC (18-32 VDC)
Operating Frequency	50% Duty Cycle at 70°F
Input Impedance	3.3KΩ @ 9 - 18 VDC 15KΩ @18 - 32 VDC
Switching Threshold	2.5 VDC @ 12 VDC
In-Rush Current	1.8 - 2.3 Amps @ 12 VDC, 35 mS Duration
Signal Line Current	Minimum of 5 mA Input
Feedback Line Current	Maximum of 40 mA Output
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Storage Temperature	-67°F to 221°F (-55°C to 105°C)
Weight	0.25 lbs. (0.11 kg.)
Enclosure Material	Glass Filled Nylon, Stainless Steel Hardware and Output Shaft, Silicone and Viton Seals, Polycarbonate Indicator Dome
Enclosure Ratings	NEMA 6P per NEMA 250 NEMA 7D per NEMA 250 IP68 per ISO 20653 and IEC 60529
Electrical Connections	Integrated Direct Plug Available in Deutsch DT Series, AMPSEAL 16 Series, and M12 Series
Electrical Protections	Internally Fused, Self Resetting
Available Diagnostics	Voltage Feedback, Position Feedback, Stall Conditions, Signal Input Error, and Device Timeout

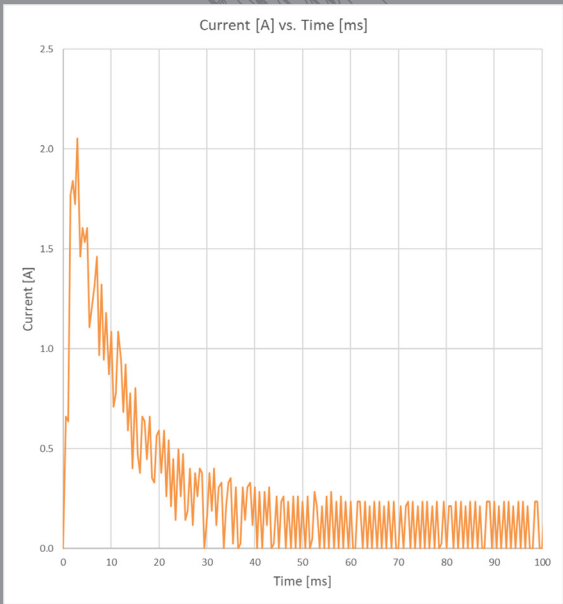
LED INDICATOR STATES

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

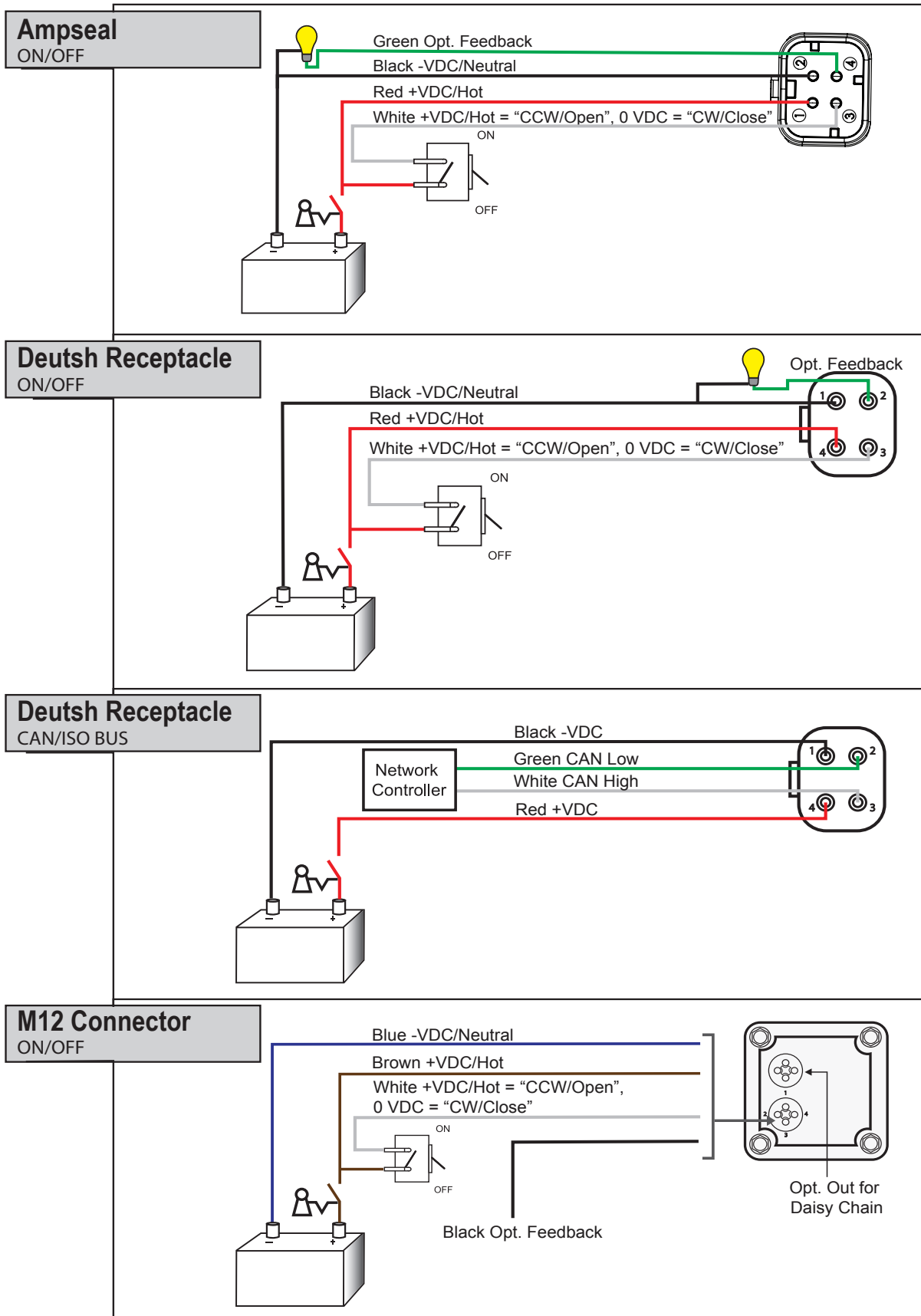


Installation May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.

KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:



Specification Sheet



EH9 SERIES

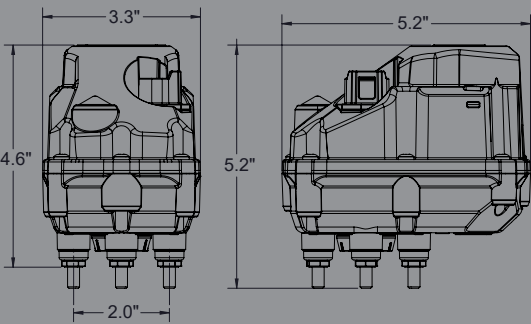
Technical Data & Wiring Diagrams

Specifications

Motor Options	20 RPM Brushed Motor	5 RPM Brushed Motor
Operating Amperage	1.0 - 2.0 Amps @ 12 VDC	0.4 - 0.8 Amps @ 12 VDC
Stall Amperage	11.0 Amps @ 12 VDC	4.2 Amps @ 12 VDC
Idle Amperage	0.040 Amps @ 12 VDC	0.040 Amps @ 12 VDC
Speed - No Load	20 RPM/ 0.7 Sec. per ¼ Turn	6 RPM/ 2.5 Sec. per ¼ Turn
Speed - On Load	15 RPM/ 1.0 Sec. per ¼ Turn	5 RPM/ 3.0 Sec. per ¼ Turn
Operating Torque	40 in. lbs.	40 in. lbs.
Stall Torque	240 in. lbs	240 in. lbs
Operating Voltage	12 VDC (9-18 VDC)	
	24 VDC (18-32 VDC)	
Operating Frequency	50% Duty Cycle at 70°F	
Input Impedance	1.2KΩ @ 9 - 18 VDC	
	15KΩ @ 18 - 32 VDC	
Switching Threshold	2.5 VDC @ 12 VDC	
In-Rush Current	4.2 - 8.8 Amps @ 12 VDC, 35 mS Duration	
Signal Line Current	Minimum of 10 mA Input	
Feedback Line Current	Maximum of 40 mA Output	
Operating Temperature	-40°F to 185°F (-40°C to 85°C)	
Storage Temperature	-67°F to 221°F (-55°C to 105°C)	
Weight	2.0 lbs. (0.9 kg.)	
Enclosure Material	Glass Filled Nylon, Stainless Steel	
	Hardware and Output Shaft, Silicone and	
	Viton Seals, Nylon Indicator Dome	
Enclosure Ratings	NEMA 6P per NEMA 250	
	NEMA 7D per NEMA 250	
	IP68M per ISO 20653 and IEC 60529	
	IP69K per ISO 20653 and IEC 60529	
Electrical Connections	Integrated Direct Plug Available in Deutsch DT Series and	
	AMPSEAL 16 Series otherwise;	
	18" Free Length as standard, 18 AWG Tinned Copper	
	XLPE Conductor Insulation and PVC Jacket	
	Terminated in a Variety of Different Connector Options	
Electrical Protections	Internally Fused, Self Resetting	
Available Diagnostics	Voltage Feedback, Position Feedback, Stall Conditions,	
	Signal Input Error, and Device Timeout	

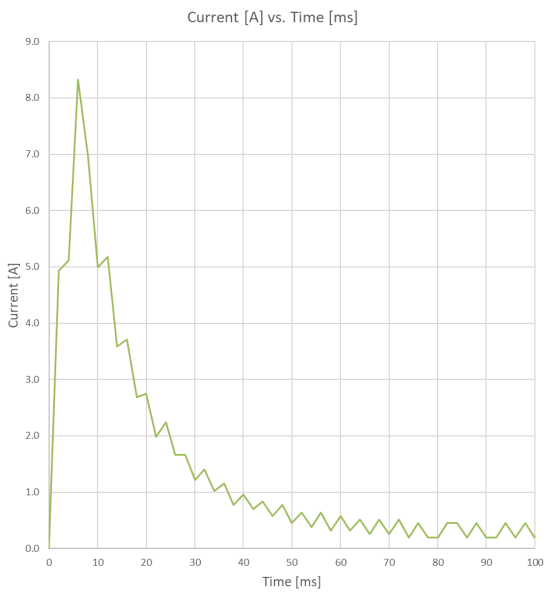
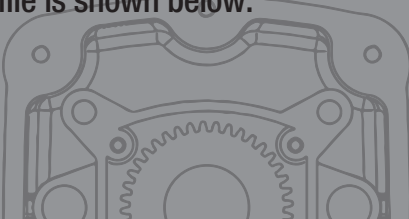
LED INDICATOR STATES

INDICATOR	RATE	COLOR	STATUS
BLINKING	5.0Hz	RED	TRAVELING TO OFF POSITION
SOLID	-	RED	CURRENTLY AT OFF POSITION
BLINKING	5.0Hz	GREEN	TRAVELING TO ON POSITION
SOLID	-	GREEN	CURRENTLY AT ON POSITION
BLINKING	3.0Hz	BLUE	AWAITING COMMAND, NOT AT LIMIT
BLINKING	4.0Hz	BLUE	RECEIVING COMMAND, NOT AT LIMIT
BLINKING	2.8Hz	YELLOW	FAILURE/TIMEOUT

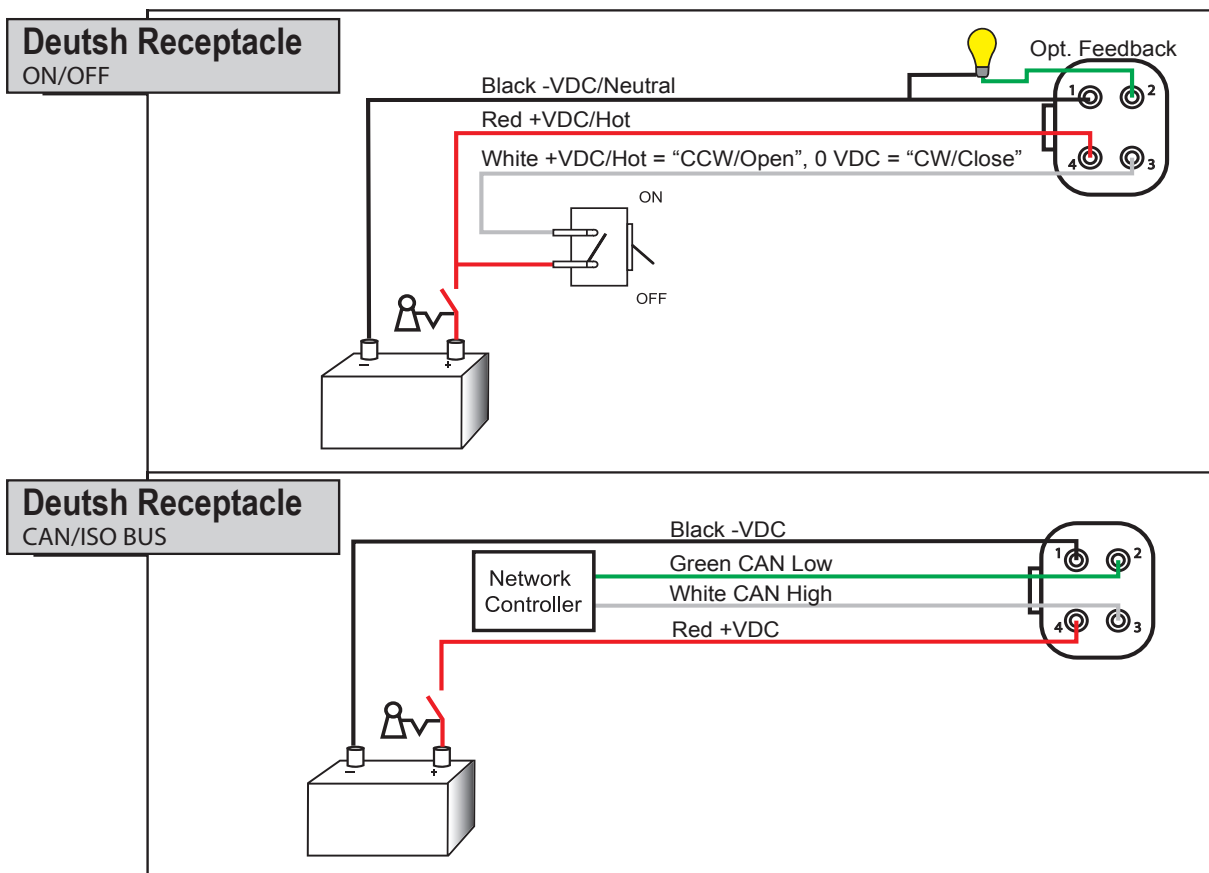


Installation May be installed in any orientation without concern of moisture ingress. Should the valve plumbing support the actuated valve, independent support or mount is not required.

KZValve utilizes brushed DC Gear motors, typically the base motors have a short duration current spike on startup. A typical in-rush current profile is shown below:



Specification Sheet



VALVE REPAIR KIT GUIDE

67 Series	Valve	Repair Kit
	67F	210-0013-1
	67G	210-0017-1
	67H	210-0001-1
	67I	210-0002-1

73 Series	Valve	Repair Kit
4 seat - square stem	73E	210-0009-1
	73F	210-0010-1
	73H	210-0011-1
	73i	210-0012-1
	73i (NH3)	210-0033

Apollo (78, 84, DD 88*)	Valve	Repair Kit
*Double D Stem / L shaped bracket	84D	EHPT-709
	78E, 84E, 88E	EHPT-710
	78F, 84F, 88F	EHPT-711
	84G, 88G	EHPT-712
	78H, 84H, 88H	EHPT-713
	78i, 84i, 88i	EHPT-714

89 Series	Valve	Repair Kit
	89D	EH-124-1
	89E	EH-125-1
	89F	EH-126-1
	89G	EH-127-1
	89H	EH-128-1
	89i	EH-129-1
	89J	210-0005-1
	89K	210-0006-1

88 Series (current)	Valve	Repair Kit
Square stem & full U-Bend Bracket	200-0004	210-0015
	200-0005	210-0016

92 Series	Valve	Repair Kit
	92FM33	100200

S Series	Valve	Repair Kit
	S8B28/S8C28	210-0039
	S8F33	210-0036

MX Series	Valve	Repair Kit	Flange Size
	1½"	210-0024	1½" = M200
	2"	210-0025	2" = M220
	3"	210-0026	3" = M300
QX Series	Valve	Repair Kit	Flange Size
	¾" - 1"	QX4-RKT	1" = M100
	1¼" - 1½"	QX5-RKT	1½" = M200
	2"	QX8-RKT	2" = M220
TX2 Series	Valve	Repair Kit	Flange Size
	½"	210-0030	M100

TROUBLESHOOTING

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.

See our website, **KZValve.com**, for:

- Technical Documents
- LED Indicator guides
- Actuator Manuals
- Valve Manuals
- STP Files
- Line Drawings
- Warranty Information
- Compliance Documents
- Environmental Regulation Documents

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-transferable. 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, and 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 brief description of the problem.

This warranty does not apply to valves to which the actuator is mounted 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 accepted. 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.

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.

AUTHORIZED REPAIR CENTERS

AG-EXPRESS[®]
ELECTRONICS

WARRANTY REPAIRS ONLY

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

Reference RMA Number Given by **KZValve**

NON-WARRANTY REPAIRS (ALL LOCATIONS)

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

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



CUSTOMIZED FLUID MANAGEMENT SOLUTIONS

TO MEET YOUR UNIQUE CHALLENGES



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www.kzvalve.com

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