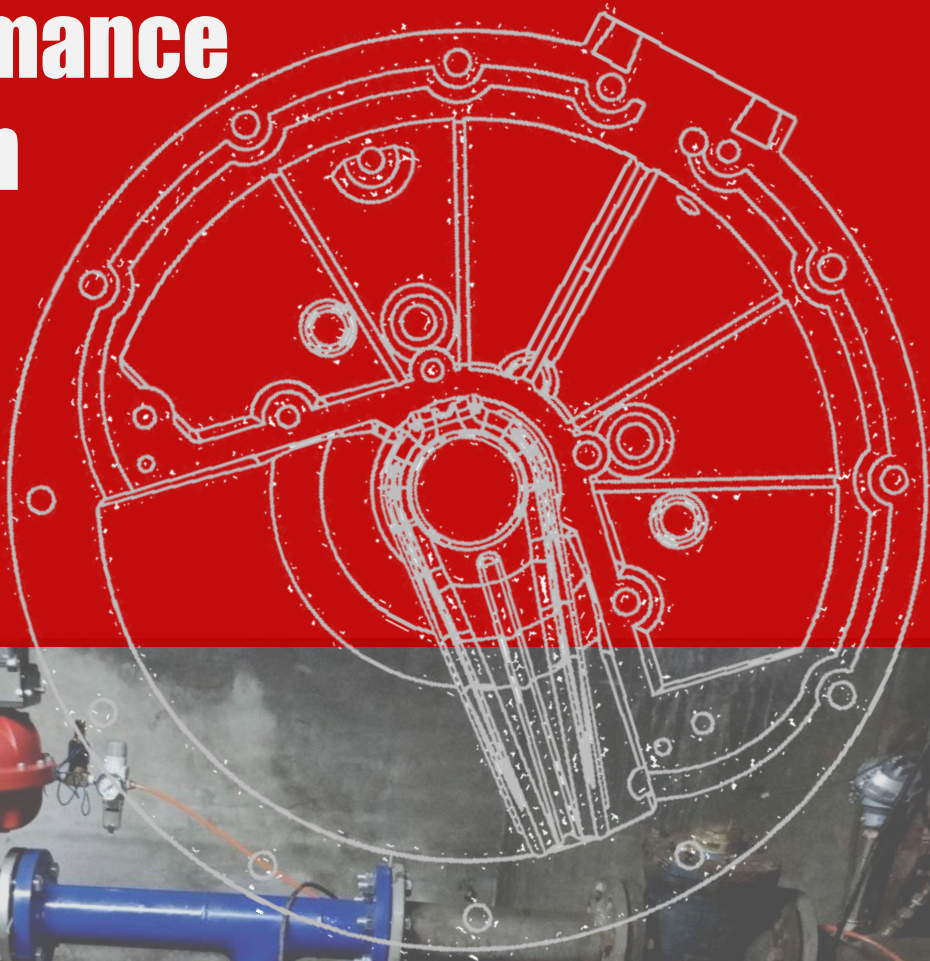


Easytork®

**High-Performance
Quarter-Turn
Solutions**



**Solving
Problems
No One Else Can**

We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality.

Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan New Product Innovation Award

| Table of Contents | Page |
|-------------------------|------|
| Easytork Vane Actuator | 3 |
| Easytork Solenoid Valve | 21 |
| Easytork Pilot Valve | 29 |
| Namur Trip Valve | 33 |
| Lockout Device | 37 |
| Declutchable Gearbox | 41 |
| Limit Switch | 45 |
| Positioner | 49 |
| Hardware | 53 |

Select Industries and Select Applications

Aerospace & defense: Fuel feed for rockets, deluge valve actuators, portable launch fuel and water control valves, fast acting control for aerospace engine systems.

Chemical: Filling and feed valves, transfer valves, mixed liquor valves, waste valves on batch mixing tanks.

Dampers: Flue gas dampers, furnace fuel feed, radial vane air control dampers.

Power generation: Steam turbine control, boiler and water feed.

Energy: Natural gas control valves, natural gas controlled dump valves, isolation ball valves for skid mounted compressor stations.

Food processing: Enzymatic interesterification (EIE), sorting, diverting, conveying, filter systems.

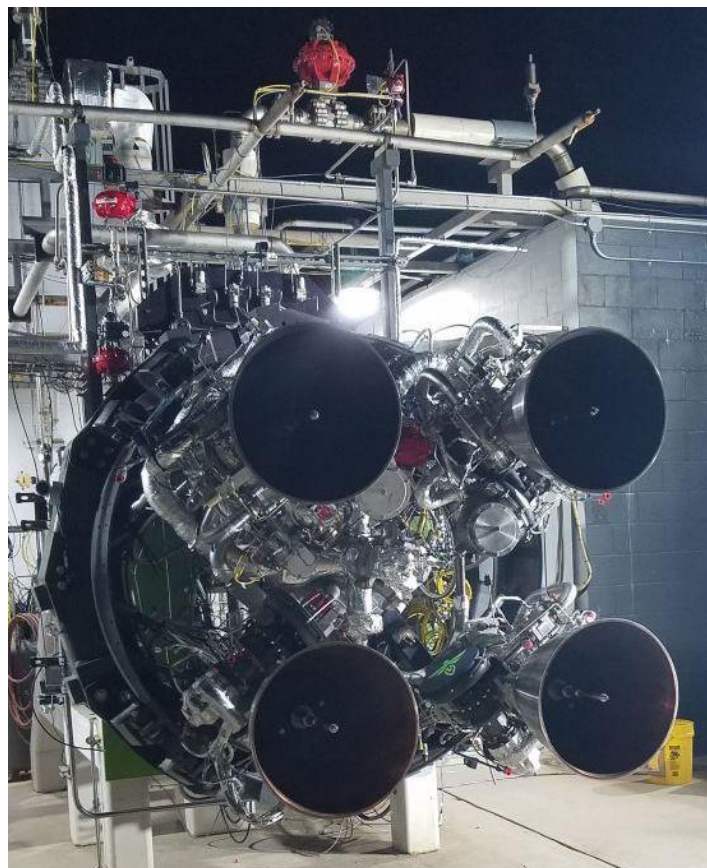
General industrial: Skid manufacturing.

Mining: Cyanide dosing circuits, lime dosing circuits, underground dewatering valves, underground pastefill distribution valves, acid valves, high pressure water isolation valves.

Pulp and paper: Dewatering valves, skids, bleaching.

Water systems / municipal: Digester gas valves, filter control, aeration control, odor control, high service pump control, flocculate waste drain valves.

Steel: Cooling spray valve.



Easytork

Easytork Vane Actuator



Springless-Return Actuator

**Compact, Efficient, Fast, and
Tough against BAD environment and air**

Easytork Vane Actuator (“EVA”) Built to Last

Take the guesswork out of predictive maintenance and reliability

Predictive maintenance

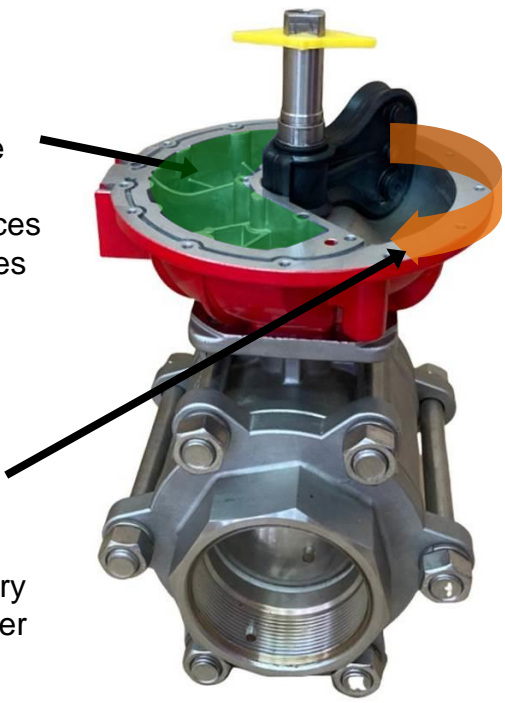
Using internal air reservoir for fail-safe

Air reservoirs in fail-safe systems are commonly used to replace springs for large mission critical emergency shut down valves. Spring failure and its performance decay are common occurrences but are hard to detect. Unlike spring actuation, monitoring devices can be installed onto air reservoir fail-safe actuation systems to positively detect performance decay or failure.

Product reliability

One moving piece – pure rotary-to-rotary movement

EVAs only have one moving part that creates pure rotary-to-rotary movement. Not only does the simplistic design contribute to better lifespan, the singular moving component simplifies predictive maintenance monitoring. Common off the shelf technology provides for validated automatic detection.



Design features that make your operations easier

Easy air reservoir integration

Traditional actuators with air reservoirs require costly external piping and pilot valves that make it more costly than spring-return actuators. Utilization of Easytork’s air reservoir system is easier and in most instances more economical than spring-return actuators.

Easy travel limit change

The standard travel stop adjustment is +/- 5° at CCW and CW +/- 5° for a total of 80° to 100°. Extended travel stop are also available for adjustments between 60° to 100°.

Heavy duty DU bushings

Result in a supported vane shaft and life long lubrication.



Patents: Pneumatic Actuator Structure
USA = 8,671,672
Other countries pending

Patents: Integral Unit & Zero Eccentricity
China = 2785284, Taiwan = M445076, other countries pending

One Moving Piece Built to Last

Minimal maintenance occurrence through simplistic and improved design

Design features that further reduce maintenance

Non-O-ring sealing

O-rings are meant for static sealing and not for dynamic sealing. Yet, most brands use O-rings for direct sealing which result in problems such as high friction, high break away torque, and high wear and tear.

No stick-slip, and low friction

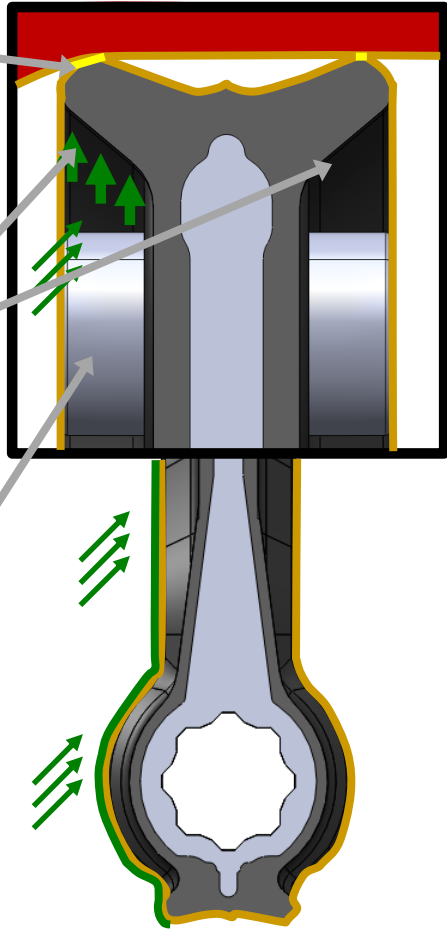
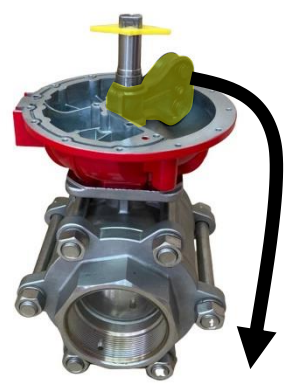
Vane has limited contact to housing body which results in low friction, smooth operation, and no “stick-slip” even after extended cycles. Ideal for both on-off and precision modulating controls.

Double lip-seal

With increased air pressure, pressure pushes against double lip-seal allowing for greater tightness against housing body. Lip-sealing aligns and provides tightness under pressure.

Stopper bolt to vane contact

Stopper bolt does not impact vane sealing but against stainless steel vane assembly extrusion. The core of the vane-shaft is lightweight. This reduces the vane’s impact to the stopper bolts and prolongs cycle life.



Design features that make your operations easier

Wide temperature range

Modified CR (Neoprene) is the standard material, it is fully bonded to the vane/shaft. EVA is suitable from -40°C to 120°C (-40°F to 248°F), covering everything from low to high temperature applications.

- Air pressure
- Actuator housing
- Grease
- Seal & housing contact

EVA Actuator's Unique Solutions and Benefits

Easytork benefits that improve your SYSTEMS

Ideal for dirty environment & poor instrument air

Environment air never enters actuator. Unlike springs, air reservoir fail-safe systems never pulls in environment air into actuator. While clean instrument air is important, Easytork's rugged vane handles poor air supply significantly better than traditional actuators.

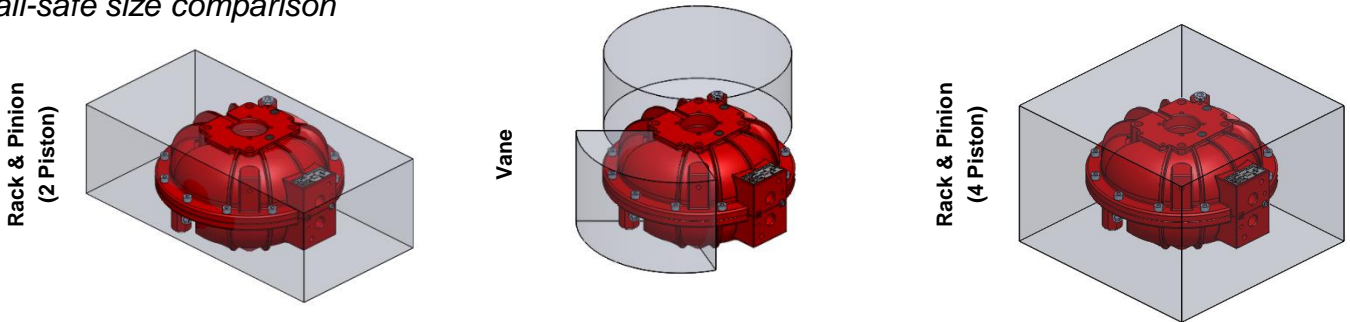


“Mining and milling present some of the harshest environments for automated valves. Instrument air is not guaranteed to be clean, dry and particle free. Environmental air can be of poor quality and laden with contaminants. Easytork actuators thrive in these conditions and have been used extensively in mining on a multitude of applications.”
 – Customer testimonial (first install since 2015)

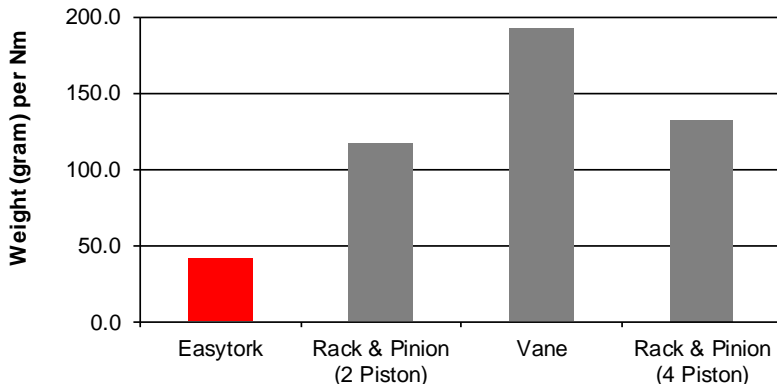
Smallest, lightest and one of the fastest actuator

Spring-return actuators are sized up to compensate for the resistance of the spring, while air reservoir fail-safe actuators do not have to account for spring resistance, as such EVA is the smallest, lightest, and one of the fastest actuator for any fail-safe application. It is also more compact than most actuator used in double-acting applications.

Fail-safe size comparison



Fail-safe weight comparison @ 5.5 BAR (80 PSI)



Automating 12" butterfly valve for fail-safe

49 lb (~22kg) EVA

or

120 lb (~54kg) spring-return rack & pinion

EVA Actuator's Unique Solutions and Benefits

Easytork benefits that improve your OPERATIONS; MRO's best ally

“We have one size mounted to a minimum of seven different valves quite easily, with minimum equipment required. So if you upgrade a plant and you wish to reduce your inventory and variability for your maintenance, you can do this with Easytork.”
 – Customer testimonial

Upgrade your valves and systems hassle-free (regardless of valve brand)

Easytork direct mounts to almost all valve brands, actuator accessories, or existing mounting hardware. With the most flange pattern (accessed by flipping actuator) coupled with adaptable drive insert, Easytork has more mounting combination than any actuator in the market.

<https://vimeo.com/416933488>

Example shown EVA-0717, all combinations are from the same actuator



All combination on right can direct mount with actuator accessories



Sq. (parallel)

F05
F07
F10



Sq. (diamond)

F05
F07
F10



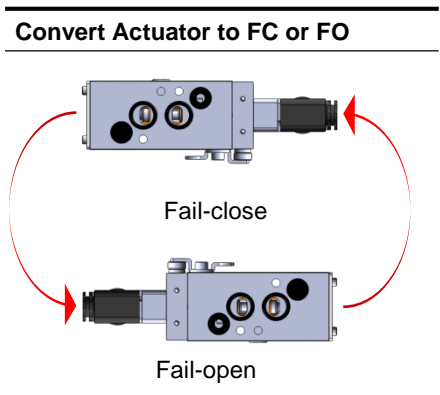
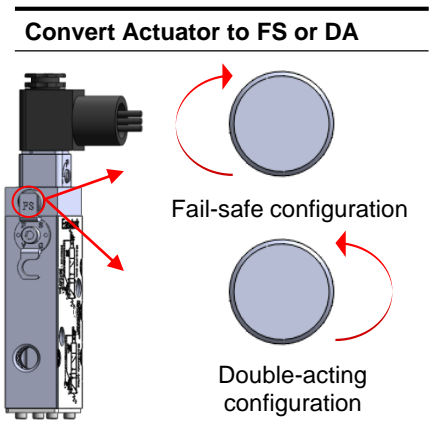
DD

3.25"

Additional flange pattern by flipping actuator (top is now bottom, bottom is now top)

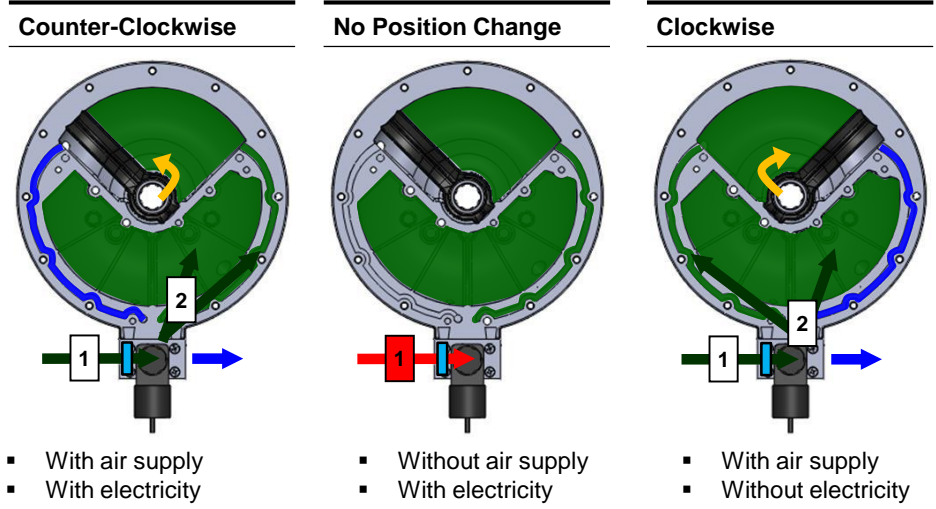
8 total Easytork SKUs for all your valve torque needs (up to a 24" butterfly valve)

1 Easytork SKU replaces at least 67x SKU. Easytork allows for easy conversion between double-acting or fail-safe (open or close).

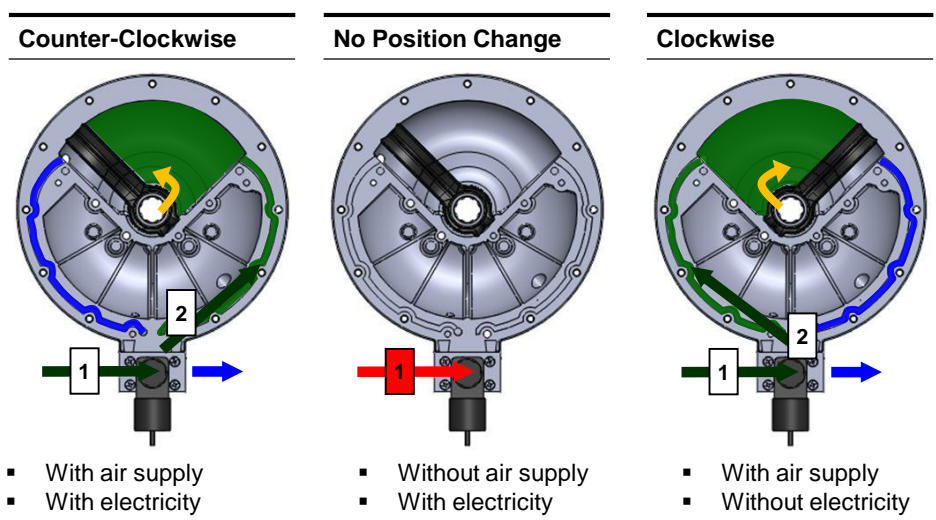


Direct Mounted Solenoid – Air Flow Path Principle

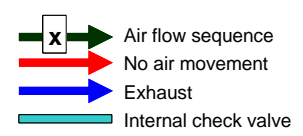
Double-acting with Easytork Solenoid Valve



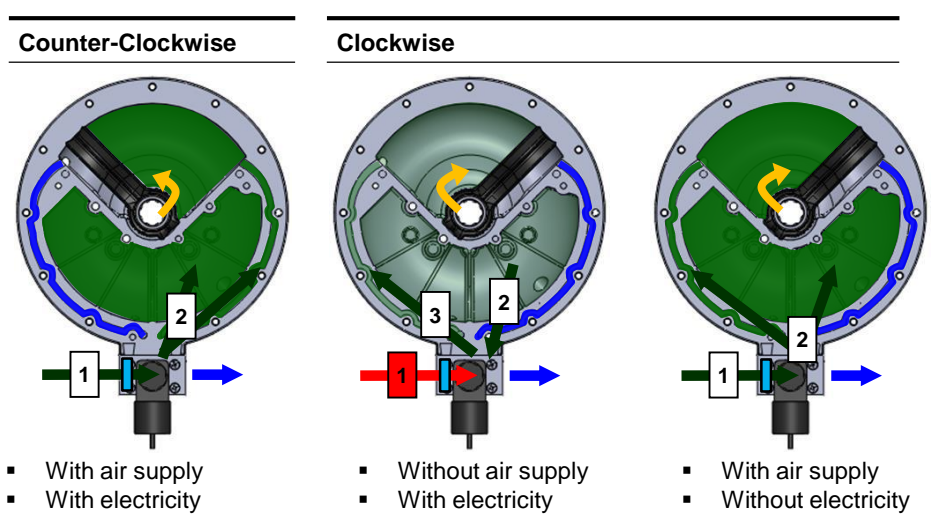
Double-acting with 5/2 solenoid valve



Patents: Air Flow Principle
 USA = 8,573,558
 China = 2701057, 2323461, 2173061
 Taiwan = M412285, M414523, M425196
 PCT Filing = PCT/CN2011/071074, PCT/CN2011/077685
 Other countries pending

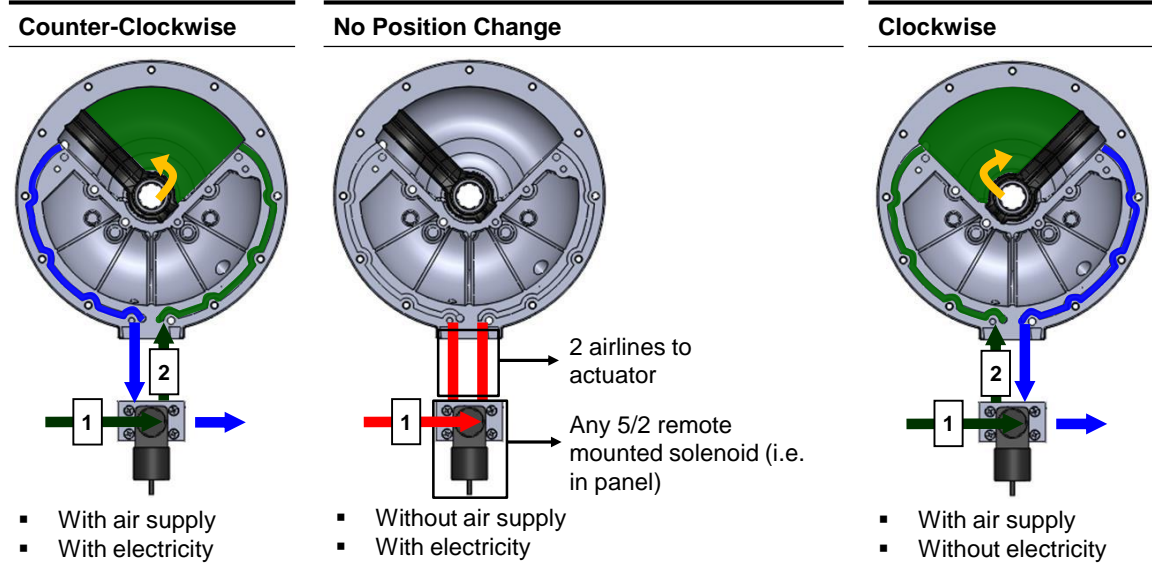


Fail-safe with Easytork Solenoid Valve

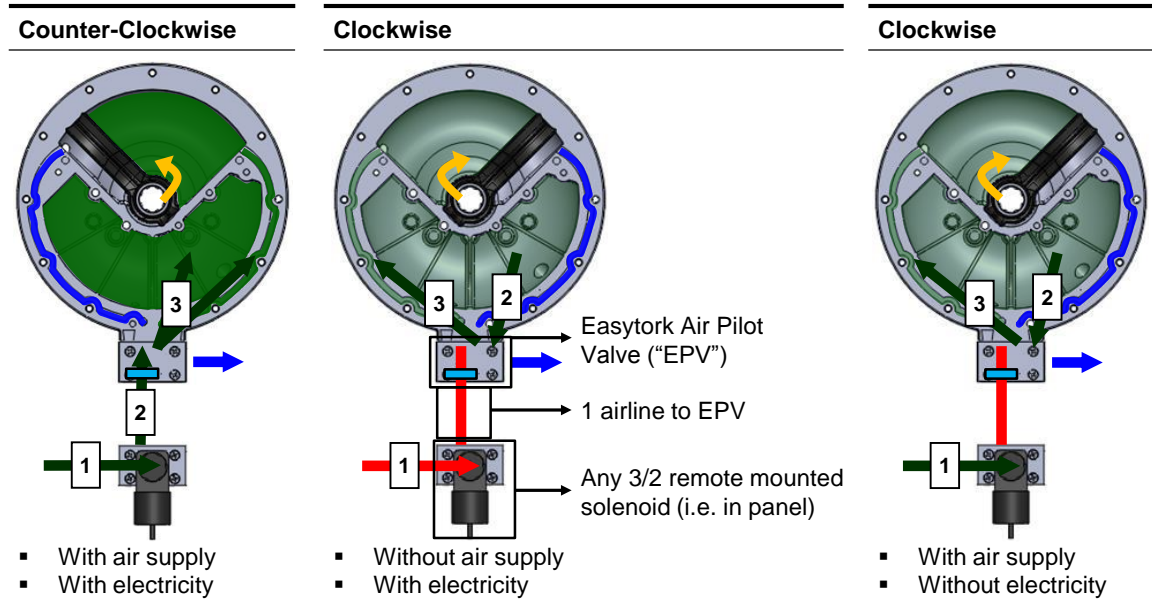


Remote Mounted Solenoid – Air Flow Path Principle

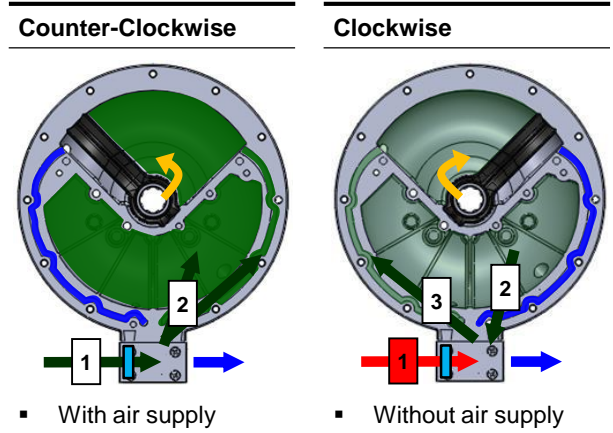
Remote mounted solenoid valve (5/2)



Remote mounted solenoid valve (3/2)



Easytork Air Pilot Valve



Remote mounted setup (spec friendly)

Remote mounted setup allows users to use other brands of solenoid valves, and not just the ESV.

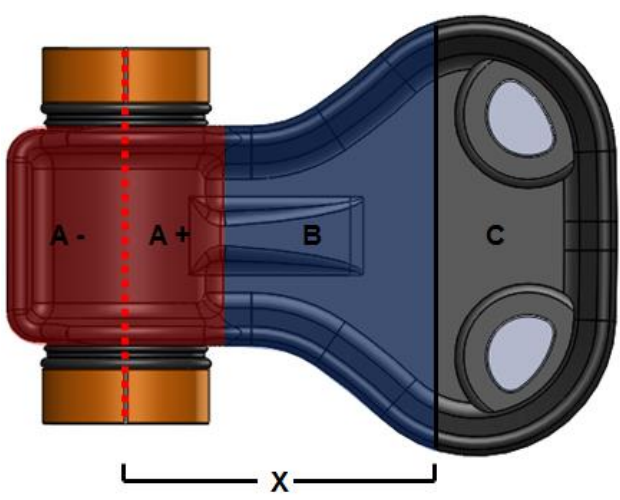
Easytork Air Pilot Valve

- Instead of a solenoid valve, the EVA can be fitted with a 5/2 air pilot valve.
- This setup will allow the EVA to operate only with or without air supply.
- Requires only one main air supply for this setup.

EVA Double-Acting Principle and Sizing

Double-acting principle

Torque is determined by multiplying the applied force by the distance from the pivot point to the point where the force is applied.

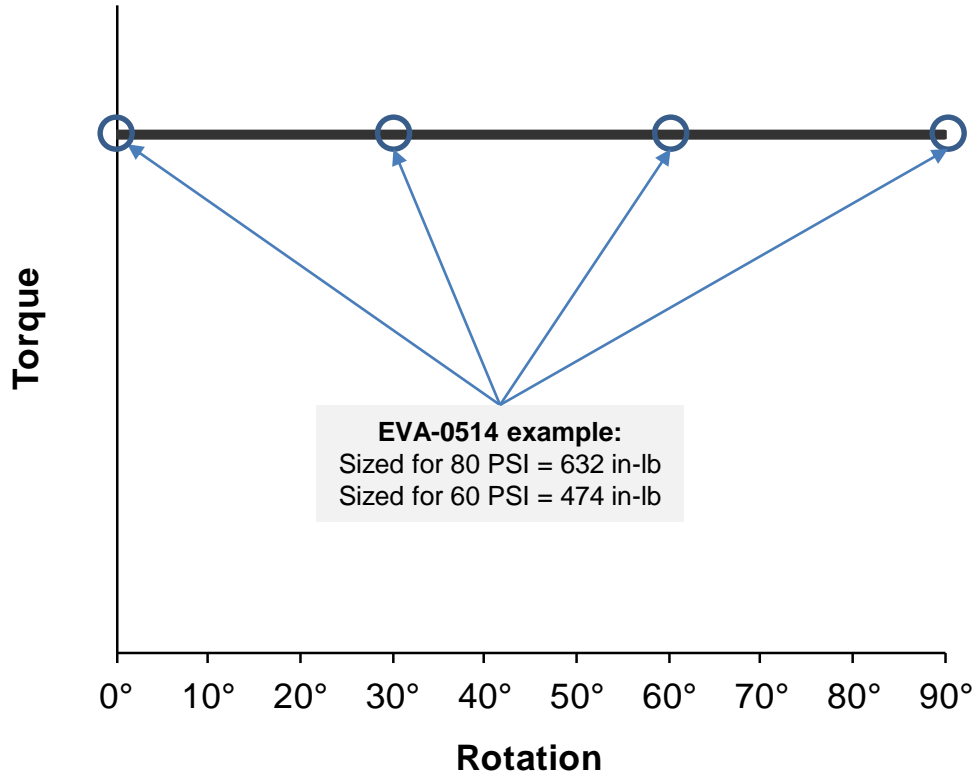


Torque calculation

As Easytork's vane is a pear shape, torque is calculated as such:

- Area A does not generate any force, the positive area is negated by the negative area.
- Area B and C have the same surface area.
- X is the distance from the pivot point to where area B and C are divided.
- Torque = (Force on B + C) * X - force lost for friction.
- X is constant so torque is linear.

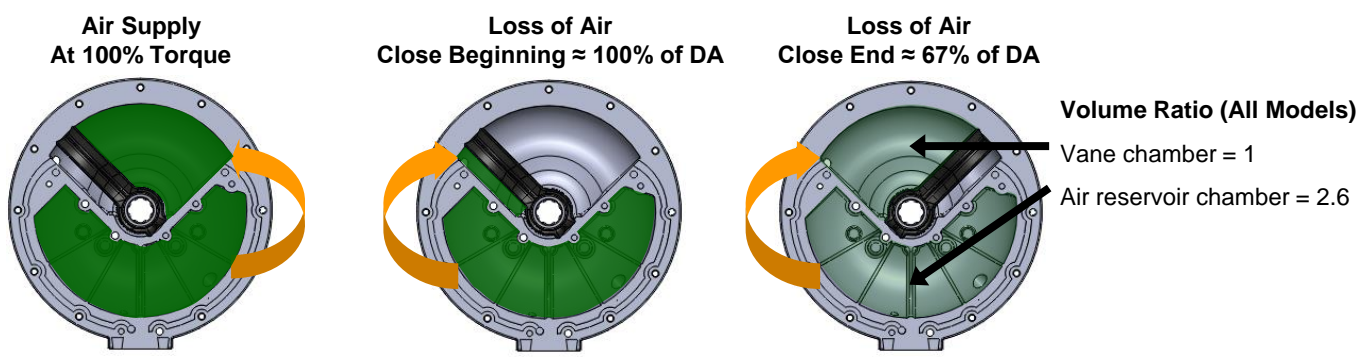
Double-Acting Torque Output



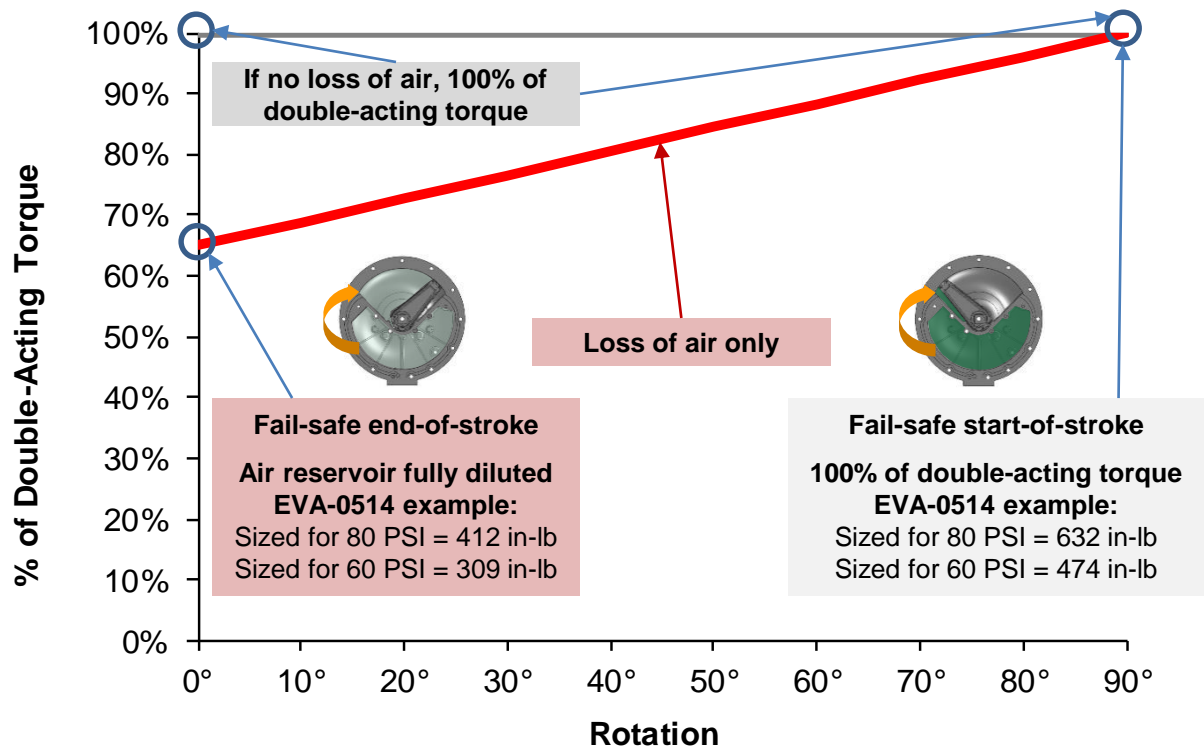
EVA Fail-Safe Principle and Sizing

Fail-safe principle

EVA utilizes an internal air reservoir to assure valve closure. When there is air failure, the pressurized air stored in the air reservoir is released and diluted with the vane chamber. Boyle's Law ($P_2V_2=P_1V_1$) can be used to calculate the end-of-stroke fail-safe torque, where P_1 is the pressure of the air reservoir, V_1 is the volume in the air reservoir, P_2 is the pressure in the vane and reservoir, and V_2 is the volume in the vane and reservoir.



Fail-Safe Torque Output



- EVA - Open / EVA - Close (full air supply, with or without electricity)
- EVA - Close (no air supply)

EVA Torque Output

Metric

Double-Acting (NM)

| Model / BAR | 2.0 | 3.0 | 4.0 | 5.0 | 5.5 | 6.0 | 7.0 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|
| EVA-0411 | 14.0 | 21.1 | 28.1 | 35.1 | 38.6 | 42.1 | 49.2 |
| EVA-0514 | 25.9 | 38.8 | 51.8 | 64.7 | 71.2 | 77.6 | 90.6 |
| EVA-0717 | 55.2 | 82.7 | 110.3 | 137.9 | 151.7 | 165.5 | 193.1 |
| EVA-1022 | 111.5 | 167.2 | 222.9 | 278.7 | 306.6 | 334.4 | 390.2 |
| EVA-1227 | 247.3 | 370.9 | 494.5 | 618.1 | 679.9 | 741.8 | 865.4 |
| EVA-1436 | 431.4 | 647.1 | 862.8 | 1,078.5 | 1,186.4 | 1,294.2 | 1,509.9 |
| EVA-1646 | 948.0 | 1,422.0 | 1,896.0 | 2,370.0 | 2,607.0 | 2,844.0 | 3,318.0 |
| EVA-1646 Tandem | 1,896.0 | 2,844.0 | 3,792.0 | 4,740.0 | 5,214.0 | 5,688.0 | 6,636.0 |

Fail-Safe (Minimum Torque At End-Of-Stroke) (NM)

| Model / BAR | 2.0 | 3.0 | 4.0 | 5.0 | 5.5 | 6.0 | 7.0 |
|-----------------|---------|---------|---------|---------|---------|---------|---------|
| EVA-0411 | 9.0 | 13.5 | 18.0 | 22.5 | 24.7 | 27.0 | 31.5 |
| EVA-0514 | 16.9 | 25.3 | 33.7 | 42.2 | 46.4 | 50.6 | 59.0 |
| EVA-0717 | 36.7 | 55.0 | 73.4 | 91.7 | 100.9 | 110.0 | 128.4 |
| EVA-1022 | 73.8 | 110.7 | 147.5 | 184.4 | 202.9 | 221.3 | 258.2 |
| EVA-1227 | 167.0 | 250.5 | 334.0 | 417.4 | 459.2 | 500.9 | 584.4 |
| EVA-1436 | 291.2 | 436.8 | 582.4 | 728.0 | 800.8 | 873.6 | 1,019.2 |
| EVA-1646 | 635.1 | 952.7 | 1,270.2 | 1,587.8 | 1,746.5 | 1,905.3 | 2,222.9 |
| EVA-1646 Tandem | 1,270.2 | 1,905.3 | 2,540.4 | 3,175.5 | 3,493.1 | 3,810.6 | 4,445.7 |

Imperial

Double-Acting (In-Lb)

| Model / PSI | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| EVA-0411 | 129 | 171 | 214 | 257 | 300 | 343 | 386 | 429 |
| EVA-0514 | 237 | 316 | 395 | 474 | 553 | 632 | 711 | 790 |
| EVA-0717 | 505 | 673 | 842 | 1,010 | 1,178 | 1,347 | 1,515 | 1,683 |
| EVA-1022 | 1,020 | 1,361 | 1,701 | 2,041 | 2,381 | 2,721 | 3,061 | 3,401 |
| EVA-1227 | 2,263 | 3,018 | 3,772 | 4,527 | 5,281 | 6,036 | 6,790 | 7,545 |
| EVA-1436 | 3,949 | 5,265 | 6,582 | 7,898 | 9,215 | 10,531 | 11,847 | 13,164 |
| EVA-1646 | 8,678 | 11,571 | 14,463 | 17,356 | 20,249 | 23,141 | 26,034 | 28,927 |
| EVA-1646 Tandem | 17,356 | 23,141 | 28,927 | 34,712 | 40,498 | 46,283 | 52,068 | 57,854 |

Fail-Safe (Minimum Torque At End-Of-Stroke) (In-Lb)

| Model / PSI | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| EVA-0411 | 82 | 110 | 137 | 165 | 192 | 219 | 247 | 274 |
| EVA-0514 | 154 | 206 | 257 | 309 | 360 | 412 | 463 | 514 |
| EVA-0717 | 336 | 448 | 560 | 672 | 783 | 895 | 1,007 | 1,119 |
| EVA-1022 | 675 | 900 | 1,126 | 1,351 | 1,576 | 1,801 | 2,026 | 2,251 |
| EVA-1227 | 1,529 | 2,038 | 2,548 | 3,057 | 3,567 | 4,076 | 4,586 | 5,095 |
| EVA-1436 | 2,666 | 3,554 | 4,443 | 5,331 | 6,220 | 7,108 | 7,997 | 8,886 |
| EVA-1646 | 5,814 | 7,752 | 9,690 | 11,627 | 13,565 | 15,503 | 17,441 | 19,379 |
| EVA-1646 Tandem | 11,627 | 15,503 | 19,379 | 23,255 | 27,131 | 31,007 | 34,882 | 38,758 |

Note: Published torques are actual output torque values and do not contain safety factor.

EVA Technical Data

| | Note | Unit | Model | | | | | | | |
|---|----------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |
| Weight | | Kg | 1.3 | 1.8 | 2.8 | 5.8 | 10.5 | 22.2 | 39.1 | 75.6 |
| | | Lb | 2.8 | 4.0 | 6.1 | 12.7 | 23.1 | 48.9 | 86.1 | 166.7 |
| Total air volume 90° stroke with dead volume | DA or FS | Litre | 0.075 | 0.150 | 0.300 | 0.600 | 1.200 | 2.400 | 4.800 | 9.600 |
| | CCW or CW | In ³ | 4.6 | 9.2 | 18.3 | 36.6 | 73.2 | 146.5 | 292.9 | 585.8 |
| | DA and FS | Litre | 0.150 | 0.300 | 0.600 | 1.200 | 2.400 | 4.800 | 9.600 | 19.200 |
| | CCW and CW | In ³ | 9.2 | 18.3 | 36.6 | 73.2 | 146.5 | 292.9 | 585.8 | 1171.7 |
| Stroke time | | | | | | | | | | |
| With 1.8 Cv At 5.5 bar or 80 psi No load | DA (open / close) | Sec | 0.14/0.14 | 0.24/0.24 | 0.36/0.36 | 0.45/0.45 | 0.59/0.59 | 0.75/0.75 | 1.34/1.34 | 3.30/3.30 |
| | FS (open / close) | Sec | 0.14/0.17 | 0.24/0.27 | 0.36/0.39 | 0.45/0.47 | 0.59/0.60 | 0.75/0.84 | 1.34/1.47 | 3.30/3.41 |

Technical Specifications

| | |
|------------------------------------|--|
| Travel adjustment | Standard stopper: 80° - 100° Extended stopper: 50° - 100° |
| Temperature range | Modified CR Neoprene(standard temp): -40°C to 120°C (-40°F to 248°F) |
| Pressure rating | 2 - 10 bar (30 - 150 psi) |
| Operating medium (standard) | Must use inert gases |

Mounting Specifications

| | |
|--------------------------|--|
| Actuator to valve | Mounting standard per EN ISO5211 (DIN3337 optional) and traditional mounting |
| Drive components | Parallel or diagonal square head per EN ISO5211 |
| Accessories | NAMUR VDI/VDE 3845 |

Standard and Specifications Complied

| | |
|---------------------------|---|
| ISO 5211:2001 (E) | Industrial valves – part-turn actuator attachments |
| Namur VDI/VDE 3845 | Interface between valves, actuators and auxiliary equipments |
| CEN/TC 69 | Basic requirements for pneumatic part-turn actuators on industrial valves |
| CE Marking | Machinery Directive 2006/42/EC |
| MESC SPE 77/211 | Valve stem and stem adaptor dimensions and bracket drilling patterns for actuated quarter-turn valves |
| ANSI/AWWA C541-08 | Hydraulic and pneumatic cylinders and vane-type actuators for valves and slide gates |

EVA Valve Interface Dimensions

EVA Valve and Auxiliary Interface Summary

| Actuator Size | Valve Mounting | | | | | | | | | | | Auxiliary Mounting | | | | | |
|-------------------|-----------------------|-----|-----|---------|-----|-----|-----|-----|-------|--------------|-------|--------------------|-------------|----------------|--------|---|---|
| | Flange Type Available | | | | | | | | | Drive Insert | | Shafts | | VD/IDE 3845 | NAMUR | | |
| | ISO | | | Non ISO | | | | | | Standard | Other | Direct | Semi-Direct | | | | |
| F03 | F04 | F05 | F07 | F10 | F12 | F14 | F16 | F25 | 3.25" | 5.00" | 6.50" | Issuance | Other | Direct | Direct | | |
| EVA-0309 | √ | √ | √ | | | | | | | | | 9mm sq | √ | √ | √ | √ | √ |
| EVA-0411 | √ | √ | √ | √ | | | | | | | | 11mm sq | √ | √ | √ | √ | √ |
| EVA-0514 | | √ | √ | √ | | | | | √ | | | 14mm sq | √ | √ | √ | √ | √ |
| EVA-0717 | | | √ | √ | √ | | | | √ | | | 17mm sq | √ | √ | √ | √ | √ |
| EVA-1022 | | | | √ | √ | √ | | | √ | √ | | 22mm sq | √ | √ | √ | √ | √ |
| EVA-1227 (Imp) | | | | | √ | √ | | √ | √ | √ | | 27mm sq | √ | √ | √ | √ | √ |
| EVA-1227 (Metric) | | | | | √ | √ | √ | √ | √ | √ | | 27mm sq | √ | √ | √ | √ | √ |
| EVA-1436 (Imp) | | | | | | √ | | √ | | √ | √ | 36mm sq | √ | √ | √ | √ | √ |
| EVA-1436 (Metric) | | | | | | √ | √ | √ | | √ | √ | 36mm sq | √ | √ | √ | √ | √ |
| EVA-1646 | | | | | | | √ | √ | | | √ | Blank | √ | √ | √ | √ | √ |

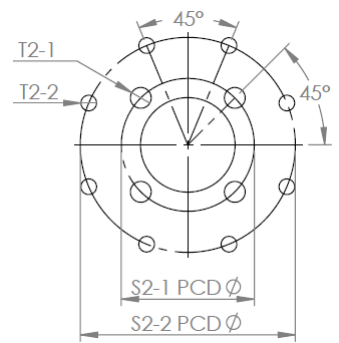
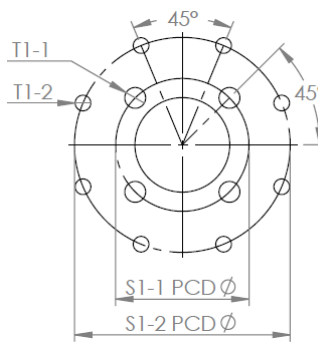
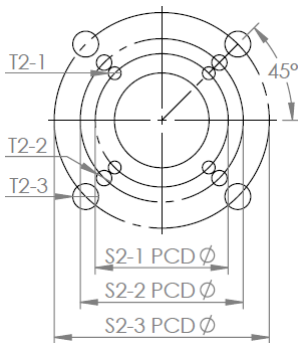
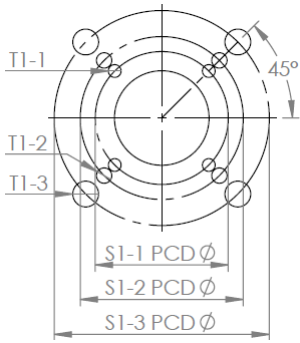
Flange Type (ISO Compliant and Traditional Mounting Available)

EVA-0309 to 1436 bottom side

EVA-0309 to 1436 top side

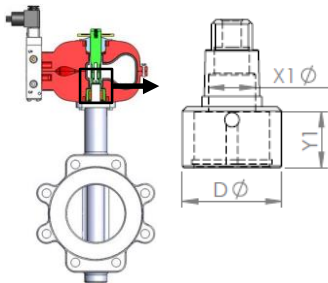
EVA-1646 bottom side

EVA-1646 top side

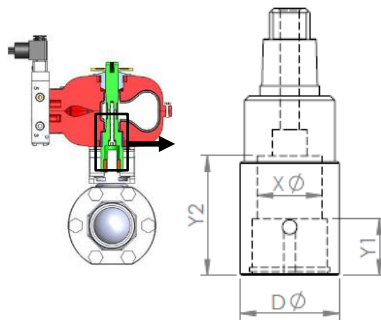


Shafts (Shafts Can Be Indexed Every 45°)

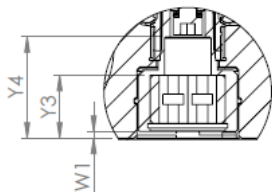
Direct mount shaft



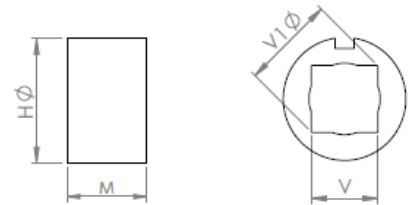
Semi-direct mount shaft



Direct mount shaft in EVA
(Available space for valve stem)



Standard Issuance Drive Insert Square Head (ISO5211 Compliant)



Custom Insert (Max Size Allowed)



Note: If X1 Ø is wide enough for valve stem's max dia., Y4 is max valve stem depth. If not, use Y3.

EVA Valve Interface Dimensions

Note: Individual model specs downloadable online

(Imperial)

| Dimensions (inch) | Model | | | | | | | |
|--|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|-------------------------|-------------------------|--------------------------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |
| Flange Type Available (ISO5211 Compliant) | | | | | | | | |
| S1-1 PCD Ø | 1.42 / F03 | 1.42 / F03 | 1.97 / F05 | 1.97 / F05 | 2.76 / F07 | 4.02 / F10 | 4.92 / F12 | 6.50 / F16 |
| S1-2 PCD Ø | 1.97 / F05 | 1.97 / F05 | 2.76 / F07 | 2.76 / F07 | 4.02 / F10 | 4.92 / F12 | 6.50 / F16 | 10.0 / F25 |
| S1-3 PCD Ø | - | 2.76 / F07 | - | 4.02 / F10 | 4.92 / F12 | 6.50 / F16 | - | - |
| S2-1 PCD Ø | 1.65 / F04 | 1.65 / F04 | 1.65 / F04 | 3.25 | 3.25 | 3.25 | 5.00 | 6.50 / F16 |
| S2-2 PCD Ø | - | - | 3.25 | - | 5.00 | 5.00 | 6.50 / F16 | 10.0 / F25 |
| S2-3 PCD Ø | - | - | - | - | - | 6.50 / F16 | - | - |
| T1-1 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x1/4-20UNC Deep 0.35 | 4x1/4-20UNC Deep 0.35 | 4x5/16-18UNC Deep 0.47 | 4x3/8-16UNC Deep0.59 | 4x1/2-13UNC Deep0.71 | 4x3/4-10UNC Deep 1.18 |
| T1-2 | 4x1/4-20UNC Deep 0.35 | 4x1/4-20UNC Deep 0.35 | 4x5/16-18UNC Deep 0.47 | 4x5/16-18UNC Deep 0.47 | 4x3/8-16UNC Deep 0.59 | 4x1/2-13UNC Deep0.71 | 4x3/4-10UNC Deep1.18 | 8x5/8-11UNC Deep 0.94 |
| T1-3 | - | 4x5/16-18UNC Deep 0.47 | - | 4x3/8-16UNC Deep 0.59 | 4x1/2-13UNC Deep 0.71 | 4x3/4-10UNC Deep1.18 | - | - |
| T2-1 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x3/8-16UNC Deep 0.59 | 4x3/8-16UNC Deep 0.59 | 4x3/8-16UNC Deep0.59 | 4x1/2-13UNC Deep0.71 | 4x3/4-10UNC Deep 1.18 |
| T2-2 | - | - | 4x3/8-16UNC Deep 0.59 | - | 4x1/2-13UNC Deep 0.71 | 4x1/2-13UNC Deep0.71 | 4x3/4-10UNC Deep1.18 | 8x5/8-11UNC Deep 0.94 |
| T2-3 | - | - | - | - | - | 4x3/4-10UNC Deep1.18 | - | - |
| Standard Issued Drive Insert (V measurements reflect valve stem. Inserts subsequently made with appropriate tolerance for valve stem interface) | | | | | | | | |
| V | 0.35 | 0.43 | 0.55 | 0.67 | 0.87 | 1.06 | 1.42 | Blank |
| V1 Ø | 0.48 | 0.56 | 0.77 | 0.94 | 1.21 | 1.46 | 1.93 | Blank |
| H Ø | 0.69 | 0.87 | 1.02 | 1.28 | 1.73 | 2.36 | 3.07 | 3.74 |
| M | 0.39 | 0.55 | 0.65 | 0.83 | 1.02 | 1.34 | 1.71 | 2.19 |
| Shaft | | | | | | | | |
| Y1 | 0.47 | 0.63 | 0.75 | 0.94 | 1.16 | 1.50 | 1.89 | 2.46 |
| D Ø | 0.89 | 1.06 | 1.34 | 1.59 | 2.14 | 2.81 | 3.62 | 4.72 |
| Direct Mount Shaft | | | | | | | | |
| X1 Ø | 0.41 | 0.51 | 0.63 | 0.83 | 1.13 | 1.40 | 1.69 | 2.26 |
| Y3 | 0.52 | 0.71 | 0.84 | 1.05 | 1.26 | 1.61 | 2.05 | 2.64 |
| Y4 | 0.82 | 1.04 | 1.35 | 1.68 | 2.07 | 3.06 | 3.50 | 4.29 |
| W1 | 0.05 | 0.08 | 0.09 | 0.10 | 0.10 | 0.11 | 0.16 | 0.18 |
| Semi-Direct Mount Shaft | | | | | | | | |
| G | 1.00 | 1.00 | 1.50 | 1.50 | 1.75 | 1.75 | 2.00 | 3.00 |
| X Ø | 0.56 | 0.71 | 0.87 | 1.11 | 1.42 | 2.05 | 2.68 | C/F |
| Y2 | 1.08 | 1.31 | 1.59 | 2.22 | 2.36 | 2.56 | 2.76 | C/F |
| Custom Drive Insert (Maximum dimension on insert allowed) | | | | | | | | |
| MAX.X Ø | 0.56 | 0.71 | 0.87 | 1.11 | 1.42 | 2.05 | 2.68 | 3.07 |

EVA Valve Interface Dimensions

Note: Individual model specs downloadable online

(Metric)

| Dimensions (mm) | Model | | | | | | | |
|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |

Flange Type Available (ISO5211 Compliant)

| | | | | | | | | |
|-------------------|----------------------|------------------------|------------------------|------------------------|-------------------------|-------------------------|-------------------------|------------------------|
| S1-1 PCD Ø | 36.0 / F03 | 36.0 / F03 | 50.0 / F05 | 50.0 / F05 | 70.0 / F07 | 125.0 / F12 | 140.0 / F14 | 165.0 / F16 |
| S1-2 PCD Ø | 50.0 / F05 | 50.0 / F05 | 70.0 / F07 | 70.0 / F07 | 102.0 / F10 | 165.0 / F16 | - | 254.0 / F25 |
| S1-3 PCD Ø | - | 70.0 / F07 | - | 102.0 / F10 | 125.0 / F12 | - | - | - |
| S2-1 PCD Ø | 42.0 / F04 | 42.0 / F04 | 42.0 / F04 | 82.6 | 82.6 | 102.0 / F10 | 125.0 / F12 | 165.0 / F16 |
| S2-2 PCD Ø | - | - | 82.6 | - | 127.0 | 140.0 / F14 | 165.0 / F16 | 254.0 / F25 |
| S2-3 PCD Ø | | | | | | | | |
| T1-1 | 4-M5x0.8 Deep 8.0 | 4-M5x0.8 Deep 8.0 | 4-M6x1.0 Deep 9.0 | 4-M6x1.0 Deep 9.0 | 4-M8x1.25 Deep 12.0 | 4-M12x1.75 Deep 18.0 | 4-M16x2.0 Deep 24.0 | 4-M20x2.5 Deep 30.0 |
| T1-2 | 4-M6x1.0 Deep 9.0 | 4-M6x1.0 Deep 9.0 | 4-M8x1.25 Deep 12.0 | 4-M8x1.25 Deep 12.0 | 4-M10x1.5 Deep 15.0 | 4-M20x2.5 Deep 30.0 | - | 8-M16x2 Deep 24.0 |
| T1-3 | - | 4-M8x1.25 Deep 12.0 | - | 4-M10x1.5 Deep 15.0 | 4-M12x1.75 Deep 18.0 | - | - | - |
| T2-1 | 4-M5x0.8 Deep 8.0 | 4-M5x0.8 Deep 8.0 | 4-M5x0.8 Deep 8.0 | 4-M10x1.5 Deep 15.0 | 4-M10x1.5 Deep 15.0 | 4-M10x1.5 Deep 15.0 | 4-M12x1.75 Deep 18.0 | 4-M20x2.5 Deep 30.0 |
| T2-2 | - | - | 4-M10x1.5 Deep 15.0 | - | 4-M12x1.75 Deep 18.0 | 4-M16x2.0 Deep 24.0 | 4-M20x2.5 Deep 30.0 | 8-M16x2 Deep 24.0 |
| T2-3 | - | - | - | - | - | - | - | - |

Standard Issued Drive Insert (V measurements reflect valve stem. Inserts subsequently made with appropriate tolerance for valve stem interface)

| | | | | | | | | |
|-------------|------|------|------|------|------|------|------|-------|
| V | 9.0 | 11.0 | 14.0 | 17.0 | 22.0 | 27.0 | 36.0 | Blank |
| V1 Ø | 12.2 | 14.3 | 19.7 | 23.9 | 30.8 | 37.1 | 49.1 | Blank |
| H Ø | 17.5 | 22.0 | 25.8 | 32.5 | 44.0 | 60.0 | 78.0 | 95.0 |
| M | 10.0 | 14.0 | 16.5 | 21.0 | 26.0 | 34.0 | 43.5 | 55.5 |

Shaft

| | | | | | | | | |
|------------|------|------|------|------|------|------|------|-------|
| Y1 | 12.0 | 16.0 | 19.0 | 24.0 | 29.5 | 38.0 | 48.0 | 62.5 |
| D Ø | 22.5 | 27.0 | 34.0 | 40.5 | 54.3 | 71.5 | 92.0 | 119.9 |

Direct Mount Shaft

| | | | | | | | | |
|-------------|------|------|------|------|------|------|------|-------|
| X1 Ø | 10.5 | 13.0 | 16.0 | 21.0 | 28.7 | 35.5 | 43.0 | 57.5 |
| Y3 | 13.3 | 18.0 | 21.3 | 26.6 | 32.0 | 40.8 | 52.0 | 67.0 |
| Y4 | 20.8 | 26.5 | 34.3 | 42.6 | 52.5 | 77.8 | 89.0 | 109.0 |
| W1 | 1.3 | 2.0 | 2.3 | 2.6 | 2.5 | 2.8 | 4.0 | 4.5 |

Semi-Direct Mount Shaft

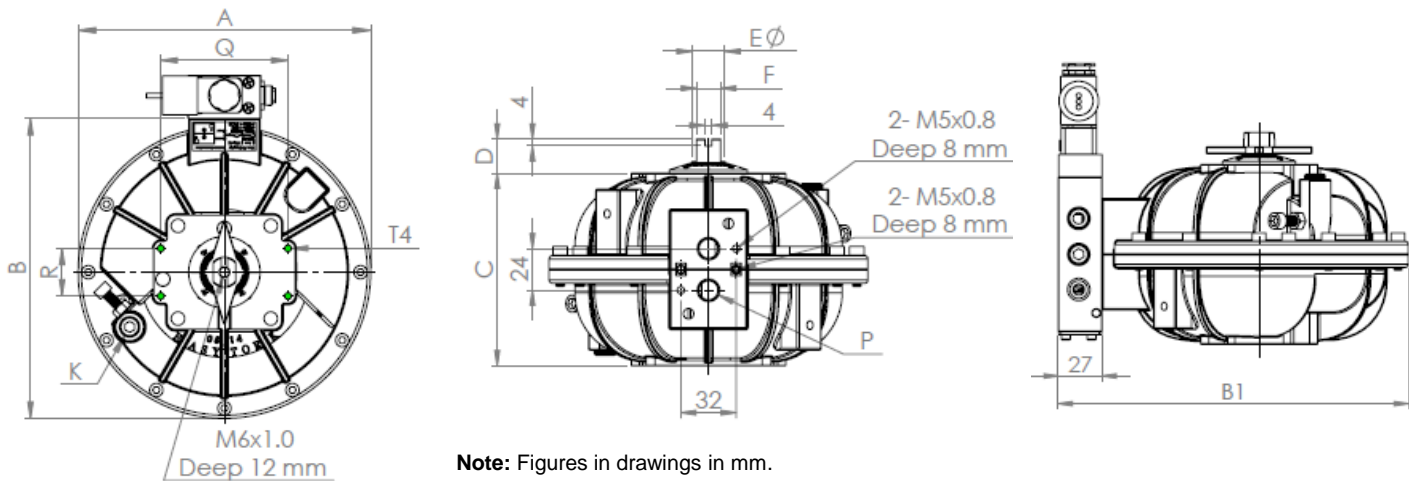
| | | | | | | | | |
|------------|------|------|------|------|------|------|------|------|
| G | 25.4 | 25.4 | 38.1 | 38.1 | 44.5 | 44.5 | 50.8 | 76.2 |
| X Ø | 14.1 | 18.1 | 22.1 | 28.1 | 36.1 | 52.0 | 68.0 | C/F |
| Y2 | 27.5 | 33.4 | 40.4 | 56.5 | 60.0 | 65.0 | 70.0 | C/F |

Custom Drive Insert (Maximum dimension on insert allowed)

| | | | | | | | | |
|----------------|------|------|------|------|------|------|------|------|
| MAX.X Ø | 14.1 | 18.1 | 22.1 | 28.1 | 36.1 | 52.0 | 68.0 | 78.0 |
|----------------|------|------|------|------|------|------|------|------|

EVA and Auxiliary Interface Dimensions

Note: Individual model specs downloadable online



Note: Figures in drawings in mm.

Imperial

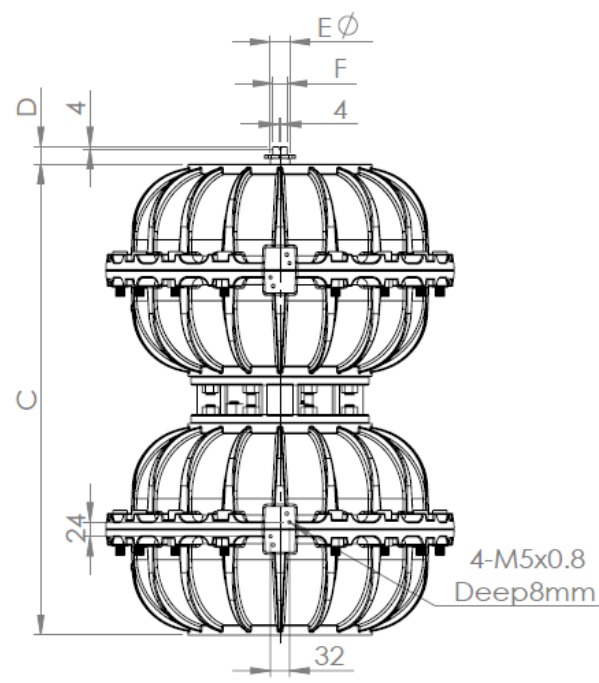
| Dimensions (inch) | Model | | | | | | | |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |
| Actuator Dimensions | | | | | | | | |
| A | 5.00 | 6.02 | 7.24 | 9.41 | 11.61 | 15.20 | 18.50 | 23.03 |
| B | 5.20 | 6.22 | 7.44 | 9.61 | 11.81 | 15.31 | 18.70 | 23.21 |
| B1 | 6.26 | 7.28 | 8.50 | 10.67 | 12.87 | 16.38 | 19.76 | 24.27 |
| C | 3.03 | 3.62 | 4.41 | 5.71 | 7.17 | 9.37 | 11.26 | 14.08 |
| F | 0.55 | 0.55 | 0.55 | 0.55 | 0.94 | 0.94 | 0.94 | 0.94 |
| E Ø | 0.75 | 0.75 | 0.75 | 0.75 | 1.30 | 1.30 | 1.30 | 1.30 |
| P | 1/8-27NPT | 1/8-27NPT | 1/4-18NPT | 1/4-18NPT | 1/4-18NPT | 1/4-18NPT | 1/4-18NPT | |
| K | | | 1/4-18NPT | 1/4-18NPT | 1/4-18NPT | 3/8-18NPT | 3/8-18NPT | 3/8-18NPT |
| Standard Stop Bolt & Nut | M5x25mm | M5x30mm | M6x35mm | M8x45mm | M8x50mm | M12x60mm | M12x70mm | M16x100mm |
| Actuator Dimensions of Accessories Flange | | | | | | | | |
| D | 0.79 | 0.79 | 0.79 | 0.79 | 1.18 | 1.18 | 1.18 | 1.18 |
| R | 0.98 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 |
| Q | 1.97 | 3.15 | 3.15 | 3.15 | 3.15 | 5.12 | 5.12 | 5.12 |
| T4 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 | 4x10-24UNC Deep 0.31 |

Metric

| Dimensions (mm) | Model | | | | | | | |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |
| Actuator Dimensions | | | | | | | | |
| A | 127 | 153 | 184 | 239 | 295 | 386 | 470 | 585 |
| B | 132 | 158 | 189 | 244 | 300 | 389 | 475 | 590 |
| B1 | 159 | 185 | 216 | 271 | 327 | 416 | 502 | 617 |
| C | 77 | 92 | 112 | 145 | 182 | 238 | 286 | 358 |
| F | 14 | 14 | 14 | 14 | 24 | 24 | 24 | 24 |
| E Ø | 19 | 19 | 19 | 19 | 33 | 33 | 33 | 33 |
| P | 1/8-28 BSPP | 1/8-28 BSPP | 1/4-19 BSPP | 1/4-19 BSPP | 1/4-19 BSPP | 1/4-19 BSPP | 1/4-19 BSPP | |
| K | | | 1/4-19 BSPP | 1/4-19 BSPP | 1/4-19 BSPP | 3/8-19 BSPP | 3/8-19 BSPP | 3/8-19 BSPP |
| Standard Stop Bolt & Nut | M5x25mm | M5x30mm | M6x35mm | M8x45mm | M8x50mm | M12x60mm | M12x70mm | M16x100mm |
| Actuator Dimensions of Accessories Flange | | | | | | | | |
| D | 20 | 20 | 20 | 20 | 30 | 30 | 30 | 30 |
| R | 25 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Q | 50 | 80 | 80 | 80 | 80 | 130 | 130 | 130 |
| T4 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 | 4-M5x0.8 Deep 8 |

Dual-stack

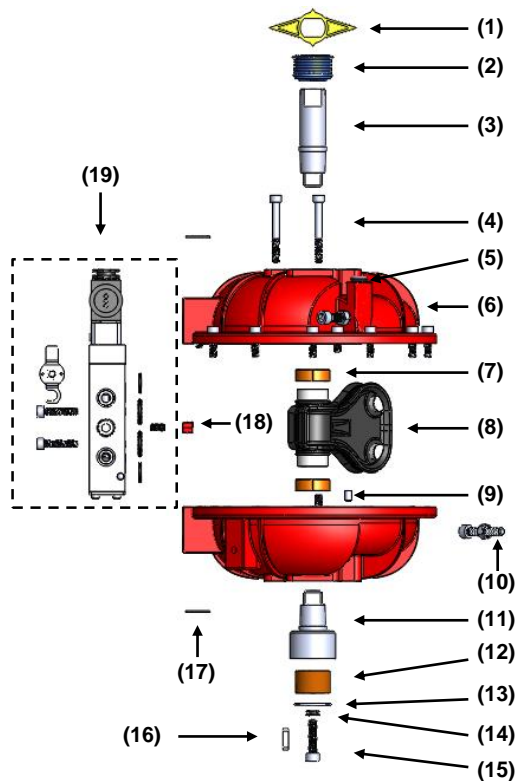
EVAs can be dual-stacked to achieve increased torque output.



Note: Figures in drawings in mm.

| | | Model | |
|--|---------------------|-------------------------|--|
| Dimensions | EVA-1646 Dual-Stack | | |
| Actuator Dimensions | Metric (mm) | Imperial (inch) | |
| A | 587 | 23.12 | |
| B | 592 | 23.31 | |
| B1 | 619 | 24.37 | |
| C | 803 | 31.62 | |
| F | 24 | 0.94 | |
| E Ø | 33 | 1.30 | |
| P | - | | |
| K | 3/8-19 BSPP | 3/8-18NPT | |
| Standard Stop Bolt & Nut | M16x100mm | M16x100mm | |
| Actuator Dimensions of Accessories Flange | | | |
| D | 30 | 1.18 | |
| R | 30 | 1.18 | |
| Q | 130 | 5.12 | |
| T4 | 4-M5x0.8 Deep 8 | 4x10-24UNC Deep 0.31 | |

EVA Bill of Material



| Ref No | Description | Standard Version | Chemical Version | Quantity |
|--------|------------------------------------|--|--|----------|
| 1 | Yellow position & degree indicator | NBR | NBR | 1 |
| 2 | Blue graduated ring | NBR | NBR | 1 |
| 3 | Upper shaft | Nickel-plated steel | Stainless steel | 1 |
| 4 | Connecting bolt & nut | Stainless steel | Stainless steel | 1 lot |
| 5 | Plug | Nickel-plated steel | Stainless steel | 1 lot |
| 6 | Housing | Aluminum A383 / epoxy external & internal finish | Aluminum A383 / Xylan external finish | 2 |
| 7 | Vane / shaft bearing | PTFE lined steel baked bronze bushing | PTFE lined steel baked bronze bushing | 2 |
| 8 | Vane / shaft assembly* | Stainless Steel or NPS bonded with modified CR | Stainless Steel or NPS bonded with modified CR | 1 |
| 9 | Location pin | Mild steel | Mild steel | 2 |
| 10 | Stopper bolt and nut set | Stainless steel | Stainless steel | 2 |
| 11 | Lower shaft | Nickel-plated steel | Stainless steel | 1 |
| 12 | Drive insert lower | Nickel-plated steel | Stainless steel | 1 |
| 13 | Drive insert circlip | Stainless steel | Stainless steel | 1 |
| 14 | Belleville washer | High tensile steel | High tensile steel | 2 |
| 15 | Shaft connect bolt | Stainless steel | Stainless steel | 1 |
| 16 | Drive insert key | Keysteel | Keysteel | 1 |
| 17 | Tag plate* | Stainless steel | Stainless steel | 1 |
| 18 | Locator insert* | Plastic | Plastic | 2 |
| 19 | Main solenoid valve | (See ESV for details) | (See ESV for details) | 1 |

* Items marked with an asterisk are included in repair kit.

Ordering Codes

Easytork Vane Actuator

| Prefix | Product Type | Model Number | Actuator Attributes | | | Valve Interface Installed With Actuator | | |
|---------------------|--------------|--|--------------------------|--|--|---|-------------------------------------|--------------------------------------|
| | | | Thread | EVA Material (Corrosion Rating) | Seal (Temp. Rating) | Lower Shaft Type | Drive Insert Type | Drive Insert Size |
| C | A | X | X | X | X | X | X | X |
| C: Complete product | A: Actuator | 1: EVA-0309 2: EVA-0411 3: EVA-0514 4: EVA-0717 5: EVA-1022 6: EVA-1227 7: EVA-1436 8: EVA-1646 1T - 8T: Corresponding actuator's tandem version 1W - 8W: Corresponding actuator, propelled with water instead of pressurized air | 1: Imperial 2: Metric | 1: Standard version 2: Chemical resistant version | 1: CR for all temp rating (-40°C to 120°C or -40°F to 248°F) | 1: Direct mount (standard issuance) 2: Semi-direct mount | 1: Square drive (standard issuance) | 1: Standard size (standard issuance) |

About

We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan Product Innovation Award

Global Headquarters

2505 Metro Blvd, Suite A / B
 Maryland Heights, MO 63043
 USA

Main Tel: +1-314-266-6880

info@easytork.com
 www.easytork.com

Solenoid Valve ESV Series



Engineered for
actuators with
onboard reservoirs

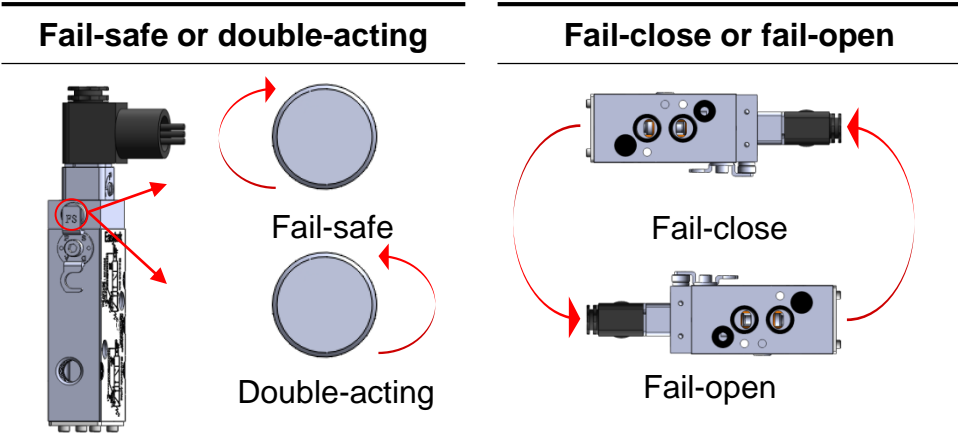
Easytork Solenoid Valve (“ESV”)

ESV is Easytork’s NAMUR compliant solenoid valve to allow users to easily integrate air reservoir fail-safe systems. ESV complies with almost all any electrical specification requirement and is a 5/2 design valve (four-way, two-position).

ESV benefits that improve your OPERATIONS

ESV + Easytork actuator reduces your SKU by a factor of 67x

A singular ESV alters the function of an Easytork actuator between double-acting or fail-safe (open or close). In addition, all coil and conduit types are modular to the ESV.



ESV benefits that improve your SYSTEMS

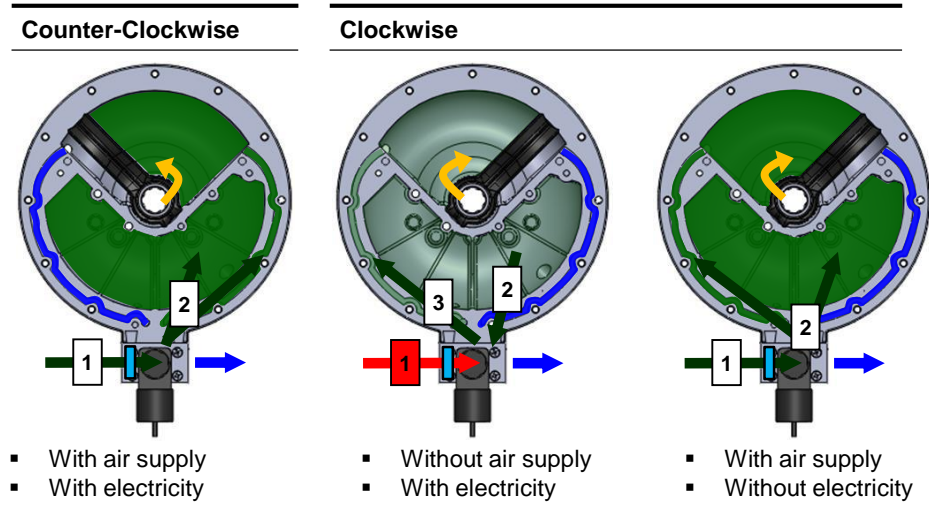
Specification friendly

Compliant with nearly all electrical specification and conduit requirement. NEMA 4, Ex-Proof and ATEX EX from ¼” NPT conduit to strain relief among many other options are available.

Ideal for corrosive / dirty environment

In fail-safe, environment air never enters the ESV through vacuum which is associated with other spring-return actuators. As seen on the right, coupled with the Easytork actuator, the system is always pushing instrument air out as the system has no spring to pull environment air in.

Fail-Safe with ESV + Easytork Actuator



Easytork Solenoid Valve ("ESV")

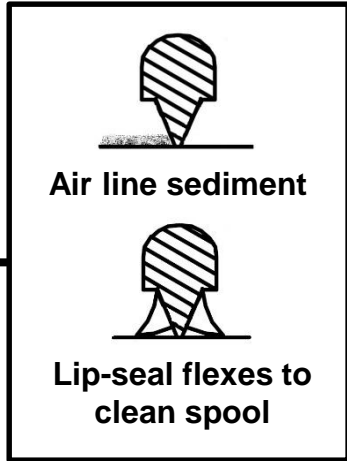
Design features that further reduce maintenance

Improved resistance against poor instrument air

Dynamic sealing does not rely on O-rings. Instead, ESV utilizes bi-directional tapered lip-seal that wipes air line sediment and keeps spool surface clean. A high CV 1750l/min (Cv=1.8) further helps remove sediments.

This design also eliminates sticking problems and avoids spiral twist associated with O-rings.

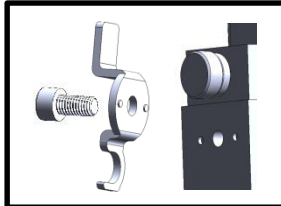
ESV Spool



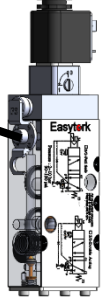
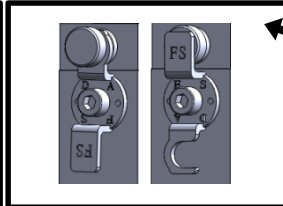
Anti-tampering device

ESV design incorporates a lock to prevent third parties from accidentally changing the intended ESV's functionality.

Anti-tamper device



DA FS



ESV reduces costs associated with utilizing air reservoir



Easy air reservoir integration

Traditional actuators with air reservoirs require costly external piping and pilot valves that ultimately make it more costly than spring-return actuators. ESV removes the need for external piping or pilot valves, resulting system in most instances to be more economical than spring-return actuators.

| | |
|-----------------|---|
| Patents: | |
| USA | US9,546,737B1 |
| Taiwan | M514532, M515055, M425965 |
| China | ZL2015 2 0641475.9.7 ZL2015 2 0872022.7 2264921 |

Coil Options

Standard, Ex-Proof and ATEX EX coils utilize the same ESV body, so coils are interchangeable.

Standard Series



Same ESV body for standard, Ex-Proof, and ATEX EX coil.

Ex-Proof Series



Same ESV body for standard, Ex-Proof, and ATEX EX coil.

ATEX EX Series



Same ESV body for standard, Ex-Proof, and ATEX EX coil.

Intrinsically-Safe Series



I/S ESV body only good for I/S coil.

Low Temperature Series



Low temp. ESV body only good for low temp. coil.

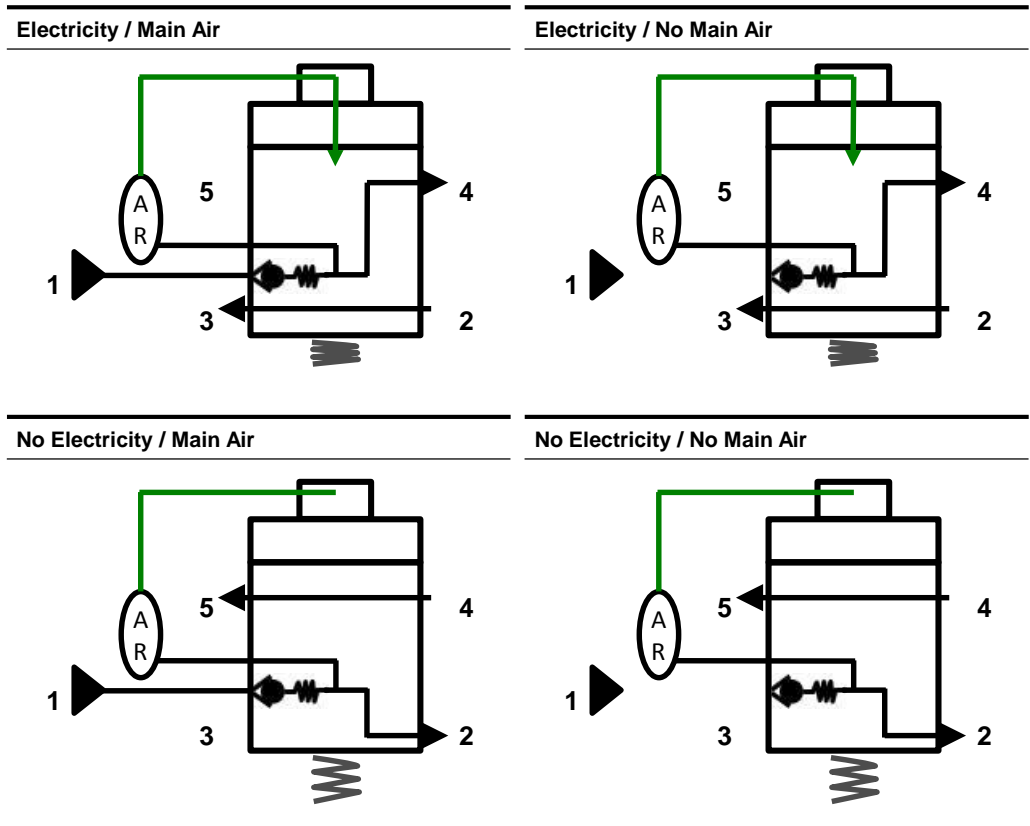
Low Power Series



Low power ESV body only good for low power coil.

Easytork Solenoid Valve Operation

Double-acting principle



ESV Internal Air Pilot



ESV Spool Chamber



EVA Air Reservoir



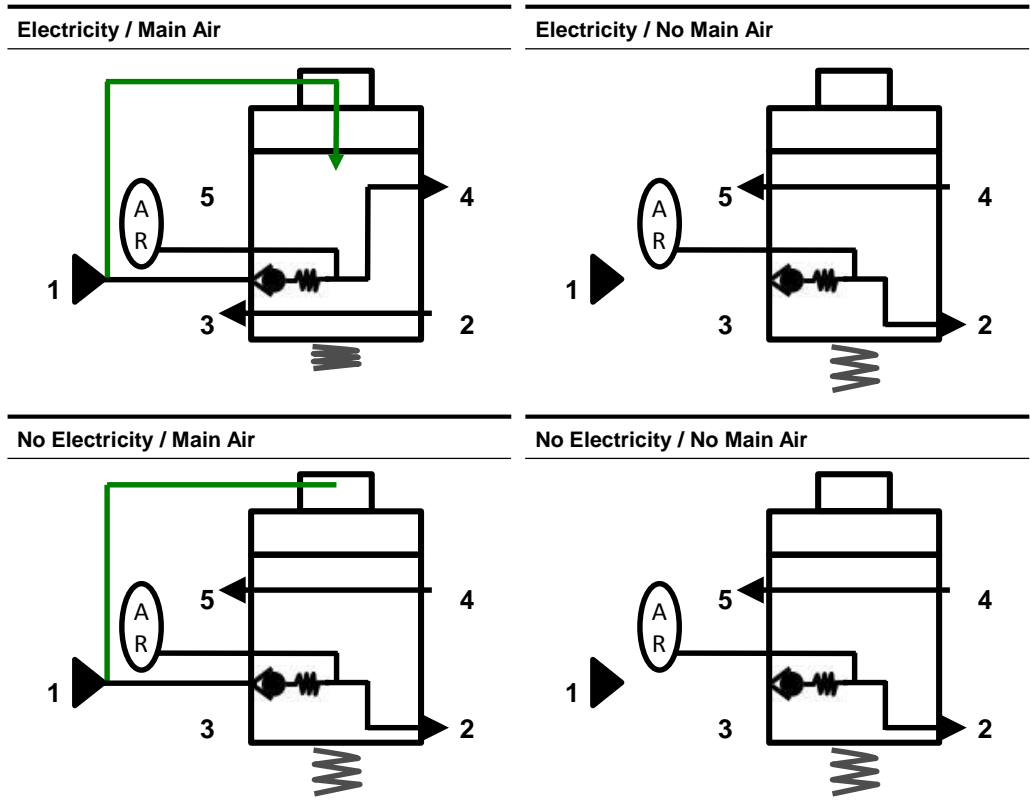
Main Air Supply



ESV Internal Check Valve



Fail-safe principle



Technical Data

ESV specifications

Technical Specification

| | |
|---|---------------------------------------|
| Operating pressure ⁽¹⁾⁽²⁾ | 2 - 10 bar (30 - 150 psi) |
| Operating medium | Air (dry or lubricated) |
| Flow l/min (Cv) | Port size: 1/4" 1750 l/min (Cv = 1.8) |
| ESV body standard temp. range (NBR) ⁽³⁾ | -20°C to 80°C (-4°F to 176°F) |

Note (1): For Intrinsically-Safe and Low Power version, 2 - 8 bar (30 - 120 psi).

Note (2): If required, consult factory for minimum pressure setting for over 2 bar (30 psi).

Note (3): Temperature range for all series besides Wide Temperature version. Refers only to ESV body temperature rating. Coil temperature rating is separate, refer to coil specifications.

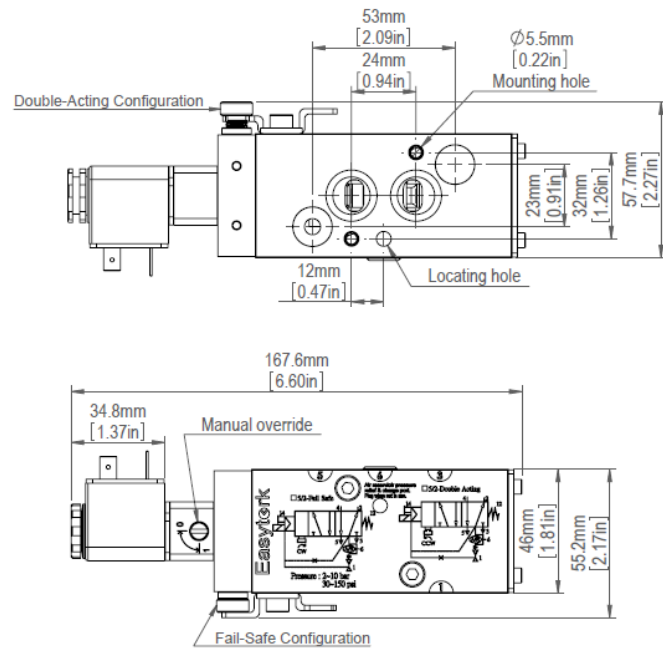
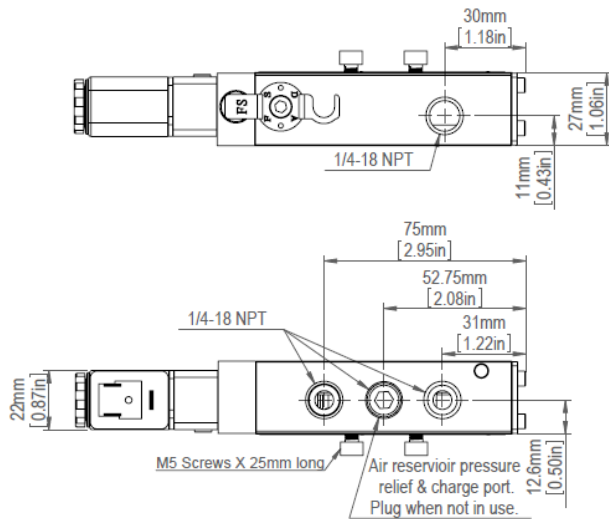
Coil specifications

| Coil | Connection | Note | Width (mm) |
|---------------------------|---|--|------------|
| Standard | DIN 43650 industrial form B connection or 1/2" conduit with 18" leads | NEMA 4X | 22 |
| Explosion Proof | 1/2" conduit with 24" leads | NEMA 4, 4X, 7C, 7D, 9 CSA & FM Approved CL. I; Zone1 Ex m II T4; AEx m II CL. I; Div.1; GR. A, B, C, D CL. II; GR. E, F, G CL. III T4 Ta=-20°C to +60°C | 36 |
| ATEX EX | 3m cable & strain relief | Ex m II T5 PTB 03 ATEX 2018 X Ex II 2 G EEx m II T5 Ex II 2 D IP65 T95°C | 22 |
| Intrinsically-Safe | EN175301-803-A/ISO4400 | Exia CL. I; GR. A, B, C, D CL. II; GR. E, F, G CL. III; Div. 1; T5 | 30 |
| Low Temperature | DIN 43650 industrial form B connection or 1/2" conduit with 18" leads | NEMA 4X | 22 |
| Low Power (1.1W) | DIN 43650 industrial form B connection or 1/2" conduit with 18" leads | NEMA 4X | 22 |

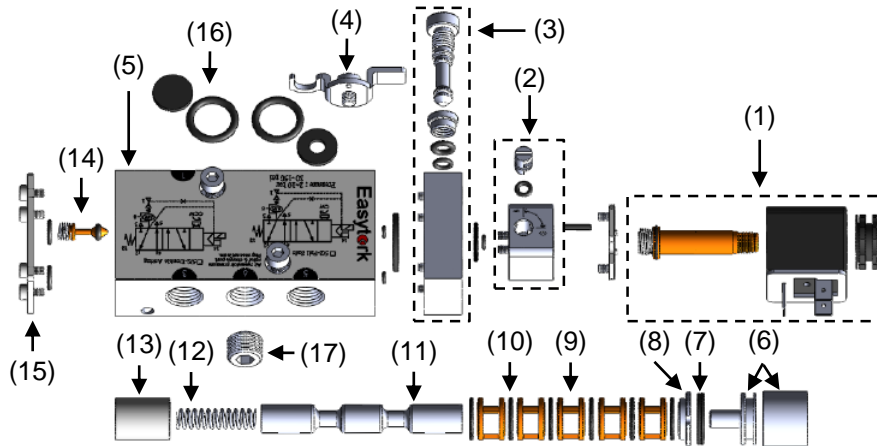
| Coil | Voltage Tolerance | Ambient Temp. | Duty Cycle | Voltage | Frequency (Hz) | Output | Max. Pressure |
|---|-------------------|-----------------------------------|------------|-----------------------------|----------------|--------|------------------|
| Standard | +/- 10% | -20°C to 50°C (-4°F to 122°F) | 100% | 24 DC | - | 2.0 W | 10 bar (150 psi) |
| | | | | 110 AC | 50 | 4.1 VA | 10 bar (150 psi) |
| | | | | 110 AC | 60 | 3.3 VA | 10 bar (150 psi) |
| | | | | 230 AC | 50 | 3.9 VA | 10 bar (150 psi) |
| | | | | 230 AC | 60 | 3.2 VA | 10 bar (150 psi) |
| Explosion Proof | +/- 10% | -20°C to 60°C (-4°F to 140°F) | 100% | 24 DC | - | 4.6 W | 10 bar (150 psi) |
| | | | | 120 AC | 60 | 6.8 VA | 10 bar (150 psi) |
| | | | | 230 AC | 50 | 7.5 VA | 10 bar (150 psi) |
| ATEX EX | +/- 10% | -20°C to 50°C (-4°F to 122°F) | 100% | 24 DC | - | 5.0 W | 10 bar (150 psi) |
| | | | | 110 AC | 50/60 | 3.8 VA | 10 bar (150 psi) |
| | | | | 230 AC | 50/60 | 5.1 VA | 10 bar (150 psi) |
| Intrinsically-Safe (Barrier not included) | | -40°C to 50°C (-40°F to 122°F) | 100% | 24 DC Current > 37 mA | - | | 8 bar (120 psi) |
| Low Temperature | +/- 10% | -40°C to 50°C (-40°F to 122°F) | 100% | 24 DC | - | 2.0 W | 10 bar (150 psi) |
| | | | | 110 AC | 50 | 4.1 VA | 10 bar (150 psi) |
| | | | | 110 AC | 60 | 3.3 VA | 10 bar (150 psi) |
| | | | | 230 AC | 50 | 3.9 VA | 10 bar (150 psi) |
| | | | | 230 AC | 60 | 3.2 VA | 10 bar (150 psi) |
| Low Power (1.1W, 22mm coil) | +/- 10% | -20°C to 50°C (-4°F to 122°F) | 100% | 24 DC | - | 1.1 W | 8 bar (120 psi) |

Technical Data

ESV dimensions



Bill of material



| Ref No | Description | Standard Version | Chemical Version | Quantity |
|--------|-------------------------|---------------------------------|---------------------------------|----------|
| 1 | Coil & Armature System | Polyamide 6.6 / Brass | Polyamide 6.6 / Stainless Steel | 1 |
| 2 | Pilot System | Polyamide 6.6 | Stainless steel (SS303) | 1 |
| 3 | DA / FS switch system | Nickel-plated steel + aluminum | Stainless steel (SS303) | 1 set |
| 4 | Anti-tamper system | Nickel-plated steel | Stainless steel (SS303) | 1 set |
| 5 | Valve body* | Aluminum | Stainless steel (SS303) | 1 |
| 6 | Piston sleeve* / piston | Aluminum | Aluminum | 1 |
| 7 | Piston seal* | NBR | NBR | 1 |
| 8 | Retainer | Aluminum | Aluminum | 1 |
| 9 | Spacer | Brass | Brass | 5 |
| 10 | Lip seal* | NBR | NBR | 6 |
| 11 | Spool* | Stainless Steel | Stainless Steel | 1 |
| 12 | Spring | Stainless steel (SS304) | Stainless steel (SS304) | 1 |
| 13 | Sleeve | Aluminum | Aluminum | 1 |
| 14 | Internal check valve | Brass w/ stainless steel spring | Brass w/ stainless steel spring | 1 |
| 15 | All bolting / plate | Stainless steel (SS304) | Stainless steel (SS304) | 1 lot |
| 16 | O-ring and seal plate | NBR | NBR | |
| 17 | Plug | Nickel-plated steel | Nickel-plated steel | |

Note (*): Items marked with an asterisk require thin film of lubricant.

Ordering Codes

Easytork Solenoid Valve

| Prefix | Product Type | Model Number | Coil Attributes | | | | ESV Attributes | | | | | |
|---------------------|-------------------|---|--|--|---|----------------|--|--------------------------|---|----------|----------|----------|
| | | | Coil Type | Voltage | Solenoid Valve Seal (Temp. Rating of ESV) ⁽¹⁾ | # of Coils | ESV Body Material (Corrosion Rating) | Thread | | | | |
| C | - | S | - | X | - | X | - | X | - | X | X | X |
| C: Complete product | S: Solenoid valve | 1: ESV - Easytork solenoid valve 1E: ESV - Easytork solenoid valve with external port (for EVA-1646) | 1: Standard 2: ATEX 3: Ex-Proof 4: I-Safe 5: Low Temp 7: Low Power (1.1W) | 1: 24VDC 2: 110VAC 3: 230VAC 0: Other (specify) | 1: NBR seal (for all coils besides low temp coil, -20°C to 80°C or -4°F to 176°F) 3: Wide temp seal (compatible with low temp coil, -40°C to 120°C / -40°F to 248°F) | 1: Single coil | 1: Standard version 2: Chemical resistant version | 1: Imperial 2: Metric | | | | |
| | | | | X: None | X: None | X: None | X: None | X: None | | | | X: None |
| | | | If ordering ESV body only, X out this section | | If ordering coil only, X out these sections | | | | | | | |
| | | | Note (1): Refers only to ESV body temperature rating. Coil temperature rating is separate, refer to coil specifications. | | | | | | | | | |

Examples

Ex-Proof 24VDC ESV

C - **S** - **1** - **2** - **1** - **1** - **1** - **1** - **1**

ESV body only (Standard, ATEX, and Ex-Proof Series are interchangeable)

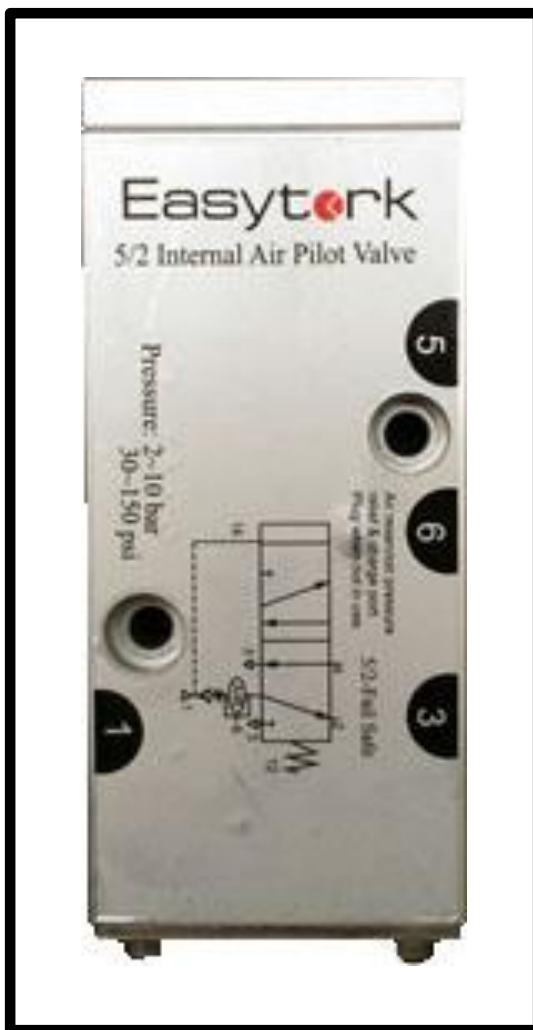
C - **S** - **1** - **1** - **X** - **1** - **1** - **1** - **1**

Coil only (for I-Safe 24VDC)

C - **S** - **1** - **4** - **1** - **X** - **X** - **X** - **X**

| | |
|---|---|
| <p>About</p> <p>We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:</p> <p>2013 – Arch Grants Recipient</p> <p>2015 – Accelerate St. Louis</p> <p>2017 – Frost & Sullivan Product Innovation Award</p> | <p>Global Headquarters</p> <p>2505 Metro Blvd, Suite A / B Maryland Heights, MO 63043 USA</p> <p>Main Tel: +1-314-266-6880</p> <p>info@easytork.com www.easytork.com</p> |
|---|---|

Air Pilot Valve EPV Series



Engineered for
actuators with
onboard reservoirs

Easytork Air Pilot Valve (“EPV”)

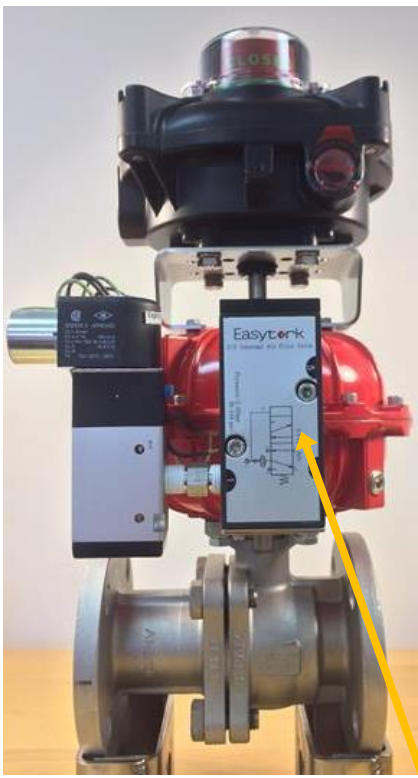
EPV is Easytork’s NAMUR compliant pilot valve to allow users to easily integrate air reservoir fail-safe systems with non-Easytork branded solenoid valve. The EPV is a 5/2 air pilot valve and can be nipple or remote mounted to any 3/2 solenoid valve, this allows users to achieve air reservoir fail-safe function without the need of an Easytork solenoid valve.

Access Easytork fail-safe with any NON-EASYTORK solenoid valve brand

Using any 3rd party 3/2 solenoid valve for fail-safe

Remote mount or nipple mount 3rd party 3/2 solenoid valve and still allow Easytork actuators to fail-safe with loss of supply air.

Nipple mount



Remote mount



EPV

Description: Both setups achieve fail-safe with Easytork actuator with a 3rd party 3/2 solenoid valve.

Patent pending

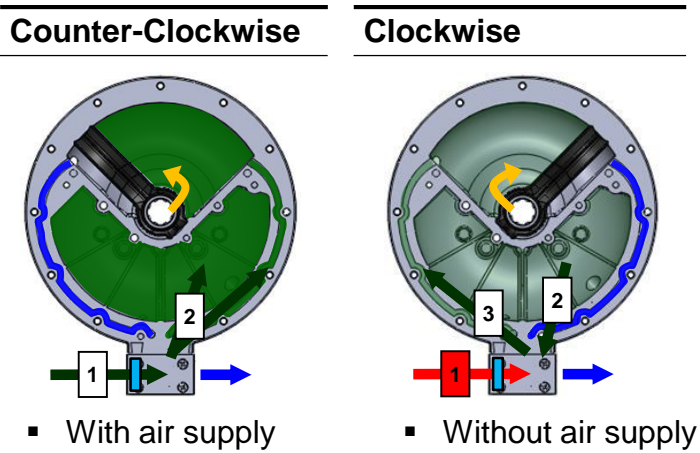
Easytork Air Pilot Valve ("EPV")

EPV benefits that improve your SYSTEMS

Ideal for corrosive / dirty environment

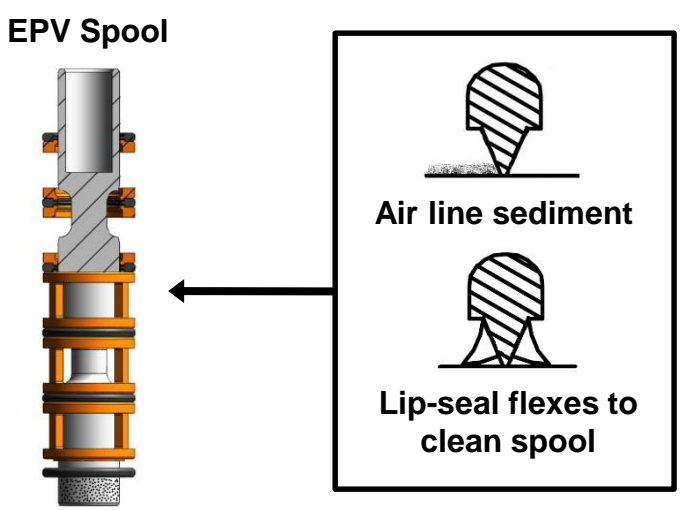
In fail-safe, environment air never enters the EPV through vacuum which is associated with other spring-return actuators.

As seen in the EPV operation principle on the right, the actuator is always pushing instrument air out as the system has no spring to pull environment air in.



Improved resistance against poor instrument air

Dynamic sealing does not rely on O-rings. Instead, EPV utilizes bi-directional tapered lip-seal that wipes air line sediment and keeps spool surface clean. A high CV 1750l/min (Cv=1.8) further help remove sediments. This design also eliminates sticking problems and avoids spiral twist associated with O-rings.



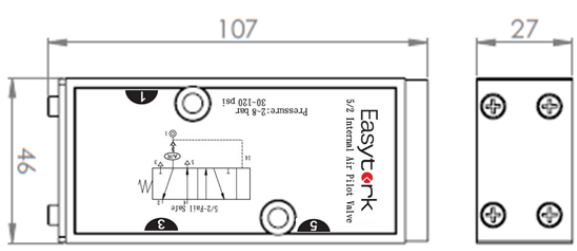
EPV benefits that improve your OPERATIONS

Specification friendly

Any 3/2 solenoid valve can be piped to the main air supply port of the EPV.

| EPV Technical Specification | |
|-----------------------------------|---------------------------------|
| Operating pressure ⁽¹⁾ | 2 - 10 bar (30 - 150 psi) |
| Operating medium | Air (dry or lubricated) |
| Flow l/min (Cv) Port size: 1/4" | 1750 l/min (Cv = 1.8) |
| Temperature range (standard) | -20°C to 80°C (-4°F to 176°F) |
| Temperature range (wide temp) | -40°C to 120°C (-40°F to 248°F) |

Note (1): If required, consult factory for minimum pressure setting for over 2 bar (30 psi).



Note: Figures in mm

Ordering Codes

Easytork Air Pilot Valve

| <u>Prefix</u> | <u>Product Type</u> | <u>Model Number</u> | <u>EPV Attributes</u> | | |
|----------------------------|----------------------------|---|--|--|--|
| | | | Seal (Temp. Rating) | EPV Body Material (Corrosion Rating) | Thread |
| C | - AP | - X | - X | - X | X |
| C: Complete product | AP: Air pilot valve | 1: EPV - Easytork air pilot valve 1E: EPV - Easytork air pilot valve with external port (For EVA-1646) | 1: NBR seal (-20°C to 80°C or -4°F to 176°F) 3: Wide temp seal (-40°C to 120°C or -40°F to 248°F) | 1: Standard version 2: Chemical resistant version | 1: Imperial 2: Metric |

About

We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan Product Innovation Award

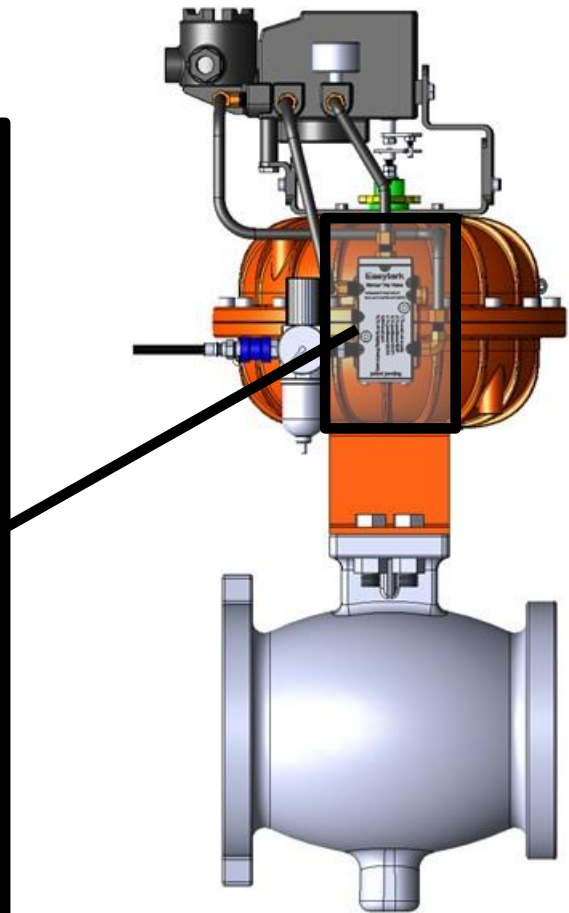
Global Headquarters

2505 Metro Blvd, Suite A / B
Maryland Heights, MO 63043
USA

Main Tel: +1-314-266-6880

info@easytork.com
www.easytork.com

Control Valve Solutions NAMUR Trip Valve



Patent Pending

Engineered for
actuators with
onboard reservoirs

Namur Trip Valve (“NTV”)

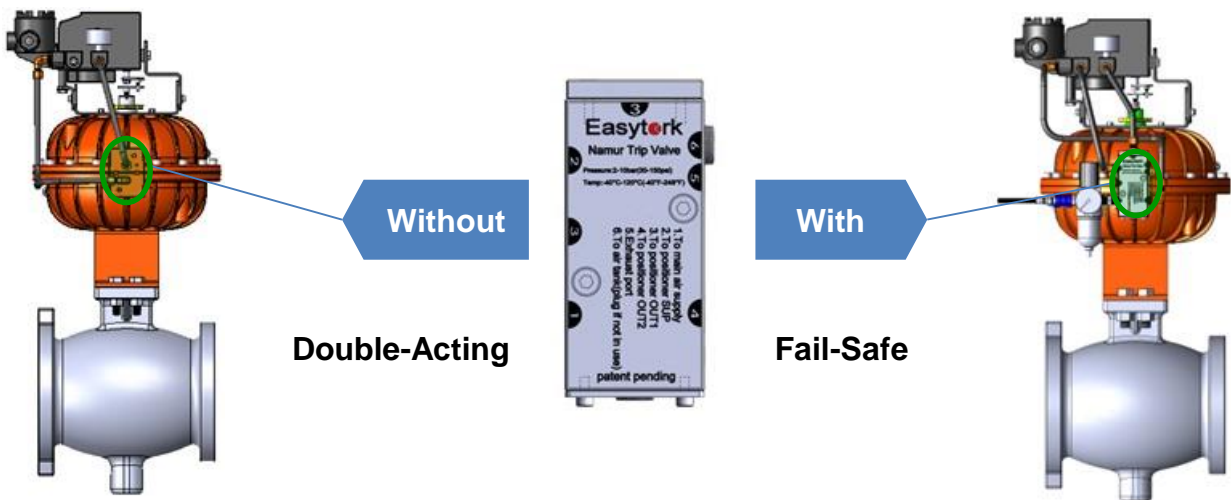
Easytork, or any Namur compatible actuator, can be fitted to the NTV. This setup allows a modulating actuator with a reservoir system and a double-acting positioner to fail-safe or double-acting actuator to fail-freeze.

NTV benefits that improve your OPERATIONS

Fail-Safe

Installing an NTV on an Easytork actuator allows the actuator to fail-safe.

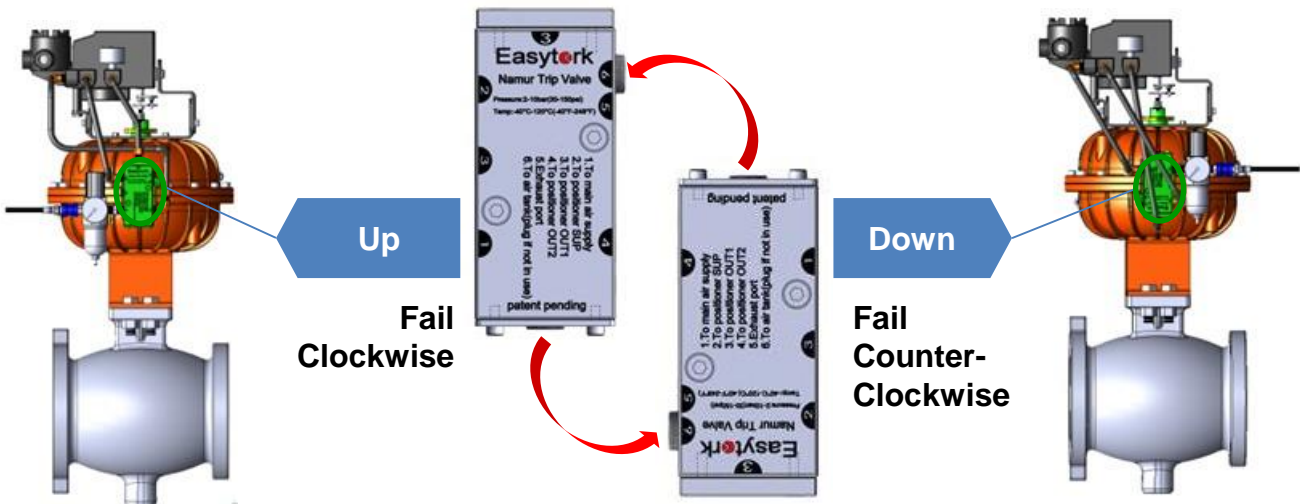
[Click or Scan Here: Video](#)



Fail clockwise or fail counter-clockwise

With loss of air, if the NTV is installed pointing up would cause the actuator to fail clockwise, or if the NTV is installed pointing down would cause the actuator to fail counter clockwise.

[Click or Scan Here: Video](#)



Namur Trip Valve

NTV benefits that improve your SYSTEMS

Specification friendly – Universally compatible with any positioner

Any double-acting positioner can be used with the NTV to fail-safe an actuator with air reservoir.

Simplified integration with air reservoir

NTV removes integration complexity between actuator, positioner and air reservoir. In most instances, set-up is significantly easier and more economical than spring-return actuators.

With Easytork's built-in air reservoirs, system integrator only needs to connect signal source to positioner and supply air to Easytork's system.



Legacy design:
Actuators with air reservoirs require an external check valve, trip valve, associated piping and fitting between those components with positioner, actuator, and air reservoir. Picture below shows such integration.



External air reservoir connected to actuator in picture below.



Complex ad-hoc piping and integration with various components to achieve fail-safe with external air reservoir.

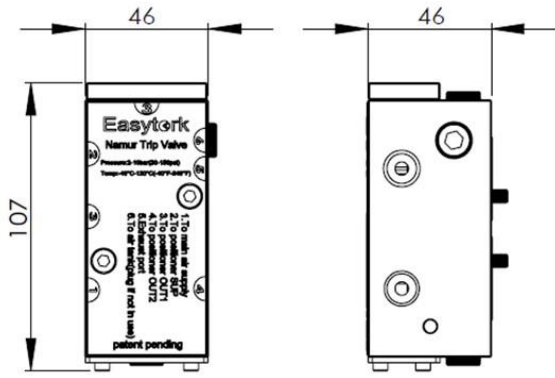
NTV Specification

NTV Technical Specification

| | |
|--|-------------------------------|
| Operating pressure ⁽¹⁾ | 2 - 10 bar (30 - 150 psi) |
| Operating medium | Air (dry or lubricated) |
| Flow l/min (Cv) Port size: 1/4" | 1000 l/min (Cv = 1.0) |
| Temperature range | -20°C to 80°C (-4°F to 176°F) |

Note (1): If required, consult factory for minimum pressure setting for over 2 bar (30 psi).

Patents: NTV
Patent pending



(Figures in mm)

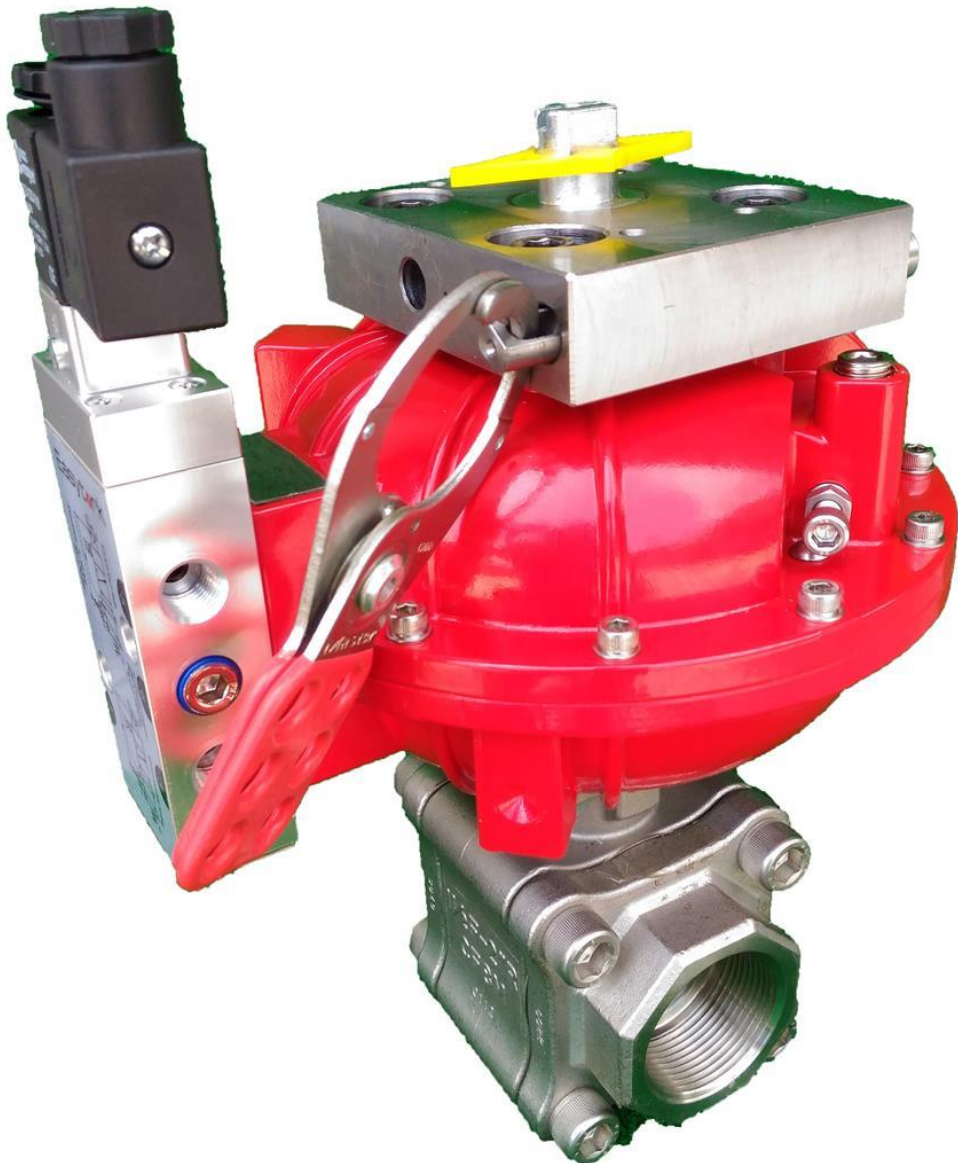
Ordering Codes

Easytork Namur Trip Valve

| Prefix | | Product Type | | Model Number | | NTV Attributes | | | |
|----------------------------|----------|---------------------------------------|----------|---|----------|---|---|--|--|
| | | | | | | Seal (Temp. Rating) | NTV Body Material (Corrosion Rating) | Thread | |
| C | - | PV | - | X | - | X | - | X | X |
| C: Complete product | | PV: Universal positioner valve | | 1: NTV - Easytork Namur trip valve | | 1: Standard seal (for all temp -20°C to 80°C or -4°F to 176°F) | | 1: Standard version 2: Chemical resistant version | 1: Imperial 2: Metric |

| | |
|---|--|
| <p>About</p> <p>We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:</p> <p>2013 – Arch Grants Recipient</p> <p>2015 – Accelerate St. Louis</p> <p>2017 – Frost & Sullivan Product Innovation Award</p> | <p>Global Headquarters</p> <p>2505 Metro Blvd, Suite A / B Maryland Heights, MO 63043 USA</p> <p>Main Tel: +1-314-266-0670 Main Fax: +1-314-222-7057 info@easytork.com www.easytork.com</p> |
|---|--|

Lockout Device

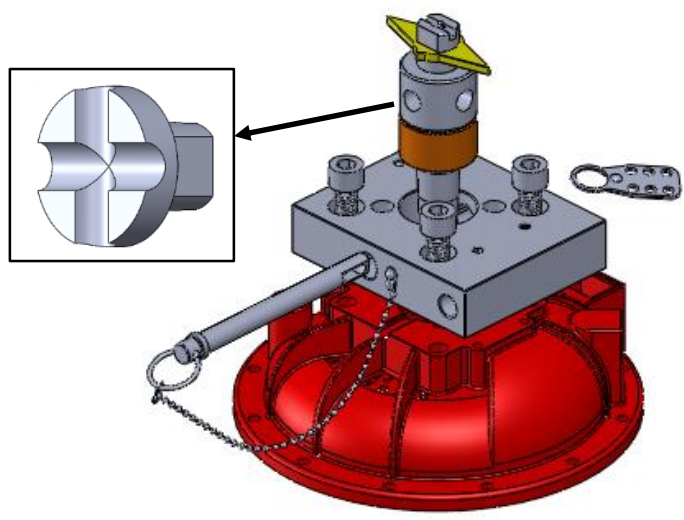


Lockout Device

Easytork Lockout Device benefits that improve your OPERATIONS

Easily upgrade actuator with lockout device

Lockout device can be purchased as a kit and is easily adaptable to Easytork actuators.



Easytork Lockout Device benefits that improve your SYSTEMS

Specification friendly

Lockout valve and actuators in both the fully open and fully closed positions.

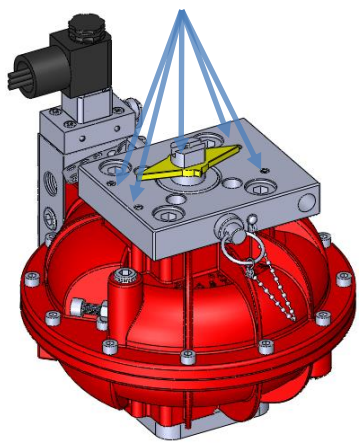
Compact system

Unlike bracket and coupling lockout devices, Easytork lockouts only add minimal height to the system.

Standards

Lockout and PST device does not affect the interfaces of actuator/valve or the attachments of ancillaries.

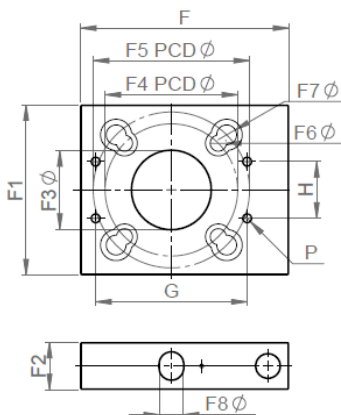
Actuator can still mount to other actuator auxiliaries



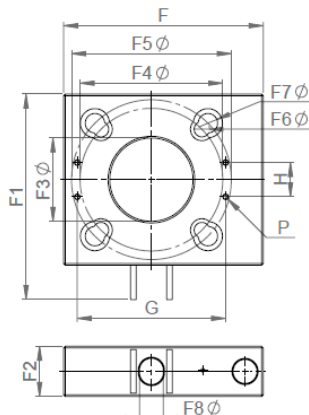
Actuator can still direct mount to VALVE

Lockout Device Dimensions

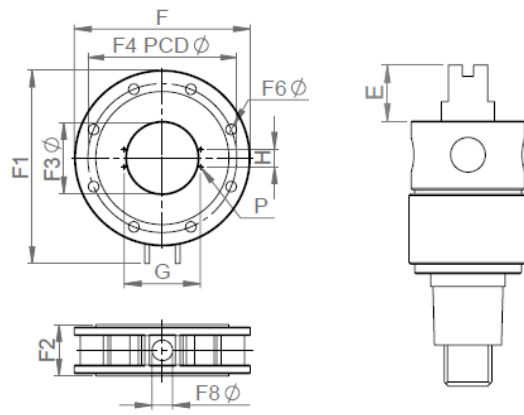
EVA-0309 to EVA-0717



EVA-1022 to EVA-1436



EVA-1646



Metric

| Dimensions (mm) | Model | | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |
| F | 94.0 | 94.0 | 110.0 | 110.0 | 150.0 | 175.0 | 200.0 | 300.0 |
| F1 | 55.0 | 55.0 | 90.0 | 90.0 | 156.0 | 180.0 | 204.0 | 330.0 |
| F2 | 15.0 | 15.0 | 25.0 | 25.0 | 30.0 | 44.0 | 44.0 | 84.0 |
| F3 Ø | 20.0 | 28.0 | 35.0 | 41.6 | 55.0 | 73.0 | 94.0 | 121.5 |
| F4 PCD Ø | 42.0 | 42.0 | 50.0 | 70.0 | 125/127 | 125/127 | 140.0 | 254.0 |
| F5 PCD Ø | 50.0 | 50.0 | 82.6 | 82.6 | - | 140.0 | 165.0 | - |
| F6 Ø | 5.5 | 5.5 | 6.8 | 8.5 | 15.5 | 13.5 | 17.0 | 18.4 |
| F7 Ø | 6.8 | 6.8 | 10.5 | 10.5 | - | 17.0 | 21.0 | - |
| F8 Ø | 8.0 | 8.0 | 11.0 | 13.0 | 17.0 | 21.0 | 25.0 | 35.0 |
| Actuator Dimensions of Accessories Flange | | | | | | | | |
| G | 80.0 | 80.0 | 80.0 | 80.0 | 80.0 | 130.0 | 130.0 | 130.0 |
| H | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| E | 20.0 | 20.0 | 20.0 | 20.0 | 30.0 | 30.0 | 30.0 | 30.0 |
| P | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 | 4-M5x0.8 Deep8 |

Imperial

| Dimensions (inch) | Model | | | | | | | |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 | EVA-1646 |
| F | 3.70 | 3.70 | 4.33 | 4.33 | 5.91 | 6.89 | 7.87 | 11.81 |
| F1 | 2.17 | 2.17 | 3.54 | 3.54 | 6.14 | 7.09 | 8.03 | 12.99 |
| F2 | 0.59 | 0.59 | 0.98 | 0.98 | 1.18 | 1.73 | 1.73 | 3.31 |
| F3 Ø | 0.79 | 1.10 | 1.38 | 1.64 | 2.17 | 2.87 | 3.70 | 4.78 |
| F4 PCD Ø | 1.65 | 1.65 | 1.97 | 2.76 | 4.92/5.00 | 4.92/5.00 | 5.51 | 10.00 |
| F5 PCD Ø | 1.97 | 1.97 | 3.25 | 3.25 | - | 5.51 | 6.50 | - |
| F6 Ø | 0.22 | 0.22 | 0.27 | 0.33 | 0.61 | 0.53 | 0.67 | 0.72 |
| F7 Ø | 0.27 | 0.27 | 0.41 | 0.41 | - | 0.67 | 0.83 | - |
| F8 Ø | 0.31 | 0.31 | 0.43 | 0.51 | 0.67 | 0.83 | 0.98 | 1.38 |
| Actuator Dimensions of Accessories Flange | | | | | | | | |
| G | 3.15 | 3.15 | 3.15 | 3.15 | 3.15 | 5.12 | 5.12 | 5.12 |
| H | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 | 1.18 |
| E | 0.79 | 0.79 | 0.79 | 0.79 | 1.18 | 1.18 | 1.18 | 1.18 |
| P | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 | 4x10-24UNC Deep0.31 |

Patents: Lockout and Partial Stroke Test Device
China =278493 Taiwan = M447275, other countries pending

Ordering Codes

Lockout Device

| Prefix | Product Type | Model Number | For Which Actuator | | |
|---------------|-----------------------------|--------------------------------|--|--|--|
| | | | Actuator Size | LPST Material (Corrosion Rating) | Thread |
| K | - LPST | - X | - X | - X | X |
| K: Kit | LPST: Manual lockout | 1: Easytork lockout kit | 1: EVA-0309 2: EVA-0411 3: EVA-0514 4: EVA-0717 5: EVA-1022 6: EVA-1227 7: EVA-1436 8: EVA-1646 | 1: Standard version 2: Chemical resistant version | 1: Imperial 2: Metric |

About

We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan Product Innovation Award

Global Headquarters

2505 Metro Blvd, Suite A / B
 Maryland Heights, MO 63043
 USA

Main Tel: +1-314-266-6880

info@easytork.com
 www.easytork.com

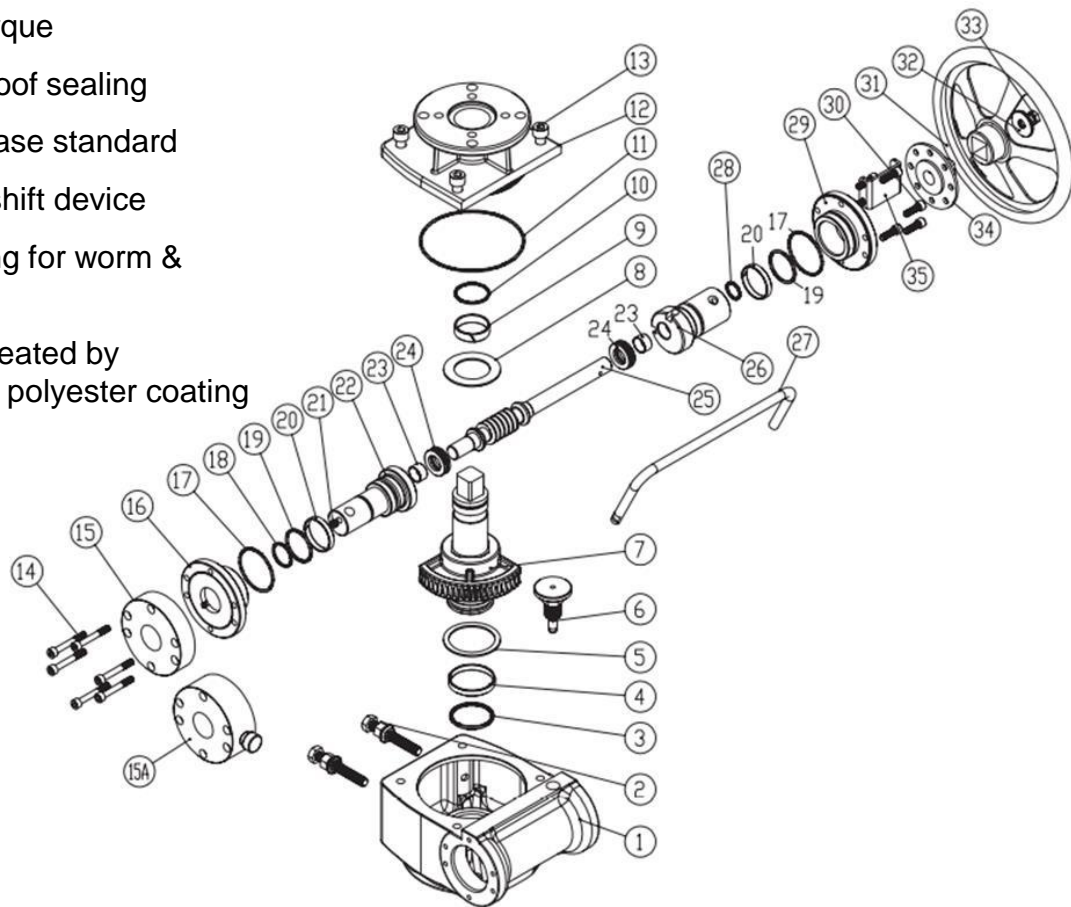
Declutchable Gear



EGO Series Declutchable Gearbox: Overview / BOM

Overview

- High strength and torque
- IP67 solid weatherproof sealing
- ISO5211 mounting base standard
- Auto – manual safe shift device
- Self lubricated bearing for worm & worm gear
- WCB body surface treated by phosphating, epoxy & polyester coating

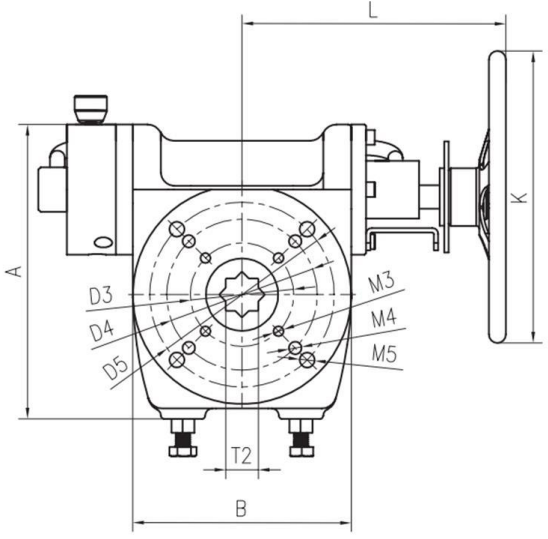


| Ref No | Description | Qty | Material |
|--------|------------------|-----|----------|
| 1 | Body | 1 | WCB |
| 2 | Adjust Bolt | 2 | 304 |
| 3 | O-ring | 1 | NBR |
| 4 | Bearing | 1 | POM |
| 5 | Bearing | 1 | POM |
| 6 | Positioning unit | 1 | 45 |
| 7 | Shaft | 1 | 45 |
| 8 | Washer | 1 | POM |
| 9 | Bearing | 1 | POM |
| 10 | O-ring | 1 | NBR |
| 11 | O-ring | 1 | NBR |
| 12 | Cap | 1 | WCB |
| 13 | Screw | 4 | 304 |
| 14 | Screw | 6 | 304 |
| 15 | Cap | 1 | 45 |
| 17 | O-ring | 2 | NBR |

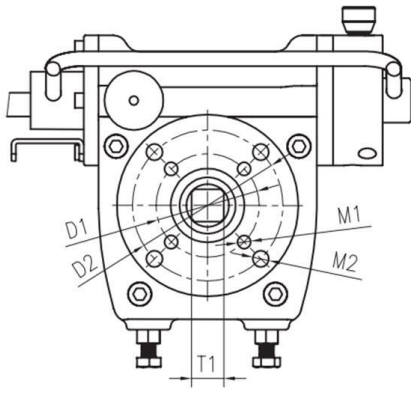
| Ref No | Description | Qty | Material |
|--------|------------------------|-----|----------|
| 18 | O-ring | 1 | NBR |
| 19 | O-ring | 2 | NBR |
| 20 | Eccentric axle bearing | 2 | POM |
| 21 | Bolt | 1 | 304 |
| 22 | Eccentric half axle | 1 | 45 |
| 23 | Bearing | 2 | Cu |
| 24 | Thrust ball bearing | 2 | Steel |
| 25 | Worm shaft | 1 | 45 |
| 26 | Eccentric half axle | 1 | 45 |
| 27 | Shift handle | 1 | 45 |
| 28 | O-ring | 1 | NBR |
| 29 | Cap | 1 | 45 |
| 30 | Screw | 6 | 304 |
| 31 | Hand wheel | 1 | 20 |
| 32 | Washer | 1 | 20 |
| 33 | Bolt | 1 | 304 |

EGO Series Declutchable Gearbox: Dimensions

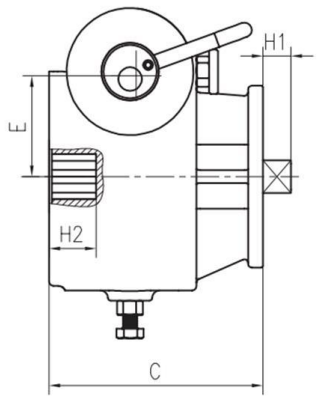
**Gear to valve side
(Bottom)**



**Gear to actuator side
(Top)**



**To actuator →
← To valve**



| Imperial | Torque | | Dimensions (inch) | | | | | | | | | | | | | | | |
|-------------|--------|--------|----------------------|--------|------|------|----------------|-----|-----|------|--------|----------|-----|-----|-------------------------|--------|--------|--------|
| | | | Gear-Valve Interface | | | | Gear Dimension | | | | | | | | Gear-Actuator Interface | | | |
| Model | Input | Output | D3.D4.D5 | T2 | H2 | A | B | C | E | L | K | J | D1 | D2 | T1 | H1 | M1 | M2 |
| K-EGO-015B | 195 | 1,770 | F05/F07 | □ 0.67 | 0.98 | 4.7 | 3.9 | 4.1 | 1.8 | 4.7 | φ 7.9 | 1/4" NPT | F05 | F07 | □ 0.67 | □ 0.55 | φ 0.28 | φ 0.35 |
| K-EGO-060 | 372 | 5,310 | F07/F10 | □ 1.06 | 1.18 | 7.6 | 5.8 | 5.7 | 2.8 | 6.9 | φ 7.9 | 1/4" NPT | F07 | F10 | □ 0.87 | □ 0.75 | φ 0.35 | φ 0.43 |
| K-EGO-090A | 620 | 7,965 | F07/F10/F12 | □ 1.06 | 1.18 | 7.6 | 5.8 | 5.7 | 2.8 | 7.0 | φ 9.8 | 1/4" NPT | F07 | F10 | □ 1.06 | □ 0.75 | φ 0.35 | φ 0.43 |
| K-EGO-090B | 850 | 10,620 | F07/F10/F12 | □ 1.06 | 1.18 | 7.6 | 5.8 | 5.7 | 2.8 | 7.1 | φ 11.8 | 1/4" NPT | F07 | F10 | □ 1.06 | □ 0.75 | φ 0.35 | φ 0.43 |
| K-EGO-160A | 708 | 14,160 | F10/F12 | □ 1.42 | 1.57 | 10.2 | 7.7 | 7.5 | 4.2 | 10.6 | φ 13.8 | 1/4" NPT | F10 | F12 | □ 1.42 | □ 1.34 | φ 0.43 | φ 0.51 |
| K-EGO-0160B | 885 | 17,700 | F10/F12 | □ 1.42 | 1.57 | 10.2 | 7.7 | 7.5 | 4.2 | 10.7 | φ 15.7 | 1/4" NPT | F10 | F12 | □ 1.42 | □ 1.34 | φ 0.43 | φ 0.51 |
| K-EGO-350A | 1,682 | 29,205 | F12/F16 | □ 1.81 | 6.93 | 13.1 | 10.0 | 7.1 | 4.8 | 10.7 | φ 23.6 | 1/4" NPT | F16 | - | □ 1.81 | □ 1.77 | φ 0.87 | - |
| K-EGO-350B | 2,036 | 35,400 | F12/F16 | □ 1.81 | 6.93 | 13.1 | 10.0 | 7.1 | 4.8 | 10.8 | φ 27.6 | 1/4" NPT | F16 | - | □ 1.81 | □ 1.77 | φ 0.87 | - |
| K-EGO-700 | 974 | 61,950 | F16/F25 | □ 1.81 | 7.72 | 15.3 | 11.7 | 9.8 | 6.1 | 16.5 | φ 19.7 | 1/2" NPT | F16 | F25 | □ 1.81/□ 2.17 | □ 1.77 | φ 0.87 | φ 0.51 |

| Metric | Torque | | Dimensions (mm) | | | | | | | | | | | | | | | |
|-------------|--------|--------|----------------------|------|-----|-----|----------------|-----|-------|-----|-------|----------|-----|-----|-------------------------|----|------|------|
| | | | Gear-Valve Interface | | | | Gear Dimension | | | | | | | | Gear-Actuator Interface | | | |
| Model | Input | Output | D3.D4.D5 | T2 | H2 | A | B | C | E | L | K | J | D1 | D2 | T1 | H1 | M1 | M2 |
| K-EGO-015B | 22 | 200 | F05/F07 | □ 17 | 25 | 120 | 100 | 104 | 44.5 | 120 | φ 200 | 1/4" NPT | F05 | F07 | □ 17 | 14 | φ 7 | φ 9 |
| K-EGO-060 | 42 | 600 | F07/F10 | □ 27 | 30 | 192 | 148 | 145 | 71 | 175 | φ 200 | 1/4" NPT | F07 | F10 | □ 22 | 19 | φ 9 | φ 11 |
| K-EGO-090A | 70 | 900 | F07/F10/F12 | □ 27 | 30 | 192 | 148 | 145 | 71 | 178 | φ 250 | 1/4" NPT | F07 | F10 | □ 27 | 19 | φ 9 | φ 11 |
| K-EGO-090B | 96 | 1,200 | F07/F10/F12 | □ 27 | 30 | 192 | 148 | 145 | 71 | 181 | φ 300 | 1/4" NPT | F07 | F10 | □ 27 | 19 | φ 9 | φ 11 |
| K-EGO-160A | 80 | 1,600 | F10/F12 | □ 36 | 40 | 260 | 196 | 192 | 107.5 | 268 | φ 350 | 1/4" NPT | F10 | F12 | □ 36 | 34 | φ 11 | φ 13 |
| K-EGO-0160B | 100 | 2,000 | F10/F12 | □ 36 | 40 | 260 | 196 | 192 | 107.5 | 272 | φ 400 | 1/4" NPT | F10 | F12 | □ 36 | 34 | φ 11 | φ 13 |
| K-EGO-350A | 190 | 3,300 | F12/F16 | □ 46 | 176 | 334 | 255 | 181 | 123 | 272 | φ 600 | 1/4" NPT | F16 | - | □ 46 | 45 | φ 22 | - |
| K-EGO-350B | 230 | 4,000 | F12/F16 | □ 46 | 176 | 334 | 255 | 181 | 123 | 275 | φ 700 | 1/4" NPT | F16 | - | □ 46 | 45 | φ 22 | - |
| K-EGO-700 | 110 | 7,000 | F16/F25 | □ 46 | 196 | 389 | 297 | 249 | 156 | 418 | φ 500 | 1/2" NPT | F16 | F25 | □ 46 / □ 55 | 45 | φ 22 | φ 13 |

Ordering Codes

Easytork Declutchable Direct Mount Gear Operator

Prefix Product Type Model Number

K - EGO - X

| | | Model Number | Output Torque | | To Valve Dimension | |
|--------|---|--------------|---------------|--------------------------|--------------------|---------|
| | | | (in-lb) | Direct Mount to Actuator | ISO | Drive |
| K: Kit | EGO: Declutchable Manual Override Gear Operator | 015B | 1,770 | 0514 / 0717 / 1022 | F05/F07 | 17mm sq |
| | | 060 | 5,310 | 0717 / 1022 / 1227 | F07/F10/F12 | 27mm sq |
| | | 090A | 7,965 | 1022 / 1227 | F07/F10/F12 | 27mm sq |
| | | 090B | 10,620 | 1022 / 1227 | F07/F10/F12 | 27mm sq |
| | | 160A | 14,160 | 1227 / 1436 | F10/F12 | 36mm sq |
| | | 160B | 17,700 | 1227 / 1436 | F10/F12 | 36mm sq |
| | | 350A | 29,205 | 1436 / 1646 | F12/F16 | 46mm sq |
| | | 350B | 35,400 | 1436 / 1646 | F12/F16 | 46mm sq |
| | | 700 | 61,950 | 1436 / 1646 | F16/F25 | 46mm sq |

About

We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan Product Innovation Award

Global Headquarters

2505 Metro Blvd, Suite A / B
Maryland Heights, MO 63043
USA

Main Tel: +1-314-266-6880

info@easytork.com

www.easytork.com

Limit Switch



LS Series Limit Switch: Overview

Overview

Compact limit switch box, designed not only for the industrial market, but for indoor applications in hazardous areas.

Available in either glass reinforced resin or nickel plated aluminum, with flat lid or 3D indicator.

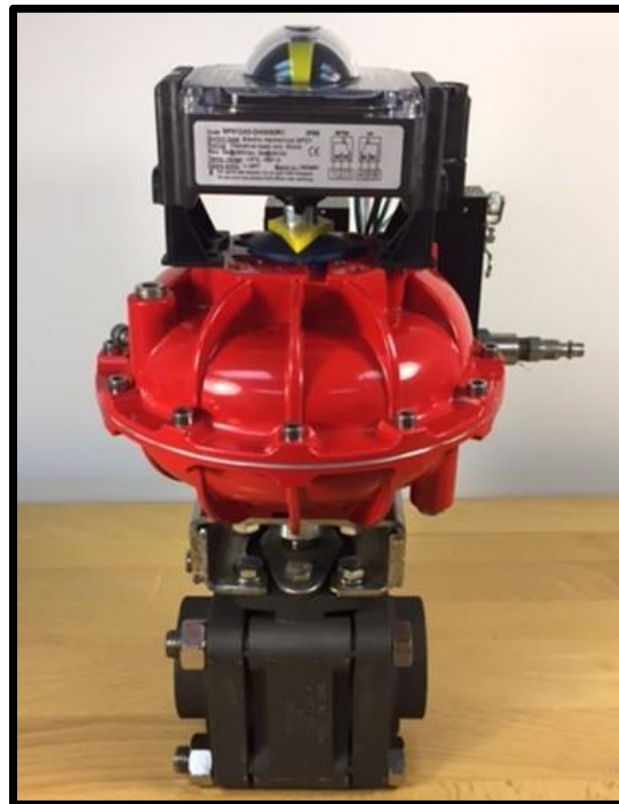
The LS Series is a corrosion resistant device, able to satisfy the needings in water treatment and desalination plants, can also match the Ex ia IIC T6 standards with the integral intrinsically safe certification, covering enclosure and electrical components inside.

With these devices, we are providing a ready to mount solution, thanks to the integrated Namur mounting kit.



Features

- Glass reinforced resin enclosure with transparent polycarbonate lid, ensuring a device totally unaffected by corrosion, in salty and humid environment.
- One cable entry as standard, either metrics or imperial.
- Enhanced strength on the composite enclosure, with a thick molding and durable threaded cable entries.
- Easy wiring through the terminal PCB board.
- ASI communication protocol board.
- Integrated mounting kit for Namur actuators.



LS Series Limit Switch: Technical data

Technical Data

Materials

- Glass reinforced resin body with transparent polycarbonate cover.
- Stainless steel fasteners.

Approvals

ATEX, EAC:

EX II 2GD Ex ia IIC T4/T5/T6

Ex ia IIIB T44°C..... T108°C Db IP6*

Ta: -15°C ≤ Ta ≤ 80°C

SIL certificate:

Up to SIL 2 Certified by TÜV

Protection rating:

IP 65

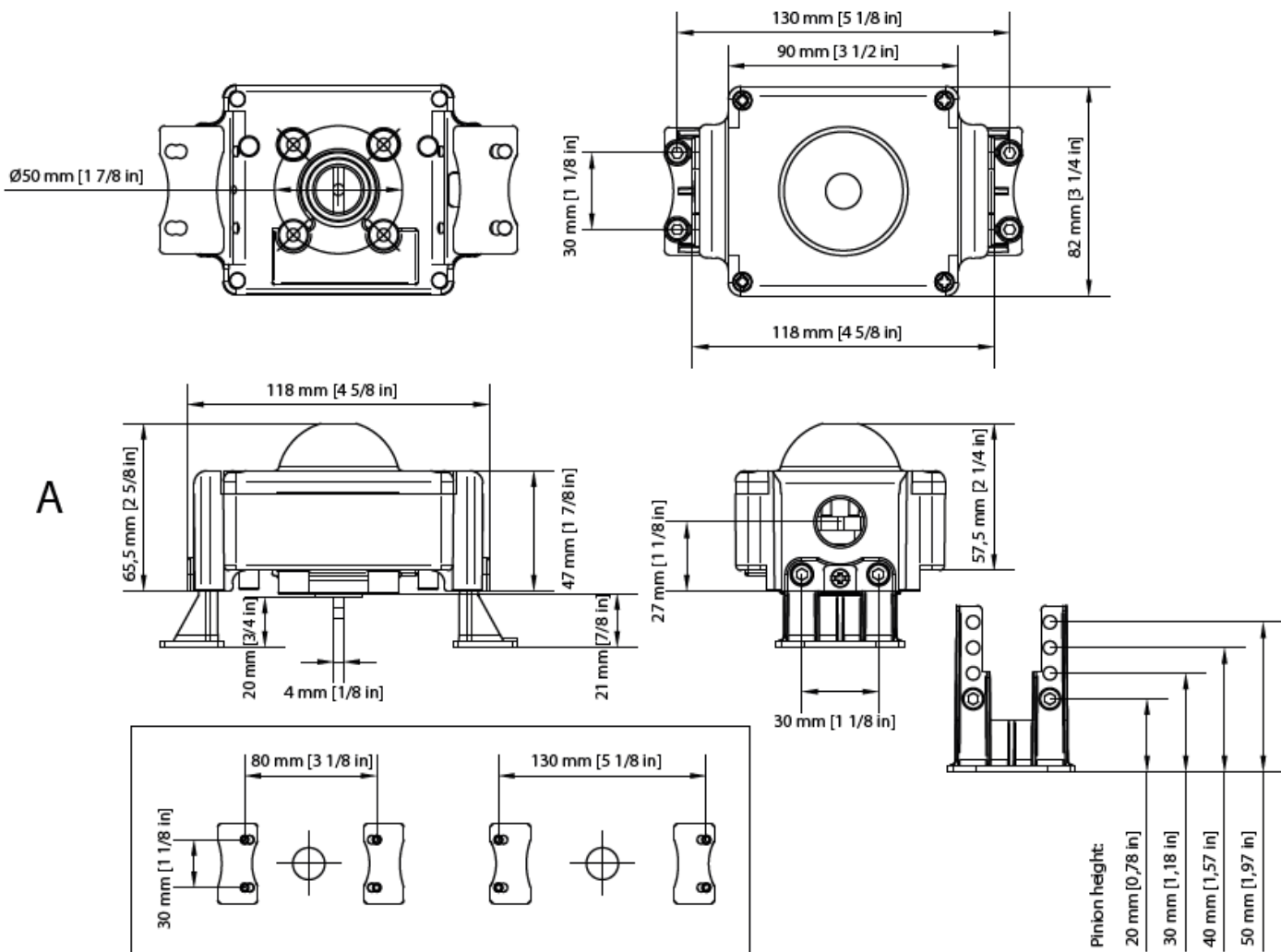
Cable entries options:

One cable entry M20 or ½" NPT

Temperature:

-15°C + 80°C as standard temperature range

Dimensional Data



Ordering Codes

LS Series Limit Switch

| Product Type | Model | | ID |
|--------------------------|--|----------|------------|
| | Limit Sw itch Model | | ID |
| LS | - | X | - X |
| LS: Limit sw itch | SPB01200D: For EVA-0411 and larger; includes built-in limit sw itch bracket. Resin housing, 3D indicator, 2 sw itches, one 1/2"NPT port | | RT |

Limit Switch Bracket (If Needed)

| Product Type | Bracket Material | Flange Measurement | Bracket Height | Version |
|-------------------------------------|---|--|--|---|
| | Bracket Material (Corrosion Rating) | Actuator's VDI/VDE 3845 Measurement | Total Limit Sw itch Bracket Height | Wrench Accessible |
| LB | - X | - X | - X | - X |
| LB: Limit sw itch bracket | 2: Chemical resistant version | Width x length <i>Format:</i> <i>0mm</i> | Height <i>Format:</i> <i>0mm</i> | X: Non-w rench accessible WR: For w rench manual overrid |

Easytork's Stock Standard Limit Switch Bracket Stocking

| | | | | | | | | |
|-----------|---|----------|---|-----------------|---|-------------|---|-----------|
| LB | - | 2 | - | 30x80mm | - | 45mm | - | X |
| LB | - | 2 | - | 30x80mm | - | 55mm | - | X |
| LB | - | 2 | - | 30x130mm | - | 55mm | - | X |
| LB | - | 2 | - | 25x50mm | - | 45mm | - | WR |
| LB | - | 2 | - | 30x80mm | - | 45mm | - | WR |

Note: For dimensions not listed above, call for custom made limit sw itch brackets. Easytork does not readily stock limit sw itch brackets not listed

| About | Global Headquarters |
|---|---|
| We believe in selling "easy". Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including: | 2505 Metro Blvd, Suite A / B Maryland Heights, MO 63043 USA |
| 2013 – Arch Grants Recipient | Main Tel: +1-314-266-6880 |
| 2015 – Accelerate St. Louis | info@easytork.com |
| 2017 – Frost & Sullivan Product Innovation Award | www.easytork.com |

Positioner



Positioner Overview

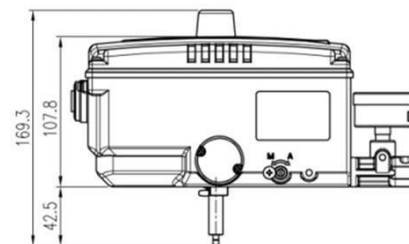
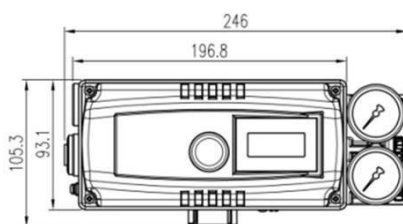
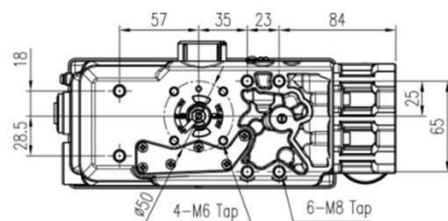
Smart positioner

The 3300 Smart Valve Positioner accurately controls valve stroke, according to input signal of 4~20mA being delivered from controller.

- Auto calibration
- Auto/Manual switch
- HART communication
- LCD display
- PID control
- 4 buttons for local control
- Feedback signal
- Limit switch



| Item · Type | YT-3300 | YT-3350 |
|----------------------------------|--|---------------------------|
| Input Signal | 4~20mA DC | |
| Supply Pressure | 0.14~0.7MPa(1.4~7 bar) | |
| Stroke | Linear Type | 10~150mm |
| | Rotary Type | 0 ~ 90° |
| Impedance | Max.500Ω @ 20mA DC | |
| Air Connection | PT(NPT,G)1/4 | NPT 1/4 |
| Gauge Connection | PT(NPT)1/8 | NPT 1/8 |
| Conduit | G(PF,NPT)1/2,M20 | G(PF)1/2 |
| Operating Temp. | Standard Type. | -30°C ~ 85°C (-22~185° F) |
| | Low Temp. Type. | -40°C ~ 85°C (-40~185° F) |
| LCD Operating Temp. | -30°C ~ 85°C (-22~185° F) | |
| Ambient Temp. of Explosion Proof | -40~60°C(T5) / -40~40°C(T6) | |
| Linearity | ±0.5% F.S. | |
| Hysteresis | ±0.5% F.S. | |
| Sensitivity | ±0.2% F.S. | |
| Repeatability | ±0.3% F.S. | |
| Air Consumption | Below 2LPM (sup=0.14MPa) | |
| Flow Capacity | 70LPM (sup=0.14MPa) | |
| Output Characteristics | Linear, EQ%, Quick Open user set (16 Point) | |
| Material | Aluminum Diecasting | Stainless Steel 316 |
| Ingress Protection | IP66 | |
| Explosion Protection Type | ATEX, IECEx Ex ia IIC T5/T6 Gb, EX iaD IIIC T100°C/T85°C Db IP66 NEPSI Ex ia IIC T5/ T6 KCs Ex ia IIC T5/T6, EX iaD IIIC T100°C/T85°C CSA Pending FM Class I, Div 1, Groups ABCD Class I, Zone 0 AEx ia IIC Class II/III, Div 1, Groups EFG Class I, II, III, Div 2, Groups ABCDEFG NEMA Type 4 IP66 AMBIENT TEMP: -40°C ~ 60°C (T5) / -40°C ~ 40°C (T6) | |
| Communication(Optional) | HART(ver.7) | |
| L/S | Mechanical Type(Omron) | AC 125V, 3A DC 30V, 2A |
| | Proximity Type(P&F) | DC 8.2V 8.2mA |
| Weight | 2kg (4.4lb) | 5.1kg(11.2lb) |



Positioner Overview

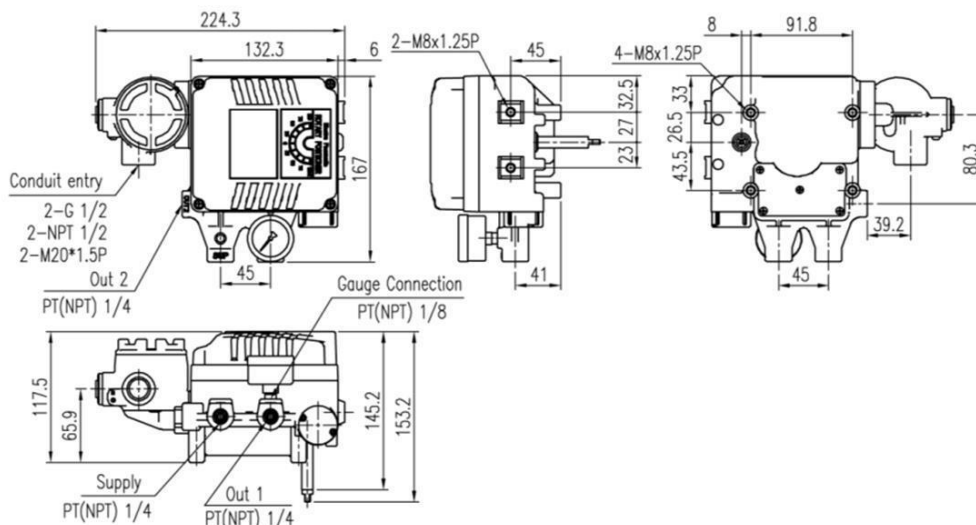
Electro pneumatic positioner

The Electro-Pneumatic Positioner 1000R is used for operation of pneumatic rotary valve actuators by means of electrical controller or control system with an analog output signal of DC 4 to 20mA or split ranges.

- Simple zero and span adjustment
- No resonance between 5-200Hz
- Auto/Manual switch
- RA vs.. DA action and 1/2 split range setting by simple adjustment.
- Internal feedback signal is available as an option (weather proof only)



| Item · Type | Single | Double |
|---------------------------|--|----------------------|
| Input Signal | 4-20mA DC | |
| Impedance | 250 ± 15 Ω | |
| Supply Pressure | 0.14~0.7MPa(1.4~7 bar) | |
| Stroke | 0 ~ 90° | |
| Air Connection | PT(NPT,G)1/4 | |
| Gauge Connection | PT(NPT) 1/8 | |
| Conduit | G(PF,NPT)1/2, M20 | |
| Explosion Protection Type | ATEX (II 2 G)Ex dmb IIB T5 IECEX (II 2 G)Ex md IIB T5 KCS Ex dmb IIB T5/Ex d IIC T5 IP66/Ex ia IIB T6 Gb TS Ex db mb IIB T5 Gb X CSA (Class I, Zone 1)Ex dm IIB T5 FM XP-SI/1/CD/T5 Ta=60°; DIP/II, IIV/1/EFG/T5 Ta=60°; Type 4X NEPSI Ex dmb IIC T6 Gb TIS Ex dmb IIB T5 | |
| Ingress Protection | IP66 | |
| Operating Temp | Operating | -20°C~70°C(-4~158°F) |
| | Explosion | -20°C~60°C(-4~140°F) |
| Linearity | ± 1% F.S. | ± 2% F.S. |
| Hysteresis | ± 1% F.S. | |
| Sensitivity | ± 0.2% F.S. | ± 0.5% F.S. |
| Repeatability | ± 0.5% F.S. | |
| Air Consumption | 2.5LPM (sup=0.14MPa) | |
| Flow Capacity | 80LPM (sup=0.14MPa) | |
| Material | Aluminum Diecasting | |
| Weight | 2.8kg (6.2 lb) | |



Ordering Codes

Smart positioner – YT 3300

| Prefix | Model Number | Adders to Basic Version | | | Model |
|----------------|--|---|---|----------|-------------|
| | Rotork Smart Positioner / YT-3300 / 4-20mA Input | Double acting. Rotary. Connection: NPT. -30°-85°C. Pressure gauge. Stock Bracket to Actuator. | | | Model |
| PS | - 3300RDN55 | X | X | S | - YT |
| PS: Positioner | | 0: Basic Stock Version; Everything Listed Above 2: HART; w ith everything listed above | 0: No Adder 1: 4-20mA feedback (PTM) 2: Limit Sw itch (Mechanical) 4: Visual Indicator + 4-20mA feedback (PTM) + Limit Sw itch (Mechanical) | | |

Basic positioner – YT 1000

| Prefix | Model Number | Rating | Model Number | Adders to Basic Version | Model |
|----------------|--|----------|---|---|-------------|
| | Rotork Basic Positioner / YT-1000R / 4-20mA Input | Rating | | Double acting. Rotary. Connection: NPT. -20°-60°C. Pressure gauge. Stock Bracket to Actuator. | Model |
| PS | - 1000RD | X | 535S | X | - YT |
| PS: Positioner | N: Standard Version F: Ex-Proof FM (Available only w ith basic version - no other adders, i.e. 4-20ma feedback, or limit sw itch) | | 0: Basic Stock Version; Everything Listed Above | 0: No Adder 1: 4-20mA feedback (SPTM Internal) 3: Limit Sw itch (Mechanical) | |

About

We believe in selling “easy”. Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan Product Innovation Award

Global Headquarters

2505 Metro Blvd, Suite A / B
Maryland Heights, MO 63043
USA

Main Tel: +1-314-266-6880

info@easytork.com

www.easytork.com

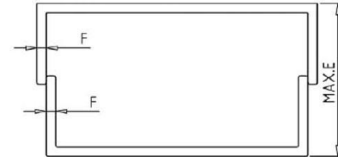
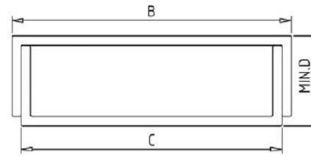
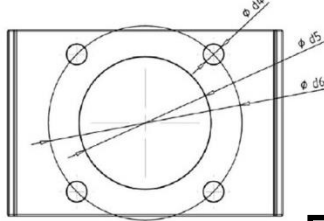
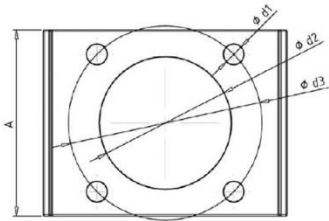
Hardware



ISO Mounting Bracket Dimensions

Bottom side
(valve pattern)

Top side
(actuator pattern)



Mix and match any bottom side and top side bracket within the same series.

Metric

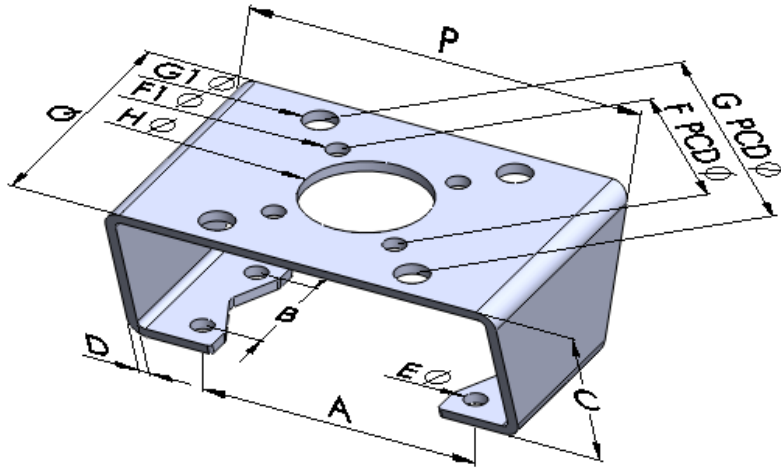
| Bottom Side (ie. Valve Pattern) Availability | Top Side (ie. Actuator Pattern) Availability | Dimensions (mm) | | | | | | | | | | | |
|--|--|------------------------------|-----|-----|---|-------|-------|------------------|-----|-----|---------------|-----|-----|
| | | Top & Bottom Joint Dimension | | | | | | Bottom Dimension | | | Top Dimension | | |
| | | A | B | C | F | MIN.D | MAX.E | Ød1 | Ød2 | Ød3 | Ød4 | Ød5 | Ød6 |
| S Series Bracket | | | | | | | | | | | | | |
| F03S | F03S | 50 | 66 | 60 | 3 | 30 | 50 | 5.3 | 25 | 36 | 5.3 | 25 | 36 |
| F04S | F04S | | | | | | | 5.3 | 30 | 42 | 5.3 | 30 | 42 |
| F05S | F05S | | | | | | | 6.4 | 35 | 50 | 6.4 | 35 | 50 |
| M Series Bracket | | | | | | | | | | | | | |
| F03M | F03M | 70 | 100 | 92 | 4 | 42 | 62 | 5.3 | 25 | 36 | 5.3 | 25 | 36 |
| F04M | F04M | | | | | | | 5.3 | 30 | 42 | 5.3 | 30 | 42 |
| F05M | F05M | | | | | | | 6.4 | 35 | 50 | 6.4 | 35 | 50 |
| F07M | F07M | | | | | | | 8.4 | 55 | 70 | 8.4 | 55 | 70 |
| L Series Bracket | | | | | | | | | | | | | |
| F07L | | 120 | 150 | 140 | 5 | 52 | 80 | 8.4 | 55 | 70 | | | |
| F10L | F10L | | | | | | | 10.5 | 70 | 102 | 10.5 | 70 | 102 |
| F12L | F12L | | | | | | | 13.0 | 85 | 125 | 13.0 | 85 | 125 |
| XL Series Bracket | | | | | | | | | | | | | |
| F10XL | | 160 | 160 | 150 | 5 | 70 | 100 | 10.5 | 70 | 102 | | | |
| F12XL | | | | | | | | 13.0 | 85 | 125 | | | |
| F14XL | F14XL | | | | | | | 17.0 | 100 | 140 | 17.0 | 100 | 140 |

Imperial

| Bottom Side (ie. Valve Pattern) Availability | Top Side (ie. Actuator Pattern) Availability | Dimensions (inch) | | | | | | | | | | | |
|--|--|------------------------------|------|------|------|-------|-------|------------------|------|------|---------------|------|------|
| | | Top & Bottom Joint Dimension | | | | | | Bottom Dimension | | | Top Dimension | | |
| | | A | B | C | F | MIN.D | MAX.E | Ød1 | Ød2 | Ød3 | Ød4 | Ød5 | Ød6 |
| S Series Bracket | | | | | | | | | | | | | |
| F03S | F03S | 1.97 | 2.60 | 2.36 | 0.12 | 1.18 | 1.97 | 0.21 | 0.98 | 1.42 | 0.21 | 0.98 | 1.42 |
| F04S | F04S | | | | | | | 0.21 | 1.18 | 1.65 | 0.21 | 1.18 | 1.65 |
| F05S | F05S | | | | | | | 0.25 | 1.38 | 1.97 | 0.25 | 1.38 | 1.97 |
| M Series Bracket | | | | | | | | | | | | | |
| F03M | F03M | 2.76 | 3.94 | 3.62 | 0.16 | 1.65 | 2.44 | 0.21 | 0.98 | 1.42 | 0.21 | 0.98 | 1.42 |
| F04M | F04M | | | | | | | 0.21 | 1.18 | 1.65 | 0.21 | 1.18 | 1.65 |
| F05M | F05M | | | | | | | 0.25 | 1.38 | 1.97 | 0.25 | 1.38 | 1.97 |
| F07M | F07M | | | | | | | 0.33 | 2.17 | 2.76 | 0.33 | 2.17 | 2.76 |
| L Series Bracket | | | | | | | | | | | | | |
| F07L | | 4.72 | 5.91 | 5.51 | 0.20 | 2.05 | 3.15 | 0.33 | 2.17 | 2.76 | | | |
| F10L | F10L | | | | | | | 0.41 | 2.76 | 4.02 | 0.41 | 2.76 | 4.02 |
| F12L | F12L | | | | | | | 0.51 | 3.35 | 4.92 | 0.51 | 3.35 | 4.92 |
| XL Series Bracket | | | | | | | | | | | | | |
| F10XL | | 6.30 | 6.30 | 5.91 | 0.20 | 2.76 | 3.94 | 0.41 | 2.76 | 4.02 | | | |
| F12XL | | | | | | | | 0.51 | 3.35 | 4.92 | | | |
| F14XL | F14XL | | | | | | | 0.67 | 3.94 | 5.51 | 0.67 | 3.94 | 5.51 |

Note : Mix and match any Bottom Side and Top Side ISO pattern within the same Series. For example, F03S-F03S, F03S-F04S, F03S-F05S, F04S-F03S, F04S-F04S, F04S-F05S, F05S-F03S, F05S-F04S, F05S-F05S.

NAMUR Mounting Bracket



Metric

| Dimensions (mm) | Limit Switch Bracket Ordering Code | | |
|--------------------|------------------------------------|--------------------|---------------------|
| | LB-2- | LB-2- | LB-2- |
| | 30x80mm- 45mm-X | 30x80mm- 55mm-X | 30x130mm- 55mm-X |
| A | 80.0 | 80.0 | 130.0 |
| B | 30.0 | 30.0 | 30.0 |
| C | 45.0 | 55.0 | 55.0 |
| D | 3.0 | 3.0 | 3.0 |
| E Ø | 6.0 | 6.0 | 6.0 |
| F PCD Ø | 50.0 | 50.0 | 50.0 |
| F1 Ø | 7.0 | 7.0 | 7.0 |
| G PCD Ø | 80.8 | 80.8 | 80.8 |
| G1 Ø | 9.0 | 9.0 | 9.0 |
| H Ø | 36.0 | 36.0 | 36.0 |
| P | 114.5 | 114.5 | 165.0 |
| Q | 76.0 | 76.0 | 76.0 |

Imperial

| Dimensions (inch) | Limit Switch Bracket Ordering Code | | |
|----------------------|------------------------------------|--------------------|---------------------|
| | LB-2- | LB-2- | LB-2- |
| | 30x80mm- 45mm-X | 30x80mm- 55mm-X | 30x130mm- 55mm-X |
| A | 3.15 | 3.15 | 5.12 |
| B | 1.18 | 1.18 | 1.18 |
| C | 1.77 | 2.17 | 2.17 |
| D | 0.12 | 0.12 | 0.12 |
| E Ø | 0.24 | 0.24 | 0.24 |
| F PCD Ø | 1.97 | 1.97 | 1.97 |
| F1 Ø | 0.28 | 0.28 | 0.28 |
| G PCD Ø | 3.18 | 3.18 | 3.18 |
| G1 Ø | 0.35 | 0.35 | 0.35 |
| H Ø | 1.42 | 1.42 | 1.42 |
| P | 4.51 | 4.51 | 6.50 |
| Q | 2.99 | 2.99 | 2.99 |

Butterfly Valve Spacer Plate Dimensions

| BFV Size | Model | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|
| | EVA-0309 | EVA-0411 | EVA-0514 | EVA-0717 | EVA-1022 | EVA-1227 | EVA-1436 |

Keystone and Similar Butterfly Valve

| | | | |
|------|--|--|---------------------------|
| 2" | Metric order code = P-1-82.6mm-F05-16.0mm Imperial order code = P-1-3.25in-F05-0.63in | Metric order code = P-1-82.6mm-F05-11.0mm Imperial order code = P-1-3.25in-F05-0.43in | Designates Tapped Design |
| 2.5" | | | |
| 3" | | | Designates Through Design |
| 4" | | | |
| 5" | | | |
| 6" | | | |
| 8" | | | |
| 10" | | | |
| 12" | | | |
| 14" | | | |
| 16" | | | |

Metric order code = P-1-F1012-F1012-6.0mm
Imperial order code = P-1-F1012-F1012-0.24in
Note: Individual plates can be stacked to achieve desired height

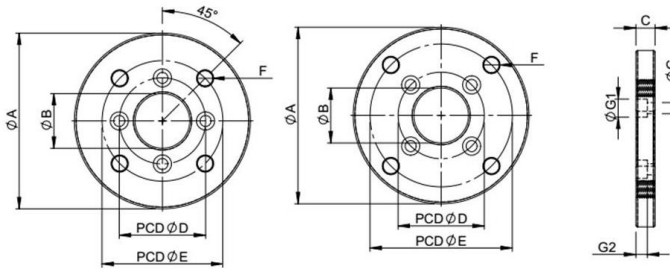
Centerline, ABZ and Similar Butterfly Valve

| | | | |
|------|--|---|---|
| 2" | Metric order code = P-1-F07-F05-16.0mm Imperial order code = P-1-F07-F05-0.63in | Metric order code = P-1-F07-F07-6.0mm Imperial order code = P-1-F07-F07-0.24in | Note: Stack individual plates to achieve desired height |
| 2.5" | | | |
| 3" | | | |
| 4" | | | |
| 5" | | | |
| 6" | | | |
| 8" | | | |
| 10" | | | |
| 12" | | | |
| 14" | | | |
| 16" | | | |

Metric order code = P-1-F1012-F1012-6.0mm
Imperial order code = P-1-F1012-F1012-0.24in
Note: Individual plates can be stacked to achieve desired height

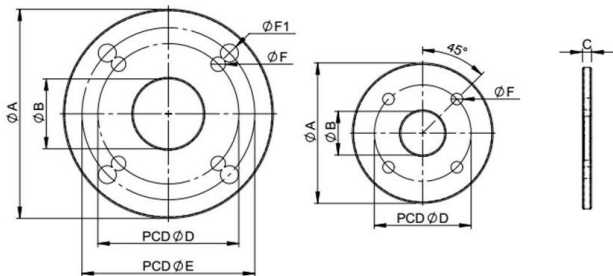
Spacer Plate With Tapped Hole

Tapped hole to interface valve side.



Space Plate With Through Hole

Through hole allows multiple plates to be stacked to achieve desired height.



Metric

| Dimensions (mm) | Plate Ordering Code | | | | |
|-----------------|-----------------------|-----------------------|--------------------|-------------------|-----------------------|
| | P-1-82.6mm-F05-16.0mm | P-1-82.6mm-F05-11.0mm | P-1-F07-F05-16.0mm | P-1-F07-F07-6.0mm | P-1-F1012-F1012-6.0mm |
| Type | Tapped | Tapped | Tapped | Through | Through |
| A Ø | 102.0 | 102.0 | 102.0 | 102.0 | 152.0 |
| B Ø | 31.8 | 31.8 | 31.8 | 31.8 | 50.8 |
| C | 16.0 | 11.0 | 16.0 | 6.0 | 6.0 |
| D Ø | 50.0 / F05 | 50.0 / F05 | 50.0 / F05 | 70.0 / F07 | 102.0 / F10 |
| For | EVA | EVA | EVA | Valve & EVA | Valve & EVA |
| E Ø | 82.6 | 82.6 | 70.0 / F07 | | 125.0 / F12 |
| For | Valve | Valve | Valve | | Valve & EVA |
| F Ø | M8 | M8 | M8 | 8.4 | 10.5 |
| F1 Ø | | | | | 13.0 |
| G Ø | 6.4 | 6.4 | 6.4 | | |
| G1 Ø | 10.5 | 10.5 | 10.5 | | |
| G2 | 6.5 | 6.5 | 6.5 | | |

Imperial

| Dimensions (inch) | Plate Ordering Code | | | | |
|-------------------|-----------------------|-----------------------|--------------------|--------------------|------------------------|
| | P-1-3.25in-F05-0.63in | P-1-3.25in-F05-0.43in | P-1-F07-F05-0.63in | P-1-F07-F07-0.24in | P-1-F1012-F1012-0.24in |
| Type | Tapped | Tapped | Tapped | Through | Through |
| A Ø | 4.02 | 4.02 | 4.02 | 4.02 | 5.98 |
| B Ø | 1.25 | 1.25 | 1.25 | 1.25 | 2.00 |
| C | 0.63 | 0.43 | 0.63 | 0.24 | 0.24 |
| D Ø | 1.97 / F05 | 1.97 / F05 | 1.97 / F05 | 2.76 / F07 | 4.02 / F10 |
| For | EVA | EVA | EVA | Valve & EVA | Valve & EVA |
| E Ø | 3.25 | 3.25 | 2.76 / F07 | | 4.92 / F12 |
| For | Valve | Valve | Valve | | Valve & EVA |
| F Ø | 3/8-16 | 3/8-16 | 5/16-18 | 0.33 | 0.41 |
| F1 Ø | | | | | 0.51 |
| G Ø | 0.25 | 0.25 | 0.25 | | |
| G1 Ø | 0.41 | 0.41 | 0.41 | | |
| G2 | 0.26 | 0.26 | 0.26 | | |

Ordering Codes

Mounting Bracket

| <u>Product Type</u> | <u>Bracket Material</u> | <u>Loose Bracket Parts</u> | | <u>If Welded</u> |
|--|--|--|--|---|
| | Bracket Material (Corrosion Rating) | Bottom Side Valve Pattern | Top Side Actuator Pattern | Fill Section Only If Welding Done By Easytork |
| B | - X | - X | - X | - X |
| B: Easytork mounting bracket | 2: Stainless steel (SS304) | Mix and Match Within S Series F03S, F04S, F05S | Mix and Match Within M Series F03M, F04M, F05M, F07M | Define by total height dimension (refer to MIN.D and MAX.E) |
| | | Mix and Match Within L Series F07L, F10L, F12L | Mix and Match Within XL Series F10XL, F12XL, F14XL | <i>Format:</i> 0.0mm 0.00in |
| | | 0: Custom | | X: None |

Spacer Plate for Butterfly Valves

| <u>Product Type</u> | <u>Plate Material</u> | <u>Flange Description</u> | | <u>Plate Height</u> |
|--|---|---|--|---|
| | Plate Material (Corrosion Rating) | Valve Flange Available | Actuator Flange Available | Plate Height |
| P | - X | - X | - X | - X |
| P: Spacer plate for butterfly valve | 1: Standard version 2: Chemical resistant version | If ISO pattern F05: F05 F07: F07 F1012: F10 & F12 | Define by ISO pattern F05: F05 F07: F07 F1012: F10 & F12 | Define by height dimension <i>Format</i> 0.0mm 0.00in |
| | | If non-ISO, define by PCD dimension <i>Format</i> 0.0mm 0.00in | | Note: "mm" or "in" designates metric or imperial threading for tapped plate designs |

Ordering Codes

Direct and Semi-Direct EVA Shafts

| Prefix | Product Type | Type of Shaft | | | Shaft Attributes | |
|----------------|----------------------------|--|--|--|------------------|---|
| | | Actuator Size | Shaft Material (Corrosion Rating) | Shaft Orientation | Shaft Type | |
| K | - AS | - X | - X | - X | - | X |
| K : Kit | AS : Actuator shaft | 1: EVA-0309 2: EVA-0411 3: EVA-0514 4: EVA-0717 5: EVA-1022 6: EVA-1227 7: EVA-1436 8: EVA-1646 | 1: Standard version 2: Chemical resistant version | 1: Lower shaft (standard, 1 valve operation) | | 1: Direct mount 2: Semi-direct mount 0: Custom |
| | | | | | | Note: For custom shafts, call for custom made shafts. |

Limit Switch Bracket

| Product Type | Bracket Material | Flange Measurement | Bracket Height | Version |
|----------------------------------|--|---|--------------------------------------|--|
| | Bracket Material (Corrosion Rating) | Actuator's VDI/VE 3845 Measurement | Total Limit Switch Bracket Height | Wrench Accessible |
| LB | - X | - X | - X | - X |
| LB : Limit switch bracket | 2: Chemical resistant version | Width x length <i>Format:</i> 0mm | Height <i>Format:</i> 0mm | X : Non-wrench accessible WR : For wrench manual override |

Easytork's Stock Standard Limit Switch Bracket Stocking

| | | | | | | | | |
|-----------|---|----------|---|-----------------|---|-------------|---|-----------|
| LB | - | 2 | - | 30x80mm | - | 45mm | - | X |
| LB | - | 2 | - | 30x80mm | - | 55mm | - | X |
| LB | - | 2 | - | 30x130mm | - | 55mm | - | X |
| LB | - | 2 | - | 25x50mm | - | 45mm | - | WR |
| LB | - | 2 | - | 30x80mm | - | 45mm | - | WR |

Note: For dimensions not listed above, call for custom made limit switch brackets. Easytork does not readily stock limit switch brackets not listed

Ordering Codes

EVA Drive Inserts (to fit various valve stems)

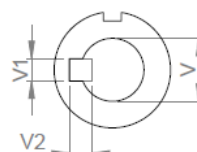
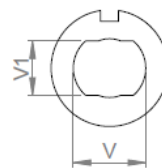
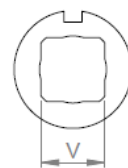
| Product Type | | Type of Insert | | | Insert Measurement | | |
|---------------------------------------|--|--|--|---|--|----|--|
| Actuator Size | | Insert Material (Corrosion Rating) | Drive Insert Type | | Drive Insert Size (Measurement of Valve Stem) | | |
| D | X | X | X | X | X | XX | |
| D: Actuator drive insert | 1: EVA-0309 2: EVA-0411 3: EVA-0514 4: EVA-0717 5: EVA-1022 6: EVA-1227 7: EVA-1436 8: EVA-1646 | 1: Standard version 2: Chemical resistant version | 1: Square drive 2: Double d 3: Keyway 4: Blank (with a hole drilled) 0: Custom | If Sqr: Flat (V) x flat (V) If DD: Circle diameter (V) x flat (V1) If Key: Circle diameter (V) x key (V1) x key (V2) <i>Format:</i> 0.00mm 0.000in | in: In inches mm: In millimeter | | |
| Leave section empty for blank inserts | | | | | | | |

Measurements V, V1 and V2 reflect valve stem dimensions. Inserts subsequently made with appropriate tolerance for valve stem interface.

Select Examples of Easytork's Standard Drive Insert Stocking

ISO Standard Square Stems

| | | | | | | | |
|---|---|---------|-------|---|---|-------------|----|
| D | - | [1,2] | [1,2] | 1 | - | 9.00x9.00 | mm |
| D | - | [1,2,3] | [1,2] | 1 | - | 11.00x11.00 | mm |
| D | - | [2,3,4] | [1,2] | 1 | - | 14.00x14.00 | mm |
| D | - | [3,4,5] | [1,2] | 1 | - | 17.00x17.00 | mm |
| D | - | [4,5] | [1,2] | 1 | - | 19.00x19.00 | mm |
| D | - | [4,5,6] | [1,2] | 1 | - | 22.00x22.00 | mm |
| D | - | [5,6] | [1,2] | 1 | - | 27.00x27.00 | mm |
| D | - | [6] | [1,2] | 1 | - | 36.00x36.00 | mm |



To Justify Popular Butterfly Valve Brand Stem

Keystone, ABZ and Similar Butterfly Valve Size / Corresponding Drive Insert Ordering Code

| | | | | | | | | |
|------|---|---|---------|-------|---|---|-------------------|----|
| 2" | D | - | [2,3] | [1,2] | 2 | - | 0.563x0.375 | in |
| 2.5" | D | - | [2,3] | [1,2] | 2 | - | 0.563x0.375 | in |
| 3" | D | - | [2,3] | [1,2] | 2 | - | 0.563x0.375 | in |
| 4" | D | - | [2,3,4] | [1,2] | 2 | - | 0.625x0.438 | in |
| 5" | D | - | [4,5] | [1,2] | 2 | - | 0.750x0.500 | in |
| 6" | D | - | [4,5] | [1,2] | 2 | - | 0.750x0.500 | in |
| 8" | D | - | [4,5,6] | [1,2] | 2 | - | 0.875x0.625 | in |
| 10" | D | - | [5,6,7] | [1,2] | 3 | - | 1.125x0.250x0.250 | in |
| 12" | D | - | [5,6,7] | [1,2] | 3 | - | 1.125x0.250x0.250 | in |
| 14" | D | - | [6,7] | [1,2] | 3 | - | 1.375x0.313x0.313 | in |

About

We believe in selling "easy". Easytork brings differentiating features and benefits to the process control industry through our focus on innovation and quality. Easytork has been awarded numerous awards including:

2013 – Arch Grants Recipient

2015 – Accelerate St. Louis

2017 – Frost & Sullivan Product Innovation Award

Global Headquarters

2505 Metro Blvd, Suite A / B
Maryland Heights, MO 63043
USA

Main Tel: +1-314-266-6880

info@easytork.com

www.easytork.com

Easytork Automation Corporation

Global Headquarters

2505 Metro Blvd, Suite A / B
Maryland Heights, MO 63043
USA

Main Tel: +1-314-266-6880

info@easytork.com

www.easytork.com