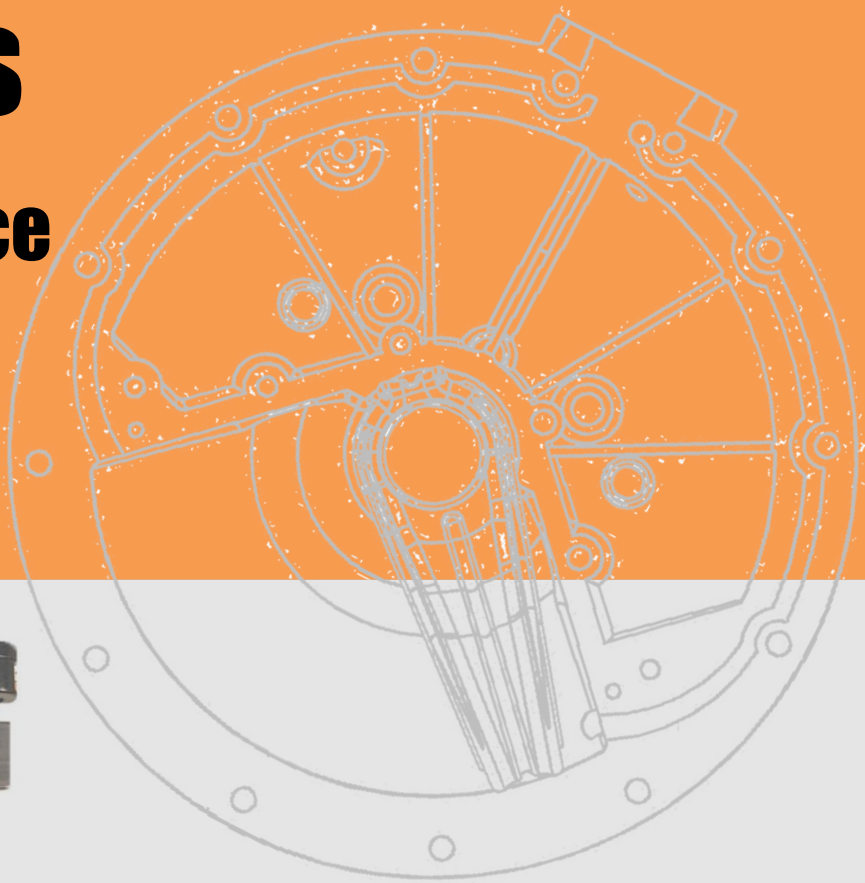
Easytork®

ECA Series

High-Performance Quarter-Turn Control Valve Solutions





Play Overview Video

Version: June 2021

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

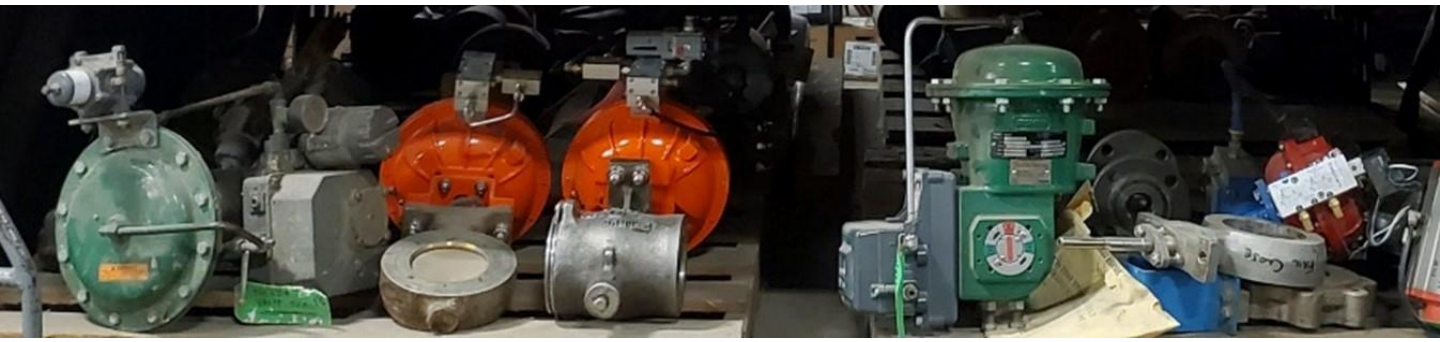
2015 – Accelerate St. Louis

2017 – Frost & Sullivan New Product Innovation Award

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Easytork Control Actuator (“ECA”)	3
ECA F Series (For valves with spline shaft)	14
ECA IC Series (For valves with sq, dd, bore and key valve shaft)	18
Namur Trip Valve (“NTV”)	24

ECA Customer Testimonial

End user’s feedback since switching to Easytork actuators for the same control valves



On the control valve performance and ease of use:

“The flow control has been spectacular, tuning the loops is quick & easy, as the ECA is extremely responsive. The loops are as tight as you could hope for, during set point changes there is no dead time and no overshoot while process disturbances are put down quickly with minimal to no settling out.”

“…the ECA is hands down far superior to a 1066 and as good as if not better than a 2052… I have had DVC6200s on 1066 actuators and the ECA setup blows that out of the water.”

– Customer testimonial (first install since 2017, replacing existing piston and spring & diaphragm actuators)

Easytork is the sole warrantor of this product and is NOT affiliated or endorsed by Fisher, or any other Emerson Process Management Company

Easytork

Easytork Control Actuator



Patent Pending

Easytork Control Vane Actuator ("ECA") Overview

Consistently The Best Actuator For Any Rotary Control Valve

ECA control valve performance is not underpinned by variable workmanship but by the simplicity of the patented design and construction methodology



The ONLY rotary actuator that contributes ZERO slop to a control valve package

One Solid Piece

Positioner to valve stem is connected by one solid piece. There are no linkages.

Pure Rotary

Actuator is a pure rotary actuator. No linear to rotary motion transfer.

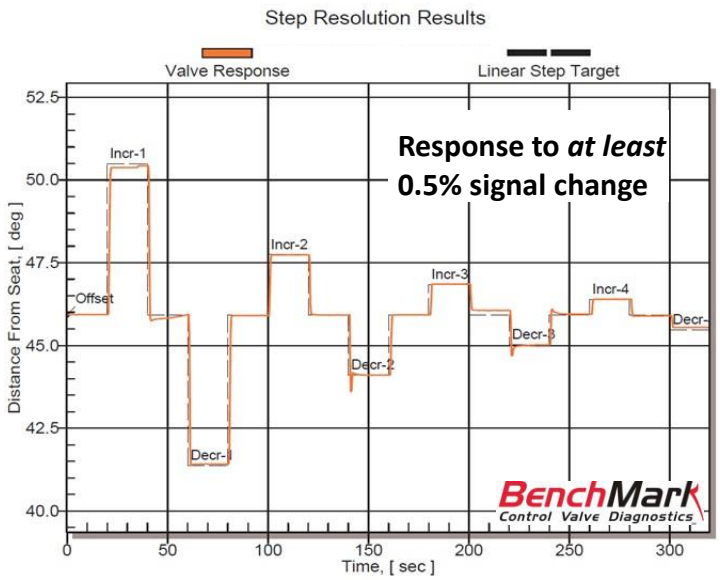


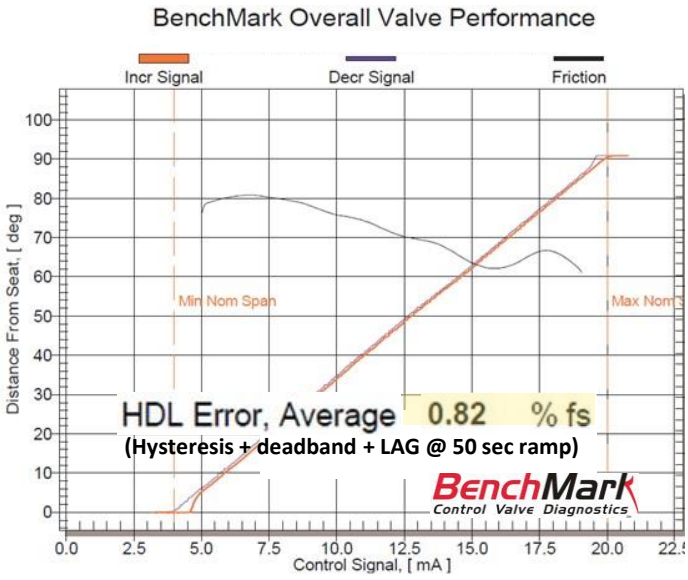
Black Diamond Test With ECA

Black Diamond is a ISA.75.25 control valve diagnostic that measures the control valve's *comprehensive* performance.

Click or Scan Here: Case Study

Any rotary valve with an ECA paired to a quality positioner can achieve the following results, while the same positioner with other actuators seldom achieve (or consistently achieve) these results.





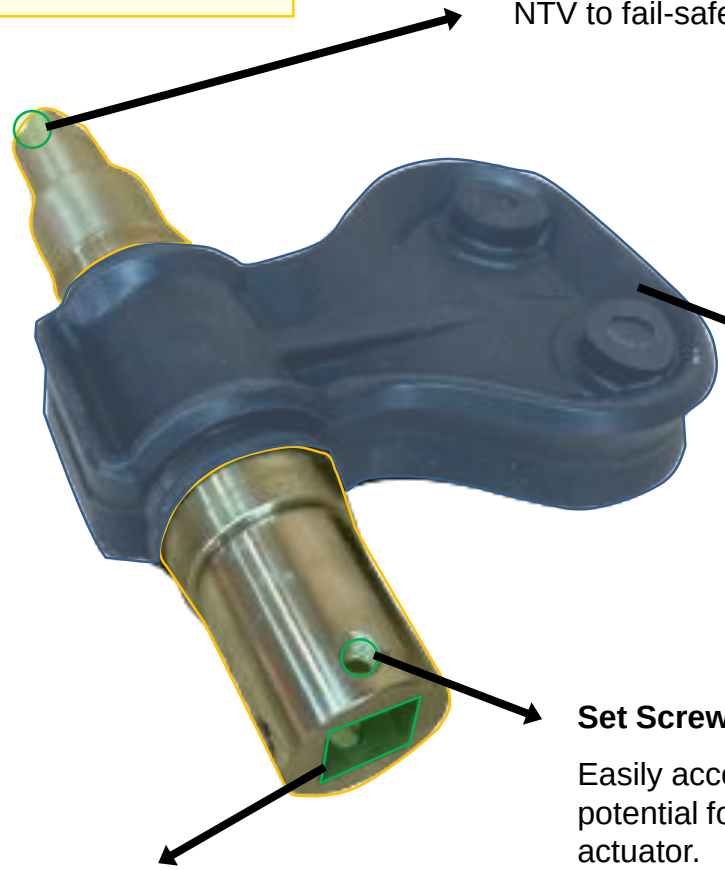
Easytork Control Vane Actuator Overview

Zero Slop Between Positioner to Valve Stem

Vane skeleton is one solid piece from positioner to valve

Universally Compatible With Any Positioner

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



Seal is vulcanized around vane skeleton

Life Long Low Friction

Lip seal design results in no increase in actuator friction after 1,000,000+ cycles.

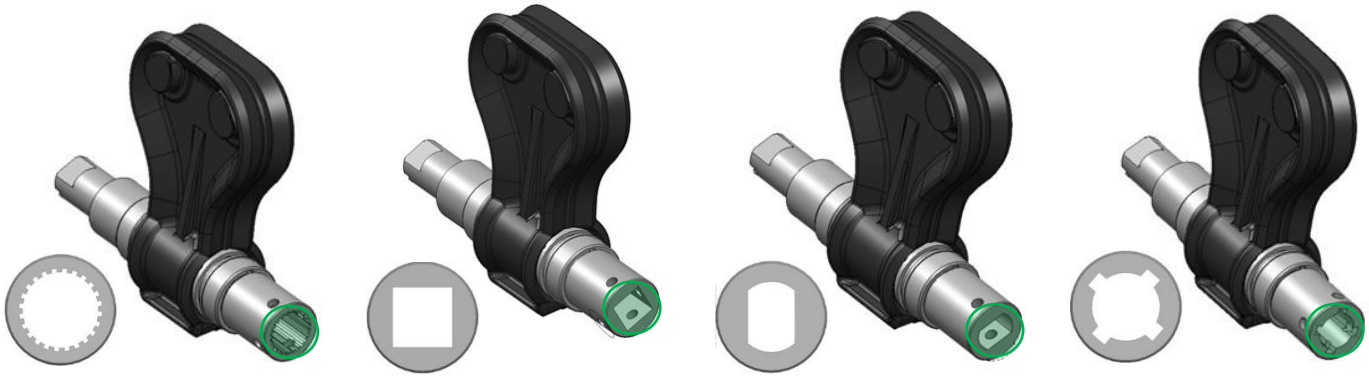
Modified CR (Neoprene) is suitable from -40˚C to 120˚C (-40˚F to 248˚F).

Set Screw

Easily accessible set screw helps reduce potential for deadband between valve and actuator.

Precision Cut To Any Valve Shaft

ECA are compatible to any rotary valve.



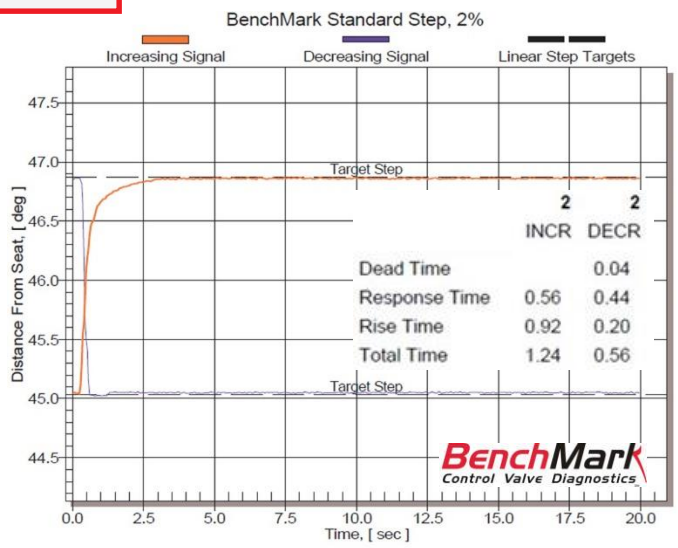
Spline **Square** **DD** **Bore and Key**

Easytork Control Vane Actuator Overview

Easytork value-adds to your control valve SYSTEMS

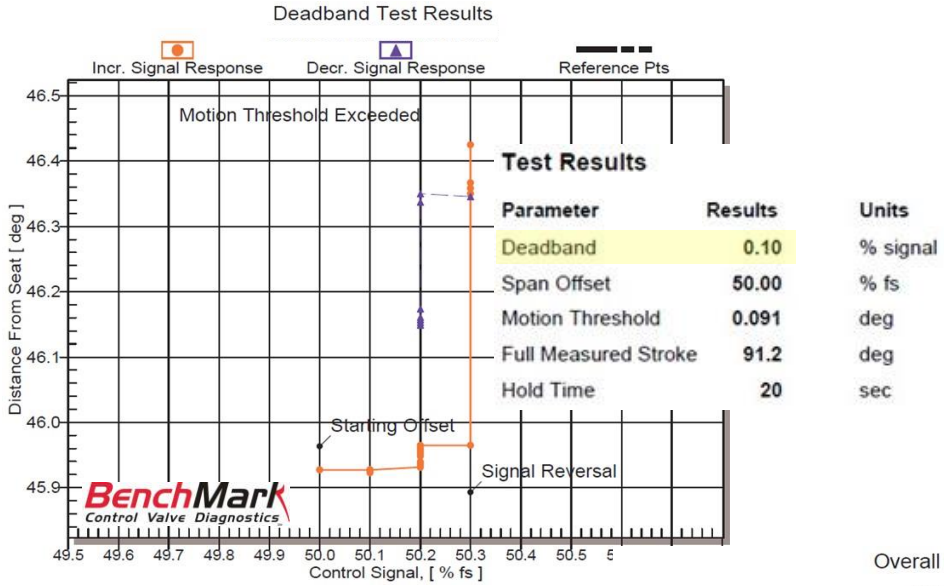
Fast valve position response

Valve position will quickly reflect input signal. The low air consumption and low friction of Easytork produces fast stroking speeds at small or large signal change.



Stiffness / no slam shut on small openings

Actuator runs on double-acting principle even in fail-safe setup. Not only does this prevent spring drift, but high air pressure (up to 100 psi) on both sides provide for exceptional stiffness to withstand sudden change in dynamic fluid force

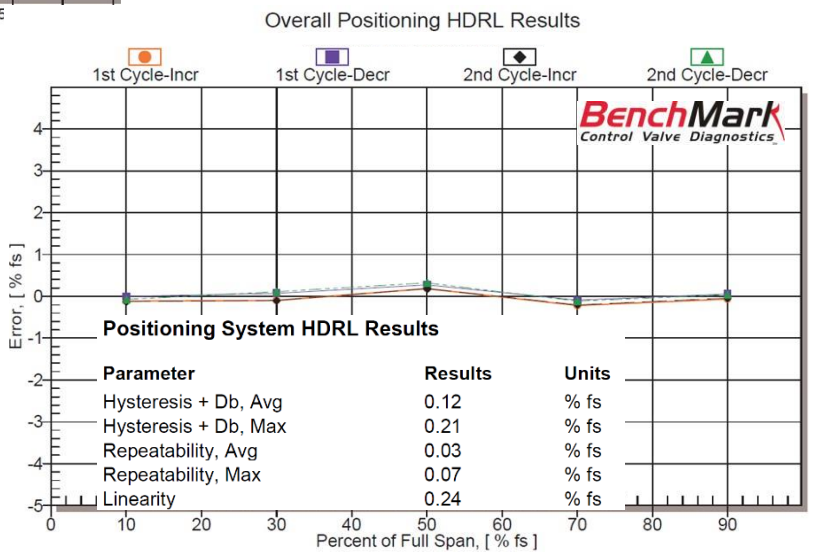


Low friction lip seal design

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

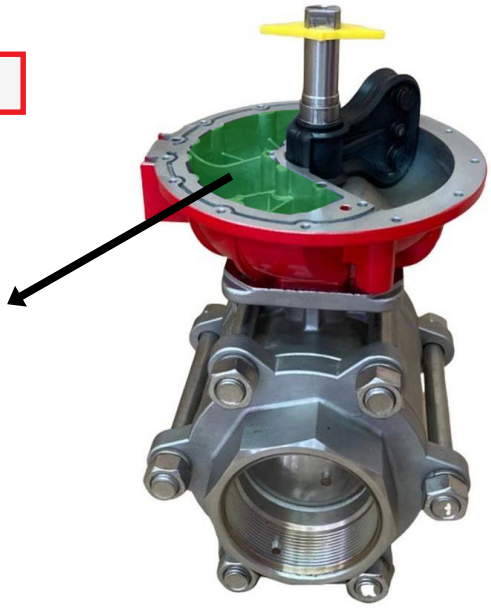
Click or Scan Here:
Case Study

Any rotary valve with an ECA paired to a quality positioner can achieve the following results, while the same positioner with other actuators seldom achieve (or consistently achieve) these results.



Easytork Control Vane Actuator Overview

Easytork value-adds to your control valve OPERATIONS



Using internal air reservoir for fail-safe –

Ideal for dirty environment & poor instrument air

Gone are all the problems associated with spring return actuators. Environment air never enters Easytork actuators because unlike springs, air reservoir fail-safe systems never pulls in environment air into actuator. The ECA's heavy duty vane resists poor instrument air significantly better than actuators that utilize O-rings.

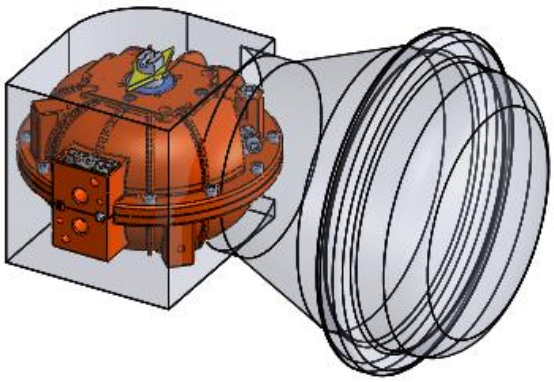
"Mining and milling present some of the harshest environments for automated valves. Instrument air is not guaranteed to be clean, dry and particle free. Environmental air can be of poor quality and laden with contaminants. Easytork actuators thrive in these conditions and have been used extensively in mining on a multitude of applications."

– Customer testimonial (first install since 2015)

Video: Click or Scan Here

Actuator never pulls in environment air

Smaller and 7.5x lighter than diaphragm rotary actuator



Size comparison to spring & diaphragm actuator

<134 lbs (<61kg)

6" complete segmented control valve assembly



"Weight – As you are well aware, one of the biggest benefits of switching over from a 2052 S&D, 1066SR, 1066DA is the weight drop. What used to require two people and a chain fall can be accomplished by one person (depending on valve size of course)"

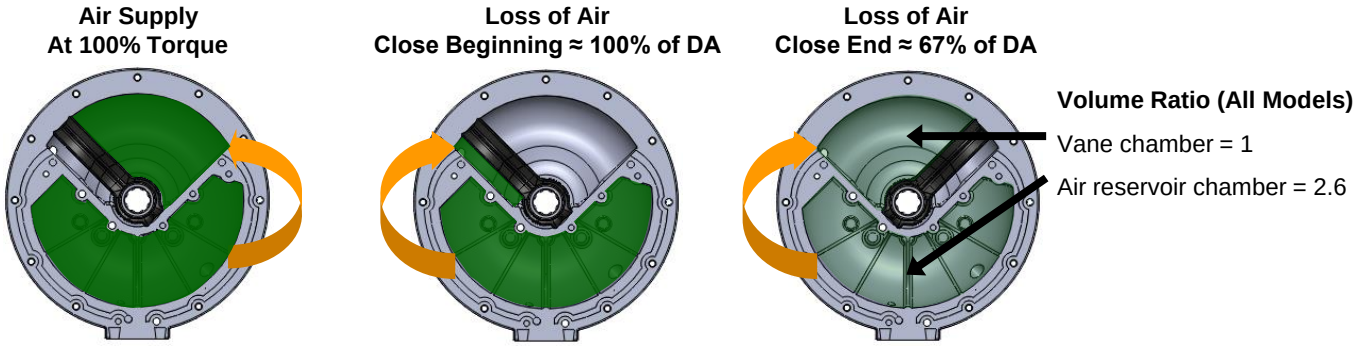
– Customer testimonial

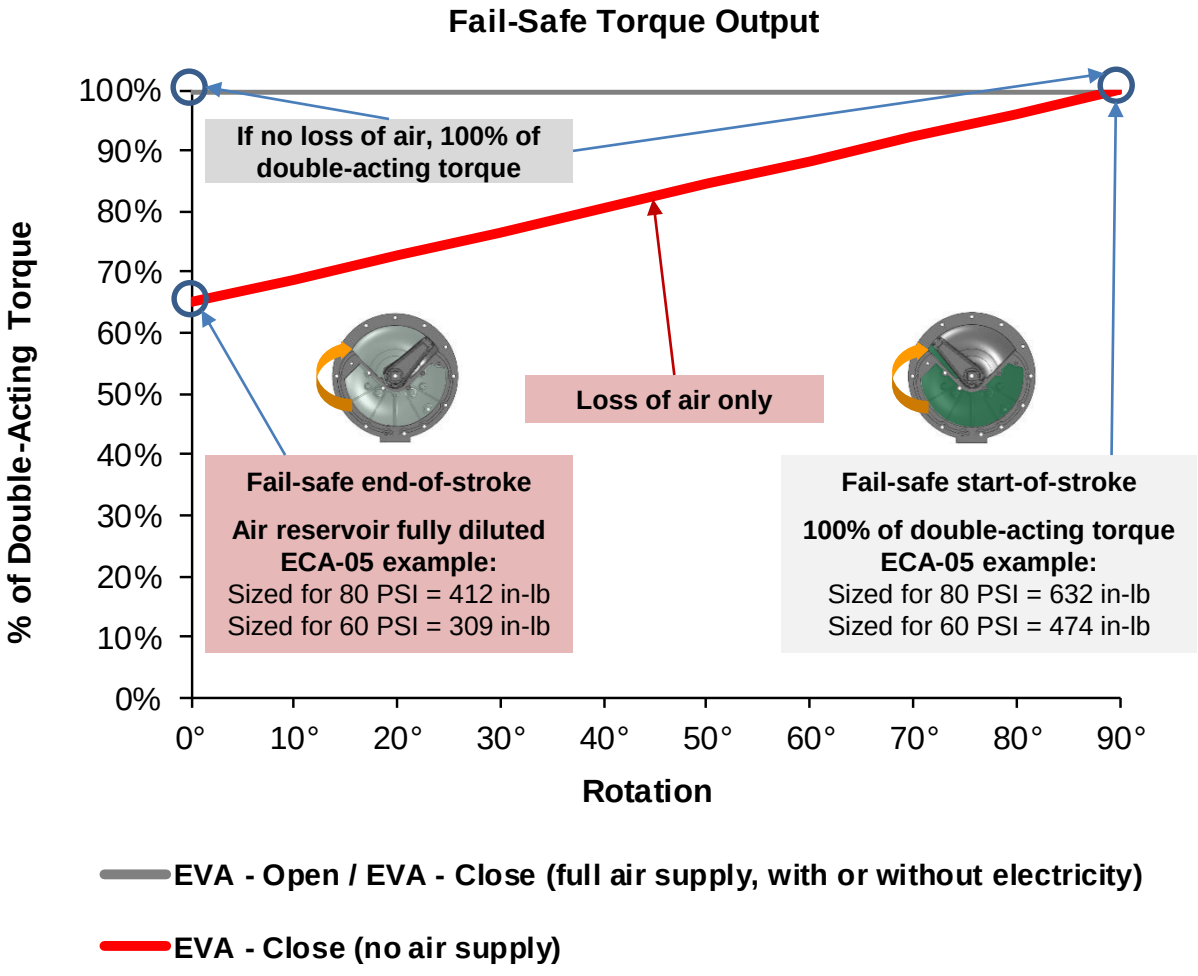
Easytork is the sole warrantor of this product and is NOT affiliated or endorsed by Fisher, or any other Emerson Process Management Company

ECA Fail-Safe Principle and Sizing

Fail-safe principle

ECA 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.

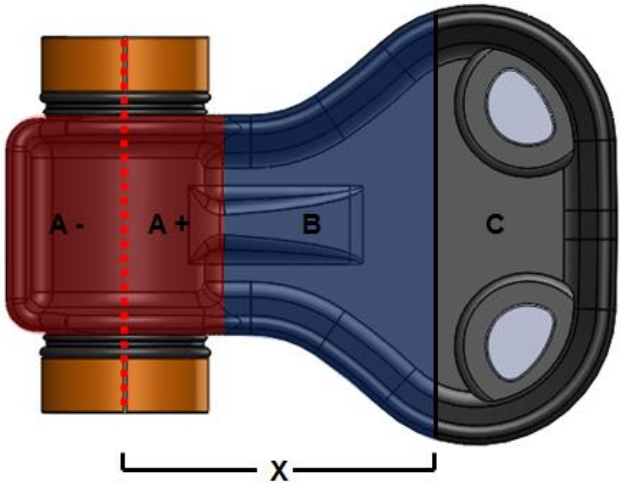




ECA Double-Acting Principle and Sizing

Double-acting principle

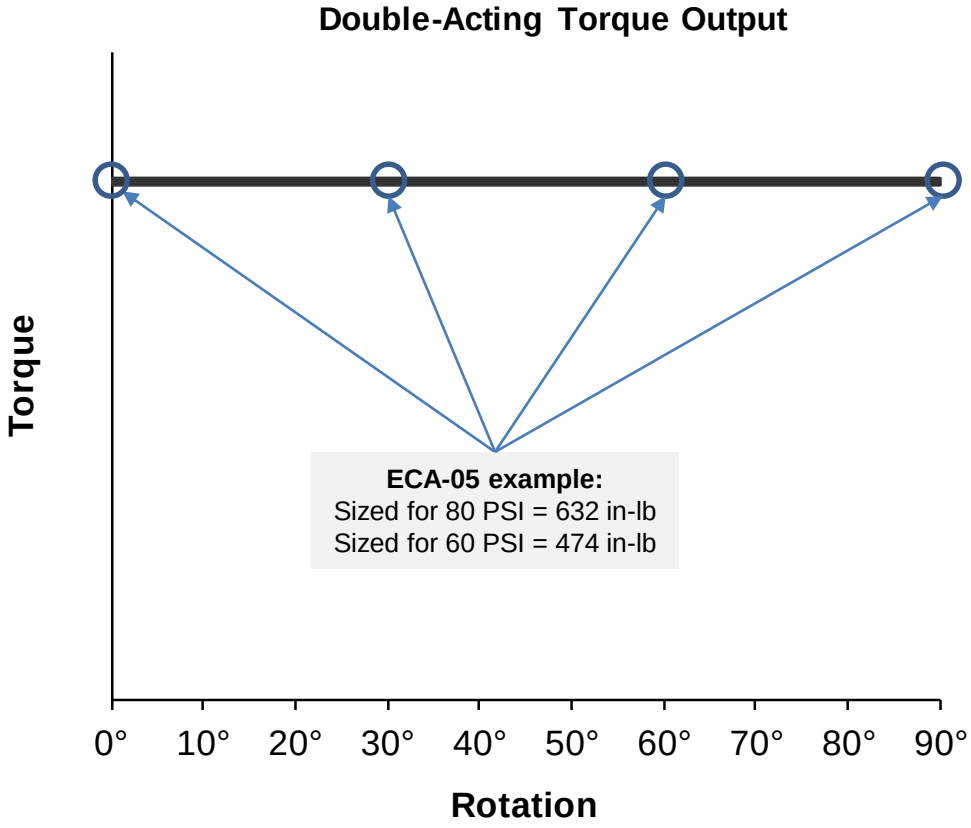
Torque is determined by multiplying the applied force by the distance from the pivot point to the point where the force is applied.



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.



ECA Torque Output (F and IC Series)

Metric

Double-Acting (NM)

Model / BAR	1.0	2.0	3.0	4.0	5.0	5.5	6.0	7.0
ECA-05	12.9	25.9	38.8	51.8	64.7	71.2	77.6	90.6
ECA-07	27.6	55.2	82.7	110.3	137.9	151.7	165.5	193.1
ECA-10	55.7	111.5	167.2	222.9	278.7	306.6	334.4	390.2
ECA-12	123.6	247.3	370.9	494.5	618.1	679.9	741.8	865.4
ECA-14	215.7	431.4	647.1	862.8	1,078.5	1,186.4	1,294.2	1,509.9
ECA-16	474.0	948.0	1,422.0	1,896.0	2,370.0	2,607.0	2,844.0	3,318.0

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

Model / BAR	1.0	2.0	3.0	4.0	5.0	5.5	6.0	7.0
ECA-05	8.4	16.9	25.3	33.7	42.2	46.4	50.6	59.0
ECA-07	18.3	36.7	55.0	73.4	91.7	100.9	110.0	128.4
ECA-10	36.9	73.8	110.7	147.5	184.4	202.9	221.3	258.2
ECA-12	83.5	167.0	250.5	334.0	417.4	459.2	500.9	584.4
ECA-14	145.6	291.2	436.8	582.4	728.0	800.8	873.6	1,019.2
ECA-16	317.6	635.1	952.7	1,270.2	1,587.8	1,746.5	1,905.3	2,222.9

Imperial

Double-Acting (In-Lb)

Model / PSI	20	30	40	50	60	70	80	90	100
ECA-05	158	237	316	395	474	553	632	711	790
ECA-07	337	505	673	842	1,010	1,178	1,347	1,515	1,683
ECA-10	680	1,020	1,361	1,701	2,041	2,381	2,721	3,061	3,401
ECA-12	1,509	2,263	3,018	3,772	4,527	5,281	6,036	6,790	7,545
ECA-14	2,633	3,949	5,265	6,582	7,898	9,215	10,531	11,847	13,164
ECA-16	5,785	8,678	11,571	14,463	17,356	20,249	23,141	26,034	28,927

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

Model / PSI	20	30	40	50	60	70	80	90	100
ECA-05	103	154	206	257	309	360	412	463	514
ECA-07	224	336	448	560	672	783	895	1,007	1,119
ECA-10	450	675	900	1,126	1,351	1,576	1,801	2,026	2,251
ECA-12	1,019	1,529	2,038	2,548	3,057	3,567	4,076	4,586	5,095
ECA-14	1,777	2,666	3,554	4,443	5,331	6,220	7,108	7,997	8,886
ECA-16	3,876	5,814	7,752	9,690	11,627	13,565	15,503	17,441	19,379

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

ECA Technical Data (F and IC Series)

	Note	Unit	Model					
			ECA-05	ECA-07	ECA-10	ECA-12	ECA-14	ECA-16
Weight		Kg	2.8	5.8	10.5	22.2	39.1	75.6
		Lb	6.1	12.7	23.1	48.9	86.1	166.7
Total air volume	DA or FS	Litre	0.300	0.600	1.200	2.400	4.800	9.600
90° stroke with dead volume	CCW *or* CW	In^3	18.3	36.6	73.2	146.5	292.9	585.8
	DA and FS	Litre	0.600	1.200	2.400	4.800	9.600	19.200
	CCW *and* CW	In^3	36.6	73.2	146.5	292.9	585.8	1171.7
Stroke time								
At 5.5 bar or 80 psi, no load	*DA (open / close)*	Sec	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	0.36/0.39	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

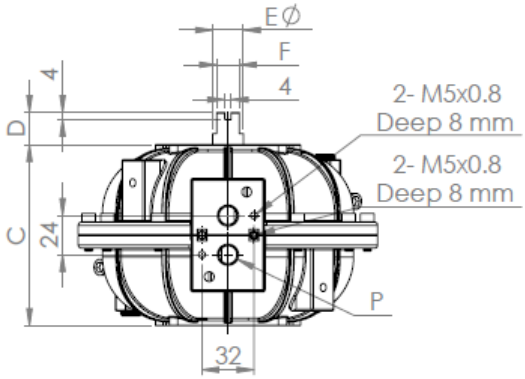
Mounting Specifications

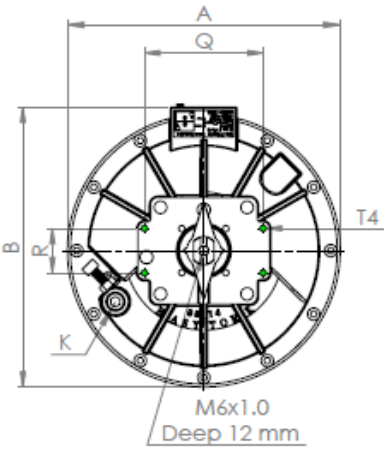
Actuator to valve	Mounting standard per EN ISO5211 (DIN3337 optional) and traditional mounting
Drive components	Square, Double D, Bore & Key, or Spline
Accessories	NAMUR VDI/VDE 3845

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

ECA and Auxiliary Interface Dimensions (F and IC Series)





Note: Figures in drawings in mm.

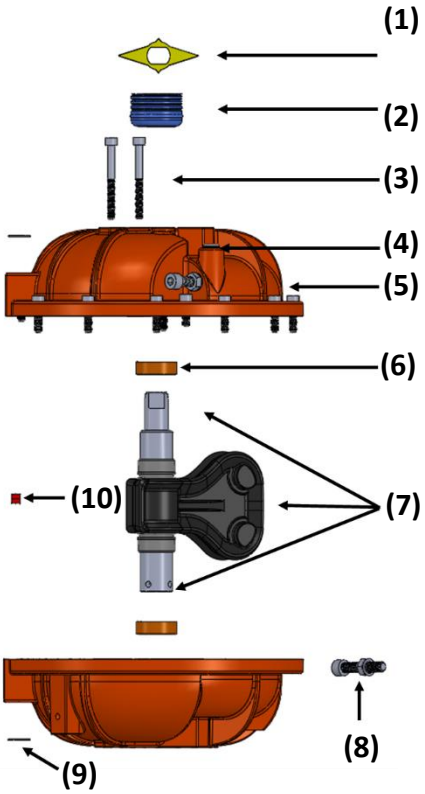
Imperial

Dimensions (inch)	Model					
	ECA-05	ECA-07	ECA-10	ECA-12	ECA-14	ECA-16
Actuator Dimensions						
A	7.24	9.41	11.61	15.20	18.50	23.03
B	7.44	9.61	11.81	15.31	18.70	23.21
C	4.41	5.71	7.17	9.37	11.26	14.08
F	0.55	0.55	0.94	0.94	0.94	0.94
E Ø	0.75	0.75	1.30	1.30	1.30	1.30
P	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	M6x35mm	M8x45mm	M8x50mm	M12x60mm	M12x70mm	M16x100mm
Actuator Dimensions of Accessories Flange						
D	0.79	0.79	0.79	1.18	1.18	1.18
R	1.18	1.18	1.18	1.18	1.18	1.18
Q	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

Metric

Dimensions (mm)	Model					
	ECA-05	ECA-07	ECA-10	ECA-12	ECA-14	ECA-16
Actuator Dimensions						
A	184	239	295	386	470	585
B	189	244	300	389	475	590
C	112	145	182	238	286	358
F	14	14	24	24	24	24
E Ø	19	19	33	33	33	33
P	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	M6x35mm	M8x45mm	M8x50mm	M12x60mm	M12x70mm	M16x100mm
Actuator Dimensions of Accessories Flange						
D	20	20	20	30	30	30
R	30	30	30	30	30	30
Q	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

ECA Bill of Material (F and IC Series)



Ref No	Description	Standard Version	Quantity
1	Yellow position & degree indicator	NBR	1
2	Blue graduated ring	NBR	1
3	Connecting bolt & nut	Stainless steel	1 lot
4	Plug	Nickel-plated steel	1
5	Housing	Aluminum A383 / epoxy finish	2
6	Vane / shaft bearing	PTFE lined steel baked bronze bushing	2
7	Vane / shaft assembly*	Stainless Steel or NPS bonded with modified CR	1
8	Stopper bolt and nut set	Stainless steel	2
9	Tag plate*	Stainless steel	1
10	Locator insert*	Plastic	2

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

Easytork

ECA F Series

(For Valves With Splined Shafts)





Patent Pending

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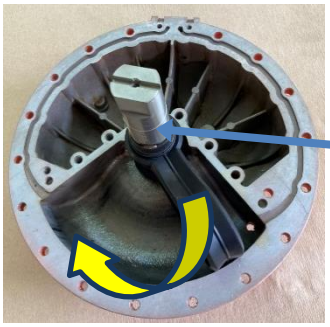
Easytork ECA F Series Overview

Easytork benefits that improve your OPERATIONS

Compatible with most major control valve brands

The ECA is the *only* actuator in the market that couples directly with a spline shaft valve stem without the need for any linkage or motion transfer mechanism.

F series purpose:
Valves with spline shaft



Rotary-to-rotary



Reciprocated spline stem as part of vane



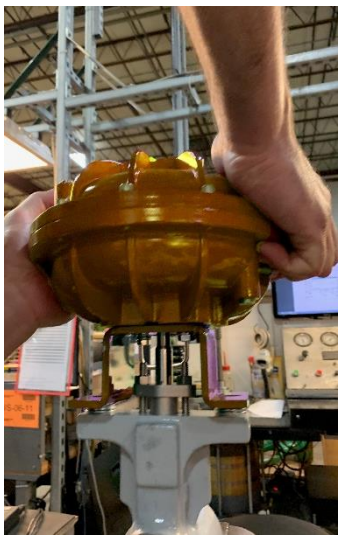
Hassle-free upgrade

Video: Click or Scan Here

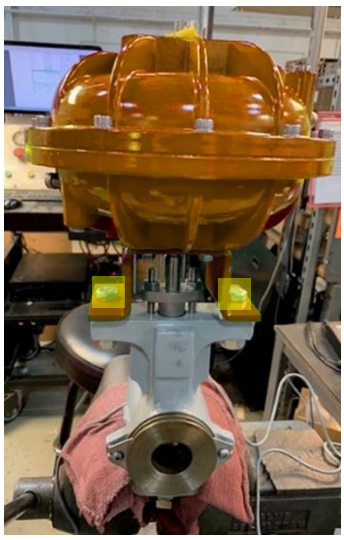
Assembling actuator to a control valve with a splined shaft is as easy as align, drop and bolt.

Drop





Bolt



"Installation is so easy that it will take me longer to disassemble and hammer a valve body out of an old Fisher 1066 actuator than it does to mount the ECA, fail block, and positioner."

– Customer testimonial

Easytork is the sole warrantor of this product and is NOT affiliated or endorsed by Flowserve, Fisher, or any other Emerson Process Management Company

ECA F to Valve Order Code

Inventory Reduction: 10 Actuators For All Valves Listed Valves Below

Extreme Sizing Flexibility

With 80 psi of plant air supply, 10 different actuators are all that is needed to cover DA or FS sizing for all the valves below.

Easytork Valve Pairing - Sizing By Valve's Maximum Allowable Torque

*Only for **S17400** and **S20910** shaft. For other valves, or valve and valve shaft diameter combinations not listed, contact Easytork.*

Easytork Actuator Order Code: ECA-05-F-1/2-11-1 Compatible With:	
Select Valves With 1/2" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	1"
Control-Disk™ (CL150, CL300)	2"
8560 (CL150)	2", 3"
8560 (CL300)	2"
8580	2"
V500	1", 1-1/2"

Easytork Actuator Order Code: ECA-07-F-5/8-11-1 Compatible With:	
Select Valves With 5/8" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	1-1/2", 2"
Control-Disk™ (CL150, CL300)	3"
8560 (CL150)	4"
8560 (CL300)	3"
8580	3"
V500	1-1/2", 2"

Easytork Actuator Order Code: ECA-10-F-3/4-11-1 Compatible With:	
Select Valves With 3/4" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	3", 4"
Control-Disk™ (CL150, CL300)	4"
8560 (CL150)	6"
8560 (CL300)	4"
8580	4"
V500, CV500	3"

Easytork Actuator Order Code: ECA-12-F-1-11-1 Compatible With:	
Select Valves With 1" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	6"
Control-Disk™ (CL150, CL300)	6"
8560 (CL150)	8"
8560 (CL300)	6"
8580	6"
V500, CV500	3"

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Easytork Actuator Order Code: ECA-14-F-1 1/4-11-1 Compatible With:	
Select Valves With 1-1/4" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	8", 10"
Control-Disk™ (CL150, CL300)	8", 10"
Control-Disk™ (CL150)	14", 16"
8560 (CL150)	10"
8560 (CL300)	8"
8580	8", 10"
V500, CV500	4", 6"

Easytork Actuator Order Code: ECA-14-F-1 1/2-11-1 Compatible With:	
Select Valves With 1-1/2" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	12"
Control-Disk™ (CL150, CL300)	12"
8560 (CL150)	12"
8560 (CL300)	10"
8580	12"
V500, CV500	6", 8"

Easytork Actuator Order Code: ECA-16-F-1 3/4-11-1 Compatible With:	
Select Valves With 1-3/4" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	14"
Control-Disk™ (CL150)	20"
Control-Disk™ (CL300)	14", 16"
8560 (CL300)	12"
CV500	10"

Easytork Actuator Order Code: ECA-16-F-2-11-1 Compatible With:	
Select Valves With 2" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	16"
CV500	12"

Easytork Actuator Order Code: ECA-16-F-2 1/8-11-1 Compatible With:	
Select Valves With 2-1/8" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	16"

Easytork Actuator Order Code: ECA-16-F-2 1/2-11-1 Compatible With:	
Select Valves With 2-1/2" Valve Shaft Diameter (in)	Valve Size(s), NPS
V150, V200, V300	20"

Based on publicly available data. All dimensions to be verified by customer prior to purchase confirmation. Responsibility for selection, use, and maintenance of any product remains solely with the purchaser and end user. The contents of this publication are for informational purposes only and are not to be construed as warranties or guarantees, express or implied, regarding the products or services described therein.

Order code will provide everything needed to mount to the valve.

Click or Scan Here:

Summary of valve to actuator combination

ECA F Series Ordering Codes

Click or Scan Here:

Precise actuator-to-valve sizing

Actuator & Valve Shaft Size Compatability						
Shaft Diameter, Inches	ECA -05	ECA -07	ECA -10	ECA -12	ECA -14	ECA -16
1/2"	√	√				
5/8" x 1/2"	√	√				
5/8"		√				
3/4"		√	√			
1"		√	√	√		
1-1/4"			√	√	√	
1-1/2"				√	√	√
1-3/4"					√	√
2"					√	√
2-1/8"					√	√
2-1/2"						√

Product Type	Model Number	Valve Stem / Shaft Diameter		Actuator Attributes		
		Valve Stem	Valve Shaft Diameter	Thread	ECA Material *(Corrosion Rating)*	Seal *(Temp. Rating)*
ECA -	**X** -	**X** -	**X** -	**X**	**X** -	**X**
ECA: Easytork Control Actuator	**05**: 05 series **07**: 07 series **10**: 10 series **12**: 12 series **14**: 14 series **16**: 16 series	**F**: Spline Shaft	**1/2**: 1/2" shaft diameter **5/8 x 1/2**: 5/8" shaft diameter with 1/2" spline diameter **5/8**: 5/8" shaft diameter **3/4**: 3/4" shaft diameter **1**: 1" shaft diameter **1 1/4**: 1-1/4" shaft diameter **1 1/2**: 1-1/2" shaft diameter **1 3/4**: 1-3/4" shaft diameter **2**: 2" shaft diameter	**1**: Imperial **2**: Metric	**1**: Standard version	**1**: CR for all temp rating (-40°C to 120°C or -40°F to 248°F)

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Easytork

ECA IC Series

(For Square , DD or Bore & Key Valve Stem)





Patent Pending

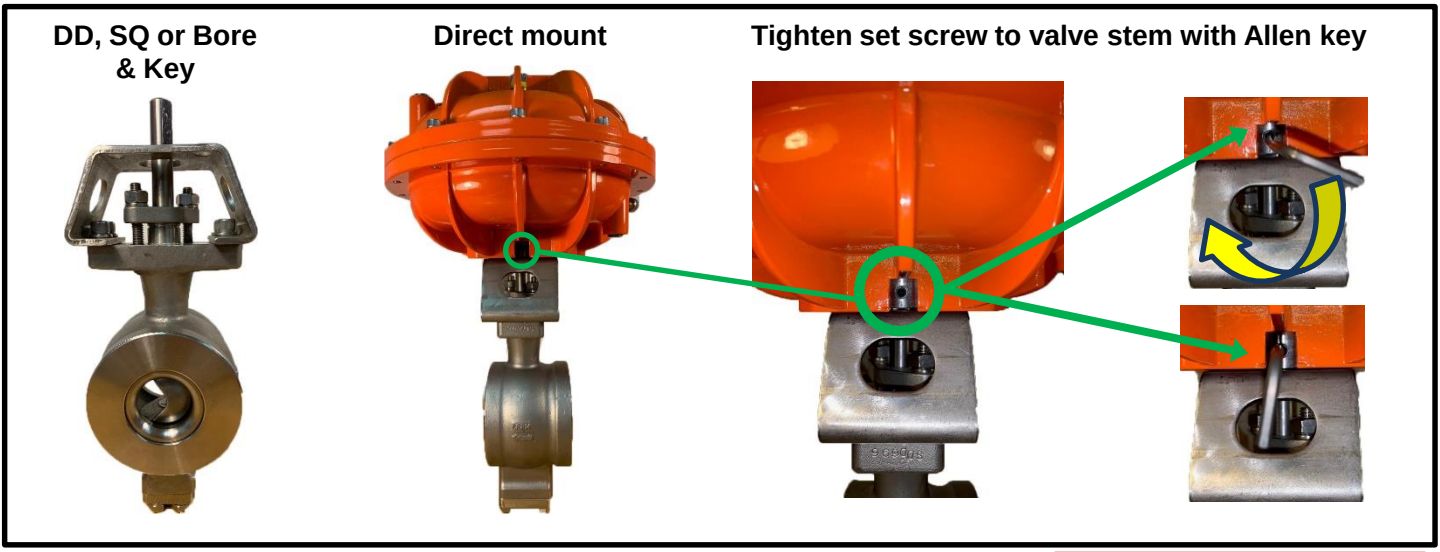
Easytork ECA IC Series Overview

Easytork benefits that improve your OPERATIONS

Tight connection to valve with DD, square or bore & key shaft

Assembling actuator to a control valve with a valve is as easy as drop and tighten set screw.

Assembling an ECA to a 2" segmented valve with double D shaft



Patent Pending: Internal Clamp

Easytork benefits that improve your SYSTEMS

Control valve performance as good or better than valves with splined connection

Gone are the days where spline-to-spline connection is the prerequisite for high end control valve results. Using the BenchMark control valve diagnostic system, non-splined valves coupled with ECA IC exceeds or is equal to the performance of a spring-and-diaphragm with splined connection to valve.

BenchMark Diagnostic Comparison Summary

	Rotary Control Valve Package		
Actuator	Easytork	Major Control Valve Brand (A)	Major Control Valve Brand (B)
Valve	**Any valve**	Bore & Key	Spline Shaft
Valve Shaft Design	**Sq., DD, or Bore & Key**		
HDL Error, Average	**0.82%**	2.02%	1.38%
HDL Error, Max	**1.51%**	3.03%	1.83%
0.5% Signal Change Valve Response	Yes	No	Yes

Any rotary valve with an ECA paired to a quality positioner can achieve the following results, while the same positioner with other actuators seldom achieve (or consistently achieve) these results.

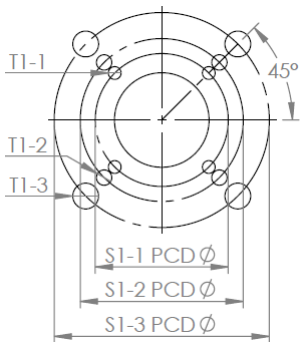
ECA IC Series Valve Interface Dimensions

ECA Control Valve and Auxiliary Interface Summary

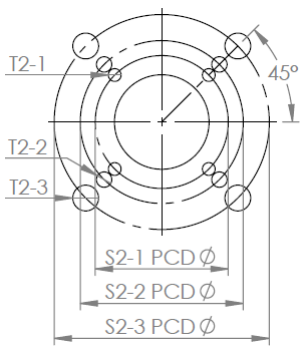
	Valve Mounting															Auxiliary Mounting	
	Flange Type Available											Available Shaft For Valve Stem					
	ISO								Non ISO/Keystone					Bore &		VDI/VDE 3845	NAMUR
Actuator Size	F04	F05	F07	F10	F12	F14	F16	F25	3.25"	5.00"	6.50"	SQ	DD	Key	Spline		
ECA-05	✓	✓	✓						✓			✓	✓	✓	✓	✓	✓
ECA-07		✓	✓	✓					✓			✓	✓	✓	✓	✓	✓
ECA-10			✓	✓	✓				✓	✓		✓	✓	✓	✓	✓	✓
ECA-12 (Imp)				✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
ECA-12 (Metric)				✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓
ECA-14 (Imp)					✓		✓			✓	✓	✓	✓	✓	✓	✓	✓
ECA-14 (Metric)					✓	✓	✓				✓	✓	✓	✓	✓	✓	✓
ECA-16							✓	✓				✓	✓	✓	✓	✓	✓

Flange Type (ISO Compliant and Traditional Mounting Available)

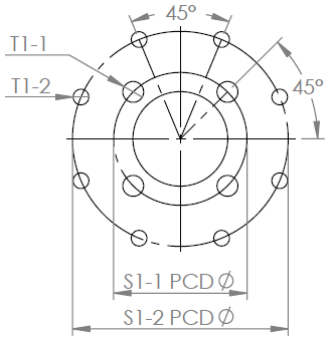
ECA-05 to 14 Bottom Side



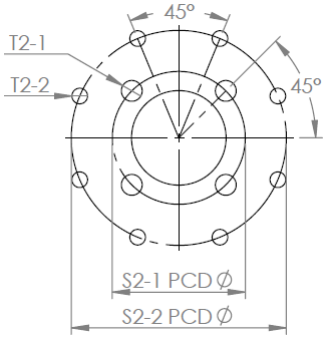
ECA-05 to 14 Top Side



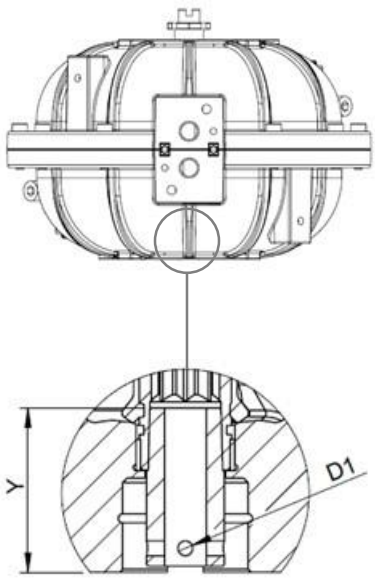
ECA-16 Bottom Side



ECA-16 Top Side

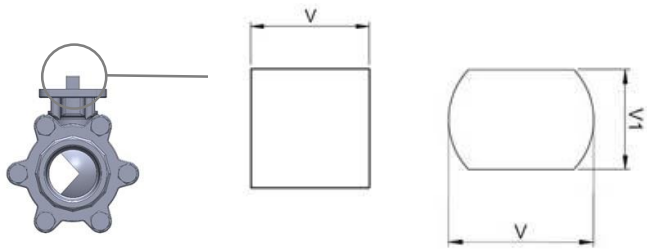


Valve Stem Height Engagement

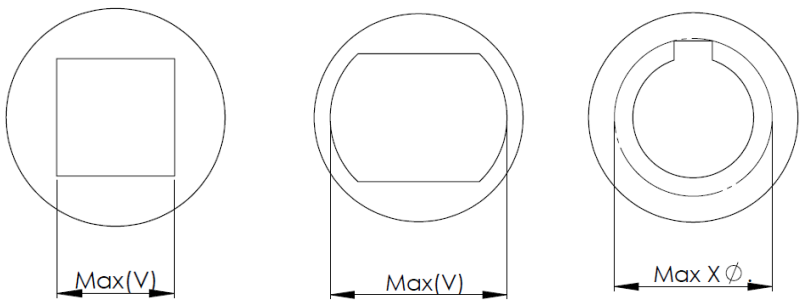


Valve Stem Shape Engagement

Measurements V, V1 and V2 used on order code to reflect valve stem published dimensions



ECA subsequently made with appropriate tolerance for valve stem interface with following limitations



ECA IC Series Valve Interface Dimensions

(Imperial)

Dimensions (inch)	Model					
	ECA-IC 05	ECA-IC 07	ECA-IC 10	ECA-IC 12	ECA-IC 14	ECA-IC 16
Flange Type Available (ISO5211 Compliant)						
S1-1 PCD Ø	1.97 / F05	1.97 / F05	2.76 / F07	4.02 / F10	4.92 / F12	6.50 / F16
S1-2 PCD Ø	2.76 / F07	2.76 / F07	4.02 / F10	4.92 / F12	6.50 / F16	10.0 / F25
S1-3 PCD Ø	-	4.02 / F10	4.92 / F12	6.50 / F16	-	-
S2-1 PCD Ø	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	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	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	-	4x3/8-16UNC Deep 0.59	4x1/2-13UNC Deep 0.71	4x3/4-10UNC Deep1.18	-	-
T2-1	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	-	-
Set Screw						
D1	M5	M6	M6	M8	M10	M12
Valve Stem Length Absorbable						
Y	1.57	2.09	2.56	3.50	4.13	4.13
Shaft To Valve Stem						
Max Valve Square Dimensions						
Max (V)	0.43	0.55	0.87	1.06	1.42	1.81
Max Valve DD Dimensions						
Max (V)	0.63	0.87	1.13	1.42	1.89	2.36
Max Valve Bore and Key Dimensions						
Max.X Ø	NA	0.59	0.79	1.18	1.38	1.97

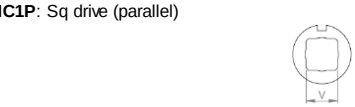
ECA IC Series Valve Interface Dimensions

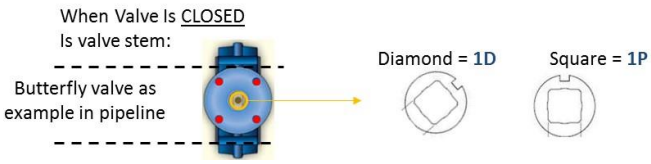
(Metric)

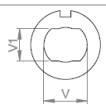
Dimensions (mm)	Model					
	ECA-IC 05	ECA-IC 07	ECA-IC 10	ECA-IC 12	ECA-IC 14	ECA-IC 16
Flange Type Available (ISO5211 Compliant)						
S1-1 PCD Ø	50.0 / F05	50.0 / F05	70.0 / F07	125.0 / F12	140.0 / F14	165.0 / F16
S1-2 PCD Ø	70.0 / F07	70.0 / F07	102.0 / F10	165.0 / F16	-	254.0 / F25
S1-3 PCD Ø	-	102.0 / F10	125.0 / F12	-	-	-
S2-1 PCD Ø	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-M6x1.0 Deep 9.0	4-M6x1.0 Deep 9.0	4-M8x1.25 Deep 12.0	4-M12x1.75 Deep18.0	4-M16x2.0 Deep 24.0	4-M20x2.5 Deep 30.0
T1-2	4-M8x1.25 Deep 12.0	4-M8x1.25 Deep 12.0	4-M10x1.5 Deep 15.0	4-M20x2.5 Deep30.0	-	8-M16x2 Deep 24.0
T1-3	-	4-M10x1.5 Deep 15.0	4-M12x1.75 Deep 18.0	-	-	-
T2-1	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 Deep18.0	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 Deep30.0	8-M16x2 Deep 24.0
T2-3	-	-	-	-	-	-
Set Screw						
D1	M5	M6	M6	M8	M10	M12
Valve Stem Length Absorbable						
Y	40.0	53.0	65.0	89.0	105.0	105.0
Shaft To Valve Stem						
Max Valve Square Dimensions						
Max (V)	11.0	14.0	22.0	27.0	36.0	46.0
Max Valve DD Dimensions						
Max (V)	16.0	22.0	28.7	36.0	48.0	60.0
Max Valve Bore and Key Dimensions						
Max.X Ø	NA	15.0	20.0	30.0	35.0	50.0

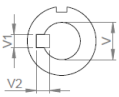
ECA IC Series Ordering Codes

Product Type	Model Number	Valve Stem / Shaft Diameter		Actuator Attributes			Valve Flange
		Valve Stem Type	Valve Shaft Dimension	Thread	ECA Material *(Corrosion Rating)*	Seal *(Temp. Rating)*	Specify flange used on valve
ECA -	**X** -	**X** -	**X** -	**X** -	**X**	**X** -	**X**
ECA: Easytork Control Actuator	**05**: 05 series **07**: 07 series **10**: 10 series **12**: 12 series **14**: 14 series **16**: 16 series	**IC1D**: Sq drive (diamond) **IC1P**: Sq drive (parallel)	If Sqr: Flat **(V)** x flat **(V)**	**1**: Imperial **2**: Metric	**1**: Standard version	**1**: CR for all temp rating (-40°C to 120°C or -40°F to 248°F)	**F04, F05, F07** **F10, F12, F14** **F16, 3.25", 5.00"** **6.00"**
		IC2: DD	If DD: Circle diameter **(V)** x flat **(V1)**				
		IC3: Bore and key	If Key: Circle diameter **(V)** x key **(V1)** x key **(V2)**				









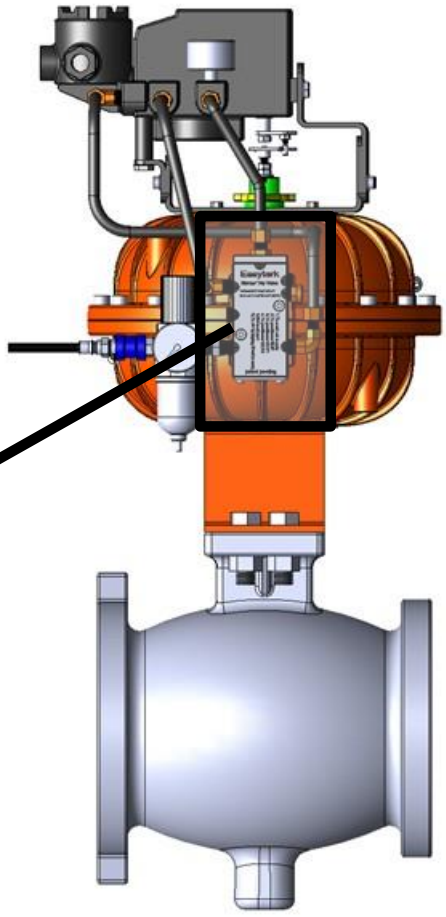
Measurements V, V1 and V2 reflect valve stem dimensions. Actuator vane subsequently made with appropriate tolerance for valve stem interface.



Click or Scan Here: Selection and Ordering Made Easy

Control Valve Solutions
NAMUR Trip Valve





Patent Pending

Engineered for actuators with onboard reservoirs

Namur Trip Valve (“NTV”)

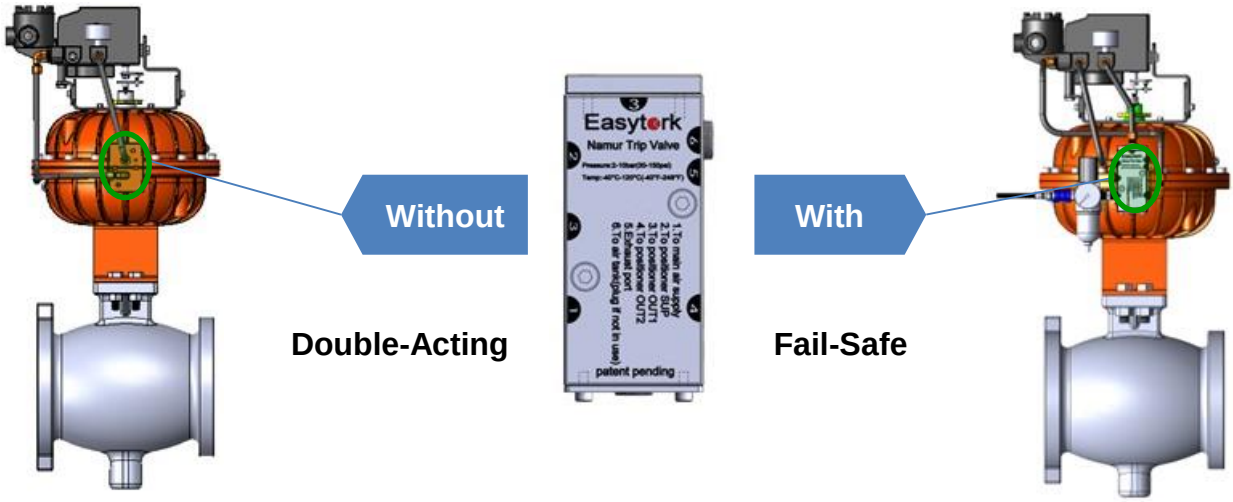
Easytork, or any Namur compatible actuator, can be fitted to the NTV. This setup allows a modulating actuator with a reservoir system and a double-acting positioner to fail-safe or double-acting actuator to fail-freeze.

NTV benefits that improve your OPERATIONS

Fail-Safe

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

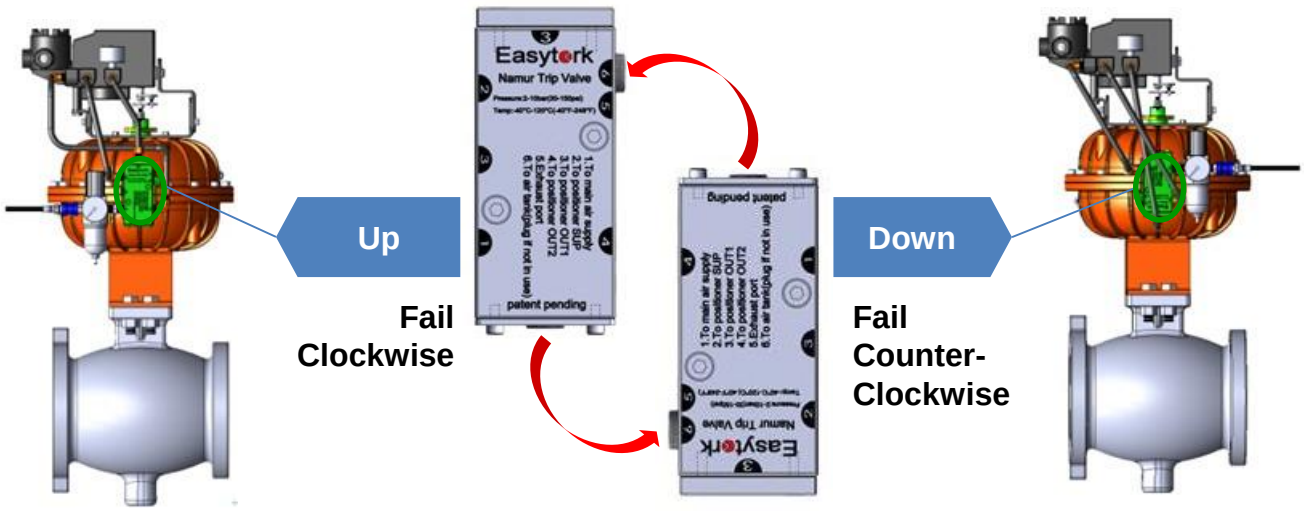
Click or Scan Here: Video



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 – <u>Universally compatible with any positioner</u>

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.

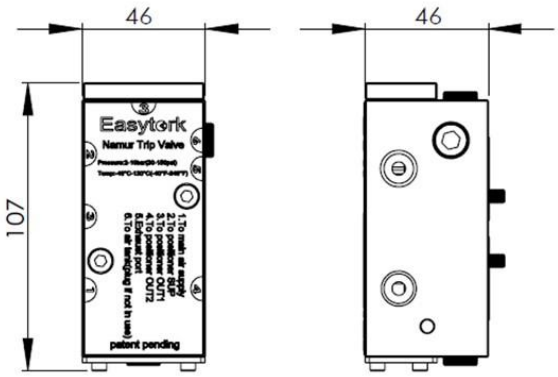
NTV Specification

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

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

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