

EVA Technical Data

	Note	Unit	Model						
			EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436
Weight		Kg	1.3	1.7	2.7	5.4	10.0	22.2	38.4
		Lb	2.9	3.7	6.0	11.9	22.0	48.9	84.7
Total air volume	DA or FS	Litre	0.075	0.150	0.300	0.600	1.200	2.400	4.800
90° stroke with dead volume	CCW or CW	In ³	4.6	9.2	18.3	36.6	73.2	146.5	292.9
	DA and FS	Litre	0.150	0.300	0.600	1.200	2.400	4.800	9.600
	CCW and CW	In ³	9.2	18.3	36.6	73.2	146.5	292.9	585.8
Stroke time									
With ESV or EPV (1.0 Cv)	DA (open / close)	Sec	0.08 / 0.08	0.13 / 0.13	0.24 / 0.24	0.43 / 0.43	0.87 / 0.87	1.43 / 1.43	2.30 / 2.30
at 5.5 bar or 80 psi, no load	FS (open / close)	Sec	0.08 / 0.10	0.13 / 0.16	0.24 / 0.27	0.43 / 0.50	0.87 / 0.94	1.43 / 1.53	2.30 / 2.50

Technical Specifications

Travel adjustment	Standard stopper: 80° - 100° Extended stopper: 50° - 100°
Temperature range	Silicone (standard temp): -40°C to 120°C (-40°F to 248°F)
Pressure rating	2 -10 bar (30 - 150 psi)
Operating medium (standard)	Air (dry): Can use dry air for non-high cycle applications Air (lubricated): Must use lubricated air for high cycle applications
High cycle application definition	High cycle application defined as faster than or equal to 150 seconds per stroke
Operating medium (non-standard)	Water and natural gas. Non-standard operating medium not subject to standard Easytork warranty.

Mounting Specifications

Actuator to valve	Mounting standard per EN ISO5211 (DIN3337 optional)
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 Torque Output

Metric

Double-Acting (NM)										
Model / BAR	2.0	3.0	4.0	5.0	5.5	6.0	7.0	8.0	9.0	10.0
EVA-0309	8.0	12.0	16.0	20.0	22.0	24.0	28.0	32.0	36.0*	40.0*
EVA-0411	15.8	23.6	31.5	39.4	43.3	47.3	55.1	63.0	70.9*	78.8*
EVA-0514	31.3	46.9	62.5	78.1	85.9	93.8	109.4	125.0	140.6*	156.3*
EVA-0717	62.5	93.8	125.0	156.3	171.9	187.5	218.8	250.0	281.3*	312.5*
EVA-1022	125.0	187.5	250.0	312.5	343.8	375.0	437.5	500.0	562.5*	625.0*
EVA-1227	250.0	375.0	500.0	625.0	687.5	750.0	875.0	1,000.0	1,125.0*	1,250.0*
EVA-1436	500.0	750.0	1,000.0	1,250.0	1,375.0	1,500.0	1,750.0	2,000.0	2,250.0*	2,500.0*

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	8.0	9.0	10.0
EVA-0309	5.2	7.8	10.4	13.0	14.3	15.6	18.2	20.8	23.4*	26.0*
EVA-0411	10.2	15.4	20.5	25.6	28.2	30.7	35.8	41.0	46.1*	51.2*
EVA-0514	20.3	30.5	40.6	50.8	55.9	60.9	71.1	81.3	91.4*	101.6*
EVA-0717	40.6	60.9	81.3	101.6	111.7	121.9	142.2	162.5	182.8*	203.1*
EVA-1022	81.3	121.9	162.5	203.1	223.4	243.8	284.4	325.0	365.6*	406.3*
EVA-1227	162.5	243.8	325.0	406.3	446.9	487.5	568.8	650.0	731.3*	812.5*
EVA-1436	325.0	487.5	650.0	812.5	893.8	975.0	1,137.5	1,300.0	1,462.5*	1,625.0*

Imperial

Double-Acting (In-Lb)													
Model / PSI	30	40	50	60	70	80	90	100	110	120	130	140	150
EVA-0309	73	98	122	146	171	195	220	244	269	293	317*	342*	366*
EVA-0411	144	192	240	288	336	384	433	481	529	577	625*	673*	721*
EVA-0514	286	381	477	572	667	763	858	954	1,049	1,144	1,240*	1,335*	1,430*
EVA-0717	572	763	954	1,144	1,335	1,526	1,716	1,907	2,098	2,289	2,479*	2,670*	2,861*
EVA-1022	1,144	1,526	1,907	2,289	2,670	3,051	3,433	3,814	4,196	4,577	4,958*	5,340*	5,721*
EVA-1227	2,289	3,051	3,814	4,577	5,340	6,103	6,866	7,628	8,391	9,154	9,917*	10,680*	11,443*
EVA-1436	4,577	6,103	7,628	9,154	10,680	12,205	13,731	15,257	16,782	18,308	19,834*	21,359*	22,885*

Fail-Safe (Minimum Torque At End-Of-Stroke) (In-Lb)													
Model / PSI	30	40	50	60	70	80	90	100	110	120	130	140	150
EVA-0309	48	63	79	95	111	127	143	159	175	190	206*	222*	238*
EVA-0411	94	125	156	187	219	250	281	312	344	375	406*	437*	469*
EVA-0514	186	248	310	372	434	496	558	620	682	744	806*	868*	930*
EVA-0717	372	496	620	744	868	992	1,116	1,240	1,364	1,488	1,611*	1,735*	1,859*
EVA-1022	744	992	1,240	1,488	1,735	1,983	2,231	2,479	2,727	2,975	3,223*	3,471*	3,719*
EVA-1227	1,488	1,983	2,479	2,975	3,471	3,967	4,463	4,958	5,454	5,950	6,446*	6,942*	7,438*
EVA-1436	2,975	3,967	4,958	5,950	6,942	7,933	8,925	9,917	10,909	11,900	12,892*	13,884*	14,875*

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

Note*: Only use oversize flange connection at listed pressure supply per ISO5211's max flange torque values.
Refer to S3 PCD Ø on page 14 and 15.

EVA Interface Dimensions

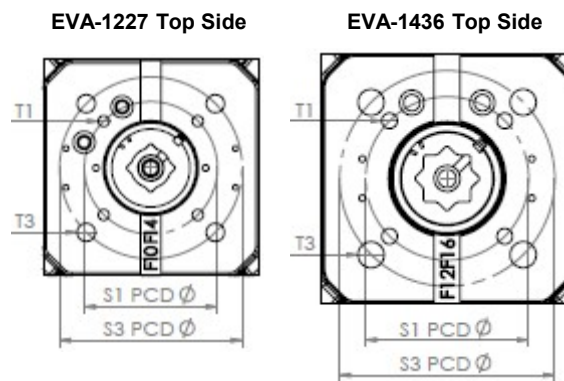
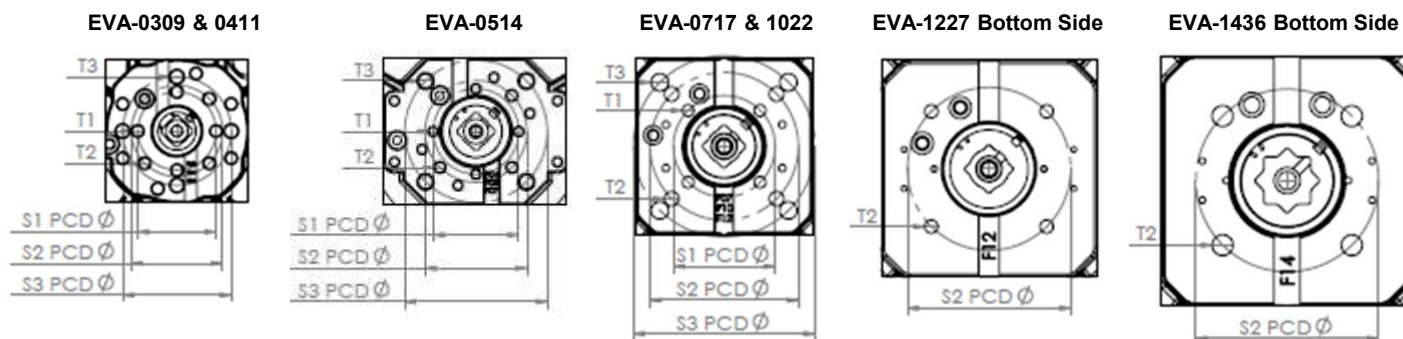
Actuator Size	Flange Type Available								Drive Insert Square Head (mm) ^{(1) (2)}							Mounting		VDI/VDE 3845	NAMUR					
	F03	F04	F05	F07	F10	F12	F14	F16	9	11	14	17	19	22	27	36	46			Other	Direct	Semi-Direct		
EVA-0309	■	■	■						■	■									■	■	■	■	■	■
EVA-0411	■	■	■						■	■	■								■	■	■	■	■	■
EVA-0514		■	■	■						■	■	■							■	■	■	■	■	■
EVA-0717			■	■	■						■	■	■	■					■	■	■	■	■	■
EVA-1022				■	■	■						■	■	■	■				■	■	■	■	■	■
EVA-1227					■	■	■						■	■	■				■	■	■	■	■	■
EVA-1436 ⁽³⁾						■	■	■											■	■	■	■	■	■

Note (1): For drive insert, darker colors represent standard issuance.

Note (2): Drive by parallel or diagonal square head selectable through the index of mounting shaft.

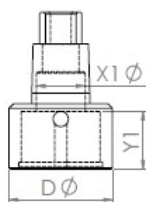
Note (3): Standard unit does include a pre-installed insert. Order required insert separately.

Flange Type (ISO5211 Compliant)

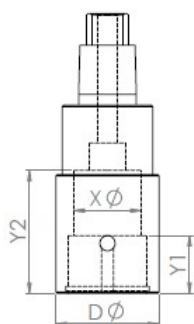


Mounting (Shafts Can Be Indexed Every 45°)

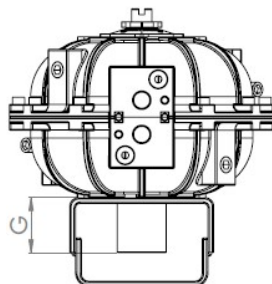
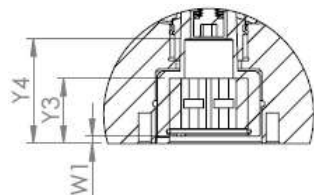
Direct Mount Shaft



Semi-Direct Mount Shaft

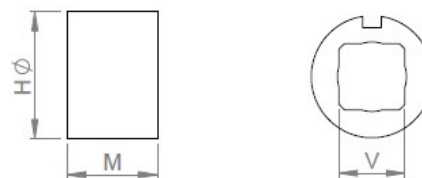


Direct Mount Shaft in EVA
(Available Space For Valve Stem)



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

Standard Issuance Drive Insert Square Head (ISO5211 Compliant)



Note: Inserts other than standard issuance are also available. Refer to the following pages.

EVA 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
Flange Type Available (ISO5211 Compliant)							
S1 PCD Ø	36.0	36.0	42.0	50.0	70.0	102.0 ⁽¹⁾	125.0 ⁽¹⁾
S2 PCD Ø	42.0	42.0	50.0	70.0	102.0	125.0	140.0
S3 PCD Ø	50.0	50.0	70.0	102.0	125.0	140.0 ⁽¹⁾	165.0 ⁽¹⁾
T1	M5	M5	M5	M6	M8	M10	M12
T2	M5	M5	M6	M8	M10	M12	M16
T3	M6	M6	M8	M10	M12	M16	M20
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	- ⁽²⁾
H Ø	17.5	22.0	25.8	32.5	44.0	60.0	78.0
M	10.0	14.0	16.5	21.0	26.0	34.0	43.5
Shaft							
Y1	12.0	16.0	19.0	24.0	29.5	38.0	48.0
D Ø	22.5	27.0	34.0	40.5	54.3	71.5	92.0
Direct Mount Shaft							
X1 Ø	10.5	13.0	16.0	21.0	28.7	35.5	43.0
Y3	13.3	18.0	21.3	26.6	32.0	40.8	52.0
Y4	20.8	26.5	34.3	42.6	52.5	77.8	89.0
W1	1.3	2.0	2.3	2.6	2.5	2.8	4.0
Semi-Direct Mount Shaft							
G	25.4	25.4	38.1	38.1	44.5	44.5	50.8
X Ø	14.1	18.1	22.1	28.1	36.1	52.0	68.0
Y2	27.5	33.4	40.4	56.5	60.0	65.0	70.0

Imperial

Dimensions (inch)	Model						
	EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436
Flange Type Available (ISO5211 Compliant)							
S1 PCD Ø	1.42	1.42	1.65	1.97	2.76	4.02 ⁽¹⁾	4.92 ⁽¹⁾
S2 PCD Ø	1.65	1.65	1.97	2.76	4.02	4.92	5.51
S3 PCD Ø	1.97	1.97	2.76	4.02	4.92	5.51 ⁽¹⁾	6.50 ⁽¹⁾
T1	10-24UNC	10-24UNC	10-24UNC	1/4-20	5/16-18	3/8-16	1/2-13
T2	10-24UNC	10-24UNC	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11
T3	1/4-20	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	3/4-10
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	- ⁽²⁾
H Ø	0.69	0.87	1.02	1.28	1.73	2.36	3.07
M	0.39	0.55	0.65	0.83	1.02	1.34	1.71
Shaft							
Y1	0.47	0.63	0.75	0.94	1.16	1.50	1.89
D Ø	0.89	1.06	1.34	1.59	2.14	2.81	3.62
Direct Mount Shaft							
X1 Ø	0.41	0.51	0.63	0.83	1.13	1.40	1.69
Y3	0.52	0.71	0.84	1.05	1.26	1.61	2.05
Y4	0.82	1.04	1.35	1.68	2.07	3.06	3.50
W1	0.05	0.08	0.09	0.10	0.10	0.11	0.16
Semi-Direct Mount Shaft							
G	1.00	1.00	1.50	1.50	1.75	1.75	2.00
X Ø	0.56	0.71	0.87	1.11	1.42	2.05	2.68
Y2	1.08	1.31	1.59	2.22	2.36	2.56	2.76

Note (1): Turn actuator upside down for noted ISO patterns.

Note (2): Standard unit does include a pre-installed insert. Order required insert separately.

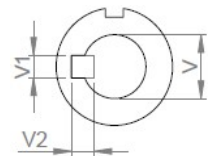
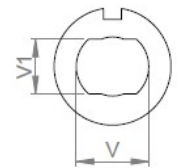
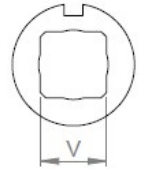
Drive Insert Dimensions

Note: For a full list of insert offerings, ask for our list price file

Examples of Easytork's Standard & Stocking Drive Inserts

Below are examples of Easytork stocking standard drive inserts. For a full list, ask for our list price file.

Shape	Metric (mm)			Imperial (inch)			Available For EVA Models	Standard On
	V	V1	V2	V	V1	V2		
ISO5211 Compliant Standard Square Drive Inserts								
Square	9.00			0.354			EVA-0411 and below	EVA-0309
Square	11.00			0.433			EVA-0309 to EVA-0514	EVA-0411
Square	14.00			0.551			EVA-0411 to EVA-0717	EVA-0514
Square	17.00			0.669			EVA-0514 to EVA-1022	EVA-0717
Square	19.00			0.748			EVA-0717 and EVA-1022	
Square	22.00			0.866			EVA-0717 to EVA-1227	EVA-1022
Square	27.00			1.063			EVA-1022 and EVA-1227	EVA-1227
Square	36.00			1.417			EVA-1227	
Drive Inserts for Centerline and Similar Butterfly Valves								
DD	12.70	10.00		0.500 (1/2)	0.39		EVA-0309 and EVA-0411	
DD	15.88	12.00		0.625 (5/8)	0.47		EVA-0411 and EVA-0514	
DD	19.05	14.00		0.750 (3/4)	0.55		EVA-0514 and EVA-0717	
Key	22.23	4.76	4.76	0.875 (7/8)	0.188 (3/16)	0.188 (3/16)	EVA-0717 and EVA-1022	
Key	28.58	6.35	6.35	1.125 (1 1/8)	0.250 (1/4)	0.250 (1/4)	EVA-1022 to EVA-1436	
Key	31.75	6.35	6.35	1.250 (1 1/4)	0.250 (1/4)	0.250 (1/4)	EVA-1022 and EVA-1227	
Key	33.34	7.94	7.94	1.313 (1 5/16)	0.313 (5/16)	0.313 (5/16)	EVA-1227 and EVA-1436	
Drive Inserts for Keystone, ABZ and Similar Butterfly Valves								
DD	14.29	9.53		0.563 (9/16)	0.375 (3/8)		EVA-0411 and EVA-0514	
DD	15.88	11.11		0.625 (5/8)	0.438 (7/16)		EVA-0411 to EVA-0717	
DD	19.05	12.70		0.750 (3/4)	0.500 (1/2)		EVA-0717 and EVA-1022	
DD	22.23	15.88		0.875 (7/8)	0.625 (5/8)		EVA-0717 to EVA-1227	
Key	28.58	6.35	6.35	1.125 (1 1/8)	0.250 (1/4)	0.250 (1/4)	EVA-1022 to EVA-1436	
Key	34.93	7.94	7.94	1.375 (1 3/8)	0.313 (5/16)	0.313 (5/16)	EVA-1227 and EVA-1436	



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

Easytork's Non-Standard & Non-Stocking Drive Inserts

Please consult with Easytork for all other drive insert dimensions. In most cases, Easytork can build.

Metric

Dimensions (mm)	Model						
	EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436
Maximum dimension on insert allowed for fitting to valve stems							
MAX.X Ø	14.1	18.1	22.1	28.1	36.1	52.0	68.0



Imperial

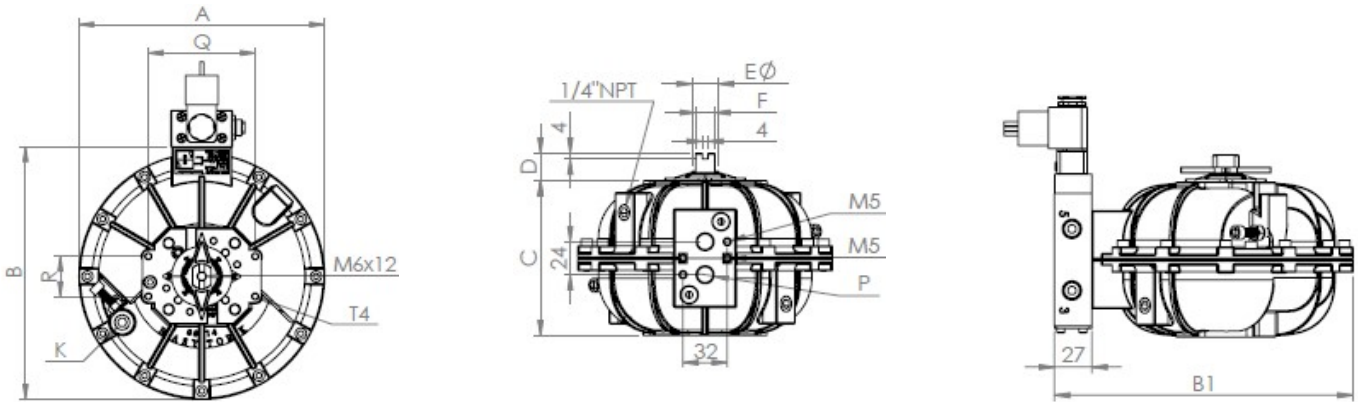
Dimensions (inch)	Model						
	EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436
Maximum dimension on insert allowed for fitting to valve stems							
MAX.X Ø	0.56	0.71	0.87	1.11	1.42	2.05	2.68



EVA Dimensions

Note: Individual model specs downloadable online

Standard



Note: Figures in drawings in mm.

Metric

Dimensions (mm)	Model						
	EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436
Actuator Dimensions							
A	127	153	184	239	295	387	470
B	132	158	189	244	300	390	475
B1	159	185	216	271	327	411	501
C	77	92	112	145	182	238	286
F	14	14	14	14	24	24	24
E Ø	19	19	19	19	33	33	33
P	1/8"BSPP	1/8"BSPP	1/4"BSPP	1/4"BSPP	1/4"BSPP	1/4"BSPP	1/4"BSPP
K	-	-	1/4"NPT	1/4"NPT	3/8"NPT	3/8"NPT	1/2"NPT
Standard Stop Bolt & Nut	M5 x 25mm	M5 x 30mm	M6 X 35mm	M8 X 45mm	M8 X 50mm	M8 X 60mm	M8 X 70mm

Actuator Dimensions of Accessories Flange

D	20	20	20	20	30	30	30
R	25	25	30	30	30	30	30
Q	50	50	80	80	80	130	130
T4	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8	M5x8

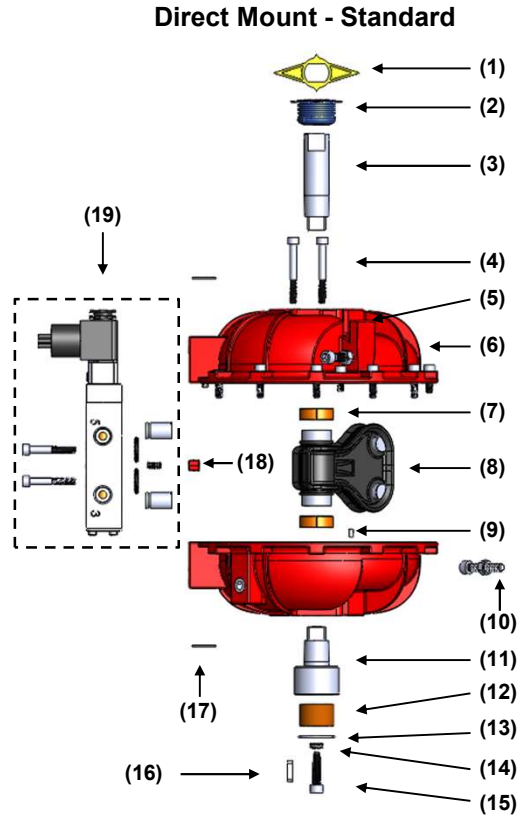
Imperial

Dimensions (inch)	Model						
	EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436
Actuator Dimensions							
A	5.00	6.02	7.24	9.41	11.61	15.24	18.50
B	5.20	6.22	7.44	9.61	11.81	15.35	18.70
B1	6.26	7.28	8.50	10.67	12.87	16.18	19.72
C	3.03	3.62	4.41	5.71	7.17	9.37	11.26
F	0.55	0.55	0.55	0.55	0.94	0.94	0.94
E Ø	0.75	0.75	0.75	0.75	1.30	1.30	1.30
P	1/8"NPT	1/8"NPT	1/4"NPT	1/4"NPT	1/4"NPT	1/4"NPT	1/4"NPT
K	-	-	1/4"NPT	1/4"NPT	3/8"NPT	3/8"NPT	1/2"NPT
Standard Stop Bolt & Nut	M5 x 25mm	M5 x 30mm	M6 X 35mm	M8 X 45mm	M8 X 50mm	M8 X 60mm	M8 X 70mm

Actuator Dimensions of Accessories Flange

D	0.79	0.79	0.79	0.79	1.18	1.18	1.18
R	0.98	0.98	1.18	1.18	1.18	1.18	1.18
Q	1.97	1.97	3.15	3.15	3.15	5.12	5.12
T4	10-24UNC	10-24UNC	10-24UNC	10-24UNC	10-24UNC	10-24UNC	10-24UNC

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 / PTFE external & internal 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 bonded with silicone	Stainless steel bonded with silicone	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.