

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
EVA-1646	1,000.0	1,500.0	2,000.0	2,500.0	2,750.0	3,000.0	3,500.0	4,000.0	4,500.0	5,000.0

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
EVA-1646	650.0	975.0	1,300.0	1,625.0	1,787.5	1,950.0	2,275.0	2,600.0	2,925.0	3,250.0

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
EVA-1646	9,154	12,205	15,257	18,308	21,359	24,411	27,462	30,513	33,565	36,616	39,667	42,719	45,770

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
EVA-1646	5,950	7,933	9,917	11,900	13,884	15,867	17,850	19,834	21,817	23,800	25,784	27,767	29,751

Note: Published torque output 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 ESV or EPV (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 Air (dry): Can use dry air for non-high cycle applications Air (lubricated): Re-lubricate actuator or 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

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

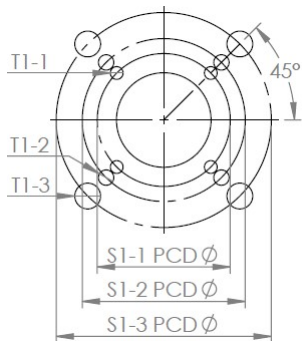
EVA Valve Interface Dimensions

EVA Valve and Auxiliary Interface Summary

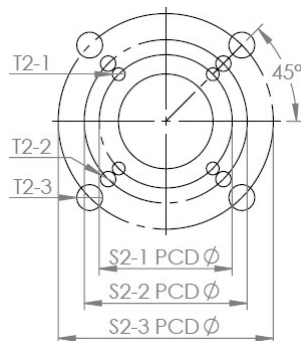
Actuator Size	Valve Mounting											Auxiliary Mounting						
	Flange Type Available										Drive Insert		Shafts		VDI/DE 3845	NAMUR		
	ISO					Non ISO / Keystone					Standard	Other	Semi-					
	F03	F04	F05	F07	F10	F12	F14	F16	F25	3.25"	5.00"	6.50"	Issuance				Direct	Direct
EVA-0309	√	√	√										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)

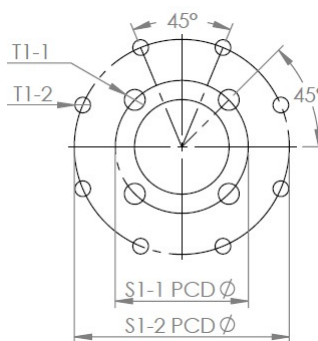
EVA-0309 to 1436 Bottom Side



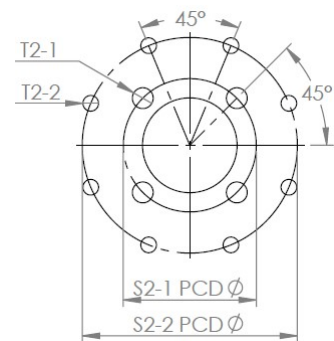
EVA-0309 to 1436 Top Side



EVA-1646 Bottom Side

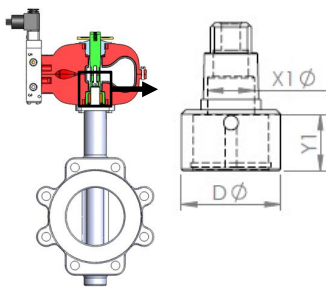


EVA-1646 Top Side

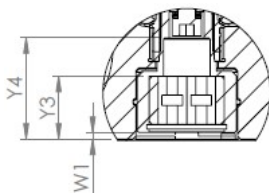


Shafts (Shafts Can Be Indexed Every 45°)

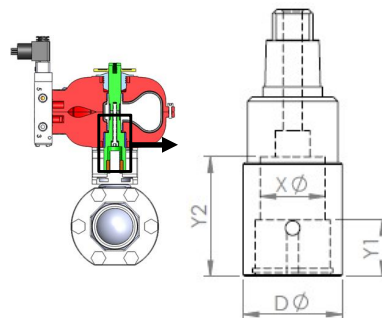
Direct Mount Shaft



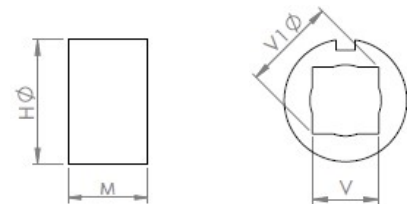
Direct Mount Shaft in EVA
(Available Space For Valve Stem)



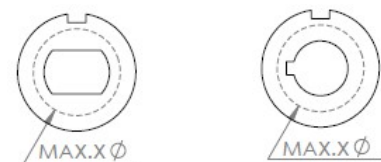
Semi-Direct Mount Shaft



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

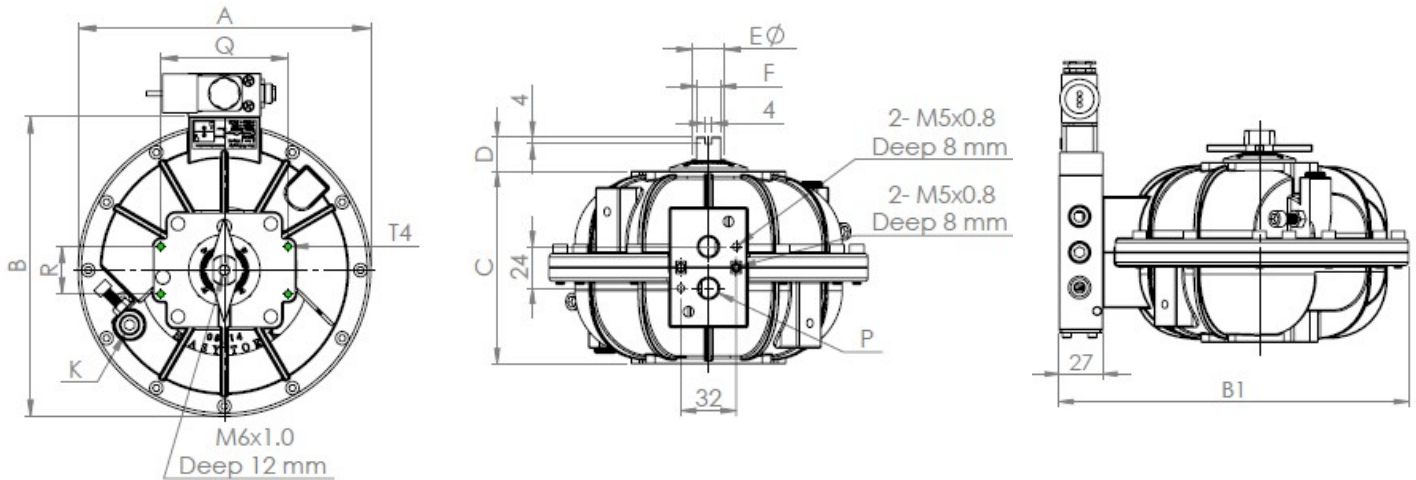
Note: Individual model specs downloadable online

(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

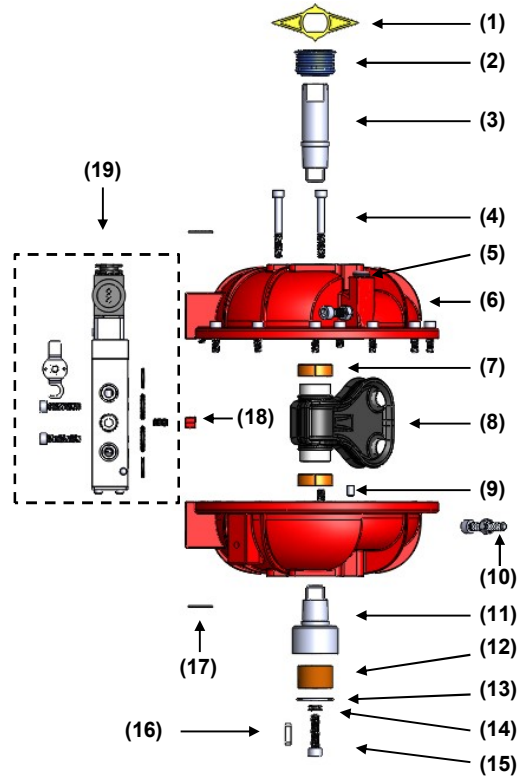


Note: Figures in drawings in mm.

		Model							
Dimensions (inch)		EVA-0309	EVA-0411	EVA-0514	EVA-0717	EVA-1022	EVA-1227	EVA-1436	EVA-1646
Imperial	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	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	

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

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.