



fluid under control



PNEUMATIC ACTUATORS

for ball valves, butterfly valves
plug valves, dampers



General Features

- High performance
- High cycle life (1.000.000 operation)
- High torque value
- Standard position indicator
- For quarter turn valve automation (9Nm - 5162Nm)
- One compact design for double and single acting models
- Dual piston rack and pinion
- According to international standards (NAMUR, ISO5211)
- Body: Extruded aluminium
- Piston & Caps: Die cast aluminium
- 90° turn, two external travel stop adjustment $\pm 5\%$
- 100% adjustable travel stop (on request)
- Pressure : Double acting 2.5 bar 8 bar
Single acting 4 bar 8 bar
- Temperature : Standard -20°C 80°C
On request -20°C 150°C, -50°C 80°C
- TORK Pneumatic actuators have been manufactured since 1986
- Lubrication : All moving parts are factory lubricated

Protection levels for TORK actuator



Anodized body



Epoxy coated body



Nickel coated body



100% Adjustable on request



PTFE coated body

Design Features of TORK RA Serie Actuators

1) Actuator Body

Aluminium extruded and honed surface body. Internal and external parts corrosion protected

2) Indicator

It is standard on all actuators, it shows visual position of valve

3) Caps

Provide max. resistance against corrosive elements, same cap design for double and single types actuators

4) Travel Adjustment

Permits adjustment of $\pm 5\%$ in both directions

5) Springs

Springs provide high performance in safe emergency shutdown operation. Cartridge design & corrosion resistant

6) Bearing & Piston guides

High cycle life, wide operation temperature range, lubricating provide high performance

7) Nuts & Bolts

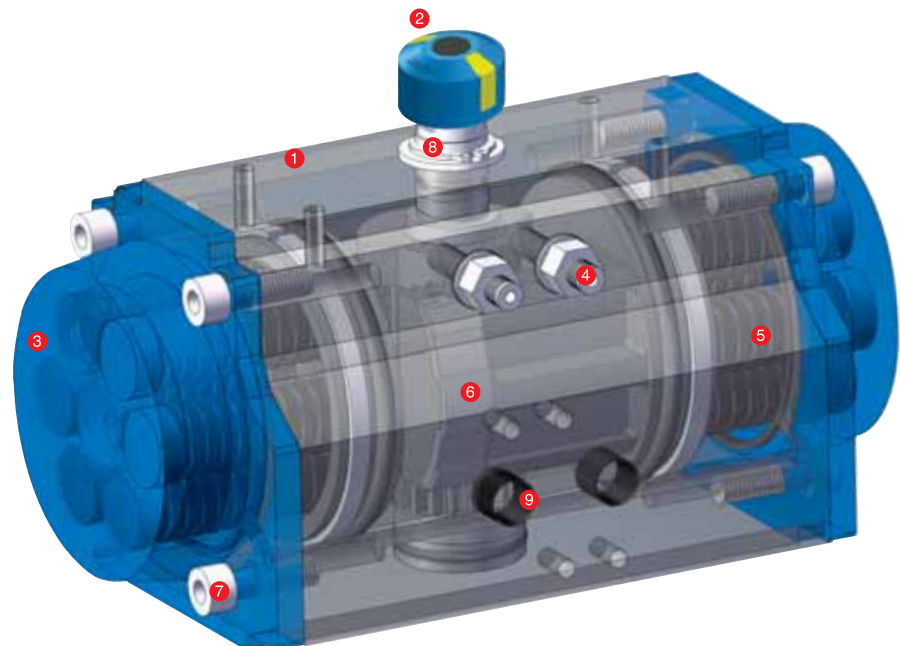
Stainless steel body. Provide long term corrosion resistance.

8) Piston rack and pinion

Provides wear resistance and protect against corrosion. Die cast pistons anodized aluminium fitted with high quality seals and guides.

9) Connections

- Solenoid valves, switch box, positioners : Namur VDI/VDE 3845
- Bottom valve connection: ISO5211, DIN3337 standard



RA ... DA Serie

Double Acting Rotary Pneumatic Actuators

Application	: Ball Valve, Butterfly Valve, Plug Valve, Dampers on-off / proportional control
Size	: RA 32 DA ... RA 350 DA
Supply Pressure Air	: 4 - 8 bar
Output Torque Value	: 9 Nm ... 5162 Nm (6 bar)
Body	: Extruded Aluminium / Cast Aluminium
Caps and Pistons	: Die cast Aluminium
Temperature	: -10 °C...80°C
Valve connection	: ISO 5211 / DIN3337 standard
Limit Switch connection	: Namur standard, VDI / VDE3845
Positioner connection	: Namur standard, VDI / VDE3845
Solenoid Valve connection	: Namur standard, VDI / VDE3845
Stroke Adjustment	: Both directions open and close positions (±5%)
Change to Single Acting	: Add springs



Double Acting Actuator

RA ... SR Serie

Single Acting Rotary Pneumatic Actuators



Single Acting Actuator

Application	: Ball Valve, Butterfly Valve, Plug Valve, Dampers on-off / proportional control
Size	: RA 40 SR ... RA 350 SR
Supply Pressure Air	: 4 - 8 bar
Output Torque Value	: 5 Nm ... 1950 Nm
Body	: Extruded Aluminium / Cast Aluminium
Caps and Pistons	: Die cast Aluminium
Temperature	: -10 °C...80°C
Valve connection	: ISO 5211 / DIN3337 standard
Limit Switch connection	: Namur standard, VDI / VDE3845
Positioner connection	: Namur standard, VDI / VDE3845
Solenoid Valve connection	: Namur standard, VDI / VDE3845
Stroke Adjustment	: Both directions open and close positions (±5%)
Change to Double Acting	: Without springs

RA ... 3P Serie

3 Position Acting Rotary Pneumatic Actuators

Application	: Ball Valve, Butterfly Valve, Plug Valve, Dampers on-off control, filling systems
Size	: RA 40 3P ... RA 120 3P
Supply Pressure Air	: 4 - 8 bar
Output Torque Value	: 18 Nm ... 330 Nm
Body	: Extruded Aluminium
Caps and Pistons	: Die cast Aluminium
Temperature	: -10 °C...80°C
Valve connection	: ISO 5211 / DIN3337 standard
Limit Switch connection	: Namur standard, VDI / VDE3845
Positioner connection	: Namur standard, VDI / VDE3845
Solenoid Valve connection	: Namur standard, VDI / VDE3845
Stroke Adjustment	: Both directions open and close positions (±5%) From caps stroke adjustment: 20°, 30°, 50°, 75°



3 - Position Actuator

RA ... 8D Serie / RA ... 2D

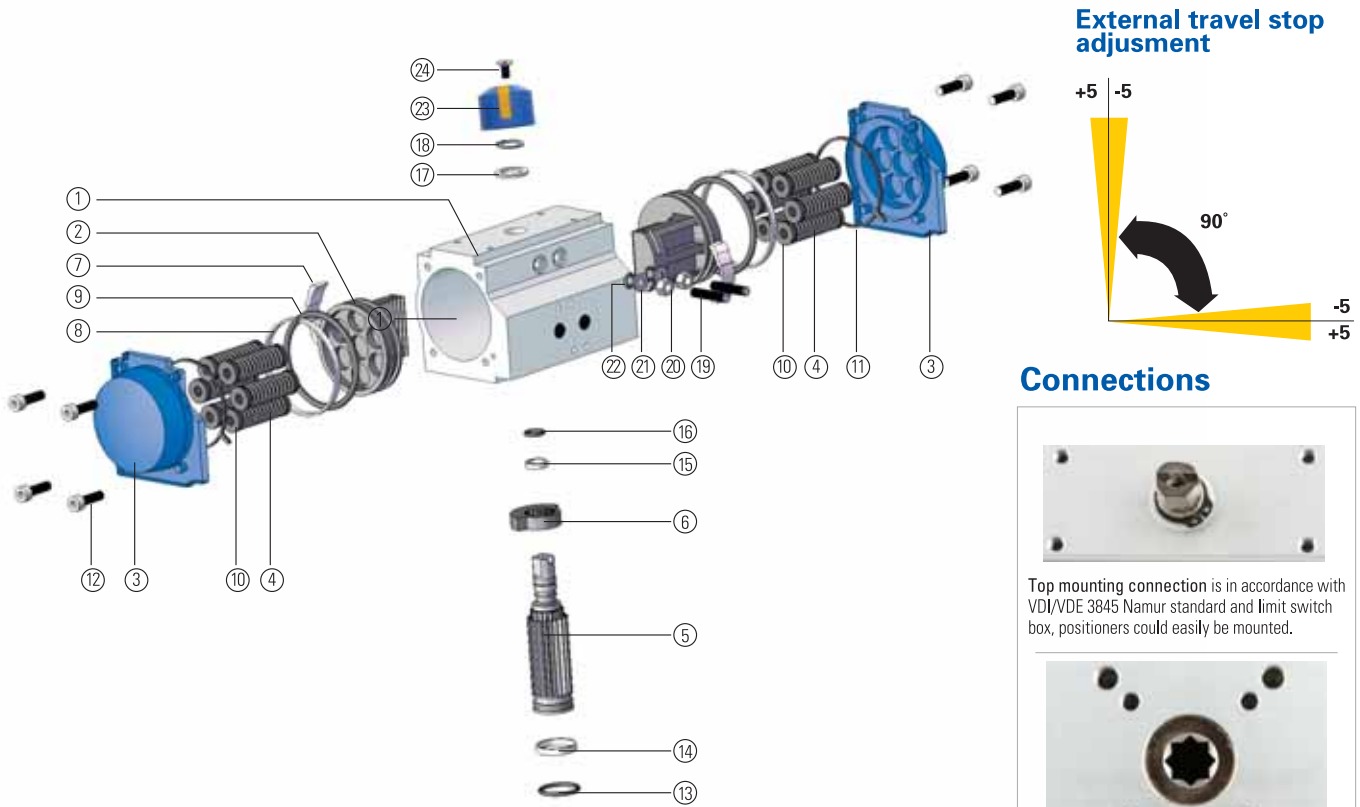
120° and 180° Turn Rotary Pneumatic Actuators



120° and 180° Turn Actuator

Application	: Ball Valve, Butterfly Valve, Plug Valve, Dampers on-off control, filling systems
Size	: RA 40 8D ... RA 120 8D (180° turn) RA 40 2D ... RA 120 2D (120° turn)
Supply Pressure Air	: 4 - 8 bar
Output Torque Value	: 18 Nm ... 330 Nm
Body	: Extruded Aluminium
Caps and Pistons	: Die cast Aluminium
Temperature	: -10 °C...80°C
Valve connection	: ISO 5211 / DIN3337 standard
Limit Switch connection	: Namur standard, VDI / VDE3845
Positioner connection	: Namur standard, VDI / VDE3845
Solenoid Valve connection	: Namur standard, VDI / VDE3845

RA SERIES : SPARE PARTS LIST



Connections



Top mounting connection is in accordance with VDI/VDE 3845 Namur standard and limit switch box, positioners could easily be mounted.



Bottom mounting connection is in accordance with ISO 5211 / DIN 3337 standard for direct mounting with valve



Side Connection for Namur solenoid valve according VDI/VDE 3845 namur standard



Double Acting (DA)



Single Acting (SR)

PART NO	UNIT / Q'TY	PART DESCRIPTION	STANDARD MATERIAL
1	1	BODY	EXTRUDED ALUMINIUM ALLOY
2	2	PISTON	DIE CAST ALUMINIUM
3	2	CAP	DIE CAST ALUMINIUM
4	min.5/max.12	SPRING	HIGH ALLOY SPING STEEL
5	1	PINION	STEEL ALLOY
6	1	CAM (STOP ARRANGEMENT)	STAINLESS STEEL
7	2	BEARING (PISTON BACK)	POLYPHTALAMIDE
8	2	BEARING (PISTON SLIDING)	POLYPHTALAMIDE
9	2	"O" RING (PISTON)	NITRILE (NBR70)
10	min.5/max.12	SPRING HOLDER	POLYPROPYLENE + GF
11	2	"O" RING (CAP)	NITRILE (NBR70)
12	8	CAP BOLT	STAINLESS STEEL
13	1	"O" RING (PINION BOTTOM)	NITRILE (NBR70)
14	1	BEARING (PINION BOTTOM)	POLYPHTALAMIDE
15	1	BEARING (PINION TOP)	POLYPHTALAMIDE
16	1	"O" RING (PINION TOP)	NITRILE (NBR70)
17	1	THRUST BEARING (PINION)	POLYPHTALAMIDE
18	1	SPRING CLIP (PINION)	STEEL ALLOY
19	2	STOP SET SCREW	STAINLESS STEEL
20	2	STOP NUT	STAINLESS STEEL
21	2	STOP SET SCREW WASHER	STAINLESS STEEL
22	2	"O" RING (STOP SET SCREW)	NITRILE (NBR70)
23	1	INDICATOR	POLYPROPYLENE + GF
24	1	INDICATOR SCREW	STAINLESS STEEL

Torque diagram of TORK Actuators

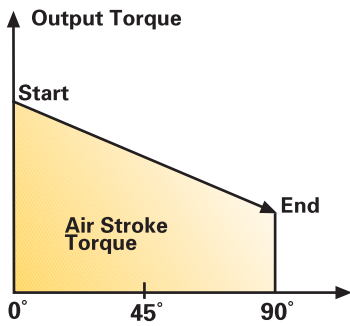


Diagram of TORK Actuator, RA... SR Serie

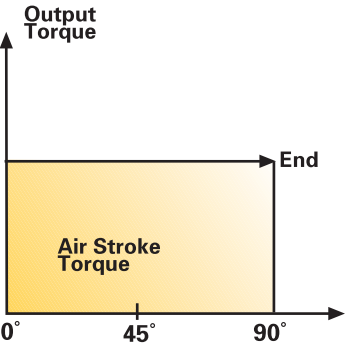
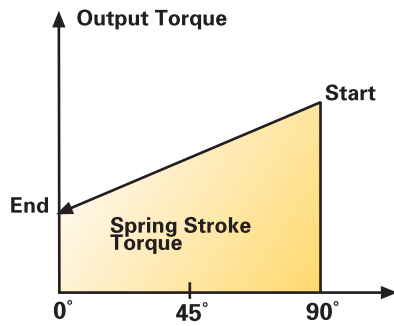
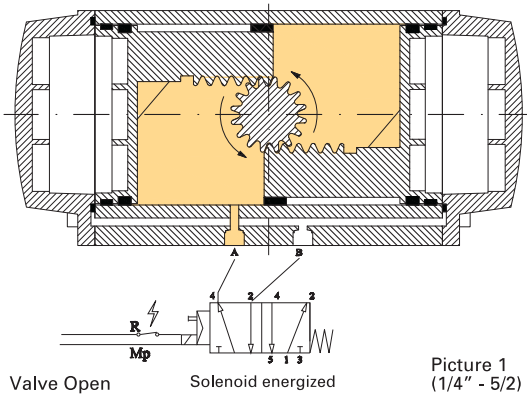
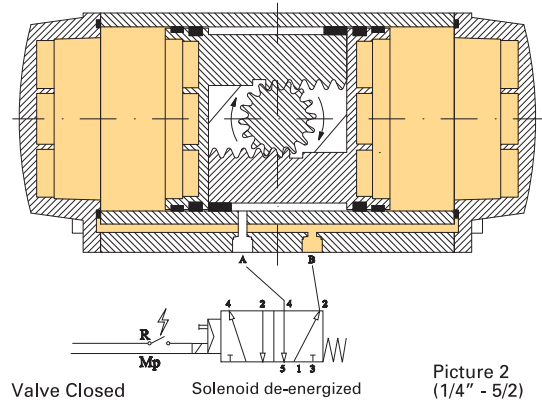


Diagram of TORK Actuator, RA... DA Serie

Operation of TORK Actuator, RA... DA Serie

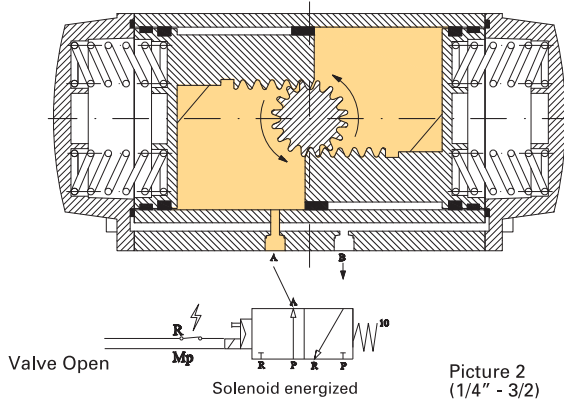


Picture 1 (1/4" - 5/2)

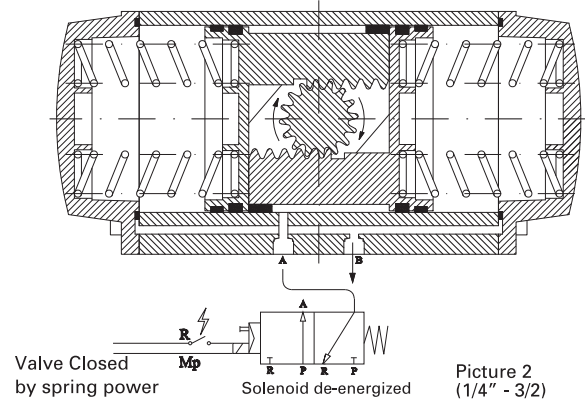


Picture 2 (1/4" - 5/2)

Operation of TORK Actuator, RA... SR Serie

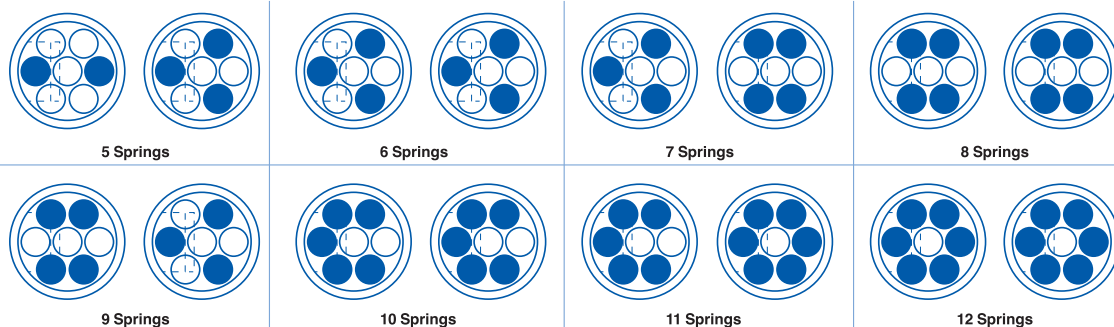


Picture 2 (1/4" - 3/2)



Picture 2 (1/4" - 3/2)

Spring arrangement of TORK Actuator, RA... SR Serie



DOUBLE ACTING TORQUE VALUE (According to supplied air pressure range)

DOUBLE ACTING TORQUE RATING (Nm)

MODEL	Operating Pressure (bar)												
	2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar	
RA / RX / RAM 32 SY	0°	2	3	4	5	6	7	8	9	10	11	12	13
	45°	1	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5
	90°	2	3	4	5	6	7	8	9	10	11	12	13
RA / RX / RAM 32 DA	2	3	4	5	6	7	8	9	10	11	12	13	
RA / RX / RAM 40 DA	5,5	7,0	8,5	9,9	11,4	12,9	14,4	15,8	17,3	18,8	20,3	21,7	
RA / RX / RAM 52 DA	13,0	16,1	19,3	22,5	25,6	28,8	32,0	35,1	38,3	41,4	44,6	47,8	
RA / RX / RAM 60 DA	14,4	17,9	21,5	25,0	28,5	32,0	35,5	39,0	42,5	46,1	49,6	53,1	
RA / RX / RAM 75 DA	35,7	44,0	52,2	60,4	68,7	76,9	85,1	93,3	101,6	109,8	118,0	126,3	
RA / RX / RAM 80 DA	39,7	48,9	58,0	67,1	76,3	85,4	94,6	103,7	112,9	122,0	131,2	140,3	
RA / RX / RAM 100 DA	65,4	80,1	94,9	109,6	124,4	139,2	153,9	168,7	183,4	198,2	213,0	227,7	
RA / RX / RAM 120 DA	124,9	152,5	180,2	207,9	235,6	263,2	290,9	318,6	346,3	373,9	401,6	429,3	
RA / RX / RAM 143 DA	240,0	288,0	336,0	385,0	433,0	480,0	529,0	578,0	626,0	674,0	722,0	770,0	
RA / RX / RAM 160 DA	321,0	385,0	450,0	510,0	570,0	642,0	705,0	765,0	830,0	897,0	963,0	1024,0	
RA / RX / RAM 200 DA	628,0	752,0	878,0	1000,0	1127,0	1252,0	1377,0	1500,0	1630,0	1752,0	1880,0	2005,0	
RA / RX / RAM 270 DA	1234,88	1493,13	1751,39	2009,64	2267,89	2526,14	2784,40	3042,65	3300,90	3559,15	3817,41	4075,66	
RA / RX / RAM 350 DA	2124,0	2558,0	2992,0	3426,0	3860,0	4294,0	4728,0	5162,0	5596,0	6030,0	6464,0	6898,0	

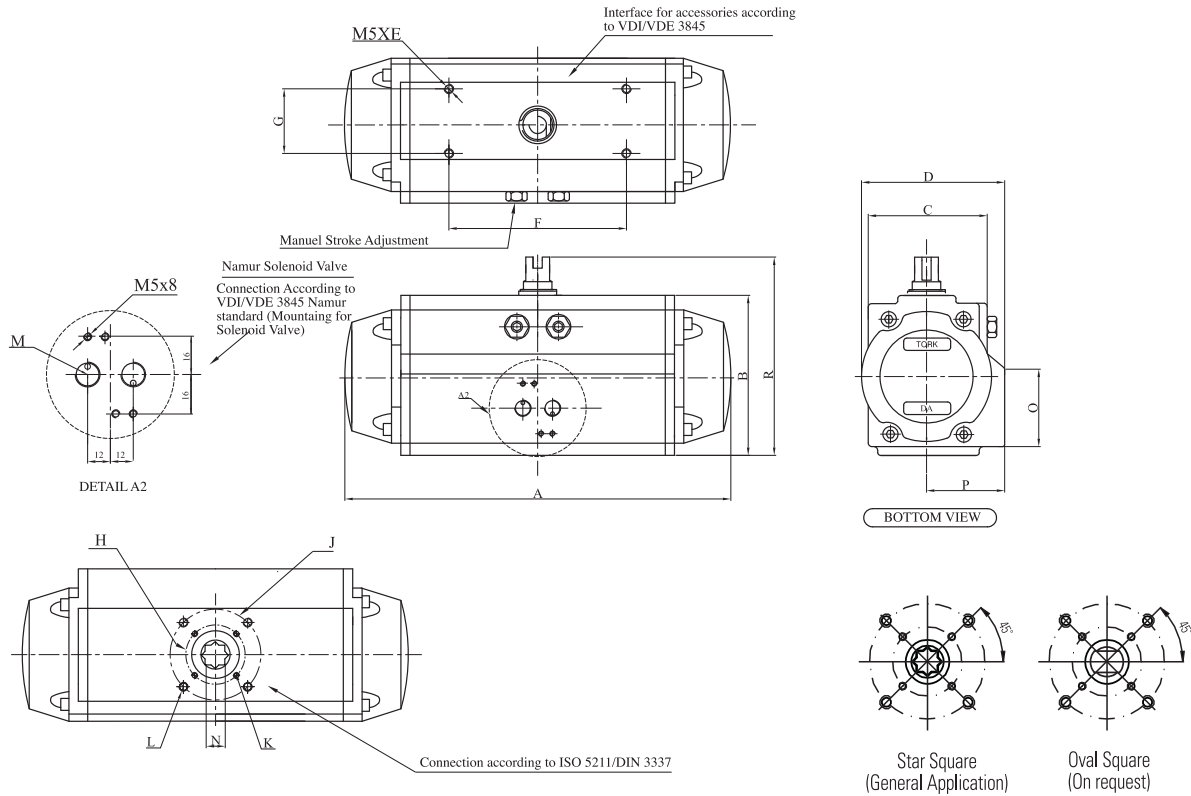
SPRING RETURN TORQUE VALUE (According to supplied air pressure range and springs quantity)

SPRING RETURN TORQUE RATING (Nm)

MODEL	Spring No	Operating Pressure (bar)																		Spring Torque								
		2,5 bar		3 bar		3,5 bar		4 bar		4,5 bar		5 bar		5,5 bar		6 bar		6,5 bar		7 bar		7,5 bar		8 bar		90°	0°	
		0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End					
RA / RX / RAM 40 SR	S05			47	22	61	37	76	52	91	66	106	81	120	96	135	111	150	125	165	140	179	155	194	170	29	04	
	S06					57	27	71	42	86	57	101	72	116	86	131	101	145	116	160	131	175	145	190	160	38	09	
	S07							67	33	82	47	96	62	111	77	126	92	141	106	155	121	170	136	185	151	48	14	
	S08							62	23	77	38	92	53	106	67	121	82	136	97	151	112	166	126	180	141	57	18	
	S09									72	28	87	43	102	58	117	73	131	87	146	102	161	117	176	132	67	23	
	S10												82	34	97	48	112	63	127	78	141	93	156	107	171	122	76	28
	S11												78	24	93	39	107	54	122	68	137	83	152	98	166	113	86	32
	S12														88	29	103	44	117	59	132	74	147	88	162	103	95	37
	RA / RX / RAM 52 SR	S05			11,1	5,5	14,3	8,7	17,4	11,9	20,6	15,0	23,8	18,2	26,9	21,4	30,1	24,5	33,2	27,7	36,4	30,8	39,6	34,0	42,7	37,2	7,8	2,2
		S06					13,3	6,6	16,4	9,7	19,6	12,9	22,8	16,1	25,9	19,2	29,1	22,4	32,2	25,6	35,4	28,7	38,6	31,9	41,7	35,0	9,9	3,2
		S07					12,3	4,5	15,4	7,6	18,6	10,8	21,7	13,9	24,9	17,1	28,1	20,3	31,2	23,4	34,4	26,6	37,6	29,8	40,7	32,9	12,0	4,2
		S08							14,4	5,5	17,6	8,7	20,7	11,8	23,9	15,0	27,1	18,1	30,2	21,3	33,4	24,5	36,6	27,6	39,7	30,8	14,1	5,2
S09										16,6	6,5	19,7	9,7	22,9	12,9	26,1	16,0	29,2	19,2	32,4	22,4	35,5	25,5	38,7	28,7	16,3	6,2	
S10										15,6	4,4	18,7	7,6	21,9	10,7	25,0	13,9	28,2	17,1	31,4	20,4	34,5	23,4	37,7	26,6	18,4	7,2	
S11												17,7	5,5	20,9	8,6	24,0	11,8	27,2	14,9	30,4	18,1	33,5	21,3	36,7	24,4	20,5	8,2	
S12														19,9	6,5	23,0	9,7	26,2	12,8	29,4	16,0	32,5	19,2	35,7	22,3	22,6	9,2	
RA / RX / RAM 60 SR		S05			12,3	6,1	15,9	9,7	19,4	13,2	22,9	16,7	26,4	20,2	29,9	23,7	33,4	27,2	36,9	30,8	40,5	34,3	44,0	37,8	47,5	41,3	8,6	2,4
		S06					14,7	7,3	18,2	10,8	21,8	14,3	25,3	17,9	28,8	21,4	32,3	24,9	35,8	28,4	39,3	31,9	42,9	35,4	46,4	38,9	11,0	3,6
		S07					13,6	4,9	17,1	8,5	20,6	12,0	24,2	15,5	27,7	19,0	31,2	22,5	34,7	26,0	38,2	29,6	41,7	33,1	45,2	36,6	13,3	4,7
		S08							16,0	6,1	19,5	9,6	23,0	13,1	26,6	16,7	30,1	20,2	33,6	23,7	37,1	27,2	40,6	30,7	44,1	34,2	15,7	5,8
	S09									18,4	7,3	21,9	10,8	25,4	14,3	29,0	17,8	32,5	21,3	36,0	24,8	39,5	28,4	43,0	31,9	18,1	6,9	
	S10									17,3	4,9	20,8	8,4	24,3	11,9	27,8	15,5	31,3	19,0	34,9	22,5	38,4	26,0	41,9	29,5	20,4	8,0	
	S11											19,7	6,1	23,2	9,6	26,7	13,1	30,2	16,6	33,7	20,1	37,3	23,6	40,8	27,2	22,8	9,2	
	S12													22,1	7,2	25,6	10,7	29,1	14,3	32,6	17,8	36,1	21,3	39,7	24,8	25,1	10,3	
	RA / RX / RAM 75 SR	S05	22,0	9,3	30,2	17,5	38,5	25,7	46,7	34,0	54,9	42,2	63,2	50,4	71,4	58,6	79,6	66,9	87,9	75,1	96,1	83,3	104,3	91,6	112,5	99,8	20,7	8,1
		S06					35,7	20,4	44,0	28,7	52,2	36,9	60,4	45,1	68,7	53,3	76,9	61,6	85,1	69,8	93,3	78,0	101,6	86,3	109,8	94,5	26,1	10,8
		S07					33,0	15,1	41,2	23,4	49,4	31,6	57,7	39,8	65,9	48,1	74,1	56,3	82,4	64,5	90,6	72,7	98,8	81,0	107,1	89,2	31,5	13,5
		S08							38,5	18,1	46,7	26,3	54,9	34,5	63,2	42,8	71,4	51,0	79,6	59,2	87,9	67,4	96,1	75,7	104,3	83,9	36,9	16,2
S09										44,0	21,0	52,2	29,2	60,4	37,5	68,7	45,7	76,9	53,9	85,1	62,2	93,3	70,4	101,6	78,6	42,3	18,9	
S10										41,2	15,7	49,4	23,9	57,7	32,2	65,9	40,4	74,1	48,6	82,4	56,9	90,6	65,1	98,8	73,3	47,7	21,6	
S11												46,7	18,6	54,9	26,9	63,2	35,1	71,4	43,3	79,6	51,6	87,9	59,8	96,1	68,0	53,1	25,2	
S12												44,0	13,3	52,2	21,6	60,4	29,8	68,6	38,0	76,9	46,3	85,1	54,5	93,3	62,7	58,5	27,9	
RA / RX / RAM 80 SR		S05	24,5	10,3	33,6	19,4	42,8	28,6	51,9	37,7	61,0	46,9	70,2	56,0	79,3	65,2	88,5	74,3	97,6	83,4	106,8	92,6	115,9	101,7	125,1	110,9	23,0	9,0
		S06					39,7	22,7	48,8	31,8	58,0	41,0	67,1	50,1	76,3	59,3	85,4	68,4	94,6	77,6	103,7	86,7	112,9	95,9	122,0	105,0	29,0	12,0
		S07					36,7	16,8	45,8	26,0	54,9	35,1	64,1	44,1	73,2	53,4	82,4	62,5	91,5	71,7	100,7	80,8	109,8	90,0	119,0	99,1	35,0	15,0
		S08							42,7	20,1	51,9	29,2	61,0	38,4	70,2	47,5	79,3	56,7	88,5	65,8	97,6	74,9	106,8	84,1	115,9	93,2	41,0	18,0
	S09									48,8	23,3	58,0	32,5	67,1	41,6	76,3	50,8	85,4	59,9	94,6	69,1	103,7	78,2	112,9	87,3	47,0	21,0	
	S10									45,8	17,5	54,9	26,6	64,1	35,7	73,2	44,9	82,4	54,0	91,5	63,2	100,7	72,3	109,8	81,5	53,0	24,0	
	S11											51,9	20,7	61,0	29,9	70,2	39,0	79,3	48,1	88,5	57,3	97,6	66,4	106,8	75,6	59,0	28,0	
	S12											48,8	14,8	58,0	24,0	67,1	33,1	76,3	42,3	85,4	51,4	94,6	60,6	103,7	69,7	65,0	31,0	
	RA / RX / RAM 100 SR	S05	41,4	24,0	56,2	38,8	70,9	53,5	85,7	68,3	100,4	83,0	115,2	97,8	130,0	112,6	144,7	127,3	159,5	142,1	174,2	156,8	189,0	171,6	203,8	186,4	32,9	15,5
		S06			51,4	30,5	66,1	45,2	80,9	60,0	95,7	74,8	110,4	89,5	125,2	104,3	139,9	119,1	154,7	133,8	169,5	148,6	184,2	163,3	199,0	178,1	41,2	20,3
		S07			46,6	22,2	61,3																					

Dimension Of Tork Actuators

90°



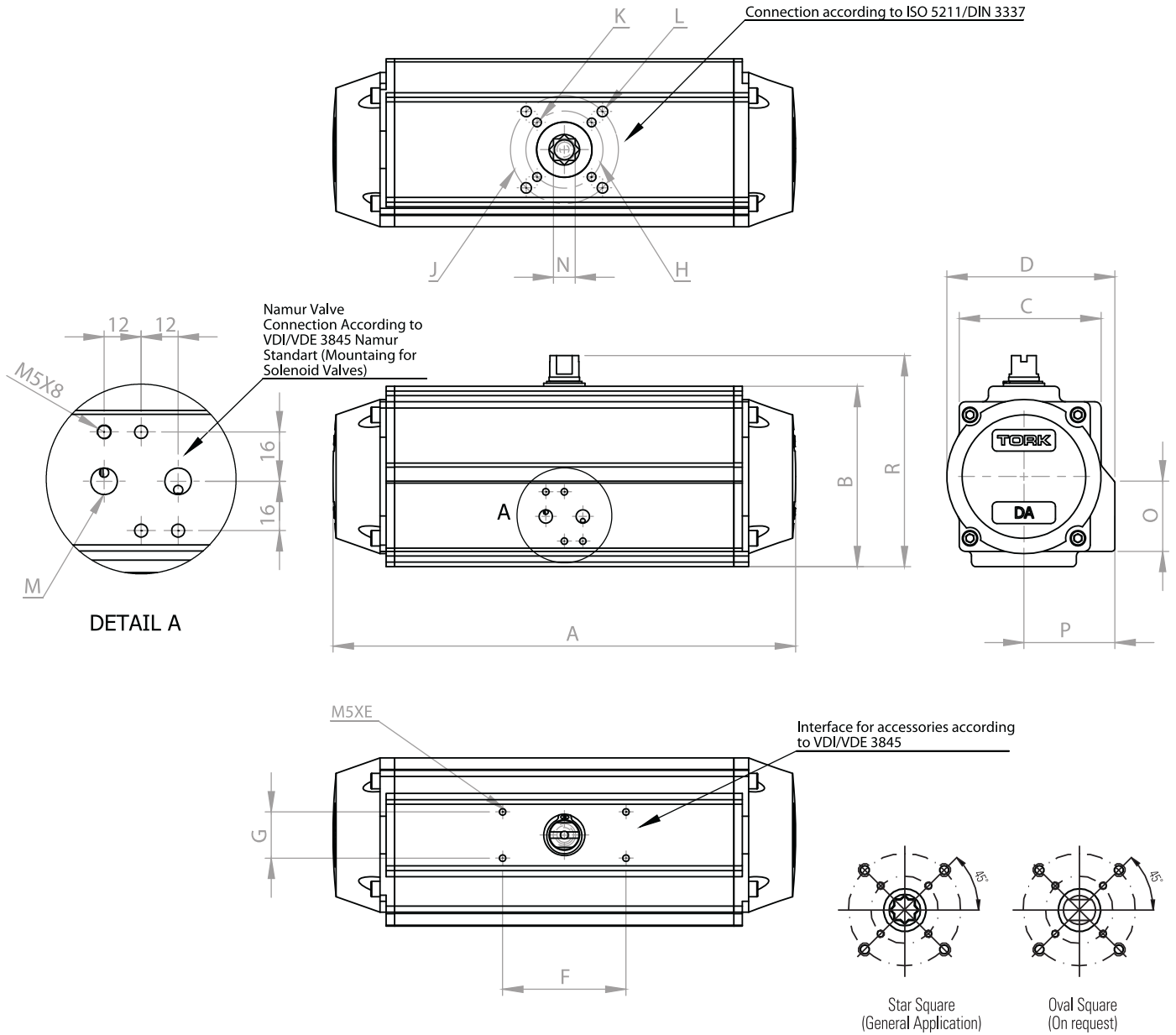
DIMENSION (mm)

ACTUATOR MODELS	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	ISO Flange for H	ISO Flange for J
RA 32 SY	77	45	45	-	8	30	30	36	-	M5	-	1/8"	9	-	-	60	F03	-
RA / RX / RAM 32 DA	98	45	45	-	8.0	50	25	36	-	M5	-	1/8"	9	-	-	76	F03	-
RA / RX / RAM 40 DA/SR	137.2	70.0	52.0	70.6	8.0	80.0	30.0	36/42/50	-	M5	M6	1/8"	9/11	45.0	39.7	90.0	F03/F04	F05
RA / RX / RAM 52 DA/SR	172.6	85.2	62.0	82.7	8.0	80.0	30.0	42/50	70.0	M5/M6	M8	1/8"	9/11/14	47.0	47.0	105.2	F04/F05	F07
RA / RX / RAM 60 DA/SR	172.6	85.2	62.0	82.7	8.0	80.0	30.0	42/50	70.0	M5/M6	M8	1/8"	9/11/14	47.0	47.0	105.2	F04/F05	F07
RA / RX / RAM 75 DA/SR	242.0	116.9	91.8	109.2	8.0	80.0	30.0	50	70.0	M6	M8	1/8"	11/14/17	54.8	58.3	136.9	F05	F07
RA / RX / RAM 80 DA/SR	242.0	116.9	91.8	109.2	8.0	80.0	30.0	50	70.0	M6	M8	1/8"	11/14/17	54.8	58.3	136.9	F05	F07
RA / RX / RAM 100 DA/SR	282.0	130.0	95.0	121.0	8.0	80.0	30.0	70	102.0	M8	M10	1/4"	14/17/22	61.0	65.0	160.0	F07	F10
RA / RX / RAM 120 DA/SR	360.0	160.0	116.2	150.0	8.0	80.0	30.0	70	102.0	M8	M10	1/4"	17/22	82.0	87.2	190.0	F07	F10
RA / RX / RAM 143 DA	342	190	182	182	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	91	91	210	F10	F14
RA / RX / RAM 160 DA	374	216	202	202	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	101	101	236	F10	F14
RA / RX / RAM 200 DA	458	268	242	242	8.0	80.0	30.0	-	140/165	-	M20	1/4"	36	121	121	288	-	F14/F16
RA / RX / RAM 270 DA	531.5	354	-	330	8	130	30	-	165	-	M20	1/4"	46/55	-	-	384	-	F16
RA / RX / RAM 350 DA	586.3	440	-	440	8	130	30	-	165	-	M20	1/4"	46/55	-	-	470	-	F16
RA / RX / RAM 143 SR	514	190	182	182	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	91	91	210	F10	F14
RA / RX / RAM 160 SR	558	216	202	202	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	101	101	236	F10	F14
RA / RX / RAM 200 SR	680	268	242	242	8.0	80.0	30.0	-	140/165	M16	M20	1/4"	36	121	121	288	-	F14/F16
RA / RX / RAM 270 SR	775.5	354	-	330	8	130	30	-	165	-	M20	1/4"	46/55	-	-	384	-	F16
RA / RX / RAM 350 SR	866.5	440	-	440	8	130	30	-	165	-	M20	1/4"	46/55	-	-	470	-	F16

ACTUATORS MODELS	Air Volume Opening (L)	Air Volume Closing (L)	Opening Time (Sec.)	Closing Time (Sec.)	Approximate weight (kg)
RA / RX / RAM 32 DA	DA	0.03	0.02	0.1	0.4
RA / RX / RAM 40 DA/SR	DA	0.09	0.16	0.22	0.85
	SR			0.26	1.02
RA / RX / RAM 52 DA/SR	DA	0.17	0.28	0.27	1.70
	SR			0.33	1.80
RA / RX / RAM 60 DA/SR	DA	0.17	0.28	0.27	1.70
	SR			0.33	1.80
RA / RX / RAM 75 DA/SR	DA	0.50	0.79	0.39	3.80
	SR			0.48	4.40
RA / RX / RAM 80 DA/SR	DA	0.50	0.79	0.39	3.80
	SR			0.48	4.40
RA / RX / RAM 100 DA/SR	DA	0.73	1.15	0.52	4.90
	SR			0.63	6.10
RA / RX / RAM 120 DA/SR	DA	1.61	2.45	0.95	9.60
	SR			1.15	11.40
RA / RX / RAM 143 DA	DA	2.85	1.95	2.40	13.00
RA / RX / RAM 160 DA	DA	3.25	2.56	2.60	19.10
RA / RX / RAM 200 DA	DA	6.41	5.50	3.40	33.40
RA / RX / RAM 270 DA	DA	13.75	10.45	4.3	65
RA / RX / RAM 350 DA	DA	25	19.40	5.20	125.00
RA / RX / RAM 143 SR	SR	2.85	0	3.20	17.60
RA / RX / RAM 160 SR	SR	3.25	0	3.80	26.80
RA / RX / RAM 200 SR	SR	6.41	0	4.80	45.90
RA / RX / RAM 270 SR	SR	13.75	0	5.3	68
RA / RX / RAM 350 SR	SR	25	0	6.20	155

Dimension Of Tork Actuators

180°



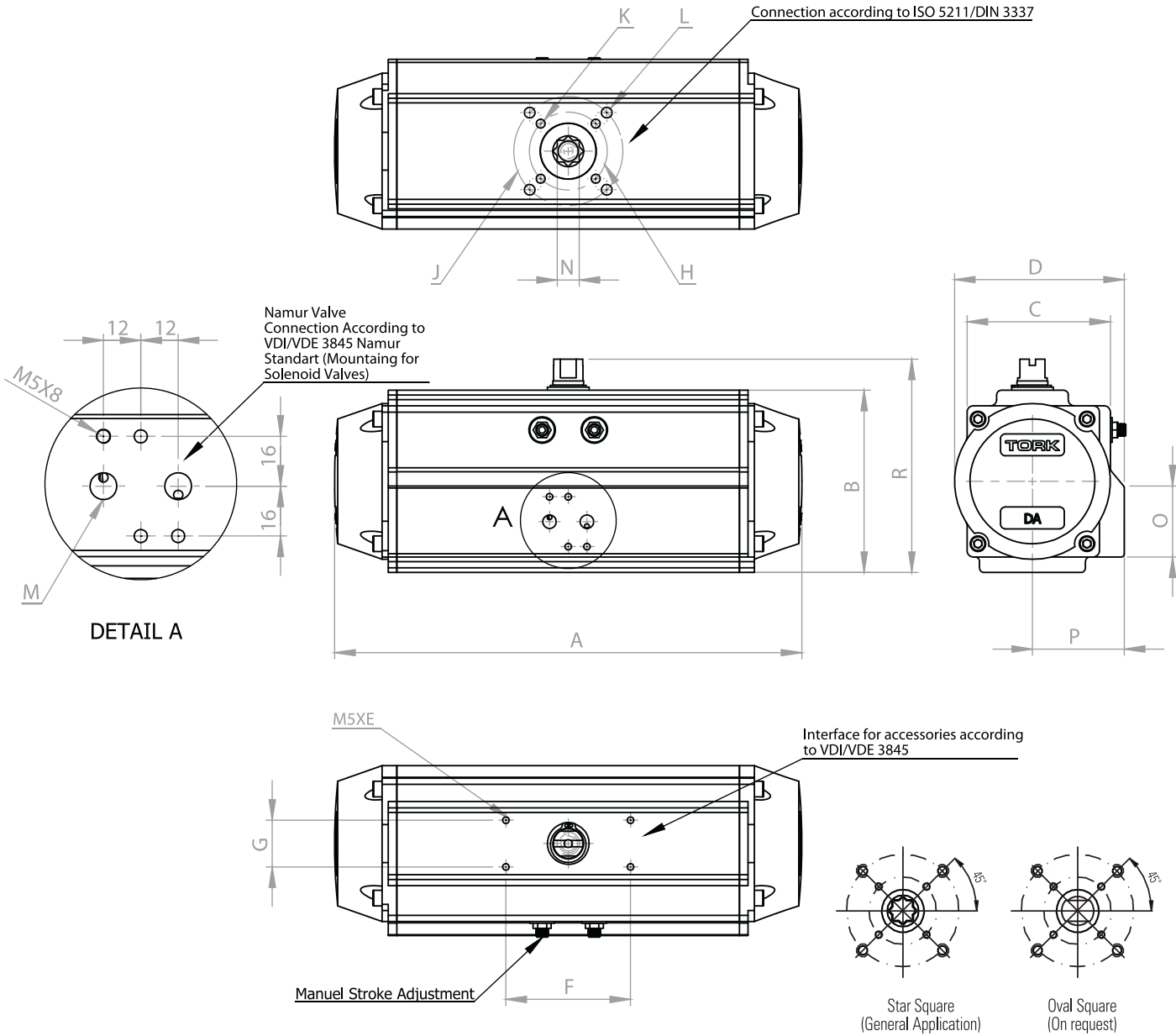
DIMENSION (mm)																		
ACTUATOR MODELS	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	for ISO Flange H	for ISO Flans J
RA / RX / RAM 40.8D	178,2	70	52	70.6	8	80	30	36/42/50	-	M5	M6	1/8"	9/11	45	40	90	F03/F04	F05
RA / RX / RAM 60.8D	241,6	85.2	62	82.7	8	80	30	42/50	70	M5/M6	M8	1/8"	9/11/14	47	47	10	F04/F05	F07
RA / RX / RAM 80.8D	333	117	91.8	109	8	80	30	50	70	M6	M8	1/8"	14	55	58	137	F05	F07
RA / RX / RAM 100.8D	402	130	95	121	8	80	30	70	102	M8	M10	1/4"	17	61	65	160	F07	F10
RA / RX / RAM 120.8D	481	160	116.2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87.2	190	F07	F10

TORQUE RATING (N.m.)

ACTUATOR MODELS	AIR SUPPLY PRESSURE (bar)											
	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
RA / RX / RAM 40.8D	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5	24
RA / RX / RAM 60.8D	14	18	22	26	30	34	38	42	46	50	54	58
RA / RX / RAM 80.8D	26	38	50	62	74	86	98	110	122	134	146	158
RA / RX / RAM 100.8D	73	88	103	118	133	148	163	178	193	208	223	238
RA / RX / RAM 120.8D	137.5	165	192.5	220	247.5	275	302.5	330	357.5	385	412.5	440

Dimension Of Tork Actuators

120°



DIMENSION (mm)																		
ACTUATOR MODELS	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	ISO Flans H için	ISO Flans J için
RA 40.2D	143.7	70	52	70.6	8	80	30	36/42/50	-	M5	M6	1/8"	9/11	45	40	90	F03/F04	F05
RA 60.2D	197.6	85.2	62	82.7	8	80	30	42/50	70	M5/M6	M8	1/8"	9/11/14	47	47	105	F04/F05	F07
RA 80.2D	275	117	91.8	109	8	80	30	50	70	M6	M8	1/8"	14	55	58	137	F05	F07
RA 100.2D	329	130	95	121	8	80	30	70	102	M8	M10	1/4"	17	61	65	160	F07	F10
RA 120.2D	400	160	116.2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87.2	190	F07	F10

TORQUE RATING (N.m.)

ACTUATOR MODELS	AIR SUPPLY PRESSURE (bar)											
	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8
RA 40.2D	7.5	9	10.5	12	13.5	15	16.5	18	19.5	21	22.5	24
RA 60.2D	14	18	22	26	30	34	38	42	46	50	54	58
RA 80.2D	26	38	50	62	74	86	98	110	122	134	146	158
RA 100.2D	73	88	103	118	133	148	163	178	193	208	223	238
RA 120.2D	137.5	165	192.5	220	247.5	275	302.5	330	357.5	385	412.5	440



The standard rotary pneumatic actuators are operated from "0" up to certain angle. These angles are called starting and ending angles. Standard rotary actuators are available as 0-90°, 0-120°, and 0-180°. 3 position actuators are like standard actuators but they have a middle position except the starting and ending angles.

TORK 3 position actuators are produced as 90° in 40, 60, 80, 100 and 120 sizes. The middle position can be regulated between 30-60° but on customers request it can be designed as desired. As special designed, the production of 120° and 180°, 3 position rotary actuator is possible.

In most of the different filling facilities, firstly valve is switched to fully-open position in order to fill a tank or depot. In order to prevent the overflow during filling, valve is put down at the end of filling process and after controlled filling, valve is switched to fully-closed position. In order to realise the process in this way, 3 position actuator is used. For this actuator, if open command issued, valve is switched to fully open position, if half open command issued, valve is switched to 30-60°, if close command issued, valve is switched to fully closed position.



Application

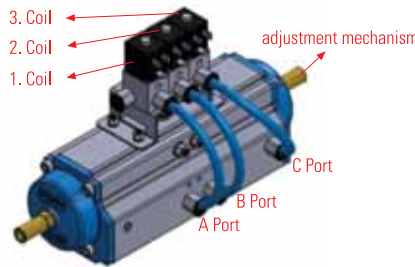
Operating of 3 Position Actuator:

In order to operate the 3 position actuator, can be benefited from the 3/2 solenoid valve.

a) Mounting: For triple 3/2 solenoid valve; the valve with number 1 should be connected to A port, the valve with number 2 to B port and the valve with number 3 to C port.

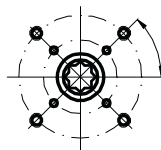
b) Operating:

- 1) Pressure air is given to air input port.
- 2) The coil with number 1 is powered. In this way, the actuator turns 90° and switches to fully open position.
- 3.) The coil with number 3 is powered and the power of coil with number 1 is shut off. In this way actuator is half closed. Half closed position can be regulated between 30-60°.
- 4) The coil with number 2 is powered and the power of coil with number 3 is shut off. In this way actuator is fully closed.



3 pcs 1/8" - 3/2 namur solenoid valve is controlled

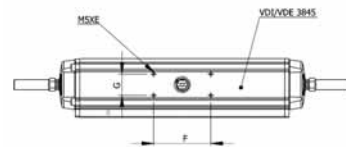
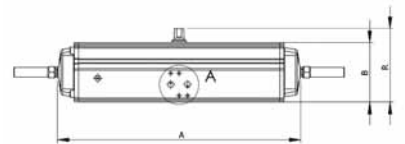
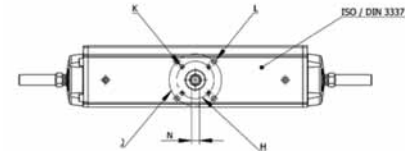
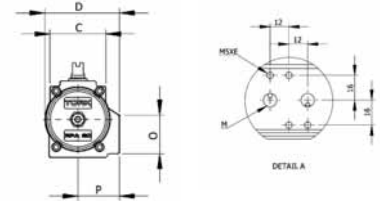
BOTTOM VIEW



Star Square
(General Application)

APPLICATION

- Generally used in filling systems
- With Ball Valves
- With Butterfly Valves



3-Position Actuator Types, dimension and output torques

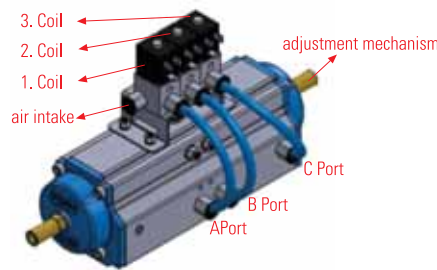
Type Order Number	P: 6 bar Tork Nm	Dimension (mm)																ISO 5211 Flange
		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	
RA 40.3P	15,8	213	70	52	70,6	8	80	30	36/42/50	-	M5	M6	1/8"	9/11	45	40	90	F03 / F04 / F005
RA 60.3P	39	263	85,2	62	82,7	8	80	30	42/50	70	M5/M6	M8	1/8"	9/11/14	47	47	105	F04 / F05 / F07
RA 80.3P	94,6	346	116,9	91,8	109,2	8	80	30	50	70	M6	M8	1/8"	14	54,8	58,3	136,9	F05 / F07
RA 100.3P	168,7	40,7	130	95	121	8	80	30	70	102	M8	M10	1/4"	17	61	65	160	F07
RA 120.3P	318,6	472,2	160	116,2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87,2	190	F07



3 position actuators such as normal actuators take a middle position is not only the starting and ending points. As they are manufactured as a standard intermediate position 90°. On request adjustable of different degrees.

Principle of operation 3 position actuators:
Used triple 3/2 way valve for actuator to operate. 1 no valve is connected to A port, 2 no valve is connected to B port and 3 no valve is connected C port. Starting the process:

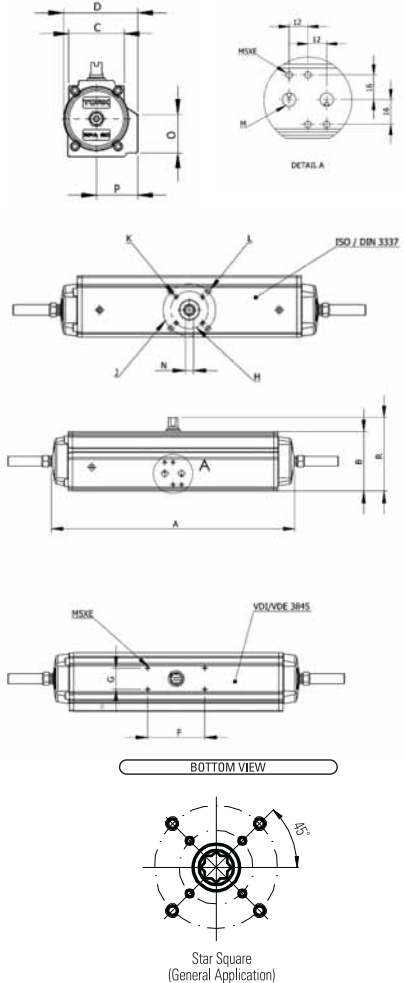
- 1- Copressed air is given the air inlet port
- 2- 1 no coil is energized. In this way actuator is rotated 180°, it means the valve opens full position.
- 3- 3 no coil is energized, 1 no coil is de-energized. So the actuator is semi-closing becomes
- 4- 2 no coil is energized, 3 no coil is the de-energized. So the actuator is fully closing



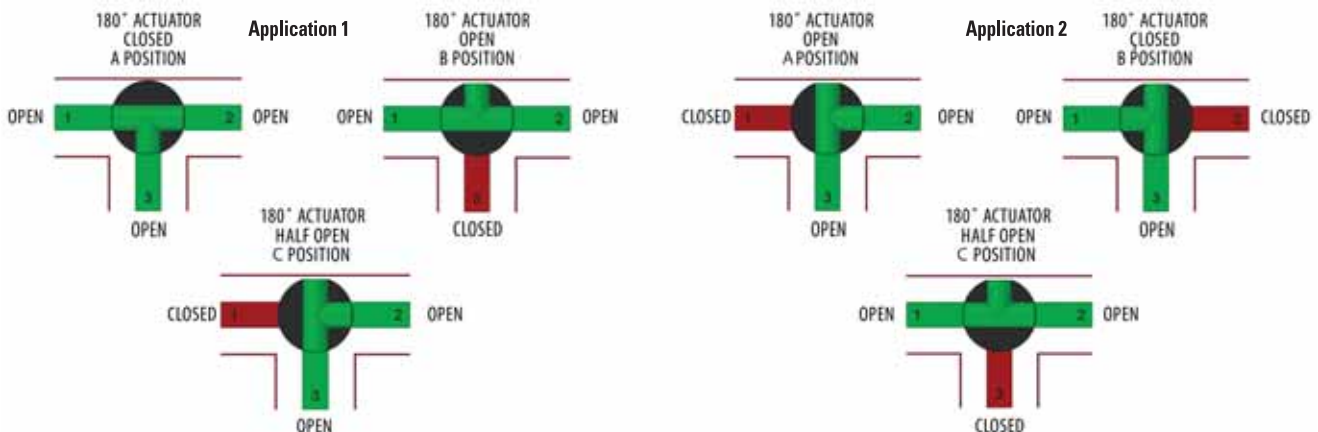
3 pcs 1/8" - 3/2 namur solenoid valve is controlled

APPLICATION

- Generally used in filling systems
- With Ball Valves



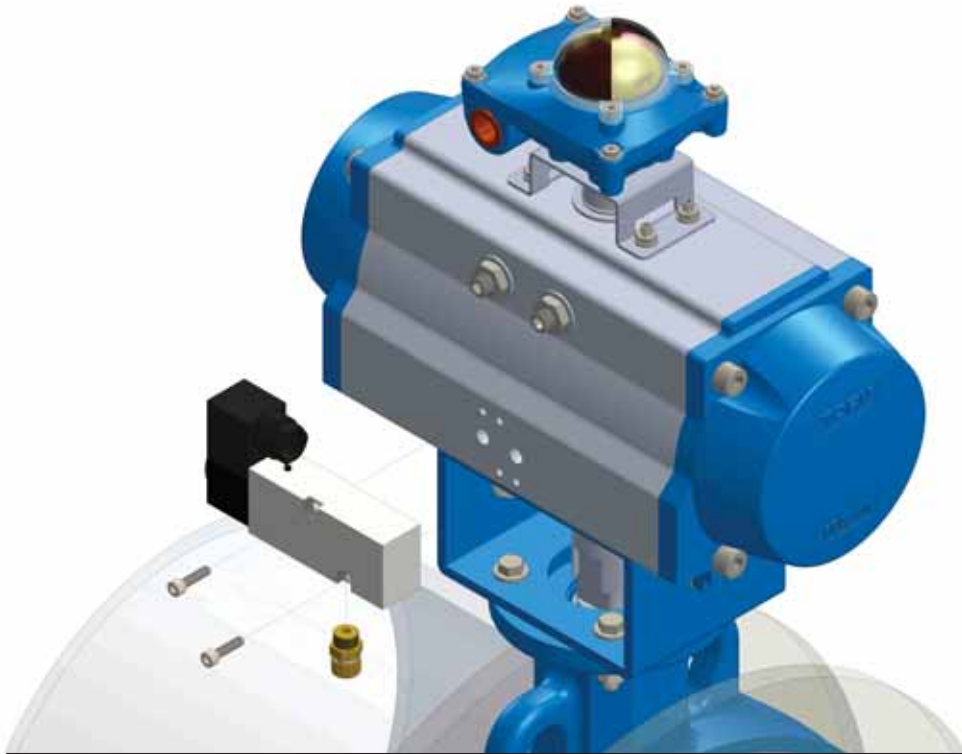
3 way ball valve applications:



3-Position Actuator Types, dimension and output torques

Type Order Number	P: 6 bar Torque Nm	Dimension (mm)															ISO 5211 Flange	
		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P		R
RA 40.8P	15,8	263	70	52	70,6	8	80	30	36/42/50	-	M5	M6	1/8"	9/11	45	40	90	F03 / F04 / F05
RA 60.8P	39	347	85,2	62	82,7	8	80	30	42/50	70	M5/M6	M8	1/8"	9/11/14	47	47	105	F04 / F05 / F07
RA 80.8P	94,6	458,5	116,9	91,8	109,2	8	80	30	50	70	M6	M8	1/8"	14	54,8	58,3	136,9	F05 / F07

RX ... DA Series / RX ...SR Series



- TORK RX series pneumatic actuators, produced properly to ATEX 94/9/EC Directive, can be used in hazardous areas and potentially explosive areas.
- These actuators have IP67 protection class.
- Atex certificated actuator torque values and dimensions are same as with standart TORK actuators.



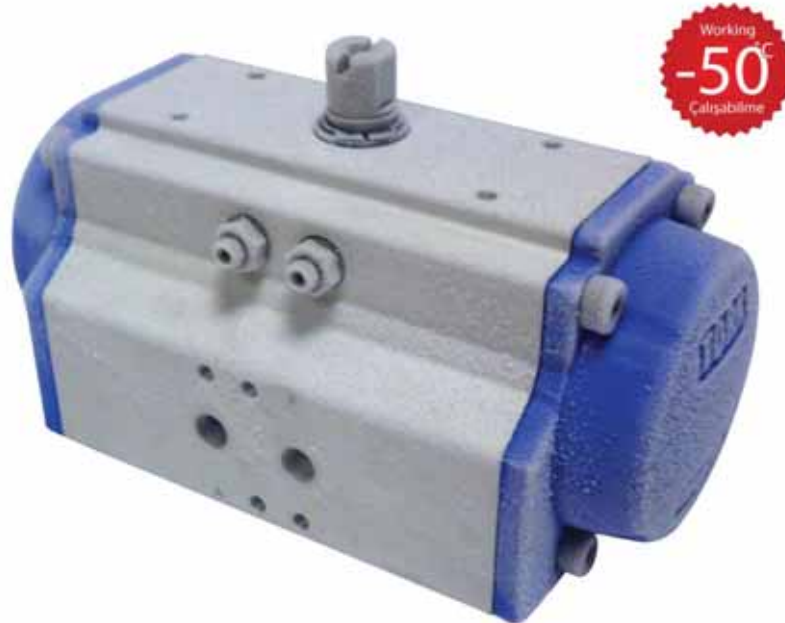
RX... DA Double Acting Atex Certificated Pneumatic Actuators

Model No	RX 32 DA	RX 40 DA	RX 60 DA	RX 80 DA	RX 100 DA	RX 120 DA	RX 143 DA	RX 160 DA	RX 200 DA	RX 350 DA
Operating Pressure (bar)	2,5 8									
Operating Fluid	Compressed air									
Ambient Temperature (°C)	-20 °C 80 °C									
ATEX Category	II 2GD c T4									

RX... DA Spring Return Atex Certificated Pneumatic Actuators

Model No	RX 40 SR	RX 60 SR	RX 80 SR	RX 100 SR	RX 120 SR	RX 143 SR	RX 160 SR	RX 200 SR	RX 350 SR
Operating Pressure (bar)	4 8								
Operating Fluid	Compressed air								
Ambient Temperature (°C)	-20 °C 80 °C								
ATEX Category	II 2GD c T4								

RAM ... DA Series /RAM ...SR Series



- Arctic Environment (-50°C ... 80°C) Actuators these models of TORK Actuator are suitable for very cold environments (until -50°C) with long life times. These Actuators are using for automatic control of rotary valves with pneumatic power.
- Arctic Actuators can be produced in 3 type, spring return, double acting and 3 Position
- These are designed for hard operating conditions with long life cycle time.
- These actuators are designed for operating at minimum -50°C ambient temperature.
- For using these actuators without any problem feeding air must not contain water particles at all. Suitable air dryers must be used.
- These actuators can be used in -50°C ambient temperature without any power reduction for a long time.
- Bearing and sealing parts are designed for working in hard conditions.
- Actuator bodies have special coating against corrosion.
- To operating these actuators suitable Namur valve (-50°C) must be used.
- Producing of all types of TORK rotary standard actuators for arctic conditions is possible.

RAM... DA Double Acting Pneumatic Actuators / RAM... SR Spring Return Pneumatic Actuators

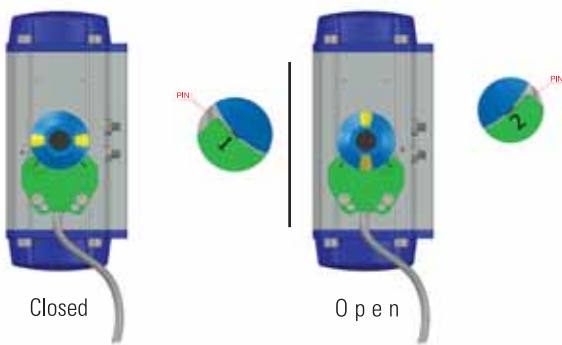
Model No	RAM 32 DA / SR	RAM 40 DA / SR	RAM 60 DA / SR	RAM 80 DA / SR	RAM 100 DA / SR	RAM 120 DA / SR	RAM 143 DA / SR	RAM 160 DA / SR	RAM200 DA / SR	RAM 350 DA / SR
Operating Pressure (bar)	4 8									
Operating Fluid	Compressed air									
Ambient Temperature (°C)	-50 °C 80 °C									
Moment	Double Acting (DA) 9 Nm 5162 Nm (at 6 bars) / Spring Return (SR) 5 Nm ... 1950 Nm									
Actuator Body	Aluminium									
Sealing Materials	Special developed NBR									
Protection Class (on request)	II 2GD c T4									

Proximity Actuator Sensors are suitable to control Actuators open or close position. A proximity sensor is able to detect the presence of nearby objects without any physical contact. A proximity sensor often emits an field and looks for changes in the or return signal. The object being sensed is often referred to as the proximity sensor's target. Proximity sensor feed by a voltage between 10-30V DC (+ & - connections) and the other two connection (I & II connections) are for output. The output connections show the actuator position (open or close) logically by the help of indicator pins position. The sensors operating current is 0 ... 200 mA.

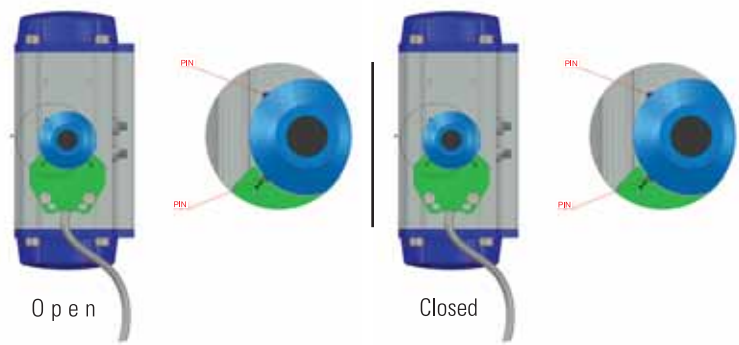
Proximity sensors can have a high reliability and long functional life because of the absence of mechanical parts and lack of physical contact between sensor and the sensed object.



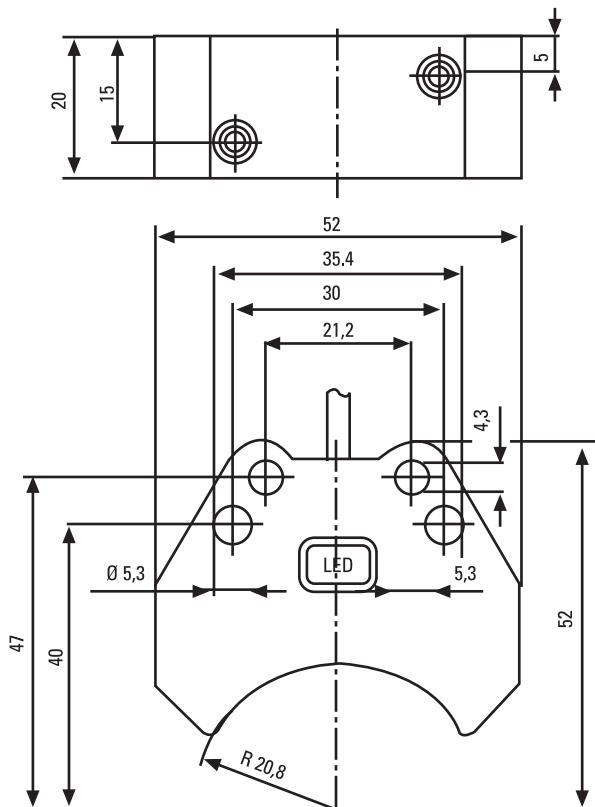
90° Return Pneumatic Actuator



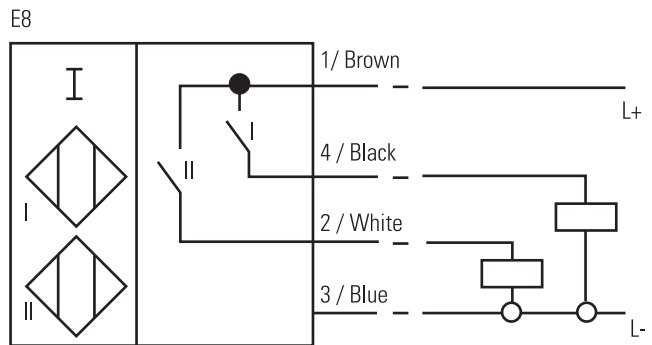
180° Return Pneumatic Actuator



Proximity Sensor Technical Specifications



Sensor Connections



Teknik Özellikleri

Model No	LS 80 Series
Switching Element Function	PNP Dual NO
Rated Operating Distance	3 mm
Operating Voltage	10 ... 30 V DC
Switching Frequency	0 ... 500 Hz
Operating Current	0 ... 200 mA
Ambient Temperature	-20 °C ... +70 °C
Connection Type	PVC Cable, 2 m
Protection Degree	IP67



5/2 way



3/2 way

5/2 way

5/2 way (Exproof/Atex)



5/2 way



Panel mounting

APPLICATION

- Pneumatic Rotary actuator
- 5/2 way for Double Acting actuator
- 3/2 way for Single Acting actuator

Namur Solenoid Valve Type

Type Order Number	Valve Position, Way, Namur standard	Standard Coil (IP 65)	On request Ex-proof Coil (EExmd II T4)	Coil Voltage	Manuel Lock	Weight (g)
TORK-NM52.W1S	1/4" - 5/2 Single coil	C20		220 V AC	Standard	0.25
TORK-NM52.W2S	1/4" - 5/2 Double coil			110 V AC		
TORK-NM32.W1S	1/4" - 3/2 Single coil			24 V AC		
TORK-ExNM52.W1S	1/4" - 5/2 Single coil	C21		12 V AC		0.3
TORK-ExNM52.W2S	1/4" - 5/2 Double coil			24 V DC		0.25
TORK-ExNM32.W1S	1/4" - 3/2 Single coil			12 V DC		

Specify coil type and voltage with order Protection class: IP 65 (Standard), ATEX Ex: EExmd II T4 (On request). For other types solenoid valves; contact us.

MOUNTING KITS

Mounting kits are used to connect actuators with valves (if valve isn't according to ISO 5211 standard, it needs a mounting kit.)

- 1- Brackets: Cast aluminium body epoxy coated
- 2- Brackets: Steel / stainless steel body
- 3- Coupling: Steel / stainless steel body



Parts of mounting kits

FILTER REGULATOR

Filter + regulator + lubricator

Type	Features	Size
FR+LM142008RPESA	Automatic drain	1/4"
FR+CM122008RPESA	Automatic drain	1/2"
TORK-FR100	Automatic drain	1/4"



Type	Features	Size
MRR1812R	Micro regulator	1/8"
MRR1412R	Micro regulator	1/4"
RG93	High accuracy regulator	1/4"





LS10

- On-off valve position indicator
- Compact, small body
- Protection class: IP 67 waterproof
- Small body, Aluminium die cast
- Bolts on visual position indicator
- Body is composed of Aluminium die cast and powder coating
- Dual cable entries: NPT
- Easy mounting bracket Namur standard, stainless steel shaft and bracket
- LS30.2M and LS20 exproof



LS20



LS70

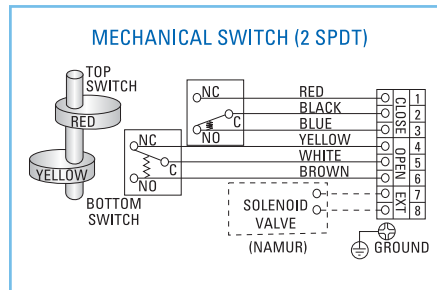


LS30



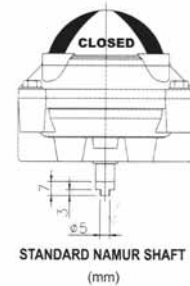
LS80

Application
(Proximity Limit Switch Box)

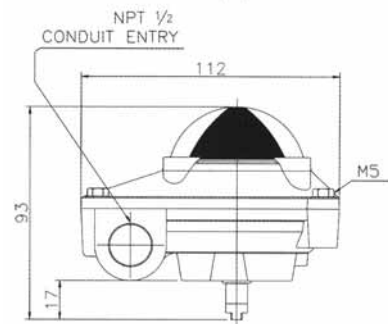


APPLICATION

- Pneumatic rotary actuator
- Actuated ball valves and butterfly valves
- Dampers
- Position of actuated valve is shown by switch box indicator



STANDARD NAMUR SHAFT
(mm)



LS10



Application
(LS10, limit switch box)

Limit Switch Box Types for Order

Type Order N.	Features	Position Indicator	Bracket	Body	Weight (kg)
LS10.2M	2 pcs. mechanical limit switch 250 V AC / 3A, IP 65	Closed : Red Open: Yellow	Stainless Steel Namur Standard	Aluminium die cast -20 ÷ 80°C	1
LS10.2P	2 pcs. proximity switches, 2 pcs. cable entires holes				1
LS10.3M	3 pcs. mechanical limit switch 250 V AC / 3A, IP 65				1.1
LS10.3P	3 pcs. proximity switches, 2 pcs. cable entires holes				1.1
LS10.4M	4 pcs. mechanical limit switch 250 V AC / 3A, IP 65				1.2
LS10.4P	4 pcs. proximity switches, 2 pcs. cable entires holes				1.2
LS20.2M	2 pcs. SPDT mechanical limit switch, Protection Class: IP 67, Ex-proof, Ex d IIC T6				1.2
LS20.2P	2 pcs. SPDT proximity switches, Protection Class: IP 67 , Ex-proof, Ex d IIC T6				1.2
LS30.2M	2 pcs. mechanical limit switch 250 V AC / 3A, IP 67 E EXd IIC T6, E EXia IIC T6, IP 67, IP 68 (Option)				1.75
LS30.2P	2 pcs. proximity switches, 2 pcs. cable entires holes E EXd IIC T6, E EXia IIC T6, IP 67, IP 68 (Option)				1.75
LS80.2P	Magnetic Switch box, 2 pcs. proximity switches, 1 pcs. cable entires holes				
LS70.2M	with pneumatic namur valve switch box, IP 67, 2 pcs. mechanical limit switch E EXd IIB T6				

M: Mechanical limit switch P: Proximity limit switch



> **Input signal : 4-20mA**

TORK-EP.R
Electro Pneumatic
Rotary Type Positioner

- For Rotary Actuator, easy maintenance
- Simple SPAN and Zero adjustments, precise calibration
- Simple conversion to direct acting, reverse acting
- Air Consumption: 5 LPM (sup. 1.4 kg/cm³)
- Linearity : With in $\pm 1.5\%$ F.S (Full scale)
- Sensitivity : With in $\pm 0.5\%$ F.S (Full scale)
- Repeatability : With in $\pm 0.5\%$ F.S (Full scale)
- Body Material: Aluminium Die cast corrosion-resistant coating
- Protection Class : IP 66 weatherproof
Options: Flame proof Exmd II B T5, ATEX Exmd II C T5
- Intrinsic safety (Exia II B T6)
- Position Feedback (optional) : Position transmitter 4-20 mA output signal (only for weatherproof) Two SPDT Limit switches
- Certified for EMC (Kn046 / E04) in conformance with EN 6100 6.2.2 by RNTUV

> **Input signal: 3 - 15 psi (0.2 - 1.0 bar)**

TORK-PP.R
Pneumatic Pneumatic
Rotary Type Positioner



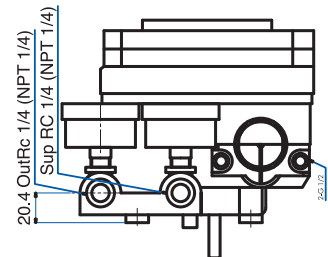
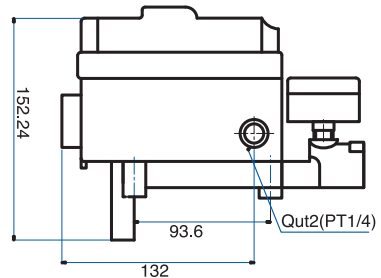
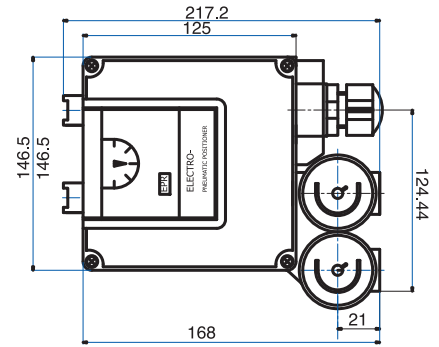
TORK-SS2R Smart Positioner
HART Communication



TORK-EPR Electromechanic
Positioner (Rotary)
TORK-EPL Electromechanic
Positioner (Linear)

APPLICATION

- Positioners are used on pneumatic actuated valves for proportional control



Electro-Pneumatic Positioner

Type Order Number	Input Signal and Air Supply	Protection Class	Bracket	Body	Air Consumption	Weight
TORK-EP / SS	mA / bar	I/P 66	Namur		LPM	(kg)
TORK-EP.R Rotary	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium die cast	5LPM (1.4 Kg / cm ²)	2.9
TORK-EP.L Linear	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium die cast	5LPM (1.4 Kg / cm ²)	2.9
TORK-SS.2R Rotary	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium die cast	2LPM (1.4 Kg / cm ²)	2.5
TORK-SS.2L Linear	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium die cast	2LPM (1.4 Kg / cm ²)	2.5

Pneumatic -Pneumatic Positioner

Type Order Number	Input Signal and Air Supply	Repeatability	Bracket	Body	Air Consumption	Weight
TORK-PP	mA / bar	%F.S	Namur		LPM	(kg)
TORK-PP.R Rotary	3-15 psi / max. 7 bar	With in $\pm 05\%$ F.S	80x30	Aluminium die cast	5LPM (1.4 Kg / cm ²)	2.1
TORK-PP.L Linear	3-15 psi / max. 7 bar	With in $\pm 05\%$ F.S	80x30	Aluminium die cast	5LPM (1.4 Kg / cm ²)	2.1



APPLICATION

TORK-MOR Series gear operators offer a simple and reliable method of local manual operation, as emergency control on air failure or as a local control in the event of controller malfunction. As such, when the hand wheel is clutched in, the valve is under local manual control and remote control is "locked out".

Body : Carbon Steel
Ambient Temp. : -20°C ... 80°C

Type	Outlet Torque Value	Inlet Torque Value	Factor ±10%	Closure of Inner Wheel Tour	Actuator Mounting Hole	Actuator Mounting Hole	ISO Connection		Hand Wheel	Weight
							Valve	Actuator		
TORK-MOR	Nm	Nm			mm	mm				kg
TORK-MOR 100	100	13	8	9	25	35	F05/F07	F05/F07	5	5
TORK-MOR 450	450	54	8,4	9,5	30	38	F07/F10	F07/F10	9	9
TORK-MOR 750	750	75	10	11,25	40	50	F10/F12	F10/F12	15	15
TORK-MOR 1500	1500	91	16,5	19	50	60	F12/F14	F12/F14	24	24
TORK-MOR 3500	3500	219	16	18	60	72	F14/F16	F14/F16	49	49
TORK-MOR 5000	5000	278	18	22	100	130	F16/F25	234,6X97,2(#4)	65	65
TORK-MOR 7500	7500	259	29	34,5	100	130	F16/F25	F16/F25	128	128

ELECTRO PNEUMATIC TRANSDUCERS

- Small size, light weight
- Low air consumption
- Mounts at any angle
- Low supply pressure sensitivity
- Low cost
- CE approval

The type TORK-1000 transducer is a electro-pneumatic device that reduces a supply pressure to a regulated output pressure directly proportional to an electrical input signal.

TORK-1000 accepts a wide range of supply pressure valve ranging from a minimum of 3 psi (0.2 bar) above the maximum output up to 100 psi (6.9 bar)

Transducer I/P and E/P

Type Order Number	Input signal	Output Signal	Air Supply	Linearity	Supply Pressure Sensitivity	Hysteresis	Air Consumption	Weight
TORK-1000	mA / V	psi	bar				kg/cm³	(kg)
TORK-1000 I/P	4-20 mA	3-15 psi	7	<1.0 %	± 0.15% of Span per 1.5 bar	<1% of span	<1% of span	0.75
TORK-1000 E/P	0-5V							0.75



4 - 20

POSITION TRANSMITTER

- Power supply range : 12 V ... 30 V DC
- Output Signal : 4-20 mA
- Span : Adjustable from 10° ... 100° of angular rotation
- Null : 4 mA position may be set at any angular rotation
- Repeatability : ± 0.25 % F.S [(Full scale)]
- Linearity : ± 1.0 % F.S
- Hysteresis : 1.0 % F.S
- Explosion proof : Exd II B T6 (on request)

- Protection : IP 66 (Standard)
- Operating temperature : -20°C ... 70°C
- Conduit connection : 2.G 1/2 or NPT 1/2
- Measuring position feedback
- Note that the input signal should be provided for measurement of output signal.
 - 1- With a mA loop calibrator select measurement mode and connect + and -
 - 2- With a multimeter tester (mA)

APPLICATION

TORK-PT.R rotary types are the 2-wire devices that generate 4-20 mA output signal with position feedback from the control valve.

Type Order Number	Output Signal	Power Supply	Repeatability	Body	Protection	Weight
TORK-PT.R	mA		F.S.			(kg)
TORK-PT.R Rotary	4-20 mA	12 ... 30 V DC	0.25% F.S.	Aluminium die cast	IP 66	2.3



Actuated Ball Valves, 2/2 Way, AISI 316 Body

Application : Liquid, gas, air, water, hot water, steam
On Request : Limit switch box, positioner, Namur solenoid valve, manual override
Type No : PAV 903 DA, PAV 903 SR,
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: AISI 316 Stainless steel, 2/2 way, screwed connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : 1/2" ... 2"



PAV 903 DA (Double Acting)
PAV 903 SR (Single Acting)

Actuated Ball Valves, 3/2 Way, AISI 316 Body



PAV 904 DA (Double Acting)
PAV 904 SR (Single Acting)

Application : Liquid, gas, air, water, hot water, steam
On Request : Limit switch box, positioner, Namur solenoid valve, manual override
Type No : PAV 904 DA, PAV 904 SR
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: AISI 316 Stainless steel, 3/2 way, screwed connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : 1/2" ... 2"

Actuated Ball Valves, 2/2 Way, Brass Body

Application : Liquid, gas, air, water, hot water, steam
On Request : Limit switch box, positioner, namur solenoid valve, manual override
Type No : PAV 901 DA, PAV 901 SR, 2/2 way
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: Brass, 2/2 way, screwed connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...130°C
Size : 1/2" ... 2"



PAV 901 DA (Double Acting)
PAV 901 SR (Single Acting)

Actuated Ball Valves, 3/2 Way, Brass Body



PAV 902 DA (Double Acting)
PAV 902 SR (Single Acting)

Application : Liquid, gas, air, water, hot water, steam
On Request : Limit switch box, positioner, namur solenoid valve, manual override
Type No : PAV 902 DA, PAV 902 SR, 3/2 way
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: Brass, 3/2 way, screwed connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...130°C
Size : 1/2" ... 2"

Actuated Ball Valves, 2/2 and 3/2 Way, Flanged Connection, Stainless Steel

Application : Liquid, gas, air, water, hot water, steam
On Request : Limit switch box, positioner, namur solenoid valve, manual override
Type No : PAV 905 DA, PAV 905 SR
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: AISI 316 and Cast iron, 2/2 or 3/2 way, flanged connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : NW15 ... NW200 Flange



PAV 905 DA / PAV 905 SR

Actuated Naturalgas Ball Valves, 2/2 Way, Flanged Connection



PAV 912 DA (Double Acting)
PAV 912 SR (Single Acting)

Application : Liquid, gas, air, water, hot water, steam
 Natural gas, LPG Gas
On Request : Limit switch box, positioner, namur solenoid valve, manual override
Type No : PAV 912 DA, PAV 912 SR
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: AISI 316 and Cast iron, 2/2 or 3/2 way, flanged connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : NW15 ... NW200 Flange

Actuated Naturalgas Plug Valves, 2/2 Way, Flanged Connection

Application : Liquid, gas, air, water, hot water, steam
 Natural gas, LPG Gas
On Request : Limit switch box, positioner, namur solenoid valve, manual override
Type No : PAV 915 DA, PAV 915 SR
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: AISI 316 and Cast iron, 2/2 or 3/2 way, flanged connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : NW15 ... NW200 Flange



PAV 915 DA (Double Acting)

Actuated Ball Valves, 2/2 Way, Monoblock



PAV 909 DA (Double Acting)
PAV 909 SR (Single Acting)

Application : Liquid, gas, air, water, hot water, steam
 Natural gas, LPG Gas
On Request : Limit switch box, positioner, Namur solenoid valve, manual override
Type No : PAV 909 DA, PAV 909 SR
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: AISI 316 and Cast iron, 2/2 way wafer type, flanged connection and ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : NW15 ... NW100 Flange

Actuated Ball Valves, , 2/2 Way, Monoblock, Cast Iron Body



PAV 910 DA (Double Acting)
PAV 910 SR (Single Acting)

- Application** : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas
- On Request** : Limit switch box, positioner, Namur solenoid valve, manual override
- Type No** : PAV 910 DA, PAV 910 SR
- Actuator** : RA...DA/SR rotary pneumatic actuator
Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Ball Valve** : Body: Cast iron, 2/2 way
wafer type, flanged connection
and ISO5211 standard actuator
- Pressure** : PN40, PN16
- Temperature** : -30..180°C
- Size** : NW15 ... NW100 Flange

Actuated Ball Valve, 2/2 and 3/2 Way, PVC Body

- Application** : Liquids, acid, water
- On Request** : Limit switch box, positioner, Namur solenoid valve, manual override
- Type No** : PAV 913 DA, PAV 913 SR
- Actuator** : RA...DA/SR rotary pneumatic actuator
Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Ball Valve** : Body: PP, 2/2 or 3/2 way
screwed or welding connection
and ISO5211 standard actuator
- Pressure** : PN40, PN16
- Temperature** : -10..80°C
- Size** : NW15 ... NW100



PAV 913 SR / PAV 913 DA

Actuated Ball Valve, Flanged / Screwed Connection 2/2 Way, Cast Iron Body



PAV 907F.15 DA
PAV 907F.15 SR
2/2 Way

- Application** : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas
- On Request** : Limit switch box, positioner, Namur solenoid valve, manual override
- Type No** : **Flanged** PAV 907F DA, PAV 907F SR,
Screwed PAV 907S DA, PAV 907S SR,
- Actuator** : RA...DA/SR rotary pneumatic actuator Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Ball Valve** : Body: AISI 316 and Cast iron,
2/2 way, screwed / flanged connection
and ISO5211 standard actuator
- Pressure** : PN40, PN16
- Temperature** : -30..180°C
- Size** : NW15 ... NW200 Flange

Actuated Ball Valve, Flanged / Screwed Connection 3/2 Way, Cast Iron Body

- Application** : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas
- On Request** : Limit switch box, positioner, Namur solenoid valve, manual override
- Type No** : **Flanged** PAV 908F DA, PAV 908F SR
Screwed PAV 908S DA, PAV 908S SR
- Actuator** : RA...DA/SR rotary pneumatic actuator Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Ball Valve** : Body: AISI 316 and Cast iron, 2/2 or
3/2 way, screwed / flanged connection
and ISO5211 standard actuator
- Pressure** : PN40, PN16
- Temperature** : -30..180°C
- Size** : NW15 ... NW200 Flange



PAV 908F.15 DA
PAV 908F.15 SR
3/2 Way

Actuated Valves, 2/2 Way for Food Industry

Application : Liquid, Food industry, Hygienic
Natural gas, LPG Gas

On Request : Limit switch box, positioner, namur
solenoid valve, manual override

Type No : PAV 813 DA, PAV 813 SR

Actuator : RA...DA/SR rotary pneumatic actuator
Double / Single

Supply Air : 4-6 bar. Stroke adjustment

Ball Valve : Body: AISI 316 and Cast iron, 2/2 way,
and ISO5211 standard actuator

Pressure : PN16 / PN10

Temperature : -30...130°C

Size : NW15 ... NW100



PAV 813 DA (Double acting)
PAV 813 SR (Single acting)

Actuated Butterfly Valves, Wafer Types



PAV 800 DA Serie
PAV 800 SR Serie

Application : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas

On Request : Limit switch box, positioner, Namur
solenoid valve, manual override

Type No : PAV 800 DA, PAV 800 SR,

Actuator : RA...DA/SR rotary pneumatic actuator Double / Single

Supply Air : 4-6 bar. Stroke adjustment

Butterfly Valve : Body: GG25 Epoxy or Rilsan coated, Disc: AISI 316
Butterfly type KVW121,
ISO5211 standard actuator

Pressure : PN10, PN16

Temperature : -30...130°C, Seal: EPDM

Size : NW50 ... NW600

Actuated Butterfly Valves, Lug Types

Application : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas

On Request : Limit switch box, positioner, Namur
solenoid valve, manual override

Type No : PAV 801 DA, PAV 801 SR

Actuator : RA...DA/SR rotary pneumatic actuator Double / Single

Supply Air : 4-6 bar. Stroke adjustment

Butterfly Valve : Body: GG25 Epoxy or Rilsan coated, Disc: AISI 316
Butterfly type KVL 141,
ISO5211 standard actuator

Pressure : PN10, PN16

Temperature : -30...130°C, Seal: EPDM

Size : NW50 ... NW600



PAV 801 DA Serie
PAV 801 SR Serie

Actuated Butterfly Valves, Wafer Types



PAV 802 DA Serie

Application : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas

On Request : Limit switch box, positioner, Namur
solenoid valve, manual override

Type No : PAV 802 DA, PAV 802 SR,

Actuator : RA...DA/SR rotary pneumatic actuator Double / Single

Supply Air : 4-6 bar. Stroke adjustment

Butterfly Valve : Body: GG25 Epoxy or Rilsan coated, Disc: AISI 316
Butterfly type KVW 1140 and,
ISO5211 standard actuator

Pressure : PN10, PN16

Temperature : -30...130°C, Seal: EPDM or Viton or PTFE or Silicon

Size : NW25 ... NW800 Flange

Actuated Butterfly Valves, Lug Types



PAV 803 DA Serie

- Application** : Liquid, gas, air, water, hot water, steam
Natural gas, LPG Gas
- On Request** : Limit switch box, positioner, Namur
solenoid valve, manual override
- Type No** : PAV 803 DA, PAV 803 SR,
- Actuator** : RA...DA/SR rotary pneumatic actuator Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Butterfly Valve** : Body: GG25 Epoxy or Rilsan coated, Disc: AISI 316
Butterfly type KVL 1120 and,
ISO5211 standard actuator
- Pressure** : PN10, PN16
- Temperature** : -30...130°C, Seal: EPDM or Viton or PTFE or Silicon
- Size** : NW25 ... NW800 Flange

Actuated Butterfly Valves, Lug Types

- Application** : Liquids
- On Request** : Limit switch box, positioner, Namur
solenoid valve, manual override
- Type No** : PAV 804 DA, PAV 804 SR
- Actuator** : RA...DA/SR rotary pneumatic actuator Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Butterfly Valve** : Body: GG25 Epoxy / PP, Disc: AISI 316
ISO5211 standard actuator
- Pressure** : PN10, PN16
- Temperature** : -30..130°C, Seal: EPDM
- Size** : NW25 ... NW800 Flange



PVC Body butterfly valve



PAV 804 DA

Actuated Butterfly Valves, Wafer / Lug Types - Teflon Seated



PAV 805 DA Serie (Double)

- Application** : Liquid, gas, air, water, hot water, steam
- On Request** : Limit switch box, positioner, Namur
solenoid valve, manual override
- Type No** : PAV 805 DA, PAV 805 SR,
- Actuator** : RA...DA/SR rotary pneumatic actuator Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Butterfly Valve** : Body: GG25 Rilsan coated or AISI316, Disc: AISI 316
ISO5211 standard actuator
- Pressure** : PN10, PN16
- Temperature** : -30..180°C, Seal: PTFE
- Size** : NW50 ... NW300 Flange

Actuated Butterfly Valves, Stainless Steel, Wafer / Lug Types - Teflon Seated

- Application** : Liquid, gas, air, water, hot water, steam
- On Request** : Limit switch box, positioner, Namur
solenoid valve, manual override
- Type No** : PAV 806 DA, PAV 806 SR
- Actuator** : RA...DA/SR rotary pneumatic actuator Double / Single
- Supply Air** : 4-6 bar. Stroke adjustment
- Butterfly Valve** : Body: GG25 Rilsan coated or AISI316, Disc: AISI 316
ISO5211 standard actuator
- Pressure** : PN10, PN16
- Temperature** : -30..180°C, Seal: PTFE
- Size** : NW50 ... NW300 Flange



PAV 806 DA Serie (Double)

Actuated Ball Valve, 2/2 ve 3/2 Way, PVC Body



RAV 812 DA
RAV 812 SR

Application : Liquids, acid, water
On Request : Limit switch box, positioner, Namur solenoid valve, manual override
Type No : PAV 812 DA, PAV 812 SR
Actuator : RA...DA/SR rotary pneumatic actuator
 Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Ball Valve : Body: PP, 2/2 or 3/2 way
 screwed or welding connection
 and ISO5211 standard actuator
Pressure : PN6, PN10
Temperature : -10...80°C
Size : NW15 ... NW100

Actuated Butterfly Valves, Wafer Flanged Types

Application : Liquid, gas, air, water, hot water, steam
On Request : Limit switch box, positioner, Namur solenoid valve, manual override
Type No : PAV 810 DA, PAV 810 SR,
Actuator : RA...DA/SR rotary pneumatic actuator Double / Single
Supply Air : 4-6 bar. Stroke adjustment
Butterfly Valve : Body: GG25 Epoxy or Rilsan coated, Disc: AISI 316
 Butterfly type KVL 1150, KVL 1160, KVL 1170
 ISO5211 standard actuator
Pressure : PN10, PN16
Temperature : -30...130°C, Seal: EPDM or Viton or PTFE or Silicon
Size : NW350 ... NW900 Flange



PAV 810 DA (Double Acting)

Ball Valve, Stainless Steel, Screwed Connection; Manual and ISO5211 Flanged type



TORK-KV 903



TORK-KV 903K



TORK-KV 904



TORK-KV 904 K

Bal Valve : Body: AISI 316 Stainless steel, 2/2 or 3/2 way,
 screwed connection, ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...180°C
Size : 1/2" 2" screwed
Control : Manual override
 ISO5211 Flanged actuator control

TORK-KV903, 2/2 way screwed connection, ISO5211 Flanged
 TORK-KV903K, 2/2 way screwed connection, manual override
 TORK-KV904, 3/2 way screwed connection, ISO5211 Flanged
 TORK-KV904K, 3/2 way screwed connection, manual override

Ball Valve, Brass Body, Screwed Connection; Manuel and ISO5211 Flanged type

Bal Valve : Body: Brass, 2/2 or 3/2 way,
 screwed connection, ISO5211 standard actuator
Pressure : PN40, PN16
Temperature : -30...130°C
Size : 1/2" 2" screwed
Control : Manual override
 ISO5211 Flanged actuator control

TORK-KV901, 2/2 way screwed connection, ISO5211 Flanged
 TORK-KV901K, 2/2 way screwed connection, manual override
 TORK-KV902, 3/2 way screwed connection, ISO5211 Flanged
 TORK-KV902K, 3/2 way screwed connection, manual override



TORK-KV 901 Serie



TORK-KV 901K Serie



TORK-KV 902 Serie



TORK-KV 902K Serie

Butterfly Valve Wafer Type

- Butterfly Valve** : Body: GG25 Epoxy or rilsan coated stainless steel ve ISO5211 standard actuator flange connection or interconnection
- Body Type** : Wafer type
- Disc** : Stainless steel, on request:GG25 epoxy coated,
- Rubber diaphragm**: EPDM (-30...130°C), on request: Viton, PTFE, Silicon
- Pressure** : PN6, on request:PN10,PN16
- Temperature** : -30...130°C
- Size** : NW25"NW600"
- Seal Option** : EPDM
TORK-KV.W121 serie wafer type
EPDM,PTFE,VITON,NITRIL
TORK-KV.W1120 serie wafer type



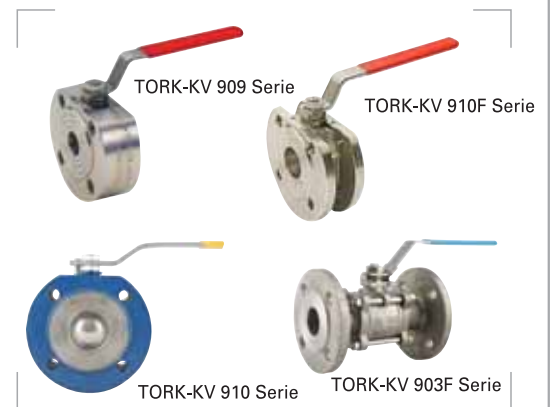
Butterfly Valve Lug Type

- Butterfly Valve** : Body: GG25 Epoxy or rilsan coated stainless steel ve ISO5211 standard actuator flange connection or interconnection
- Body Type** : LUG type
- Disc** : Stainless steel, on request:GG25 epoxy coated,
- Rubber diaphragm**: EPDM (-30...130°C), on request: Viton, PTFE, Silicon
- Pressure** : PN6, on request:PN10,PN16
- Temperature** : -30...130°C
- Size** : NW25"NW600"
- Seal Option** : EPDM
TORK-KV.L141 serie lug type
EPDM,PTFE,VITON,NITRIL
TORK-KV.L 1150 serie lug type



Ball Valve, Monoblock, Cast Iron and Stainless Steel Body

- TORK-KV 909 Stainless Monoblock Ball Valve
TORK-KV 910 Cast Iron Monoblock Ball Valve
TORK-KV 903F Stainless Steel Flanged Monoblock Ball Valve
TORK-KV 910F Flanged Monoblock Ball Valve
- Body** : Cast iron / Stainless steel
- Sphere** : Stainless steel
- Pressure** : PN16, PN40, PN63
- Way** : 2/2, 3/2
- On request** : Steam jacketed type
- Size** : NW15 ... NW100
- Temperature** : -20 °C ... 180°C



PVC Ball Valve and Hygiene Valve

- TORK-PKV 913 PVC Ball Valve
TORK-HSV Stainless Steel Hygiene Valve
TORK-DKV 812 Diaphragm Valve
TORK-PKV 812 PVC Butterfly Valve
- Size** : NW15 ... NW100
- Temperature** : -20 °C...80°C
- Pressure** : PN10, PN 16
- Application** : Liquids, aggressive fluid types, food industry, particle fluid types



Why hydraulic actuator?

- > Small size
- > High torque value



Model SA-H

APPLICATION

- Ball valves
- Butterfly valves
- Dampers
- Other hydraulic systems

Working pressure : 100 bar/210 bar
 Working temperature : -10°C ... +75°C
 Valve mounting standard : DIN ISO 5211
 Turned angle : 90° ±1°

- On request :
- Mechanic limit switch
 - Proximity limit switch
 - Spring return pneumatic actuator

Hydraulic actuators and output torque

Actuator Type	100 bar control pressure, output torque value (Nm)	210 bar control pressure, output torque value (Nm)
SA - H 30	30 Nm	63 Nm
SA - H 42	90 Nm	200 Nm
SA - H 55	210 Nm	441 Nm
SA - H 63	300 Nm	630 Nm
SA - H 80	700 Nm	1512 Nm
SA - H 100	1450 Nm	3087 Nm
SA - H 125	2100 Nm	4620 Nm
SA - H 140	3000 Nm	6300 Nm



Application

Butterfly valve recommended at 100 bar for hydraulic actuators

Valve size NW	25 32 40	50 65 100 125	150 200	250	300 350 400	500	600
Actuator type	SA-H 30	SA-H 42	SA-H 55	SA-H 63	SA-H 80	SA-H 100	SA-H 125

Butterfly valve recommended at 220 bar for hydraulic actuators

Valve size NW	25, 32, 40, 50, 65, 80	100, 125, 150, 200	250	300	350, 400, 500	600
Actuator type	SA-H 30	SA-H 42	SA-H 55	SA-H 63	SA-H 80	SA-H 100

Contact us for different applications.





YENİKÖY 212 2176585 / PAING25.11.2013

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Solenoid Valves



Pneumatic Actuators



Angle - Seated Piston Valves



Limit Switch Boxes



Pneumatic Actuated Valves



Electric Actuated Valves



Flow Measuring Instruments



Pressure Measuring Instruments



Level Measuring Instruments



Temperature Measuring Instruments

