



## PNEUMATIC ACTUATORS

*ball valves, butterfly valves,  
plug valves, dampers*



## PNEUMATIC ACTUTOR CODING SYSTEM

RA040.SR.09.036.000

### Outer Flange Sizes

Single Flange	000
Ø 50	050
Ø 70	070
Ø 102	102
Ø 140	140

### Inner Flange Sizes

Ø 36	036
Ø 42	042
Ø 50	050
Ø 70	070
Ø 102	102
Ø 125	125
Ø 140	140
Ø 165	165

### Square Head Dimensions

09	17	36
11	22	
14	27	

### TYPE

SR	Single Acting
DA	Double Acting
3 P	3 Position 90° Turn
8 D	180° Turn
2 D	120° Turn
8P	3 Position 180° Turn

### Body Sizes

032	080	143	270
040	100	160	350
060	120	200	

### Features

RA	Standard
RX	Exproof
RAM	Arctic Actuator (-50 °C)
RXM	Cold Medium - Exproof
RAH	Heavy Duty Series
RASY	Scotchyoce Actuator
RASYM	Scotchyoce Arctic Actuator



# RACK & PINION PNEUMATIC ACTUATOR

## Rack & Pinion Pneumatic Actuator / Features

### General Features

- High performance
- Long lasting
- High torque (rotation movement) output
- Position indicator
- Body: Extruded aluminium, (on request; anodized)
- Optionally; epoxy painted body or PTFE coated body
- Piston and caps: Die cast aluminium
- Double acting actuators can turn into single acting easily
- Single acting actuator's springs, preloaded and durable
- Sensitive and high quality working of bearing system and o-ring
- Stroke adjustment:

RA032-120 actuators apply in both ways  $\pm 5^\circ$

RA143-350DA actuators can be made in only the closed position  $35^\circ$

RA143-350SR actuators have to stroke adjustment

- Nickel covered steel or stainless steel shaft
- ISO 5211, DIN 3337 and namur standard
- Limit switchbox, positioner connection is namur standard

### Design Features of TORK RA Series Actuator (Rack & Pinion Actuator)

- 1) **Actuator Body:** Corrosion protected aluminium extruded body.
- 2) **Indicator:** It is standard on all actuators.
- 3) **Caps:** Aluminium extruded caps provide maximum resistance against corrosion, caps are suitable for single and double acting actuators
- 4) **Stroke Adjustment:** Permit adjustment of 3 %5 in both directions.
- 5) **Springs:** Cartridge design and corrosion resistant springs.
- 6) **Piston Bearing O-rings:** Long lasting
- 7) **Nuts and Bolts:** Stainless steel and high resistance for corrosion.
- 8) **Actuator Pistons:** Aluminium injections. High quality o-rings and against corrosion.
- 9) **Connections:**

- Solenoid Valve, Limit Switch Box,

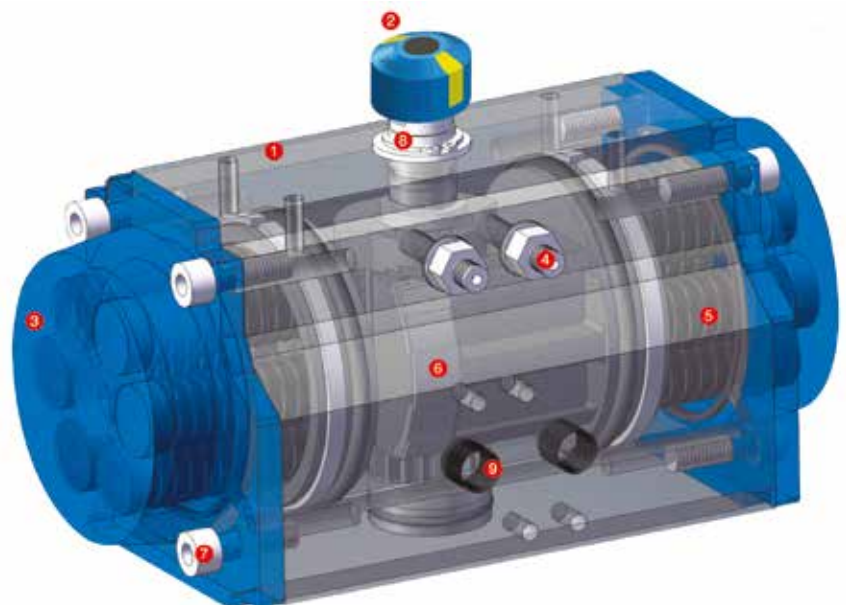
Positioner: Namur VDINDE3845

- Ball, Butterfly and Plug Valve Montage:

ISO5211, DIN3337standard

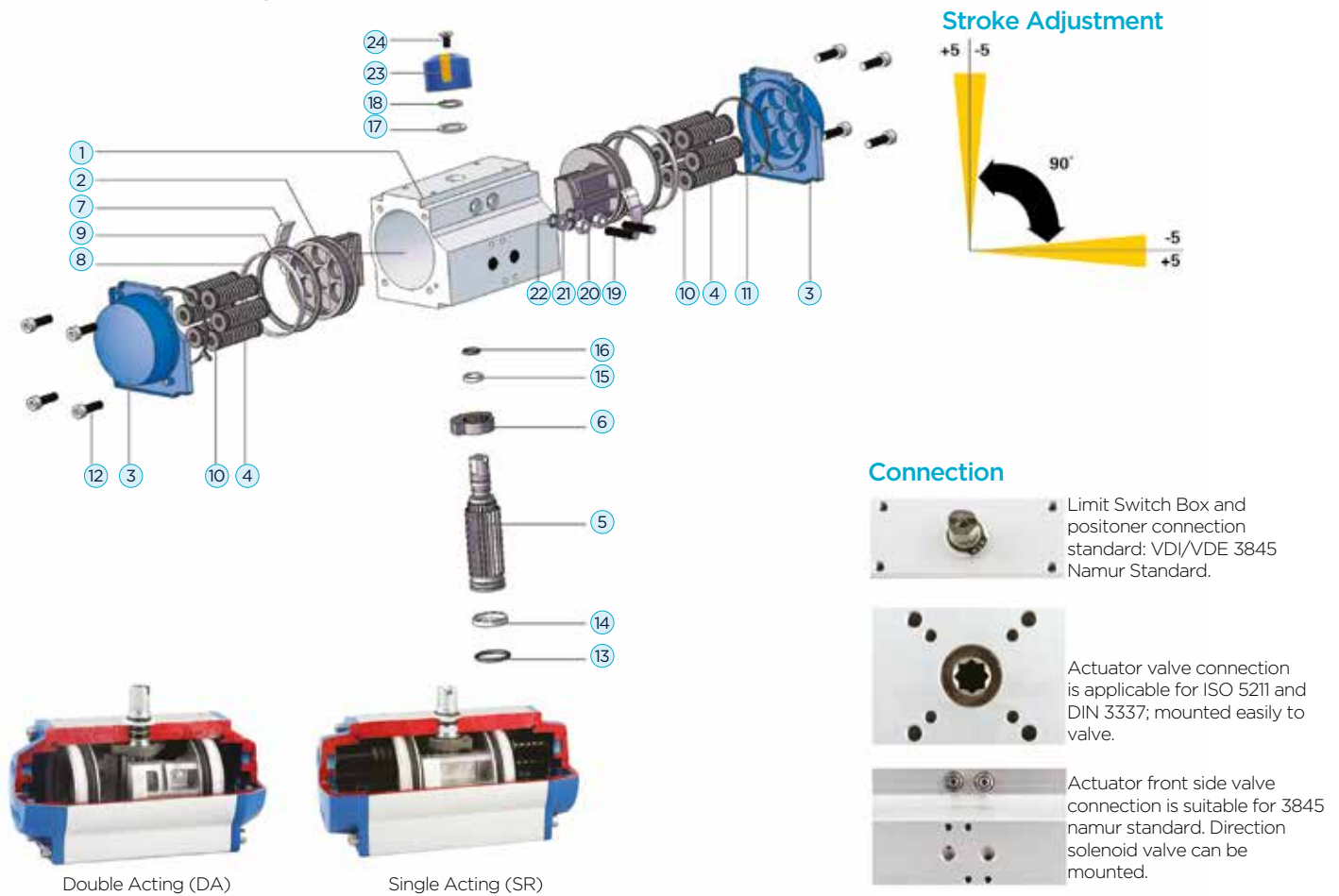
#### Air Quality:

ISO 8573-1 : 7-4-4 (Particle - Water - Oil)



# Rack & Pinion Pneumatic Actuator / Spare Parts

## RA Series (DA/ SR): Spare Part List



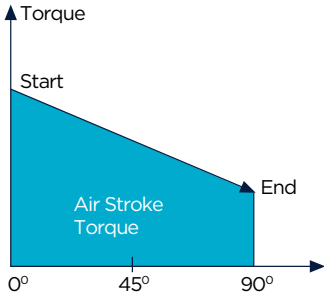
PART NO	UNIT QUANTITY	PART DESCRIPTION	STANDARD MATERIAL
1	1	Body	Extruded Aluminium Alloy
2	2	Piston	Die Cast Aluminium
3	2	Cap	Die Cast Aluminium
4	min.5/max.12	Spring	High Alloy Spring Steel
5	1	Pinion	Steel Alloy
6	1	Cam (Stop Arrangement)	Stainless Steel
7	2	Bearing (Piston Back)	Polyphthalamide
8	2	Bearing (Piston Sliding)	Polyphthalamide
9	2	Piston "O" Ring	Nitrile (NBR70)
10	min.5/max.12	Spring Holder	Polypropylene + Gf
11	2	Cap "O" Ring	Nitrile (NBR70)
12	8	Cap Bolt	Stainless Steel
13	1	Pinion Bottom "O" Ring	Nitrile (NBR70)
14	1	Bearing (Pinion Bottom)	Polyphthalamide
15	1	Bearing (Pinion Top)	Polyphthalamide
16	1	Pinion Top" O" Ring	Nitrile (NBR70)
17	1	Thrust Bearing	Polyphthalamide
18	1	Spring Clip	Steel Alloy
19	2	Stop Set Screw	Stainless Steel
20	2	Stop Nut	Stainless Steel
21	2	Strop Set Screw Washer	Stainless Steel
22	2	Strop Set Screw "O" Ring	Nitrile (NBR70)
23	1	Indicator	Polypropylene + Gf
24	1	Indicator Screw	Stainless Steel

**Note:** All sealing and bearing elements are included in the repair kit.

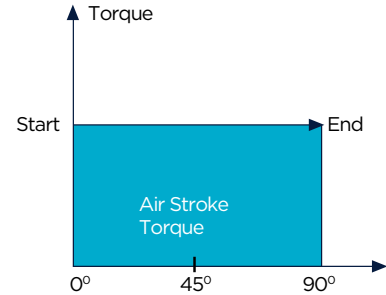
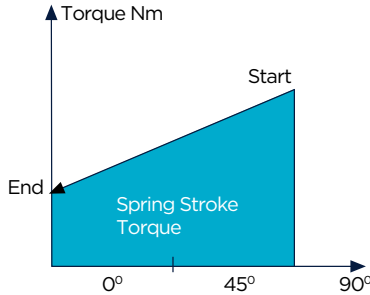
**Part No:** 7, 8, 9, 11, 13, 14, 15, 16, 22

# Rack & Pinion Pneumatic Actuator/ Operation

## TORK Actuator, Tork Output Diagrams Rack & Pinion Actuator

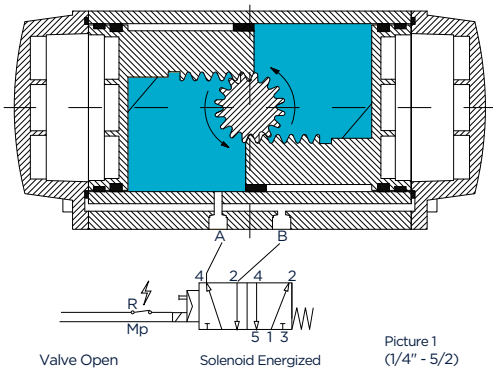


TORK RA ... SR Series (Single Acting) Actuator Output Diagram

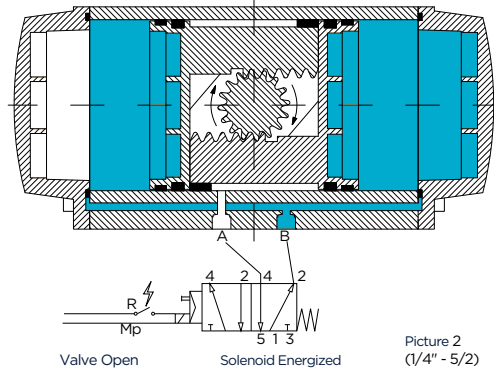


TORK RA ... DA Series (Double Acting) Actuator Output Diagram

## TORK RA/RX/RAM/RXM.....DA Series Actuator Operation (Double Acting) Rack & Pinion Actuator

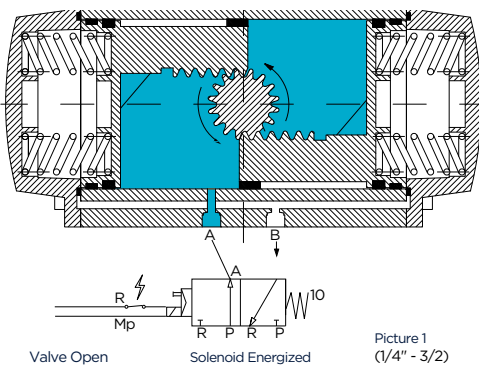


Picture 1  
(1/4" - 5/2)

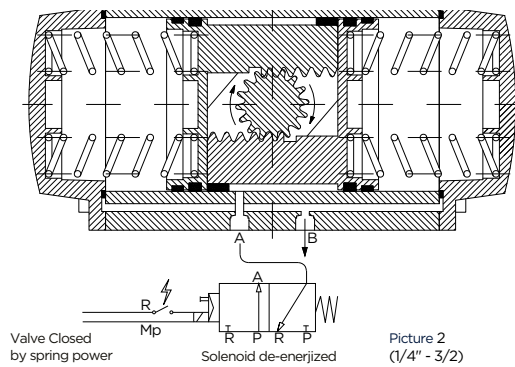


Picture 2  
(1/4" - 5/2)

## TORK RA/RX/RAM/RXM.....SR Series Actuator Operation (Single Acting) Rack & Pinion Actuator

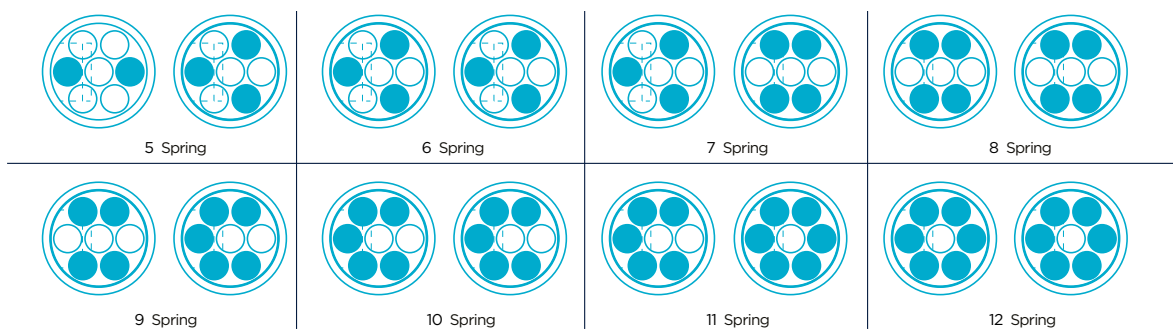


Picture 1  
(1/4" - 3/2)



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

## TORK RA ... SR Series (Single Acting) Actuator Spring Arrangement





# Rack & Pinion Pneumatic Actuator/ Torque Value

## Rack & Pinion Actuator

### Double Acting Actuators Torque Value (According to supplied air pressure range)

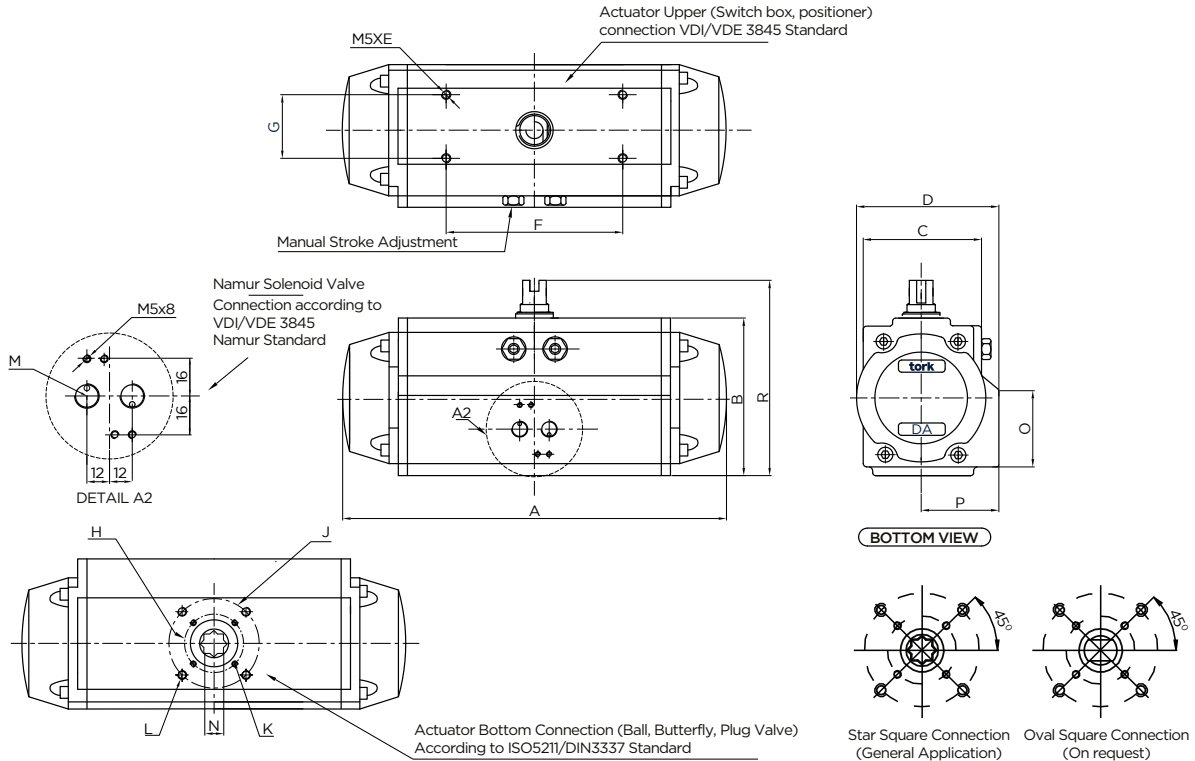
MODEL	Operating Pressure (bar)											
	2,5 bar	3 bar	3,5 bar	4 bar	4,5 bar	5 bar	5,5 bar	6 bar	6,5 bar	7 bar	7,5 bar	8 bar
RA/RX/RAM/RXM 32 DA	2	3	4	5	6	7	8	9	10	11	12	13
RA/RX/RAM/RXM 40 DA	5,5	7,0	8,5	9,9	11,4	12,9	14,4	15,8	17,3	18,8	20,3	21,7
RA/RX/RAM/RXM 52 DA	13,0	16,1	19,3	22,5	25,6	28,8	32,0	35,1	38,3	41,4	44,6	47,8
RA/RX/RAM/RXM 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/RXM 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/RXM 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/RXM 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/RXM 120 DA	124,9	152,5	180,2	207,9	235,6	263,2	290,2	318,6	346,3	373,9	401,6	439,3
RA/RX/RAM/RXM 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/RXM 160 DA	321,0	385,0	450,0	510,0	576,0	642,0	705,0	765,0	833,0	897,0	963,0	1024,0
RA/RX/RAM/RXM 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/RXM 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/RXM 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

### Single Acting Actuators Torque Value (According to supplied air pressure range and spring quantity)

MODEL	Spring No	Operating Pressure (bar)																								Spring Torque Value			
		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		0°	90°		
		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	0° Start	90° End	0°	90°		
RA/RX/RAM/RXM 40 SR	S5			4,7	2,2	6,1	3,7	7,6	5,2	9,1	6,6	10,6	8,1	12,0	9,6	13,5	11,1	15,0	12,5	16,5	14,0	17,9	15,5	19,4	17,0	0,4	2,9		
	S6					5,7	2,7	7,1	4,2	8,6	5,7	10,1	7,2	11,6	8,6	13,1	10,1	14,5	11,6	16,0	13,1	17,5	14,5	19,0	16,0	0,9	3,8		
	S7					6,7	3,3	8,2	4,7	9,6	6,2	11,1	7,7	12,6	9,2	14,1	10,6	15,5	12,1	17,0	13,6	18,5	15,1	1,4	4,8				
	S8								6,2	2,3	7,7	3,8	9,2	5,3	10,6	6,7	12,1	8,2	13,6	9,7	15,1	11,2	16,6	12,6	18,0	14,1	1,8	5,7	
	S9										7,2	2,8	8,7	4,3	10,2	5,8	11,7	7,3	13,1	8,7	14,6	10,2	16,1	11,7	17,6	13,2	2,3	6,7	
	S10												8,2	3,4	9,7	4,8	11,2	6,3	12,7	7,8	14,1	9,3	15,6	10,7	17,1	12,2	2,8	7,6	
	S12												7,8	2,4	9,3	3,9	10,7	5,4	12,2	6,8	13,7	8,3	15,2	9,8	16,6	11,3	3,2	8,6	
RA/RX/RAM/RXM 52 SR	S5													8,8	2,9	10,3	4,4	11,7	5,9	13,2	7,4	14,7	8,8	16,2	10,3	3,7	9,5		
	S6			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	2,2	7,8		
	S7					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	3,2	9,9		
	S8					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	4,2	12,0		
	S9							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	5,2	14,1		
	S10									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	6,2	16,3		
	S12									15,6	4,4	18,7	7,6	21,9	10,7	25,0	13,9	28,2	17,1	31,4	20,2	34,5	23,4	37,7	26,6	7,2	18,4		
RA/RX/RAM/RXM 60 SR	S5																												
	S6																												
	S7																												
	S8																												
	S9																												
	S10																												
	S12																												
RA/RX/RAM/RXM 75 SR	S5			12,3	6,1	15,9	9,7	19,4	13,2	22,9	16,7	26,4	20,2	29,9	23,7	32,3	27,2	36,9	30,8	40,5	34,3	44,0	37,8	47,5	41,3	2,4	8,6		
	S6					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	3,6	11,0		
	S7					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	4,7	13,3		
	S8							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	5,8	15,7		
	S9								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	45,9	39,9	6,9	18,1	
	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	8,0	20,4		
	S12											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	9,2	22,8		
RA/RX/RAM/RXM 80 SR	S5	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	8,1	20,7		
	S6					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	10,8	26,1		
	S7					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	13,5	31,5		
	S8							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	16,2	36,9		
	S9								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	18,9	42,3			
	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	21,6	47,7		
	S12											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	25,2	53,1		
RA/RX/RAM/RXM 100 SR	S5	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	9,0	23,0		
	S6					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	12,0	29,0		
	S7					36,7	16,8	45,8	26,0	54,9	35,1	64,1	44,2	73,2	53,4	82,4	62,5	91,5	71,7	100,7	80,8	109,8	90,0	119,0	99,1	15,0	35,0		
	S8							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	18,0	41,0		
	S9								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	21,0	47,0			
	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	24,0	53,0		
	S12											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	28,0	59,0		
RA/RX/RAM/RXM 120 SR	S5	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	15,5	32,9		
	S6					51,4	30,5	61,1	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	20,3	41,2
	S7					46,6	22,2	61,3	37,0	76,1	51,7	90,9	66,5	105,6	81,3	120,4	96,0	135,1	110,8	149,9	125,5	164,7	140,3	179,4	155,1	194,2	169,8	25,1	49,4
	S8							56,6	28,7	71,3	43,5	86,1	58,2	100,8	73,0	115,6	87,8	130,4	102,5	145,1	117,3	159,9	132,0	174,6	146,8	189,4	161,6	29,9	57,7
	S9								51,8	20,4	66,5	35,2	81,3	50,0	96,0	64,7	110,8	75,5	125,6	94,2	140,3	109,0	155,1	123,8	169,8	138,5	184,6	153,	

# Rack & Pinion Pneumatic Actuator 2 Position 90° Turn / Sizes

## RA/RAX/RAM/RXM/RAH Series

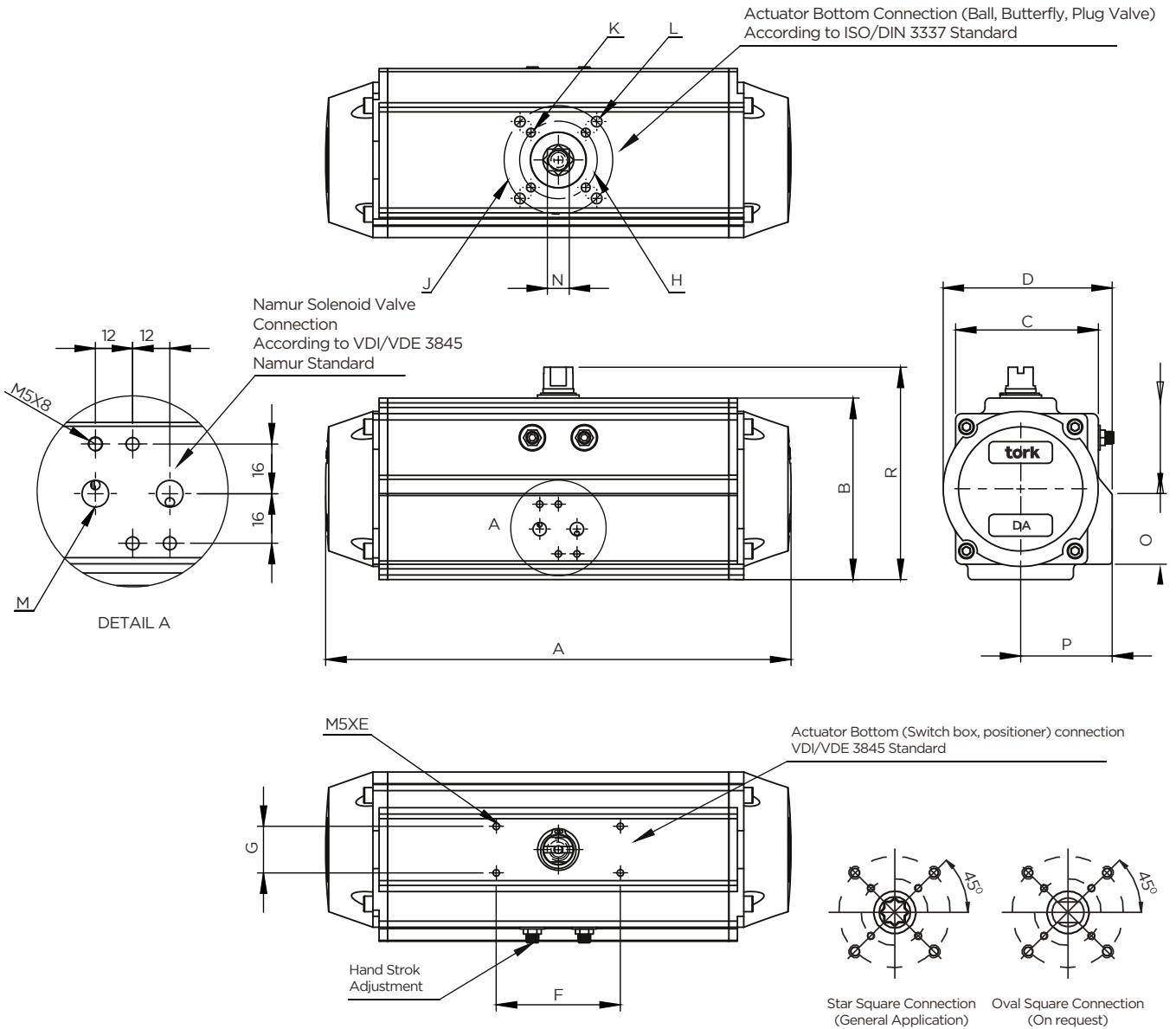


DIMENSION (mm)																		
ACTUATOR MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	ISO FLANGE FOR H	ISO FLANGE FOR J
RA/RX/RAM/RXM 32 DA	98	47	45	-	8.0	50	25	36	-	M5	-	1/8"	9	-	-	67	F03	-
RA/RX/RAM/RXM 40 DA/SR	137.2	70	52.0	70.6	8.0	80.0	30.0	36/42/50	-	M5	M6	1/8"	9/11	45.0	39.7	90	F03/F04	F05
RA/RX/RAM/RXM 52 DA/SR	172.6	85	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	F04/F05	F07
RA/RX/RAM/RXM 60 DA/SR	172.6	85	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	F04/F05	F07
RA/RX/RAM/RXM 75 DA/SR	242.0	117	91.8	109.2	8.0	80.0	30.0	50	70.0	M6	M8	1/8"	11/14/17	54.8	58.3	137	F05	F07
RA/RX/RAM/RXM 80 DA/SR	242.0	117	91.8	109.2	8.0	80.0	30.0	50	70.0	M6	M8	1/8"	11/14/17	54.8	58.3	137	F05	F07
RA/RX/RAM/RXM 100 DA/SR	282.0	130	95.0	121.0	8.0	80.0	30.0	70	102.0	M8	M10	1/4"	14/17/22	61.0	65.0	150	F07	F10
RA/RX/RAM/RXM 120 DA/SR	360.0	158	116.2	150.0	8.0	80.0	30.0	70	102.0	M8	M10	1/4"	17/22	82.0	87.2	178	F07	F10
RA/RX/RAM/RXM 143 DA	342	188	182	182	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	91	91	208	F10	F14
RA/RX/RAM/RXM 160 DA	374	215	202	202	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	101	101	235	F10	F14
RA/RX/RAM/RXM 200 DA	458	270	242	242	8.0	80.0	30.0	-	140/165	-	M20	1/4"	36	121	121	290	-	F14/F16
RA/RX/RAM/RXM 270 DA	540	354	-	330	8	130	30	-	165	-	M20	1/4"	46/55	-	-	384	-	F16
RA/RX/RAM/RXM 350 DA	586.5	440	-	440	8	130	30	-	165	-	M20	1/4"	46	-	-	470	-	F16
RA/RX/RAM/RXM 143 SR	514	188	182	182	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	91	91	208	F10	F14
RA/RX/RAM/RXM 160 SR	558	215	202	202	8.0	80.0	30.0	102	140	M10	M16	1/4"	22/27	101	101	235	F10	F14
RA/RX/RAM/RXM 200 SR	680	270	242	242	8.0	80.0	30.0	-	140/165	M16	M20	1/4"	36	121	121	290	-	F14/F16
RA/RX/RAM/RXM 270 SR	775.5	354	-	330	8	130	30	-	165	-	M20	1/4"	46/55	-	-	384	-	F16
RA/RX/RAM/RXM 350 SR	866.5	440	-	440	8	130	30	-	165	-	M20	1/4"	46	-	-	470	-	F16

ACTUATOR MODEL		OPEN VOLUME OPENING (L)	AIR VOLUME CLOSING (L)	OPENING TIME (sec)	CLOSING TIME (sec)	APPROXIMATE WEIGHT (kg)
RA/RX/RAM/RXM 32 DA	DA	0.03	0.02	0.1	0.1	0.4
RA/RX/RAM/RXM 40 DA/SR	DA	0.09	0.16	0.22	0.26	0.85
	SR			0.26	0.34	1.02
RA/RX/RAM/RXM 52 DA/SR	DA	0.17	0.28	0.27	0.33	1.70
	SR			0.33	0.38	1.80
RA/RX/RAM/RXM 60 DA/SR	DA	0.17	0.28	0.27	0.33	1.70
	SR			0.33	0.38	1.80
RA/RX/RAM/RXM 75 DA/SR	DA	0.50	0.79	0.39	0.48	3.80
	SR			0.48	0.57	4.40
RA/RX/RAM/RXM 80 DA/SR	DA	0.50	0.79	0.39	0.48	3.80
	SR			0.48	0.57	4.40
RA/RX/RAM/RXM 100 DA/SR	DA	0.73	1.15	0.52	0.63	4.90
	SR			0.63	0.95	6.10
RA/RX/RAM/RXM 120 DA/SR	DA	1.61	2.45	0.95	1.15	9.60
	SR			1.15	1.47	11.40
RA/RX/RAM/RXM 143 DA	DA	2.85	1.95	2.40	2.20	13.00
RA/RX/RAM/RXM 160 DA	DA	3.25	2.56	2.60	2.30	19.10
RA/RX/RAM/RXM 200 DA	DA	6.41	5.50	3.40	3.20	33.40
RA/RX/RAM/RXM 350 DA	DA	25	19.40	5.20	4.90	125.00
RA/RX/RAM/RXM 143 SR	SR	2.85	0	3.20	3.00	17.60
RA/RX/RAM/RXM 160 SR	SR	3.25	0	3.80	3.50	26.80
RA/RX/RAM/RXM 200 SR	SR	6.41	0	4.80	4.40	45.90
RA/RX/RAM/RXM 270 SR	SR	13.75	0	5.3	4.75	68
RA/RX/RAM/RXM 350 SR	SR	25	0	6.20	5.30	155



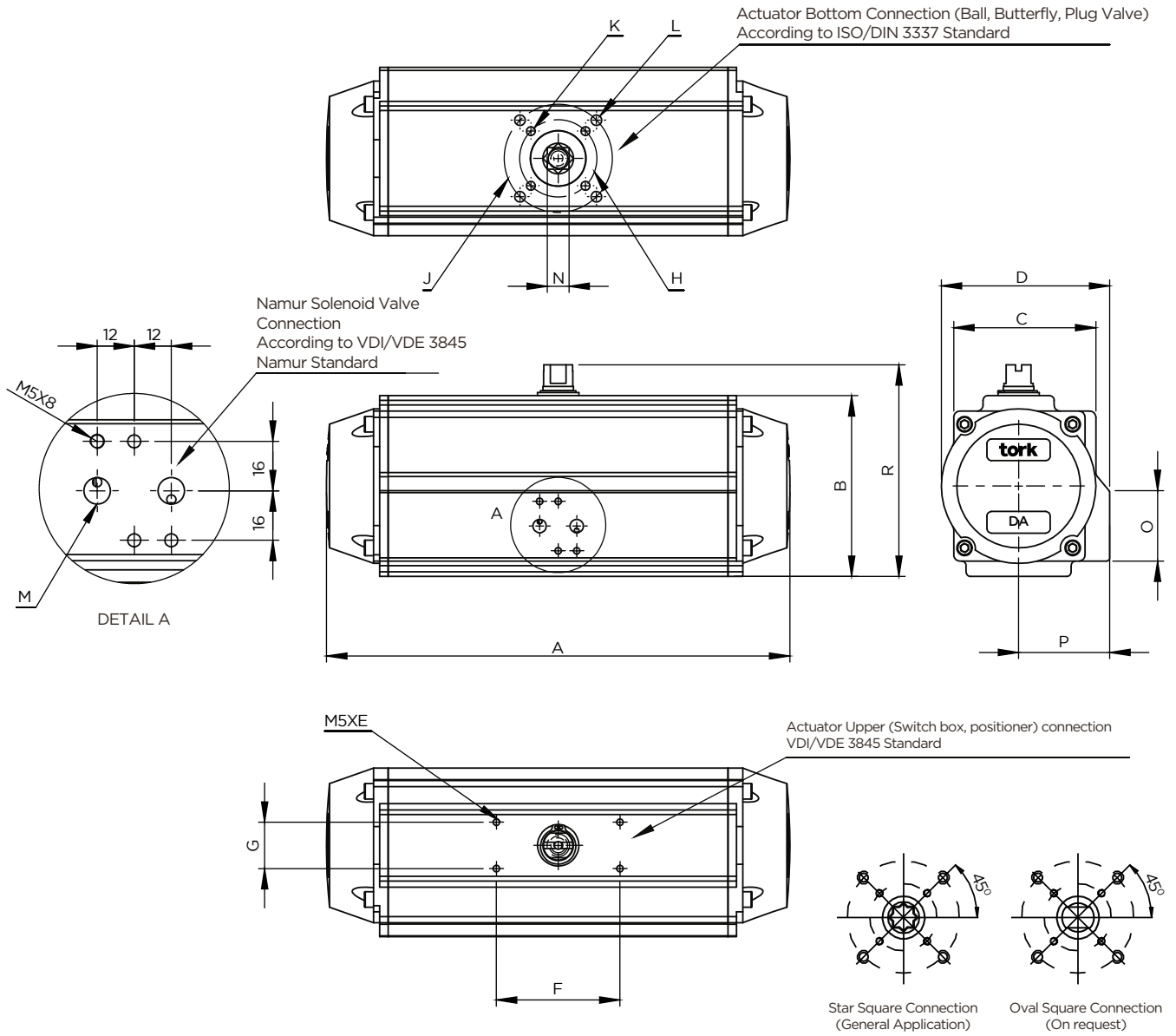
# Rack & Pinion Pneumatic Actuator 2 Position 120° Turn / Sizes



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/RX/RAM/RXM 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/RX/RAM/RXM 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/RX/RAM/RXM 80.2D	275	117	91.8	109	8	80	30	50	70	M6	M8	1/8"	11/14/17	55	58	137	F05	F07
RA/RX/RAM/RXM 100.2D	329	130	95	121	8	80	30	70	102	M8	M10	1/4"	14/17/22	61	65	160	F07	F10
RA/RX/RAM/RXM 120.2D	400	160	116.2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87.2	190	F07	F10

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

# Rack & Pinion Pneumatic Actuator 2 Position 180° Turn / Sizes



DIMENSION (mm)																		
ACTUATOR MODELS	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	ISO FLANGED FOR H	ISO FLANGED FOR J
RA 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 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 80.8D	333	117	91.8	109	8	80	30	50	70	M6	M8	1/8"	11/14/17	55	58	137	F05	F07
RA 100.8D	402	130	95	121	8	80	30	70	102	M8	M10	1/4"	14/17/22	61	65	160	F07	F10
RA 120.8D	481	160	116.2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87.2	190	F07	F10

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

# Rack & Pinion Pneumatic Actuator 3 Position 90° Turn / Sizes

## 90° Turn Actuator



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 request; it can be designed as desired. As special designed, the production of 120° and 180°, 3 position rotary actuator is possible.

TORK 3 position actuators are used in filling facilities in order to fill a tank or depot without overflow and safely. Firstly valve is switched to fully open position for filling application. At the end of the filling, for prevent overflow, valve is switched to half open position, 30-60°) and if close command issued,

valve is switched to fully closed position.

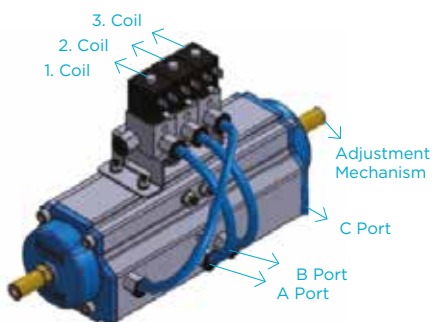
### Operating of 3 Position Actuator:

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

For triple 3/2 direction 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.

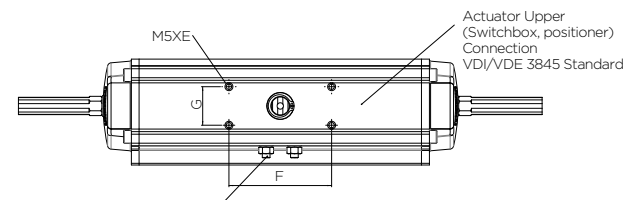
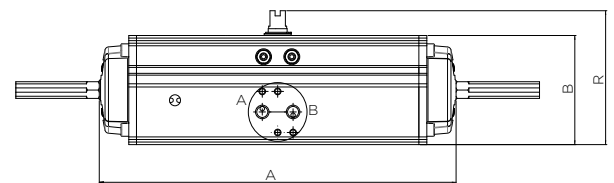
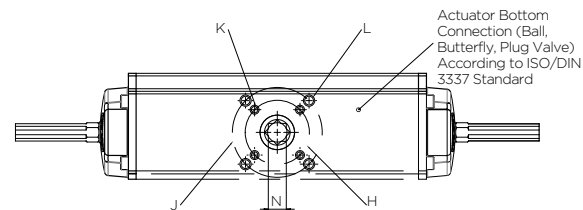
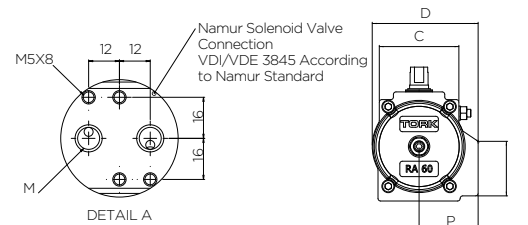
### Operating:

1. Pressure air is given to air input port.
2. The coil 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.

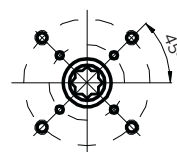


## APPLICATION

- Generally used in filling systems.
- With ball valves
- With butterfly valves



### BOTTOM VIEW



Star Square Connection (General Application)



TYPE ORDER NO	P: 6 bar Torque	DIMENSIONS (mm)																
		RA	NM	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
RA/RX/RAM/RXM 40.P	15	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/RX/RAM/RXM 60.P	39	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/RX/RAM/RXM 80.P	103	275	117	91.8	109	8	80	30	50	70	M6	M8	1/8"	11/14/17	55	58	137	F05/F07
RA/RX/RAM/RXM 100.P	168	329	130	95	121	8	80	30	70	102	M8	M10	1/4"	14/17/22	61	65	160	F07
RA/RX/RAM/RXM 120.P	318	400	160	116.2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87.2	190	F07

# Rack & Pinion Pneumatic Actuator 3 Position 180° Turn / Sizes



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

**The Principle of Operation 180° 3 Position Actuators:** In order to operate 3 position actuator, can be benefited from triple 3/2 direction valve.

At triple 3/2 direction valve, 1 no valve is connected to A port, 2 no

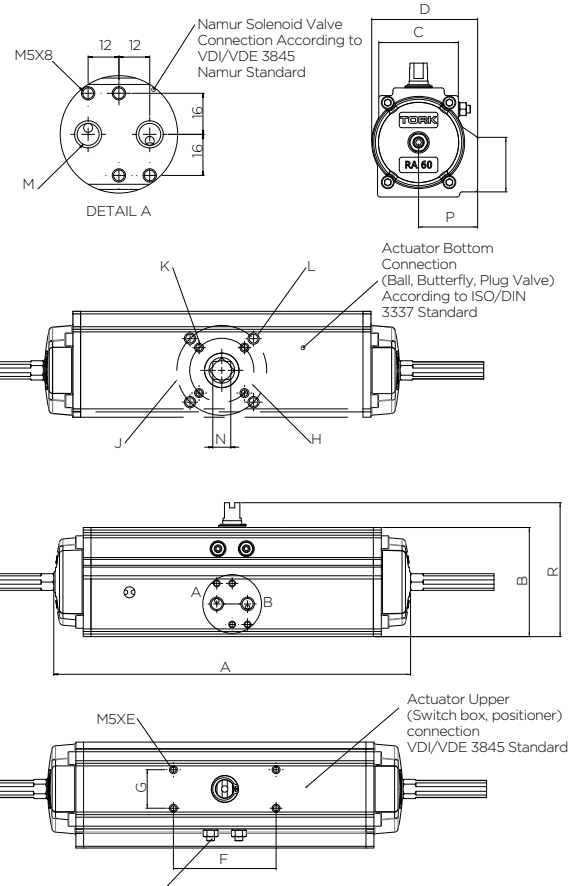
valve is connected to B port and 3 no valve is connected C port.

**Operating:**

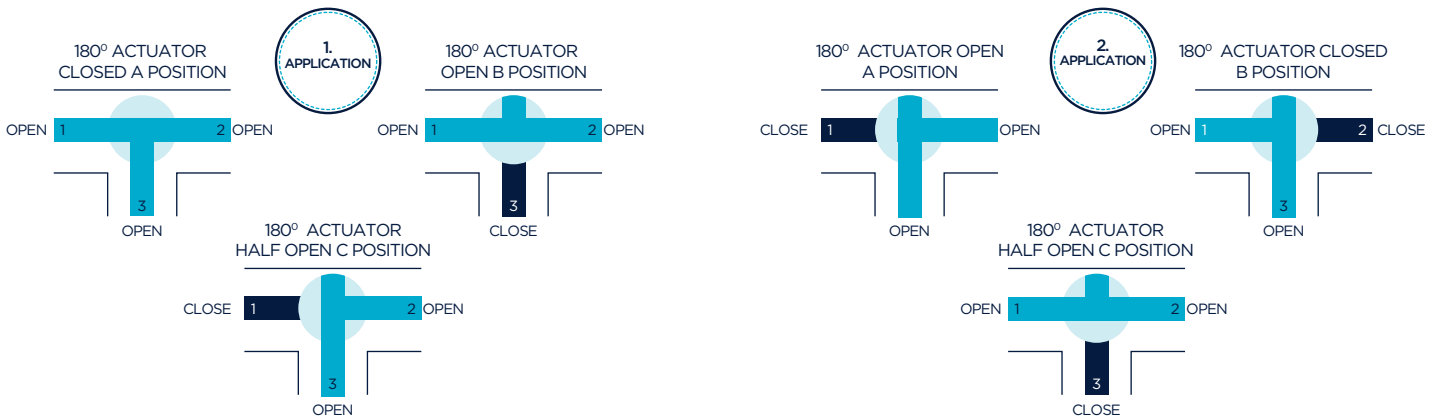
1. Compressed air is given to air inlet port.
2. 1 no coil is energized. In this way actuator is rotated 180°, in other words the valve opens full position.
3. 3 no is energized, 1 no coil is de-energized. So the actuator is semi-closing.
4. 2 no coil is energized, 3 no coil is de-energized. So the actuator is fully closing.

**APPLICATION**

- Generally used in filling systems.
- With ball valves
- With butterfly valves



**Operating in Ball Valves**

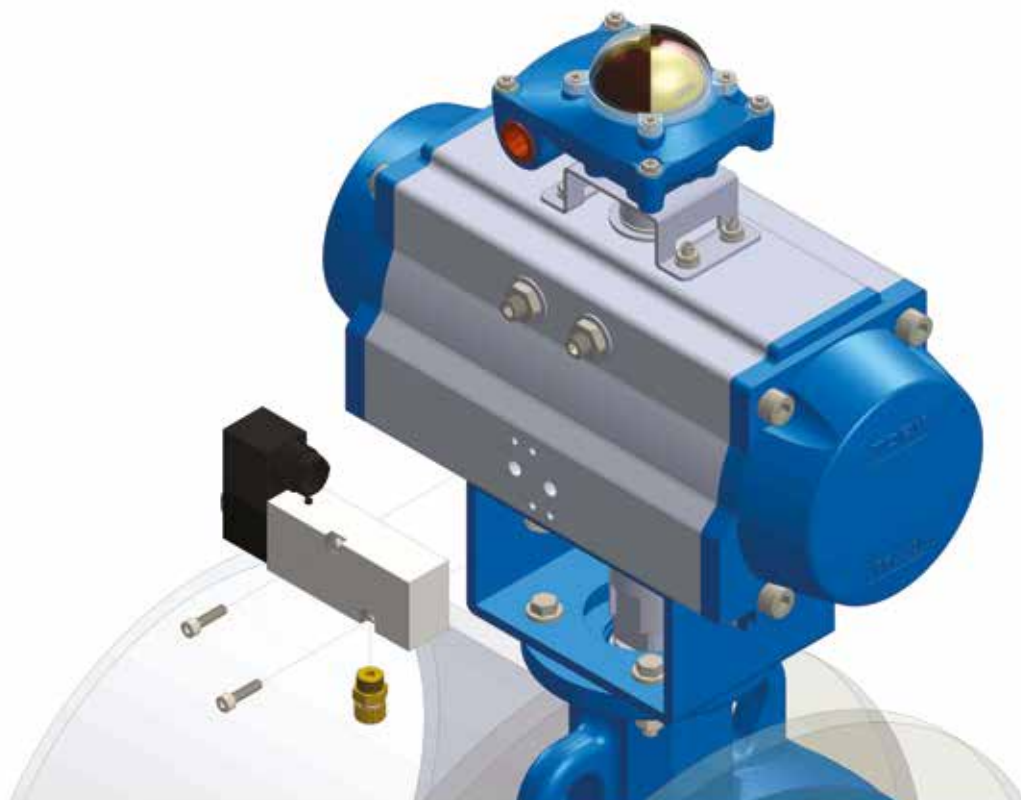


**3 Position Actuator Types, Dimensions and Torque Outputs**

TYPE ORDER NO	P: 6 bar Torque	DIMENSION (mm)																	
		RA	Nm	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R
RA/RX/RAM/RXM 40.8P	15	263	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/RXM 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/RX/RAM/RXM 80.8P	103	458.5	116.9	91.8	109.2	8	80	30	50	70	M6	M8	1/8"	11/14/17	54.8	58	136.9	F05/F07	
RA/RX/RAM/RXM 100.8P	168	550	130	95	121	8	80	30	70	102	M8	M10	1/4"	14/17/22	61	65	160	F07/F10	
RA/RX/RAM/RXM 120.8P	318	585	160	116.2	150	8	80	30	70	102	M8	M10	1/4"	17/22	82	87.2	190	F07/F10	

# Atex Certificated Pneumatic Actuator

RX/RXM ... DA Series - RX/RXM.... 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's torque values and dimensions are same as with standard TORK actuators

## RX/RXM ... DA Double Acting Atex Certificated Pneumatic Actuators

MODEL NO	RX/RXM 32 DA	RX/RXM 40 DA	RX/RXM 60 DA	RX/RXM 80 DA	RX/RXM 100 DA	RX/RXM 120 DA	RX/RXM 143 DA	RX/RXM 160 DA	RX/RXM 200 DA	RX/RXM 270 DA	RX/RXM 350 DA
Operating Pressure (bar)	2,5 ... 8										
Operating Fluid	Compressed Air										
Ambient Temperature (°C)	-20 °C ...80 °C RX (-20 °C ... 80 °C), RXM (-60 °C ... 80 °C)										
ATEX Protection Class	II 2GD c T4										

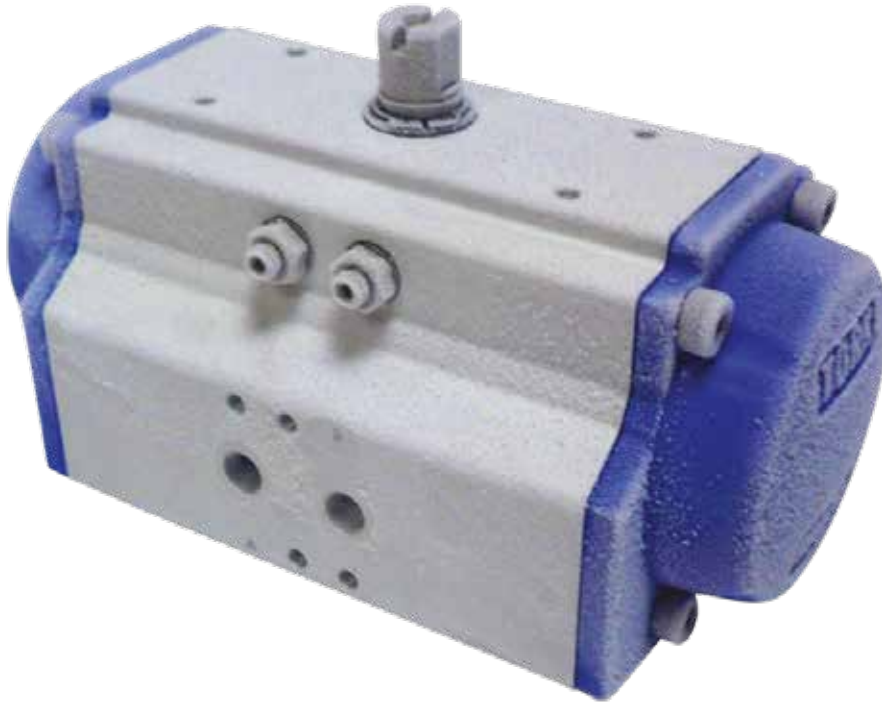
## RX/RXM ... SR Single Acting Atex Certificated Pneumatic Actuators

MODEL NO	RX/RXM 40 SR	RX/RXM 60 SR	RX/RXM 80 SR	RX/RXM 100 SR	RX/RXM 120 SR	RX/RXM 143 SR	RX/RXM 160 SR	RX/RXM 200 SR	RX/RXM 270 SR	RX/RXM 350 SR
Operating Pressure (bar)	4 ...8									
Operating Fluid	Compressed Air									
Ambient Temperature (°C)	RX (-20 °C ... 80 °C), RXM (-60 °C ... 80 °C)									
ATEX Protection Class	II 2GD c T4									



## Arctic Pneumatic Actuators

RAM/RXM ... DA Series - RAM/RXM ... SR Series



- Arctic environment (-60°C ... 80°C) actuators are suitable for very cold environment until -60°C with long life time. These actuators are used for automatic control of rotary valves with pneumatic power.
- Arctic actuators are 3 types; single acting (spring return), double acting (air/air), 3 position (120° ve 180° turn).
- Long lasting and high performance
- These actuators are designed for operating at minimum -60 °C ambient temperature.
- For using these actuators without any problem at -60°C, feeding air must not contain water particles at all, suitable air dryers must be used.
- These actuators can be used in -60°C ambient temperature without any power reduction for a long time.
- Sensitive and high quality bearing and o-ring parts
- Actuator bodies have aluminium extruded against corrosion.
- To operate these actuators, suitable namur valve (-60°C) must be used.
- Producing of all types of TORK rotary standard actuators for arctic condition (-60°C) is possible.

### RAM/RXM... DA Double Acting Pneumatic Actuators / RAM/RXM...SR Single Acting Pneumatic Actuators

MODEL NO	RAM 32DA/SR	RAM 40DA/SR	RAM 60DA/SR	RAM 80DA/SR	RAM 100DA/SR	RAM 120 DA/SR	RAM 143 DA/SR	RAM 160 DA/SR	RAM 200 DA/SR	RAM 270 DA/SR	RAM 350DA/SR
Operating Pressure (bar)	4 ...8										
Operating Fluid	Compressed Air										
Ambient Temperature (°C)	-60°C ... 80°C										
Moment	Double Acting (DA) 9 Nm ... 5162 Nm (6 bar) / Single Acting (SR) 5 Nm ... 1950 Nm										
Actuator Body	Aluminium										
Sealing Materials	Special developed sealing elements										
Protection Class (On request)	II 2GD c T4										
Air Quality	ISO 8573-1: 7-1-4 (Particle - Water - Oil)										

## RAH...DA, RAH...SR Series Heavy Duty Actuators

### RAH ... DA Series /RAH ... SR Series



- Long lasting
- More suitable for faster processes than standard actuators
- Ambient temperature -20 °C ...80 °C. On request; -50°C ... 80°C (For using these actuators without any problem at -50°C, feeding air must not contain water particles at all, suitable air dryers must be used.)
- Sensitive and high quality bearing and o-ring parts
- Bronze bearing parts
- Actuator bodies have anodized coated aluminium extruded against corrosion.
- Position indicator,
- Double acting actuators can turn into single acting easily
- Permit stroke adjustment of 3 %5 in both directions.
- ISO 5211, DIN 3337 and namur standard
- Limit switchbox, positioner connection is at namur standard
- Namur valve montage is at namur standard
- Actuator valve montage is at ISO 5211 standard
- 7,000,000 turn cycle warranty

MODEL NO	RAH 32DA/SR	RAH 40DA/SR	RAH 60DA/SR	RAH 80DA/SR	RAH 100DA/SR	RAH 120 DA/SR	RAH 143 DA/SR	RAH 160 DA/SR	RAH 200 DA/SR	RAH 270 DA/SR	RAH 350DA/SR
Operating Pressure (bar)	4 ...8										
Operating Fluid	Compressed Air										
Ambient Temperature (°C)	-30°C ... 80°C										
Moment	Double Acting (DA) 9 Nm ... 5162 Nm (6 bard) / Single Acting (SR) 5 Nm ... 1950 Nm										
Actuator Body	Aluminium										
Sealing Materials	NBR Xring										
Protection Class (On request)	II 2GD c T4										
Air Quality	ISO 8573-1: 7-1-4 (Particle - Water - Oil)										



## **SCOTCH YOKE PNEUMATIC ACTUATOR**

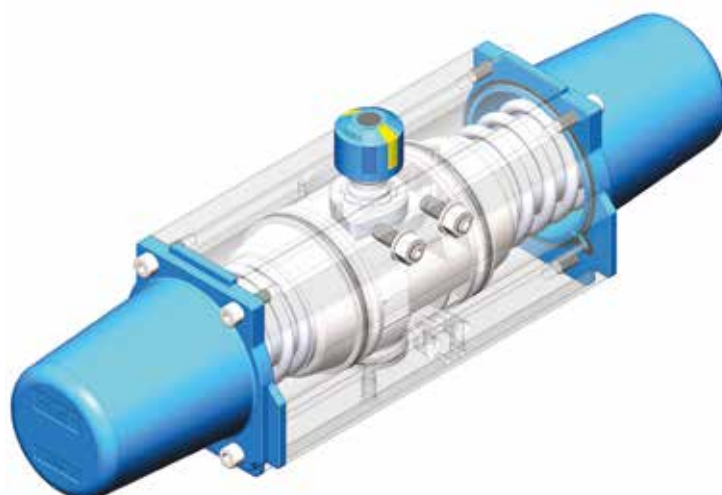
## Scotch Yoke Pneumatic Actuator / Features

### General Features

- High performance
- Long lasting
- High torque (rotation movement) output
- Position indicator
- Body: Extruded aluminium
- Piston and caps: Extruded aluminium
- Double acting actuators can turn into single acting easily
- Single acting actuator's springs, preloaded and durable
- Sensitive and high quality working of bearing system and o-ring
- Stroke adjustment in both ways 3 50
- Nickel covered steel or stainless steel shaft
- ISO 5211, DIN 3337 and namur standard
- Limit switchbox, positioner connection is namur standard
- Direction valve montage is namur standard
- Actuator valve montage is ISO 5211 standard

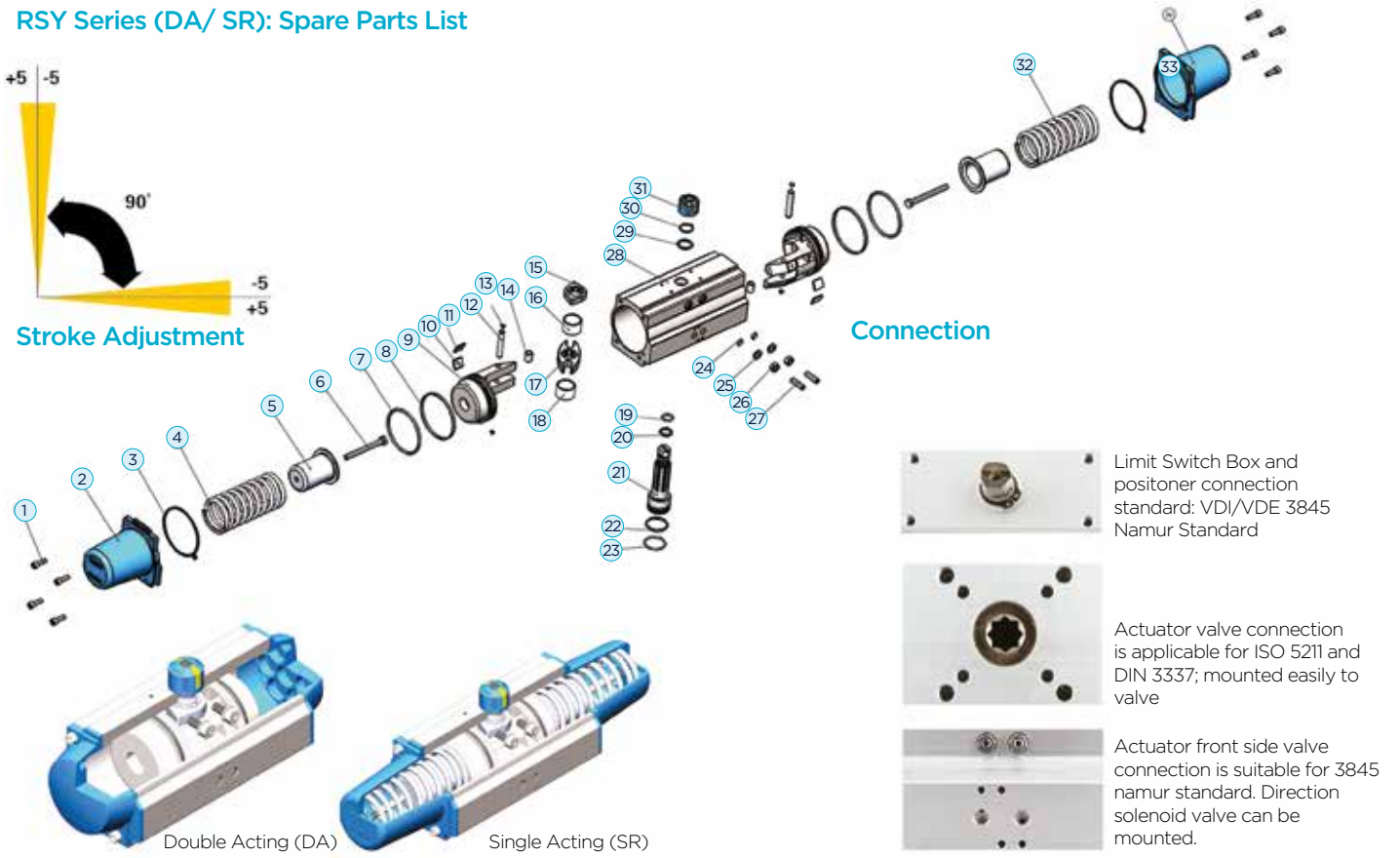
### Design Features of TORK RA Series Actuator (Scotch Yoke Actuator)

- 1) **Actuator Body:** Corrosion protected aluminium extruded body.
- 2) **Indicator:** It is standard on all actuators.
- 3) **Caps:** Aluminium extruded caps provide maximum resistance against corrosion, caps are suitable for single and double acting actuators
- 4) **Stroke Adjustment:** Permit adjustment of  $\pm 5\%$  in both directions.
- 5) **Springs:** Cartridge design and corrosion resistant springs.
- 6) **Piston Bearing O-rings:** Long lasting
- 7) **Nuts and Bolts:** Stainless steel and high resistance for corrosion.
- 8) **Actuator Pistons:** Aluminium injections. High quality o-rings and against corrosion.
- 9) **Connections:**
  - Solenoid Valve, Limit Switch Box, Positioner: Namur VDINDE3845
  - Ball, Butterfly and Plug Valve Montage: ISO5211, DIN3337standard
- 10) High torque
- 11) Long lasting
- 12) Reach high torque value at opening and closing



## Scotch Yoke Pneumatic Actuator/ Spare Parts

### RSY Series (DA/ SR): Spare Parts List



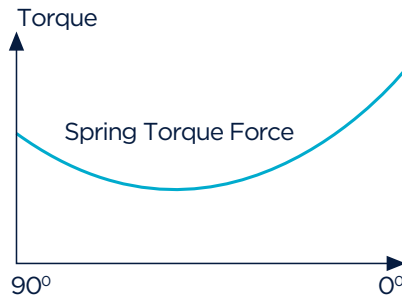
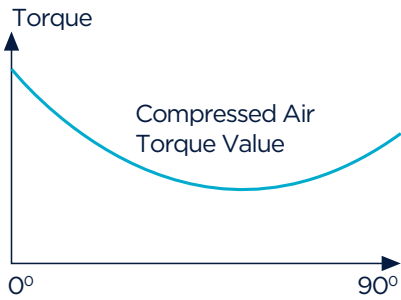
PART NO	UNIT QUANTITY	PART DESCRIPTION	STANDARD MATERIAL
1	8	SCREW DIN 912 M8X25 INOX IMBUS CAP T-RPA 100	AISI 304
2	1	CAP LEFT TORK-RA 100 BOYANMIŞ (BLUE RAL: 5017)	ETIAL 160
3	2	SEAL CAP TORK-RA 100 - SMS 28 (HI-NBR)	HNBR
4	2	O-RING 90X5 PISTON TORK-RA 100	NBR
5	2	DEL38PISHAL100	POM-C
6	2	PISTON T-RSY 100 COATED (SCOTH YORK)	ETIAL 160
7	2	DELTRIN SCOTH-YORK PISTON BACK RIGHT T-RSY 100	POM-C
8	2	DELTRIN SCOTH-YORK PISTON BACK LEFT T-RSY 100	POM-C
9	2	PIM FLAT 10X62 PISTON (SCOTCH YOKE)	STEEL
10	4	SEGMAN 6799/5 AY HRA	STAINLESS STEEL
11	2	PUL T-RSY 100 RAW MATERIAL (SCOTH YOKE)	Ç 1040
12	1	STOPPER TORK-RSY 100	STEEL
13	1	DELTRIN STOPPER UST T-RSY 100	POM-C
14	1		
15	1	DELTRIN STOPPER BOTTOM T-RSY 100	POM-C
16	1	O-RING 19X3 MIL UPPER TORK-RA 100	NBR
17	1	DELTRIN MIL UPPER TORK-RA 100	POM-C
18	1	SHAFT TORK-RSY 100 22 (SCOTCH YOKE) TREATED	Ç 1040
19	1	DELTRIN MIL BOTTOM TORK-RA 100	POM-C
20	1	O-RING 39X3 MIL BOTTOM TORK-RA 100	NBR
21	1	BODY TORK-RA 100 COATED	A6063-T6
22	2	O-RING 9X3 CAP TORK-RA 100	NBR
23	2	PUL M10 INOX CAP TORK-RA 100	AISI 304
24	2	SOMUN M10 INOX CAP TORK-RA 100	AISI 304
25	1	SETISKUR 10X35 INOX CAP TORK-RA 100	AISI 304
26	1	DELTRIN MIL SEGMAN TORK-RA 100	POM-C
27	1	SEGMAN 471/25 MIL TORK-RA 100	8.8
28	1	ACTUATOR POSITION INDICATOR BODY	ABS
29	2	CAP RIGHT TORK-RA 100 (BLUE RAL: 5017)	ETIAL 160



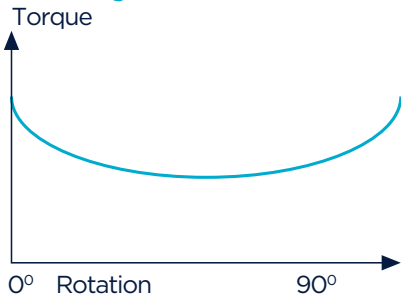
# Scotch Yoke Pneumatic Actuator / Operating Principle

## Scotch Yoke Actuator

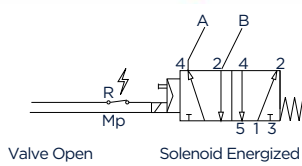
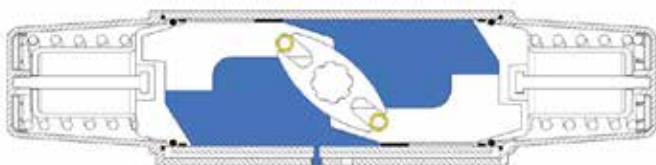
### Single Acting Actuator



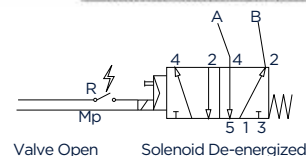
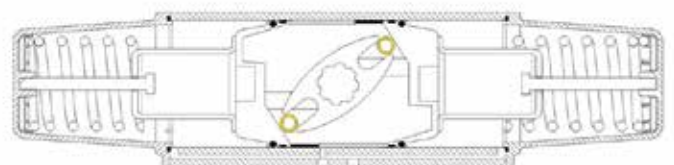
### Double Acting Actuator



### Scotch Yoke Actuator (Single Acting)

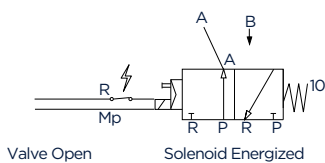
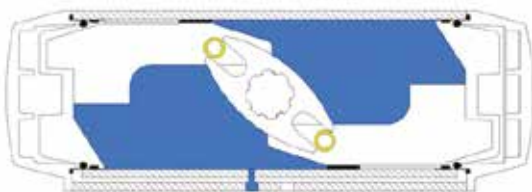


Picture 1  
(1/4" - 5/2)

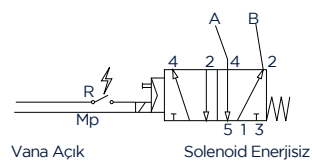
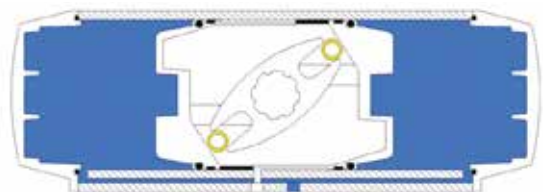


Picture 2  
(1/4" - 5/2)

### Scotch Yoke Actuator (Double Acting)



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



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

## Scotch Yoke Pneumatic Actuator / Torque Values

### Double Acting Actuators Torque Values (According to Compressed Air)

MODEL	Angle	3 bar	4 bar	5 bar	6 bar	7 bar	8 bar
RSY 32 DA	0°C	*	5	7	9	11	14
	45°C	*	2.5	3.5	4.5	6	8
	90°C	*	5	7	9	11	11
RSY 40 DA	0°C	*	21	23	25	28	28
	45°C	*	9	10	11	13	13
	90°C	*	21	23	25	28	28
RSY 60 DA	0°C	*	65	109	120	128	135
	45°C	*	35	61	70	80	82
	90°C	*	65	109	120	128	135
RSY 80 DA	0°C	112	165	200	220	235	245
	45°C	72	101	130	150	162	170
	90°C	112	165	200	220	235	245
RSY 100 DA	0°C	210	240	290	365	401	401
	45°C	145	165	190	250	310	310
	90°C	210	240	290	365	401	401
RSY 120 DA	0°C	390	491	613	762	815	815
	45°C	290	360	440	531	570	570
	90°C	390	491	613	762	815	815

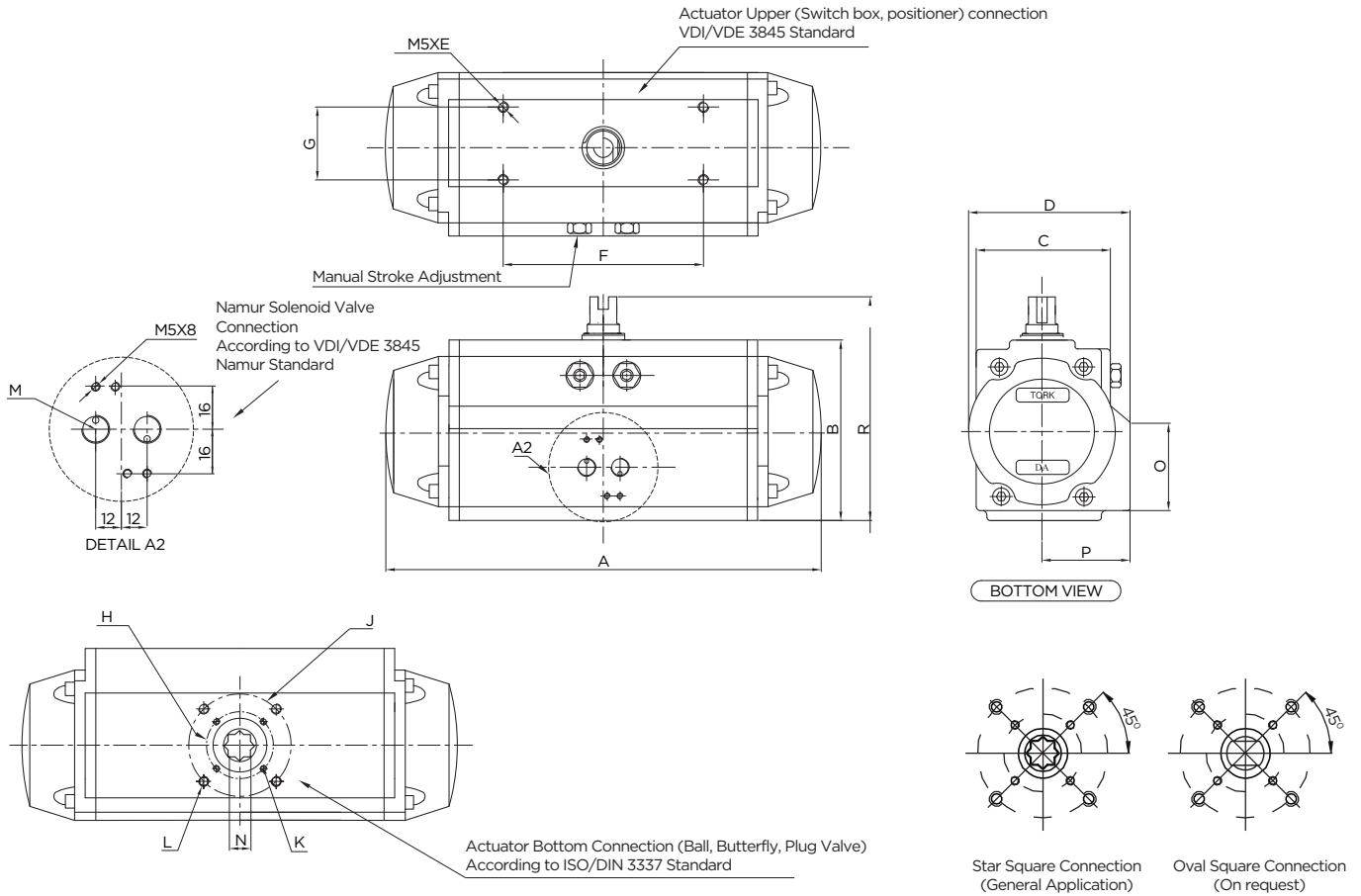
### Single Acting Scotch Yoke Actuator Torque Values (Nm)

MODEL	Angle	Spring	3 бар	4 бар	5 бар	6 бар	7 бар	8 бар
RSY 40 SR	0°C	5	*	*	7	8	9	10
	45°C	4	*	*	3	4	5	6
	90°C	8	*	*	4	5	6	8
RSY 60 SR	0°C	70	*	*	40	90	108	123
	45°C	35	*	*	23	35	56	70
	90°C	90	*	*	28	70	81	103
RSY 80 SR	0°C	85	x	65	90	135	168	205
	45°C	75	x	27	52	75	101	125
	90°C	135	x	20	63	85	120	139
RSY 100 SR	0°C	130	80	130	160	240	270	360
	45°C	110	35	55	70	110	150	170
	90°C	240	75	90	110	130	170	195
RSY 120 SR	0°C	300	390	385	415	510	580	645
	45°C	260	100	115	170	260	290	330
	90°C	510	125	155	210	300	365	410

MODEL	Open Air Volume (L)	Close Air Volume (L)	Opening Time (Sn)	Closing Time (Sn)	Approximate Weigh (kg)
RSY 032 DA	0,04	0,03	0,1	0,1	0,4
RSY 040 DA	0,01	0,2	0,25	0,3	0,9
RSY 060 DA	0,2	0,3	0,3	0,35	1,8
RSY 080 DA	0,6	0,9	0,4	0,5	4
RSY 100 DA	0,9	1,3	0,6	0,7	5
RSY 120 DA	1,9	3	1	1,2	10
RSY 040 DA	0,01	0	0,3	0,35	1,1
RSY 060 DA	0,2	0	0,35	0,4	1,9
RSY 080 DA	0,6	0	0,5	0,6	4,5
RSY 100 DA	0,9	0	0,7	1	6,5
RSY 120 DA	1,9	0	1,2	1,5	12

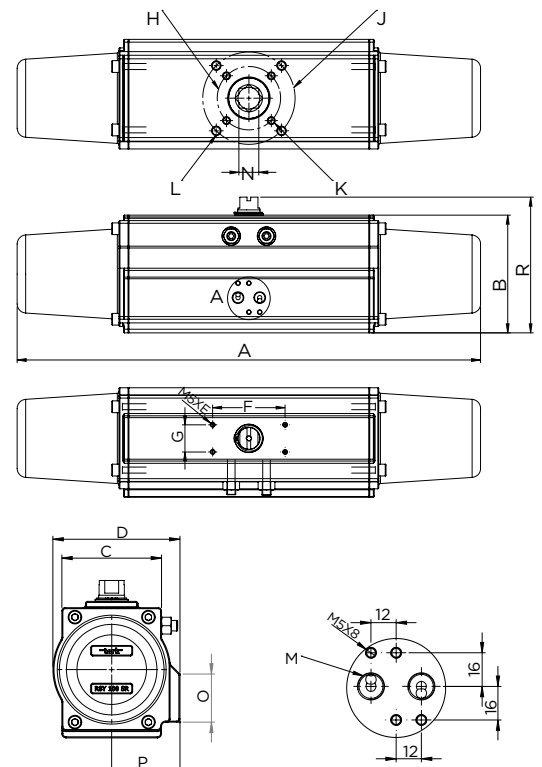
# Scotch Yoke Pneumatic Actuators/ Sizes

## Double Acting Actuators Sizes



## Single Acting Actuators Sizes

MODEL	A	B	C	D	F	G	H	J	K	L	M	N	O	ISO
RSY32DA	77	45	45	-	30	30	36	-	M5	-	1/8"	-	-	F03
RSY40DA	108	70	52	70.6	80	30	36	50	M5	M6	1/8"	45	39.7	F03/ F05
RSY40SR		70	52	70.6	80	30	36	50	M5	M6	1/8"	45	39.7	F03/ F05
RSY60DA	235	85	62	82.7	80	30	50	70	M6	M8	1/8"	47	47	F05/ F07
RSY60SR	320	85	62	82.7	80	30	50	70	M6	M8	1/8"	47	47	F05/ F07
RSY80DA	320	117	92	109.2	80	30	70	-	M8	-	1/8"	54.8	54.8	F07
RSY80SR	473	117	92	109.2	80	30	70	-	M8	-	1/8"	54.8	54.8	F07
RSY100DA	352	130	95	121	80	30	70	102	M8	M10	1/4"	61	65	F07/ F10
RSY100SR	512	130	95	121	80	30	70	102	M8	M10	1/4"	61	65	F07/ F10
RSY120DA	390	160	116	150	80	30	70	102	M8	M10	1/4"	82	87.2	F07/ F10
RSY120SR		160	116	150	80	30	70	102	M8	M10	1/4"	82	87.2	F07/ F10



## RASYM... DA, RASYM... SR Series Scotch Yoke Arctic Environment



- Arctic environment (-50°C ... 80°C) actuators are suitable for very cold environment until -50°C with long life time. These actuators are used for automatic control of rotary valves with compressed air.
- Arctic actuators are 2 types; single acting (spring return), double acting (air/air).
- Long lasting and high performance
- These actuators are designed for operating at minimum -50 °C ambient temperature.
- For using these actuators without any problem at -50°C, 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.
- Sensitive and high quality bearing and o-ring parts
- Actuator bodies have aluminium extruded against corrosion.
- To operate these actuators, suitable namur valve (-50°C) must be used.

### RASYM ... DA Series /RASYM ... SR Series

MODEL NO RASYM 32DA/SR, RASYM 40DA/SR, RASYM 60DA/SR,  
RASYM 80DA/SR, RASYM 100DA/SR, RASYM 120DA/SR

<b>Ambient Temperature</b>	: -50°C .... 80°C
<b>Operating Fluid</b>	: Compressed Air
<b>Operating Pressure (bar)</b>	: 4 ....8
<b>Protection Class (On request)</b>	:II 2GD c T4
<b>Sealing Materials</b>	: Special developed NBR
<b>Actuator Body</b>	: Aluminium
<b>Air Quality</b>	: ISO 8573-1 : 7-1-4 (Particle - Water - Oil)



## HYGIENIC ACTUATOR



# Hygienic (Stainless Steel) Actuator



## Hygienic Actuator

Hygienic actuators use in food, chemical, petrol, beverage, pharmacy, milk industry and stainless steel butterfly valves and stainless steel ball valves.

Hygienic actuators are produced in 3 type: normally close (NC), normally open (NO) and air/air activated.

The actuator is designed that an axial movement of a piston is transformed into a 90° rotation of a shaft. The torque of the actuator is increased when the valve disc contacts the seal ring of the butterfly valve.

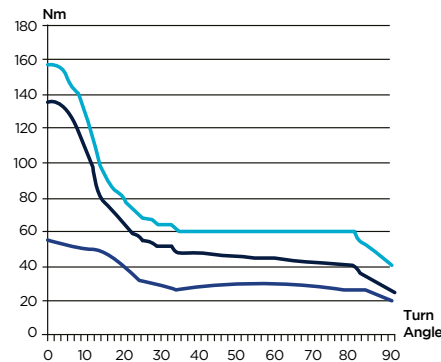
## Technical Features

Max. Air Pressure	7 Bar
Min. Air Pressure	4 Bar
Temperature	-20°C ... 80°C On request; -50°C ... 80°C
Opening Time	1,3 Sec
Closing Time	1,3 Sec
Air Connection	1/4" BSP
Weight	2,8 kg

## Application

- Bracket is used for connect hygienic actuator to butterfly valve.
- Actuator type is selected according butterfly valve size and torque value.

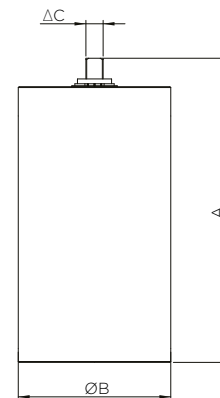
## Torque Value (6 bar)



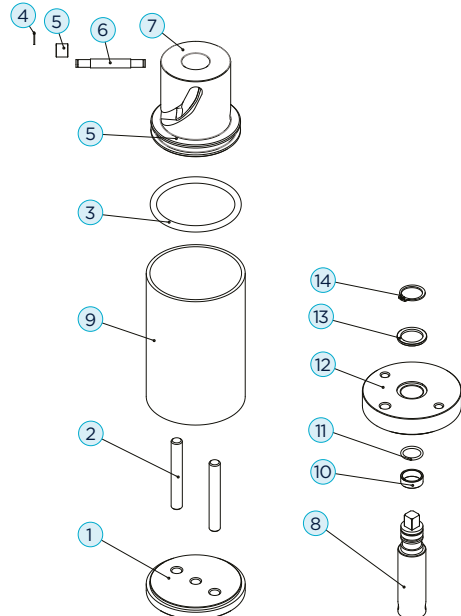
— Double Acting Torque Nm  
— Single Acting Air Torque Nm  
— Single Acting Spring Torque Nm

## Sizes

SIZE	A (mm)	B (mm)	ΔC (mm)
TORK - 85 DA / SR	183	89	8 / 10 / 12



## Materials



NO	PARTS	MATERIAL	PIECE
1	Cover Bottom	AISI 316 L Stainless Steel	1
2	Shaft (for Piston)	AISI 316 L Stainless Steel	2
3	O-ring	NBR	1
4	Segman	8.8	2
5	Rulman	Bronze	2
6	Shaft Rulman	AISI 316 L Stainless Steel	1
7	Piston	Kestamid	1
8	Shaft	AISI 316 L Stainless Steel	1
9	Body	ISI 316 L Stainless Steel	1
10	Delrin Shaft	POM-C	1
11	O-ring	NBR	1
12	Cover Up	AISI 316 L Stainless Steel	1
13	Stamp	Bronze	1
14	Segman	8.8	1

## Rotary Hydraulic Actuator

### Why Rotary Hydraulic Actuator?

- With a smaller size actuator, large diameter valves or large torque turned swing moment machine parts can easily be moved with 0-90° - 360° angles.
- Hydraulic oil pressure required for control is 100 bar or 210 bar.
- Since the actuator does not take up much space and is controlled by hydraulic oil, it is installed in many industries such as ship industry.



Model SA-H

### APPLICATION

- Ball valve
- Butterfly valve
- Dampers
- Hydraulic crane
- Hydraulic construction equipment

Working Pressure : 100 bar/ 210 bar  
 Working Temperature : -10° C ... +75° C  
 Valve Mountin Standard: DIN ISO 5211  
 Turned Angle : 90° ± 1"

- Optional:
- Mechanic limit switch
  - Proximity limit switch
  - Spring return pneumatic actuator

### Hydraulic Actuator Selection

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-HBO	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



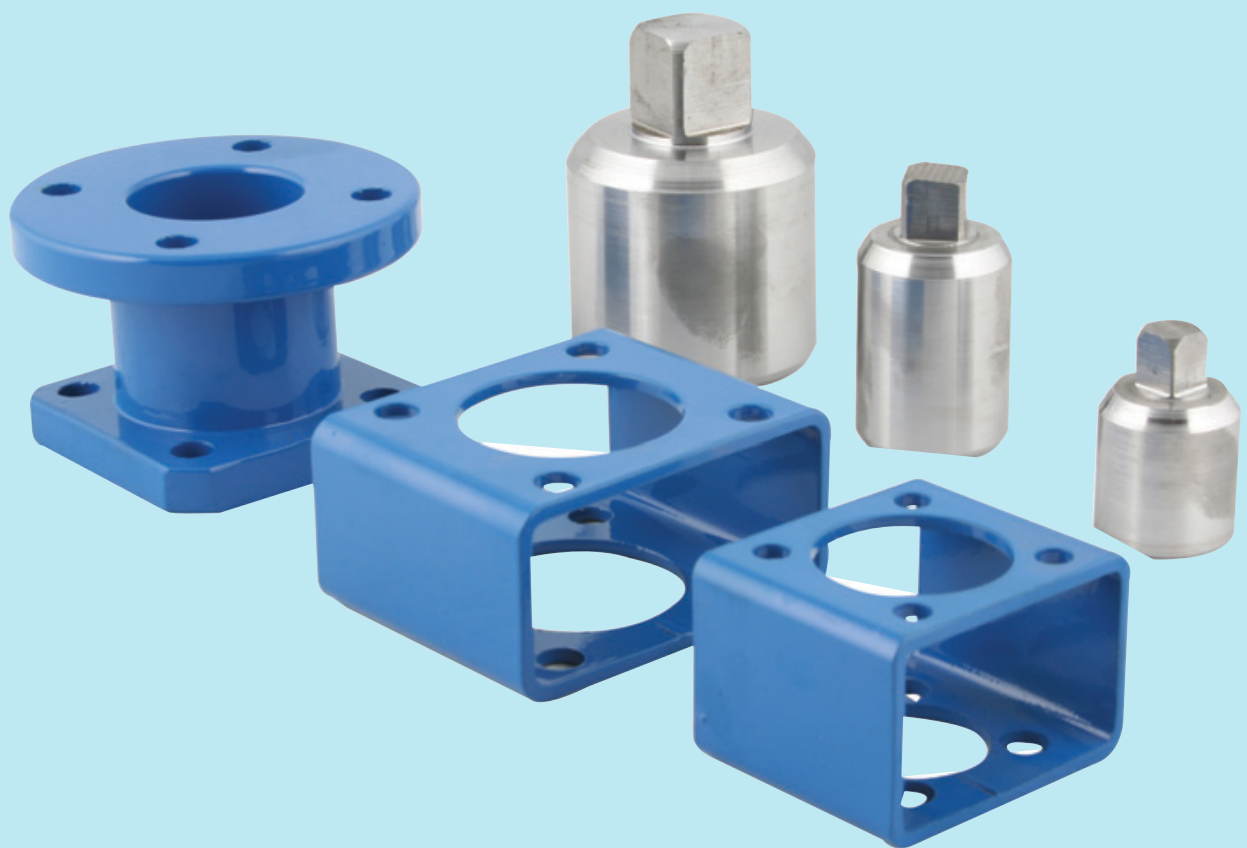
### Butterfly Valve Sizes for Hydraulic Actuators

at 100 bar hydraulic pressure

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

at 220 bar hydraulic pressure

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



## **ACCESSORIES**

## Namur Solenoid Valves



### 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, CONNECTION SIZE	STANDARD COIL (IP 65)	ON REQUEST EX - PROOF COIL (EExmdII.T4)	COIL VOLTAGE	MANUAL CONTROL	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		C20	24 V AC		0.3
TORK - ExNM52.W1S	1/4" - 5/2 Single Coil			12 V AC		0.25
TORK - ExNM52.W2S	1/4" - 5/2 Double Coil	24 V DC				
TORK - ExNM32.W1S	1/4" - 3/2 Single Coil	12 V DC				

Please, specify coil type and voltage with order. Protection class IP65 (Standard), Ex:EExmdII.T4 (on request).

### Mounting Kits

Mounting kits are used to connect actuators with valves. Actuator needs a mounting kit, if valve is not according to ISO5211 standard.

- 1 - Bracket: Cast aluminium, electrostatic painted
- 2 - Bracket: Carbon steel and stainless steel
- 3 - Coupling: Carbon steel and stainless steel



Parts of mounting kits

TYPE	FEATURE	SIZE
FR + LM142008RPESA	Automatic Drain	1/4"
FR + CM122008RPESA	Automatic Drain	1/2"
TORK - FR100	Automatic Drain	1/4"

TYPE	FEATURE	SIZE
MRR1812R	Mini Regulator	1/8"
MRR1412R	Mini Regulator	1/4"
GR93	High Accuracy Regulator	1/4"

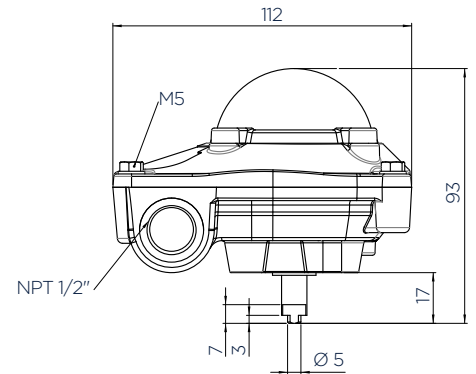
## Limit Switch Box



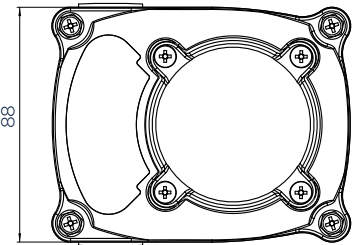
LS 10

### APPLICATION

- Pneumatic rotary actuator
- Actuated valves
- Dampers
- Manual ball and butterfly valves



- On-off valve position indicator, compact small body
- Protection class: IP67
- Body is aluminium injection, electrostatic painted
- Dual cable entries; NPT
- Connection applicable to namur standard, easy mounting



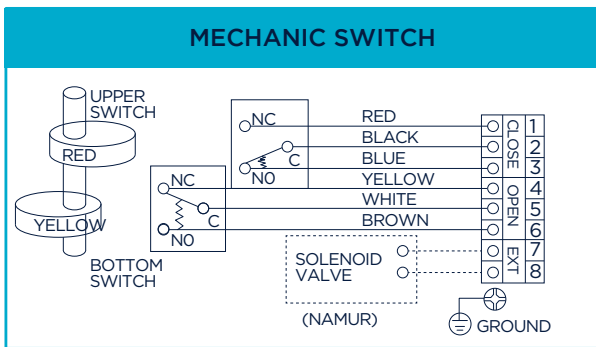
LS 20



LSV 70



LS 30



Application  
(Proximity Limit Switch Box)



Application  
(LS 10, Limit Switch Box)

### Limit Switch Box Types

TYPE	FEATURES	POSITION INDICATOR	BRACKET	BODY	WEIGHT
LS10.2M	2 piece mechanic limit switch 250 V AC/3A, IP 65	Close: Red Open: Yellow	Stainless Steel Namur Standard	Aluminium Cast -20/80 °C	1
LS10.2P	2 piece proximity switch, 2 piece cable entries holes				1
LS10.3M	3 piece mechanic limit switch 250 VAC / 3A IP 65				1.1
LS10.3P	3 piece proximity switch 2 piece cable entries holes				1.1
LS10.4M	4 piece mechanic limit switch 250 VAC / 3A IP 65				1.2
LS10.4P	4 piece proximity switch 2 piece cable entries holes				1.2
LS20.2M	2 piece SPDT mechanic switch, Protection Class: IP 67, Ex-proof, Ex d IIC T6				1.2
LS20.2P	2 piece SPDT mechanic switch, Protection Class: IP 67, Ex-proof, Ex d IIC T6				1.2
LS30.2M	2 piece mechanic limit switch 250VAC/3A, IP 67 E EXd II CT6, E EXia IICT6, IP67, IP68 (Optional)				1.75
LS30.2P	2 piece proximity switch 2 piece cable entries holes E EXd II CT6, E EXia IICT6, IP67, IP68 (Optional)				1.75
LS80.2P	Magnetic Switch box, 2 piece proximity switch, 1 piece cable entries holes				
LS70.2M	Pneumatic Namur Valve Switch box, 2 piece mechanicswitch, IP 67 E EXd IIBT6				



## Electro - Pneumatic and Pneumatic - Pneumatic Positioner



TORK-SS2R Smart Positioner  
HART Communication

- Easy maintenance
- For rotary actuators
- Vibration resistance
- Linearity: %1.5
- Body: Aluminium injection
- Protection Class: Exmd II BT5(05 ATEX 1076x)
- Optional: Exmd II BT5, Ex ia IIBT6
- Stainless manometer standard



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



- Input Signal: 3-15 psi (0.2-1.0bar)
- Supply Pressure: 6 -7 bar

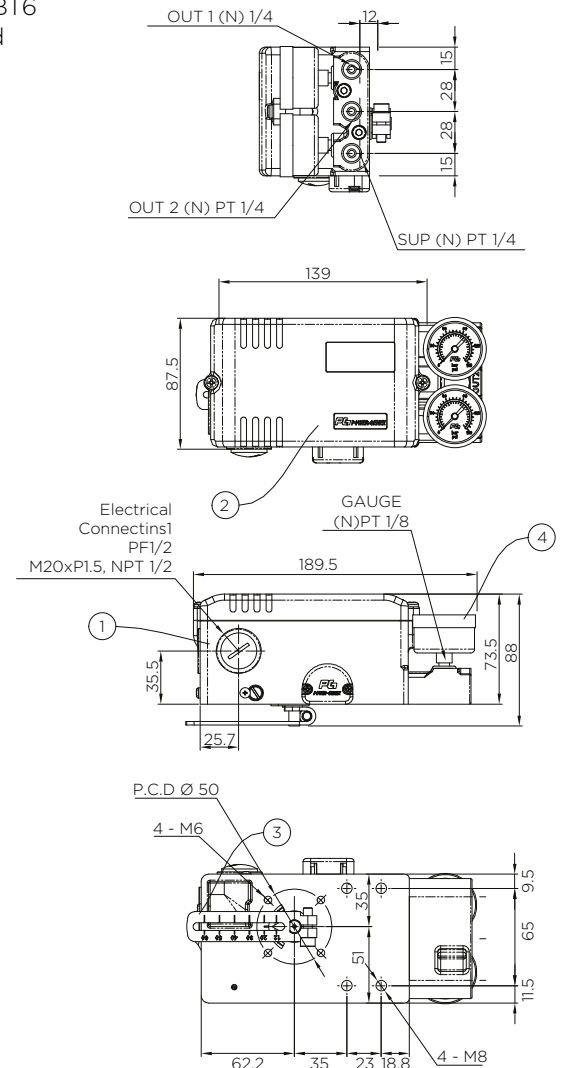
TORK-PP.R  
Pneumatic Pneumatic  
Rotary Type Positioner



TORK-EPR  
Electro - Pneumatic Positioner

### APPLICATION

For pneumatic actuated valves  
proportional control



### Electro - Pneumatic Positioner

TYPE	INPUT SIGNAL and AIR SUPPLY PRESSURE	PROTECTION CLASS	BRACKET	BODY	AIR CONSUMPTION	WEIGHT
TORK-EPR	mA/bar	I/P66	Namur		LPM	(kg)
TDRK-EP.R Rotary	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium Die Cast	5 LPM (1.4 Kgf / cm <sup>2</sup> )	2.9
TDRK-EPL Lineer	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium Die Cast	5 LPM (1.4 Kgf/cm <sup>2</sup> )	2.9
TORK-SS.2R Rotary	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium Die Cast	2 LPM (1.4 Kgf/cm <sup>2</sup> )	2.5
TDRK-SS.2L Lineer	4-20 mA / max. 7 bar	I/P 66	80x30	Aluminium Die Cast	2 LPM (1.4 Kgf/cm <sup>2</sup> )	2.5

### Pneumatic- Pneumatic Positioner

TYPE	INPUT SIGNAL and AIR SUPPLY PRESSURE	REPEATABILITY	BRACKET	BODY	AIR CONSUMPTION	WEIGHT
TORK-EPR	mA/bar	%F.S	Namur		LPM	(kg)
TDRK-PP.R Rotary	3-15 psi / max. 7 bar	With in ± 05 % F.S	80x30	Aluminium Die Cast	5 LPM (1.4 Kgf / cm <sup>2</sup> )	2.1
TDRK-PP.L Lineer	3-15 psi / max. 7 bar	With in ± 05 % F.S	80x30	Aluminium Die Cast	5 LPM (1.4 Kgf/cm <sup>2</sup> )	2.1

## Electro – Pneumatic Positioner



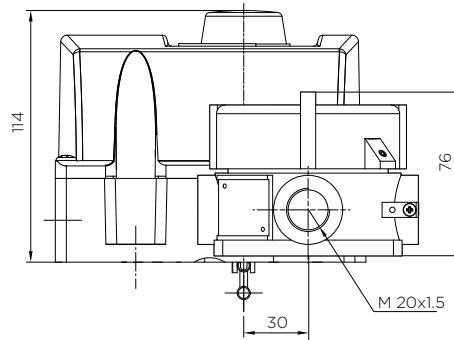
### Features

- Single acting and double acting actuator
- Linear or Rotary actuator
- Universal shaft and connection according to VDI / VDE 3845 standard.
- IP66 / NEMA 4X standard
- Low capacity. Actuator stroke value < 1 dm<sup>3</sup>.
- Air port connection G1/4"
- HART 6 or 7 (H)

### Other Options

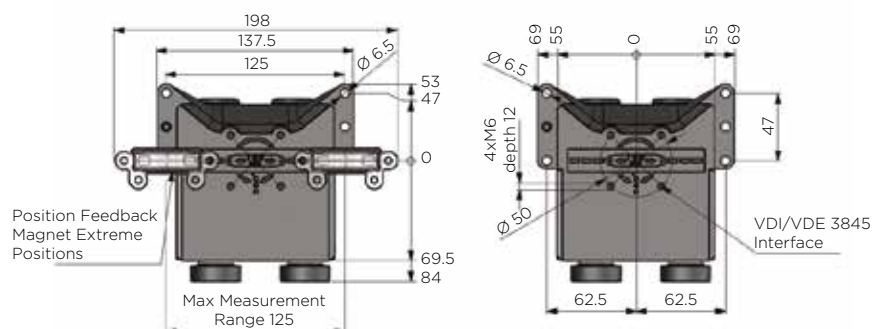
#### Changable Communication Options:

- Fieldbus
- Profibus PA
- Limit switches
- Position transmitter (only HART)
- Stainless steel protection
- Remote control
- Cold resistance ( min. -53 °C / -64 °F)



### Features

- Actuator Type** : Single acting
- Model** : Linear or Rotary
- Pneumatic Capacity** : 80 Nm<sup>3</sup> /h
- Protection** : Compact - IP66 / NEMA 4X kompozit coated epokxy coated eloksal aluminium body
- Contact** : HART / 4-20 mA
- Temperature Range** : -40 ... +85 °C
- Pneumatic Connection** : 1/4 NPT



## Manual Control Unit



### APPLICATION

- Used in actuated valves. It is used for opening and closing the valve when it is requested to open or close the valve in case the actuators can not perform their duty for any reason (safety purpose).

TYPE	OUTPUT TORQUE VALUE	INPUT TORQUE VALUE	FACTOR: $\pm 10\%$	CLOSURE OF INNER WHEEL TOUR	ACTUATOR MOUNTING HOLE	ACTUATOR MOUNTING HOLE	ISO CONNECTION		HAND WHEEL	WEIGHT
TORK - MOR	Nm	Nm			mm	mm	VALVE	ACTUATOR		k(g)
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 1/P

- Small size, light weight
- Low air consumption
- Mounts at any angle
- CE certificated
- Economic cost
- Different signal output value
- For other options, please contact us.

#### 1/P and E/P Transducer

TYPE	INPUT SIGNAL	OUTPUT SIGNAL	AIR SUPPLY	LINEARITY	AIR SUPPLY	HYSTERESIS	AIR CONSUMPTION	WEIGHT
TORK - 1000	mA / V	psi	bar				kgf / cm <sup>3</sup>	(kg)
TDRK - 1000 1/P	4-20 Ma	3 - 15 psi	7	< 10 %	$\pm 0.15\%$ of	< 1 % of span	< 1 % of span	0.75
TDRK - 1000 E/P	0 - 5V							0.75



4-20mA/3-15 psi

### Position Trasmmitter TORK-PT.R

#### APPLICATION

- Generate 4-20 mA output signal with position feedback from the control valve.

TYPE	OUTPUT SIGNAL	POWER SUPPLY	REPEATABILITY	BODY	PROTECTION CLASS	WEIGHT
TORK - 1000	mA		F.S.			(kg)
TDRK - 1000 1/P	4-20 Ma	12 ... 30VDC	0.25 % F.S.	Aluminium die cast	IP 66	2.3



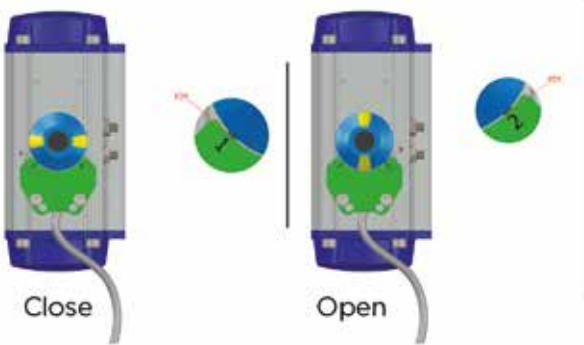
## Proximity Actuator Sensor

Proximity actuator sensors are used for controlling actuators open or close position. A proximity sensor is able to detect the presence of nearby objects without any physical contact. Proximity actuator sensors can control max. 3mm distance.

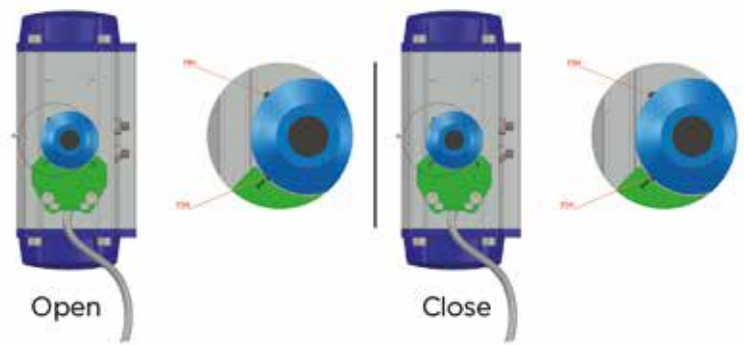
Proximity sensor works by controlling the changes in the electromagnetic or electrostatic fields it generates. Proximity sensor feed by a voltage between 10-30 V DC (+and-) and the other two connection (I and II) are for output. The output connections show the actuator position (open or close) logically by the help of indicator pins position. The sensor operating current is 0...200 mA.



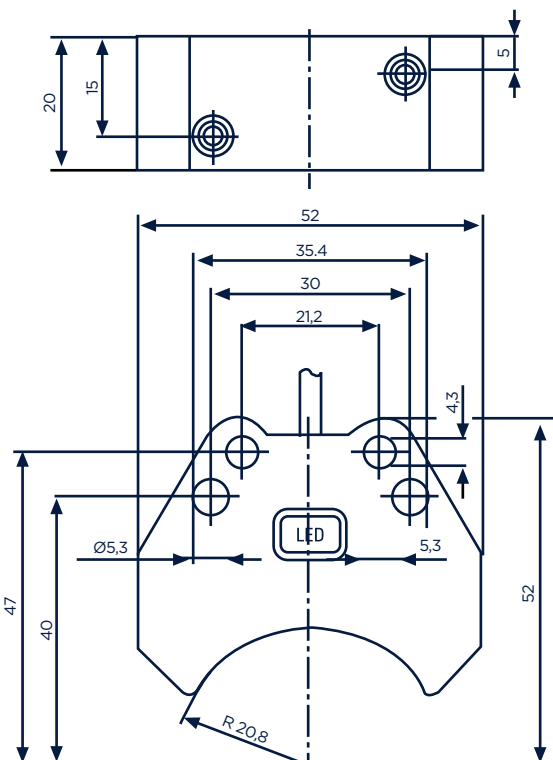
### 90° Turned Pneumatic Actuators



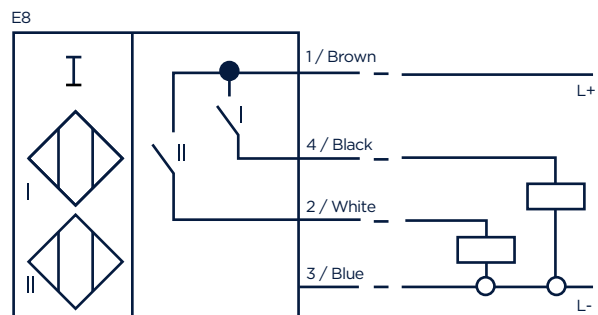
### 180° Turned Pneumatic Actuators



### Proximity Sensor Technical Features



### Sensor Connections



Model	LS BO Series
Sensor Function	PNP Dual ND
Max. Opr. Distance	3mm
Operating Voltage	10 ... 30 V DC
Sensor Frequency	0 ... 500 Hz
Operating Current	0 ... 200 mA
Ambient Temperature	-20°C...+10°C
Connection Type	PVC Cable, 2 m
Protection Class	IP67

## Pneumatic Actuator / Types

### RA...DA / RAM...DA / RX...DA / RSY...DA Series - Double Acting Rotary Pneumatic Actuator

Application	: Ball valve, butterfly valve, dampers on-off/ proportional control
Size	: RA 32 DA ... RA 350 DA, RAM 32 DA ... RAM 350 DA, RX 32 DA ... RX 350 DA, RSY 32 DA ... RSY 100 DA
Supply Pressure	: 4 - 8 bar
Output Torque Value	: 9 Nm ... 5162 Nm (6 barda)
Body	: Extruded aluminium anozided (RA, RX), hard anozided (RSY)
Cap and Pistons	: Extruded aluminium
Temperature	: -10 °C ... 80 °C (RA, RX, RSY), -50 °C ... 80 °C (RAM)
Valve Connection	: ISO 5211 standards
Limit Switch Connection	: Namur standard
Positioner Connection	: Namur standard
Namur Valve Connection	: Namur standard
Stroke Adjustment	: Both directions (3 5)
Change to Single Acting	: Turned with add spring.
Turned Angle	: 90°



### RA...SR / RAM...SR / RX...SR / RSY...SR Series - Single Acting Rotary Pneumatic Actuator

Application	: Ball valve, butterfly valve, dampers on-off/ proportional control, filling systems
Size	: RA 40 SR ... RA 350 SR, RAM 40 SR ... RAM 350 SR, RX 40 SR ... RX 350 SR, RSY 60 SR ... RSY 100 SR
Supply Pressure	: 4 - 8 bar
Output Torque Value	: 18 Nm ... 330 Nm
Body	: Extruded aluminium anozided
Cap and Pistons	: Extruded aluminium
Temperature	: -10 °C ... 80 °C (RA, RX, RSY), -50 °C ... 80 °C (RAM)
Valve Connection	: ISO 5211 standards
Limit Switch Connection	: Namur standard
Positioner Connection	: Namur standard
Namur Valve Connection	: Namur standard
Stroke Adjustment	: Both directions
Change to Single Acting	: Turned with add spring.
Turned Angle	: 90°



### RA...3P / RA...8P / RAM...3P / RAM...8P Series - 3 Position Acting Rotary Pneumatic Actuator

Application	: Ball valve, butterfly valve, dampers on-off/ proportional control, filling systems
Size	: RA 40 3P ... RA 120 3P, RA 40 8P ... RA 120 8P, RAM 40 3P ... RAM 120 3P, RAM 40 8P ... RAM 120 8P,
Supply Pressure	: 4 - 8 bar
Output Torque Value	: 18 Nm ... 330 Nm
Body	: Extruded aluminium anozided
Cap and Pistons	: Extruded aluminium
Temperature	: -10 °C ... 80 °C (RA), -50 °C ... 80 °C (RAM)
Valve Connection	: ISO 5211 standards
Limit Switch Connection	: Namur standard
Positioner Connection	: Namur standard
Namur Valve Connection	: Namur standard
Stroke Adjustment	: Both directions
Turned Angle	: RA ... 3P 90° 3 Position, RA ... 8P 180° 3 Position



### RA...8D Serisi / RA...2D / RAM...8D / RAM...2D - 180° - 120° Turn Acting Rotary Pneumatic Actuator

Application	: Ball valve, butterfly valve, dampers on-off/ proportional control,
Size	: RA 40 8D ... RA 120 8D, RAM 40 8D ... RAM 120 8D (1800) RA 40 2D ... RA 120 2D, RAM 40 2D ... RAM 120 2D (1200)
Supply Pressure	: 4 - 8 bar
Output Torque Value	: 18 Nm ... 330 Nm
Body	: Extruded aluminium anozided
Cap and Pistons	: Extruded aluminium
Temperature	: -10 °C ... 80 °C (RA), -50 °C ... 80 °C (RAM)
Valve Connection	: ISO 5211 standard
Limit Switch Connection	: Namur standard
Positioner Connection	: Namur standard
Namur Valve Connection	: Namur standard
Stroke Adjustment	: Both directions
Turned Angle	: RA ... 2D 120°, RA ... 8D 180°





## Pneumatic Actuated Valves

### Pneumatic Actuated Stainless Steel Ball Valves, Threaded Connection, 2/2 Way

Application	: Used to control liquid fluids and gases. Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 2/2 way, threaded connection and ISO5211 standard actuator connected flanged
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: 1/2" ... 2" threaded



PAV 903 DA (Double Acting)  
PAV 903 DA (Tek Etkili)

### Pneumatic Actuated Stainless Steel Ball Valves, Threaded Connection, 3/2 Way

Application	: Used to control liquid fluids and gases Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 3/2 way, threaded connection and ISO5211 standard actuator connected flanged
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: 1/2" ... 2" threaded



PAV 904 DA (Double Acting)  
PAV 904 SR (Tek Etkili)

### Pneumatic Actuated Brass Ball Valves, Threaded Connection, 2/2 Way

Application	: Used to control liquid fluids and gases Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : Pres MS 58 brass, 2/2 way, threaded connection and ISO5211 standard actuator connected flanged
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 130°C
Size	: 1/2" ... 3" threaded



PAV 901 SR (Tek etkil)  
PAV 901 DA (Double Acting)

### Pneumatic Actuated Brass Ball Valves, Threaded Connection, 3/2 Way

Application	: Used to control liquid fluids and gases Consist of pneumatic actuator and ball valve.
On request	: Limit switch box, positioner, namur solenoid valve, manual override
Type No	: PAV 902 DA, PAV 902 SR, 3/2 yollu
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : Pres MS 58 brass, 3/2 way, threaded connection and ISO5211 standard actuator connected flanged
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 130°C
Size	: 1/2" ... 3" threaded



PAV 902 SR (Double Acting)  
PAV 902 DA (Çift Etkili)



## Pneumatic Actuated Valves

### Pneumatic Actuated Stainless Steel Ball Valve, Flanged Connection 2/2 and 3/2 Way

Application	: Used to control liquid fluids and gases. Consist of pneumatic actuator and ball valve.
On request	: Limit switch box, positioner, namur solenoid valve, manual override
Type No	: PAV 905 DA, PAV 905 SR, 2/2 way PAV 906DA, PAV 906 SR, 3/2 way
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 2/2 and 3/2 way, threaded connection and ISO5211 standard actuator connected flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW200 Flanged, (on request; steam jacketed ball valve)



V905DA / PAV905SR

### Pneumatic Actuated Natural Gas Ball Valve, Flanged Connection 2/2 Way

Application	: Used to control natural gas, LPG and other gases. Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 2/2 and 3/2 way, threaded connection and ISO5211 standard actuator connected flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW200 Flanged



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

### Pneumatic Actuated Natural Gas Plug Valve, Flanged Connection 2/2 Way

Application	: Used to control natural gas, LPG and other gases. Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 2/2 and 3/2 way, threaded connection and ISO5211 standard actuator connected flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW200 Flanged



V 915 DA(Double Acting)

### Pneumatic Actuated Stainless Steel Monobloc Ball Valve 2/2 Way

Application	: Used to control liquid fluid, natural gas, LPG and other gases. Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 2/2 and 3/2 way, wafer type, threaded connection and ISO5211 standard actuator connected flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW100



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

## Pneumatic Actuated Valves

### Pneumatic Actuated Carbon Steel Monobloc Ball Valve, 2/2 Way

Application	: Used to control liquid fluid, natural gas, LPG and other gases. Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve : Body	: Carbon steel, 2/2 or 3/2 way, wafer type and ISO5211 standard actuator connection flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW100



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

### Pneumatic Actuated PVC Body Ball Valve, 2/2 Way

Application	: Used to control liquid fluid, water, acid etc. Consist of pneumatic actuator and ball valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : PP, 2/2 or 3/2 way, threaded, welding connection and ISO5211 standard actuator connection flanged or bracket
Working Pressure	: PN6, PN13
Working Temperature	: -10°C ... 80°C
Size	: NW15 ...NW100



PAV 913 SR / PAV 913 DA

### Pneumatic Actuated Carbon Steel Ball Valve, Flanged / Threaded Connection, 2/2 Way

Application	: Used to control liquid fluid, water, acid etc. Consist of pneumatic actuator and ball valve.
On request	: Limit switch box, positioner, namur solenoid valve, manual override
Type No	: <b>Flanged Connection</b> : RAV 907 FDA, RAV 907 FSR,
Threaded Connection	: RAV 907SDA, RAV 907 SSR,
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : Carbon Steel, 2/2 or 3/2 way, flanged or threaded connection and standard actuator connection flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW200 Flanged
On request	: Steam jacketed ball valve



PAV 907F 15DA  
PAV 907F 15SR

### Pneumatic Actuated Carbon Steel Ball Valve, Flanged / Threaded Connection, 3/2 Way

Application	: Used to control liquid fluids and gases Consist of pneumatic actuator and ball valve.
On request	: Limit switch box, positioner, namur solenoid valve, manual override
Type No	: <b>Flanged Connection</b> : RAV 908FDA, RAV 908 FSR <b>Threaded Connection</b> : RAV 908S DA, RAV 908S SR
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Ball Valve	: <b>Body</b> : Carbon steel, 2/2 or 3/2 way , flanged or threaded connection and ISO5211 standard actuator connection flanged or bracket
Working Pressure	: PN40, PN16
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW200 Flanged
On request	: Steam jacketed ball valve



PAV 908F 15 DA  
PAV 908F 15 SR

## Pneumatic Actuated Valves

### Pneumatic Actuated Hygienic Stainless Steel Butterfly Valve, 2/2 Way

Application	: Used to control hygienic liquid fluid, food industry, Consist of pneumatic actuator and butterfly valve.
On request	: Limit switch box, positioner, namur solenoid valve
Type No	: PAV 813 DA, PAV 813 SR
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : AISI 316 /304 stainless steel, 2/2 or welding or wafer type and ISO5211 standard actuator connection flanged or bracket
Working Pressure	: PN10, PN16
Disc	: Stainless Steel
Rubber Diaphragm	: EPDM, PTFE
Working Temperature	: -30°C ... 180°C
Size	: NW15 ... NW100



PAV 813 DA (Double Acting)  
V813SR (Single Acting)

### Pneumatic Actuated PAV 800 WAFER Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid Consist of pneumatic actuator and butterfly valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : GG25 Epoxy coated KV. W121 wafer type and ISO5211 standard actuator connection flanged or bracket
Disc	: Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM (-30 ... 130°C)
Working Pressure	: PN6 Optional: PN10, PN16
Working Temperature	: -30°C ... 130°C
Size	: NW25 ... NW600



800 DA Series  
800 SR Series

### Pneumatic Actuated PAV 801 LUG Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid. Consist of pneumatic actuator and butterfly valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : GG25 Epoxy coated KV.L141LUG type and ISO5211 standard actuator connection flanged or bracket
Disc	: Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM (-30 ... 130°C)
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature	: -30°C ... 10°C
Size	: NW25 ... NW600



PAV 801 DA Series  
PAV 801 SR Series

### Pneumatic Actuated PAV 802 WAFER Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid, natural gas, LPG and other gases. Consist of pneumatic actuator and butterfly valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : Epoxy coated KV. W1120 wafer type actuator connection flanged or bracket
Disc	: Stainless Steel, Optional: GG25 epoxy coated
Rubber Diaphragm	: EPDM(-30 ...130°C) Optional: Viton, PTFE, Silicon
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature	: -30°C ... 10°C
Size	: NW25 ... NW600



PAV 802 DA Series

## Pneumatic Actuated Valves

### Pneumatic Actuated PAV 803 LUG Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid. Consist of pneumatic actuator and butterfly valve.
On Request	: Limit switch box, positioner, namur solenoid valve
Type No	: PAV 803 DA, PAV 803 SR
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : GG25 Epoxy coated KV. L1140 LUG type and ISO5211 standard actuator connection flanged or bracket
Working Pressure	: PN6, Optional: PN10, PN16
Disc	: Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM (-30... 130°C), Optional: Viton, PTFE, Silicon
Working Temperature	: -30°C ... 130°C
Size	: NW25 ... NW600



V803 DA Series

### Pneumatic Actuated PAV 800 WAFER Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid. Consist of pneumatic actuator and butterfly valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : GG25 Epoxy coated KV. W121 wafer type and ISO5211 standard actuator connection flanged or bracket
Disc	: Stainless Steel Optional: GG25 epoxy
Rubber Diaphragm	: EPDM (-30 ... 130°C)
Working Pressure	: PN6 Optional: PN10, PN16
Working Temperature	: -30°C ... 130°C
Size	: NW25 ... NW600



PAV 913 SR / PAV 913 DA

### Pneumatic Actuated PAV 801 LUG Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid. Consist of pneumatic actuator and butterfly valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : GG25 Epoxy coated KV.L141LUG type and ISO5211 standard actuator connection flanged or bracket
Disc	: Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM (-30 ... 130°C)
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature	: -30°C ... 10°C
Size	: NW25 ... NW600



PAV 801 15DA  
PAV 801 15SR

### Pneumatic Actuated PAV 802 WAFER Type Butterfly Valve, 2/2 Way

Application	: Used to control liquid fluid, natural gas, LPG and other gases. Consist of pneumatic actuator and butterfly valve.
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 acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : Epoxy boya coated KV. W1120 wafer type standard actuator connection flanged or bracket
Disc	: Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM(-30 ...130°C) Opsiyonel: Viton, PTFE, Silicon
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature	: -30°C ... 10°C
Size	: NW25 ... NW600



PAV 802 15 DA  
PAV 802 15 SR



## Pneumatic Actuated Valves

### PAV 812 Series Pneumatic Actuated PVC Body Ball Valve, 2/2 Way, 3/2 Way

Application	: Used to control liquid fluid, water, acid etc. Consist of pneumatic actuator and ball valve.
On Request	: Limit switch box, positioner, namur solenoid valve
Type No	: PAV 812 DA, PAV 812 SR
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : PP, 2/2 or 3/2 way threaded, welding connection and ISO5211 standard actuator connection flanged or bracket
Working Pressure	: PN6, PN10
Working Temperature:	: -10°C ... 80°C
Size	: NW15 ... NW100



RAV 812 DA (Double Acting)  
RAV 812 SR (Single Acting)

### PAV 810 Series Pneumatic Actuated Flanged Type Butterfly Valve

Application	: Used to control liquid fluid Consist of pneumatic actuator and ball valve.
On Request	: Limit switch box, positioner, namur solenoid valve, manual control
Type No	: PAV 810 DA, PAV 810 SR
Actuator	: RA...DA/SR rotary pneumatic actuator double acting / single acting (On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)
Supply Air Pressure	: 4-6 bar. Stroke adjustment
Butterfly Valve	: <b>Body</b> : PP, 2/2 or 3/2 way threaded, welding connection and ISO5211 standard actuator connection flanged or bracket
Disc	: Stainless Steel Optional: GG25 epoxy
Rubber Diaphragm	: EPDM(-30°C ... 130°C), Optional: Viton, PTFE, Silicon
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature:	: -30°C ... 130°C
Size	: NW300 ... NW1000



RAV 812 DA (Double Acting)  
RAV 812 SR (Single Acting)

### TORK - KV900K Series Stainless Ball Valve, Threaded Connection; Manual and ISO5211 Flanged Type

Ball Valve	: <b>Body</b> : AISI316 stainless steel, 2/2 or 3/2 way, threaded connection and ISO5211 standard actuator flanged connection
Working Pressure	: PN40, PN16
Working Temperature:	: -30°C ... 180°C
Size	: 1/2" ... 2" threaded
Control	: Manual override ISO5211 Flanged actuator control TORK-KV903, 2/2 way threaded connection ISO5211 Flanged TORK-KV903K, 2/2 way threaded connection, Manual TORK-KV904, 3/2 way threaded connection ISO5211 Flanged TORK-KV904K, 3/2 way threaded connection, Manual



TORK-KV 903



TORK-KV 903K



TORK-KV 904



TORK-KV 904K

### Brass Body Ball Valve, Threaded Connection

Ball Valve	: <b>Body</b> : AISI 316 stainless steel, 2/2 or 3/2 way, threaded connection and ISO5211 standard actuator flanged connection
Working Pressure	: PN40, PN16
Working Temperature:	: -30°C ... 130°C
Size	: 1/2" ... 2" threaded
Control	: Manual override ISO5211 Flanged actuator control TORK-KV901, 2/2 way threaded connection ISO5211 Flanged TORK-KV 901K, 2/2 way threaded connection, Manual TORK-KV902, 3/2 way threaded connection ISO5211 Flanged TORK-KV902K, 3/2 way threaded connection, Manual



TORK-KV 901



TORK-KV 901K



TORK-KV 902



TORK-KV 902K

## Pneumatic Actuated Valves

### Butterfly Valve Wafer Type

Butterfly Valve	: <b>Body:</b> GG25 Epoxy coated, rilsan coated, stainless steel and ISO5211 standard actuator connection flanged or bracket
Body	: Wafer type
Disc	: Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM(-30 ...130°C) Optional: GG25 epoxy
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature:	: -30°C ... 130°C
Size	: NW25 ... NW600
Seal Option	: Only EPDM TORK-KV.W1121 Series Wafer Type
Seal Option	: EPDM, PTFE, Viton, Nitril, TORK-KV.W1120 Series Wafer Type



TORK-KV.W1120 Series

### Butterfly Valve Lug Type

Butterfly Valve	: <b>Body:</b> GG25 Epoxy coated, rilsan coated, stainless steel and ISO5211 standard actuator connection flanged or bracket
Body	: LUG type
Disc :	Stainless Steel, Optional: GG25 epoxy
Rubber Diaphragm	: EPDM (-30 ...130°C) Optional: Viton, PTFE, Silicon
Working Pressure	: PN6, Optional: PN10, PN16
Working Temperature:	: -30°C ... 130°C
Size	: NW25 ... NW600
Seal Option	: Only EPDM TORK-KV.W141 Series Lug Tip
Seal Option	: EPDM, PTFE, Viton, Nitril, TORK-KV.W1150 Series Lug Type



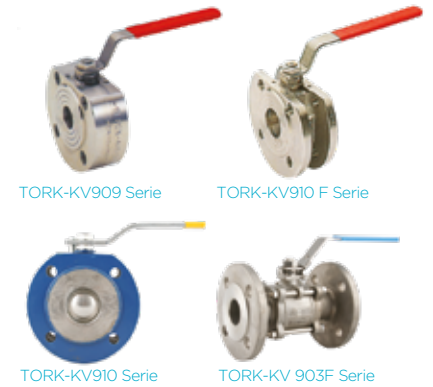
TORK-KV.L 141 Series

TORK-KV.L1150 Lug Type

### Monobloc Carbon Steel and Stainless Steel Ball Valve

TORK-KV 910 Carbon Steel Monobloc Ball Valve  
 TORK-KV 909 Stainless Monobloc Ball Valve  
 TORK-KV 903F Stainless Steel Flanged Ball Valve  
 TORK-KV 910F Flanged Monobloc Valve

Body	: Carbon Steel / Stainless Steel
Ball	: Stainless Steel
Working Pressure	: PN16, PN40, PN63
Way	: 2/2, 3/2
On request	: Steam Jacketed Type
Size	: NW15 ... NW100
Temperature	: -20°C ... 180°C



TORK-KV909 Serie

TORK-KV910 F Serie

TORK-KV910 Serie

TORK-KV 903F Serie

### PVC Ball Valve and Hygienic Valve

TORK-PKV913 PVC Ball Valve  
 TORK-HSV Stainless Steel Hygienic Valve  
 TORK-DKV 812 Diaphragm Valve  
 TORK-PKV 812 PVC Butterfly Valve

Size	: NW15 ... NW100
Working Temperature:	: -20°C ... 80°C
Working Pressure	: PN10, PN16
Application	: Liquid fluids, aggressive fluids, food industry, particle fluid



TORK-PKV 913 Serie

TORK-HSV Serie

PVC Butterfly Valve

RK-DKV 812 Serie





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# tork

valve & automation

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