



PNEUMATIC ACTUATORS

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



PNEUMATIC ACTUATOR 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

RA143-350DA actuators can be made in only the closed position 35°

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
- Direction valve montage is namur standard
- Actuator valve montage is ISO 5211 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,

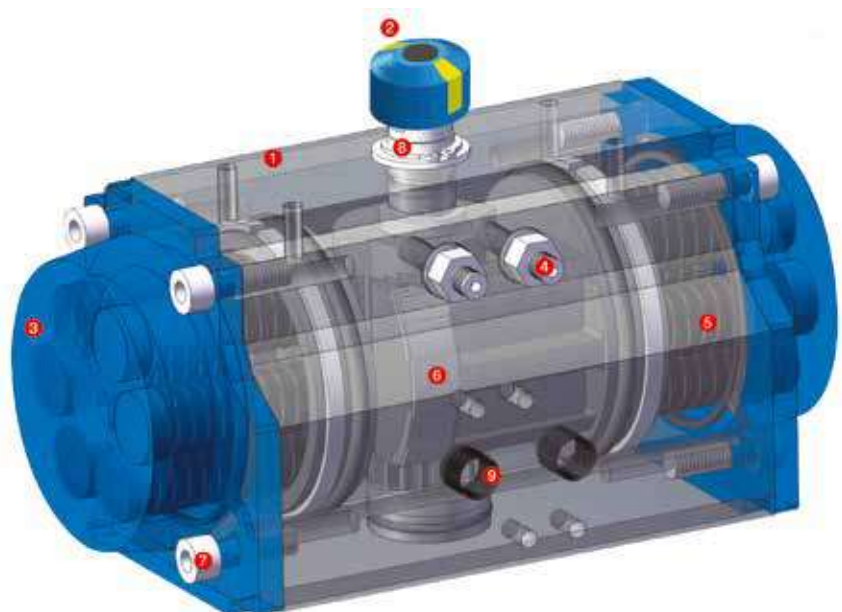
Positioner: Namur VDINDE3845

- Ball, Butterfly and Plug Valve Montage:

ISO5211, DIN3337standard

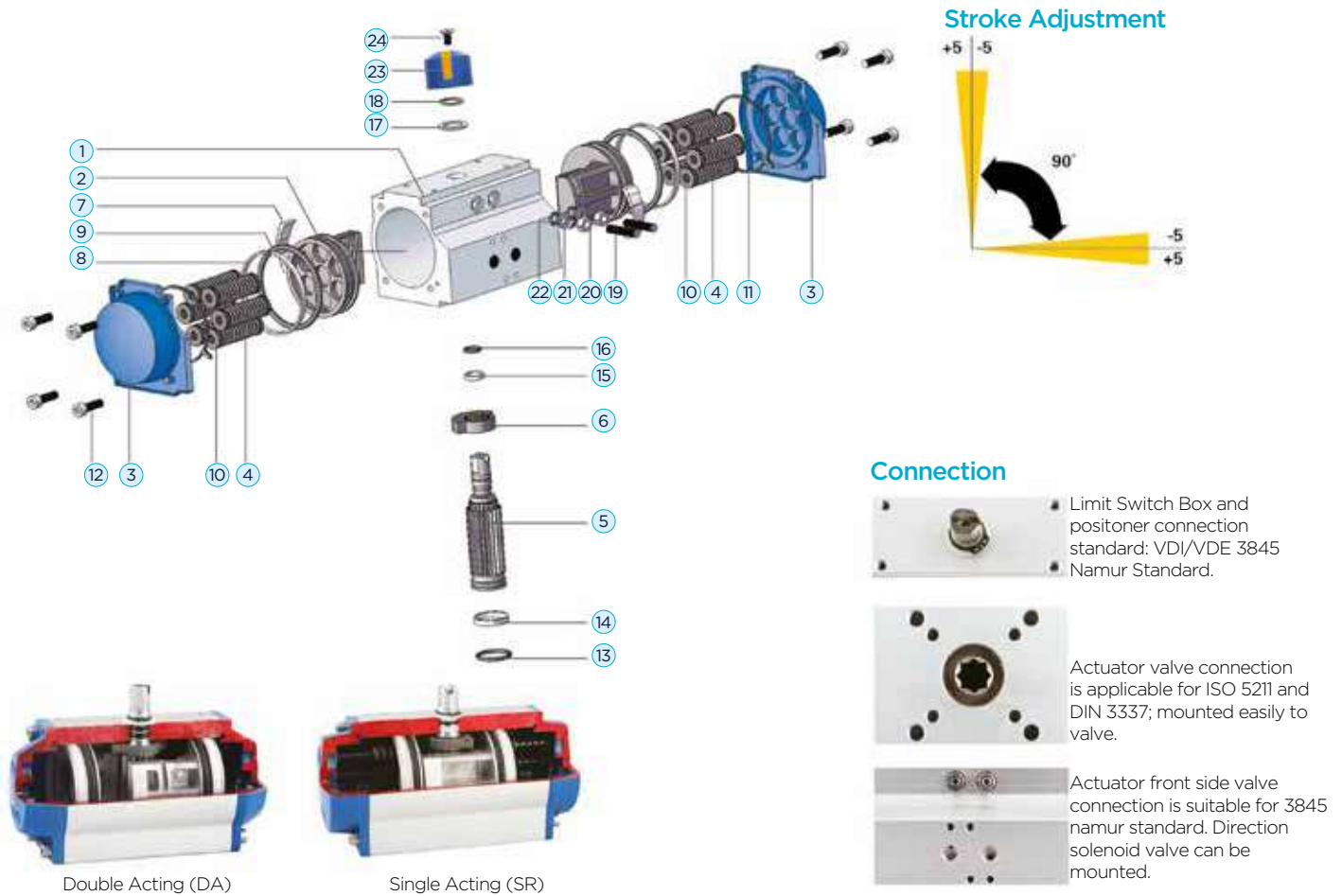
Air Quality:

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



Rack & Pinion Pneumatic Actuator / Spare Parts

RA Series (DA/ SR): Spare Part List



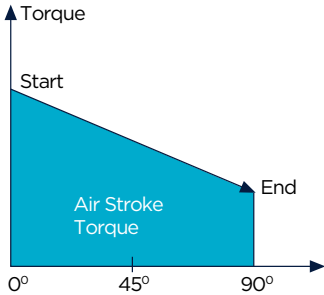
| PART NO | UNIT QUANTITY | PART DESCRIPTION | STANDARD MATERIAL |
|---------|---------------|--------------------------|--------------------------|
| 1 | 1 | Body | Extruded Aluminium Alloy |
| 2 | 2 | Piston | Die Cast Aluminium |
| 3 | 2 | Cap | Die Cast Aluminium |
| 4 | min.5/max.12 | Spring | High 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.

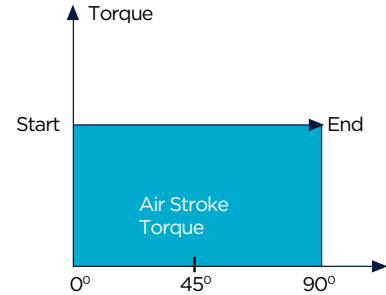
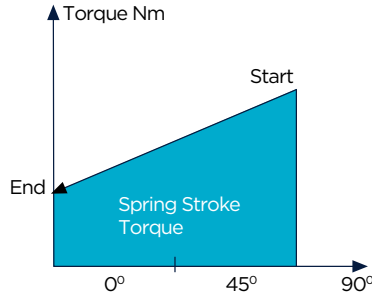
Part No: 7, 8, 9, 11, 13, 14, 15, 16, 22

Rack & Pinion Pneumatic Actuator/ Operation

TORK Actuator, Tork Output Diagrams Rack & Pinion Actuator

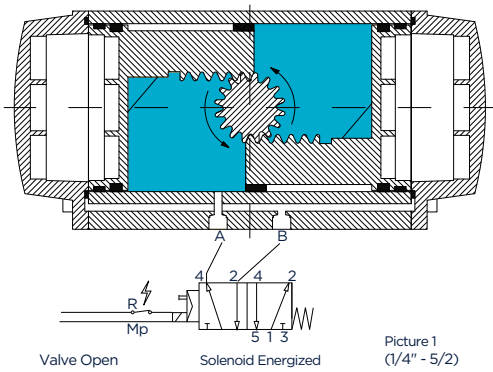


TORK RA ... SR Series (Single Acting) Actuator Output Diagram

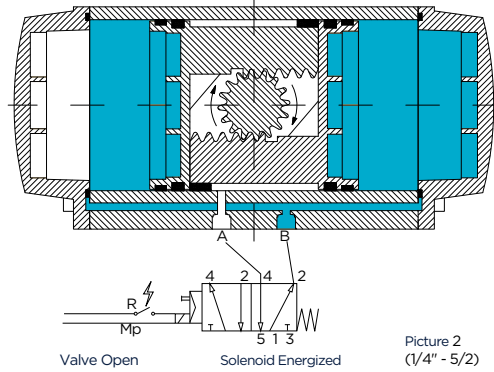


TORK RA ... DA Series (Double Acting) Actuator Output Diagram

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

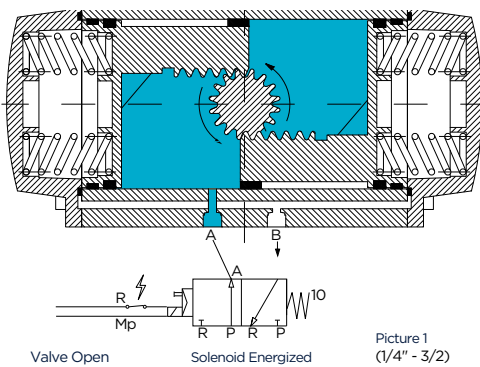


Picture 1
(1/4" - 5/2)

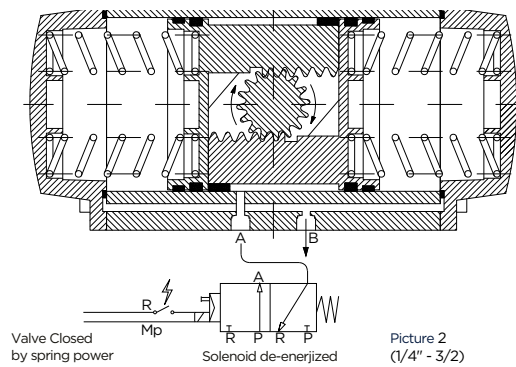


Picture 2
(1/4" - 5/2)

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

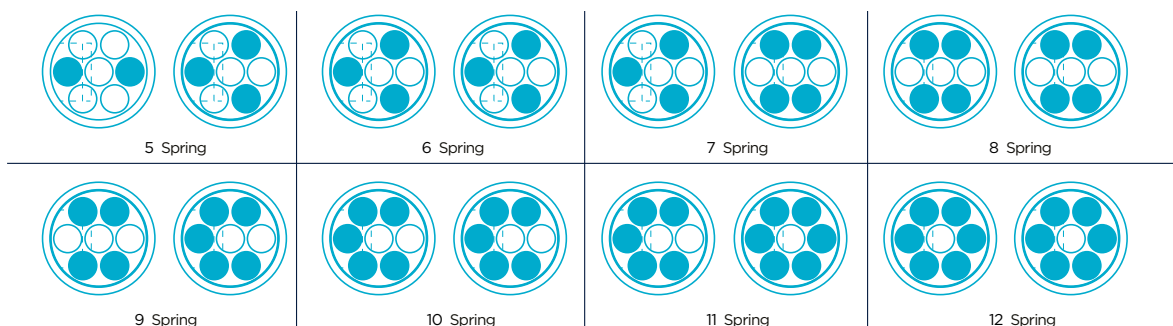


Picture 1
(1/4" - 3/2)



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)

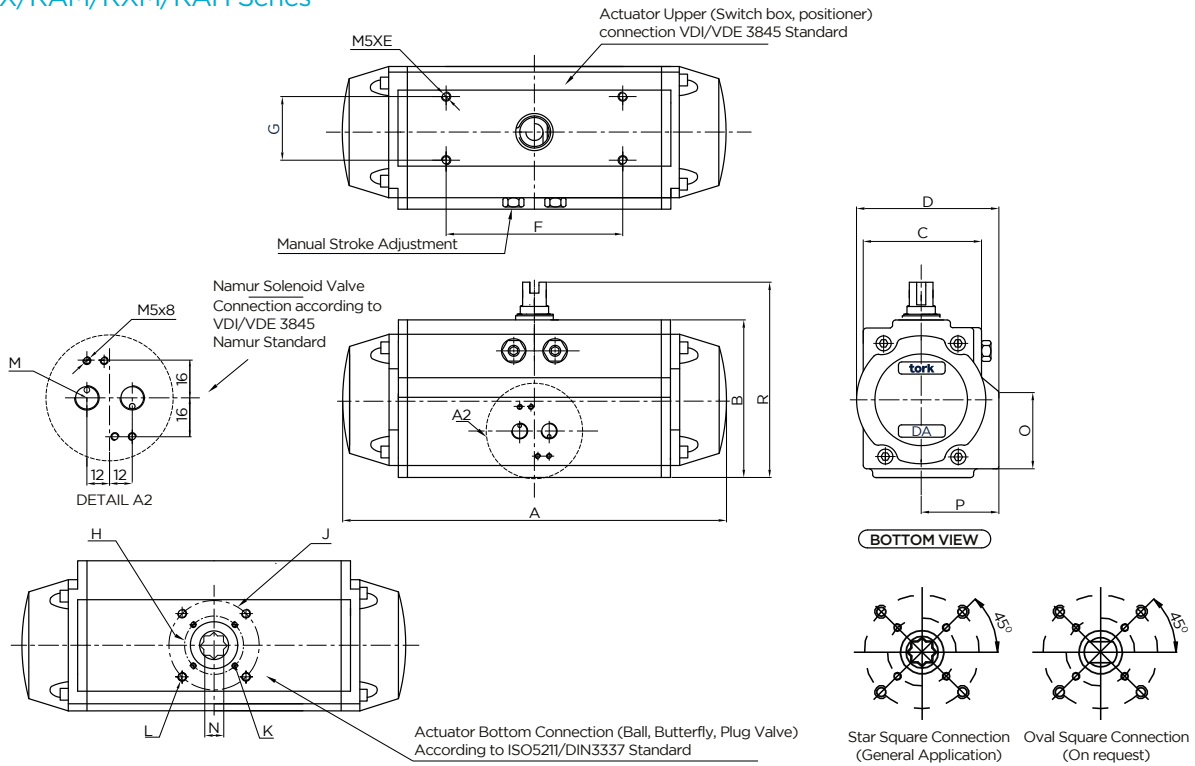
| MODEL | Operating Pressure (bar) | | | | | | | | | | | |
|----------------------|--------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 2,5 bar | 3 bar | 3,5 bar | 4 bar | 4,5 bar | 5 bar | 5,5 bar | 6 bar | 6,5 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° | |
| | | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | Start | End | |
| 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 | | | |
| | S11 | | | | | | | | | | 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 | | |
| | S12 | | | | | | | | | | | | 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 | | |
| | S5 | | | 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 | |
| | S6 | | | | | 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 | |
| | S7 | | | | | 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 | |
| | S8 | | | | | | | 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 | |
| S9 | | | | | | | | | 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 | | |
| S10 | | | | | | | | | 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 | | |
| 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 | 8,2 | 20,5 | |
| 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 | 9,2 | 22,6 | | |
| 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 | 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 | | |
| 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 | 9,2 | 22,8 | |
| 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 | 10,3 | 25,1 | | |
| 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 | | |
| 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 | 25,2 | 53,1 | |
| 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 | 27,9 | 58,5 |
| 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 | | |
| S11 | | | | | | | | | | | | 51,9 | 20,7 | 61,0 | 29,0 | 70,2 | 39,0 | 79,3 | 48,1 | 88,5 | 57,3 | 97,6 | 66,4 | 106,8 | 75,6 | 28,0 | 59,0 | |
| 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 | 31,0 | 65,0 | |
| 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 | 34,6 | 66,0 | |
| S10 | | | | | | | | | 61,7</ | | | | | | | | | | | | | | | | | | | |

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

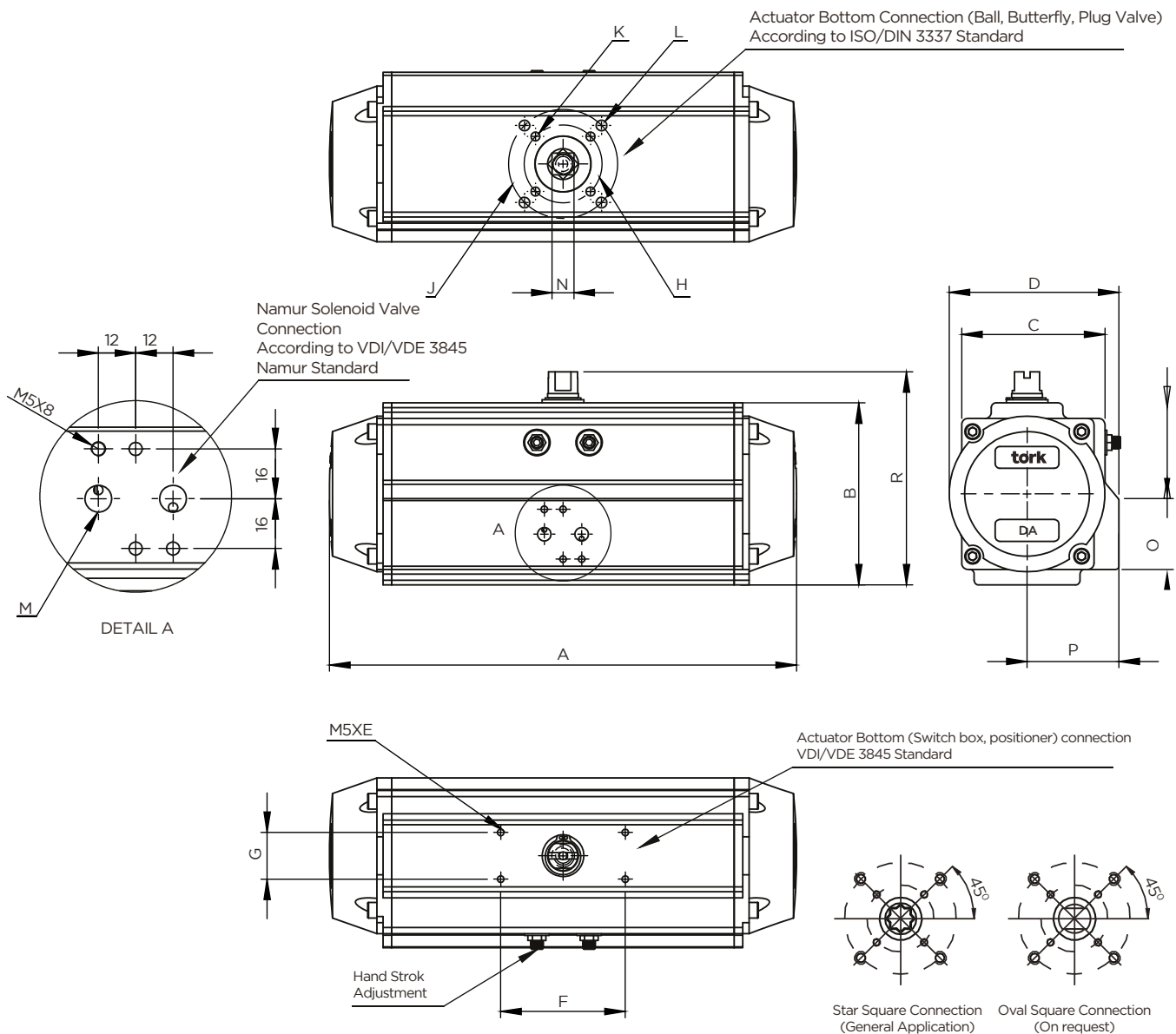
RA/RAX/RAM/RXM/RAH Series



| 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/SR | 408.5 | 180 | 140 | 169 | 8.0 | 80.0 | 30.0 | 102 | 140 | M10 | M16 | 1/4" | 22/27 | 68 | 89 | 200 | 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 | 586.3 | 440 | - | 440 | 8 | 130 | 30 | - | 165 | - | M20 | 1/4" | 46 | - | - | 470 | - | F16 |
| 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 | 0.4 |
| RA/RX/RAM/RXM 40 DA/SR | DA | 0.09 | 0.16 | 0.22 | 0.85 |
| | SR | | | 0.26 | 1.02 |
| RA/RX/RAM/RXM 52 DA/SR | DA | 0.17 | 0.28 | 0.27 | 1.70 |
| | SR | | | 0.33 | 1.80 |
| RA/RX/RAM/RXM 60 DA/SR | DA | 0.17 | 0.28 | 0.27 | 1.70 |
| | SR | | | 0.33 | 1.80 |
| RA/RX/RAM/RXM 75 DA/SR | DA | 0.50 | 0.79 | 0.39 | 3.80 |
| | SR | | | 0.48 | 4.40 |
| RA/RX/RAM/RXM 80 DA/SR | DA | 0.50 | 0.79 | 0.39 | 3.80 |
| | SR | | | 0.48 | 4.40 |
| RA/RX/RAM/RXM 100 DA/SR | DA | 0.73 | 1.15 | 0.52 | 4.90 |
| | SR | | | 0.63 | 6.10 |
| RA/RX/RAM/RXM 120 DA/SR | DA | 1.61 | 2.45 | 0.95 | 9.60 |
| | SR | | | 1.15 | 11.40 |
| RA/RX/RAM/RXM 143 DA/SR | DA | 2.62 | 2.94 | 1.2 | 17.8 |
| | SR | | | 2 | 20.6 |
| RA/RX/RAM/RXM 160 DA | DA | 3.25 | 2.56 | 2.60 | 19.10 |
| RA/RX/RAM/RXM 200 DA | DA | 6.41 | 5.50 | 3.40 | 33.40 |
| RA/RX/RAM/RXM 270 DA | DA | 13.75 | 10.45 | 4.3 | 65 |
| RA/RX/RAM/RXM 350 DA | DA | 25 | 19.40 | 5.20 | 125.00 |
| RA/RX/RAM/RXM 160 SR | SR | 3.25 | 0 | 3.80 | 26.80 |
| RA/RX/RAM/RXM 200 SR | SR | 6.41 | 0 | 4.80 | 45.90 |
| RA/RX/RAM/RXM 270 SR | SR | 13.75 | 0 | 5.3 | 68 |
| RA/RX/RAM/RXM 350 SR | SR | 25 | 0 | 6.20 | 155 |

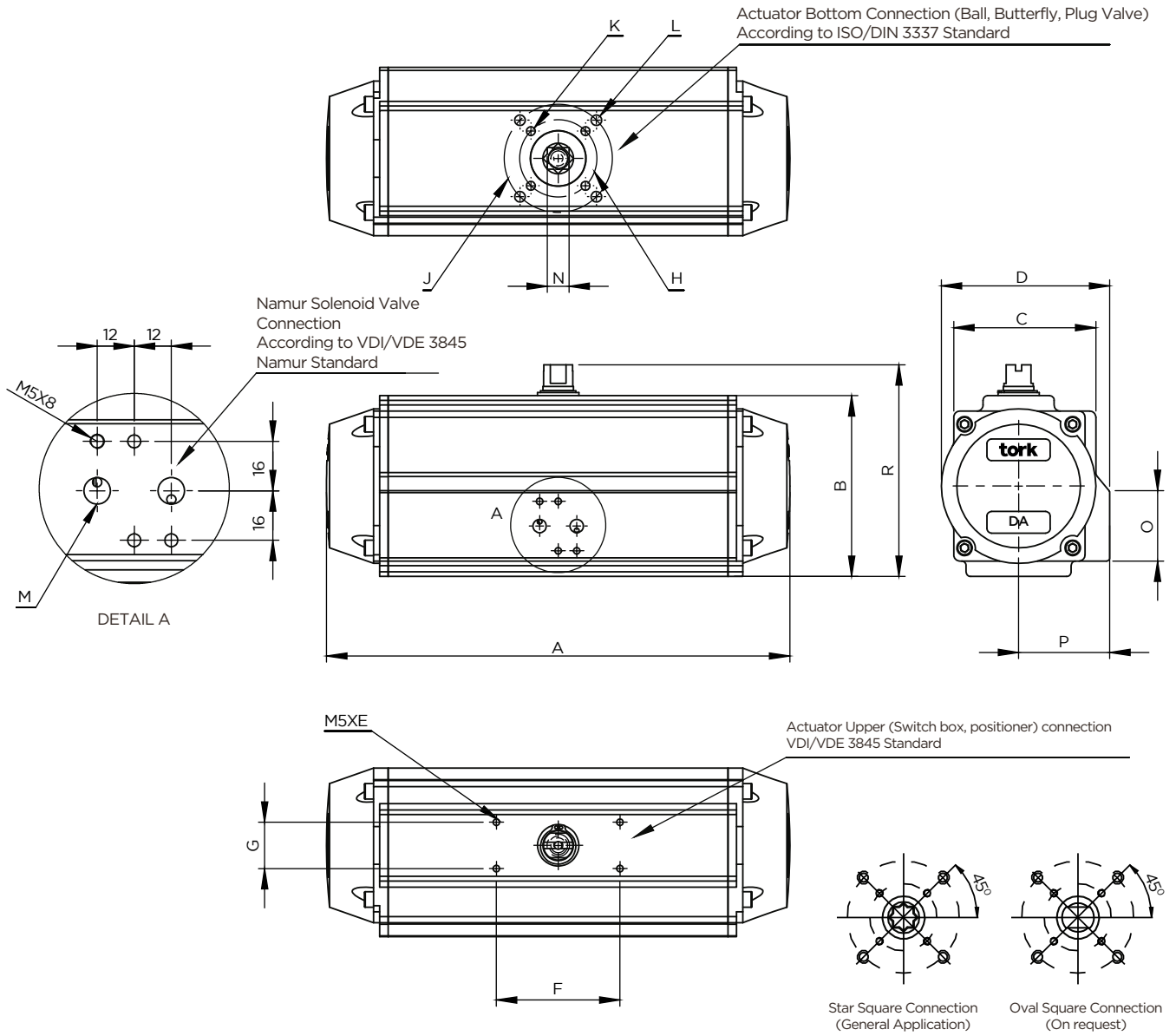
Rack & Pinion Pneumatic Actuator 2 Position 120° Turn / Sizes



| 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 (valve is switched to half open position, 30-60°) and if close command issued,

valve is switched to fully closed position.

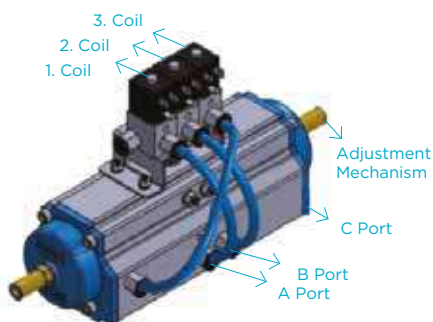
Operating of 3 Position Actuator:

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.

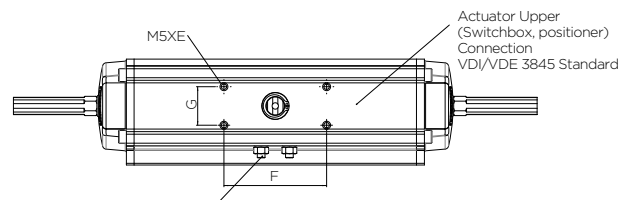
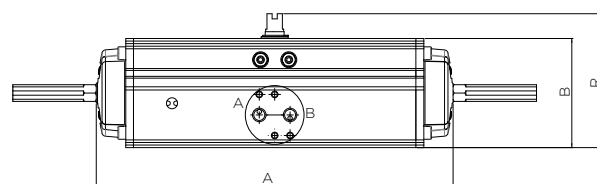
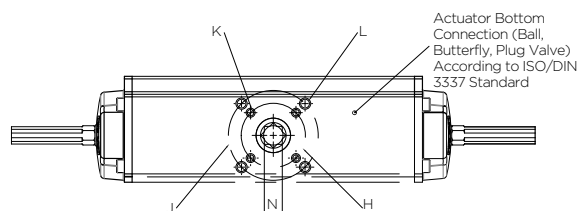
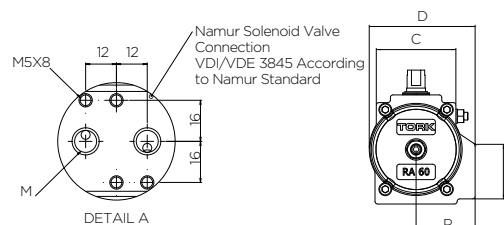
Operating:

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.

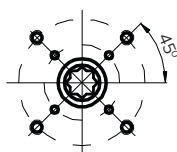


APPLICATION

- 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

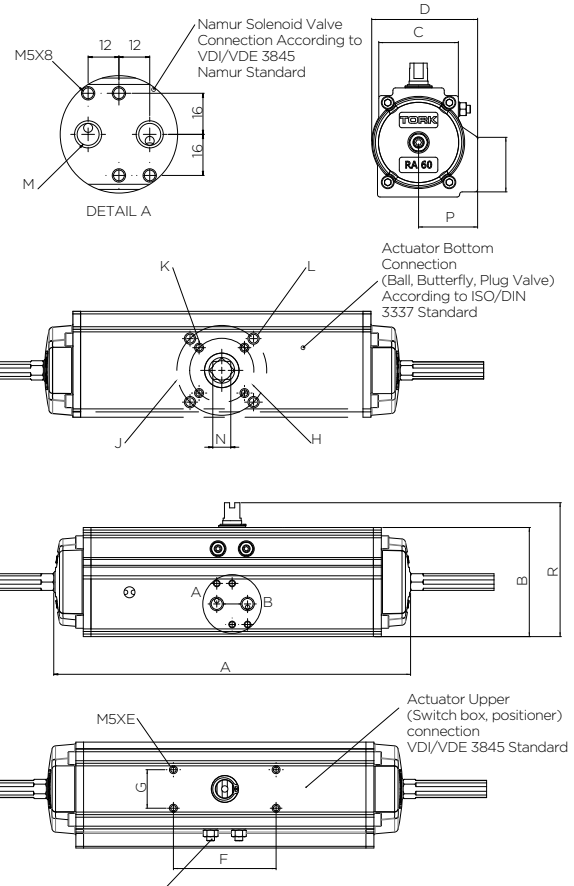
valve is connected to B port and 3 no valve is connected C port.

Operating:

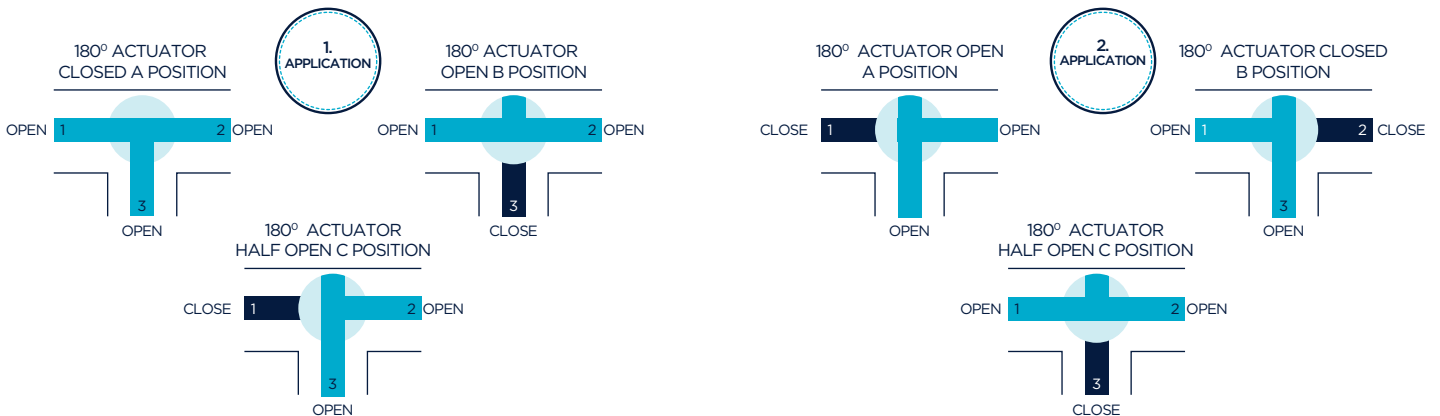
1. Compressed air is given to air inlet port.
2. 1 no coil is energized. In this way actuator is rotated 180°, in other words the valve opens full position.
3. 3 no is energized, 1 no coil is de-energized. So the actuator is semi-closing.
4. 2 no coil is energized, 3 no coil is de-energized. So the actuator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

APPLICATION

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



Operating in Ball Valves

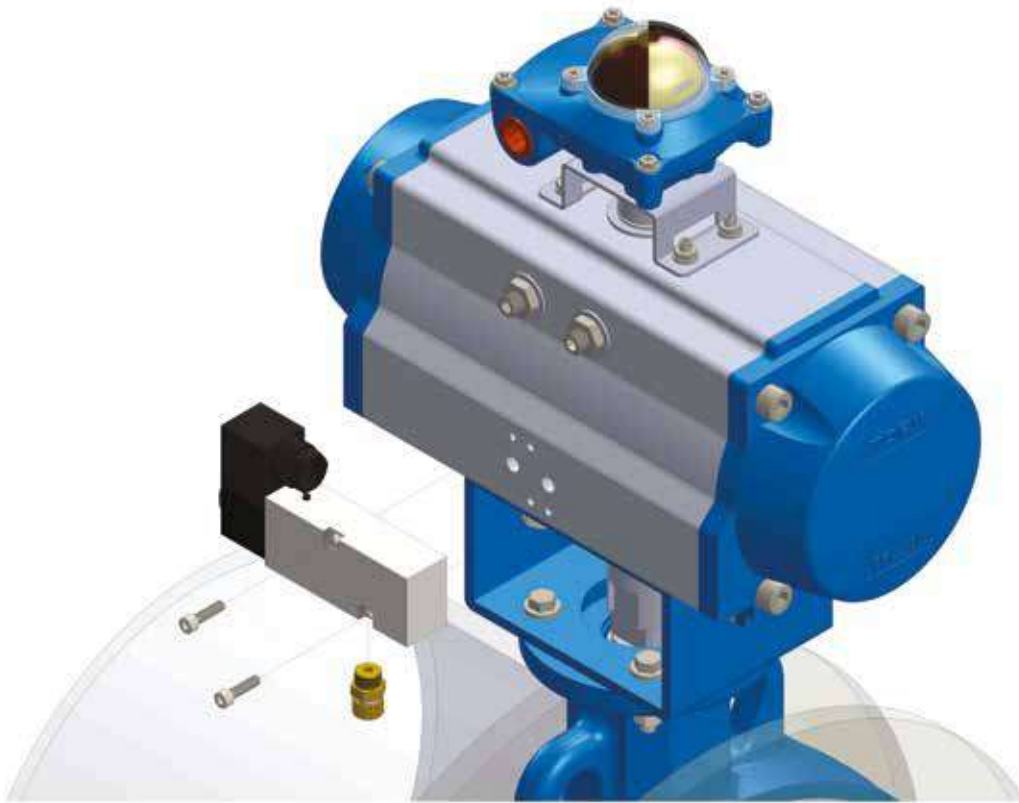


3 Position Actuator Types, Dimensions and Torque Outputs

| 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

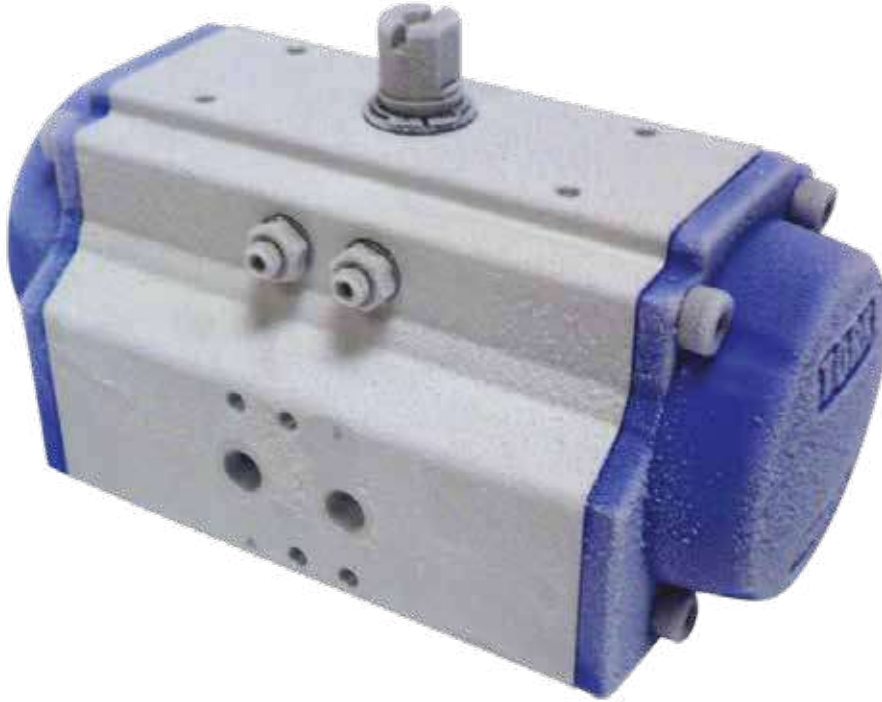
| MODEL NO | RX/RXM 32 DA | RX/RXM 40 DA | RX/RXM 60 DA | RX/RXM 80 DA | RX/RXM 100 DA | RX/RXM 120 DA | RX/RXM 143 DA | RX/RXM 160 DA | RX/RXM 200 DA | RX/RXM 270 DA | RX/RXM 350 DA |
|--------------------------|---|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 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

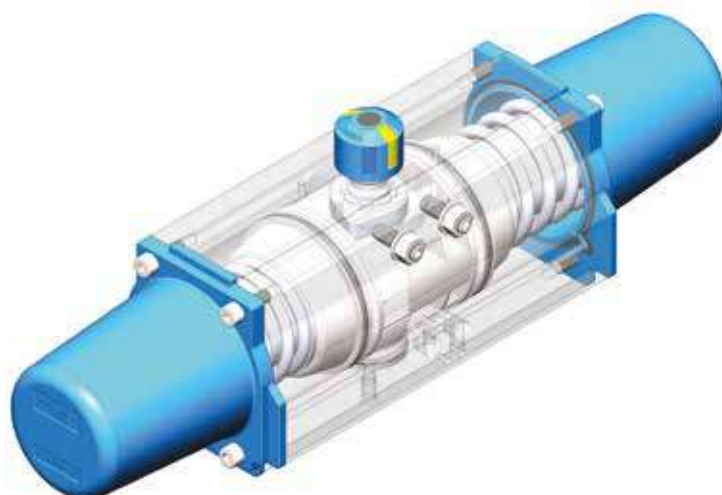
Scotch Yoke Pneumatic Actuator / Features

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

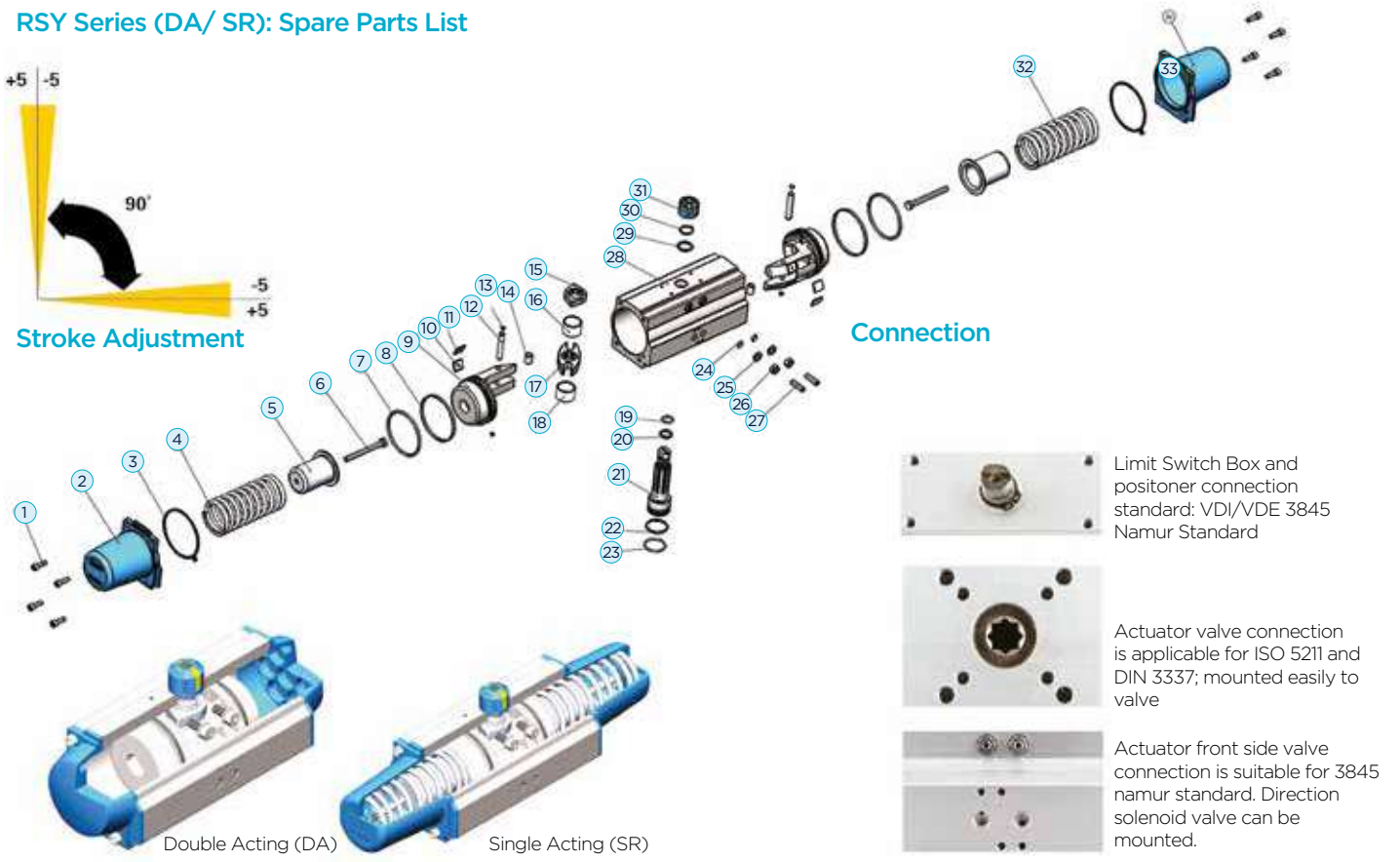
Design Features of TORK RA Series Actuator (Scotch Yoke Actuator)

- 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

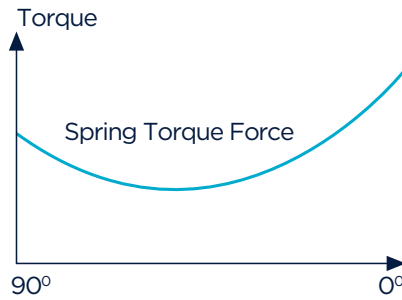
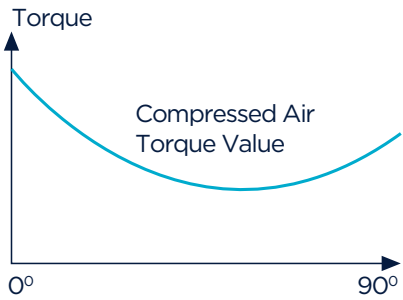


| PART NO | UNIT QUANTITY | PART DESCRIPTION | STANDARD MATERIAL |
|---------|---------------|--|-------------------|
| 1 | 8 | SCREW DIN 912 M8X25 INOX IMBUS CAP T-RPA 100 | AISI 304 |
| 2 | 1 | CAP LEFT TORK-RA 100 BOYANMIŞ (BLUE RAL: 5017) | ETIAL 160 |
| 3 | 2 | SEAL CAP TORK-RA 100 - SMS 28 (HI-NBR) | 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 (SCOTH 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 (SCOTH 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 |

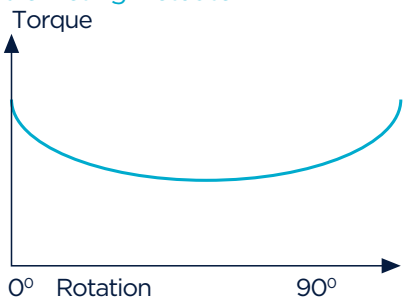
Scotch Yoke Pneumatic Actuator / Operating Principle

Scotch Yoke Actuator

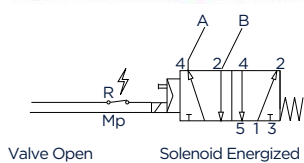
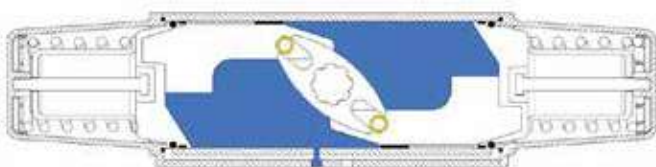
Single Acting Actuator



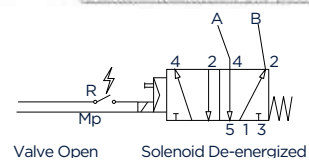
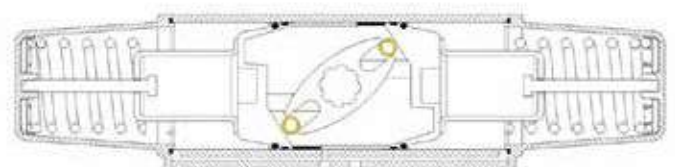
Double Acting Actuator



Scotch Yoke Actuator (Single Acting)

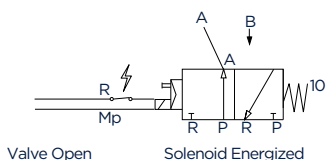
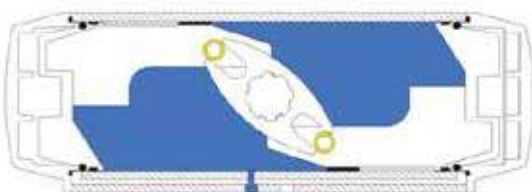


Picture 1
(1/4" - 5/2)

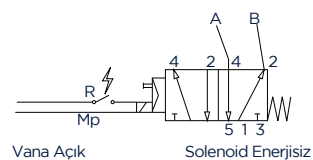
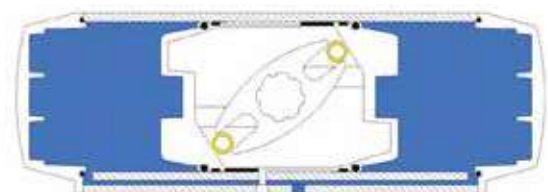


Picture 2
(1/4" - 5/2)

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 |

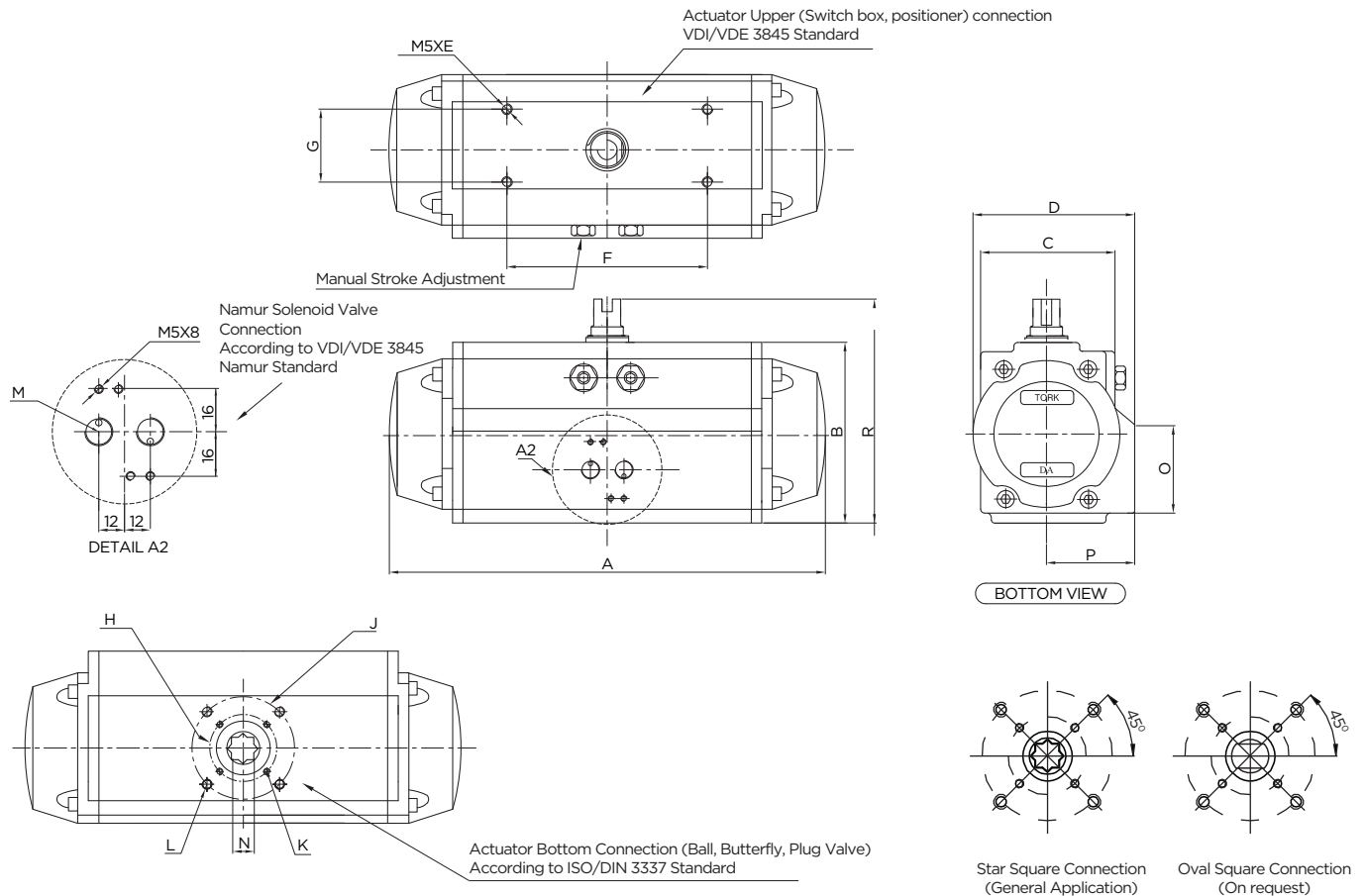
Single Acting Scotch Yoke Actuator Torque Values (Nm)

| 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 |

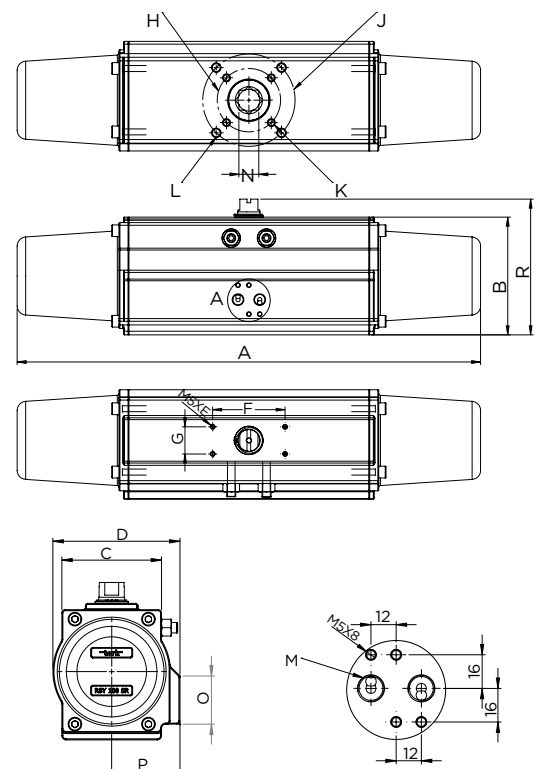
Scotch Yoke Pneumatic Actuators/ Sizes

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

| | |
|-------------------------------|---|
| Ambient Temperature | : -50°C 80°C |
| Operating Fluid | : Compressed Air |
| Operating Pressure (bar) | : 48 |
| Protection Class (On request) | : II 2GD c T4 |
| Sealing Materials | : Special developed NBR |
| Actuator Body | : Aluminium |
| Air Quality | : 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.

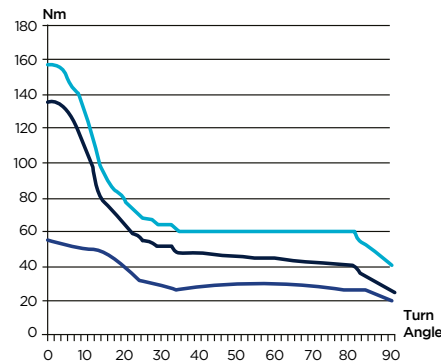
Technical Features

| | |
|-------------------|---|
| 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.

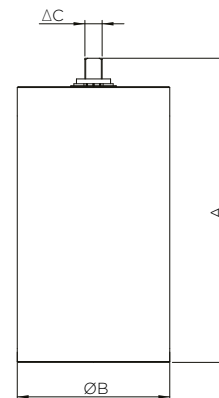
Torque Value (6 bar)



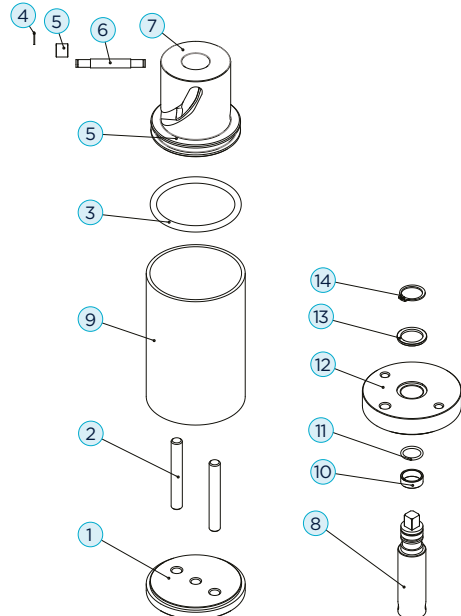
— Double Acting Torque Nm
— Single Acting Air Torque Nm
— Single Acting Spring Torque Nm

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-H100 | 1450 Nm | 3087 Nm |
| SA-H 125 | 2100 Nm | 4620 Nm |
| SA-H 140 | 3000 Nm | 6300 Nm |



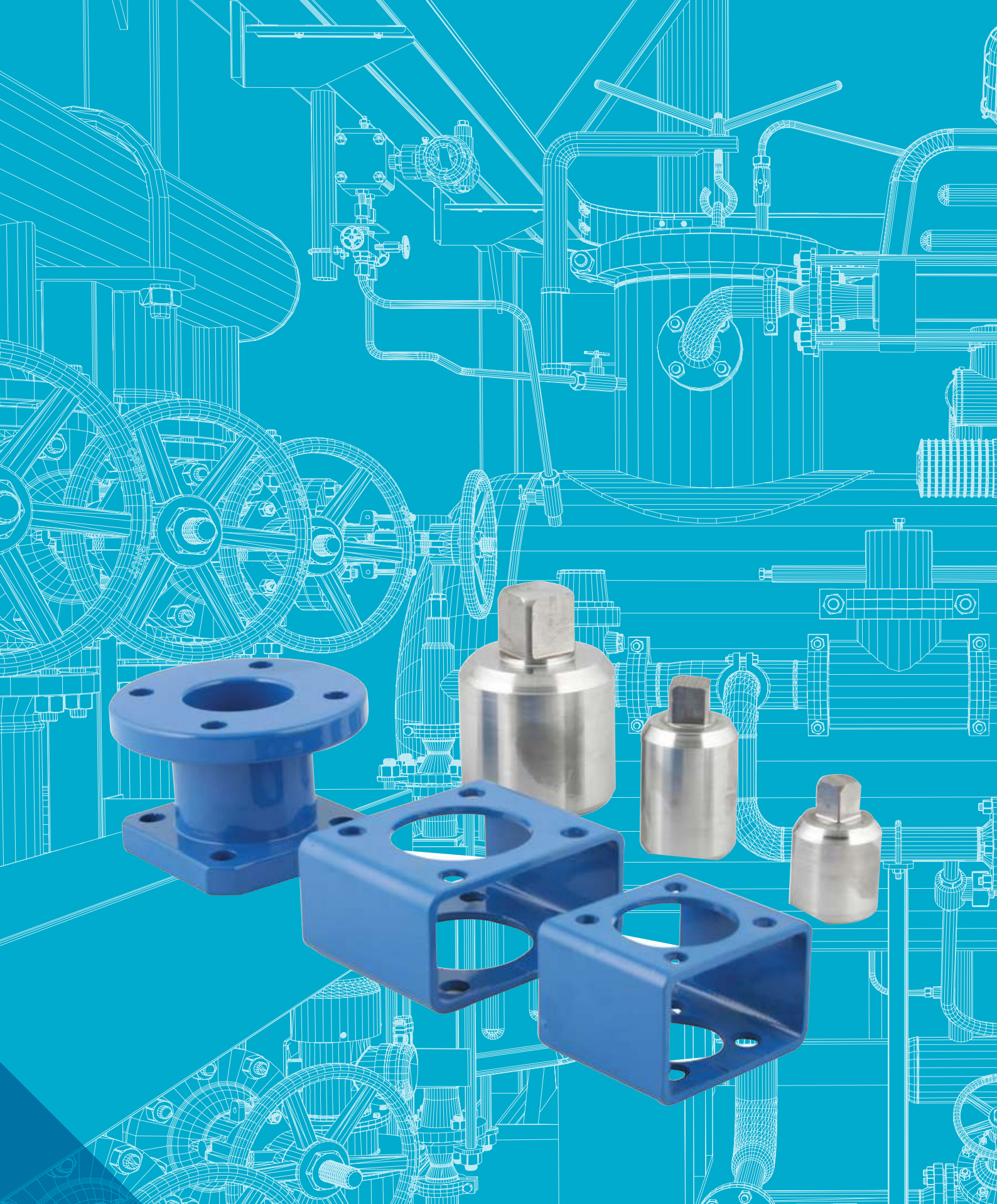
Butterfly Valve Sizes for Hydraulic Actuators

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 (EExmdll.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:EExmdllT4 (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" |

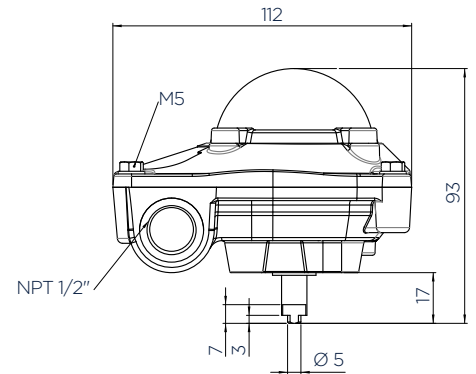
Limit Switch Box



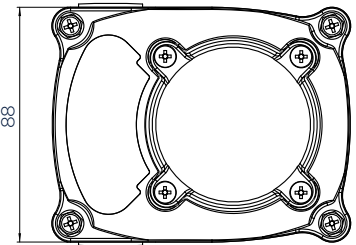
LS 10

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



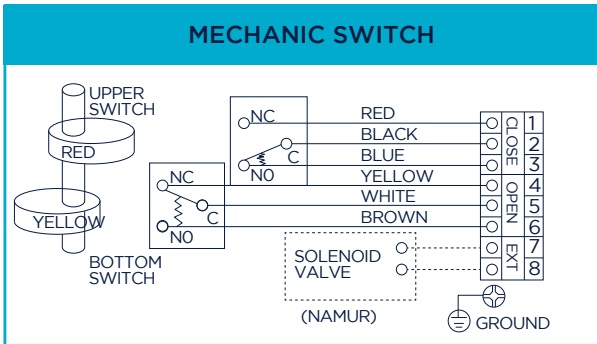
LS 20



LSV 70



LS 30



LS 80

Application (Proximity Limit Switch Box)



LS 10

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 66, Ex-proof, Ex d IIC T6 | | | | 1.2 |
| LS20.2P | 2 piece SPDT mechanic switch, Protection Class: IP 66, 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

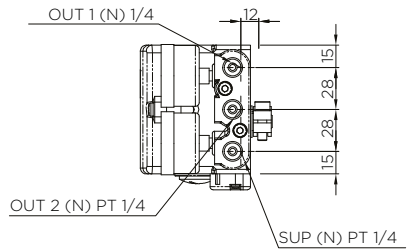
- Easy maintenance
- For rotary actuators
- Vibration resistance
- Linearity: %1.5
- Body: Aluminium injection
- Protection Class: Exmd II BT5(05 ATEX 1076x)
- Optional: Exmd II BT5, Ex ia IIBT6
- Stainless manometer standard

APPLICATION

For pneumatic actuated valves
proportional control



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

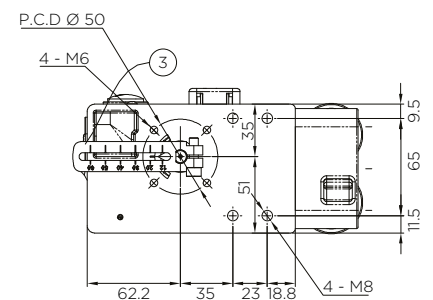
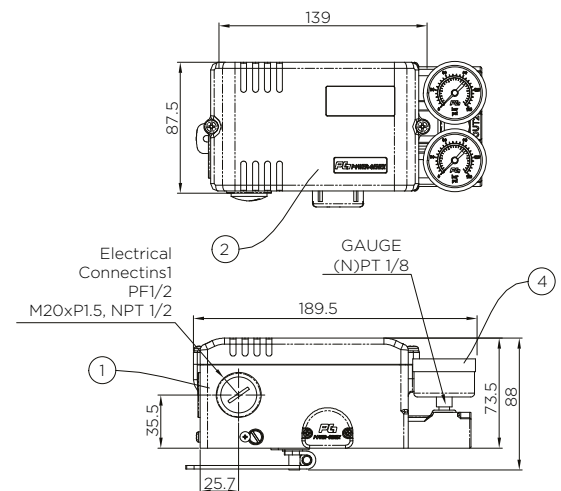


- Input Signal: 3-15 psi (0.2-1.0bar)
- Supply Pressure: 6 -7 bar

TORK-PP.R
Pneumatic Pneumatic
Rotary Type Positioner



TORK-EPR
Electro - Pneumatic Positioner



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 ²) | 2.9 |
| TDRK-EPL Lineer | 4-20 mA / max. 7 bar | I/P 66 | 80x30 | Aluminium Die Cast | 5 LPM (1.4 Kgf/cm ²) | 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 ²) | 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 ²) | 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 ²) | 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 ²) | 2.1 |

Electro – Pneumatic Positioner



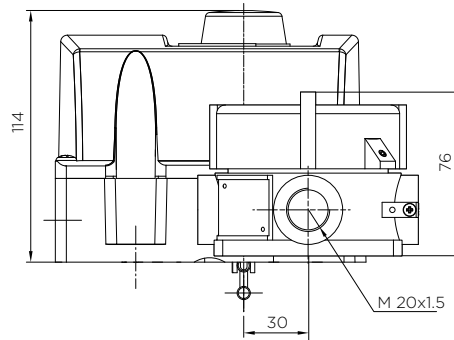
Features

- 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 dm³.
- Air port connection G1/4"
- HART 6 or 7 (H)

Other Options

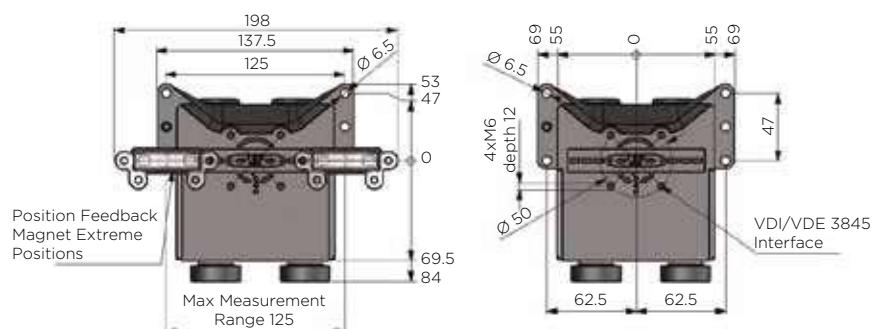
Changable Communication Options:

- 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 Nm³ /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 ³ | (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 |



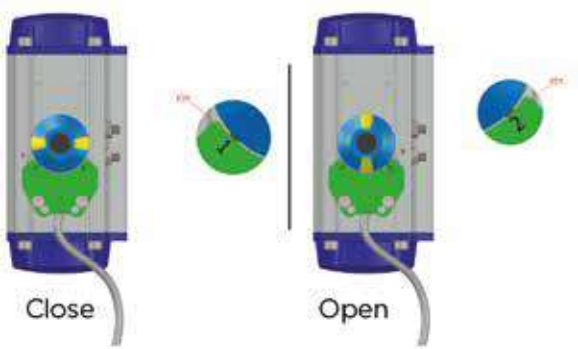
Proximity Actuator Sensor

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.

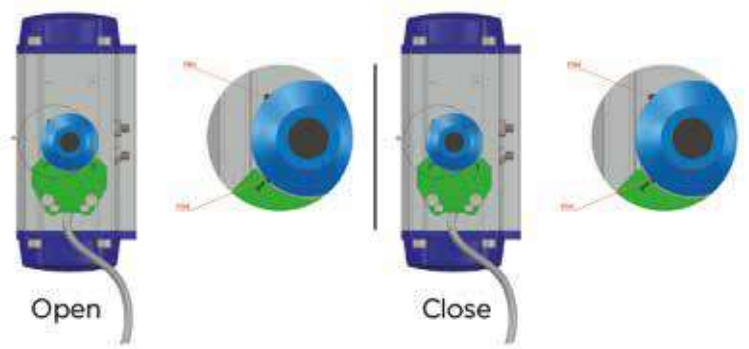
Proximity sensor works by controlling the changes in the electromagnetic or electrostatic fields it generates. Proximity sensor feed by a voltage between 10-30 V DC (+and-) and the other two connection (I and II) are for output. The output connections show the actuator position (open or close) logically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



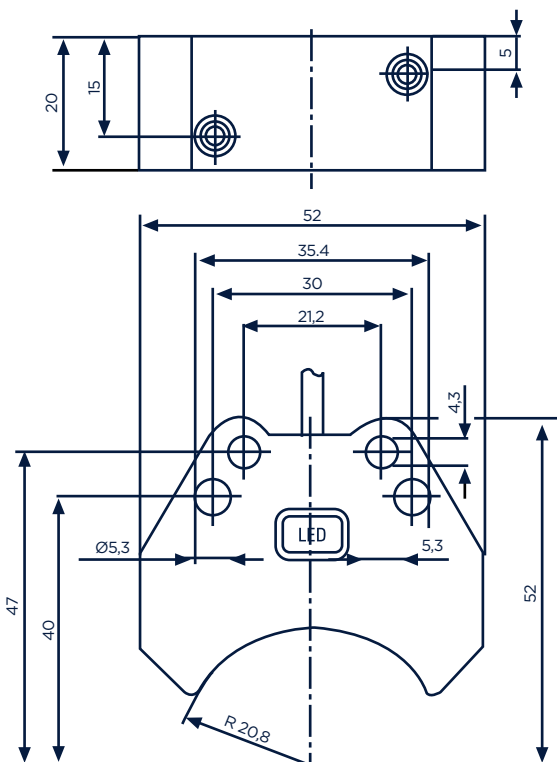
90° Turned Pneumatic Actuators



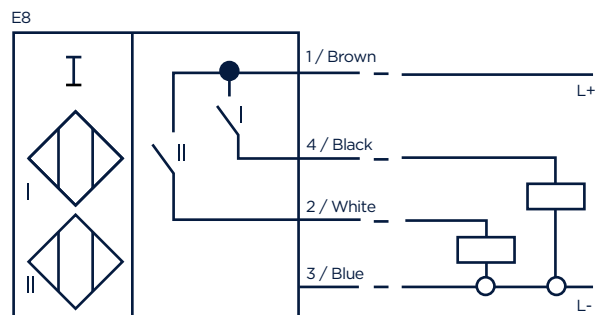
180° Turned Pneumatic Actuators



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 | : Body : 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 | : Body : 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 Etkilil)

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 | : Body : 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 etkilil)
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 | : Body : 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 Etkilil)

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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Flanged Connection : 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 | : Body : 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 | : Flanged Connection : RAV 908FDA, RAV 908 FSR Threaded Connection : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body : 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 | : Body: 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.W121 Series Wafer Type |
| Seal Option | : EPDM, PTFE, Viton, Nitril, TORK-KV.W1120 Series Wafer Type |



TORK-KV.W1121 Series

TORK-KV.W1120 Series

Butterfly Valve Lug Type

| | |
|---------------------|--|
| Butterfly Valve | : Body: 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

tork

valve & automation

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