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: Scotchyoke Actuator
- RASYM: Scotchyoke 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 in both ways ±5%
• 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 ±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)
### RA Series (DA/ SR): Spare Part List

<table>
<thead>
<tr>
<th>PART NO</th>
<th>UNIT QUANTITY</th>
<th>PART DESCRIPTION</th>
<th>STANDARD MATERIAL</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Body</td>
<td>Extruded Aluminium Alloy</td>
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<tr>
<td>2</td>
<td>2</td>
<td>Piston</td>
<td>Die Cast Aluminium</td>
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<tr>
<td>3</td>
<td>2</td>
<td>Cap</td>
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<td>4</td>
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<td>Spring</td>
<td>High Alloy Spring Steel</td>
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<td>Pinion</td>
<td>Steel Alloy</td>
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<td>6</td>
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<td>Cam (Stop Arrangement)</td>
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<td>7</td>
<td>2</td>
<td>Bearing (Piston Back)</td>
<td>Polyphtalamide</td>
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<td>8</td>
<td>2</td>
<td>Bearing (Piston Sliding)</td>
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<td>Cap Bolt</td>
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<td>Pinion Bottom “O” Ring</td>
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<td>Bearing (Pinion Bottom)</td>
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<td>Polypropylene + Gf</td>
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<td>24</td>
<td>1</td>
<td>Indicator Screw</td>
<td>Stainless Steel</td>
</tr>
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</table>

**Connection**

- Limit Switch Box and positioner connection standard: VDI/VDE 3845 Namur Standard.
- Actuator valve connection is applicable for ISO 5211 and DIN 3337; mounted easily to valve.
- Actuator front side valve connection is suitable for 3845 namur standard. Direction solenoid valve can be mounted.

**Stroke Adjustment**

- Double Acting (DA)
- Single Acting (SR)
**Rack & Pinion Pneumatic Actuator/ Operation**

**TORK Actuator, Tork Output Diagrams**

Rack & Pinion Actuator

![Torque vs. Angle Diagrams](image)

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

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

**TORK RA ... DA Series Actuator Operation (Double Acting)**

Rack & Pinion Actuator

![Actuator Diagram](image)

**Valve Open Solenoid Energized**

![Diagram](image)

**TORK RA ... DA Series Actuator Operation (Single Acting)**

Rack & Pinion Actuator

![Actuator Diagram](image)

**Valve Open Solenoid Energized**

![Diagram](image)

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

![Spring Arrangement Diagrams](image)
### Rack & Pinion Actuator

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

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Operating Pressure (bar)</th>
<th>Spring Torque Value</th>
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<tbody>
<tr>
<td></td>
<td>3.5 bar</td>
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<tr>
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<td>3</td>
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<td>288.5</td>
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<td>RA/RX/RAM 160 DA</td>
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<td>385</td>
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<td>RA/RX/RAM 180 DA</td>
<td>628.8</td>
<td>752</td>
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<td>RA/RX/RAM 200 DA</td>
<td>2240</td>
<td>2586</td>
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### Single Acting Actuators Torque Value (According to supplied air pressure range and spring quantity)

<table>
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<td>S 02</td>
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<tr>
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<td>S 06</td>
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<td>S 08</td>
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<td>S 09</td>
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<td>S 11</td>
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<td>S 12</td>
<td>0.75</td>
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**Note:** The values provided are illustrative and may vary depending on specific model and pressure requirements. Always consult the manufacturer's specifications for accurate data.

[www.smstork.com](http://www.smstork.com)
RA/RAX/RAM/RXM/RAH Series

### Actuator Upper (Switch box, positioning)
connection VDI/VDE 3845 Standard

### Manual Stroke Adjustment

### RA/RX/RAM 120 DA/SR
- 0.50

### RA/RX/RAM 75 DA/SR
- 0.39

### RA/RX/RAM 60 DA/SR
- 0.50

### RA/RX/RAM 50 DA/SR
- 0.75

### RA/RX/RAM 10 DA/SR
- 1.61

### RA/RX/RAM 143 DA
- 13.7

### RA/RX/RAM 160 DA
- 2.85

### RA/RX/RAM 200 DA
- 6.41

### RA/RX/RAM 270 DA SR
- 13.7

### RA/RX/RAM 350 SR
- 25

### Air Volume Opening (L)

### Actuator Bottom Connection (Ball, Butterfly, Plug Valve)
According to ISO5211/DSN3137 Standard

### Dimension (mm)

#### ACTUATOR MODEL
- RA/RAX/RAM 32 DA
- RA/RAX/RAM 40 DA/SR
- RA/RAX/RAM 52 DA/SR
- RA/RAX/RAM 60 DA/SR
- RA/RAX/RAM 75 DA/SR
- RA/RAX/RAM 80 DA/SR
- RA/RAX/RAM 100 DA/SR
- RA/RAX/RAM 120 DA/SR
- RA/RAX/RAM 143 DA
- RA/RAX/RAM 160 DA
- RA/RAX/RAM 200 DA SR
- RA/RAX/RAM 270 DA SR
- RA/RAX/RAM 350 SR

#### A B C D E F G H J K L M N O P R
- 98 45 45 - 8.0 50 25 - 16 18 5 1/8" 9 - - 76 F03
- 17.2 50.2 50.6 8.0 80.0 30.0 36/42/50 50.0 8.0 80.0 30.0 42/50 70.0 5/16" 9/11 45.0 39.7 90.0 F03/F04 F05
- 32.6 62.0 62.7 8.0 80.0 30.0 42/50 70.0 5/16" 9/11 47.0 47.0 105.2 F04/F05 F07
- 242.0 169.9 191.9 8.0 80.0 30.0 50 70.0 5/16" 14 54.8 58.3 136.9 F05 F07
- 242.0 169.9 191.9 8.0 80.0 30.0 50 70.0 5/16" 14 54.8 58.3 136.9 F05 F07
- 322.0 160.0 161.0 121.0 8.0 80.0 30.0 70 102.0 5/8" M10 M16 V4" 17 71.0 60.0 160.0 F07 F10
- 360.0 160.0 161.0 160.0 8.0 80.0 30.0 70 102.0 5/8" M10 M16 V4" 17/22 82.0 67.2 190.0 F07 F10
- 93.4 190 182 182 8.0 80.0 30.0 102 140 M10 M16 V4" 22/27 91 91 230 F10 F14
- 374.6 216 202 202 8.0 80.0 30.0 102 140 M10 M16 V4" 22/27 101 101 236 F10 F14
- 458 264 242 242 8.0 80.0 30.0 - 140 M5 - M20 V4" 36 121 121 288 F04/F16
- 586.3 440 - 440 8 110 30 - 165 - M20 V4" 46 - - 470 - F16
- 514 190 182 182 8.0 80.0 30.0 102 140 M10 M16 V4" 22/27 91 91 230 F10 F14
- 588 264 242 242 8.0 80.0 30.0 - 140 M10 M16 M20 V4" 36 121 121 288 F04/F16
- 680 268 242 242 8.0 80.0 30.0 - 140 M10 M16 M20 V4" 36 121 121 288 F04/F16
- 836.3 440 - 440 8 110 30 - 165 - M20 V4" 46 - - 470 - F16

#### OPEN VOLUME CLOSING (L)

#### OPENING TIME (sec)

#### CLOSING TIME (sec)

#### APPROXIMATE WEIGHT (kg)

### Rack & Pinion Pneumatic Actuator 2 Position 90° Turn / Sizes
Rack & Pinion Pneumatic Actuator 2 Position 120° Turn / Sizes

Actuator Bottom Connection (Ball, Butterfly, Plug Valve) According to ISO/DIN 3337 Standard

Namur Solenoid Valve Connection According to VDI/VDE 3845 Namur Standard

Actuator Bottom (Switch box, positioner) connection VDI/VDE 3845 Standard

Star Square Connection (General Application) Oval Square Connection (On request)

<table>
<thead>
<tr>
<th>ACTUATOR MODELS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
<th>P</th>
<th>R</th>
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<td>80</td>
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<td>M5</td>
<td>M6</td>
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<td>45</td>
<td>40</td>
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<td>M6</td>
<td>M8</td>
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TORK VALUES (Nm)

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<td>385</td>
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</tr>
</tbody>
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ISO FLANGED FOR H ISO FLANGED FOR J

100/64 F04/F05 F02
96/56 F04/F05 F07
96/56 F05 F07

DIMENSION (mm)
### Rack & Pinion Pneumatic Actuator 2 Position 180° Turn / Sizes

#### Actuator Bottom Connection (Ball, Butterfly, Plug Valve) According to ISO/DIN 3337 Standard

- RA 120.8D
- RA 100.8D
- RA 80.8D
- RA 60.8D
- RA 40.8D

#### Actuator Upper (Switch box, positioner) connection According to VDI/VDE 3845 Standard

- RA 120.8D
- RA 100.8D
- RA 80.8D
- RA 60.8D
- RA 40.8D

### TORK VALUES (Nm)

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### WORKING PRESSURE (Bar)

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#### ACTUATOR MODELS

- RA 120.8D
- RA 100.8D
- RA 80.8D
- RA 60.8D
- RA 40.8D

#### DIMENSION (mm)

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<th>ACTUATOR MODELS</th>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
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<td>1/4&quot;</td>
<td>17/22</td>
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#### ISO FLANGED FOR H

- F07
- F10

#### ISO FLANGED FOR J

- F07
- F10

#### Actuator Bottom Connection (Ball, Butterfly, Plug Valve) According to ISO/DIN 3337 Standard

- RA 120.8D
- RA 100.8D
- RA 80.8D
- RA 60.8D
- RA 40.8D

#### Namur Solenoid Valve Connection According to VDI/VDE 3845 Standard

- RA 120.8D
- RA 100.8D
- RA 80.8D
- RA 60.8D
- RA 40.8D

#### Star Square Connection (General Application)

#### Oval Square Connection (On request)
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.

<table>
<thead>
<tr>
<th>TYPE ORDER NO</th>
<th>P.6 bar Torque</th>
<th>DIMENSIONS (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA / RAM 40.3P</td>
<td>15.8</td>
<td>143.7</td>
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<td>RA / RAM 60.3P</td>
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<td>RA / RAM 80.3P</td>
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<td>RA / RAM 100.3P</td>
<td>188.7</td>
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</tr>
<tr>
<td>RA / RAM 120.3P</td>
<td>388.6</td>
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</table>
3 position actuators such as normal actuators take a middle position is not only the starting and ending points. As they are manufactured as a standard intermediate position 90°. On request adjustable of different degrees.

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.

3 Position Actuator Types, Dimensions and Torque Outputs

<table>
<thead>
<tr>
<th>TYPE ORDER NO</th>
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<th>DIMENSION (mm)</th>
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<tr>
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<td>485.8 169.9 19.8 199 2 80 30 50 70 M6 M8 1/8&quot;</td>
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<td>RA / RAM 120.8</td>
<td>318</td>
<td>565 160 19.2 150 8 80 30 40 102 M8 M10 1/4&quot;</td>
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APPLICATION
• Generally used in filling systems.
• With ball valves
• With butterfly valves
Atex Certificated Pneumatic Actuator

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

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

RX... DA Double Acting Atex Certificated Pneumatic Actuators

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<th>RX 32 DA</th>
<th>RX 40 DA</th>
<th>RX 60 DA</th>
<th>RX 80 DA</th>
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<th>RX 143 DA</th>
<th>RX 160 DA</th>
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RX... SR Single Acting Atex Certificated Pneumatic Actuators

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<th>RX 350 SR</th>
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Arctic Pneumatic Actuators

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

- 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 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 -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.
- Producing of all types of TORK rotary standard actuators for arctic condition (-50°C) is possible.

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<tbody>
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<td>Sealing Materials</td>
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</table>
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 ±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

<table>
<thead>
<tr>
<th>MODEL NO</th>
<th>RAH 320DA/5R</th>
<th>RAH 400DA/5R</th>
<th>RAH 600DA/5R</th>
<th>RAH 800DA/5R</th>
<th>RAH 1000DA/5R</th>
<th>RAH 1200DA/5R</th>
<th>RAH 1430DA/5R</th>
<th>RAH 1600DA/5R</th>
<th>RAH 2000DA/5R</th>
<th>RAH 2700DA/5R</th>
<th>RAH 3500DA/5R</th>
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<tr>
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<td>Moment</td>
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<td>Actuator Body</td>
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</table>
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 ± 5°
- 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 (Scotchyoke 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 ± 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, DIN3337 standard
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**

<table>
<thead>
<tr>
<th>PART NO</th>
<th>UNIT QUANTITY</th>
<th>PART DESCRIPTION</th>
<th>STANDARD MATERIAL</th>
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<tbody>
<tr>
<td>1</td>
<td>8</td>
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<td>AISI 304</td>
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<td>CAP LEFT TORK-RA 100 BOYANMİŞ (BLUE RAL: 5017)</td>
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<td>DEL38PISHAL100</td>
<td>POM-C</td>
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<td>9</td>
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<td>10</td>
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<td>SEGMAN 6799/5 AY HRA</td>
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<td>11</td>
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<td>PUL T-RSY 100 RAW MATERIAL (SCOTCH YOKE)</td>
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<td>STOPPER TORK-RSY 100</td>
<td>STEEL</td>
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<td>POM-C</td>
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<tr>
<td>14</td>
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<td>DELRIN STOPPER BOTTOM T-RSY 100</td>
<td>POM-C</td>
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<tr>
<td>15</td>
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<td>O-RING 19X3 MIL UPPER TORK-RA 100</td>
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<td>16</td>
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<tr>
<td>17</td>
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<td>MIL TORK-RSY 100 22 LIK (SCOTCH YORK) İŞLENMİŞ</td>
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<td>19</td>
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<td>NBR</td>
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<tr>
<td>20</td>
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<td>BODY TORK-RA 100 COATED</td>
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<td>21</td>
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<td>O-RING 9X3 CAP TORK-RA 100</td>
<td>NBR</td>
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<td>22</td>
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<td>PUL M10 INOX CAP TORK-RA 100</td>
<td>AISI 304</td>
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<td>23</td>
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<td>SOMUN M10 INOX CAP TORK-RA 100</td>
<td>AISI 304</td>
</tr>
<tr>
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<td>AISI 304</td>
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<td>DELRIN MIL SEGMAN TORK-RA 100</td>
<td>POM-C</td>
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<td>26</td>
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<td>SEGMAN 47/25 MIL TORK-RA 100</td>
<td>B.B</td>
</tr>
<tr>
<td>27</td>
<td>1</td>
<td>ACTUATOR POSITION INDICATOR BODY</td>
<td>ABS</td>
</tr>
<tr>
<td>28</td>
<td>2</td>
<td>CAP RIGHT TORK-RA 100 (BLUE RAL: 5017)</td>
<td>ETIAL 160</td>
</tr>
</tbody>
</table>

**Stroke Adjustment Connection**

Double Acting (DA) | Single Acting (SA)

**Actuator valve connection is applicable for ISO 5211 and DIN 3347; mounted easily to valve.**

**Actuator front side valve connection is suitable for 3845 Namur Standard. Direction solenoid valve can be mounted.**

**Limit Switch Box and positioner connection standard: VDI/VDE 3845 Namur Standard.**
Scotch Yoke Pneumatic Actuator / Operating Principle

Scotch Yoke Actuator

Single Acting Actuator

Double Acting Actuator

Scotch Yoke Actuator (Single Acting)

Scotch Yoke Actuator (Double Acting)
Scotch Yoke Pneumatic Actuator / Torque Values

Double Acting Actuators Torque Values (According to Compressed Air)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AçI</th>
<th>4 bar</th>
<th>5 bar</th>
<th>6 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSY 32 DA</td>
<td>0°C</td>
<td>5</td>
<td>7</td>
<td>9</td>
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<tr>
<td></td>
<td>45°C</td>
<td>2.5</td>
<td>3.5</td>
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</tr>
<tr>
<td></td>
<td>90°C</td>
<td>5</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>RSY 40 DA</td>
<td>0°C</td>
<td>21</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>21</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>RSY 60 DA</td>
<td>0°C</td>
<td>25</td>
<td>93</td>
<td>101</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>21</td>
<td>63</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>25</td>
<td>93</td>
<td>101</td>
</tr>
<tr>
<td>RSY 80 DA</td>
<td>0°C</td>
<td>137</td>
<td>171</td>
<td>210</td>
</tr>
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<td></td>
<td>45°C</td>
<td>92</td>
<td>121</td>
<td>144</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>137</td>
<td>171</td>
<td>210</td>
</tr>
<tr>
<td>RSY 100 DA</td>
<td>0°C</td>
<td>240</td>
<td>290</td>
<td>365</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>165</td>
<td>190</td>
<td>250</td>
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Single Acting Scotch Yoke Actuator Torque Values (Nm)

<table>
<thead>
<tr>
<th>MODEL</th>
<th>AçI</th>
<th>4 bar</th>
<th>5 bar</th>
<th>6 bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSY 120 DA</td>
<td>0°C</td>
<td>491</td>
<td>613</td>
<td>762</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>360</td>
<td>440</td>
<td>531</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>491</td>
<td>613</td>
<td>762</td>
</tr>
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<table>
<thead>
<tr>
<th>MODEL</th>
<th>ANGLE</th>
<th>SPRING TO</th>
<th>AIR TO 5 bar</th>
<th>SPRING TO</th>
<th>AIR TO 6 bar</th>
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</thead>
<tbody>
<tr>
<td>RSY 40 SR</td>
<td>0°C</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>RSY 60 SR</td>
<td>0°C</td>
<td>35</td>
<td>54</td>
<td>48</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>23</td>
<td>28</td>
<td>37</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>54</td>
<td>35</td>
<td>70</td>
<td>48</td>
</tr>
<tr>
<td>RSY 80 SR</td>
<td>0°C</td>
<td>60</td>
<td>100</td>
<td>80</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>50</td>
<td>50</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>100</td>
<td>60</td>
<td>130</td>
<td>80</td>
</tr>
<tr>
<td>RSY 100 SR</td>
<td>0°C</td>
<td>100</td>
<td>190</td>
<td>130</td>
<td>240</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>80</td>
<td>80</td>
<td>110</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>90°C</td>
<td>190</td>
<td>100</td>
<td>240</td>
<td>130</td>
</tr>
<tr>
<td>RSY 120 SR</td>
<td>0°C</td>
<td>230</td>
<td>380</td>
<td>300</td>
<td>510</td>
</tr>
<tr>
<td></td>
<td>45°C</td>
<td>190</td>
<td>190</td>
<td>260</td>
<td>260</td>
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<tr>
<td></td>
<td>90°C</td>
<td>380</td>
<td>230</td>
<td>510</td>
<td>300</td>
</tr>
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</table>
Scotch Yoke Pneumatic Actuators/ Sizes

Double Acting Actuators Sizes

Actuator Upper (Switch box, positioner) connection VDI/VDE 3845 Standard

Manual Stroke Adjustment

Namur Solenoid Valve Connection According to VDI/VDE 3845 Namur Standard

Actuator Bottom Connection (Ball, Butterfly, Plug Valve) According to ISO/DIN 3337 Standard

Single Acting Actuators Sizes

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>O</th>
<th>P</th>
<th>ISO</th>
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<td>45</td>
<td>45</td>
<td>-</td>
<td>30</td>
<td>30</td>
<td>36</td>
<td>-</td>
<td>MS</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>F03</td>
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<td>70</td>
<td>52</td>
<td>70.6</td>
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<td>36</td>
<td>50</td>
<td>M5</td>
<td>M6</td>
<td>1/8&quot;</td>
<td>45</td>
<td>39.7</td>
<td>F03/ F05</td>
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<tr>
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<td>52</td>
<td>70.6</td>
<td>80</td>
<td>30</td>
<td>36</td>
<td>50</td>
<td>M5</td>
<td>M6</td>
<td>1/8&quot;</td>
<td>45</td>
<td>39.7</td>
<td>F03/ F05</td>
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<tr>
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<td>85</td>
<td>62</td>
<td>82.7</td>
<td>80</td>
<td>30</td>
<td>50</td>
<td>70</td>
<td>M6</td>
<td>M8</td>
<td>1/8&quot;</td>
<td>47</td>
<td>47</td>
<td>F03/ F05</td>
</tr>
<tr>
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<td>62</td>
<td>82.7</td>
<td>80</td>
<td>30</td>
<td>50</td>
<td>70</td>
<td>M6</td>
<td>M8</td>
<td>1/8&quot;</td>
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<td>47</td>
<td>F03/ F05</td>
<td></td>
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<td>RSY80DA</td>
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<td>117</td>
<td>92</td>
<td>109.2</td>
<td>80</td>
<td>30</td>
<td>70</td>
<td>-</td>
<td>M8</td>
<td>-</td>
<td>1/8&quot;</td>
<td>54.8</td>
<td>58.3</td>
<td>F07</td>
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<tr>
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<td>117</td>
<td>92</td>
<td>109.2</td>
<td>80</td>
<td>30</td>
<td>70</td>
<td>-</td>
<td>M8</td>
<td>-</td>
<td>1/8&quot;</td>
<td>54.8</td>
<td>58.3</td>
<td>F07</td>
<td></td>
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<td>RSY100DA</td>
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<td>130</td>
<td>95</td>
<td>121</td>
<td>80</td>
<td>30</td>
<td>70</td>
<td>102</td>
<td>M8</td>
<td>M10</td>
<td>1/4&quot;</td>
<td>61</td>
<td>65</td>
<td>F07/ F10</td>
</tr>
<tr>
<td>RSY100SR</td>
<td>130</td>
<td>95</td>
<td>121</td>
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<td>30</td>
<td>70</td>
<td>102</td>
<td>M8</td>
<td>M10</td>
<td>1/4&quot;</td>
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<td>65</td>
<td>F07/ F10</td>
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<td>RSY120DA</td>
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<td>160</td>
<td>116</td>
<td>150</td>
<td>80</td>
<td>30</td>
<td>70</td>
<td>102</td>
<td>M8</td>
<td>M10</td>
<td>1/4&quot;</td>
<td>82</td>
<td>87.2</td>
<td>F07/ F10</td>
</tr>
<tr>
<td>RSY120SR</td>
<td>160</td>
<td>116</td>
<td>150</td>
<td>80</td>
<td>30</td>
<td>70</td>
<td>102</td>
<td>M8</td>
<td>M10</td>
<td>1/4&quot;</td>
<td>82</td>
<td>87.2</td>
<td>F07/ F10</td>
<td></td>
</tr>
</tbody>
</table>
• 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) : 4 ...8
- 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 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 types: 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**

<table>
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<tr>
<th>Feature</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Max. Air Pressure</td>
<td>7 Bar</td>
</tr>
<tr>
<td>Min. Air Pressure</td>
<td>4 Bar</td>
</tr>
<tr>
<td>Temperature</td>
<td>-20°C ... 80°C On request</td>
</tr>
<tr>
<td>Opening Time</td>
<td>1.3 Sec</td>
</tr>
<tr>
<td>Closing Time</td>
<td>1.3 Sec</td>
</tr>
<tr>
<td>Air Connection</td>
<td>1/4&quot; BSP</td>
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<tr>
<td>Weight</td>
<td>2.8 kg</td>
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</tbody>
</table>

**Application**

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

**Sizes**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>∆C (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK - 85 DA / SR</td>
<td>183</td>
<td>89</td>
<td>8 / 10 / 12</td>
</tr>
</tbody>
</table>

**Malzeme ler**

1. Cover Bottom (AISI 316 L Stainless Steel)
2. Shaft (for Piston) (AISI 316 L Stainless Steel)
3. O-ring (NBR)
4. Segman (8.8)
5. Rulman (Bronze)
6. Shaft Rulman (AISI 316 L Stainless Steel)
7. Piston (Kestamid)
8. Shaft (AISI 316 L Stainless Steel)
9. Body (ISI 316 L Stainless Steel)
10. Delrin Shaft (POM-C)
11. O-ring (NBR)
12. Cover Up (AISI 316 L Stainless Steel)
13. Stamp (Bronze)
14. Segman (8.8)
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.

Hydraulic Actuator Selection

<table>
<thead>
<tr>
<th>Actuator Type</th>
<th>100 bar control pressure output torque value (Nm)</th>
<th>210 bar control pressure output torque value (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA-H 30</td>
<td>30 Nm</td>
<td>63 Nm</td>
</tr>
<tr>
<td>SA-H 42</td>
<td>90 Nm</td>
<td>200 Nm</td>
</tr>
<tr>
<td>SA-H 55</td>
<td>210 Nm</td>
<td>441 Nm</td>
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<td>SA-H 63</td>
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<td>630 Nm</td>
</tr>
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<td>SA-HBO</td>
<td>700 Nm</td>
<td>1512 Nm</td>
</tr>
<tr>
<td>SA-H 100</td>
<td>1450 Nm</td>
<td>3087 Nm</td>
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<td>SA-H 125</td>
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<td>4620 Nm</td>
</tr>
<tr>
<td>SA-H 140</td>
<td>3000 Nm</td>
<td>6300 Nm</td>
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Butterfly Valve Sizes for Hydraulic Actuators

at 100 bar hydraulic pressure

<table>
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<tr>
<th>Valve Size NW</th>
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<th>40</th>
<th>50</th>
<th>65</th>
<th>100</th>
<th>125</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>500</th>
<th>600</th>
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</thead>
<tbody>
<tr>
<td>Actuator Type</td>
<td>SA-H 30</td>
<td>SA-H 42</td>
<td>SA-H 55</td>
<td>SA-H 63</td>
<td>SA-H 80</td>
<td>SA-H 100</td>
<td>SA-H 125</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

at 220 bar hydraulic pressure

<table>
<thead>
<tr>
<th>Valve Size NW</th>
<th>25</th>
<th>32</th>
<th>40</th>
<th>50</th>
<th>65</th>
<th>80</th>
<th>100</th>
<th>125</th>
<th>150</th>
<th>200</th>
<th>250</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>500</th>
<th>600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuator Type</td>
<td>SA-H 30</td>
<td>SA-H 42</td>
<td>SA-H 55</td>
<td>SA-H 63</td>
<td>SA-H 80</td>
<td>SA-H 100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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° ± 31°

Optional:
- Mechanic limit switch
- Proximity limit switch
- Spring return pneumatic actuator
<table>
<thead>
<tr>
<th>TYPE</th>
<th>ORDER NUMBER</th>
<th>FEATURE SIZE</th>
<th>ORDER TYPE</th>
<th>CONNECTION SIZE</th>
<th>VOLTAGE</th>
<th>COIL VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automatic Drain</td>
<td></td>
<td>1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1/2&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini Regulator</td>
<td>MRR1812R</td>
<td>1/8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MRR1412R</td>
<td>1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Accuracy Regulator</td>
<td>GR93</td>
<td>1/4&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - NM52.W1S</td>
<td>TORK - NM52.W2S</td>
<td>1/4&quot; - 5/2 Single Coi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - NM32.W1S</td>
<td>TORK - ExNM52.W1S</td>
<td>1/4&quot; - 3/2 Single Coi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - ExNM52.W2S</td>
<td>TORK - ExNM32.W1S</td>
<td>1/4&quot; - 5/2 Single Coi</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STANDARD</td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>MANUAL</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>CONTROL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WEIGHT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE</th>
<th>ORDER NUMBER</th>
<th>FEATURE SIZE</th>
<th>ORDER TYPE</th>
<th>CONNECTION SIZE</th>
<th>VOLTAGE</th>
<th>COIL VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>STANDARD</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>MANUAL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CONTROL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>WEIGHT</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories

---

[Image of various 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

<table>
<thead>
<tr>
<th>TYPE ORDER NUMBER</th>
<th>VALVE POSITION WAY, CONNECTION SIZE</th>
<th>STANDARD COIL (IP 65)</th>
<th>ON REQUEST EX-PROOF COIL (ExEExmdIIT4)</th>
<th>COIL VOLTAGE</th>
<th>MANUAL CONTROL</th>
<th>WEIGHT (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK - NM52.W1S</td>
<td>1/4&quot; - 5/2 Single Coil</td>
<td>C20</td>
<td></td>
<td>220 V AC</td>
<td>STANDARD</td>
<td>0.25</td>
</tr>
<tr>
<td>TORK - NM52.W2S</td>
<td>1/4&quot; - 5/2 Double Coil</td>
<td></td>
<td></td>
<td>110 V AC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - NM32.W1S</td>
<td>1/4&quot; - 3/2 Single Coil</td>
<td></td>
<td></td>
<td>24 V AC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - ExNM52.W1S</td>
<td>1/4&quot; - 5/2 Single Coil</td>
<td></td>
<td></td>
<td>12 V AC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - ExNM52.W2S</td>
<td>1/4&quot; - 5/2 Double Coil</td>
<td></td>
<td></td>
<td>24 V DC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TORK - ExNM32.W1S</td>
<td>1/4&quot; - 3/2 Single Coil</td>
<td></td>
<td></td>
<td>12 V DC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please, specify coil type and voltage with order. Protection class IP65 (Standard), ExEExmdIIT4 (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
# Limit Switch Box

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

## MECHANIC SWITCH

<table>
<thead>
<tr>
<th>Type</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS10.2M</td>
<td>2 piece mechanic limit switch 250 V AC/3A, IP 65</td>
</tr>
<tr>
<td>LS10.2P</td>
<td>2 piece proximity switch, 2 piece cable entries holes</td>
</tr>
<tr>
<td>LS10.3M</td>
<td>3 piece mechanic limit switch 250 VAC / 3A IP 65</td>
</tr>
<tr>
<td>LS10.3P</td>
<td>3 piece proximity switch 2 piece cable entries holes</td>
</tr>
<tr>
<td>LS10.4M</td>
<td>4 piece mechanic limit switch 250 VAC / 3A IP 65</td>
</tr>
<tr>
<td>LS10.4P</td>
<td>4 piece proximity switch, 2 piece cable entries holes</td>
</tr>
<tr>
<td>LS20.2M</td>
<td>2 piece SPDT mechanic switch, Protection Class: IP 67, Ex-proof, Ex d IIC T6</td>
</tr>
<tr>
<td>LS20.2P</td>
<td>2 piece SPDT mechanic switch, Protection Class: IP 67, Ex-proof, Ex d IIC T6</td>
</tr>
<tr>
<td>LS30.2M</td>
<td>2 piece mechanic limit switch 250VAC/3A, IP 67 E Exd II CT6, E Exia IICT6, IP67, IP68 (Optional)</td>
</tr>
<tr>
<td>LS30.2P</td>
<td>2 piece proximity switch 2 piece cable entries holes E Exd II CT6, E Exia IICT6, IP67, IP68 (Optional)</td>
</tr>
<tr>
<td>LS80.2P</td>
<td>Magnetic Switch box, 2 piece proximity switch, 1 piece cable entries holes</td>
</tr>
<tr>
<td>LS70.2M</td>
<td>Pneumatic Namur Valve Switch box, 2 piece mechanicswitch, IP 67 E Exd IIBT6</td>
</tr>
</tbody>
</table>

## LIMIT SWITCH BOX TYPES

<table>
<thead>
<tr>
<th>Type</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS 10</td>
<td>On-off valve position indicator, compact small body</td>
</tr>
<tr>
<td>LS 20</td>
<td>Protection class: IP67</td>
</tr>
<tr>
<td>LSV 70</td>
<td>Body is aluminium injection, electrostatic painted</td>
</tr>
<tr>
<td>LS 30</td>
<td>Dual cable entries, NPT</td>
</tr>
<tr>
<td>LS 80</td>
<td>Connection applicable to namur standard, easy mounting</td>
</tr>
</tbody>
</table>

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

## LS 10

- 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

- Mechanic Switch
- LS 10
- LS 20
- LSV 70
- LS 30
- LS 80

## LS 30

- LS 10
- LS 20
- LSV 70
- LS 30
- LS 80
Electro - Pneumatic and Pneumatic - Pneumatic Positioner

- 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

Electro - Pneumatic Positioner

<table>
<thead>
<tr>
<th>TYPE</th>
<th>INPUT SIGNAL and AIR SUPPLY PRESSURE</th>
<th>PROTECTION CLASS</th>
<th>BRACKET</th>
<th>BODY</th>
<th>AIR CONSUMPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK-EPR</td>
<td>mA/bar</td>
<td>I/P66 Namur</td>
<td></td>
<td>Aluminium Die Cast</td>
<td>5 LPM (1.4 Kgf/cm²)</td>
<td>2.9</td>
</tr>
<tr>
<td>TDRK-PP.R</td>
<td>4-20 mA / max. 7 bar</td>
<td>I/P 66</td>
<td>80x30</td>
<td>Aluminium Die Cast</td>
<td>5 LPM (1.4 Kgf/cm²)</td>
<td>2.9</td>
</tr>
<tr>
<td>TDRK-EP.R</td>
<td>3-15 psi / max. 7 bar</td>
<td>I/P 66</td>
<td>80x30</td>
<td>Aluminium Die Cast</td>
<td>5 LPM (1.4 Kgf/cm²)</td>
<td>2.9</td>
</tr>
<tr>
<td>TDRK-SS.2R</td>
<td>4-20 mA / max. 7 bar</td>
<td>I/P 66</td>
<td>80x30</td>
<td>Aluminium Die Cast</td>
<td>2 LPM (1.4 Kgf/cm²)</td>
<td>2.5</td>
</tr>
<tr>
<td>TDRK-SS.2L</td>
<td>3-15 psi / max. 7 bar</td>
<td>I/P 66</td>
<td>80x30</td>
<td>Aluminium Die Cast</td>
<td>2 LPM (1.4 Kgf/cm²)</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Pneumatic- Pneumatic Positioner

<table>
<thead>
<tr>
<th>TYPE</th>
<th>INPUT SIGNAL and AIR SUPPLY PRESSURE</th>
<th>REPEATABILITY</th>
<th>BRACKET</th>
<th>BODY</th>
<th>AIR CONSUMPTION</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK-EPR</td>
<td>mA/bar</td>
<td>%F.S Namur</td>
<td></td>
<td>Aluminium Die Cast</td>
<td>5 LPM (1.4 Kgf/cm²)</td>
<td>2.1</td>
</tr>
<tr>
<td>TDRK-PP.R</td>
<td>3-15 psi / max. 7 bar</td>
<td>Within ± 05 % F.S</td>
<td>80x30</td>
<td>Aluminium Die Cast</td>
<td>5 LPM (1.4 Kgf/cm²)</td>
<td>2.1</td>
</tr>
<tr>
<td>TDRK-PP.L</td>
<td>3-15 psi / max. 7 bar</td>
<td>Within ± 05 % F.S</td>
<td>80x30</td>
<td>Aluminium Die Cast</td>
<td>5 LPM (1.4 Kgf/cm²)</td>
<td>2.1</td>
</tr>
</tbody>
</table>
**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
- **Contact**: epoksy coated eloksal aluminium body
- **Temperature Range**: -40 … +85 °C
- **Pneumatic Connection**: 1/4 NPT

**Seçenekler**

- Dâhili Konum vericisi
- Gösterge Bloğu

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30

SMS-TORK Endüstriyel Otomasyon Ürünleri San. Tic. Ltd. Şti.
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).

<table>
<thead>
<tr>
<th>TYPE</th>
<th>OUTPUT TORQUE VALUE</th>
<th>INPUT TORQUE VALUE</th>
<th>FACTOR: ± 10%</th>
<th>CLOSURE OF INNER WHEEL TOUR</th>
<th>ACTUATOR MOUNTING HOLE</th>
<th>ACTUATOR MOUNTING HOLE</th>
<th>ISO CONNECTION</th>
<th>HAND WHEEL</th>
<th>WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK-MOR 100</td>
<td>100</td>
<td>13</td>
<td>8</td>
<td>9</td>
<td>25</td>
<td>35</td>
<td>F05/F07</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>TORK-MOR 450</td>
<td>450</td>
<td>54</td>
<td>8.4</td>
<td>9.5</td>
<td>30</td>
<td>38</td>
<td>F07/F10</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>TORK-MOR 750</td>
<td>750</td>
<td>75</td>
<td>10</td>
<td>11.25</td>
<td>40</td>
<td>50</td>
<td>F10/F12</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>TORK-MOR 1500</td>
<td>1500</td>
<td>91</td>
<td>16.5</td>
<td>19</td>
<td>50</td>
<td>60</td>
<td>F12/F14</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>TORK-MOR 3500</td>
<td>3500</td>
<td>219</td>
<td>16</td>
<td>18</td>
<td>60</td>
<td>72</td>
<td>F14/F16</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>TORK-MOR 5000</td>
<td>5000</td>
<td>278</td>
<td>18</td>
<td>22</td>
<td>100</td>
<td>130</td>
<td>F16/F25</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>TORK-MOR 7500</td>
<td>7500</td>
<td>259</td>
<td>29</td>
<td>34.5</td>
<td>100</td>
<td>130</td>
<td>F16/F25</td>
<td>128</td>
<td>128</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>TYPE</th>
<th>INPUT SIGNAL</th>
<th>OUTPUT SIGNAL</th>
<th>AIR SUPPLY</th>
<th>LINEARITY</th>
<th>AIR SUPPLY</th>
<th>HYSTERESIS</th>
<th>AIR CONSUMPTION</th>
<th>WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK - 1000</td>
<td>mA V</td>
<td>psi bar</td>
<td></td>
<td>&lt; 10 %</td>
<td>± 0.15% of</td>
<td>&lt; 1 % of span</td>
<td>&lt; 1 % of span</td>
<td>0.75</td>
</tr>
<tr>
<td>TDKR - 1000</td>
<td>4 - 20 Ma</td>
<td>3 - 15 psi</td>
<td>7</td>
<td>&lt; 10 %</td>
<td>± 0.15% of</td>
<td>&lt; 1 % of span</td>
<td>&lt; 1 % of span</td>
<td>0.75</td>
</tr>
<tr>
<td>TDKR - 1000 E/P</td>
<td>0 - 5 V</td>
<td>7</td>
<td>&lt; 10 %</td>
<td>± 0.15% of</td>
<td>&lt; 1 % of span</td>
<td>&lt; 1 % of span</td>
<td>&lt; 1 % of span</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Position Trasmitter TORK-PT.R

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

<table>
<thead>
<tr>
<th>TYPE</th>
<th>OUTPUT SIGNAL</th>
<th>POWER SUPPLY</th>
<th>REPEATABILITY</th>
<th>BODY</th>
<th>PROTECTION CLASS</th>
<th>WEIGHT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TORK - 1000</td>
<td>mA F.S.</td>
<td>F.S.</td>
<td></td>
<td>Aluminium die cast</td>
<td>IP 66</td>
<td>2.3</td>
</tr>
<tr>
<td>TDKR - 10001/P</td>
<td>4 - 20 Ma</td>
<td>12 .. 30VDC</td>
<td>0.25 % F.S.</td>
<td>Aluminium die cast</td>
<td>IP 66</td>
<td>2.3</td>
</tr>
</tbody>
</table>

4-20mA/3-15 psi
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

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

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.
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 barada)
Body : Extruded aluminium anodized (RA, RX), hard anodized (RSY)
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 (±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 anodized
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 anodized
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 (180°), RA 40 2D ... RA 120 2D, RAM 40 2D ... RAM 120 2D (120°)
Supply Pressure : 4 - 8 bar
Output Torque Value : 18 Nm ... 330 Nm
Body : Extruded aluminium anodized
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

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

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

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
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)

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

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

Pnömatik Aktüatörlü 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
## Pneumatic Actuated Valves

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Used to control liquid fluid, natural gas, LPG and other gases. Consist of pneumatic actuator and ball valve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On request</td>
<td>Limit switch box, positioner, namur solenoid valve, manual override</td>
</tr>
<tr>
<td>Type No</td>
<td>PAV 910 DA, PAV 910 SR</td>
</tr>
<tr>
<td>Actuator</td>
<td>RA...DA/SR rotary pneumatic actuator double acting / single acting</td>
</tr>
<tr>
<td></td>
<td>(On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)</td>
</tr>
<tr>
<td>Supply Air Pressure</td>
<td>4-6 bar. Stroke adjustment</td>
</tr>
<tr>
<td>Ball Valve</td>
<td>Body: Carbon steel, 2/2 or 3/2 way, wafer type and ISO5211 standard actuator connection flanged or bracket</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>PN40, PN16</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-30°C ... 180°C</td>
</tr>
<tr>
<td>Size</td>
<td>NW15 ... NW100</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Used to control liquid fluid, water, acid etc. Consist of pneumatic actuator and ball valve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On request</td>
<td>Limit switch box, positioner, namur solenoid valve, manual override</td>
</tr>
<tr>
<td>Type No</td>
<td>PAV 913 DA, PAV 913 SR</td>
</tr>
<tr>
<td>Actuator</td>
<td>RA...DA/SR rotary pneumatic actuator double acting / single acting</td>
</tr>
<tr>
<td></td>
<td>(On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)</td>
</tr>
<tr>
<td>Supply Air Pressure</td>
<td>4-6 bar. Stroke adjustment</td>
</tr>
<tr>
<td>Ball Valve</td>
<td>Body: PP, 2/2 or 3/2 way, threaded, welding connection and ISO5211 standard actuator connection flanged or bracket</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>PN6, PN13</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-10°C ... 80°C</td>
</tr>
<tr>
<td>Size</td>
<td>NW15 ...NW100</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Application</th>
<th>Used to control liquid fluid, water, acid etc. Consist of pneumatic actuator and ball valve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>On request</td>
<td>Limit switch box, positioner, namur solenoid valve, manual override</td>
</tr>
<tr>
<td>Type No</td>
<td>Flanged Connection: RAV 907 FDA, RAV 907 FSR, Threaded Connection: RAV 907SDA, RAV 907 SSR,</td>
</tr>
<tr>
<td>Actuator</td>
<td>RA...DA/SR rotary pneumatic actuator double acting / single acting</td>
</tr>
<tr>
<td></td>
<td>(On request; RSY ... DA / SR, RAM ... DA / SR, RX ... DA / SR)</td>
</tr>
<tr>
<td>Supply Air Pressure</td>
<td>4-6 bar. Stroke adjustment</td>
</tr>
<tr>
<td>Ball Valve</td>
<td>Body: Carbon Steel, 2/2 or 3/2 way, flanged or threaded connection and ISO5211 standard actuator connection flanged or bracket</td>
</tr>
<tr>
<td>Working Pressure</td>
<td>PN40, PN16</td>
</tr>
<tr>
<td>Working Temperature</td>
<td>-30°C ... 180°C</td>
</tr>
<tr>
<td>Size</td>
<td>NW15 ... NW200 Flanged</td>
</tr>
<tr>
<td>On request</td>
<td>Steam jacketed ball valve</td>
</tr>
</tbody>
</table>

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

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

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PAV 910 DA (Double Acting)  
PAV 910 SR (Single Acting)  
PAV 907F 15DA  
PAV 907F 15SR  
PAV 908F 15 DA  
PAV 908F 15 SR  
PAV 907 F SDA  
PAV 907 F SSR  
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

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

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 coated

Rubber Diaphragm: EPDM (-30 ... 130°C)

Working Pressure: PN6, Optional: PN10, PN16

Working Temperature: -30°C ... 10°C

Size: NW25 ... NW600

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. W120 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
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 coatedı 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

---

Pneumatic Actuated PAV 800 WAFFER 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 coatedı KV. WI21 wafer type and ISO5211 standard actuator connection flanged or bracket

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

---

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 coatedı KV. L141LUG type and ISO5211 standard actuator connection flanged or bracket

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 ... 10°C

Size: NW25 ... NW600

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Pneumatic Actuated PAV 802 WAFFER 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 coatedı KV. WI120 wafer type standard actuator connection flanged or bracket

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 ... 10°C

Size: NW25 ... NW600
**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

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**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

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**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

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**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-KV901K, 2/2 way threaded connection, Manual
TORK-KV902, 3/2 way threaded connection ISO5211 Flanged
TORK-KV902K, 3/2 way threaded connection, Manual
Butterfly Valve Wafer Type

- **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

Butterfly Valve Lug Type

- **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

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

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
100% GLOBALIZED WITH DOMESTIC PRODUCTION

Offering solutions in 87 countries with its 100% domestic production of industrial control valve equipment.