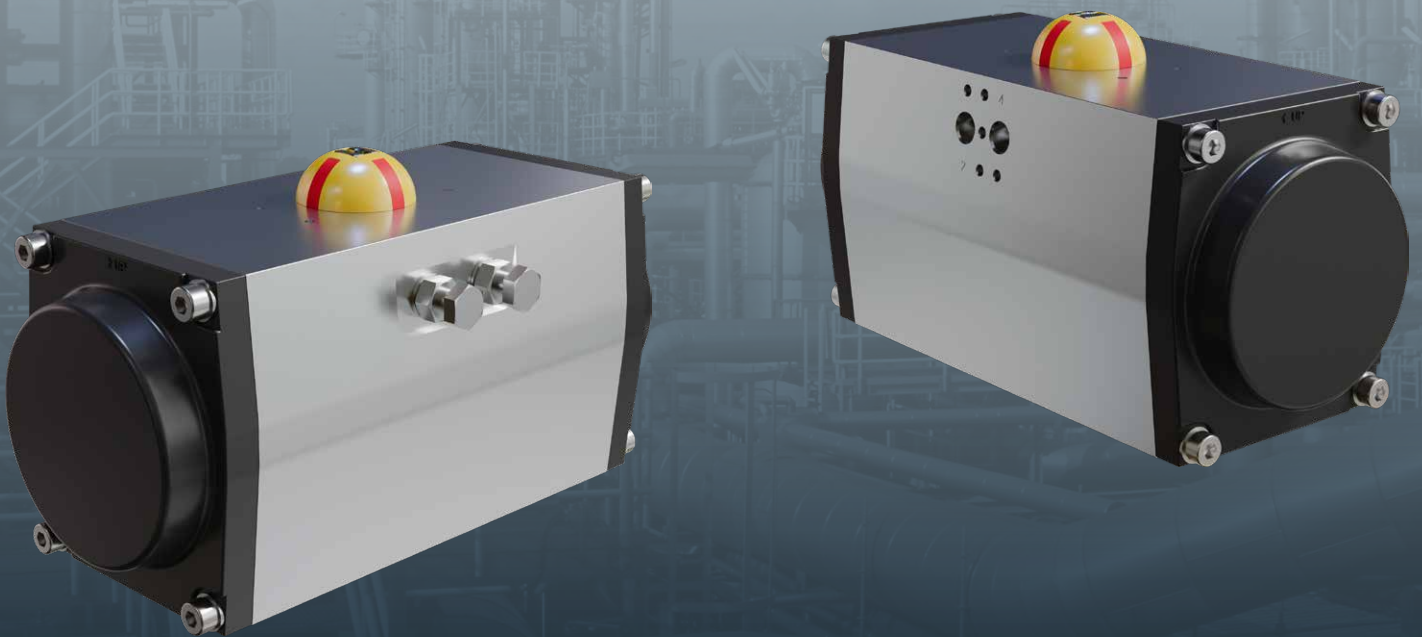


rotork®

Keeping the World Flowing
for Future Generations

GTE Range



Rack and pinion actuators for part-turn valve control

GTE Range Rack & Pinion Actuators

The GTE range pneumatic rack and pinion actuators provide an optimised, cost-efficient solution for a wide range of applications.

There are a wide range of body sizes available in both double-acting and spring-return configurations. Units can be easily changed from one to the other – even in the field.

The GTE range is optimised for applications requiring 90 degree drive rotation. Optional valve mounting kits and de-clutchable manual gear overrides are also available, all designed to suit the GTE.

In addition to stand-alone actuators, Rotork can supply optimised valve automation packages based on customer requirements. For example, the GTE actuators can be equipped with NAMUR solenoid valves, limit switches and applicable precision instrumentation components. Accessory mounting conforms to NAMUR specifications and valve mounting dimensions are per ISO 5211 standards.

Rotork can provide a variety of additional services including application engineering, installation and retrofit, as well as maintenance and repair by factory-trained service personnel.

The compact design and wide selection of available options makes GTE a perfect choice for many applications requiring rack and pinion type valve actuation.

Every Rotork product is built to provide long and efficient service with a minimum of maintenance. The design, engineering and materials used in the construction ensure optimum performance even in the harshest of environments.

As a global leader in valve actuation technology, we provide a comprehensive range of valve actuators, controls and associated equipment. We also supply a variety of valve actuator services including commissioning, preventive maintenance and retrofit solutions.

Rotork specialises in the production and support of fluid power actuators and control systems. We are dedicated to providing the marketplace with the latest technology, consistently high quality, innovative design, excellent reliability and superior performance.

We maintain dedicated engineering groups for Applications, Product Improvement and New Product Development so that our customers can gain all the benefits that ever-advancing technologies have to offer and to ensure our efforts are in step with the continually evolving needs of our customers.

Most importantly, we have a long-standing commitment to meeting the special needs of a wide range of applications including: oil and gas exploration and transportation; municipal water and wastewater treatment; power generation; and the chemical and process industries.

With over 60 years of engineering and manufacturing expertise, we have hundreds of thousands of successful valve actuator installations throughout the world.



Fitting Accessories

The Right Accessory Solutions

Valves and actuators only perform as well as the solution is engineered. With decades of experience engineering fluid power valve automation for a multitude of applications and markets, you can depend on Rotork to provide a reliable and safe automation solution to meet your requirements.

In addition to the valve actuator itself, Rotork manufactures a wide range of precision flow control and accessory products as well as a variety of gearboxes and override options. We have designs to withstand the challenges of any valve operating environment.



Inside The GTE Actuator

Every Rotork actuator is built to provide long and efficient service with minimum maintenance. The design, engineering and materials used in their construction ensure optimum performance, even in the harshest of environments.

Supply Filtered air ISO 8573-1:2010
 Optional: Others on request

Operating Pressure 2.5 to 8 bar (36 to 116 psi)

Torque Output 5 to 2,100 Nm (44 to 18,587 lbf.in)

Temperature Ranges
 Standard: -40 to +80 °C (-40 to +176 °F)
 Silicone O-ring, Nylon 66 guide

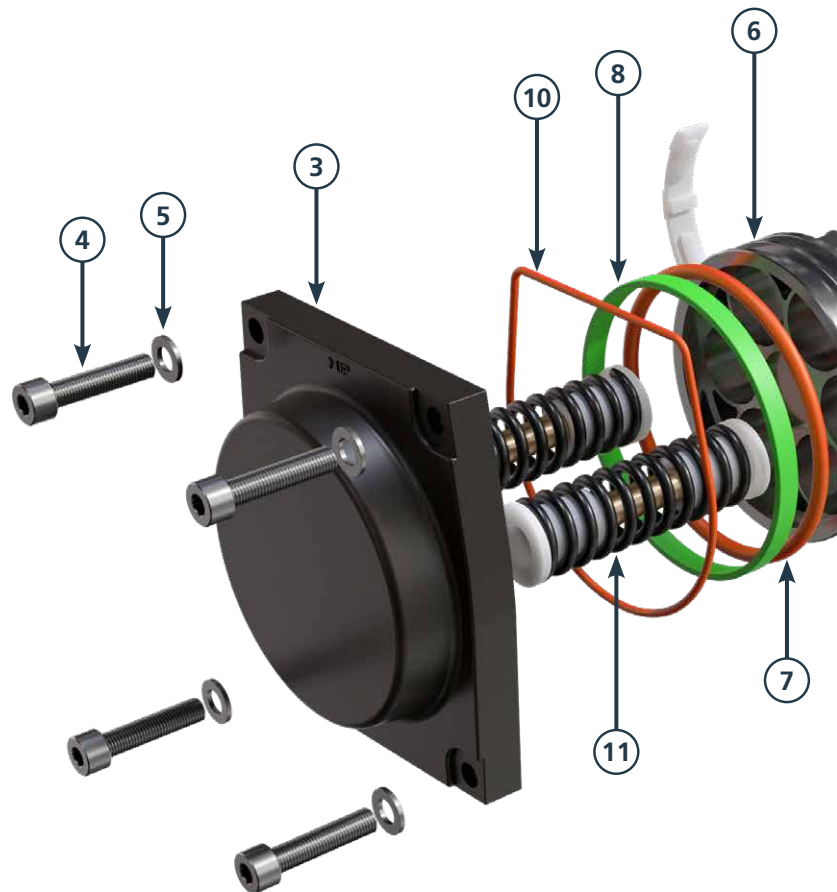
Mounting Standards
 Air supply: VDI/VDE 3845, NAMUR
 EN ISO 228 G 1/8"
 (sizes from 50 to 75)
 EN ISO 228 G 1/4"
 (sizes from 85 to 210)

Accessories: VDI/VDE 3845, NAMUR
 Valve interface: ISO 5211
 Valve shaft interface: ISO 5211 double square
Other interface options available, see Page 6.

Rotation 90°

Stroke Adjustment -5° to +5° from 0° and 90° position.
 Dual-direction travel stops acting upon the piston(s)¹

Materials
 Body: Anodised aluminium ASTM 6063
 Pinion: Carbon steel GB/T 699 #20 electroless nickel plated
 Pistons: Die-cast aluminium ADC12
 End caps: Die-cast aluminium ADC12, epoxy paint (black RAL 9005)
 Spring cartridge: Carbon steel, epoxy paint

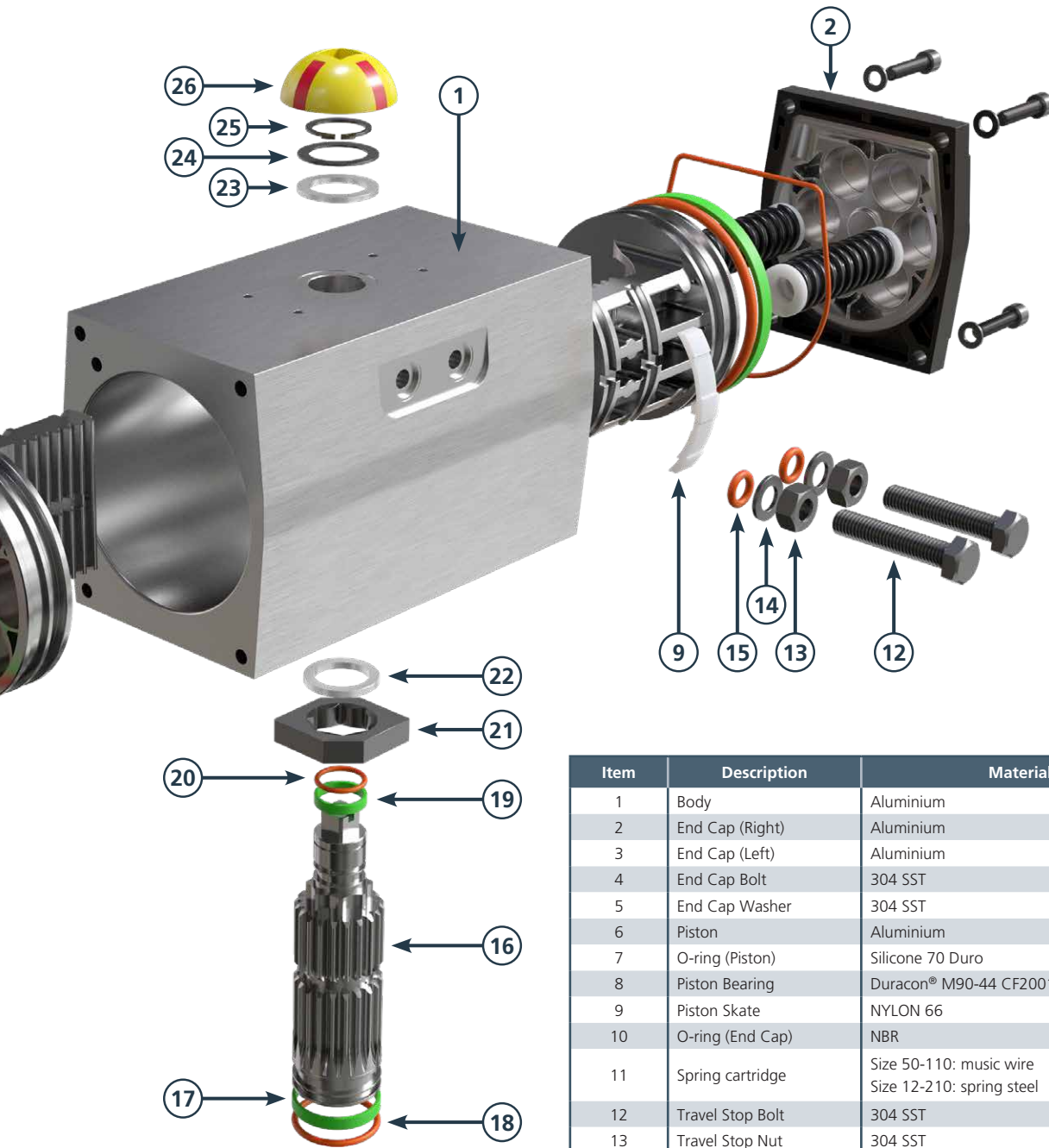


Approvals and Industry Standards

- Complies with IEC 60529-1989+A1-1999+A2-2013 for IP66M/67M
- Engineered to ISO 9001:2015 requirements

1. GTE range actuators are available with dual-direction of travel stop adjustment. Both inboard and outboard stop adjustments are +/- 5° (e.g. -5° to +5°, 85° to 95°).

Inside The GTE Actuator



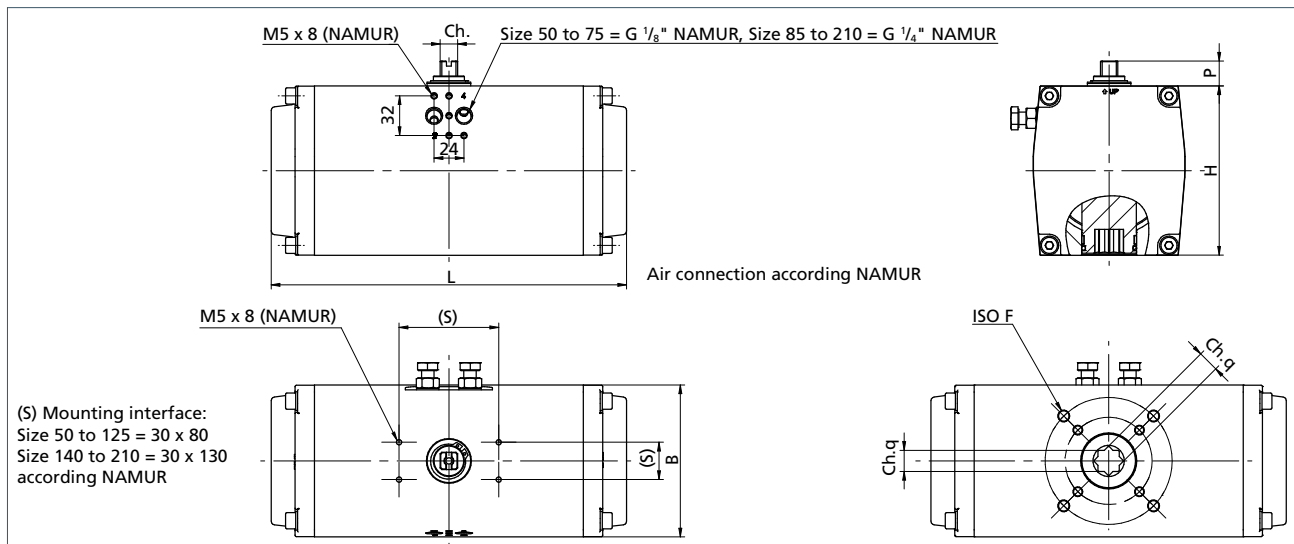
Item	Description	Material	Quantity
1	Body	Aluminium	1
2	End Cap (Right)	Aluminium	1
3	End Cap (Left)	Aluminium	1
4	End Cap Bolt	304 SST	8
5	End Cap Washer	304 SST	8
6	Piston	Aluminium	2
7	O-ring (Piston)	Silicone 70 Duro	2
8	Piston Bearing	Duracon® M90-44 CF2001	2
9	Piston Skate	NYLON 66	2
10	O-ring (End Cap)	NBR	2
11	Spring cartridge	Size 50-110: music wire Size 12-210: spring steel	5-12
12	Travel Stop Bolt	304 SST	2
13	Travel Stop Nut	304 SST	2
14	Travel Stop Washer	304 SST	2
15	O-ring (Travel Stop)	Silicone 70 Duro	2
16	Pinion	Carbon steel	1
17	Pinion Bearing (Lower)	Duracon® M90-44 CF2001	1
18	O-ring (Pinion Lower)	Silicone 70 Duro	1
19	Pinion Bearing (Upper)	Duracon® M90-44 CF2001	1
20	O-ring (Pinion Upper)	Silicone 70 Duro	1
21	Block	Carbon steel	1
22	Pinion Bearing (Block)	Duracon® M90-44 CF2001	1
23	Pinion Bearing	Duracon® M90-44 CF2001	1
24	Washer	304 SST	1
25	Seeger Ring	304 SST	1
26	Indicator	NYLON 6	1

Model Number Designation

Example Model Number **GTEA - 50 - FC - 04 - W0 - ST**

Range and Rotation	GTEA = 90° rotation
Body Size	50, 65, 75, 85, 95, 110, 125, 140, 160, 190, 210
Effect	DA = Double-acting FC = Spring-return, fail to close (clockwise) FO = Spring-return, fail to open (counter-clockwise)
Spring Set	05, 06, 07, 08, 09, 10, 11, 12 (not applicable for double-acting)
Travel Stop	W0 = Dual direction +/- 5 degrees
Temperature Range	ST = Standard -40 to +80 °C (-40 to +176 °F)

Dimension Data and Mounting Standards



Model	Dimensions (mm)							Displacement (dm ³)		Weight (kg)	
	L 90°	H	J	B	Ch	Ch.q	ISO	SR 90°	DA 90°	SR 90°	DA 90°
50	151	70	71	20	10	11	F03/F05	0.06	0.06	1.22	1.1
65	168	89	84.5	20	10	14	F05/F07	0.12	0.12	1.97	1.802
75	182.5	100	95	20	14	14	F05/F07	0.17	0.17	3.02	2.5
85	210	113	108.5	20	14	17	F05/F07	0.27	0.27	3.78	3.3
95	261.8	123	117.7	20	14	17	F05/F07	0.40	0.40	5.05	4.27
110	285.4	136	122	20	14	17	F07/F10	0.54	0.54	7.556	6.5
125	320	159	152	30	22	22	F07/F10	0.87	0.87	11.54	9.92
140	401	178	172	30	22	27	F10/F12	1.45	1.45	18.1	15.7
160	459	200	189	30	22	27	F10/F12	2.21	2.21	25.55	21.95
190	495	232	217	30	22	36	F10/F14	3.34	3.34	36.15	29.55
210	529	255	236	30	32.5	36	F14	4.35	4.35	47.75	38.75

Optional Body Air Connections:

UNI EN ISO 228 G 1/2" (sizes from 110 to 210)

Rotork provides customized shaft interface

Assembly Configurations

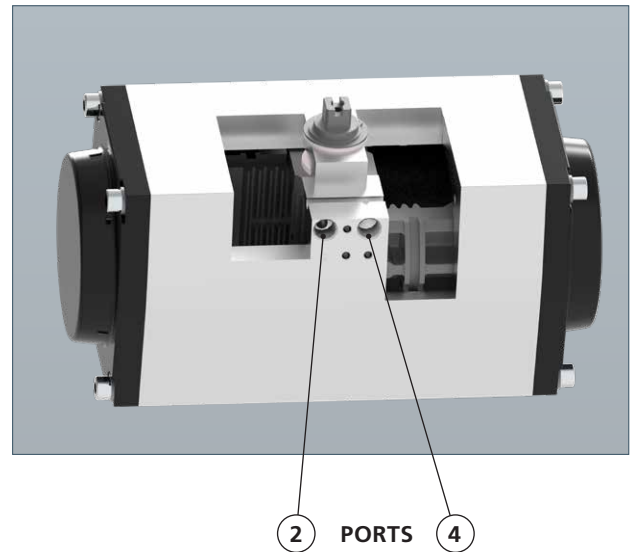
The graphics below show the relative orientation of the piston and pinion for each configuration, as viewed from the top side of the actuator. In the descriptions that follow, that perspective is assumed. Pinion rotation is indicated for each as CW (clockwise) or CCW (counter-clockwise).


Port 2 is connected to the inboard side of the pistons. Pressurising Port 2 will force the pistons out until they reach the travel stops. The direction of pinion rotation is determined by the assembly configuration. Venting is through Port 4.

Port 4 is connected to the outboard side of the pistons. Pressurising Port 4 will force the pistons in until they reach the travel stops (if the actuator is so equipped as they're optional). The direction of pinion rotation is determined by the assembly configuration. Venting is through Port 2.

Note that on spring-return actuators, as with double-acting actuators, pressurising Port 2 will move the pistons out. When Port 2 is depressurised, spring force will move the pistons in. Venting is through Port 4. Port 4 is not to be pressurised on spring-return actuators.

Consult the GTE range Installation and Commissioning Manual or Rotork for detailed connection and operation information.



STYLE	PORT 4 (OUTBOARD) PRESSURISED <i>Shown at end of stroke</i>	PORT 2 (INBOARD) PRESSURISED <i>Shown at end of stroke</i>
A STANDARD	 	 
B OPTIONAL	 	 
C OPTIONAL	 	 
D OPTIONAL	 	 

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A full listing of our worldwide sales and service network is available on our website.

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