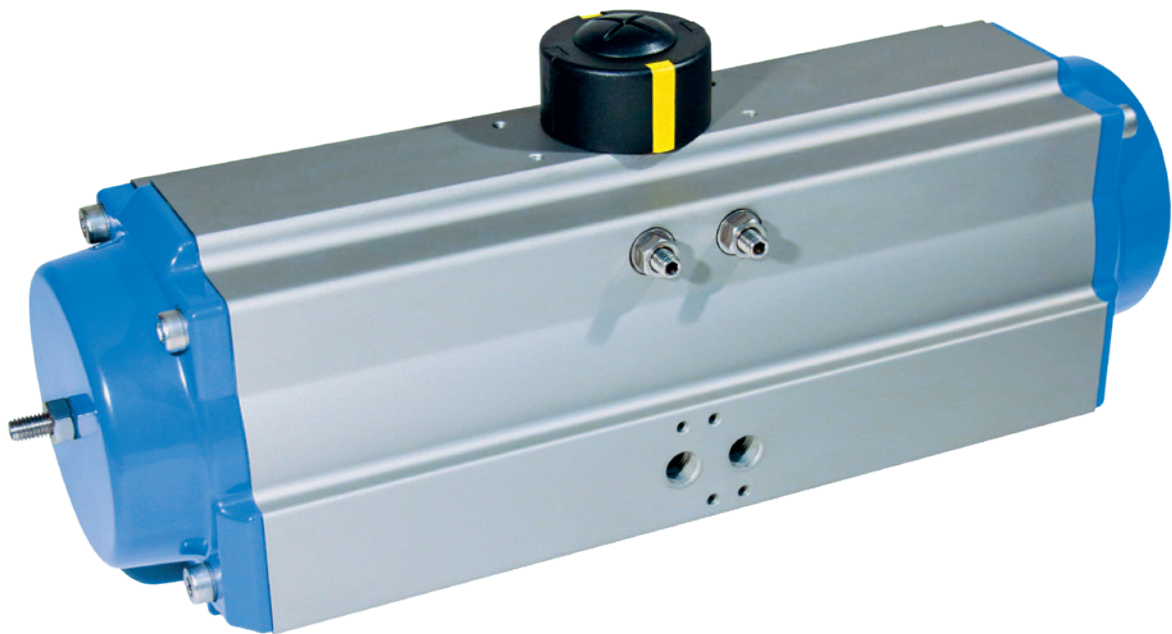


CR-TEC Engineering

A u t o m a t e d V a l v e S o l u t i o n s

GDA/GSR Pneumatic Actuators
Extended rotating angle up to 180°

Technical Data Sheet



Objective

The actuator series GDA with the extended rotating angles 120°/135°/180° can be used for valves which have a working range beyond the standard 90° opening angle, e.g. 3-way valves as well as pipe diverters and hinged boxes.

With our variable adjustment options, any desired rotating angle between 90° and 180° can be precisely adjusted to the individual valve. This reduces the number of variants, increases availability in the application, and reduces stock-keeping.

Use

- With 11 different sizes and torques ranging from 8 to 2,082 Nm, a suitable quarter-turn actuator is available for every shut-off valve application in the range from 90° to 180° opening angle.
- the high-quality powder coating of the cap and casing made of hard-coated aluminium allows the usage even in aggressive environmental conditions
- the solenoid valve interface is located on the profile and easily accessible which optimizes the installation of pilot valves
- the end position adjustment on the same side of the solenoid valve connection facilitates the adjustment process
- the standardised interface VDI/VDE 3845 can be used to set up all commercially available signal and control devices
- the end positions can be configured between 0°-, 120°- up to 180°-position as well as from + 5° to -5°, whereby the valve can be optimally adjusted
- there are 2 ISO flange patterns available for most of the sizes per each actuator size to ensure flexible automation of valves
- the octagonal pinion connection adapts a parallel or diagonal selector shaft alignment of the valve and ensures a space-saving actuator construction
- a laser engraving on the actuator casing marks the flange patterns and air connections for a clear allocation
- the serial number is also laser engraved; this helps to trace the actuator manufacturing at any time
- precisely milled piston tooth system ensures smoother running, optimum torque and low wear
- a long service life is achieved by using the plain bearing for all moving parts
- the actuators cover a wide range of applications thanks to the actuator variants with different swivel angles
- elevated failsafe performance by our SIL 3 certified actuators

Technical data

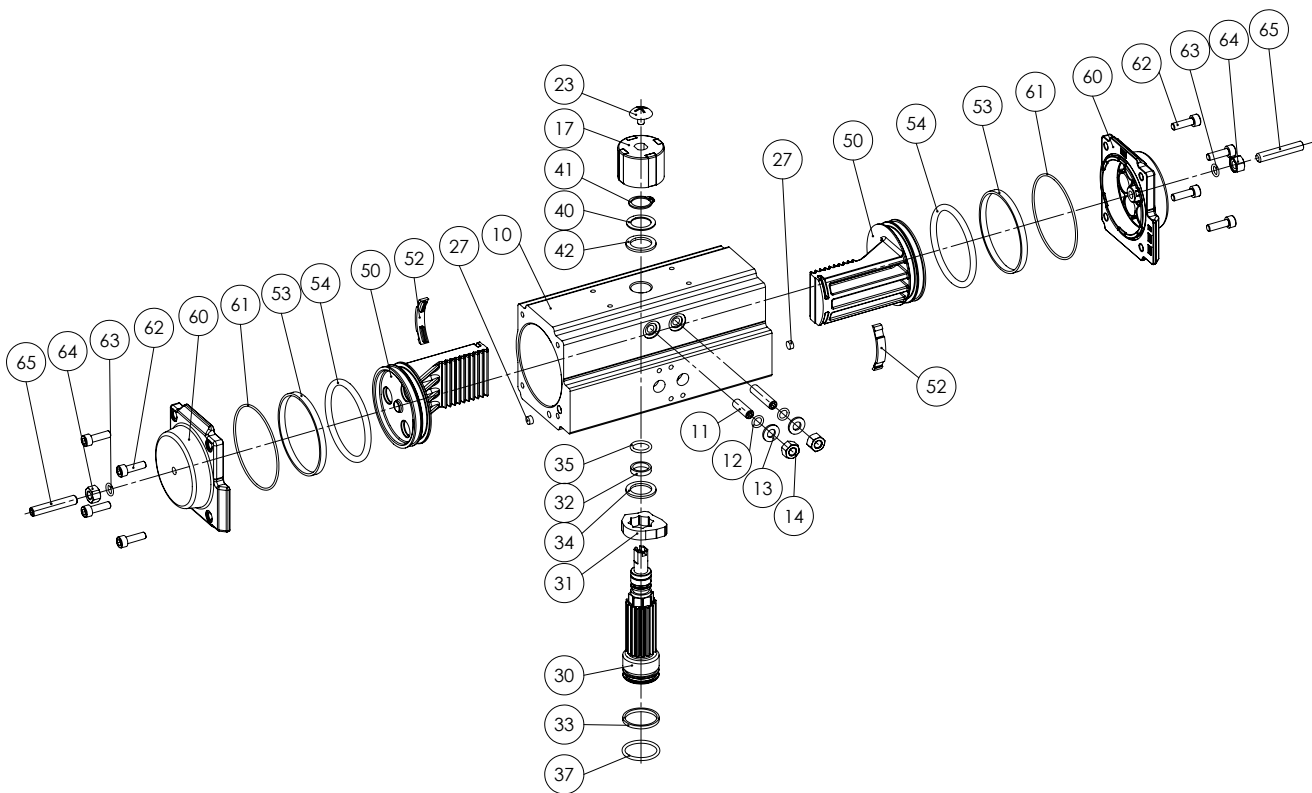
	Standard model	Options available
Construction type	pneumatic twin-piston quarter-turn actuator type GDA = double-acting	
Design features	rack-and-pinion principle with self-centering piston guide in the casing;	
Installation position	any desired	
Standards	connection point actuator signal device: acc. to VDI/VDE 3845 (NAMUR) connection point actuator/control valve: acc. to NAMUR or VDI/VDE 3845 connection point actuator/valve: four or eight internal threads in the actuator casing: acc. to EN ISO 5211	different mounting and connection dimensions are possible actuator pinion optionally with double-D bore according to EN ISO 5211 or according to customer requirements
Materials	casing: aluminium-alloy, hard anodized cap: aluminium-alloy, powder-coated piston/rack: aluminium-alloy pinion: corrosion-protected steel seals: NBR bearings: made of plastic with very good sliding properties screws: stainless steel A2	casing coating: powder-coated; PTFE cap coating: PTFE pinion: stainless steel 303; AISI 316 seals: FKM
Ambient temperature	-20 °C to +80 °C	low temperature design: -40 °C to +80 °C high temperature design: -20 °C to +160 °C
Nominal pivoting angle	double-acting: 180° nominal pivoting angle can be adjusted as standard from + 5° to -5° in both end positions	differing rotating angles, from 90° up to 180° any desired, e.g. 135°
Torque	8 to 2,082 Nm	
Control pressure	2 to 8 bar	
Control medium / Quality	filtered air with regard to residual oil content, dust and water minimum according to DIN ISO 8573-1: 2010 [7:-:4]	upon request also can be operated with other non-aggressive, gaseous or liquid media
Certificates	SIL 3 by TÜV Rheinland, test basis IEC 61508 Parts 1-2 and 4-7:2010	

Components GD-056/180 – GD-216/180

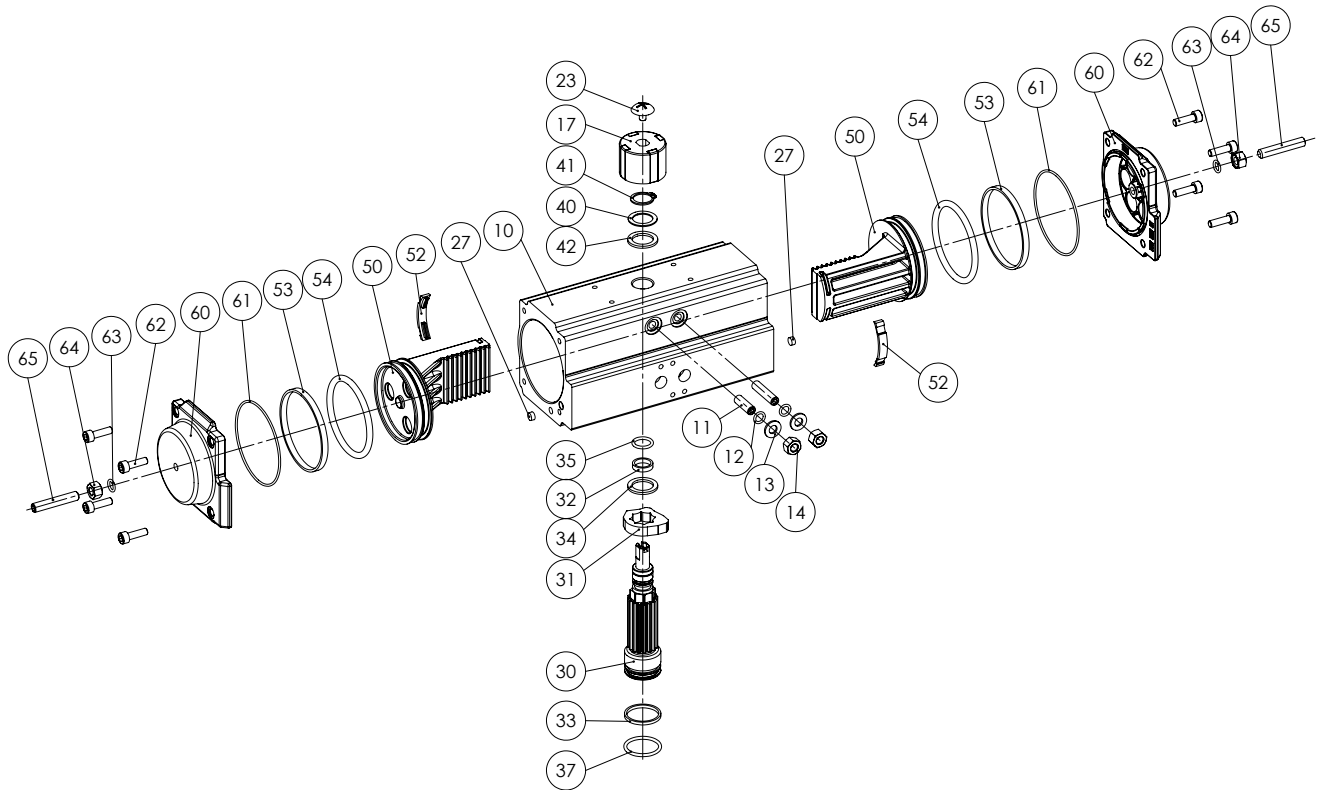
10	Casing	27	Sealing plug	37	Seal pinion lower	54	Piston sealing
11	Stop screw	30	Pinion	40	Support washer	60**	Cap
12	Seal Stop screw	31	Stop pin	41	Lock washer	61	Cap seal
13	Washer	32	Pinion bearing upper	42	Outside thrust washer	62	Cap screws
14	Lock nut	33	Pinion bearing lower	50	Piston	63	Sealing ring cap
23	Fixing screw for position indicator	34	Inside thrust washer	52	Guiding shoe	64	Stop screw cap
25*	Ring nut	35	Seal pinion upper	53	Guide ring	65	Lock nut cap
26*	Plastic washer						

* Ring lugs from GD-146 / ** GD-056 to GD-126 with cap right and left



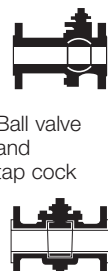


Schematic diagram GDA-056/180 – GDA-126/180



Schematic diagram GD-146/180 – GD-216/180



Mounting options

2/2-way valve	Drive pinion design	Operating way	Installation variant	2/2-way valve	Drive pinion design	Operating way	Installation variant
	Octagon = V 	Single-acting spring force "close"	F		Octagon = V 	Single-acting spring force "close"	F
		Single-acting spring force "open"	H			Single-acting spring force "open"	H
	Double-D = Z (upon request) 	Single-acting spring force "close"	A		Double-D = Z (upon request)	Single-acting spring force "close"	A
		Single-acting spring force "open"	D		Double-D = Z (upon request)	Single-acting spring force "open"	D



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