



COMMITTED TO
QUALITY



GM APE Automation (India) Pvt. Ltd.

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*In the process of continuous R&D of the product, the information given is subject to change.

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GM APE Automation (India) Pvt. Ltd.
Manufacturer of Pneumatic Actuators





An ISO 9001:2015 Certified Company

Leadership is the element that shows the way and that sets the pace at **GM APE Automation (India) PVT. LTD.** We are led with courage, collaboration, knowledge, experience and action.



Quality Policy

GM APE Automation (India) Pvt Ltd is well equipped with specialized production facilities & special purpose equipment to manufacture world class Quality Products. We at GM APE Automation strictly follow stringent quality checks at each and every stage of production, right from procurement of raw materials to the finished products as per respective international standards to ensure consistent Quality in our products. In addition to this, to put cross check on the actual practice, GM APE Automation follows a systematic documentation & management practice as per ISO 9001:2015 standards which has complete backbone of comprehensive ERP.

Our Quality system is further backed by superior quality control facilities and testing equipment. All products are tested individually which gives complete peace of mind to our valued customers. All quality control facilities are being calibrated regularly as per ISO requirements against National Standards to ensure accuracy.



Company

GM APE Automation (India) Pvt Ltd was Founded in the Year 2019 as a Group Company of GM Engineering Pvt Ltd which is in the business of manufacturing Ball, Gate Globe, Check, Butterfly, Forged Steel Valves, Plug Valves, PFA / FEP Lined Valves and Fittings since 1996. A customer driven organizational philosophy, Investment in the Best Technology and human resources has enabled us to constantly meet high standards set by our customers. GM APE Automation (India) Pvt. Ltd. is a company having technical tie-up with a Germany based Company. GM APE Automation is accredited with **ISO 9001:2015 Certification by TUV Rheinland.**

GM Valve Group (GM Group as we know it) had its beginning in 1996 in a single business operation. Our headquarter is in Rajkot, Gujarat. We are diversified manufacturers of Industrial Valves, Fittings, Actuators and allied products to the Oil-&-Gas, Nuclear Power, Chemical-&-Fertilizer Industry, etc.

We at GM APE Automation (India) Pvt Ltd are in the business of manufacturing of Pneumatic Actuators meeting to International Standards like: DIN EN 15714-1 and SS EN 15714-3. As part of our primary objective, we have developed range of Pneumatic Actuators. The products are widely used in Chemical, Refinery, Petrochemical, Fertilizer, Pharmaceuticals, Oil Exploration, Thermal & Nuclear Power, Mining, Food & Beverage, Effluent Treatment & Sewerage, Water Treatment, Cooling Towers and Process Industries.

GM APE Automation's strength is quality products at affordable prices, prompt delivery and the unflinching commitment to excel. Our Goal is to bring to India world class products with Technical Collaborations from different parts of the world and supply Indian Customers world class products at affordable rates. We aim to fulfil the 'Make In India' initiative of our county and make it a huge success. The products of our group companies have been enjoying a sustained presence in the national market since 1996. Our Core Strength is in timely investment in technology upgradation, process innovation, shorter development cycles, a rigorous and disciplined process-based approach to continuous improvement in all aspects of business has helped to constantly meet the standards set by the customers.

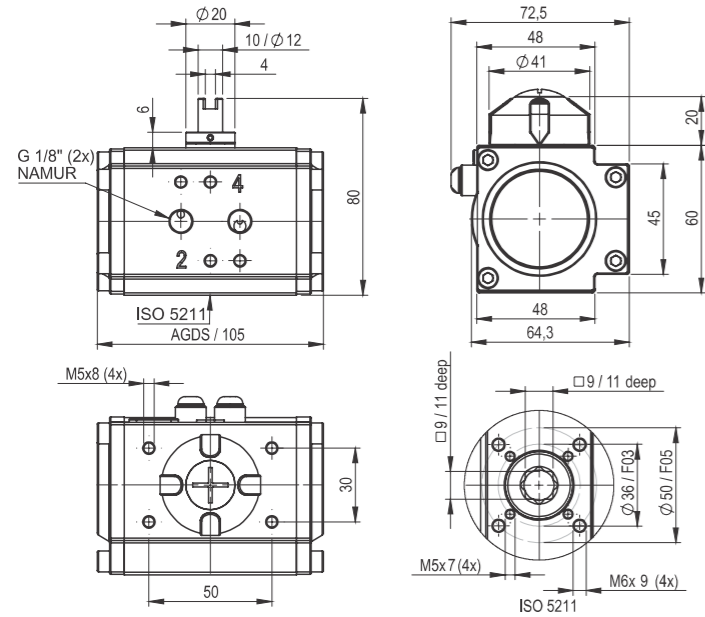
Right from Raw Material, through engineering, die creation, fabrication, testing, cleaning and shipment, orders are handled with a level of quality that only comes from years of attention to detail. Using the latest, computer aided tools, equipment and dedicated personnel, our quality assurance department will guarantee each actuator meets the required specification.

We, at GM APE Automation use established stringent processes and monitoring practices for consistent quality. All our locations adhere to country-specific regulatory and licensing mandates.

GM Group has 5 main operating companies:

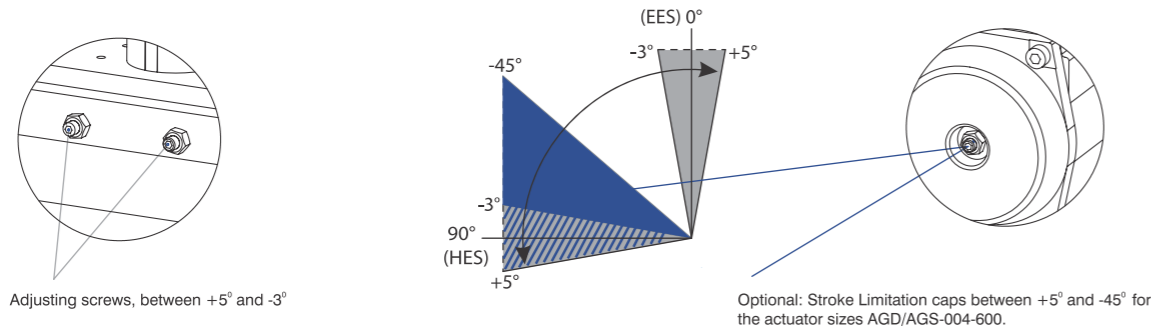
- 1)GM APE Automation (India) Pvt Ltd
- 2)GM Engineering Pvt Ltd
- 3)GM Valve Pvt Ltd
- 4)GM Flowlines Pvt Ltd
- 5)GM Flowtech Pvt Ltd

AGDS-002



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End position adjustment



The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDS - 002	5.1	6.4	7.6	8.9	10.2	11.4	12.7	14.0	15.2	17.8	20.3



Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDS
Weight (kg)	0.7
Volume (l) Double-stroke	0.10

Switch time (sec*)

AGDS
0.2

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

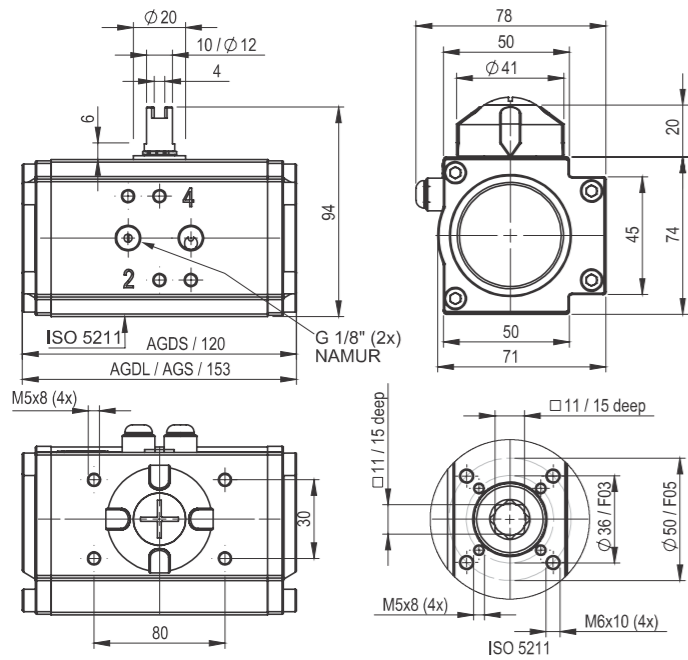
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

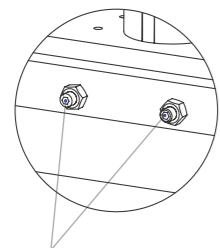
AGDS - 002 / 090 - V09 - H (see assembly variants)
AGDS =Double acting with short end caps

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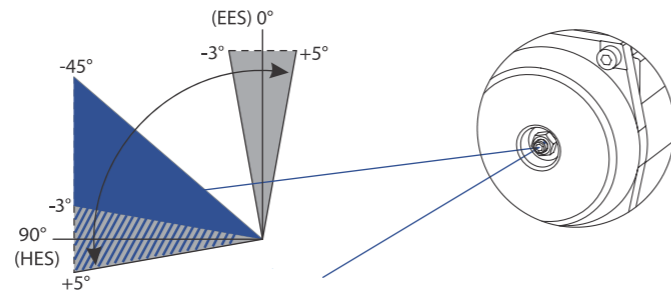
AGDL-AGDS/AGS-004



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 004 AGDS - 004	8.5	10.6	12.8	14.9	17.0	19.1	21.3	23.4	25.5	29.8	34.0

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 004	4	3.29	5.00	4	5	6	7	8	9														
	5	4.11	6.25	2	4	4	7	7	9														
	6	4.94	7.50			3	6	5	8	7	10												
	7	5.76	8.75					4	7	6	9	8	11										
	8	6.58	10.00							5	8	7	10	9	13								
	9	7.40	11.25								6	10	8	12	10	14							
	10	8.23	12.50									7	11	9	13	11	15						
	11	9.05	13.75											8	12	10	14	12	16				
	12	9.87	15.00													8	14	11	16	15	20		

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	1.1	1.0	1.3
Volume (l) Double-stroke	0.20	0.15	0.10

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
0.2	0.2	0.40	0.30

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Ordering code

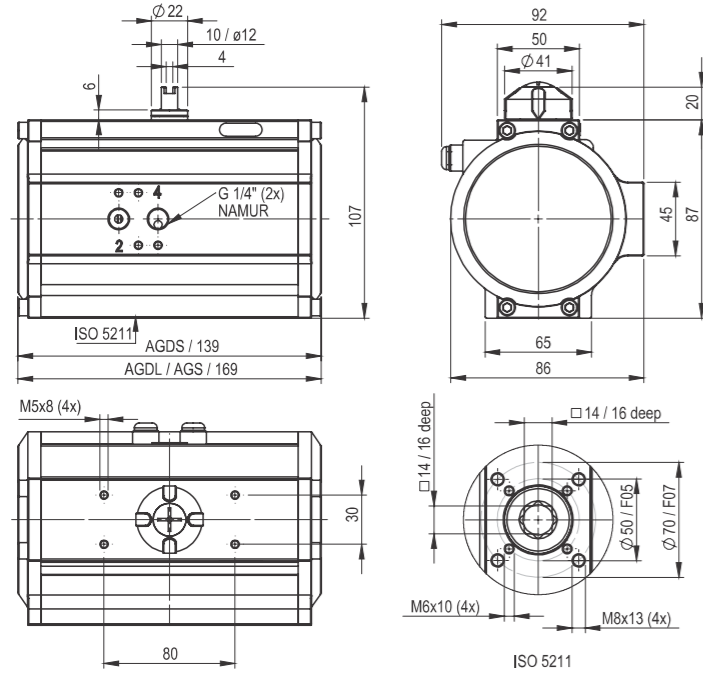
AGDL - 004 / 090 - V11 - H
AGDS - 004 / 090 - V11 - H (see assembly variants)
AGS - 004 / 090 - 06* - V11 - H (see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand
AGDL = Double acting with spring end caps
AGS = Single acting with spring

Materials

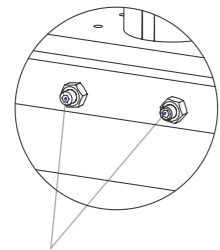
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

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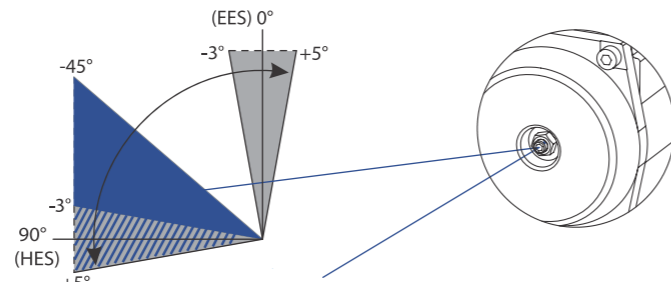
AGDL-AGDS/AGS-007



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 007	14.96	18.70	22.44	26.18	29.92	33.66	37.40	41.14	44.88	52.36	59.84
AGDS - 007											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																		
				2		2.5		3		3.5		4		4.5		5		5.5		6		7
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
AGS 007	4	5.78	8.90	6	9	10	13															
	5	7.23	11.13	4	8	8	11	11	15													
	6	8.67	13.35			5	10	9	14	13	18											
	7	10.12	15.58					7	12	11	16	14	20									
	8	11.56	17.80							8	15	12	18	16	22							
	9	13.01	20.03								10	17	14	21	17	24						
	10	14.45	22.25									11	19	15	23	19	27					
	11	15.90	24.48											13	22	17	25	20	29			
	12	17.34	26.70													14	24	18	28	26	35	

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	1.6	1.4	1.8
Volume (l) Double-stroke	0.35	0.25	0.18

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
0.5	0.4	0.80	0.60

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

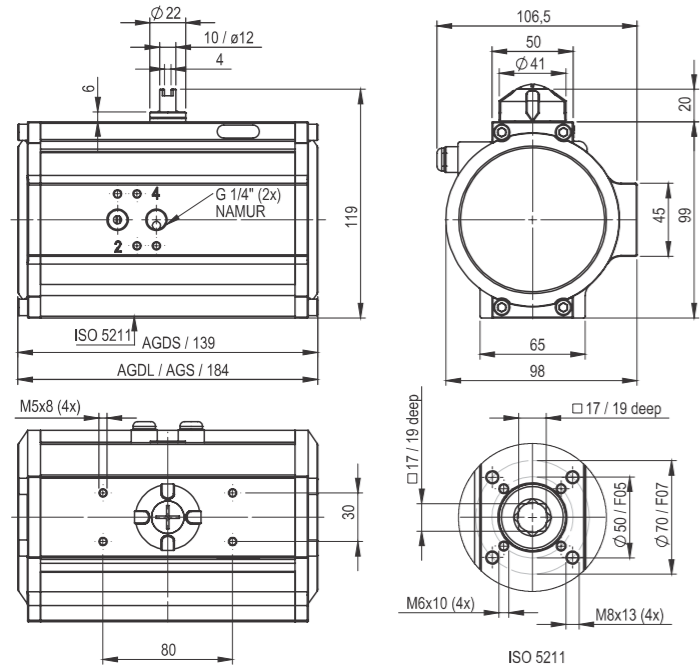
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

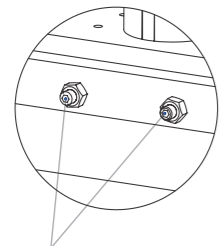
AGDL - 007 / 090 - V17 - H
AGDS - 007 / 090 - V17 - H
(see assembly variants)
AGS - 007 / 090 - 06* - V17 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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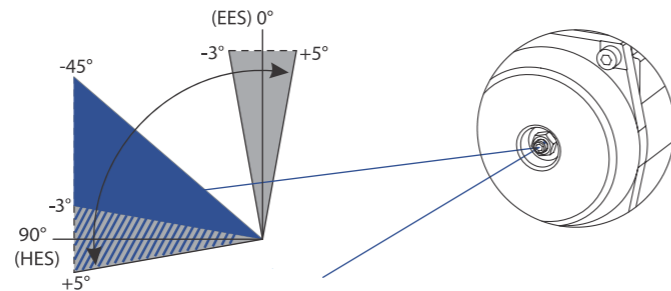
AGDL-AGDS/AGS-010



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 010	21.20	26.50	31.80	37.10	42.40	47.70	53.00	58.30	63.60	74.20	84.80
AGDS - 010											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 010	4	8.90	12.30	9	12	14	18																
	5	11.13	15.38	6	10	11	15	16	21														
	6	13.35	18.45			8	13	13	18	19	24												
	7	15.58	21.53					10	16	16	22	21	27										
	8	17.80	24.60							13	19	18	25	23	30								
	9	20.03	27.68									15	22	20	28	25	33						
	10	22.25	30.75											17	25	22	31	28	36				
	11	24.48	33.83													19	29	24	34	30	39		
	12	26.70	36.90															21	32	27	37	37	48

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	2.0	1.70	2.3
Volume (l) Double-stroke	0.50	0.40	0.30

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
0.6	0.5	0.90	0.70

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

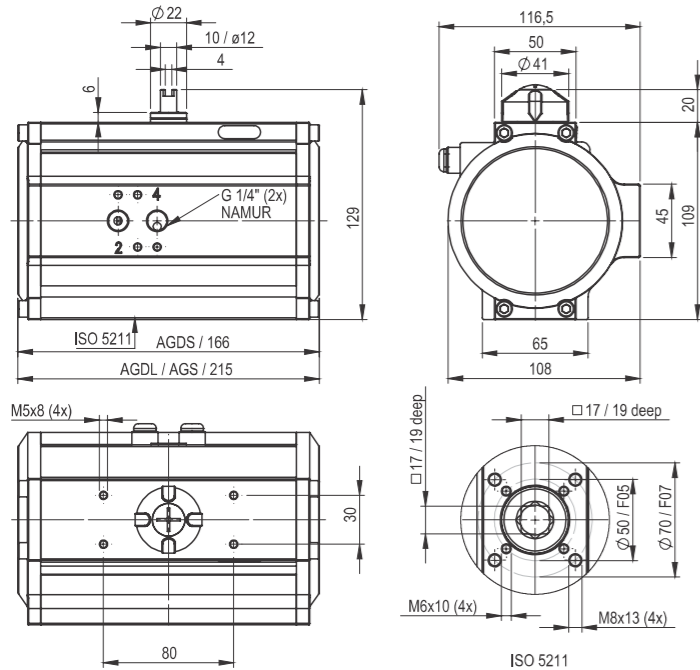
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

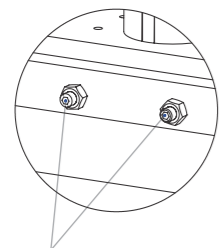
AGDL - 010 / 090 - V17 - H
AGDS - 010 / 090 - V17 - H
(see assembly variants)
AGDS - 010 / 090 - 06* - V17 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

Technical developments & alterations are reserved. 04/2022 GM APE Automation (India) Pvt. Ltd.

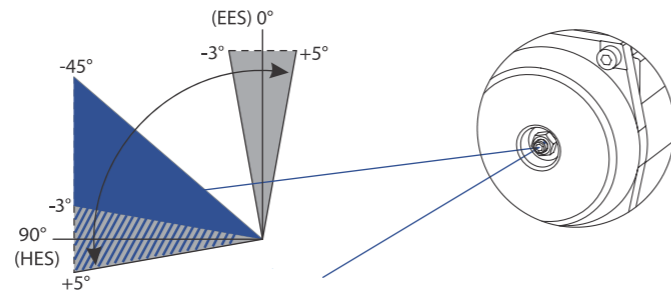
AGDL-AGDS/AGS-018



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 018	36.30	45.37	54.45	63.52	72.60	81.67	90.75	99.82	108.9	127.05	145.2
AGDS - 018											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 018	4	14.80	21.50	15	22	24	31																
	5	18.50	26.88	9	18	19	27	28	36														
	6	22.20	32.55			13	23	22	32	31	41												
	7	25.90	37.63					17	29	26	38	35	47										
	8	29.60	43.00							21	34	30	43	39	52								
	9	33.30	48.38									24	39	33	48	42	57						
	10	37.00	53.75											28	45	37	54	46	63				
	11	40.70	59.13													32	50	41	59	50	68		
	12	44.40	64.50															35	55	44	65	63	83

Technical developments & alterations are reserved. 04/2022 GM APE Automation (India) Pvt. Ltd.



Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	2.60	2.30	3.00
Volume (l) Double-stroke	0.80	0.65	0.50

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
0.7	0.6	1.0	0.80

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

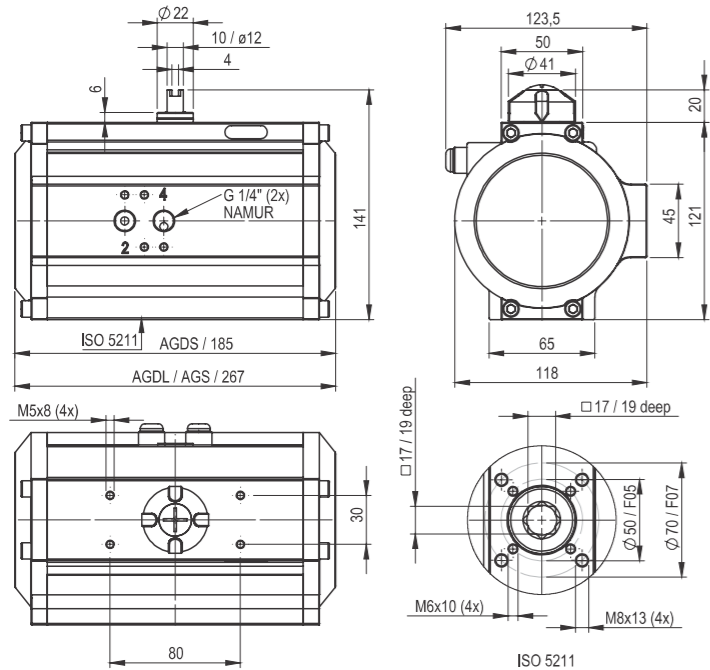
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

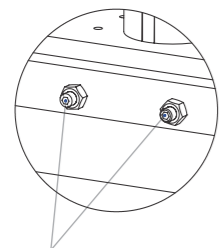
AGDL - 018 / 090 - V17 - H
AGDS - 018 / 090 - V17 - H
(see assembly variants)
AGS - 018 / 090 - 06* - V17 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

Technical developments & alterations are reserved. 04/2022 GM APE Automation (India) Pvt. Ltd.

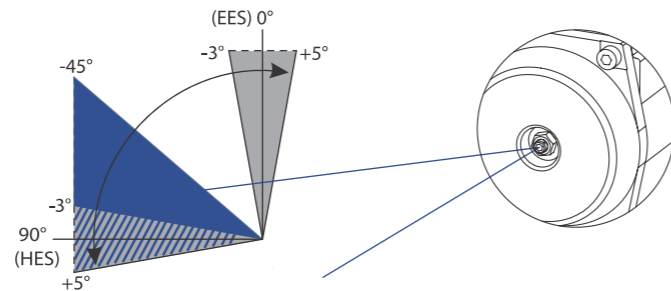
AGDL-AGDS/AGS-025



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 025	51.00	63.80	76.50	89.30	102.0	114.8	127.5	140.3	153.0	178.5	204.0
AGDS - 025											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 025	4	21.10	31.20	20	30	33	43																
	5	26.38	39.00	12	25	25	37	38	50														
	6	31.65	46.80			17	32	30	45	42	58												
	7	36.93	54.60					22	40	35	52	47	65										
	8	42.40	62.40							27	47	40	60	52	73								
	9	47.48	70.20									32	55	45	67	57	80						
	10	52.75	78.00											37	62	50	75	62	88				
	11	58.03	85.80													42	69	54	82	67	95		
	12	63.30	93.60															47	77	59	90	85	115

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	3.50	3.20	4.30
Volume (l) Double-stroke	1.40	1.20	0.65

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
0.8	0.7	1.1	1.0

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

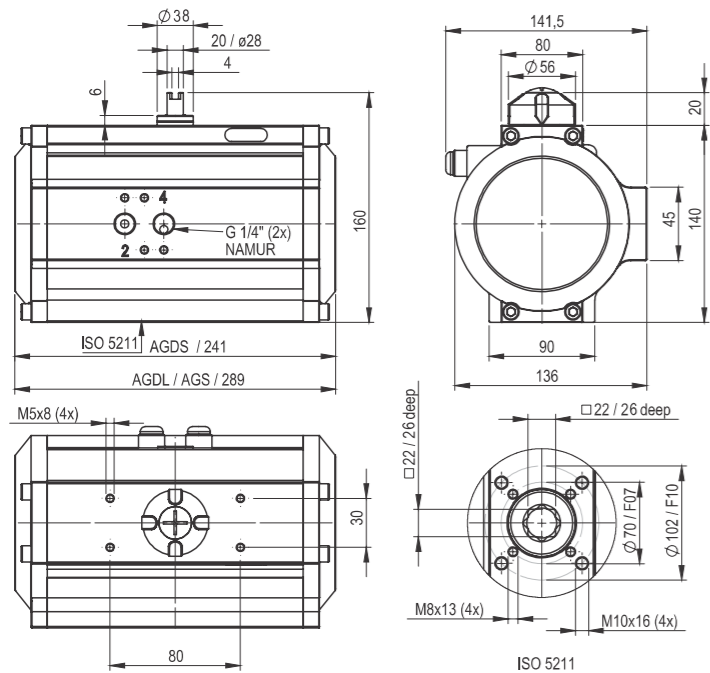
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

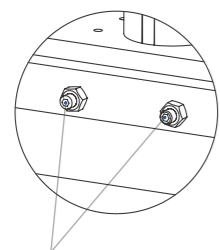
AGDL - 025 / 090 - V17 - H
AGDS - 025 / 090 - V17 - H
(see assembly variants)
AGS - 025 / 090 - 06* - V17 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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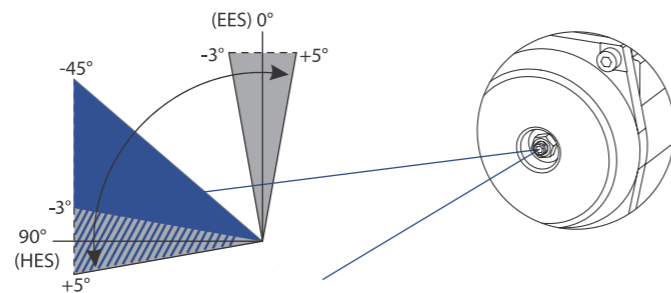
AGDL-AGDS/AGS-045



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 045	90.6	113.2	135.9	158.5	181.2	203.8	226.5	249.1	271.7	317.0	362.3
AGDS - 045											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 045	4	35.00	54.40	36	56	59	78																
	5	43.75	68.00	23	47	45	69	48	92														
	6	52.50	81.60			32	61	54	83	77	106												
	7	61.25	95.20					41	75	63	97	86	120										
	8	70.00	108.80							50	89	72	111	95	134								
	9	78.75	122.40									59	102	81	125	104	148						
	10	87.50	136.00											68	116	90	139	113	162				
	11	96.25	149.60													77	130	99	153	122	175		
	12	105.00	163.20															86	144	109	167	154	212

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	5.80	5.40	6.60
Volume (l) Double-stroke	2.00	1.80	0.85

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
1.2	1	1.1	1.0

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Materials

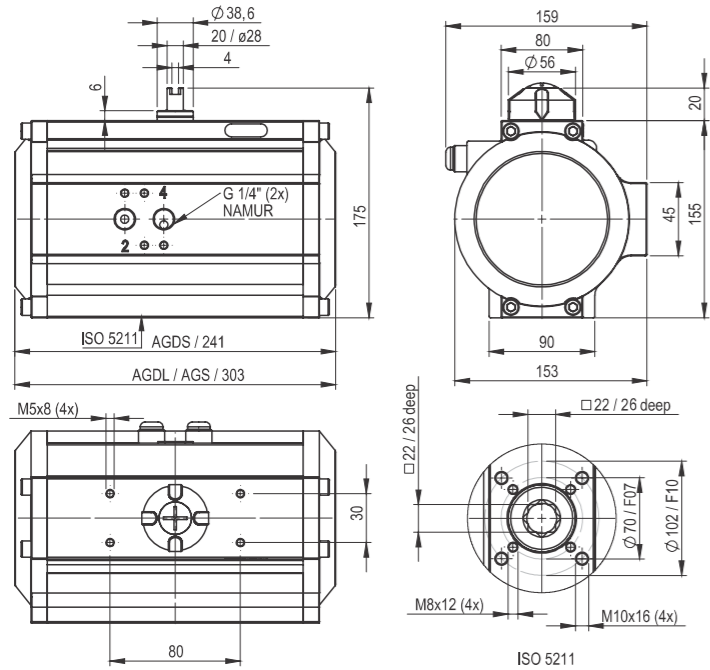
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

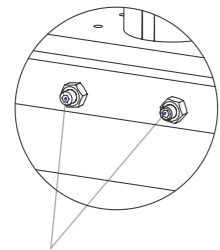
AGDL - 045 / 090 - V22 - H
AGDS - 045 / 090 - V22 - H
(see assembly variants)
AGS - 045 / 090 - 06* - V22 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand
AGDL = Double acting with spring end caps
AGDS = Double acting with short end caps
AGS = Single acting with spring

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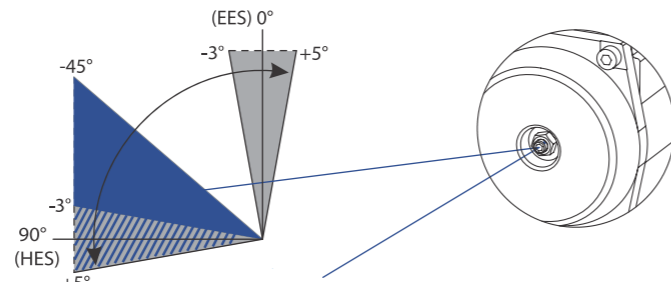
AGDL-AGDS/AGS-055



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)											
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8	
AGDL - 055	117.8	147.2	176.6	206.1	235.5	265.0	294.4	323.8	353.3	412.2	471.0	
AGDS - 055												

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 055	4	47.90	71.70	46	70	76	99																
	5	59.88	89.63	28	58	58	87	87	117														
	6	71.85	107.55			40	75	69	105	99	134												
	7	83.83	125.48					51	93	81	122	110	152										
	8	95.80	143.40							63	110	92	140	122	169								
	9	107.78	161.33								74	128	104	157	133	187							
	10	119.75	179.25									86	145	115	175	145	204						
	11	131.73	197.18										97	163	127	192	156	222					
	12	143.70	215.10											109	180	138	210	197	268				

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	8.50	8.10	9.90
Volume (l) Double-stroke	2.90	2.70	1.40

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
1.5	1.3	1.2	1.1

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

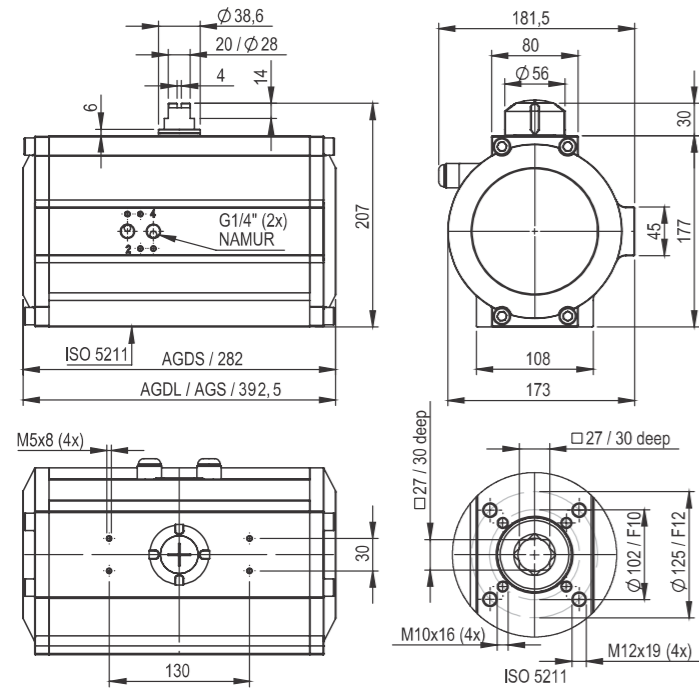
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

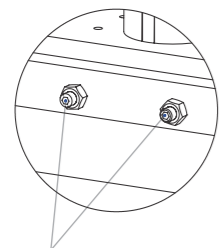
AGDL - 055 / 090 - V17 - H
AGDS - 055 / 090 - V17 - H
(see assembly variants)
AGS - 055 / 090 - 06* - V17 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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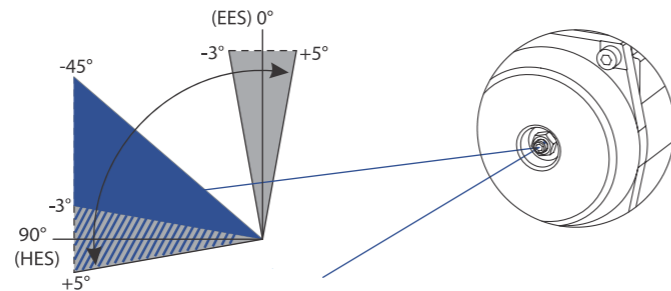
AGDL-AGDS/AGS-090



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 090	184.9	231.1	277.3	323.5	369.7	415.9	462.2	508.4	554.6	647.0	739.4
AGDS - 090											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 090	4	72.50	109.00	76	112	122	159																
	5	90.63	136.25	49	94	95	140	141	187														
	6	108.75	163.50			68	122	114	169	160	215												
	7	126.88	190.75					87	150	133	197	179	243										
	8	145.00	218.00							106	179	152	225	198	271								
	9	163.13	245.25									124	207	171	253	217	299						
	10	181.25	272.50											143	235	190	281	236	327				
	11	199.38	299.75													162	263	209	309	255	355		
	12	217.50	327.00															181	291	228	337	320	430

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	10.40	9.90	12.9
Volume (l) Double-stroke	5.20	4.95	2.60

Switch time (sec*)

AGDL	AGDS	AGS	
		0 - 90°	90 - 0°
2.0	1.8	1.4	1.3

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Materials

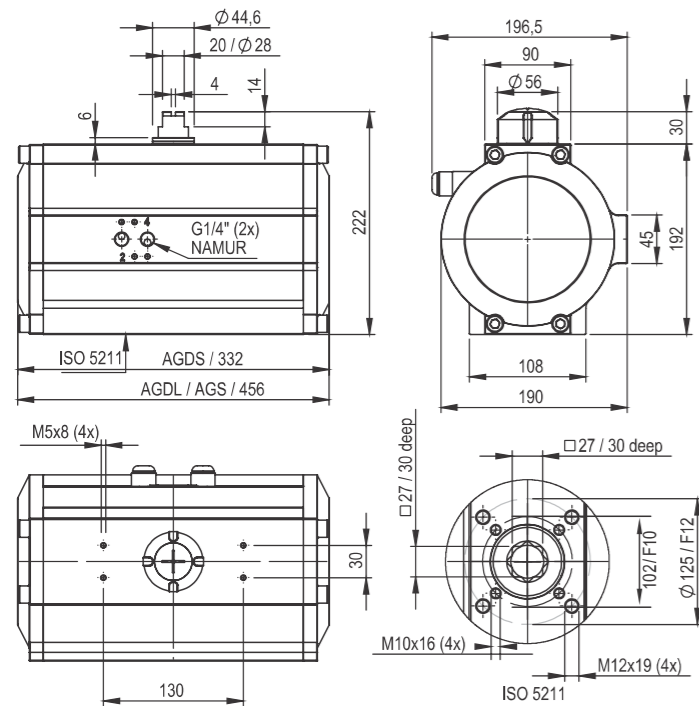
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

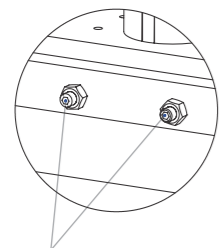
AGDL - 090 / 090 - V27 - H
AGDS - 090 / 090 - V27 - H
(see assembly variants)
AGS - 090 / 090 - 06* - V27 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand
AGDL = Double acting with spring end caps
AGDS = Double acting with short end caps
AGS = Single acting with spring

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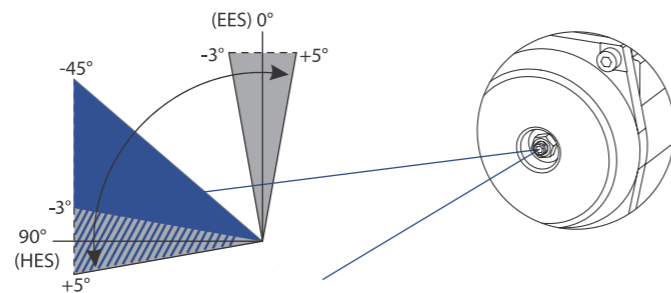
AGDL-AGDS/AGS-130



End position adjustment



Adjusting screws, between +5° and -3°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -3°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 130	281.3	351.7	422.0	492.3	562.7	633.0	703.4	773.7	844.0	984.7	1125.4
AGDS - 130											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 130	4	117.70	175.50	106	164	176	234																
	5	147.13	219.38	62	134	132	205	203	275														
	6	176.55	263.50			88	175	159	245	229	316												
	7	205.98	307.13					115	216	185	286	256	357										
	8	235.40	351.00							141	257	212	327	282	398								
	9	264.83	394.88									168	298	238	368	308	439						
	10	294.25	438.75											194	339	265	409	335	479				
	11	323.68	482.63													221	380	291	450	361	520		
	12	353.10	526.50															247	421	318	491	458	632

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Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	15.00	14.50	19.10
Volume (l) Double-stroke	7.90	7.70	3.90

Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Switch time (sec*)

AGDL	AGDS	AGS	
2.2	2.0	0 - 90°	90 - 0°
		1.5	1.4

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Materials

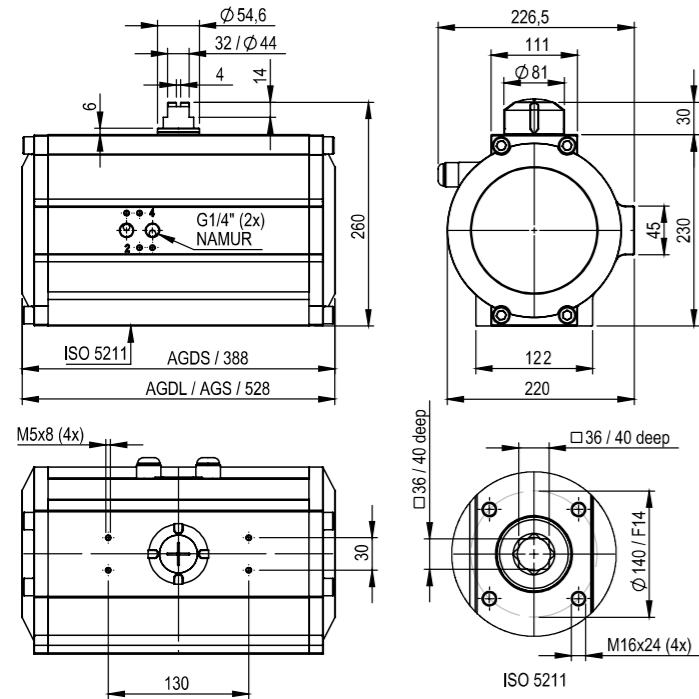
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

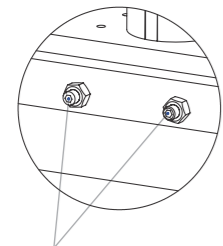
AGDL - 130 / 090 - V27 - H
AGDS - 130 / 090 - V27 - H
(see assembly variants)
AGS - 130 / 090 - 06* - V27 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand
AGDL = Double acting with spring end caps
AGDS = Double acting with short end caps
AGS = Single acting with spring

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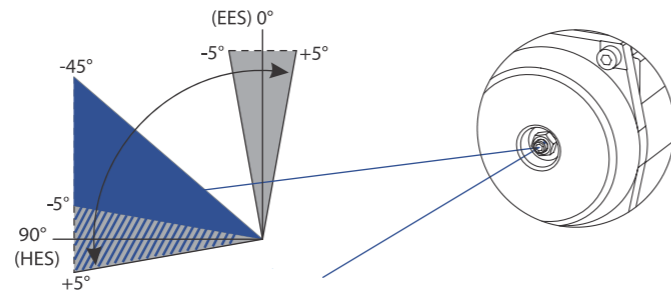
AGDL-AGDS/AGS-220



End position adjustment



Adjusting screws, between +5° and -5°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGDL - 220	453.4	566.8	680.1	793.5	906.8	1020.2	1133.6	1246.9	1360.3	1587.0	1813.7
AGDS - 220											

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 220	4	160.00	247.00	206	293	320	407																
	5	200.00	308.75	145	253	258	367	371	480														
	6	240.00	370.50			196	327	310	440	423	553												
	7	280.00	432.25					248	400	361	513	475	627										
	8	320.00	494.00							299	299	413	587	526	700								
	9	360.00	555.75									351	547	464	660	578	774						
	10	400.00	617.50											403	620	516	734	629	847				
	11	440.00	679.25													454	694	568	807	681	920		
	12	480.00	741.00															506	767	619	880	846	1107

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Weight, air consumption

Actuator type	AGDL	AGDS	AGS
Weight (kg)	23.50	22.80	30.10
Volume (l) Double-stroke	13.10	12.80	6.70

Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Switch time (sec*)

AGDL	AGDS	AGS	
2.4	2.2	0 - 90°	90 - 0°
		1.7	1.5

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Materials

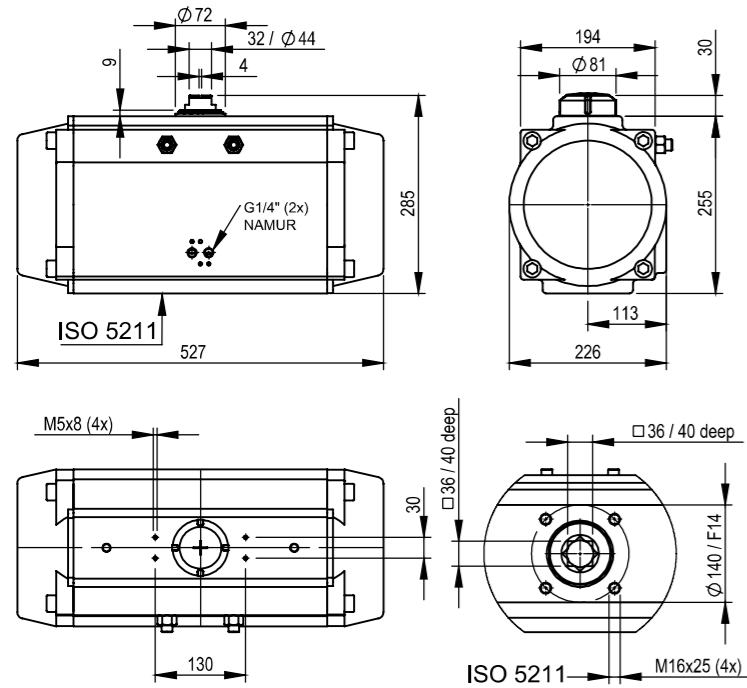
- Housing: Al-alloy, anodised, outside PP-coated
- Caps: Al-alloy, PP-coated
- Piston: Al-alloy
- Pinion: Al-alloy, hard-anodised
- Namur shaft: SS304
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

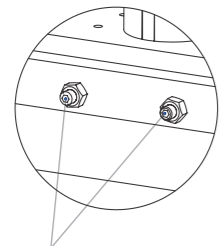
AGDL - 220 / 090 - V27 - H
AGDS - 220 / 090 - V27 - H
(see assembly variants)
AGS - 130 / 090 - 06* - V27 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand
AGDL = Double acting with spring end caps
AGDS = Double acting with short end caps
AGS = Single acting with spring

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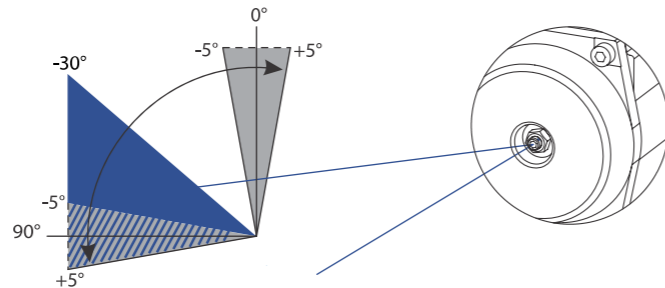
AGD / AGS-260



End position adjustment



Adjusting screws, between +5° and -5°



Optional: Stroke Limitation caps between +5° and -45° for the actuator sizes AGD/AGS-004-600.

The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGD - 260	526	658	789	921	1052	1184	1315	1447	1578	1841	2104

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																					
				2		2.5		3		3.5		4		4.5		5		5.5		6		7			
AGS 260	4	208	288	238	318	370	449																		
	5	260	260	166	266	298	397	429	529																
	6	313	432			226	344	357	476	489	607														
	7	265	503					286	424	418	555	549	687												
	8	417	575							346	503	477	635	609	766										
	9	469	647								405	583	537	714	668	846									
	10	521	719										465	662	596	794	728	925							
	11	573	791												524	742	656	873	787	1005					
	12	625	863														584	821	715	953	978	1216			

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Weight, air consumption

Actuator type	AGD	AGS
Weight (kg)	40.00	49.60
Volume (l) Double-stroke	17.60	7.40

Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Switch time (sec*)

AGD		AGS	
0 - 90°	90 - 0°	0 - 90°	90 - 0°
2.80	2.80	2.60	2.30

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

- Housing: Al-alloy, anodised, outside PE-coated
- Caps: Al-alloy, PE-coated
- Piston: Al-alloy, Hard Anodized (AGD/S - 002-260)
AGD/S - 390-1680 Steel Coated
- Pinion: Steel, corrosion protected (C-Steel AISI 1045)
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

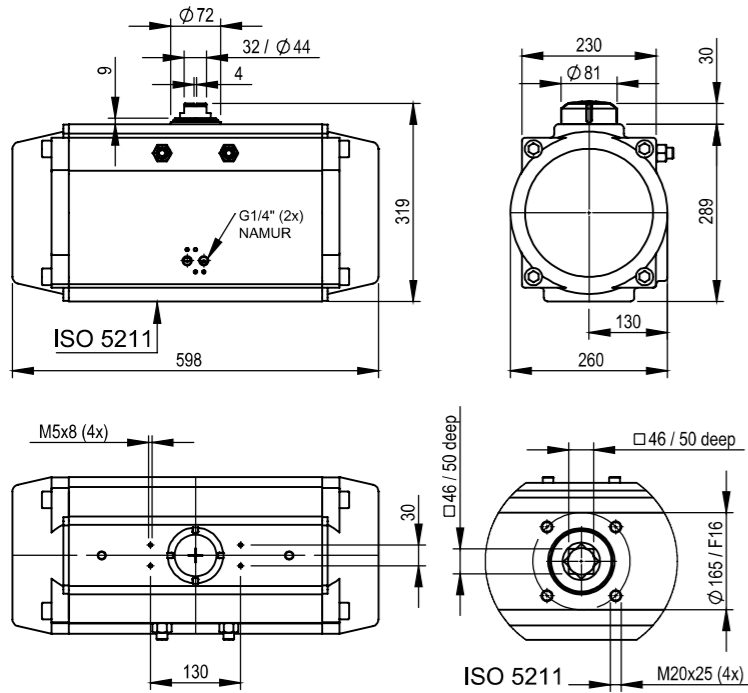
AGD - 260 / 090 - V36 - H
(see assembly variants)

AGS - 260 / 090 - 06* - V36 - H
(see assembly variants)

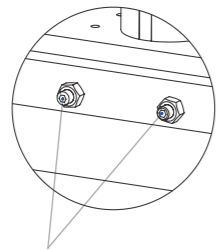
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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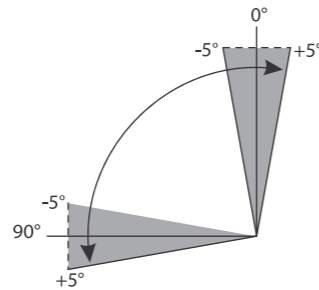
AGD / AGS-390



End position adjustment



Adjusting screws, between +5° and -5°



The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGD - 390	773	966	1160	1353	1546	1739	1933	2126	2316	2706	3092

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
AGS 390	4	311	420	352	461	545	654																
	5	389	525	247	383	440	576	633	769														
	6	467	630			335	498	528	691	721	884												
	7	544	735					423	614	616	807	809	1000										
	8	622	840							511	729	704	922	897	1115								
	9	700	945								599	844	792	1037	985	1230							
	10	778	1050										775	959	880	1152	1073	1345					
	11	855	1155												775	1075	968	1268	1161	1461			
	12	933	1260														863	1190	1056	1383	1442	1769	

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGD	AGS
Weight (kg)	67.00	80.00
Volume (l) Double-stroke	20.00	11.00

Switch time (sec*)

AGD		AGS	
0 - 90°	90 - 0°	0 - 90°	90 - 0°
4.1	4.1	3.7	3.2

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

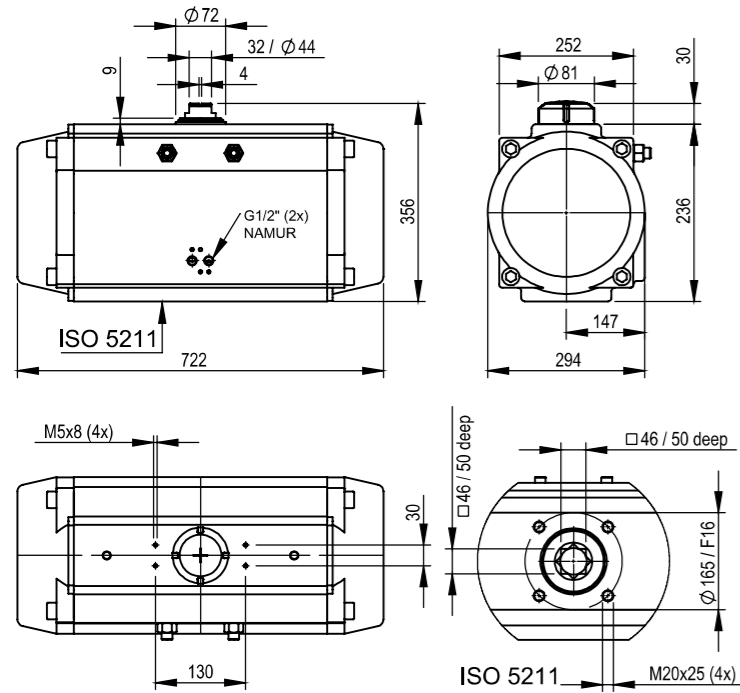
- Housing: Al-alloy, anodised, outside PE-coated
- Caps: Al-alloy, PE-coated
- Piston: Al-alloy, Hard Anodized (AGD/S - 002-260)
AGD/S - 390-1680 Steel Coated
- Pinion: Steel, corrosion protected (C-Steel AISI 1045)
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

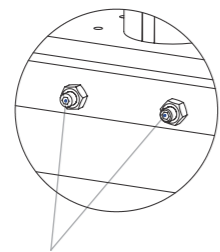
AGD - 390 / 090 - V36 - H (see assembly variants)
AGS - 390 / 090 - 06* - V36 - H (see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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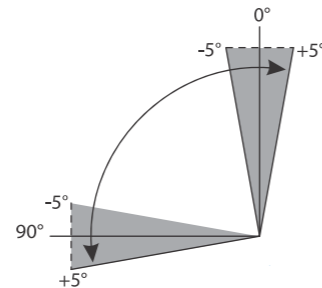
AGD / AGS-600



End position adjustment



Adjusting screws, between +5° and -5°



The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)											
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8	
AGD - 600	1174	1468	1761	2054	2349	2642	2936	3229	3523	4110	4697	

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																		
				2		2.5		3		3.5		4		4.5		5		5.5		6		7
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min
AGS 600	4	424	596	578	750	872	1043															
	5	530	745	429	644	723	938	1016	1231													
	6	636	894			574	832	867	1125	1161	1419											
	7	742	1043					718	863	1012	1313	1305	1606									
	8	848	1192							863	1207	1156	1500	1450	1794							
	9	954	1341									1007	1394	1301	1688	1594	1981					
	10	1060	1490											1152	1582	1445	1875	1739	2169			
	11	1166	1639													1296	1769	1590	2063	1883	2355	
12	1272	1788															1441	1957	1734	2250	2321	2837

Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Switch time (sec*)

AGD		AGS	
0 - 90°	90 - 0°	0 - 90°	90 - 0°
2.90	2.90	3.40	2.20

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Materials

Housing: Al-alloy, anodised, outside PE-coated
Caps: Al-alloy, PE-coated
Piston: Al-alloy, Hard Anodized (AGD/S - 002-260)
AGD/S - 390-1680 Steel Coated
Pinion: Steel, corrosion protected (C-Steel AISI 1045)
Seals: NBR (Perbunan)
Bearing: Plastic, POM
Screws: Stainless steel 1.4301



Weight, air consumption

Actuator type	AGD	AGS
Weight (kg)	97.00	118.00
Volume (l) Double-stroke	31.00	17.00

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

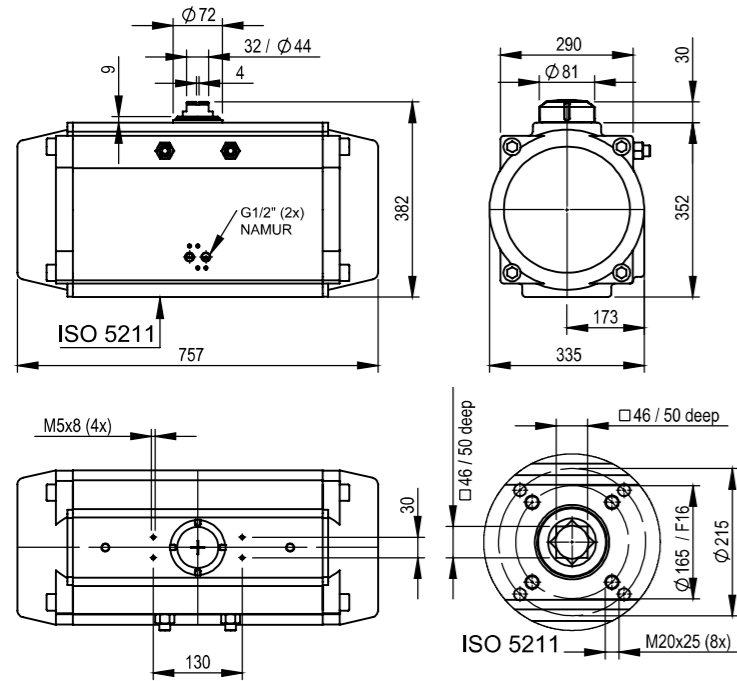
Ordering code

AGD - 600 / 090 - V36 - H
(see assembly variants)
AGS - 600 / 090 - 06* - V36 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

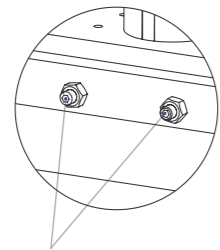
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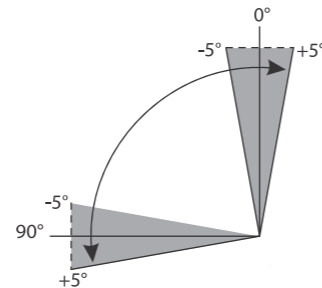
AGD / AGS-760



End position adjustment



Adjusting screws, between +5° and -5°



The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGD - 760	1526	1980	2289	2670	3052	3434	3815	4197	4578	5341	6104

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																				
		min	max	2	2.5	3	3.5	4	4.5	5	5.5	6	7	2	2.5	3	3.5	4	4.5	5	5.5	6	7	
AGS 760	4	584	849	677	942	1059	1323																	
	5	730	1061		847	1177	1228	1559																
	6	876	1273				1016	1413	1398	1794														
	7	1022	1485						1186	1684	1567	2030												
	8	1168	1697								1355	1884	1737	2266										
	9	1314	1909										1525	2120	1906	2501								
	10	1460	2122												1693	2355	2075	2736						
	11	1606	2334														1863	2590	2244	2972				
	12	1752	2546																2032	2826	2795	3589		

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGD	AGS
Weight (kg)	137.00	163.00
Volume (l) Double-stroke	54.00	24.00

Switch time (sec*)

AGD		AGS	
0 - 90°	90 - 0°	0 - 90°	90 - 0°
3.60	3.60	4.40	2.80

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

- Housing: Al-alloy, anodised, outside PE-coated
- Caps: Al-alloy, PE-coated
- Piston: Al-alloy, Hard Anodized (AGD/S - 002-260)
AGD/S - 390-1680 Steel Coated
- Pinion: Steel, corrosion protected (C-Steel AISI 1045)
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

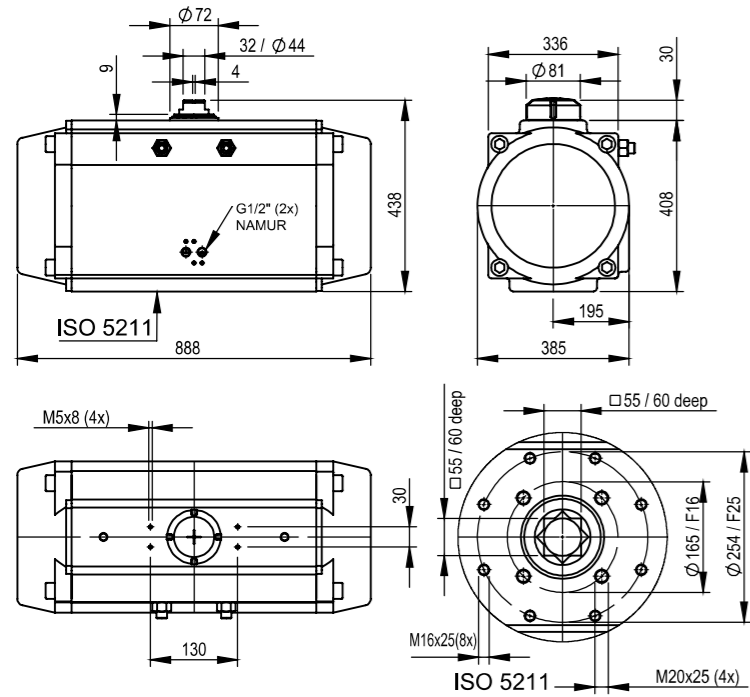
AGD - 760 / 090 - V36 - H
(see assembly variants)

AGS - 760 / 090 - 06* - V36 - H
(see assembly variants)

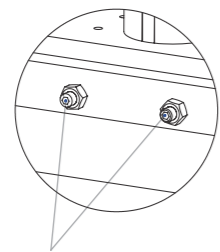
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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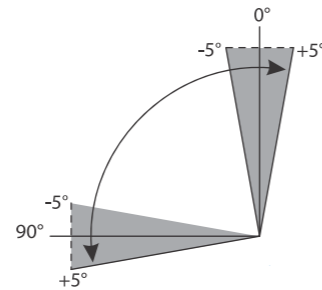
AGD / AGS-1150



End position adjustment



Adjusting screws, between +5° and -5°



The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)										
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8
AGD - 1150	2285	2855	3427	3998	4570	5141	5712	6283	6854	7997	9139

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
AGS 1150	4	938	1361	924	1347	1495	1918																
	5	1173	1702			1154	1683	1726	2255														
	6	01408	2043					1385	2020	1956	2591												
	7	1642	2383							1616	2357	2187	2928										
	8	1877	2724									1846	2693	2417	3264								
	9	2112	3064											2077	3029	2649	3600						
	10	2346	3405													2308	3366	2879	3938				
	11	2581	3745															2539	3703	3110	4274		
	12	2816	4086																	2769	4039	3912	5181

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGD	AGS
Weight (kg)	205.00	258.00
Volume (l) Double-stroke	81.00	35.00

Switch time (sec*)

AGD		AGS	
0 - 90°	90 - 0°	0 - 90°	90 - 0°
5.70	5.70	6.60	3.80

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

- Housing: Al-alloy, anodised, outside PE-coated
- Caps: Al-alloy, PE-coated
- Piston: Al-alloy, Hard Anodized (AGD/S - 002-260)
AGD/S - 390-1680 Steel Coated
- Pinion: Steel, corrosion protected (C-Steel AISI 1045)
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

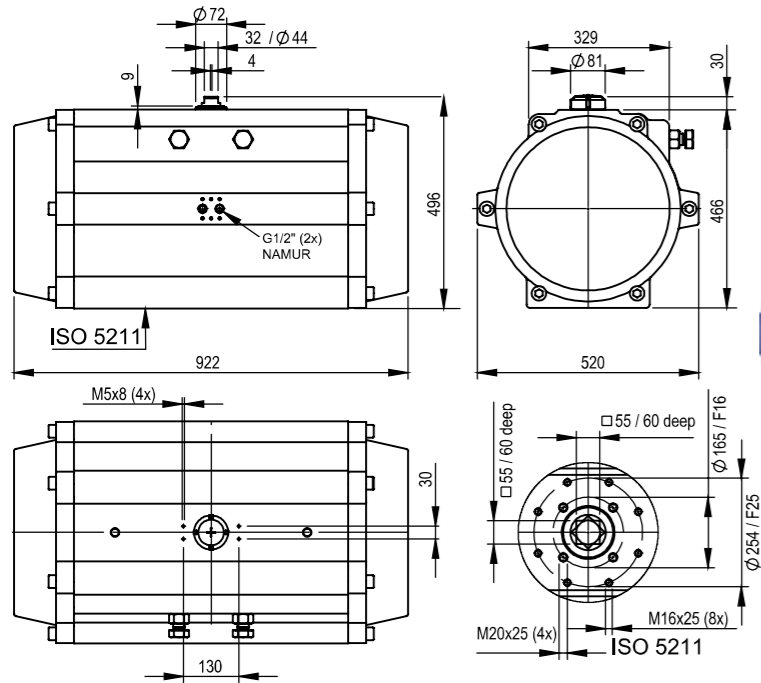
AGD - 1150 / 090 - V36 - H
(see assembly variants)

AGS - 1150 / 090 - 06* - V36 - H
(see assembly variants)

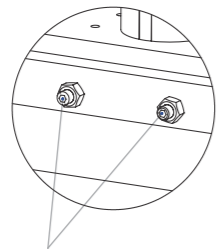
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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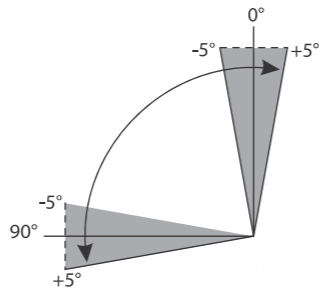
AGD / AGS-1680



End position adjustment



Adjusting screws, between +5° and -5°



The pivoting angle can be adjusted in both end positions in pressure free conditions between +5° and -5°.

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)											
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8	
AGD - 1680	3256	4069	4883	5697	6511	7325	8139	8953	9767	11394	13022	

Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																			
				2		2.5		3		3.5		4		4.5		5		5.5		6		7	
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max
AGS 1680	7	1837	2880	376	1419	1190	2233	2004	3047														
	8	2100	3292			1592	2784	2406	3598														
	9	2362	3703					1955	3336	2809	4150												
	10	2624	4115							2397	3888	3211	4702										
	11	2887	4526									2800	4439	3614	5253								
	12	3149	4938											4991	4991	4016	5805						
	13	3412	5349													3605	5542	4419					
	14	3674	5761															4007	6356	5635	7722		
	15	3937	6172																	6094	5224	7459	
16	4199	6584																			4812	7197	

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Control pressure

Control pressure: 2 - 8 bar
Control medium / quality: Filtered air minimum acc. to DIN/ISO 8573-1 Class 4

Weight, air consumption

Actuator type	AGD	AGS
Weight (kg)	289.00	361.00
Volume (l) Double-stroke	89.00	53.00

Switch time (sec*)

AGD		AGS	
0 - 90°	90 - 0°	0 - 90°	90 - 0°
7.50	7.50	11.10	8.70

Ambient temperature

Standard	- 35°C to +80°C
High-temp (HT)	- 15°C to +140°C
Low-temp (TT)	- 50°C to +70°C

*Quoted switch times are guidelines for a double-stroke at 5 bar control pressure and at 50% rated loading. With high valve actuating speeds, potentially dangerous large braking forces can arise in the actuator end positions. Tip: Throttle the exhaust air or select a larger actuator. Single Action actuators with 12 springs.

Optional extras

- Other housing coatings
- Pinion: Stainless Steel AISI 304 or 316
- 180° actuator: rotation 180° to 120° adjustable
- 3 - position actuator: 0° - 90° - 180° / 0° - 45° - 90°

Materials

- Housing: Al-alloy, anodised, outside PE-coated
- Caps: Al-alloy, PE-coated
- Piston: Al-alloy, Hard Anodized (AGD/S - 002-260)
AGD/S - 390-1680 Steel Coated
- Pinion: Steel, corrosion protected (C-Steel AISI 1045)
- Seals: NBR (Perbunan)
- Bearing: Plastic, POM
- Screws: Stainless steel 1.4301

Ordering code

AGD - 1680 / 090 - V36 - H
(see assembly variants)
AGS - 1680 / 090 - 06* - V36 - H
(see assembly variants)
*The number of springs (4 up to 12pcs.) must be matched to the control pressure beforehand

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Torque-table single-acting actuator (Nm)

Actuator Type	No. of Springs	Md F (Nm)		Pneumatic Applied Torque Md (Nm) at Minimum Control Pressure Pst (bar)																				
				2		2.5		3		3.5		4		4.5		5		5.5		6		7		
		min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	min	max	
AGS 600	4	424	596	578	750	872	1043																	
	5	530	745	429	644	723	938	1016	1231															
	6	636	894			574	832	867	1125	1161	1419													
	7	742	1043					718	863	1012	1313	1305	1606											
	8	848	1192							863	1207	1156	1500	1450	1794									
	9	954	1341									1007	1394	1301	1688	1594	1981							
	10	1060	1490											1152	1582	1445	1875	1739	2169					
	11	1166	1639													1296	1769	1590	2063	1883	2355			
	12	1272	1788															1441	1957	1734	2250	2321	2837	
	AGS 760	4	584	849	677	942	1059	1323																
		5	730	1061			847	1177	1228	1559														
		6	876	1273					1016	1413	1398	1794												
7		1022	1485							1186	1684	1567	2030											
8		1168	1697									1355	1884	1737	2266									
9		1314	1909											1525	2120	1906	2501							
10		1460	2122													1693	2355	2075	2736					
11		1606	2334															1863	2590	2244	2972			
12		1752	2546																	2032	2826	2795	3589	
AGS 1150		4	938	1361	924	1347	1495	1918																
		5	1173	1702			1154	1683	1726	2255														
		6	1408	2043					1385	2020	1956	2591												
	7	1642	2383							1616	2357	2187	2928											
	8	1877	2724									1846	2693	2417	3264									
	9	2112	3064											2077	3029	2649	3600							
	10	2346	3405													2308	3366	2879	3938					
	11	2581	3745															2539	3703	3110	4274			
	12	2816	4086																	2769	4039	3912	5181	
	AGS 1680	7	1837	2880	376	1419	1190	2233	2004	3047														
		8	2100	3292					1592	2784	2406	3598												
		9	2362	3703							1955	3336	2809	4150										
10		2624	4115									2397	3888	3211	4702									
11		2887	4526											2800	4439	3614	5253							
12		3149	4938													4991	4991	4016	5805					
13		3412	5349															3605	5542	4419				
14		3674	5761																	4007	6356	5635	7722	
15		3937	6172																		6094	5224	7459	
16		4199	6584																			4812	7197	

Switch Time (Sec*) for Double & Single Acting Actuator :

Size	002	004	007	010	018	025	045	055	090	130	220	260	390	600	760	1150	1680
AGD-Lagre Cap	NA	0.2	0.5	0.6	0.7	0.8	1.2	1.5	2.0	2.2	2.4	2.8	4.1	2.9	3.6	5.7	7.5
AGD-Short Cap	0.2	0.2	0.4	0.5	0.6	0.7	1	1.3	1.8	2	2.2	NA	NA	NA	NA	NA	NA
AGS (0-90°)	NA	0.4	0.8	0.9	1.1	1.1	1.1	1.2	1.4	1.5	1.7	2.6	3.4	3.4	4.4	6.6	11.1
AGS (90°-0)	NA	0.3	0.6	0.7	1	1	1	1.1	1.3	1.4	1.5	2.3	2.2	2.2	2.8	3.8	8.7

Torque-table double-acting actuator (Nm)

Actuator type	Control Pressure Pst (bar)											
	2	2.5	3	3.5	4	4.5	5	5.5	6	7	8	
002	5.1	6.4	7.6	8.9	10.2	11.4	12.7	14.0	15.2	17.8	20.3	
004	8.5	10.6	12.8	14.9	17.0	19.1	21.3	23.4	25.5	29.8	34.0	
007	14.96	18.70	22.44	26.18	29.92	33.66	37.40	41.14	44.88	52.36	59.84	
010	21.20	26.50	31.80	37.10	42.40	47.70	53.00	58.30	63.60	74.20	84.80	
018	36.30	45.37	54.45	63.52	72.60	81.67	90.75	99.82	108.9	127.05	145.2	
025	51.00	63.80	76.50	89.30	102.0	114.8	127.5	140.3	153.0	178.0	204.0	
045	90.6	113.2	135.9	158.5	181.2	203.8	226.5	249.1	271.7	317.0	362.3	
055	117.8	147.2	176.6	206.1	235.5	265.0	294.4	323.8	353.3	412.2	471.0	
090	184.9	231.1	277.3	323.5	369.7	415.9	462.2	508.4	554.6	647.0	739.4	
130	281.3	351.7	422.0	492.3	562.7	633.0	703.4	773.7	844.0	984.7	1125.4	
220	453.4	566.8	680.1	793.5	906.8	1020.2	1133.6	1246.6	1360.3	1587.0	1813.7	
260	526	658	789	921	1052	1184	1315	1447	1578	1841	2104	
390	773	966	1160	1353	1546	1739	1933	2126	2316	2706	3092	
600	1174	1486	1761	2054	2349	2642	2936	3229	3523	4110	4697	
760	1526	1980	2289	2670	3052	3434	3815	4197	4578	5341	6104	
1150	2285	2855	3427	3998	4570	5141	5712	6283	6854	7997	9139	
1680	3256	4069	4883	5697	6511	7325	8129	8953	9767	11394	13022	

Actuator Weights (Kgs)

Size	002	004	007	010	018	025	045	055	090	130	220	260	390	600	760	1150	1680
Double Acting	0.7	1.1	1.6	2.0	2.60	3.50	5.80	8.50	10.40	15.00	10.40	40.00	67.00	97.00	137.00	205.00	289.00
Single Acting	N A	1.3	1.8	2.3	3.00	4.30	6.60	9.90	12.9	19.10	12.9	19.60	20.00	118.00	163.00	258.00	361.00

Actuator Mounting Versions



Mounting the actuator onto the valve

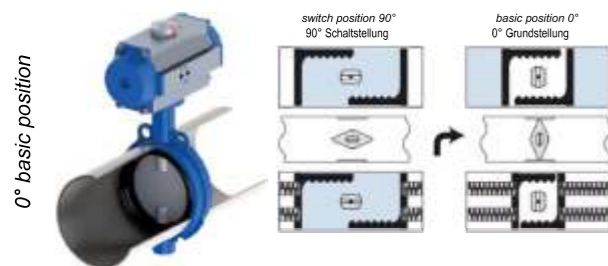
Before mounting onto the valve following is to be performed:

- Check whether the valve spindle and the drive pinion are parallel
- Check whether the mounting flange on the valve adapts to the actuator casing with regard to the need for additional adaptors (bridges, shaft, adapters, reduction pieces).

Insert the screws provided and tighten accordingly. Important: check rotational direction and the model type is correct before implementing.

Mounting version: H (double acting + single acting)

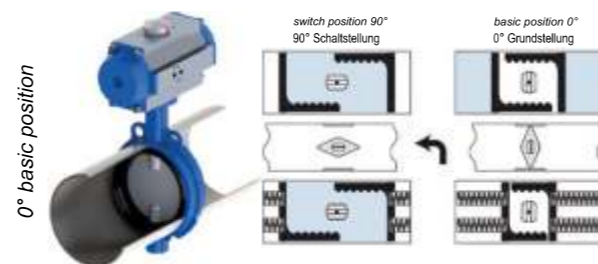
-Safety position: spring to close, clockwise rotation
-to DIN EN 15714-1



Standard: DIN EN 15714-1

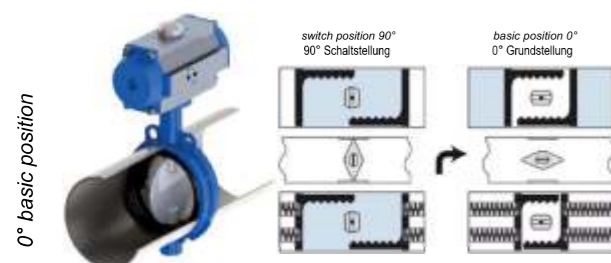
Mounting version: E (double acting + single acting)

-Safety position: spring to close, anti-clockwise



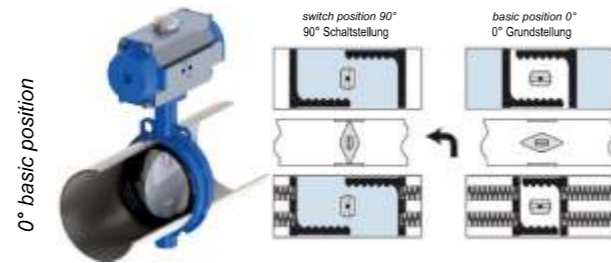
Mounting version: G (double acting + single acting)

-Safety position: spring to open, clockwise



Mounting version: F (double acting + single acting)

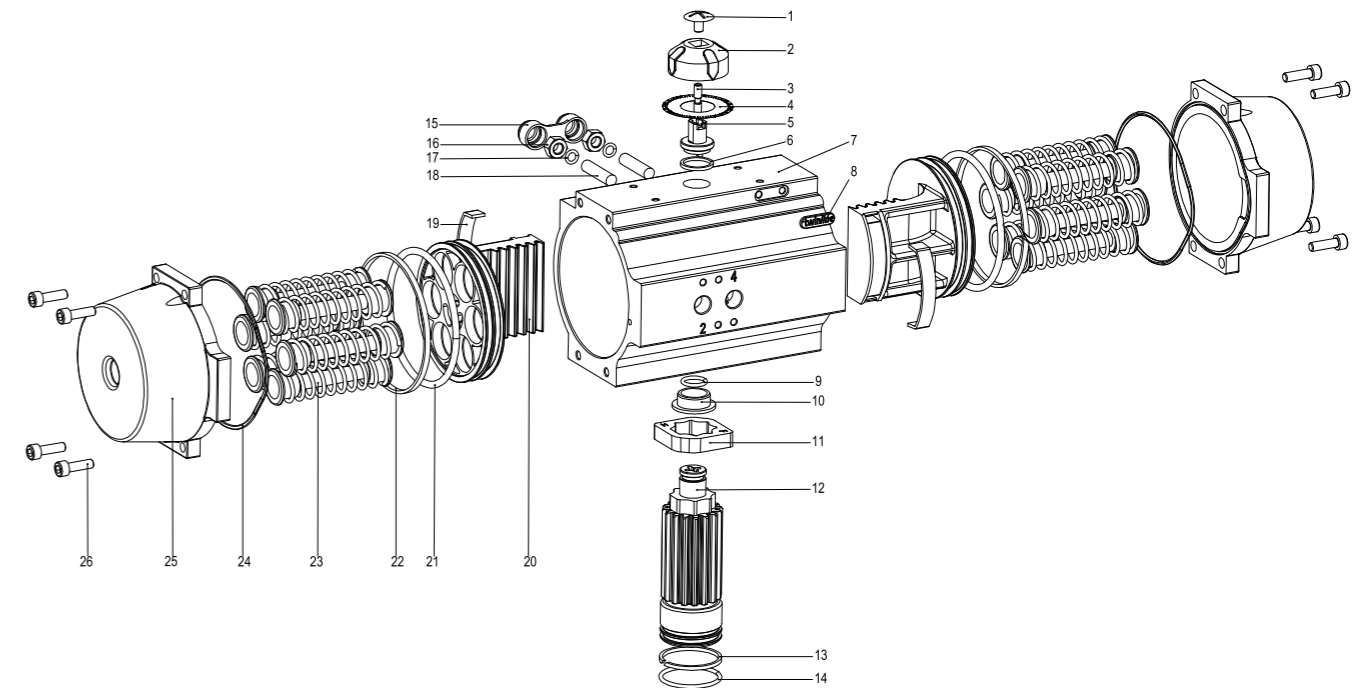
-Safety position: spring to open, anti-clockwise rotation



Actuator Assembly



Spare parts



- 1 screw
- 2 visual indicator
- 3 connection screw
- 4 scala
- 5 namur-shaft
- 6 distance washer
- 7 body
- 8 logo
- 9 o-ring
- 10 sliding bush

- 11 stop cam
- 12 pinion
- 13 sliding bush
- 14 o-ring
- 15 cover cap
- 16 hex nut
- 17 o-ring
- 18 adjusting screw
- 19 guide segment
- 20 piston

- 21 o-ring
- 22 piston guide
- 23 springs
- 24 end-cap seal
- 25 end-cap screw
- 26 screw

Spare part set | No. 1

Seal set

Parts: 9, 14, 17, 21, 24

Spare part set | Nr. 2

Wearing parts

Parts: 6, 10, 13, 19, 22