

AMG ACTUATORS COMPLETE PRODUCT RANGE

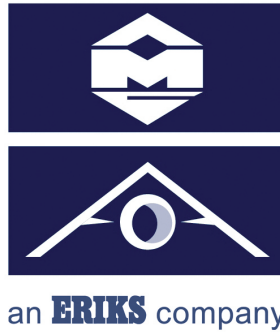
AMG-PESCH®



An **ERIKS** Company

QUALITY IS OUR DRIVE

AMG-PESCH®



Under the names PESCH, AMG and ABK, we are manufacturers and suppliers of complete solutions for valves, pneumatic actuators and controls.

We are active world wide, supported by a network of sales representatives and distributors, supported by our own subsidiaries and group companies.

Our activities comprise the design, manufacturing and sales of high quality pneumatic rack and pinion actuators and related control equipment. These are combined with standard valves from recognised brands or, in case of "ABK", with customised, tailor made solutions, of our own production.

The compact design, high performance valves and actuators of AMG - PESCH are specified where fluids are to be safely and efficiently transmitted in all fields of flow technology and automation.

In addition to the company headquarters in Cologne, another site is operated in Merseburg (Germany).

AMG - Pesch is supported by a reliable team of around 80 employees with a wide-range of expertise, many years of experience and Know-how, a mature and extensive product range and the latest technology in the field of flow technology and automation.

These factors have made the company one of Germany's leading providers to this industry.

The acquisition of the main assets and commercial activities of AMG-Pesch by ERIKS in 2011 will allow us to continue completing and developing our product range and to further increase customer satisfaction. Please contact us- we would be happy to provide you with more details and help in choosing your ideal combination. In addition, being part of ERIKS, we can offer you a wide range portfolio of technical products (www.eriks.com).

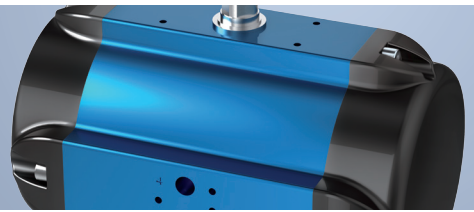
Quality is our drive



OVERVIEW PNEUMATIC ACTUATORS

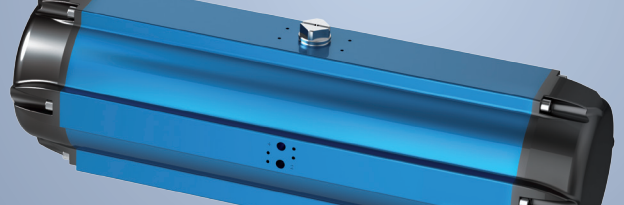
SAD / SAF SERIES

a) robust and longlife
b) with travel stop module



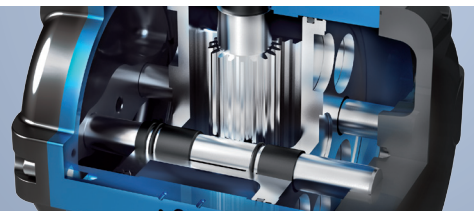
SAD / SAF 120°/135°/180°

for multi-way-valves



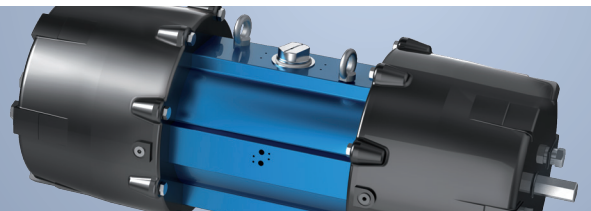
SAD HIGH PERFORMANCE

for special applications



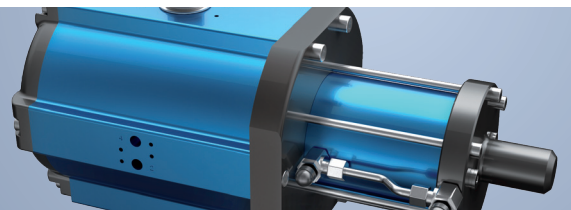
SADT / SADP

for high torques
from 3850 to 14900 Nm



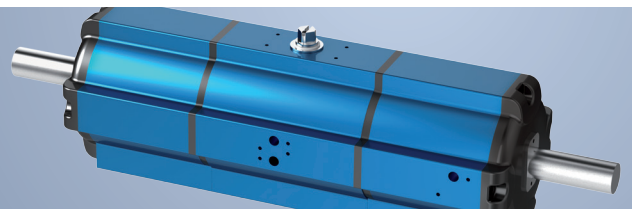
SAD / SAF HD

with hydraulic damping



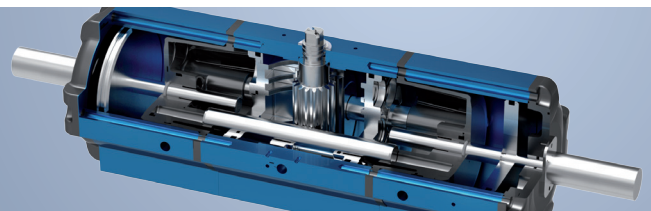
DAD / DAF

for dosing processes



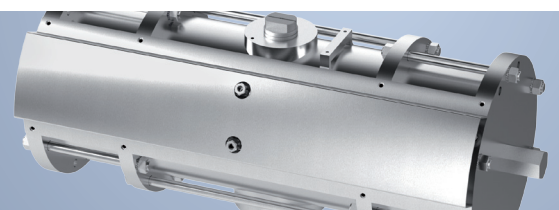
DAD / DAF, MODIFIED

mechanical partial stroke



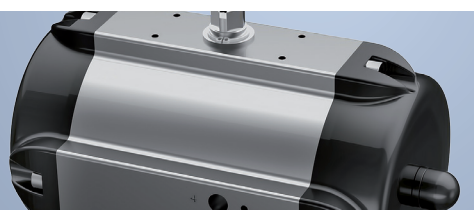
STAINLESS STEEL SERIES

for underwater use



PGD / PGF

cost-effective



DOUBLE-PISTON QUARTER TURN ACTUATORS

ADVANTAGES OF THE SAD / SAF SERIES

THE SAFE, RELIABLE AND LONG SERVICE LIFE OF AMG ACTUATORS IS GUARANTEED BY THE ROD GUIDED PISTONS:

- Tilting free motion of the pistons
- Prevents O-ring wear
- Smooth and uniform rotary motion
- Prevents stick-slip effects at low operating pressure and slow motion
- Fixed rotary angle 0° and 90°
- Precise end positions, by machined travel stops
- Unintended change of end positions during operation excluded
- 500.000 cycles guaranteed (open and close)
- Expected life time 3.000.000 cycles

APPLIED REGULATIONS, APPROVALS

- ATEX acc. to guideline 94 / 9 / EG , Zone 1 (Gas) und 21 (Dust)
- SIL 3 acc. IEC 61508
- DIN EN ISO 5211
- VDI / VDE 3845
- DIN EN 15714 - 3

5 END CAPS

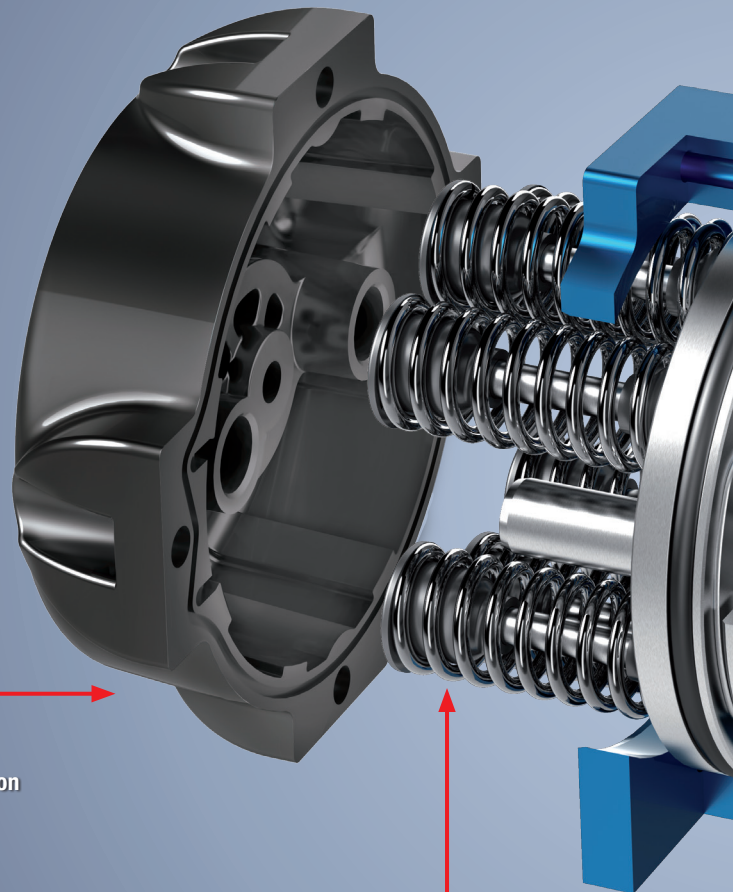
- Protected by a high grade cathodic electrodeposition coating, inside / outside, to prevent corrosion
- Spray tests acc. to DIN EN 9227 (former DIN 50021)
- Cross-cut tested acc. to DIN EN ISO 2409

FASTENERS

- Screws of high grade stainless steel
- Circlip and spacer ring stainless steel

4 SAFETY SPRING CARTRIDGES

- Captured spring cartridges, free of non-ferrous materials
- Easy and safe assembly / disassembly
- One spring is equivalent to 0,5 bar air pressure
- Corrosion protected by delta tone / delta seal coating

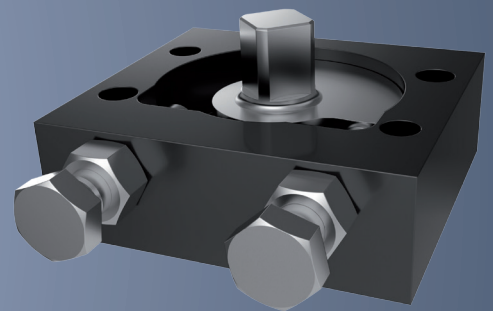
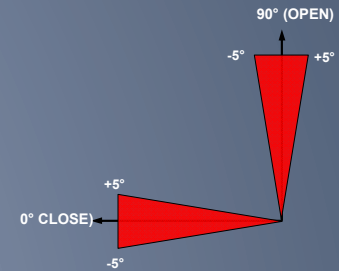


1 HOUSING

- Extruded aluminium
- Precise CNC machining
- Corrosion and wear protected by multi-layer anodising with embedded colour pigments
- Interface actuator / valve acc. to DIN EN ISO 5211
- Interface for signal transmitters and pilot valves according to VDI / VDE 3845 (NAMUR)

2 PINION SHAFT

- High strength stainless steel (1.4021)
- Corrosion resistant
- Inner square on 45° and 90° position
- High quality self lubricating shaft bearing material
- Maintenance free

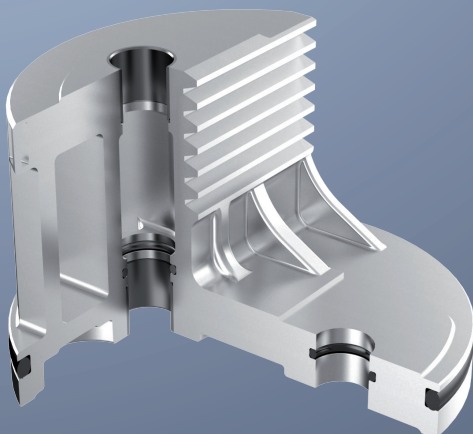


OPTION

- Adjustable travel modul
0° +/-5° to 90° +/-5°
- Outside pressurised housing
- Shaft of stainless steel (1.4021/1.4305) with own bearing, separately sealed
- Suitable for heavy duty applications (high dynamic forces)

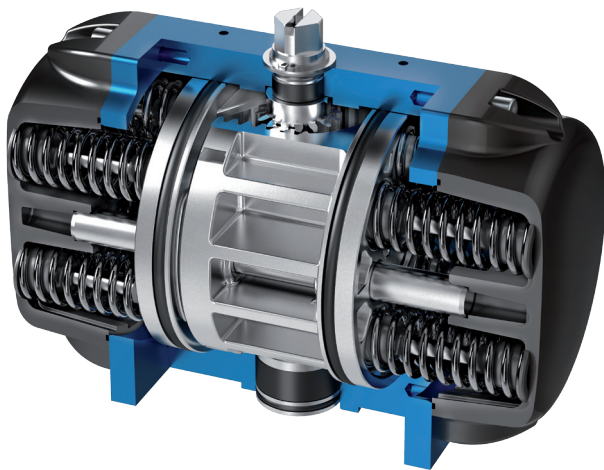
3 PISTON & GUIDE RODS

- Long life due to rod guided pistons
- Wide toothing width for high load capacity
- Maintenance free sliding bearing guides
- Machined toothing
- Machined travel stops
- Optimum piston guidance via long and pressure resistant slide bearings
- Polished rods, made of stainless steel (1.4021)



SERIES SAD / SAF

TYPE SAD / SAF



CHARACTERISTICS

- Rotation angle set at 90°
- Long life due to guide rods
- Pinion and screws made of stainless steel
- High-quality bearing materials for pinion and pistons

Torque [Nm] (6 bar working pressure)

Double acting		15	33	75	107	204	302	555	735	1120	1790	2270	2910	5220
Single acting		5	12	27	38	73	107	197	261	400	636	894	1060	1870
Size	05													
	10													
	15													
	20													
	25													
	30													
	33													
	35													
	40													
	42													
	43													
	45													
	50													

SAD / SAF DESIGN FEATURES

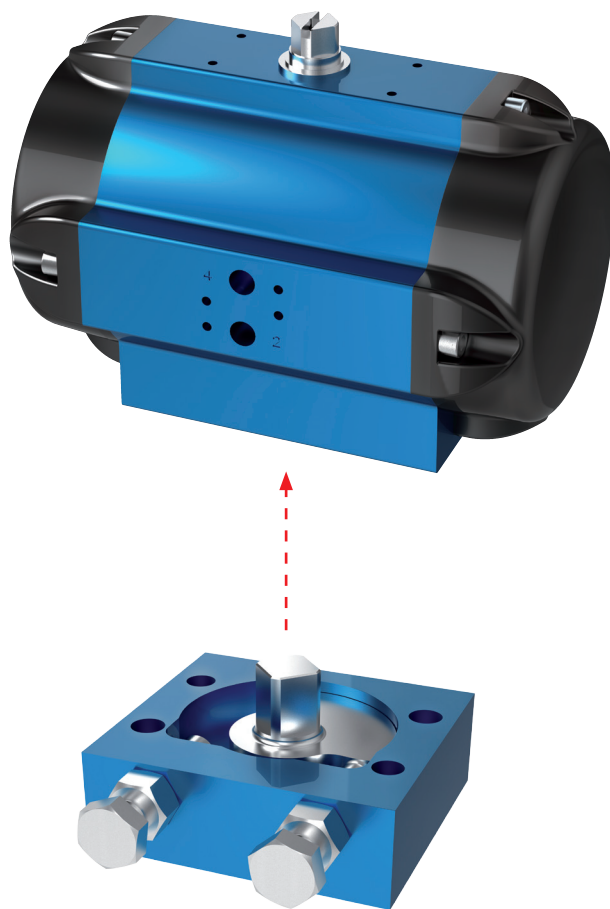
- Rod-guided pistons
- Lateral forces will be absorbed and transmitted into the end caps
- Precise angle of rotation (all components machined)
- High availability and long service life
- Spray tests acc. to DIN EN 9227 (former DIN 50021)
- Cross-cut tested acc. to DIN EN ISO 2409

DOUBLE-PISTON QUARTER TURN ACTUATORS

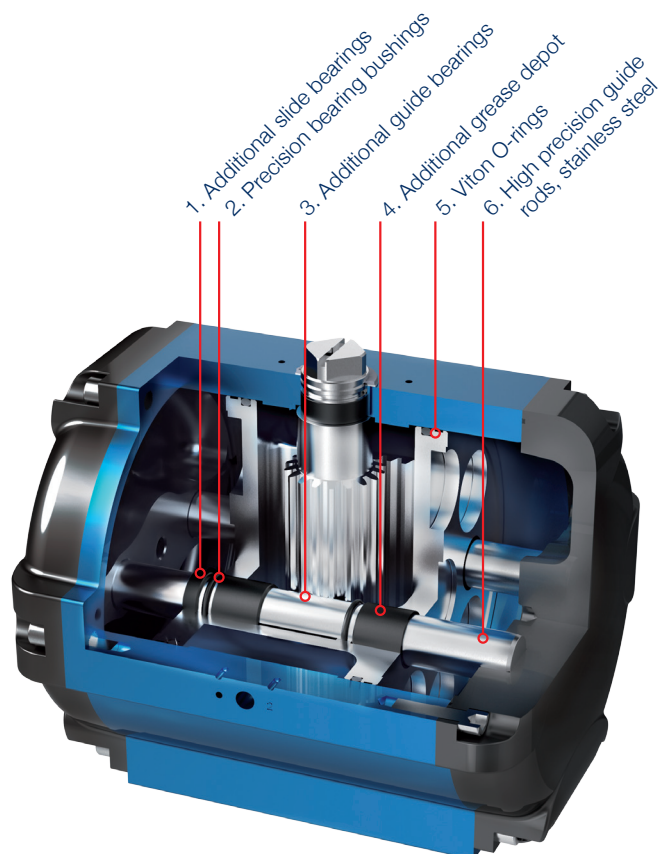
TYPE SAD / SAF

THE SERIES WITH TRAVEL STOP MODULE

- Adjustable travel stop module $0^\circ \pm 3^\circ$ to $90^\circ \pm 3^\circ$
- Inner rotation angle from -3° up to $+10^\circ$
- Outer rotation angle from $+80^\circ$ up to 93°
- Optionally lockable, to hold valves in their end-position
- Displacements and vibrations caused by flow effects will be safely absorbed and kept out of the actuator
- DIN EN ISO 5211 maintained



		Torque [Nm] (6 bar working pressure)												
Double acting		15	33	75	107	204	302	555	735	1120	1790	2270	2910	5220
Single acting		5	12	27	38	73	107	197	261	400	636	894	1060	1870
Size	05													
	10													
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	43													
	45													
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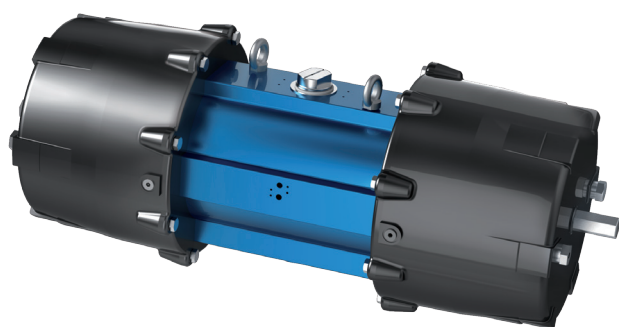


SAD HIGH PERFORMANCE

TYPE SAD HP

HIGH PERFORMANCE ACTUATOR FOR SPECIAL REQUIREMENTS

- High operating frequency
- Short operating-time
- High-performance grease
- 1. Additional slide bearings
- 2. Precision bearing bushings
- 3. Additional guide bearings
- 4. Additional grease depot
- 5. Viton O-rings
- 6. High precision guide rods, stainless steel



SADT / SADF

TYPE SADT / SADF

DOUBLE ACTING AT 6 BAR WORKING PRESSURE

The actuators of the series SADT / SADF achieve their high torques by tandem pistons

- | | |
|--------------|----------|
| ■ SADT 45/60 | 8982 Nm |
| ■ SADT 50/70 | 14880 Nm |

SPRING CLOSE AT 4,5 BAR WORKING PRESSURE

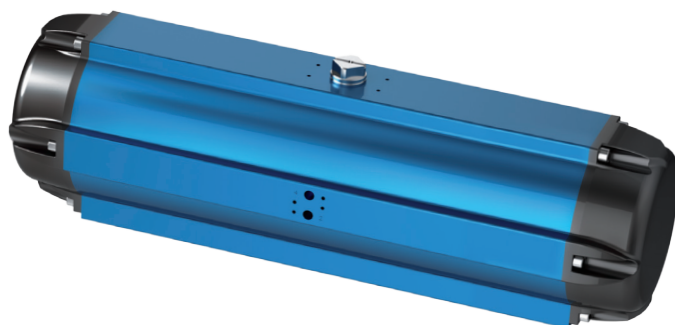
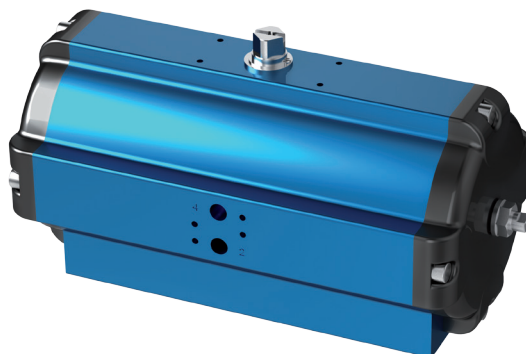
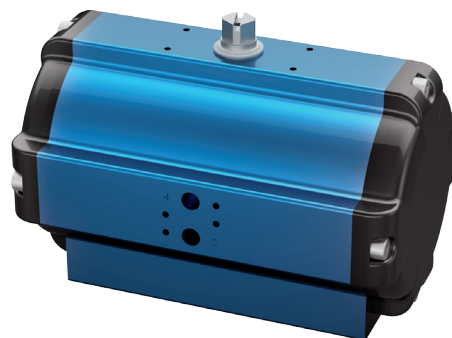
- | | |
|--------------|---------|
| ■ SADF 45/60 | 2146 Nm |
| ■ SADF 50/70 | 3846 Nm |

SAD DOUBLE ACTING

- Rotation angle adjustable at 120° +/- 5° in the end-position
- Fixed rotation angle set at 135°
- Rotation angle adjustable at 180° +/- 5° in the end-position
- Pneumatically middle centered at 90° (**SAD-M**) 0°-90°-180°
- Example of application: diverter and 3-way-valves

SAF SINGLE ACTING

- Rotation angle can be adjusted at 180° +/- 5° in the end-position
- Spring-centered middle position at 90° (**SAF-M**) 0°-90°-180°

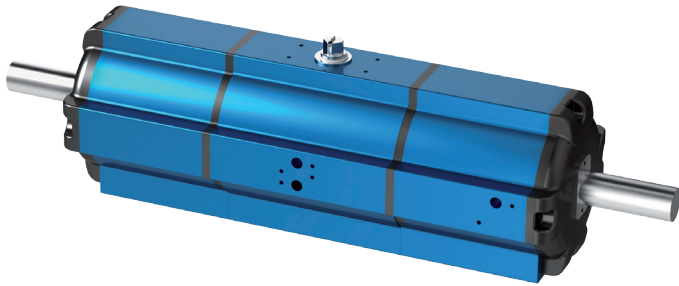


		Torque [Nm] (6 bar working pressure)							
Double acting		75	107	204	302	555	735	1120	1790
Single acting		27	38	73	107	197	261	400	636
Size	15								
	20								
	25								
	30								
	33								
	35								
	40								
	42								

DOSING ACTUATOR DAD / DAF

TYPE DAD / DAF

CHARACTERISTICS



The dosing actuator offers two different angles of rotation

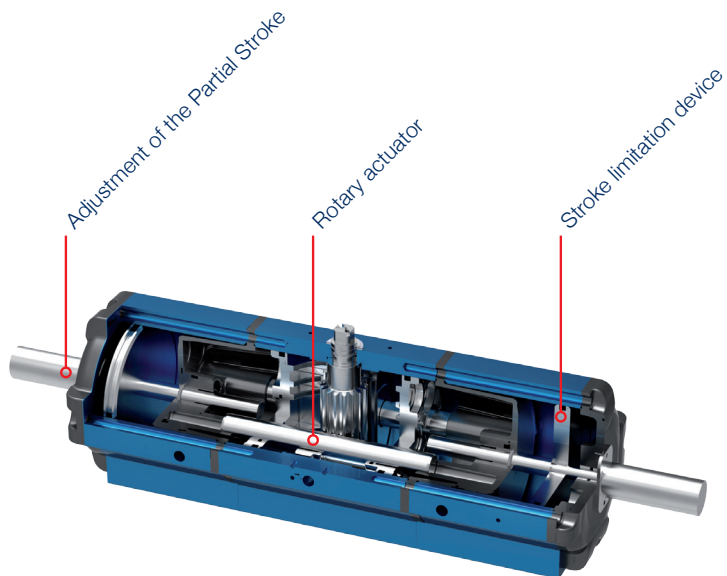
Normal operation: fixed rotation-angle 0° to 90°

Dosing mode: adjustable at any position between 0 ° and 90 °

■ DAD double-acting
self locking in case of lose of air supply

■ DAF single acting
regularly closed in case of lose of air supply

Also suitable for Partial-Stroke-application



OPERATING PRINCIPLE

Normal operation:

The actuator works like a standard single or double acting type.
The operation is controlled by a 3/2 or 5/2 solenoid valve

Dosing mode:

The dosing pistons are activated by an additional solenoid valve

Rotation angle adjustable at any position between 0 ° and 90 °

		Torque [Nm] (6 bar working pressure)								
Double acting		33	75	107	204	302	555	735	1120	1790
Single acting		12	27	38	73	107	197	261	400	636
Size	10									
	15									
	20									
	25									
	30									
	33									
	35									
	40									
	42									

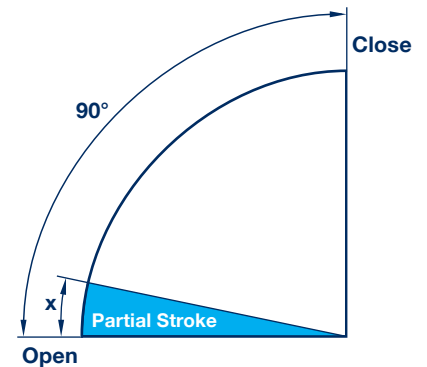
PARTIAL STROKE APPLICATIONS

OPTIONS

ELECTRONIC SOLUTIONS

Pneumatic actuator with positioner

- Use of standard components
- Partial Stroke variably adjustable
- Remote-controlled or local activation
- Partial Stroke Test can be triggered automatically
- Electronically documented test results



PNEUMATIC SOLUTIONS

Rotary actuators with additional pneumatic valves

- Remote controlled or locally activated
- Partial Stroke angle mechanically adjustable
- Cost-effective solution

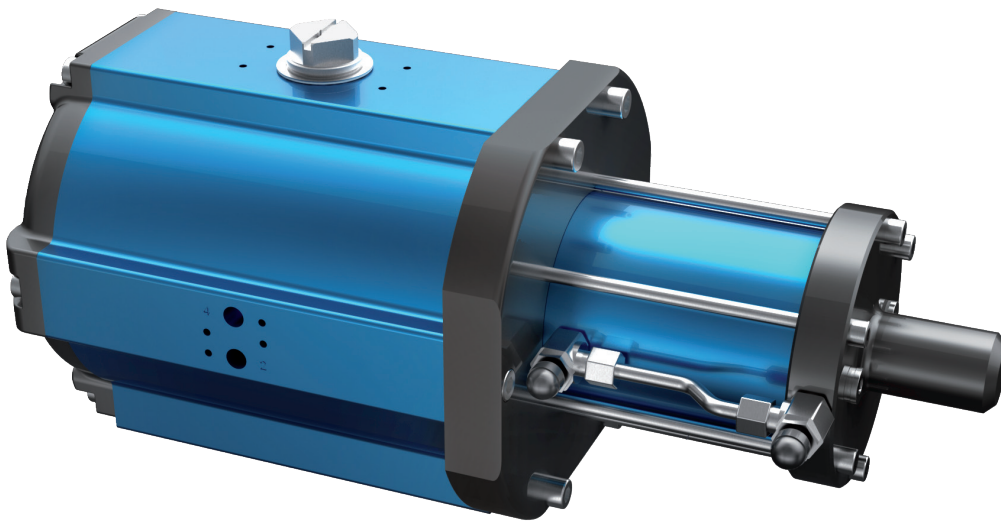
MECHANICAL SOLUTIONS

Actuators with Partial Stroke function (DAD / DAF) or with external module

- Mechanical Partial-Stroke-stops
- Remote controlled or locally activated
- High reliability due to mechanical solution
- Simple, robust and cost-effective

SAD / SAF HD**TYPE SAD / SAF HD****ROTARY ACTUATOR WITH HYDRAULIC DAMPING**

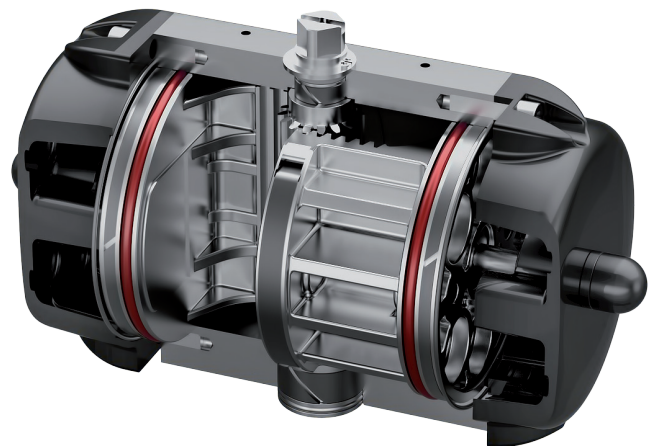
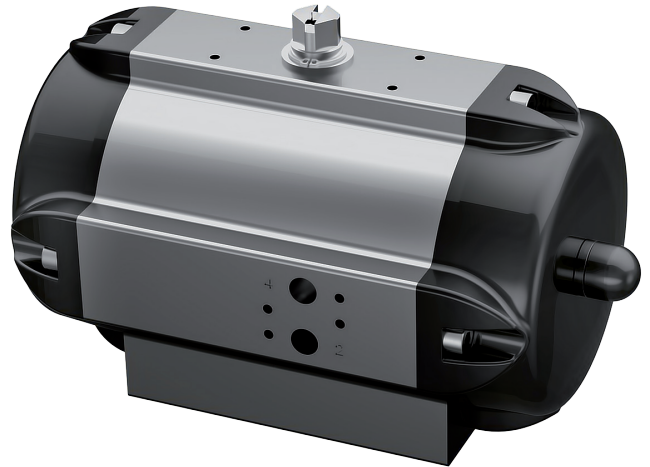
- Adjustable operation times
- To avoid pressure impacts in the piping system
- Operation time independent from working pressure



		Torque [Nm] (6 bar working pressure)							
Double acting		107	204	302	555	735	1120	1790	2910
Single acting		38	73	107	197	261	400	636	1060
Size	20								
	25								
	30								
	33								
	35								
	40								
	42								
	45								

DESIGN FEATURES

- Outer position adjustable between 86° to 94°
- Two ISO flange sizes
- Pinion and screws made of corrosion protected steel
- High quality bearing materials for pinion and pistons
- Pistons guided by the housing
- Lateral forces absorbed by slip bearings
- Long life due to PTFE based bearing materials



		Torque [Nm] (6 bar working pressure)								
Double acting		23	33	75	107	204	302	550	735	1100
Single acting		8	12	27	38	73	107	197	261	400
Size	7									
	10									
	15									
	20									
	25									
	30									
	33									
	35									
	40									

STAINLESS STEEL SERIES

TYPE STAINLESS STEEL

CHARACTERISTICS

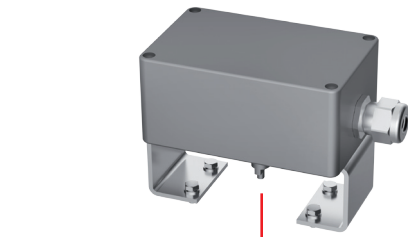
- High corrosion protection, also in oxygen-rich water
- Suitable for use in salt water and ambience
- High reliability through long life lubrication, maintenance-free
- All external parts made of V4A (1.4571) steel
- Standardised interfaces acc to DIN EN ISO 5211
- Pinion features:
 - high-strength, acid-resistant stainless steel
 - special lubrication for long life
 - guided by maintenance-free sliding bushes
- Aluminium pistons with extra wide toothing for smooth running
- Torques range from 1000 Nm to 10.000 Nm
- Limit switch boxes available in stainless steel
- Rod guided pistons
- Maintenance-free slip bearings
- Transversal and tilting moments absorbed by guide rods
- Lateral forces will be absorbed and transmitted into the end caps
- Long service life and maximum availability guaranteed



Torque [Nm] (6 bar working pressure)

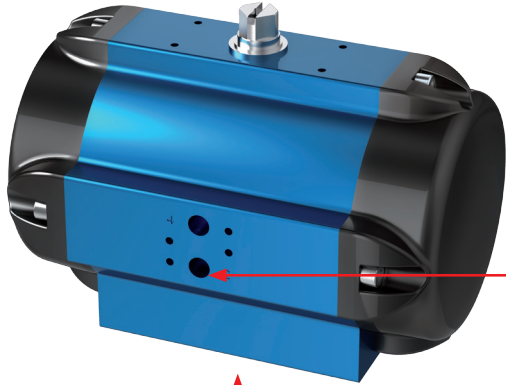
Double acting		1.120	1.790	2.385	2.910	5.220	10.400
Size	40						
	42						
	43						
	45						
	50						
	50/50						

CONNECTING OPTIONS FOR ACCESSORIES



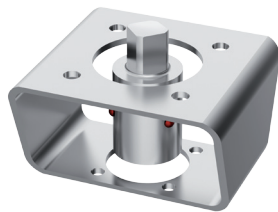
LIMIT SWITCH BOX

for signaling of end position



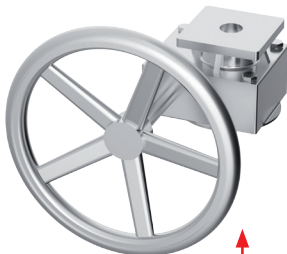
SOLENOID VALVE

for quarter turn actuator control



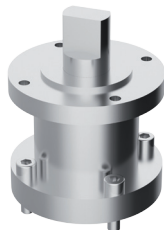
COUPLING & BRACKET

to connect valve and actuator



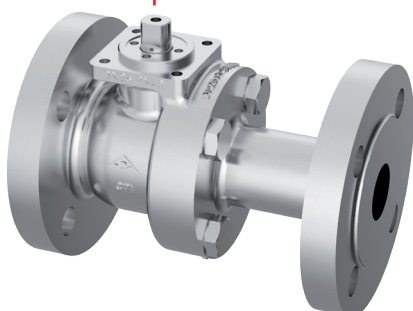
MANUAL EMERGENCY GEAR

for manual operation of the actuator



PINION SHAFT EXTENSION

to keep away extreme process temperatures from the actuator, to implement a leaking advice, monitoring of functionality and tightness



VALVES

all designs featuring a rotary movement, such as

Ball valves
Plug valves
Butterfly valves
Control valves

LOCATIONS



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