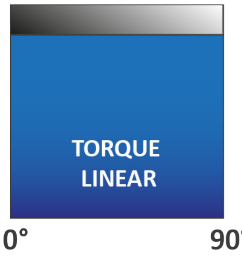
Pneumatic actuator

PRD/PRE-115

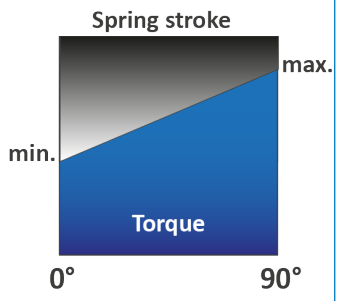
Design	Pneumatic double-piston rotary actuator in rack and pinion design	
Function	Double- and single-acting	
Material	Housing	Anodised aluminum ASTM 6083, UNI 4522
	Caps	Aluminum UNI 5076, epoxy resin coated
	Pistons	Aluminum UNI 5076
	Pinion	Steel, nickel-plated (optional: stainless steel)
	Bearings	POM
	Sealings	NBR, optional: FKM or silicone
Temperature range	Standard (NBR)	-50°C...+70°C
	High temperature (Viton)	-15°C...+160°C
	Extended temperature (Silicone)	-60°C...+200°C
ATEX marking	CE Ex	II 2 G Ex h IIC T5...T2 Gb II 2 D Ex h IIIC 170°C Db
Control pressure	2...8 bar	
Control media	Dry, filtered air or inert gases in respect of remaining oil-, dust and water-content according to DIN ISO 8573-1 / class 4, maximum particle diameter 30µm, dew point minimum 10°C below ambient temperature	
Mounting position	Any mounting position	
Nominal rotation angle	90°, 120°, 180° resp. 240° Adjustable in one end position +/-5° (optional 100% stroke adjustment) Version BE: Adjustable in both end positions	
Standards	Interface actuator/ feedback-unit	VDI/VDE 3845 resp. NAMUR
	Interface actuator/ control media	VDI/VDE 3845 resp. NAMUR
	Interface actuator/ valve	ISO 5211 and DIN 3337

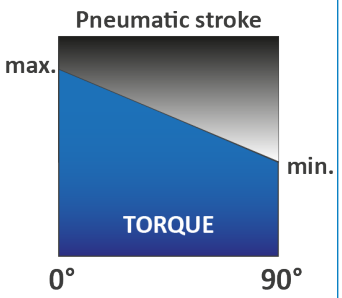
Torque diagram

Double-acting
Provides a linear and constant torque through the complete pivoting angle in both pivoting directions.



Single-acting
Provides a linearly reducing torque through the complete pivoting angle in both pivoting directions.
Offers the maximum torque at the beginning of each stroke to overcome the breakaway torque.





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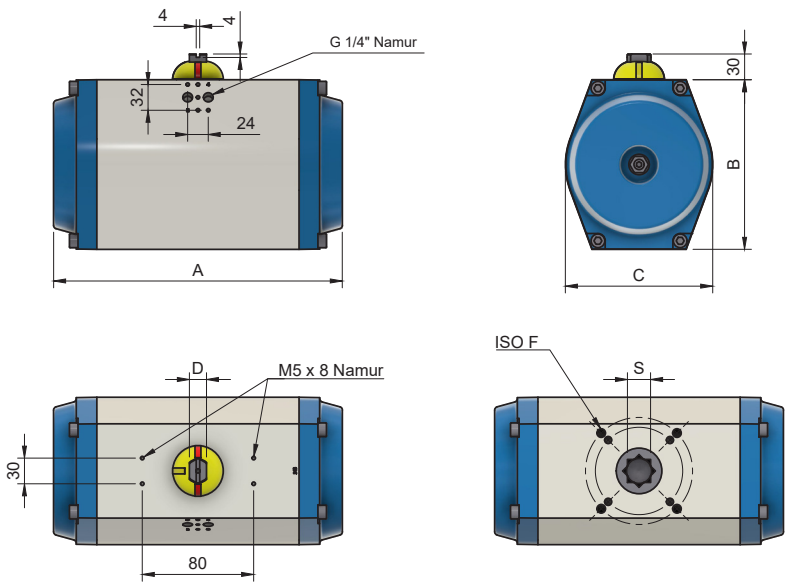
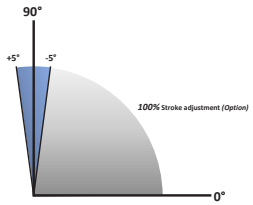
Dimensions



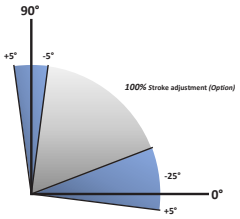
Angle adjustment

Variant „Standard“



The switch position can be adjusted by +/-5° for a precise setting of the final valve position.
The optional stroke adjustment offers a 100% setting of the switched end position.

Variant „BE“



With the “BE” option, both end position can be set independently of one another for fine adjustment.

Dimension table

Dimensions in mm							
A			B	C	D	S	ISO-F
90⁰	120⁰	180⁰					
293	345	429	140	120	20	22	F07/F10

Volume, weight

Volume (l)				Weight (kg)			
90⁰ single-acting	90⁰ double-acting	120⁰ double-acting	180⁰ double-acting	90⁰ single-acting	90⁰ double-acting	120⁰ double-acting	180⁰ double-acting
1,40	2,70	3,05	5,00	8,35	7,10	8,00	9,70

Torques double-acting

Control Pressure in bar (g)	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	8
Torque in Nm	86,0	107,5	129,0	150,5	172,0	193,5	215,0	240,8	258,0	279,5	301,0	344,0

Torques single-acting

		Torque spring in Nm		Torque pneumatic stroke in Nm at Control Pressure in bar (g)															
				2		3		4		5		5,5		6		7		8	
Spring set		max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.
Torque in Nm	2	36	21	64	49	107	92	150	135	193	178	219	204	236	221	279	264	322	307
	4	73	43	43	12	86	55	129	98	172	141	198	166	215	184	258	227	301	270
	6	109	64	-	-	64	17	107	60	150	103	176	129	193	146	236	189	279	232
	8	146	85	-	-	-	-	85	23	128	66	154	92	171	109	214	152	257	195
	10	182	106	-	-	-	-	-	-	107	29	132	55	150	72	193	115	236	158
	12	219	128	-	-	-	-	-	-	-	-	111	18	128	35	171	78	214	121