


# PR033

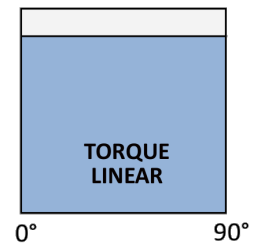
<b>Design</b>	Pneumatic double-piston rotary actuator in rack and pinion design
<b>Function</b>	Double- and single-acting execution
<b>Standards</b>	Interface actuator/feedback-unit - VDI/VDE 3845 (NAMUR)  Interface actuator/control media - VDI/VDE 3845 (NAMUR)  Interface actuator/valve - ISO5211 / DIN 3337
<b>Temperature range</b>	Standard: -20°C ... +80°C Low temperature version: -40°C ... +80°C High temperature version: -10°C ... +150°C
<b>Nominal angle</b>	90°
<b>Angle adjustment</b>	Adjustable in both end positions +/-5° Optional stroke adjustment up to 100%
<b>ATEX marking</b>	 II 2 G Ex h IIC T6...T3 Gb II 2 D Ex h IIIC 170°C Db
<b>Control Pressure</b>	2 up to 8 bar
<b>Control media</b>	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
<b>Material</b>	Body: Aluminium, powder-coated Caps: Aluminium, powder-coated Pistons: Aluminium Pinion shaft: Carbon steel, nickel plated Bearings: POM Sealings: Standard: NBR Optional: HNBR/FPM/Silicone Screws: Stainless steel



## Torque diagram

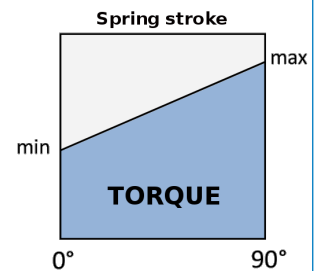
### Double-acting

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

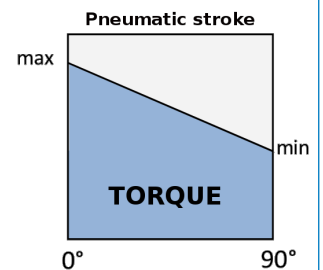


### Single-acting

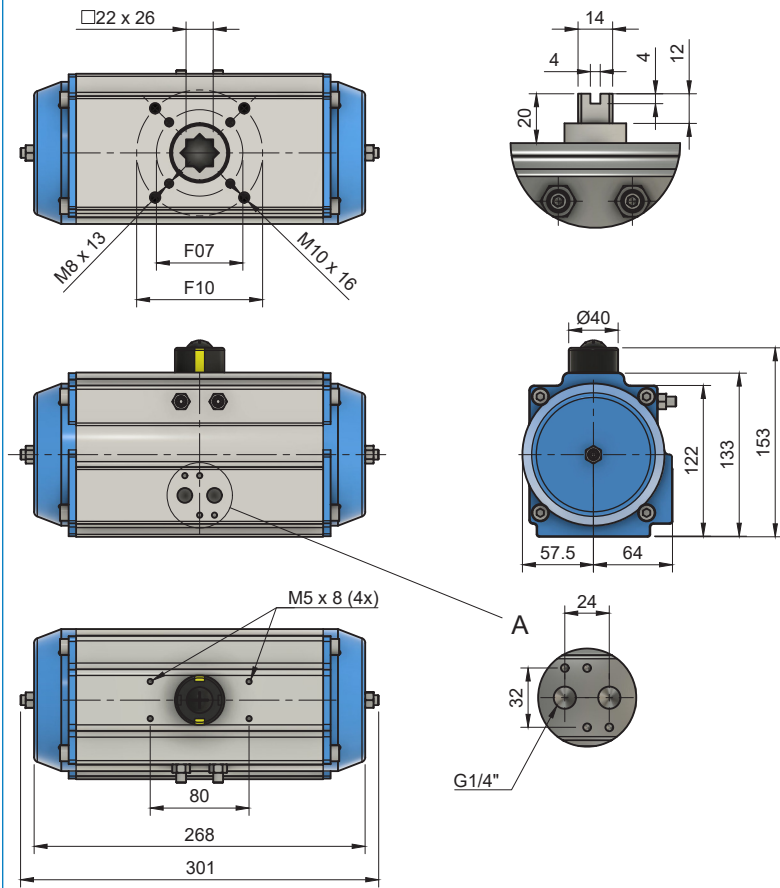
Provides a linearly reducing torque through the complete pivoting angle in both pivoting directions.



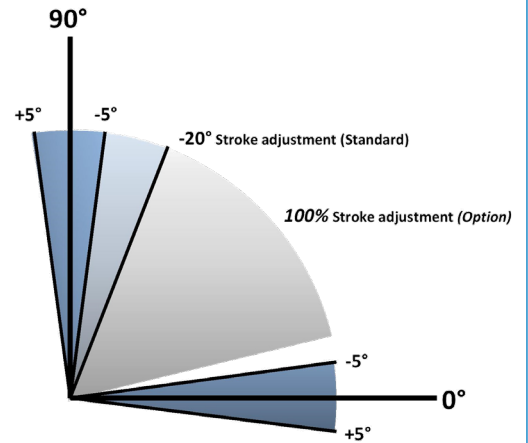
Offers the maximum torque at the beginning of each stroke to overcome the breakaway torque.



## Dimensions



## Angle adjustment



Both end positions 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.

## Torques double-acting

Control pressure in bar (g)	2	2,5	3	3,5	4	4,5	5	5,5	6	6,5	7	7,5	8
Torque in Nm	65,8	82,2	98,7	115,1	131,6	148,0	164,5	180,9	197,4	213,8	230,3	246,7	263,2

## Torques single-acting

Torque spring stroke in Nm			Control pressure in bar (g)																		
			3		3,5		4		4,5		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	max	min	
Torque in Nm	5	49	32	68	50	84	66	101	83												
	6	59	38	61	40	78	57	94	73	111	90	127	106								
	7	69	44	55	30	71	47	88	63	104	80	121	96								
	8	79	51	49	20	65	37	82	54	98	70	115	87	131	103	148	120	181	153		
	9	89	57			59	27	75	44	92	60	108	77	125	93	142	110	175	143		
	10	98	63					69	33	85	50	102	67	119	83	135	100	168	133	201	166
	11	108	70							79	40	96	57	112	74	129	90	162	123	195	156
	12	118	76									89	48	106	64	123	81	156	114	189	147

## Weight, volume

Function	Weight (kg)	Volume (l)
double-acting	6,8	1,83
single-acting	6,9	0,95

## Air consumption

Function	Air consumption for pivoting angle 90° at control pressure in bar (g) in litres/cycle								
	3	3,5	4	4,5	5	5,5	6	7	8
double-acting	5,49	6,41	7,32	8,24	9,15	10,07	10,98	12,81	14,64
single-acting	2,85	3,33	3,80	4,28	4,75	5,23	5,70	6,65	7,60