


# PR1143

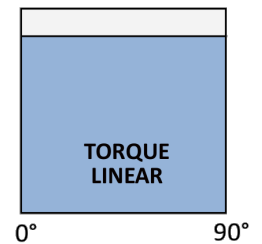
<b>Design</b>	Pneumatic double-piston rotary actuator in rack and pinion design
<b>Function</b>	Double- and single-acting execution
<b>Standards</b>	Interface actuator/feedback-unit - VDI/VDE 3845 (NAMUR)  Interface actuator/control media - VDI/VDE 3845 (NAMUR)  Interface actuator/valve - ISO5211 / DIN 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>	CE  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

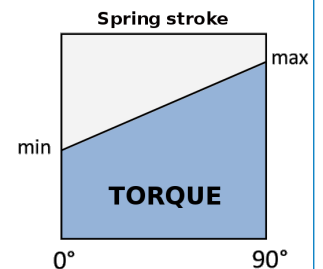
### Double-acting

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

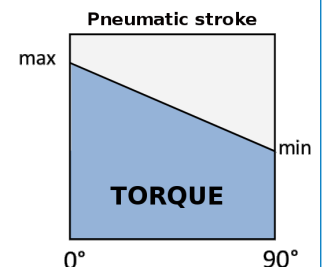


### Single-acting

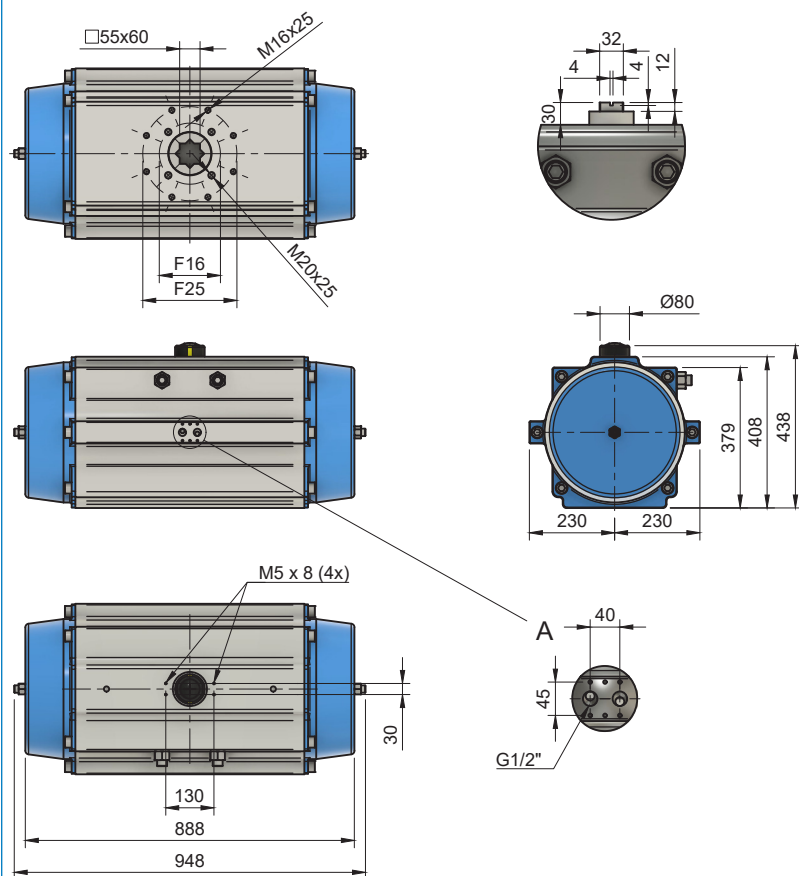
Provides a linearly reducing torque through the complete pivoting angle in both pivoting directions.



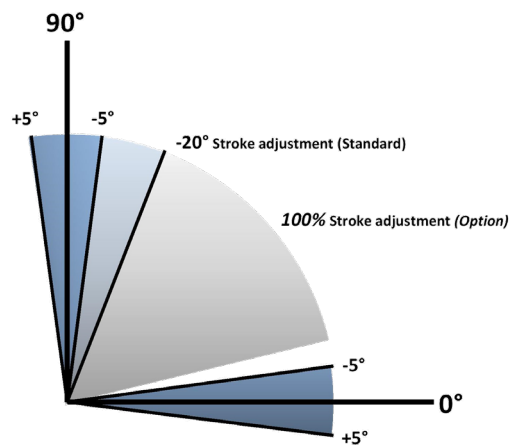
Offers the maximum torque at the beginning of each stroke to overcome the breakaway torque.



### 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	2285	2856	3427	3998	4569	5140	5711	6282	6853	7424	7995	8566	9137

### 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	1703	1174	2124	1535	2696	2107														
	6	2043	1408	1863	1157	2435	1729	3006	2300												
	7	2383	1642	1602	779	2174	1351	2745	1922	3330	2494										
	8	2724	1877	1341	401	1913	973	2484	1544	3055	2115	3626	2686								
	9	3064	2112			1668	594	2224	1165	2780	1736	3336	2307	3922	2878	4508	3449				
	10	3405	2346					1963	787	2534	1358	3105	1929	3676	2500	4247	3071	5390	4214	6532	5356
	11	3745	2581							2273	980	2844	1551	3415	2122	3986	2693	5129	3836	6271	4978
	12	4086	2816									2584	1172	3155	1743	3726	2314	4869	3457	6011	4599

### Weight, volume

Function	Weight (kg)	Volume (l)
double-acting	186,0	81,4
single-acting	234,0	35,1

### 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	244,2	284,9	325,6	366,3	407,0	447,7	488,4	569,8	651,2
single-acting	105,3	122,9	140,4	158,0	175,5	193,1	210,6	245,7	280,8