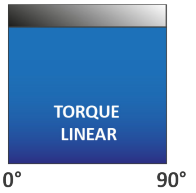
Pneumatic actuator 90°

PR1628

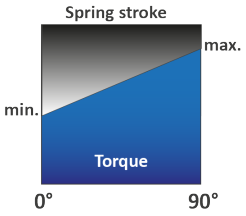
Design	Pneumatic double-piston rotary actuator in rack and pinion design	
Function	Double- and single-acting	
Material	Body	Aluminum, powder-coated
	Caps	Aluminum, powder-coated
	Pistons	Aluminum
	Pinion shaft	Carbon steel, nickel plated
	Bearings	POM
	Sealings	Standard: NBR Optional: HNBR/FPM/Silicone
	Screws	Stainless steel
Temperature range	Standard	-20°C...+80°C
	Low temperature version	-40°C...+80°C
	High temperature version	-10°C...+150°C
ATEX marking	CE Ex	II 2 G Ex h IIC T6...T3 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° Adjustable in both end positions +/-5° (optional stroke adjustment up to 100%)	
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

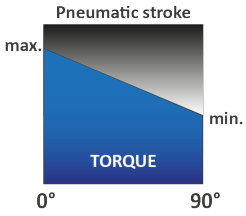
Torque diagram

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



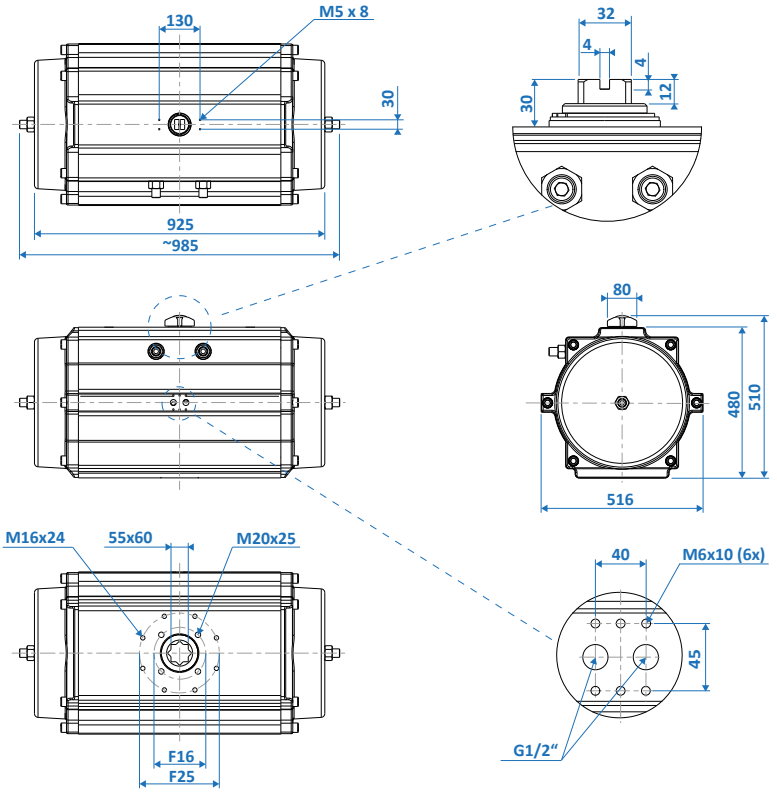
Single-acting
Provides a linearly reducing torque through the complete pivoting angle in both pivoting directions.
Offers the maximum torque at the beginning of each stroke to overcome the breakaway torque.



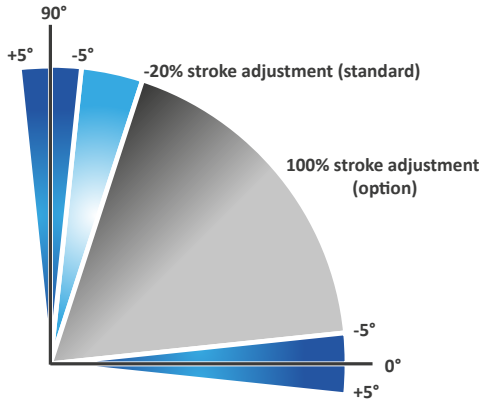


ProtACT GmbH | Märkerstraße 18 | 56307 Dernbach | Tel: +49 (0) 2605 96 25 19-0
Email: protact@protact-gmbh.de | Website: www.protact-gmbh.de

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	7	8
Torque in Nm	3256	4070	4884	5698	6512	7326	8140	8954	9768	11396	13024

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	2057	1312	3572	2827	4386	3641	5200	4455	6014	5269	6828	6083	7642	6897	8456	7711	10084	9339	11712	10967
	6	2469	1575	3309	2415	4123	3229	4937	4043	5751	4857	6565	5671	7379	6485	8193	7299	9821	8927	11449	10555
	7	2880	1837	3047	2004	3861	2818	4675	3632	5489	4446	6303	5260	7117	6074	7931	6888	9559	8516	11187	10144
	8	3292	2100	2784	1592	3598	2406	4412	3220	5226	4034	6040	4848	6854	5662	7668	6476	9296	8104	10924	9732
	9	3703	2362	2522	1181	3336	1995	4150	2809	4964	3623	5778	4437	6592	5251	7406	6065	9034	7693	10662	9321
	10	4115	2625	2260	769	3074	1583	3888	2397	4702	3211	5516	4025	6330	4839	7144	5653	8772	7281	10400	8909
	11	4526	2887			2811	1172	3625	1986	4439	2800	5253	3614	6067	4428	6881	5242	8509	6870	10137	8498
	12	4938	3149			2549	760	3363	1574	4177	2388	4991	3202	5805	4016	6619	4830	8247	6458	9875	8086
	13	5349	3412					3100	1163	3914	1977	4728	2791	5542	3605	6356	4419	7984	6047	9612	7675
	14	5761	3674					2838	751	3652	1565	4466	2379	5280	3193	6094	4007	7722	5635	9350	7263
	15	6172	3937							3389	1154	4203	1968	5017	2782	5831	3596	7459	5224	9087	6852
	16	6584	4199							3127	742	3941	1556	4755	2370	5569	3184	7197	4812	8825	6440

Weight, volume

Function	Weight (kg)	Volume (l)
double-acting	289,0	108,6
single-acting	360,0	52,6

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	325,8	380,1	434,4	488,7	543,0	597,3	651,6	760,2	868,8
single-acting	157,8	184,1	210,4	236,7	263,0	289,3	315,6	368,2	420,8