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Pneumatic Rotary Actuator

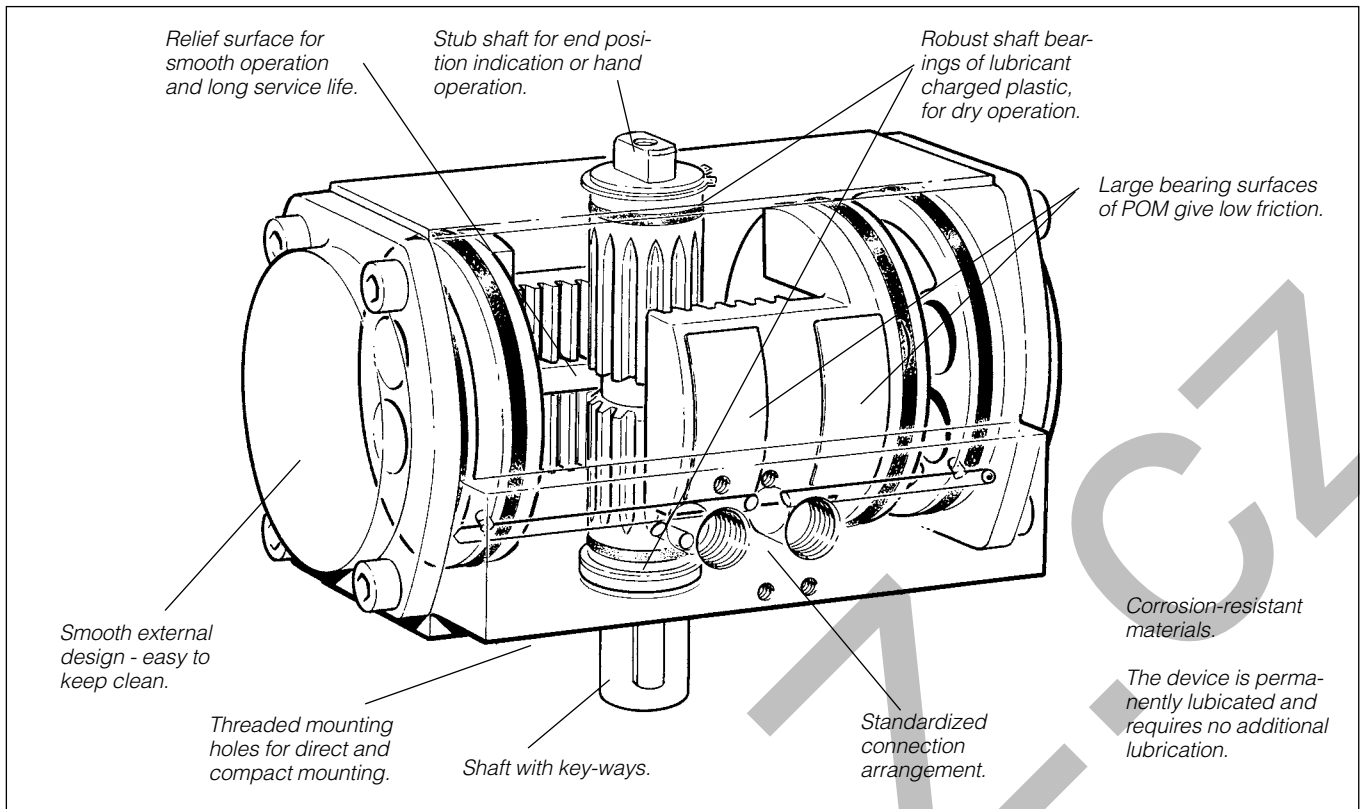
Series RA

Catalogue PDE2556TCUK April 2011



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Rotary Actuators - Series RA



Pneumatic rotary actuator RA

The RA is a double-acting rotary actuator of very compact design. It has a high torque and small installation dimensions. The actuator has double pistons, which transmit the turning moment to the output shaft. The toothed piston rods act on the output shaft in a rack-and-pinion type arrangement. Each piston and toothed rod is of integral construction. The rack-and-pinion type arrangement gives an even turning moment throughout the rotation movement.

The drive shaft is robustly supported in bushings of self-lubricating plastic. There are key-ways on the output end of the shaft, while the opposite end of the shaft has a stub that can be used to accommodate end-position indication, or to facilitate hand operation of the actuator. The turning limits of the rotary actuator should be determined by external stop lugs, in order to protect the unit from the effects of excessive load inertia.

Compressed air is fed into the piston chambers via a connection plate and drilled galleries in the central part and end covers. The connection plate is fitted to a standardized connection arrangement on one of the long sides of the unit. This means that the end covers are completely smooth, without any protruding parts.

The RA rotary actuator has a cylinder block of natural anodized aluminium, with end covers of black anodized aluminium. The unit is available in 5 different sizes, covering a turning-moment range of 20 to 200 Nm. As standard, all sizes are available with a turning angle of either 90° or 180°.

Technical data

Working medium	dry, filtered compressed air
Working pressure	max. 10 bar
Working temperature	-20 °C to +80 °C

Prelubricated, further lubrication is not normally necessary. If additional lubrication is introduced it has to be continued.

Ordering information for RA

Angle	Order code
90°	RA2-90
180°	RA2-180
90°	RA4-90
180°	RA4-180
90°	RA8-90
180°	RA8-180
90°	RA12-90
180°	RA12-180
90°	RA20-90
180°	RA20-180

Material specification

Cylinder block/end covers	Anodized aluminium, natural/black
Pistons	Aluminium
Relief surface bars	Stainless steel
Shaft	Zinc-plated steel
End cover screws	Zinc-plated steel
Seals	Nitrile rubber, NRB
Piston bearings	POM
Shaft bearings	Polyethene MOS2



Important

Before attempting any external or internal work on the rotary actuator or any connected components, make sure the rotary actuator is vented and disconnect the air supply in order to ensure isolation of the air supply.

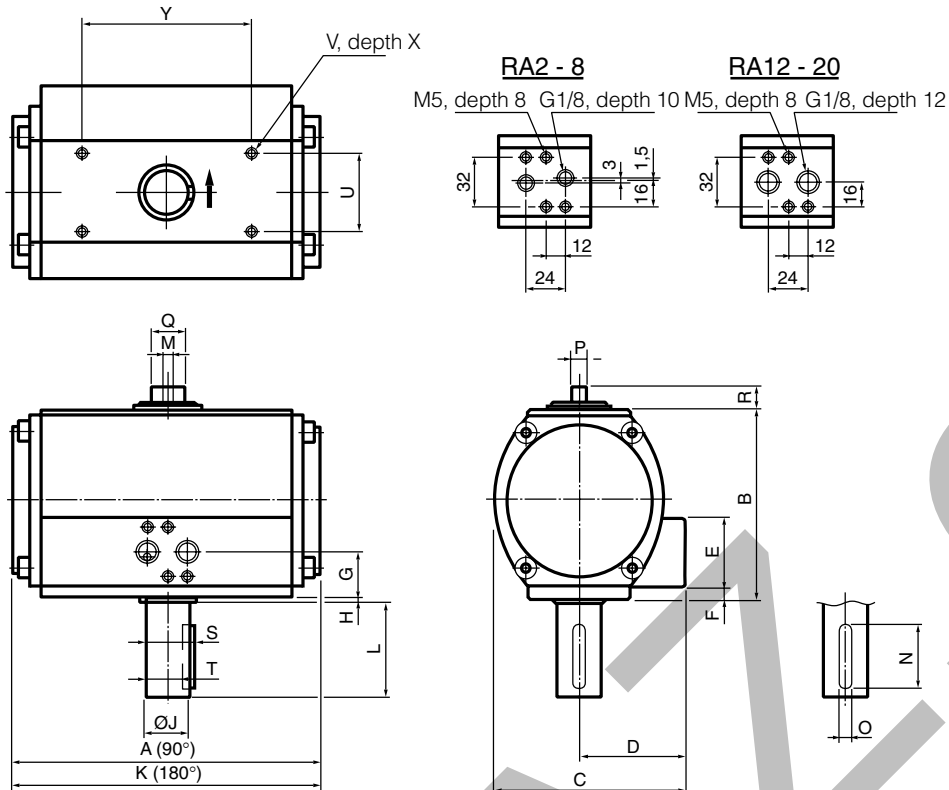
Note

Air quality is essential for maximum cylinder service life (see ISO 8573).

Note

All technical data in this catalogue is typical data only.

Dimensions



Connection arrangements:
EURO standard
according to ISO and
Namur- VDI/VDE 3845

The turning limits
should be determined
by external stop lugs.

Designation	A	B	C	D	E	F	G	H	ØJh8	K	L	M	N	O	P
RA2	114,5	73,0	75,5	43,5	41	-	20,5	4	14	169	30	M6	19	5	7,5
RA4	133,0	90,5	87,5	47,5	41	-	20,5	4	19	215	40	M6	31	6	7,5
RA8	172,0	109,0	105,0	57,0	42	7,5	28,5	4	19	245	40	M8	31	6	11,5
RA12	194,0	118,5	121,0	67,0	43	8,0	29,5	5	28	295	60	M8	48	8	11,5
RA20	218,0	140,5	136,5	72,0	43	8,0	29,5	5	28	337	60	M8	48	8	11,5

Designation	Q	R	S	T	U	V	X	Y
RA2	13	10,0	16,0	11,0	32	M5	8	50
RA4	15	11,0	21,5	15,5	32	M5	8	73
RA8	17	13,5	21,5	15,5	40	M6	10	90
RA12	20	15,0	31,0	24,0	49	M6	10	107
RA20	25	15,0	31,0	24,0	60	M6	10	120

Table of moments at 6 bar

Designation	Moment in Nm
RA2	22,8
RA4	45,0
RA8	81,7
RA12	134,0
RA20	224,0

Air consumption

Free air consumption in NI per double stroke at 600 kPa (6 bar).

Rotary actuator,type/ Turning angle	RA2	RA4	RA8	RA12	RA20
RA/90°	1,8	3,2	5,9	7,8	14,9
RA/180°	3,6	6,4	11,8	15,6	30

Spare parts

Designation	Order code
Mounting plate for VGD15	9127 3864-01
seal kits/spare kits:	
RA-2-SS	9121 6799-20
RA-4-SS	9121 6799-21
RA-8-SS	9121 6799-22
RA-12-SS	9121 6799-23
RA-20-SS	9121 6799-24

Variants available on request:

- Single-acting rotary actuator with spring return for 90°
- Non-standard turning angle
- Other surface treatments

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai

Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt

Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt

Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku

Tel: +994 50 2233 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles

Tel: +32 (0)67 280 900
parker.belgium@parker.com

BY – Belarus, Minsk

Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy

Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany

Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst

Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup

Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid

Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa

Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve

Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens

Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budapest

Tel: +36 1 220 4155
parker.hungary@parker.com

IE – Ireland, Dublin

Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)

Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty

Tel: +7 7272 505 800
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal

Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker

Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw

Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira

Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest

Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow

Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga

Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica

Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto

Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul

Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev

Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick

Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park

Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario

Tel: +1 905 693 3000

US – USA, Cleveland

Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill

Tel: +61 (0)2-9634 7777

CN – China, Shanghai

Tel: +86 21 2899 5000

HK – Hong Kong

Tel: +852 2428 8008

IN – India, Mumbai

Tel: +91 22 6513 7081-85

JP – Japan, Tokyo

Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul

Tel: +82 2 559 0400

MY – Malaysia, Shah Alam

Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington

Tel: +64 9 574 1744

SG – Singapore

Tel: +65 6887 6300

TH – Thailand, Bangkok

Tel: +662 186 7000 99

TW – Taiwan, Taipei

Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires

Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos

Tel: +55 800 727 5374

CL – Chile, Santiago

Tel: +56 2 623 1216

MX – Mexico, Apodaca

Tel: +52 81 8156 6000

European Product Information Centre

Free phone: 00 800 27 27 5374

(from AT, BE, CH, CZ, DE, DK, EE, ES, FI, FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU, SE, SK, UK, ZA)



Parker Hannifin Ltd.

Tachbrook Park Drive

Tachbrook Park,

Warwick, CV34 6TU

United Kingdom

Tel.: +44 (0) 1926 317 878

Fax: +44 (0) 1926 317 855

parker.uk@parker.com

www.parker.com