

# VANE ROTARY ACTUATOR SERIES R5

The R5 Series vane rotary actuator combines space-saving and compact design with low inertia of internal moving masses, which ensures particularly fast rotation.

The steel rotating shaft is supported by two bearings at the ends and comes with an over-moulded seal. The pressure difference in the two chambers of the anodized aluminium main body makes it to rotate clockwise or anticlockwise.

Three versions with a maximum rotation of 90°, 180° or 270° are available depending on the type of internal partition. It can be either fixed directly to the wall, using the threads on the casing, or by means of an L-shaped bracket (foot), which can be fixed to the front or rear, or by means of a sturdy front fixing attachment.

An accessory for rotation angle adjustment can be mounted on the rear side on which special elastic stops and magnetic sensors for detecting end-of-stroke positions can also be mounted.

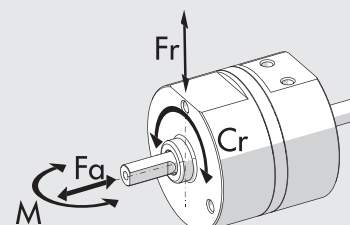
**N.B.:** The use of micro-flow regulators is always recommended. When commissioning the actuator, start with a CLOSED micro regulator; open it gradually until the desired speed is reached.



TECHNICAL DATA		R5-16			R5-25		
Operating pressure	bar	2 to 8					
	MPa	0.2 to 0.8					
	psi	29 to 116					
	°C	0 to +60					
Operating temperature range	°C	0 to +60					
	°F	32 to 140					
Fluid		20 µm filtered, lubricated or unlubricated air; lubrication if used, it must be continuous					
End position stop shock-absorption		Elastic mechanical stop (if "Angle adjustment" accessory is used)					
End-position control		Magnetic sensors (if "Angle adjustment" accessory is used)					
Moment of inertia around the central axis	Kg m <sup>2</sup>	2x10 <sup>-6</sup>			1x10 <sup>-5</sup>		
Theoretical torque at 6 bar	Nm	2.2			6		
Maximum overturning moment	Nm	1.4			3.6		
Maximal radial load	N	30			60		
Maximum axial load	N	25			40		
Admissible kinetic energy	Joule	with elastic mechanical stop (if "Angle adjustment" accessory is used)			0.02		
		without elastic mechanical stop			0.015		
Rotation angle	degrees	90°	180°	270°	90°	180°	270°
Minimum rotation time without load	s	0.07	0.12	0.17	0.15	0.30	0.45
Weights	kg	0.33	0.33	0.31	0.59	0.59	0.58

## DIMENSIONES - FORCES AND MOMENTS

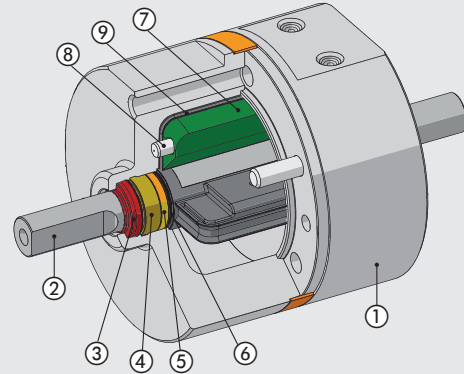
Size	Cr Theoretical torque at 6 bar [Nm]	Fa Max. axial load [N]	Fr Max. radial load [N]	M Max. averturing momnet [Nm]
16	2.2	25 *	30	1.4
25	6	40 *	60	3.6



\* The application of axial loads during the working sequence could reduce the life of the gaskets.

## COMPONENTS

- ① BODY: anodized aluminium
- ② ROD SHAFT: rubber overmoulded steel
- ③ PISTON ROD GASKET: polyurethane
- ④ BALL BEARING
- ⑤ SPACER: brass
- ⑥ O-RING: NBR
- ⑦ SEPARATOR: anodized aluminium
- ⑧ PIN: steel
- ⑨ PARTITION SEAL: NBR

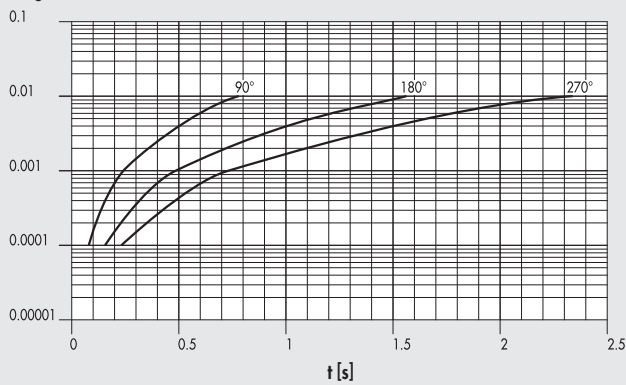


## MOMENT OF INERTIA APPLICABLE ACCORDING TO ROTATION TIME

### With angle adjustment accessory

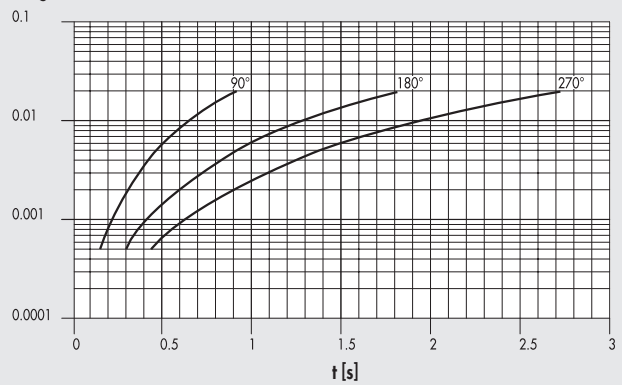
#### R5-16

J [kgm<sup>2</sup>]



#### R5-25

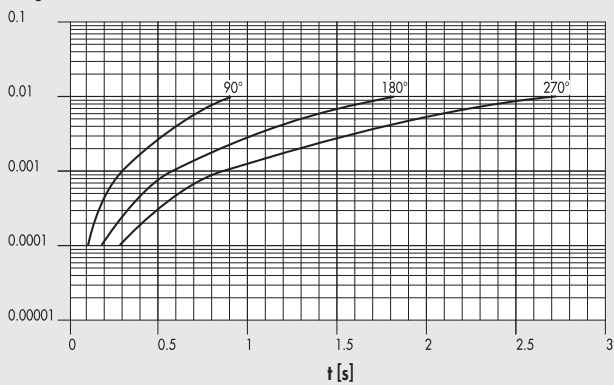
J [kgm<sup>2</sup>]



### Without angle adjustment accessory

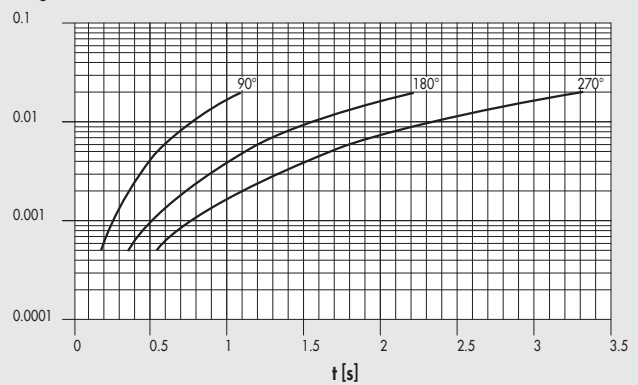
#### R5-16

J [kgm<sup>2</sup>]



#### R5-25

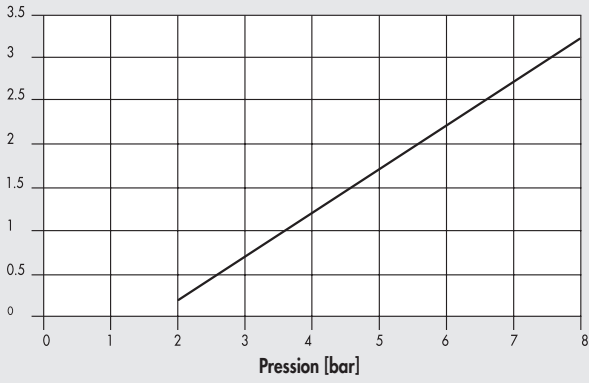
J [kgm<sup>2</sup>]



TORQUE OUTPUT ACCORDING TO INLET PRESSURE

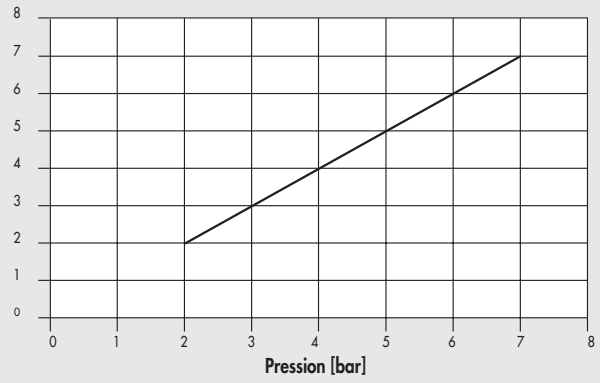
R5-16

Torque [Nm]

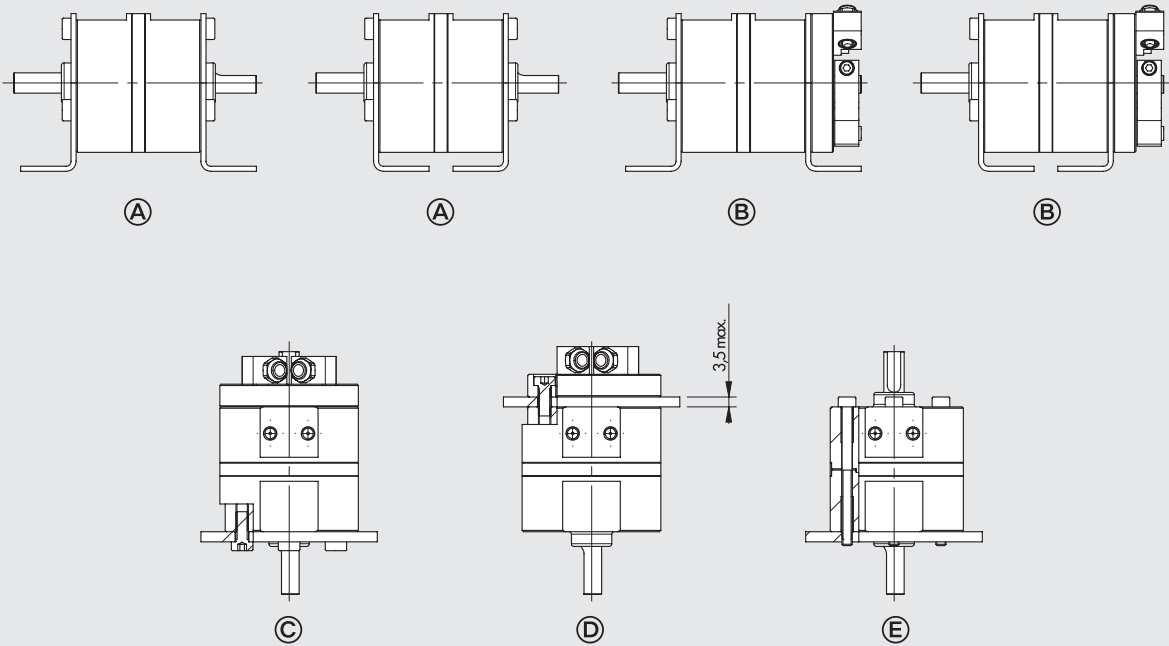


R5-25

Torque [Nm]

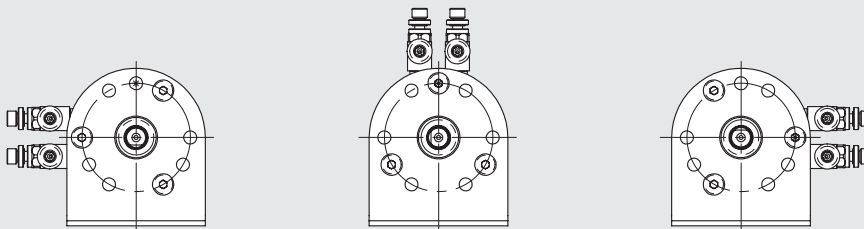


FIXING OPTIONS

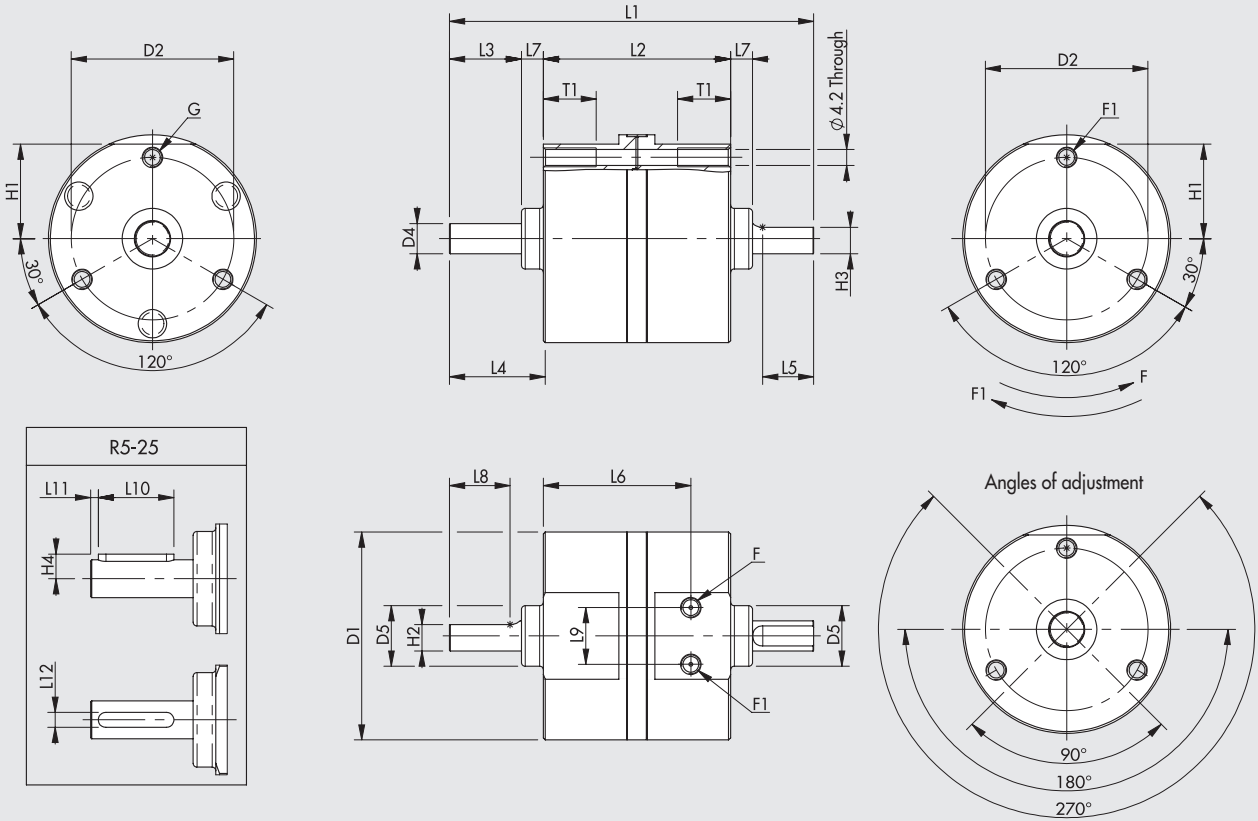


- Ⓐ Fixing by means of feet without "Angle adjustment" accessory.
- Ⓑ Fixing by means of feet with "Angle adjustment" accessory.
- Ⓒ Fixing as pass-through sheet metal on front endcap.
- Ⓓ Fixing as pass-through sheet metal on rear endcap.
- Ⓔ Direct fixing from behind by means of long screws or tie rods. In this case, it is not possible to use the "Angle adjustment" accessory.

Possible attachment combinations using the "Foot" accessory and the corresponding power supply positions.



**DIMENSIONS**



Double acting

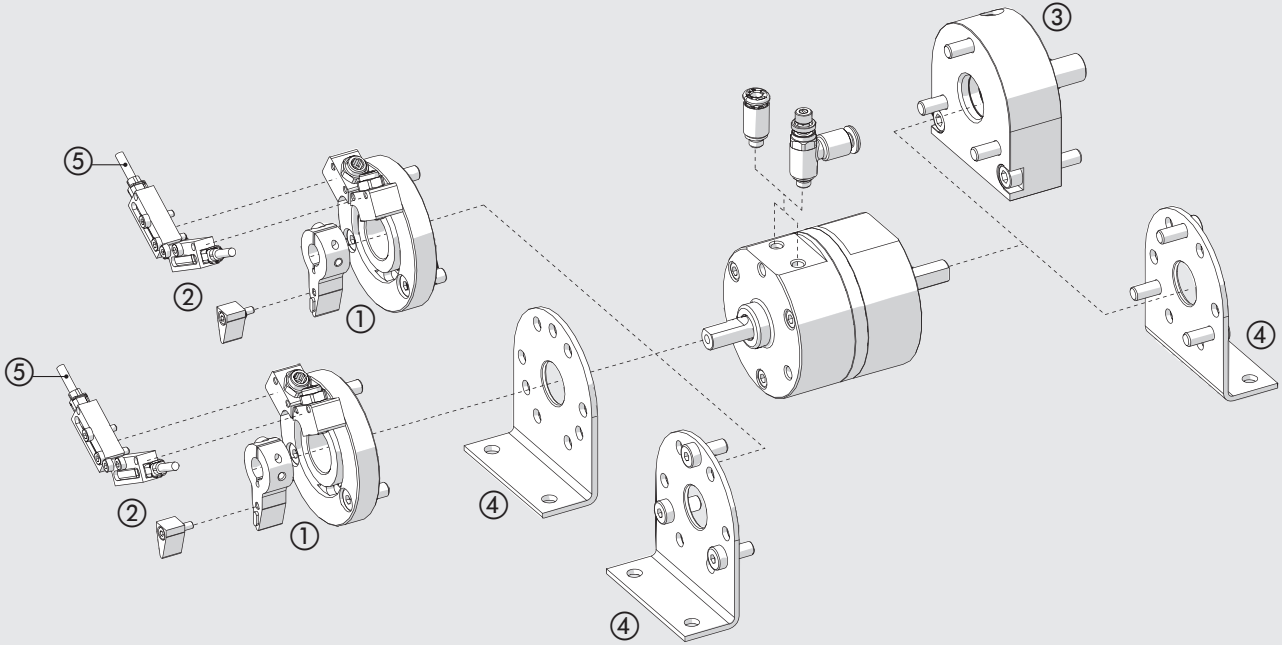
Size	D1	D2	D4	D5 (+0/-0.1)	F	F1	G	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	T1
16	55	43	8	16	M5	M5	M5	25	7	7	-	96.3	49.5	19	23.8	13.5	39	5.8	16	15	-	-	-	14
25	70	56	10	25	M5	M5	M5	32	9	9	6.5	115	56.5	27	33	13.5	45	6	-	18	20	2	4	14

**KEY TO CODES**

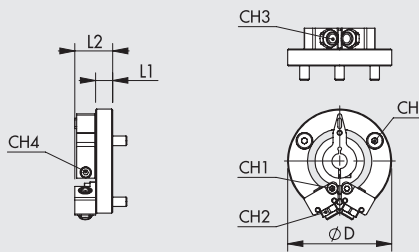
W167 TYPE		016 SIZE	0 VERSION	270 ANGLE OF ROTATION •
W167	Vane rotary actuator series R5	016 025	0 Standard 1 With adjustment of rotation angle 2 With adjustment of rotation angle and provision for magnetic sensor	090 180 270

• Expressed in sexagesimal degrees.

ACCESSORIES

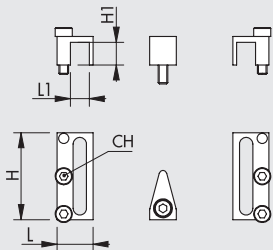


① ANGLE ADJUSTMENT



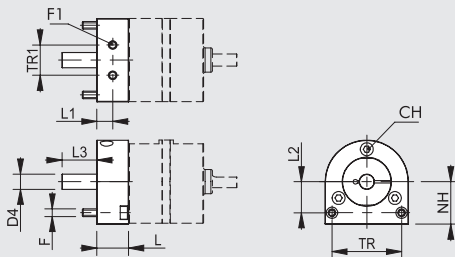
Code	Size	ØD	L1	L2	CH	CH1	CH2	CH3	CH4	Weight [g]
095016P001	16	55	9	20	3	2.5	9	4	2.5	73
095025P001	25	70	11	23	3	3	11	4	3	141

② SENSOR SUPPORT



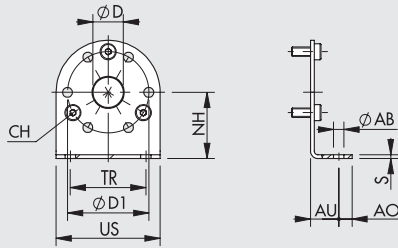
Code	Size	H	H1	L	L1	CH	Weight [g]
095016P002	16	23	6	9.5	5	2	8
095025P002	25	27	6	11.5	5	2	11.5

③ FIXING ATTCHMENT



Code	Size	F	F1	D4	L	L1	L2	L3	NH	TR	TR1	CH	Weight [g]
095016P010	16	M5	M5	10	21	10.5	20.5	23	28	46	20	3	170
095025P010	25	M5	M5	12	22.5	11.3	23	30	40	60	42	4	279

④ FOOT

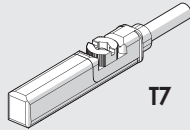


Code	Size	ØD	ØD1	TR	US	NH	CH	AB	S	Weight [g]
095016P020	16	16	43	40	55	35	3	5.5	2	62
095025P020	25	26	56	50	70	45	3	6.5	2.5	124

Note: Individually packed with 3 screws

⑤ RETRACTING SENSOR T7

**SENSOR, SQUARE TYPE**  
 Latest generation, secure fixing



For codes and technical data, see [chapter A6](#).

**Note: Use T7 sensors only**

NOTES