

# 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.

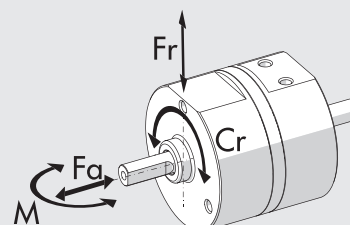
**N.B.:** The use of micro-flow regulators is always recommended. When commissioning the actuator, start with a CLOSED micro regulator; open it gradually until the desired speed is reached.



TECHNICAL DATA		R5-16		
Operating pressure	bar	2 to 8		
	MPa	0.2 to 0.8		
	psi	29 to 116		
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>		
Theoretical torque at 6 bar	Nm	2.2		
Maximum overturning moment	Nm	1.4		
Maximal radial load	N	30		
Maximum axial load	N	25		
Admissible kinetic energy	Joule	with elastic mechanical stop (if "Angle adjustment" accessory is used)		
		without elastic mechanical stop		
Rotation angle	degrees	90°	180°	270°
Minimum rotation time without load	s	0.07	0.12	0.17
Weights	kg	0.33	0.33	0.31

## DIMENSIONES - FORCES AND MOMENTS

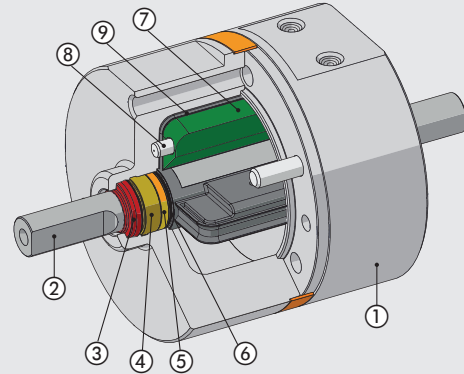
Size	Cr Theoretical torque at 6 bar [Nm]	Fa Max. axial load [N]	Fr Max. radial load [N]	M Max. averturing momnet [Nm]
16	2.2	25 *	30	1.4



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

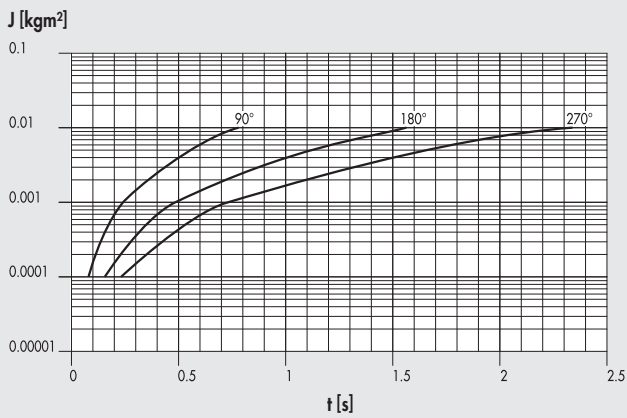
**COMPONENTS**

- 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: stell
- ⑨ PARTITION SEAL: NBR

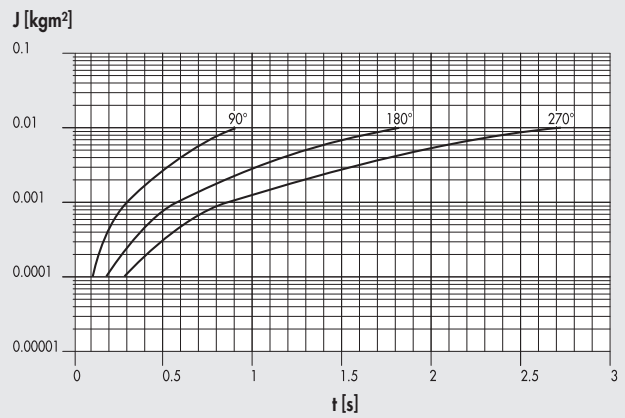


**MOMENT OF INERTIA APPLICABLE ACCORDING TO ROTATION TIME**

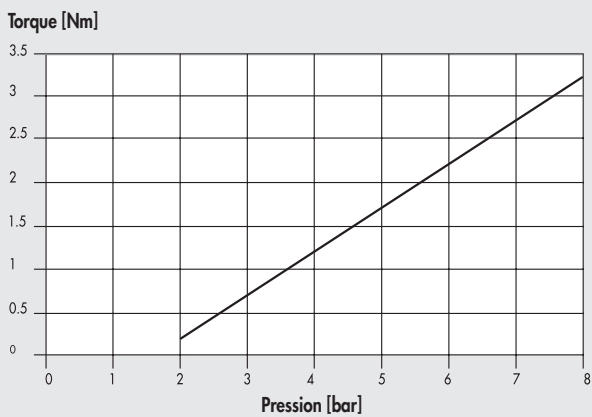
With angle adjustment accessory



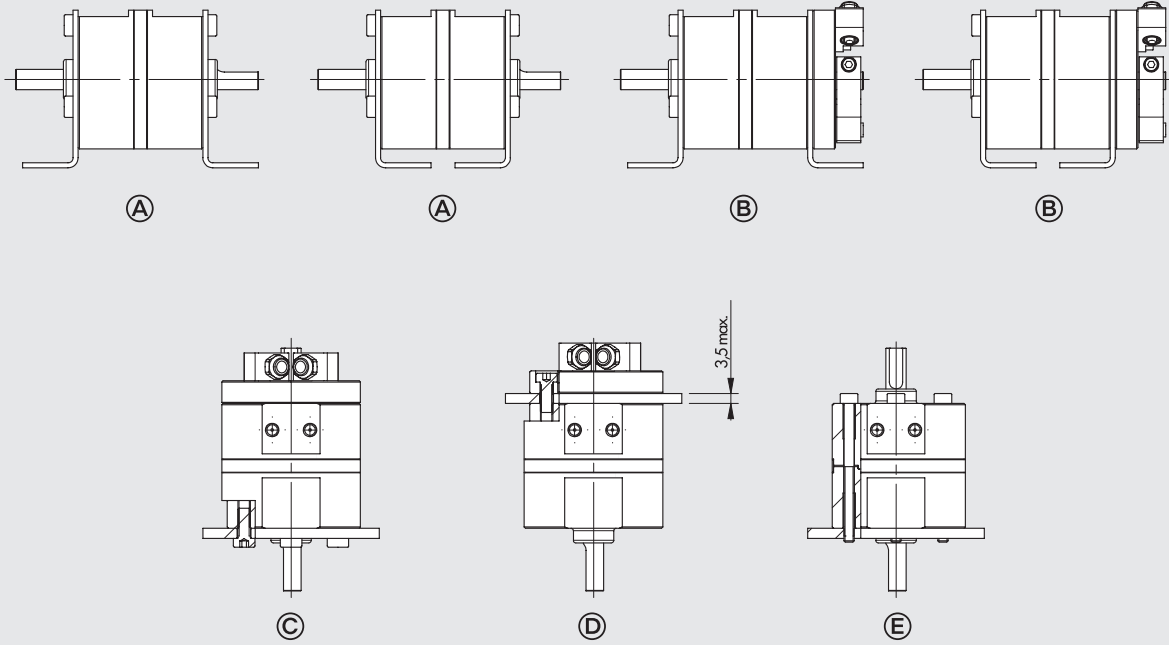
Without angle adjustment accessory



**TORQUE OUTPUT ACCORDING TO INLET PRESSURE**

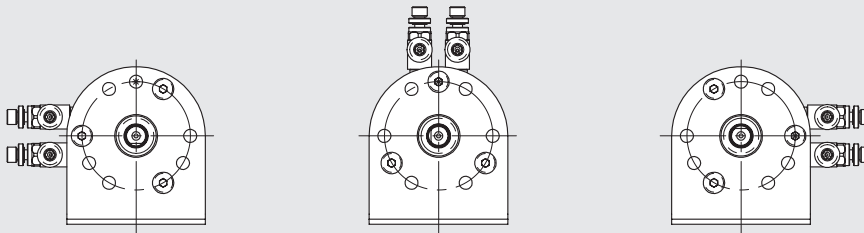


## FIXING OPTIONS

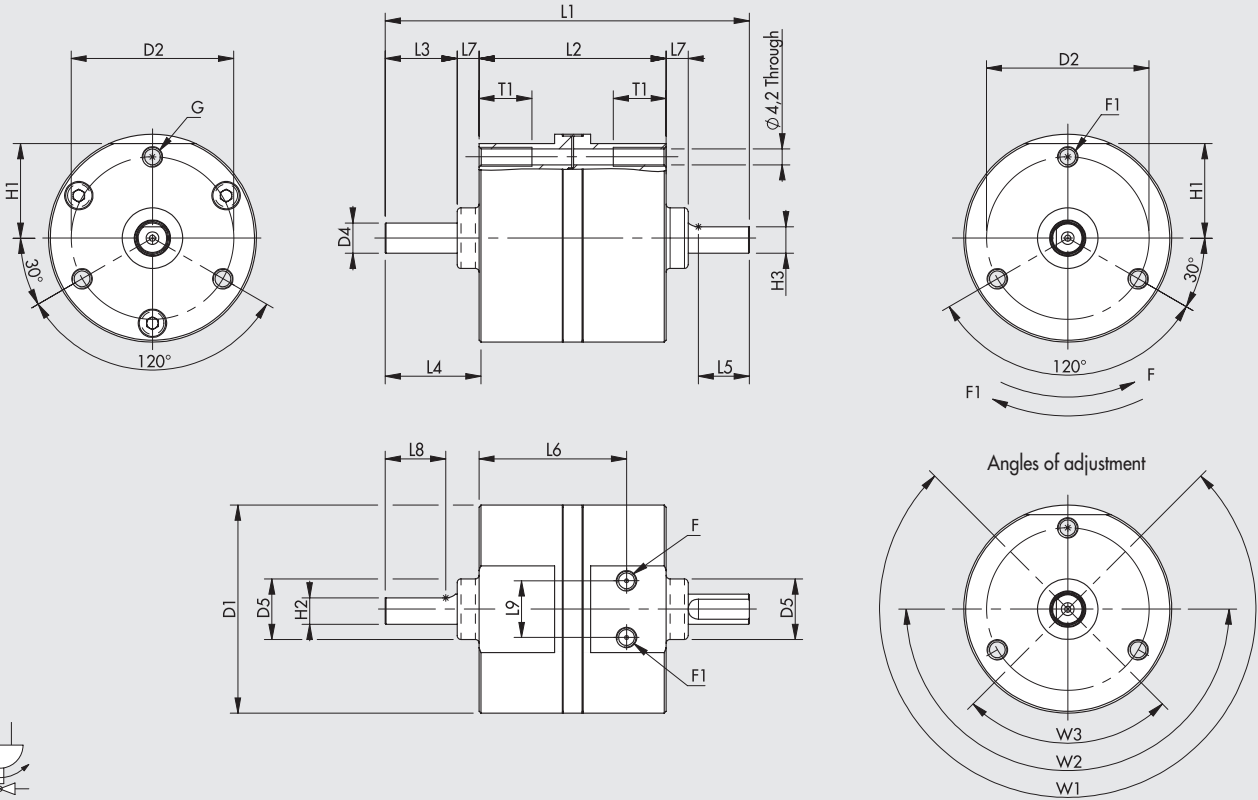


- Ⓐ Fixing by means of feet without "Angle adjustment" accessory.
- Ⓑ Fixing by means of feet with "Angle adjustment" accessory.
- Ⓒ Fixing as pass-through sheet metal on front endcap.
- Ⓓ Fixing as pass-through sheet metal on rear endcap.
- Ⓔ Direct fixing from behind by means of long screws or tie 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**



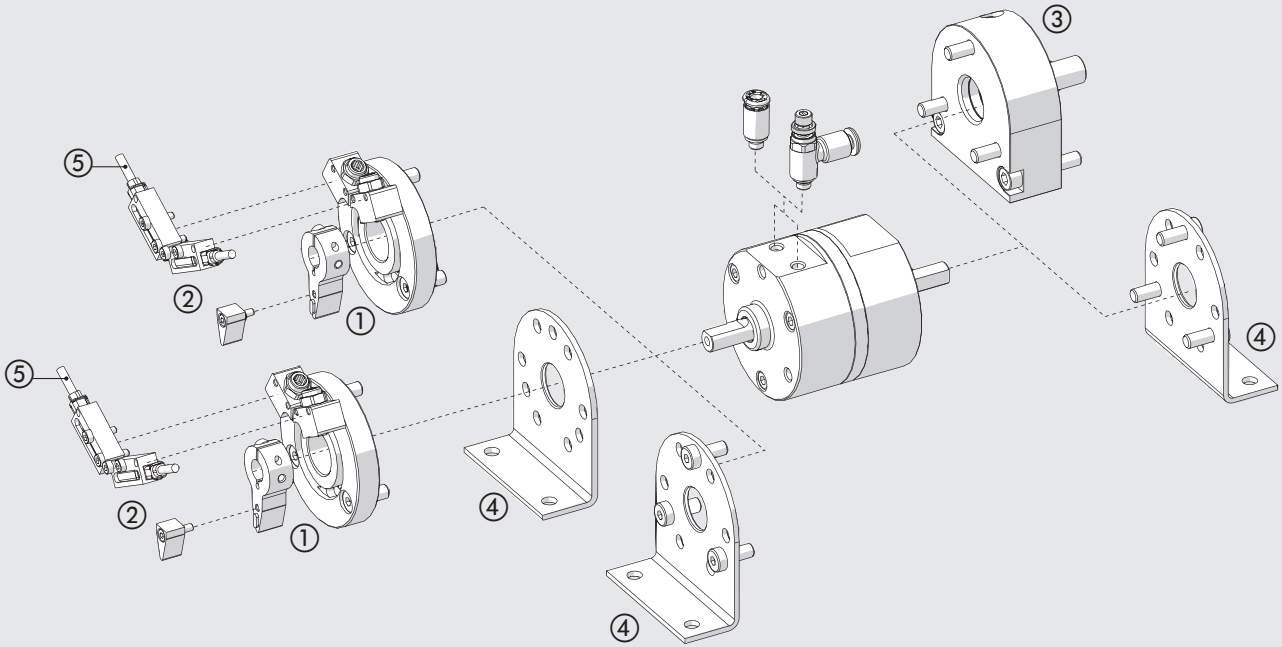
Size	D1	D2	D4	D5 (+0/-0.1)	F	F1	G	H1	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	L9	T1	W1	W2	W3
16	55	43	8	16	M5	M5	M5	25	7	7	96.3	49.5	19	23.8	13.5	39	5.8	16	15	14	270°	180°	90°

**KEY TO CODES**

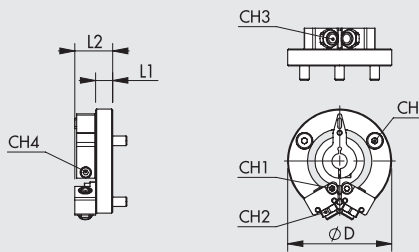
W167 TYPE	016 SIZE	0 VERSION	270 ANGLE OF ROTATION •
W167 Vane rotary actuator series R5	016	0 Standard 1 With adjustment of rotation angle 2 With adjustment of rotation angle and provision for magnetic sensor	090 180 270

• Expressed in sexagesimal degrees.

ACCESSORIES

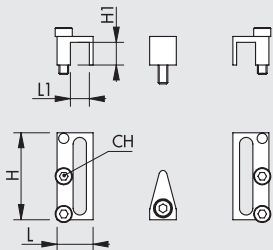


① ANGLE ADJUSTMENT



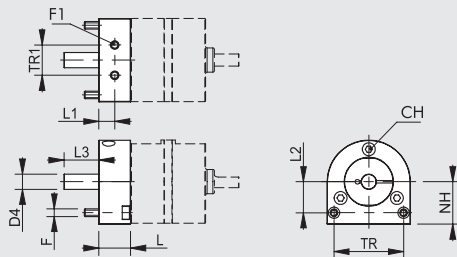
Code	Size	ØD	L1	L2	CH	CH1	CH2	CH3	CH4	Weight [g]
095016P001	16	55	9	20	3	2.5	9	4	2.5	73

② SENSOR SUPPORT



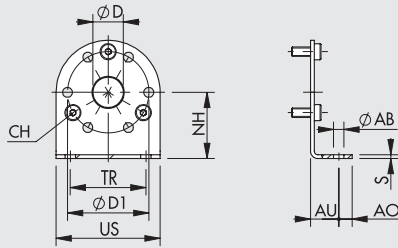
Code	Size	H	H1	L	L1	CH	Weight [g]
095016P002	16	23	6	9.5	5	2	8

③ FIXING ATTACHMENT



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

④ FOOT

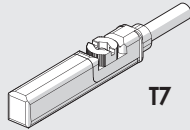


Code	Size	ØD	ØD1	TR	US	NH	CH	AB	S	Weight [g]
095016P020	16	16	43	40	55	35	3	5.5	2	62

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