

Rotary wing drives, Series RAK

- angle of rotation max. 90 180 270 °

- Rotary wing drive, double-acting

- axis geometry single



Working pressure min./max.

Ambient temperature min./max.

Medium temperature min./max.

Medium

Max. particle size

Oil content of compressed air

Theoretical torque at

Weight

See table below

See table below

-5 ... 60 °C

Compressed air

5 µm

0 ... 1 mg/m³

6 bar

See table below

Technical data

Part No.	Frame size	Compressed air connection	angle of rotation	Min. swivel times
		G		
2705010100	RAK - 1S	M5	90 °	0,03 s
2705010300	RAK - 1S	M5	180 °	0,06 s
2705120300	RAK - 2S	M5	30-180 °	0,08 s
2705130300	RAK - 3S	M5	30-180 °	0,08 s
2705140300	RAK - 4S	M5	30-180 °	0,1 s
2705150400	RAK - 5S	G 1/8	30-270 °	0,2 s
2705151400	RAK - 5D	G 1/8	30-90 °	0,2 s

Part No.	Working pressure min./max.	Ambient temperature min./max.	Maximum operating frequency	Weight
2705010100	2 ... 7 bar	-5 ... 80 °C	300	0,036 kg
2705010300	2 ... 7 bar	-5 ... 80 °C	180	0,036 kg
2705120300	2 ... 7 bar	-5 ... 80 °C	150	0,085 kg
2705130300	2 ... 7 bar	-5 ... 80 °C	150	0,17 kg
2705140300	2 ... 10 bar	-5 ... 80 °C	120	0,28 kg
2705150400	2 ... 10 bar	-5 ... 60 °C	90	0,51 kg
2705151400	2 ... 10 bar	-5 ... 60 °C	180	0,53 kg

Swivel time: The values indicated are for the max. angle of rotation., Sliding block included in the scope of delivery

Technical data

Frame size	RAK - 1S	RAK - 2S	RAK - 3S	RAK - 4S
Axis diameter	4 mm	5 mm	6 mm	8 mm
Max. permissible axial bearing load	3 N	4 N	4 N	25 N
Max. permissible radial bearing load	30 N	40 N	50 N	300 N
Interior volume	1,4 cm ³	4 cm ³	12 cm ³	21 cm ³

Frame size	RAK - 1S	RAK - 2S	RAK - 3S	RAK - 4S
Repetitive precision	4 °	4 °	4 °	4 °
Theoretical torque	0,15 Nm	0,38 Nm	1 Nm	2 Nm
Permissible kinetic energy	0,001 J	0,001 J	0,002 J	0,003 J
Type	Single vane	Single vane	Single vane	Single vane

Frame size	RAK - 5D	RAK - 5S
Axis diameter	10 mm	10 mm
Max. permissible axial bearing load	30 N	30 N
Max. permissible radial bearing load	400 N	400 N
Interior volume	34 cm ³	43 cm ³
Repetitive precision	4 °	4 °
Theoretical torque	10 Nm	4 Nm
Permissible kinetic energy	0,007 J	0,007 J
Type	Double vane	Single vane

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

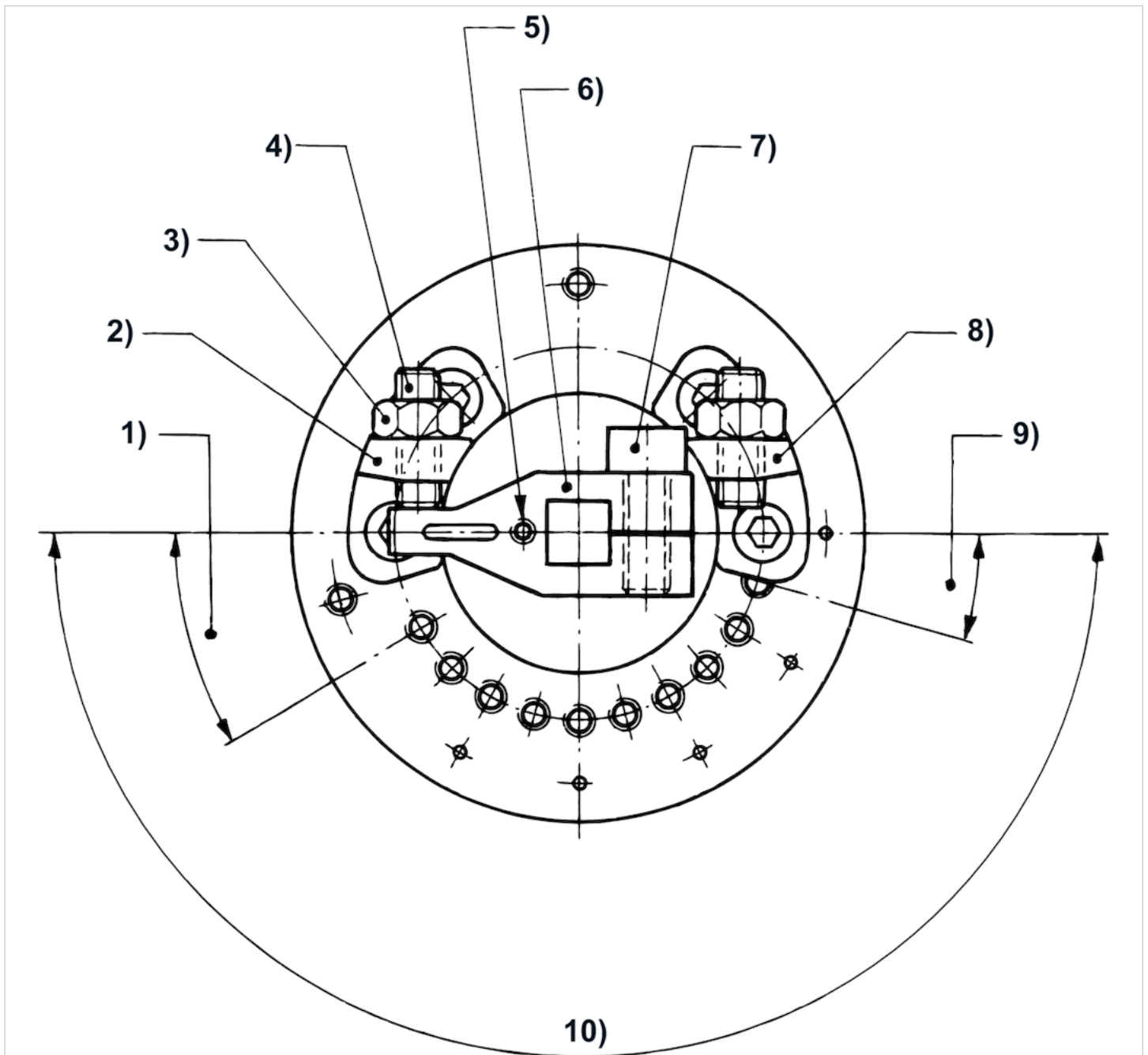
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Housing	Aluminum, anodized
Seal	Acrylonitrile butadiene rubber
Axis	Steel

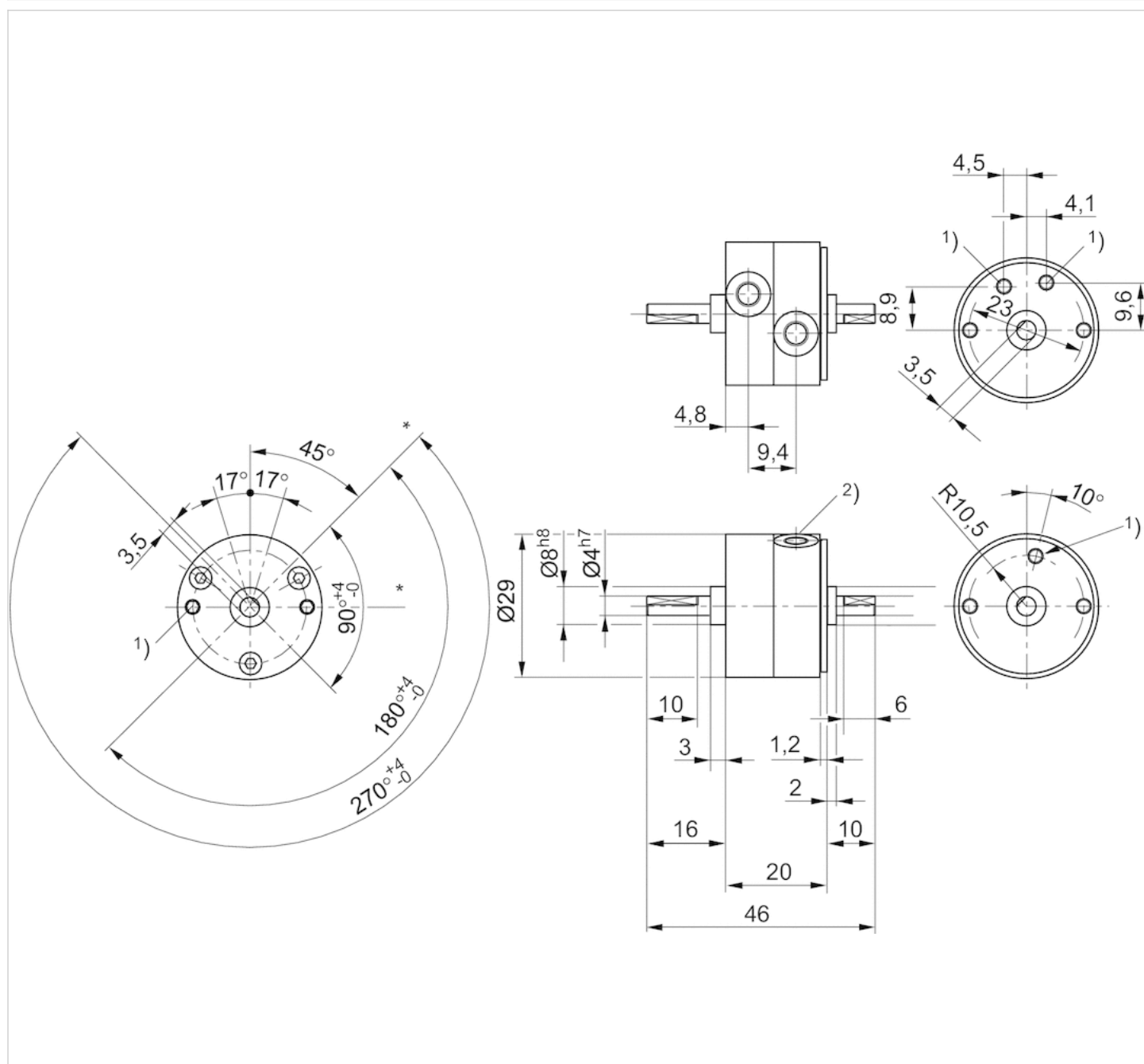
Dimensions

Adjustable stop, Mounted on 2S, 3S, 4S, 5S and 5D at delivery



- 1) Minimum angle setting 30°. 2) Reference point stopper. 3) Locknut. 4) Fine adjust screw. 5) Mounting hole for magnet. 6) Swivel arm. 7) Swivel arm fixation screw. 8) Angle setting stopper. 9) Stopper mounting pitch 15°. 10) Oscillating angle.

RAK - 1S, Fixed angle of rotation

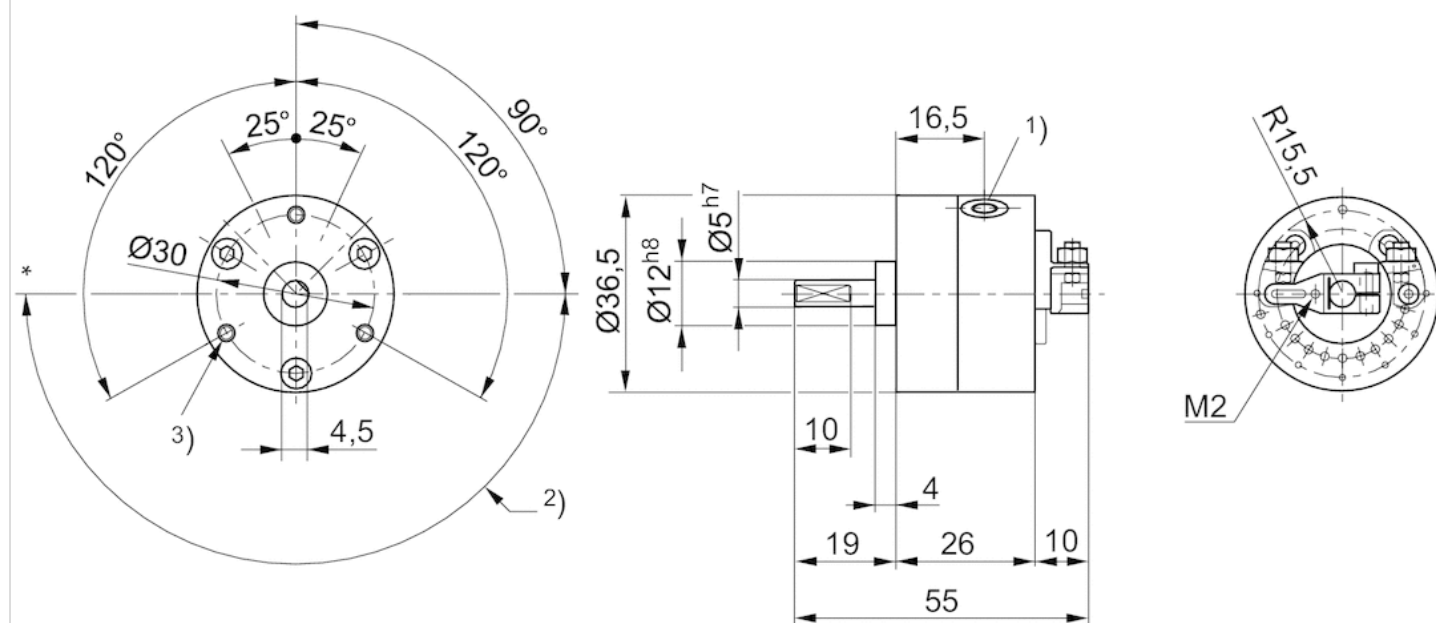


* Oscillating reference point

1) M3

2) 2 x M5

RAK - 2S, Adjustable angle of rotation



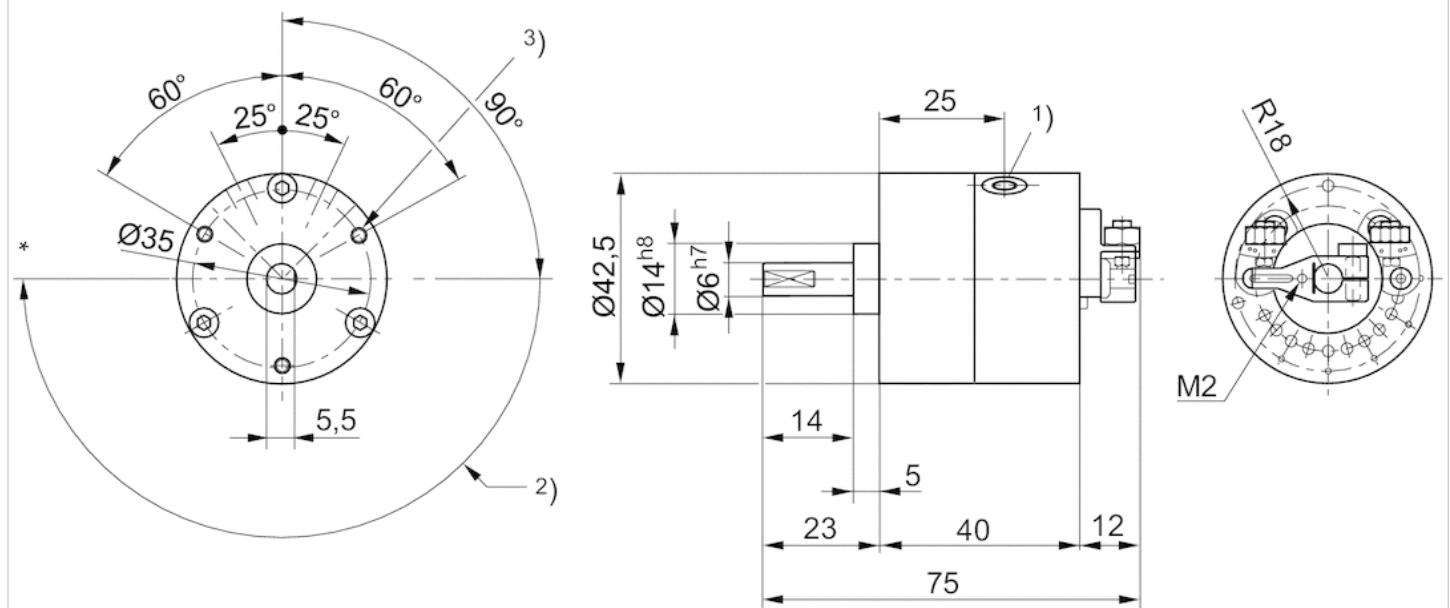
* Oscillating reference point

1) 2 x M5

2) Angle of rotation 30° to 180°

3) 3x M3, depth 6

RAK - 3S, Adjustable angle of rotation



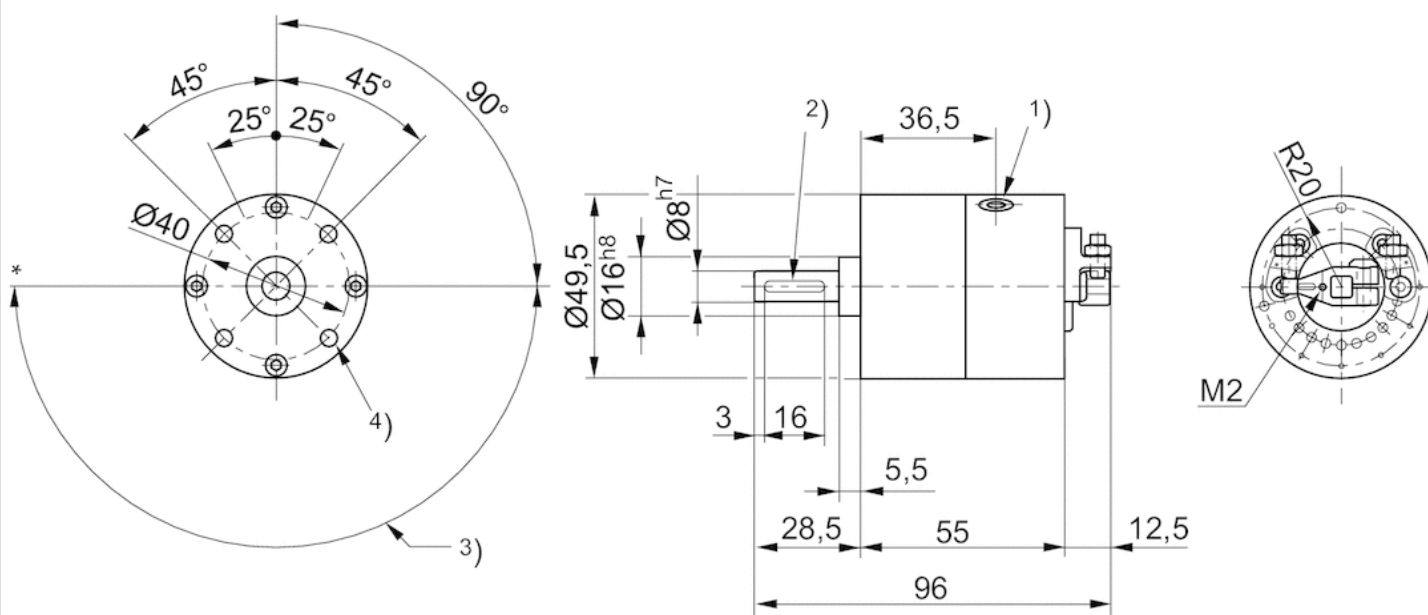
* Oscillating reference point

1) 2 x M5

2) Angle of rotation 30° to 180°

3) 3x M3, depth 6

RAK - 4S, Adjustable angle of rotation



* Oscillating reference point

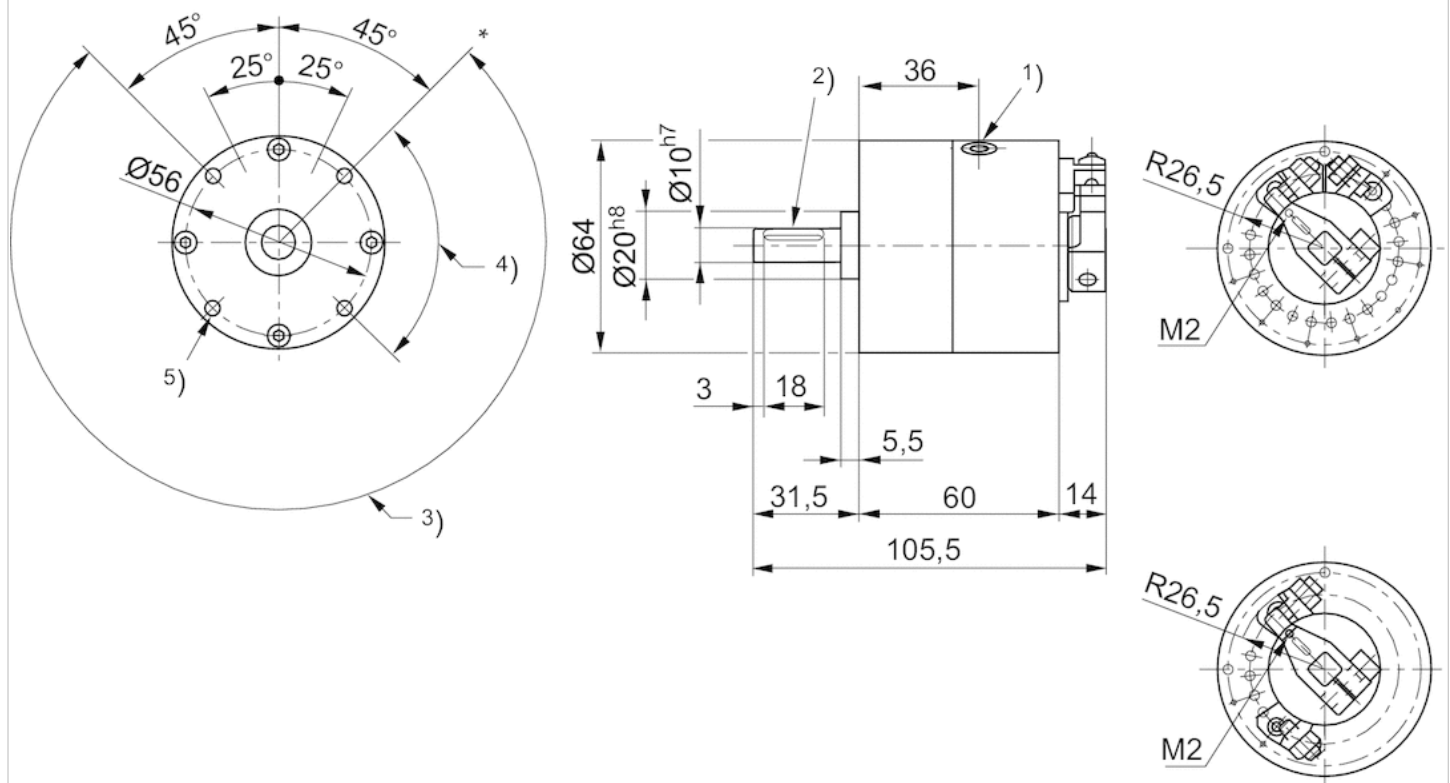
1) 2 x M5

2) Groove: 3x1.8

3) Angle of rotation 30° to 180°

4) 4x M5, depth 8

RAK - 5S, RAK - 5D, Adjustable angle of rotation



* Oscillating reference point

1) 2x G1/8

2) Groove: 4x2.5

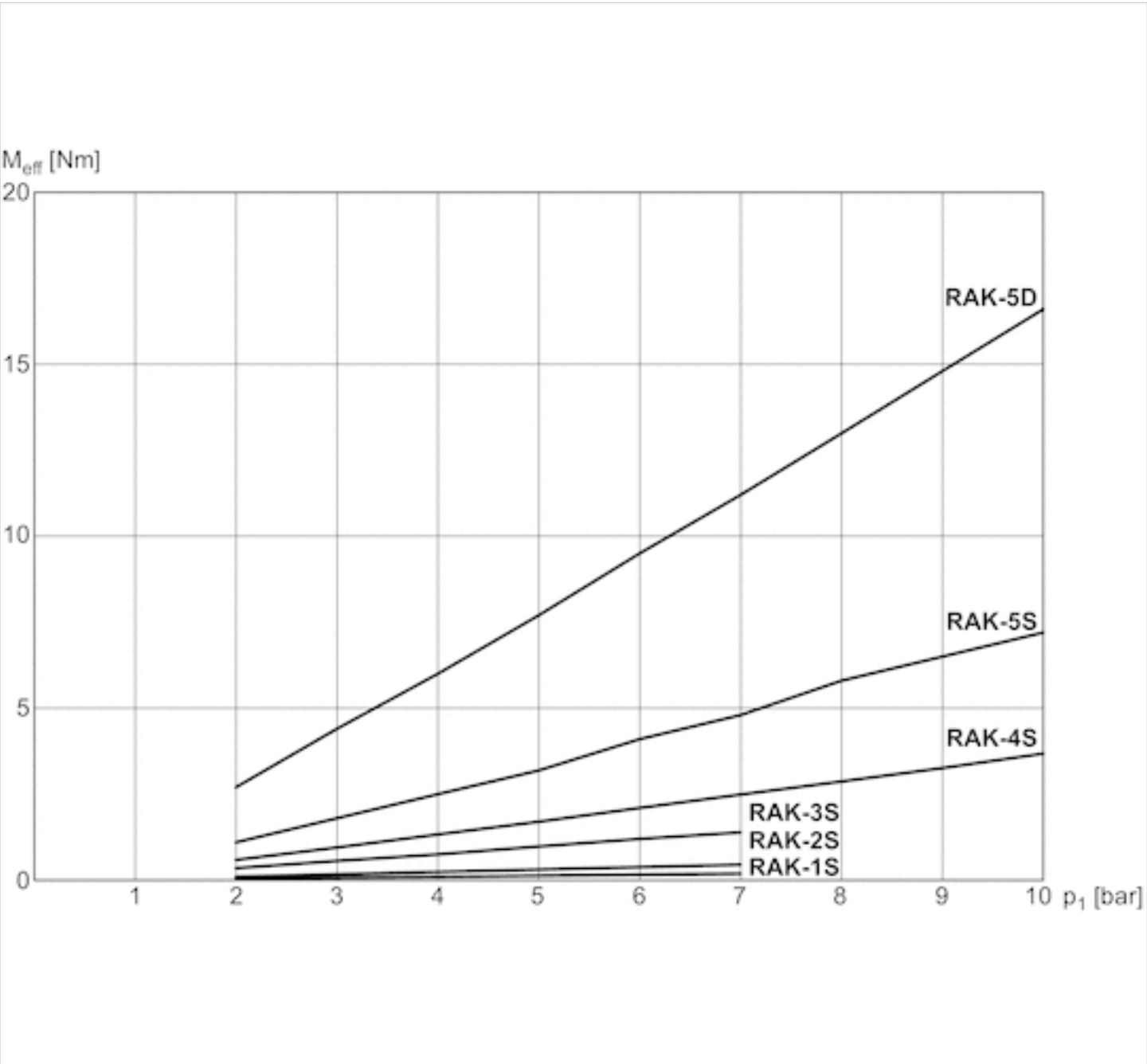
3) Angle of rotation 30° to 270°

4) Angle of rotation 90°

5) 4x M5, depth 8

Diagrams

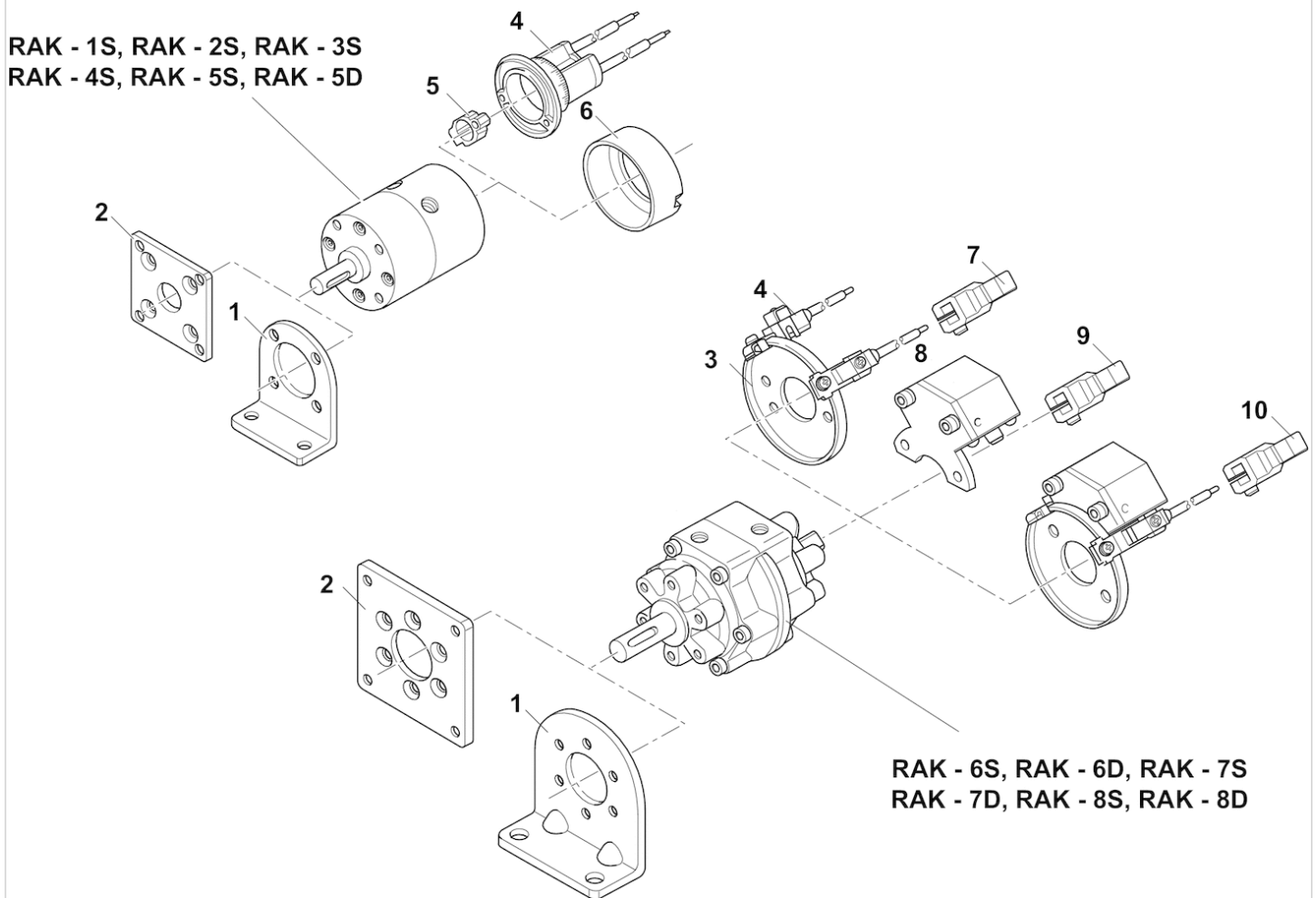
Effective torque



M_{eff}: effective torque

Accessories overview

Overview drawing



- 1) foot mounting 2) flange mounting 3) mounting plate for sensor 4) sensor unit 5) Magnet 6) Protective cover
7) swivel arm with magnet 8) hydraulic shock absorber 9) swivel arm without magnet 10) swivel arm with magnet

NOTE:

This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.

Efficient pneumatic solutions, our program: cylinders and drives, valves and valve systems, air supply management



Visit us: [Emerson.com/Aventics](https://www.emerson.com/Aventics)

Your local contact: [Emerson.com/contactus](https://www.emerson.com/contactus)



Emerson.com



Facebook.com/EmersonAutomationSolutions



LinkedIn.com/company/Emerson-Automation-Solutions



Twitter.com/EMR_Automation

An example configuration is depicted on the title page. The delivered product may thus vary from that in the illustration. Subject to change. This Document, as well as the data, specifications and other information set forth in it, are the exclusive property of AVENTICS GmbH. It may not be reproduced or given to third parties without its consent. Only use the AVENTICS products shown in industrial applications. Read the product documentation completely and carefully before using the product. Observe the applicable regulations and laws of the respective country. When integrating the product into applications, note the system manufacturer's specifications for safe use of the product. The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgement and verification. It must be remembered that the products are subject to a natural process of wear and aging.

The Emerson logo is a trademark and service mark of Emerson Electric Co. Brand logotype are registered trademarks of one of the Emerson family of companies. All other marks are the property of their respective owners. © 2020 Emerson Electric Co. All rights reserved.
2020-12



CONSIDER IT SOLVED™