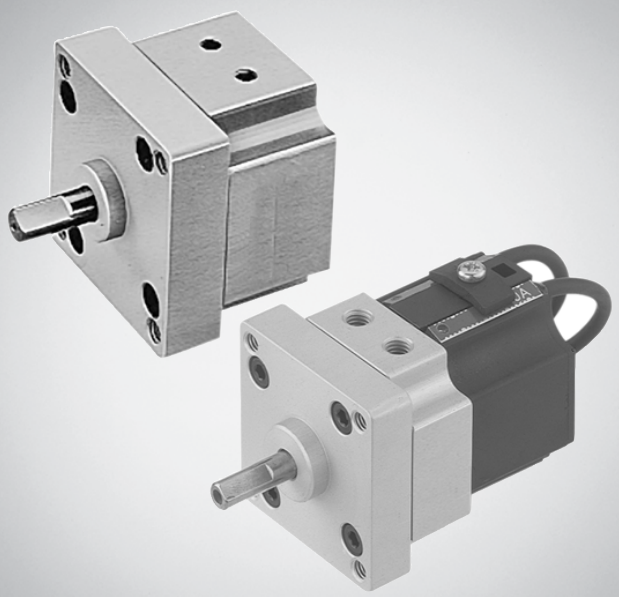
Rexroth
Bosch Group

Rotary actuators → Rotary wing drives

Series RAN

Brochure



Rotary actuators → Rotary wing drives

Series RAN

Accessories

Rotary actuators → Rotary wing drives

Series RAN, with front mounting

► angle of rotation: 0 - 275 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

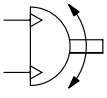
PRAN_004

Working pressure min./max.	See table below
Ambient temperature min./max.	+5 °C / +60 °C
Medium temperature min./max.	+5 °C / +60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 1 mg/m³
Theoretical torque at	6,3 bar
Materials:	
Housing	Aluminum, anodized
Seals	Acrylonitrile Butadiene Rubber
Axis	Steel
Mounting flange	Aluminum, anodized

Technical Remarks

- 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 air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.
- Notice: This product may only be operated with oil-free, dry compressed air.

Frame size		RAN1	RAN3	RAN8	RAN20	RAN50
Axis diameter	[mm]	4	5	6	8	12
Max. permissible axial bearing load	[N]	2	3.9	5.9	29.4	98.1
Max. permissible radial bearing load	[N]	19.6	39.6	58.8	294.2	588.4
Repetitive precision	[°]	3	3	3	3	3
Theoretical torque	[Nm]	0.149	0.37	0.989	2.471	6.548
Permissible kinetic energy	[J]	0.0004	0.002	0.005	0.015	0.06

	Frame size	Compressed air connection	angle of rotation	Swivel time min./max.	Working pressure min./max.	Weight	Part No.
			[°]	[s]	[bar]	[kg]	
	RAN1	M5	0 - 90	0.03 / 0.3	2.5 / 7	0.045	2650117000
	RAN1	M5	0 - 180	0.06 / 0.6	2.5 / 7	0.045	2650117010
	RAN1	M5	0 - 270	0.08 / 0.8	2.5 / 7	0.045	2650117020
	RAN3	M5	0 - 90	0.04 / 0.4	2 / 7	0.075	2650117030
	RAN3	M5	0 - 180	0.08 / 0.8	2 / 7	0.075	2650117040
	RAN3	M5	0 - 270	0.1 / 1	2 / 7	0.075	2650117050
	RAN8	M5	0 - 90	0.05 / 0.5	2 / 7	0.13	**2650117060**
	RAN8	M5	0 - 180	0.1 / 1	2 / 7	0.13	**2650117070**
	RAN8	M5	0 - 270	0.15 / 1.5	2 / 7	0.13	2650117080
	RAN20	M5	0 - 90	0.06 / 0.6	2 / 7	0.27	**2650117090**
	RAN20	M5	0 - 180	0.12 / 1.2	2 / 7	0.27	**2650117100**
	RAN20	M5	0 - 270	0.2 / 2	2 / 7	0.265	**2650117110**
	RAN50	G 1/8	0 - 90	0.08 / 1	2 / 7	0.95	**2650117120**
	RAN50	G 1/8	0 - 180	0.16 / 1.8	2 / 7	0.95	**2650117130**
	RAN50	G 1/8	0 - 275	0.2 / 3	2 / 7	0.91	**2650117140**

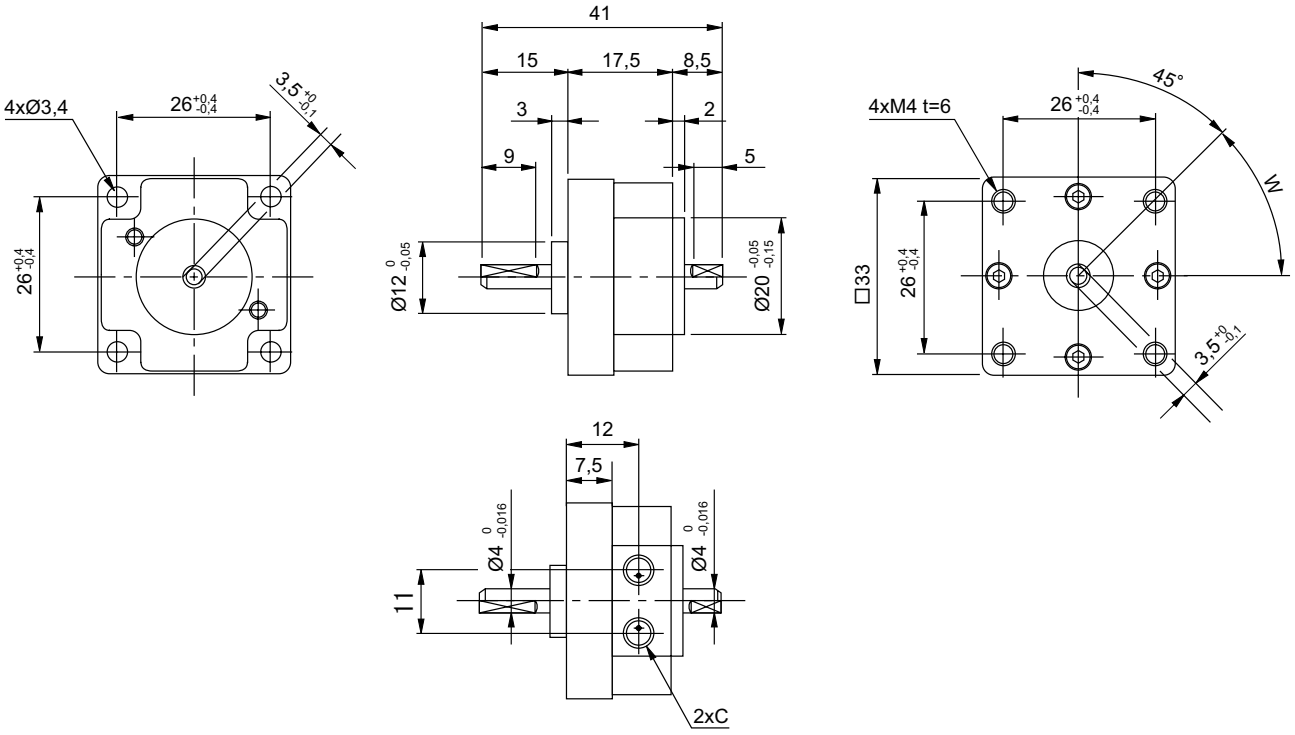
min. swivel times at 5 bar and without load

Part numbers marked in bold are available from the central warehouse in Germany, see the shopping basket for more detailed information

Series RAN, with front mounting

► angle of rotation: 0 - 275 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN1

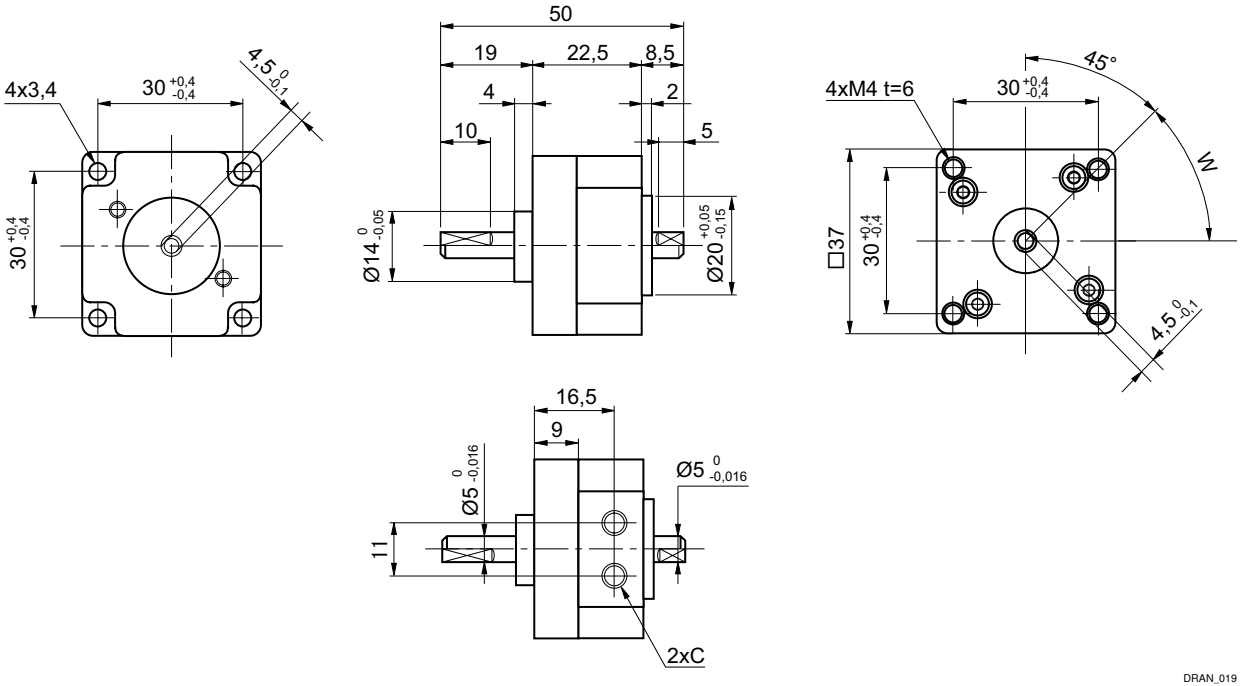


C = compressed air connection
t = depth
W = angle of rotation

Series RAN, with front mounting

► angle of rotation: 0 - 275 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN3

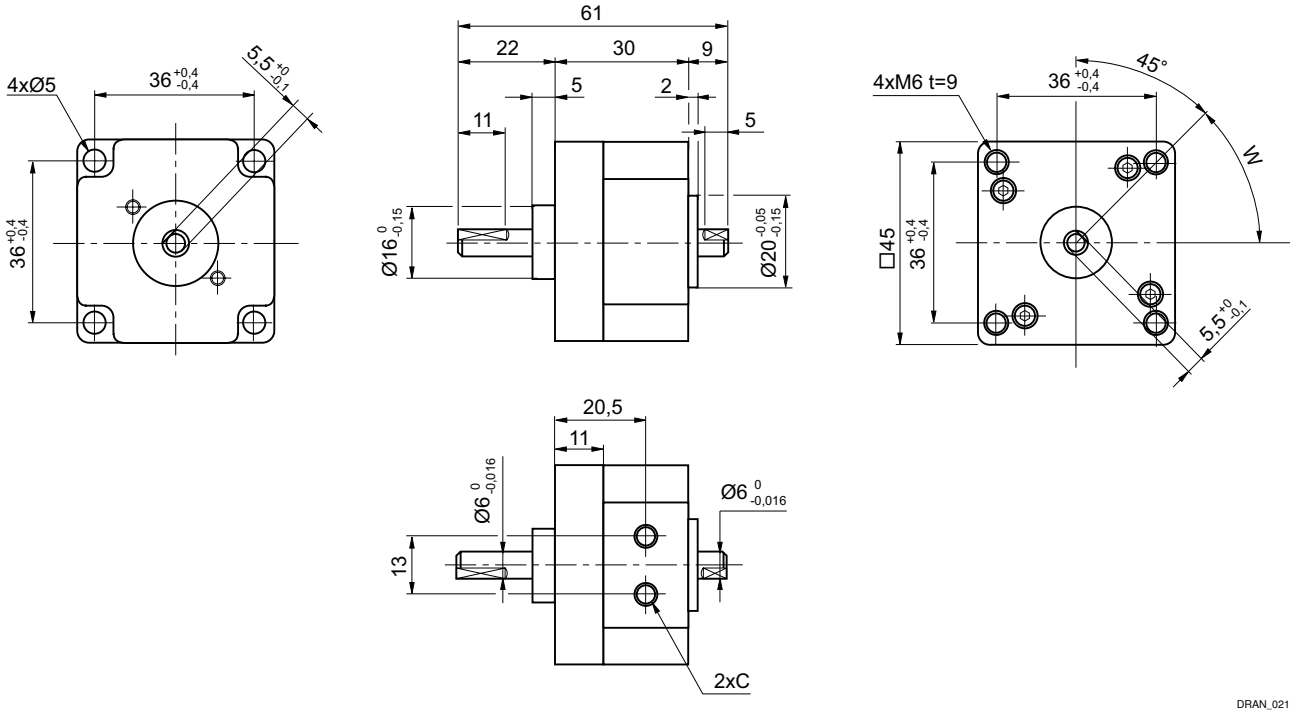


C = compressed air connection
t = depth
W = angle of rotation

Series RAN, with front mounting

► angle of rotation: 0 - 275 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN8



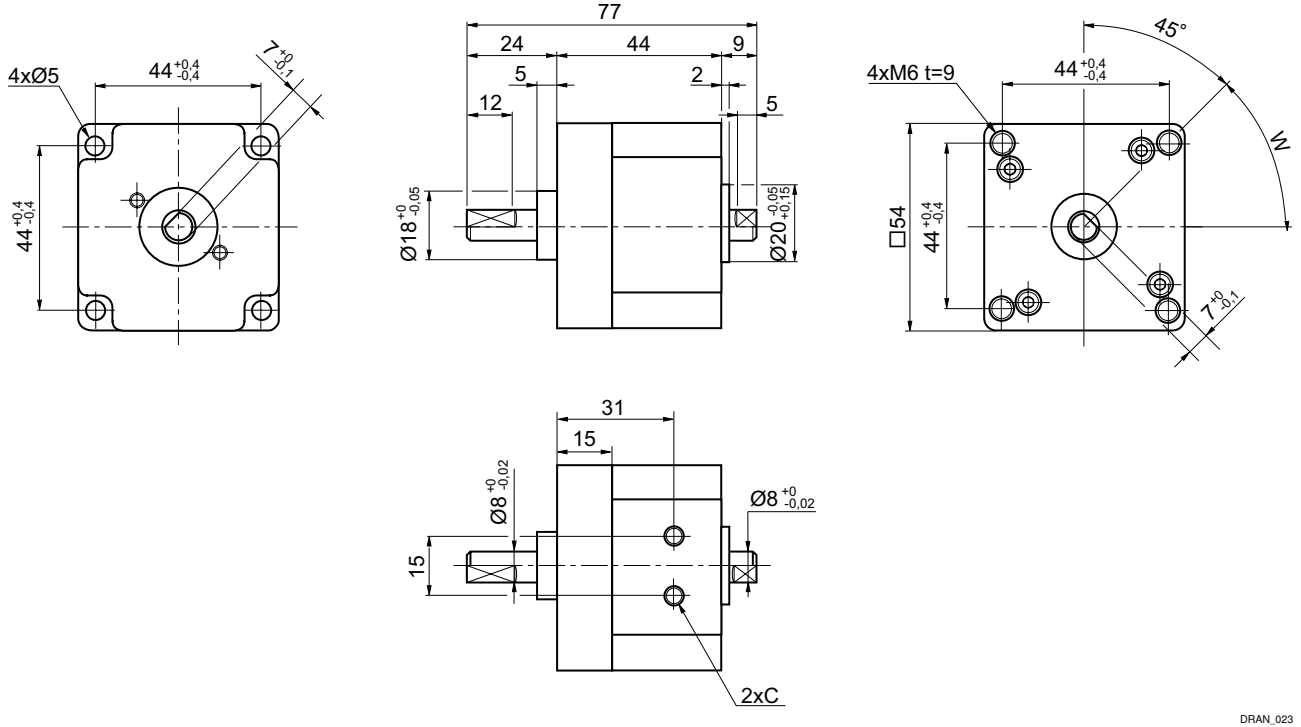
C = compressed air connection
t = depth
W = angle of rotation

Rotary actuators → Rotary wing drives

Series RAN, with front mounting

► angle of rotation: 0 - 275 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN20



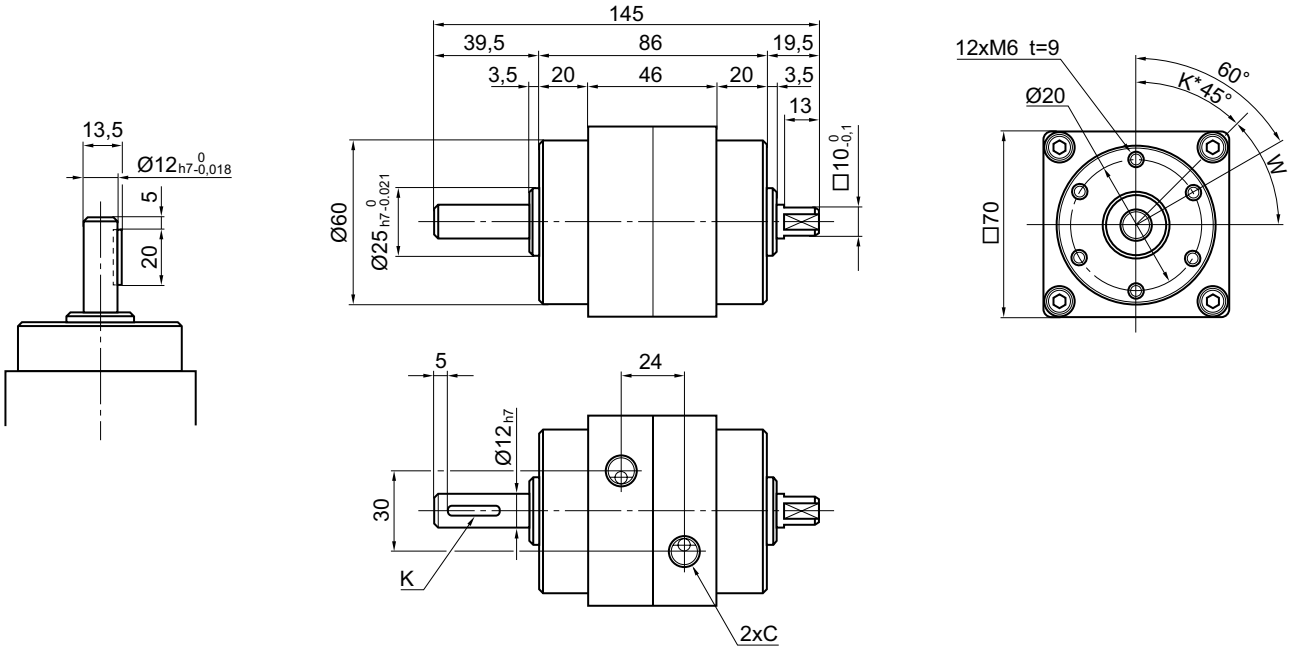
C = compressed air connection
t = depth
W = angle of rotation

Rotary actuators → Rotary wing drives

Series RAN, with front mounting

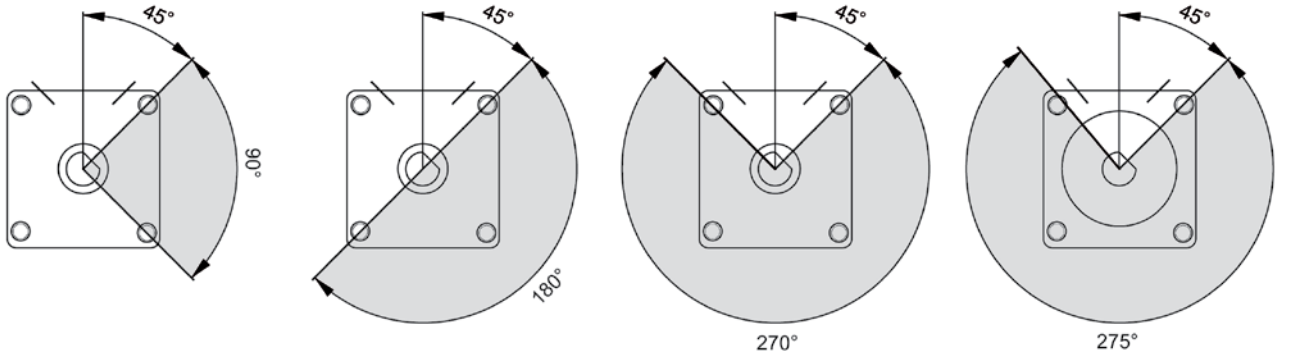
► angle of rotation: 0 - 275 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN50



K* = key groove. Width 4 x depth 2.5 x length 20, position 45°
C = compressed air connection
t = depth
W = angle of rotation

Position of end stops



Start of rotary movement at 45°.

Rotary actuators → Rotary wing drives

Series RAN, with side mounting

► angle of rotation: 0 - 270 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

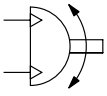
PRAN_010

Working pressure min./max.	See table below
Ambient temperature min./max.	+5 °C / +60 °C
Medium temperature min./max.	+5 °C / +60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 1 mg/m³
Theoretical torque at	6,3 bar
Materials:	
Housing	Aluminum, anodized
Seals	Acrylonitrile Butadiene Rubber
Axis	Steel
Mounting flange	Aluminum, anodized

Technical Remarks

- 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 air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.
- Notice: This product may only be operated with oil-free, dry compressed air.

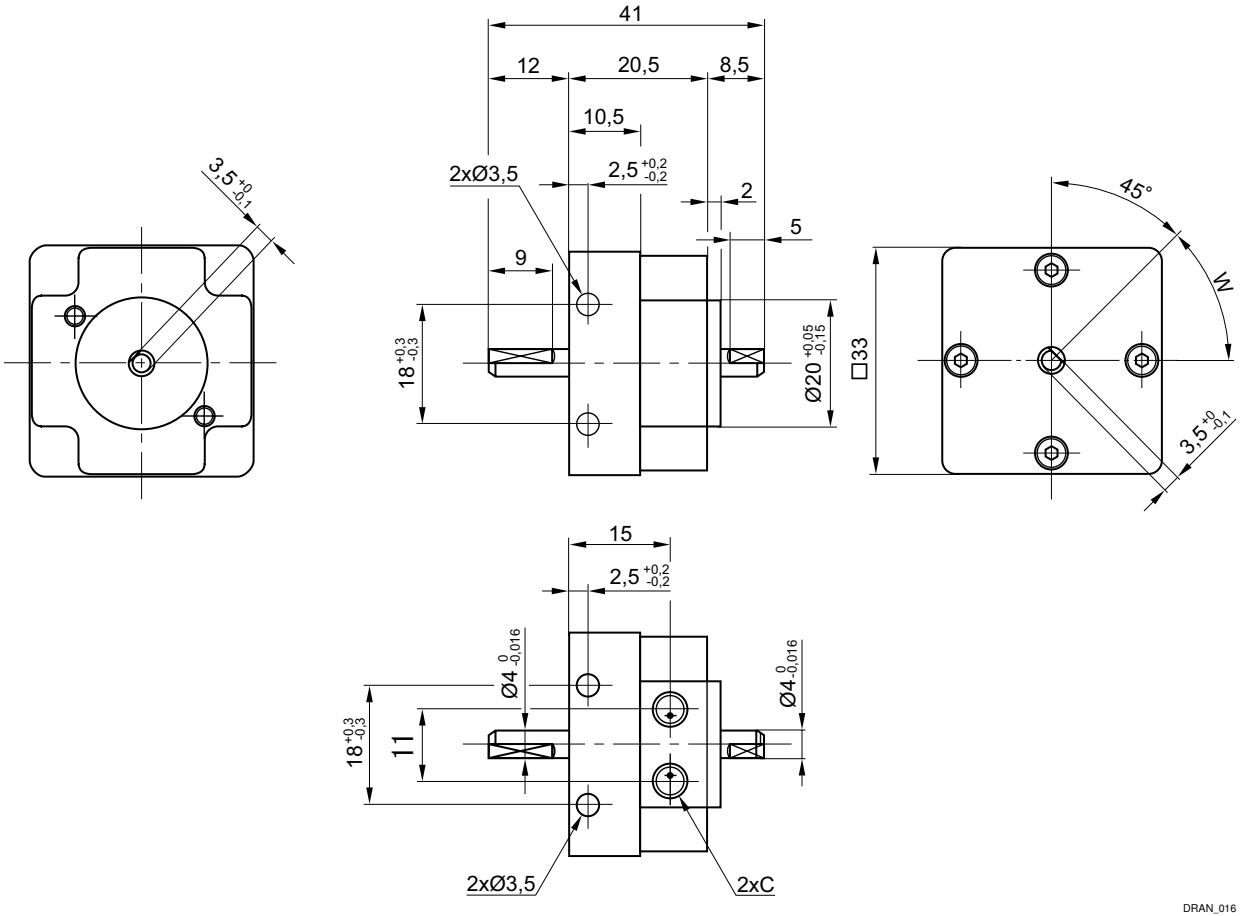
Frame size		RAN1	RAN3	RAN8	RAN20	
Axis diameter	**[mm]**	**4**	**5**	**6**	**8**	
Max. permissible axial bearing load	[N]	2	3.9	5.9	29.4	
Max. permissible radial bearing load	[N]	19.6	39.6	58.8	294.2	
Repetitive precision	[°]	3	3	3	3	
Theoretical torque	[Nm]	0.149	0.37	0.989	2.471	
Permissible kinetic energy	[J]	0.0004	0.002	0.005	0.015	

	Frame size	Compressed air connection	angle of rotation	Swivel time min./max.	Working pressure min./max.	Weight	Part No.
			[°]	[s]	[bar]	[kg]	
	RAN1	M5	0 - 90	0.03 / 0.3	2.5 / 7	0.05	2650117150
	RAN1		0 - 180	0.06 / 0.6	2.5 / 7	0.05	2650117160
	RAN1		0 - 270	0.08 / 0.8	2.5 / 7	0.05	2650117170
	RAN3		0 - 90	0.04 / 0.4	2 / 7	0.105	2650117180
	RAN3		0 - 180	0.08 / 0.8	2 / 7	0.105	2650117190
	RAN3		0 - 270	0.1 / 1	2 / 7	0.105	2650117200
	RAN8		0 - 90	0.05 / 0.5	2 / 7	0.18	2650117210
	RAN8		0 - 180	0.1 / 1	2 / 7	0.18	2650117220
	RAN8		0 - 270	0.15 / 1.5	2 / 7	0.18	2650117230
	RAN20		0 - 90	0.06 / 0.6	2 / 7	0.35	2650117240
	RAN20		0 - 180	0.12 / 1.2	2 / 7	0.35	**2650117250**
	RAN20		0 - 270	0.2 / 2	2 / 7	0.345	2650117260
min. swivel times at 5 bar and without load							

Series RAN, with side mounting

► angle of rotation: 0 - 270 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN1



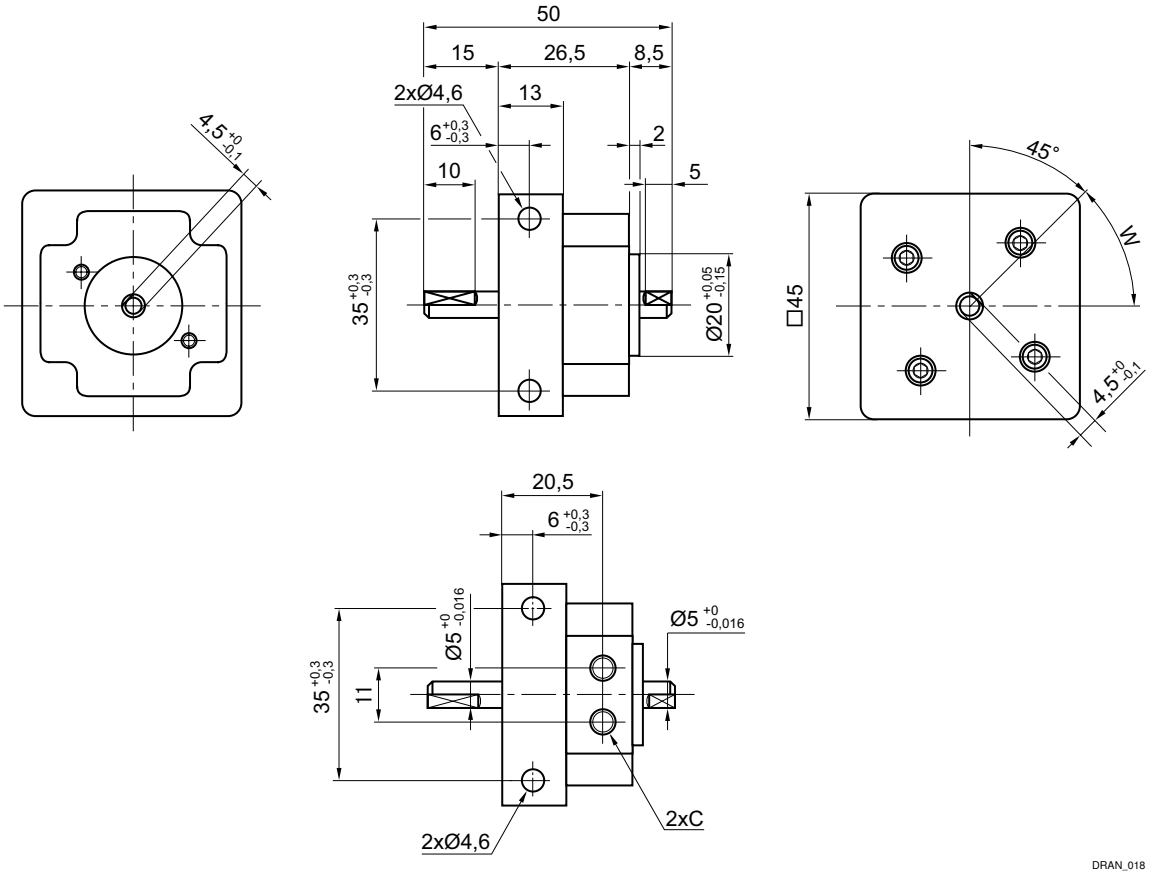
C = compressed air connection

Rotary actuators → Rotary wing drives

Series RAN, with side mounting

► angle of rotation: 0 - 270 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN3

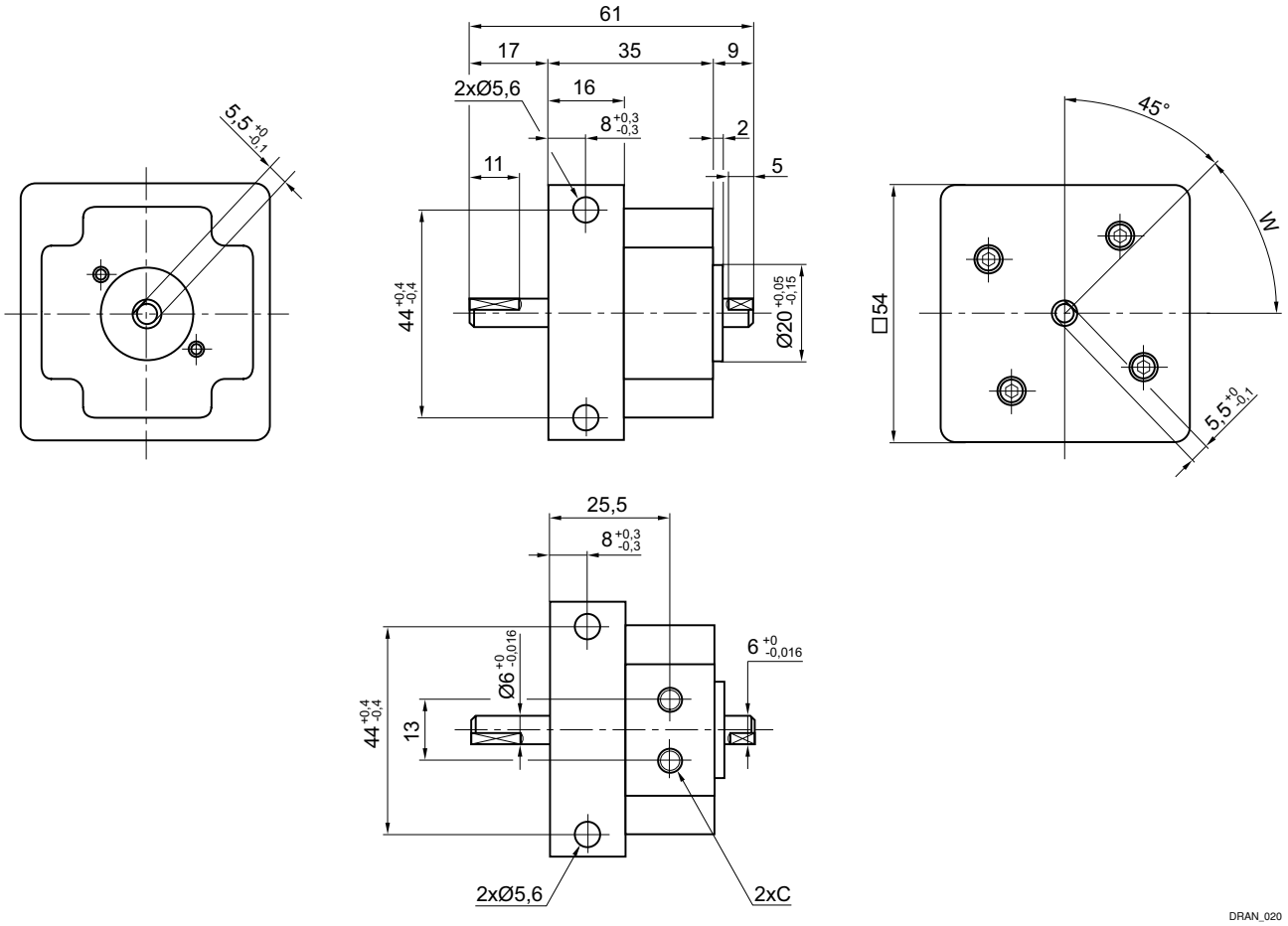


C = compressed air connection

Series RAN, with side mounting

► angle of rotation: 0 - 270 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN8

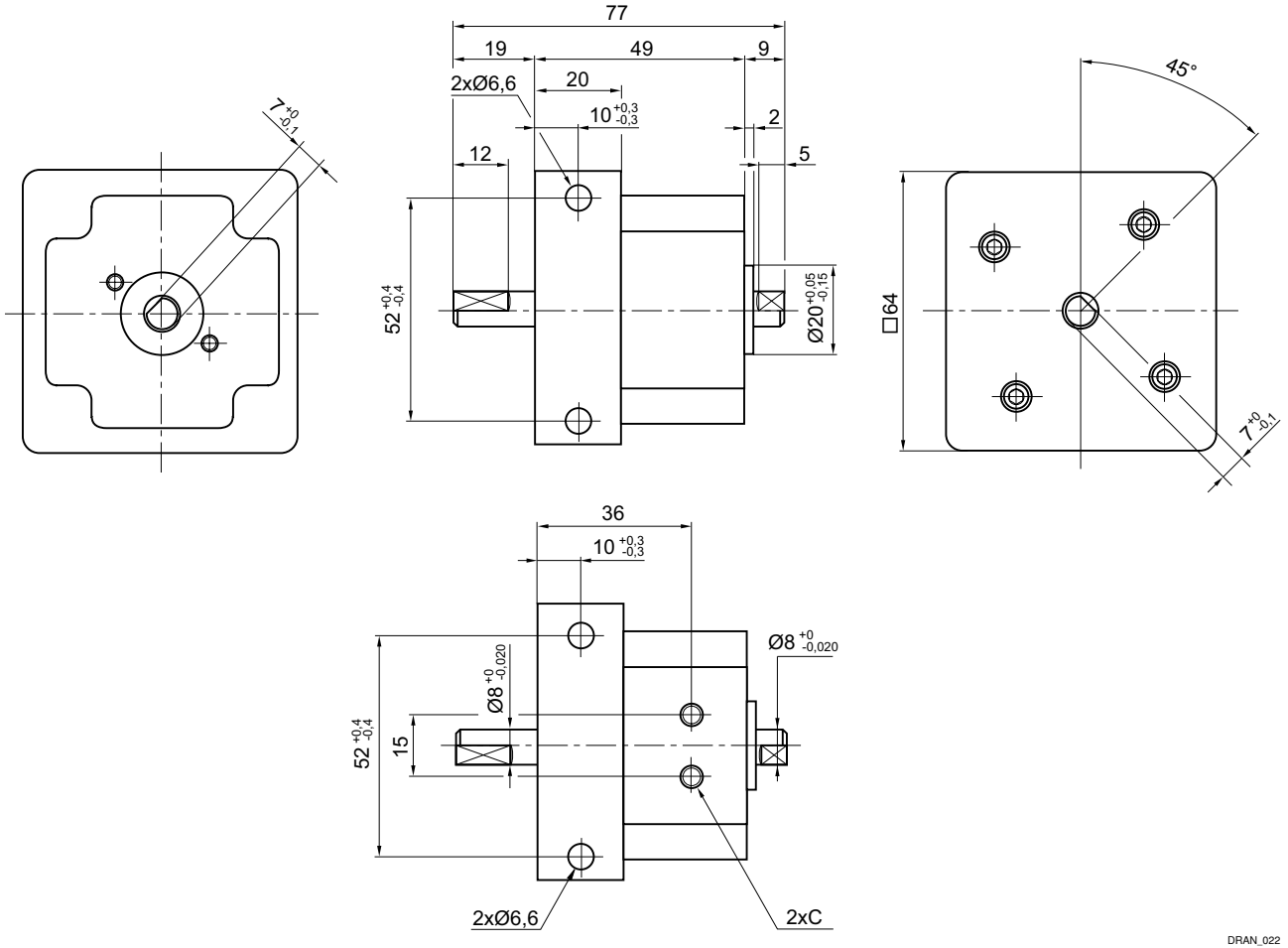


C = compressed air connection

Series RAN, with side mounting

► angle of rotation: 0 - 270 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Dimensions, RAN20

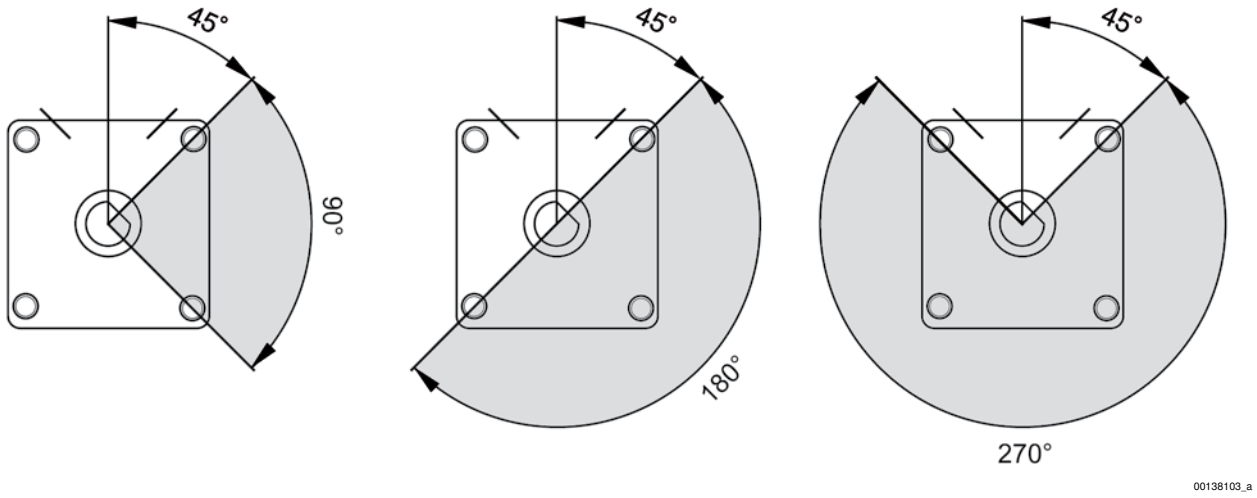


C = compressed air connection

Series RAN, with side mounting

► angle of rotation: 0 - 270 ° ► Rotary wing drive, double-acting ► axis geometry: through ► cushioning: elastic

Position of end stops



Start of rotary movement at 45°.

Rotary actuators → Rotary wing drives

Series RAN, with Front mounting and sensor holder

► angle of rotation: 0 - 275 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

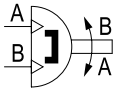
PRAN_012

Working pressure min./max.	See table below
Ambient temperature min./max.	+5°C / +60°C
Medium temperature min./max.	+5°C / +60°C
Medium	Compressed air
Max. particle size	5 μm
Oil content of compressed air	0 mg/m³ - 1 mg/m³
Theoretical torque at	6,3 bar
Materials:	
Housing	Aluminum, anodized; Plastic
Seals	Acrylonitrile Butadiene Rubber
Axis	Steel
Mounting flange	Aluminum, anodized

Technical Remarks

- 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 air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.
- Notice: This product may only be operated with oil-free, dry compressed air.

Frame size		RAN1	RAN3	RAN8	RAN20	RAN50
Axis diameter	[mm]	4	5	6	8	12
Max. permissible axial bearing load	[N]	2	3.9	5.9	29.4	98.1
Max. permissible radial bearing load	[N]	19.6	39.6	58.8	294.2	588.4
Repetitive precision	[°]	3	3	3	3	3
Theoretical torque	[Nm]	0.149	0.37	0.989	2.471	6.548
Permissible kinetic energy	[J]	0.0004	0.002	0.005	0.015	0.06

	Frame size	Compressed air connection	angle of rotation	Swivel time min./max.	Working pressure min./max.	Weight	Part No.
			[°]	[s]	[bar]	[kg]	
	RAN1	M5	0 - 90	0.03 / 0.3	2.5 / 7	0.065	2650117270
	RAN1	M5	0 - 180	0.06 / 0.6	2.5 / 7	0.065	**2650117280**
	RAN1	M5	0 - 270	0.08 / 0.8	2.5 / 7	0.065	2650117290
	RAN3	M5	0 - 90	0.04 / 0.4	2 / 7	0.095	2650117300
	RAN3	M5	0 - 180	0.08 / 0.8	2 / 7	0.095	2650117310
	RAN3	M5	0 - 270	0.1 / 1	2 / 7	0.095	2650117320
	RAN8	M5	0 - 90	0.05 / 0.5	2 / 7	0.15	**2650117330**
	RAN8	M5	0 - 180	0.1 / 1	2 / 7	0.15	**2650117340**
	RAN8	M5	0 - 270	0.15 / 1.5	2 / 7	0.15	2650117350
	RAN20	M5	0 - 90	0.06 / 0.6	2 / 7	0.29	**2650117360**
	RAN20	M5	0 - 180	0.12 / 1.2	2 / 7	0.29	**2650117370**
	RAN20	M5	0 - 270	0.2 / 2	2 / 7	0.285	2650117380
	RAN50	G 1/8	0 - 90	0.08 / 1	2 / 7	1.01	**2650117390**
	RAN50	G 1/8	0 - 180	0.16 / 1.8	2 / 7	1.01	**2650117400**
	RAN50	G 1/8	0 - 275	0.2 / 3	2 / 7	0.97	**2650117410**

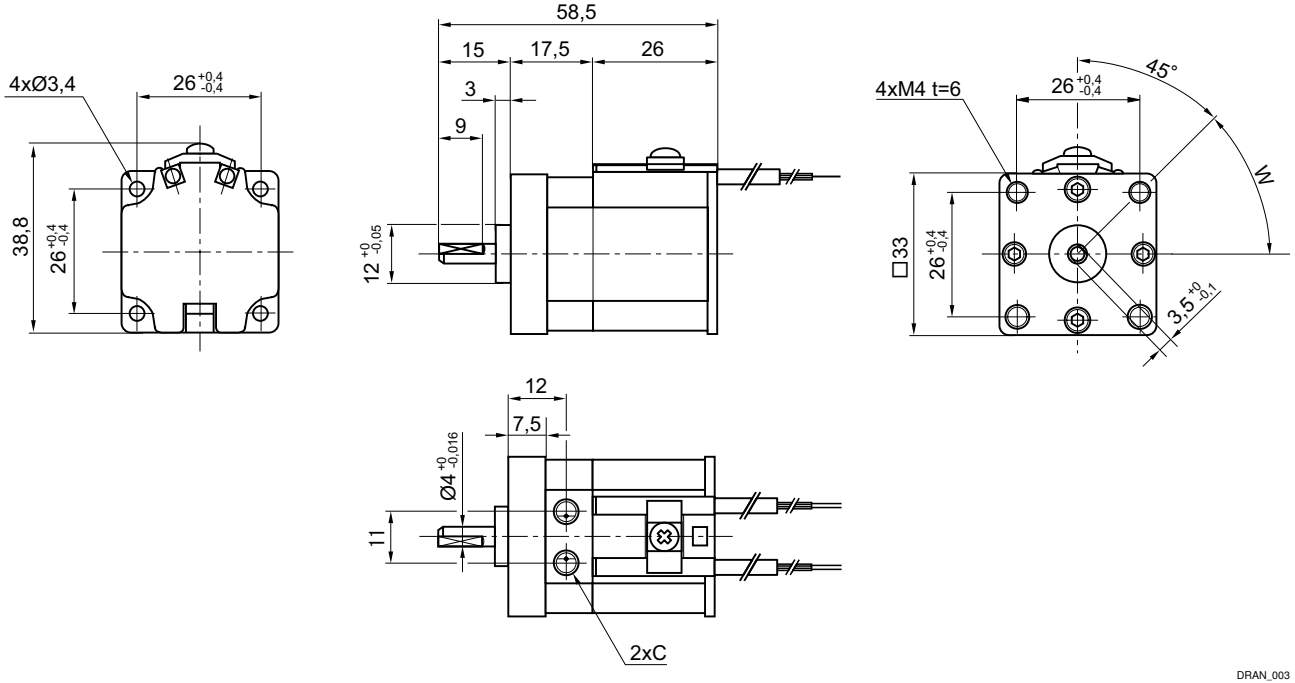
min. swivel times at 5 bar and without load

Rotary actuators → Rotary wing drives

Series RAN, with Front mounting and sensor holder

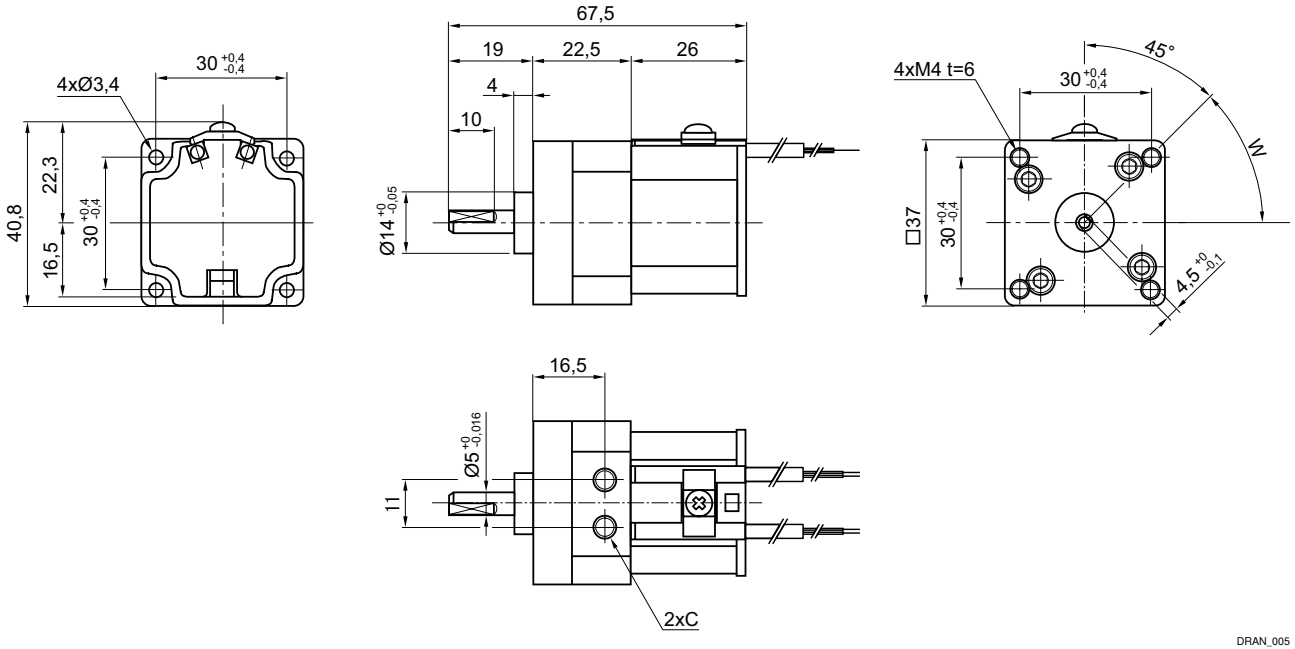
► angle of rotation: 0 - 275 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

Dimensions, RAN1



C = compressed air connection
t = depth

Dimensions, RAN3



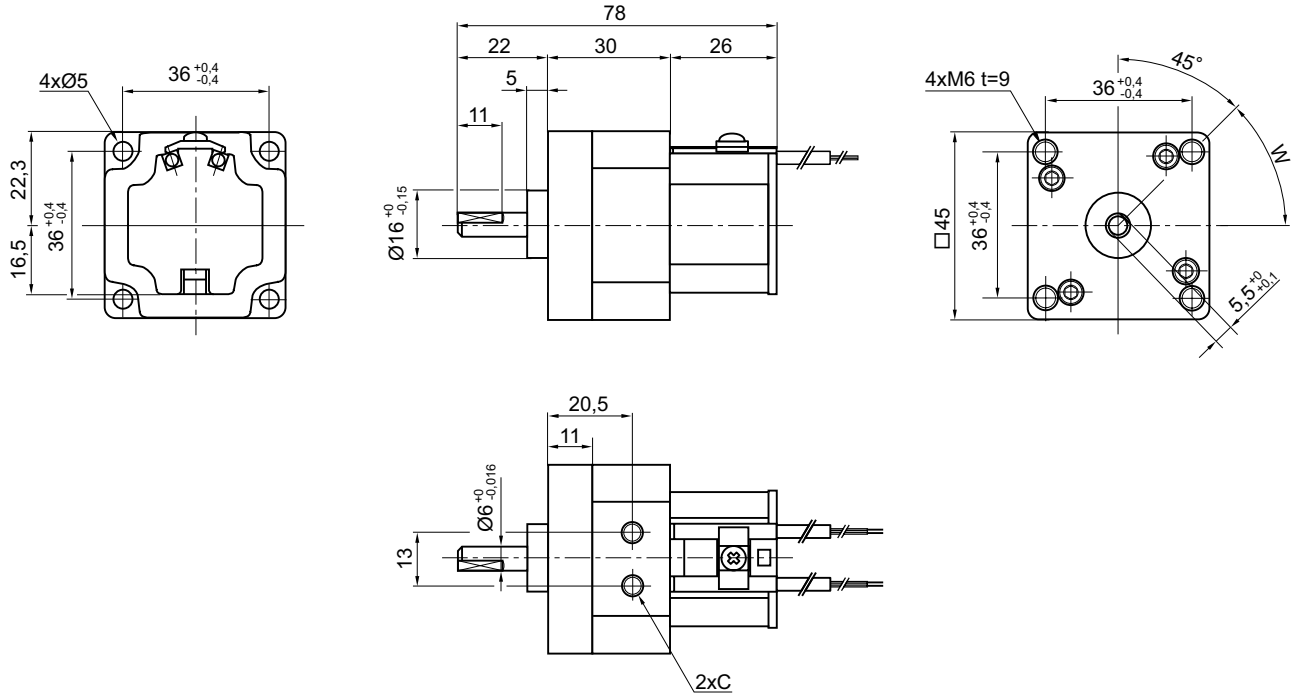
C = compressed air connection
t = depth

Rotary actuators → Rotary wing drives

Series RAN, with Front mounting and sensor holder

► angle of rotation: 0 - 275 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

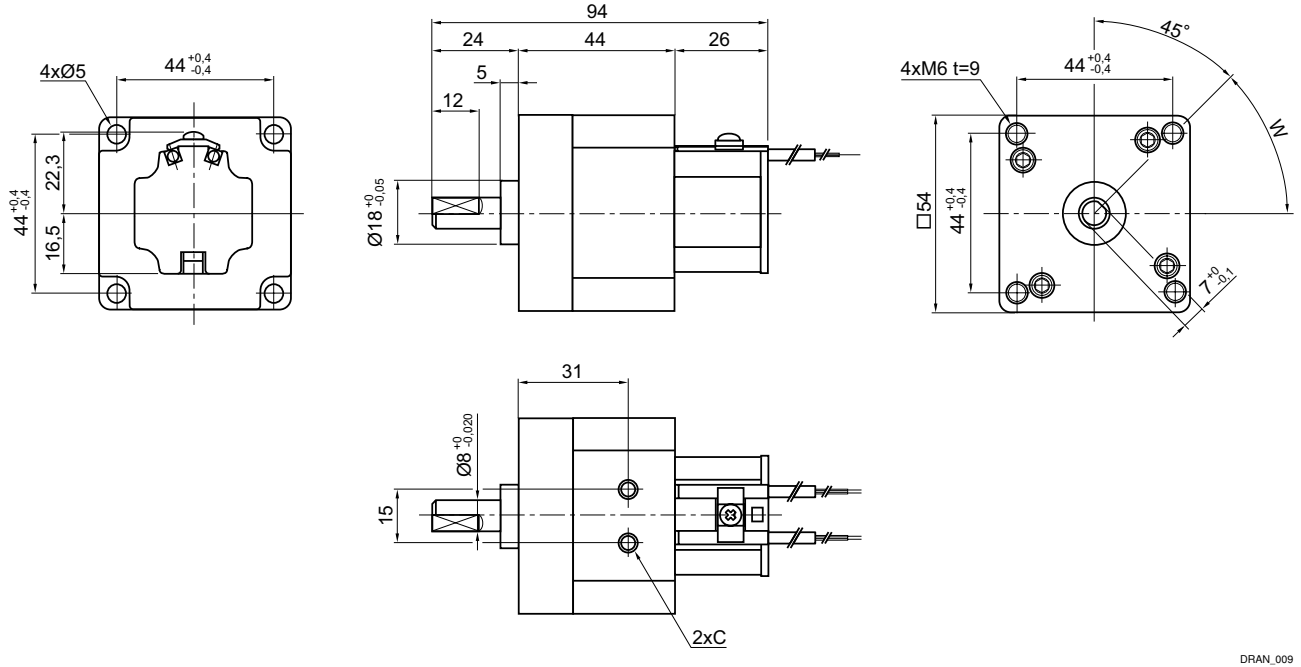
Dimensions, RAN8



DRAN_007

C = compressed air connection
t = depth

Dimensions, RAN20



DRAN_009

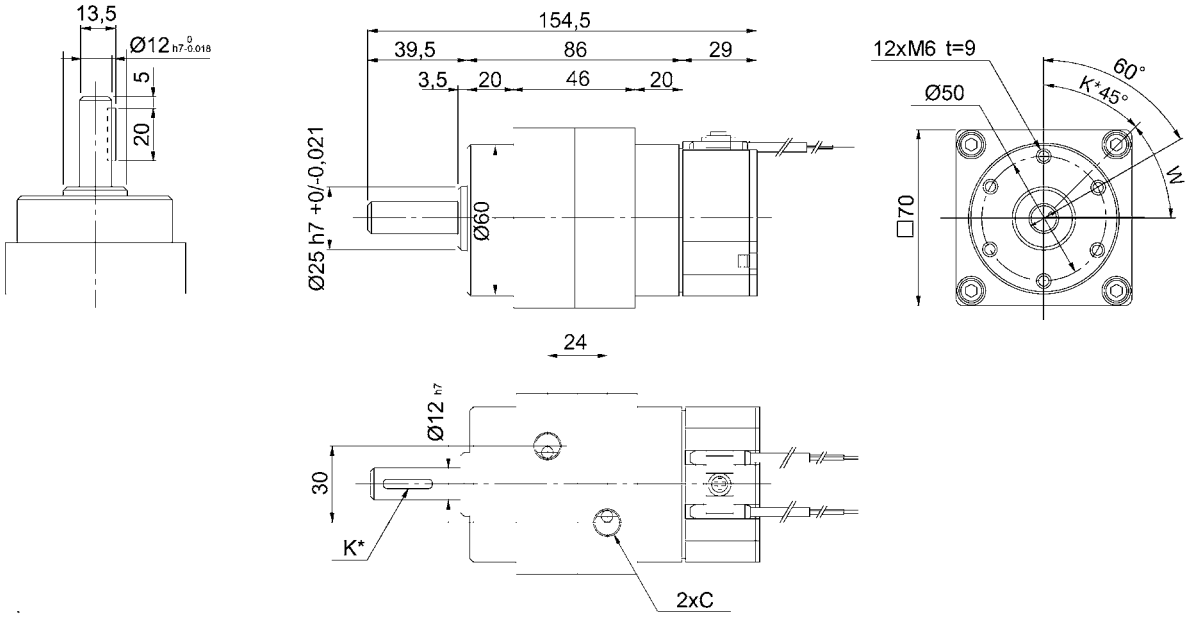
C = compressed air connection
t = depth

Rotary actuators → Rotary wing drives

Series RAN, with Front mounting and sensor holder

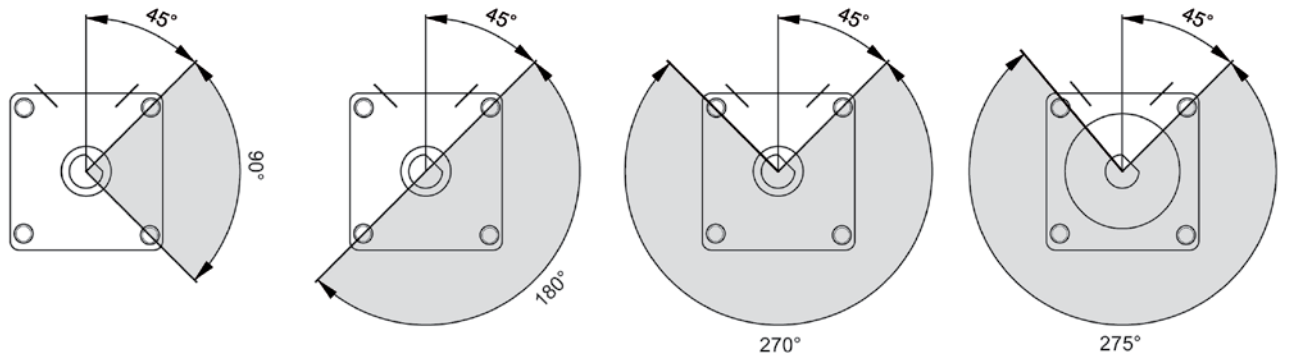
► angle of rotation: 0 - 275 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

Dimensions, RAN50



K* = key groove. Width 4 x depth 2.5 x length 20, position 45°
C = compressed air connection
t = depth

Position of end stops



Start of rotary movement at 45°.

Rotary actuators → Rotary wing drives

Series RAN, with Side mounting and sensor holder

► angle of rotation: 0 - 270 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

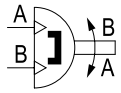
PRAN_014

Working pressure min./max.	See table below
Ambient temperature min./max.	+5 °C / +60 °C
Medium temperature min./max.	+5 °C / +60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 1 mg/m³
Theoretical torque at	6,3 bar
Materials:	
Housing	Aluminum, anodized; Plastic
Seals	Acrylonitrile Butadiene Rubber
Axis	Steel
Mounting flange	Aluminum, anodized

Technical Remarks

- 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 air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.
- Notice: This product may only be operated with oil-free, dry compressed air.

Frame size		RAN1	RAN3	RAN8	RAN20	
Axis diameter	**[mm]**	**4**	**5**	**6**	**8**	
Max. permissible axial bearing load	[N]	2	3.9	5.9	29.4	
Max. permissible radial bearing load	[N]	19.6	39.6	58.8	294.2	
Repetitive precision	[°]	3	3	3	3	
Theoretical torque	[Nm]	0.149	0.37	0.989	2.471	
Permissible kinetic energy	[J]	0.0004	0.002	0.005	0.015	

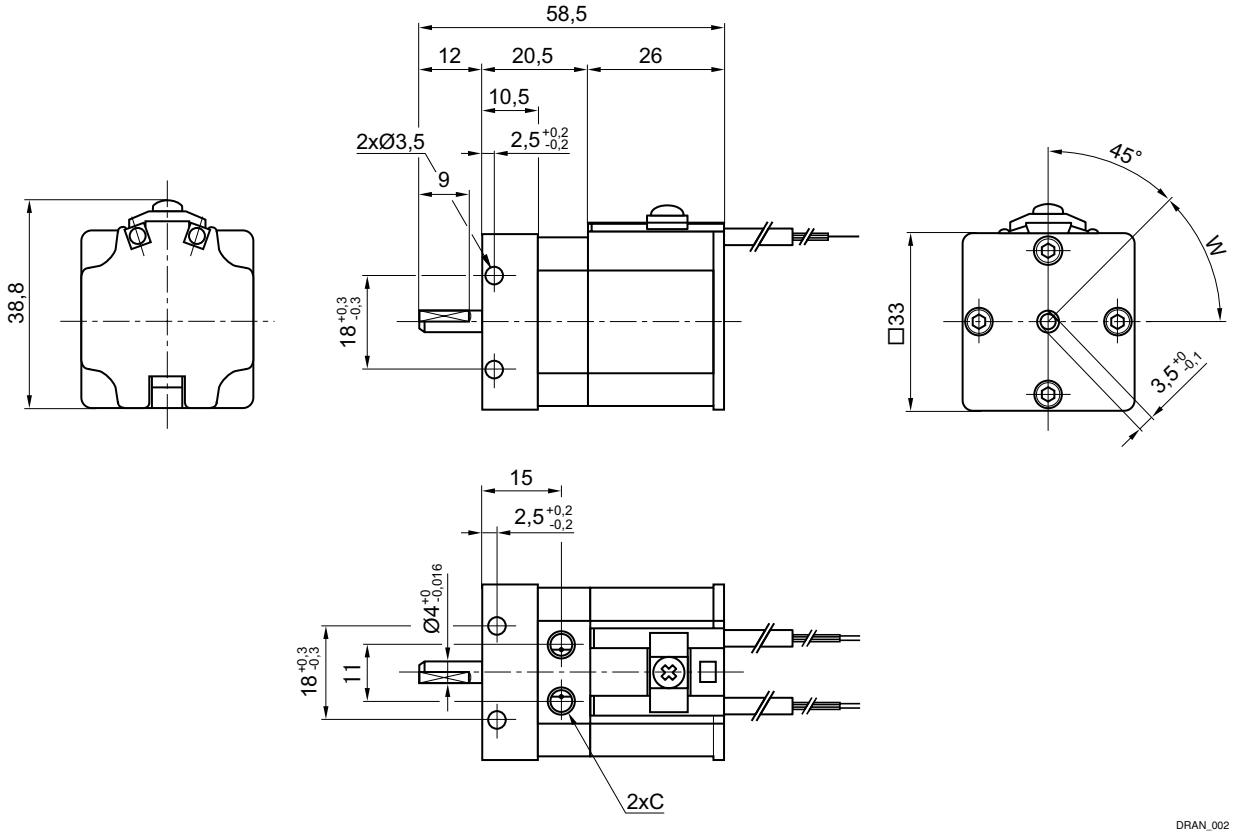
	Frame size	Compressed air connection	angle of rotation	Swivel time min./max.	Working pressure min./max.	Weight	Part No.
			[°]	[s]	[bar]	[kg]	
	RAN1	M5	0 - 90	0.03 / 0.3	2.5 / 7	0.07	2650117420
	RAN1		0 - 180	0.06 / 0.6	2.5 / 7	0.07	2650117430
	RAN1		0 - 270	0.08 / 0.8	2.5 / 7	0.07	2650117440
	RAN3		0 - 90	0.04 / 0.4	2 / 7	0.125	2650117450
	RAN3		0 - 180	0.08 / 0.8	2 / 7	0.125	2650117460
	RAN3		0 - 270	0.1 / 1	2 / 7	0.125	2650117470
	RAN8		0 - 90	0.05 / 0.5	2 / 7	0.2	2650117480
	RAN8		0 - 180	0.1 / 1	2 / 7	0.2	2650117490
	RAN8		0 - 270	0.15 / 1.5	2 / 7	0.2	2650117500
	RAN20		0 - 90	0.06 / 0.6	2 / 7	0.37	**2650117510**
	RAN20		0 - 180	0.12 / 1.2	2 / 7	0.37	2650117520
	RAN20		0 - 270	0.2 / 2	2 / 7	0.365	2650117530

min. swivel times at 5 bar and without load

Series RAN, with Side mounting and sensor holder

► angle of rotation: 0 - 270 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

Dimensions, RAN1

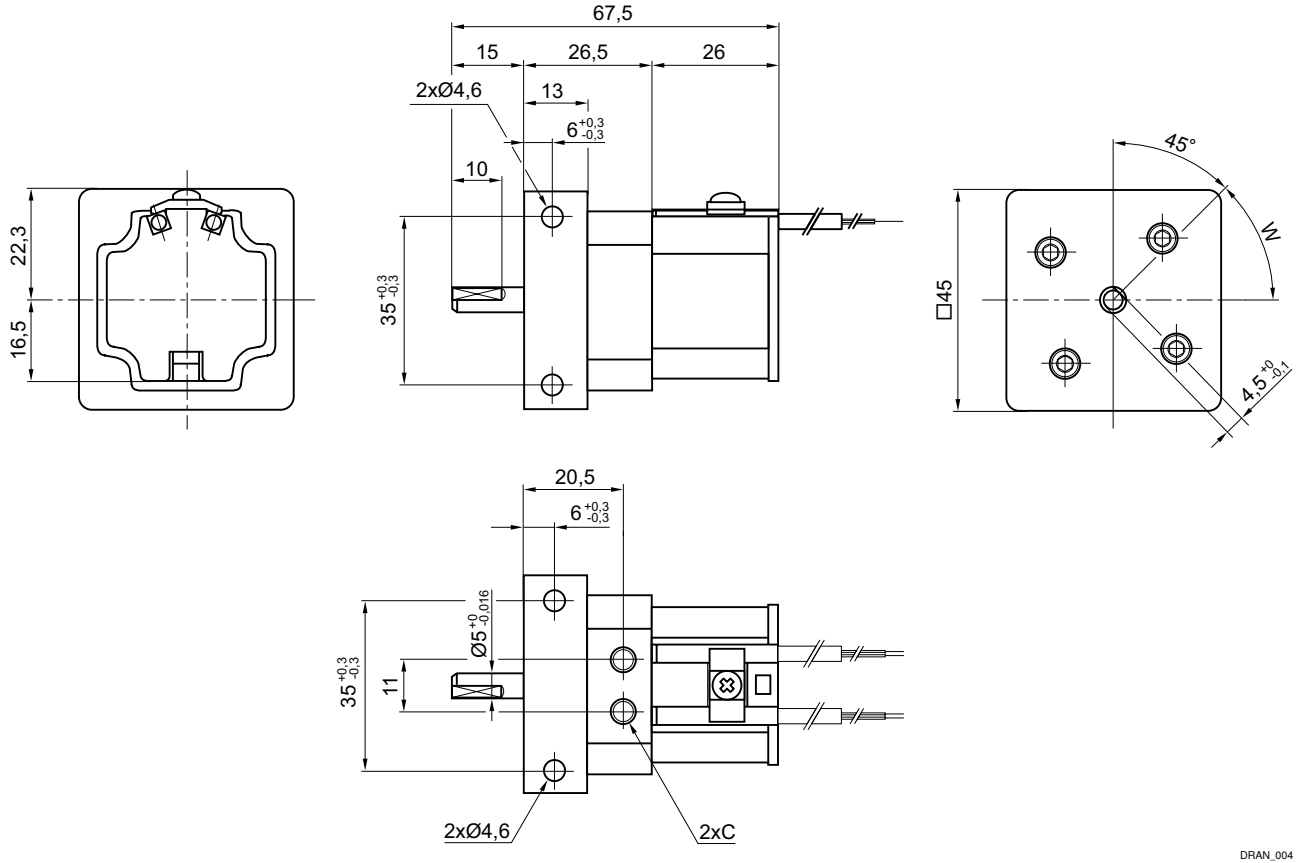


C = compressed air connection

Series RAN, with Side mounting and sensor holder

► angle of rotation: 0 - 270 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

Dimensions, RAN3

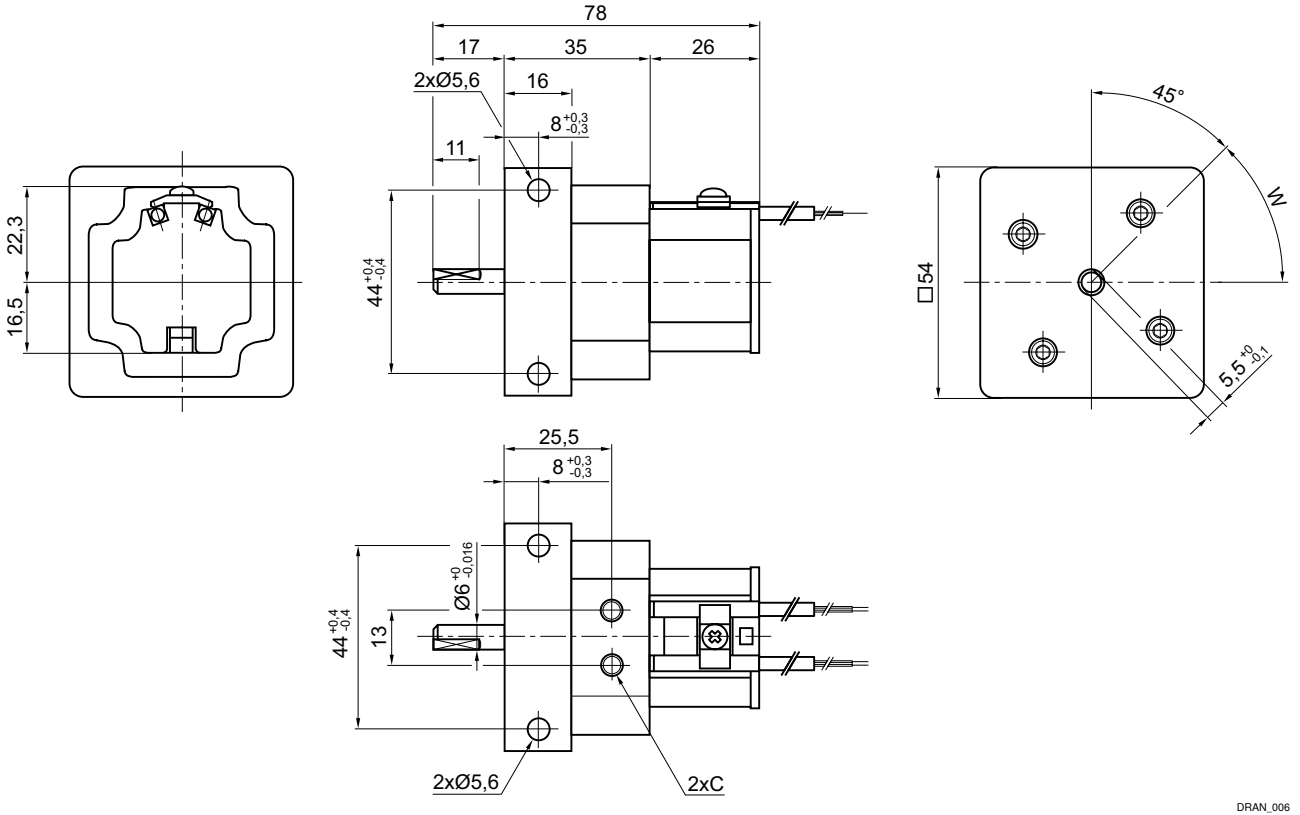


C = compressed air connection

Series RAN, with Side mounting and sensor holder

► angle of rotation: 0 - 270 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

Dimensions, RAN8

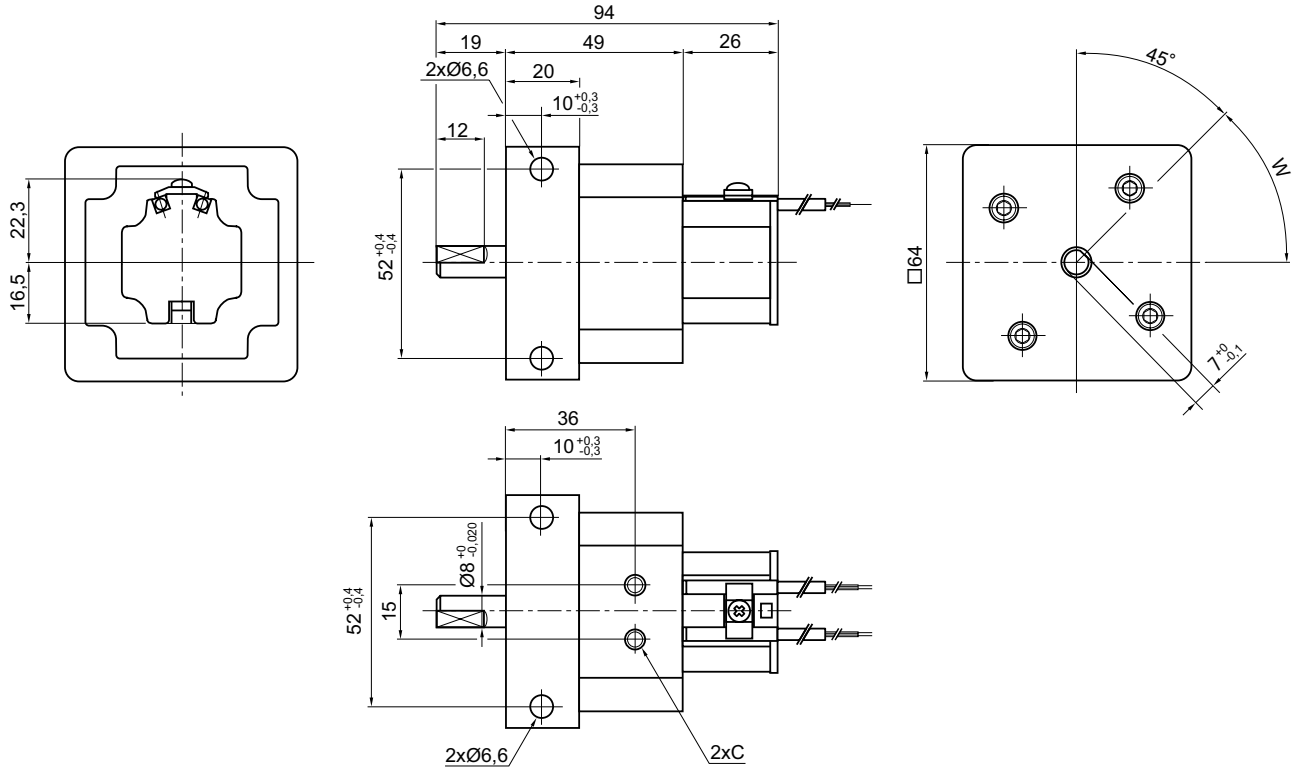


C = compressed air connection

Series RAN, with Side mounting and sensor holder

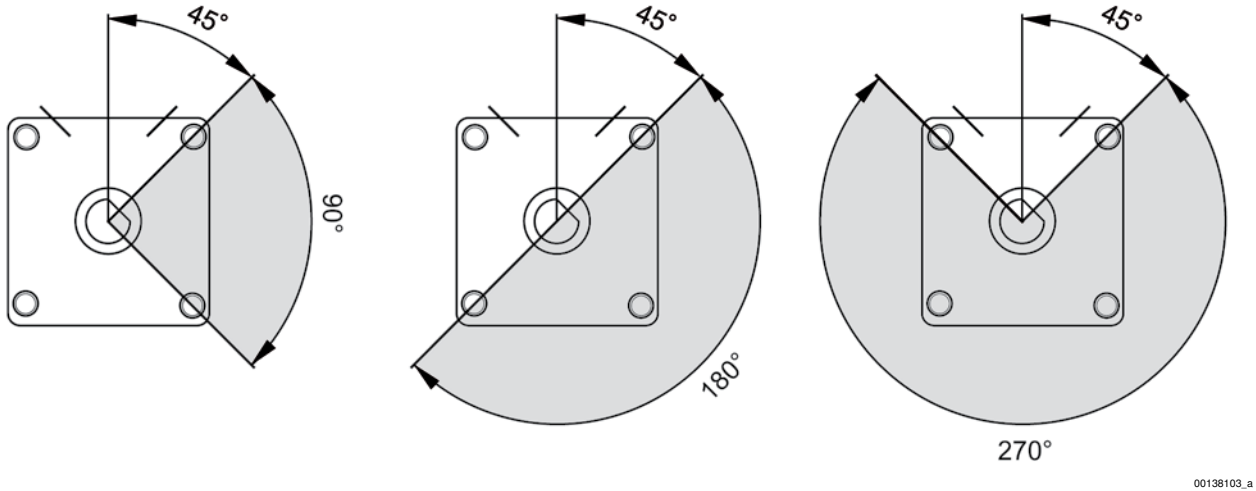
► angle of rotation: 0 - 270 ° ► with magnetic piston ► Rotary wing drive, double-acting ► axis geometry: single ► cushioning: elastic

Dimensions, RAN20



C = compressed air connection

Position of end stops



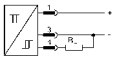
Start of rotary movement at 45°.

Series RAN
Accessories

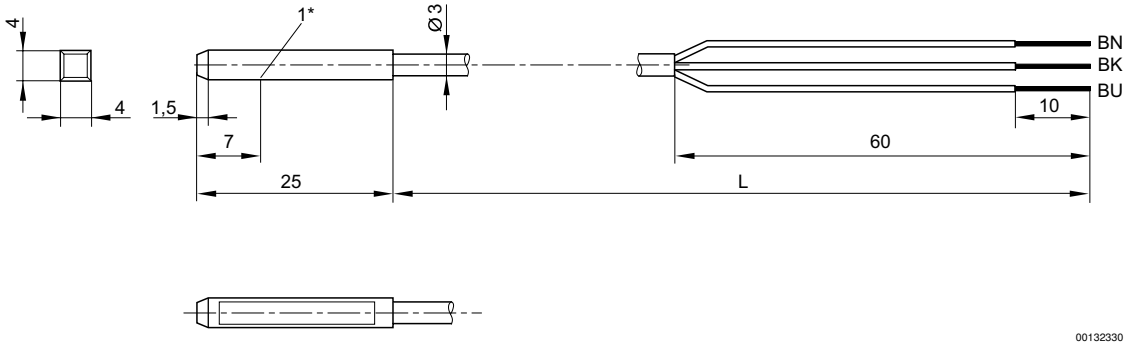
Sensor, Series SH4
► with cable ► without wire end ferrule, tin-plated

PRAN_015

Ambient temperature min./max.	-10 °C / +70 °C
Protection class	IP 67
LED status display	Green
Cable color	Black
Materials:	
Cable sheath	Polyurethane

	Type of contact	Cable length	DC operating voltage min./max.	DC switching current, max.	Voltage drop U at Imax	Part No.
		[m]	[V]	[A]	[V]	
	electronic PNP	3	5 / 30	0,05	≤ 1,2	**2650122030**
interfaces: without wire end ferrule, tin-plated						

Dimensions



00132330

1* = switching point
L = cable length
BN = brown, BK = black, BU = blue

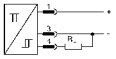
Sensor, Series SH4
► with cable ► Plug, M8

PRAN_015

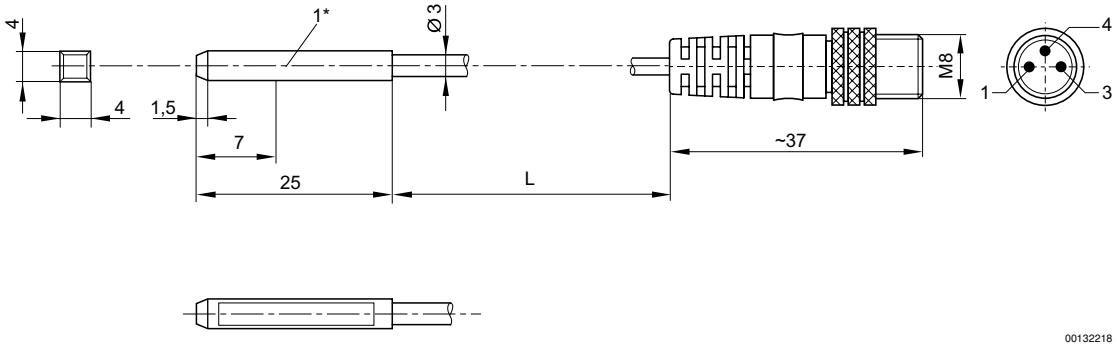
Ambient temperature min./max.	-10 °C / +70 °C
Protection class	IP 67
LED status display	Green
Cable color	Black
Materials:	
Cable sheath	Polyurethane

Rotary actuators → Rotary wing drives

Series RAN
Accessories

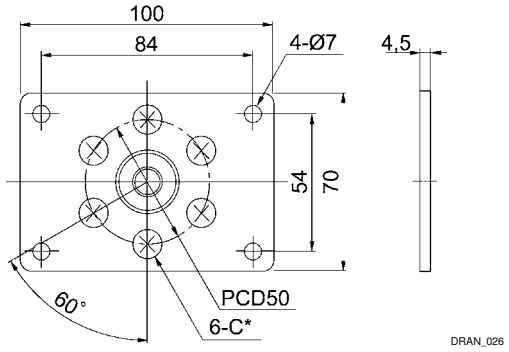
	Type of contact	Cable length	DC operating voltage min./max.	DC switching current, max.	Voltage drop U at Imax	Part No.
		[m]	[V]	[A]	[V]	
	electronic PNP	0.15	5 / 30	0,05	≤ 1,2	**2650122020**
interfaces: Plug; M8						

Dimensions



1* = switching point
L = cable length
Pin assignment: 1 = (+), 3 = (-), 4 = (OUT)

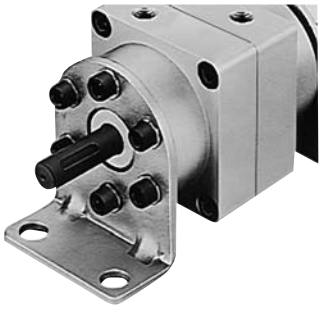
RAN50, Flange mounting



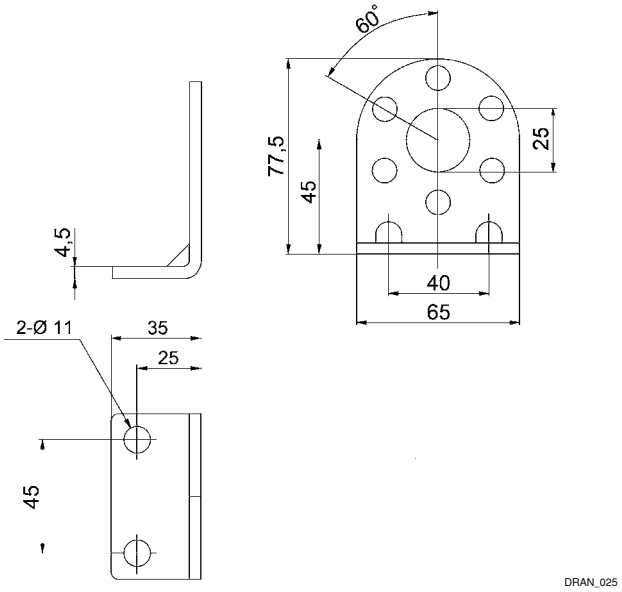
Part No.	Weight [kg]											
2650117550	0.2											

Series RAN
Accessories

RAN, Foot mounting



PRAN_003



DRAN_025

Part No.	Weight [kg]											
2650117540	0.185											

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