



Series 6420

Vane type rotary actuators

Coding: 6420.Ø.R.V

Ø	SIZE
	10 = Ø10
	15 = Ø15
	20 = Ø20
	30 = Ø30
	40 = Ø40
	50 = Ø50
	63 = Ø63
	80 = Ø80
100 = Ø100	
R	ROTATING ANGLE
	90 = 90°
	180 = 180°
	270 = 270°
V	VERSION
	= Without adjustable rotation angle, and without sensor support
	R = With adjustable rotation angle
	S = With sensor supports
	T = With adjustable rotation angle and sensor supports

The vane type rotary actuators, 6420 series is designed to operate at 90-180 or 270 deg. in a contained space. Dimensionally are more compact than other types of rotary actuators. The range includes bore sizes from 10 to 100 in 4 configurations:

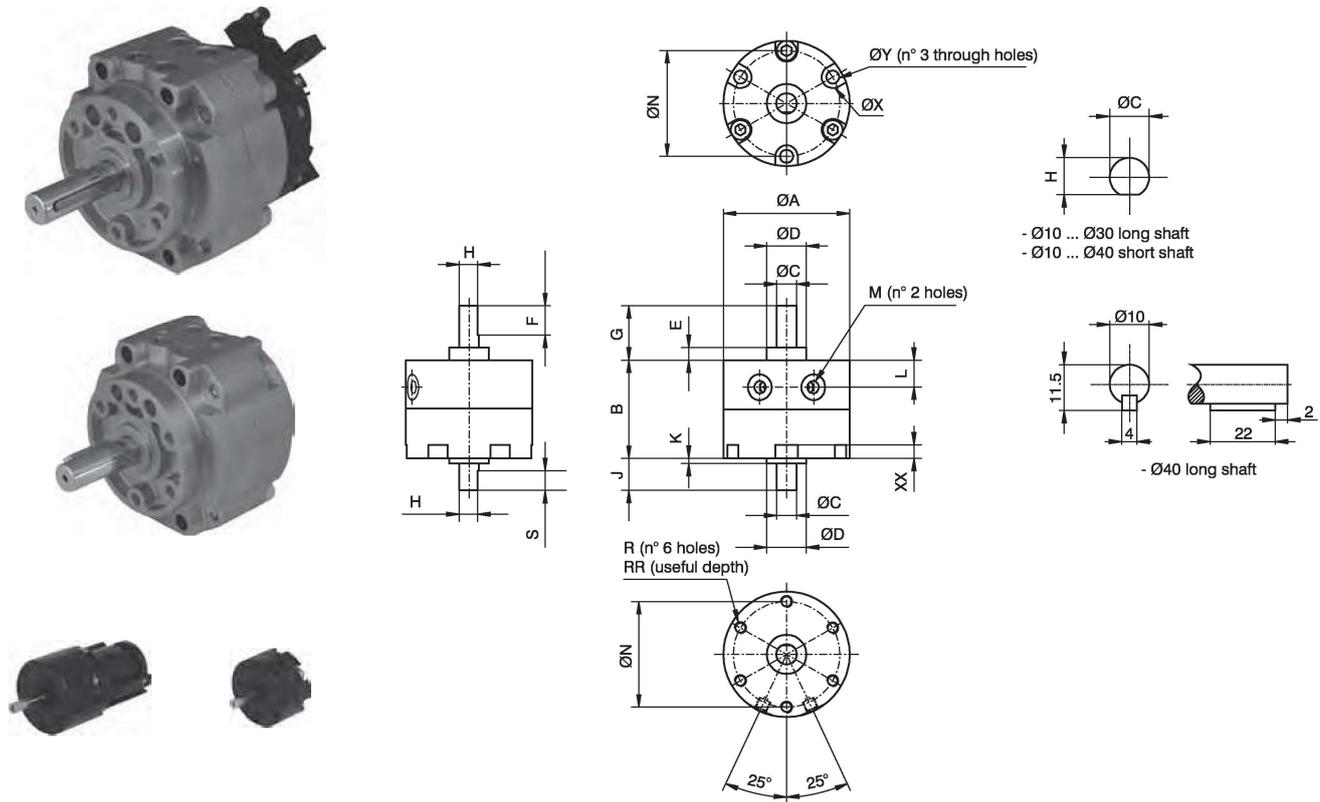
- basic
- with adjustable rotation angle
- with sensor supports
- with adjustable rotation angle and sensor supports

The bodies are in aluminium, the shafts in chrome plated steel and the seals in NBR. The sensing support kit enables for the sensors to be positioned in any position. The rotary angle adjustment mechanism enables the adjustment of the complete rotation on bore sizes 10 to 40 while on the others sizes carries as standard hydraulic dampers which enable the adjustment only of the last part of the rotation. The units can be fixed using the thread on the body or the through holes on the body. On bore sizes 50 to 100 the shaft runs into ball bearings which ensure high resistance.

Construction characteristics	
Body	anodized aluminium
Piston rod	steel
Seals	NBR
Vane	vulcanized NBR rubber on steel core
Cushioning	elastic bumper; hydraulic dampers from size Ø50 ... Ø100 versions R or T

Operational characteristics	
Fluid	filtered air, preferably lubricated
Rotation range	90° - 180° - 270°
Working pressure (bar)	1,5...7
Temperature °C	0 ... +50
Max. allowed leak	Ø10...Ø40 = 0,3 NI/min / Ø50...Ø100 = 0,5 NI/min

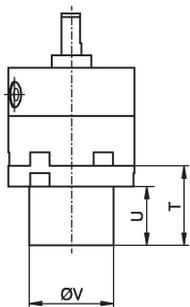
Overall dimensions Ø10 ... Ø40



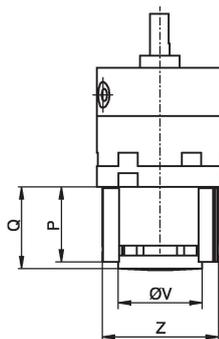
3

PNEUMATIC ACTUATION

Adjustable rotation angle version

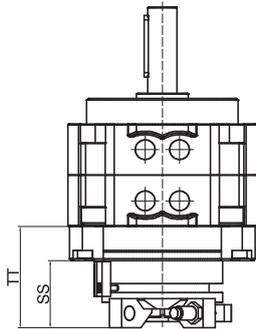


With sensor support version

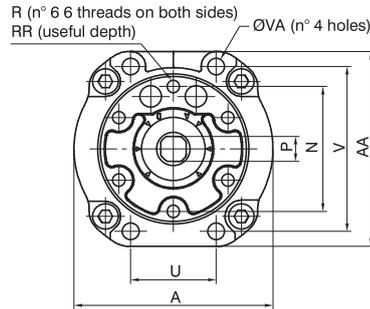


Bore - Rotation	10 - 90°	15 - 90°	20 - 90°	30 - 90°	40 - 90°
	10 - 180°	15 - 180°	20 - 180°	30 - 180°	40 - 180°
	10 - 270°	15 - 270°	20 - 270°	30 - 270°	40 - 270°
ØA	30	35	44	51	64
B	17	20,1	29,1	40	45
ØC	4	5	6	8	10
ØD	9	12	14	16	25
E	3	4	4,5	5	6,5
F	9	10	10	12	22
G	14	18	20,3	22	30
H	3,5	4,5	5,5	7,5	9
J	8	9	9,6	13	15
K	1	1,5	1,6	2	4,5
L	4,2	5	8,5	11	9,5
M	M5x0,8	M5x0,8	M5x0,8	M5x0,8	M5x0,8
ØN	24	29	36	43	56
P	23,3	28	28	30,8	33
Q	24	29,5	30,5	34	36
R	M3x0,5	M3x0,5	M4x0,7	M5x0,8	M5x0,8
RR	3	3	4,5	9	9
S	5	6	7	8	9
T	24	28	28,5	32,5	34,5
U	18	22	21	24	26
ØV	18	24	30	34	34
ØX	6	6	7,5	9	9
XX	3,5	3,5	4,5	5,5	5,5
ØY	2,3	2,3	3,2	4,2	4,2
Z	29	34	42	47	47
Weight (g) Base	28	48	112	200	342
Weight (g) With regulation rotation system	78	116	240	390	805

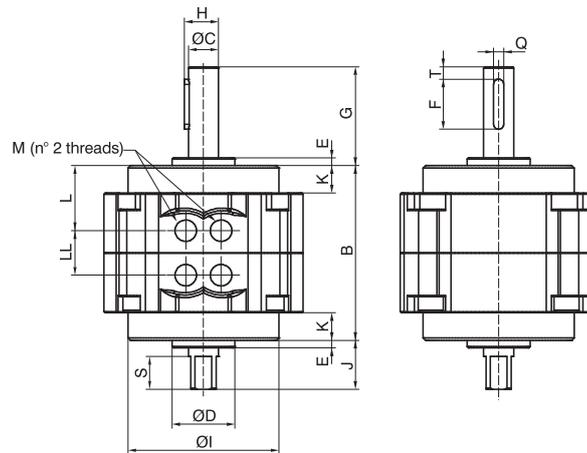
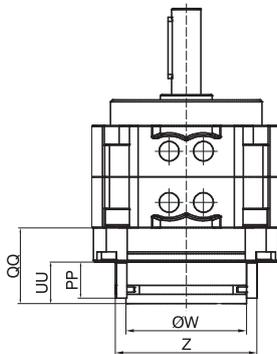
Adjustable rotation angle version



Overall dimensions Ø50 ... Ø100

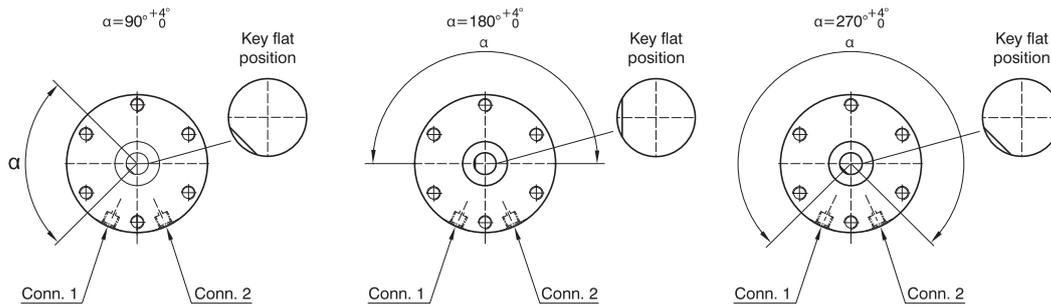


With sensor support version



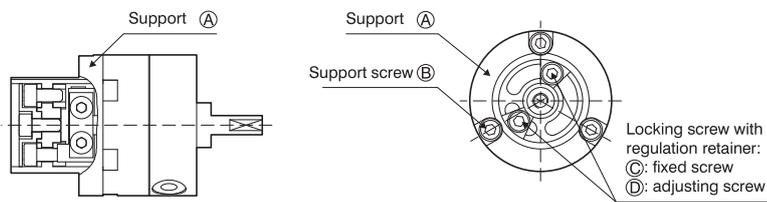
Bore - Rotation	50 - 90°	63 - 90°	80 - 90°	100 - 90°
	50 - 180°	63 - 180°	80 - 180°	100 - 180°
	50 - 270°	63 - 270°	80 - 270°	100 - 270°
A	79	98	110	140
AA	78	98	110	140
B	70	80	90	103
ØC	12	15	17	25
ØD	25	28	30	45
E	3	3	3	4
F	20	25	36	40
G	39,5	45	53,5	65
H	13,5	17	19	29
ØI	60	75	88	108
J	19,5	21	23,5	30
K	11	14	15	11,5
L	26	28,9	30	35,4
LL	18	22,2	30	32,2
M	G1/8"	G1/8"	G1/4"	G1/4"
N	50	60	70	80
P	10	12	13	19
PP	21	21	21	21
Q	4	5	5	7
QQ	39,4	43	44	48,5
R	M6x1	M8x1,25	M8x1,25	M10x1,5
RR	8	10	14	14
S	13	14	16	16
SS	38	38	39	39,5
T	5	7,5	5	5
TT	53	56,5	59	63
U	34	39	48	60
UU	24,5	24,5	24,5	24,5
V	66	83	94	120
ØVA	6,5	9	9	11
ØW	60	60	70	70
Z	73	73	83	83
Weight (g) Base	760	1290	1920	4100
Weight (g) With regulation rotation system	1100	1690	2370	4840

Spline position and adjustable rotation angle Ø10 ... Ø40
ROTATING SHAFT KEY FLAT POSITION



ROTATION ANGLE SETUP

To regulate the rotation angle (codes 6420..R or T), follow the instructions below

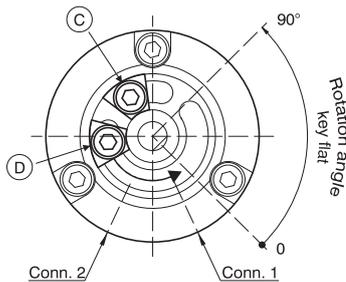


Phase 1: choose the regulation configuration based on the following options (consider the actuator base position):
rotation 90°, regulation 0 ... 90°, rotation 180°, regulation 0 ... 180°, rotation 270°, regulation 0 ... 175°

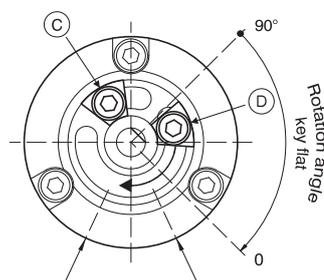
ROTATION CONFIGURATION

90°

Standard version
from 0° to 90°



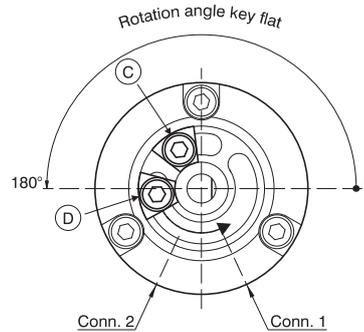
from 90° to 0°



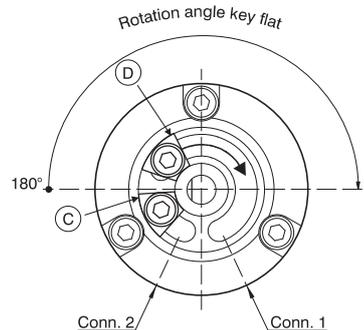
ROTATION CONFIGURATION

180°

Standard version
from 0° to 180°



from 180° to 0°



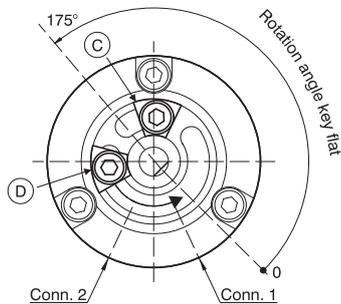
PNEUMATIC ACTUATION

Spline position and adjustable rotation angle Ø10 ... Ø40

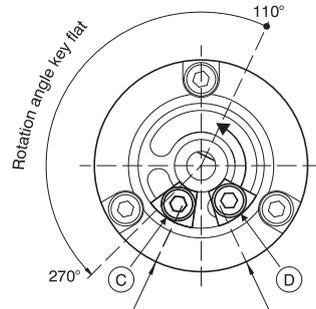
ROTATION CONFIGURATION

270°

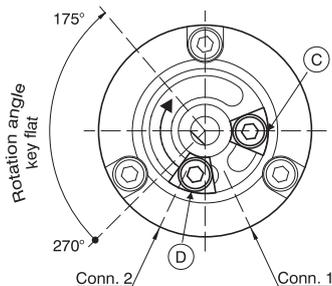
Standard version
from 0° to 175°



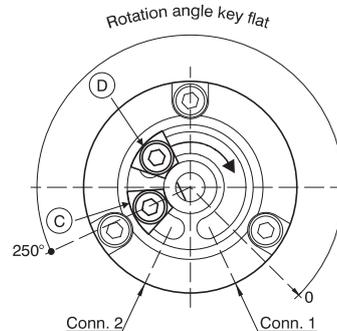
from 110° to 270°



from 270° to 175°



from 250° to 0°



Ⓒ = Fixed screw Ⓓ = Adjusting screw

Phase 2: if the desired settings do not correspond to the basic version settings:

- remove screw (E) and disk (F) or (G) (depending on the version) (see figure 1)
- remove screws (B), the actuator support (A) (see figure 1) and unlock blocking screws (C) and (D) (see rotation configuration)
- position screws (C) and (D) and the key flat of rotating shaft as indicated in the chosen rotation configuration in order to align the key flat of rotating shaft (see figure 2)
- re-assemble actuator support (A), tighten screws (B)
- position screws (C) and (D) according to the desired adjustment and tighten the screws
- re-assemble disk (F) or (G) and screw (E)

Figure 1

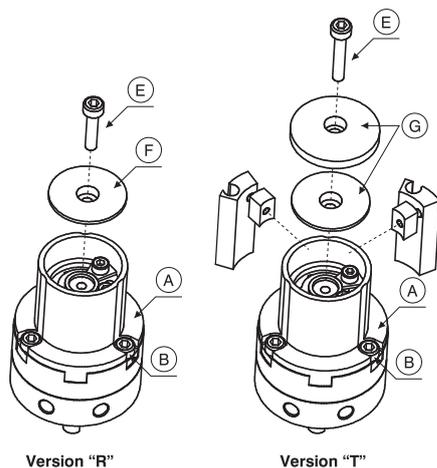
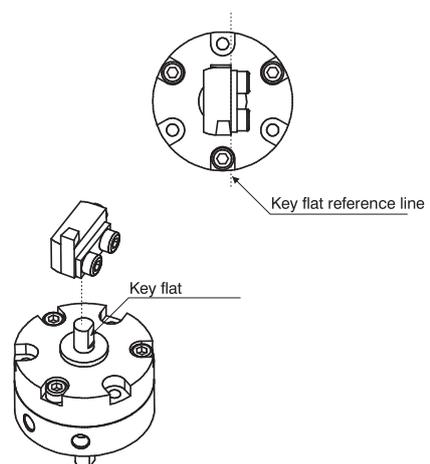
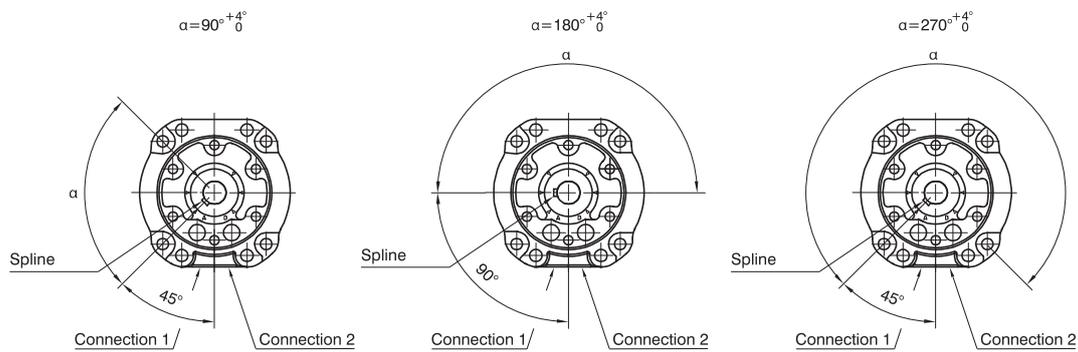


Figure 2



Spline position and adjustable rotation angle Ø50 ... Ø100
ROTATING SHAFT SPLINE POSITION

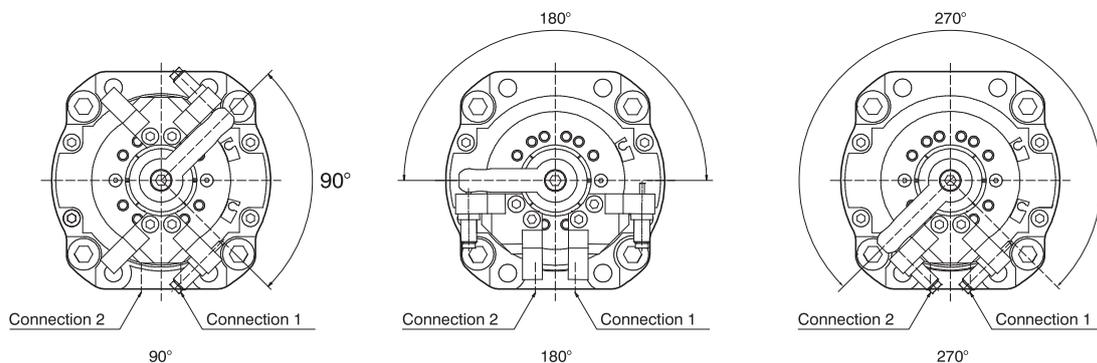


ROTATION ANGLE SETUP

The version with adjustable rotation angle (cod. 6420..R or T) is available with hydraulic shock absorbers which enable to regulate the rotation angle by 15° and to decelerate moving mass.

Example:

- 90° rotation - 15° for each deceleration = 60°
- 180° rotation - 15° for each deceleration = 150°
- 270° rotation - 15° for each deceleration = 240°

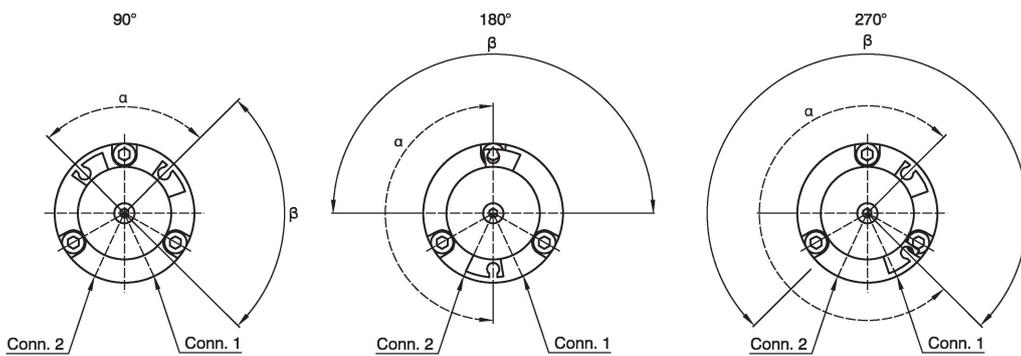
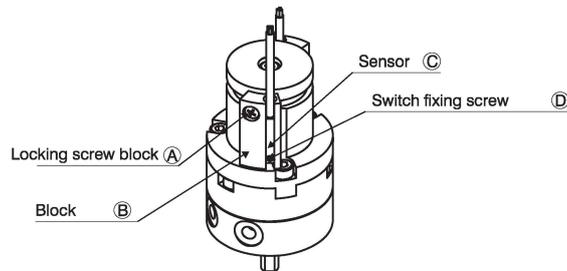


Switch positioning instructions Ø10 ... Ø40

Phase 1: unfasten screw **(A)**

Phase 2: assemble the switch **(C)** into the dedicated housing **(B)** and lock with screw **(D)**

Phase 3: rotate block **(B)** in the desired position (see following image)



α : magnet rotating angle

β : shaft key flat rotating angle

For correct functionality position the switch within angle α

Phase 4: tighten screw **(A)**

Phase 5: repeat the following phases for the second switch

AVAILABLE SENSORS



Code
1581.U
TRS.U
1581.HAP
THS.P



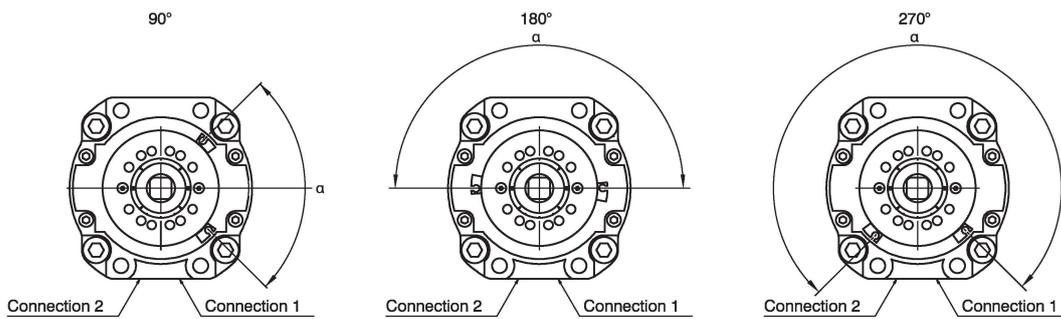
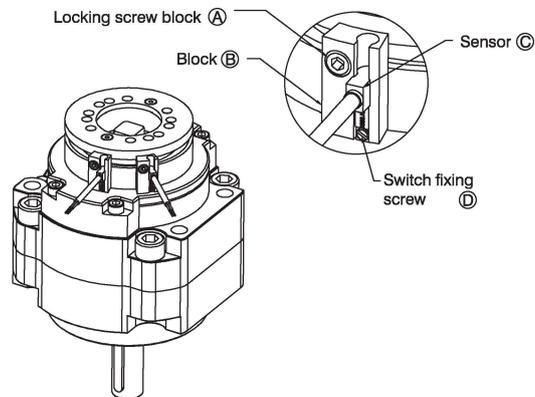
Code
1583.DC
1583.HAP
THR.P

Switch positioning instructions Ø50 ... Ø100

Phase 1: unfasten screw (A)

Phase 2: assemble the switch (C) into the dedicated housing (B) and lock with screw (D)

Phase 3: rotate block (B) in the desired position (see following image)



α : magnet rotating angle (that corresponds to the shaft key flat rotating angle)

For correct functionality position the switch within angle α

Phase 4: tighten screw (A)

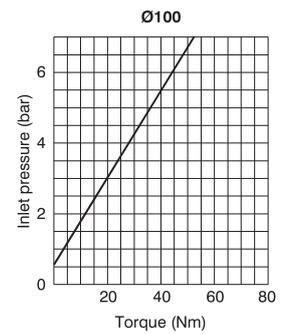
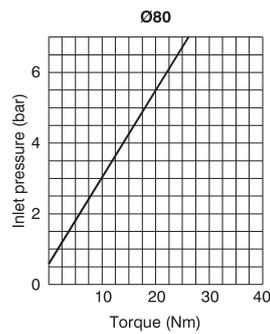
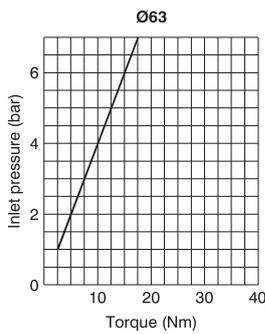
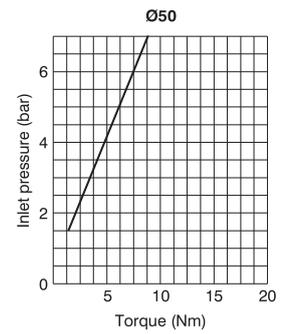
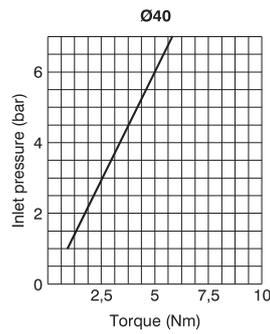
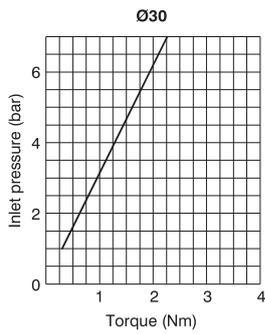
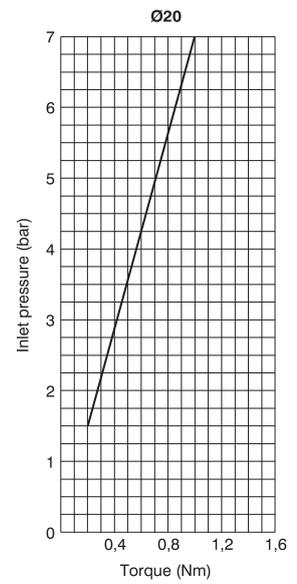
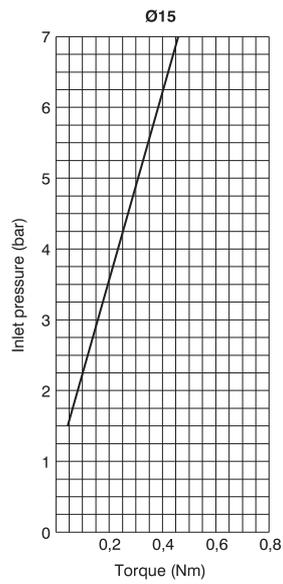
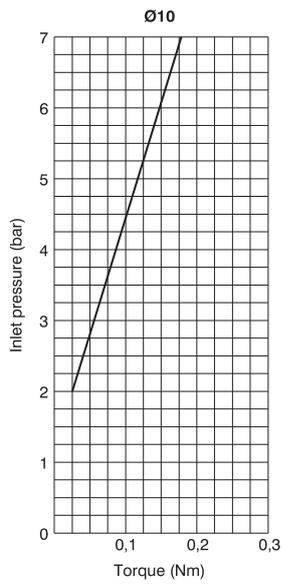
Phase 5: repeat the following phases for the second switch

AVAILABLE SENSORS



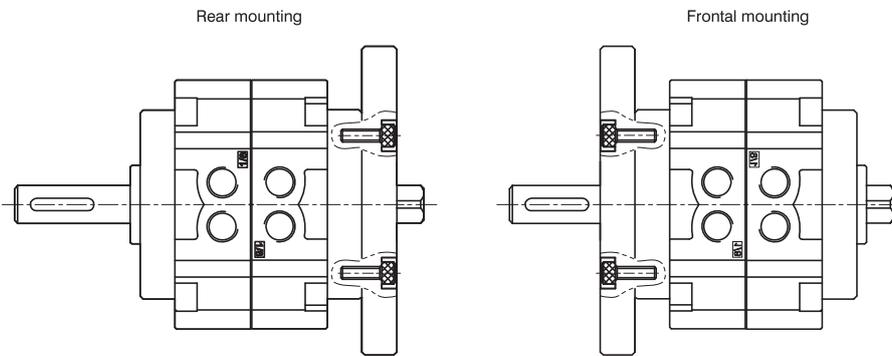
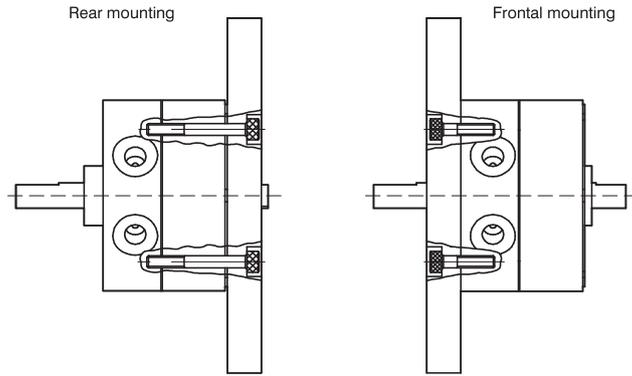
Code
1583.DC
1583.HAP
THR.P

Available torques





Direct mounting
Mounting types



Mounting with flanges

