

# TANAIR

## ROTARY UNITS ORDERING GUIDE



### ● AVAILABLE STYLE

- PTH Male pivot gear (Standard type)
- PTH-D Male pivot gear (Double end rod type)
- RTF Female pivot gear



### ● FEATURES

- Easy operation.
- Anodized aluminum all body.
- Pinion and rack made of carbon steel offer a strong mechanism.

### ● SPECIFICATION

Model	RTH. RTHD RTF		
Bore size	Φ40	Φ63	Φ80
Shaft diameter	φ16	φ24	φ28
Port size	1/4"	3/8"	3/8"
Max. Axial thrust	10kg	12kg	20kg
Rotation angle	90 5, 180 5		
Fluid	Filtered compressed air, not lubricated		
Operation	Double acting		
Operation pressure	1.5~7kg/cm <sup>2</sup>		
Max. Pressure	7kg/cm <sup>2</sup>		
Main body material	Aluminum alloy		
Working temperature	-10°C~60°C		

### ● HOW TO ORDER

RTH	40	B	90	D	SF1
RTH: Male pivot gear (standard) RTF: Female Pivot gear	Bore size 25: Φ25 40: Φ40 63: Φ63 80: Φ80		Rotating angle 90: 90 180: 180	Blank: single rod D: double rod	Blank No sensor SF1: 1Sensor LED in front SF2: 2Sensor LED in front ST1: 1Sensor LED on top ST2: 2Sensor LED on top

RTF: Rotary cylinder  
(Female pivot gear)



RTF: Rotary cylinder  
(Male pivot gear-standard type)



Sensor bracket code	Sensor code
FXX0500321: for40	AL-20R: LED in the front
FXX0500631: for63	AL-21R: LED on the top.
FXX0500801: for80	

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## ROTARY UNITS SPECIFICATIONS



### ● COMPRESSED AIR CONSUMPTION FOR A COMPLETE CYCLE

Unit: l/cycle

Type	Rotation	Operating pressure (MPa)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
RTH40 RTF40	90	0.1571	0.2352	0.3133	0.3915	0.4696	0.5477	0.6259	0.7040	0.7832	0.8603
	180	0.3141	0.4704	0.6267	0.7829	0.9392	1.0955	1.2517	1.4080	1.5643	1.7205
RTH63 RTF63	90	0.4383	0.6584	0.8744	1.0925	1.3105	1.5286	1.7466	1.9647	2.1828	2.4088
	180	0.8766	1.3127	1.7488	2.1850	2.6211	3.0572	3.4933	3.9294	4.3655	4.8016
RTH80 RTF80	90	0.8480	1.2698	1.6917	2.1135	2.5354	2.9572	3.3791	3.8009	4.2228	4.6447
	180	1.6959	2.5396	3.3834	4.2271	5.0708	5.9145	6.7582	7.6019	8.4456	9.2893

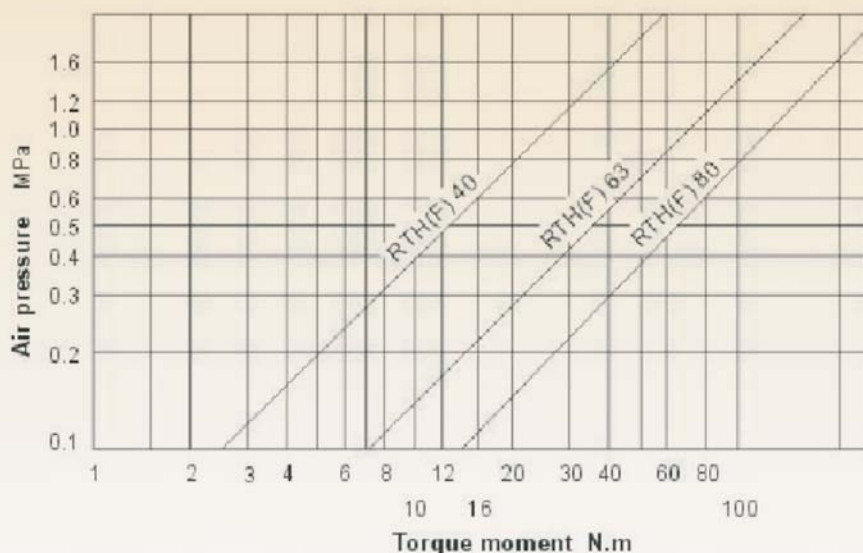
Type	RTH RTF		
Bore (mm)	40	63	80
Constant K	0.3491	0.3927	0.4712

### ● THE METHOD OF CALCULATION (COMPRESSED AIR CONSUMPTION)

$$Q = 2 \times K \times A \times n \times D_g \times \frac{P + 0.101}{0.101} \times 10^{-6}$$

Q: Compressed air consumption (l/cycle)  
 A: Plston (mm<sup>2</sup>)  
 D<sub>g</sub>: Rotation  
 P: ALR pressure  
 K: Constant  
 n: Cycle of operation (cycle/min)

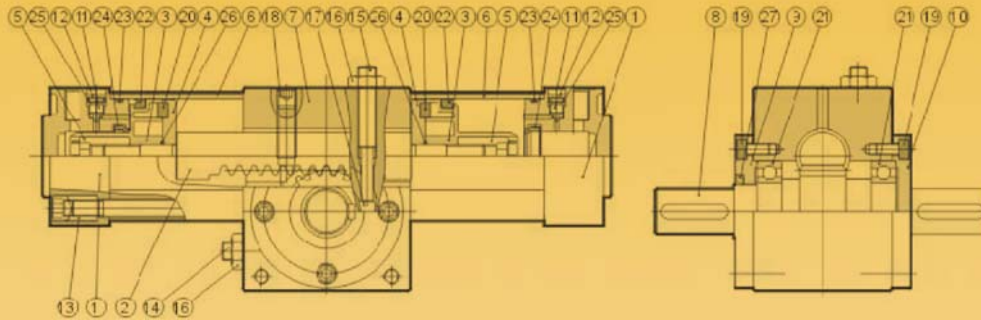
### ● OUTPUT TORQUE TABLE



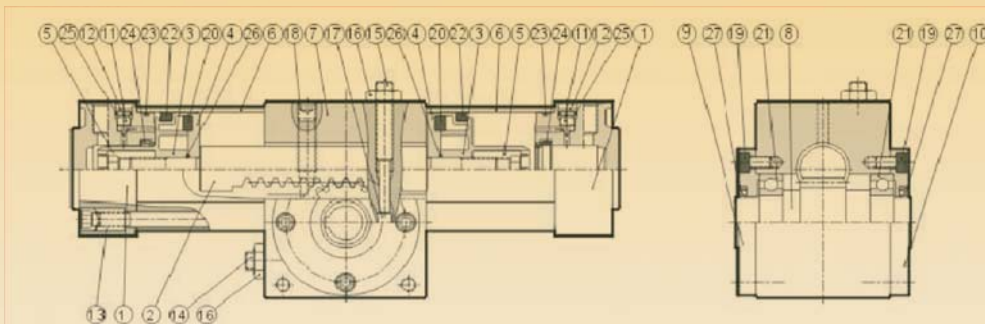
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## ROTARY UNITS PARTS LIST

### ● PART LIST FOR RTH & RTHD



No	Name	Q' ty	No.	Name	Q' ty	No.	Name	Q' ty
1	End cap	2	10	End cover	1	19	Hexagon socket heed screw	8
2	Rack	1	11	Cushion needle	2	20	Magnet	2
3	Piston	2	12	Washer	2	21	Ball bearing	2
4	Magnet holder	2	13	Tie bolt	8	22	Piston packing	2
5	Piston nut	2	14	Adjusting screw	1	23	Cylinder gasket	2
6	Cylinder tube	2	15	Adjusting screw	1	24	Cushion packing	2
7	Housing	1	16	Lock nut	2	25	Needle gasket	2
8	Pinlon shaft	1	17	Stopper pin	1	26	Piston gasket	2
9	End cover	1	18	Set screw	1	27	Rod packing	1



No	Name	Q' ty	No.	Name	Q' ty	No.	Name	Q' ty
1	End cap	2	10	End cover	1	19	Hexagon socket heed screw	8
2	Rack	1	11	Cushion needle	2	20	Magnet	2
3	Piston	2	12	Washer	2	21	Ball bearing	2
4	Magnet holder	2	13	Tie bolt	8	22	Piston packing	2
5	Piston nut	2	14	Adjusting screw	1	23	Cylinder gasket	2
6	Cylinder tube	2	15	Adjusting screw	1	24	Cushion packing	2
7	Housing	1	16	Lock nut	2	25	Needle gasket	2
8	Pinlon shaft	1	17	Stopper pin	1	26	Piston gasket	2
9	End cover	1	18	Set screw	1	27	Rod packing	2

### ● ORDER CODE FOR RTH SEAL KIT

RTHSK40 suitable for RTH-Φ40  
 RTHSK63 suitable for RTH-Φ63  
 RTHSK80 suitable for RTH-Φ80

Seal kit including:  
 Piston packing X 2 pcs  
 Cylinder gasket X 2 pcs  
 Cushion packing X 2 pcs  
 Needle gasket X 2 pcs  
 Piston gasket X 2 pcs  
 Rod packing X 1 pcs

### ● ORDER CODE FOR RTF SEAL KIT

RTFSK40 suitable for RTF-Φ40  
 RTFSK63 suitable for RTF-Φ63  
 RTFSK80 suitable for RTF-Φ80

Seal kit including:  
 Piston packing X 2 pcs  
 Cylinder gasket X 2 pcs  
 Cushion packing X 2 pcs  
 Needle gasket X 2 pcs  
 Piston gasket X 2 pcs  
 Rod packing X 2 pcs

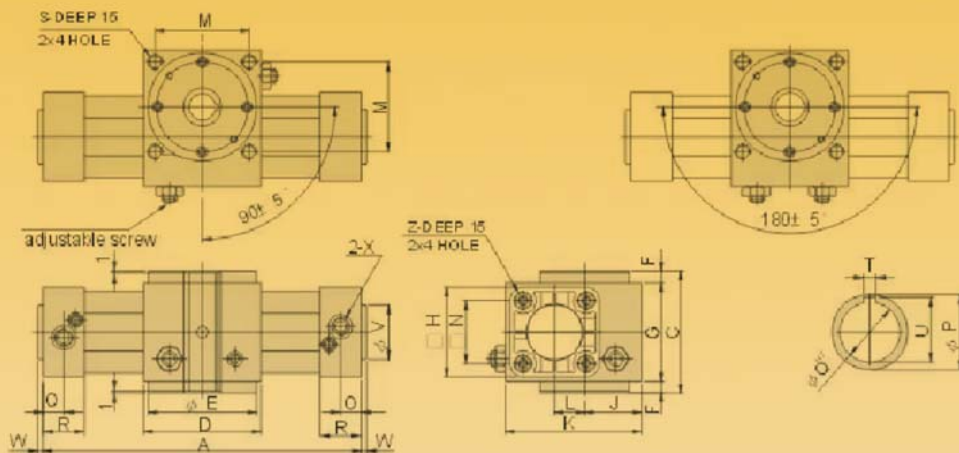
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## ROTARY UNITS DIMENSIONS

### • DIMENSION-RTF

Angle of rotation 90°

Angle of rotation 180°

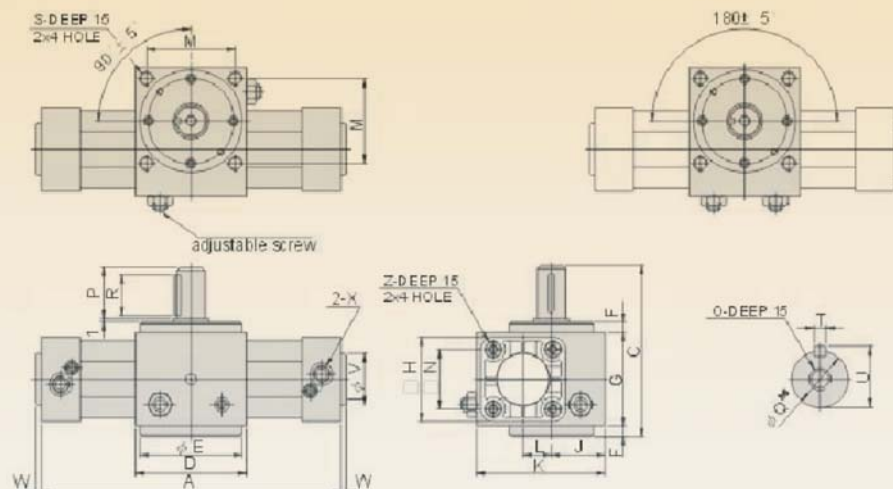


Type	A		C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Z
	90	180																						
RTF40	263	326	81	75	72	8	65	53	37.5	93	27.5	60	38	15	25	14	30	M6	5	16.5	35	4	G1/4	M6
RTF63	306	377	95	90	82	10	75	75	42.5	110	30	70	56.5	16	30	19	32	M8	6	22	45	5	G3/8	M8
RTF80	343	428	119	105	96	12	95	95	51.5	135	36	82	72	19	35	24	38	M10	6	27.5	45	6	G3/8	M10

### • DIMENSION-RTH

Angle of rotation 90°

Angle of rotation 180°



Type	A		C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Z
	90	180																						
RTH40	263	326	112	75	72	8	65	53	37.5	93	27.5	60	38	M5	30	16	25	M6	5	18	35	4	G1/4	M6
RTH63	306	377	138	90	82	10	75	75	42.5	110	30	70	56.5	M8	42	24	36	M8	6	27	45	5	G3/8	M8
RTH80	343	428	170	105	96	12	95	95	51.5	135	36	82	72	M8	50	28	45	M10	8	31	45	6	G3/8	M10

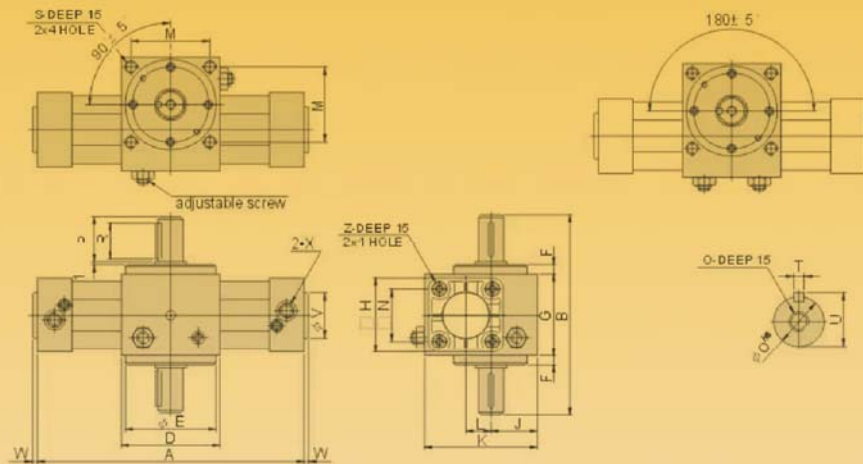
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## ROTARY UNITS DIMENSIONS

### ● DIMENSION-RH-D

Angle of rotation 90

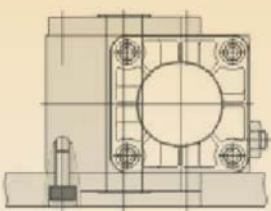
Angle of rotation 180



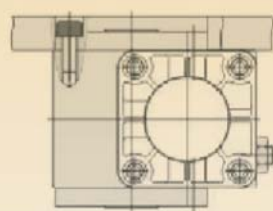
Type	A		C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Z
	90	180																						
RTH40-D	263	326	143	75	72	8	65	53	37.5	93	27.5	60	38	M5	30	16	25	M6	5	18	35	4	G1/4	M6
RTH63-D	306	377	181	90	82	10	75	75	42.5	110	30	70	56.5	M8	42	24	36	M8	8	27	45	5	G3/8	M8
RTH80-D	343	428	221	105	96	12	95	95	51.5	135	36	82	72	M8	50	28	45	M10	8	31	45	6	G3/8	M10

### ● MOUNTING TYPE-RTF

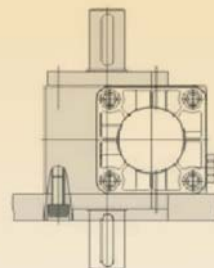
### ● MOUNTING TYPE-RTH. RTH-D



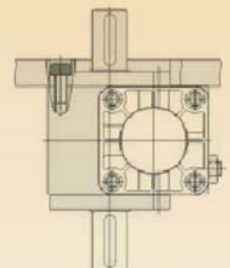
Bottom mounting



Top mounting



Bottom mounting

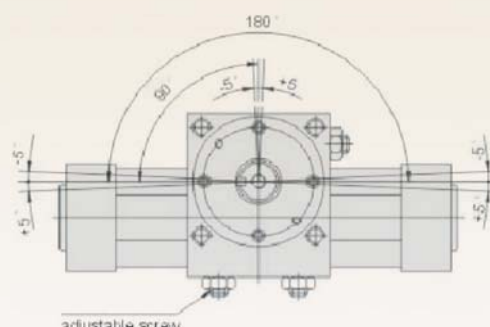
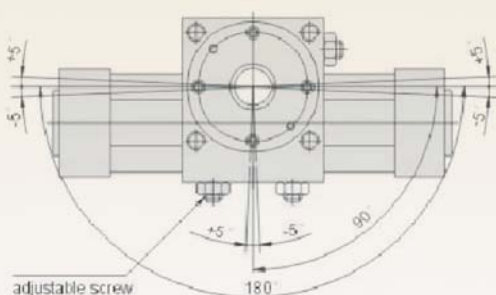


Top mounting

### ● ROTATING DIRECTION AND ADJUSTABLE ANGLE

RTF TYPE

RTH RTH-D TYPE

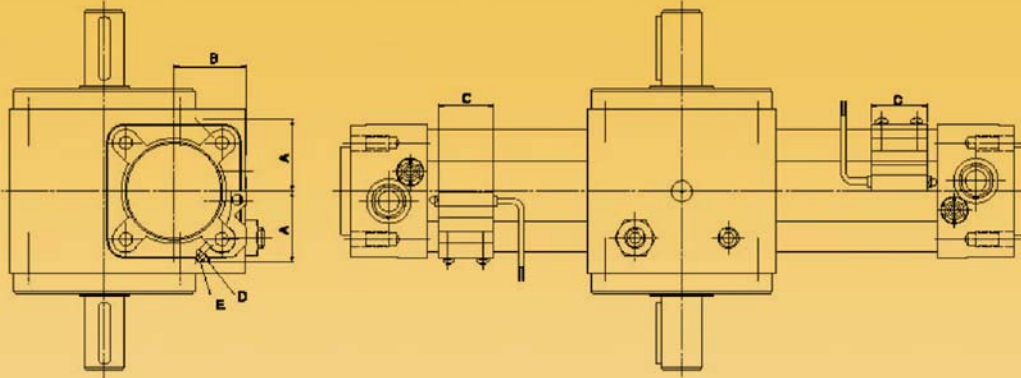




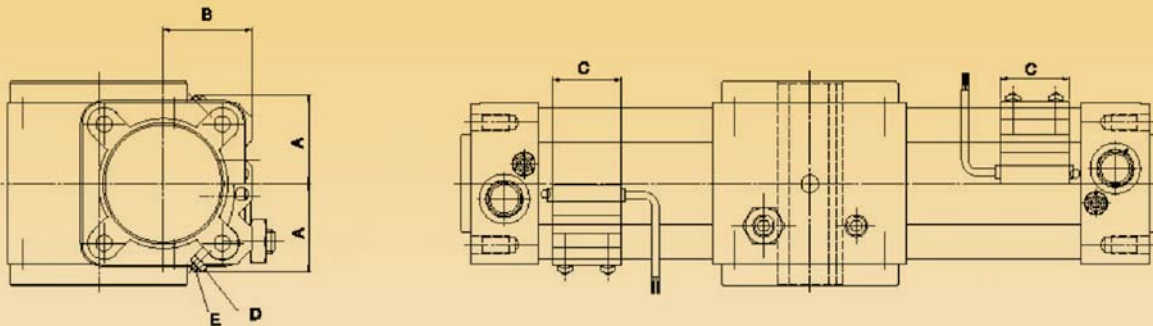
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## ROTARY UNITS DIMENSIONS

### ● INSTALLATION OF SENSOR SWITCHES-RTH, RTHD



### ● INSTALLATION OF SENSOR SWITCHES-RTF



### ● DIMENSION FOR SENSOR MOUNTING BRACKET

Bore	A	B	C	E
40	29	32	32	M4
63	40	43	32	M4
80	49.5	52	32	M4

### ● WEIGHT

Bore Size (Φ)	RTH		RTH-D		RTF		Sensor switch
	90	180	90	180	90	180	
40	3.00	3.10	3.05	3.15	2.84	2.94	0.65
63	5.40	5.80	5.55	5.95	5.07	5.47	0.66
80	9.75	10.30	9.99	10.54	9.19	9.74	0.86