

特點 Features

- 本系列迴轉氣缸，造型美觀，性能優異，具高扭力。
- 一律附有磁性感應及角度調整裝置。
- Hard anodised aluminium body is standard.
- Clean lines with high functionality.
- Carbon steel rack and pinion with low backlash.
- Simple adjustment of rotary movement.
- Magnetic as standard.



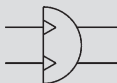
規格 Specification

型號 Model	FRTF, FRTH, FRTH-D			
氣缸內徑 Tube I.D. (mm)	40	63	80	
旋轉角度 Standard Rotation (mm)	90 ± 5° , 180 ± 5°			
轉軸原點 Initial Position of Slot (mm)	詳見尺寸圖 See dimensional feature			
使用流體 Medium	已濾清加油霧之壓縮空氣 Filtered air with or without lubrication			
使用壓力範圍 Operating Pressure Range	1.3 ~ 7 kgf/cm ²			
周圍溫度 Ambient Temperature	-5° ~ +60°C (不凍結 No freezing)			
允許軸向負荷 Max. Allowable Axial Thrust (kg)	10	12	20	
最大容許動能 Max. allowable kinetic energy	90°	0.266J	0.675J	1.34J
	180°	0.58J	1.54J	3.03J
最大容許徑向推力 Max. allowable radial trust (F)	52.5kg	74kg	91.5kg	
感應開關 Sensor Switch	LN01A	LN02A	LN03A	

FRTH 外軸型迴轉缸
Male pivot gear (standard type)

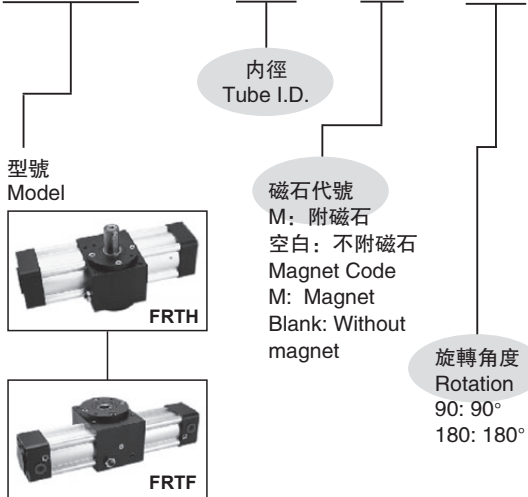
FRTH-D 雙心外軸型迴轉缸
Male pivot gear (double end rod type)

FRTF 內孔型迴轉缸
Female pivot gear

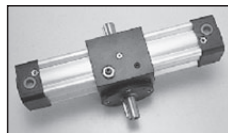
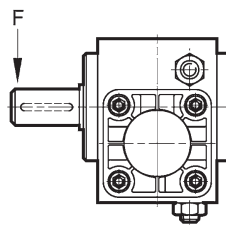


訂購代碼 Ordering Code

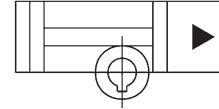
FRTH - 40 M 90 - D



最大容許徑向推力 Max. allowable radial trust



D: 雙心轉軸
D: Double end rod type



單位 Unit: L/cycle

空氣消耗量 (一來迴行程) Compressed air consumption for a complete cycle

型號 Model	角度 Rotation	作動壓力 Operating Pressure (Mpa)									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
FRTH40	90°	0.1571	0.2352	0.3133	0.3915	0.4696	0.5477	0.6259	0.7040	0.7821	0.8603
FRTF40	180°	0.3141	0.4704	0.6267	0.7829	0.9392	1.0955	1.2517	1.4080	1.5643	1.7205
FRTH63	90°	0.4383	0.6564	0.8744	1.0925	1.3105	1.5286	1.7466	1.9647	2.1828	2.4008
FRTF63	180°	0.8766	1.3127	1.7488	2.1850	2.6211	3.0572	3.4933	3.9294	4.3655	4.8016
FRTH80	90°	0.8480	1.2698	1.6917	2.1135	2.5354	2.9572	3.3791	3.8009	4.2228	4.6447
FRTF80	180°	1.6959	2.5396	3.3834	4.2271	5.0708	5.9145	6.7582	7.6019	8.4456	9.2893

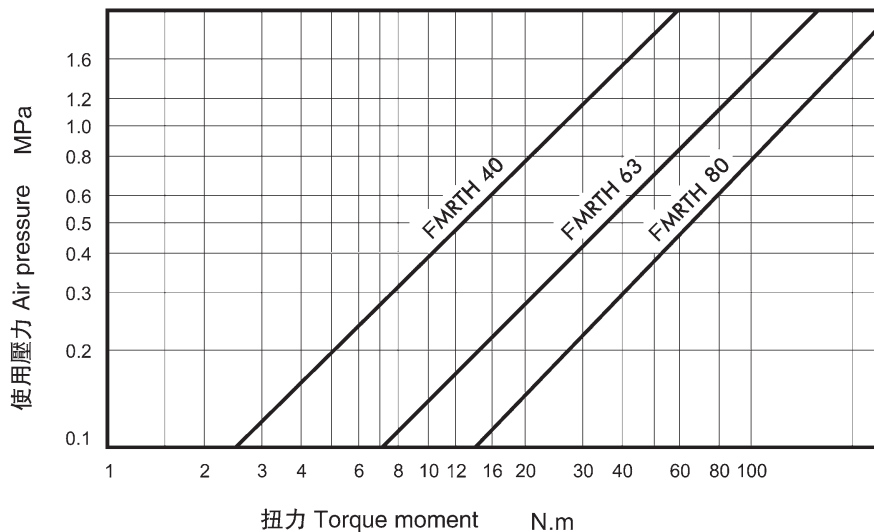
型號 Model	FRTH, FRTF		
氣缸內徑 Tube I.D. (mm)	40	63	80
角度係數 Constant K	0.3491	0.3927	0.4712

空氣消耗量計算方式: The method of calculation (Compressed air consumption)

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

Q:	空氣消耗量 Compressed air consumption	(L/cycle)
A:	氣缸之截面積 Piston area	(mm ²)
Dg:	旋轉角度 Rotation	
P:	操作壓力 Air pressure	(MPa)
K:	角度係數 Constant	
n:	搖動頻率 Cycle of operation	(次 cycle/min)

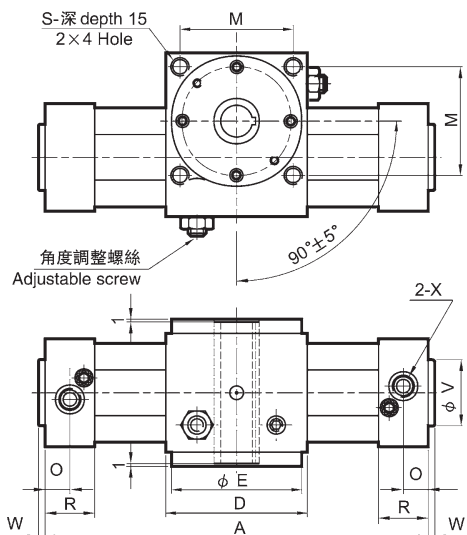
扭力出力表 Output torque table



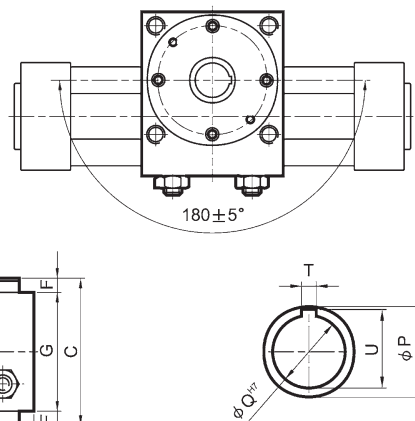
外觀尺寸 Dimensions $\Phi 40 \sim \Phi 80$

FRTF

迴轉角度90°
Angle of rotation 90°



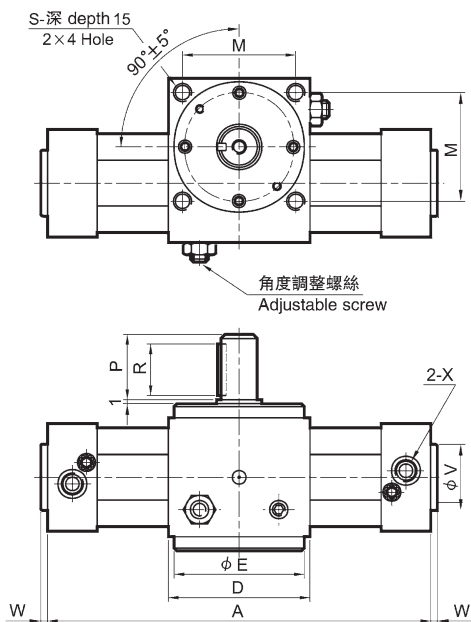
迴轉角度180°
Angle of rotation 180°



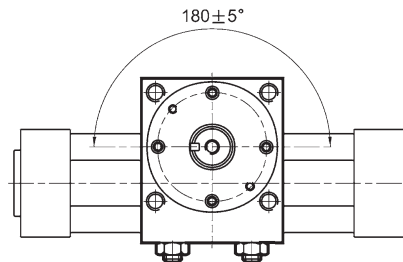
代號 Code 型號 Model	A		C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Z
	90°	180°																						
FRTF40	263	326	81	75	72	8	65	53	37.5	93	27.5	60	38	15	25	14	30	M6	5	16.5	35	4	G 1/4	M6
FRTF63	306	377	95	90	82	10	75	75	42.5	110	30	70	56.5	16	30	19	32	M8	6	22	45	5	G 3/8	M8
FRTF80	343	428	119	105	96	12	95	95	51.5	135	36	82	72	19	45	24	38	M10	6	27.5	45	5	G 3/8	M10

FRTH

迴轉角度90°
Angle of rotation 90°



迴轉角度180°
Angle of rotation 180°

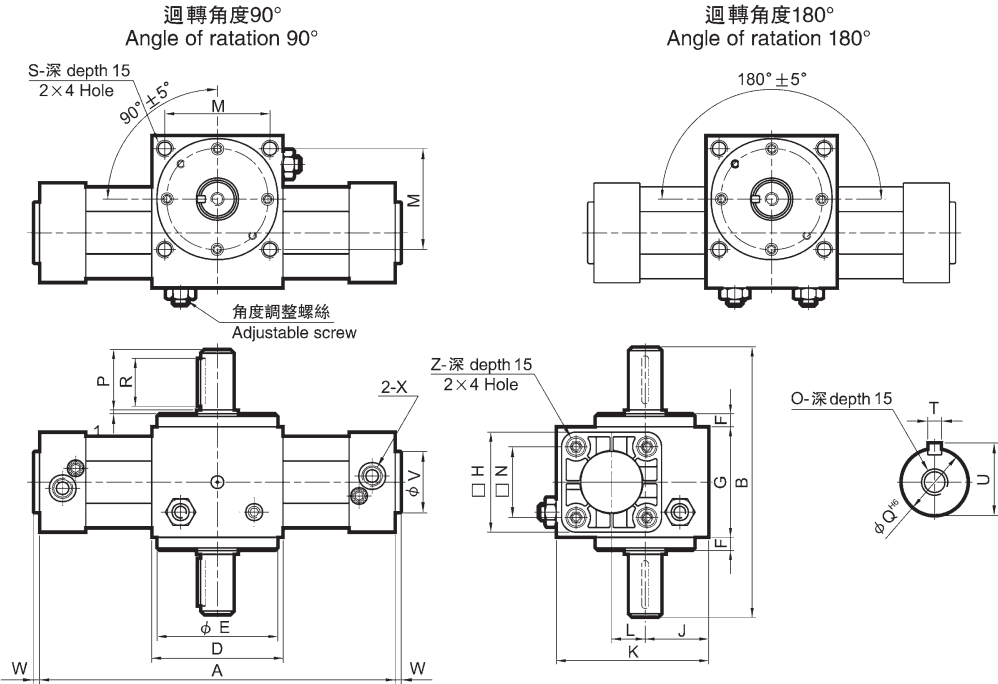


軸心加大訂製品 Bigger axis	P	Q	T
FRTH63		28	
FRTH80	58	35	10

代號 Code 型號 Model	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°																						
FRTH40	263	326	112	75	72	8	65	53	37.5	93	27.5	60	38	M5	30	16	25	M6	5	18	35	4	G 1/4	M6
FRTH63	306	377	138	90	82	10	75	75	42.5	110	30	70	56.5	M8	42	24	36	M8	8	27	45	5	G 3/8	M8
FRTH80	343	428	170	105	96	12	95	95	51.5	135	36	82	72	M8	50	28	45	M10	8	31	45	5	G 3/8	M10

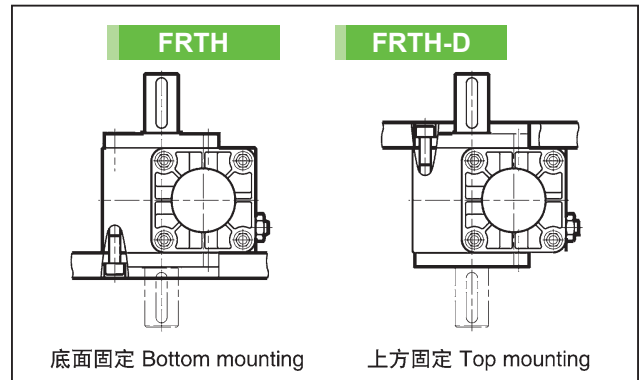
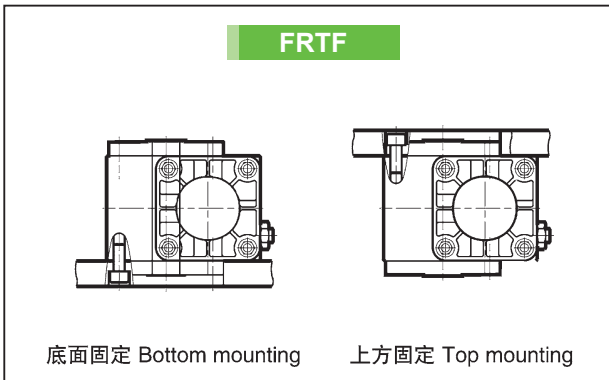
外觀尺寸 Dimensions $\Phi 40 \sim \Phi 80$

FRTH-D

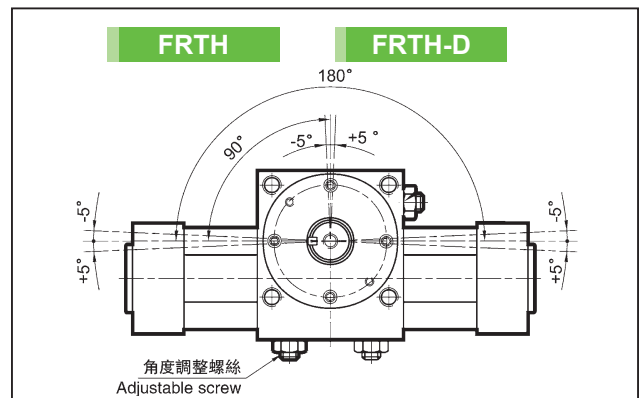
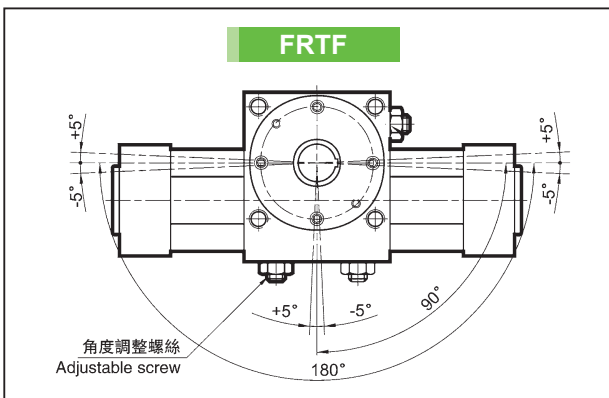


代號 Code 型號 Model	A		B	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Z
	90°	180°																						
FRTH40-D	263	326	143	75	72	8	65	53	37.5	93	27.5	60	38	M5	30	16	25	M6	5	18	35	4	G 1/4	M6
FRTH63-D	306	377	181	90	82	10	75	75	42.5	110	30	70	56.5	M8	42	24	36	M8	8	27	45	5	G 3/8	M8
FRTH80-D	343	428	221	105	96	12	95	95	51.5	135	36	82	72	M8	50	28	45	M10	8	31	45	5	G 3/8	M10

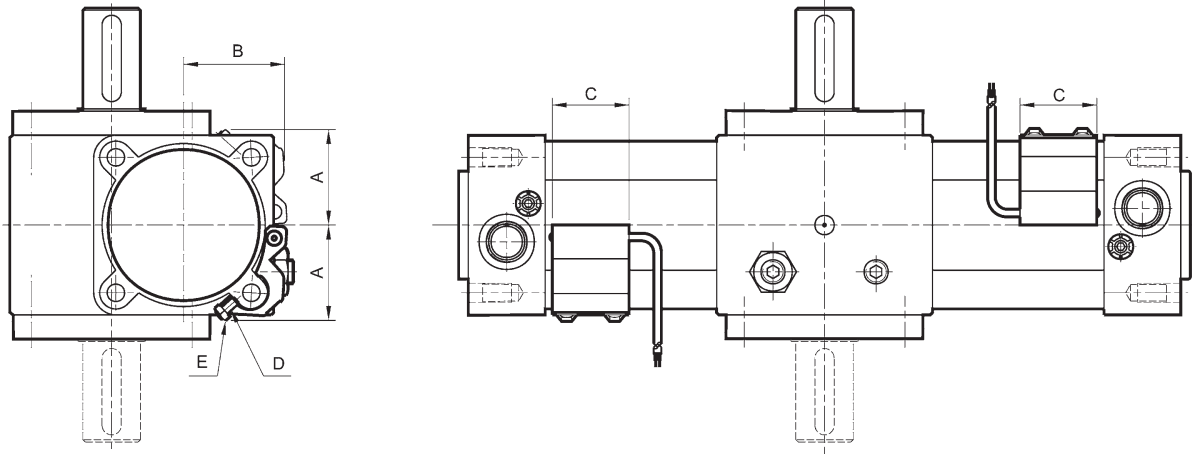
固定方式: Mounting type



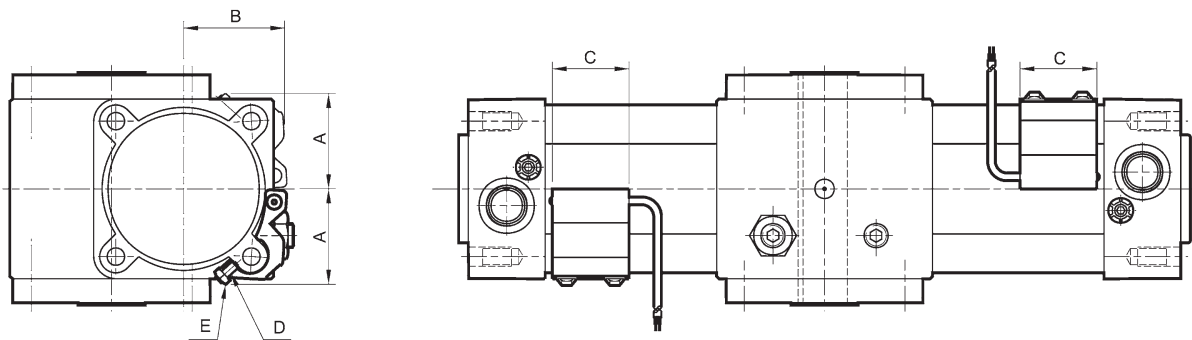
迴轉角度及調整範圍: Rotating direction and adjustable angle



FRTH-D



FRTF



氣徑內徑 Tube I.D.	感應開關模式 Sensor switch	A	B	C	D	E
40	LN01A	29	32	32	M4 × 8L	M4
63	LN02A	40	43	32	M4 × 10L	M4
80	LN03A	49.5	52	32	M4 × 12L	M4

重量表 Cylinder Weight

單位 Unit: kg

型號 & 迴轉角度 Model & Standard Rotation	FRTH		FRTH-D		FRTF		感應器型式 Sensor switch
	90°	180°	90°	180°	90°	180°	
氣缸內徑 Tube I.D.							
40	3.00	3.10	3.05	3.15	2.84	2.94	0.065
63	5.40	5.80	5.55	5.95	5.07	5.47	0.066
80	9.75	10.30	9.99	10.54	9.19	9.47	0.086