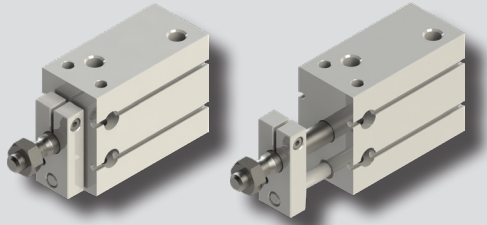


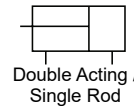
FMK/FMDK series



Features

- With non-lubricated seal (Standard).
- The multiple surface direct mounting with a square body enables spacesaving designs for equipment.

Symbol



How to Order

FMK - 6 - S 15 D

① ② ③ ④ ⑤ ⑥ ⑦

① Series

FMK	Non-rotating rod type free mount cylinder (Without magnet)
FMDK	Non-rotating rod type free mount cylinder (With magnet)

③ Bore size

10	Ø10
16	Ø16
20	Ø20
25	Ø25
32	Ø32

※ Ø6 under development.

⑤ Action

D	Double Acting
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⑥ Auto switch

Reed A/S	Model	Solid state A/S	Model
A-90	D-A90(V)K	F-9N(V)	D-F9N(V)K
A-93	D-A93(V)K	F-9P(V)	D-F9P(V)K
A-96	D-A96(V)K	F-9B(V)	D-F9B(V)K

※ Only for auto switch attached type.
※ Refer to Auto Switch Catalogue for more information.

② Port

Nil	M5×0.8 (Ø32 : Rc(PT) 1/8)
G	G 1/8 (Only for Ø32 type)

④ Stroke

Bore size	Standard stroke
Ø10	5, 10, 15, 20, 25, 30
Ø16	
Ø20	5, 10, 15, 20, 25, 30, 40, 50
Ø25	
Ø30	
Ø32	

⑦ Number of auto switches

Nil	2 pcs
1	1 pc
N	N pcs (N:3,4,5...)

※ Only for auto switch attached type.

※ Refer page [1]-140 for custom made type rod end specification.

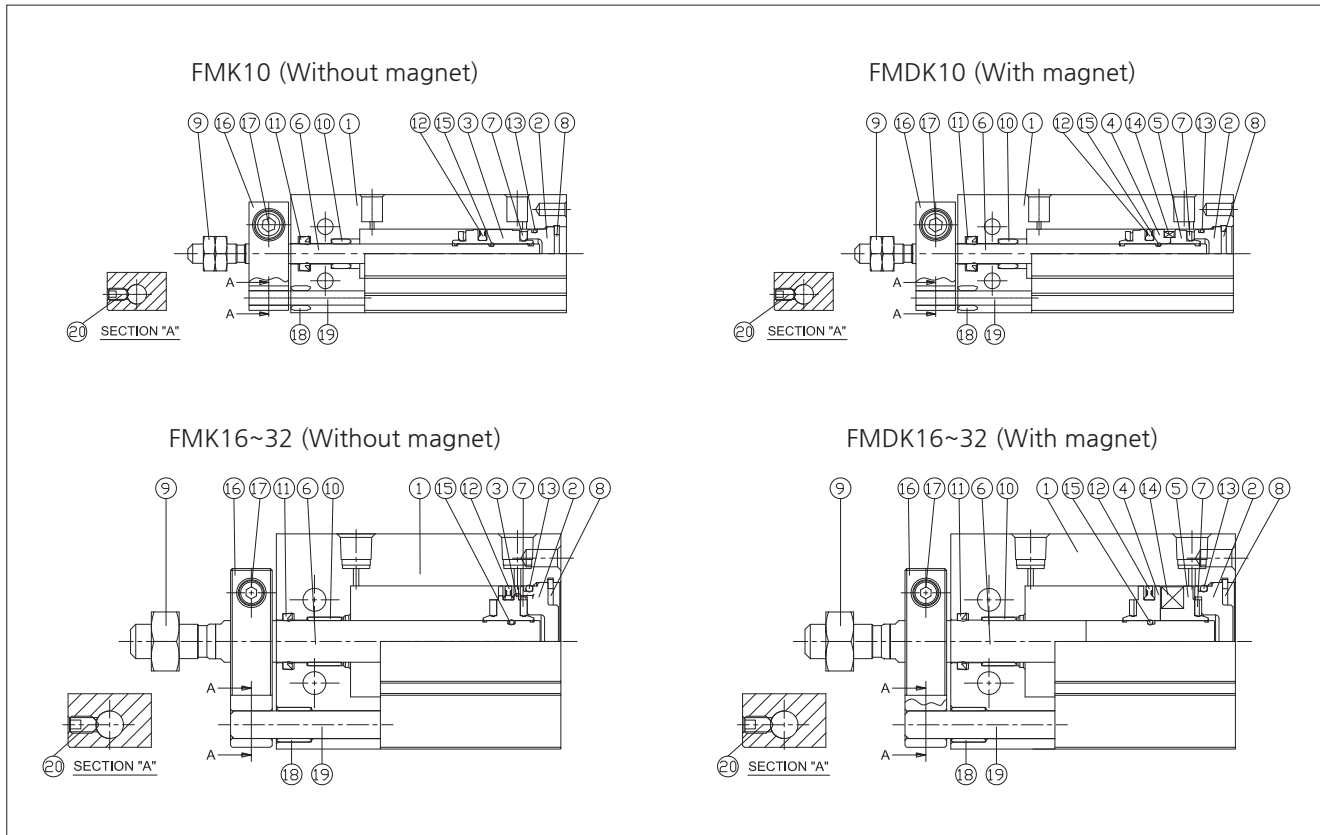
Specifications

Bore size	Ø10	Ø16	Ø20	Ø25	Ø32
Fluid	Air				
Proof pressure	10.3kgf/cm ² (1.05MPa)				
Max. operating pressure	6.9kgf/cm ² (0.7MPa)				
Min. operating pressure	0.6kgf/cm ² (0.06MPa)		0.5kgf/cm ² (0.05MPa)		
Ambient & fluid temperature	-10°C ~ 70°C (Without auto switch) -10°C ~ 60°C (With auto switch)				
Operating piston speed	50 ~ 500mm/s				
Cushion	Rubber cushion				
Lubrication	Not required (When lubricating, turbine oil ISO VG32 or equivalent)				
Tolerance of thread	KS class 2				
Tolerance of stroke	+1.0 0				
Rod end thread	Male thread (Standard)				

Tightening Torque

Bore size (mm)	Screw dia.	Proper tightening torque (N·m)
Ø10, Ø16	M4	2.45±10%
Ø20, Ø25	M5	5.10±10%
Ø32	M6	8.04±10%

Structure



Part no.	Parts	Material
1	Cylinder Tube	Aluminium Alloy
2	Head Cover	Brass, Aluminium Alloy
3	Piston (A)	Brass, Aluminium Alloy
4	Piston (R)	Brass, Aluminium Alloy
5	Piston (C)	Aluminium Alloy
6	Piston Rod	Stainless Steel
7	Damper	Urethane
8	Snap Ring	Carbon Tool Steel
9	Rod End Nut	Carbon Steel
10	Bush	Sintered Alloy
11	Rod Seal	NBR
12	Piston Seal	NBR
13	Tube O-Ring	NBR
14	Magnet Ring	-
15	Rod O-Ring	NBR
16	Non-rotating Plate	Aluminium Alloy
17	Bolt	Carbon Steel
18	Guide Rod Bush	Sintered Alloy
19	Guide Rod	Stainless Steel
20	Plate Mounting Bolt	Carbon Steel

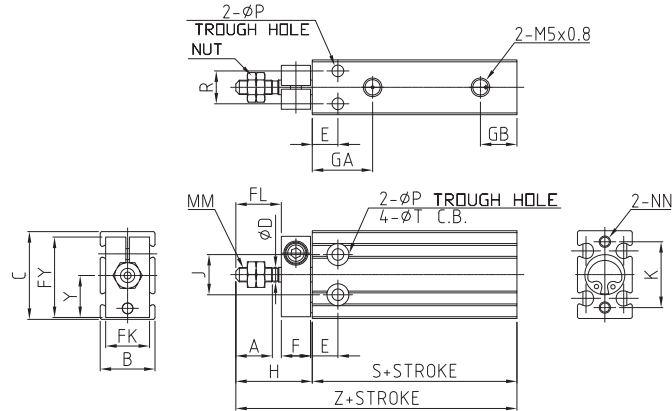
Mass

Unit: g

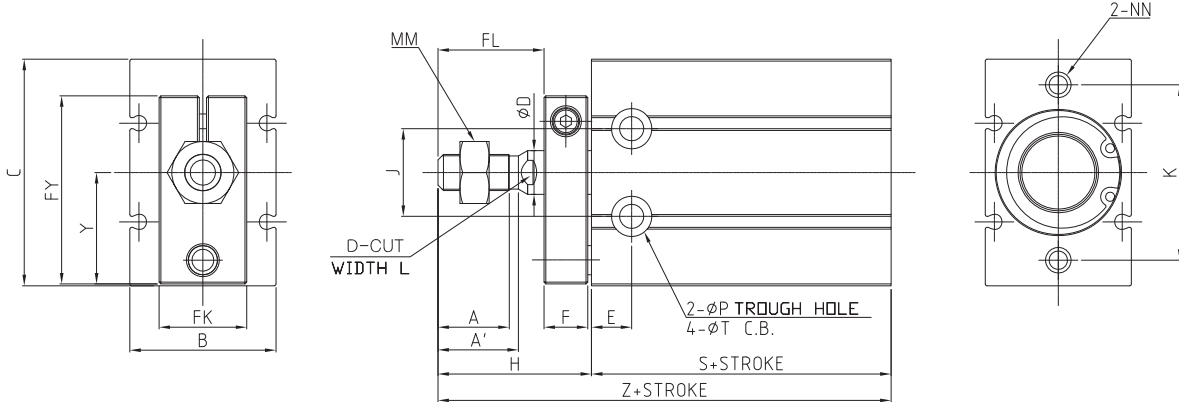
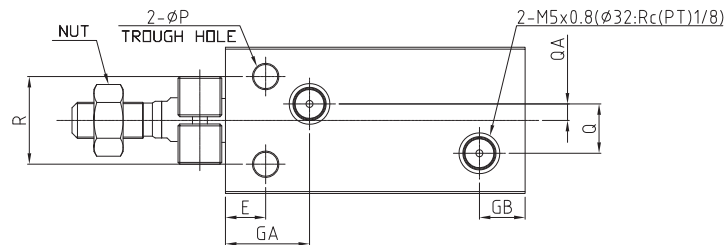
Stroke (mm)	Bore size (mm)				
	Ø10	Ø16	Ø20	Ø25	Ø32
5	43	60	113	212	331
10	47	66	124	229	357
15	51	72	136	246	383
20	55	78	148	263	409
25	59	84	160	280	435
30	63	90	172	297	461
40	-	-	195	335	513
50	-	-	219	370	565

Dimensions

FM(D)K10



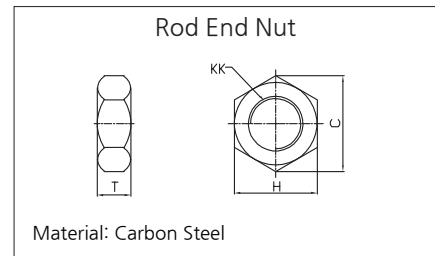
FM(D)K16, FM(D)K20
FM(D)K25, FM(D)K32



Unit:mm

Bore size	A	A'	B	C	D	E	F	FL	FK	FY	GA	GB	H	J	K	L
Ø10	10	-	15	24	4	7	8	12	12	22	16.5	10	21	11	18	-
Ø16	11	12.5	20	32	6	7	8	17	13	28	±16.5	11.5	26	14	25	5
Ø20	12	14	26	40	8	9	8	20	16	33	19	11	29	16	30	6
Ø25	15.5	18	32	50	10	10	10	22	20	43.5	21.5	13	33	20	38	8
Ø32	19.5	22	40	62	12	11	12	29	24	51.5	23	12.5	42	24	48	10

※ 1) GA dimension for FMDK 5mm stroke is 14.5mm.



Unit:mm

Bore size	MM	NN	P	Q	QA	R	T	Y	FMK		FMDK	
									S	Z	S	Z
Ø10	M4×0.7	M3×0.5 depth 5	3.2	-	-	9	6 depth 5	11.5	36	57	36	57
Ø16	M5×0.8	M4×0.7 depth 6	4.5	4	2	12	7.6 depth 6.5	15.5	30	56	40	66
Ø20	M6×1.0	M5×0.8 depth 8	5.5	9	4.5	16	9.3 depth 8	19.5	36	65	46	75
Ø25	M8×1.25	M5×0.8 depth 8	5.5	9	4.5	20	9.3 depth 9	24.5	40	73	50	83
Ø32	M10×1.25	M6×1.0 depth 9	6.6	13.5	4.5	24	11 depth 11.5	30.5	42	84	52	94

Bore size	KK	T	H	C	Qt'y
Ø10	M4×0.7	2.4	7	8.1	2
Ø16	M5×0.8	4	8	9.2	1
Ø20	M6×1.0	5	10	11.5	1
Ø25	M8×1.25	5	13	15.0	1
Ø32	M10×1.25	6	17	19.6	1