

FM/FMD series

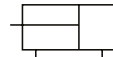


FM-20-S15D

Features

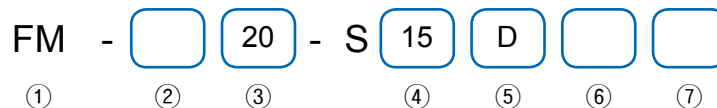
- With non-lubricated seal (Standard).
- The multiple surface direct mounting with a square body enables spacesaving designs for equipment.

Symbol



Double Acting / Single Rod

How to Order



① Series

FM	Single rod without magnet free mount cylinder
FMD	Single rod with built-in magnet free mount cylinder

② Port type

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

③ Bore size

6	Ø6
10	Ø10
16	Ø16
20	Ø20
25	Ø25
32	Ø32

④ Cylinder stroke

Bore size	Standard stroke
Ø6	5, 10, 15, 20, 25, 30
Ø10	
Ø16	
Ø20	5, 10, 15, 20, 25, 30, 40, 50
Ø25	
Ø30	

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.

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 to page [1]-133, for specifications about custom-made rod ends.

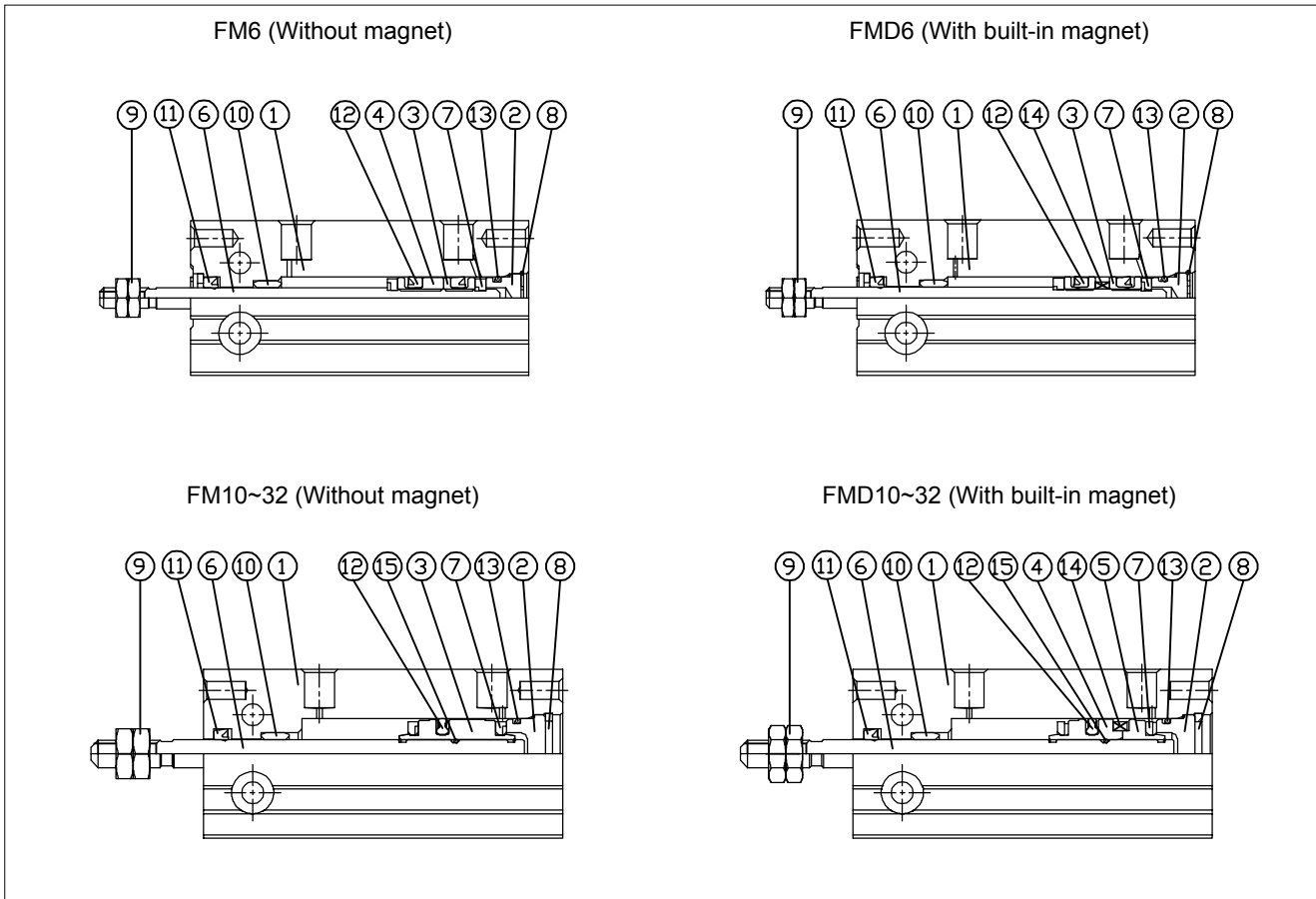
Specifications

Bore size	Ø6	Ø10	Ø16	Ø20	Ø25	Ø32
Fluid	Air					
Proof pressure	10.5kgf/cm ² (1.05MPa)					
Max. operating pressure	7kgf/cm ² (0.7MPa)					
Min. operating pressure	1.2kgf/cm ² (0.12MPa)	0.6kgf/cm ² (0.06MPa)	0.5kgf/cm ² (0.05MPa)			
Ambient & fluid temperature	5 °C ~ 60 °C					
Operating piston speed	50 ~ 500mm/s					
Cushion	Rubber bumper					
Lubrication	Not required					
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)
Ø6, Ø10	M3	1.08±10%
Ø16	M4	2.45±10%
Ø20, Ø25	M5	5.10±10%
Ø16	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	Dumper	Urethane
8	Snap Ring	Carbon Tool Steel

Part no.	Parts	Material
9	Rod End Nut	Carbon Steel
10	Bush	Sintered Alloy
11	Rod Packing	NBR
12	Piston Packing	NBR
13	Tube O-Ring	NBR
14	Magnet	-
15	Rod O-Ring	NBR

Mass

FM							FMD						
Cylinder stroke (mm)	Bore size (mm)						Cylinder stroke (mm)	Bore size (mm)					
	Ø6	Ø10	Ø16	Ø20	Ø25	Ø32		Ø6	Ø10	Ø16	Ø20	Ø25	Ø32
5	22	36	50	95	176	262	5	27	41	75	128	230	335
10	25	40	56	106	193	286	10	35	50	86	143	252	364
15	28	44	62	117	210	310	15	38	54	92	154	269	388
20	31	48	68	128	227	334	20	41	58	98	165	286	412
25	34	52	74	139	244	358	25	44	62	104	176	303	436
30	37	56	80	150	261	382	30	47	66	110	187	320	460
40	-	-	-	172	295	430	40	-	-	-	209	354	508
50	-	-	-	194	329	478	50	-	-	-	231	388	556

Pneumatic Cylinder

Reference Data

AJP

KGUA

ACP

ACD

ACS2

ACS3

ACS4

ACS5

ACR

ACM

ACL

ACX

KLC

KLCS

AF, ADF

AFG

FM, FMD

Custom-Made Rod Ends

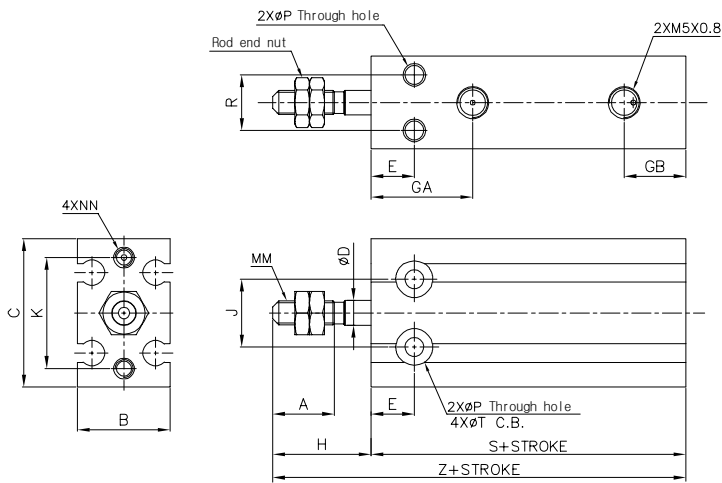
Custom-Made Tie Rods

KBP

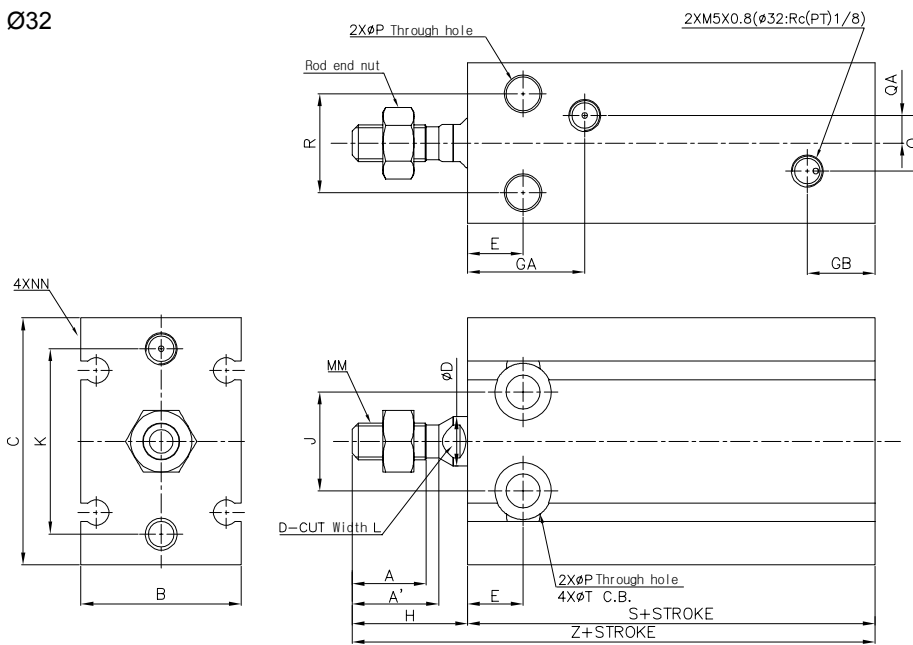
CCTS

Dimensions

Ø6, Ø10

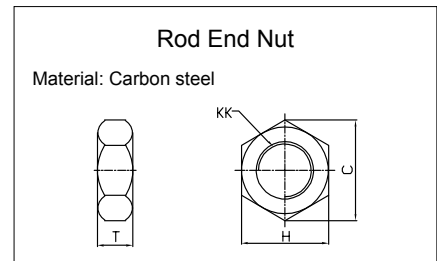


Ø16, Ø20, Ø25, Ø32



Unit : mm

Bore size	A	A'	B	C	D	E	GA	GB	H	J	K	L	MM
Ø6	7	-	13	22	3	7	15	10	13	10	17	-	M3×0.5
Ø10	10	-	15	24	4	7	16.5	10	16	11	18	-	M4×0.7
Ø16	11	12.5	20	32	6	7	16.5	11.5	16	14	25	5	M5×0.8
Ø20	12	14	26	40	8	9	19	11	18.7	16	30	6	M6×1.0
Ø25	15.5	18	32	50	10	10	21.5	13	23	20	38	8	M8×1.25
Ø32	19.5	22	40	62	12	11	23	12.5	27	24	48	10	M10×1.25



Bore size	NN	P	Q	QA	R	T	Without magnet (FM)		With magnet (FMD)	
							S	Z	S	Z
Ø6	M3×0.5 Depth5	3.2	-	-	7	6 Depth 4.8	33	46	33	46
Ø10	M3×0.5 Depth5	3.2	-	-	9	6 Depth 5	36	52	36	52
Ø16	M4×0.7 Depth6	4.5	4	2	12	7.6 Depth 6.5	30	46	40	56
Ø20	M5×0.8 Depth8	5.5	9	4.5	16	9.3 Depth 8	36	54.7	46	64.7
Ø25	M5×0.8 Depth8	5.5	9	4.5	20	9.3 Depth 9	40	63	50	73
Ø32	M6×1.0 Depth9	6.6	13.5	4.5	24	11 Depth11.5	42	69	52	79

Bore size	KK	T	H	C	Qty
					Unit : mm
Ø6	M3×0.5	1.8	5.5	6.4	2
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