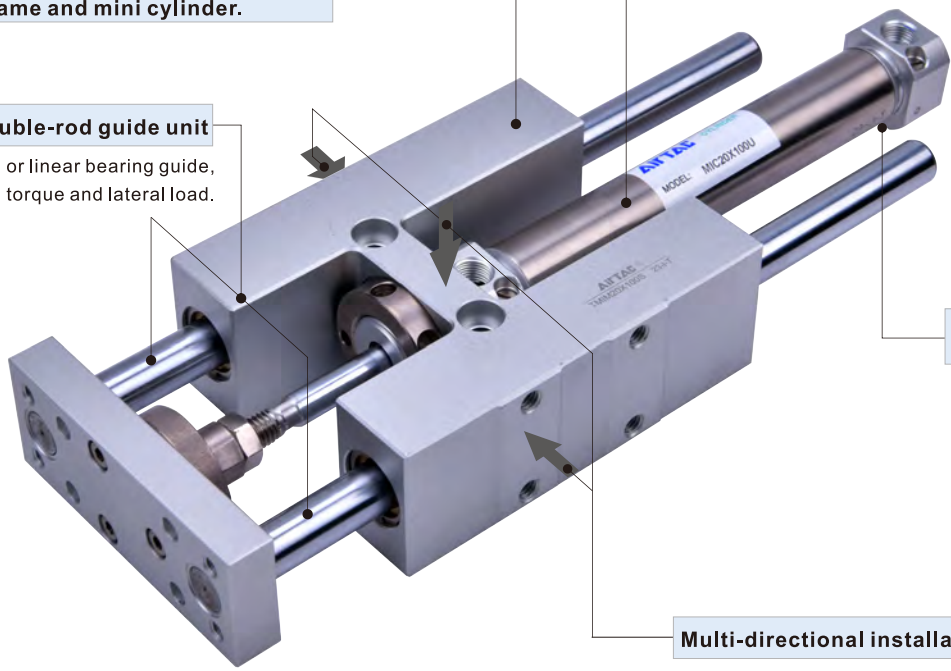
Compendium of TMI/TMIC series

A new type of cylinder combined with guide frame and mini cylinder.

Double-rod guide unit

Brass bearing or linear bearing guide, which can bear high torque and lateral load.



Can be matched with multi bore sizes cylinder

Bore size：12、16、20、25

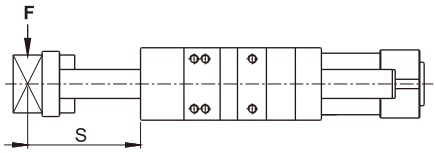
Multi-directional installation and fixing

Criteria for selection: Cylinder thrust

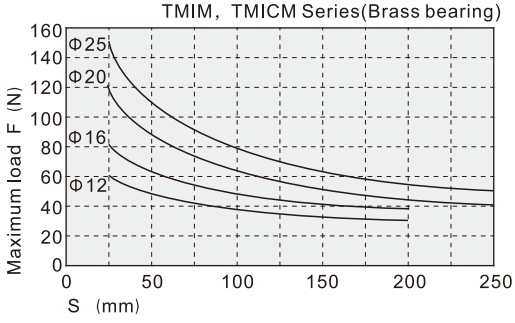
Unit：Newton(N)

Bore size	Rod size	Acting type		Pressure area(mm^2)	Operating pressure(MPa)						
					0.1	0.2	0.3	0.4	0.5	0.6	0.7
12	6	Double acting	Push side	113.0	11.3	22.6	33.9	45.2	56.5	67.8	79.1
			Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	6	Double acting	Push side	201.0	20.1	40.2	60.3	80.4	100.5	120.6	140.7
			Pull side	172.7	17.3	34.5	51.8	69.1	86.4	103.6	120.9
20	8	Double acting	Push side	314.0	31.4	62.8	94.2	125.6	157.0	188.4	219.8
			Pull side	263.8	26.4	52.8	79.1	105.5	131.9	158.3	184.7
25	10	Double acting	Push side	490.6	49.1	98.1	147.2	196.2	245.3	294.4	343.4
			Pull side	412.1	41.2	82.4	123.6	164.8	206.1	247.3	288.5

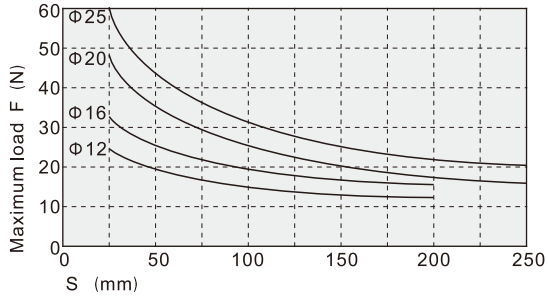
Maximum load relationship curve



TMIM，TMICM Series(Brass bearing)



TMIL，TMICL Series(Linear bearing)



With guide frame cylinder

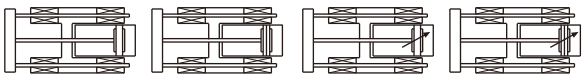
TMI, TMIC Series

Specification

Bore size(mm)	12	16	20	25
Acting type	Double acting			
Fluid	Air(to be filtered by 40μm filter element)			
Operating pressure	0.15~1.0MPa(22~145psi)(1.5~10.0bar)			
Proof pressure	1.5MPa(215psi)(15bar)			
Temperature ℃	-20~70			
Speed range mm/s	30~500			
Stroke tolerance	$0\sim150^{+1.0}_{0}$ $>150^{+1.5}_{0}$			
Cushion type	Bumper	Variable cushion		
Port size [Note1]	M5×0.8		1/8"	

[Note1] G thread is available.
Add) Refer to P576 for detail of sensor switch.

Symbol



TMI TMI–S TMIC TMIC–S

Stroke

Bore size(mm)	Standard stroke (mm)	Max.std stroke(mm)
12	25 50 75 100 125 150 200	200
16	25 50 75 100 125 150 200	200
20	25 50 75 100 125 150 200 250	250
25	25 50 75 100 125 150 200 250	250

[Note] Consult us for non–standard stroke.

Product feature

1. A new type of cylinder combined with guide frame and standard cylinder.
2. Brass bearing: It is suitable for the action that has radial load resistance. with greater torsion stiffness.
   Linear bearing: It is suitable for push-up action, or where high precision and high load capacity are required, especially for occasions requiring low friction.
3. The special design of the guide frame body provides a multi-directional mounting.

Ordering code

TMIC M 20 X 50 S G

① ② ③ ④ ⑤ ⑥

①Model	TMI: With guide frame cylinder	TMIC: With guide frame cylinder(with cushion)
②Bearing type	M: Brass bearing	L: Linear bearing
③Bore size	12	16 20 25
④Stroke	Refer to stroke table for details	
⑤Magnet	Blank: Without magnet	S: With magnet
⑥Thread type [Note2]	G: G thread	

[Note1] TMI, TMIC matching cylinder is Perpendicular 90° back cover.
[Note2] Standard thread is blank here.

Ordering code(for guide frame)

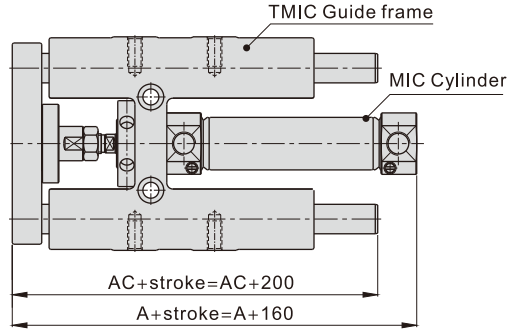
F – TMIC M 20 X 50

① ② ③ ④ ⑤

①Accessory code	F: Accessory	
②Model	TMI: With guide frame cylinder	TMIC: With guide frame cylinder(with cushion)
③Bearing type	M: Brass bearing	L: Linear bearing
④Bore size	12	16 20 25
⑤Stroke	Refer to stroke table for details	

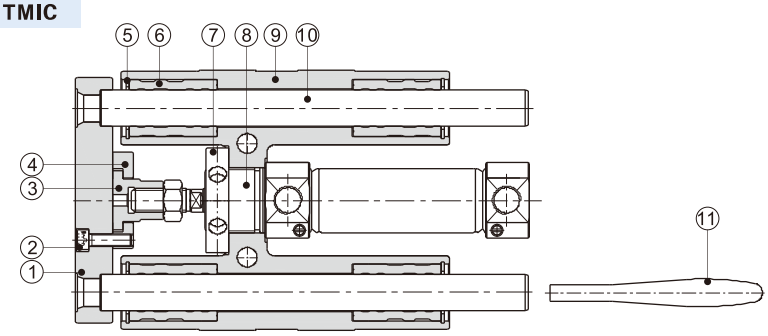
Ordering instructions:

1. When ordering guide frame separately, only standard strokes from the stroke list can be ordered.
   (Other stroke can only be ordered by non-standard)
2. To order non-standard stroke cylinders with guide frame, the combination is as follows:
   Non-standard stroke cylinder + guide frame of the upper standard stroke.
   Example: MIC20X160 (non-standard stroke cylinder)
   +F-TMICM20X200(Standard stroke guide frame).
   The dimension is as follows:



Inner structure and material of major parts

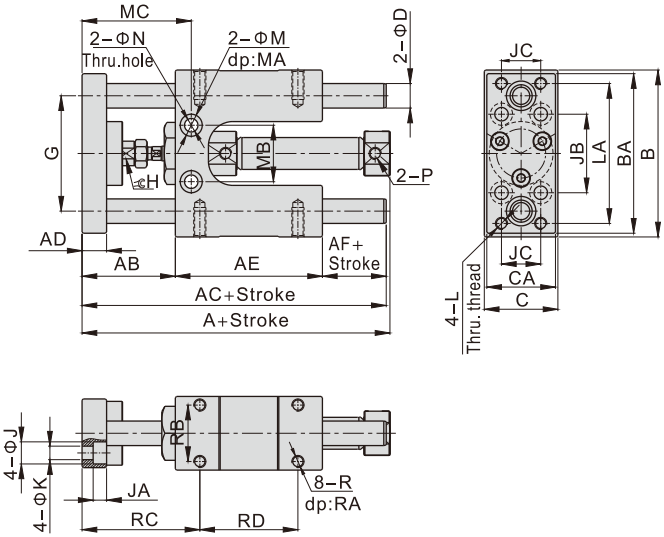
TMIC



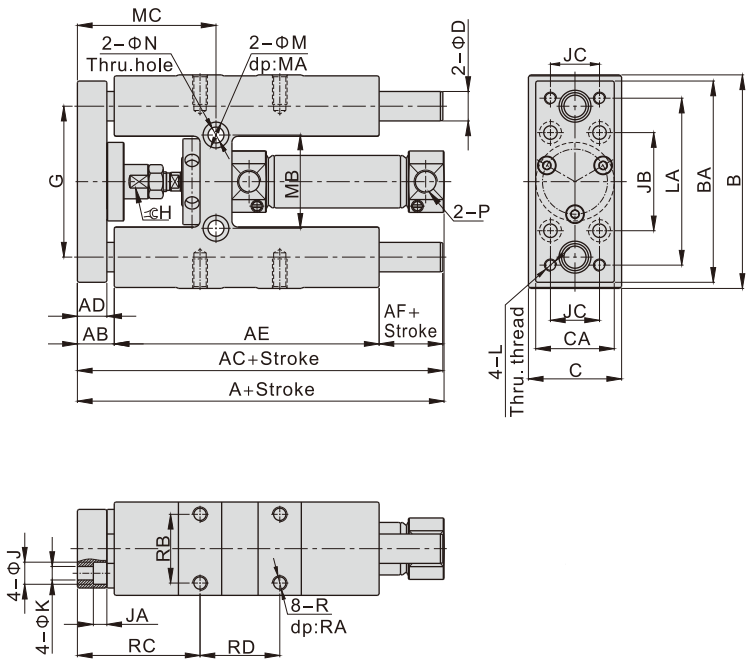
NO.	Item	Material
1	Fixed plate	Aluminum alloy
2	Bolt	Carbon steel
3	Floating nut	Carbon steel
4	Floating baffle	Carbon steel
5	C clip	Spring steel
6	Linear bearing	–
	Brass bearing	Brass
7	Nut	Carbon steel
8	MI、MIC Cylinder	Unit
9	Guide frame	Aluminum alloy
10	Guider(Linear)	Alloy steel
	Guider(Brass)	Carbon steel
11	Wrench	Carbon steel

Dimensions

TMI12/TMIC16



TMIC20/TMIC25



Bore size\Item	A	AB	AC	AD	AE	AF	B	BA	C	CA	D	G	H	J	JA	JB	JC	K
12	100.5	38	99	10	60	1	68	65	30	28	10(8)	47	9	9	5.5	32	16	5.5
16	106.5	38	99	10	60	1	68	65	30	28	10(8)	47	9	9	5.5	32	16	5.5
20	124	15	124	12	108	1	87	82	38	32	12(10)	61.5	13	9	5.5	40	20	5.5
25	125.5	15	124	12	108	1	87	82	38	32	16(12)	61.5	13	9	5.5	40	20	5.5

Bore size\Item	L	LA	M	MA	MB	MC	N	P	R	RA	RB	RC	RD
12	M5×0.8	57	9	4	23	44.5	5.5	M5×0.8	M5×0.8	12	23	48	40
16	M5×0.8	57	9	4	23	44.5	5.5	M5×0.8	M5×0.8	12	23	48	40
20	M5×0.8	68	10.5	6.5	38	56.5	6.5	1/8"	M6×1.0	12	28	50	32.5
25	M5×0.8	68	10.5	6.5	38	56.5	6.5	1/8"	M6×1.0	12	28	50	32.5

[Note]The values in "()" in the above table are TMIL, TMICL series sizes.