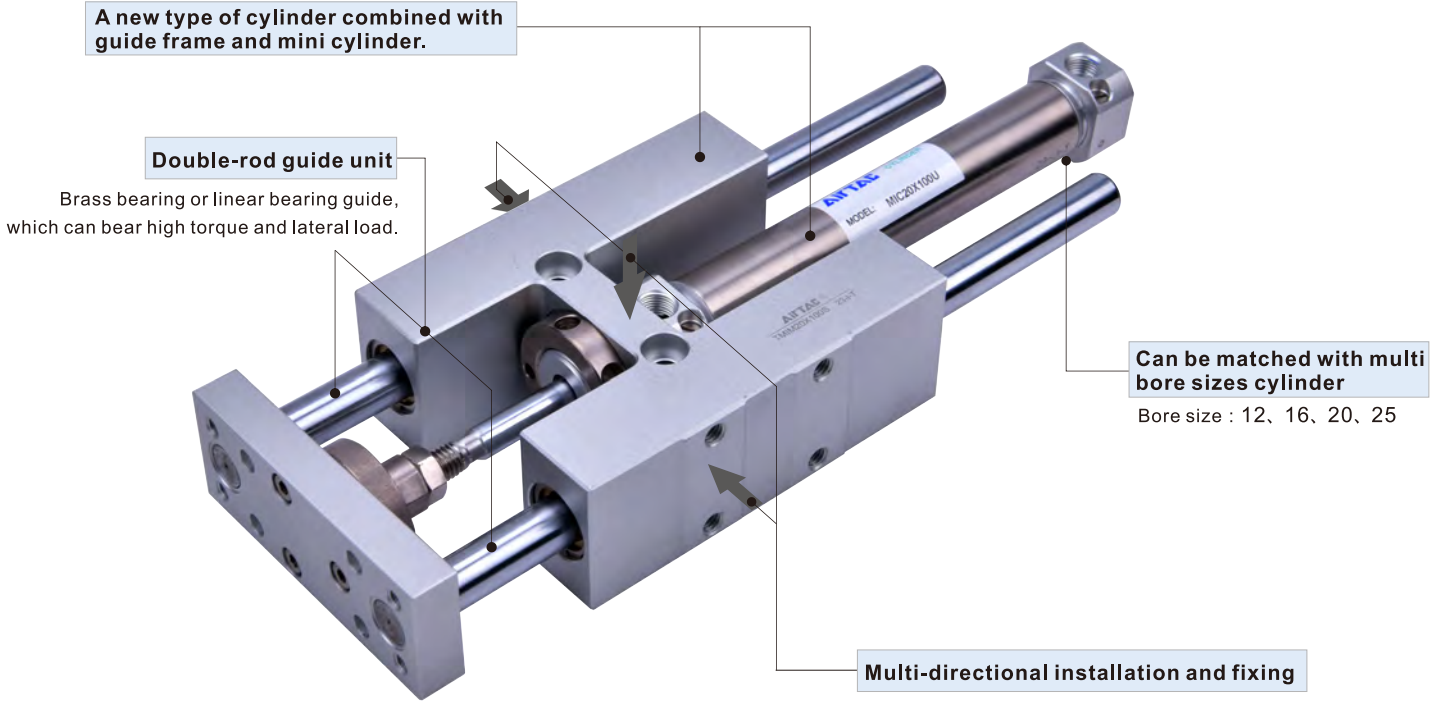




# TMI/TMIC series with guide frame cylinder

## Compendium of TMI/TMIC series

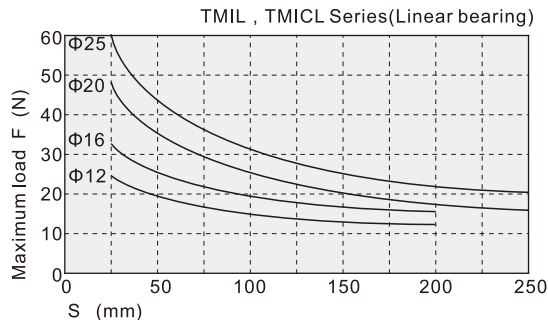
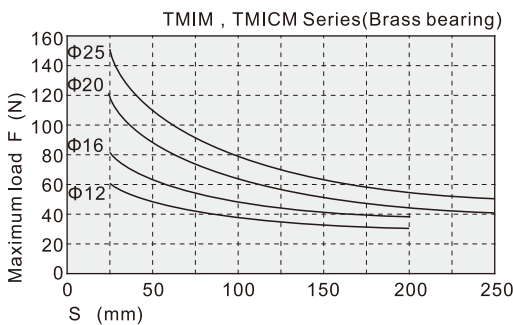
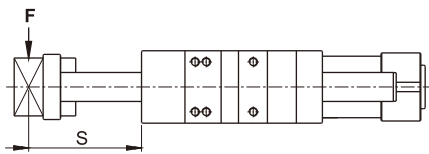


## Criteria for selection: Cylinder thrust

Unit : Newton(N)

Bore size	Rod size	Acting type	Pressure area(mm <sup>2</sup> )	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



# With guide frame cylinder

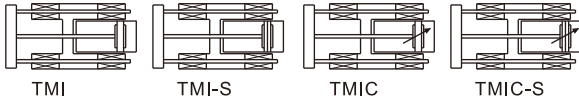
## TMI , TMIC Series



### 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 °C	-20~70			
Speed range mm/s	30~500			
Stroke tolerance	0~150 <sup>+1.0</sup> >150 <sup>+1.5</sup>			
Cushion type	Bumper	Variable cushion		
Port size	M5×0.8		1/8"	

### Symbol



### Product feature

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

### 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.

### Ordering code

**TMIC M 20 X 50 S □**

① ② ③ ④ ⑤ ⑥

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

【Note】 TMI, TMIC matching cylinder is Perpendicular 90° back cover.

### Ordering code(for guide frame)

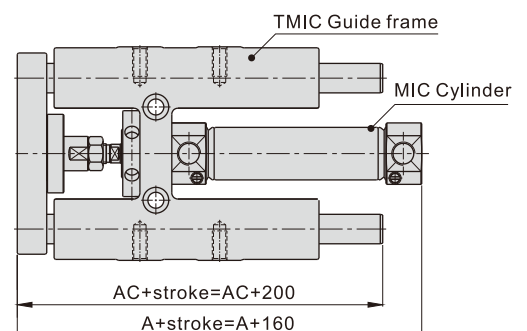
**F - TMIC M 20 X 50**

① ② ③ ④ ⑤

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

### Ordering instructions :

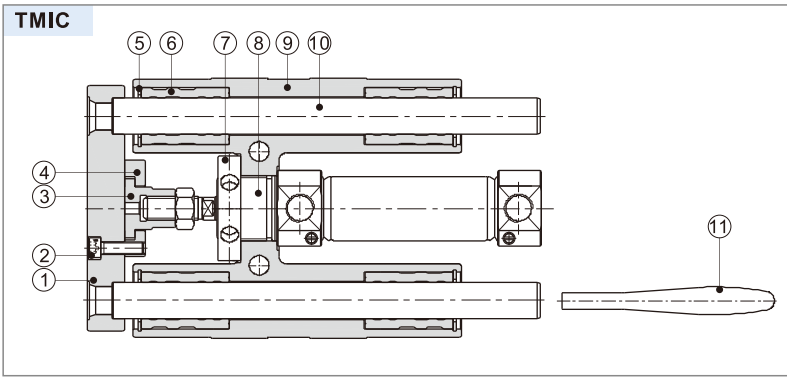
1. When ordering guide frame separately, only standard strokes from the stroke list can be ordered.  
(Other stroke can only be ordered by non-standard)
2. To order non-standard stroke cylinders with guide frame, the combination is as follows:  
Non-standard stroke cylinder + guide frame of the upper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



# With guide frame cylinder

## TMI , TMIC Series

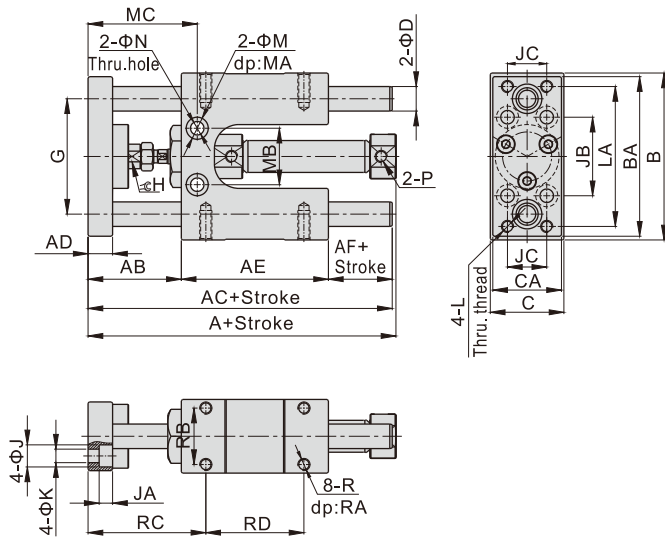
### Inner structure and material of major parts



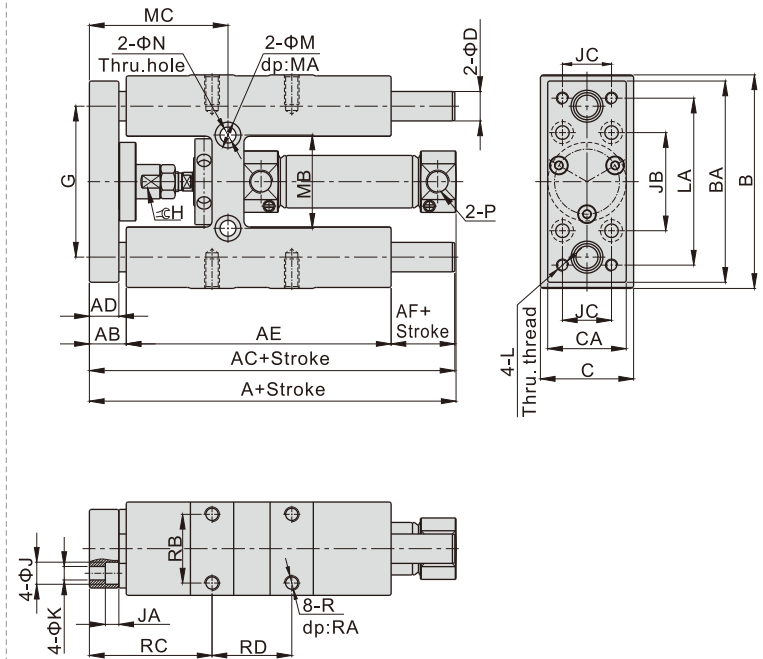
NO.	Item	Material
1	Fixed plate	Aluminum alloy
2	Bolt	Carbon steel
3	Floating nut	Carbon steel
4	Floating baffle	Carbon steel
5	C clip	Spring steel
6	Linear bearing	-
	Brass bearing	Brass
7	Nut	Carbon steel
8	MI, MIC Cylinder	Unit
9	Guide frame	Aluminum alloy
10	Guider(Linear)	Alloy steel
	Guider(Brass)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