



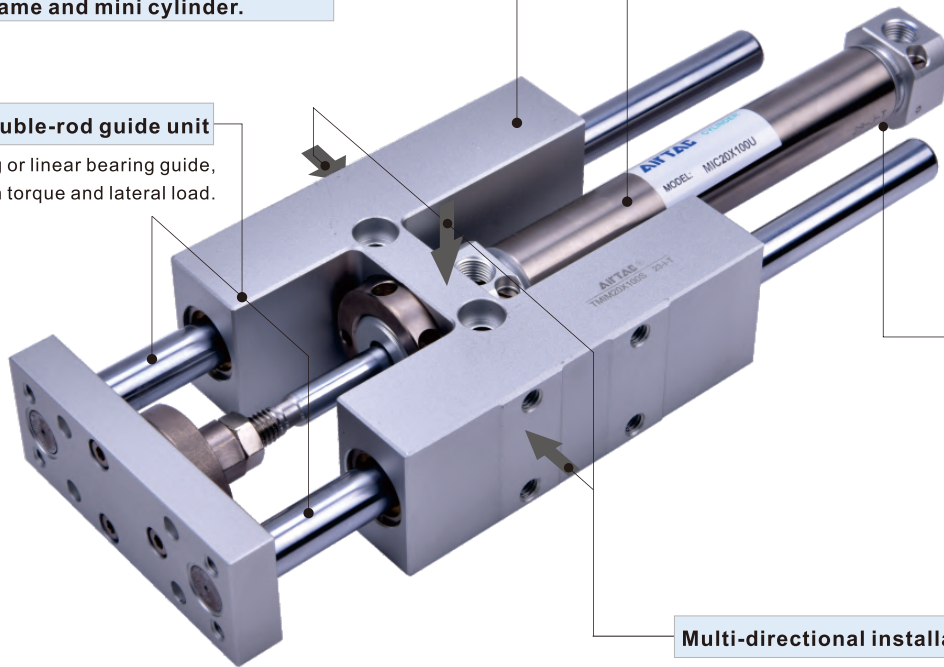
# TMI/TMIC series with guide frame cylinder

## 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

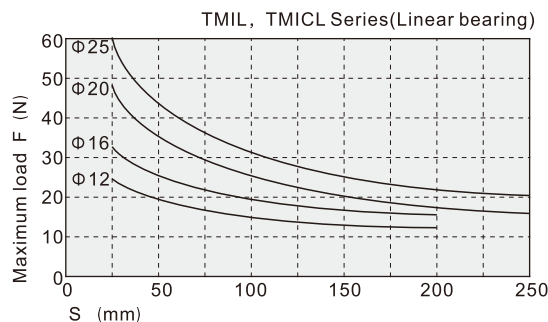
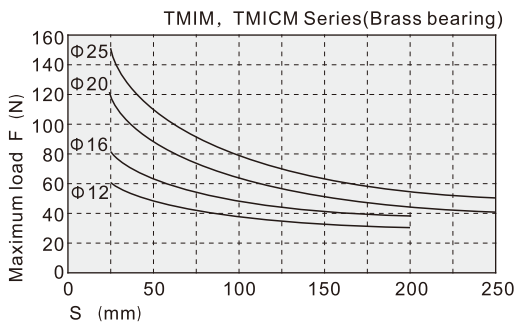
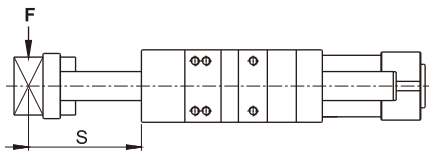
Multi-directional installation and fixing

## Criteria for selection: Cylinder thrust

Unit: Newton(N)

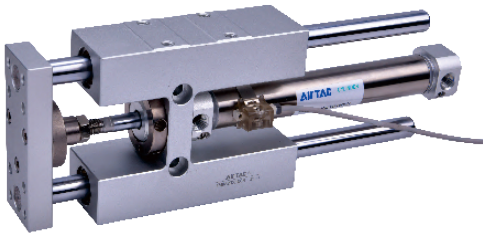
Bore size	Rod size	Acting type	Pressure area(mm <sup>2</sup> )	Operating pressure(MPa)							
				0.1	0.2	0.3	0.4	0.5	0.6	0.7	
12	6	Double acting	Push side	113.0	11.3	22.6	33.9	45.2	56.5	67.8	79.1
			Pull side	84.8	8.5	17.0	25.4	33.9	42.4	50.9	59.4
16	6	Double acting	Push side	201.0	20.1	40.2	60.3	80.4	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	-	25.3	56.7	88.1	119.5	150.9	182.3
			Pull side	263.8	-	15.3	41.6	68.0	94.4	120.8	147.1
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

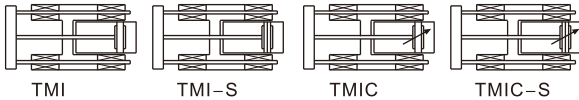


# With guide frame cylinder

## TMI, TMIC Series



### Symbol



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

[ Note ] TMI, TMIC matching cylinder is Perpendicular 90° back cover.

### Ordering code(for guide frame)

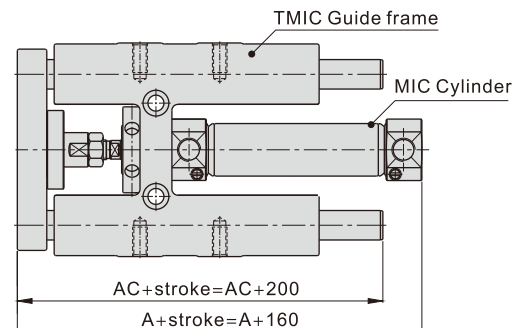
**F - TMIC M 20 X 50**



① <b>Accessory code</b>	F: Accessory	
② <b>Model</b>	TMI: With guide frame cylinder	TMIC: With guide frame cylinder(with cushion)
③ <b>Bearing type</b>	M: Brass bearing	L: Linear bearing
④ <b>Bore size</b>	12	16 20 25
⑤ <b>Stroke</b>	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:



### Specification

Bore size(mm)	12	16	20	25
Acting type	Double acting			
Fluid	Air(to be filtered by 40 μ m 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 [Note1]	M5×0.8		1/8"	

[Note1] G thread is available.

Add) Refer to P528 for detail of sensor switch.

### Stroke

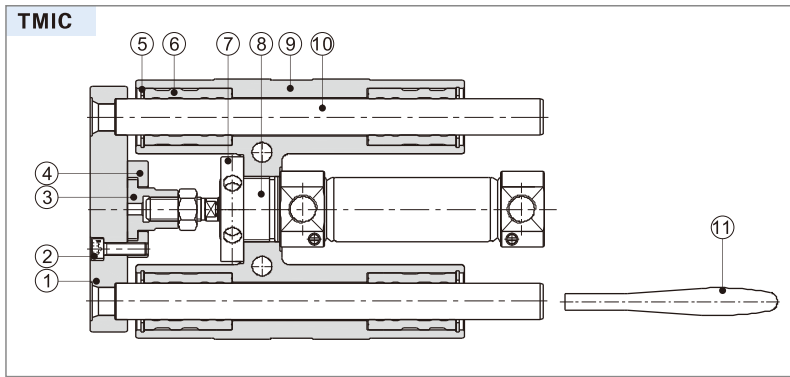
Bore size(mm)	Standard stroke (mm)							Max.std stroke(mm)
12	25	50	75	100	125	150	200	200
16	25	50	75	100	125	150	200	200
20	25	50	75	100	125	150	200	250
25	25	50	75	100	125	150	200	250

[Note] Consult us for non-standard stroke.

# With guide frame cylinder

## TMI, TMIC Series

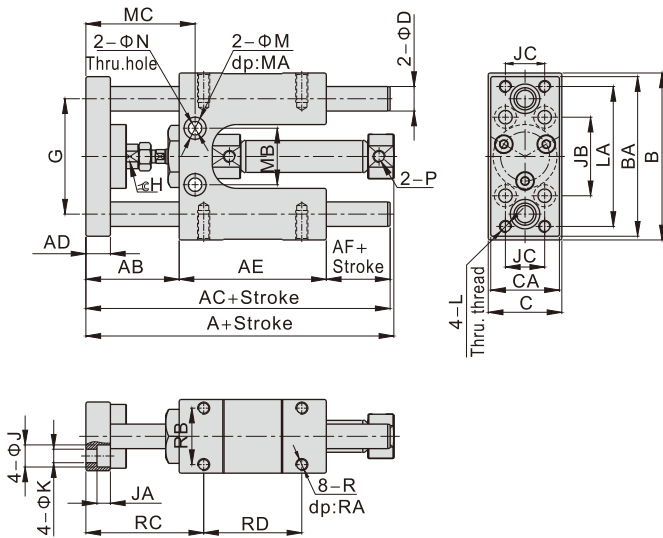
### Inner structure and material of major parts



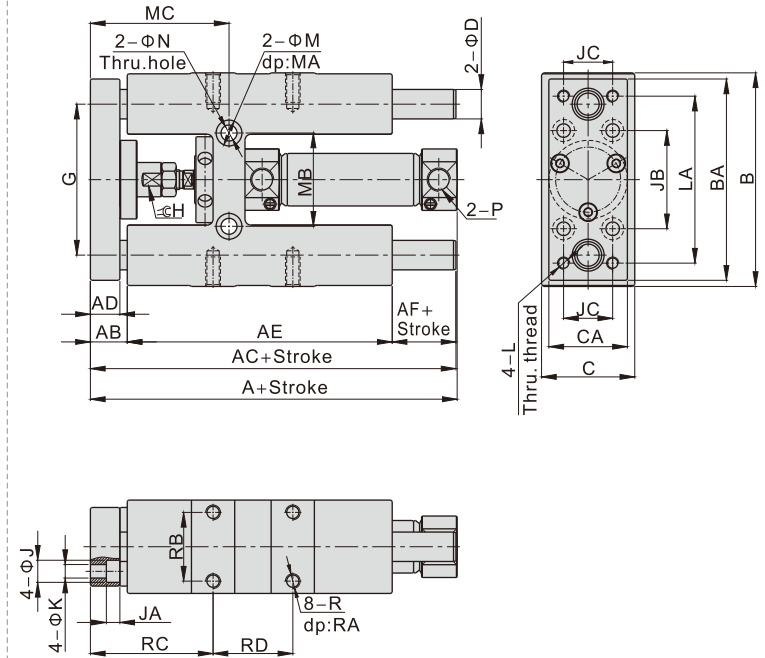
NO.	Item	Material
1	Fixed plate	Aluminum alloy
2	Bolt	Carbon steel
3	Floating nut	Carbon steel
4	Floating baffle	Carbon steel
5	C clip	Spring steel
6	Linear bearing	-
	Brass bearing	Brass
7	Nut	Carbon steel
8	MI, MIC Cylinder	Unit
9	Guide frame	Aluminum alloy
10	Guider(Linear)	Alloy steel
	Guider(Brass)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