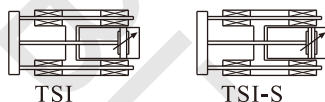


Product feature

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.
4. The buffer adjustment of cylinder is smooth and steady.
5. According to the actual use requirements, combined with sensor holder can to change the sensor installation location.

Symbol



Specification

Bore size(mm)	32	40	50	63	80	100
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	0~250 ^{+1.0} ₀ >250 ^{+1.5} ₀					
Cushion type	Variable cushion					
Port size [Note]	1/8"	1/4"		3/8"		1/2"

[Note] PT thread, G thread are available.

Standard Stroke

Bore size (mm)	Standard stroke (mm)	Max.std stroke
32	50 100 150 200 250 300 350 400 450 500	500
40	50 100 150 200 250 300 350 400 450 500	500
50	50 100 150 200 250 300 350 400 450 500	500
63	50 100 150 200 250 300 350 400 450 500	500
80	50 100 150 200 250 300 350 400 450 500	500
100	50 100 150 200 250 300 350 400 450 500	500

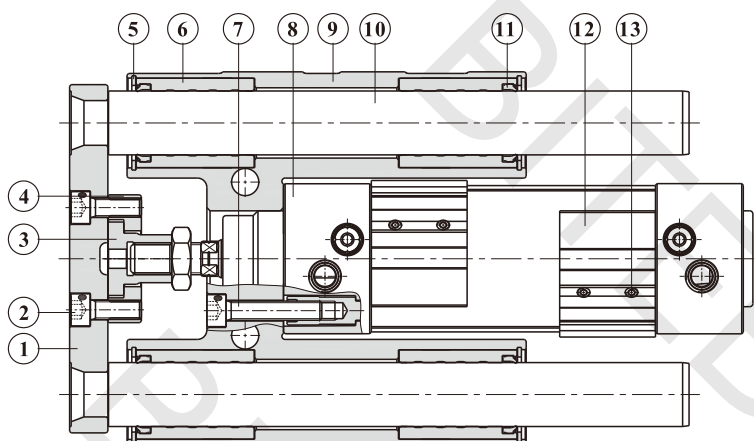
[Note] Consult us for non-standard stroke.

Criteria for selection: Cylinder thrust

Unit: Newton(N)

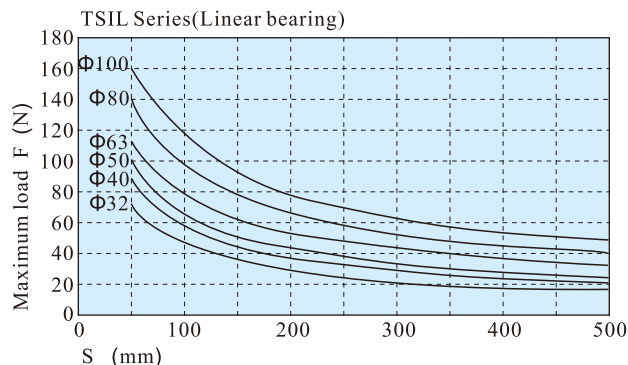
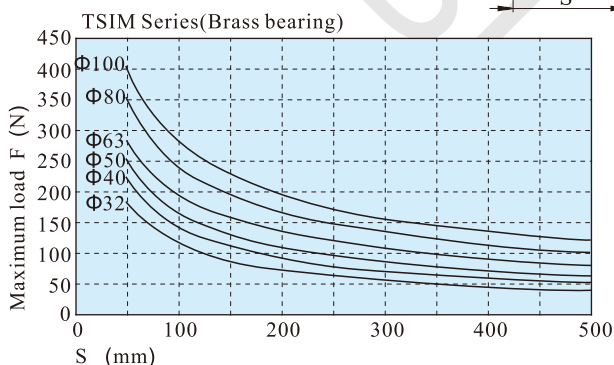
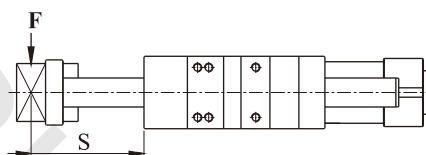
Bore size	Rod size	Acting type		Pressure area(mm ²)	Operating pressure(MPa)								
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
32	12	Double acting	Push side	804	80.4	160.8	241.2	321.6	402.0	482.4	562.8	643.2	723.6
			Pull side	690	69.0	138.0	207.0	276.0	345.0	414.0	483.0	552.0	621.0
40	16	Double acting	Push side	1256	125.6	251.2	376.8	502.4	628.0	753.6	879.2	1002.4	1130.4
			Pull side	1055	105.5	211.0	316.5	422.0	527.5	633.0	738.5	844.0	949.5
50	20	Double acting	Push side	1963	196.3	392.6	588.9	785.2	981.5	1177.8	1374.1	1570.4	1766.7
			Pull side	1649	164.9	329.8	494.7	659.6	824.5	989.4	1154.3	1399.2	1484.1
63	20	Double acting	Push side	3117	311.7	623.4	935.1	1246.8	1558.5	1870.2	2181.9	2493.6	2805.3
			Pull side	2803	280.3	560.6	840.9	1121.2	1401.5	1681.8	1962.1	2242.4	2522.7
80	25	Double acting	Push side	5026	502.6	1005.2	1507.8	2010.4	2513.0	3015.6	3518.2	4020.8	4523.4
			Pull side	4536	453.6	907.2	1360.8	1814.4	2268.0	2721.6	3175.2	3628.8	4082.4
100	25	Double acting	Push side	7853	785.3	1570.6	2355.9	3141.2	3926.5	4711.8	4288.2	6282.4	7067.7
			Pull side	7362	736.2	1472.4	2208.6	2948.6	3681.0	4417.2	5153.4	5889.6	6625.8

Inner structure



NO.	Item	Material
1	Fixed plate	Ductile iron
2	Bolt	Carbon steel
3	Floating nut	Carbon steel
4	Floating baffle	Carbon steel
5	C clip	Spring steel
6	Linear/Brass bearing	No/Brass
7	Bolt	Carbon steel
8	SI Cylinder	Unit
9	Guide frame	Aluminum alloy
10	Guider(Linear/Brass)	Alloy steel/Carbon steel
11	Dust ring	Plastic
12	Sensor holder	Aluminum alloy
13	Screw	Alloy steel

Maximum load relationship curve



Ordering code

TSI M 40 X 100 S □

① ② ③ ④ ⑤ ⑥

① Model
TSI: With guide frame cylinder

② Bearing type
M: Brass bearing
L: Linear bearing

③ Bore size
32 40 50 63 80 100

④ Stroke
Refer to stroke table for details

⑤ Magnet [Note1]
Blank: Without magnet
S: With magnet

⑥ Thread type
Blank: PT thread
G: G thread

[Note1] With magnet cylinders are equipped with 2 pcs sensor holders.

Ordering code(for guide frame)

F - TSI M 40 X 100

① ② ③ ④ ⑤

① Accessory
F: Accessory

② Model
TSI: With guide frame cylinder

③ Bearing type
M: Brass bearing
L: Linear bearing

④ Bore size
32 40 50 63 80 100

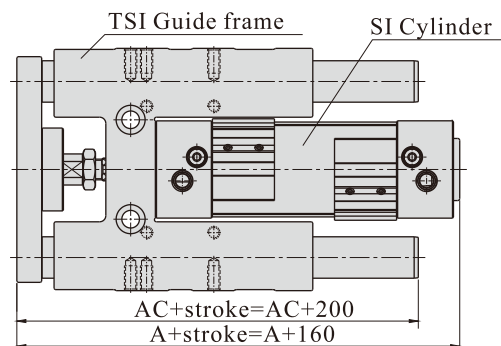
⑤ Stroke
Refer to stroke table for details

[Note] When ordering the guide frames separately, 2 pcs sensor holders are equipped. The matching relationship between the sensor holder and the bore size is shown in the following table.

Sensor holder type\Bore size	32	40	50	63	80	100
F-TSI32E	•	•				
F-TSI50E			•	•		
F-TSI80E					•	•

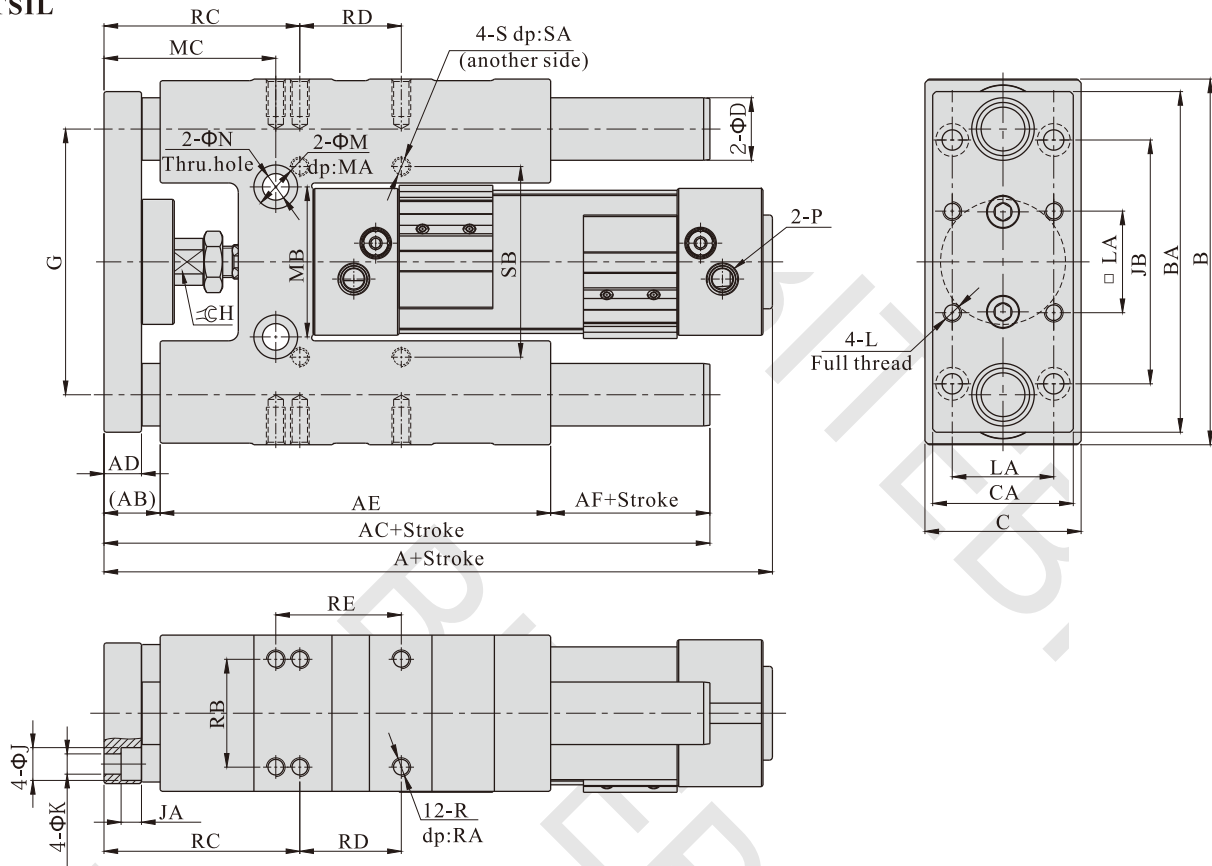
Ordering instructions :

- When ordering guide frame separately, only standard strokes from the stroke list can be ordered. (Other stroke can only be ordered by non-standard)
- 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: SI32X160 (non-standard stroke cylinder)
+F-TSIM32X200(Standard stroke guide frame).
The dimension is as follows:



■ Dimensions

TSIM/TSIL



Bore size\Item	A	AB	AC	AD	AE	AF	B	BA	C	CA	D	G	H	J	JA	JB	K	L
32	164	18	144	12	125	1	117	109	50	45	20(16)	85	15	10.5	6.5	78	6.5	M6X1.0
40	183.5	16	157	12	140	1	123	115	58	54	20(16)	91	15	10.5	6.5	84	6.5	M6X1.0
50	198.5	18	169	15	150	1	145	135	70	63	20	108	19	14	8.5	100	8.5	M8X1.25
63	214	18	201	15	182	1	160	150	85	80	20	123	19	14	8.5	105	8.5	M8X1.25
80	243	24	240	20	215	1	198	189	105	100	30(25)	150	27	17	10.5	130	10.5	M10X1.5
100	258	24	245	20	220	1	221	210	130	120	30(25)	172	27	17	10.5	150	10.5	M10X1.5

Bore size\Item	LA	M	MA	MB	MC	N	P	R	RA	RB	RC	RD	RE	S	SA	SB
32	32.5	14	4.5	48	55	8.5	1/8"	M6X1.0	12	34.5	62.7	32.5	40.2	M6X1.0	12	61
40	38	14	6	54	61	8.5	1/4"	M6X1.0	14	38	64	38	51	M6X1.0	14	69
50	46.5	17	7	66	72	10.5	1/4"	M8X1.25	16	46.5	70.2	46.5	64.7	M8X1.25	16	85
63	56.5	17	10	79	72	10.5	3/8"	M8X1.25	16	56.5	73.7	56.5	76.5	M8X1.25	16	100
80	72	-	-	-	-	-	3/8"	M10X1.5	20	72	90	72	90	M10X1.5	20	130
100	89	-	-	-	-	-	1/2"	M10X1.5	20	89	91.5	89	113	M10X1.5	20	150

[Note]The values in “()” in the above table are TSIL series sizes.