MTC Series Linear Thrust Cylinders

The MTC - Series Linear Thrust Cylinders, with a triple rod construction and heavy duty bronze or precise linear ball bearings, provide a range of products suitable for manufacturing processes. Available in eight bore sizes, the compact design can be easily installed. All cylinders have magnetic pistons as standard and may be used with a variety of position sensors.

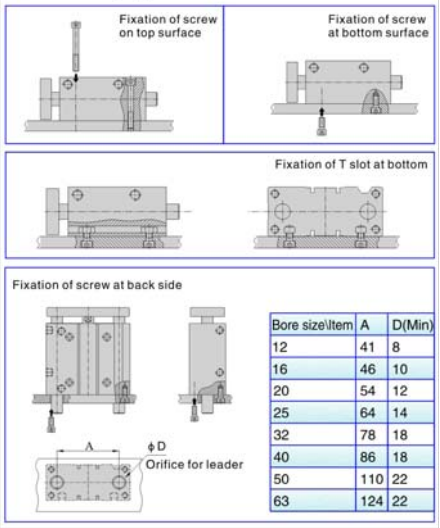
Installation and application

1. Cylinders should be selected to match the load requirements
2. Cylinders should be used within specification.
3. Necessary protection measure shall be taken when used in environments with high humidity, dust, water and oil drips and welding slag.
4. Tubing must be clean and free of loose particle before connecting to avoid ingress into the cylinder.
5. The medium used by cylinder shall be filtered to at least 40μM
6. Do not apply side loads on the cylinder rods, during operation, to maintain the normal function and extend the service life.
7. Anti-freezing measures shall be adopted when used at low temperature to prevent moisture freezing.
8. If the cylinder is dismantled and stored for a long time, take necessary precaution to avoid corrosion and dirt ingress.

Product Features

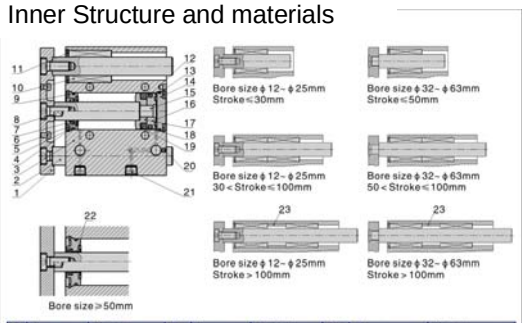
1. Conforming to JIS standards.
2. Linear ball bearing for low friction and high precision applications.
3. Bronze bearings for rigidity and side load conditions.
4. Easy to install with options of port positions.
5. Four extruded slots for position sensors.
6. Multiple threaded holes to assist with installation and provide many mounting configurations.

Mounting Options



Bore size\Item	A	D(Min)
12	41	8
16	46	10
20	54	12
25	64	14
32	78	18
40	86	18
50	110	22
63	124	22

Inner Structure and materials



NO.	Item	Material	NO.	Item	Material	NO.	Item	Material
1	Fixing plate	Free cutting steel	9	O-ring	NBR	17	Magnet seat	Brass
2	Leader	SUS440C	10	Bearing		18	Magnet asher	NBR
3	Body	6463-T5	11	C Clip	Spring steel	19	Magnet	Sintered Metal (Neodymium-Iron-Boron)
4	C Clip	Spring steel	12	Piston O-ring	NBR	20	Screw	Carbon steel
5	Front cover	Brass	13	O-ring	NBR	21	Screw	Carbon steel
6	Bumper	TPU	14	Back cover	Brass	22	Bearing	Bronze
7	Piston rod O-ring	NBR	15	Piston rod	Carbon steel with 20um chrome plated	23	Spacer	Aluminum alloy
8	Screw	Stainless steel	16	Piston	Brass			

Safe Load and Torque

Symbol

Product series

Specification

Bore size (mm)		12	16	20	25	32	40	50	63
Acting type		Double acting type							
Fluid		Air(to be filtered by 40um filter element)							
Operating pressure		0.1~1.0MPa(14~145Psi)							
Proof pressure		1.5MPa(213Psi)							
Temperature ℃		-20~70							
Speed range mm/s		30~500							
Stroke tolerance		+1.0 0							
Cushion type		Bumper							
Non-rotate tolerance ①	Linear bearing	±0.08°		±0.07°		±0.06°		±0.05°	
	Bronze bearing	±0.10°		±0.09°		±0.08°		±0.06°	
Port size ②		M5×0.8		1/8"				1/4"	

1. Non-rotating tolerance is with the cylinder fully retracted.
2. G (BSP) and M5 threads are standard (NPT threads are available as an option on request).
   Note: All MTC products are equiped with a magnetic piston ring.

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke	Available stroke
12	10 20 25 30 40 50 60 70 75 80 90 100 125 150	150	200
16	10 20 25 30 40 50 60 70 75 80 90 100 125 150 175 200	200	250
20、25	20 25 30 40 50 60 70 75 80 90 100 125 150 175 200 225 250	250	300
32~63	25 30 40 50 60 70 75 80 90 100 125 150 175 200 225 250	250	300

Note: If non-standard stroke is ordered, backing plate will be added in the cylinder of standard stroke if the gap of the standard stroke and non-standard stroke is 1mm (ϕ12~ϕ32) or 5mm (ϕ40~ϕ63). For example, the non-standard stroke cylinder with a stroke of 28mm is transformed from the standard cylinder whose standard stroke is 30mm through adding a pad and their shape and dimension are the same.

Ordering code

MTC — M — 50 × 50 — S — G

- **Model**: TC: Tri-rod cylinder (Double acting type)
- **Bearing type**: L: Linear bearing; M: Bronze bearing
- **Bore size**
- **Stroke**
- ① **Magnet**: S: With magnet
- ② **Thread type**: G: G; P: PT

①TC Series are all with magnet.
②When it is M5 thread, it is blank here.

AUG12/RW/A

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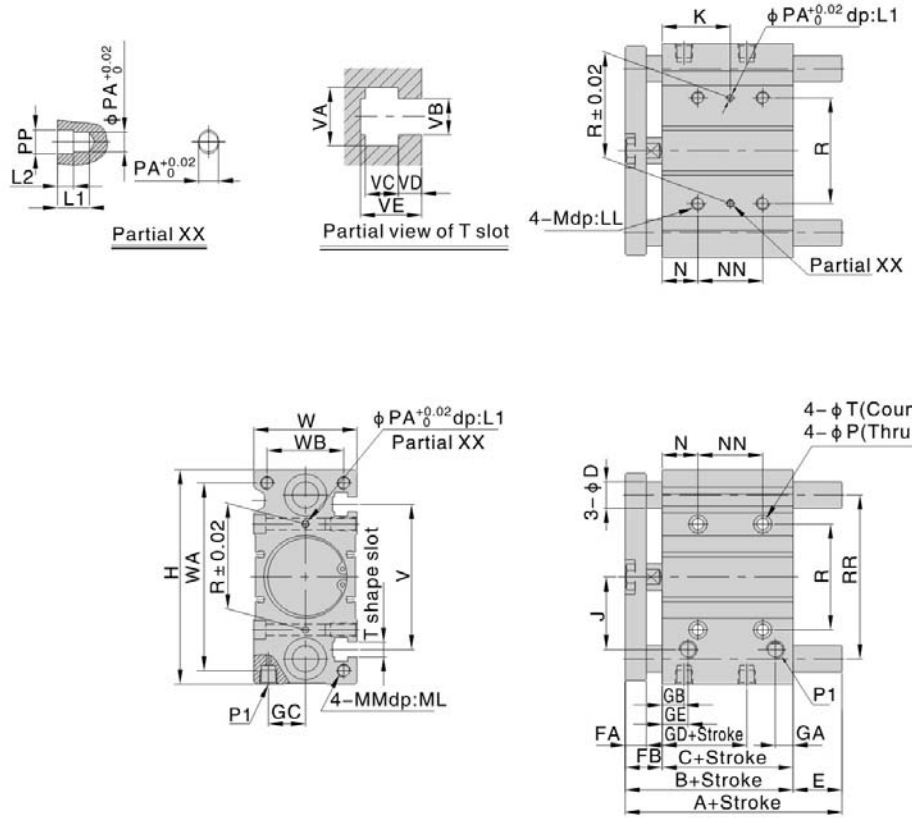
MEAD ENGINEERING SERVICES LTD

MTC Series Linear Thrust Cylinders

Dimensions



Bore size\Item	A				E				NN				K			
Stroke	≤30	31~100	101~200	>200	≤30	31~100	101~200	>200	≤30	31~100	101~200	>200	≤30	31~100	101~200	>200
12	42	55	85	–	–4	13	43	–	20	40	110	–	15	25	60	–
16	46	65	95	–	–3	19	49	–	24	44	110	–	17	27	60	–
20	53	80	104	122	–2	27	51	69	24	44	120	200	29	39	77	117
25	53.5	82	104.5	122.5	–1.5	28.5	51	68.5	24	44	120	200	29	39	77	117
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	≤40	41~100	101~200	>200	≤40	41~100	101~200	>200
32	65	102	118	140	5.5	42.5	58.5	80.5	24	48	124	200	33	45	83	121
40	66	101	118	140	–1	36	52	74	24	48	124	200	34	46	84	122
50	76	118	134	161	4	46	62	89	24	48	124	200	36	48	86	124
63	77	118	134	161	–1	41	57	84	28	52	128	200	38	50	88	124

Bore size\Item	B	C	FA	FB	P1	GA	GB	GC	GD	GE	R
12	42	29	8	13	M5×0.8	7.5	11	8	13	11	23
16	46	33	8	13	M5×0.8	8	11	10	15	11	24
20	53	37	10	16	1/8"	9	10.5	10.5	12.5	10.5	28
25	53.5	37.5	10	16	1/8"	9	11.5	13.5	12.5	11.5	34
32	59.5	37.5	12	22	1/8"	9	12.5	15	7	12.5	42
40	66	44	12	22	1/8"	10	14	18	13	14	50
50	72	44	16	28	1/4"	11	12	21.5	9	14	66
63	77	49	16	28	1/4"	13.5	16.5	28	14	16.5	80

Bore size\Item	RR	N	P	PA	PP	T	TL	M	LL	D	J	W	WA	WB	WL	WW	H	Q	QL	MM	ML	L1	L2	V	VA	VB	VC	VD	VE
12	41	5	4.3	3	3.5	8	4.5	M5×0.8	10	6	18	26	50	18	56	22	58	14	48	M4×0.7	10	6	3	37	7.4	4.4	3.7	2	6.2
16	46	5	4.3	3	3.5	8	4.5	M5×0.8	10	8	19	30	56	22	62	25	64	16	54	M5×0.8	12	6	3	38	7.4	4.4	3.7	2.5	6.7
20	54	17	5.6	3	3.5	9.5	5.5	M6×1.0	12	10	25	36	72	24	81	30	83	18	70	M5×0.8	13	6	3	44	8.4	5.4	4.5	2.8	7.8
25	64	17	5.6	4	4.5	9.5	5.5	M6×1.0	12	12	28.5	42	82	30	91	38	93	26	78	M6×1.0	15	6	3	50	8.4	5.4	4.5	3	8.2
32	78	21	6.6	4	4.5	11	7.5	M8×1.25	16	16	34	48	98	34	110	44	112	30	96	M8×1.25	20	6	3	63	10.5	6.5	5.5	3.5	9.5
40	86	22	6.6	4	4.5	11	7.5	M8×1.25	16	16	38	54	106	40	118	44	120	30	104	M8×1.25	20	6	3	72	10.5	6.5	5.5	4	11
50	110	24	8.6	5	6	14	9	M10×1.5	20	20	47	64	130	46	146	60	148	40	130	M10×1.5	22	8	4	92	13.5	8.5	7.5	4.5	13.5
63	124	24	8.6	5	6	14	9	M10×1.5	20	20	55	78	142	58	158	70	162	50	130	M10×1.5	22	8	4	110	17.8	11	10	7	18.5

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