

Guided Cylinder

TPM Series



Product Introduction

- JIS-standard circular magnetic slot;
- The fixing plate is nickel-plated chemically, offering strong corrosion resistance;
- Minimum starting pressure: ≤ 0.05 MPa, significantly improving cylinder operational consistency;
- The average clearance between the guide rod and the guide sleeve is less than 0.04 mm.

Technical Parameter

Cylinder diameter(mm)	12	16	20	25	32	40	50	63	80	100
Action form	Double-acting									
Service substance	Compressed air									
Maximum Operating Pressure	1.0MPa									
Minimum Operating Pressure (TPM)	0.06MPa		0.05MPa							
Minimum Operating Pressure (TPCM)	-	0.12MPa	0.1MPa							
Pressure resistance (MPa)	1.5									
Recommended temperature range	-10~70℃									
Speed range (mm/s)	30~500									
Cushioning Type	Rubber Cushioning	Rubber Cushioning / Air Cushioning								
Stroke Length Tolerance	+1.5 0									

Stroke Length

Series	Bore	Standard stroke													Maximum stroke
TPM	12/16	10	20	30	40	50	75	100	125	150	175	200	250		250
	20/25	20	30	40	50	75	100	125	150	175	200	250	275	300	400
	32~100	25	50	75	100	125	150	175	200	250	275	300	350	400	400
TPCM	16	25	50	75	100	125	150	175	200	250					250
	20~63	25	50	75	100	125	150	175	200	250	300	350	400		400
	80/100	50	75	100	125	150	175	200	250	300	350	400			400

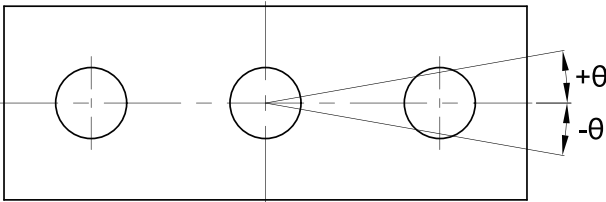
Selection Table

Series	Code
Guided Cylinder	TPM
Guided Cylinder (With Air Cushioning)	TPCM
Bore (mm)	Code
12	12
16	16
20	20
25	25
32	32
40	40
50	50
63	63
80	80
100	100

TPM - - - -

Thread Type	Code
G	-
PT	T
NPT	N
Magnet Code	Code
With Magnet	S
Without Magnet	-
Stroke(mm)	Code
10	10
.....	
maximum	400

Non-rotational

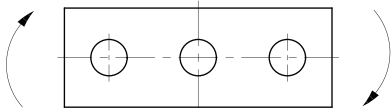


The non-rotation accuracy θ at the retracted end with no load should be within the values listed in the table below.

Bore(mm)	Non-rotation Accuracy θ
12	$\pm 0.04^\circ$
16	$\pm 0.04^\circ$
20	$\pm 0.03^\circ$
25	$\pm 0.03^\circ$
32	$\pm 0.02^\circ$
40	$\pm 0.02^\circ$
50	$\pm 0.02^\circ$
63	$\pm 0.02^\circ$
80	$\pm 0.02^\circ$
100	$\pm 0.02^\circ$

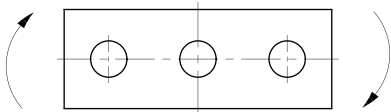
Allowable Rotational Torque

TPM Series



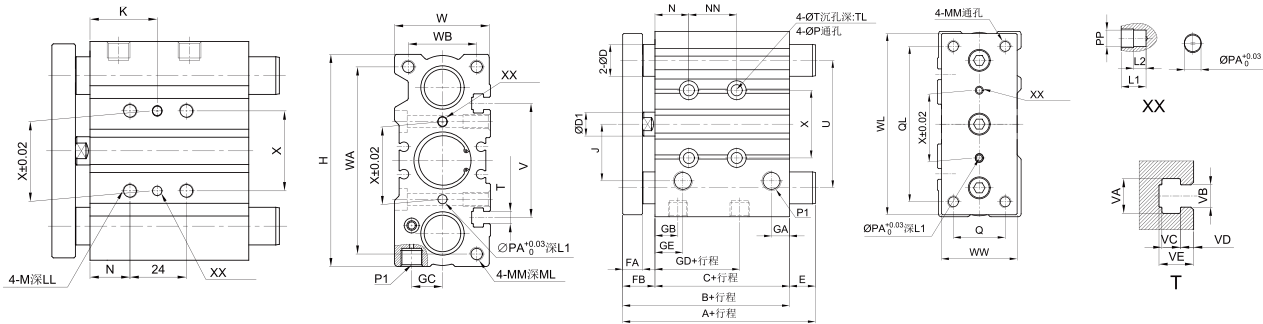
Bore	Series	Stroke(mm)															
		10	20	25	30	40	50	75	100	125	150	175	200	250	300	350	400
12	TPM	0.39	0.32	-	0.27	0.24	0.21	0.43	0.36	0.31	0.27	0.24	0.22	0.19	-	-	-
16	TPM	0.69	0.58	-	0.49	0.43	0.38	0.69	0.58	0.50	0.44	0.40	0.36	0.30	-	-	-
20	TPM	-	1.05	-	0.93	0.93	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
25	TPM	-	1.76	-	1.55	1.55	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
32	TPM	-	-	6.35	-	-	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
40	TPM	-	-	7.00	-	-	5.66	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
50	TPM	-	-	13.0	-	-	10.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
63	TPM	-	-	14.7	-	-	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
80	TPM	-	-	21.9	-	-	18.6	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
100	TPM	-	-	38.8	-	-	33.5	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7

TPCM Series



Bore	Series	Stroke(mm)											
		25	50	75	100	125	150	175	200	250	300	350	400
16	TPCM	-	0.38	0.69	0.58	0.50	0.44	0.40	0.36	0.30	-	-	-
20	TPCM	-	0.75	1.88	1.63	1.44	1.28	1.16	1.06	0.90	0.78	0.69	0.62
25	TPCM	-	1.25	2.96	2.57	2.26	2.02	1.83	1.67	1.42	1.24	1.09	0.98
32	TPCM	6.35	5.13	5.69	4.97	4.42	3.98	3.61	3.31	2.84	2.48	2.20	1.98
40	TPCM	7.00	5.66	6.27	5.48	4.87	4.38	3.98	3.65	3.13	2.74	2.43	2.19
50	TPCM	13.0	10.8	12.0	10.6	9.50	8.60	7.86	7.24	6.24	5.49	4.90	4.43
63	TPCM	14.7	12.1	13.5	11.9	10.7	9.69	8.86	8.16	7.04	6.19	5.52	4.99
50	TPCM	-	18.6	22.9	20.5	18.6	17.0	15.6	14.5	12.6	11.2	10.0	9.11
63	TPCM	-	33.5	37.5	33.8	30.9	28.4	26.2	24.4	21.4	19.1	17.2	15.7

Dimension Diagram - Guided Cylinder TPM

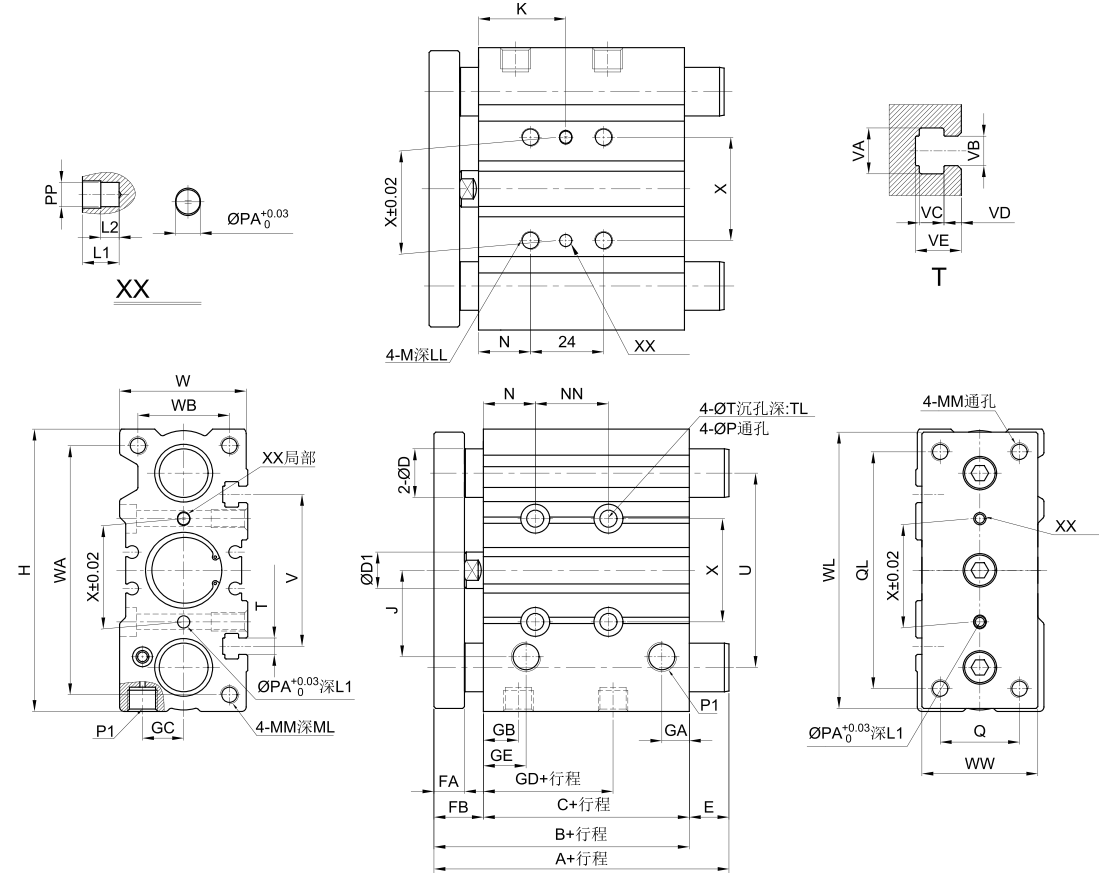


Bore	A				B				NN					K				
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	≤30	31~100	101~200	201~300	>300	≤30	31~100	101~200	201~300	>300
12	42	55	85	85	0	13	43	43	20	40	110	200	-	15	25	60	105	-
16	46	65	95	95	0	19	49	49	24	44	110	200	-	17	27	60	105	-
20	53	80	104	122	0	27	51	69	24	44	120	200	300	29	39	77	117	167
25	53.5	82	94.5	122	0	28.5	51	68.5	24	44	120	200	300	29	39	77	117	167
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	≤40	41~100	101~200	201~300	>300	≤40	41~100	101~200	201~300	>300
32	78	102	118	140	5.5	42.5	58.5	80.5	24	48	124	200	300	33	45	83	121	171
40	78	102	118	140	0	36	52	74	24	48	124	200	300	34	46	84	122	172
50	89	118	134	161	4	46	62	89	24	48	124	200	300	36	48	86	124	174
63	89	118	134	161	0	41	57	84	28	52	128	200	300	38	50	88	124	174
Bore	A				B				NN					K				
Stroke	<60	61~150	>150		<60	61~150	>150		<50	50~100	101~200	>200		<50	50~100	101~200	>200	
80	110.5	163.5	185.5		14	67	89		28	52	128	200		42	54	92	128	
100	126	184	206		10	68	90		48	72	148	220		17	27	60	105	

Bore	B	C	FA	FB	P1	GA	GB	GC	GD	X	U	N	P	PA	PP	T	TL	M	LL
12	42	29	8	13	M5X0	7.5	11	8	13	23	41	5	4.2	3	3.5	8	4.5	M5X0.8	10
16	46	33	8	13	M5X0	8	11	10	15	24	46	5	4.2	3	3.5	8	4.5	M5X0.8	10
20	53	37	10	16	1/8"	9	10.5	10.5	12.5	28	54	17	5.2	3	3.5	9.5	5.5	M6X1.0	12
25	53.5	37.5	10	16	1/8"	9	11.5	13.5	12.5	34	64	17	5.2	4	4.5	9.5	5.5	M6X1.0	12
32	59.5	37.5	12	22	1/8"	9	12.5	15	7	42	78	21	6.9	4	4.5	11	7.5	M8X1.25	16
40	66	44	12	22	1/8"	10	14	18	13	50	86	21	6.9	4	4.5	11	7.5	M8X1.25	16
50	72	44	16	28	1/4"	11	12	21.5	9	66	110	24	8.7	5	6	14	9	M10X1.5	20
63	77	49	16	28	1/4"	13.5	16.5	28	14	80	124	24	8.7	5	6	14	9	M10X1.5	20
80	96.5	56.5	16	40	3/8"	19	16.5	26	14.5	100	156	28	10.5	6	7	17.5	18	M12X1.75	24
100	116	66	19	50	3/8"	22.5	20.5	32.5	17.5	124	188	11	12.5	6	7	20	18	M14X2.0	28

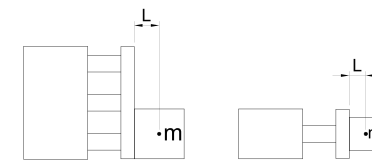
Bore	D1	D	J	W	WA	WB	WL	WW	H	Q	QL	MM	ML	L1	L2	V	VA	VB	VC	VD	VE
12	6	8	19	26	50	18	56	22	58	14	48	M4X0.7	12	6	3	37	7.4	4.4	3.7	2.5	6.7
16	8	10	18	30	56	22	62	25	64	16	54	M5X0.8	12	6	3	38	7.4	4.4	3.7	2.5	6.7
20	10	12	25	36	72	24	81	30	83	18	70	M5X0.8	13	6	3	44	8.4	5.4	4.5	2.8	7.8
25	12	16	28.5	42	82	30	91	38	93	26	78	M6X1.0	15	6	3	50	8.4	5.4	4.5	3	8.2
32	16	20	34	48	88	34	110	44	112	30	96	M8X1.25	20	6	3	63	10.5	6.5	4.5	3.5	9.5
40	16	20	38	54	106	40	118	44	120	30	104	M8X1.25	20	6	3	72	10.5	6.5	5.5	4	11
50	20	25	47	64	130	46	146	60	148	40	130	M10X1.5	22	8	4	92	13.5	8.5	7.5	4.5	13.5
63	20	25	55	78	142	58	158	70	162	50	130	M10X1.5	22	8	4	110	17.8	11	10	7	18.5
80	25	30	74	91.5	180	54	56	75	202	52	75	M12X1.75	25	10	5	140	20.3	13.3	12	8	22.5
100	25	35	89	112	210	62	62	90	240	64	90	M14X2.0	31	10	5	166	23.3	15.3	13.5	10	30

Dimension Diagram - Guided Cylinder TPCM

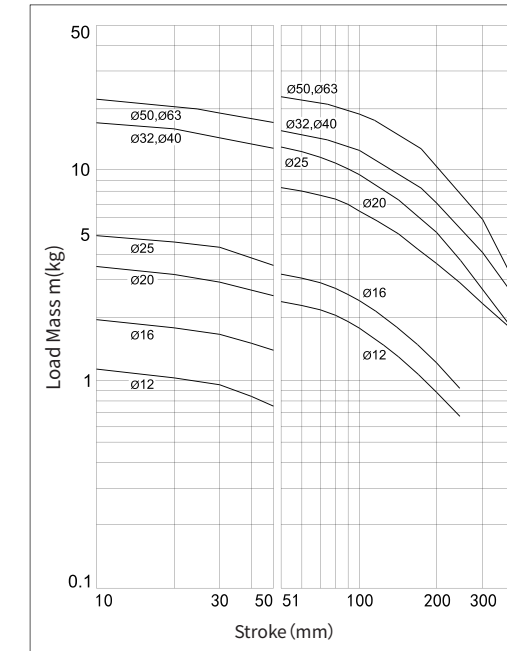


Bore	A				E				NN					K							
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	<100	100~175	200~250	>250	<100	100~175	200~250	>250					
16	71	71	95	95	0	0	24	24	44	110	200	-	27	60	105	-					
20	78	80	104	122	0	2	26	44	44	120	200	300	39	77	117	167					
25	78.5	82	94.5	122	0	3.5	26	43.5	44	120	200	300	39	77	117	167					
Stroke	≤50	51~100	101~200	>200	≤50	51~100	101~200	>200	<100	100~175	200~250	>250	<100	100~175	200~250	>250					
32	84.5	102	118	140	5.5	17.5	33.5	55.5	48	124	200	300	45	83	121	171					
40	91	102	118	140	0	21	27	49	48	124	200	300	46	84	122	172					
50	97	118	134	161	4	21	37	64	48	124	200	300	48	86	124	174					
63	102	118	134	161	0	16	32	59	52	128	200	300	50	88	124	174					
Bore	B	C	FA	FB	P1	GA	GB	GC	GD	DE	X	U	N	P	PA	PP	T	TL	M	LL	
16	71	58	8	13	M5X0.8	8	11	10	15	11	24	46	5	4.2	3	3.5	8	4.5	M5X0.8	10	
20	78	62	10	16	1/8"	9	10.5	10.5	12.5	10.5	28	54	17	5.2	3	3.5	9.5	5.5	M6X1.0	12	
25	78.5	62.5	10	16	1/8"	9	11.5	13.5	12.5	11.5	34	64	17	5.2	4	4.5	9.5	5.5	M6X1.0	12	
32	84.5	62.5	12	22	1/8"	9	12.5	15	7	12.5	42	78	21	6.9	4	4.5	11	7.5	M8X1.25	16	
40	91	69	12	22	1/8"	10	14	18	13	14	50	86	22	6.9	4	4.5	11	7.5	M8X1.25	16	
50	97	69	16	28	1/4"	11	12	21.5	9	14	66	110	24	8.7	5	6	14	9	M10X1.5	20	
63	102	74	16	28	1/4"	13.5	16.5	28	1024	16.5	80	124	24	8.7	5	6	14	9	M10X1.5	20	
Bore	D1	D	J	W	WA	WB	WL	WW	H	Q	QL	MM	ML	L1	L2	V	VA	VB	VC	VD	VE
16	8	10	19	30	56	22	62	25	64	16	54	M5X0.8	12	6	3	38	7.4	4.4	3.7	2.5	6.7
20	10	12	25	36	72	24	81	30	83	18	70	M5X0.8	13	6	3	44	8.4	5.4	4.5	2.8	7.8
25	12	16	28.5	42	82	30	91	38	93	26	78	M6X1.0	12	6	3	50	8.4	5.4	4.5	3	8.2
32	16	20	34	48	98	34	110	44	112	30	96	M8X1.25	20	6	3	63	10.5	6.5	5.5	3.5	9.5
40	16	20	38	54	106	40	118	44	120	30	104	M8X1.25	20	6	3	72	10.5	6.5	5.5	4	11
50	20	25	47	64	130	46	146	60	148	40	130	M10X1.5	22	8	4	92	13.5	8.5	7.5	4.5	13.5
63	20	25	55	78	142	58	158	70	162	50	130	M10X1.5	22	8	4	110	17.8	11	10	7	18.5

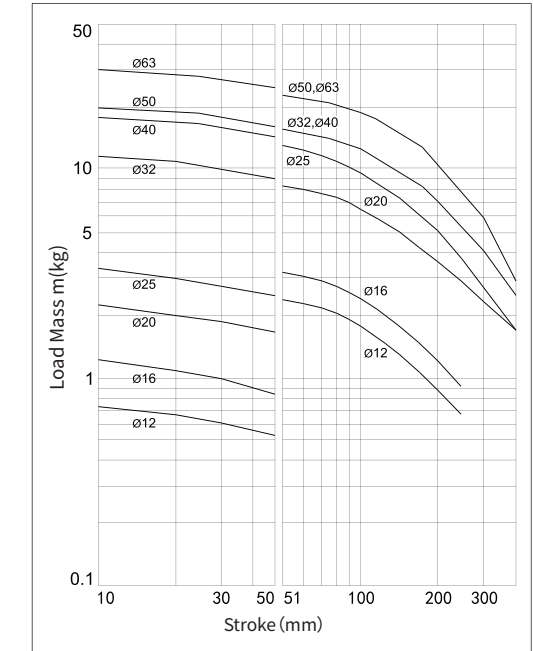
Allowable load for horizontal installation



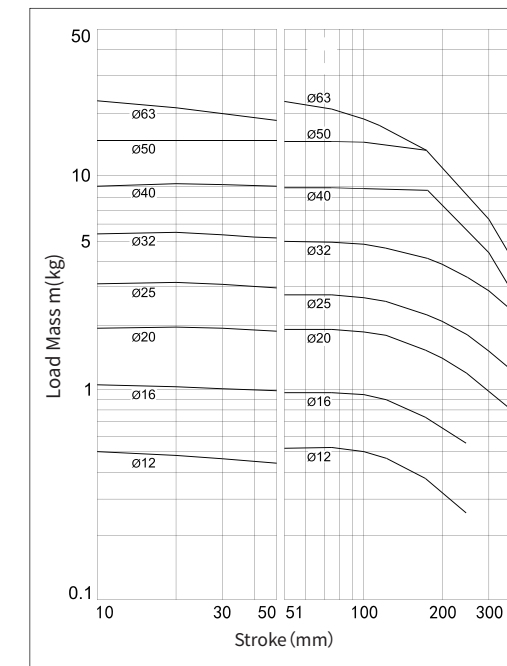
L=50mm V=200mm/s以下



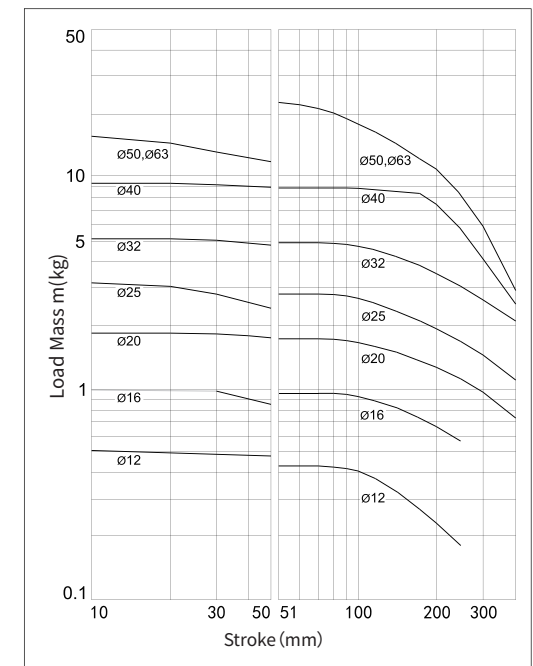
L=100mm V=200mm/s以下



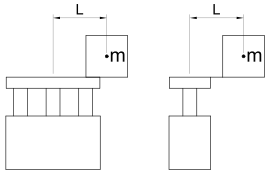
L=50mm V=400mm/s



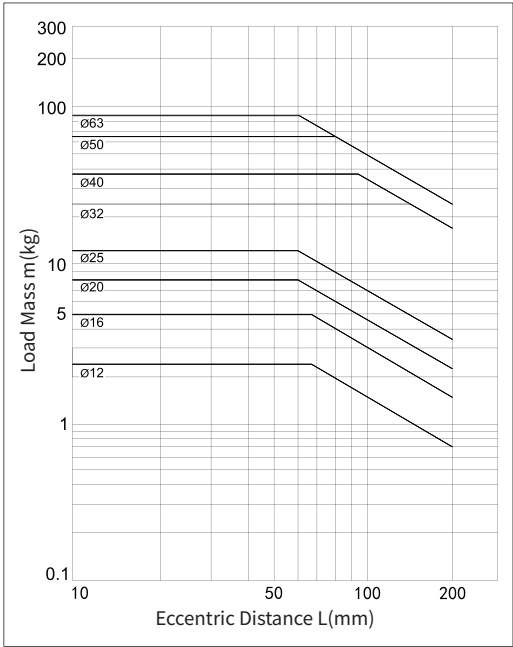
L=100mm V=400mm/s



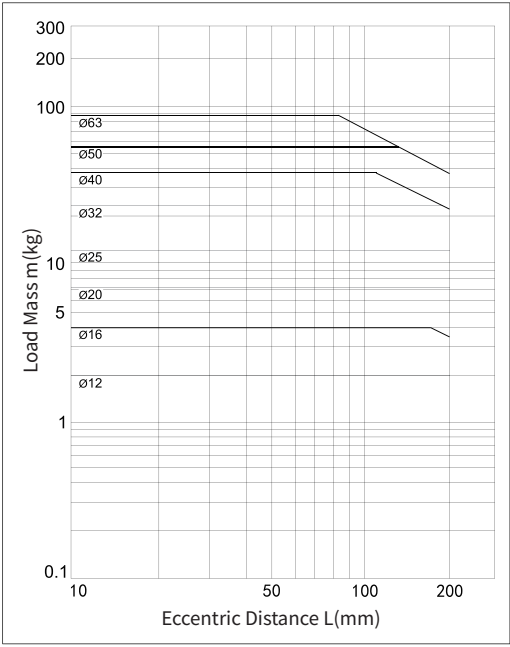
▶ Allowable load for vertical installation



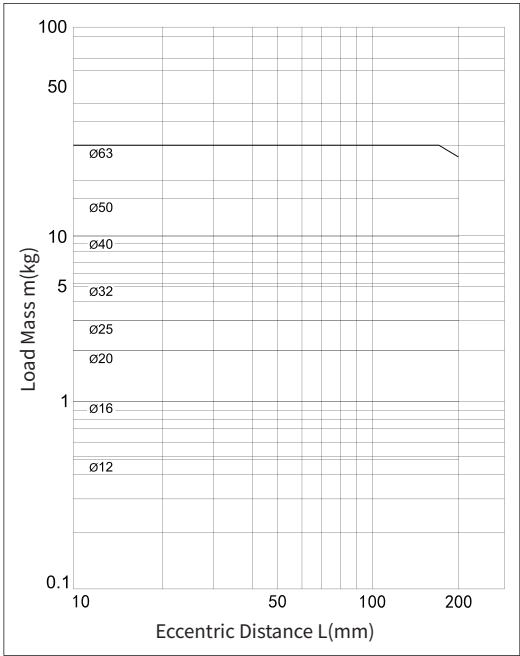
Stroke less than 50mm, V less than 200mm/s



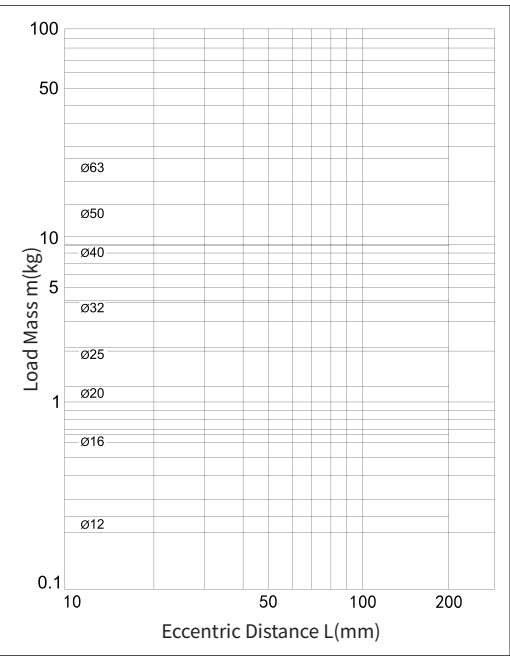
Stroke over 50mm, V less than 200mm/s



Stroke less than 50mm, V=400mm/s



Stroke over 50mm, V=400mm/s



Rodless Cylinder

PLCT Series

Mechanical Rodless Cylinder



▶ Product Introduction

- Compact structure saves installation space;
- No exposed piston rod avoids rod seal leakage;
- High motion accuracy and capable of withstanding side loads.

▶ Technical Parameter

Cylinder diameter(mm)	16	25	32	40	50	63	80
Cushioning type	Adjustable Cushioning / Special Air Cushioning						
Service substance	Compressed air						
Lubrication	Permanently lubricated with grease (no additional oil mist lubrication required) Optional: Special low-speed lubricating grease						
Maximum Operating Pressure(MPa)	0.8						
Operating Temperature Range	-10~80°C						

Model	Force at 6 bar (N)	Effective force F at 6 bar (N)	Weight(kg)		Maximum Load F(N)	Cushioning Length (mm)
			0mm Stroke	Per 100mm stroke		
PLCT16	120	78	0.22	0.1	120	11
PLCT25	295	250	0.65	0.197	300	17
PLCT32	483	420	1.44	0.354	450	20
PLCT40	754	640	1.95	0.415	750	27
PLCT50	1178	1000	3.53	0.566	1200	30
PLCT63	1870	1550	6.41	0.925	1650	32
PLCT80	3016	2600	12.46	1.262	2400	39