※Slim and compact body.
※Radial payload allowed.
※Four mounting types provided.
※Piping is possible from two directions.
※Auto switches can be mounted on two sides.
※Two types of guide rod bearing

Slide bearing

Suitable for use with lateral loads accompanied by impact, as in stoppers.

Linear ball bearing

Suitable for pushing, lifter and applications where high precision is required.

How to order

MQ2 — S — 12 — 50 — RS - 1

Type

Cylinder bore Stroke

Number of auto switch

S	Slide bearing
L	Linear ball bearing

In-line	Style
RS	Reed swich
RSP	PNP
RSN	NPN

Auto switch type

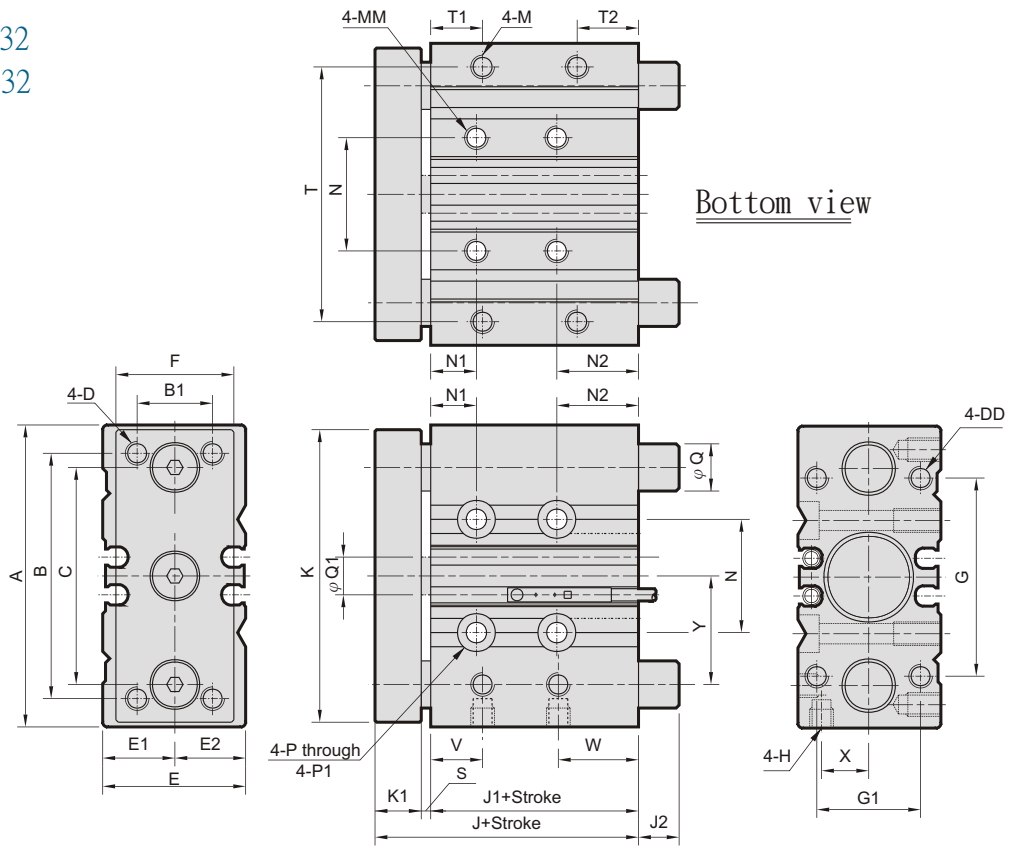
Specifications

Type	MQ2		
Action	Double acting		
Bore size (mm)	12, 16	20, 25, 32, 40	50, 63
Port size	M5x0.8	PT 1/8	PT 1/4
Fluid	Air		
Operating pressure	1~9.9kgf/cm²		
Proof pressure	15kgf/cm²		
Ambient temperature	−5℃~+60℃ (No freezing)		
Lubrication	Non-lube		
Cushion	Rubber bumper at both ends		
Auto switch	RS		

Standard Stroke

Type	Bearing type	Bore	Stroke(mm)											
			10	20	25	30	40	50	75	100	125	150	175	200
MQ2 -S	Slide bearing	Φ12	●	●		●	●	●	●	●				
		Φ16	●	●		●	●	●	●	●				
		Φ20		●		●	●	●	●	●	●	●	●	●
		Φ25		●		●	●	●	●	●	●	●	●	●
MQ2 -L	Linear ball bearing	Φ32			●	●	●	●	●	●	●	●	●	●
		Φ40			●			●	●	●				
		Φ50			●			●	●	●				
		Φ63			●			●	●	●				

MQ2-S Φ 12~32
MQ2-L Φ 12~32



MQ2-S/MQ2-L

Bore	A	B	B1	C	D	DD	E	E1	E2	F	G	G1	H	K	K1	J	J1	J2	M	MM	N	N1	N2	P
12	58	48	14	41.5	M4x0.7	M4x0.7DP9	26	13	13	22	40	18	M5x0.8	56	8	39	29		M4x0.7DP7	M5x0.8DP10	23	5	20	φ4.3
16	64	52	16	46	M5x0.8	M5x0.8DP11	30	15	15	25	42	22	M5x0.8	62	10	43	31		M5x0.8DP8	M5x0.8DP10	24	5	22	φ4.3
20	85	60	18	55	M5x0.8	M5x0.8DP13	36	17	19	30	52	26	PT 1/8	72	10	47	35	※	M5x0.8DP7	M6x1.0DP12	28	19	16	φ5.3
25	96	70	26	65	M6x1.0	M6x1.0DP15	42	21	21	38	62	32	PT 1/8	86	10	47.5	35.5		M6x1.0DP9	M6x1.0DP12	34	22	12.5	φ5.3
32	116	96	30	80	M8x1.25	M8x1.25DP18	51	26	25	48	80	38	PT 1/8	112	12	47.5	33.5		M8x1.25DP11	M8x1.25DP16	42	22	14.5	φ6.6

Bore	P1	Q		Q1	S	T	T1	T2	V	W	X	Y
		MQ2-S	MQ2-L									
12	Φ8DP4.5	8	6	6	2	50	12	12	11	15	8.5	19.5
16	Φ8DP4.5	10	8	8	2	54	11	13	11	17	10	23
20	Φ9.5DP5.5	12	10	10	2	64	11	14	12	23	11.5	24.5
25	Φ9.5DP5.5	16	13	12	2	76	12	13.5	11	23.5	13.5	24
32	Φ11DP6.5	20	16	16	2	100	12	16.5	11.5	25	16	31

J2 Specifications

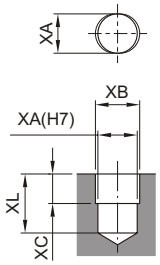
MQ2-S

Bore	Stroke(mm)											
	10	20	25	30	40	50	75	100	125	150	175	200
12	0	0		0	0	0	18	18				
16	0	0		0	0	0	21	21				
20		0		0	0	0	14	14	31	31	31	31
25		0		0	0	0	14	14	31	31	31	31
32			20	20	20	20	20	20	42	42	42	42

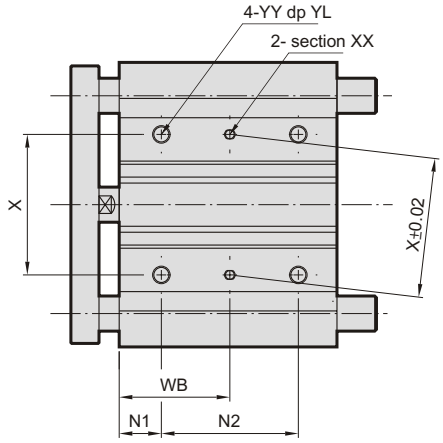
MQ2-L

Bore	Stroke(mm)											
	10	20	25	30	40	50	75	100	125	150	175	200
12	0	0		0	14	14	14	14				
16	0	0		0	21	21	21	21				
20		0		0	27	27	27	27	50	50	50	50
25		2		2	35	35	35	35	50	50	50	50
32			8	8	8	8	42	42	55	55	55	55

MQ2-S Φ 40~63
MQ2-L Φ 40~63

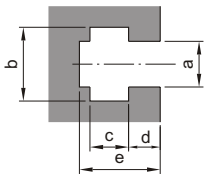


Detailed figure of section XX



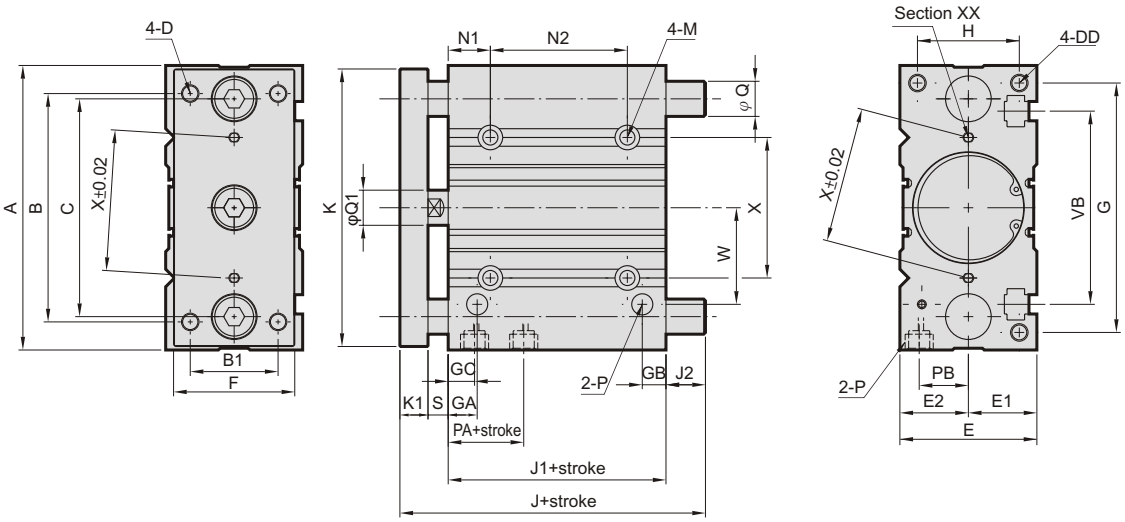
Bottom view

T-slot dimendions



T-slot dimensions

Bore size (mm)	a	b	c	d	e
40	6.5	10.5	5.5	4	11
50	8.5	13.5	7.5	4.5	13.5
63	11	17.8	10	7	18.5



MQ2-S/MQ2-L

Bore	A	B	B1	C	D	DD	E	E1	E2	F	G	GA	GB	GC	H	K	K1	L1	M	N1
40	120	104	30	86	M8×1.25	M8×1.25DP20	54	27	27	44	106	14	10	14	40	118	12	44	Φ6.6Through , φ11DP7.5	22
50	148	130	40	110	M10×1.5	M10×1.5DP22	64	32	32	60	130	14	11	12	46	146	16	44	Φ8.6Through , φ14DP9	24
63	162	130	50	124	M10×1.5	M10×1.5DP22	78	39	39	70	142	16.5	13.5	16.5	58	158	16	49	Φ8.6Through, φ14DP9	24

Bore	P	PA	PB	Q1	S	VB	W	X	XA	XB	XC	XL	YY	YL	N2			WB		
															25st	50,75,100st	100st or more	25st	50,75,100st	100st or more
40	PT 1/8	13	18	16	10	72	38	50	4	4.5	3	6	M8×1.25	16	24	48	124	34	46	84
50	PT 1/4	9	21.5	20	12	92	47	66	5	6	4	8	M10×1.5	20	24	48	124	36	48	86
63	PT 1/4	14	28	20	12	110	55	80	5	6	4	8	M10×1.5	20	28	52	128	38	50	88

J.J2 Specifications

MQ2-S

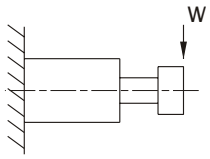
Bore	J		J2		Q
	25,50st	50st or more	25,50st	50st or more	
40	97	102	31	36	φ20
50	106.5	118	34.5	46	φ25
63	106.5	118	29.5	41	φ25

MQ2-L

Bore	J			J2			Q
	25,50st	75,100st	100st or more	25,50st	75,100st	100st or more	
40	81	98	118	15	32	52	φ16
50	93	114	134	21	42	62	φ20
63	93	114	134	16	37	57	φ20

Φ 12~63 Allowable lood/Torgue/Non-rotating acuracy

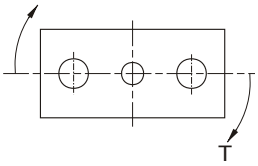
Allowable Lateral Load (Ordinary load)



(N)

Bore	Bearing type	Stroke(mm)											
		10	20	25	30	40	50	75	100	125	150	175	200
φ 12	Slide bearing	31	24		19	16	13	37	31				
	Linear ball bearing	23	17		14	34	30	23	19				
φ 16	Slide bearing	50	39		32	27	24	54	45				
	Linear ball bearing	36	29		24	59	52	40	33				
φ 20	Slide bearing		51		44	39	35	54	46	74	66	59	54
	Linear ball bearing		43		36	98	87	69	57	46	40	36	32
φ 25	Slide bearing		68		59	52	46	72	61	98	88	79	72
	Linear ball bearing		67		56	148	132	105	87	70	62	55	50
φ 32	Slide bearing			165			129	106	90	138	123	111	101
	Linear ball bearing			104			74	165	138	114	100	90	81
φ 40	Slide bearing			203			164	182	159				
	Linear ball bearing			113			78	129	106				
φ 50	Slide bearing			296			245	273	241				
	Linear ball bearing			120			83	178	148				
φ 63	Slide bearing			296			245	273	241				
	Linear ball bearing			117			81	176	145				

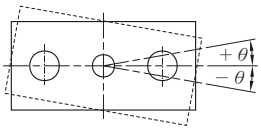
Allowable Rotational Torque of Plate



(N.m)

Bore	Bearing type	Stroke(mm)											
		10	20	25	30	40	50	75	100	125	150	175	200
φ 12	Slide bearing	0.64	0.48		0.39	0.32	0.28	0.75	0.63				
	Linear ball bearing	0.47	0.35		0.29	0.71	0.62	0.4	0.38				
φ 16	Slide bearing	1.14	0.9		0.74	0.63	0.55	1.23	1.04				
	Linear ball bearing	0.84	0.66		0.54	1.35	1.19	0.93	1.76				
φ 20	Slide bearing		1.14		1.21	1.07	0.95	1.49	1.25	2.03	1.81	1.63	1.48
	Linear ball bearing		1.19		0.99	2.69	2.4	1.89	1.56	1.26	1.1	0.98	0.88
φ 25	Slide bearing		2.19		1.88	1.65	1.47	2.31	1.94	3.15	2.8	2.52	2.3
	Linear ball bearing		2.14		1.79	4.74	4.22	3.36	2.78	2.25	1.98	1.76	1.59
φ 32	Slide bearing			6.61			5.16	4.23	3.59	5.52	4.93	4.45	4.06
	Linear ball bearing			4.17			2.95	6.6	5.52	4.56	4.02	3.59	3.24
φ 40	Slide bearing			7.00			5.66	6.27	5.48				
	Linear ball bearing			5.24			4.25	7.19	6.33				
φ 50	Slide bearing			13.0			10.8	12.0	10.6				
	Linear ball bearing			7.02			5.76	12.3	10.9				
φ 63	Slide bearing			14.7			12.1	13.5	12.0				
	Linear ball bearing			7.77			6.35	13.7	12.2				

Non-rotating Acuracy of Plate

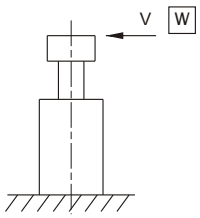


For non-rotating accuracy θ without load, use a value no more than the values in the table as a guide.

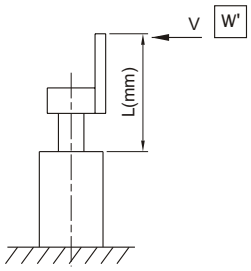
Bore	Bearing type	Non-rotating acuracy θ
φ 12	Slide bearing	±0.09°
	Linear ball bearing	±0.06°
φ 16	Slide bearing	±0.08°
	Linear ball bearing	±0.06°
φ 20	Slide bearing	±0.08°
	Linear ball bearing	±0.03°
φ 25	Slide bearing	±0.07°
	Linear ball bearing	±0.05°
φ 32	Slide bearing	±0.07°
	Linear ball bearing	±0.03°
φ 40	Slide bearing	±0.06°
	Linear ball bearing	±0.08°
φ 50	Slide bearing	±0.05°
	Linear ball bearing	±0.06°
φ 63	Slide bearing	±0.05°
	Linear ball bearing	±0.06°

Φ12~32 Operating Range when Used as Stopper and Lifter

Capacity for the use as a stopper

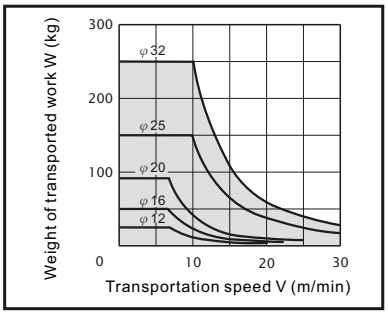


Linear ball bearing cannot be used as a stopper.



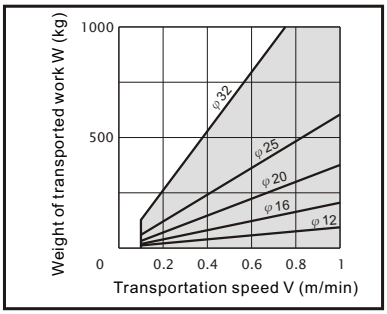
Stop capacity

MQ2-S...stroke 30mm



Normal lateral load

MQ2-S...stroke 30mm



$$W = W' \times \frac{L}{k}$$

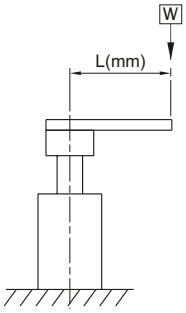
k=Coefficients for conversion :

MQ2 Series	φ12	φ16	φ20	φ25	φ32
k	40	42	42	42	44

W : The maximun weight of the work carrier in the above graph for the stopper`s capacity.

Operating Range when Used as Lifter

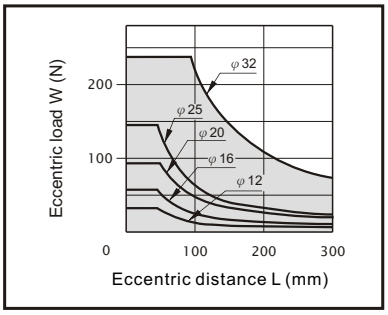
Allowable eccentricity load for the use as a lifter (at supply pressure0.5MPa)



Show the dynamic allowable value at L(mm) eccentricity from the center of the guide rod.

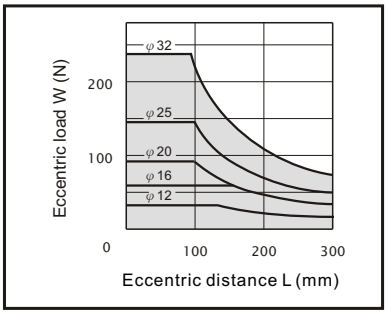
Slide bearing

MQ2-S...stroke 10-50mm



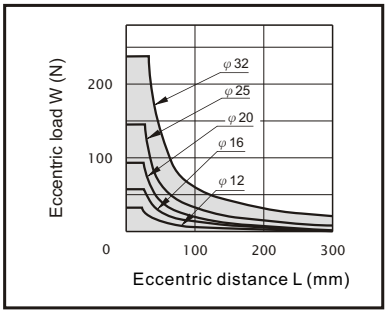
Slide bearing

MQ2-S...stroke 75-200mm



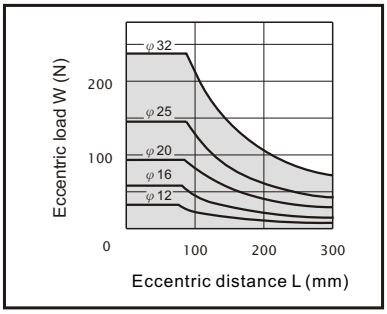
Slide bearing

MQ2-L...stroke 10-50mm



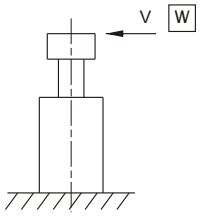
Slide bearing

MQ2-L...stroke 75-200mm



Φ40~63 Operating Range when Used as Stopper and Lifter

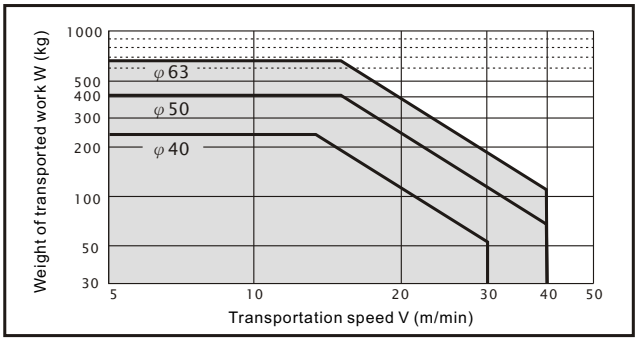
Capacity for the use as a stopper



Linear ball bearing cannot be used as a stopper.

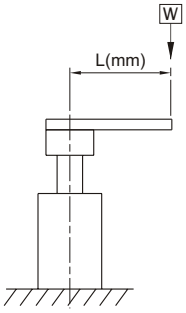
Stop capacity

MQ2-S...sktroke 25mm



Operating Range when Used as Lifter

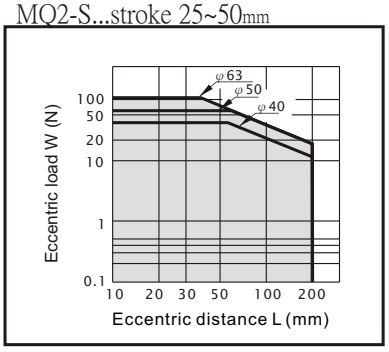
Allowable eccentricity load for the use as a lifter (at supply pressure0.5MPa)



Show the dynamic allowable value at L(mm) eccentricity from the center of the guide rod.

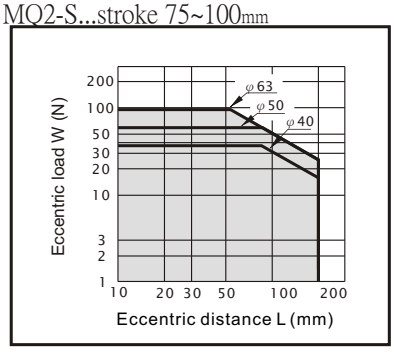
Slide bearing

MQ2-S...stroke 25~50mm



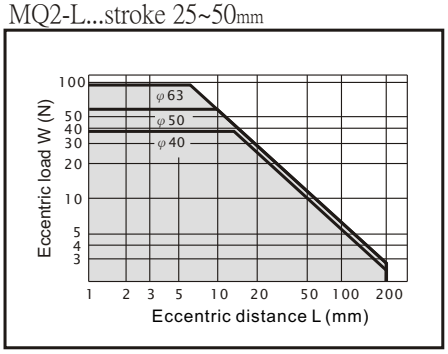
Slide bearing

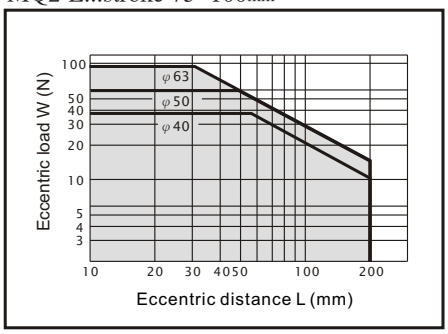
MQ2-S...stroke 75~100mm



Slide bearing

MQ2-L...stroke 25~50mm



Slide bearing

MQ2-L...stroke 75~100mm