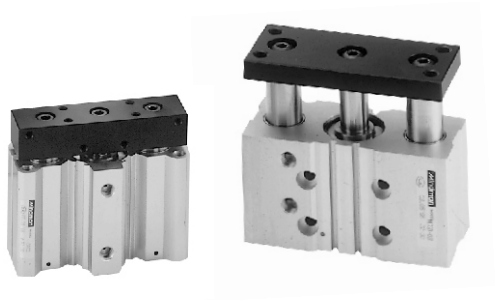
MCG* series Stop / Lift / Push

TWIN-GUIDE CYLINDER

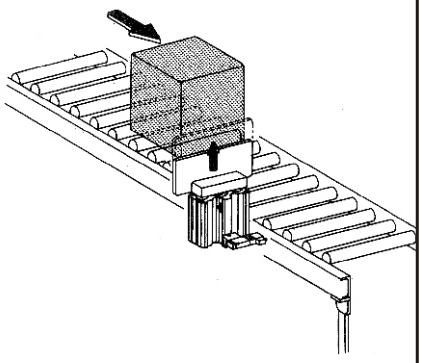


Several uses

- Stopper cylinder
- Lift cylinder
- Pusher cylinder

S-function

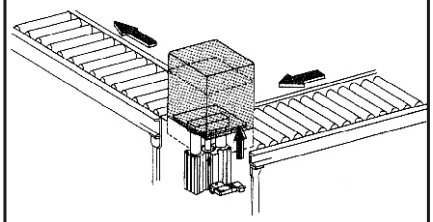
Stopper cylinder



Tough type of stopping a large-load work carrier at a fixed point, and for the straggle of a number of work carriers, etc.

L-function

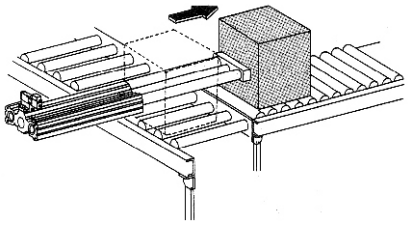
Lift cylinder



Special design which stands the large one-sided load. Lifts the work carrier at a fixed point not changing the posture.

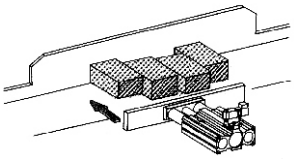
P-function

Pusher cylinder



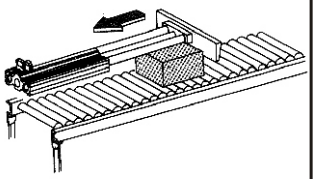
Long strokes available, the highly precise pushing work transfers and places a work carrier and changes the direction.

Multi purpose



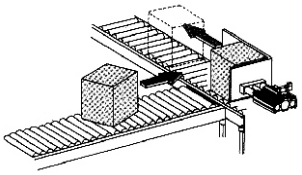
Arranges in line

Arranges the work carriers in line which have the same side face and which have been carried on the free flow line.



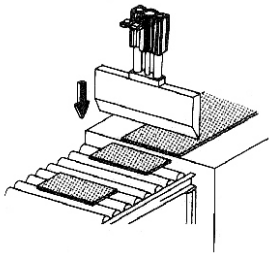
Draws in

Draws in the work carrier for the length of the stroke and slide it on the conveyor line.



Arranges the posture

Arranges the posture of a work carrier and push it out.



Cuts sheets

Can be used as a power source of sheets shearing machine.

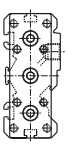
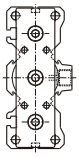
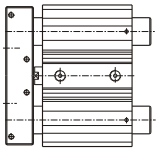
MCGA series Stop / Lift

TWIN-GUIDE CYLINDER

Features:

- Strong cylinder suitable for heavy load,for stopping work carriers of various sizes at a fixed position, and for stacking many work carriers, etc.
- The strong and thick guide rods sustain the unbalanced load.
- Designed for right-angled turn, positioning, and lifting on the conveyor line.

Specification:

Model	MCGA			
Model (Stop type view)	 Up view			
Acting type	Double acting			
Tube I.D. (mm)	20	32, 40	50, 63	80
Port size Rc(PT)	1/8		1/4	3/8
Medium	Air			
Operating pressure range	1~9.9 kgf/cm^2			
Proof pressure	15 kgf/cm^2			
Ambient temperature	−5~+60℃ (No freezing)			
Cushion	With rubber cushion pad			
Lubrication	Not required			
Sensor switch	RCB			

Order example:

MCGA − 03 − 20 − 50 − BSP

- MCGA: MODEL
- 03: PURPOSE / TYPE OF BEARING
- 20: TUBE I.D.
- 50: STROKE
- BSP: PORT THREAD

Code	Purpose / Type of bearing
03	Stop / Slide bearing
13	Lift / Linear bush bearing※
53	Lift / Slide bearing

※ Linear bush bearing type is not available as a stopper.

PORT THREAD
Blank: PT thread
BSP: BSP thread
NPT: NPT thread

Table for standard stroke

Series variety	Bearing type	Tube I.D.	Stroke (mm) 30	50	75	100	200	300	400	500	600	700
MCGA -03	Slide bearing	ϕ20	●	●	●	●						
		ϕ32	●	●	●	●						
		ϕ40	●	●	●	●						
		ϕ50	●	●	●	●						
		ϕ63	●	●	●	●						
		ϕ80	●	●	●	●						
MCGA -13	Linear bush bearing	ϕ20	●	●	●	●						
		ϕ32	●	●	●	●						
		ϕ40	●	●	●	●						
		ϕ50		●	●	●						
		ϕ63			●	●						
		ϕ80			●	●						
MCGA -53	Slide bearing	ϕ20	●	●	●	●						
		ϕ32	●	●	●	●						
		ϕ40	●	●	●	●						
		ϕ50	●	●	●	●						
		ϕ63	●	●	●	●						
		ϕ80	●	●	●	●						

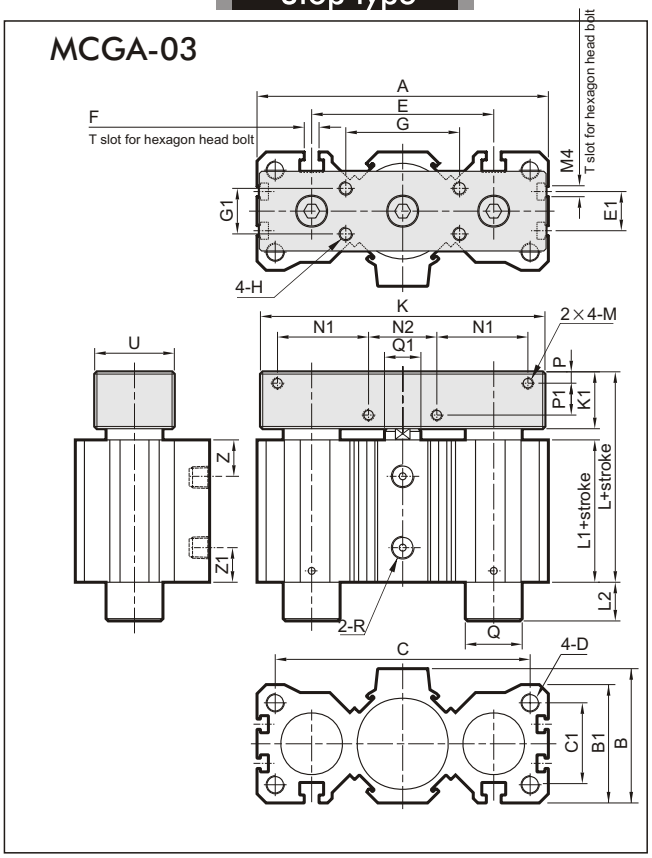
- The other stroke lengths that fall in the range betwwen our standard strokes will be manufacture by the next large standard stroke with additional spacer.
  ex: The 40mm stroke length will be made by 50mm stroke with additional spacer.
- Stroke out of specification is also available.
- Please consult us if stroke exceed 100mm.

MCGA

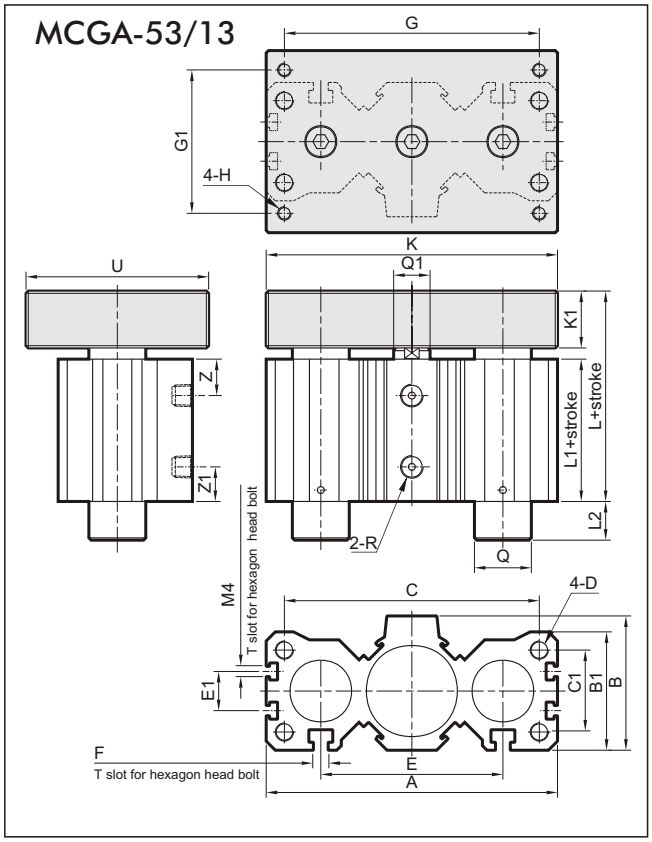
TWIN-GUIDE CYLINDER

Mindman

Stop type



Life type



MCGA-03

Code / Tube I.D.	A	B	B1	C	C1	D	E	E1	F	G	G1	H	K	K1	L	L1	M	N1	N2	P	P1	Q	Q1	R	U	Z	Z1
20	75	34	32	63	20	M5×0.8×15dp	45	-	M4	32	16	M5×0.8×10dp	75	15	54	36	M4×0.7×8dp	22.5	20	4	6	ϕ12	ϕ10	PT 1/8	25	11	10
32	106	51.5	45	90	30	M8×1.25×20dp	63	-	M6	40	18	M6×1.0×12dp	100	20	66.5	41.5	M5×0.8×10dp	32	25	5	9	ϕ20	ϕ16	PT 1/8	30	12	12
40	128	59	52	112	36	M8×1.25×20dp	80	-	M6	50	20	M6×1.0×12dp	125	25	81	51	M5×0.8×10dp	40	30	5	14	ϕ25	ϕ16	PT 1/8	35	16	16.5
50	150	69	62	132	45	M10×1.5×25dp	100	20	M8	63	25	M8×1.25×16dp	140	30	87	52	M6×1.0×12dp	37.5	50	6	16	ϕ30	ϕ20	PT 1/4	40	16	17.5
63	180	87	78	156	53	M12×1.75×30dp	118	25	M10	80	40	M10×1.5×20dp	175	35	100	60	M8×1.25×16dp	47.5	60	9	16	ϕ35	ϕ20	PT 1/4	60	17.5	21
80	243	110	100	212	71	M16×2.0×40dp	160	30	M12	106	56	M10×1.5×20dp	224	40	110.5	62.5	M10×1.5×20dp	60	80	10	18	ϕ45	ϕ25	PT 3/8	75	22	19.5

MCGA-53/13

Code / Tube I.D.	G	G1	K	Q	U
20	63	32	75	ϕ12(ϕ8)	45
32	90	50	106	ϕ20(ϕ13)	70
40	112	63	128	ϕ25(ϕ16)	80
50	132	71	150	ϕ30(ϕ20)	100
63	150	85	175	ϕ35(ϕ25)	110
80	212	125	236	ϕ45(ϕ35)	150

( ) :For MCGA-13 type

L2 dimensions list

MCGA-03/53

Tube I.D.	Stroke (mm)			
	30	50	75	100
20	0	17	17	17
32	0	18.5	18.5	18.5
40	0	0	22	22
50	0	0	18	18
63	20	20	20	20
80	0	0	38.5	38.5

MCGA-13

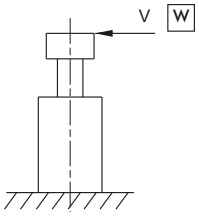
Tube I.D.	Stroke (mm)			
	30	50	75	100
20	18	18	18	18
32	29.5	29.5	29.5	29.5
40	30	30	30	30
50		39	39	39
63		6	6	6
80		16	16	16

MCGA-03 Stop type

TWIN-GUIDE CYLINDER

Capacity graph

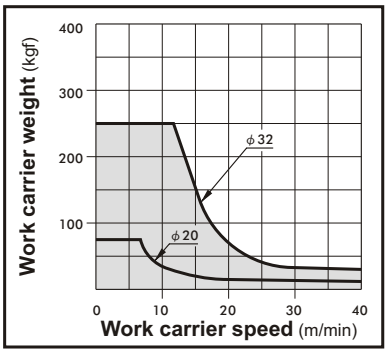
Capacity for the use as a stopper~



Linear bush bearing type is not available as a stopper.

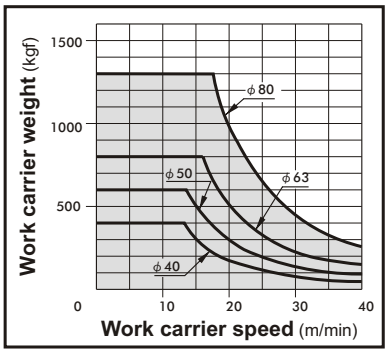
Stop capacity

MCGA-03 ϕ20, ϕ32-30st



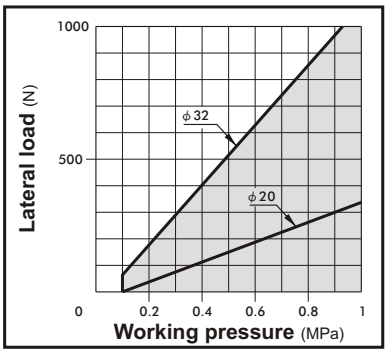
Stop capacity

MCGA-03 ϕ40, ϕ50, ϕ63, ϕ80-50st



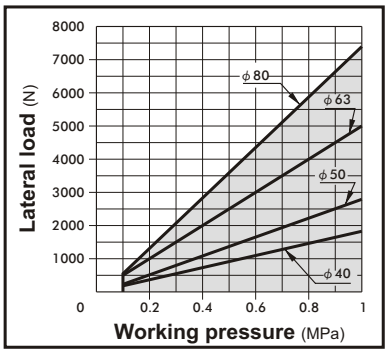
Normal lateral load

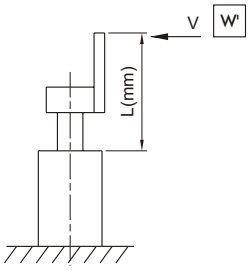
MCGA-03 ϕ20, ϕ32-30st



Normal lateral load

MCGA-03 ϕ40, ϕ50, ϕ63, ϕ80-50st





For the use of attaching a plate to the link bar, choose a bore size referring to the formula below.

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

Coefficients for conversion

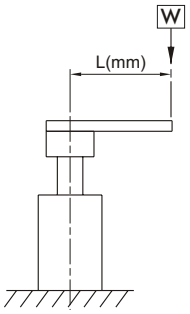
MCGA series	ϕ20	ϕ32	ϕ40	ϕ50	ϕ63	ϕ80
ℓ	48	55	80	85	90	98

W: The maximum weight of the work carrier in the above graph for the stopper's

Capacity graph

Capacity for the use as a lifter~

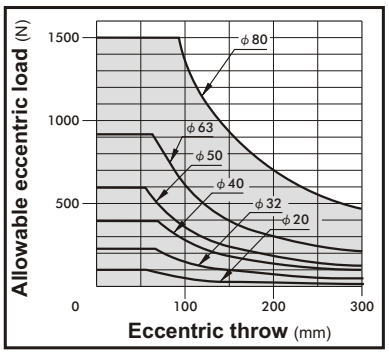
Allowable eccentricity load for the use as a lifter (at supply pressure 0.5MPa)



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

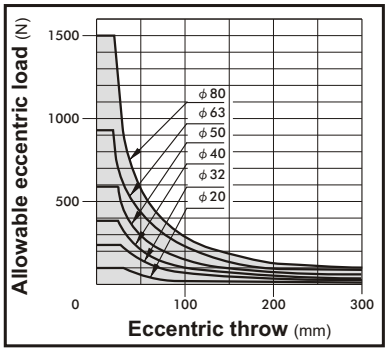
Linear bush bearing

MCGA-13... ϕ20, ϕ32-30~100st
MCGA-13... ϕ40, ϕ50, ϕ63, ϕ80-50~100st



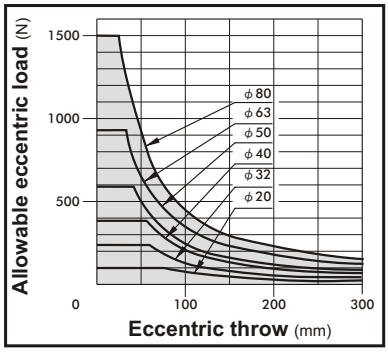
Slide bearing

MCGA-53... ϕ20, ϕ32-30st
MCGA-53... ϕ40, ϕ50, ϕ63, ϕ80-50st



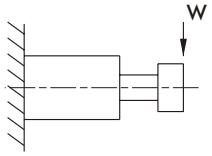
Slide bearing

MCGA-53... ϕ20, ϕ32-50~100st
MCGA-53... ϕ40, ϕ50, ϕ63, ϕ80-75~100st



Capacity table

Allowable lateral load :

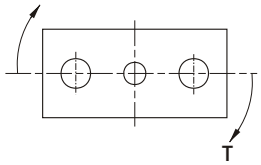


Shows the dynamic allowable value, when actuating the cylinder with lateral load W at the guide rods' top (vertical load against the guide rods).

(N)

Tube I.D.	Bearing type	Stroke (mm)			
		30	50	75	100
ϕ 20	Slide bearing	58.84	88.26	73.55	58.84
	Linear bush bearing	78.45	63.74	49.03	39.23
ϕ 32	Slide bearing	117.7	147.1	117.7	98.07
	Linear bush bearing	156.9	127.5	98.07	78.45
ϕ 40	Slide bearing		147.1	166.7	137.3
	Linear bush bearing		225.6	186.3	156.9
ϕ 50	Slide bearing		147.1	176.5	147.1
	Linear bush bearing		245.2	196.1	166.7
ϕ 63	Slide bearing		215.7	274.6	215.7
	Linear bush bearing			323.6	284.4
ϕ 80	Slide bearing		245.2	294.2	245.2
	Linear bush bearing			588.4	539.4

Allowable rotating torque :

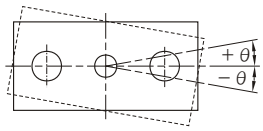


Shows the dynamic allowable value, when actuating the cylinder with a rotating torque T at the guide rods' top.

(N.m)

Tube I.D.	Bearing type	Stroke (mm)			
		30	50	75	100
ϕ 20	Slide bearing	0.686	0.981	0.785	0.686
	Linear bush bearing	0.883	0.686	0.539	0.441
ϕ 32	Slide bearing	2.059	2.55	2.059	1.765
	Linear bush bearing	4.609	2.157	1.765	1.471
ϕ 40	Slide bearing		3.628	3.727	3.236
	Linear bush bearing		4.609	3.825	3.236
ϕ 50	Slide bearing		4.315	5.099	4.511
	Linear bush bearing		6.865	5.786	4.903
ϕ 63	Slide bearing		6.276	8.041	6.276
	Linear bush bearing			9.512	8.336
ϕ 80	Slide bearing		10.79	13.73	12.75
	Linear bush bearing			27.46	24.52

Anti-roll accuracy :



- The values are the deflection angle against the piston rod.
- Exclusive factor of the guide rods' deflection.

Tube I.D.	Bearing type	Anti-roll accuracy
		θ
ϕ 20	Slide bearing	±0.08°
	Linear bush bearing	±0.03°
ϕ 32	Slide bearing	±0.07°
	Linear bush bearing	±0.03°
ϕ 40	Slide bearing	±0.06°
	Linear bush bearing	±0.03°
ϕ 50	Slide bearing	±0.05°
	Linear bush bearing	±0.02°
ϕ 63	Slide bearing	±0.05°
	Linear bush bearing	±0.02°
ϕ 80	Slide bearing	±0.04°
	Linear bush bearing	±0.02°