

DOUBLE ACTING PNEUMATIC CYLINDERS SERIES MCGS TWIN GUIDE



Cylinders series MCGS are due to heavy integrated bearing predetermined for applications, where is lateral load or torsional moment. It is possible to use them as stopper cylinders, where the slide bearing is used, or as push or lift cylinders, where the linear bush bearing is used. Cylinders are equipped with magnet for proximity switches. There is no adjustable cushioning, for cushioning at the end positions the rubber pad is used. Cylinders series MCGS are with compact design. The air connection is possible from two sides (from the top and side).

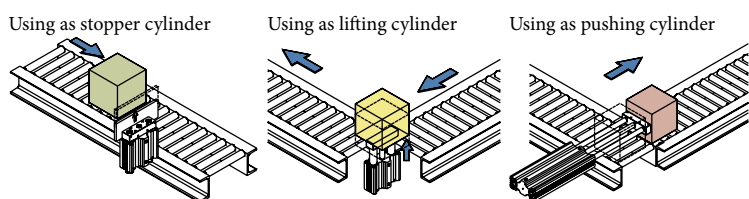
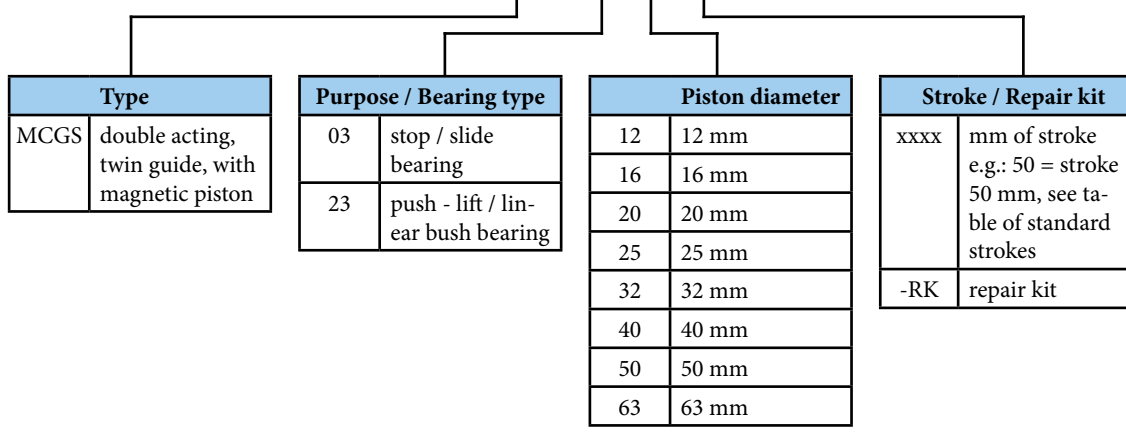
Working pressure	0,6 MPa
Min. pressure	0,1 MPa
Max. pressure	1,0 MPa
Temp. range	-5°C to +60°C
Working medium	modified compressed air

Piston diameter [mm]	12	16	20	25	32	40	50	63
Thrust at 0.6 MPa [N]	66	121	188	295	482	754	1178	1870
Return force at 0.6 MPa [N]	50	90	141	226	361	633	989	1681
Connection	M5	M5	G1/8"	G1/8"	G1/8"	G1/8"	G1/4"	G1/4"
Max. stroke [mm]	250*	250*	400*	400*	400*	400*	400*	150*

*) Please consult our technical dept. if you require other than standard stroke (see table below)

Order codes

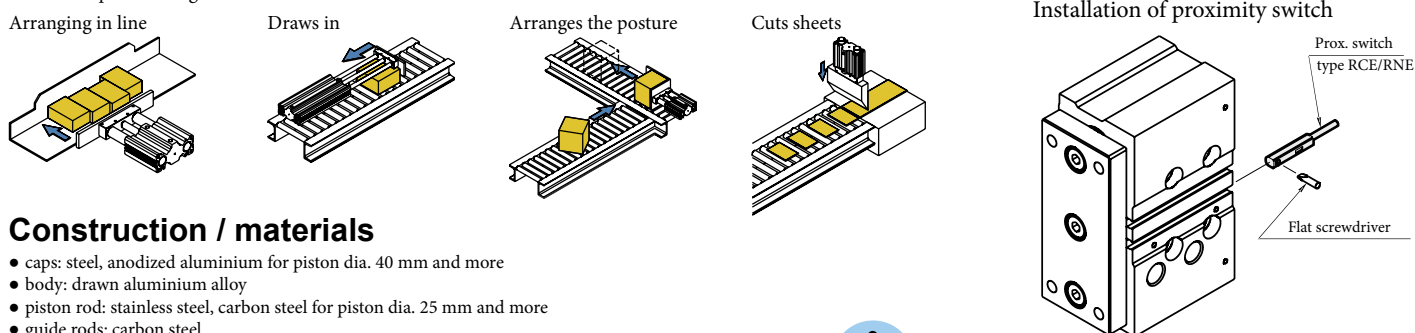
P MCGS 03 12 50



Piston Ø [mm]	Standard stroke [mm]*
12, 16	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250
20, 25	20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
32, 40, 50	25, 50, 75, 100, 125, 150, 175, 200, 250, 300, 350, 400
63	25, 50, 75, 100, 125, 150

*) Please consult us if stroke is out of specification

More examples of using:



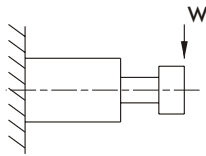
Construction / materials

- caps: steel, anodized aluminium for piston dia. 40 mm and more
- body: drawn aluminium alloy
- piston rod: stainless steel, carbon steel for piston dia. 25 mm and more
- guide rods: carbon steel
- plate: steel
- bearing: brass alloy for slide bearing, linear bush bearing



In case of proximity sensing request, please use switches series RCE/RPE/RNE - see page 3-8 for detail

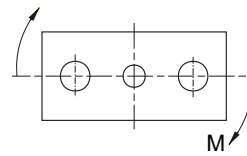
**Allowable load
Allowable lateral load**



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

Stroke	Type	Piston diameter							
		12	16	20	25	32	40	50	63
10	03	31	50	—	—	—	—	—	—
	23	23	36	—	—	—	—	—	—
20	03	24	39	51	68	—	—	—	—
	23	17	29	43	67	—	—	—	—
25	03	—	—	—	—	165	203	296	296
	23	—	—	—	—	104	113	120	117
30	03	19	32	44	59	—	—	—	—
	23	14	24	36	56	—	—	—	—
40	03	16	27	39	52	—	—	—	—
	23	34	59	98	148	—	—	—	—
50	03	13	24	35	46	129	164	245	245
	23	30	52	87	132	74	78	83	81
75	03	37	54	54	72	106	182	273	273
	23	23	40	69	105	165	129	178	176
100	03	31	45	46	61	90	159	241	241
	23	19	33	57	87	138	106	148	145
125	03	15	27	74	98	138	142	216	216
	23	12	20	46	70	114	130	148	145
150	03	13	24	66	88	123	127	195	195
	23	11	17	40	62	100	114	129	126
175	03	12	21	59	79	111	190	190	—
	23	9	15	36	55	90	106	106	—
200	03	10	19	54	72	101	174	174	—
	23	8	13	32	50	81	95	95	—
250	03	9	16	28	53	88	150	150	—
	23	6	10	32	42	66	78	78	—
300	03	—	—	24	46	77	132	132	—
	23	—	—	27	36	56	67	67	—
350	03	—	—	21	41	68	118	118	—
	23	—	—	23	30	48	58	58	—
400	03	—	—	19	37	61	106	106	—
	23	—	—	20	27	42	50	50	—

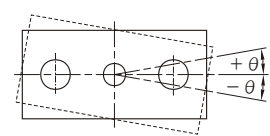
Allowable rotating torque



Shows the dynamic allowable value, when actuating the cylinder with a rotating torque M at the guide rod's top.

Stroke	Type	Piston diameter							
		12	16	20	25	32	40	50	63
10	03	0.64	1.14	—	—	—	—	—	—
	23	0.47	0.84	—	—	—	—	—	—
20	03	0.48	0.90	1.14	2.19	—	—	—	—
	23	0.35	0.66	1.19	2.14	—	—	—	—
25	03	—	—	—	—	6.61	7.00	13.0	14.7
	23	—	—	—	—	4.17	5.24	7.02	7.77
30	03	0.39	0.74	1.21	1.88	—	—	—	—
	23	0.29	0.54	0.99	1.79	—	—	—	—
40	03	0.32	0.63	1.07	1.65	—	—	—	—
	23	0.71	1.35	2.69	4.74	—	—	—	—
50	03	0.28	0.55	0.95	1.47	5.16	5.66	10.8	12.1
	23	0.62	1.19	2.40	4.22	2.95	4.25	5.76	3.35
75	03	0.75	1.23	1.49	2.31	4.23	6.27	12.0	13.5
	23	0.40	0.93	1.89	3.36	6.60	7.19	12.3	13.7
100	03	0.63	1.04	1.25	1.94	3.59	5.48	10.6	12.0
	23	0.38	1.76	1.56	2.78	5.52	6.33	10.9	12.2
125	03	0.15	0.31	2.03	3.15	5.52	4.87	9.50	10.7
	23	0.13	0.23	1.26	2.25	4.56	7.81	11.2	12.5
150	03	0.13	0.27	1.81	2.8	4.93	4.38	8.60	6.69
	23	0.11	0.19	1.10	1.98	4.02	7.11	10.2	11.4
175	03	0.12	0.24	1.63	2.52	4.45	5.21	5.88	—
	23	0.09	0.17	0.98	1.76	3.59	2.93	3.30	—
200	03	0.11	0.22	1.48	2.3	4.06	4.79	5.41	—
	23	0.08	0.15	0.88	1.59	3.24	2.61	2.94	—
250	03	0.09	0.18	0.37	0.85	1.72	4.13	4.66	—
	23	0.07	0.12	0.43	0.68	1.29	2.16	2.43	—
300	03	—	—	0.32	0.74	1.50	3.63	4.09	—
	23	—	—	0.36	0.57	1.09	1.83	2.06	—
350	03	—	—	0.29	0.66	1.33	3.23	3.65	—
	23	—	—	0.31	0.49	0.94	1.58	1.78	—
400	03	—	—	0.26	0.59	1.20	2.92	3.29	—
	23	—	—	0.27	0.42	0.82	1.39	1.57	—

Anti-roll accuracy



The value are the deflection angle against the piston rod. Deflection of a guide rods is not included.

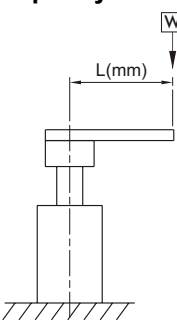
Type	Piston dia. [mm]		
	12	16	20
03	±0.09°	±0.08°	±0.08°
23	±0.06°	±0.06°	±0.03°

Type	Piston dia. [mm]		
	25	32	40
03	±0.07°	±0.07°	±0.06°
23	±0.05°	±0.03°	±0.08°

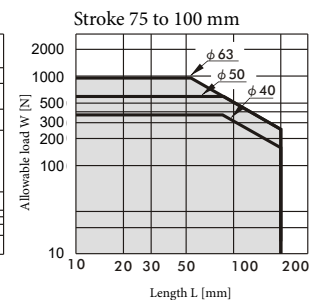
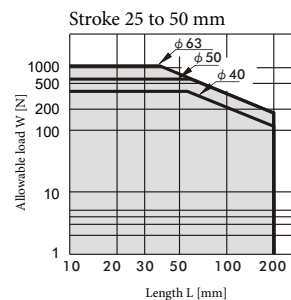
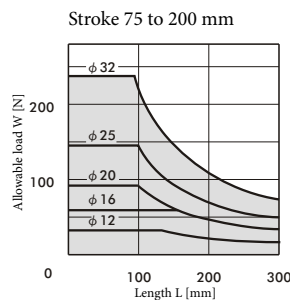
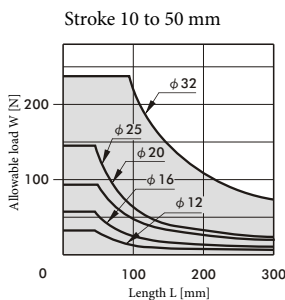
Type	Piston dia. [mm]	
	50	63
03	±0.05°	±0.05°
23	±0.06°	±0.06°

Capacity for use as lifter

Allowable eccentricity load W [N] for the use as lifter at supply pressure 0.5 MPa.

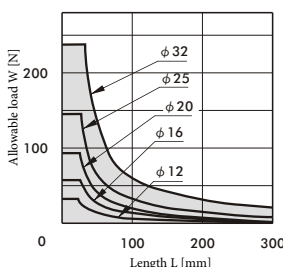


Type 03 - slide bearing

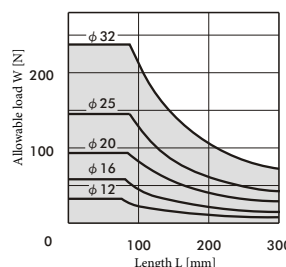


Type 23 - linear bush bearing

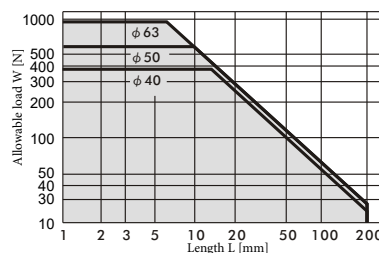
Stroke 10 to 50 mm



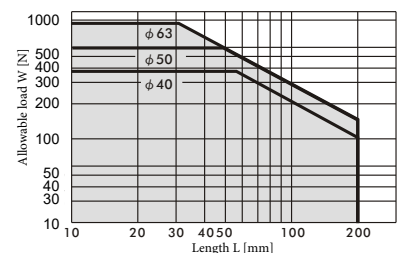
Stroke 75 to 200 mm



Stroke 25 to 50 mm



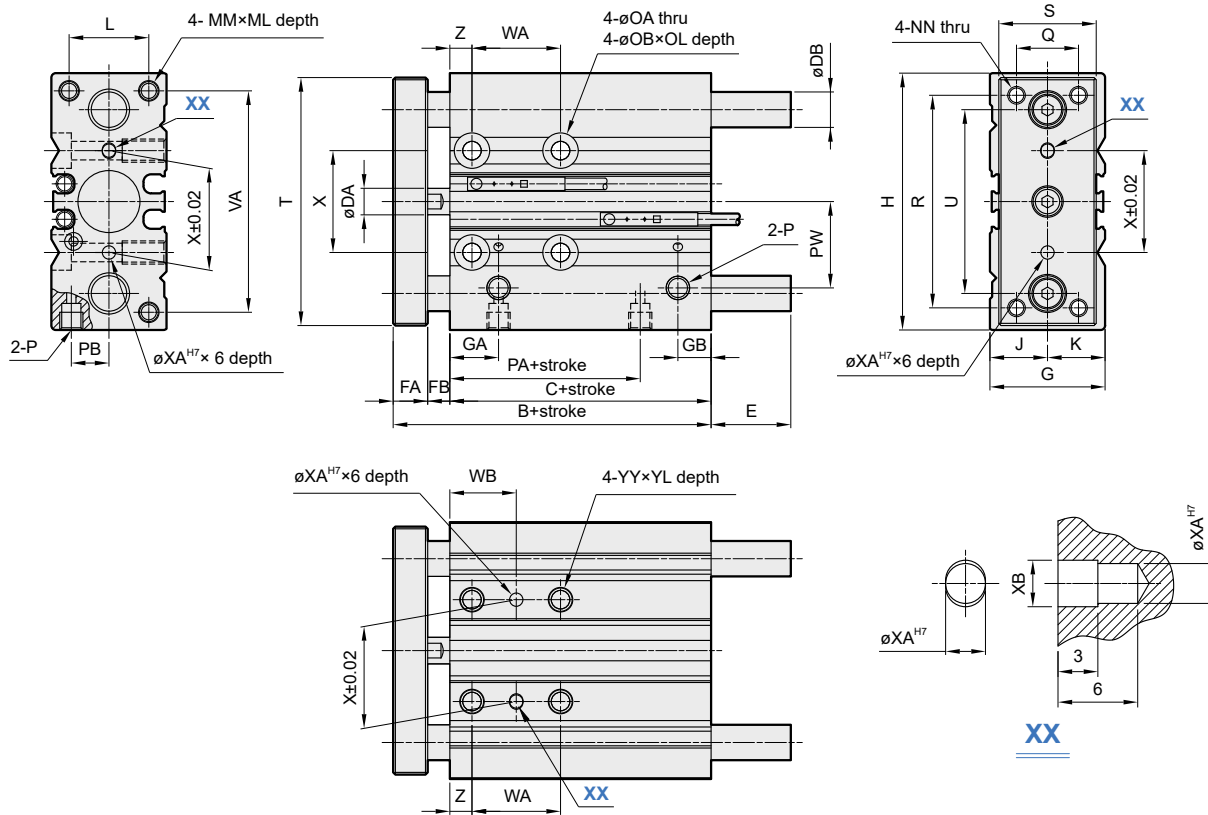
Stroke 75 to 100 mm



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Diameters

Piston diameter 12 to 32 mm - series MCGS



Back side

∅	B	C	DA	DB type 03	DB type 23	FA	FB	G	GA	GB	H	J	K	L	MM	ML	NN	OA	OB	OL	P	PA	PB	PW	Q	R	S
12	42	29	6	8	6	8	5	26	11	15 ^{*1}	58	13	13	18	M4	10	M4	4.3	8	4.5	M5	14	8.5	18	14	48	22
16	46	33	8	10	8	8	5	30	11	18 ^{*2}	64	15	15	22	M5	12	M5	4.3	8	4.5	M5	15	10	19	16	54	25
20	53	37	10	12	10	10	6	36	10.5	8.5	85	17	19	24	M5	13	M5	5.2	9.5	5.5	G1/8 ⁶	12.5	11.5	25	18	70	30
25	53.5	37.5	12	16	13	10	6	42	11.5	9	96	21	21	30	M6	15	M6	5.2	9.5	5.5	G1/8 ⁶	12.5	13.5	28.5	26	78	38
32	59.5	37.5	16	20	16	12	10	51	12.5	9	116	26	25	34	M8	20	M8	6.6	11	7.5	G1/8 ⁶	7	16	34	30	96	44

*1) for stroke up to 20 mm, the value of GB=7.5 mm

*2) for stroke up to 20 mm, the value of GB=9 mm

∅	T	U	VA	X	XA	XB	YY	YL	Z
12	56	41.5	50	23	3	3.5	M5	10	5
16	62	46	56	24	3	3.5	M5	10	5
20	81	55	72	28	3	3.5	M6	12	17
25	91	65	82	34	4	4.5	M6	12	17
32	110	80	98	42	4	4.5	M8	16	21

∅	WA for stroke					WB for stroke				
	10-39	40-100	125-200	201-300	301-	10-39	40-100	125-200	201-300	301-
12	20	40	110	200	—	15	25	60	105	—
16	24	44	110	200	—	17	27	60	105	—
20	24	44	120	200	300	29	39	77	117	167
25	24	44	120	200	300	29	39	77	117	167

∅	E type 03, for stroke			
	10-50	51-100	101-200	201-
12	—	18.5	43	43
16	—	18.5	49	49
20	—	31.5	31.5	69
25	—	31.5	31.5	68.5
32	37.5	42.5	42.5	80.5

∅	WA for stroke					WB for stroke				
	25-49	50-100	125-200	201-300	301-	25-49	50-100	125-200	201-300	301-
32	24	48	124	200	300	33	45	83	121	171

∅	E type 23, for stroke			
	10-30	31-100	101-200	201-
12	1	13	43	43
16	3	19	49	49
20	10	27	51	69
25	16	32	51	68.5
32	21.5	38.5	58.5	80.5

