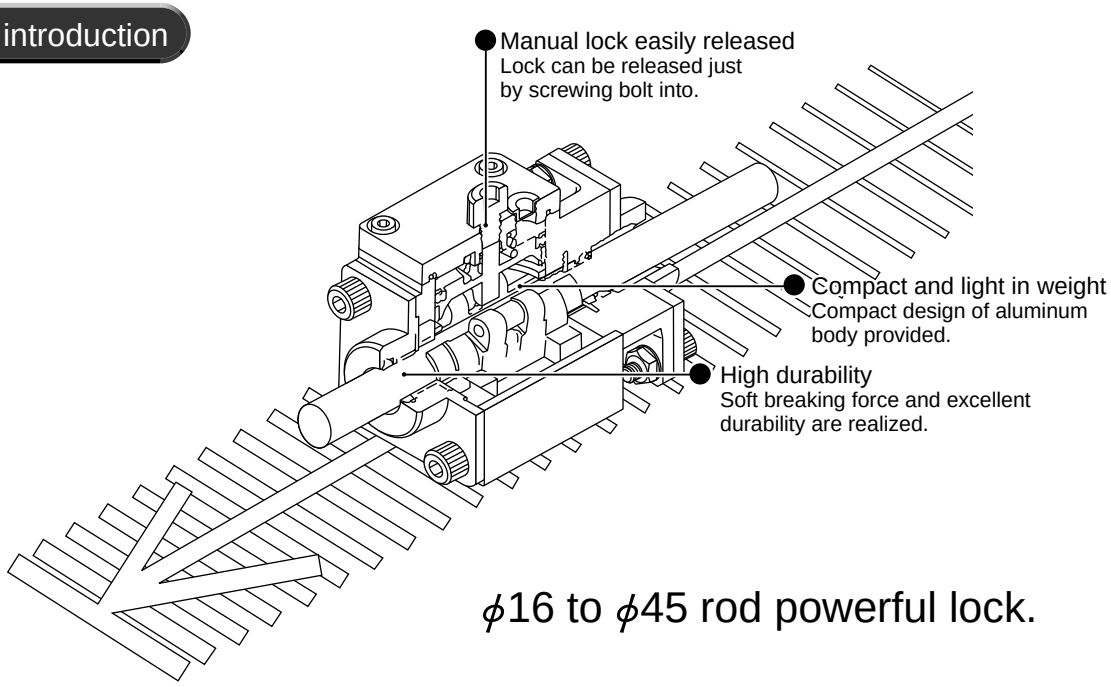
●: Standard, ◎: Option

Model no.	Rod diameter (mm)	Rod length (mm)									Mounting style		Page
		200	300	400	500	600	700	800	900	1000	Axial foot type LB	Flange type FA	
JSB3 	ϕ16, ϕ20, ϕ25, ϕ30, ϕ35, ϕ40, ϕ45	●	●	●	●	●	●	●	●	●	◎	◎	1428

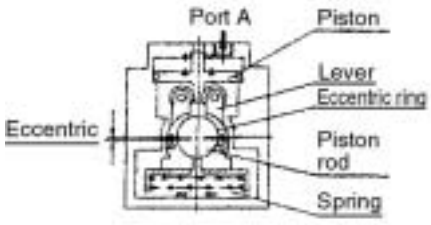
Product introduction



ϕ16 to ϕ45 rod powerful lock.

Operational principle

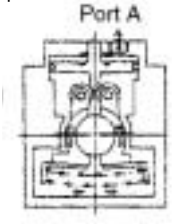
● Brake release activation principle



ⓐ Brake release operational principle

Supplied air to Port A pushes the bottom of piston. The piston opens the lever and directly connected eccentric ring turns to each arrow direction. This makes the piston rod free.

● Brake operational principle



ⓑ Brake operational principle

Exhaust air from port A allows rotation of eccentric ring to arrow direction by spring force. This generates an eccentric load against the piston rod and applies brake to the piston rod.

Pneumatic components

Safety precautions

Always read this section before starting use.
Refer to Intro 71 for general precautions of the cylinder, and to Intro 78 for general precautions of the cylinder switch.

Brake unit JSB3 Series

Design & Selection

⚠ WARNING

■ Use a rod with a surface roughness between 1.2 and 1.6μ m Ry. When a non-standard rod is used, the brake shoe metal may wear abnormally, or the holding force may drop.

■ Use a rod treated with industrial chromium plating (coating thickness of 15μ m and over).

⚠ CAUTION

■ Connect with spherical bearings (floating joints) to prevent damage to the screw at the rod end, to prevent wear or seizure in the brake unit, and to prevent twisting of the rod and brake unit at any position during movement.

■ As shown in Fig. 1, the brake unit is fixed to the table, so keep the rod parallel to the direction of table movement.

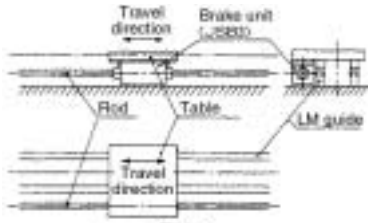


Fig.1

■ Do not use this brake unit for braking of a rotating rod.

■ Note that stopping accuracy is adversely affected if the brake unit air supply pipe is too long.

■ Do not apply lateral load moment to brake units when using in a horizontal state.

Installation & Adjustment

⚠ CAUTION

■ Check that load is applied axially on the rod.

■ Handle carefully to prevent scratching or denting the unit.
Rough handling may result in abnormal wear of brake shoe metal or a drop in holding force.

During Use & Maintenance

⚠ WARNING

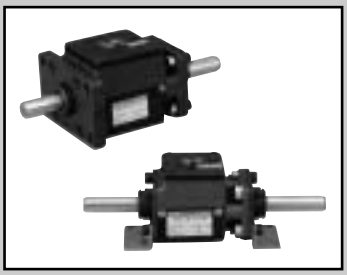
■ Do not disassemble the brake section, or a hazardous situation may occur.

■ Do not apply grease.
Applying grease may result in a drop in holding force.

■ For safety purposes, prevent the load from dropping under its own weight during maintenance.

⚠ CAUTION

■ Make sure that water and oil do not get on the brake unit and rod section.
Water may cause corrosion and ultimately lead to malfunctioning.
Oil may adversely affect holding force and stopping accuracy.



Brake unit

JSB3 Series

● Rod diameter: ϕ16, ϕ 20, ϕ 25, ϕ 30, ϕ 35, ϕ 40, ϕ 45

RoHS

Specifications

Descriptions		JSB3								
Rod diameter symbol		16	20	20A	25	30	35	35A	40	45
Working fluid		Compressed air								
Max. working pressure	MPa	1.0								
Min. working pressure	MPa	0.3								
Withstanding pressure	MPa	1.6								
Ambient temperature range	℃	-10 to 60 (no freezing)								
Port size		Rc1/8		Rc1/4		Rc3/8	Rc1/2			
Working rod speed	mm/s	10 to 1000								
Lubrication		Not available								
Stoppage accuracy	mm	± 1.0 (rod speed 300mm/s, loadless) (Note 1)								
Holding force	N	980	1569	2451	3922	6178	9600	12000	15800	20000
Rod diameter and tolerance	mm	ϕ16f7	ϕ20f7		ϕ25f7	ϕ30f7	ϕ35f7		ϕ40f7	ϕ45f7
Rod roughness on surface	μmRy	1.2 to 1.6								
Product weight	LB	1.8	2.5	3.7	6.7	11.6	18.5	20.3	33.0	44.0
kg	FA	1.8	2.5	4.1	7.3	12.1	20.3	26.4	36.8	51.5

Note 1: The stopping accuracy will stop if the brake valve is separated. The above values apply for a piping length of 1m or less.
Note 2: Brake valves are also available. Contact CKD for more information.

How to order

JSB3 — LB — 16 — 500

Ⓐ Mounting style

Ⓑ Rod diameter
Note 1

Ⓒ Rod length
Note 2
Note 3

Symbol	Descriptions
Ⓐ Mounting style	
LB	Axial foot type
FA	Flange type

Ⓑ Rod diameter (mm)			
Symbol	Rod dia.	Applicable cylinder	
16	ϕ16	JSC3-40	(980)
20	ϕ20	JSC3-50	(1569)
20A	ϕ20	JSC3-63	(2451)
25	ϕ25	JSC3-80	(3922)
30	ϕ30	JSC3-100	(6178)
35	ϕ35	JSC3-125	(9600)
35A	ϕ35	JSC3-140	(12000)
40	ϕ40	JSC3-160	(15800)
45	ϕ45	JSC3-180	(20000)

Ⓒ Rod length (mm)	
Blank	Not attached
200	200
300	300
400	400
500	500
600	600
700	700
800	800
900	900
1000	1000

⚠ Note on model no. selection

Note 1: Values in ( ) are holding force N.
Note 2: Available per 100mm increment up to 3000mm.
Note 3: Rod length indicates overall length of rod.
This is not stroke length.

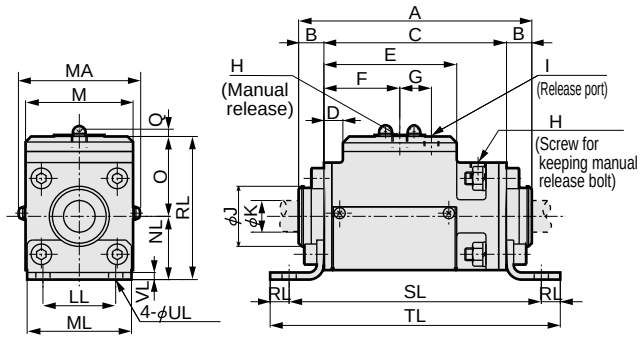
<Example of model number>

JSB3-LB-16-500

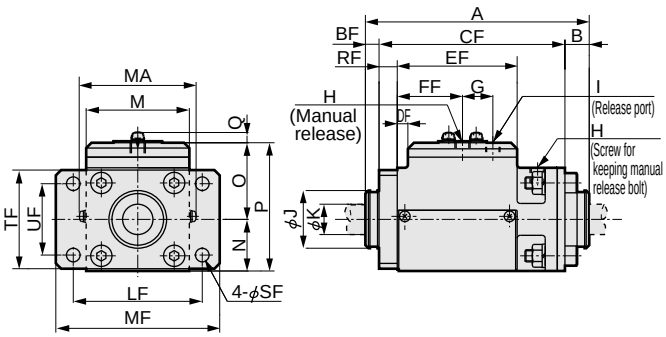
Model: Brake unit
Ⓐ Mounting style : Axial foot type
Ⓑ Rod diameter : ϕ16mm
Ⓒ Rod length : 500mm

Dimensions

● Axial foot type (LB) ϕ16 to ϕ30



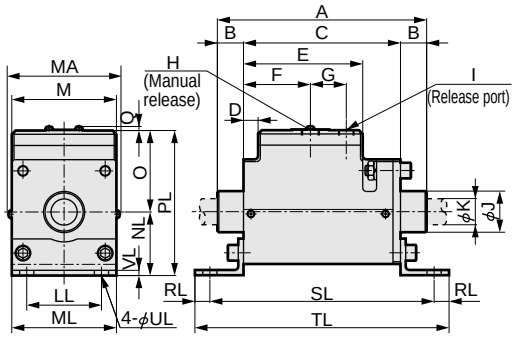
● Rod end flange type (FA) ϕ16 to ϕ30



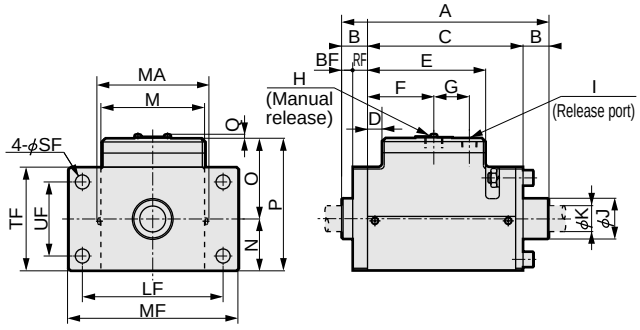
Symbol / Rod diameter symbol	A	B	BF	C	CF	D	DF	E	EF	F	FF	G	H	I	J	K	LL	LF
ϕ16	129	15	7	99	107	9	5	70	66	40	36	20	M10	Rc1/8	31	16	40	80
ϕ20	147.5	16	9	115.5	122.5	12	7	84	79	48	43	20	M10	Rc1/8	38	20	46	85
ϕ20A	164	16	8	132	140	13	5	99	91	56	48	27	M12	Rc1/4	38	20	60	106
ϕ25	186.5	17.5	4.5	151.5	164.5	13	7	119	113	66	60	27	M14	Rc1/4	43	25	74	125
ϕ30	243	26	13.5	191	203.5	17.5	11	149.5	143	83.5	77	35	M16	Rc3/8	51	30	80	144

Symbol / Rod diameter symbol	ML	MF	NL	N	O	PL	P	Q	RL	RF	SL	SF	TL	TF	UL	UF	VL	M	MA
ϕ16	57	100	40	28.5	46	86	74.5	5	10	12	138	9	158	57	9	40	3.2	57	66
ϕ20	66	108	40	34	50.5	90.5	84.5	5	12	12	159.5	9	183.5	65	9	47	4.5	68	77
ϕ20A	80	130	50	40	54	104	94	5	12	16	192	11	216	80	11	60	4.5	80	89
ϕ25	98	153	60	49	66	126	115	5	14	19	225.5	14	253.5	98	14	74	6.0	98	107
ϕ30	118	180	67	59	74	141	133	5	21	19	253	14	295	118	14	88	6.0	118	127

● Axial foot type (LB) ϕ35 to ϕ45



● Rod end flange type (FA) ϕ35 to ϕ45



Symbol / Rod diameter symbol	A	B	BF	C	D	E	F	G	H	I	J	K	LF	LL	M	MA	MF
ϕ35	280	35	15	210	19.5	159.5	89.5	48	M24	Rc1/2	55	35	190	100	140	150	230
ϕ35A	296	35	15	226	18.5	175.5	97	50	M24	Rc1/2	55	35	212	112	157	167	250
ϕ40	356	48	26	260	23	200	111.5	58	M24	Rc1/2	62.5	40	236	118	177	190	280
ϕ45	385	53	28	279	14	214	114	70	M24	Rc1/2	68.5	45	265	132	200	213	310

Symbol / Rod diameter symbol	ML	NL	N	O	PL	P	Q	RF	RL	SL	SF	TL	TF	UL	UF	VL
ϕ35	140	85	70	109	194	179	5	20	20	300	19	340	140	19	100	7
ϕ35A	157	100	78.5	116.5	216.5	195	5	20	20	326	19	366	157	19	112	8
ϕ40	177	106	88.5	128	234	216.5	5	22	20	366	19	406	177	19	118	10
ϕ45	200	125	100	148	271	246	5	25	27	399	24	453	200	24	132	10