

[illegible]

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

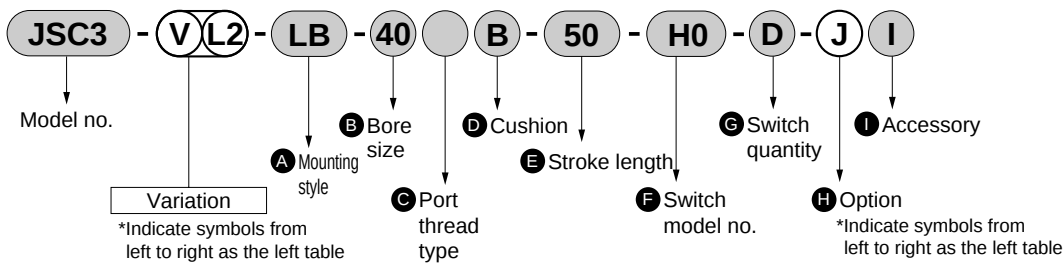
Variation and option selection table

JSC3(φ40 to φ100) * Refer to page 1292 for φ125 to φ180.

- : Standard
- : Option
- : Available (custom order)
- △ : Available depending on conditions (consult with CKD)
- X : Not available

Code		Code	Variation						Port thread			Option					
			Double acting basic type	Cushioned	With valve	Low hydraulic	Heat resistance (120℃)	Strong magnetic field proof with cylinder switch	NPT	G		Polyolefin with bellows	Silicone rubber with bellows	Piston rod material stainless steel	Customized piston rod end form	Cushion needle relocation	With indicator
		Symbol	No	No	V	H	T	L2	N	G		J	L	M	N	R.S.T	G
Variation	Double acting basic type	Blank	○	●	●	●	○		○	○		○	○	○	○	○	○
	Cushioned	Blank		○	○	○	○		○	○		○	○	○	○	○	○
	With valve	V			△	△	○		○	○		○	○	○	○	○	○
	Low hydraulic	H					○	X	○	○		○	○	○	○	○	○
	Heat resistance (120℃)	T						X	○	○		X	○	○	○	○	○
	Strong magnetic field proof with cylinder switch	L2							○	○		○	○	○	○	○	○
Port thread	NPT	N								X		○	○	○	○	○	○
	G	G										○	○	○	○	○	○
Option	Polyolefin with bellows	J										X	○	○	○	○	○
	Silicone rubber with bellows	L											○	○	○	○	○
	Piston rod material stainless steel	M												○	○	○	○
	Customized piston rod end form	N													○	○	○
	Cushion needle relocation	R.S.T														○	○
	With indicator	G															○
Accessory	Cylinder switch	Listed on Ending	○	○	○	○	X	○				○	○	○	○	○	○
	Rod eye	I	○	○	○	○	○	○				○	○	○	○	○	○
	Rod clevis	Y	○	○	○	○	○	○				○	○	○	○	○	○
	Eye bracket	B1	○	○	○	○	○	○				○	○	○	○	○	○
	Clevis bracket	B2	○	○	○	○	○	○				○	○	○	○	○	○
	Bracket for trunnion	B4	○	○	○	○	○	○				○	○	○	○	○	○

<Example of model number>



Model no.: Brake cylinder

- Variation: With valve, strong magnetic field proof switch
- A** Mounting style : Axial foot type
- B** Bore size : ϕ 40mm
- C** Port thread type : Rc thread
- D** Cushion : Both sides cushioned
- E** Stroke length : 50mm
- F** Switch model no. : Reed, strong magnetic field proof switch, lead wire 1m
- G** Switch quantity : Two
- H** Option : Bellows, max. ambient temperature 100°C
- I** Accessory : Rod eye

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Variation and option selection table

JSC3($\phi 125$ to $\phi 180$) * Refer to page 1290 for $\phi 140$ to $\phi 100$.

● : Standard

○ : Option

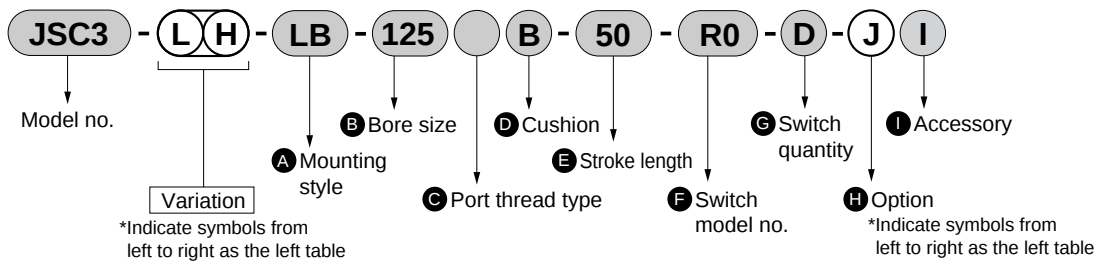
○ : Available (custom order)

△ : Available depending on conditions (consult with CKD)

X : Not available

Code	Code	Code	Variation					Port thread		Option				
			Double acting basic type	Cushioned	With cylinder switch	Low hydraulic	Heat resistance (120°C)	NPT	G	Nylon tarpaulin with bellows	Neoprene with bellows	Silicone rubber with bellows	Piston rod material stainless steel	
Symbol	No	L	H	T	N	G	J	K	L	M				
Double acting basic type	Blank	○	○	○	○	○	○	○	○	○	○	○	○	○
Cushioned		○	○	○	○	○	○	○	○	○	○	○	○	○
With cylinder switch	L			○	X	○	○	○	○	○	○	○	○	○
Low hydraulic	H				X	○	○	○	○	○	○	○	○	○
Heat resistance (120°C)	T					○	○	X	X	○	○	○	○	○
NPT	N					X				○	○	○	○	○
G	G									○	○	○	○	○
Nylon tarpaulin with bellows	J									X	X	○		
Neoprene with bellows	K										X	○		
Silicone rubber with bellows	L											○		
Piston rod material stainless steel	M													
Cylinder switch	Listed on Ending	○	○	○	○	X				○	○	○	○	○
Rod eye	I	○	○	○	○	○				○	○	○	○	○
Rod clevis	Y	○	○	○	○	○				○	○	○	○	○
Eye bracket	B1	○	○	○	○	○				○	○	○	○	○
Clevis bracket	B2	○	○	○	○	○				○	○	○	○	○

<Example of model number>



Model no.

- Variation: With switch, low hydraulic type
- A Mounting style : Axial foot type
- B Bore size : $\phi 125\text{mm}$
- C Port thread type : Rc thread
- D Cushion : Both sides cushioned
- E Stroke length : 50mm
- F Switch model no. : Reed RO switch, lead wire 1m
- G Switch quantity : Two
- H Option : Bellows and max. ambient temperature 60°C
- I Accessory : Rod eye

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake



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 cylinder JSC3 Series

Design & Selection

1. Common

WARNING

■ Structure so that nothing directly touches the driven object or movable sections of the cylinder with brakes. Provide a protective cover so that no human-body directly touches the unit. If parts contact is possible, provide safety measures by placing a sensor to stop the cylinder or sound a warning to report danger.

■ Use a balance circuit considering piston rod protrusion.

When activating brakes at any position in the stroke, if pneumatic pressure is applied to only one side of the cylinder, the piston protrudes at high speed when brakes are released. This involves risk to personnel and equipment. Use a balance circuit, such as the recommended pneumatic pressure circuit, to prevent protrusion.

This cylinder has oilless specifications. Do not lubricate this cylinder. Otherwise braking faults may occur. Brake malfunction is caused.

When using the low hydraulic pressure type brake cylinder, always apply the brakes with the pneumatic pressure.

■ Holding force (maximum static load) refers to performance to hold a static load without vibration or impact when brakes are activated in a no-load state. Take care when constantly using near the upper limit of the holding force.

■ During braking, kinetic energy is large and the braking distance is long. Thus, avoid using when brakes may be applied at the stroke end.

Even if a cushion is provided, the back pressure is released and the cushions may not function.

If kinetic energy is large, overrun distance increases and stopping accuracy drops.

■ Do not apply loads with impact, strong vibration, or torque while brakes are activated.

If a load with impact, strong vibration, or torque is applied externally, holding force drops.

■ Consider the stoppage accuracy and the overrun distance during the braking.

A mechanical lock is applied, so the cylinder does not stop instantly when the stop signal is issued, but stops with a time-wise delay. The stroke at which the cylinder slides due to this delay is the overrun distance. Maximum and minimum width of overrun distance is the stoppage accuracy.

● To achieve the required stop position, move the limit switch forward by the overrun distance.

● The limit switch must have a detection length (dog length) equivalent to the overrun distance + α .

● When using the CKD cylinder switch, the working range is 7 to 16 mm, depending on the switch. If overrun distance exceeds this, provide self-holding of the contact at the switch load.

■ To improve stopping accuracy, minimize the time from stop signal output to brake stoppage.

Use a high response DC control electricity circuit or solenoid valve, and set the solenoid valve as close to the cylinder as possible.

■ Stopping accuracy is affected by changes in piston speed.

If piston speed changes due to load fluctuation or disturbance during cylinder reciprocation, stop position dispersion increases. Take measures to keep piston speed constant just before the stop position. Speed changes are large during the acceleration range, compared to during the cushion stroke and when starting operation, so dispersion in the stop position increases.

⚠ WARNING

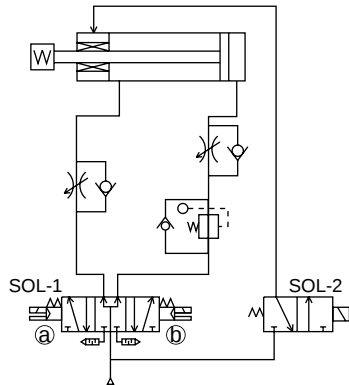
■ Basic circuit

When using this cylinder for position locking or emergency stop, use the circuits below. The 2-position valve cannot be used since cylinder thrust is also applied to brakes when stopped. Balance thrust and load with the circuit below. Brakes may not be released when load is applied to brakes.

● For horizontal load

If piping is as shown in Fig. 1, equalizing pressure is applied to both ends of the piston when stopped to prevent the rod from protruding when brakes are released. Place a regulator with a check valve on the head to balance thrust.

Fig. 1

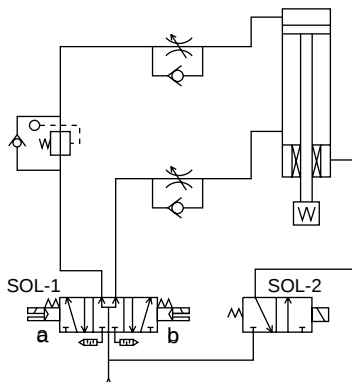


① SOL-1 ②		SOL-2	Operational status
OFF	OFF	OFF	Stop
ON	OFF	ON	Return
OFF	ON	ON	Advance

● For downward vertical load

If load faces downward as shown in Fig. 2, the rod malfunctions in the load direction when brakes are released. Place a regulator with a check valve on the head to reduce thrust in the load direction and balance the load.

Fig. 2

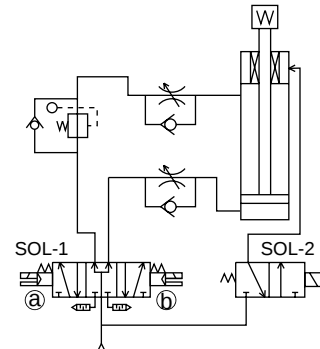


① SOL-1 ②		SOL-2	Operational status
OFF	OFF	OFF	Stop
ON	OFF	ON	Down
OFF	ON	ON	Up

● For upward vertical load

If the load faces upward as shown in Fig. 3, the rod malfunctions in the load direction when brakes are released. Place a regulator with a check valve on the rod to reduce thrust in the load direction and balance the load.

Fig. 3



① SOL-1 ②		SOL-2	Operational status
OFF	OFF	OFF	Stop
ON	OFF	ON	Down
OFF	ON	ON	Up

⚠ CAUTION

■ Stoppage accuracy

● Stop pitch and load factor

Stopping accuracy differs with stop pitch and load ratio. The load ratio below is recommended for achieving specified stopping accuracy.

Stop pitch	Load ratio	
	JSC3-*	JSC3-S*
50mm or less	20% of thrust	15% of thrust
50mm to 100mm	40% of thrust	30% of thrust
100mm and over	60% of thrust	45% of thrust

● Solenoid valve for brake selection

Stoppage accuracy and overrun length changes depending on the responsiveness of the solenoid valve for brake. Refer to the JSC3-V brake valve electric specifications and select from the CKD pneumatic valve 4KB2 Series. Couple the valve directly to the brake port to improve stopping accuracy.

● Using PC (PLC)

If a PLC is used as the electric control unit for the solenoid valve for brakes, the stopping accuracy will drop because of the scan time (operation process time). When using a PLC, do not assemble the solenoid valve for brake into the PLC circuit.

■ Do not apply the large load when brake stopping. Stopping position may change.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending
Brake cylinder (medium and large bore size)
With brake

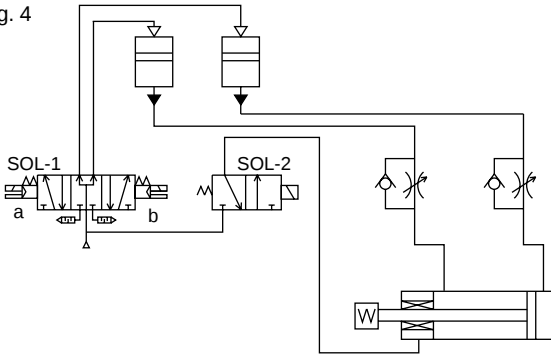
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

2. Low hydraulic type JSC3-H

⚠ WARNING

- Use the JSC3-H and converter when a stopping accuracy within $\pm 0.2\text{mm}$ is required, when the stopping pitch is 25mm or less, or when an offset load could occur in the middle of the stroke.

Fig. 4



- Always release the brakes before the cylinder operates. If the cylinder operates fast, the brakes might not release.

- If back pressure is applied to the locking mechanism, the lock may be released. Use the brake release valve as a single unit, or use an individual exhaust manifold.
- Use a 3-position P/A/B connection (pressurization on both sides) valve for the cylinder drive to prevent the piston from protruding when starting.
- Use a regulator with a check valve on the side with large thrust to balance thrust, including load.

3. Low pressure release type JSC3-S

⚠ CAUTION

- Due to release pressure reduction, care must be taken because brake holding force is also reduced.

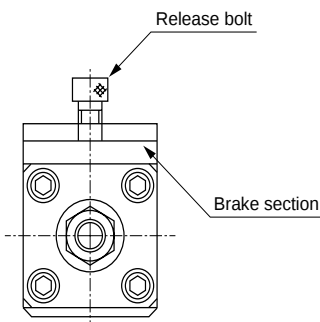
Installation & Adjustment

1. Common

⚠ WARNING

- Release brakes before coupling the load to the end of the rod. If coupled while brakes are applied, torque or load exceeding holding force may be applied to the piston rod and damage the brake mechanism.
- If brakes are released when air is pressurized on only one side of the cylinder, the piston may protrude at high speed, causing a hazard. Observe the points below when releasing brakes for adjustment, etc.
 - Check that no one is in the movable range of the load and that no problem arises if the load moves when brakes are released.
 - Take the following measures to prevent the load from dropping when brakes are released:
 - Set the load at the lowering end.
 - Pressurize both sides.
 - Set a support column.
 - Do the position locking such as.
 - Confirm that air is not pressurized on only one side of the cylinder when releasing brakes.

■ Manual brake release method



Note: Method of brake release

- The brakes are released by completing screwing the release bolt (enclosed with product) into the female threads (brake release port) on the top of the brakes. (With the $\phi 125$ or larger sizes, the brakes are released when the screw is turned in two to three rotations.) Remove the release bolt during normal use.
- Use the release bolt enclosed with the product when manually releasing the brakes. The brakes could be damaged when other bolts are used. Follow the optimum screw-in volume shown below when using a regular bolt.

Bore size	Size		Adequate screw-in volume
	JSC3	JSC3-V	
φ 40, φ 50	M10 x 8	M10 x 29	4 rotation or less
φ 63	M12 x 9	M12 x 30	
φ 80	M14 x 10	M14 x 31	
φ 100	M16 x 12	M16 x 40	
φ 125	M24 x 16 and over		2 to 3 rotation
φ 140	M24 x 20 and over		
φ 160	M24 x 20 and over		
φ 180	M24 x 24 and over		

- Brakes can be released with manual releasing operations or by applying air pressure to the brake release port. With a load, the load may drop if brakes are left released with either of these operations. Before attaching the load, check that brakes can be applied from the initial state when using manual release or from when air is not applied to the brake release port.
- Do not apply torque to the rod when brakes are applied because holding force may drop, presenting a hazard. Use a rod that does not rotate.
- Do not apply brake holding force to the cylinder exceeding that indicated in the catalog.

■ If there is any play, such as looseness, in the brake signal dog, stopping accuracy is affected. Securely fix to eliminate play, etc.

■ If cylinder speed is fast, the detection dog must be long enough to match relay response time. If the dog is short, the stop signal is not output and operation does not stop.

⚠ CAUTION

■ Adjust the cylinder air balance.

With brakes released, place a load on the cylinder and balance the load by adjusting air pressure applied to the cylinder rod and head. Faults such as cylinder protrusion during brake release or improper brake release are prevented by accurately balancing the load.

■ Check the installation position of detectors such as the cylinder switch.

When using braking, consider overrun distance for the required stopping position, and adjust the position of detectors such as the cylinder switch.

■ Load fluctuation during the cylinder reciprocation stroke leads to changes in the piston speed, which in turn increases dispersion in the stop position. Place and adjust so the load does not change just before stopping in the cylinder reciprocation stroke.

■ Speed changes are large during the acceleration range compared to during the cushion stroke and when starting operation, so dispersion in the stop position increases. Accuracy in specifications may therefore not be attained in step operation with a short stroke from the starting position to the next position.

■ Load to piston rod

Compared to using a general-purpose air cylinder, check that load applied totally to the piston rod is applied in the axial direction. Limit load movement using guides so play or torsion does not occur.

■ Maintenance of rod sliding section

Check that scratches and dents are not made on the piston rod's sliding section. These can result in damage to packing, leaks, or brake faults.

During Use & Maintenance

1. Common

⚠ WARNING

■ The brake section can be removed from the cylinder body. Do not disassemble or inspect brakes or hazards may result when brakes are used again.

■ The required grease is applied to brakes. Avoid applying extra grease and do not wipe grease off.

■ The required grease is applied when brakes are replaced, so there is no need to apply grease to rods.

■ To prevent faults, use a dust cover during operation except when manually releasing brakes.

⚠ CAUTION

■ If the air supply pipe is thin or long, stoppage accuracy drops.

■ Frictional resistance increases and causes the piston speed to change when the cylinder has been stopped for a long time, such as when using first thing in the morning or afternoon. This may impair stoppage accuracy. Conduct break-in operation to obtain stable stoppage accuracy.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
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MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

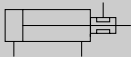


Brake cylinder Double acting single rod type/double acting oil-free type

JSC3/JSC3-N Series

- Bore size: ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100
 ϕ 125, ϕ 140, ϕ 160, ϕ 180

JIS symbol



Specifications

Descriptions		JSC3 (with switch)					JSC3-N/JSC3-LN				JSC3-S (with switch)							
Bore size	mm	φ 40	φ 50	φ 63	φ 80	φ 100	φ 125	φ 140	φ 160	φ 180	φ 40	φ 50	φ 63	φ 80	φ 100			
Actuation		Double acting									Double acting low pressure release type							
Working fluid		Compressed air																
Max. working pressure		1.0																
Min. working pressure	Brake section	0.3									0.25							
	Cylinder section	0.1					0.05				0.1							
Withstanding pressure		1.6																
Ambient temperature		-10 to 60 (no freezing)					-5 to 60 (no freezing)				-10 to 60 (no freezing)							
Port size	Brake section	Rc1/8		Rc1/4		Rc3/8	Rc1/2				Rc1/8		Rc1/4		Rc3/8			
	Cylinder section	Rc1/4	Rc3/8		Rc1/2		Rc1/2	Rc3/4				Rc1/4	Rc3/8		Rc1/2			
Stroke tolerance		mm ^{+0.9} ₀ (to 360)		mm ^{+1.4} ₀ (to 1000)		mm ^{+1.0} ₀ (to 300), mm ^{+1.4} ₀ (to 1000), mm ^{+1.8} ₀ (to 2000)									mm ^{+0.9} ₀ (to 360)		mm ^{+1.4} ₀ (to 1000)	
Working piston speed		50 to 1000 (used within allowable energy absorption)																
Cushion		Air cushion																
Effective cushion length	mm	14.6	16.6		20.6	23.6	21.6				14.6	16.6		20.6	23.6			
Lubrication		Not required (when lubricating, use turbine oil Class 1 ISOVG32)																
Stoppage accuracy		± 1.0 (300mm/s loadless)																
Holding force		N	980	1569	2451	3922	6178	9600	12000	15800	20000	784	1255	1961	3138	4941		
Allowable energy absorption	Cushioned	J	4.29	8.37	15.8	27.9	49.8	63.6	91.5	116	152	4.29	8.37	15.8	27.9	49.8		
	No cushion	J	0.067	0.079	0.079	0.201	0.301	0.371	0.386	0.386	0.958	0.067	0.079	0.079	0.201	0.301		
		Note: If "No cushion" is selected, the large energy generated by the external load cannot be absorbed. We recommend to use an external shock absorber together.																

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
ϕ 40	50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1600	1
ϕ 50			2000	
ϕ 63		2500		
ϕ 80				
ϕ 100		800		
ϕ 125	50, 75, 100, 150, 200, 250, 300	800	2000	
ϕ 140				
ϕ 160		900		
ϕ 180				

Note: If the max. stroke is exceeded, product specifications may not be met, depending on operating conditions. Refer to Ending 74 for details.
Custom stroke length is available per 1mm increment.

Min. stroke length of type with switch (T type switch)

- T0/T5 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ϕ 40	20 (10)	20 (20)	40 (40)	60 (60)	20 (10)	60 (45)	105 (75)	150 (105)	110 (110)	110 (110)	175 (145)	175 (145)	50 (50)	50 (50)
ϕ 50	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	20 (20)	65 (50)	65 (60)	135 (135)	135 (135)	135 (135)	135 (135)	60 (60)	60 (60)
ϕ 63	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	20 (20)	70 (55)	70 (60)	110 (95)	110 (95)	110 (100)	110 (100)	50 (45)	50 (45)
ϕ 80	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	115 (85)	115 (85)	115 (105)	115 (105)	55 (40)	55 (40)
ϕ 100	15 (15)	25 (25)	45 (45)	70 (70)	15 (15)	25 (25)	70 (55)	70 (70)	125 (95)	125 (95)	125 (115)	125 (115)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

Min. stroke length of type with switch (T type switch)

● T8 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ40	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	50 (35)	95 (65)	140 (95)	95 (85)	95 (85)	155 (125)	155 (125)	45 (40)	45 (40)
φ50	10 (10)	20 (20)	40 (40)	60 (60)	10 (10)	20 (20)	70 (55)	70 (60)	115 (115)	115 (115)	135 (135)	135 (135)	50 (50)	50 (50)
φ63	10 (10)	20 (20)	40 (40)	60 (60)	10 (10)	20 (20)	70 (55)	70 (60)	95 (75)	95 (75)	110 (110)	110 (110)	45 (35)	45 (35)
φ80	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	100 (70)	100 (70)	115 (115)	115 (115)	50 (35)	50 (35)
φ100	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	110 (80)	110 (80)	125 (125)	125 (125)	55 (40)	55 (40)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

● T2/T3 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ40	20 (10)	20 (15)	25 (25)	40 (40)	20 (10)	60 (45)	105 (75)	150 (105)	105 (75)	105 (75)	165 (135)	165 (135)	50 (35)	50 (35)
φ50	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	105 (75)	105 (75)	105 (75)	105 (75)	45 (30)	45 (30)
φ63	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	110 (80)	110 (80)	110 (85)	110 (85)	50 (35)	50 (35)
φ80	15 (10)	15 (15)	30 (30)	45 (45)	15 (10)	15 (15)	60 (45)	60 (45)	115 (85)	115 (85)	115 (90)	115 (90)	55 (40)	55 (40)
φ100	10 (10)	15 (15)	30 (30)	45 (45)	10 (10)	15 (15)	60 (45)	60 (45)	125 (95)	125 (95)	125 (100)	125 (100)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

● T1/T2Y/T3Y/T2YD type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ40	20 (10)	20 (15)	25 (25)	40 (40)	20 (10)	60 (45)	105 (75)	150 (105)	105 (75)	105 (75)	165 (135)	165 (135)	50 (35)	50 (35)
φ50	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	100 (70)	100 (70)	100 (75)	100 (75)	45 (30)	45 (30)
φ63	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	105 (75)	105 (75)	105 (85)	105 (85)	50 (35)	50 (35)
φ80	15 (10)	15 (15)	30 (30)	45 (45)	15 (10)	15 (15)	60 (45)	60 (45)	110 (80)	110 (80)	110 (90)	110 (90)	55 (40)	55 (40)
φ100	10 (10)	15 (15)	30 (30)	45 (45)	10 (10)	15 (15)	60 (45)	60 (45)	120 (90)	120 (90)	120 (100)	120 (100)	60 (45)	60 (45)

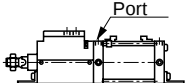
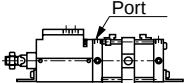
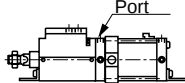
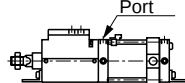
Note 1: Value in () for T*V (Radial lead wire). Note that radial lead wire (V) is not available for T2YD.

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

Min. stroke length of type with switch (R type switch)

● φ125 to φ180

(Unit: mm)

Descriptions	Stroke length when same surface installation	Stroke length when center trunnion installation	Stroke length when rod end trunnion installation	Stroke length when head end trunnion installation
Bore size (mm)				
				
φ125	20 and over * (25 and over)	120 and over	70 and over	
φ140		125 and over	75 and over	
φ160		130 and over	80 and over	
φ180		135 and over	85 and over	

*The minimum stroke length for R2YK and R3YK.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Switch specifications (T type switch)

● 1 color/2 color indicator/strong magnetic field proof

*The T0/T5 switch can be used with 220 VAC . Consult CKD for working conditions.

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire						Proximity 2 wire		
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD*/T2YDPT*		
Applications	Programmable controller relay, small solenoid valve		Programmable controller		Programmable controller, relay		Programmable controller, relay		Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay		Programmable controller		
Output method	-			NPN output	PNP output	NPN output	-								
Power voltage	-			10 to 28 VDC			-								
Load voltage	85 to 265 VAC		10 to 30 VDC		30 VDC or less		12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ± 10%	
Load current	5 to 100mA		5 to 20mA (Note 1)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)		LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC		1mA or less		10 μA or less		0mA						1mA or less		

● With preventive maintenance output

Descriptions		Proximity 3 wire		Proximity 4 wire		Proximity 3 wire		Proximity 4 wire	
		T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V	
Applications		Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay	
Output method		NPN output							
Light	Installation position adjustment section	Red/green LED (ON lighting)							
	Preventive maintenance output	-				Yellow LED (ON lighting)			
Regular Output	Power voltage	-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current	5 to 20mA		50mA or less		5 to 20mA		50mA or less	
	Leakage current	1mA or less		10 μ A or less		1.2mA or less		10 μ A or less	
Preventive maintenance Output	Load voltage	30 VDC or less							
	Load current	20mA or less		50mA or less		5 to 20mA or less		50mA or less	
	Leakage current	10 μ A or less							

Note 1: Refer to Ending 1 for other switches.

Note 2: Max. load current above: 20mA at 25℃ . The current will be lower than 20mA if ambient temperature around switch is higher than 25 ℃ .
(5 to 10mA at 60℃)

Switch specifications (R type switch/H type switch)

● Proximity switch

Descriptions	Proximity 2 wire			Proximity 3 wire	
	R1/R1K	R2/R2K	R2Y/R2YK (2 color indicator type)	R3/R3K	R3Y/R3YK (2 color indicator type)
Applications	Programmable controller, relay, small solenoid valve	Programmable controller		Programmable controller, relay, IC circuit, solenoid valve	
Output method				NPN output	
Power voltage				4.5 to 28 VDC	
Load voltage / current	85 to 265 VAC and 5 to 100mA	10 to 30 VDC and 5 to 30mA		30 VDC or less	
				200mA or less	150mA or less
Light	LED (ON lighting)		Red/green LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less	1.2mA or less	10 μ A or less	

● Reed switch

Descriptions	Reed 2 wire					
	R0	R4	R5	R6	H0	H0Y (2 color indicator type)
Applications	Relay, programmable controller	High capacity relay, solenoid valve	Programmable controller, relay, IC circuit (two indicator light), serial connection	Programmable controller (with DC self hold)	Relay, programmable controller	Programmable controller
Load voltage / current	12/24 VDC, 5 to 50mA 110 VAC, 7 to 20mA 220 VAC, 7 to 10mA	110 VAC, 20 to 200mA 220 VAC, 10 to 200mA	5/12/24 VDC, 50mA or less 110 VAC, 20mA or less 220 VAC, 10mA or less	24 VDC, 5 to 50mA	12/24 VDC 5 to 50mA	110 VAC 7 to 20mA
Light	LED ON lighting	Neon light OFF lighting	None	LED ON lighting	Green LED ON lighting	
Leakage current	0mA	1mA or less	0mA	0.1mA or less	10 μA or less	

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: The maximum load current is applied at 25℃ . The current will be lower than 20mA if ambient temperature around switch is higher than 25 ℃ . (5 to 10mA when 60 ℃)

Cylinder weight

● $\phi 40$ to $\phi 100$

Descriptions, mounting style	Product weight when stroke length (S) = 0mm						Weight per switch (including mounting bracket)					Additional weight per S = 100mm
							T type	H type		T2YD type		
	Bore size (mm)	Basic type (00)	Foot type (LB)	Flange type (FA, FB)	Eye bracket type (CA)	D mountain clevis type (CB)		Trunnion type (TC)	1m	3m	1m	
φ 40	2.48	2.66	2.91	2.83	2.83	2.86	0.018	0.10	0.20	0.08	0.17	0.39
φ 50	3.47	3.67	3.97	3.87	3.87	3.97						0.46
φ 63	5.09	5.49	6.19	5.79	5.79	5.89						0.50
φ 80	8.15	8.85	9.95	9.65	9.65	9.45						0.90
φ 100	14.70	15.70	17.40	16.90	16.90	17.30						1.12

(E.g.) Product weight of JSC3-LB-50B-200-T0H-D

Product weight when S = 0mm 3.67kg

Additional weight when S = 200mm $0.46 \times \frac{200}{100} = 0.92$ (kg)

Weight of two switches $0.018\text{kg} \times 2 = 0.036\text{kg}$

Product weight $3.67\text{kg} + 0.92\text{kg} + 0.036\text{kg} = 4.626\text{kg}$

● $\phi 125$ to $\phi 180$

Descriptions, mounting style	Product weight when stroke length (S) = 0mm					Additional weight per S = 100mm	R type		H type		T2YD type	
							Grommet	Terminal box	1m	3m	1m	3m
Bore size (mm)	Axial foot type (LB)	Flange type (FA, FB)	Eye bracket type (CA)	D mountain clevis type (CB)	Trunnion type (TC, TA, TB)							
$\phi 125$	33.3	35.1	34.8	34.9	35.2	2.60	0.10	0.09	0.10	0.20	0.08	0.17
$\phi 140$	43.8	47.2	45.6	45.8	45.0	2.96						
$\phi 160$	56.8	60.6	58.7	59.0	60.1	3.57						
$\phi 180$	79.6	87.1	82.5	83.0	83.2	4.94						

(E.g.) JSC3-N-LB-125B-300

Product weight when S = 0mm 33.3kg

Additional weight when S = 300mm $2.60 \times \frac{300}{100} = 7.8\text{kg}$

Product weight when S = 300mm $33.3 + 7.8 = 41.1\text{kg}$

Oil-prohibited specifications

(Ending 126)

JSC3 - - P12

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

How to order (φ 40 to φ 100)

Without switch

JSC3 - **LB** - **40** - **B** - **50** - **S** - **I**

With switch

JSC3 - **LB** - **40** - **B** - **50** - **T0H** - **R** - **S** - **I**

Strong magnetic field proof (H0, H0Y switch) with switch

JSC3 - **L2** - **LB** - **40** - **B** - **50** - **H0** - **R** - **S** - **I**

Model no.

A Brake release pressure

B Mounting style
Note 1

C Bore size

D Port thread type

E Cushion

F Stroke length
Note 2

G Switch model no.
*indicates lead wire length.

H Switch quantity
Note 4

I Option
Note 5

J Accessory
Note 6

Note on model no. selection

Note 1: The mounting bracket is shipped with the product.
(Special head end flange type is attached when shipped.)

Note 2: Refer to Ending 74 if max. stroke length is exceeded.

Note 3: Refer to page 1299 for min. stroke length with switch.

Note 4: When selecting TA or TB for mounting, the number of switches is limited to "H" (one on head end) for TA, and "R" (one on rod end) for TB.

Note 5: Refer to each dimensions to confirm indication of "S", "T", and "G" positions.

Note 6: "I" and "Y" can not be selected at the same time.

Note 7: Refer to Ending 89 for custom specifications of rod end form.

<Example of model number>

JSC3-LB-40B-50-T0H-R-S-I

Model: Brake cylinder double acting

A Brake release pressure : Standard type 0.3MPa

B Mounting style : Axial foot type

C Bore size : φ40mm

D Port thread type : Rc thread

E Cushion : Both sides cushioned

F Stroke length : 50mm

G Switch model no. : Reed switch T0H, lead wire 1m

H Switch quantity : One on rod end

I Option : Cushion needle position S

J Accessory : Rod eye

Symbol	Descriptions		
A Brake release pressure			
Blank	Standard type 0.3MPa		
S	Low pressure release type 0.25MPa		
B Mounting style			
00	Basic type		
LB	Axial foot type		
FA	Rod end flange type		
FB	Head end flange type		
FC	Special head end flange type		
CA	Eye bracket type		
CB	Clevis bracket type (pin and snap ring attached)		
TC	Center trunnion type		
TA	Rod end trunnion type		
TB	Head end trunnion type		
C Bore size (mm)			
40	φ 40		
50	φ 50		
63	φ 63		
80	φ 80		
100	φ 100		
D Port thread type			
Blank	Rc thread		
N	NPT thread (custom order)		
G	G thread (custom order)		
E Cushion			
B	Both sides cushioned		
R	Rod end cushion		
H	Head end cushion		
N	No cushion		
F Stroke length (mm)			
Bore size	Stroke length Note 3	Available stroke length	Custom stroke length
φ 40	1 to 600	1600	1 mm increment
φ 50	1 to 600	2000	
φ 63	1 to 600	2500	
φ 80	1 to 700	2500	
φ 100	1 to 800	2500	
G Switch model no.			
Refer to the following page for switch model no.			
*Lead wire length			
Blank	1m (standard)		
3	3m (option)		
5	5m (option)		
H Switch quantity			
R	One on rod end		
H	One on rod head		
D	Two		
T	Three		
4	Four (if more than four switches, indicate switch quantity.)		
I Option			
J	Bellows	Max. ambient temperature 100℃	Instantaneous max. temperature 200℃
L	Bellows	250℃	400℃
M	Piston rod material (stainless steel)		
Blank	Cushion needle position R (standard)		
S	Cushion needle position S		
T	Cushion needle position T		
G	With indicator		
J Accessory			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		
B1	Eye bracket		
B2	Clevis bracket (pin and snap ring attached)		
B3	Eye bracket		
R4	Trunnion type No. 2 bracket		

How to order mounting bracket

● φ 40 to φ 100

Bore size (mm)	φ 40	φ 50	φ 63	φ 80	φ 100
Mounting bracket					
Foot (LB)	S1-LB-40	S1-LB-50	S1-LB-63	S1-LB-80	S1-LB-100
Flange (FB)	JSC3-40-FB	JSC3-50-FB	JSC3-63-FB	JSC3-80-FB	JSC3-100-FB
Eye (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis (CB)	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

Note 1: The foot type mounting bracket is supplied as a two-piece set.

[G] Switch model no.

T type switch				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T0H*	T0V*	Reed	1 color indicator type	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator type	
T1H*	T1V*		1 color indicator type	
T2H*	T2V*	Proximity	1 color indicator type	2-wire
T3H*	T3V*		2 color indicator type	3-wire
T2YH*	T2YV*		2 color indicator type	3-wire
T3YH*	T3YV*		1 color indicator type (custom order)	3-wire
T3PH*	T3PV*		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
T2YFH*	T2YFV*		2 color indicator type (with indicator light for preventive maintenance output (1 color))	4-wire
T2YMH*	T2YMV*		2 color indicator type (with indicator light for preventive maintenance output (1 color))	3-wire
T3YMH*	T3YMV*		2 color indicator type (with indicator light for preventive maintenance output (1 color))	4-wire
T2YD*	-		Strong magnetic field proof switch	2-wire
T2YDT*	-		Strong magnetic field proof switch	2-wire
T2JH*	T2JV*		Off-delay type	2-wire

R switch/H types switch					
Grommet type	Terminal box type		Contact	Indicator	Lead wire
	Standard type	Water tight type			
P1*	P1B	P1A			
P2*	P2B	P2A			
P3*	P3B	P3A			
P4*	P4B	P4A			
P5*	P5B	P5A			
P6*	P6B	P6A			
P7*	P7B	P7A			
P8*	P8B	P8A			
P9*	P9B	P9A			
P10*	P10B	P10A			
P11*	P11B	P11A			
P12*	P12B	P12A			
P13*	P13B	P13A			
P14*	P14B	P14A			
P15*	P15B	P15A			
P16*	P16B	P16A			
P17*	P17B	P17A			
P18*	P18B	P18A			
P19*	P19B	P19A			
P20*	P20B	P20A			
P21*	P21B	P21A			
P22*	P22B	P22A			
P23*	P23B	P23A			
P24*	P24B	P24A			
P25*	P25B	P25A			
P26*	P26B	P26A			
P27*	P27B	P27A			
P28*	P28B	P28A			
P29*	P29B	P29A			
P30*	P30B	P30A			
P31*	P31B	P31A			
P32*	P32B	P32A			
P33*	P33B	P33A			
P34*	P34B	P34A			
P35*	P35B	P35A			
P36*	P36B	P36A			
P37*	P37B	P37A			
P38*	P38B	P38A			
P39*	P39B	P39A			
P40*	P40B	P40A			
P41*	P41B	P41A			
P42*	P42B	P42A			
P43*	P43B	P43A			
P44*	P44B	P44A			
P45*	P45B	P45A			
P46*	P46B	P46A			
P47*	P47B	P47A			
P48*	P48B	P48A			
P49*	P49B	P49A			
P50*	P50B	P50A			
P51*	P51B	P51A			
P52*	P52B	P52A			
P53*	P53B	P53A			
P54*	P54B	P54A			
P55*	P55B	P55A			
P56*	P56B	P56A			
P57*	P57B	P57A			
P58*	P58B	P58A			
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P60*	P60B	P60A			
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P64*	P64B	P64A			
P65*	P65B	P65A			
P66*	P66B	P66A			
P67*	P67B	P67A			
P68*	P68B	P68A			
P69*	P69B	P69A			
P70*	P70B	P70A			
P71*	P71B	P71A			
P72*	P72B	P72A			
P73*	P73B	P73A			
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P94*	P94B	P94A			
P95*	P95B	P95A			
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P97*	P97B	P97A			
P98*	P98B	P98A			
P99*	P99B	P99A			
P100*	P100B	P100A			
P101*	P101B	P101A			
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P297*	P297B	P297A			
P298*	P298B	P298A			
P299*	P299B	P299A			
P300*	P300B	P300A			
P301*	P3				

How to order (φ125 to φ180)

Without switch

JSC3-N - **LB** - **125** - **B** - **50** - **S** - **I**

With switch

JSC3-LN - **LB** - **125** - **B** - **50** - **R0** - **R** - **S** - **I**

A Mounting style
Note 1

B Bore size

C Port thread type

D Cushion

E Stroke length
Note 2

F Switch model no.
* indicates lead wire length

G Switch quantity
Note 4

H Option
Note 5

I Accessory
Note 6

Note on model no. selection

Note 1: The mounting bracket is shipped with the product.

Note 2: Refer to Ending 74 if max. stroke length is exceeded.

Note 3: Refer to page 1299 for min. stroke length with switch.

Note 4: When selecting TA or TB for mounting, the number of switches is limited to "H" (one on head end) for TA, and "R" (one on rod end) for TB.

Note 5: Refer to the dimensions for position indication of cushion needle.

Note 6: "I" and "Y" can not be selected at the same time.

Note 7: Refer to Ending 89 for custom specifications of rod end form.

<Example of model number>

JSC3-LN-LB-125B-50-R0-R-SI

Model: Brake cylinder double acting oil-free type

A Mounting style : Axial foot type

B Bore size : φ125mm

C Port thread type : Rc thread

D Cushion : Both sides cushioned

E Stroke length : 50mm

F Switch model no. : Reed switch R0

G Switch quantity : One on rod end

H Option : Cushion needle position S

I Accessory : Rod eye

Symbol	Descriptions
A Mounting style	
LB	Axial foot type
FA	Rod end flange type
FB	Head end flange type
CA	Eye bracket type
CB	Clevis bracket type (pin and snap ring attached)
TC	Center trunnion type
TA	Rod end trunnion type
TB	Head end trunnion type

B Bore size (mm)	
125	φ125
140	φ140
160	φ160
180	φ180

C Port thread type	
Blank	Rc thread
N	NPT thread (custom order)
G	G thread (custom order)

D Cushion	
B	Both sides cushioned
R	Rod end cushion
H	Head end cushion
N	No cushion

E Stroke length (mm)			
Bore size	Stroke length Note 3	Available stroke length	Custom stroke length
φ125	1 to 800	2000	1 mm increment
φ140	1 to 800	2000	
φ160	1 to 800	2000	
φ180	1 to 900	2000	

F Switch model no.					
Grommet Type	Terminal box type Standard type	Splash-proof	Contact	Indicator	Lead wire
R1K*	R1KB	R1KA	Proximity	1 color indicator type	2-wire
R2K*	R2KB	R2KA		2 color indicator type	
R2YK*	R2YKB	R2YKA		Strong magnetic field proof switch	
T2YDP*	--	--		1 color indicator type	3-wire
R3K*	R3KB	R3KA	Reed	2 color indicator type	
R3YK*	R3YKB	R3YKA		1 color indicator type	
R0*	R0B	R0A		1 color indicator type	2-wire
R4*	R4B	R4A		W/o indicator light	
R5*	R5B	R5A		1 color indicator type	
R6*	R6B	R6A		1 color indicator type	

*Lead wire length	
Blank	1m (standard)
3	3m (option)
5	5m (option)

G Switch quantity	
R	One on rod end
H	One on rod head
D	Two
T	Three
4	Four (If more than 4 switches, indicate switch quantity.)

H Option			
		Max. ambient temperature	Instantaneous max. temperature
J	Bellows	60 °C	100 °C
K	Bellows	100 °C	200 °C
L	Bellows	250 °C	400 °C
M	Piston rod material (stainless steel)		
Blank	Cushion needle position R (standard)		
S	Cushion needle position S		
T	Cushion needle position T		
C2	Cushion mechanism with check valve		

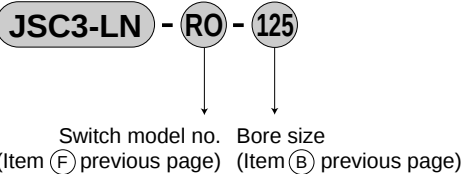
I Accessory	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)
B1	Eye bracket
B2	Clevis bracket (pin and snap ring attached)

How to order brake unit

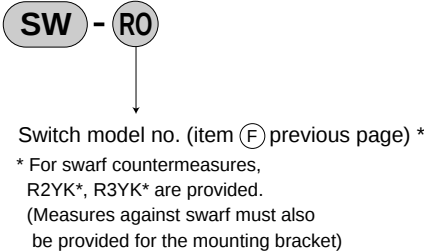


How to order R type switch

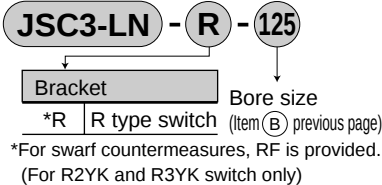
● Switch body + mounting bracket



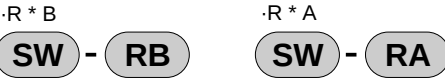
● Only switch body



● Mounting bracket



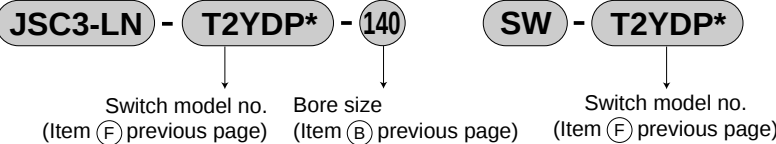
● Only terminal box



How to order T2YD type switch.

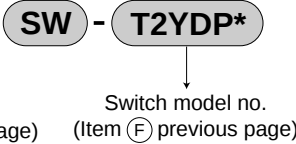
● Switch body + mounting bracket

· φ 125 to φ 180

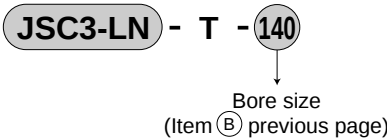


● Only switch body

· φ 125 to φ 180



● Mounting bracket



SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

● $\phi 40$ to $\phi 100$

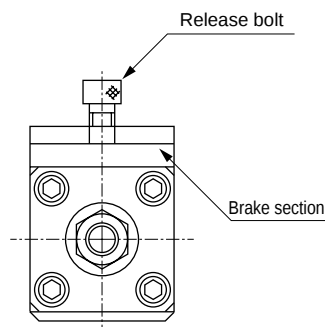
Mounting bracket material

Mounting style	Material	Remarks
LB	Steel	Paint
FA/FB	Steel	Paint
CA/CB	Cast iron	Paint
TC	Cast iron	Paint

Release bolt size (hexagon socket head cap bolt)

Bore size	Size	
	JSC3	JSC3-V
$\phi 40, \phi 50$	M10 x 8	M10 x 29
$\phi 63$	M12 x 9	M12 x 30
$\phi 80$	M14 x 10	M14 x 31
$\phi 100$	M16 x 12	M16 x 40

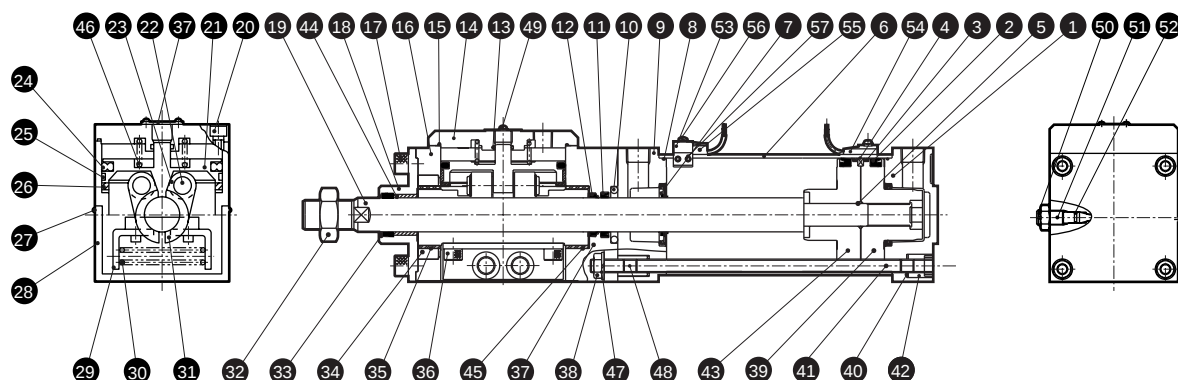
Manual brake release method



Note: Method of brake release

- The brakes are released by screwing the release bolt (enclosed with product) into the female threads (side of brake release port) on the top of the brakes in two to three rotations.
(Remove the release bolt during normal use.)
- Use the release bolt enclosed with the product when manually releasing the brakes. The brakes could be damaged when other bolts are used.

Internal structure and parts list



Products No.	Parts name	Material	Remarks	Products No.	Parts name	Material	Remarks
1	Head cover	Aluminum alloy die-casting	Paint	28	Cover	Steel	Paint
2	Piston packing seal	Nitrile rubber		29	Spring holder	Steel	Zinc chromate
3	Wear ring	Polyacetal resin		30	Spring	Steel	
4	Magnet	Plastic		31	Brake shoe metal	Cast iron	Nickeling
5	Piston gasket	Nitrile rubber		32	Rod nut	Steel	Zinc chromate
6	Cylinder tube	Aluminum alloy	Hard alumite	33	Dust wiper	Nitrile rubber	
7	Cushion packing seal	Nitrile rubber		34	DU ring	Steel	Blackening
8	Cylinder gasket	Nitrile rubber		35	Bush	Oil impregnated bearing alloy	
9	Rod cover	Aluminum alloy die-casting	Paint	36	Hexagon socket head cap bolt	Alloy steel	Blackening
10	Metal seal	Nitrile rubber		37	Dust cover	Aluminum alloy	Paint
11	Rod packing seal	Nitrile rubber		38	Hexagon nut	Steel	Blackening
12	Dust wiper	Nitrile rubber		39	Piston H	Aluminum alloy die-casting	
13	Cap gasket A	Nitrile rubber		40	Tie rod	Steel	Zinc chromate
14	Main body cap	Cast iron	Nitriding	41	Conical spring washer	Steel	Blackening
15	Cap gasket B	Nitrile rubber		42	Round nut	Steel	Zinc chromate
16	Brake	Aluminum alloy casting	Alumite	43	Piston R	Aluminum alloy die-casting	
17	Hexagon socket head cap bolt	Alloy steel	Blackening	44	Bush B	Oil impregnated bearing alloy	
18	Rod bushing	Steel	Phosphoric acid mangan	45	Thrust washer		
19	Piston rod	Steel	Industrial chrome plating	46	Spring	Steel	Paint
20	Hexagon socket head cap bolt	Alloy steel	Blackening	47	Toothed washer	Steel	Blackening
21	Piston for brake	Cast iron	Phosphoric acid mangan	48	Hexagon socket head set screw	Alloy steel	Blackening
22	Parallel pin	Steel		49	Washer assembly cross headed pan	Steel	Zinc chromate
23	Bearing			50	Cushion needle	Copper alloy	
24	Piston packing seal B	Nitrile rubber		51	Needle nut	Copper alloy	
25	Wear ring	Polyacetal resin		52	Needle gasket	Nitrile rubber	
26	Cushion rubber	Urethane rubber		With switch			
27	Cross headed pan	Steel	Zinc chromate	53	Switch installation unit	Aluminum alloy	
Repair parts list				54	Switch holder	Aluminum alloy	
Bore size (mm)	Kit No.	Repair parts number		55	Cross headed pan	Steel	Zinc chromate
$\phi 40$	JSC3- 40K			56	Hexagon socket head set screw	Alloy steel	Blackening
$\phi 50$	JSC3- 50K	2 3 7 8		57	Cylinder switch		
$\phi 63$	JSC3- 63K						
$\phi 80$	JSC3- 80K	10 11 12 33 55					
$\phi 100$	JSC3-100K						

Note: Specify the kit No. when placing an order.

● $\phi 125$ to $\phi 180$

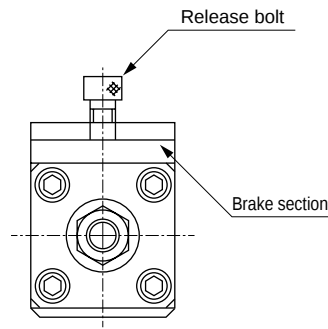
Mounting bracket material

Mounting style	Material	Remarks
LB	Steel	Paint
FA	Carbon steel	Phosphate coating
CA	Cast iron	Paint
CB	Cast iron	Paint
TC/TA/TB	Cast iron	Paint
FB	Carbon steel	Paint

Release bolt size (hexagon socket head cap bolt)

Bore size	Size
$\phi 125$	M24 x 16 and over
$\phi 140$	M24 x 20 and over
$\phi 160$	M24 x 20 and over
$\phi 180$	M24 x 24 and over

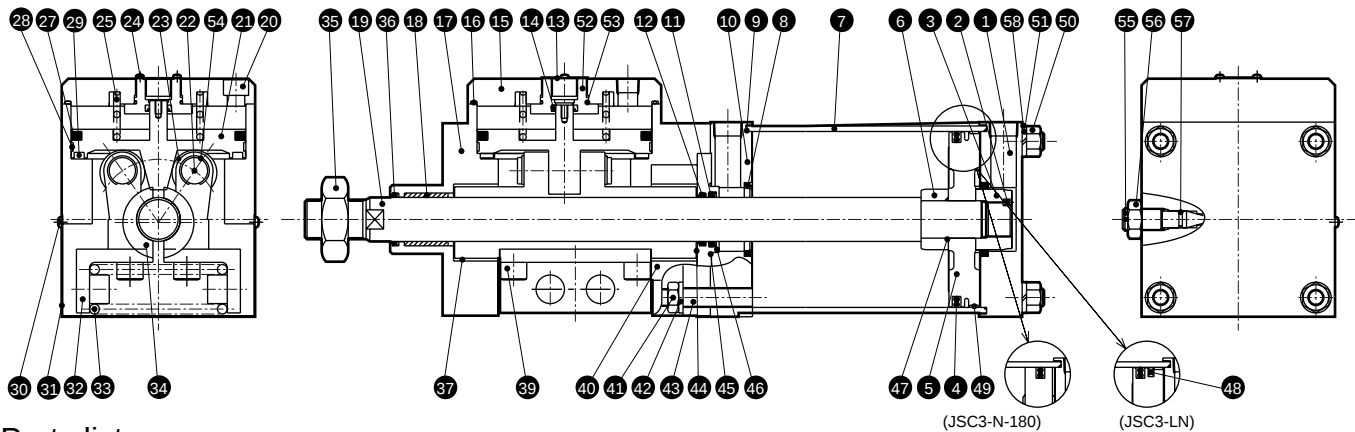
Manual brake release method



Note: Method of brake release

- The brakes are released by screwing the release bolt (enclosed with product) into the female threads (side of brake release port) on the top of the brakes in two to three rotations.
- (Remove the release bolt during normal use.)
- Use the release bolt enclosed with the product when manually releasing the brakes. The brakes could be damaged when other bolts are used.

Internal structure and parts list



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Head cover	Steel	Zinc chromate	29	Cushion rubber	Urethane rubber	
2	Hexagon socket head set screw	Alloy steel	Blackening	30	Cross headed pan	Steel	Zinc chromate
3	Cushion ring (A)	Steel	Zinc chromate	31	Cover	Steel	Paint
4	Piston packing seal	Nitrile rubber		32	Spring holder	Steel	Phosphoric acid mangan
5	Piston	$\phi 125$ to $\phi 160$ Aluminum alloy, $\phi 180$ Cast iron		33	Spring	Steel	Blackening
6	Cushion ring (B)	Steel	Zinc chromate	34	Brake shoe metal	Cast iron	Nickeling
7	Cylinder tube	Steel	Paint, industrial chrome plating	35	Rod nut	Steel	Zinc chromate
8	Cushion packing seal	Nitrile rubber, steel		36	Dust wiper	Nitrile rubber	
9	Cylinder gasket	Nitrile rubber		37	Bush A	DU dry bearing	
10	Rod cover	Steel	Zinc chromate	39	Hexagon socket head cap bolt	Alloy steel	Blackening
11	Rod packing seal	Nitrile rubber		40	Ring	Steel	Blackening
12	Dust wiper	Nitrile rubber		41	Hexagon nut	Steel	Zinc chromate
13	Dust cover	Aluminum alloy	Alumite	42	Toothed washer	Steel	Zinc chromate
14	Rod packing seal	Nitrile rubber		43	Tie rod	Steel	Zinc chromate
15	Main body cap	Cast iron	Alumite	44	Thrust washer	Steel	
16	Cap gasket	Nitrile rubber		45	Metal gasket	Nitrile rubber	
17	Brake	Aluminum casting	Alumite	46	Rod bushing	Cast iron	Zinc chromate
18	Bush B	Oil impregnated bearing alloy		47	Piston gasket	Nitrile rubber	
19	Piston rod	Steel	Industrial chrome plating	48	Magnet	Rubber	Only JSC3-LN
20	Hexagon socket head cap bolt	Alloy steel	Blackening	49	Wear ring	Polyacetal resin	
21	Piston for brake	Cast iron	Phosphoric acid mangan	50	Hexagon nut	Steel	Zinc chromate
22	Bearing pin	Steel		51	Spring washer	Steel	Zinc chromate
23	Bearing	-		52	Main body cap	Cast iron	Phosphoric acid mangan
24	Washer assembly cross headed pan	Steel	Zinc chromate	53	O ring	Nitrile rubber	
25	Spring	Steel	Paint	54	E type snap ring	Steel	Zinc chromate
27	Piston packing seal B	Nitrile rubber		55	Cushion needle	Steel	Zinc chromate
28	Wear ring	Polyacetal resin		56	Needle nut	Steel	Zinc chromate
				57	Needle gasket	Nitrile rubber	
				58	Plain washer	Steel	Zinc chromate

Note 1: With JSC3-LN-125 to 160, the (7) cylinder tube is made of aluminum alloy, and the (48) magnet is built in.

Note 2: With JSC3-LN-180, the (5) piston and (7) cylinder tube are made of aluminum alloy, and the (48) magnet and (49) wear ring are built in.

Repair parts list

● JSC3-N/JSC3-N (excluding $\phi 180$)

Bore size (mm)	Kit No.	Repair parts number
$\phi 125$	JSC3-N-125K	4 8 9 11 12
$\phi 140$	JSC3-N-140K	36 45 49 57
$\phi 160$	JSC3-N-160K	
$\phi 180$	JSC3-LN-180K	

● JSC3-N

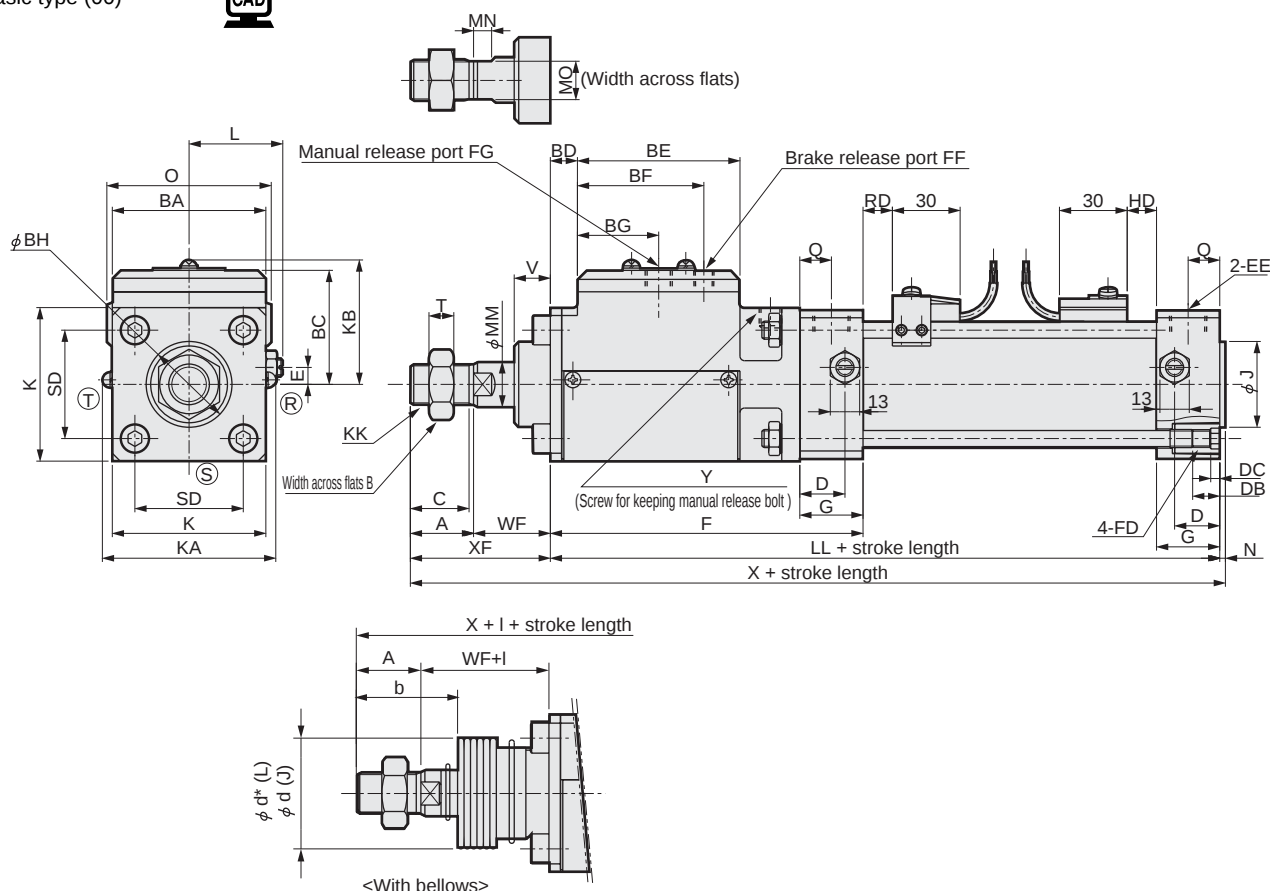
Bore size (mm)	Kit No.	Repair parts number
$\phi 180$	JSC3-N-180K	4 8 9 11 12 36 45 57

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Dimensions (φ40 to φ100)

Basic type (00)



RD: Rod end max. sensitive position

HD: Head end max. sensitive position Note: (R) (S) (T) indicates a cushion needle position.

Note 1: Manual release bolt is attached.

Note 2: Refer to pages 1351, 1352 for the accessory dimensions.

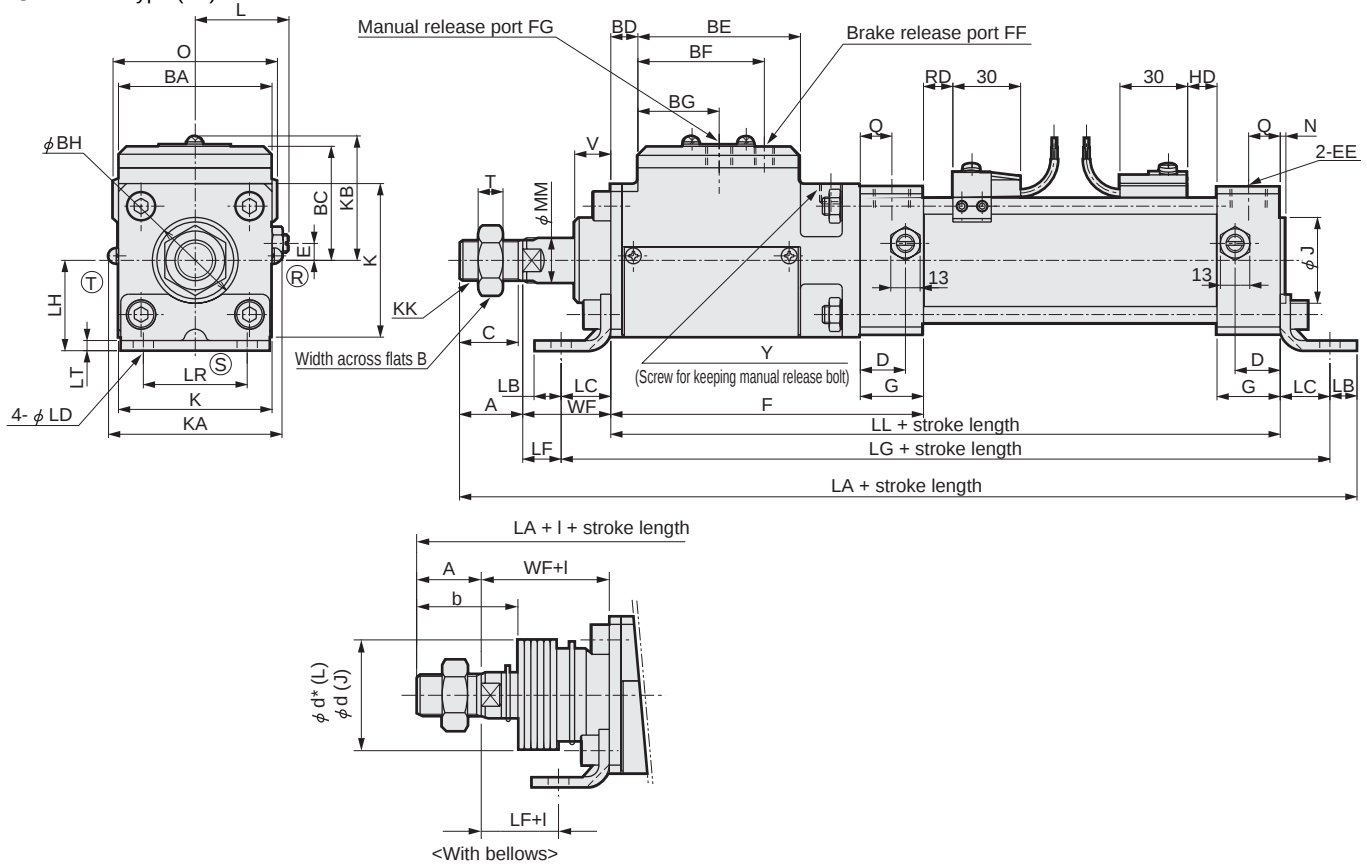
Symbol	Basic type (00) basic dimensions																										
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	DB	DC	E	EE	F	FF	FG	G	J	K					
φ 40	22	22	57	46	9	61	51	31	31	20	18	M8	12	4	7.5	Rc1/4	121	Rc1/8	M10	26	31	57					
φ 50	28	27	68	50.5	12	72	56	36	38	26	20	M8	12	4	0	Rc3/8	138.5	Rc1/8	M10	28	38	68					
φ 63	28	27	80	54	13	86	70	43	38	26	22	M8	12	4	0	Rc3/8	154	Rc1/4	M12	30	38	80					
φ 80	36	32	98	66	13	106	80	53	43	34	26	M12	16	5	0	Rc1/2	179.5	Rc1/4	M14	34	43	98					
φ 100	45	41	118	74	17.5	132	101	66	51	43	28	M12	16	5	0	Rc1/2	220.5	Rc3/8	M16	36	51	118					
Symbol																		With switch									
Bore size (mm)	KA	KB	KK	L	LL	MM	MN	MO	N	Q	SD	T	V	WF	X	XF	Y	T0, T5, T2, T3			T1,T2Y,T3Y,T2YFM,T3YFM						
																		O	RD	HD	O	RD	HD				
φ 40	66	50.5	M14 x 1.5	38 to 39.5	188	16	8	14	2	13	40.5	8	15	30	242	52	M10 depth 9	66	11	11	66	10	10				
φ 50	77	55	M18 x 1.5	41.0 to 43.5	211.5	20	8	17	2.5	14	48	11	16	34	276	62	M10 depth 9	73	13	13	73	12	12				
φ 63	89	58.5	M18 x 1.5	47.5 to 50.0	229	20	8	17	3	15	59	11	16	30	290	58	M12 depth 10	85	13	13	85	12	12				
φ 80	107	70.5	M22 x 1.5	56 to 59	261.5	25	11	22	3.5	17	74	13	17.5	43.5	344.5	79.5	M14 depth 11	105	14.5	14.5	105	13.5	13.5				
φ 100	127	78.5	M26 x 1.5	66 to 69	312.5	30	13	27	4	18	90	16	26	48	409.5	93	M16 depth 13	121	18.5	18.5	121	17.5	17.5				
Symbol											With bellows					ℓ											
Bore size (mm)	T8			T2YD			H0*			A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over				
	O	RD	HD	O	RD	HD	O	RD	HD																		
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length(3.0) + 8)				
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length(3.6) + 7.5)				
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length(3.6) + 7.5)				
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length(4.3) + 2.5)				
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length(4.5) + 9)				

Note: ℓ dimensions below decimal point are rounded up.

Dimensions (φ40 to φ100)



● Axial foot type (LB)



Note 1: (R) (S) (T) indicates a cushion needle position.

Note 2: Manual release bolt is attached.

Note 3: Refer to page 1351, 1352 for accessory dimensions.

Symbol	Axial foot type (LB) basic dimensions																								
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	E	EE	F	FG	FF	G	J	K	KA	KB				
φ 40	22	22	57	46	9	61	51	31	31	20	18	7.5	Rc1/4	121	M10	Rc1/8	26	31	57	66	50.5				
φ 50	28	27	68	50.5	12	72	56	36	38	26	20	0	Rc3/8	138.5	M10	Rc1/8	28	38	68	77	55				
φ 63	28	27	80	54	13	86	70	43	38	26	22	0	Rc3/8	154	M12	Rc1/4	30	38	80	89	58.5				
φ 80	36	32	98	66	13	106	80	53	43	34	26	0	Rc1/2	179.5	M14	Rc1/4	34	43	98	107	70.5				
φ 100	45	41	118	74	17.5	132	101	66	51	43	28	0	Rc1/2	220.5	M16	Rc3/8	36	51	118	127	78.5				
Symbol												Installation dimensions							With switch						
Bore size (mm)	KK	L	LL	MM	N	Q	T	V	WF	Y	LA	LB	LC	LD	LG	LH	LR	LT	T0, T5, T2, T3			T1,T2Y,T3Y,T2YFM,T3YFM			
																			O	RD	HD	O	RD	HD	
φ 40	M14 x 1.5	38 to 39.5	188	16	2	13	8	15	30	M10 depth 9	269.5	10	19.5	9	227	40	40	3.2	66	11	11	66	10	10	
φ 50	M18 x 1.5	41.0 to 43.5	211.5	20	2.5	14	11	16	34	M10 depth 9	307.5	12	22	9	255.5	40	46	4.5	73	13	13	73	12	12	
φ 63	M18 x 1.5	47.5 to 50.0	229	20	3	15	11	16	30	M12 depth 10	329	12	30	11	289	50	60	4.5	85	13	13	85	12	12	
φ 80	M22 x 1.5	56 to 59	261.5	25	3.5	17	13	17.5	43.5	M14 depth 11	392	14	37	14	335.5	60	74	6.0	105	14.5	14.5	105	13.5	13.5	
φ 100	M26 x 1.5	66 to 69	312.5	30	4	18	16	26	48	M16 depth 13	457.5	21	31	14	374.5	67	80	6.0	121	18.5	18.5	121	17.5	17.5	
Symbol											With bellows					ℓ									
Bore size (mm)	T8			T2YD			H0*			A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over		
	O	RD	HD	O	RD	HD	O	RD	HD																
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8		
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5		
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5		
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5		
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9		

Note: ℓ dimensions below decimal point are rounded up.

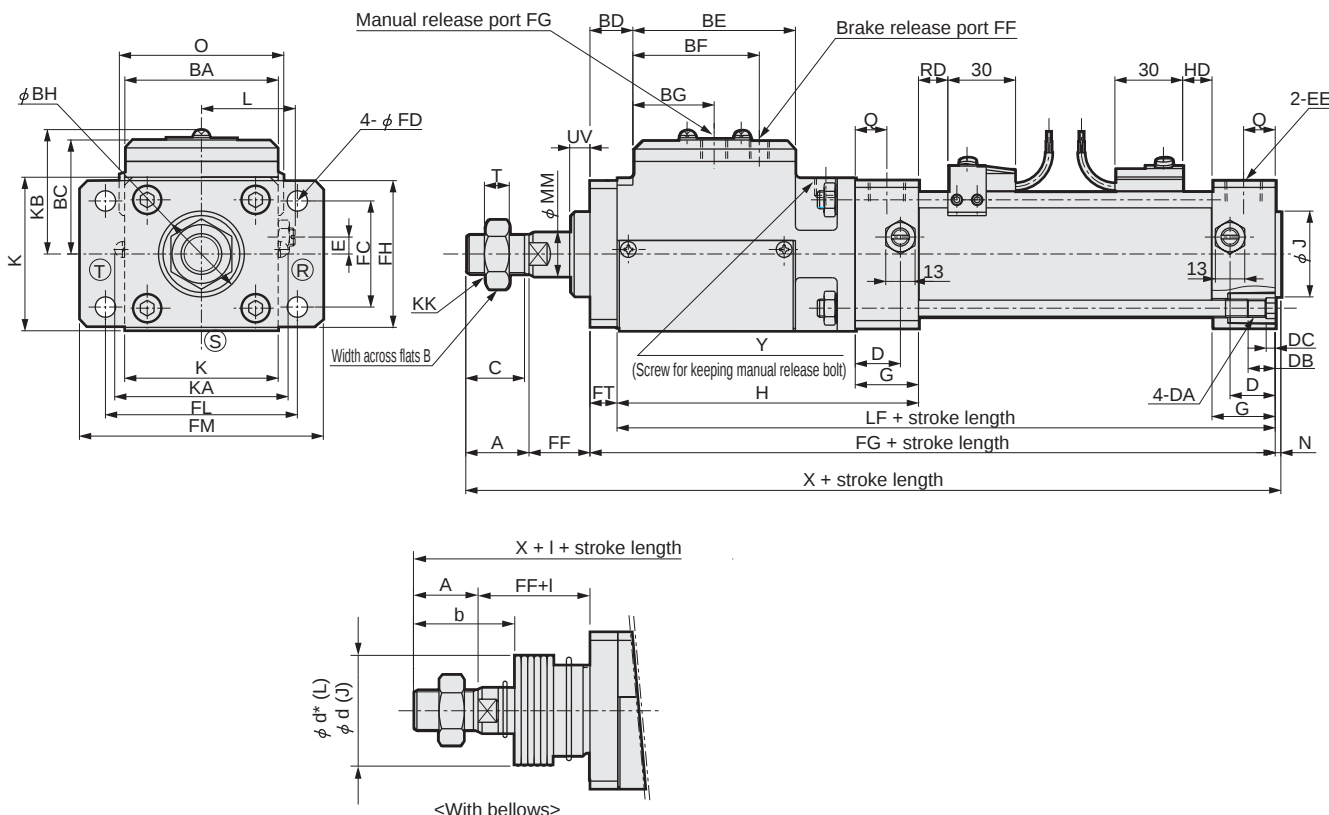
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Dimensions (φ40 to φ100)



● Rod end flange type (FA)



Note 1: (R) (S) (T) indicates a cushion needle position.

Note 2: The rod metal is not fixed, so conversion to the head side flange is not possible.

Note 3: Manual release bolt is attached.

Note 4: Refer to page 1351, 1352 for accessory dimensions.

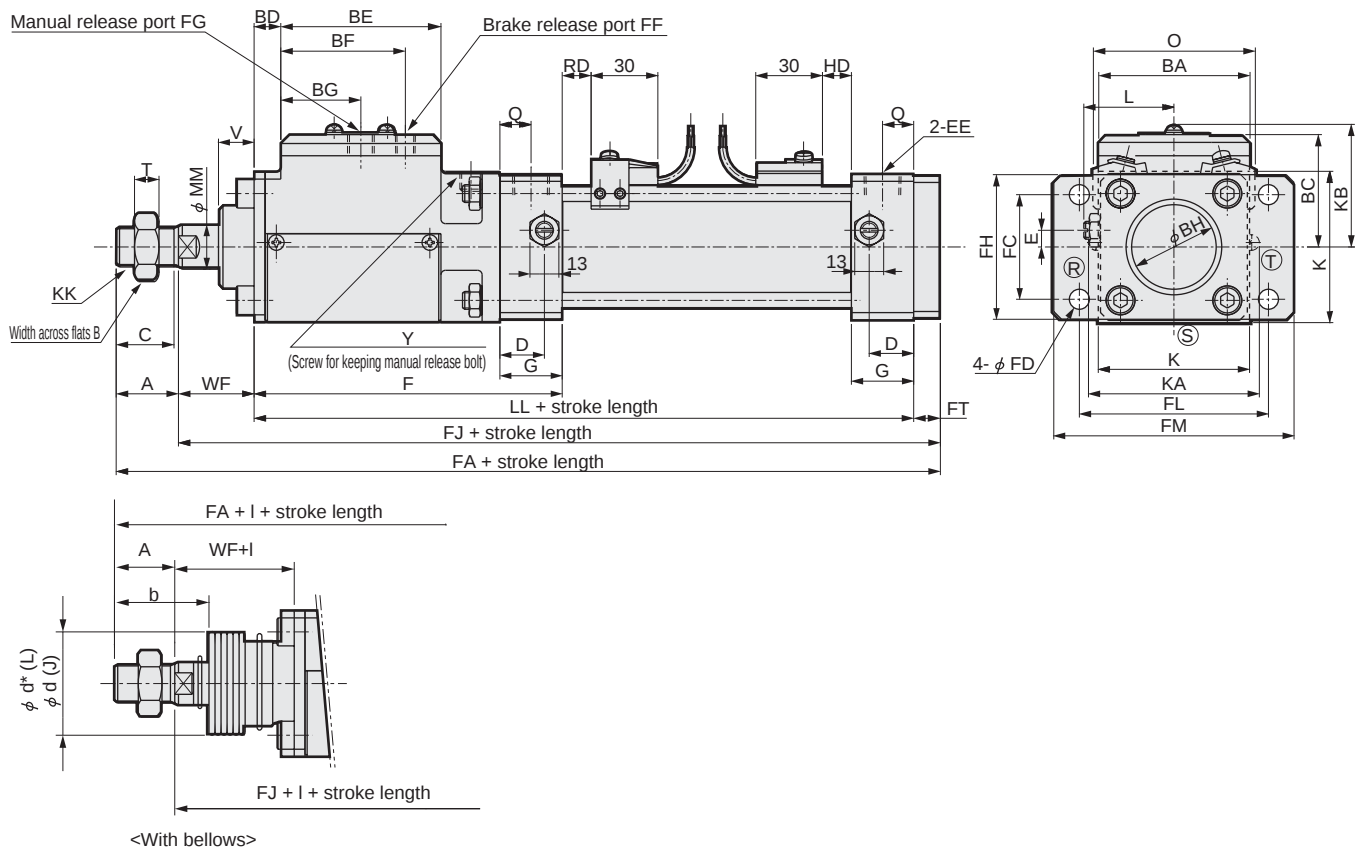
Symbol	Rod end flange type (FA) basic dimensions																			
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	DC	DB	E	EE	FF*	FG	G	H
φ 40	22	22	57	46	17	61	51	31	31	20	18	M8	4	12	7.5	Rc1/4	Rc1/8	M10	26	117
φ 50	28	27	68	50.5	19.5	72	56	36	38	26	20	M8	4	12	0	Rc3/8	Rc1/8	M10	28	134
φ 63	28	27	80	54	21	86	70	43	38	26	22	M8	4	12	0	Rc3/8	Rc1/4	M12	30	146
φ 80	36	32	98	66	27	106	80	53	43	34	26	M12	5	16	0	Rc1/2	Rc1/4	M14	34	173.5
φ 100	45	41	118	74	30	132	101	66	51	43	28	M12	5	16	0	Rc1/2	Rc3/8	M16	36	214.5
Symbol	Installation dimensions										With switch									
Bore size (mm)	KB	KK	L	LF	MM	N	Q	T	UV	X	Y	FC	FD	FF	FH	FJ	FL	FM	FT	T0, T5, T2, T3
φ 40	50.5	M14 x 1.5	38 to 39.5	184	16	2	13	8	7	242	M10 depth 9	40	9	22	57	196	80	100	12	T1, T2Y, T3Y, T2YFM, T3YFM
φ 50	55	M18 x 1.5	41.0 to 43.5	207	20	2.5	14	11	8.5	276	M10 depth 9	47	9	26.5	65	219	85	108	12	
φ 63	58.5	M18 x 1.5	47.5 to 50.0	221	20	3	15	11	8	290	M12 depth 10	60	11	22	80	237	106	130	16	
φ 80	70.5	M22 x 1.5	56 to 59	255.5	25	3.5	17	13	4.5	344.5	M14 depth 11	74	14	30.5	98	274.5	125	153	19	
φ 100	78.5	M26 x 1.5	66 to 69	306.5	30	4	18	16	13	409.5	M16 depth 13	88	14	35	118	325.5	144	180	19	
Symbol	With bellows										ℓ									
Bore size (mm)	T8			T2YD			H0*			A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76

Note: ℓ dimensions below decimal point are rounded up.

Dimensions (φ40 to φ100)



● Head end flange type (FB)



Note 1: (R) (S) (T) indicates a cushion needle position.

Note 2: The piston rod protrusion length (from flange end), rod metal and flange mounting bolt will change, so conversion to the rod side flange is not possible.

Note 3: Manual release bolt is attached.

Note 4: Refer to page 1351, 1352 for accessory dimensions.

Symbol	Head end flange type (FB) basic dimensions																									
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	E	EE	F	FG	FF	G	K	KA	KB						
φ 40	22	22	57	46	9	61	51	31	31	20	18	7.5	Rc1/4	121	M10	Rc1/8	26	57	66	50.5						
φ 50	28	27	68	50.5	12	72	56	36	38	26	20	0	Rc3/8	138.5	M10	Rc1/8	28	68	77	55						
φ 63	28	27	80	54	13	86	70	43	38	26	22	0	Rc3/8	154	M12	Rc1/4	30	80	89	58.5						
φ 80	36	32	98	66	13	106	80	53	43	34	26	0	Rc1/2	179.5	M14	Rc1/4	34	98	107	70.5						
φ 100	45	41	118	74	17.5	132	101	66	51	43	28	0	Rc1/2	220.5	M16	Rc3/8	36	118	127	78.5						
Symbol											Installation dimensions								With switch							
Bore size (mm)	KK	L	LL	MM	Q	T	V	WF	Y	FA	FC	FD	FH	FJ	FL	FM	FT	T0, T5, T2, T3			T1,T2Y,T3Y,T2YFM,T3YFM					
																		O	RD	HD	O	RD	HD			
φ 40	M14 x 1.5	38 to 39.5	188	16	13	8	15	30	M10 depth 9	252	40	9	57	230	80	100	12	66	11	11	66	10	10			
φ 50	M18 x 1.5	41.0 to 43.5	211.5	20	14	11	16	34	M10 depth 9	285.5	47	9	65	257.5	85	108	12	73	13	13	73	12	12			
φ 63	M18 x 1.5	47.5 to 50.0	229	20	15	11	16	30	M12 depth 10	303	60	11	80	275	106	130	16	85	13	13	85	12	12			
φ 80	M22 x 1.5	56 to 59	261.5	25	17	13	17.5	43.5	M14 depth 11	360	74	14	98	324	125	153	19	105	14.5	14.5	105	13.5	13.5			
φ 100	M26 x 1.5	66 to 69	312.5	30	18	16	26	48	M16 depth 13	424.5	88	14	118	379.5	144	180	19	121	18.5	18.5	121	17.5	17.5			
Symbol											With bellows						ℓ									
Bore size (mm)	T8			T2YD			H0*			A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over			
	O	RD	HD	O	RD	HD	O	RD	HD																	
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length)3.0 + 8			
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length)3.6 + 7.5			
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length)3.6 + 7.5			
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length)4.3 + 2.5			
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length)4.5 + 9			

Note: ℓ dimensions below decimal point are rounded up.

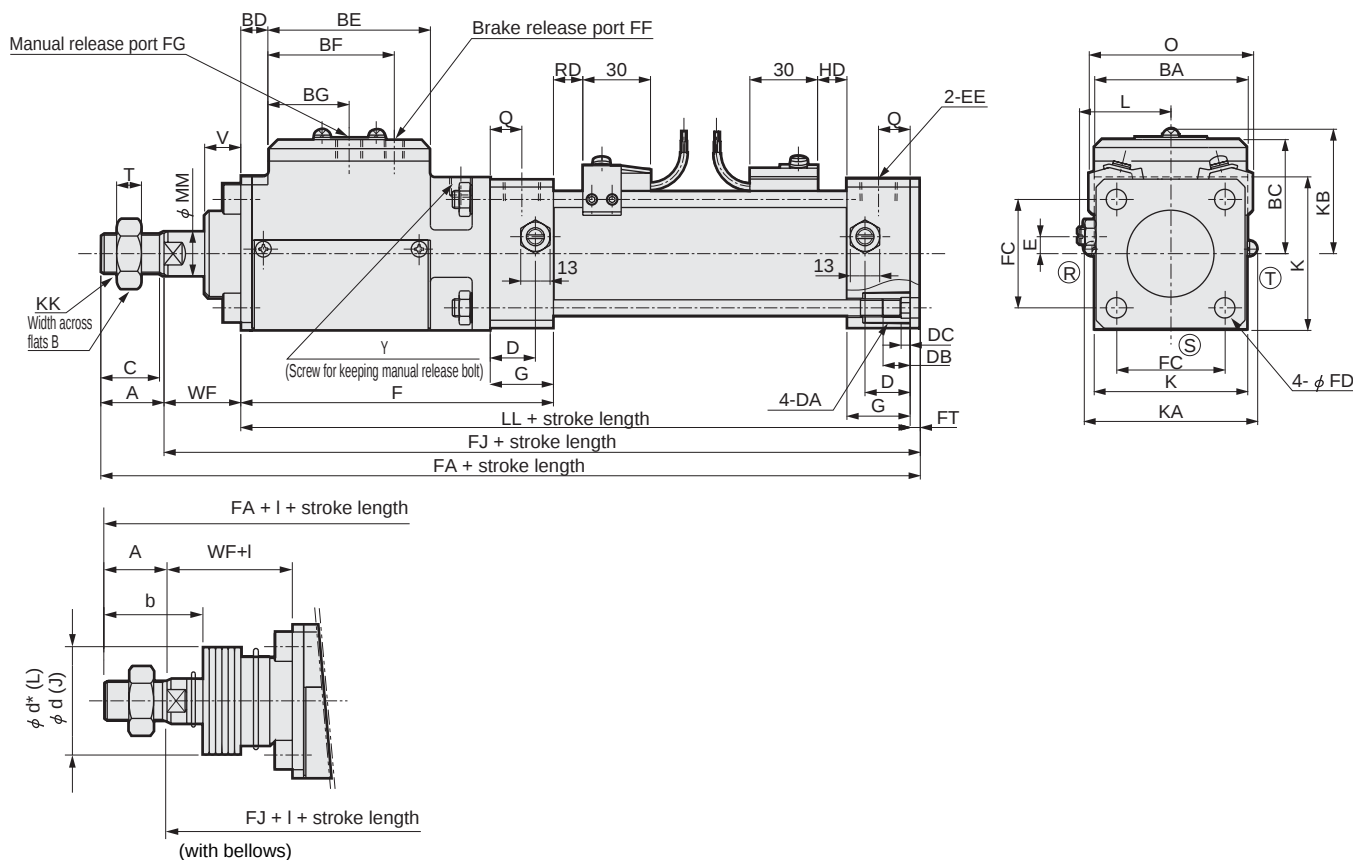
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake



Dimensions (φ40 to φ100)

● Special head end flange type (FC)



Note 1: ® ® ® indicates a cushion needle position.

Note 2: Manual release bolt is attached.

Note 3: Refer to page 1351, 1352 for accessory dimensions.

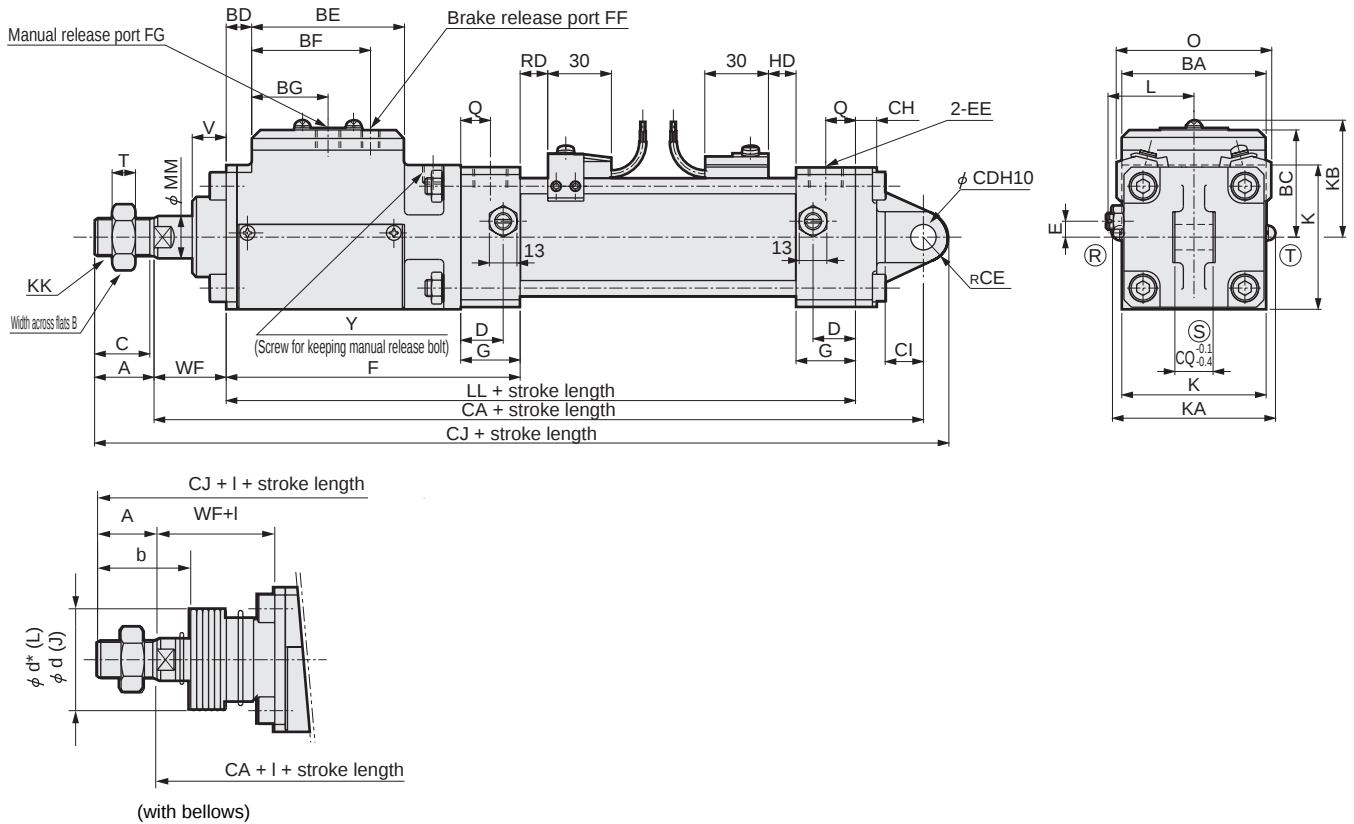
Symbol	Head end flange type (FC) basic dimensions																						
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	D	DA	DB	DC	EE	F	FG	FF	G	K	KK	KA		
φ 40	22	22	57	46	9	61	51	31	20	18	M8	12	4	Rc1/4	121	M10	Rc1/8	26	57	M14 x 1.5	66		
φ 50	28	27	68	50.5	12	72	56	36	26	20	M8	12	4	Rc3/8	138.5	M10	Rc1/8	28	68	M18 x 1.5	77		
φ 63	28	27	80	54	13	86	70	43	26	22	M8	12	4	Rc3/8	154	M12	Rc1/4	30	80	M18 x 1.5	89		
φ 80	36	32	98	66	13	106	80	53	34	26	M12	16	5	Rc1/2	179.5	M14	Rc1/4	34	98	M22 x 1.5	107		
φ 100	45	41	118	74	17.5	132	101	66	43	28	M12	16	5	Rc1/2	220.5	M16	Rc3/8	36	118	M26 x 1.5	127		
Symbol													Installation dimensions					With switch					
Bore size (mm)	KB	L		LL	MM	Q	T	V	WF	Y	FA		FC	FD	FJ	FT	T0, T5, T2, T3			T1,T2Y,T3Y,T2YFM,T3YFM			
																	O	RD	HD	O	RD	HD	
φ 40	50.5	38 to 39.5		188	16	13	8	15	30	M10 depth 9	244.5		40.5	9	222.5	4.5	66	11	11	66	10	10	
φ 50	55	41.0 to 43.5		211.5	20	14	11	16	34	M10 depth 9	278		48	9	250	4.5	73	13	13	73	12	12	
φ 63	58.5	47.5 to 50.0		229	20	15	11	16	30	M12 depth 10	291.5		59	9	263.5	4.5	85	13	13	85	12	12	
φ 80	70.5	56 to 59		261.5	25	17	13	17.5	43.5	M14 depth 11	347		74	14	311	6	105	14.5	14.5	105	13.5	13.5	
φ 100	78.5	66 to 69		312.5	30	18	16	26	48	M16 depth 13	411.5		90	14	366.5	6	121	18.5	18.5	121	17.5	17.5	
Symbol	With bellows										ℓ												
Bore size (mm)	T8			T2YD			H0*			A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over
	O	RD	HD	O	RD	HD	O	RD	HD														
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9

Note: ℓ dimensions below decimal point are rounded up.

Dimensions (φ40 to φ100)



● Eye bracket type (CA)



Note 1: (R) (S) (T) indicates a cushion needle position.
 Note 2: Refer to page 1351, 1352 for accessory dimensions.

Symbol	Eye bracket type (CA) basic dimensions																								
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	D	E	EE	F	FF	FG	G	K	KK	KA						
φ 40	22	22	57	46	9	61	51	31	20	18	7.5	Rc1/4	121	Rc1/8	M10	26	57	M14 x 1.5	66						
φ 50	28	27	68	50.5	12	72	56	36	26	20	0	Rc3/8	138.5	Rc1/8	M10	28	68	M18 x 1.5	77						
φ 63	28	27	80	54	13	86	70	43	26	22	0	Rc3/8	154	Rc1/4	M12	30	80	M18 x 1.5	89						
φ 80	36	32	98	66	13	106	80	53	34	26	0	Rc1/2	179.5	Rc1/4	M14	34	98	M22 x 1.5	107						
φ 100	45	41	118	74	17.5	132	101	66	43	28	0	Rc1/2	220.5	Rc3/8	M16	36	118	M26 x 1.5	127						
Symbol											Installation dimensions						With switch								
Bore size (mm)	KB	L		LL	MM	Q	T	V	WF	Y	CA		CD	CE	CH	CI	CJ	CQ	T0, T5, T2, T3		T1,T2Y,T3Y,T2YFM,T3YFM				
																			O	RD	HD	O	RD	HD	
φ 40	50.5	38 to 39.5		188	16	13	8	15	30	M10 depth 9	250	12	12	10	18	284	18	66	11	11	66	10	10		
φ 50	55	41.0 to 43.5		211.5	20	14	11	16	34	M10 depth 9	277.5	12	12	10	18	317.5	18	73	13	13	73	12	12		
φ 63	58.5	47.5 to 50.0		229	20	15	11	16	30	M12 depth 10	296	14	16	10	24	340	20	85	13	13	85	12	12		
φ 80	70.5	56 to 59		261.5	25	17	13	17.5	43.5	M14 depth 11	357	20	20	14	30	413	28	105	14.5	14.5	105	13.5	13.5		
φ 100	78.5	66 to 69		312.5	30	18	16	26	48	M16 depth 13	412.5	20	20	16	30	477.5	28	121	18.5	18.5	121	17.5	17.5		
Symbol											With bellows					ℓ									
Bore size (mm)	T8			T2YD			H0*																		
	O	RD	HD	O	RD	HD	O	RD	HD	A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over		
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length(2.0) + 8		
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length(2.6) + 7.5		
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length(2.6) + 7.5		
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length(4.3) + 2.5		
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length(4.5) + 9		

Note: ℓ dimensions below decimal point are rounded up.

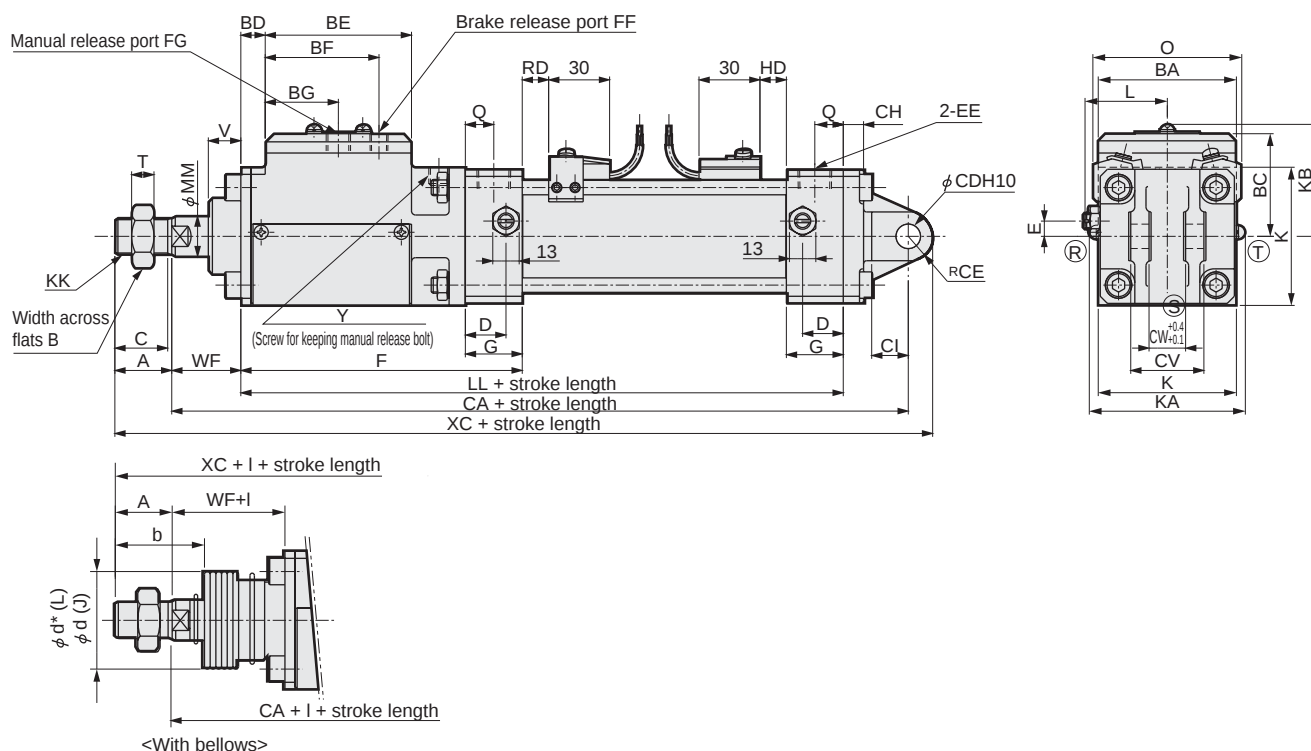
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 CMA2
 SCM
 SCG
 SCA2
 SCS
 CKV2
 CA/OV2
 SSD
 CAT
 MDC2
 MVC
 SMD2
 MSD*
 FC*
 STK
 ULK*
 JSK/M2
 JSG
JSC3
 USSD
 USC
 JSB3
 LMB
 STG
 STS/L
 LCS
 LCG
 LCM
 LCT
 LCY
 STR2
 UCA2
 HCM
 HCA
 SRL2
 SRG
 SRM
 SRT
 MRL2
 MRG2
 SM-25
 CAC3
 UCAC
 RCC2
 MFC
 SHC
 GLC

Ending
 Brake cylinder (medium and large bore size)
 With brake



Dimensions (φ40 to φ100)

● Clevis bracket type (CB)



Note 1: (R)(S)(T) indicates a cushion needle position. · A pin is attached.

Note 2: Refer to page 1351, 1352 for accessory dimensions.

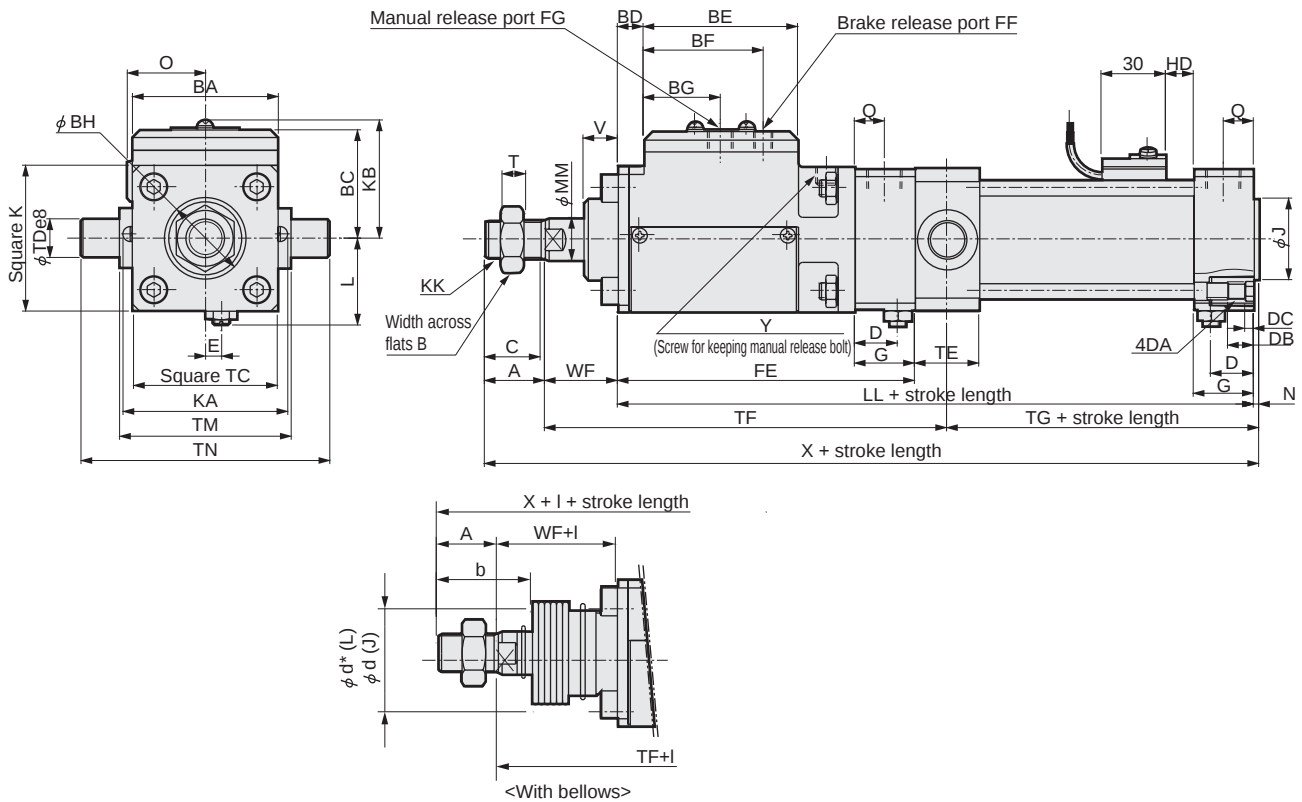
Symbol	Clevis bracket type (CB) basic dimensions																							
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	D	EE	F	FF	FG	G	K	KK	KA						
φ 40	22	22	57	46	9	61	51	31	20	18	Rc1/4	121	Rc1/8	M10	26	57	M14 x 1.5	66						
φ 50	28	27	68	50.5	12	72	56	36	26	20	Rc3/8	138.5	Rc1/8	M10	28	68	M18 x 1.5	77						
φ 63	28	27	80	54	13	86	70	43	26	22	Rc3/8	154	Rc1/4	M12	30	80	M18 x 1.5	89						
φ 80	36	32	98	66	13	106	80	53	34	26	Rc1/2	179.5	Rc1/4	M14	34	98	M22 x 1.5	107						
φ 100	45	41	118	74	17.5	132	101	66	43	28	Rc1/2	220.5	Rc3/8	M16	36	118	M26 x 1.5	127						
Symbol											Installation dimensions								With switch					
Bore size (mm)	KB	L	LL	MM	Q	T	V	WF	XC	Y	CA	CD	CE	CH	CI	CV	CW	T0, T5, T2, T3			T1,T2Y,T3Y,T2YFM,T3YFM			
																		O	RD	HD	O	RD	HD	
φ 40	50.5	38 to 39.5	188	16	13	8	15	30	284	M10 depth 9	250	12	12	10	18	36	18	66	11	11	66	10	10	
φ 50	55	41.0 to 43.5	211.5	20	14	11	16	34	317.5	M10 depth 9	277.5	12	12	10	18	36	18	73	13	13	73	12	12	
φ 63	58.5	47.5 to 50.0	229	20	15	11	16	30	340	M12 depth 10	296	14	16	10	24	40	20	85	13	13	85	12	12	
φ 80	70.5	56 to 59	261.5	25	17	13	17.5	43.5	413	M14 depth 11	357	20	20	14	30	56	28	105	14.5	14.5	105	13.5	13.5	
φ 100	78.5	66 to 69	312.5	30	18	16	26	48	477.5	M16 depth 13	412.5	20	20	16	30	56	28	121	18.5	18.5	121	17.5	17.5	
Symbol											With bellows						ℓ							
Bore size (mm)	T8			T2YD			H0*			A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over	
	O	RD	HD	O	RD	HD	O	RD	HD															
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length(3.0) + 8	
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length(3.6) + 7.5	
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length(3.6) + 7.5	
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length(4.3) + 2.5	
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke lenath(4.5) + 9	

Note: ℓ dimensions below decimal point are rounded up.

Dimensions (φ40 to φ100)



● Rod end trunnion type (TA)



Note 1: A position can not be detected at rod side stroke end.

Note 2: A cushion needle position can not be detected.

Note 3: Refer to page 1351, 1352 for accessory dimensions.

Symbol	Rod end trunnion type (TA) basic dimensions																										
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	DB	DC	E	EE	FE	FF	FG	G	J	K					
φ 40	22	22	57	46	9	61	51	31	31	20	18	M8	12	4	7.5	Rc1/4	121	Rc1/8	M10	26	31	57					
φ 50	28	27	68	50.5	12	72	56	36	38	26	20	M8	12	4	0	Rc3/8	138.5	Rc1/8	M10	28	38	68					
φ 63	28	27	80	54	13	86	70	43	38	26	22	M8	12	4	0	Rc3/8	154	Rc1/4	M12	30	38	80					
φ 80	36	32	98	66	13	106	80	53	43	34	26	M12	16	5	0	Rc1/2	179.5	Rc1/4	M14	34	43	98					
φ 100	45	41	118	74	17.5	132	101	66	51	43	28	M12	16	5	0	Rc1/2	220.5	Rc3/8	M16	36	51	118					
Symbol																Installation dimensions						With switch					
Bore size (mm)	KA	KB	KK	L	LL	MM	N	Q	T	V	WF	X	Y	TC	TD	TE	TF	TG	TM	TN	TO, T5, T2, T3						
																					O	HD					
φ 40	66	50.5	M14 x 1.5	38 to 39.5	188	16	2	13	8	15	30	242	M10 depth 9	57	16	30	166.5	53.5	63	95	33	11					
φ 50	77	55	M18 x 1.5	41.0 to 43.5	211.5	20	2.5	14	11	16	34	276	M10 depth 9	67	18	30	188	60	80	116	36.5	13					
φ 63	89	58.5	M18 x 1.5	47.5 to 50.0	229	20	3	15	11	16	30	290	M12 depth 10	82	20	35	202	60	90	130	42.5	13					
φ 80	107	70.5	M22 x 1.5	56 to 59	261.5	25	3.5	17	13	17.5	43.5	344.5	M14 depth 11	100	25	40	243.5	65	115	165	52.5	14.5					
φ 100	127	78.5	M26 x 1.5	66 to 69	312.5	30	4	18	16	26	48	409.5	M16 depth 13	121	35	50	294	70.5	135	205	60.5	18.5					
Symbol													With bellows					ℓ									
Bore size (mm)	T1,T2Y,T3Y T2YF/M,T3YF/M		T8		T2YD		H0*		A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over					
	O	HD	O	HD	O	HD	O	HD																			
φ 40	33	10	33	5	33	10	33	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8					
φ 50	36.5	12	36.5	7	36.5	12	36.5	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5					
φ 63	42.5	12	42.5	7	42	12	42	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5					
φ 80	52.5	13.5	52.5	8.5	52	13.5	52	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5					
φ 100	60.5	17.5	60.5	12.5	60	17.5	60	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9					

Note: ℓ dimensions below decimal point are rounded up.

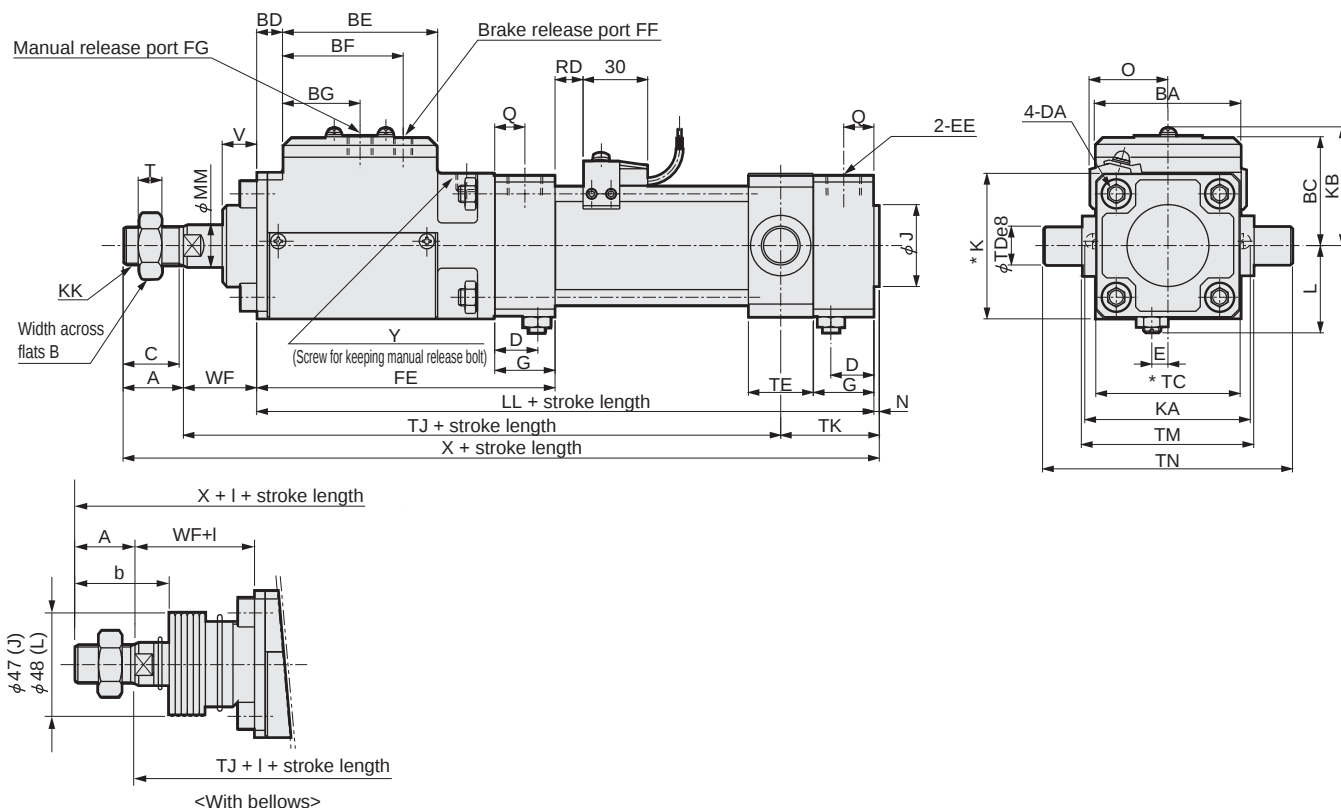
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake



Dimensions (φ40 to φ100)

● Head end trunnion type (TB)



Note 1: A position can not be detected at head side stroke end.

Note 2: A cushion needle position can not be changed.

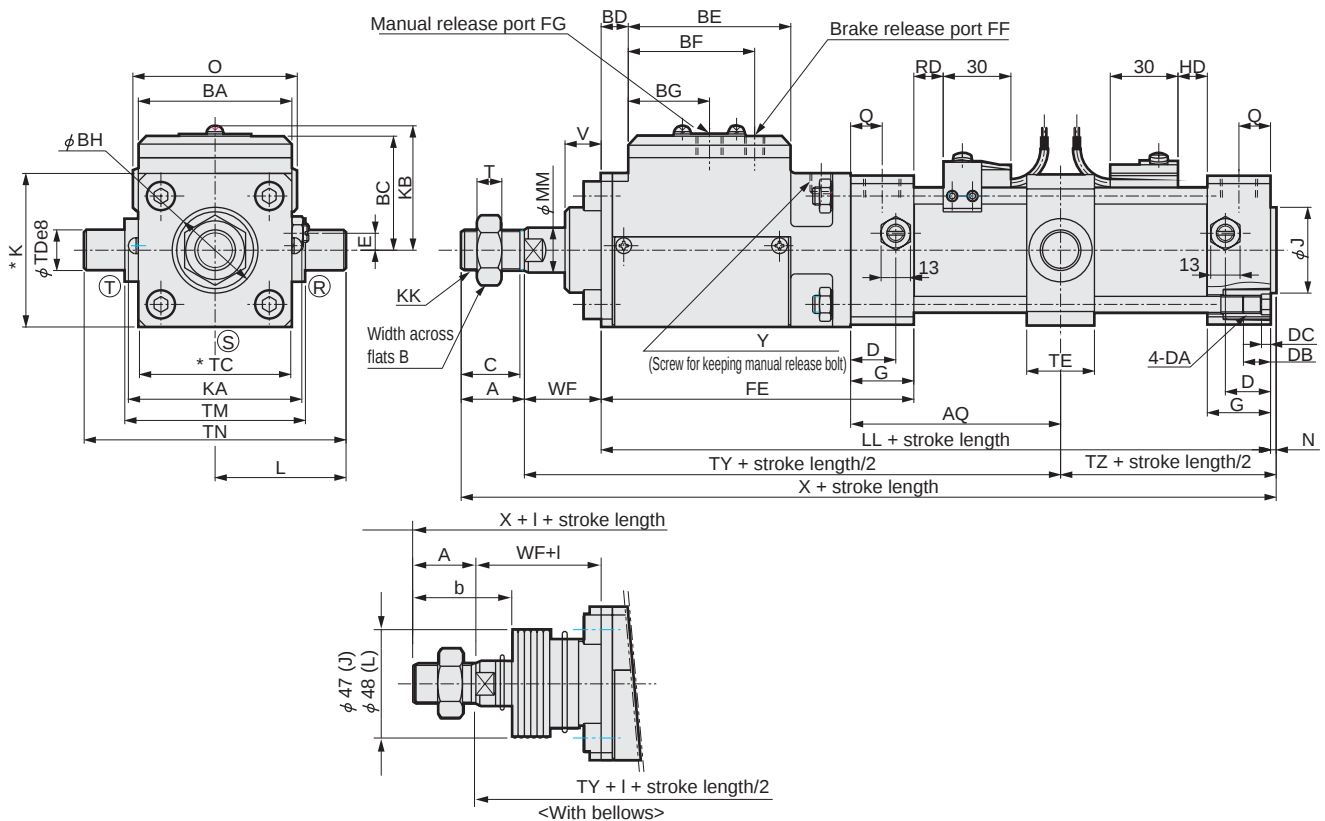
Note 3: Refer to page 1351, 1352 for accessory dimensions.

Symbol	Head end trunnion type (TB) basic dimensions																										
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	EE	FE	FF	FG	G	J	K	KA							
φ 40	22	22	57	46	9	61	51	31	31	20	18	M8	Rc1/4	121	Rc1/8	M10	26	31	57	66							
φ 50	28	27	68	50.5	12	72	56	36	38	26	20	M8	Rc3/8	138.5	Rc1/8	M10	28	38	68	77							
φ 63	28	27	80	54	13	86	70	43	38	26	22	M8	Rc3/8	154	Rc1/4	M12	30	38	80	89							
φ 80	36	32	98	66	13	106	80	53	43	34	26	M12	Rc1/2	179.5	Rc1/4	M14	34	43	98	107							
φ 100	45	41	118	74	17.5	132	101	66	51	43	28	M12	Rc1/2	220.5	Rc3/8	M16	36	51	118	127							
Symbol														Installation dimensions							With switch						
Bore size (mm)	KB	KK	L		LL	MM	N	Q	T	V	WF	X	Y	TC	TD	TE	TJ	TK	TM	TN	T0, T5, T2, T3						
																					O	RD					
φ 40	50.5	M14 x 1.5	38 to 39.5		188	16	2	13	8	15	30	242	M10 depth 9	57	16	30	176.5	43.5	63	95	33	11					
φ 50	55	M18 x 1.5	41.0 to 43.5		211.5	20	2.5	14	11	16	34	276	M10 depth 9	67	18	30	202	46	80	116	36.5	13					
φ 63	58.5	M18 x 1.5	47.5 to 50.0		229	20	3	15	11	16	30	290	M12 depth 10	82	20	35	211	51	90	130	42.5	13					
φ 80	70.5	M22 x 1.5	56 to 59		261.5	25	3.5	17	13	17.5	43.5	344.5	M14 depth 11	100	25	40	250.5	58	115	165	52.5	14.5					
φ 100	78.5	M26 x 1.5	66 to 69		312.5	30	4	18	16	26	48	409.5	M16 depth 13	121	35	50	299	65.5	135	205	60.5	18.5					
Symbol														With bellows					ℓ								
Bore size (mm)	T1,T2Y,T3Y T2YFM,T3YFM		T8		T2YD		H0*							A	WF	FF	b	d	d+	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over
	O	RD	O	RD	O	RD	O	RD																			
φ 40	33	10	33	5	33	10	33	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8					
φ 50	36.5	12	36.5	7	36.5	12	36.5	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5					
φ 63	42.5	12	42.5	7	42	12	42	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5					
φ 80	52.5	13.5	52.5	8.5	52	13.5	52	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5					
φ 100	60.5	17.5	60.5	12.5	60	17.5	60	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 2.5					

Note: ℓ dimensions below decimal point are rounded up.

Dimensions (φ40 to φ100)

● Center trunnion type (TC)



Note 1: (R)(S)(T) indicates a cushion needle position.

Note 2: Refer to page 1351, 1352 for accessory dimensions.

Symbol	Center trunnion type (TC) basic dimensions																								
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	DB	DC	E	EE	FE	FF	FG	G	J	K	KA	KB	
φ 40	22	22	57	46	9	61	51	31	31	20	18	M8	12	4	7.5	Rc1/4	121	Rc1/8	M10	26	31	57	66	50.5	
φ 50	28	27	68	50.5	12	72	56	36	38	26	20	M8	12	4	0	Rc3/8	138.5	Rc1/8	M10	28	38	68	77	55	
φ 63	28	27	80	54	13	86	70	43	38	26	22	M8	12	4	0	Rc3/8	154	Rc1/4	M12	30	38	80	89	58.5	
φ 80	36	32	98	66	13	106	80	53	43	34	26	M12	16	5	0	Rc1/2	179.5	Rc1/4	M14	34	43	98	107	70.5	
φ 100	45	41	118	74	17.5	132	101	66	51	43	28	M12	16	5	0	Rc1/2	220.5	Rc3/8	M16	36	51	118	127	78.5	
Symbol													Installation dimensions								With switch				
Bore size (mm)	KK		L	LL	MM	N	Q	T	V	WF	X	Y	AQ		TC	TD	TE	TM	TN	TY	TZ	T0, T5, T2, T3		T1,T2Y,T3Y,T2YF,M,T3YF,M	
	O	RD	HD	O	RD	HD	O	RD	HD	A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over		
φ 40	66	5	5	66	10	10	66	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8		
φ 50	73	7	7	73	12	12	73	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5		
φ 63	85	7	7	84	12	12	84	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5		
φ 80	105	8.5	8.5	104	13.5	13.5	104	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5		
φ 100	121	12.5	12.5	120	17.5	17.5	120	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9		

Note: ℓ dimensions below decimal point are rounded up.

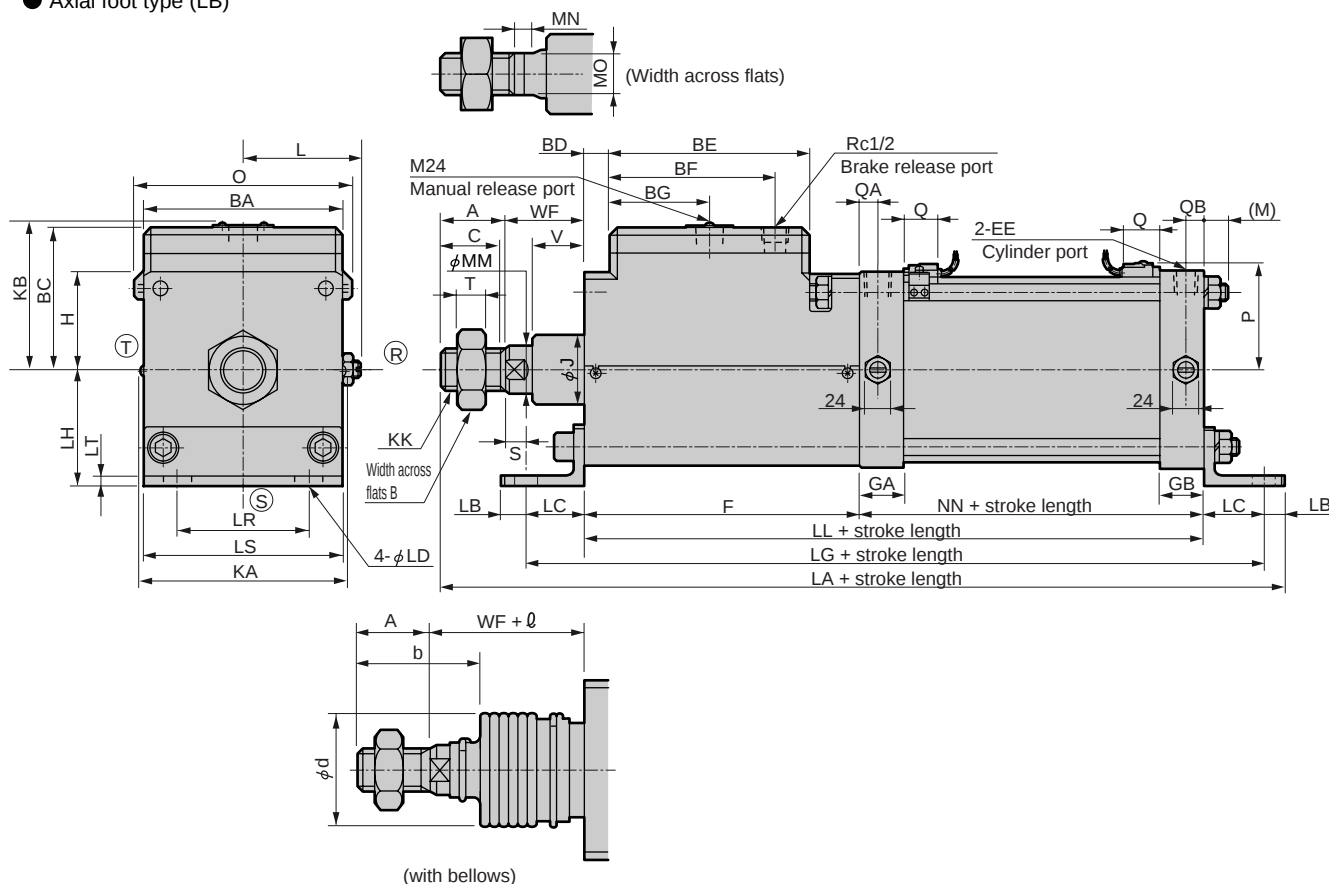
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CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake



Dimensions (φ 125 to φ 180)

● Axial foot type (LB)



Note 1: (R)(S)(T) indicates a cushion needle position.
 Note 2: Refer to page 1353 for accessory dimensions.

Click on the left side of the page to go to the next page.

Symbol	Axial foot type (LB) basic dimensions																				
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	H	J	KA	KB	KK	L	LL	M
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	70	55	150	115	M30 x 1.5	83 to 91	291	20
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	78.5	55	167	122.5	M30 x 1.5	91.5 to 99.5	318	20
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	88.5	62.5	190	134	M36 x 1.5	101.5 to 109.5	350	23
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	100	68.5	213	152	M40 x 1.5	113 to 121	373	26

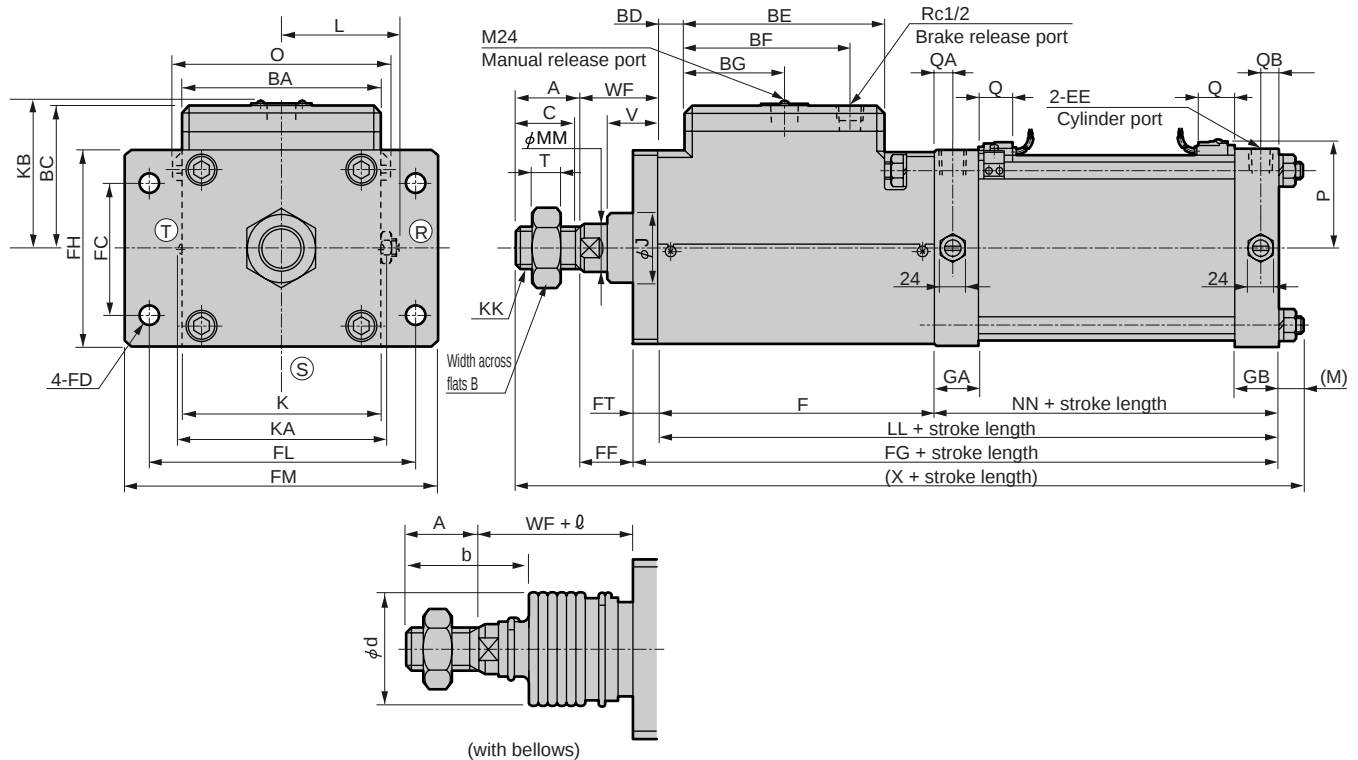
Symbol	Installation dimensions																		
Bore size (mm)	MM	MN	MO	NN	QA	QB	S	T	V	WF	LA	LB	LC	LD	LG	LH	LR	LS	LT
φ 125	35	14	30	91	14	15	10	18	35	55	461	20	45	19	381	85	100	140	7
φ 140	35	14	30	102	16	17	7	18	35	57	495	20	50	19	418	100	112	157	8
φ 160	40	16	36	105	16	17	18.5	21	48	71.5	550.5	20	53	19	456	106	118	177	10
φ 180	45	18	41	109	16	17	18.5	24	53	78.5	601.5	27	60	24	493	125	132	200	10

Symbol	With switch								With bellows											
	O	P				Q														
		Grommet	Terminal box		T2YDP*	Grommet	Terminal box		T2YDP*	A	WF	b	d	ℓ						
Bore size (mm)			R*B	R*A																
φ 125	142	78.5	107.5	103	80	32	44.5	30	30	50	55	74	75	(Stroke length/4.55) + 11						
φ 140	156	85	114	109.5	86.5	32	44.5	30	30	50	57	74	75	(Stroke length/4.55) + 9						
φ 160	176	93.5	122	117.5	95	32	44.5	30	30	56	71.5	82	80	(Stroke length/5.15) + 9						
φ 180	196	109.5	130	125.5	103	32	44.5	30	30	63	78.5	91	90	(Stroke length/5.15) + 9						

Dimensions (φ 125 to φ 180)



● Rod end flange type (FA)



Note 1: (R)(S)(T) indicates a cushion needle position.
Note 2: Refer to page 1353 for accessory dimensions.

Symbol	Rod end flange type (FA) basic dimensions																								
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L	LL	M				
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91	291	20				
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5	318	20				
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5	350	23				
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121	373	26				
Symbol									Installation dimensions								With switch								
																	O	P				Q			
																		Grommet	Terminal box		T2YDP*	Grommet	Terminal box	T2YDP*	
Bore size (mm)	MM	NN	QA	QB	T	V	WF	X	FC	FD	FF	FG	FH	FL	FM	FT	R*B	R*A							
φ 125	35	91	14	15	18	35	55	416	100	19	35	311	140	190	230	20	142	78.5	107.5	103	80	32	44.5	30	
φ 140	35	102	16	17	18	35	57	445	112	19	37	338	157	212	250	20	156	85	114	109.5	86.5	32	44.5	30	
φ 160	40	105	16	17	21	48	71.5	500.5	118	19	49.5	372	177	236	280	22	176	93.5	122	117.5	95	32	44.5	30	
φ 180	45	109	16	17	24	53	78.5	540.5	132	24	53.5	398	200	265	310	25	196	109.5	130	125.5	103	32	44.5	30	
Symbol	With bellows																								
Bore size (mm)	A	WF	b	d	ℓ																				
φ 125	50	55	74	75	(Stroke length/4.55) + 11																				
φ 140	50	57	74	75	(Stroke length/4.55) + 9																				
φ 160	56	71.5	82	80	(Stroke length/5.15) + 9																				
φ 180	63	78.5	91	90	(Stroke length/5.15) + 9																				

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

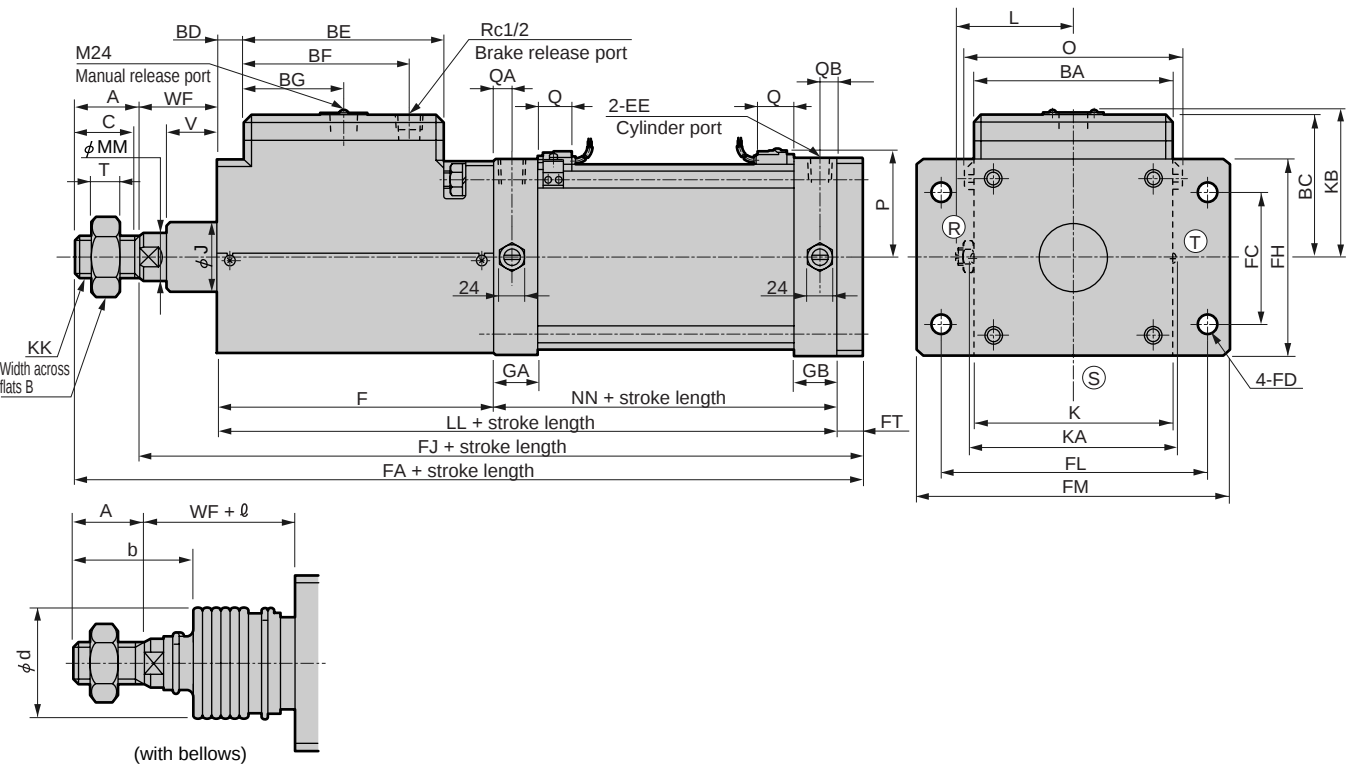
Brake cylinder (medium and large bore size)
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Dimensions (φ 125 to φ 180)



● Head end flange type (FB)



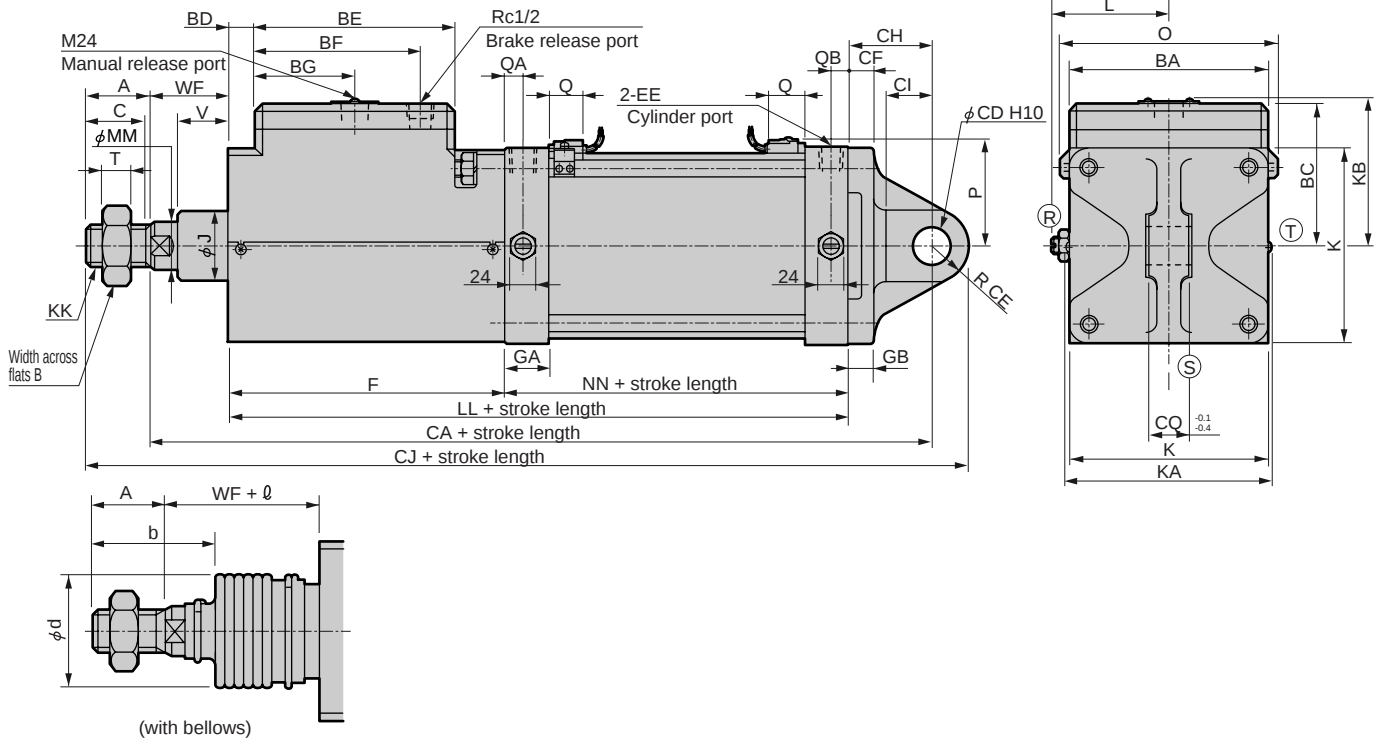
Note 1: (R)(S)(T) indicates a cushion needle position.
Note 2: Refer to page 1353 for accessory dimensions.

Symbol	Head end flange type (FB) basic dimensions																					
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L	LL	MM	
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91	291	35	
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5	318	35	
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5	350	40	
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121	373	45	
Symbol							Installation dimensions							With switch								
														O	P				Q			
															Grommet	Terminal box		T2YDP*	Grommet	Terminal box	T2YDP*	
Bore size (mm)	NN	QA	QB	T	V	WF	FA	FC	FD	FH	FJ	FL	FM	FT			R*B	R*A				
φ 125	91	14	15	18	35	55	410	100	19	140	360	190	230	14	142	78.5	107.5	103	80	32	44.5	30
φ 140	102	16	17	18	35	57	444	112	19	157	394	212	250	19	156	85	114	109.5	86.5	32	44.5	30
φ 160	105	16	17	21	48	71.5	496.5	118	19	177	440.5	236	280	19	176	93.5	122	117.5	95	32	44.5	30
φ 180	109	16	17	24	53	78.5	539.5	132	24	200	476.5	265	310	25	196	109.5	130	125.5	103	32	44.5	30
Symbol	With bellows																					
Bore size (mm)	A	WF	b	d	ℓ																	
φ 125	50	55	74	75	(Stroke length/4.55) + 11																	
φ 140	50	57	74	75	(Stroke length/4.55) + 9																	
φ 160	56	71.5	82	80	(Stroke length/5.15) + 9																	
φ 180	63	78.5	91	90	(Stroke length/5.15) + 9																	

Dimensions (φ 125 to φ 180)



● Eye bracket type (CA)



Note 1: (R)(S)(T) indicates a cushion needle position.
Note 2: Refer to page 1353 for accessory dimensions.

Symbol	Eye bracket type (CA) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121
Symbol	Installation dimensions																		
Bore size (mm)	NN	QA	QB	T	V	WF	CA	CD	CE	CF	CH	CI	CJ	CQ	O	With switch			
																P		Q	
																Grommet	Terminal box	Grommet	Terminal box
																R*B	R*A	T2YDP*	T2YDP*
φ 125	91	14	15	18	35	55	409	25	25	20	63	35	483.5	32	142	78.5	107.5	103	80
φ 140	102	16	17	18	35	57	450	28	28	22	75	40	527.5	36	156	85	114	109.5	86.5
φ 160	105	16	17	21	48	71.5	496.5	32	32	24	75	40	584	40	176	93.5	122	117.5	95
φ 180	109	16	17	24	53	78.5	541.5	40	40	25	90	55	644	50	196	109.5	130	125.5	103
Symbol	With bellows																		
Bore size (mm)	A	WF	b	d	ℓ														
φ 125	50	55	74	75	(Stroke length/4.55) + 11														
φ 140	50	57	74	75	(Stroke length/4.55) + 9														
φ 160	56	71.5	82	80	(Stroke length/5.15) + 9														
φ 180	63	78.5	91	90	(Stroke length/5.15) + 9														

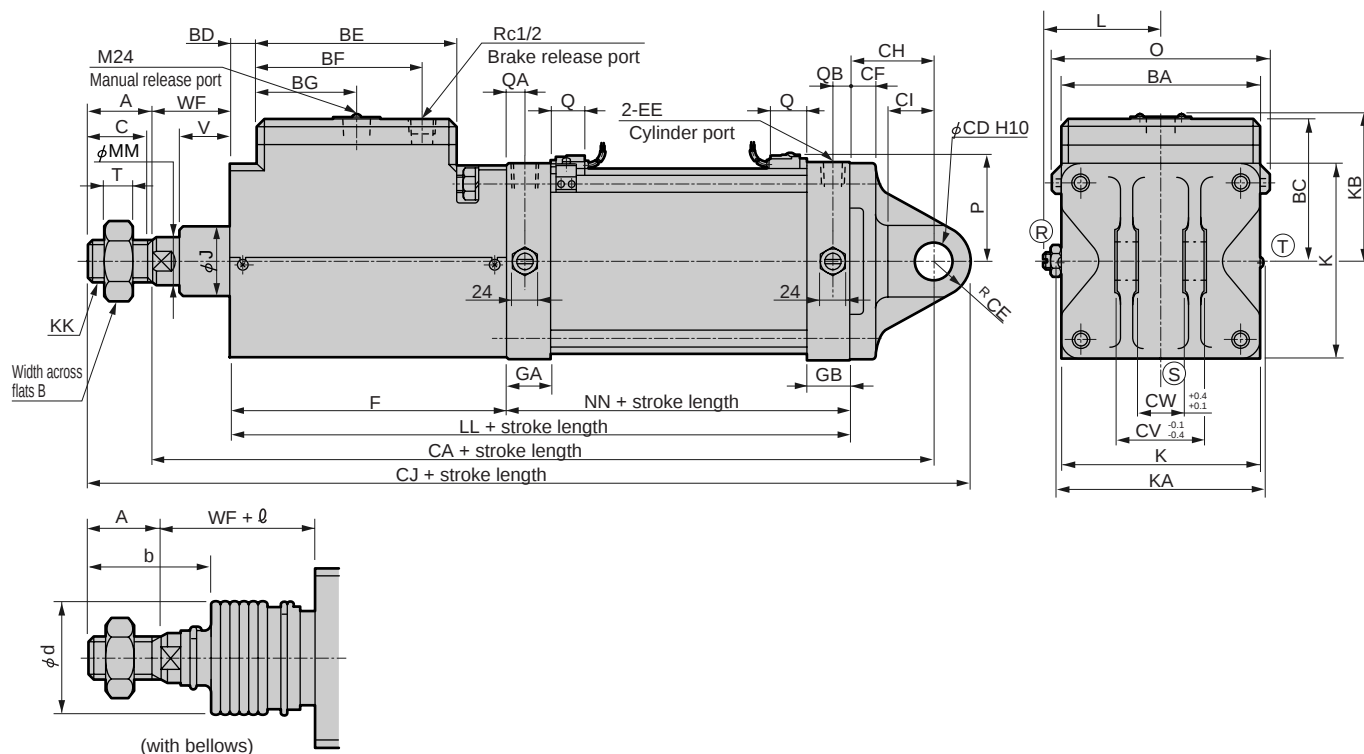
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CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Dimensions (ϕ 125 to ϕ 180)



● Clevis bracket type (CB)



Note 1: (R)(S)(T) indicates a cushion needle position. · A pin is attached.

Note 2: Refer to page 1353 for dimensions with bellows.

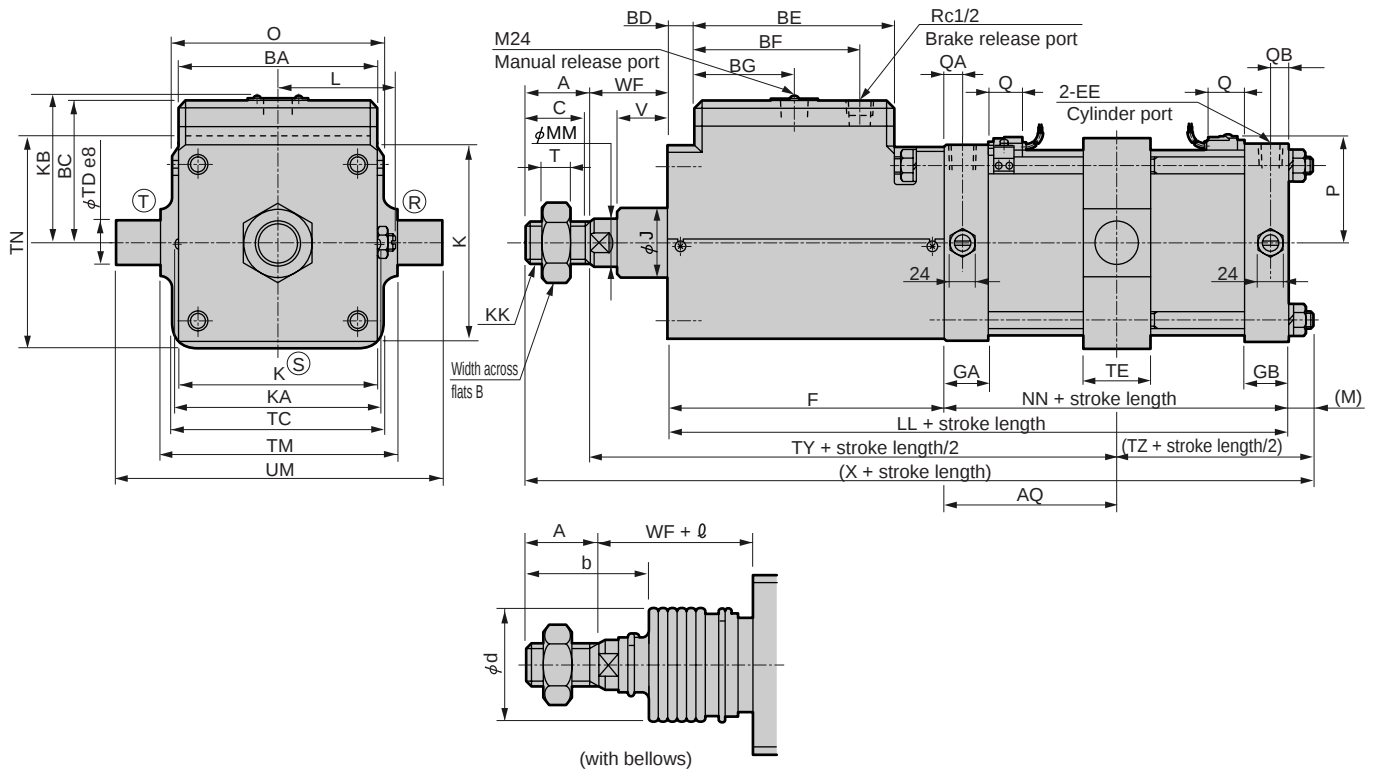
Note 3: Refer to page 1353 for the dimensions of the accessory.

Symbol	Clevis bracket type (CB) basic dimensions																						
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L	LL	MM		
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91	291	35		
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5	318	35		
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5	350	40		
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121	373	45		
Symbol						Installation dimensions										With switch							
																O	P				Q		
																	Grommet	Terminal box		T2YDP*	Grommet	Terminal box	T2YDP*
Bore size (mm)	NN	QA	QB	T	V	WF	CA	CD	CE	CF	CH	CI	CJ	CV	CW			R*B	R*A				
φ 125	91	14	15	18	35	55	409	25	25	20	63	35	484	64	32	142	78.5	107.5	103	80	32	44.5	30
φ 140	102	16	17	18	35	57	450	28	28	22	75	40	528	72	36	156	85	114	109.5	86.5	32	44.5	30
φ 160	105	16	17	21	48	71.5	496.5	32	32	24	75	40	584.5	80	40	176	93.5	122	117.5	95	32	44.5	30
φ 180	109	16	17	24	53	78.5	541.5	40	40	25	90	55	644.5	100	50	196	109.5	130	125.5	103	32	44.5	30
Symbol	With bellows																						
Bore size (mm)	A	WF	b	d	ℓ																		
φ 125	50	55	74	75	(Stroke length/4.55) + 11																		
φ 140	50	57	74	75	(Stroke length/4.55) + 9																		
φ 160	56	71.5	82	80	(Stroke length/5.15) + 9																		
φ 180	63	78.5	91	90	(Stroke length/5.15) + 9																		

Dimensions (φ 125 to φ 180)



● Center trunnion type (TC)



Note 1: (R)(S)(T) indicates a cushion needle position.

Note 2: Refer to page 1353 for accessory dimensions.

Symbol	Center trunnion type (TC) basic dimensions																				
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L	LL	M
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91	291	20
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5	318	20
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5	350	23
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121	373	26
Symbol									Installation dimensions												
Bore size (mm)	MM	NN	QA	QB	T	V	WF	X	AQ			TC	TN	TD	TE	TM	UM	TY	TZ		
φ 125	35	91	14	15	18	35	55	416	45.5+ Stroke length 2			150	150	32	50	170	234	300	66		
φ 140	35	102	16	17	18	35	57	445	51+ Stroke length 2			154	170	36	55	190	262	323.5	71.5		
φ 160	40	105	16	17	21	48	71.5	500.5	52.5+ Stroke length 2			190	190	40	60	212	292	368.5	76		
φ 180	45	109	16	17	24	53	78.5	540.5	54.5+ Stroke length 2			210	210	45	65	236	326	396.5	81		
Symbol	With switch												With bellows								
Bore size (mm)	O	Grommet	P			T2YDP*	Q														
			Terminal box		T2YDP*		Grommet	Terminal box	T2YDP*	A	WF	b	d	ℓ							
φ 125	142	78.5	107.5			103				80	32	44.5	30	50	55	74	75	(Stroke length/4.55) + 11			
φ 140	156	85	114		109.5	86.5	32	44.5	30	50	57	74	75	(Stroke length/4.55) + 9							
φ 160	176	93.5	122		117.5	95	32	44.5	30	56	71.5	82	80	(Stroke length/5.15) + 9							
φ 180	196	109.5	130		125.5	103	32	44.5	30	63	78.5	91	90	(Stroke lenath/5.15) + 9							

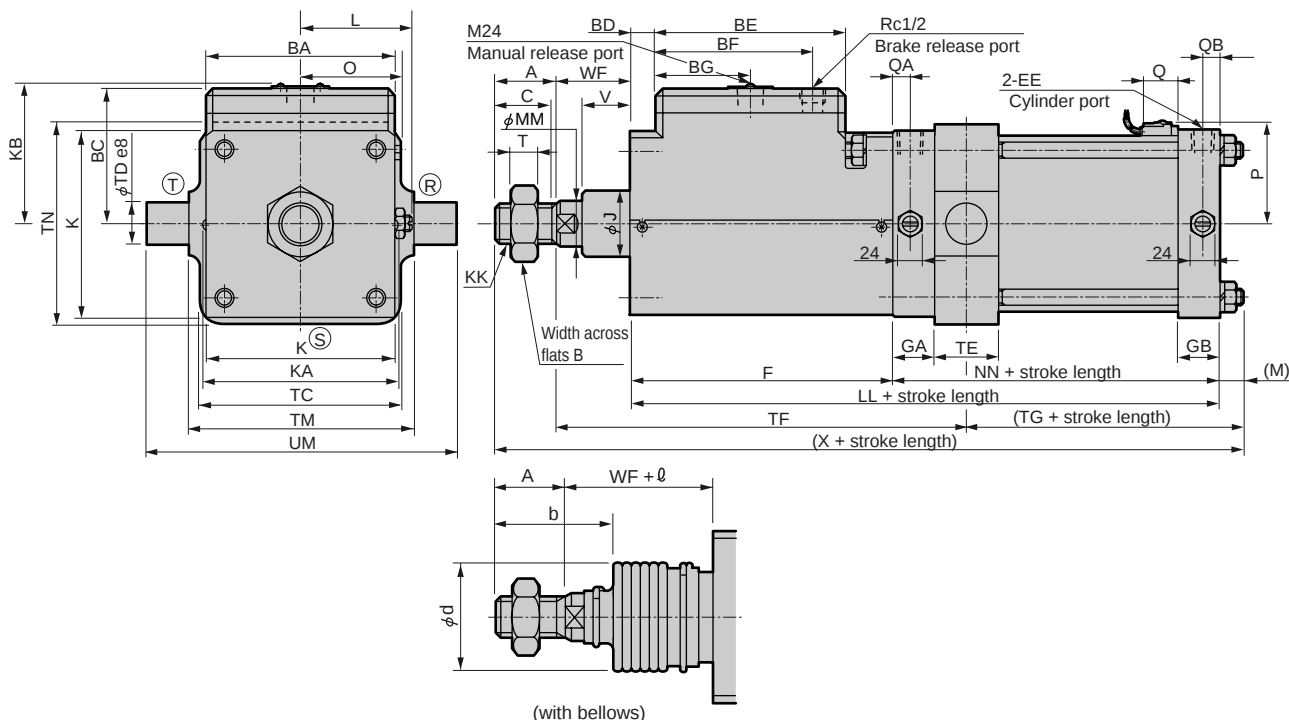
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CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Dimensions (φ 125 to φ 180)



● Rod end trunnion type (TA)



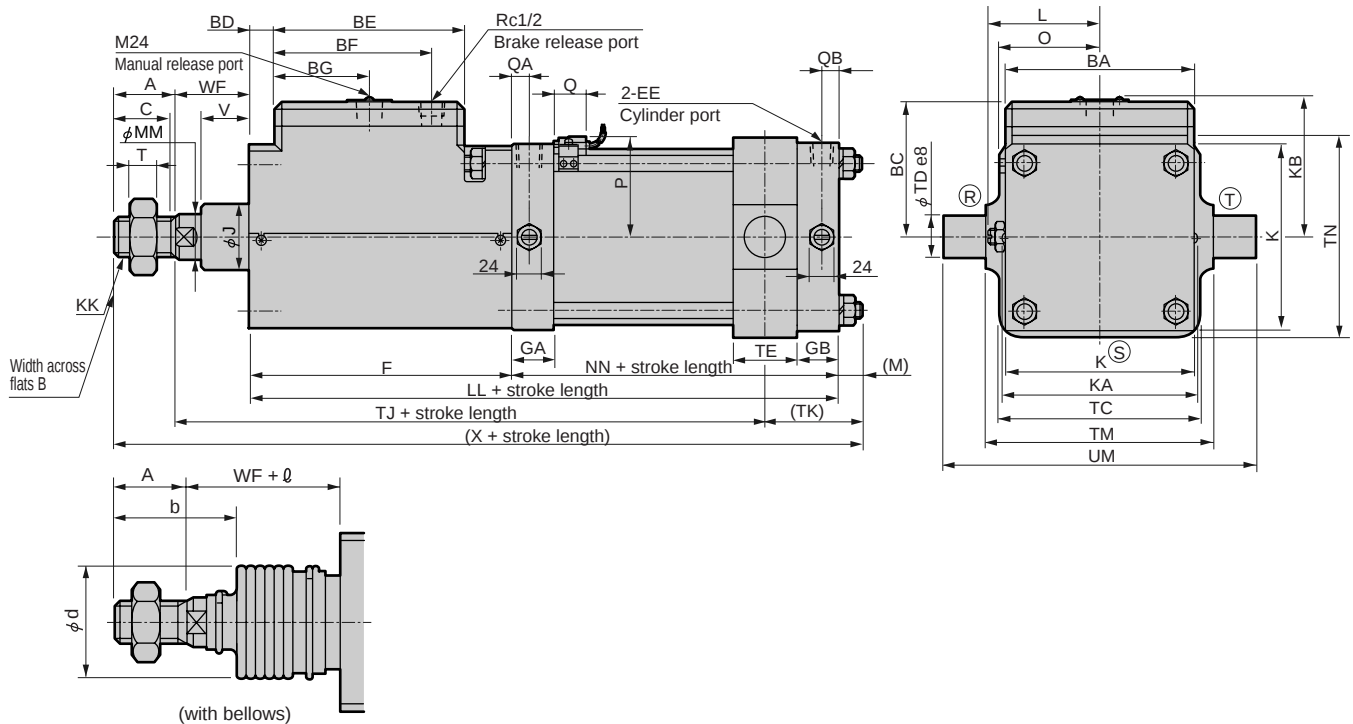
Note 1: A position can not be detected at rod side stroke end.
 Note 2: (R)(S)(T) indicates a cushion needle position.
 Note 3: Refer to page 1353 for the dimensions of the accessory.

Symbol	Rod end trunnion type (TA) basic dimensions																						
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L	LL	M	MM	
φ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91	291	20	35	
φ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5	318	20	35	
φ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5	350	23	40	
φ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121	373	26	45	
Symbol									Installation dimensions								With switch						
																	P				Q		
																	Grommet	Terminal box		T2YDP*	Grommet	Terminal box	T2YDP
R*B	R*A																						
Bore size (mm)	NN	O	QA	QB	T	V	WF	X	TC	TD	TE	TF	TG	TM	TN	UM							
φ 125	91	71	14	15	18	35	55	416	150	32	50	315	51	170	150	234	78.5	107.5	103	80	32	44.5	30
φ 140	102	78	16	17	18	35	57	445	154	36	55	339.5	55.5	190	170	262	85	114	109.5	86.5	32	44.5	30
φ 160	105	88	16	17	21	48	71.5	500.5	190	40	60	385.5	59	212	190	292	93.5	122	117.5	95	32	44.5	30
φ 180	109	98	16	17	24	53	78.5	540.5	210	45	65	414	63.5	236	210	326	109.5	130	125.5	103	32	44.5	30
Symbol	With bellows																						
Bore size (mm)	A	WF	b	d	ℓ																		
φ 125	50	55	74	75	(Stroke length/4.55) + 11																		
φ 140	50	57	74	75	(Stroke length/4.55) + 9																		
φ 160	56	71.5	82	80	(Stroke length/5.15) + 9																		
φ 180	63	78.5	91	90	(Stroke length/5.15) + 9																		

Dimensions (φ 125 to φ 180)



● Head end trunnion type (TB)



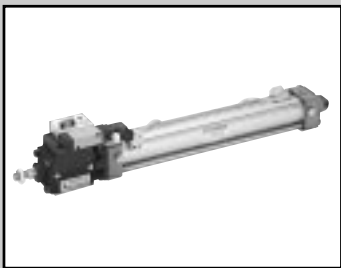
Note 1: A position can not be detected at head side stroke end.
 Note 2: (R)(S)(T) indicates a cushion needle position.
 Note 3: Refer to page 1353 for the dimensions of the accessory.

Symbol	Head end trunnion type (TB) basic dimensions																						
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	EE	F	GA	GB	J	K	KA	KB	KK	L	LL	M	MM	
ϕ 125	50	46	140	109	19.5	140	118	70	47	Rc1/2	200	31.5	29	55	140	150	115	M30 x 1.5	83 to 91	291	20	35	
ϕ 140	50	46	157	116.5	18.5	157	128.5	78.5	47	Rc3/4	216	35.5	36	55	157	167	122.5	M30 x 1.5	91.5 to 99.5	318	20	35	
ϕ 160	56	55	177	128	23	177	146.5	88.5	53	Rc3/4	245	38	36	62.5	177	190	134	M36 x 1.5	101.5 to 109.5	350	23	40	
ϕ 180	63	60	200	146	14	200	170	100	60	Rc3/4	264	39	38.5	68.5	200	213	152	M40 x 1.5	113 to 121	373	26	45	
Symbol									Installation dimensions								With switch						
																	P				Q		
																	Grommet	Terminal box		T2YDP*	Grommet	Terminal box	T2YDP*
Bore size (mm)	NN	O	QA	QB	T	V	WF	X	TC	TD	TE	TJ	TK	TM	TN	UM	R*B	R*A					
ϕ 125	91	71	14	15	18	35	55	416	150	32	50	285	81	170	150	234	78.5	107.5	103	80	32	44.5	30
ϕ 140	102	78	16	17	18	35	57	445	154	36	55	307.5	87.5	190	170	262	85	114	109.5	86.5	32	44.5	30
ϕ 160	105	88	16	17	21	48	71.5	500.5	190	40	60	351.5	93	212	190	292	93.5	122	117.5	95	32	44.5	30
ϕ 180	109	98	16	17	24	53	78.5	540.5	210	45	65	379	98.5	236	210	326	109.5	130	125.5	103	32	44.5	30
Symbol	With bellows																						
Bore size (mm)	A	WF	b	d	ℓ																		
ϕ 125	50	55	74	75	(Stroke length/4.55) + 11																		
ϕ 140	50	57	74	75	(Stroke length/4.55) + 9																		
ϕ 160	56	71.5	82	80	(Stroke length/5.15) + 9																		
ϕ 180	63	78.5	91	90	(Stroke length/5.15) + 9																		

SCP*2
 CMK2
 CMA2
 SCM
 SCG
 SCA2
 SCS
 CKV2
 CA/OV2
 SSD
 CAT
 MDC2
 MVC
 SMD2
 MSD*
 FC*
 STK
 ULK*
 JSK/M2
 JSG
JSC3
 USSD
 USC
 JSB3
 LMB
 STG
 STS/L
 LCS
 LCG
 LCM
 LCT
 LCY
 STR2
 UCA2
 HCM
 HCA
 SRL2
 SRG
 SRM
 SRT
 MRL2
 MRG2
 SM-25
 CAC3
 UCAC
 RCC2
 MFC
 SHC
 GLC
 Ending

Brake cylinder (medium and large bore size)
 With brake

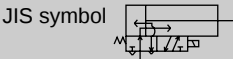
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending



Brake cylinder Double acting with valve for brake

JSC3-V Series

● Bore size: ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100



Specifications

Descriptions		JSC3-V (with switch)					JSC3-SV (with switch)				
Bore size mm		φ 40	φ 50	φ 63	φ 80	φ 100	φ 40	φ 50	φ 63	φ 80	φ 100
Actuation		Double acting with valve for brake					Double acting low pressure release type with valve for brake				
Working fluid		Compressed air									
Max. working pressure MPa		0.7									
Min. working pressure	Brake section	0.3					0.25				
	Cylinder section	0.1									
Withstanding pressure MPa		1.6									
Ambient temperature °C		-5 to 50 (no freezing)									
Port size	Brake section	Rc1/8		Rc1/4		Rc3/8	Rc1/8		Rc1/4		Rc3/8
	Cylinder section	Rc1/4	Rc3/8		Rc1/2		Rc1/4	Rc3/8		Rc1/2	
Stroke tolerance mm		+0.9 0 (to 360), +1.4 0 (to 1000)									
Working piston speed mm/s		50 to 1000 (used within allowable energy absorption)									
Cushion		Air cushion									
Effective cushion length mm		14.6	16.6	16.6	20.6	23.6	14.6	16.6	16.6	20.6	23.6
Lubrication		Not required					Not required (when lubricating, use turbine oil Class 1 ISOVG32)				
Stoppage accuracy mm		± 1.0 (300mm/s loadless)									
Holding force N		980	1569	2451	3922	6178	784	1255	1961	3138	4941
Allowable energy absorption J	Cushioned	4.29	8.37	15.8	27.9	49.8	4.29	8.37	15.8	27.9	49.8
	No cushion	0.067	0.079	0.079	0.201	0.301	0.067	0.079	0.079	0.201	0.301
		Note: If "No cushion" is selected, the large energy generated by the external load cannot be absorbed. We recommend to use an external shock absorber together.									

Note: Specifications of valves are the same as the standard products " 4KB2 ". Refer to " Pneumatic Valves (CB-23SA)" for details.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
ϕ 40	50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1000	1
ϕ 50			2000	
ϕ 63		700	2500	
ϕ 80				
ϕ 100				

* Min. stroke length will differ depending on the installation method. Refer to the table below.

Custom stroke length is available per 1mm increment.

Min. stroke length of type with switch (T type switch)

● T0/T5 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ϕ 40	20 (10)	20 (20)	40 (40)	60 (60)	20 (10)	60 (45)	105 (75)	150 (105)	110 (110)	110 (110)	175 (145)	175 (145)	50 (50)	50 (50)
ϕ 50	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	20 (20)	65 (50)	65 (60)	135 (135)	135 (135)	135 (135)	135 (135)	60 (60)	60 (60)
ϕ 63	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	20 (20)	70 (55)	70 (60)	110 (95)	110 (95)	110 (100)	110 (100)	50 (45)	50 (45)
ϕ 80	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	115 (85)	115 (85)	115 (105)	115 (105)	55 (40)	55 (40)
ϕ 100	15 (15)	25 (25)	45 (45)	70 (70)	15 (15)	25 (25)	70 (55)	70 (70)	125 (95)	125 (95)	125 (115)	125 (115)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

Min. stroke length of type with switch (T type switch)

● T8 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ 40	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	50 (35)	95 (65)	140 (95)	95 (85)	95 (85)	155 (125)	155 (125)	45 (40)	45 (40)
φ 50	10 (10)	20 (20)	40 (40)	60 (60)	10 (10)	20 (20)	70 (55)	70 (60)	115 (115)	115 (115)	135 (135)	135 (135)	50 (50)	50 (50)
φ 63	10 (10)	20 (20)	40 (40)	60 (60)	10 (10)	20 (20)	70 (55)	70 (60)	95 (75)	95 (75)	110 (110)	110 (110)	45 (35)	45 (35)
φ 80	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	100 (70)	100 (70)	115 (115)	115 (115)	50 (35)	50 (35)
φ 100	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	110 (80)	110 (80)	125 (125)	125 (125)	55 (40)	55 (40)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

● T2/T3 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ 40	20 (10)	20 (15)	25 (25)	40 (40)	20 (10)	60 (45)	105 (75)	150 (105)	105 (75)	105 (75)	165 (135)	165 (135)	50 (35)	50 (35)
φ 50	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	105 (75)	105 (75)	105 (75)	105 (75)	45 (30)	45 (30)
φ 63	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	110 (80)	110 (80)	110 (85)	110 (85)	50 (35)	50 (35)
φ 80	15 (10)	15 (15)	30 (30)	45 (45)	15 (10)	15 (15)	60 (45)	60 (45)	115 (85)	115 (85)	115 (90)	115 (90)	55 (40)	55 (40)
φ 100	10 (10)	15 (15)	30 (30)	45 (45)	10 (10)	15 (15)	60 (45)	60 (45)	125 (95)	125 (95)	125 (100)	125 (100)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

● T1/T2Y/T3Y/T2YD type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ 40	20 (10)	20 (15)	25 (25)	40 (40)	20 (10)	60 (45)	105 (75)	150 (105)	105 (75)	105 (75)	165 (135)	165 (135)	50 (35)	50 (35)
φ 50	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	100 (70)	100 (70)	100 (75)	100 (75)	45 (30)	45 (30)
φ 63	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	105 (75)	105 (75)	105 (85)	105 (85)	50 (35)	50 (35)
φ 80	15 (10)	15 (15)	30 (30)	45 (45)	15 (10)	15 (15)	60 (45)	60 (45)	110 (80)	110 (80)	110 (90)	110 (90)	55 (40)	55 (40)
φ 100	10 (10)	15 (15)	30 (30)	45 (45)	10 (10)	15 (15)	60 (45)	60 (45)	120 (90)	120 (90)	120 (100)	120 (100)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire). Note that radial lead wire (V) is not available for T2YD.

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

JSC3-V Series

SCP*2

CMK2

CMA2

SCM

SCG

SCA2

SCS

CKV2

CA/OV2

SSD

CAT

MDC2

MVC

SMD2

MSD*

FC*

STK

ULK*

JSK/M2

JSG

JSC3

USSD

USC

JSB3

LMB

STG

STS/L

LCS

LCG

LCM

LCT

LCY

STR2

UCA2

HCM

HCA

SRL2

SRG

SRM

SRT

MRL2

MRG2

SM-25

CAC3

UCAC

RCC2

MFC

SHC

GLC

Ending

Switch specifications (T type switch)

● 1 color/2 color indicator/strong magnetic field proof

*The T0/T5 switch can be used with 220 VAC . Consult CKD for working conditions.

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire						Proximity 2 wire	
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	TOH/TOV	T5H/T5V	T8H/T8V			T2YD*/T2YDP*		
Applications	Programmable controller relay, small solenoid valve	Programmable controller		Programmable controller, relay			Programmable controller, relay	Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay		Programmable controller		
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ± 10%
Load current	5 to 100mA	5 to 20mA (Note 1)		100mA or less			5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)		
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						1mA or less	

● With preventive maintenance output

Descriptions		Proximity 3 wire		Proximity 4 wire		Proximity 3 wire		Proximity 4 wire	
		T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V	
Applications		Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay	
Output method		NPN output							
Light	Installation position adjustment section	Red/green LED (ON lighting)							
	Preventive maintenance output	-				Yellow LED (ON lighting)			
Regular Output	Power voltage	-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current	5 to 20mA		50mA or less		5 to 20mA		50mA or less	
	Leakage current	1mA or less		10 μA or less		1.2mA or less		10 μA or less	
Preventive maintenance Output	Load voltage	30 VDC or less							
	Load current	20mA or less		50mA or less		5 to 20mA or less		50mA or less	
	Leakage current	10 μA or less							

Note 1: Refer to Ending 1 for other switches.

Note 2: Max. load current above: 20mA at 25℃ . The current will be lower than 20mA if ambient temperature around switch is higher than 25℃ .
(5 to 10mA when 60℃)

Switch specifications (H type switch)

● Reed switch

Descriptions	Reed 2 wire		
	H0		H0Y (2 color indicator type)
Applications	Relay, programmable controller		Programmable controller dedicated
Load voltage / current	12/24 VDC 5 to 50mA	110 VAC 7 to 20mA	24 VDC, 5 to 20mA (Note 2)
Light	Green LED ON lighting		Red/green LED ON lighting
Leakage current	10 μA or less		

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: The maximum load current is applied at 25℃ . The current will be lower than 20mA if ambient temperature around switch is higher than 25℃ .
(5 to 10mA when 60℃)

Valve electric specifications for brake

Descriptions	4KB2		
Rated voltage (V)	100 VAC (50/60Hz)	200 VAC (50/60Hz)	24 VDC
Starting current (A)	0.056/0.044	0.028/0.022	0.075
Holding current (A)	0.028/0.022	0.014/0.011	0.075
Power consumption (W)	1.8/1.4		1.8
Insulation class	Class B (molded coil)		

Note 1: 100/200 VAC coil is available for 110/220 VAC (60Hz).

Note 2: Specifications of valves are the same as the standard products 4KB2. Refer to "Pneumatic Valves (No. CB-23SA)" for details.

Cylinder weight

(Unit: kg)

Descriptions, mounting style	Product weight when stroke length (S) = 0mm						Weight per switch (including mounting bracket)						(Unit: kg)
							T type	H type		T2YD type		Additional weight per S=100mm	
	Bore size (mm)	Basic type (00)	Foot type (LB)	Flange type (FA and FB)	Eye bracket type (CA)	Clevis bracket type (CB)		Trunnion type (TC)	1m	3m	1m		
φ40	2.48	2.66	2.91	2.83	2.83	2.86	0.018	0.10	0.20	0.08	0.17	0.39	0.32
φ50	3.47	3.67	3.97	3.87	3.87	3.97						0.46	
φ63	5.09	5.49	6.19	5.79	5.79	5.89						0.50	0.35
φ80	8.15	8.85	9.95	9.65	9.65	9.45						0.90	
φ100	14.70	15.70	17.40	16.90	16.90	17.30						1.12	0.49

(E.g.) Product weight of JSC3-V-LB-50B-200-T0H-D

Product weight when S = 0mm 3.67kg
 Additional weight when S = 200mm..... $0.46 \times \frac{200}{100} = 0.92$ (kg)
 Weight of two switches $0.018\text{kg} \times 2 = 0.036\text{kg}$
 Weight of valve 0.32kg
 Product weight $3.67\text{kg} + 0.92\text{kg} + 0.036\text{kg} + 0.32\text{kg} = 4.946\text{kg}$

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

How to order

Without switch

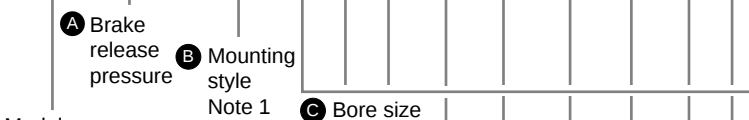
JSC3 - V - LB - 40 - B - 50 - 1 - S - I

With switch

JSC3 - V - LB - 40 - B - 50 - 1 - T0H - R - S - I

Strong magnetic field proof (H0, H0Y switch) with switch

JSC3 - V L2 - LB - 40 - B - 50 - 1 - H0 - R - S - I



Model no.

Note on model no. selection

Note 1: The mounting bracket is shipped with the product.

(Special head end flange type is attached when shipped.)

Note 2: Refer to Ending 74 if max. stroke length is exceeding.

Note 3: Refer to page 1326 for min. stroke length with switch.

Note 4: T2YD, T2YDT, H0 and H0Y is strong magnetic field proof switch.

Note 5: When selecting TA or TB for mounting, the number of switches is limited to "H" (one on head side) for TA, and "R" (one on rod side) for TB.

Note 6: Refer to each dimensions to confirm indication of "S", "T", and "G" positions.

Note 7: "I" and "Y" can not be selected at the same time.

Note 8: Refer to Ending 89 for custom specifications of rod end form.

<Example of model number>

JSC3-V-LB-40B-50-1-T0H-R-SI

Model: Brake cylinder double acting with valve for brake

A Brake release pressure : Standard type 0.3MPa

B Mounting style : Axial foot type

C Bore size : $\phi 40$ mm

D Port thread type : Rc thread

E Cushion : Both sides cushioned

F Stroke length : 50mm

G Valve voltage : 100 VAC

H Switch model no. : Proximity switch T0H, lead wire 1m

I Switch quantity : One on rod end

J Option : Cushion needle position S

K Accessory : Rod eye

Symbol	Descriptions		
A Brake release pressure			
Blank	Standard type 0.3MPa		
S	Low pressure release type 0.25MPa		
B Mounting style			
00	Basic type		
LB	Axial foot type		
FA	Rod end flange type		
FB	Head end flange type		
FC	Special head end flange type		
CA	Eye bracket type		
CB	Clevis bracket type (pin and snap ring attached)		
TC	Center trunnion type		
TA	Rod end trunnion type		
TB	Head end trunnion type		
C Bore size (mm)			
40	φ40		
50	φ50		
63	φ63		
80	φ80		
100	φ100		
D Port thread type			
Blank	Rc thread		
N	NPT thread (custom order)		
G	G thread (custom order)		
E Cushion			
B	Both sides cushioned		
R	Rod end cushion		
H	Head end cushion		
N	No cushion		
F Stroke length (mm)			
Bore size	Stroke length Note 3	Available stroke length	Custom stroke length
φ40	1 to 600	1000	1 mm increment
φ50	1 to 600	2000	
φ63	1 to 600	2500	
φ80	1 to 700	2500	
φ100	1 to 800	2500	
G Valve voltage			
1	100 VAC		
2	200 VAC		
3	24 VDC		
4	12 VDC		
H Switch model no.			
Refer to the following page for switch model no.			
*Lead wire length			
Blank	1m (standard)		
3	3m (option)		
5	5m (option)		
I Switch quantity			
R	One on rod end		
H	One on rod head		
D	Two		
T	Three		
4	Four (if more than four switches, indicate switch quantity.)		
J Option			
J	Bellows	100 °C	200 °C
L	Bellows	250 °C	400 °C
M	Piston rod material (stainless steel)		
Blank	Cushion needle position R (standard)		
S	Cushion needle position S		
T	Cushion needle position T		
G	With indicator		
K Accessory			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		
B1	Eye bracket		
B2	Clevis bracket (pin and snap ring attached)		
B3	Eye bracket		
B4	Trunnion type No. 2 bracket		

How to order mounting bracket

Bore size (mm)	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Mounting bracket					
Foot (LB)	JSC3-40-LB	JSC3-50-LB	JSC3-63-LB	JSC3-80-LB	JSC3-100-LB
Flange (FB)	JSC3-40-FB	JSC3-50-FB	JSC3-63-FB	JSC3-80-FB	JSC3-100-FB
Eye (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis (CB)	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

Note 1: The foot type bracket is a two-piece set.

[H] Switch model no.

T type switch				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T0H*	T0V*	Reed	1 color indicator type	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator type	
T1H*	T1V*		1 color indicator type	
T2H*	T2V*	Proximity	1 color indicator type	2-wire
T3H*	T3V*		1 color indicator type	3-wire
T2YH*	T2YV*		2 color indicator type	2-wire
T3YH*	T3YV*		2 color indicator type	3-wire
T3PH*	T3PV*		1 color indicator type (custom order)	3-wire
T2YFH*	T2YFV*		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
T3YFH*	T3YFV*		2 color indicator type (w/o indicator light for preventive maintenance output)	4-wire
T2YMH*	T2YMV*		2 color indicator type (with indicator light for preventive maintenance output (1 color))	3-wire
T3YMH*	T3YMV*		2 color indicator type (with indicator light for preventive maintenance output (1 color))	4-wire
T2YD*	-		Strong magnetic field proof switch	2-wire
T2YDT*	-		Strong magnetic field proof switch	2-wire
T2JH*	T2JV*		Off-delay type	2-wire

R switch/H type switch				
Grommet type	Terminal box type		Contact	Indicator
	Standard type	Water tight type		
R1*	R1B	R1A		1 color indicator type
R2*	R2B	R2A		1 color indicator type
R3*	R3B	R3A		1 color indicator type
R4*	R4B	R4A		1 color indicator type
R5*	R5B	R5A		1 color indicator type
R6*	R6B	R6A		1 color indicator type
R7*	R7B	R7A		1 color indicator type
R8*	R8B	R8A		1 color indicator type
R9*	R9B	R9A		1 color indicator type
R10*	R10B	R10A		1 color indicator type
R11*	R11B	R11A		1 color indicator type
R12*	R12B	R12A		1 color indicator type
R13*	R13B	R13A		1 color indicator type
R14*	R14B	R14A		1 color indicator type
R15*	R15B	R15A		1 color indicator type
R16*	R16B	R16A		1 color indicator type
R17*	R17B	R17A		1 color indicator type
R18*	R18B	R18A		1 color indicator type
R19*	R19B	R19A		1 color indicator type
R20*	R20B	R20A		1 color indicator type
R21*	R21B	R21A		1 color indicator type
R22*	R22B	R22A		1 color indicator type
R23*	R23B	R23A		1 color indicator type
R24*	R24B	R24A		1 color indicator type
R25*	R25B	R25A		1 color indicator type
R26*	R26B	R26A		1 color indicator type
R27*	R27B	R27A		1 color indicator type
R28*	R28B	R28A		1 color indicator type
R29*	R29B	R29A		1 color indicator type
R30*	R30B	R30A		1 color indicator type
R31*	R31B	R31A		1 color indicator type
R32*	R32B	R32A		1 color indicator type
R33*	R33B	R33A		1 color indicator type
R34*	R34B	R34A		1 color indicator type
R35*	R35B	R35A		1 color indicator type
R36*	R36B	R36A		1 color indicator type
R37*	R37B	R37A		1 color indicator type
R38*	R38B	R38A		1 color indicator type
R39*	R39B	R39A		1 color indicator type
R40*	R40B	R40A		1 color indicator type
R41*	R41B	R41A		1 color indicator type
R42*	R42B	R42A		1 color indicator type
R43*	R43B	R43A		1 color indicator type
R44*	R44B	R44A		1 color indicator type
R45*	R45B	R45A		1 color indicator type
R46*	R46B	R46A		1 color indicator type
R47*	R47B	R47A		1 color indicator type
R48*	R48B	R48A		1 color indicator type
R49*	R49B	R49A		1 color indicator type
R50*	R50B	R50A		1 color indicator type
R51*	R51B	R51A		1 color indicator type
R52*	R52B	R52A		1 color indicator type
R53*	R53B	R53A		1 color indicator type
R54*	R54B	R54A		1 color indicator type
R55*	R55B	R55A		1 color indicator type
R56*	R56B	R56A		1 color indicator type
R57*	R57B	R57A		1 color indicator type
R58*	R58B	R58A		1 color indicator type
R59*	R59B	R59A		1 color indicator type
R60*	R60B	R60A		1 color indicator type
R61*	R61B	R61A		1 color indicator type
R62*	R62B	R62A		1 color indicator type
R63*	R63B	R63A		1 color indicator type
R64*	R64B	R64A		1 color indicator type
R65*	R65B	R65A		1 color indicator type
R66*	R66B	R66A		1 color indicator type
R67*	R67B	R67A		1 color indicator type
R68*	R68B	R68A		1 color indicator type
R69*	R69B	R69A		1 color indicator type
R70*	R70B	R70A		1 color indicator type
R71*	R71B	R71A		1 color indicator type
R72*	R72B	R72A		1 color indicator type
R73*	R73B	R73A		1 color indicator type
R74*	R74B	R74A		1 color indicator type
R75*	R75B	R75A		1 color indicator type
R76*	R76B	R76A		1 color indicator type
R77*	R77B	R77A		1 color indicator type
R78*	R78B	R78A		1 color indicator type
R79*	R79B	R79A		1 color indicator type
R80*	R80B	R80A		1 color indicator type
R81*	R81B	R81A		1 color indicator type
R82*	R82B	R82A		1 color indicator type
R83*	R83B	R83A		1 color indicator type
R84*	R84B	R84A		1 color indicator type
R85*	R85B	R85A		1 color indicator type
R86*	R86B	R86A		1 color indicator type
R87*	R87B	R87A		1 color indicator type
R88*	R88B	R88A		1 color indicator type
R89*	R89B	R89A		1 color indicator type
R90*	R90B	R90A		1 color indicator type
R91*	R91B	R91A		1 color indicator type
R92*	R92B	R92A		1 color indicator type
R93*	R93B	R93A		1 color indicator type
R94*	R94B	R94A		1 color indicator type
R95*	R95B	R95A		1 color indicator type
R96*	R96B	R96A		1 color indicator type
R97*	R97B	R97A		1 color indicator type
R98*	R98B	R98A		1 color indicator type
R99*	R99B	R99A		1 color indicator type
R100*	R100B	R100A		1 color indicator type

The switch has been changed to T type switch since October first, 2007.

How to order brake unit

JSC3 - 40 - BRAKE-UNIT

Bore size (Item ③ previous page)

● For mounting bracket FA

JSC3 - FA - 40 - BRAKE-UNIT

Bore size (Item ③ previous page)

How to order T type switch

● Switch body + mounting bracket

JSC3 - T0H - 40

Switch model no. (Item ①)
Bore size (Item ③ previous page)

● Only switch body

SW - T0H

Switch model no. (Item ①)

● Mounting bracket

JSC3 - TS - 40

Bracket
Bore size (Item ③ previous page)

How to order H type switch

● Switch body + mounting bracket

JSC3-L2 - H0* - 40

Switch model no. (Item ①)
Bore size (Item ③ previous page)

● Only switch body

SW - H0*

Switch model no. (Item ①)

● Mounting bracket

JSC3-L2 - H - 40

Bore size (Item ③ previous page)

How to order Y2YD type switch.

● Switch body + mounting bracket

JSC3 - T2YD* - 40

Switch model no. (Item ①)
Bore size (Item ③ previous page)

● Only switch body

SW - T2YD*

Switch model no. (Item ①)

● Mounting bracket

JSC3 - T - 40

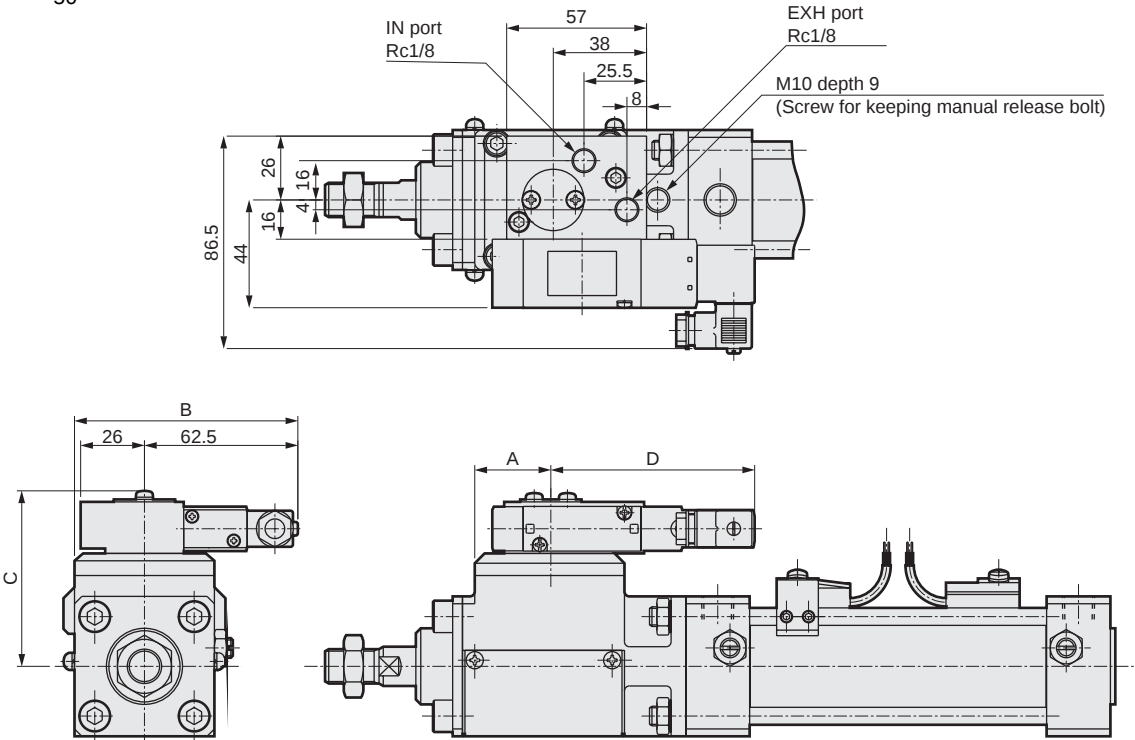
Bore size (Item ③ previous page)

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Dimensions

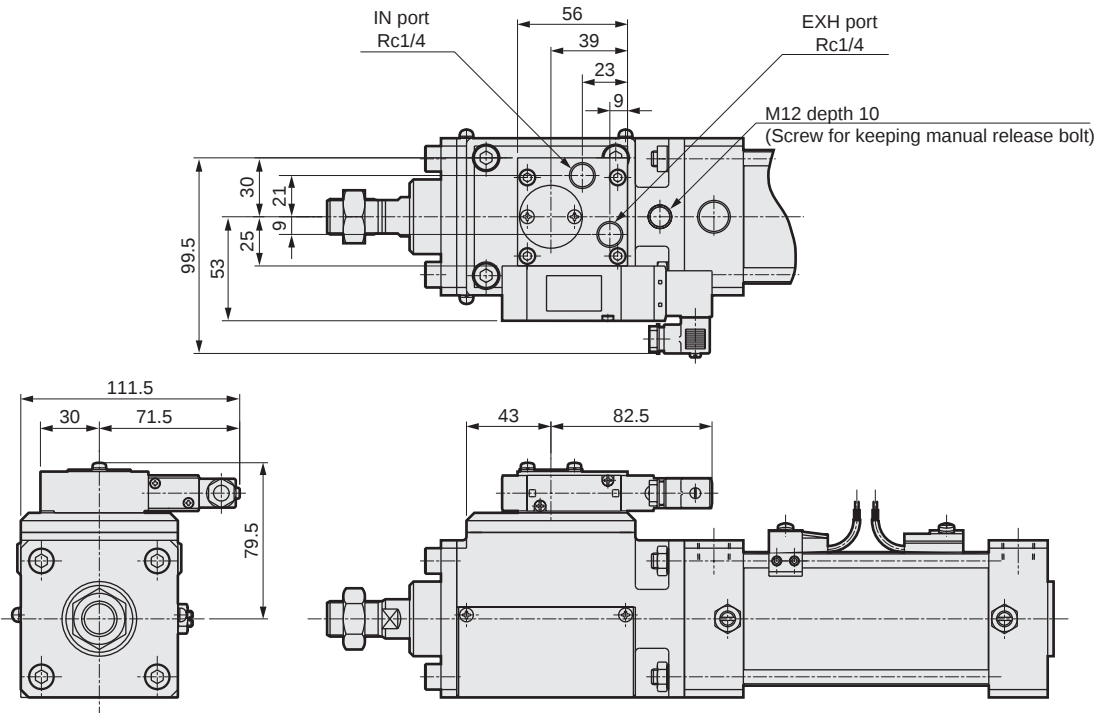
With valve for brake
● JSC3-V-40 $\phi 40, \phi 50$
-50



Symbol	A	B	C	D
Bore size (mm)				
$\phi 40$	31	91	71.5	83.5
$\phi 50$	36	96.5	76	86.5

● Note: Dimensions are same as standard except the above dimensions. Refer to page 1308.

With valve for brake
● JSC3-V-63 $\phi 63$

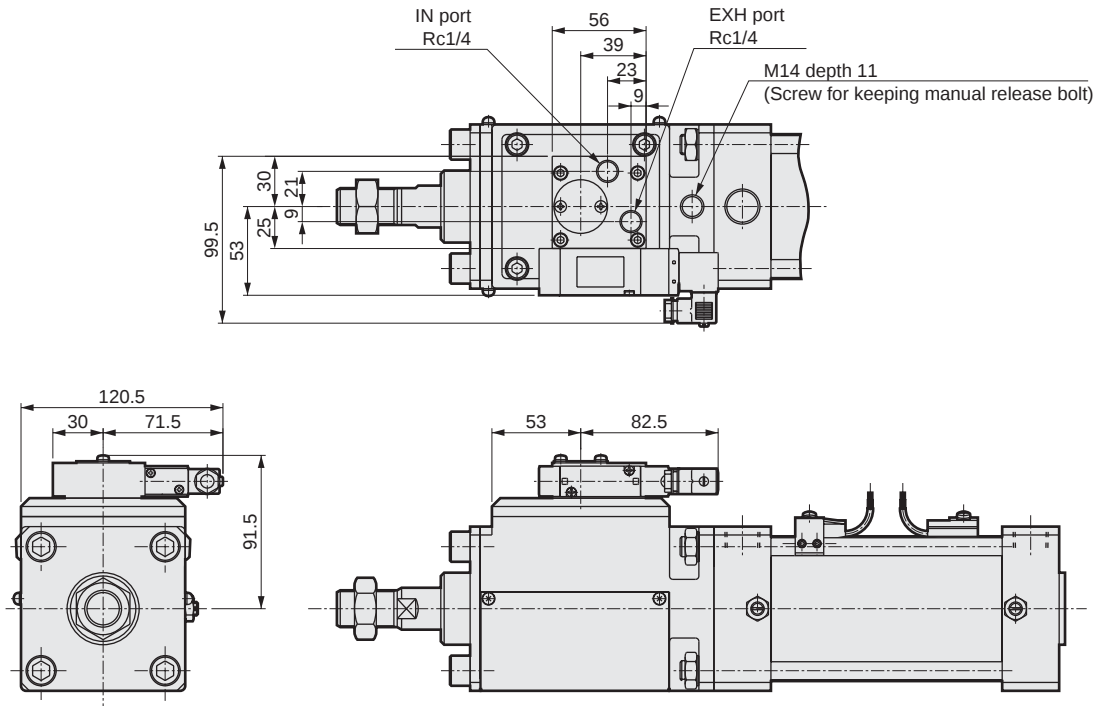


● Note: Dimensions are same as standard except the above dimensions. Refer to page 1308.

Dimensions

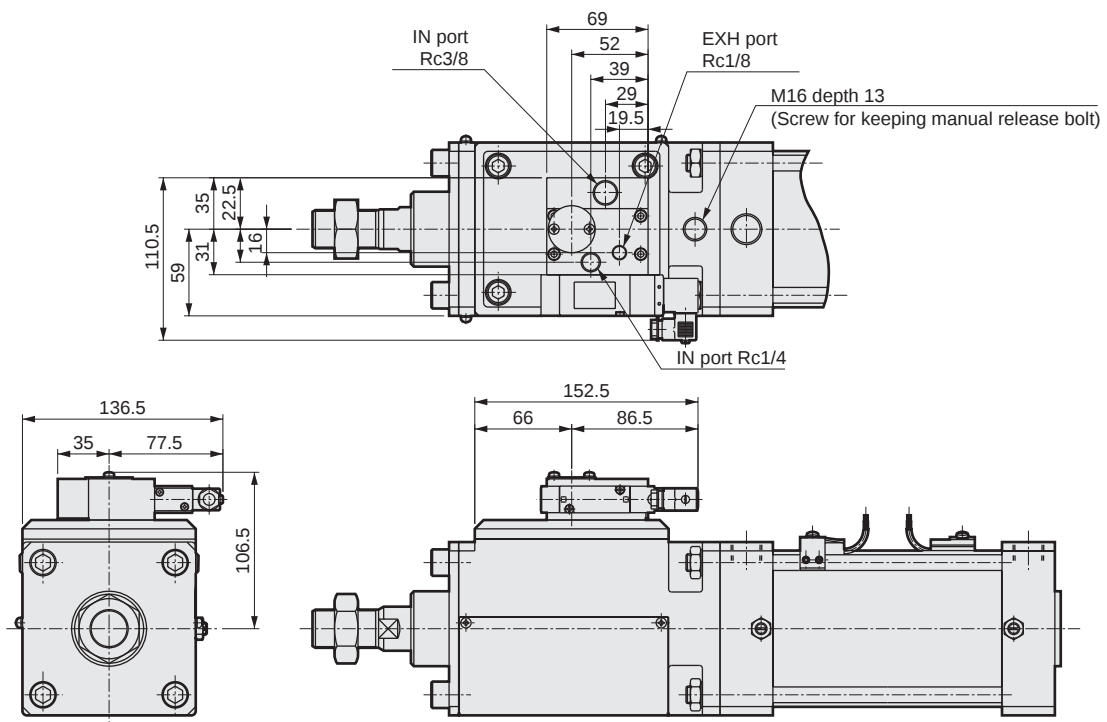
With valve for brake

● JSC3-V-80 $\phi 80$



● Note: Dimensions are same as standard except the above dimensions. Refer to page 1308.

● JSC3-V-100 $\phi 100$

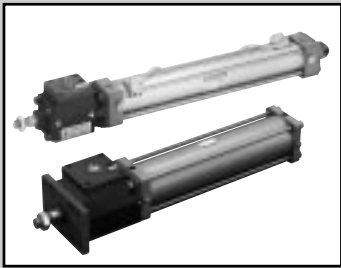


● Note: Dimensions are same as standard except the above dimensions. Refer to page 1308.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending



Brake cylinder Double acting low hydraulic type

JSC3-H Series

- Bore size: $\phi 40$, $\phi 50$, $\phi 63$, $\phi 80$, $\phi 100$
 $\phi 125$, $\phi 140$, $\phi 160$, $\phi 180$



Specifications

Descriptions		JSC3-H (with switch)					JSC3-H/JSC3-LH				JSC3-SH (with switch)						
Bore size		mm	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160	φ180	φ40	φ50	φ63	φ80	φ100	
Actuation			Double acting low hydraulic type									Double acting low pressure release, low hydraulic type					
Working fluid			Hydraulic fluid (compressed air for brake section)														
Max. working pressure		MPa	1.0														
Min. working pressure	Brake section		0.3									0.25					
	Cylinder section	MPa	0.2					0.1				0.2					
Withstanding pressure		MPa	1.6														
Ambient temperature		°C	5 to 50														
Port size	Brake section		Rc1/8		Rc1/4		Rc3/8	Rc1/2				Rc1/8		Rc1/4		Rc3/8	
	Cylinder section		Rc1/4	Rc3/8		Rc1/2		Rc1/2	Rc3/4				Rc1/4	Rc3/8		Rc1/2	
Stroke tolerance		mm	+0.9 0	(to 360),		+1.4 0	(to 1000)		+1.0 0	+1.4 0 (to 300),		+1.8 0 (to 1000),	+1.8 0 (to 2000)	+0.9 0	(to 360),		+1.4 0 (to 1000)
Cushion			Air cushion														
Effective cushion length		mm	14.6	16.6		20.6	23.6	21.6				14.6	16.6		20.6	23.6	
Stoppage accuracy		mm	±0.2 (50mm/s loadless)														
Holding force		N	980	1569	2451	3922	6178	9600	12000	15800	20000	784	1255	1961	3138	4941	
Allowable energy absorption	Cushioned	J	Note: The low hydraulic cylinder's cushion performance cannot absorb large energies. We recommend to use an external shock absorber together.														
	No cushion		Note: If "No cushion" is selected, the large energy generated by the external load cannot be absorbed. We recommend to use an external shock absorber together.														

Note: The brakes are air-operated.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
ϕ 40	50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1600	1
ϕ 50			2000	
ϕ 63		700	2500	
ϕ 80				
ϕ100		800	2000	
ϕ125				
ϕ140				
ϕ160				
ϕ180		900		

Note 1: If the max. stroke is exceeded, product specifications may not be met, depending on operating conditions. Refer to Ending 74.

Note 2: Custom stroke length is available per 1mm increment.

Min. stroke length of type with switch (T type switch)

- T0/T5 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
$\phi 40$	20 (10)	20 (20)	40 (40)	60 (60)	20 (10)	60 (45)	105 (75)	150 (105)	110 (110)	110 (110)	175 (145)	175 (145)	50 (50)	50 (50)
$\phi 50$	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	20 (20)	65 (50)	65 (60)	135 (135)	135 (135)	135 (135)	135 (135)	60 (60)	60 (60)
$\phi 63$	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	20 (20)	70 (55)	70 (60)	110 (95)	110 (95)	110 (100)	110 (100)	50 (45)	50 (45)
$\phi 80$	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	115 (85)	115 (85)	115 (105)	115 (105)	55 (40)	55 (40)
$\phi 100$	15 (15)	25 (25)	45 (45)	70 (70)	15 (15)	25 (25)	70 (55)	70 (70)	125 (95)	125 (95)	125 (115)	125 (115)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

Min. stroke length of type with switch (T type switch)

● T8 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ40	15 (10)	20 (20)	40 (40)	60 (60)	15 (10)	50 (35)	95 (65)	140 (95)	95 (85)	95 (85)	155 (125)	155 (125)	45 (40)	45 (40)
φ50	10 (10)	20 (20)	40 (40)	60 (60)	10 (10)	20 (20)	70 (55)	70 (60)	115 (115)	115 (115)	135 (135)	135 (135)	50 (50)	50 (50)
φ63	10 (10)	20 (20)	40 (40)	60 (60)	10 (10)	20 (20)	70 (55)	70 (60)	95 (75)	95 (75)	110 (110)	110 (110)	45 (35)	45 (35)
φ80	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	100 (70)	100 (70)	115 (115)	115 (115)	50 (35)	50 (35)
φ100	15 (15)	25 (25)	45 (45)	65 (65)	15 (15)	25 (25)	70 (55)	70 (65)	110 (80)	110 (80)	125 (125)	125 (125)	55 (40)	55 (40)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

● T2/T3 type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ40	20 (10)	20 (15)	25 (25)	40 (40)	20 (10)	60 (45)	105 (75)	150 (105)	105 (75)	105 (75)	165 (135)	165 (135)	50 (35)	50 (35)
φ50	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	105 (75)	105 (75)	105 (75)	105 (75)	45 (30)	45 (30)
φ63	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	110 (80)	110 (80)	110 (85)	110 (85)	50 (35)	50 (35)
φ80	15 (10)	15 (15)	30 (30)	45 (45)	15 (10)	15 (15)	60 (45)	60 (45)	115 (85)	115 (85)	115 (90)	115 (90)	55 (40)	55 (40)
φ100	10 (10)	15 (15)	30 (30)	45 (45)	10 (10)	15 (15)	60 (45)	60 (45)	125 (95)	125 (95)	125 (100)	125 (100)	60 (45)	60 (45)

Note 1: Value in () for T*V (Radial lead wire).

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

● T1/T2Y/T3Y/T2YD type min. stroke length with switch

Switch quantity	Different surface installation				Same surface installation				Center trunnion installation				Rod end trunnion installation A position can not be detected at rod side stroke end.	Head end trunnion installation A position can not be detected at rod side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
φ40	20 (10)	20 (15)	25 (25)	40 (40)	20 (10)	60 (45)	105 (75)	150 (105)	105 (75)	105 (75)	165 (135)	165 (135)	50 (35)	50 (35)
φ50	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	100 (70)	100 (70)	100 (75)	100 (75)	45 (30)	45 (30)
φ63	15 (10)	15 (15)	25 (25)	40 (40)	15 (10)	15 (15)	60 (45)	60 (45)	105 (75)	105 (75)	105 (85)	105 (85)	50 (35)	50 (35)
φ80	15 (10)	15 (15)	30 (30)	45 (45)	15 (10)	15 (15)	60 (45)	60 (45)	110 (80)	110 (80)	110 (90)	110 (90)	55 (40)	55 (40)
φ100	10 (10)	15 (15)	30 (30)	45 (45)	10 (10)	15 (15)	60 (45)	60 (45)	120 (90)	120 (90)	120 (100)	120 (100)	60 (45)	60 (45)

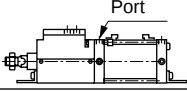
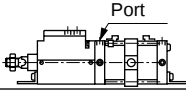
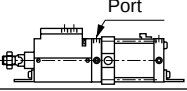
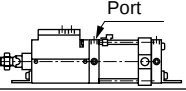
Note 1: Value in () for T*V (Radial lead wire). Note that radial lead wire (V) is not available for T2YD.

Note 2: When stroke length is shorter than 15 mm, two switches could turn ON at the same time. In this case, adjust the distance between switches as far as possible.

Min. stroke length of type with switch (R type switch)

● φ125 to φ180

(Unit: mm)

Descriptions	Stroke length when same surface installation	Stroke length when center trunnion installation	Stroke length when rod end trunnion installation	Stroke length when head end trunnion installation
Bore size (mm)				
				
φ125	20 and over * (25 and over)	120 and over	70 and over	
φ140		125 and over	75 and over	
φ160		130 and over	80 and over	
φ180		135 and over	85 and over	

*The minimum stroke length for R2YK and R3YK.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

Switch specifications (T type switch)

● 1 color/2 color indicator/strong magnetic field proof

*The T0/T5 switch can be used with 220 VAC . Consult CKD for working conditions.

Descriptions	Proximity 2 wire			Proximity 3 wire			Reed 2 wire						Proximity 2 wire	
	T1H/T1 V	T2H/T2V/ T2JH/T2JV	T2YH/T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/T3YV	T0H/T0V		T5H/T5V		T8H/T8V		T2YD*/T2YDPT*	
Applications	Programmable controller relay, small solenoid valve		Programmable controller	Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (w/o indicator light), serial connection		Programmable controller, relay		Programmable controller	
Output method	-			NPN output	PNP output	NPN output	-							
Power voltage	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100mA	5 to 20mA (Note 10)		100mA or less		50mA or less	5 to 50mA	7 to 20mA	50mA or less	20mA or less	5 to 50mA	7 to 20mA	7 to 10mA	5 to 20mA
Light	LED (ON lighting)	LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		Without indicator light		LED (ON lighting)		Red/green LED (ON lighting)	
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC	1mA or less		10 μA or less			0mA						1mA or less	

● With preventive maintenance output

Descriptions		Proximity 3 wire		Proximity 4 wire		Proximity 3 wire		Proximity 4 wire	
		T2YFH/V		T3YFH/V		T2YMH/V		T3YMH/V	
Applications		Programmable controller		Programmable controller, relay		Programmable controller		Programmable controller, relay	
Output method		NPN output							
Light	Installation position adjustment section	Red/green LED (ON lighting)							
	Preventive maintenance output	-				Yellow LED (ON lighting)			
Regular Output	Power voltage	-		10 to 28 VDC		-		10 to 28 VDC	
	Load voltage	10 to 30 VDC		30 VDC or less		10 to 30 VDC		30 VDC or less	
	Load current	5 to 20mA		50mA or less		5 to 20mA		50mA or less	
	Leakage current	1mA or less		10 μA or less		1.2mA or less		10 μA or less	
Preventive maintenance Output	Load voltage	30 VDC or less							
	Load current	20mA or less		50mA or less		5 to 20mA or less		50mA or less	
	Leakage current	10 μA or less							

Note 1: Refer to Ending 1 for other switches.

Note 2: Max. load current above: 20mA at 25 °C . The current will be lower than 20mA if ambient temperature around switch is higher than 25 °C . (5 to 10mA at 60 °C)

Switch specifications (R type switch/H type switch)

● Proximity switch

Descriptions	Proximity 2 wire			Proximity 3 wire	
	R1/R1K	R2/R2K	R2Y/R2YK (2 color indicator type)	R3/R3K	R3Y/R3YK (2 color indicator type)
Applications	Programmable controller, relay, small solenoid valve		Programmable controller	Programmable controller, relay, IC circuit or solenoid valve	
Output method	NPN output			NPN output	
Power voltage	4.5 to 28 VDC			4.5 to 28 VDC	
Load voltage	30 VDC or less			30 VDC or less	
and current	85 to 265 VAC, 5 to 100mA		10 to 30 VDC, 5 to 30mA	200mA or less	150mA or less
Light	LED (ON lighting)			LED (ON lighting)	Red/green LED (ON lighting)
Leakage current	1mA or less with 100 VAC 2mA or less with 200 VAC		1mA or less	1.2mA or less	10 μA or less

● Reed switch

Descriptions	Reed 2 wire					
	R0	R4	R5	R6	H0	H0Y (2 color indicator type)
Applications	Relay, programmable controller	High capacity relay, solenoid valve	Programmable controller, relay, IC circuit (w/o indicator light), serial connection	Programmable controller dedicated (with DC self hold)	Relay, programmable controller	Programmable controller dedicated
Load voltage and current	12/24 VDC, 5 to 50mA 110 VAC, 7 to 20mA 220 VAC, 7 to 10mA	110 VAC, 20 to 200mA 220 VAC, 10 to 200mA	5/12/24 VDC, 50mA or less 110 VAC, 20mA or less 220 VAC, 10mA or less	24 VDC, 5 to 50mA	12/24 VDC 5 to 50mA	110 VAC 7 to 20mA
Light	LED ON lighting	Neon light OFF lighting	None	LED ON lighting	Green LED ON lighting	
Leakage current	0mA	1mA or less	0mA	0.1mA or less	10 μA or less	

Note 1: Refer to Ending 1 for other switch specifications.

Note 2: The maximum load current is applied at 25 °C . The current will be lower than 20mA if ambient temperature around switch is higher than 25 °C . (5 to 10mA when 60 °C)

Cylinder weight

● $\phi 40$ to $\phi 100$

(Unit: kg)

Descriptions, mounting style	Product weight when stroke length (S) = 0mm						Weight per switch (including mounting bracket)				Additional weight per S = 100mm	
							T type	H type		T2YD type		
Bore size (mm)	Basic type (00)	Foot type (LB)	Flange type (FA, FB)	Eye bracket type (CA)	Clevis bracket type (CB)	Trunnion type (TC)		1m	3m	1m	3m	
φ 40	2.48	2.66	2.91	2.83	2.83	2.86	0.018	0.10	0.20	0.08	0.17	0.39
φ 50	3.47	3.67	3.97	3.87	3.87	3.97						0.46
φ 63	5.09	5.49	6.19	5.79	5.79	5.89						0.50
φ 80	8.15	8.85	9.95	9.65	9.65	9.45						0.90
φ 100	14.70	15.70	17.40	16.90	16.90	17.30						1.12

(E.g.) Product weight of JSC3-H-LB-50B-200-R0-D

Product weight when S = 0mm 3.67kg
 Additional weight when S = 200mm $0.46 \times \frac{200}{100} = 0.92$ (kg)
 Weight of two switches $0.018\text{kg} \times 2 = 0.036\text{kg}$
 Product weight $3.67\text{kg} + 0.92\text{kg} + 0.036\text{kg} = 4.626\text{kg}$

● $\phi 125$ to $\phi 180$

(Unit: kg)

Descriptions, mounting style	Product weight when stroke length (S) = 0mm					Additional weight per S = 100mm	R type		H type		T2YD type	
	Bore size (mm)	Axial foot type (LB)	Flange type (FA and FB)	Eye bracket type (CA)	Clevis bracket type (CB)	Trunnion type (TC, TA, TB)	Grommet	Terminal box	1m	3m	1m	3m
$\phi 125$		33.3	35.1	34.8	34.9	35.2	0.10	0.09	0.10	0.20	0.08	0.17
$\phi 140$		43.8	47.2	45.6	45.8	45.0						
$\phi 160$		56.8	60.6	58.7	59.0	60.1						
$\phi 180$		79.6	87.1	82.5	83.0	83.2						

(E.g.) JSC3-H-LB-125B-300

Product weight when S = 0mm 33.3kg
 Additional weight when S=300mm $2.60 \times \frac{300}{100} = 7.8\text{kg}$
 Product weight when S=300mm $33.3 + 7.8 = 41.1\text{kg}$

SCP*2
 CMK2
 CMA2
 SCM
 SCG
 SCA2
 SCS
 CKV2
 CA/OV2
 SSD
 CAT
 MDC2
 MVC
 SMD2
 MSD*
 FC*
 STK
 ULK*
 JSK/M2
 JSG
JSC3
 USSD
 USC
 JSB3
 LMB
 STG
 STS/L
 LCS
 LCG
 LCM
 LCT
 LCY
 STR2
 UCA2
 HCM
 HCA
 SRL2
 SRG
 SRM
 SRT
 MRL2
 MRG2
 SM-25
 CAC3
 UCAC
 RCC2
 MFC
 SHC
 GLC

Ending
 Brake cylinder (medium and large bore size)
 With brake

How to order (φ 40 to φ 100)

Without switch

JSC3 - H - LB - 40 - B - 50 - S - I

With switch

JSC3 - H - LB - 40 - B - 50 - T0H - R - S - I

Strong magnetic field proof (H0, H0Y switch) with switch

JSC3 - HL2 - LB - 40 - B - 50 - H0 - R - S - I

Model no.

A Brake release pressure

B Mounting style
Note 1

C Bore size

D Port thread type

E Cushion

F Stroke length
Note 2

G Switch model no.
Note 4
* indicates lead wire length.

H Switch quantity
Note 5

I Option
Note 6

J Accessory
Note 7

Note on model no. selection

Note 1: The mounting bracket is shipped with the product. (Special head end flange type is attached when shipped.)

Note 2: Refer to Ending 74 if max. stroke length is exceeded.

Note 3: Refer to page 1334 for min. stroke length with switch.

Note 4: T2YD, T2YDT, H0 and H0Y is strong magnetic field proof switch.

Note 5: When selecting TA or TB for mounting, the number of switches is limited to "H" (one on head end) for TA, and "R" (one on rod end) for TB.

Note 6: Refer to each dimensions to confirm indication of "S", "T", and "G" positions.

Note 7: "I" and "Y" can not be selected at the same time.

Note 8: Refer to Ending 89 for custom specifications of rod end form.

<Example of model number>

JSC3-H-LB-40B-50-T0H-R-S-I

Model: Brake cylinder double acting low hydraulic type

- A Brake release pressure : Standard type 0.3MPa
- B Mounting style : Axial foot type
- C Bore size : φ 40mm
- D Port thread type : Rc thread
- E Cushion : Both sides cushioned
- F Stroke length : 50mm
- G Switch model no. : Reed switch TOH, lead wire 1m
- H Switch quantity : One on rod end
- I Option : Cushion needle position S
- J Accessory : Rod eye

Symbol	Descriptions		
A Brake release pressure			
Blank	Standard type 0.3MPa		
S	Low pressure release type 0.25MPa		
B Mounting style			
00	Basic type		
LB	Axial foot type		
FA	Rod end flange type		
FB	Head end flange type		
FC	Special head end flange type		
CA	Eye bracket type		
CB	Clevis bracket type (pin and snap ring attached)		
TC	Center trunnion type		
TA	Rod end trunnion type		
TB	Head end trunnion type		
C Bore size (mm)			
40	φ 40		
50	φ 50		
63	φ 63		
80	φ 80		
100	φ 100		
D Port thread type			
Blank	Rc thread		
N	NPT thread (custom order)		
G	G thread (custom order)		
E Cushion			
B	Both sides cushion		
R	Rod end cushion		
H	Head end cushion		
N	No cushion		
F Stroke length (mm)			
Bore size	Stroke length Note 2	Available stroke length	Custom stroke length
φ 40	1 to 600	1600	1 mm increment
φ 50	1 to 600	2000	
φ 63	1 to 600	2500	
φ 80	1 to 700	2500	
φ 100	1 to 800	2500	
G Switch model no.		Refer to the following page for switch model no.	
*Lead wire length			
Blank	1m (standard)		
3	3m (option)		
5	5m (option)		
H Switch quantity			
R	One on rod end		
H	One on rod head		
D	Two		
T	Three		
4	Four (If more than 4 switches, indicate switch quantity)		
I Option			
		Max. ambient temperature	Instantaneous max. temperature
J	Bellows	100 °C	200 °C
L	Bellows	250 °C	400 °C
M	Piston rod material (stainless steel)		
Blank	Cushion needle position R (standard)		
S	Cushion needle position S		
T	Cushion needle position T		
G	With indicator		
J Accessory			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		
B1	Eye bracket		
B2	Clevis bracket (pin and snap ring attached)		
B3	Eye bracket		
B4	Trunnion type No. 2 bracket		

How to order mounting bracket

● φ 40 to φ 100

Bore size (mm)	φ 40	φ 50	φ 63	φ 80	φ 100
Mounting bracket					
Foot (LB)	S1-LB-40	S1-LB-50	S1-LB-63	S1-LB-80	S1-LB-100
Flange (FB)	JSC3-40-FB	JSC3-50-FB	JSC3-63-FB	JSC3-80-FB	JSC3-100-FB
Eye (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis (CB)	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

[G] Switch model no.

T type switch				
Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T0H*	T0V*	Reed	1 color indicator type	2-wire
T5H*	T5V*		Without indicator light	
T8H*	T8V*		1 color indicator type	
T1H*	T1V*	Proximity	1 color indicator type	2-wire
T2H*	T2V*		2 color indicator type	3-wire
T3H*	T3V*			2-wire
T2YH*	T2YV*		1 color indicator type (custom order)	3-wire
T3YH*	T3YV*			4-wire
T3PH*	T3PV*		2 color indicator type (w/o indicator light for preventive maintenance output)	3-wire
T2YFH*	T2YFV*		2 color indicator type (with indicator light for preventive maintenance output (1 color))	4-wire
T3YMH*	T3YMV*		Strong magnetic field proof switch	2-wire
T2YD*	-			2-wire
T2YDT*	-		Off-delay type	2-wire
T2JH*	T2JV*			2-wire

R switch/H type switch				
Grommet type	Terminal box type		Contact	Indicator
Standard type	Water tight type			
P1*	P1B	P1A		
The switch has been changed to T type switch since October first, 2007.				
R0	R0B	R0A	Reed	1 color indicator type
H0*	-	-		Strong magnetic field proof 1 color indicator type
H0Y*	-	-		Strong magnetic field proof 2 color indicator type

How to order brake unit

JSC3 - 40 - BRAKE-UNIT

Bore size (Item ③ previous page)

● For mounting bracket FA

JSC3 - FA - 40 - BRAKE-UNIT

Bore size (Item ③ previous page)

How to order T type switch

● Switch body + mounting bracket

JSC3 - T0H - 40

Switch model no. (Item ⑥)
Bore size (Item ③ previous page)

● Only switch body

SW - T0H

Switch model no. (Item ⑥)

● Mounting bracket

JSC3 - TS - 40

Bracket
Bore size (Item ③ previous page)

How to order T2YD type switch.

● Switch body + mounting bracket

• φ40 to φ100

JSC3 - T2YD - 40

Switch model no. (Item ⑥)
Bore size (Item ③ previous page)

● Only switch body

• φ40 to φ100

SW - T2YD

Switch model no. (Item ⑥)

● Mounting bracket

JSC3 - T - 40

Bore size (Item ③ previous page)

How to order H type switch

● Switch body + mounting bracket

JSC3-L2 - H0 - 40

Switch model no. (Item ⑥)
Bore size (Item ③ previous page)

● Only switch body

SW - H0

Switch model no. (Item ⑥)

● Mounting bracket

JSC3-L2 - H - 40

Bore size (Item ③ previous page)

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

How to order (φ125 to φ180)

Without switch

JSC3-H - **LB** - **125** - **B** - **50** - **S** - **I**

With switch

JSC3-LH - **LB** - **125** - **B** - **50** - **R0** - **R** - **S** - **I**

A Mounting style

Note 1

B Bore size

C Port thread type

D Cushion

E Stroke length

Note 2

F Switch model no.

Note 4

G Switch quantity

Note 5

H Option

Note 6

I Accessory

Note 7

⚠ Note on model no. selection

Note 1: The mounting bracket is shipped with the product.

Note 2: If the max. stroke length is exceeded, refer to Ending 74.

Note 3: Refer to page 1334 for min. stroke length with switch.

Note 4: The type with switch is the custom order. Note that dimensions will change.

Note 5: When selecting TA or TB for mounting, the number of switches is limited to "H" (one on head end) for TA, and "R" (one on rod end) for TB.

Note 6: Refer to each dimensions to confirm indication of cushion needle position.

Note 7: "I""Y" can not be selected at the same time.

Note 8: Refer to Ending 89 for custom specifications of rod end form.

<Example of model number>

JSC3-LH-LB-125B-50-R0-R-SI

Model: Brake cylinder low hydraulic type

A Mounting style : Axial foot type

B Bore size : φ125mm

C Port thread type : Rc thread

D Cushion : Both sides cushioned

E Stroke length : 50mm

F Switch model no. : Reed switch R0

G Switch quantity : One on rod end

H Option : Cushion needle position S

I Accessory : Rod eye

Symbol	Descriptions
A Mounting style	
LB	Axial foot type
FA	Rod end flange type
FB	Head end flange type
CA	Eye bracket type
CB	Clevis bracket type (pin and snap ring attached)
TC	Center trunnion type
TA	Rod end trunnion type
TB	Head end trunnion type

B Bore size (mm)

125	φ125
140	φ140
160	φ160
180	φ180

C Port thread type

Blank	Rc thread
N	NPT thread (custom order)
G	G thread (custom order)

D Cushion

B	Both sides cushion
R	Rod end cushion
H	Head end cushion
N	No cushion

E Stroke length (mm)

Bore size	Stroke length Note 3	Available stroke length	Custom stroke length
φ125	1 to 800	2000	By 1 mm increment
φ140	1 to 800	2000	
φ160	1 to 800	2000	
φ180	1 to 900	2000	

F Switch model no.

Grommet type	Terminal box type		Contact	Indicator	Lead wire
	Standard type	Splash-proof			
R1K*	R1KB	R1KA	Proximity	1 color indicator type	2-wire
R2K*	R2KB	R2KA		2 color indicator type	
R2YK*	R2YKB	R2YKA		Strong magnetic field proof switch	
T2YDP*	-	-		1 color indicator type	
R3K*	R3KB	R3KA	Reed	1 color indicator type	3-wire
R3YK*	R3YKB	R3YKA		2 color indicator type	
R0*	ROB	R0A		1 color indicator type	
R4*	R4B	R4A		Without indicator light	
R5*	R5B	R5A	Reed	1 color indicator type	2-wire
R6*	R6B	R6A		1 color indicator type	

***Lead wire length**

Blank	1m (standard)
3	3m (option)
5	3m (option)

G Switch quantity

R	One on rod end
H	One on rod head
D	Two
T	Three
4	Four (If more than 4 switches, indicate switch quantity)

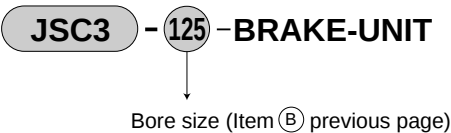
H Option

		Max. ambient temperature	Instantaneous max. temperature
J	Bellows	60 °C	100 °C
K	Bellows	100 °C	200 °C
L	Bellows	250 °C	400 °C
M	Piston rod material (stainless steel)		
Blank	Cushion needle position R (standard)		
S	Cushion needle position S		
T	Cushion needle position T		
C2	Cushion mechanism with check valve		

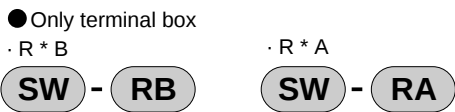
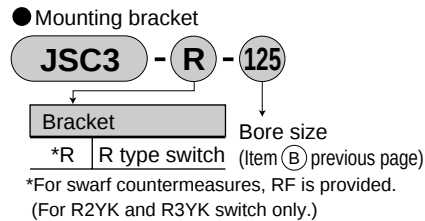
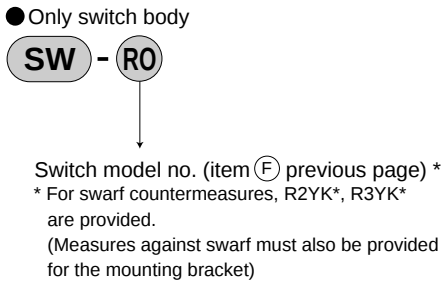
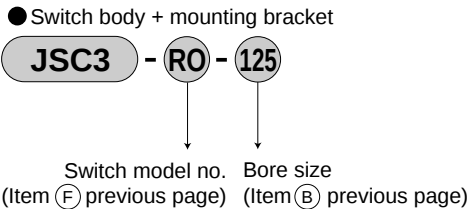
I Accessory

I	Rod eye
Y	Rod clevis (pin and snap ring attached)
B1	Eye bracket
B2	Clevis bracket (pin and snap ring attached)

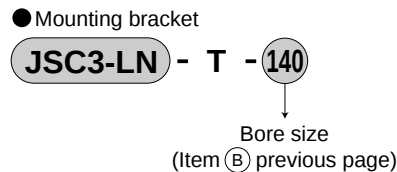
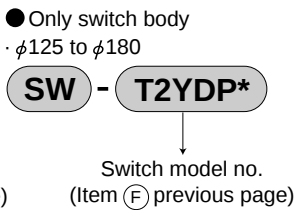
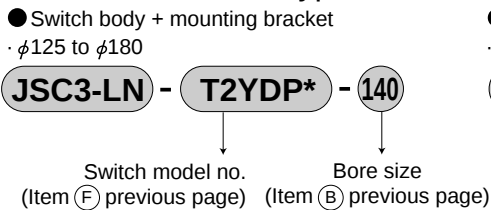
How to order brake unit



How to order R type switch



How to order T2YD type switch.

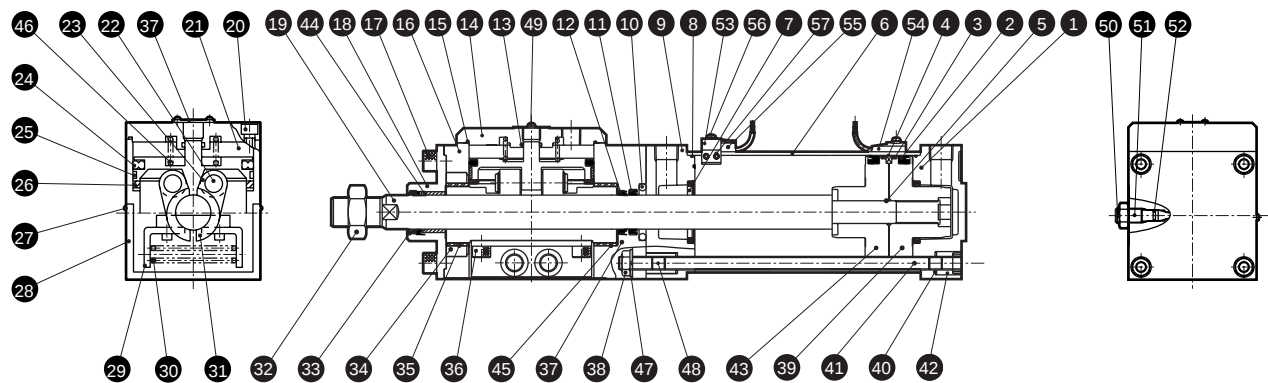


SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

- SCP*2
- CMK2
- CMA2
- SCM
- SCG
- SCA2
- SCS
- CKV2
- CA/OV2
- SSD
- CAT
- MDC2
- MVC
- SMD2
- MSD*
- FC*
- STK
- ULK*
- JSK/M2
- JSG
- JSC3
- USSD
- USC
- JSB3
- LMB
- STG
- STG/L
- LCS
- LCG
- LCM
- LCT
- LCY
- STR2
- UCA2
- HCM
- HCA
- SRL2
- SRG
- SRM
- SRT
- MRL2
- MRG2
- SM-25
- CAC3
- UCAC
- RCC2
- MFC
- SHC
- GLC
- Ending

Internal structure and parts list (φ40 to φ100)



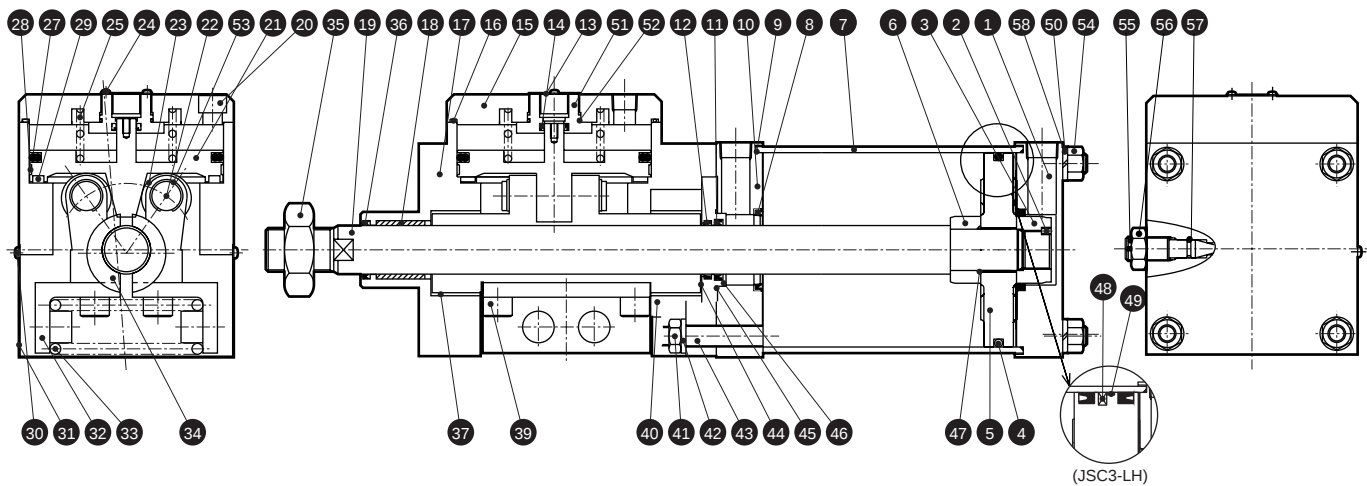
Products No.	Parts name	Material	Remarks	Products No.	Parts name	Material	Remarks
1	Head cover	Aluminum alloy die-casting	Paint	28	Cover	Steel	Paint
2	Piston packing seal	Nitrile rubber		29	Spring holder	Steel	Zinc chromate
3	Wear ring	Polyacetal resin		30	Spring	Steel	
4	Magnet	Plastic		31	Brake shoe metal	Cast iron	Nickeling
5	Piston gasket	Nitrile rubber		32	Rod nut	Steel	Zinc chromate
6	Cylinder tube	Aluminum alloy	Hard alumite	33	Dust wiper	Nitrile rubber	
7	Cushion packing seal	Urethane rubber		34	DU ring	Steel	Blackening
8	Cylinder gasket	Nitrile rubber		35	Bush	Oil impregnated bearing alloy	
9	Rod cover	Aluminum alloy die-casting	Paint	36	Hexagon socket head cap bolt	Alloy steel	Blackening
10	Metal seal	Nitrile rubber		37	Dust cover	Aluminum alloy	Paint
11	Rod packing seal	Nitrile rubber		38	Hexagon nut	Steel	Blackening
12	Dust wiper	Nitrile rubber		39	Piston H	Aluminum alloy die-casting	
13	Cap gasket A	Nitrile rubber		40	Tie rod	Steel	Zinc chromate
14	Main body cap	Cast iron	Nitriding	41	Conical spring washer	Steel	Blackening
15	Cap gasket B	Nitrile rubber		42	Round nut	Steel	Zinc chromate
16	Brake	Aluminum alloy casting	Alumite	43	Piston R	Aluminum alloy die-casting	
17	Hexagon socket head cap bolt	Alloy steel	Blackening	44	Bush B	Oil impregnated bearing alloy	
18	Rod bushing	Steel	Phosphoric acid mangan	45	Thrust washer		
19	Piston rod	Steel	Industrial chrome plating	46	Spring	Steel	Paint
20	Hexagon socket head cap bolt	Alloy steel	Blackening	47	Toothed washer	Steel	Blackening
21	Piston for brake	Cast iron	Phosphoric acid mangan	48	Hexagon socket head set screw	Steel	Blackening
22	Parallel pin	Steel		49	Washer assembly cross headed pan	Steel	Zinc chromate
23	Bearing			50	Cushion needle	Copper alloy	
24	Piston packing seal B	Nitrile rubber		51	Needle nut	Copper alloy	
25	Wear ring	Polyacetal resin		52	Needle gasket	Nitrile rubber	
26	Cushion rubber	Urethane rubber		With switch			
27	Cross headed pan	Steel	Zinc chromate	53	Switch installation unit	Aluminum alloy	
				54	Switch holder	Aluminum alloy	
				55	Cylinder switch		
				56	Cross headed pan	Steel	Zinc chromate
				57	Hexagon socket head set screw	Alloy steel	Blackening

Repair parts list

Bore size	Kit No.	Repair parts number
φ40	JSC3-H- 40K	2378 1011123355
φ50	JSC3-H- 50K	
φ63	JSC3-H- 63K	
φ80	JSC3-H- 80K	
φ100	JSC3-H-100K	

Note: Specify the kit No. when placing an order.

Internal structure and parts list (φ125 to φ180)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Head cover	Steel	Zinc chromate	29	Cushion rubber	Urethane rubber	
2	Hexagon socket head set screw	Alloy steel	Blackening	30	Cross headed pan	Steel	
3	Cushion ring (A)	Steel	Zinc chromate	31	Cover	Steel	
4	Piston packing seal	Nitrile rubber		32	Spring holder	Steel	Zinc chromate
5	Piston	φ125 to φ160 aluminum Alloy, φ180 cast iron		33	Spring	Piano wire	Blackening
6	Cushion ring (B)	Steel	Zinc chromate	34	Brake shoe metal	Cast iron	
7	Cylinder tube	Steel	Paint and industrial chrome plating	35	Rod nut	Steel	
8	Cushion packing seal	Nitrile rubber and steel		36	Dust wiper	Nitrile rubber	
9	Cylinder gasket	Nitrile rubber		37	Bush A	DU dry bearing	
10	Rod cover	Steel	Zinc chromate	39	Hexagon socket head cap bolt	Alloy steel	Blackening
11	Rod packing seal	Nitrile rubber		40	Ring	Steel	Blackening
12	Dust wiper	Nitrile rubber		41	Hexagon nut	Steel	Zinc chromate
13	Dust cover	Aluminum alloy		42	Toothed washer	Steel	Zinc chromate
14	Rod packing seal	Nitrile rubber		43	Tie rod	Steel	Zinc chromate
15	Main body cap	Cast iron		44	Thrust washer	Steel	
16	Cap gasket	Nitrile rubber		45	Metal gasket	Nitrile rubber	
17	Brake	Aluminum casting		46	Rod bushing	Steel	
18	Bush B	Oil impregnated bearing alloy		47	Piston gasket	Nitrile rubber	
19	Piston rod	Steel	Industrial chrome plating	48	Magnet	Rubber	Only JSC3-LH
20	Hexagon socket head cap bolt	Alloy steel	Blackening	49	Wear ring	Acetar resin	
21	Piston for brake	Cast iron		50	Spring washer	Steel	
22	Bearing pin	Steel		51	Main body cap	Cast iron	
23	Bearing	-		52	O ring	Nitrile rubber	
24	Washer assembly cross headed pan	Steel		53	E type snap ring	Steel	
25	Spring	Piano wire	Blackening	54	Hexagon nut	Steel	Zinc chromate
27	Piston packing seal B	Nitrile rubber		55	Cushion needle	Steel	Zinc chromate
28	Wear ring	Acetar resin		56	Needle nut	Steel	Zinc chromate
				57	Needle gasket	Nitrile rubber	
				58	Plain washer	Steel	Zinc chromate

Note 1: With JSC3-LH-125 to 160, the (7) cylinder tube is made of aluminum alloy, and the (48) magnet is built in.

Note 2: With JSC3-LH-180, the (5) piston and (7) cylinder tube are made of aluminum alloy, and the (48) magnet and (49) wear ring are built in.

Repair parts list

● JSC3-H

Bore size (mm)	Kit No.	Repair parts number
φ125	JSC3-H-125K	
φ140	JSC3-H-140K	4 8 9 11
φ160	JSC3-H-160K	12 36 45 57
φ180	JSC3-H-180K	

● JSC3-LH (with switch)

Bore size (mm)	Kit No.	Repair parts number
φ125	JSC3-LH-125K	
φ140	JSC3-LH-140K	4 49
φ160	JSC3-LH-160K	
φ180	JSC3-LH-180K	

Note: The JSC3-LH (with switch) consumable part is the JSC3-H consumable part with different piston packing and additional wear ring.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

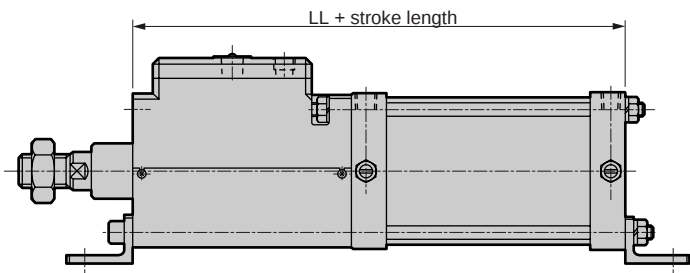
Dimensions

● $\phi 40$ to $\phi 100$

It is the same as the JSC3 (double acting single rod type). Refer to pages 1308 to 1317.

● $\phi 125$ to $\phi 180$

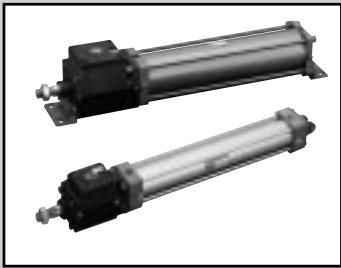
It is the same as the JSC3-N (double acting oil-free type). Refer to pages 1318 to 1325.



Note: LL dimensions of JSC3-H without switch differs from the dimensions of JSC3-LH with switch.

	$\phi 125$	$\phi 140$	$\phi 160$	$\phi 180$
JSC3-H	291	318	350	373
JSC3-LH	311	338	367	388

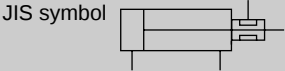
SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending



Brake cylinder Double acting heat resistance type

JSC3-T Series

● Bore size: ϕ 40, ϕ 50, ϕ 63, ϕ 80, ϕ 100, ϕ 125, ϕ 140, ϕ 160, ϕ 180



Specifications

Descriptions		JSC3-T									JSC3-ST					
Bore size		mm	φ40	φ50	φ63	φ80	φ100	φ125	φ140	φ160	φ180	φ40	φ50	φ63	φ80	φ100
Actuation			Double acting heat resistance type									Double acting low pressure release, heat resistance type				
Working fluid			Compressed air													
Max. working pressure		MPa	1.0													
Min. working pressure	Brake section	MPa	0.3									0.25				
	Cylinder section		0.1				0.05				0.1					
Withstanding pressure		MPa	1.6													
Ambient temperature		℃	5 to 120													
Port size	Brake section		Rc1/8		Rc1/4		Rc3/8		Rc1/2			Rc1/8		Rc1/4		Rc3/8
	Cylinder section		Rc1/4		Rc3/8		Rc1/2			Rc3/4			Rc1/4		Rc3/8	
Stroke tolerance		mm	+0.9 0 (to 360),		+1.4 0 (to 1000)		+1.0 0 (to 300),		+1.4 0 (to 1000),		+1.8 0 (to 2000)		+0.9 0 (to 360),		+1.4 0 (to 1000)	
Working piston speed		mm/s	50 to 1000 (used within allowable energy absorption)													
Cushion			Air cushion													
Effective cushion length		mm	14.6	16.6		20.6	23.6	21.6			14.6	16.6		20.6	23.6	
Lubrication (note)			Not available													
Stoppage accuracy		mm	±1.0 (300mm/s loadless)													
Holding force		N	980	1569	2451	3922	6178	9600	12000	15800	20000	784	1255	1961	3138	4941
Allowable energy absorption	J	Cushioned	4.29	8.37	15.8	27.9	49.8	63.6	91.5	116	152	4.29	8.37	15.8	27.9	49.8
		No cushion	0.067	0.079	0.079	0.201	0.301	0.371	0.386	0.386	0.958	0.067	0.079	0.079	0.201	0.301
		Note: If "No cushion" is selected, the large energy generated by the external load cannot be absorbed. We recommend to use an external shock absorber together.														

Note: If "No cushion" is selected, the large energy generated by the external load cannot be absorbed. We recommend to use an external shock absorber together.

Note: Apply heat resistance grease periodically.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)		
ϕ 140	50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1600	1		
ϕ 150			2000			
ϕ 163		700	2500			
ϕ 180						
ϕ 100		800	2000			
ϕ 125						
ϕ 140						
ϕ 160						
ϕ 160		900				
ϕ 180						

Note: If the max. stroke is exceeded, product specifications may not be met, depending on operating conditions. Refer to Ending 74.
Custom stroke length is available per 1mm increment.

Cylinder weight

● ϕ 40 to ϕ 100

(Unit: kg)

Descriptions, mounting style	Product weight when stroke length (S) = 0mm						Additional weight per S = 100mm
	Basic type (00)	Foot type (LB)	Flange type (FA and FB)	Eye bracket type (CA)	Clevis bracket type (CB)	Trunnion type (TC)	
Bore size (mm)							
ϕ 40	2.48	2.66	2.91	2.83	2.83	2.86	0.39
ϕ 50	3.47	3.67	3.97	3.87	3.87	3.97	0.46
ϕ 63	5.09	5.49	6.19	5.79	5.79	5.89	0.50
ϕ 80	8.15	8.85	9.95	9.65	9.65	9.45	0.90
ϕ 100	14.70	15.70	17.40	16.90	16.90	17.30	1.12

(E.g.) Product weight of JSC3-T-LB-50B-200

Product weight when S = 0mm 3.67kg
Additional weight when S = 200mm $0.46 \times \frac{200}{100} = 0.92$ (kg)
Product weight 3.67kg + 0.92kg = 4.59kg

● ϕ 125 to ϕ 180

(Unit: kg)

Descriptions, mounting style	Product weight when stroke length (S) = 0mm					Additional weight per S = 100mm
	Axial foot type (LB)	Flange type (FA and FB)	Eye bracket type (CA)	Clevis bracket type (CB)	Trunnion type (TC, TA or TB)	
Bore size (mm)						
ϕ 125	33.3	35.1	34.8	34.9	35.2	2.60
ϕ 140	43.8	47.2	45.6	45.8	45.0	2.96
ϕ 160	56.8	60.6	58.7	59.0	60.1	3.57
ϕ 180	79.6	87.1	82.5	83.0	83.2	4.94

(E.g.) LB-125B-300

Product weight when S = 0mm 33.3kg
Additional weight when S=300mm $2.60 \times \frac{300}{100} = 7.8$ kg
Product weight when S=300mm 33.3 + 7.8 = 41.1kg

How to order

Without switch

JSC3 - T - LB - 40 - B - 50 - S - I

Model no.

A Brake release pressure

B Mounting style
Note 1

C Bore size

D Port thread type

E Cushion

F Stroke length
Note 2G Option
Note 3H Accessory
Note 5

⚠ Note on model no. selection

Note 1: The mounting bracket is shipped with the product.

(Special head end flange type is attached when shipped.)

Note 2: Refer to Ending 74 if max. stroke length is exceeded.

Note 3: Refer to each dimensions to confirm indication of "S", "T", and "G" positions.

Note 4: Refer to Ending 89 for custom specifications of rod end form.

Note 5: "I" and "Y" can not be selected at the same time.

<Example of model number>

JSC3-T-LB-40B-50-SI

Model: Brake cylinder double acting heat resistance type

A Brake release pressure: Standard type 0.3MPa

B Mounting style : Axial foot type

C Bore size : $\phi 40$ mm

D Port thread type : Rc thread

E Cushion : Both sides cushioned

F Stroke length : 50mm

G Option : Cushion needle position S

H Accessory : Rod eye

How to order mounting bracket

● $\phi 40$ to $\phi 100$

Bore size (mm)	$\phi 40$	$\phi 50$	$\phi 63$	$\phi 80$	$\phi 100$
Mounting bracket					
Foot (LB)	S1-LB-40	S1-LB-50	S1-LB-63	S1-LB-80	S1-LB-100
Flange (FB)	JSC3-40-FB	JSC3-50-FB	JSC3-63-FB	JSC3-80-FB	JSC3-100-FB
Eye (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis (CB)	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

Note 1: The foot type mounting bracket is supplied as a two-piece set.

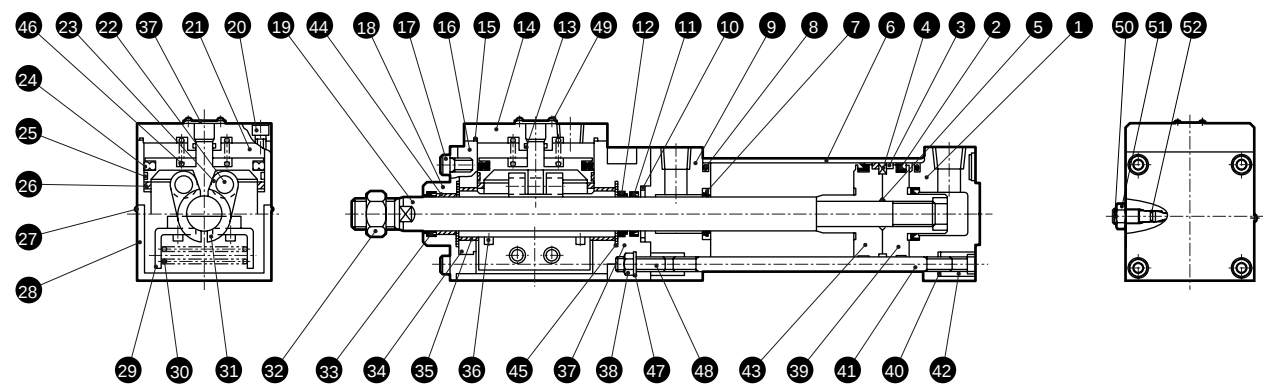
Symbol	Descriptions		
A Brake release pressure			
Blank	Standard type 0.3MPa		
S	Low pressure release type 0.25MPa		
B Mounting style			
00	Basic type (φ125 to φ180 can not be selected.)		
LB	Axial foot type		
FA	Rod end flange type		
FB	Head end flange type		
FC	Special head end flange type		
CA	Eye bracket type		
CB	Clevis bracket type (pin and snap ring attached)		
TC	Center trunnion type		
TA	Rod end trunnion type		
TB	Head end trunnion type		
C Bore size (mm)			
40	φ 40		
50	φ 50		
63	φ 63		
80	φ 80		
100	φ 100		
125	φ 125		
140	φ 140		
160	φ 160		
180	φ 180		
D Port thread type			
Blank	Rc thread		
N	NPT thread (custom order)		
G	G thread (custom order)		
E Cushion			
B	Both sides cushioned		
R	Rod end cushion		
H	Head end cushion		
N	No cushion		
F Stroke length (mm)			
Bore size	Stroke length	Available stroke length	Custom stroke length
φ 40	1 to 600	1600	1 mm increment
φ 50	1 to 600	2000	
φ 63	1 to 600	2500	
φ 80	1 to 700	2500	
φ 100	1 to 800	2500	
φ 125	1 to 800	2000	
φ 140	1 to 800	2000	
φ 160	1 to 800	2000	
φ 180	1 to 900	2000	
G Option			
		Max. ambient temperature	Instantaneous max. temperature
L	Bellows	250 °C	400 °C
M	Piston rod material (stainless steel)		
Blank	Cushion needle position R (standard)		
S	Cushion needle position S		
T	Cushion needle position T		
G	With indicator (for φ 40 to φ 100)		
C2	Cushion mechanism with check valve (for φ125 to φ180)		
H Accessory			
I	Rod eye		
Y	Rod clevis (pin and snap ring attached)		
B1	Eye bracket		
B2	Clevis bracket (pin and snap ring attached)		
B3	Eye bracket (for φ 40 to φ 100)		
B4	Trunnion type No. 2 bracket (for φ40 to φ100)		

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Internal structure and parts list (φ40 to φ100)



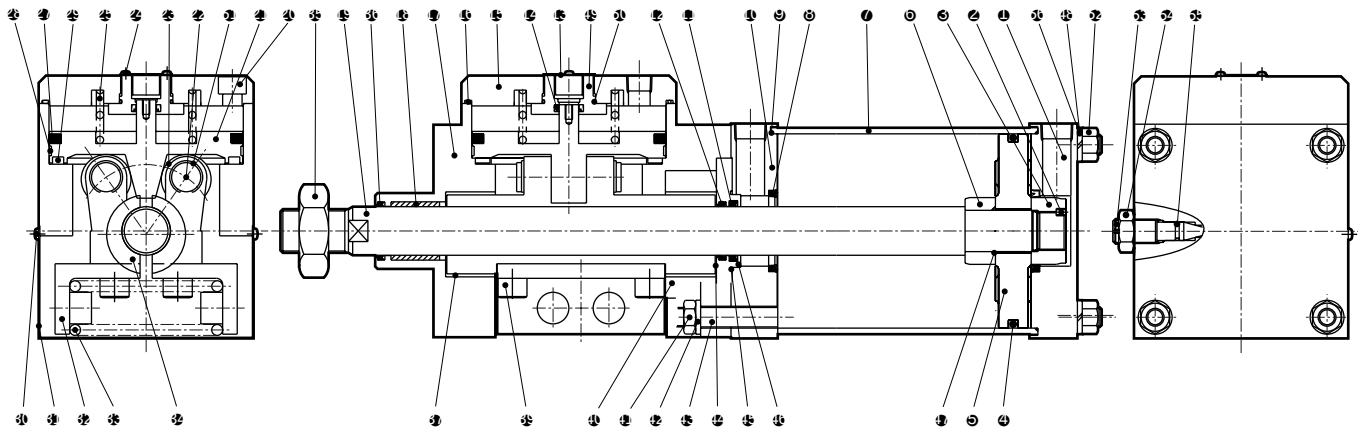
Products No.	Parts name	Material	Remarks	Products No.	Parts name	Material	Remarks
1	Head cover	Aluminum alloy die-casting	Paint	28	Cover	Steel	Paint
2	Piston packing seal	Fluoro rubber		29	Spring holder	Steel	Zinc chromate
3	Wear ring	Tetrafluoroethylene resin		30	Spring	Steel	
4	Piston ring	Steel		31	Brake shoe metal	Cast iron	Nickeling
5	Piston gasket	Fluoro rubber		32	Rod nut	Steel	Zinc chromate
6	Cylinder tube	Aluminum alloy	Hard alumite	33	Dust wiper	Fluoro rubber	
7	Cushion packing seal	Fluoro rubber		34	DU ring	Steel	Blackening
8	Cylinder gasket	Fluoro rubber		35	Bush	Oil impregnated bearing alloy	
9	Rod cover	Aluminum alloy die-casting	Paint	36	Hexagon socket head cap bolt	Alloy steel	Blackening
10	Metal seal	Fluoro rubber		37	Dust cover	Aluminum alloy	Paint
11	Rod packing seal	Fluoro rubber		38	Hexagon nut	Steel	Blackening
12	Dust wiper	Fluoro rubber		39	Piston H	Aluminum alloy die-casting	
13	Cap gasket A	Fluoro rubber		40	Tie rod	Steel	Zinc chromate
14	Main body cap	Cast iron	Nitriding	41	Conical spring washer	Steel	Blackening
15	Cap gasket B	Fluoro rubber		42	Round nut	Steel	Zinc chromate
16	Brake	Aluminum alloy casting	Alumite	43	Piston R	Aluminum alloy die-casting	
17	Hexagon socket head cap bolt	Alloy steel	Blackening	44	Bush B	Oil impregnated bearing alloy	
18	Rod bushing	Steel	Phosphoric acid mangan	45	Thrust washer		
19	Piston rod	Steel	Industrial chrome plating	46	Spring	Steel	Paint
20	Hexagon socket head cap bolt	Alloy steel	Blackening	47	Toothed washer	Steel	Blackening
21	Piston for brake	Cast iron	Phosphoric acid mangan	48	Hexagon socket head set screw	Steel	Blackening
22	Parallel pin	Steel		49	Washer assembly cross headed pan	Steel	Zinc chromate
23	Bearing			50	Cushion needle	Copper alloy	
24	Piston packing seal B	Fluoro rubber		51	Needle nut	Copper alloy	
25	Wear ring	Special plastic		52	Needle gasket	Fluoro rubber	
26	Cushion rubber	Flouro silicon rubber					
27	Cross headed pan	Steel	Zinc chromate				

Repair parts list

Bore size (mm)	Kit No.	Repair parts number
φ 40	JSC3-T- 40K	
φ 50	JSC3-T- 50K	2 3 7 8
φ 63	JSC3-T- 63K	
φ 80	JSC3-T- 80K	10 11 12 33 52
φ 100	JSC3-T-100K	

Note: Specify the kit No. when placing an order

Internal structure and parts list (ϕ 125 to ϕ 180)



Parts list

No.	Parts name	Material	Remarks	No.	Parts name	Material	Remarks
1	Head cover	Steel	Zinc chromate	27	Piston packing seal B	Fluoro rubber	
2	Hexagon socket head set screw	Alloy steel	Blackening	28	Wear ring	Acetar resin	
3	Cushion ring (A)	Steel	Zinc chromate	29	Cushion rubber	Silicon rubber	
4	Piston packing seal	Fluoro rubber		30	Cross headed pan	Steel	
5	Piston	ϕ 125 to ϕ 160 Aluminum alloy, ϕ 180 Cast iron		31	Cover	Steel	
6	Cushion ring (B)	Steel	Zinc chromate	32	Spring holder	Steel	Zinc chromate
7	Cylinder tube	Steel	Paint and industrial chrome plating	33	Spring	Piano wire	Blackening
8	Cushion packing seal	Fluoro rubber and steel		34	Brake shoe metal	Cast iron	
9	Cylinder gasket	Fluoro rubber		35	Rod nut	Steel	
10	Rod cover	Steel	Zinc chromate	36	Dust wiper	Fluoro rubber	
11	Rod packing seal	Fluoro rubber		37	Bush A	DU dry bearing	
12	Dust wiper	Fluoro rubber		39	Hexagon socket head cap bolt	Alloy steel	Blackening
13	Dust cover	Aluminum alloy		40	Ring	Steel	Blackening
14	Rod packing seal	Fluoro rubber		41	Hexagon nut	Steel	Zinc chromate
15	Main body cap	Cast iron		42	The toothed washer	Steel	Zinc chromate
16	Cap gasket	Fluoro rubber		43	Tie rod	Steel	Zinc chromate
17	Brake	Aluminum casting		44	Thrust washer	Steel	
18	Bush B	Oil impregnated bearing alloy		45	Metal gasket	Fluoro rubber	
19	Piston rod	Steel	Industrial chrome plating	46	Rod bushing	Steel	
20	Hexagon socket head cap bolt	Alloy steel	Blackening	47	Piston gasket	Fluoro rubber	
21	Piston for brake	Cast iron		48	Spring washer	Steel	
22	Bearing pin	Steel		49	Main body cap	Cast iron	
23	Bearing	-		50	O ring	Fluoro rubber	
24	Washer assembly cross headed pan	Steel		51	E type snap ring	Steel	
25	Spring	Piano wire	Blackening	52	Hexagon nut	Steel	Zinc chromate
				53	Cushion needle	Steel	Zinc chromate
				54	Needle nut	Steel	Zinc chromate
				55	Needle gasket	Fluoro rubber	
				56	Plain washer	Steel	Zinc chromate

Repair parts list

● JSC3-T

Bore size (mm)	Kit No.	Repair parts number
ϕ 125	JSC3-T-125K	
ϕ 140	JSC3-T-140K	4 8 9 11 12
ϕ 160	JSC3-T-160K	36 45 55
ϕ 180	JSC3-T-180K	

Dimensions

- Dimensions of ϕ 40 to ϕ 100 cylinder are the same as JSC3 (double acting single rod). Refer to pages 1308 to 1317.
- Dimensions of ϕ 125 to ϕ 180 cylinder are the same as JSC3-N (double acting oil-less type). Refer to pages 1318 to 1325.

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

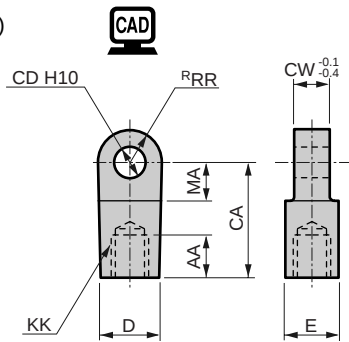
[illegible]

JSC3 Series common accessory dimensions (rod eye, clevis, No. 2 bracket) ϕ 40 to ϕ 100

- Installation dimensions of clevis type, knuckle, and No.2 bracket (CD, CW, CQ) are same. All combinations are possible.
- Specify the model no. when placing an order.

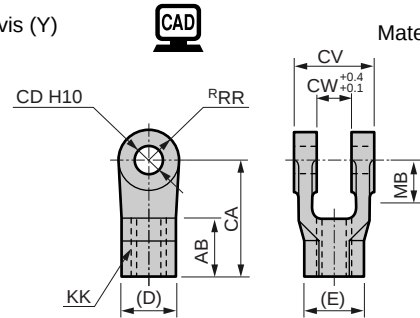
● Rod eye/clevis dimensions

Rod eye (I)



Material: Cast iron

Rod clevis (Y)



Material: Cast iron

● Note: A pin and a snap ring are attached.

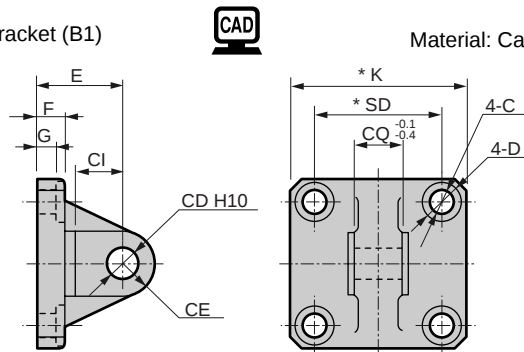
Model no.	Applicable bore size (mm)	AA	CA	CD	CW	D	E	KK	MA	RR	Weight (kg)
S1-I-40	40	20	50	12 ^{+0.070} ₀	18	27	27	M14 x 1.5	21	16	0.26
S1-I-50	50	21	50	12 ^{+0.070} ₀	18	27	27	M18 x 1.5	21	16	0.24
S1-I-63	63	21	50	14 ^{+0.070} ₀	20	27	27	M18 x 1.5	21	16	0.25
S1-I-80	80	30	70	20 ^{+0.084} ₀	28	46	41	M22 x 1.5	30	25	0.80
S1-I-100	100	30	70	20 ^{+0.084} ₀	28	46	41	M26 x 1.5	30	25	0.84

Model no.	Applicable bore size (mm)	AB	CA	CD	CV	CW	D	E	KK	MB	RR	Weight (kg)
S1-Y-40	40	24	50	12 ^{+0.070} ₀	36	18	27	31.2	M14 x 1.5	19	16	0.25
S1-Y-50	50	24	50	12 ^{+0.070} ₀	36	18	27	31.2	M18 x 1.5	19	16	0.24
S1-Y-63	63	24	50	14 ^{+0.070} ₀	40	20	27	31.2	M18 x 1.5	19	16	0.26
S1-Y-80	80	35	70	20 ^{+0.084} ₀	56	28	41	47.3	M22 x 1.5	30	25	0.90
S1-Y-100	100	35	70	20 ^{+0.084} ₀	56	28	41	47.3	M26 x 1.5	30	25	0.85

Note: The MB dimensions indicate the effective length of the CW dimensions.

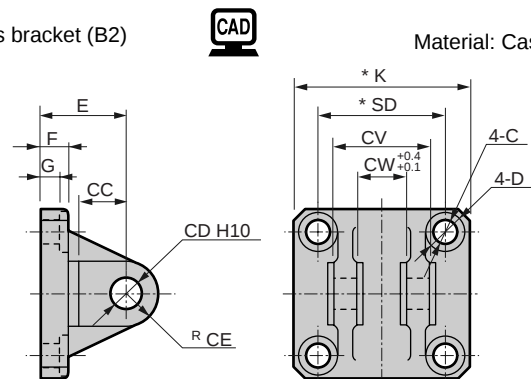
● No. 2 bracket dimensions

Eye bracket (B1)



Material: Cast iron

Clevis bracket (B2)



Material: Cast iron

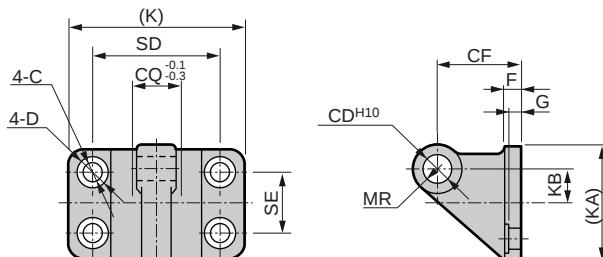
● Note: A pin and a snap ring are attached.

Model no.	Applicable bore size (mm)	C	CD	CE	CI	CQ	D	E	F	G	K	SD	Weight (kg)
S1-B1-40	40	9	12 ^{+0.070} ₀	12	18	18	14	32	10	6.5	57	40.5	0.32
S1-B1-50	50	9	12 ^{+0.070} ₀	12	18	18	14	32	10	6.5	66	48	0.38
S1-B1-63	63	9	14 ^{+0.070} ₀	16	24	20	14	37	10	7.5	80	59	0.57
S1-B1-80	80	14	20 ^{+0.084} ₀	20	30	28	20	52	14	10.5	98	74	1.27
S1-B1-100	100	14	20 ^{+0.084} ₀	20	30	28	20	52	16	10.5	118	90	1.64

Model no.	Applicable bore size (mm)	C	CD	CE	CI	CV	CW	D	E	F	G	K	SD	Weight (kg)
S1-B2-40	40	9	12 ^{+0.070} ₀	12	18	36	18	14	32	10	6.5	57	40.5	0.36
S1-B2-50	50	9	12 ^{+0.070} ₀	12	18	36	18	14	32	10	6.5	66	48	0.41
S1-B2-63	63	9	14 ^{+0.070} ₀	16	24	40	20	14	37	10	7.5	80	59	0.62
S1-B2-80	80	14	20 ^{+0.084} ₀	20	30	56	28	20	52	14	10.5	98	74	1.48
S1-B2-100	100	14	20 ^{+0.084} ₀	20	30	56	28	20	52	16	10.5	118	90	1.82

Eye bracket (B3)

Material: Cast iron



Model no.	Applicable bore size (mm)	C	CD	CF	CQ	D	F	G	K	KA	KB	MR	SD	SE	Weight (kg)
S1-B3-40	ϕ 40, ϕ 50	9	12	40	18	14	8	6.5	85	57	17.5	12	65	35	0.44
S1-B3-63	ϕ 63	11	14	50	20	17	10	8	105	67	20	16	80	40	0.77
S1-B3-80	ϕ 80, ϕ 100	14	20	65	28	20	12	10	130	93	30	20	100	60	1.64

SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC
Ending

Brake cylinder (medium and large bore size)
With brake

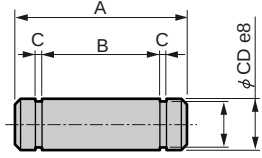
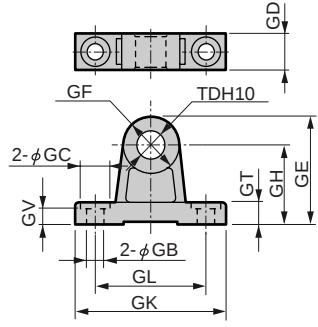
JSC3 Series common accessory dimensions (No. 2 bracket, pin, bellows, indicator) ϕ 40 to ϕ 100

● Trunnion type No. 2 bracket dimensions

Material: Cast iron

● Pin dimensions

Material: Carbon steel



Symbol Model no.	GB	GC	GD	GE	GF	GH	GK	GL	GT	GV	TD	Weight (kg)
S1-B4-40	9	17	19	61	32	45	80	60	12	11	16 ^{+0.070} ₀	0.25
S1-B4-50	9	17	19	63	36	45	85	65	12	11	18 ^{+0.070} ₀	0.28
S1-B4-63	11	22	24	80	40	60	100	75	14	13	20 ^{+0.084} ₀	0.52
S1-B4-80	14	24	26	85	50	60	115	85	14	13	25 ^{+0.084} ₀	0.70
S1-B4-100	14	24	35	107	64	75	130	100	17	16	35 ^{+0.100} ₀	1.48

Model no.	Applicable bore size (mm)	A	B	C	D	CD	Snap ring	Weight (kg)
S1-P-40	40,50	43.5	36.2	1.15	11.5	12 ^{-0.032} _{-0.059}	Axis C type 12	0.04
S1-P-63	63	47.5	40.2	1.15	13.4	14 ^{-0.032} _{-0.059}	Axis C type 14	0.06
S1-P-80	80,100	64	56.2	1.35	19	20 ^{-0.040} _{-0.073}	Axis C type 20	0.16

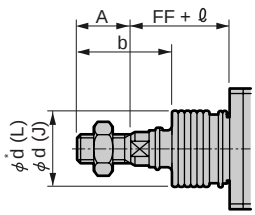
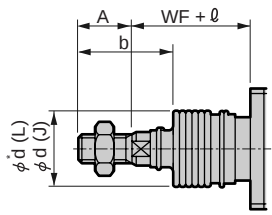
Note: A pin and a snap ring for clevis bracket, rod clevis, clevis bracket types are attached.

● Bellows



ϕ 40 to ϕ 100

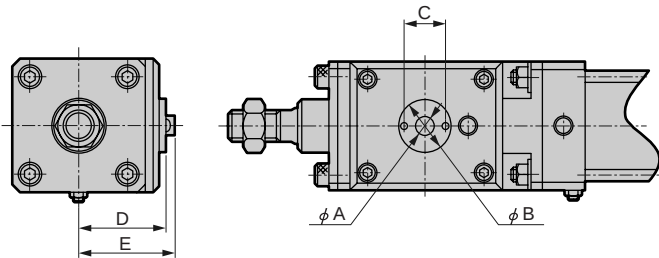
Rod end flange (FA)



Note: l dimensions below decimal point are rounded up.

Symbol Bore size (mm)	A	WF	FF	b	d	d*	l							
							50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 and over
ϕ 40	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8
ϕ 50	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
ϕ 63	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
ϕ 80	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5
ϕ 100	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9

● Indicator



Symbol Bore size (mm)	A	B	C	D	E
ϕ 40	8	25	18	51	51 to 59
ϕ 50	8	25	18	55.5	55.5 to 63.5
ϕ 63	10	32	24	59	59 to 68
ϕ 80	12	32	24	69	69 to 80
ϕ 100	14	32	24	78	78 to 90

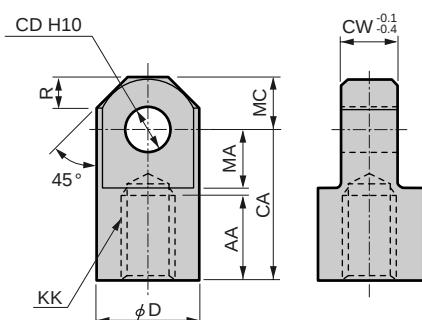
● The brake operation status can be visually judged from outside.



JSC3 Series common accessory dimensions (rod eye, clevis, bracket, pin) ϕ 125 to ϕ 180

● Rod eye for JSC3 (I)

Material: Steel

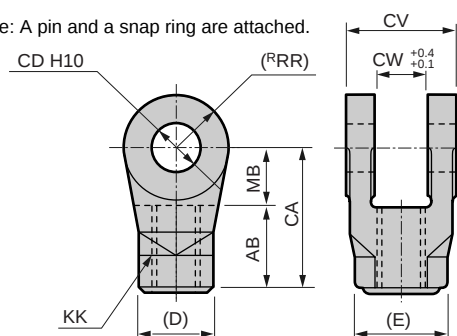


Model no.	Applicable bore size (mm)	AA	CA	CD	CW	D	KK	MA	MC	R	Weight (kg)
SCS-125-I	ϕ 125	50	85	25	32	55	M30 X 1.5	32	27.5	15.5	1.25
SCS-140-I	ϕ 140	50	90	28	36	60	M30 X 1.5	35	30	18	1.65
SCS-160-I	ϕ 160	60	105	32	40	70	M36 X 1.5	40	35	21	2.55
SCS-180-I	ϕ 180	65	115	40	50	85	M40 X 1.5	47.5	42.5	29	4.20

● Rod clevis for JSC3 (Y)

Material: Cast iron

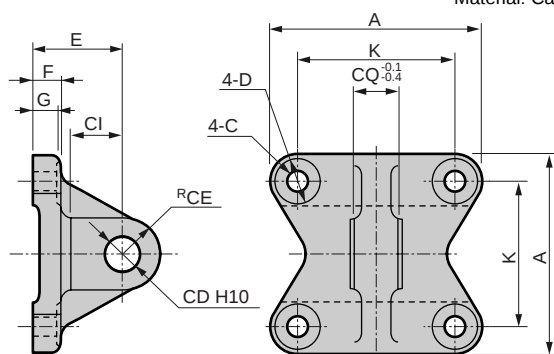
● Note: A pin and a snap ring are attached.



Model no.	Applicable bore size (mm)	AB	CA	CD	CV	CW	D	E	KK	MB	RR	Weight (kg)
SCS-125-Y	ϕ 125	50	85	25	64	32	46	53.1	M30 X 1.5	35	27.5	1.30
SCS-140-Y	ϕ 140	50	90	28	72	36	46	53.1	M30 X 1.5	40	30	1.65
SCS-160-Y	ϕ 160	60	105	32	80	40	55	63.5	M36 X 1.5	45	35	2.55
SCS-180-Y	ϕ 180	65	115	40	100	50	60	69.3	M40 X 1.5	50	42.5	4.40

● Eye bracket for JSC3 (B1)

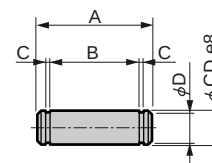
Material: Cast iron



Symbol	A	C	CD	CE	CI	CQ	D	E	F	G	K	Weight (kg)
SCS-125-B1	140	16	25	25	35	32	23	63	20	18	110	2.35
SCS-140-B1	154	16	28	28	40	36	23	75	22	20	124	3.30
SCS-160-B1	174	18	32	32	40	40	26	75	24	22	142	4.65
SCS-180-B1	196	20	40	40	55	50	29	90	25	23	160	6.75

● Pin (P)

Material: Carbon steel

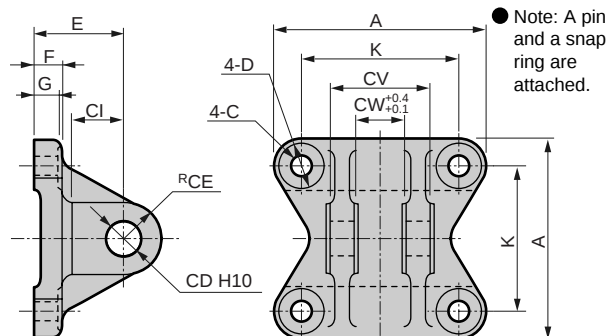


Symbol	A	B	C	CD	D	Applicable snap ring	Weight (kg)	Applicable model
SCS-125-P	75	66.3	1.35	25	23.9	Axis C type 25	0.25	JSC-125
SCS-140-P	84	74.7	1.65	28	26.6	Axis C type 28	0.40	JSC-140
SCS-160-P	92	82.7	1.65	32	30.3	Axis C type 32	0.50	JSC-160
SCS-180-P	115	103.2	1.9	40	38	Axis C type 40	1.15	JSC-180

Note: A pin and a snap ring are attached for clevis, clevis bracket and rod clevis.

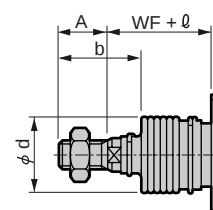
● Clevis bracket for JSC3 (B2)

Material: Cast iron



Symbol	A	C	CD	CE	CI	CV	CW	D	E	F	G	K	Weight (kg)
SCS-125-B2	140	16	25	25	35	64	32	23	63	20	18	110	2.65
SCS-140-B2	154	16	28	28	40	72	36	23	75	22	20	124	3.85
SCS-160-B2	174	18	32	32	40	80	40	26	75	24	22	142	5.45
SCS-180-B2	196	20	40	40	55	100	50	29	90	25	23	160	8.70

● Bellows dimension



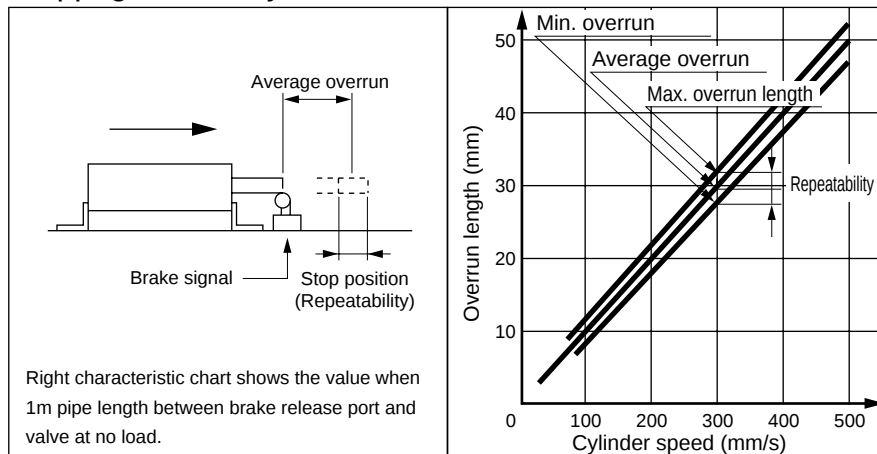
Symbol	A	WF	b	d	l
Bore size (mm)					
ϕ 125	50	55	74	75	(Stroke length/4.55) + 11
ϕ 140	50	57	74	75	(Stroke length/4.55) + 9
ϕ 160	56	71.5	82	80	(Stroke length/5.15) + 9
ϕ 180	63	78.5	91	90	(Stroke length/5.15) + 9

Brake cylinder (medium and large bore size)
With brake

JSM2/JSK2/JSC3 Series

Technical data

Stoppage accuracy and overrun



*Related products selection guide

Overrun length and stoppage accuracy differ depending on the used valve. Use the following related products.

Model	Related components Bore size (mm)	SOL-1	SOL-2	Reverse regulator	Speed control valve	Silencer	Piping
JSM2 JSK2	φ 20	4KB150-06	B5136	R1100-6 2419-1C	SC3W-6-6 SC3R-6 SC1-6	SLW-6A	φ 6 x φ 4 Nylon tube
JSK2	φ 25	4KB150-06	B5136	R1100-6 2419-1C	SC3W-6-6 SC3R-6 SC1-6	SLW-6A	φ 6 x φ 4 Nylon tube
JSM2	φ 30	4KB150-06 4KA250-06 4KB250-06	B5136	R1100-6 2419-1C	SC3W-6-6 SC3R-3-6 SC1-6	SLW-6A	φ 6 x φ 4 Nylon tube
JSK2	φ 32	4KB150-06 4KA250-06 4KB250-06	B5136	R1100-6 2419-1C	SC3W-6-6 SC3R-3-6 SC1-6	SLW-6A	φ 6 x φ 4 Nylon tube
JSM2 JSK2	φ 40	4KA250-06 4KB250-06	4KA110-06 4KB110-06	R1100-6 2419-1C	SC3W-6-8 SC3R-6 SC1-6	SLW-6A	φ 8 x φ 5.7 Nylon tube
JSC3	φ 40	4KB250-08 4KB350-08 PV5-6-FIG-K-A02	4KA210-06 4KB210-06	R3100-8 2400-2C	SC3W-8-8 SC3R-8 SC1-8	SLW-8A	φ 8 x φ 5.7 Nylon tube
	φ 50	4KB350-08 4F350-10 4F450-10 PV5-6-FIG-D-A03	4KA210-06 4KB210-08	R3100-10 2400-3C	SC3W-10-10 SC3R-10 SC1-10	SLW-10A	φ 10 x φ 7.2 Nylon tube
	φ 63	4KB350-08 4F350-10 4F3450-10 PV5-6-FIG-D-A03	4KA210-06 4KB210-08	R4100-10 2401-3C	SC3W-10 SC3R-10 SC1-10	SLW-10A	φ 10 x φ 7.2 Nylon tube
	φ 80	4KB450-15 4F550-15 PV5-8-FIG-D-A04	4KA210-06 4KB210-08	R4100-15 2401-4C	SC3W-15-12 SC3R-15 SC1-15	SLW-15A	φ 12 x φ 8.9 Nylon tube
	φ 100	4KB450-15 4F550-15 PV5-8-FIG-K-A04	4KB310-10	R4100-15 2401-4C	SC3W-15-12 SC3R-15 SC1-15	SLW-15A	φ 12 x φ 8.9 Nylon tube
	φ 125	4KB450-15 4F550-15 4F650-15 PV5-8-FIG-K-A04	4KB310-10 4F310-10	R4100-15 2401-4C	SC3R-15 SC1-15	SLW-15A	φ12 Rubber hose SGP3/8B SGP1/2B
	φ 140	4F650-20	4KB310-10 4F310-10	2401-6C	SC-20A	SL-20A	φ19 Rubber hose SGP1/2B SGP3/4B
	φ 160	4F650-20 4F750-20	4KB310-10 4F310-10	2401-6C	SC-20A	SL-20A	φ19 Rubber hose SGP1/2B SGP3/4B
	φ 180	4F750-20	4KA410-10 4KB410-15 4F310-10	2401-6C	SC-20A	SL-20A	φ19 Rubber hose SGP1/2B SGP3/4B

● Note 1: For JSC3-V, the solenoid valve for brake release (SOL2) is integrated.

Applications

This product can be used with devices and equipment requiring the following functions:

1 When multipoint positioning is required (transfer/positioning)

Equipment can be accurately stopped at several positions.

2 When position locking is required

Brakes can be applied and held instantly when the air pressure source or power is turned OFF during power failure or accident, preventing damage to equipment and ensuring safety.

3 When emergency stop is required

The cylinder can be stopped with electric signals, etc., when personnel, etc., enter hazardous areas.

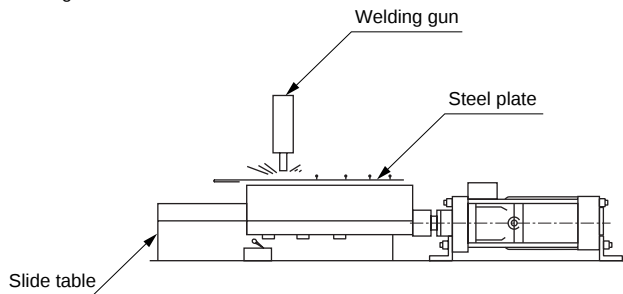
4 Workpiece lock

When the workpiece is locked to the jig or mounting bracket, etc., it can be locked even without air pressure source or power. The workpiece can be transferred while locked to the jig.

Applications

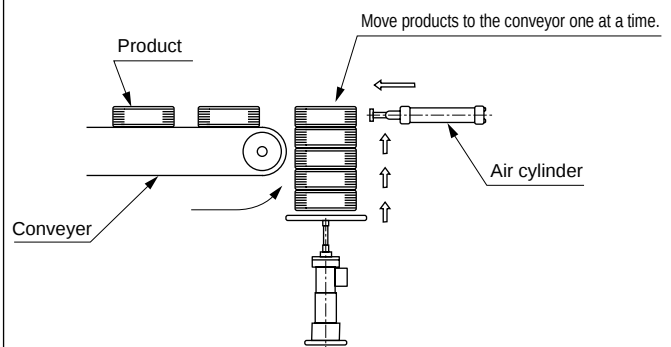
1 Linear multipoint welding

When welding steel plates, etc., linearly at several points, this cylinder can be used to move and position the slide table or welding gun.



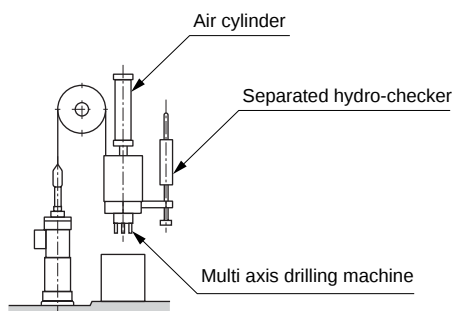
4 Moving to conveyer

Move products to the conveyer one at a time.



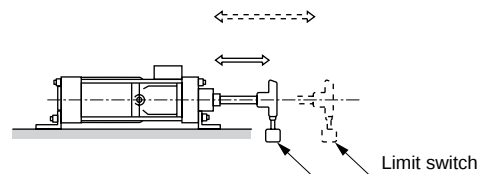
2 Position locking

If there is a vertical load that could drop of its own weight when the pressure source is turned off, brakes are applied to the lock position.



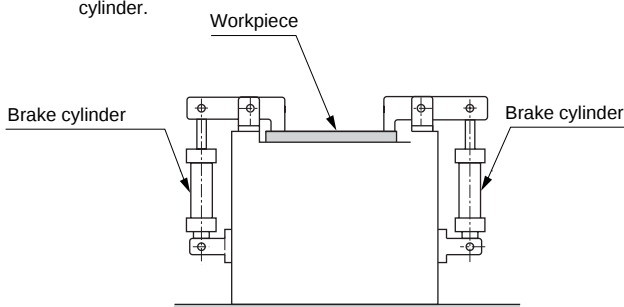
5 When several cylinders with different strokes are required

When different-sized products flow to the conveyor, etc., and many cylinders are set, the stroke must be changed. Using the middle bore size brake cylinder, a cylinder compatible with different strokes is created electrically.



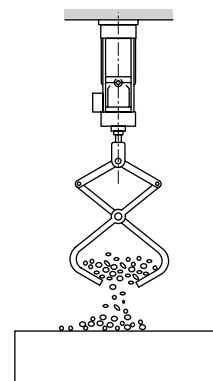
3 Workpiece lock

When the workpiece is locked to the jig, etc., it can be locked even when air pressure source or power is OFF by using the brake cylinder.



6 Opening and closing of hopper

When a hopper must be closed at a specific weight, such as when manufacturing powder, the hopper is not completely closed to accurately measure powder, then it is fully closed.



SCP*2
CMK2
CMA2
SCM
SCG
SCA2
SCS
CKV2
CA/OV2
SSD
CAT
MDC2
MVC
SMD2
MSD*
FC*
STK
ULK*
JSK/M2
JSG
JSC3
USSD
USC
JSB3
LMB
STG
STS/L
LCS
LCG
LCM
LCT
LCY
STR2
UCA2
HCM
HCA
SRL2
SRG
SRM
SRT
MRL2
MRG2
SM-25
CAC3
UCAC
RCC2
MFC
SHC
GLC

Ending

Brake cylinder (medium and large bore size)
With brake