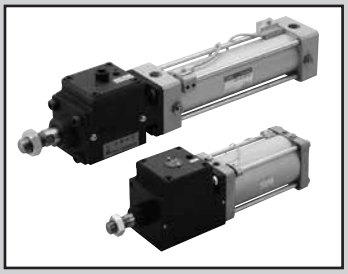
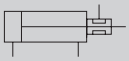


Brake cylinder: Double acting, single rod/double acting, no-lubrication

JSC3/JSC4-N Series

● Bore size:
JSC3: ø40/ø50/ø63/ø80/ø100
JSC4: ø125/ø140/ø160/ø180

JIS symbol



RoHS CAD

Specifications

Item			JSC3 (with switch)					JSC3-S (with switch)					JSC4-N			
Bore size		mm	ø40	ø50	ø63	ø80	ø100	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	ø180
Actuation			Double acting					Double acting/low pressure release					Double acting			
Working fluid			Compressed air													
Max. working pressure		MPa	1.0 (≈150 psi, 10 bar)													
Min. working pressure	Brake section	MPa	0.3 (≈44 psi, 3 bar)					0.25 (≈36 psi, 2.5 bar)					0.3 (≈44 psi, 3 bar)			
	Cylinder	MPa	0.1 (≈15 psi, 1 bar)					0.1 (≈15 psi, 1 bar)					0.05 (≈7.3 psi, 0.5 bar)			
Proof pressure		MPa	1.6 (≈230 psi, 16 bar)													
Ambient temperature		°C	-10 (14°F) to 60 (140°F) (no freezing)					-10 (14°F) to 60 (140°F) (no freezing)					-5 (23°F) to 60 (140°F) (no freezing)			
Port size	Brake section		Rc1/8		Rc1/4		Rc3/8	Rc1/8		Rc1/4		Rc3/8	Rc1/2			
	Cylinder		Rc1/4	Rc3/8		Rc1/2		Rc1/4	Rc3/8		Rc1/2		Rc1/2	Rc3/4		
Stroke tolerance		mm	$^{+0.9}_{0}$ (to 360) $^{+1.4}_{0}$ (to 1000)					$^{+1.0}_{0}$ (to 360) $^{+1.4}_{0}$ (to 1000)					$^{+1.0}_{0}$ (to 300), $^{+1.4}_{0}$ (to 1000), $^{+1.8}_{0}$ (to 2000)			
Working piston speed		mm/s	50 to 1000 (Operate within the allowable absorbed energy.)													
Cushion			Air cushion													
Effective air cushion length		mm	14.6	16.6		20.6	23.6	14.6	16.6		20.6	23.6	21.6			
Lubrication			Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)													
Holding force		N	980	1569	2451	3922	6178	784	1255	1961	3138	4941	9600	12000	15800	20000
Allowable absorbed energy	Cushioned	J	4.29	8.37	15.8	27.9	49.8	4.29	8.37	15.8	27.9	49.8	63.6	91.5	116	152
	Without cushion	J	0.067	0.079	0.079	0.201	0.301	0.067	0.079	0.079	0.201	0.301	0.371	0.386	0.386	0.958
			Note: Without any cushion, this product cannot absorb large energy generated by an external load. We recommend using an external shock absorber.													

Stroke

Bore size (mm)		Standard stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Min. stroke (mm)
JSC3	ø40	50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1600	1
	ø50			2000	
	ø63			2500 *2	
	ø80		700		
	ø100		800		
JSC4	ø125	50, 75, 100, 150, 200, 250, 300	800	2000	
	ø140				
	ø160				
	ø180		900		

*1 : If the max. stroke is exceeded, product specifications may not be met, depending on operating conditions. Refer to Ending Page 69 for details.
The custom stroke is available in 1 mm increments.
*2 : The max. stroke available for ø63 to ø100 bore size models with bellows is 2000 mm.

Min. stroke with switch (T switch)

● Min. stroke with T0/T5 switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1 : The values in ( ) are of T*V (radial lead wire).
*2 : When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Min. stroke with JSC3 switch (T switch)

● T8 min. stroke with switch

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke with T2/T3 switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke with T1/T2Y/T3Y/T2YD switches

	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Switch quantity	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire). T2YD does not have a radial lead wire (V).
*2: When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

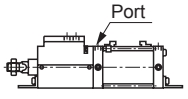
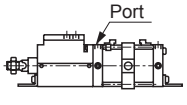
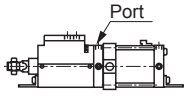
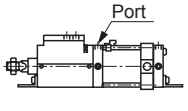
● Min. stroke with T2W/T3W switches

	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting Position cannot be detected at the rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Switch quantity	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	20(5)	20(10)	20(15)	25(25)	20(5)	65(50)	110(80)	155(110)	110(80)	110(80)	170(140)	170(140)	50(35)	50(35)
ø50	20(5)	20(10)	20(15)	20(20)	20(5)	20(10)	65(40)	65(40)	110(80)	110(80)	110(60)	110(60)	50(35)	50(35)
ø63	20(5)	20(10)	20(15)	25(25)	20(5)	20(10)	65(40)	65(40)	115(85)	115(85)	115(65)	115(65)	55(40)	55(40)
ø80	15(5)	15(10)	15(15)	25(25)	15(5)	15(10)	60(40)	60(40)	120(90)	120(90)	120(70)	120(70)	55(40)	55(40)
ø100	10(5)	10(10)	20(20)	25(25)	10(5)	10(10)	60(40)	60(40)	130(100)	130(100)	130(85)	130(85)	60(45)	60(45)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Min. stroke with JSC4 switch (T switch)

● ø125 to ø180 (Unit: mm)

Item / Bore size (mm)	Stroke when mounted on the same surface	Center trunnion mounting stroke	Rod side trunnion mounting stroke	Head side trunnion mounting stroke
				
ø125	20 or more	120 or more	70 or more	
ø140		125 or more	75 or more	
ø160		130 or more	80 or more	
ø180		135 or more	85 or more	

Switch specifications (T type switch)

● 1-color/2-color LED/for AC magnetic field proof

Item	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire							Proximity 2-wire
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V			T2YD(*4) T2YDT
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay			For programmable controller
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	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 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without LED		LED (Lit when ON)			Red/green LED (Lit when ON)
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA							1 mA or less
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.
*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

Cylinder weight

● JSC3(ø40 to ø100)

[Unit: kg]

Item/mounting / Bore size (mm)	Product weight when stroke (S) = 0 mm: Basic (00)	Foot (LB)	Flange (FA, FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TC)	Switch weight	Mounting bracket weight: T type	H type	Additional weight per S = 100 mm
ø40	2.48	2.66	2.91	2.83	2.83	2.86	Refer to the weight in the switch specifications.	0.024	0.028	0.39
ø50	3.47	3.67	3.97	3.87	3.87	3.97		0.022	0.026	0.46
ø63	5.09	5.49	6.19	5.79	5.79	5.89		0.020	0.024	0.50
ø80	8.15	8.85	9.95	9.65	9.65	9.45		0.026	0.029	0.90
ø100	14.70	15.70	17.40	16.90	16.90	17.30		0.024	0.028	1.12

(Example) Product weight of JSC3-LB-50B-200-T0H-D

Product weight for stroke 0 mm ..... 3.67 kg
Additional weight for stroke 200 mm ..... $0.46 \times \frac{200}{100}$ =0.92 kg
Weight of 2 TOH switches ..... 0.018x2=0.036 kg
Weight of 2 mounting brackets ..... 0.022x2=0.044 kg
Product weight ..... 3.67+0.92+0.036+0.044=4.670 kg

● JSC4(ø125 to ø180)

(Unit: kg)

Item/mounting / Bore size (mm)	Product weight when stroke (S) = 0 mm: Axial foot (LB)	Flange (FA/FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TA/TB/TC)	Switch weight: Switch	Mounting bracket	Additional weight per S = 100 mm
ø125	25.72	27.52	27.22	27.32	27.62	Refer to the weight in the switch specifications.	0.028	1.54
ø140	32.95	36.35	34.75	34.95	34.15		0.030	1.78
ø160	42.85	46.65	44.75	45.05	46.15		0.034	2.22
ø180	61.55	69.05	64.45	64.95	65.15		0.038	2.96

(Example) Product weight of JSC4-LN-LB-125B-300-T0H-D

Product weight when S = 0 mm ..... 25.72 kg
Additional weight when S = 300 mm ..... $1.54 \times \frac{300}{100}$ = 4.62 kg
Weight of 2 switches (T0H-D) ..... 0.018x2=0.036 kg
Weight of 2 switch brackets ..... 0.028x2=0.056 kg
Product weight ..... 25.72 + 4.62 + 0.036 + 0.056=30.432 kg

Theoretical thrust table

(Unit: N)

Bore size (mm)		Operating direction	Working pressure MPa: 0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
JSC3	ø40	Push	1.26×10^{2}	1.88×10^{2}	2.51×10^{2}	3.77×10^{2}	5.03×10^{2}	6.28×10^{2}	7.54×10^{2}	8.80×10^{2}	1.01×10^{3}	1.13×10^{3}	1.26×10^{3}
		Pull	1.06×10^{2}	1.58×10^{2}	2.11×10^{2}	3.17×10^{2}	4.22×10^{2}	5.28×10^{2}	6.33×10^{2}	7.39×10^{2}	8.44×10^{2}	9.50×10^{2}	1.06×10^{3}
	ø50	Push	1.96×10^{2}	2.95×10^{2}	3.93×10^{2}	5.89×10^{2}	7.85×10^{2}	9.82×10^{2}	1.18×10^{3}	1.37×10^{3}	1.57×10^{3}	1.77×10^{3}	1.96×10^{3}
		Pull	1.65×10^{2}	2.47×10^{2}	3.30×10^{2}	4.95×10^{2}	6.60×10^{2}	8.25×10^{2}	9.90×10^{2}	1.15×10^{3}	1.32×10^{3}	1.48×10^{3}	1.65×10^{3}
	ø63	Push	3.12×10^{2}	4.68×10^{2}	6.23×10^{2}	9.35×10^{2}	1.25×10^{3}	1.56×10^{3}	1.87×10^{3}	2.18×10^{3}	2.49×10^{3}	2.81×10^{3}	3.12×10^{3}
		Pull	2.80×10^{2}	4.20×10^{2}	5.61×10^{2}	8.41×10^{2}	1.12×10^{3}	1.40×10^{3}	1.68×10^{3}	1.96×10^{3}	2.24×10^{3}	2.52×10^{3}	2.80×10^{3}
	ø80	Push	5.03×10^{2}	7.54×10^{2}	1.01×10^{3}	1.51×10^{3}	2.01×10^{3}	2.51×10^{3}	3.02×10^{3}	3.52×10^{3}	4.02×10^{3}	4.52×10^{3}	5.03×10^{3}
		Pull	4.54×10^{2}	6.80×10^{2}	9.07×10^{2}	1.36×10^{3}	1.81×10^{3}	2.27×10^{3}	2.72×10^{3}	3.17×10^{3}	3.63×10^{3}	4.08×10^{3}	4.54×10^{3}
	ø100	Push	7.85×10^{2}	1.18×10^{3}	1.57×10^{3}	2.36×10^{3}	3.14×10^{3}	3.93×10^{3}	4.71×10^{3}	5.50×10^{3}	6.28×10^{3}	7.07×10^{3}	7.85×10^{3}
		Pull	7.15×10^{2}	1.07×10^{3}	1.43×10^{3}	2.14×10^{3}	2.86×10^{3}	3.57×10^{3}	4.29×10^{3}	5.00×10^{3}	5.72×10^{3}	6.43×10^{3}	7.15×10^{3}
JSC4	ø125	Push	1.23×10^{3}	1.84×10^{3}	2.45×10^{3}	3.68×10^{3}	4.91×10^{3}	6.14×10^{3}	7.36×10^{3}	8.59×10^{3}	9.82×10^{3}	1.10×10^{4}	1.23×10^{4}
		Pull	1.13×10^{3}	1.70×10^{3}	2.26×10^{3}	3.39×10^{3}	4.52×10^{3}	5.65×10^{3}	6.79×10^{3}	7.92×10^{3}	9.05×10^{3}	1.02×10^{4}	1.13×10^{4}
	ø140	Push	1.54×10^{3}	2.31×10^{3}	3.08×10^{3}	4.62×10^{3}	6.16×10^{3}	7.70×10^{3}	9.24×10^{3}	1.08×10^{4}	1.23×10^{4}	1.39×10^{4}	1.54×10^{4}
		Pull	1.44×10^{3}	2.16×10^{3}	2.89×10^{3}	4.33×10^{3}	5.77×10^{3}	7.22×10^{3}	8.66×10^{3}	1.01×10^{4}	1.15×10^{4}	1.30×10^{4}	1.44×10^{4}
	ø160	Push	2.01×10^{3}	3.02×10^{3}	4.02×10^{3}	6.03×10^{3}	8.04×10^{3}	1.01×10^{4}	1.21×10^{4}	1.41×10^{4}	1.61×10^{4}	1.81×10^{4}	2.01×10^{4}
		Pull	1.88×10^{3}	2.83×10^{3}	3.77×10^{3}	5.65×10^{3}	7.54×10^{3}	9.42×10^{3}	1.13×10^{4}	1.32×10^{4}	1.51×10^{4}	1.70×10^{4}	1.88×10^{4}
	ø180	Push	2.54×10^{3}	3.82×10^{3}	5.09×10^{3}	7.63×10^{3}	1.02×10^{4}	1.27×10^{4}	1.53×10^{4}	1.78×10^{4}	2.04×10^{4}	2.29×10^{4}	2.54×10^{4}
		Pull	2.39×10^{3}	$3.58+10^{3}$	4.77×10^{3}	7.16×10^{3}	9.54×10^{3}	1.19×10^{4}	1.43×10^{4}	1.67×10^{4}	1.91×10^{4}	2.15×10^{4}	2.39×10^{4}

How to order (ø40 to ø100)

Without switch (built-in magnet for switch)

JSC3 - ( ) —— LB - 40 ( ) B - 50 —— S I

With switch (built-in magnet for switch)

JSC3 - ( ) —— LB - 40 ( ) B - 50 - T0H - R - S I

With strong magnetic field proof (for H0, H0Y switches) switch (built-in magnet for switch)

JSC3 - ( ) L2 - LB - 40 ( ) B - 50 - H0 - R - S I

Model No.

Ⓐ Brake release pressure

Ⓑ Mounting *1

Ⓒ Bore size

Ⓓ Port thread

Ⓔ Cushion

Ⓕ Stroke *2 *3 *4

Ⓖ Switch model No. * indicates the lead wire length.

Ⓗ Switch quantity *5

Ⓘ Option *6 *7

Ⓙ Accessory *8

Code	Description
Ⓐ Brake release pressure	
Blank	Standard (0.3 MPa)
S	Low pressure release (0.25 MPa)
Ⓑ Mounting	
00	Basic
LB	Axial foot
FA	Rod side flange
FB	Head side flange
FC	Head side special flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion
Ⓒ Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
Ⓓ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)
Ⓔ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓕ Stroke (mm)

Bore size	Stroke *4	Available stroke	Custom stroke
ø40	**1 to 600**	**1600**	**In 1 mm increments**
ø50	**1 to 600**	**2000**	
ø63	**1 to 600**	**2500**	
ø80	**1 to 700**	**2500**	
ø100	**1 to 800**	**2500**	

Ⓖ Switch model No.
Refer to the switch model numbers on the following page.

*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓗ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3
4	4 (when there are more than 4 switches, indicate switch quantity.)

Ⓘ Option

		Max. ambient temperature	instantaneous max. temp
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		

Ⓙ 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 No. 2 bracket (2 pcs./set)

⚠ Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product.
(Head side special flange is attached separately)

*2 : If the stroke exceeds the max. stroke, refer to Ending Page 69.

*3 : The max. stroke available for ø63 to ø100 bore size models with bellows is 2000 mm.

*4 : Refer to page 774 for the min. stroke with switch.

*5 : When selecting TA or TB as mounting, the switch quantity is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

*6 : For S, T, and G position indications, check the respective dimensions.

*7 : When selecting TA or TB mounting format, the cushion needle position cannot be changed. (Cushion needle position S is used with no symbol.)

*8 : "I" and "Y" cannot be selected together.

*9 : Refer to Ending Page 85 for custom specifications of rod end form.

[Example of model No.]

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

Model: Brake cylinder double acting

Ⓐ Brake release pressure : Standard 0.3 MPa
Ⓑ Mounting : Axial foot
Ⓒ Bore size : ø40 mm
Ⓓ Port thread : Rc thread
Ⓔ Cushion : Both sides cushioned
Ⓕ Stroke : 50 mm
Ⓖ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓗ Switch quantity : 1 on rod side
Ⓘ Option : Cushion needle position S
Ⓙ Accessory : Rod eye

[G] Switch model No.

T type switch						
Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
TOH*	TOV*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	Without LED	
T8H*	T8V*		●	●	1-color LED	
T1H*	T1V*	Proximity	●		1-color LED	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●		3-wire
T2WH*	T2WV*			●	2-color LED	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T3PH*	T3PV*			●	1-color LED	3-wire
T2YD*	-			●	2-color LED	2-wire
T2YDT*	-			●	AC magnetic field	
T2JH*	T2JV*			●	1-color LED off-delay	2-wire
H type switch						
HO*	-	Reed	●	●	Strong magnetic field proof	2-wire
HOY*	-			●	Strong magnetic field 2-color LED	

How to order brake unit

JSC3 - 40 - BRAKE-UNIT

Bore size (Item Ⓒ on page 778)

● Mounting FA

JSC3 - FA - 40 - BRAKE-UNIT

Bore size (Item Ⓒ on page 778)

How to order T type switch

● Switch body + mounting bracket set

JSC3 - T0H - 40

Switch model No. (Item Ⓖ) | Bore size (Item Ⓒ on page 778)

● Switch body only

SW - T0H

Switch model No. (Item Ⓖ)

● Mounting bracket set

JSC3 - TS - 40

Mounting bracket | Bore size (Item Ⓒ on page 778)

How to order T2YD type switch

● Switch body + mounting bracket set
·ø40 to ø100

JSC3 - T2YD - 40

Switch model No. (Item Ⓖ) | Bore size (Item Ⓒ on page 778)

● Switch body only
·ø40 to ø100

SW - T2YD

Switch model No. (Item Ⓖ)

● Mounting bracket set

JSC3 - T - 40

Mounting bracket | Bore size (Item Ⓒ on page 778)

How to order H type switch

● Switch body + mounting bracket set

JSC3-L2 - H0 - 40

Switch model No. (Item Ⓖ) | Bore size (Item Ⓒ on page 778)

● Switch body only

SW - H0

Switch model No. (Item Ⓖ)

● Mounting bracket set

JSC3-L2 - H - 40

Mounting bracket | Bore size (Item Ⓒ on page 778)

How to order mounting bracket

● ø40 to ø100

Bore size (mm) / Mounting bracket	ø40	ø50	ø63	ø80	ø100
Foot (LB) *1	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 bracket (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis bracket (CB) *2	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.
*2: A pin and a snap ring are attached.
*3: All mounting brackets have mounting bolts attached.

How to order (ø125 to 180)

Without switch (without magnet for switch)

JSC4-N - LB - 125 ○ B - 50 ——— S I

With switch (built-in magnet for switch)

JSC4-LN - LB - 125 ○ B - 50 - T0H - R - S I

Ⓐ Mounting *1
Ⓑ Bore size
Ⓒ Port thread
Ⓓ Cushion
Ⓔ Stroke
Ⓕ Switch model No.
* indicates the lead wire length.
Ⓖ Switch quantity *3
Ⓗ Option
Ⓘ Accessory *5

Code	Description
Ⓐ Mounting	
LB	Axial foot
FA	Rod side flange
FB	Head side flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion

Ⓑ Bore size (mm)	
125	ø125
140	ø140
160	ø160
180	ø180

Ⓒ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)

Ⓓ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓔ Stroke (mm)

Bore size	Stroke	Available stroke	Custom stroke
ø125	**1 to 800**	**2000**	**In 1 mm increments**
ø140	**1 to 800**	**2000**	
ø160	**1 to 800**	**2000**	
ø180	**1 to 900**	**2000**	

Ⓕ Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	**T0V***	Reed	●	●	1-color LED	2-wire
T5H*	**T5V***	Reed	●	●	Without LED	2-wire
T8H*	**T8V***	Reed	●	●	1-color LED	2-wire
T1H*	**T1V***	Proximity	●		1-color LED	2-wire
T2H*	**T2V***	Proximity		●	1-color LED	2-wire
T3H*	**T3V***	Proximity		●	1-color LED	3-wire
T3PH*	**T3PV***	Proximity		●	1-color LED (PNP output)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color LED	2-wire
T2YH*	**T2YV***	Proximity		●	2-color LED	2-wire
T3WH*	**T3WV***	Proximity		●	2-color LED	3-wire
T3YH*	**T3YV***	Proximity		●	2-color LED	3-wire
T2JH*	**T2JV***	Proximity		●	1-color LED Off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color LED for AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color LED for AC magnetic field	2-wire

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

Ⓖ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3
4	4

Ⓗ Option

		Max. ambient temp.	instantaneous max. temp
J	Bellows	100°C	200°C
L	Bellows	250°C	400°C
M	Piston rod material (stainless steel)		
Blank *4	Cushion needle position (standard)	Standard	
R	Cushion needle position R	T R	
S	Cushion needle position S	S	
T	Cushion needle position T		
C2	With cushion section check valve		

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

⚠ Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product.
*2 : Refer to page 775 for the min. stroke with switch.
*3 : When selecting TA or TB as mounting, the switch quantity is limited to "H" (1 on head side) for TA, and R (1 on rod side) for TB.
*4 : Refer to page 781 for the cushion needle position indication.
*5 : "I" and "Y" cannot be selected together.

[Example of model No.]

JSC4-LN-LB-125B-50-T0H-R-SI

Model: Brake cylinder double acting/no-lubrication

Ⓐ Mounting : Axial foot
Ⓑ Bore size : ø125 mm
Ⓒ Port thread : Rc thread
Ⓓ Cushion : Both sides cushioned
Ⓔ Stroke : 50 mm
Ⓕ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓖ Switch quantity : 1 on rod side
Ⓗ Option : Cushion needle position S
Ⓘ Accessory : Rod eye

How to order brake unit

JSC4 - 125 - BRAKE-UNIT

Bore size (Item Ⓑ on page 780)

How to order T type switch

● Switch body + mounting bracket set

JSC4-LN - T0H - 125

Switch model No. (Item Ⓕ on page 780)
Bore size (Item Ⓑ on page 780)

● Switch body only

SW - T0H

Switch model No. (Item Ⓕ on page 780)

● Mounting bracket set

JSC4-LN - TS - 125

Bore size (Item Ⓑ on page 780)

How to order T2YD type switch

● Switch body + mounting bracket set

JSC4-LN - T2YD - 125

Switch model No. (Item Ⓕ on page 780)
Bore size (Item Ⓑ on page 780)

● Switch body only

SW - T2YD

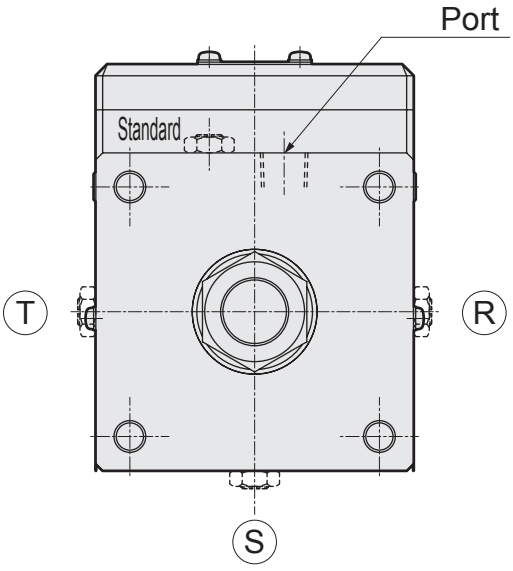
Switch model No. (Item Ⓕ on page 780)

● Mounting bracket set

JSC4-LN - T - 125

Bore size (Item Ⓑ on page 780)

Cushion needle position (needle position from rod direction with the port on the top side)



Certified class 2 pressure vessel stroke

Bore size	Stroke
ø160	1948 or more
ø180	1526 or more

● ø40 to ø100

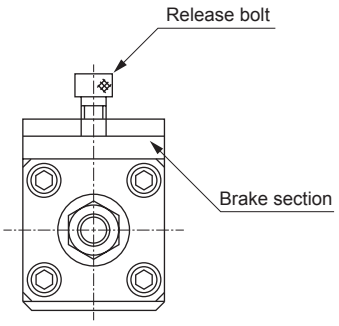
Material of mounting bracket

Mounting	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 screw)

Bore size	Size	
	JSC3	JSC3-V
ø40/ø50	M10x8	M10x29
ø63	M12x9	M12x30
ø80	M14x10	M14x31
ø100	M16x12	M16x40

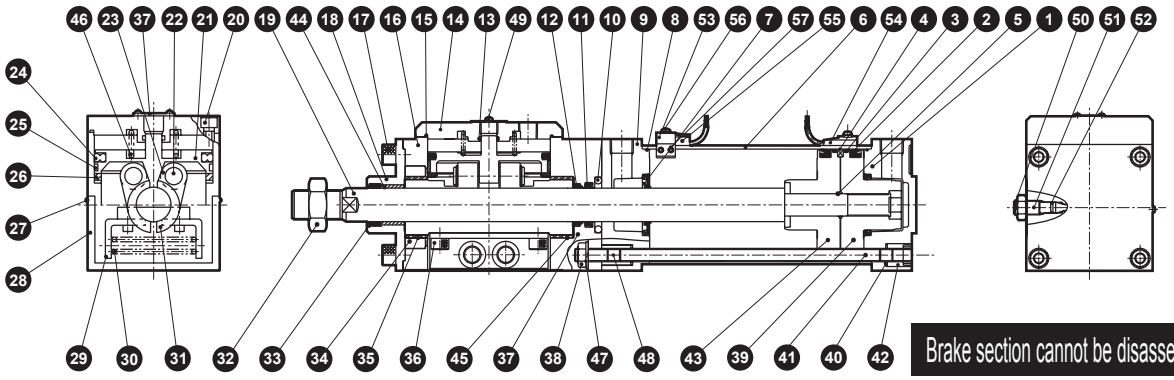
How to release the brake manually



Note: How to release the brake

- The brakes are released by turning the release bolt (attached with product) two or three times to screw it into the female thread (next to brake release port) on top of the brake. (Always remove the release bolt during normal use.)
- To manually release the brake, always use the release bolt attached with the product. Using any other bolt may prevent the brake from functioning properly.

Internal structure and parts list



Brake section cannot be disassembled

No.	Part name	Material	Remarks
1	Head cover	Aluminum alloy die-casting	Paint
2	Piston packing	Nitrile rubber	
3	Wear ring	Polyacetal resin	
4	Magnet	Plastic	
5	Piston gasket	Nitrile rubber	
6	Cylinder tube	Aluminum alloy	Hard alumite
7	Cushion packing	Nitrile rubber, steel	
8	Cylinder gasket	Nitrile rubber	
9	Rod cover	Aluminum alloy die-casting	Paint
10	Metal seal	Nitrile rubber	
11	Rod packing	Nitrile rubber	
12	Dust wiper	Nitrile rubber	
13	Cap gasket A	Nitrile rubber	
14	Body cap	Cast iron	Nitriding
15	Cap gasket B	Nitrile rubber	
16	Brake body	Aluminum alloy casting	Alumite
17	Hexagon socket head cap screw	Alloy steel	Black finish
18	Rod metal	Steel	Manganese phosphate
19	Piston rod	Steel	Industrial chrome plating
20	Hexagon socket head cap screw	Alloy steel	Black finish
21	Brake piston	Cast iron	Manganese phosphate
22	Parallel pin	Steel	
23	Bearing		
24	Piston packing B	Nitrile rubber	
25	Wear ring	Polyacetal resin	
26	Cushion rubber	Urethane rubber	
27	Phillips pan head machine screw	Steel	Zinc chromate

No.	Part name	Material	Remarks
28	Cover	Steel	Paint
29	Spring holder	Steel	Zinc chromate
30	Spring	Steel	
31	Brake shoe metal	Cast iron	Nickeling
32	Rod nut	Steel	Zinc chromate
33	Dust wiper	Nitrile rubber	
34	DU ring	Steel	Black finish
35	Bush	Oil impregnated bearing alloy	
36	Hexagon socket head cap screw	Alloy steel	Black finish
37	Dust cover	Aluminum alloy	Paint
38	Hexagon nut	Steel	Black finish
39	Piston H	Aluminum alloy die-casting	
40	Tie rod	Steel	Zinc chromate
41	Conical spring washer	Steel	Black finish
42	Round nut	Steel	Zinc chromate
43	Piston R	Aluminum alloy die-casting	
44	Bush B	Oil impregnated bearing alloy	
45	Thrust washer		
46	Spring	Steel	Paint
47	Toothed washer	Steel	Black finish
48	Hexagon socket set screw	Alloy steel	Black finish
49	Philips pan head machine screw/captive washer	Steel	Zinc chromate
50	Cushion needle	Copper alloy	Nickeling
51	Needle nut	Copper alloy	Nickeling
52	Needle gasket	Nitrile rubber	
With switch			
53	Switch mounting base	Aluminum alloy	
54	Switch holder	Aluminum alloy	
55	Phillips pan head machine screw	Steel	Zinc chromate
56	Hexagon socket set screw	Alloy steel	Black finish
57	Cylinder switch		

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	JSC3-40K	② ③ ⑦ ⑧ ⑩ ⑪ ⑫ ㉝ ㊷
ø50	JSC3-50K	
ø63	JSC3-63K	
ø80	JSC3-80K	
ø100	JSC3-100K	

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

Note: Never disassemble the brake section, as the powerful spring installed can be dangerous.

● ø125 to ø180

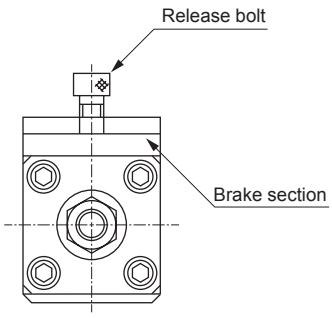
Material of mounting bracket

Mounting	Material	Remarks
LB	Steel	Paint
FA	Carbon steel	Parkerizing
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 screw)

Bore size	Size
ø125	M24 x 16 or higher
ø140	M24 x 20 or higher
ø160	M24 x 20 or higher
ø180	M24 x 24 or higher

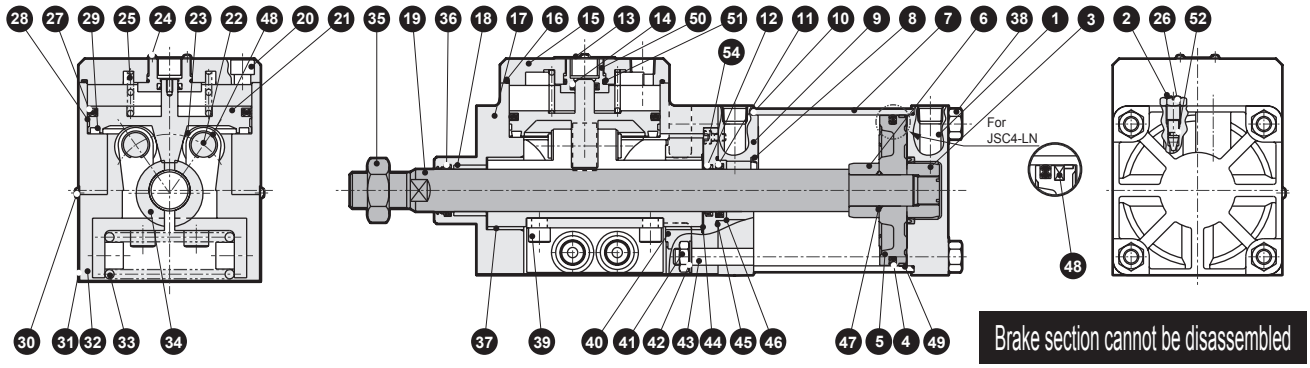
How to release the brake manually



Note: How to release the brake

- The brakes are released by turning the release bolt (attached with product) two or three times to screw it into the female thread (next to brake release port) on top of the brake.
  (Always remove the release bolt during normal use.)
- To manually release the brake, always use the release bolt attached with the product. Using any other bolt may prevent the brake from functioning properly.

Internal structure and parts list



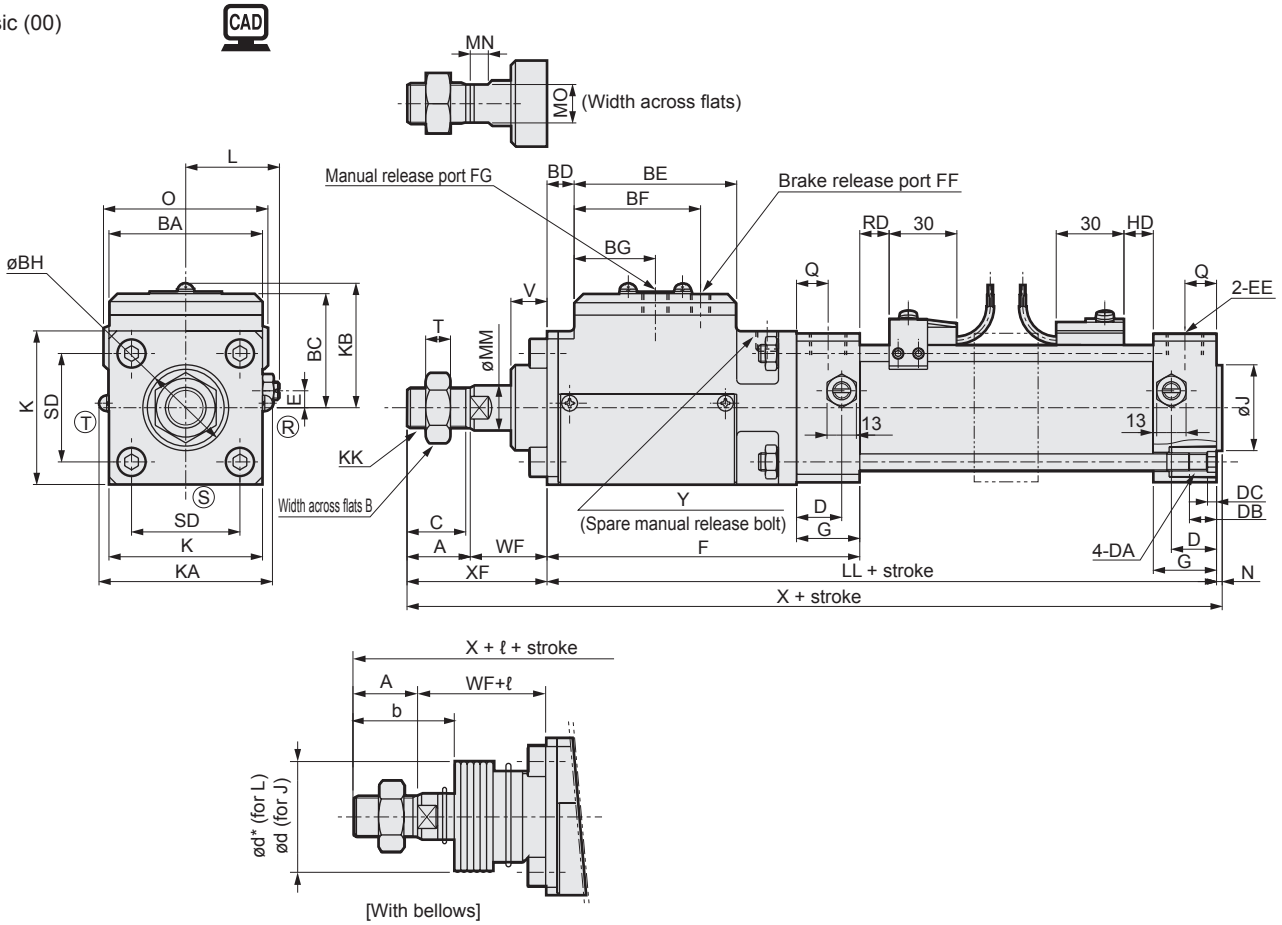
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Head cover	Aluminum alloy casting	Chromate	28	Wear ring	Polyacetal resin	
2	Cushion needle	Copper alloy		29	Cushion rubber	Urethane rubber	
3	Cushion ring A	Steel	Zinc chromate	30	Phillips pan head machine screw	Steel	Zinc chromate
4	Piston packing	Nitrile rubber		31	Cover	Steel	Paint
5	Piston	Aluminum alloy casting		32	Spring holder	Steel	Manganese phosphate
6	Cushion ring B	Steel	Zinc chromate	33	Spring	Steel	Black finish
7	Cylinder tube	Aluminum alloy	Hard alumite	34	Brake shoe metal	Cast iron	Nickeling
8	Cushion packing	Nitrile rubber/steel		35	Rod nut	Steel	Zinc chromate
9	Rod cover	Aluminum alloy casting	Chromate	36	Dust wiper	Nitrile rubber	
10	Cylinder gasket	Nitrile rubber		37	Bush A	Oiles drymet	
11	Rod packing	Nitrile rubber		38	Hexagon nut	Steel	Zinc chromate
12	Dust wiper	Nitrile rubber		39	Hexagon socket head cap screw	Alloy steel	Black finish
13	Dust cover	Aluminum alloy	Alumite	40	Ring	Steel	Black finish
14	Rod packing	Nitrile rubber		41	Hexagon nut	Steel	Zinc chromate
15	Body cap	Aluminum alloy casting	Black alumite	42	Toothed washer	Steel	Zinc chromate
16	Cap gasket	Nitrile rubber		43	Tie rod	Steel	Zinc chromate
17	Brake body	Aluminum cast iron	Alumite	44	Thrust washer	Steel	
18	Bush B	Oil impregnated bearing alloy		45	Metal gasket	Nitrile rubber	
19	Piston rod	Steel	Industrial chrome plating	46	Rod metal	Cast iron	Zinc chromate
20	Hexagon socket head cap screw	Alloy steel	Black finish	47	Piston gasket	Nitrile rubber	
21	Brake piston	Cast iron	Manganese phosphate	48	Magnet	Rubber	JSC4-LN only
22	Bearing pin	Steel		49	Wear ring	Polyacetal resin	
23	Bearing	-		50	Body cap	Cast iron	Manganese phosphate
24	Phillips pan head screw/captive washer	Steel	Zinc chromate	51	O-ring	Nitrile rubber	
25	Spring	Steel	Paint	52	Needle gasket	Nitrile rubber	
26	Needle nut	Steel	Zinc chromate	53	E type snap ring	Steel	Zinc chromate
27	Piston packing B	Nitrile rubber		54	Hexagon socket head cap screw	Steel	Black finish

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø125	JSC4-N-125K	4 8 10 11 12 36 45 49 52
ø140	JSC4-N-140K	
ø160	JSC4-N-160K	
ø180	JSC4-N-180K	

Dimensions (ø40 to ø100)

Basic (00)



*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : Manual release bolt is attached.
*4 : For the dimensions of the accessories, refer to pages 806 and 807.
*5 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

Code	Basic (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
ø40	22	22	57	46	9	62	51	31	31	20	18	M8	12	4	7.5	Rc1/4	121	Rc1/8	M10	26	31	57
ø50	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
ø63	28	27	80	54	13	86	70	43	38	26	22	M8	12	4	0	Rc3/8	154	Rc1/4	M12	30	38	80
ø80	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
ø100	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

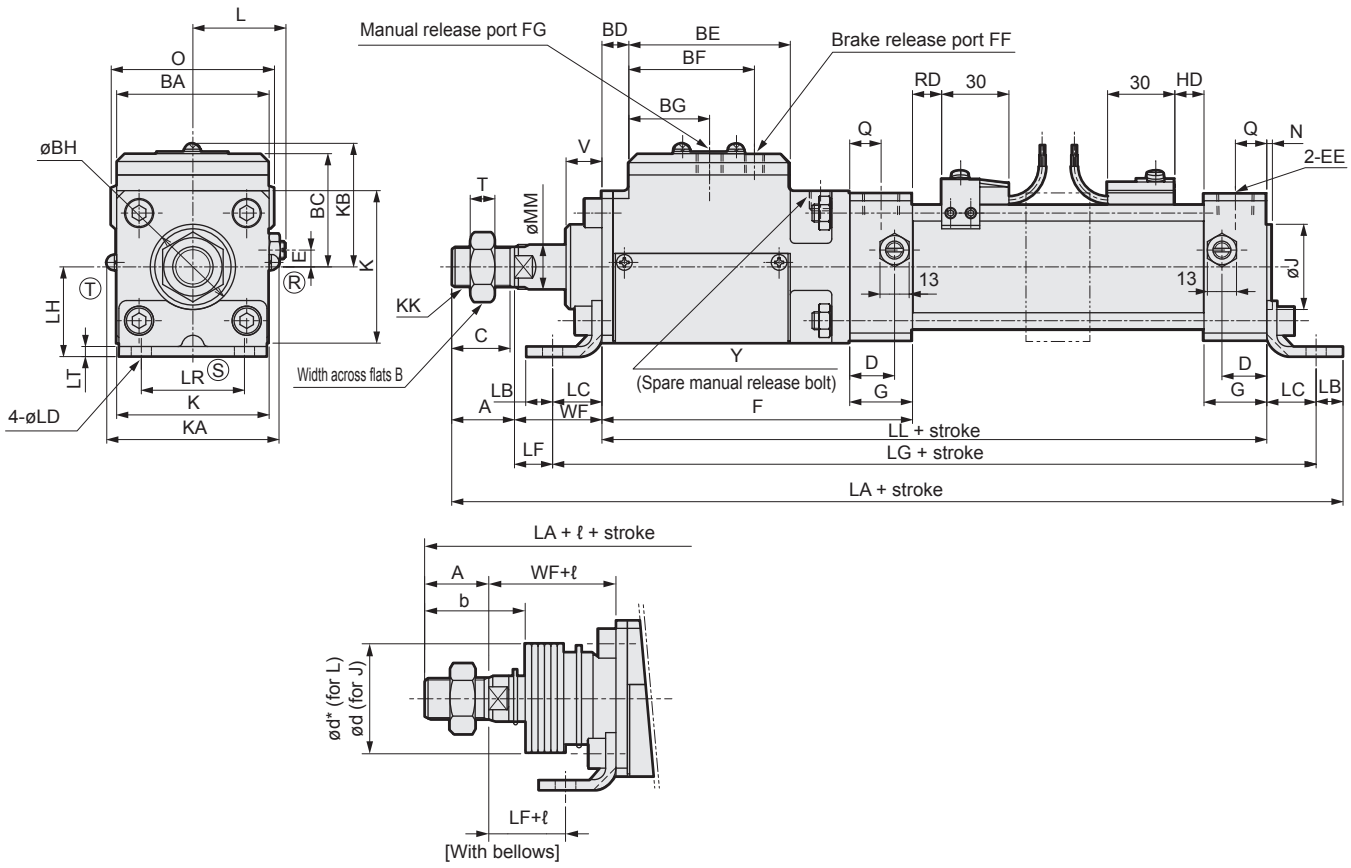
Code																		With switch				
Bore size (mm)	KA	KB	KK	L	LL	MM	MN	M0	N	Q	SD	T	V	WF	X	XF	Y	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																			RD	HD	RD	HD
ø40	66	50.5	M14x1.5	38 to 39.5	188	16	8	14	2	13	40.5	8	15	30	242	52	M10 depth 9	66	11	11	10	10
ø50	77	55	M18x1.5	41.0 to 43.5	211.5	20	8	17	2.5	14	48	11	16	34	276	62	M10 depth 9	73	13	13	12	12
ø63	89	58.5	M18x1.5	47.5 to 50.0	229	20	8	17	3	15	59	11	16	30	290	58	M12 depth 10	85	13	13	12	12
ø80	107	70.5	M22x1.5	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	13.5	13.5
ø100	127	78.5	M26x1.5	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	17.5	17.5

Code	With bellows												ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		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 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100)

CAD

● Axial foot (LB)



*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : Manual release bolt is attached.
*4 : For the dimensions of the accessories, refer to pages 806 and 807.
*5 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

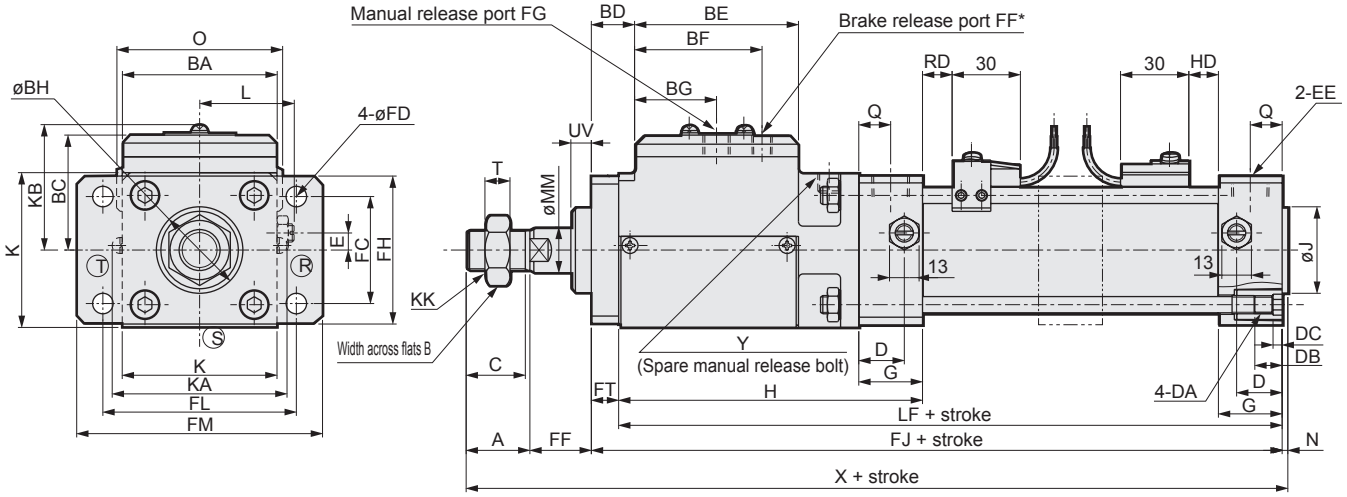
Code	Axial foot (LB) basic dimensions																				
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	E	EE	F	FG	FF	G	J	K	KA	KB
ø40	22	22	57	46	9	62	51	31	31	20	18	7.5	Rc1/4	121	M10	Rc1/8	26	31	57	66	50.5
ø50	28	27	68	50.5	12	72	56	36	38	26	20	0	Rc3/8	138.5	M10	Rc1/8	28	38	68	77	55
ø63	28	27	80	54	13	86	70	43	38	26	22	0	Rc3/8	154	M12	Rc1/4	30	38	80	89	58.5
ø80	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
ø100	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

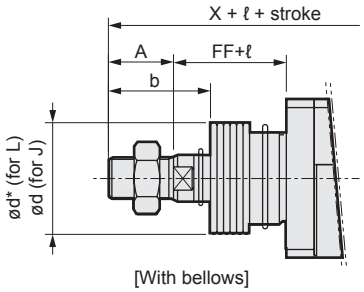
Code											Mounting dimensions									With switch			
Bore size (mm)	KK	L	LL	MM	N	Q	T	V	WF	Y	LA	LB	LC	LD	LF	LG	LH	LR	LT	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																					RD	HD	RD	HD
ø40	M14x1.5	38 to 39.5	188	16	2	13	8	15	30	M10 depth 9	269.5	10	19.5	9	10.5	227	40	40	3.2	66	11	11	10	10
ø50	M18x1.5	41.0 to 43.5	211.5	20	2.5	14	11	16	34	M10 depth 9	307.5	12	22	9	12	255.5	40	46	4.5	73	13	13	12	12
ø63	M18x1.5	47.5 to 50.0	229	20	3	15	11	16	30	M12 depth 10	329	12	30	11	0	289	50	60	4.5	85	13	13	12	12
ø80	M22x1.5	56 to 59	261.5	25	3.5	17	13	17.5	43.5	M14 depth 11	392	14	37	14	6.5	335.5	60	74	6.0	105	14.5	14.5	13.5	13.5
ø100	M26x1.5	66 to 69	312.5	30	4	18	16	26	48	M16 depth 13	457.5	21	31	14	17	374.5	67	80	6.0	121	18.5	18.5	17.5	17.5

Code							With bellows						ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		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 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100) CAD

● Rod side flange (FA)





[With bellows]

*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : Reassembly to the head side flange is not possible because the rod metal is not fixed.
*4 : Manual release bolt is attached.
*5 : For the dimensions of the accessories, refer to pages 806 and 807.
*6 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

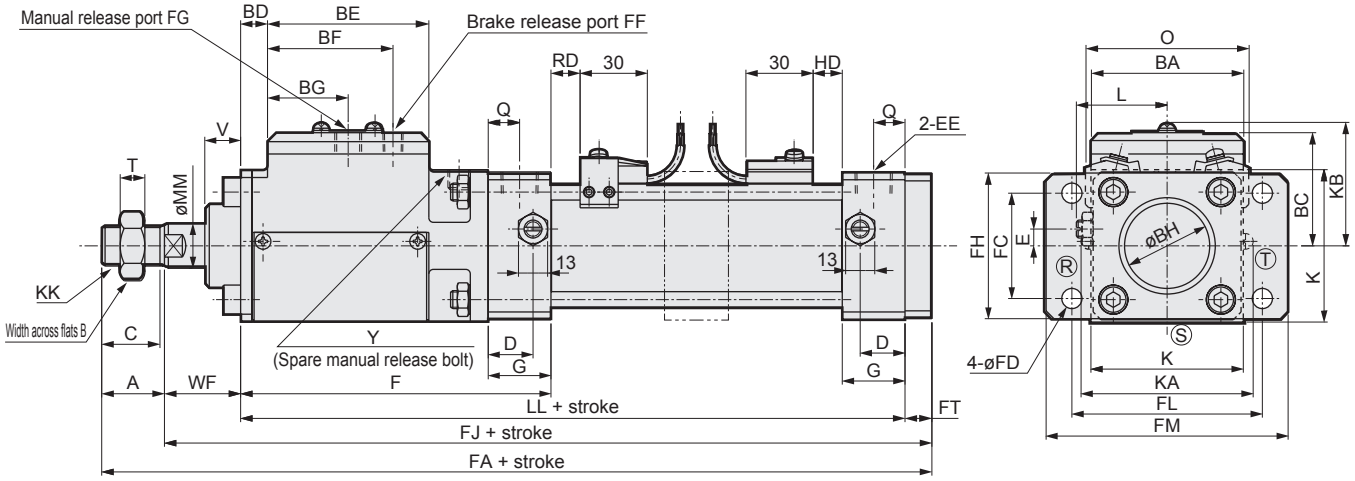
Code	Rod side flange (FA) basic dimensions																					
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	DC	DB	E	EE	FF*	FG	G	H	J	K	KA
ø40	22	22	57	46	17	62	51	31	31	20	18	M8	4	12	7.5	Rc1/4	Rc1/8	M10	26	117	31	57	66
ø50	28	27	68	50.5	19	72	56	36	38	26	20	M8	4	12	0	Rc3/8	Rc1/8	M10	28	134	38	68	77
ø63	28	27	80	54	21	86	70	43	38	26	22	M8	4	12	0	Rc3/8	Rc1/4	M12	30	146	38	80	89
ø80	36	32	98	66	26	106	80	53	43	34	26	M12	5	16	0	Rc1/2	Rc1/4	M14	34	173.5	43	98	107
ø100	45	41	118	74	30	132	101	66	51	43	28	M12	5	16	0	Rc1/2	Rc3/8	M16	36	214.5	51	118	127

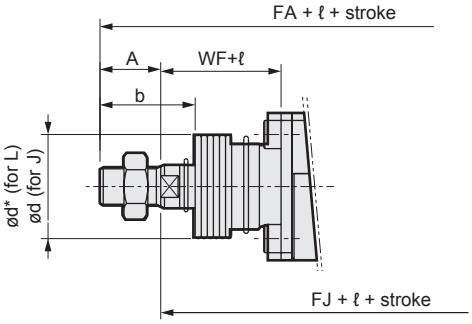
Code												Mounting dimensions								With switch				
Bore size (mm)	KB	KK	L	LF	MM	N	Q	T	UV	X	Y	FC	FD	FF	FH	FJ	FL	FM	FT	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																					RD	HD	RD	HD
ø40	50.5	M14x1.5	38 to 39.5	184	16	2	13	8	7	242	M10 depth 9	40	9	22	57	196	80	100	12	66	11	11	10	10
ø50	55	M18x1.5	41.0 to 43.5	207	20	2.5	14	11	8.5	276	M10 depth 9	47	9	27	65	219	85	108	12	73	13	13	12	12
ø63	58.5	M18x1.5	47.5 to 50.0	221	20	3	15	11	8	290	M12 depth 10	60	11	22	80	237	106	130	16	85	13	13	12	12
ø80	70.5	M22x1.5	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	105	14.5	14.5	13.5	13.5
ø100	78.5	M26x1.5	66 to 69	306	30	4	18	16	13	409.5	M16 depth 13	88	14	35	118	325	144	180	19	121	18.5	18.5	17.5	17.5

Code	With bellows												ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		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 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100)

● Head side flange (FB)





[With bellows]

*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : Reassembly to the rod side flange is not possible because the piston rod protruding length (from the flange end), rod metal and flange mounting bolt are different.
*4 : Manual release bolt is attached.
*5 : For the dimensions of the accessories, refer to pages 806 and 807.
*6 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

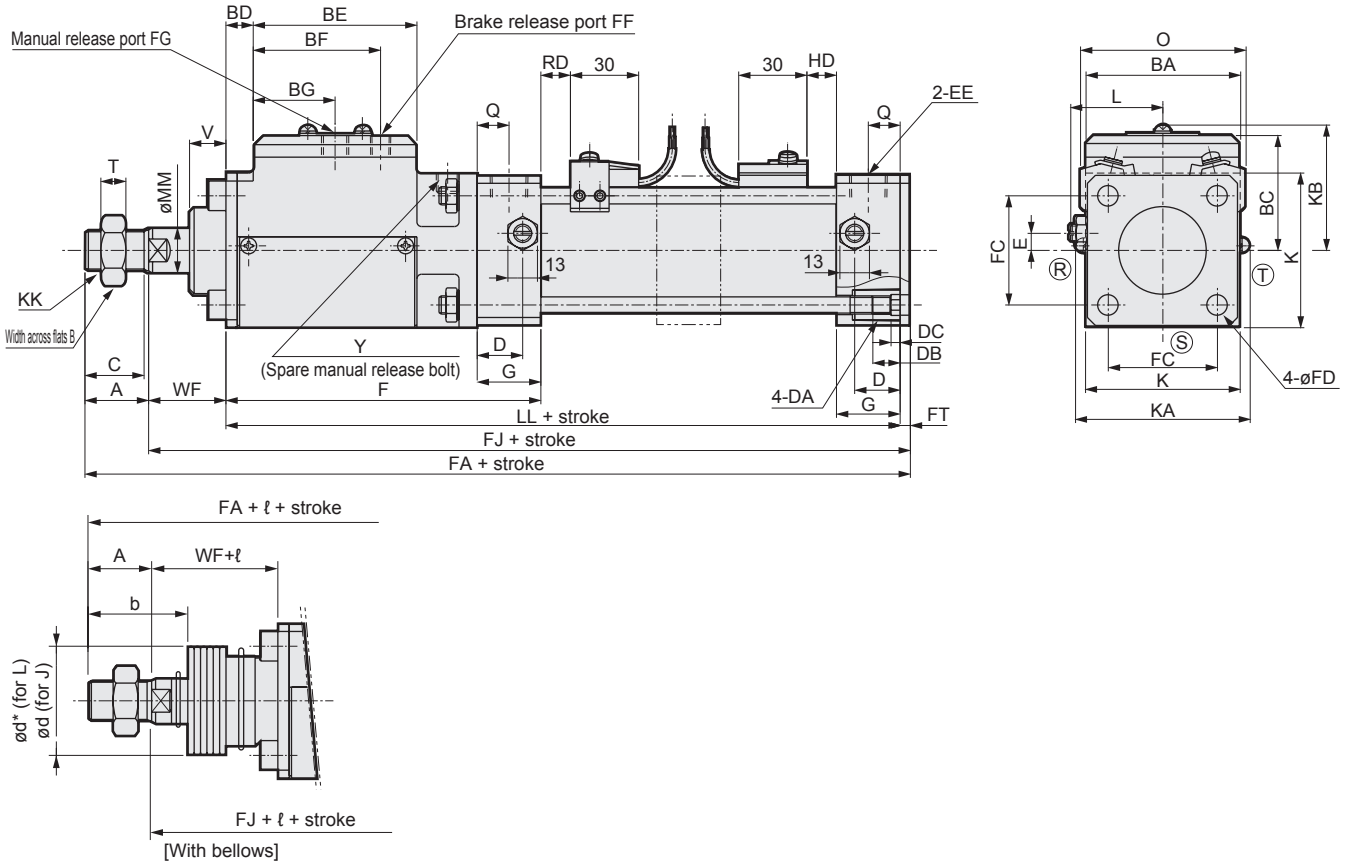
Code	Head side flange (FB) basic dimensions																			
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	E	EE	F	FG	FF	G	K	KA	KB
ø40	22	22	57	46	9	62	51	31	31	20	18	7.5	Rc1/4	121	M10	Rc1/8	26	57	66	50.5
ø50	28	27	68	50.5	12	72	56	36	38	26	20	0	Rc3/8	138.5	M10	Rc1/8	28	68	77	55
ø63	28	27	80	54	13	86	70	43	38	26	22	0	Rc3/8	154	M12	Rc1/4	30	80	89	58.5
ø80	36	32	98	66	13	106	80	53	43	34	26	0	Rc1/2	179.5	M14	Rc1/4	34	98	107	70.5
ø100	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

Code										Mounting dimensions								With switch			
Bore size (mm)	KK	L	LL	MM	Q	T	V	WF	Y	FA	FC	FD	FH	FJ	FL	FM	FT	O	T0, T5, T2, T3 RD	T0, T5, T2, T3 HD	T1, T2Y, T3Y, T2J, T2YD/T RD	T1, T2Y, T3Y, T2J, T2YD/T HD
ø40	M14x1.5	38 to 39.5	188	16	13	8	15	30	M10 depth 9	252	40	9	57	230	80	100	12	66	11	11	10	10
ø50	M18x1.5	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	12	12
ø63	M18x1.5	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	12	12
ø80	M22x1.5	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	13.5	13.5
ø100	M26x1.5	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	17.5	17.5

Code	With bellows												ℓ							
Bore size (mm)	T8 RD	T8 HD	T2W, T3W RD	T2W, T3W HD	HO, HOY RD	HO, HOY 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 or more
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100)

● Head side special flange (FC)



*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : Manual release bolt is attached.
*4 : For the dimensions of the accessories, refer to pages 806 and 807.
*5 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

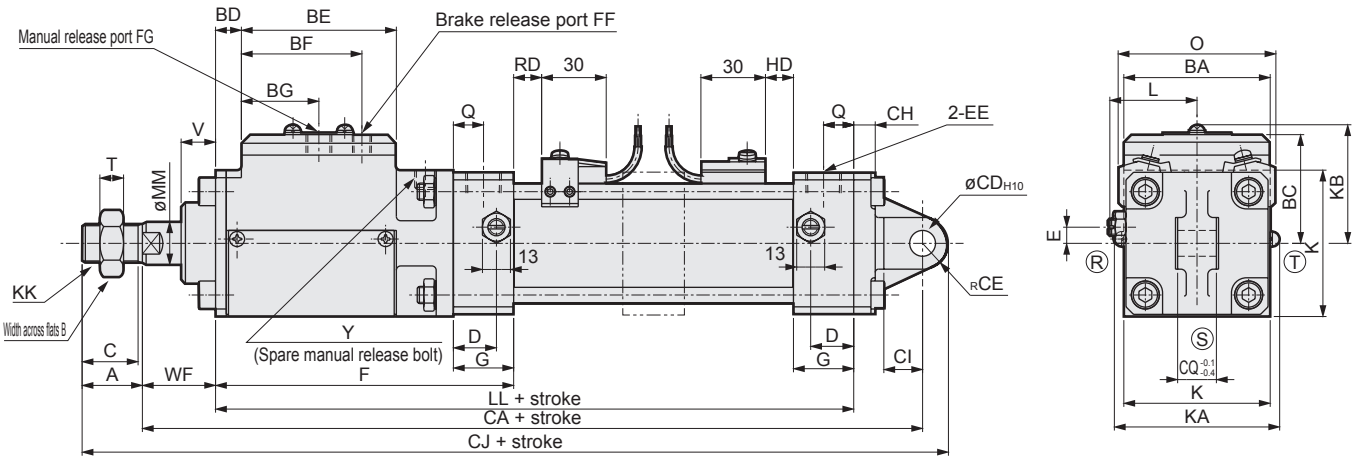
Code	Head side flange (FC) basic dimensions																				
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	D	DA	DB	DC	EE	F	FG	FF	G	K	KK	KA
ø40	22	22	57	46	9	62	51	31	20	18	M8	12	4	Rc1/4	121	M10	Rc1/8	26	57	M14x1.5	66
ø50	28	27	68	50.5	12	72	56	36	26	20	M8	12	4	Rc3/8	138.5	M10	Rc1/8	28	68	M18x1.5	77
ø63	28	27	80	54	13	86	70	43	26	22	M8	12	4	Rc3/8	154	M12	Rc1/4	30	80	M18x1.5	89
ø80	36	32	98	66	13	106	80	53	34	26	M12	16	5	Rc1/2	179.5	M14	Rc1/4	34	98	M22x1.5	107
ø100	45	41	118	74	17.5	132	101	66	43	28	M12	16	5	Rc1/2	220.5	M16	Rc3/8	36	118	M26x1.5	127

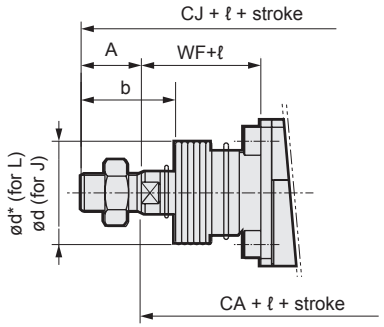
Code									Mounting dimensions					With switch			
Bore size (mm)	KB	L	LL	MM	Q	T	V	WF	Y	FA	FC	FD	FJ	FT	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																RD	HD	RD	HD
ø40	50.5	38 to 39.5	188	16	13	8	15	30	M10 depth 9	244.5	40.5	9	222.5	4.5	66	11	11	10	10
ø50	55	41.0 to 43.5	211.5	20	14	11	16	34	M10 depth 9	278	48	9	250	4.5	73	13	13	12	12
ø63	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	12	12
ø80	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	13.5	13.5
ø100	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	17.5	17.5

Code							With bellows						ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		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 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100)

● Eye bracket (CA)





[With bellows]

*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : For the dimensions of the accessories, refer to pages 806 and 807.
*4 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

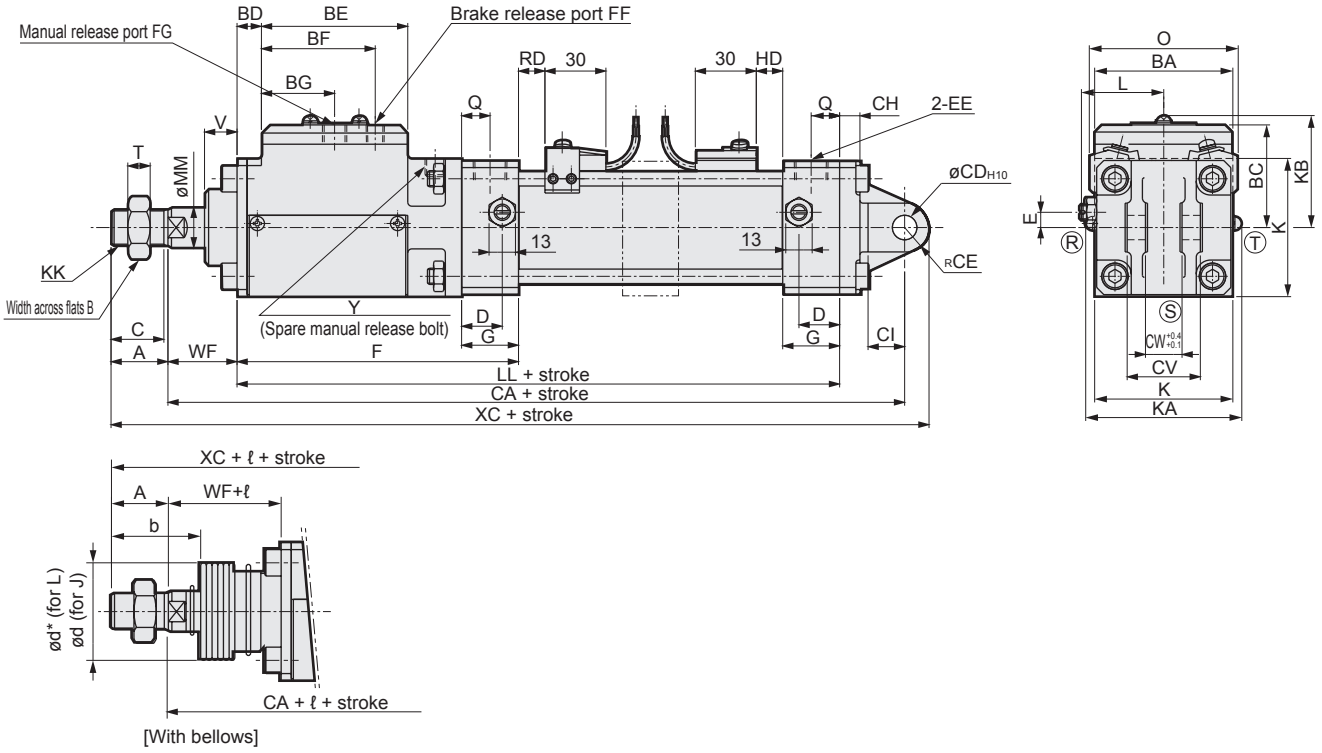
Code	Eye bracket (CA) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	D	E	EE	F	FF	FG	G	K	KK	KA
ø40	22	22	57	46	9	62	51	31	20	18	7.5	Rc1/4	121	Rc1/8	M10	26	57	M14x1.5	66
ø50	28	27	68	50.5	12	72	56	36	26	20	0	Rc3/8	138.5	Rc1/8	M10	28	68	M18x1.5	77
ø63	28	27	80	54	13	86	70	43	26	22	0	Rc3/8	154	Rc1/4	M12	30	80	M18x1.5	89
ø80	36	32	98	66	13	106	80	53	34	26	0	Rc1/2	179.5	Rc1/4	M14	34	98	M22x1.5	107
ø100	45	41	118	74	17.5	132	101	66	43	28	0	Rc1/2	220.5	Rc3/8	M16	36	118	M26x1.5	127

Code										Mounting dimensions							With switch				
Bore size (mm)	KB	L	LL	MM	Q	T	V	WF	Y	CA	CD	CE	CH	CI	CJ	CQ	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																		RD	HD	RD	HD
ø40	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	10	10
ø50	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	12	12
ø63	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	12	12
ø80	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	13.5	13.5
ø100	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	17.5	17.5

Code							With bellows						ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		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 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100) CAD

● Clevis bracket (CB)



[With bellows]

*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : A pin and a snap ring are attached.
*4 : For the dimensions of the accessories, refer to pages 806 and 807.
*5 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

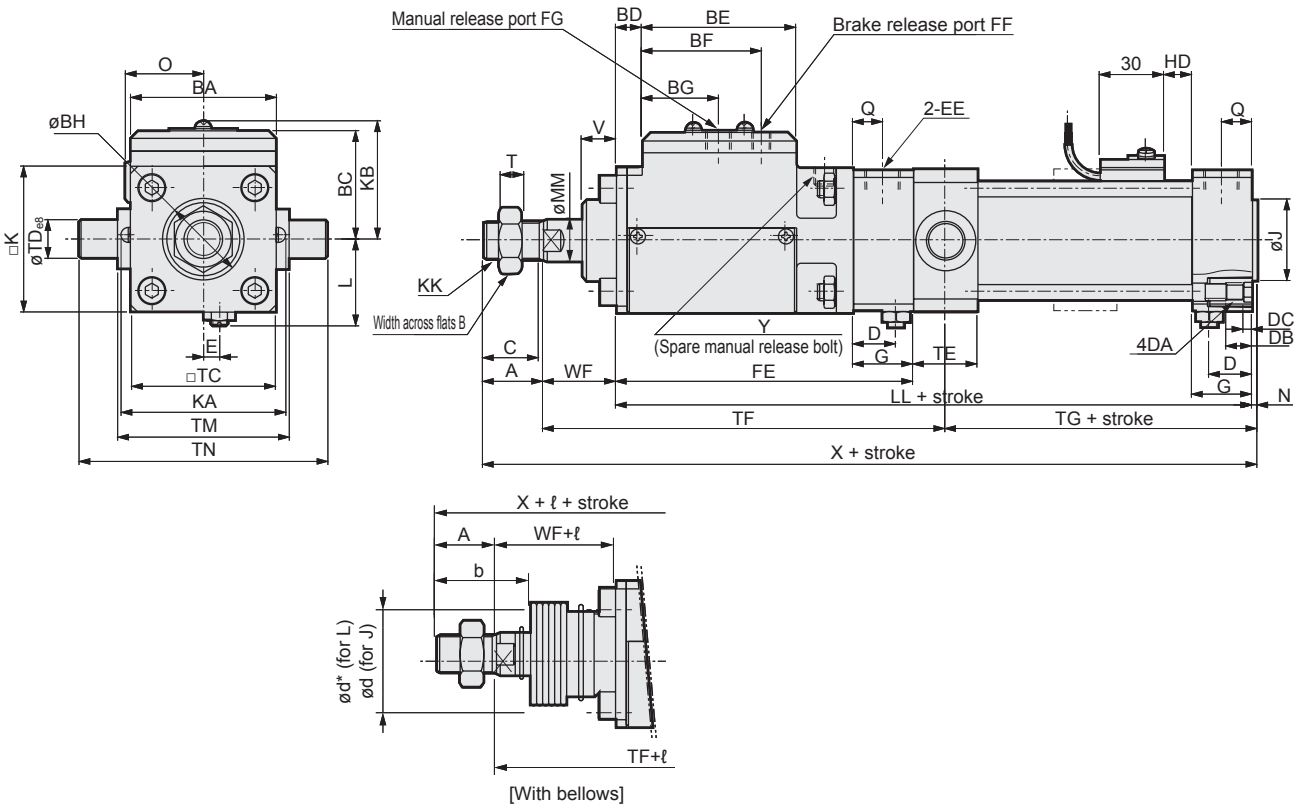
Code	Clevis bracket (CB) basic dimensions																	
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	D	EE	F	FF	FG	G	K	KK	KA
ø40	22	22	57	46	9	62	51	31	20	18	Rc1/4	121	Rc1/8	M10	26	57	M14x1.5	66
ø50	28	27	68	50.5	12	72	56	36	26	20	Rc3/8	138.5	Rc1/8	M10	28	68	M18x1.5	77
ø63	28	27	80	54	13	86	70	43	26	22	Rc3/8	154	Rc1/4	M12	30	80	M18x1.5	89
ø80	36	32	98	66	13	106	80	53	34	26	Rc1/2	179.5	Rc1/4	M14	34	98	M22x1.5	107
ø100	45	41	118	74	17.5	132	101	66	43	28	Rc1/2	220.5	Rc3/8	M16	36	118	M26x1.5	127

Code											Mounting dimensions							With switch				
Bore size (mm)	KB	L	LL	MM	Q	T	V	WF	XC	Y	CA	CD	CE	CH	CI	CV	CW	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																			RD	HD	RD	HD
ø40	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	10	10
ø50	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	12	12
ø63	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	12	12
ø80	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	13.5	13.5
ø100	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	17.5	17.5

Code							With bellows						ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		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 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	7.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100)

● Rod side trunnion (TA)



[With bellows]

*1 : For the ℓ dimension, round up below the decimal point.
*2 : Position cannot be detected at rod side stroke end.
*3 : The position of the cushion needle cannot be changed.
*4 : For the dimensions of the accessories, refer to pages 806 and 807.
*5 : Non-sag block (2-dashed line) will be added depending on the stroke. Refer to page 794 for details on dimensions.

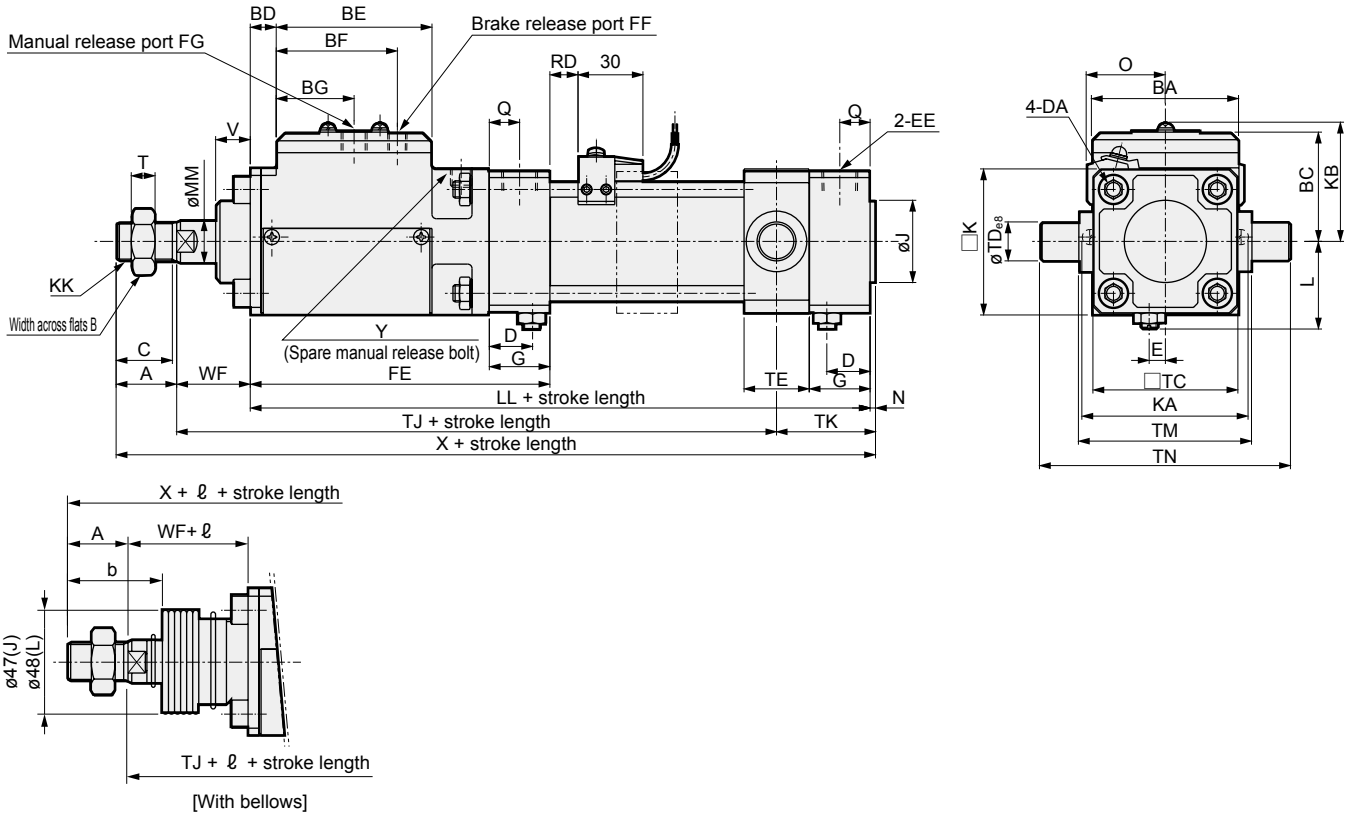
Code	Rod side trunnion (TA) basic dimensions																					
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	DB	DC	E	EE	FE	FF	FG	G	J	K
ø40	22	22	57	46	9	62	51	31	31	20	18	M8	12	4	7.5	Rc1/4	121	Rc1/8	M10	26	31	57
ø50	28	27	68	50.5	12	72	56	36	38	26	20	M8	12	4	0	Rc3/8	138.5	Rc1/8	M10	28	38	68
ø63	28	27	80	54	13	86	70	43	38	26	22	M8	12	4	0	Rc3/8	154	Rc1/4	M12	30	38	80
ø80	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
ø100	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

Code														Mounting 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	O
ø40	66	50.5	M14x1.5	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
ø50	77	55	M18x1.5	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
ø63	89	58.5	M18x1.5	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
ø80	107	70.5	M22x1.5	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
ø100	127	78.5	M26x1.5	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

Code						With bellows						ℓ							
Bore size (mm)	T0, T5, T2, T3 HD	T1, T2Y, T3Y, T2J, T2YD/T HD	T8 HD	T2W, T3W HD	HO, HOY 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 or more
ø40	11	10	5	13	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke/3.0) + 8
ø50	13	12	7	15	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø63	13	12	7	15	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke/3.6) + 7.5
ø80	14.5	13.5	8.5	16.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke/4.3) + 2.5
ø100	18.5	17.5	12.5	20.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke/4.5) + 9

Dimensions (ø40 to ø100) CAD

● Head side trunnion (TB)



*1 : For the ℓ dimension, round up below the decimal point.
*2 : Position cannot be detected at head side stroke end.
*3 : The position of the cushion needle cannot be changed.
*4 : For the dimensions of the accessories, refer to pages 806 and 807.
*5 : Non-sag block (2-dashed line) will be added depending on the stroke length. Refer to page 794 for details on dimensions.

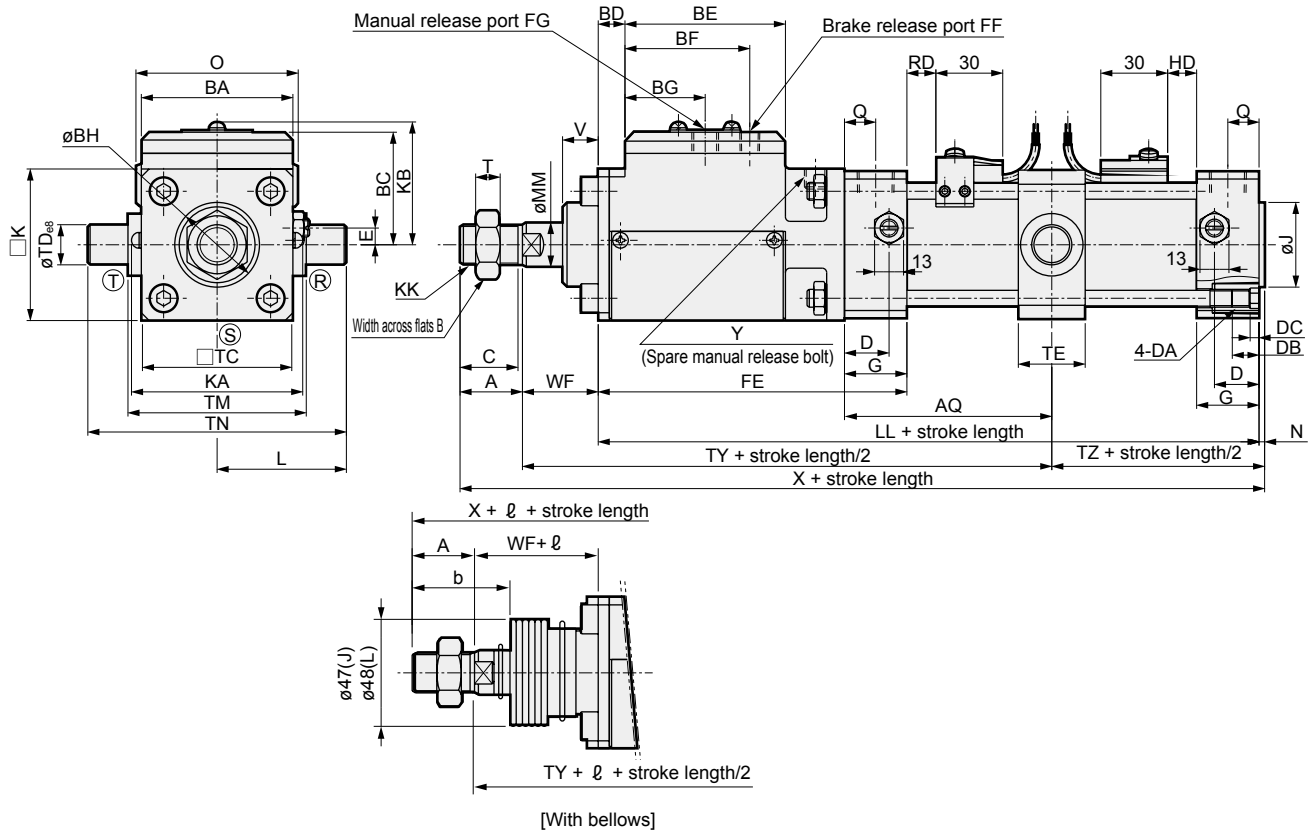
Code	Head side trunnion (TB) basic dimensions																			
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	BH	C	D	DA	EE	FE	FF	FG	G	J	K	KA
ø40	22	22	57	46	9	62	51	31	31	20	18	M8	Rc1/4	121	Rc1/8	M10	26	31	57	66
ø50	28	27	68	50.5	12	72	56	36	38	26	20	M8	Rc3/8	138.5	Rc1/8	M10	28	38	68	77
ø63	28	27	80	54	13	86	70	43	38	26	22	M8	Rc3/8	154	Rc1/4	M12	30	38	80	89
ø80	36	32	98	66	13	106	80	53	43	34	26	M12	Rc1/2	179.5	Rc1/4	M14	34	43	98	107
ø100	45	41	118	74	17.5	132	101	66	51	43	28	M12	Rc1/2	220.5	Rc3/8	M16	36	51	118	127

Code												Mounting 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	O
ø40	50.5	M14×1.5	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
ø50	55	M18×1.5	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
ø63	58.5	M18×1.5	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
ø80	70.5	M22×1.5	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
ø100	78.5	M26×1.5	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

Code						With bellows						ℓ							
Bore size (mm)	T0, T5, T2, T3 RD	T1, T2Y, T3Y, T2J, T2YD/T RD	T8 RD	T2W, T3W RD	HO, HOY RD	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 or more
ø40	11	10	5	13	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
ø50	13	12	7	15	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
ø63	13	12	7	15	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
ø80	14.5	13.5	8.5	16.5	7.5	36	43.5	30.5	58.5	53	55	14	26	38	49	72	96	119	(Stroke length/4.3) + 2.5
ø100	18.5	17.5	12.5	20.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9

Dimensions (ø40 to ø100)

● Intermediate trunnion (TC)



[With bellows]

*1 : For the ℓ dimension, round up below the decimal point.
*2 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*3 : For the dimensions of the accessories, refer to pages 806 and 807.

Code	Intermediate trunnion (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
ø40	22	22	57	46	9	62	51	31	31	20	18	M8	12	4	7.5	Rc1/4	121	Rc1/8	M10	26	31	57	66	50.5
ø50	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
ø63	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
ø80	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
ø100	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

Code													Mounting 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	O	T0, T5, T2, T3		T1, T2Y, T3Y, T2J, T2YD/T	
																						RD	HD	RD	HD
ø40	M14×1.5	38 to 39.5	188	16	2	13	8	15	30	242	M10 depth 9		46.5+Stroke length/2	57	16	30	63	95	171.5	48.5	66	11	11	10	10
ø50	M18×1.5	41.0 to 43.5	211.5	20	2.5	14	11	16	34	276	M10 depth 9		50.5+Stroke length/2	67	18	30	80	116	195	53	73	13	13	12	12
ø63	M18×1.5	47.5 to 50.0	229	20	3	15	11	16	30	290	M12 depth 10		52.5+Stroke length/2	82	20	35	90	130	206.5	55.5	85	13	13	12	12
ø80	M22×1.5	56 to 59	261.5	25	3.5	17	13	17.5	43.5	344.5	M14 depth 11		58+Stroke length/2	100	25	40	115	165	247	61.5	105	14.5	14.5	13.5	13.5
ø100	M26×1.5	66 to 69	312.5	30	4	18	16	26	48	409.5	M16 depth 13		64+Stroke length/2	121	35	50	135	205	296.5	68	121	18.5	18.5	17.5	17.5

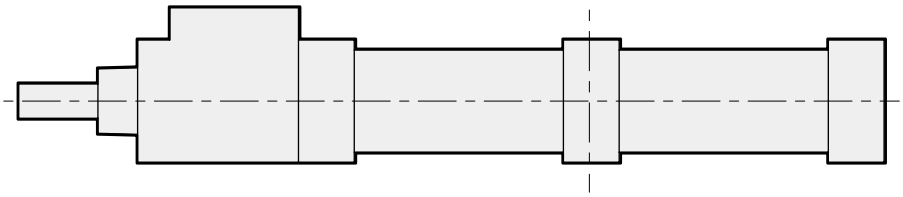
Code	With bellows												ℓ							
Bore size (mm)	T8		T2W, T3W		HO, HOY		A	WF	FF	b	d	d*	50 or less	51 to 100	101 to 150	151 to 200	201 to 300	301 to 400	401 to 500	501 or more
	RD	HD	RD	HD	RD	HD														
ø40	5	5	13	13	4	4	22	30	22	41	40	40	25.5	41.5	58.5	75.5	108.5	141.5	174.5	(Stroke length/3.0) + 8
ø50	7	7	15	15	6	6	28	34	27	47	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
ø63	7	7	15	15	6	6	28	30	22	45	47	48	22	36	49	63	90	119	146	(Stroke length/3.6) + 7.5
ø80	8.5	8.5	16.5	16.5	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
ø100	12.5	12.5	20.5	20.5	11.5	11.5	45	48	35.5	69.5	61	65	20	32	42	53	76	98	120	(Stroke length/4.5) + 9

● About the non-sag block (ø40 to ø100)

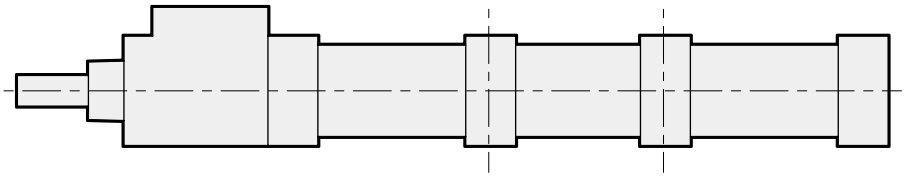
Depending on its stroke length, a non-sag block will be added to the middle part of the cylinder.
The number of non-sag blocks to be added differs depending on the bore size and the stroke length as shown in the table below.

Number of non-sag blocks depending on stroke length

Tube size (mm)	Stroke length (mm)	Number of non-sag blocks
ø40	1200 to 1600	1
ø50	1200 to 1800	1
	1801 to 2000	2
ø63	1200 to 1800	1
	1801 to 2500	2
ø80	1500 to 2000	1
	2001 to 2500	2
ø100	1500 to 2000	1
	2001 to 2500	2

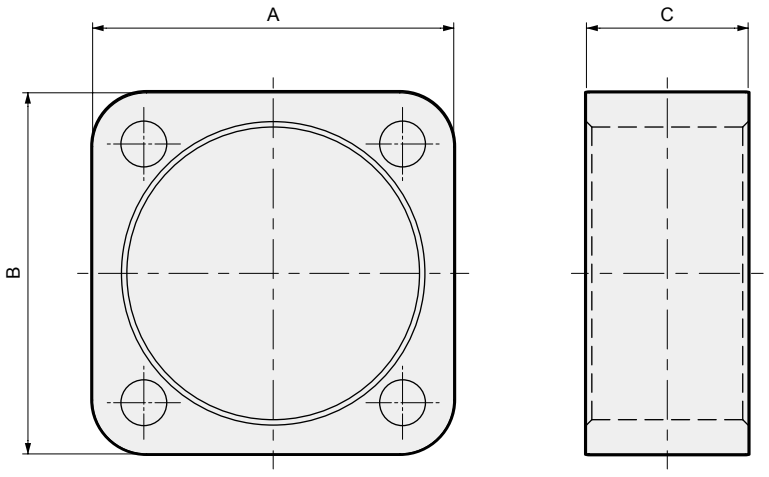


One non-sag block: To be added to the middle point between the covers.



Two non-sag blocks: mount the 2 blocks so that the length of the 2 covers will be divided into 3 equal parts.

The dimensions of non-sag blocks are as shown in the figure below. When attaching the cylinder, take into account the dimensions of the non-sag blocks.



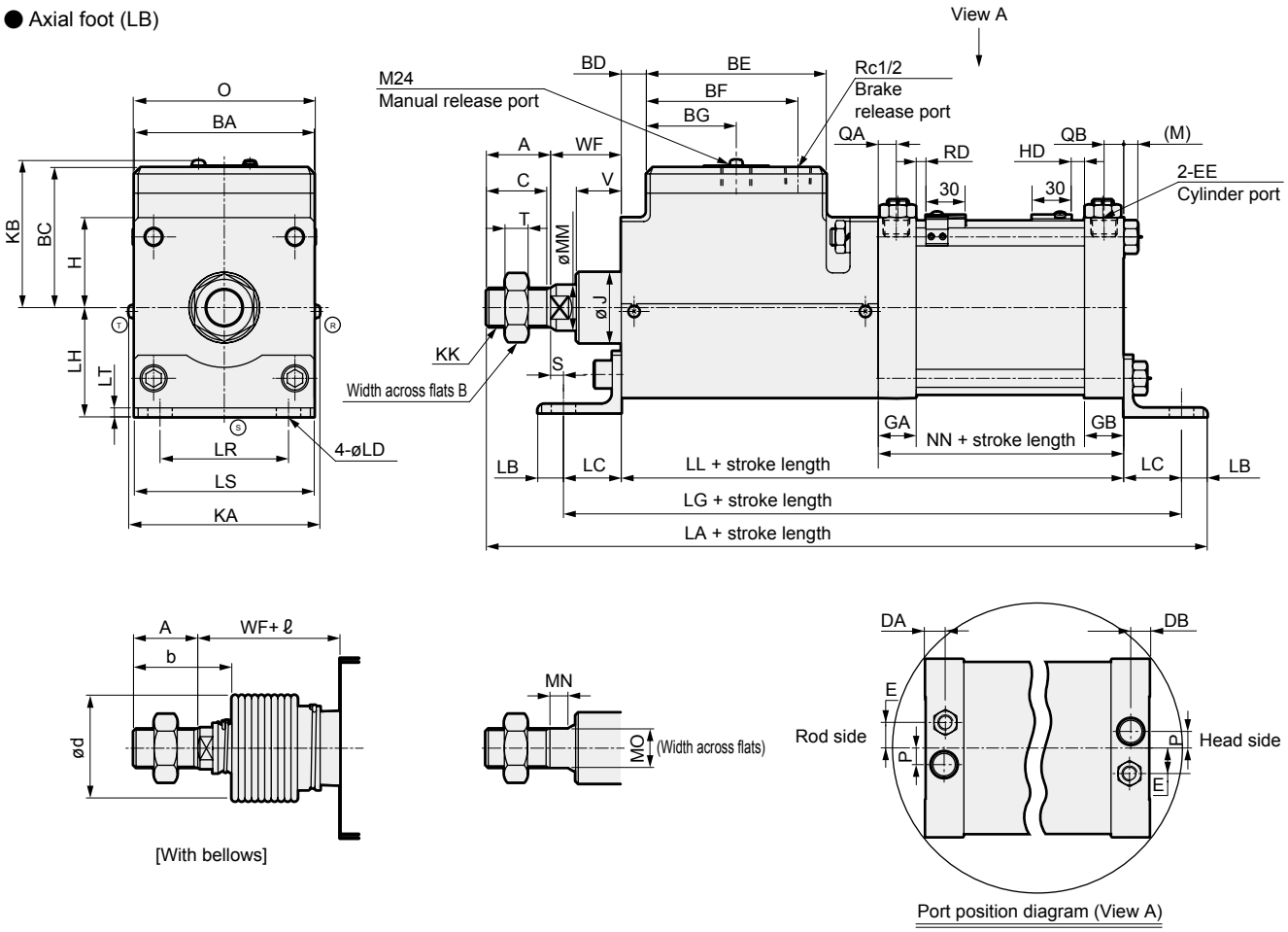
Non-sag block dimensions table

Tube size (mm)	Non-sag block dimensions		
	A	B	C
ø40	56	57	30
ø50	66	67	30
ø63	81	82	35
ø80	99	100	40
ø100	120	121	50

MEMO

Dimensions (ø125 to ø180)

● Axial foot (LB)



[With bellows]

Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

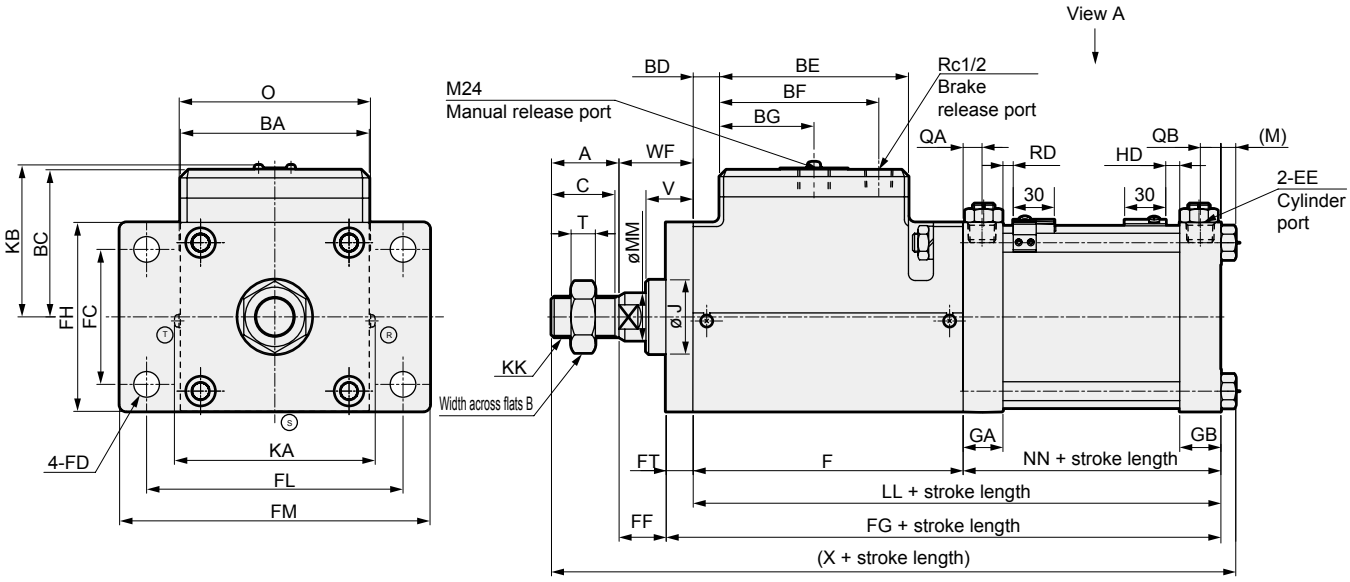
Code	Axial foot (LB) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	213	152

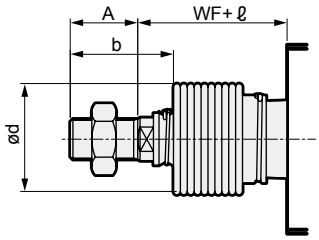
Code															Mounting dimensions				
Bore size (mm)	KK	LL	M	MM	MN	MO	NN	P	QA	QB	S	T	V	WF	LA	LB	LC	LD	LG
ø125	M30×1.5	291	11	35	14	30	91	13	14	15	10	18	35	55	460	19	45	19	381
ø140	M30×1.5	318	11	35	14	30	102	15	16	17	7	18	35	57	495	20	50	19	418
ø160	M36×1.5	350	13	40	16	36	105	15	16	17	18.5	21	48	71.5	550.5	20	53	19	456
ø180	M40×1.5	373	15	45	18	41	109	15	16	17	18.5	24	53	78.5	601.5	27	60	24	493

Code					With bellows			With switch							
Bore size (mm)								T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
	LH	LR	LS	LT	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	85	100	140	7	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	100	112	157	8	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	106	118	177	10	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	125	132	200	10	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

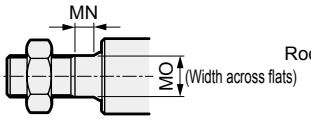
Dimensions (ø125 to ø180)

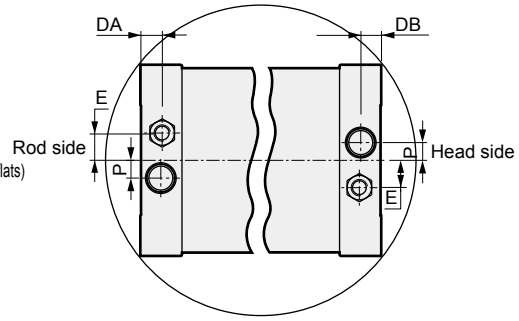
● Rod side flange (FA)





[With bellows]





Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

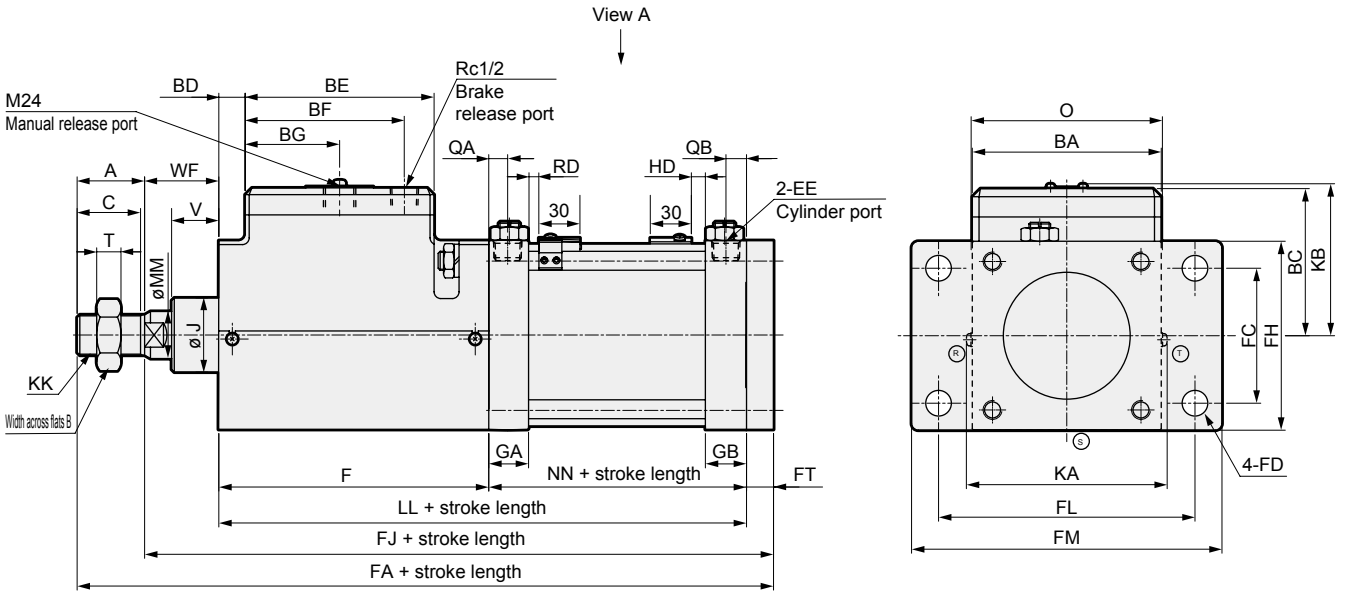
Code	Rod side flange (FA) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	213	152

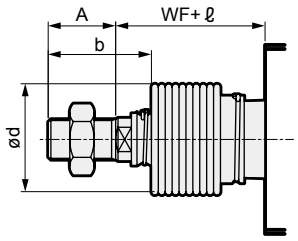
Code															Mounting dimensions			
Bore size (mm)	KK	LL	M	MM	MN	MO	NN	P	QA	QB	T	V	WF	X	FC	FD	FF	FG
ø125	M30×1.5	291	11	35	14	30	91	13	14	15	18	35	55	407	100	19	35	311
ø140	M30×1.5	318	11	35	14	30	102	15	16	17	18	35	57	436	112	19	37	338
ø160	M36×1.5	350	13	40	16	36	105	15	16	17	21	48	71.5	490.5	118	19	49.5	372
ø180	M40×1.5	373	15	45	18	41	109	15	16	17	24	53	78.5	529.5	132	24	53.5	398

Code					With bellows			With switch							
Bore size (mm)								T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
	FH	FL	FM	FT	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	140	190	230	20	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	157	212	250	20	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	177	236	280	22	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	200	265	310	25	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

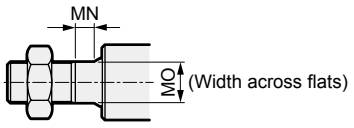
Dimensions (ø125 to ø180) CAD

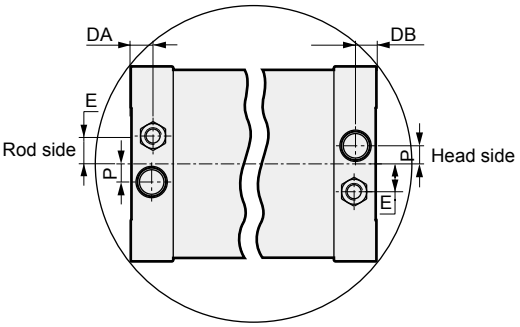
● Head side flange (FB)





[With bellows]





Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

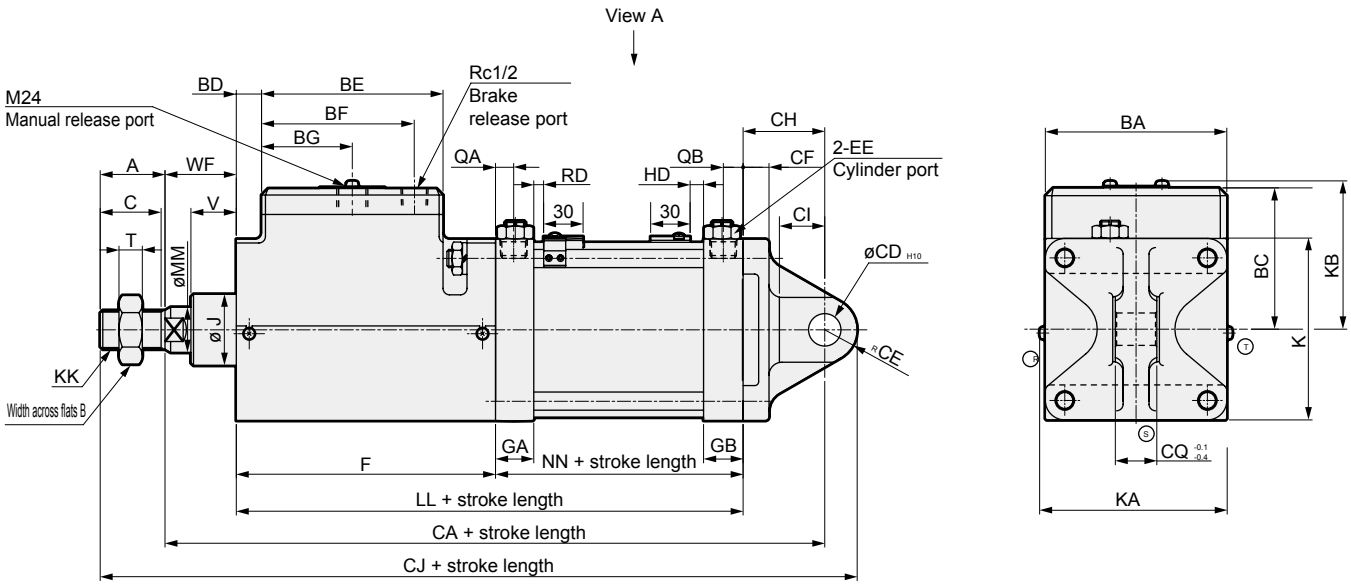
Code	Head side flange (FB) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	213	152

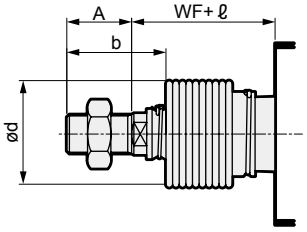
Code												Mounting dimensions			
Bore size (mm)	KK	LL	MM	MN	MO	NN	P	QA	QB	T	V	WF	FA	FC	FD	FH
ø125	M30×1.5	291	35	14	30	91	13	14	15	18	35	55	410	100	19	140
ø140	M30×1.5	318	35	14	30	102	15	16	17	18	35	57	444	112	19	157
ø160	M36×1.5	350	40	16	36	105	15	16	17	21	48	71.5	496.5	118	19	177
ø180	M40×1.5	373	45	18	41	109	15	16	17	24	53	78.5	539.5	132	24	200

Code					With bellows			With switch							
Bore size (mm)								T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
	FJ	FL	FM	FT	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	360	190	230	14	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	394	212	250	19	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	440.5	236	280	19	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	476.5	265	310	25	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

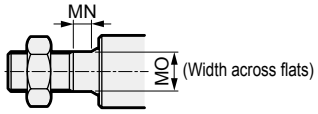
Dimensions (ø125 to ø180)

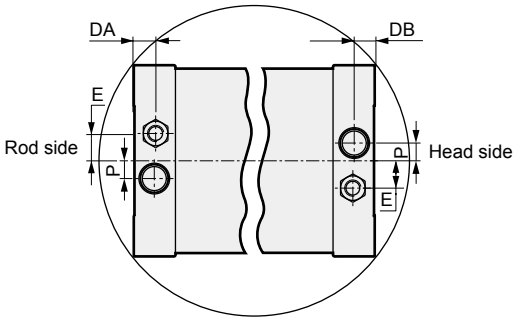
● Eye bracket (CA)





[With bellows]





Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

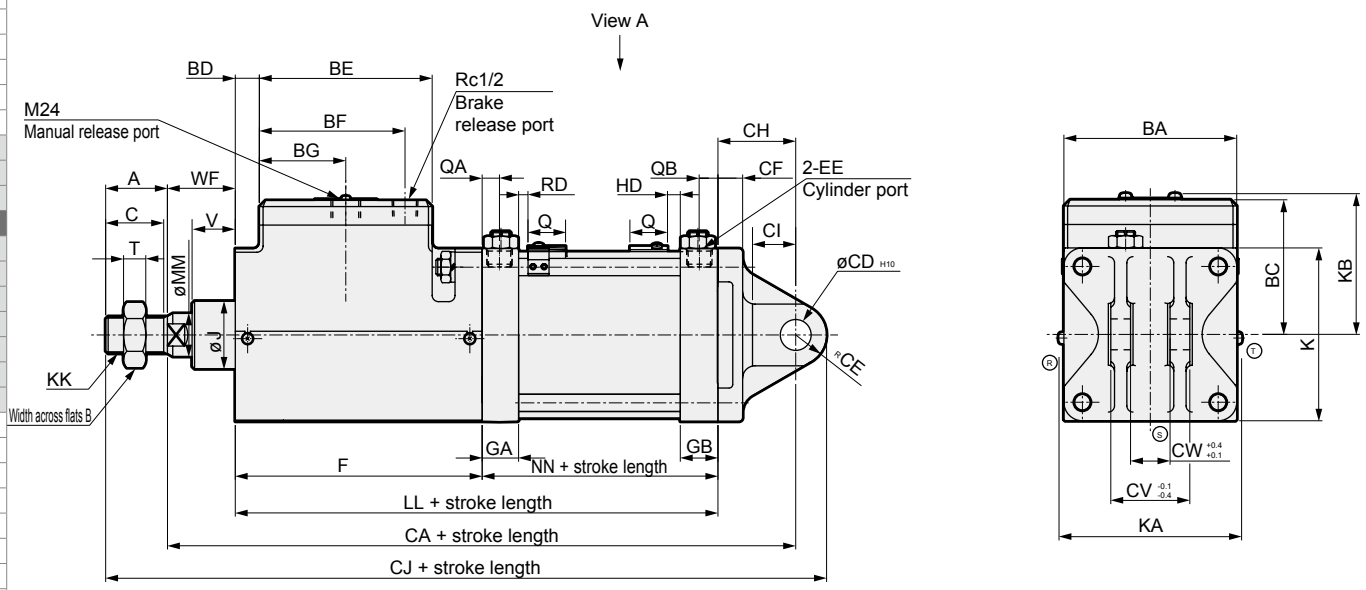
Code	Eye bracket (CA) basic dimensions																			
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	K	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	140	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	157	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	177	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	200	213	152

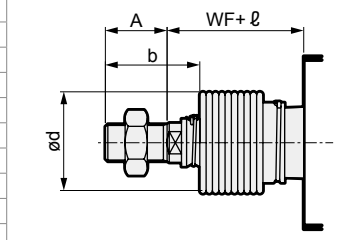
Code												Mounting dimensions			
Bore size (mm)	KK	LL	MM	MN	MO	NN	P	QA	QB	T	V	WF	CA	CD	CE	CF
ø125	M30×1.5	291	35	14	30	91	13	14	15	18	35	55	409	25	25	20
ø140	M30×1.5	318	35	14	30	102	15	16	17	18	35	57	450	28	28	22
ø160	M36×1.5	350	40	16	36	105	15	16	17	21	48	71.5	496.5	32	32	24
ø180	M40×1.5	373	45	18	41	109	15	16	17	24	53	78.5	541.5	40	40	25

Code					With bellows			With switch							
								T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
Bore size (mm)	CH	CI	CJ	CQ	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	63	35	484	32	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	75	40	528	36	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	75	40	584.5	40	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	90	55	644.5	50	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

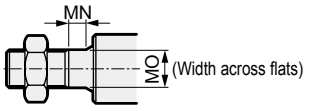
Dimensions (ø125 to ø180)

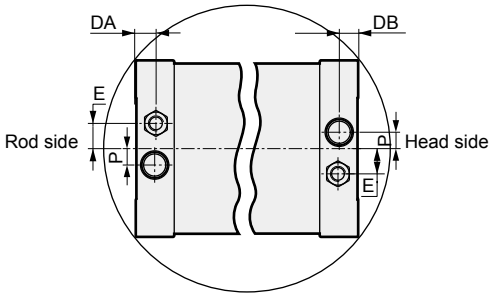
● Clevis bracket (CB)





[With bellows]





Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

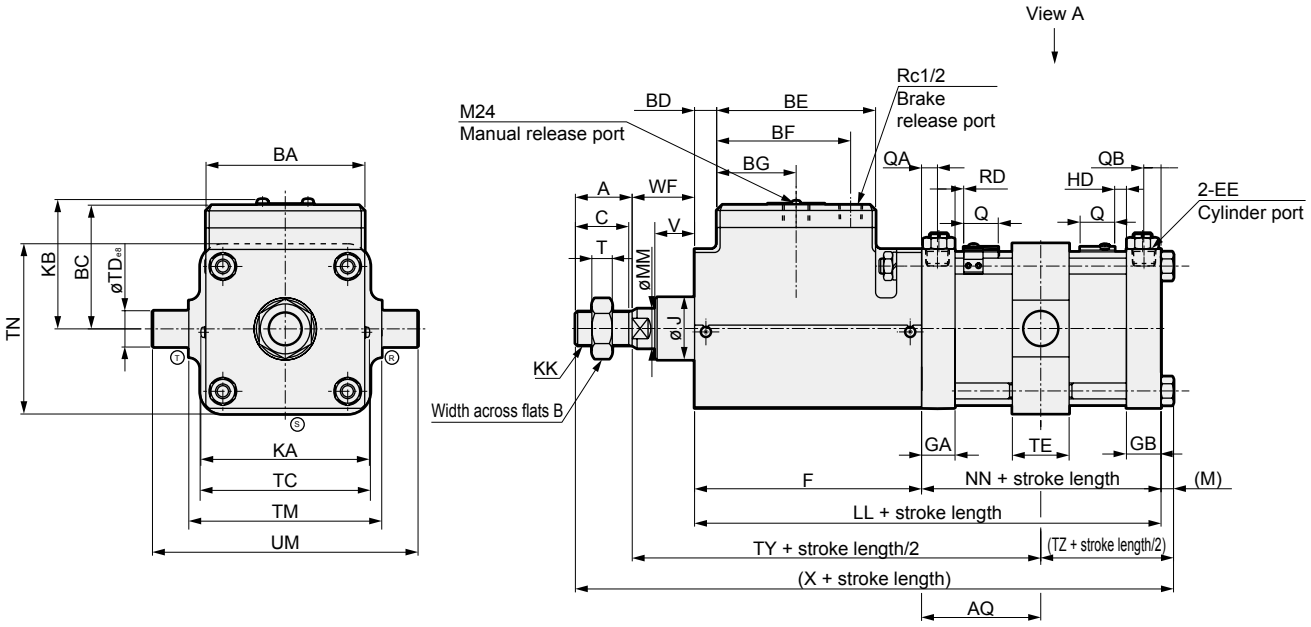
Code	Clevis bracket (CB) basic dimensions																			
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	K	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	140	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	157	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	177	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	200	213	152

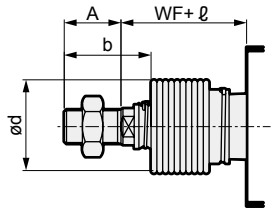
Code													Mounting dimensions					
Bore size (mm)	KK	LL	MM	MN	MO	NN	P	QA	QB	T	V	WF	CA	CD	CE	CF	CH	CI
ø125	M30×1.5	291	35	14	30	91	13	14	15	18	35	55	409	25	25	20	63	35
ø140	M30×1.5	318	35	14	30	102	15	16	17	18	35	57	450	28	28	22	75	40
ø160	M36×1.5	350	40	16	36	105	15	16	17	21	48	71.5	496.5	32	32	24	75	40
ø180	M40×1.5	373	45	18	41	109	15	16	17	24	53	78.5	541.5	40	40	25	90	55

Code				With bellows			With switch							
Bore size (mm)							T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
	CJ	CV	CW	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	484	64	32	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	528	72	36	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	584.5	80	40	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	644.5	100	50	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

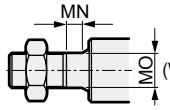
Dimensions (ø125 to ø180)

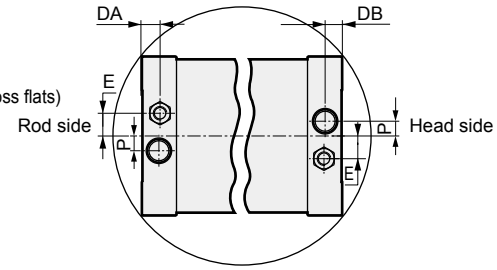
● Intermediate trunnion (TC)





[With bellows]





Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

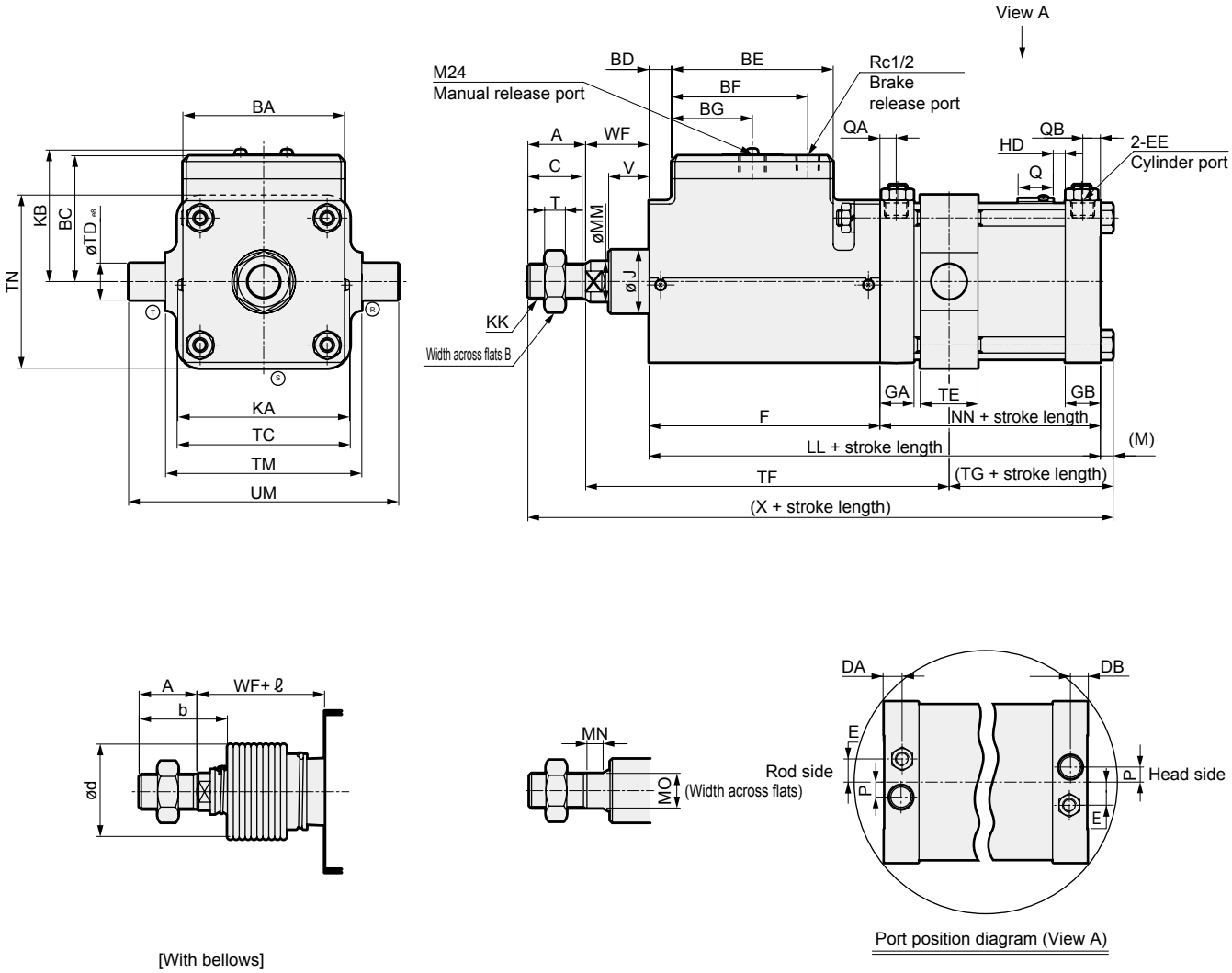
Code	Intermediate trunnion (TC) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	213	152

Code														Mounting dimensions		
Bore size (mm)	KK	LL	M	MM	MN	MO	NN	P	QA	QB	T	V	WF	X	AQ	TC	TN
ø125	M30×1.5	291	11	35	14	30	91	13	14	15	18	35	55	407	45+stroke length/2	150	150
ø140	M30×1.5	318	11	35	14	30	102	15	16	17	18	35	57	436	51.5+stroke length/2	154	170
ø160	M36×1.5	350	13	40	16	36	105	15	16	17	21	48	71.5	490.5	52+stroke length/2	190	190
ø180	M40×1.5	373	15	45	18	41	109	15	16	17	24	53	78.5	529.5	54+stroke length/2	210	210

Code	Mounting dimensions						With bellows			With switch							
										T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
Bore size (mm)	TD	TE	TM	UM	TY	TZ	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	32	50	170	234	300	57	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	36	55	190	262	323.5	62.5	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	40	60	212	292	368.5	66	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	45	65	236	326	396.5	70	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

Dimensions (ø125 to ø180)

● Rod side trunnion (TA)



*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

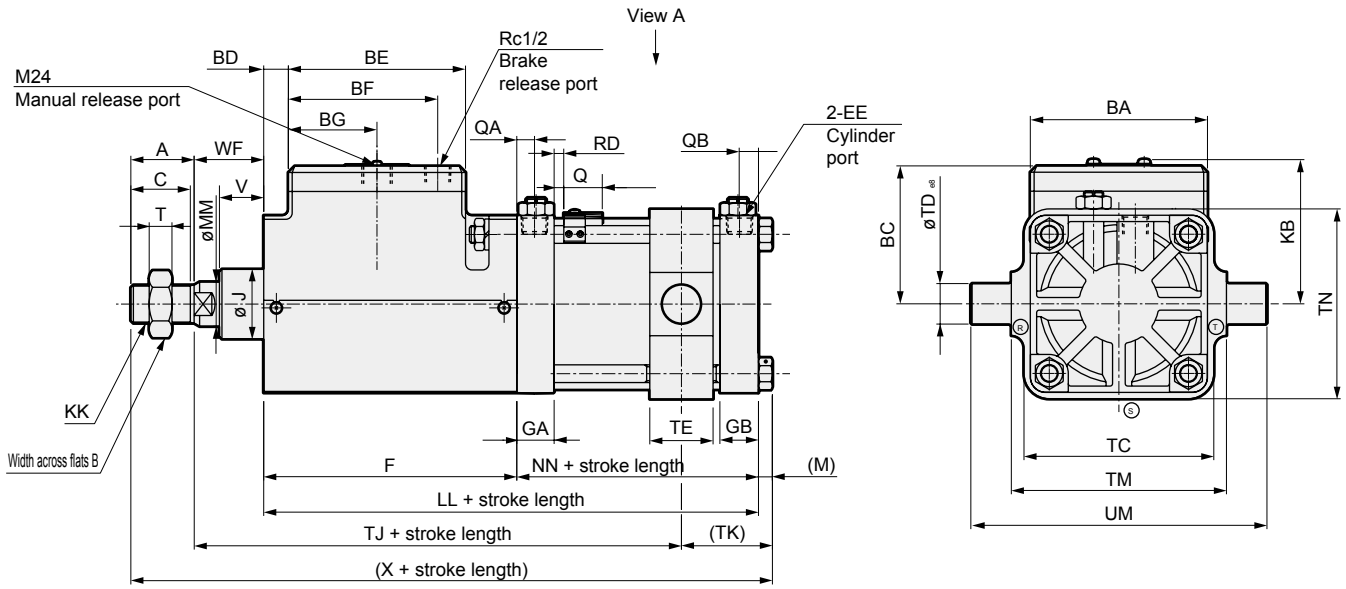
Code	Rod side trunnion (TA) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	213	152

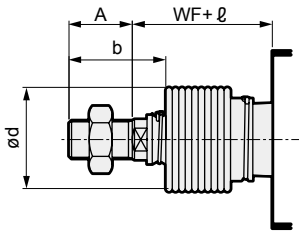
Code															Mounting dimensions			
Bore size (mm)	KK	LL	M	MM	MN	MO	NN	P	QA	QB	T	V	WF	X	TC	TD	TE	TF
ø125	M30×1.5	291	11	35	14	30	91	13	14	15	18	35	55	407	150	32	50	315
ø140	M30×1.5	318	11	35	14	30	102	15	16	17	18	35	57	436	154	36	55	339.5
ø160	M36×1.5	350	13	40	16	36	105	15	16	17	21	48	71.5	490.5	190	40	60	385.5
ø180	M40×1.5	373	15	45	18	41	109	15	16	17	24	53	78.5	529.5	210	45	65	414

Code					With bellows			With switch							
Bore size (mm)								T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
	TG	TM	TN	UM	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	42	170	150	234	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	46.5	190	170	262	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	49	212	190	292	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	52.5	236	210	326	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

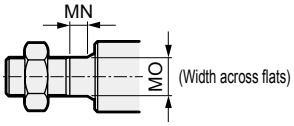
Dimensions (ø125 to ø180)

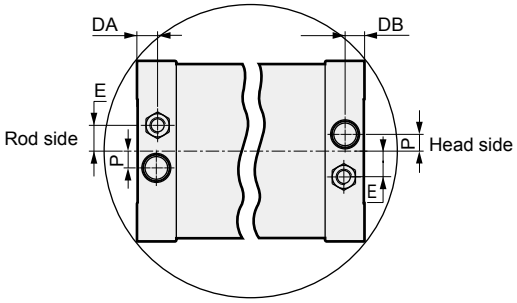
● Head side trunnion (TB)





[With bellows]





Port position diagram (View A)

*1 : Ⓡ, Ⓢ and Ⓣ indicate the cushion needle position.
*2 : ℓ dimensions below decimal point are rounded up.
*3 : For the dimensions of the accessories, refer to page 808.

RD: Rod side max. sensitivity position
HD: Head side max. sensitivity position

Code	Head side trunnion (TB) basic dimensions																		
Bore size (mm)	A	B	BA	BC	BD	BE	BF	BG	C	DA	DB	E	EE	F	GA	GB	J	KA	KB
ø125	50	46	140	109	19.5	140	118	70	47	15	16	20	Rc1/2	200	29.5	30.5	55	150	115
ø140	50	46	157	116.5	18.5	157	128.5	78.5	47	19	20	20	Rc3/4	216	33.5	34.5	55	167	122.5
ø160	56	55	177	128	23	177	146.5	88.5	53	19	20	24	Rc3/4	245	33.5	34.5	62.5	190	134
ø180	63	60	200	146	14	200	170	100	60	19	20	24	Rc3/4	264	33.5	34.5	68.5	213	152

Code															Mounting dimensions			
Bore size (mm)	KK	LL	M	MM	MN	MO	NN	P	QA	QB	T	V	WF	X	TC	TD	TE	TJ
ø125	M30×1.5	291	11	35	14	30	91	13	14	15	18	35	55	407	150	32	50	285
ø140	M30×1.5	318	11	35	14	30	102	15	16	17	18	35	57	436	154	36	55	307.5
ø160	M36×1.5	350	13	40	16	36	105	15	16	17	21	48	71.5	490.5	190	40	60	351.5
ø180	M40×1.5	373	15	45	18	41	109	15	16	17	24	53	78.5	529.5	210	45	65	379

Code					With bellows			With switch							
Bore size (mm)								T0,T5,T2,T3		T2W,T3W		T2Y,T3Y,T2YD,T1,T2J		T8	
	TK	TM	TN	UM	b	d	ℓ	RD	HD	RD	HD	RD	HD	RD	HD
ø125	72	170	150	234	74	75	(Stroke length/4.55)+11	8.5	4.0	10.5	5.5	7.5	2.5	2.5	0.0
ø140	78.5	190	170	262	74	75	(Stroke length/4.55)+9	8.5	7.0	10.5	8.5	7.5	5.5	2.5	0.5
ø160	83	212	190	292	81	80	(Stroke length/5.15)+9	10.5	8.0	12.5	10.0	9.5	7.0	4.5	1.5
ø180	87.5	236	210	326	90	90	(Stroke length/5.15)+9	13.0	9.5	14.5	11.5	11.5	8.5	6.5	3.5

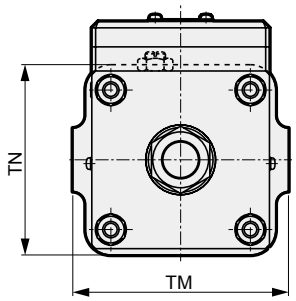
● About the non-sag block (ø125, ø140)

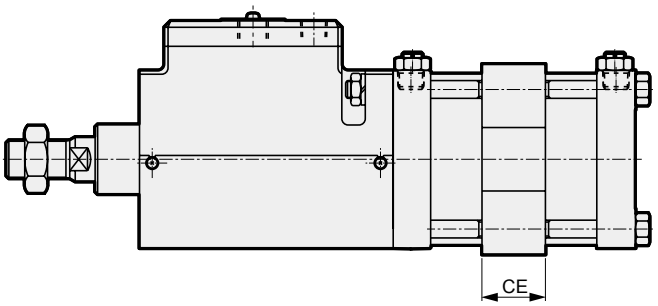
A non-sag block will be added to the middle part of the cylinder if the stroke length is in the range given in the table below.

Additional stroke length to the non-sag block

Bore size (mm)	Stroke length (mm)
ø125	1801 to 2000
ø140	

Code / Bore size (mm)	TM	TN	CE
ø125	150	150	50
ø140	190	170	55





MEMO

JSC3 Series common accessory dimensions (rod eye/No. 2 bracket) ø40 to ø100

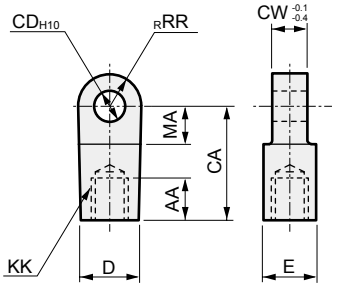
·The installation dimensions for the clevis, rod eye, and No. 2 bracket (øCD, CW, CQ) are all the same, and any combination is possible.

· Specify the model No. when placing an order.

● Rod eye/clevis dimensions

Rod eye (I) CAD

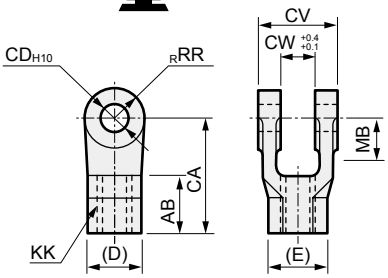
Material: Cast iron
Painting



Model No.	Bore size (mm)	AA	CA	CD	CW	D	E	KK	MA	RR	Weight (kg)
S1-I-40	40	20	50	12	18	27	27	M14×1.5	21	16	0.26
S1-I-50	50	21	50	12	18	27	27	M18×1.5	21	16	0.24
S1-I-63	63	21	50	14	20	27	27	M18×1.5	21	16	0.25
S1-I-80	80	30	70	20	28	46	41	M22×1.5	30	25	0.80
S1-I-100	100	30	70	20	28	46	41	M26×1.5	30	25	0.84

Rod clevis (Y) CAD

Material: Cast iron
Painting



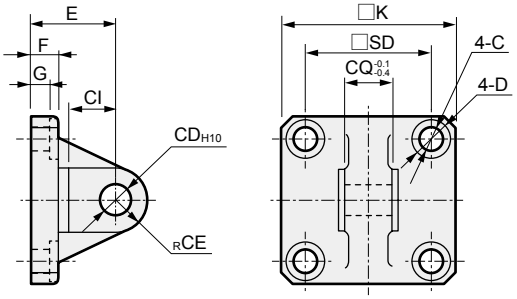
Model No.	Bore size (mm)	AB	CA	CD	CV	CW	D	E	KK	MB	RR	Weight (kg)
S1-Y-40	40	24	50	12	36	18	27	31.2	M14×1.5	19	16	0.25
S1-Y-50	50	24	50	12	36	18	27	31.2	M18×1.5	19	16	0.24
S1-Y-63	63	24	50	14	40	20	27	31.2	M18×1.5	19	16	0.26
S1-Y-80	80	35	70	20	56	28	41	47.3	M22×1.5	30	25	0.90
S1-Y-100	100	35	70	20	56	28	41	47.3	M26×1.5	30	25	0.85

*1: The MB dimension is the effective length of the CW dimension.
*2: A pin and a snap ring are attached.

● No. 2 bracket dimensions

Eye bracket (B1) CAD

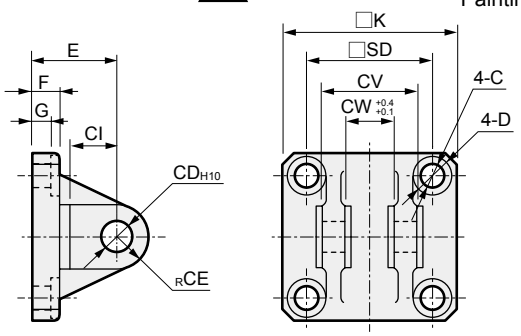
Material: Cast iron
Painting



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

Clevis bracket (B2) CAD

Material: Cast iron
Painting

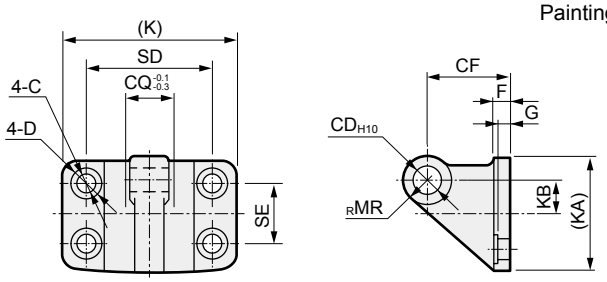


Model No.	Bore size (mm)	C	CD	CE	CI	CV	CW	D	E	F	G	K	SD	Wt (kg)
S1-B2-40	40	9	12	12	18	36	18	14	32	10	6.5	57	40.5	0.36
S1-B2-50	50	9	12	12	18	36	18	14	32	10	6.5	66	48	0.41
S1-B2-63	63	9	14	16	24	40	20	14	37	10	6.5	80	59	0.62
S1-B2-80	80	14	20	20	30	56	28	20	52	14	10.5	98	74	1.48
S1-B2-100	100	14	20	20	30	56	28	20	52	16	10.5	118	90	1.82

Note: A pin and a snap ring are attached.

Eye bracket (B3)

Material: Cast iron
Painting

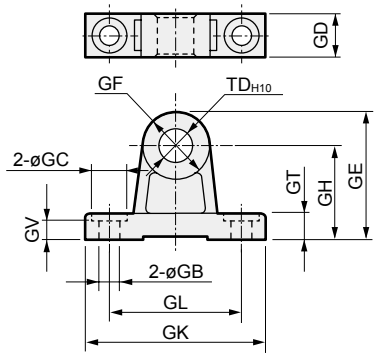


Model No.	Applicable bore size (mm)	C	CD	CF	CQ	D	F	G	K	KA	KB	MR	SD	SE	Weight (kg)
S1-B3-40	ø40/ø50	9	12	40	18	14	8	6.5	85	57	17.5	12	65	35	0.44
S1-B3-63	ø63	11	14	50	20	17	10	8	105	67	20	16	80	40	0.77
S1-B3-80	ø80/ø100	14	20	65	28	20	12	10	130	93	30	20	100	60	1.64

JSC3 Series common accessory dimensions (No. 2 bracket/pin/bellows/indicator) ø40 to ø100

● Trunnion No. 2 bracket dimensions

Material: Cast iron
Painting



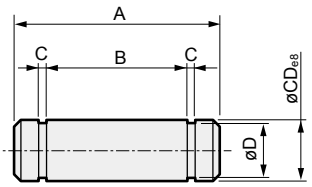
Code / Model No.	GB	GC	GD	GE	GF	GH	GK	GL	GT	GV	TD	Weight (kg)
S1-B4-40	9	17	19	61	32	45	80	60	12	11	16	0.25
S1-B4-50	9	17	19	63	36	45	85	65	12	11	18	0.28
S1-B4-63	11	22	24	80	40	60	100	75	14	13	20	0.52
S1-B4-80	14	24	26	85	50	60	115	85	14	13	25	0.70
S1-B4-100	14	24	35	107	64	75	130	100	17	16	35	1.48

Note: The bracket is provided as 2 pcs./set.

● Pin dimensions

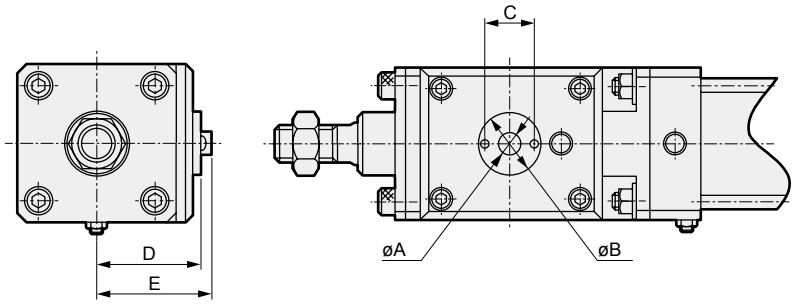
Pin (P) CAD

Material: Carbon steel
Zinc chromate treatment



Model No.	Applicable bore size (mm)	A	B	C	D	CD	Applicable snap ring	Weight (kg)
S1-P-40	40, 50	43.5	36.2	1.15	11.5	12	C type for shaft 12	0.04
S1-P-63	63	47.5	40.2	1.15	13.4	14	C type for shaft 14	0.06
S1-P-80	80, 100	64	56.2	1.35	19	20	C type for shaft 20	0.16

● Indicator



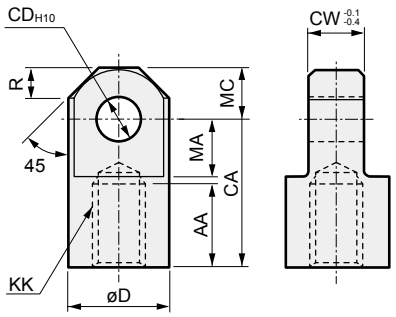
Code / Bore size (mm)	A	B	C	D	E
ø40	8	25	18	51	51 to 59
ø50	8	25	18	55.5	55.5 to 63.5
ø63	10	32	24	59	59 to 68
ø80	12	32	24	69	69 to 80
ø100	14	32	24	78	78 to 90

● The operational status of the brake is easily detectable from outside.

JSC4 Series common accessory dimensions (rod eye, bracket, pin) ø125 to ø180

● Rod eye for JSC4 (I)

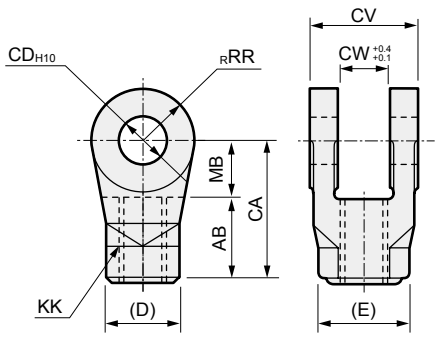
Material: Cast iron
Painting



Code / Model No.	AA	CA	CD	CW	D	KK	MA	MC	R	Weight (kg)
SCS2-125-I	50	85	25	32	55	M30×1.5	32	27.5	15.5	1.25
SCS2-140-I	50	90	28	36	60	M30×1.5	35	30	18	1.65
SCS2-160-I	60	105	32	40	70	M36×1.5	40	35	21	2.55
SCS2-180-I	65	115	40	50	85	M40×1.5	47.5	42.5	29	4.20

● Rod clevis for JSC4 (Y)

Material: Cast iron
Painting

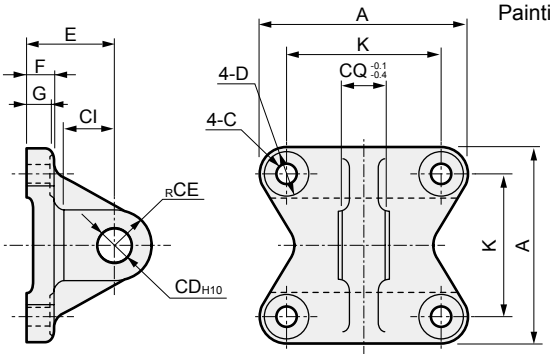


Code / Model No.	AB	CA	CD	CV	CW	D	E	KK	MB	RR	Weight (kg)
SCS2-125-Y	50	85	25	64	32	46	53.1	M30×1.5	35	27.5	1.30
SCS2-140-Y	50	90	28	72	36	46	53.1	M30×1.5	40	30	1.65
SCS2-160-Y	60	105	32	80	40	55	63.5	M36×1.5	45	35	2.55
SCS2-180-Y	65	115	40	100	50	60	69.3	M40×1.5	50	42.5	4.40

Note: A pin and a snap ring are attached.

● Eye bracket for JSC4 (B1)

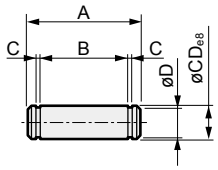
Material: Cast iron
Painting



Code / Model No.	A	C	CD	CE	CI	CQ	D	E	F	G	K	Weight (kg)
SCS2-125-B1	140	16	25	25	35	32	23	63	20	18	110	2.35
SCS2-140-B1	154	16	28	28	40	36	23	75	22	20	124	3.30
SCS2-160-B1	174	18	32	32	40	40	26	75	24	22	142	4.65
SCS2-180-B1	196	20	40	40	55	50	29	90	25	23	160	6.75

● Pin (P)

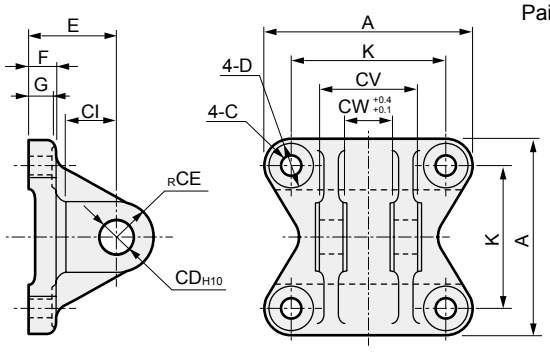
Material: Carbon steel
Zinc chromate treatment



Code / Model No.	A	B	C	CD	D	Applicable snap ring	Weight (kg)	Compatibility
SCS2-125-P	75	66.3	1.35	25	23.9	C for shaft 25	0.25	JSC3-125
SCS2-140-P	84	74.7	1.65	28	26.6	C for shaft 28	0.40	JSC3-140
SCS2-160-P	92	82.7	1.65	32	30.3	C for shaft 32	0.50	JSC3-160
SCS2-180-P	115	103.2	1.9	40	38	C for shaft 40	1.15	JSC3-180

● Clevis bracket for JSC4 (B2)

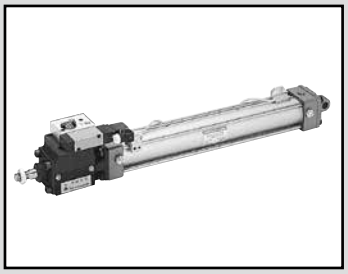
Material: Cast iron
Painting



Code / Model No.	A	C	CD	CE	CI	CV	CW	D	E	F	G	K	Weight (kg)
SCS2-125-B2	140	16	25	25	35	64	32	23	63	20	18	110	2.65
SCS2-140-B2	154	16	28	28	40	72	36	23	75	22	20	124	3.85
SCS2-160-B2	174	18	32	32	40	80	40	26	75	24	22	142	5.45
SCS2-180-B2	196	20	40	40	55	100	50	29	90	25	23	160	8.70

Note: A pin and a snap ring are attached.

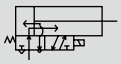
MEMO



Brake cylinder Double acting/with valve for brake

JSC3-V Series

● Bore size: ø40/ø50/ø63/ø80/ø100

JIS symbol 

RoHS CAD

Specifications

Item			JSC3-V (with switch)					JSC3-SV (with switch)				
Bore size		mm	ø40	ø50	ø63	ø80	ø100	ø40	ø50	ø63	ø80	ø100
Actuation			Double acting/with valve for brake					Double acting/low pressure release/with valve for brake				
Working fluid			Compressed air									
Max. working pressure		MPa	0.7 (≈100 psi, 7 bar)									
Min. working pressure	Brake section	MPa	0.3 (≈44 psi, 3 bar)					0.25 (≈36 psi, 2.5 bar)				
	Cylinder		0.1 (≈15 psi, 1 bar)									
Proof pressure		MPa	1.6 (≈230 psi, 16 bar)									
Ambient temperature		°C	-5 (23°F) to 50 (122°F) (no freezing)									
Port size	Brake section		Rc1/8		Rc1/4		Rc3/8	Rc1/8		Rc1/4		Rc3/8
	Cylinder		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 (Operate within the allowable absorbed energy.)									
Cushion			Air cushion									
Effective air 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 (use turbine oil class 1 ISO VG32 if necessary for lubrication)									
Holding force		N	980	1569	2451	3922	6178	784	1255	1961	3138	4941
Allowable absorbed energy	Cushioned	J	4.29	8.37	15.8	27.9	49.8	4.29	8.37	15.8	27.9	49.8
	Without cushion	J	0.067	0.079	0.079	0.201	0.301	0.067	0.079	0.079	0.201	0.301
			Note: Without any cushion, this product cannot absorb large energy generated by an external load. We recommend using an external shock absorber.									

Note: The valve specifications are the same as those of the standard model “4KB2”. For details, refer to “Pneumatic Valves (CB-023SA)”.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
ø40	50, 75, 100, 150, 200, 250 300, 350, 400, 450, 500	600	1000	1
ø50			2000	
ø63			2500	
ø80		700		
ø100		800	*2	

*1 : The min. stroke length varies depending on switch mounting method. Refer to the following table.
The custom stroke length is available in 1 mm increments.
*2 : The max. stroke length available for ø63 to ø100 bore size models with bellows is 2000 mm.

Min. stroke length with switch (T switch)

● Min. stroke length with T0/T5 switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1 : The values in ( ) are of T*V (radial lead wire).
*2 : When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Min. stroke length with switch (T switch)

● Min. stroke length with T8 switch

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke length with T2/T3 witches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke length with T1/T2Y/T3Y/T2YD switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire). T2YD does not have a radial lead wire (V).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke length with T2W/T3W switches

	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Switch quantity	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	20(5)	20(10)	20(15)	25(25)	20(5)	65(50)	110(80)	155(110)	110(80)	110(80)	170(140)	170(140)	50(35)	50(35)
ø50	20(5)	20(10)	20(15)	20(20)	20(5)	20(10)	65(40)	65(40)	110(80)	110(80)	110(60)	110(60)	50(35)	50(35)
ø63	20(5)	20(10)	20(15)	25(25)	20(5)	20(10)	65(40)	65(40)	115(85)	115(85)	115(65)	115(65)	55(40)	55(40)
ø80	15(5)	15(10)	15(15)	25(25)	15(5)	15(10)	60(40)	60(40)	120(90)	120(90)	120(70)	120(70)	55(40)	55(40)
ø100	10(5)	10(10)	20(20)	25(25)	10(5)	10(10)	60(40)	60(40)	130(100)	130(100)	130(85)	130(85)	60(45)	60(45)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire							Proximity 2-wire
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V			T2YD(*4) T2YDT
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay			For programmable controller
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	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 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)
Leakage current	≤ 1 mA at 100 VAC, ≤ 2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA							1 mA or less
Weight g	1 m:33	1 m:18	1 m:33	1 m:18	1 m:18		1 m:33	1 m:18	1 m:18				1 m:33			1 m:61
	3 m:87	3 m:49	3 m:87	3 m:49	3 m:49		3 m:87	3 m:49	3 m:49				3 m:87			3 m:166
	5 m:142	5 m:80	5 m:142	5 m:80	5 m:80		5 m:142	5 m:80	5 m:80				5 m:142			5 m:272

*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.
*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

Switch specifications (H type switch)

● Reed switch

Item	Reed 2-wire		
	H0		H0Y (2-color display)
Applications	For relay, programmable controller		Dedicated for programmable controller
Load voltage/ current	12/24 VDC 5 to 50 mA	110 VAC 7 to 20 mA	24 VDC, 5 to 20 mA (*2)
Indicator lamp	Green LED (Lit when ON)		Red/green LED (Lit when ON)
Leakage current	10 μA or less		
Weight g	1 m:76 3 m:181 5 m:289		

*1 : Refer to Ending Page 1 for other switch specifications.
*2 : Max. load current is applied at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Electrical specification for brake valve

Item	4KB2		
Rated voltage (V)	100 AC(50/60 Hz)	200 AC(50/60 Hz)	24 DC
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
Thermal class	Class B (molded coil)		

*1 : 100/200 VAC coil is available for 110/220 VAC (60 Hz).
*2 : The valve specifications are the same as those of the standard model 4KB2. For details, refer to “Pneumatic Valves (CB-023SA)”.

Cylinder weight

[Unit: kg]

Item/mounting / Bore size (mm)	Product weight when stroke length (S) = 0 mm						Switch weight	Mounting bracket weight		Additional weight per S = 100 mm	Valve weight
	Basic (00)	Foot (LB)	Flange (FA, FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TC)		T type	H type		
ø40	2.48	2.66	2.91	2.83	2.83	2.86	Refer to the weight in the switch specifications.	0.024	0.028	0.39	0.32
ø50	3.47	3.67	3.97	3.87	3.87	3.97		0.022	0.026	0.46	
ø63	5.09	5.49	6.19	5.79	5.79	5.89		0.020	0.024	0.50	0.35
ø80	8.15	8.85	9.95	9.65	9.65	9.45		0.026	0.029	0.90	
ø100	14.70	15.70	17.40	16.90	16.90	17.30		0.024	0.028	1.12	0.49

(Example) Product weight of JSC3-V-LB-50B-200-T0H-D

Product weight for stroke length 0 mm … 3.67 kg
Additional weight for stroke length 200 mm … $0.46 \times \frac{200}{100} = 0.92$ kg
Weight of 2 TOH switches …… $0.018 \times 2 = 0.036$ kg
Weight of 2 mounting brackets …… $0.022 \times 2 = 0.044$ kg
Valve weight …… 0.32 kg
Product weight …… 3.67+0.92+0.036+0.044+0.32=4.990 kg

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa							
		0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7
ø40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2
	Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2
ø50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3
	Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3
ø63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3
	Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3
ø80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3
	Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3
ø100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3
	Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3

How to order

Without switch (built-in magnet for switch)

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

With switch (built-in magnet for switch)

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

With strong magnetic field proof (for H0, H0Y switches) switch (built-in magnet for switch)

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

Model No. JSC3 | Ⓐ Brake release pressure ◯ | Ⓑ Mounting *1 LB | Ⓒ Bore size 40 ◯ | Ⓓ Port thread B | Ⓔ Cushion B | Ⓕ Stroke length *2 *3 *4 50 | Ⓖ Valve voltage 1 | Ⓗ Switch model No. *5 T0H | * indicates the lead wire length. R | Ⓘ Switch quantity *6 S | Ⓙ Option *7 I | Ⓚ Accessory *8

Code	Description
Ⓐ Brake release pressure	
Blank	Standard (0.3 MPa)
S	Low pressure release (0.25 MPa)
Ⓑ Mounting	
00	Basic
LB	Axial foot
FA	Rod side flange
FB	Head side flange
FC	Head side special flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion
Ⓒ Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
Ⓓ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)
Ⓔ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓕ Stroke length (mm)

Bore size	Stroke length *4	Available stroke length	Custom stroke length
ø40	**1 to 600**	**1000**	**In 1 mm increments**
ø50	**1 to 600**	**2000**	
ø63	**1 to 600**	**2500**	
ø80	**1 to 700**	**2500**	
ø100	**1 to 800**	**2500**	

Ⓖ Valve voltage	
1	100 VAC
2	200 VAC
3	24 VDC
4	12 VDC
Ⓗ Switch model No.	
Refer to the switch model numbers on the following page.	
*** Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)
Ⓘ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3
4	4 (when there are more than 4 switches, indicate switch quantity.)

Ⓙ Option

		Max. ambient temperature	instantaneous max. temp
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		

Ⓚ 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 No. 2 bracket (2 pcs./set)

⚠ Precautions for model selection

*1 : Mounting bracket will be shipped assembled with the product. (Head side special flange is attached separately)

*2 : If the stroke exceeds the max. stroke length, refer to Ending Page 69.

*3 : The max. stroke length available for ø63 to ø100 bore size models with bellows is 2000 mm.

*4 : Refer to pages 810 and 811 for the min. stroke length with switch.

*5 : T2YD, T2YDT, H0, and H0Y are strong magnetic field proof switches.

*6 : When selecting TA or TB as mounting, the switch quantity is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

*7 : For S, T, and G position indications, check the respective dimensions.

*8 : "I" and "Y" cannot be selected together.

*9 : Refer to Ending Page 85 for custom specifications of rod end form.

[Example of model No.]

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

Model: Brake cylinder Double acting/with valve for brake

Ⓐ Brake release pressure: Standard 0.3 MPa
Ⓑ Mounting : Axial foot
Ⓒ Bore size : ø40 mm
Ⓓ Port thread : Rc thread
Ⓔ Cushion : Both sides cushioned
Ⓕ Stroke length : 50 mm
Ⓖ Valve voltage : 100 VAC
Ⓗ Switch model No. : Proximity switch T0H, lead wire 1 m
Ⓘ Switch quantity : 1 on rod side
Ⓙ Option : Cushion needle position S
Ⓚ Accessory : Rod eye

[H] Switch model No.

Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
T type switch						
TOH*	TOV*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●		3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T3PH*	T3PV*			●	1-color display	3-wire
T2YD*	-			●	2-color display	2-wire
T2YDT*	-			●	AC magnetic field	
T2JH*	T2JV*			●	1-color display off-delay	2-wire
H type switch						
HO*	-	Reed	●	●	Strong magnetic field proof	2-wire
HOY*	-			●	Strong magnetic field 2-color display	

How to order brake unit

JSC3 - 40 - BRAKE-UNIT

40: Bore size (Item Ⓒ on page 814)

● Mounting FA

JSC3 - FA - 40 - BRAKE-UNIT

40: Bore size (Item Ⓒ on page 814)

How to order T type switch

● Switch body + mounting bracket set

JSC3 - T0H - 40

T0H: Switch model No. (Item Ⓗ)
40: Bore size (Item Ⓒ on page 814)

● Switch body only

SW - T0H

T0H: Switch model No. (Item Ⓗ)

● Mounting bracket set

JSC3 - TS - 40

TS: Mounting bracket
40: Bore size (Item Ⓒ on page 814)

How to order H type switch

● Switch body + mounting bracket set

JSC3-L2 - H0* - 40

H0*: Switch model No. (Item Ⓗ)
40: Bore size (Item Ⓒ on page 814)

● Switch body only

SW - H0*

H0*: Switch model No. (Item Ⓗ)

● Mounting bracket set

JSC3-L2 - H - 40

H: Mounting bracket
40: Bore size (Item Ⓒ on page 814)

How to order T2YD type switch

● Switch body + mounting bracket set

JSC3 - T2YD* - 40

T2YD*: Switch model No. (Item Ⓗ)
40: Bore size (Item Ⓒ on page 814)

● Switch body only

SW - T2YD*

T2YD*: Switch model No. (Item Ⓗ)

● Mounting bracket set

JSC3 - T - 40

T: Mounting bracket
40: Bore size (Item Ⓒ on page 814)

How to order mounting bracket

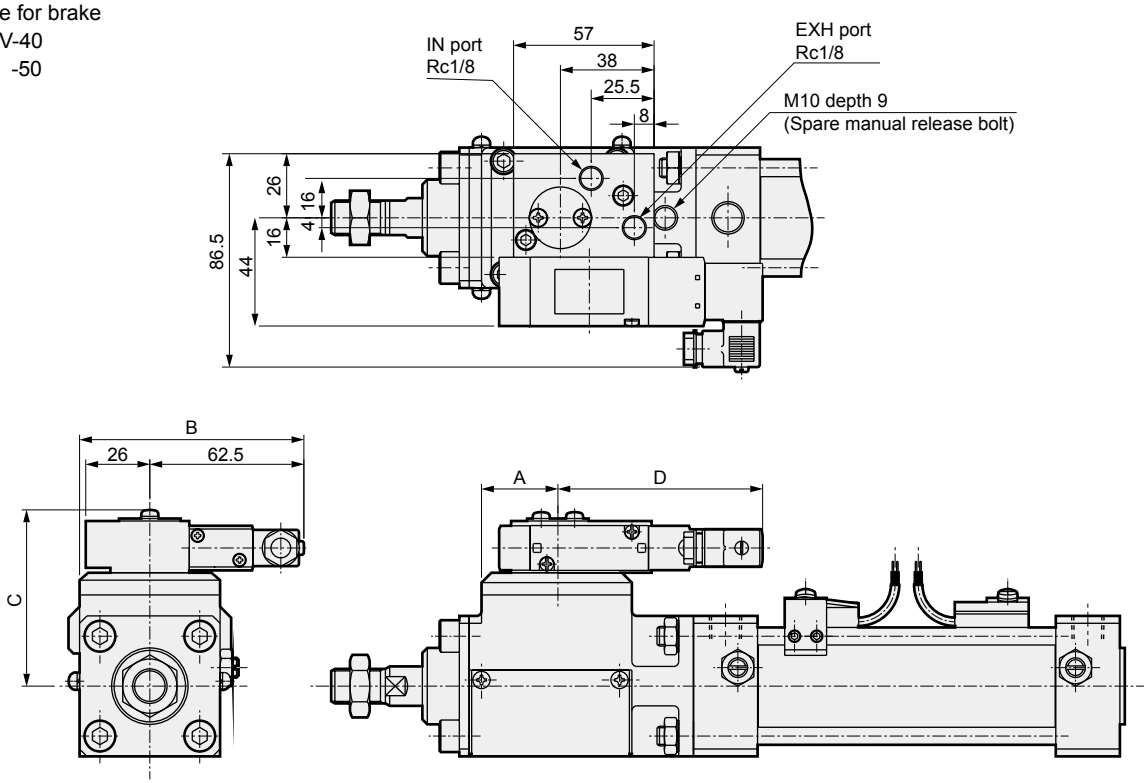
Bore size (mm) / Mounting bracket	ø40	ø50	ø63	ø80	ø100
Foot (LB) *1	JSC3-40-LB	JSC3-50-LB	JSC3-63-LB	JSC3-80-LB	JSC3-100-LB
Flange (FB)	JSC3-40-FB	JSC3-50-FB	JSC3-63-FB	JSC3-80-FB	JSC3-100-FB
Eye bracket (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis bracket (CB) *2	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.
*2: A pin and a snap ring are attached.
*3: All mounting brackets have mounting bolts attached.

Dimensions (ø40 to ø63)

With valve for brake

● JSC3-V-40
-50

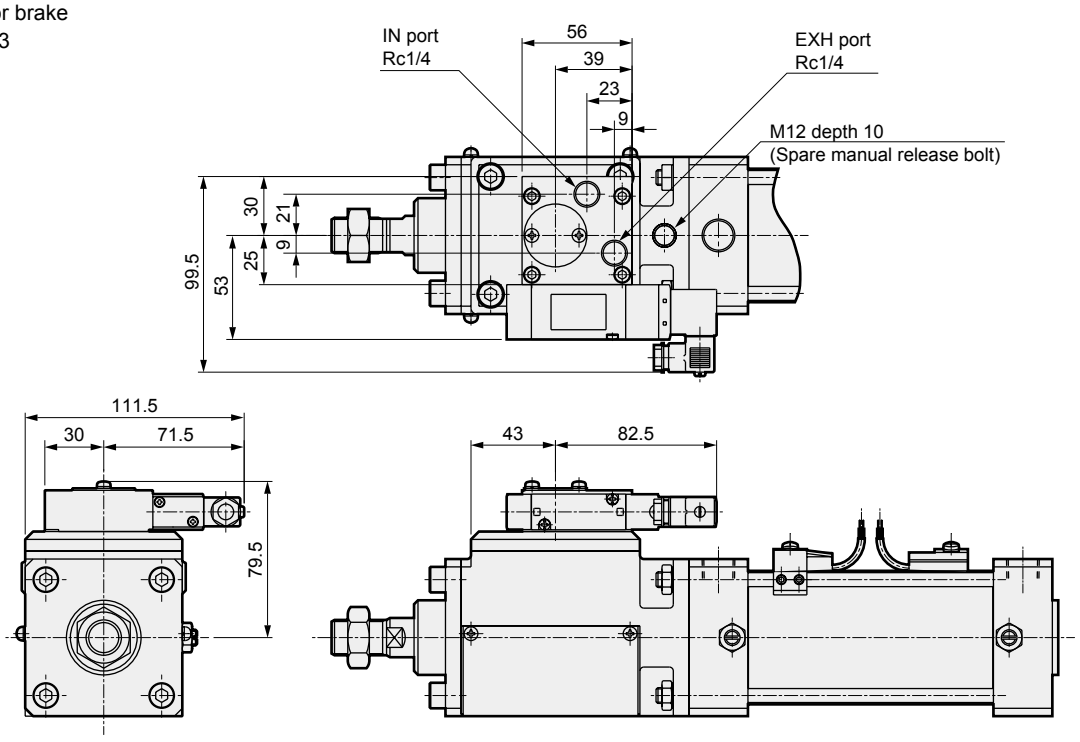


Code / Bore size (mm)	A	B	C	D
ø40	31	91	71.5	83.5
ø50	36	96.5	76	86.5

● Note: This model is the same as the standard, except for the dimensions above. Refer to page 784.

With valve for brake

● JSC3-V-63

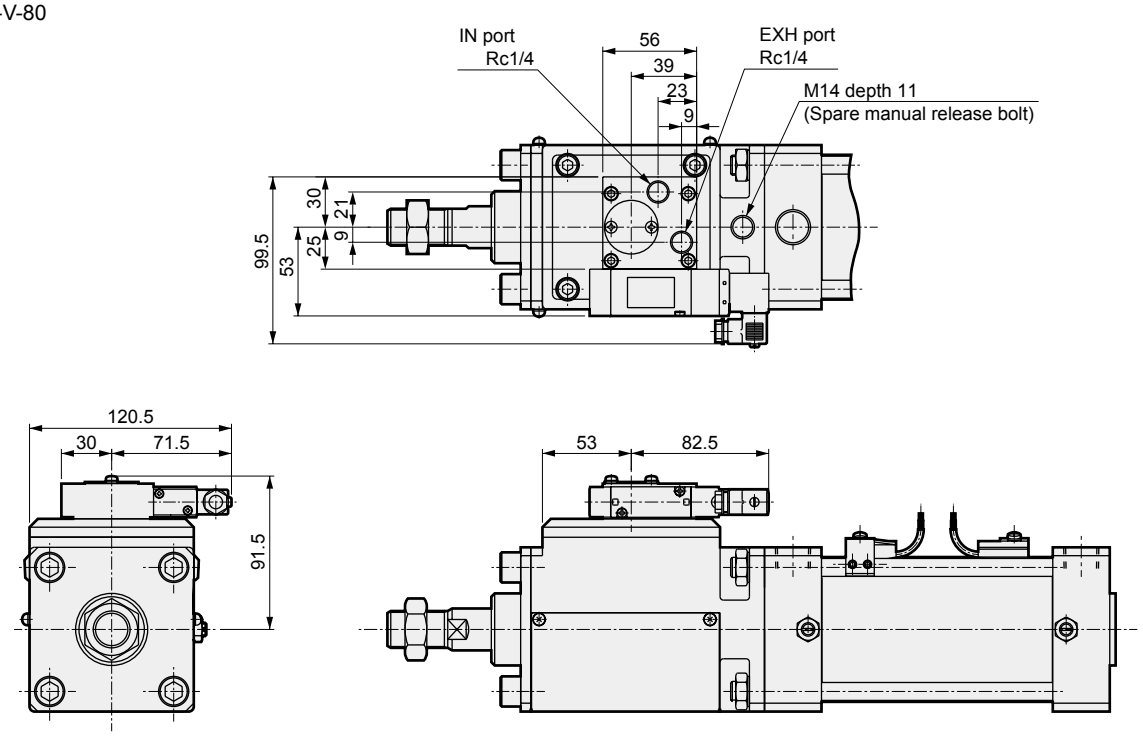


● Note: This model is the same as the standard, except for the dimensions above. Refer to page 784.

Dimensions (ø80, ø100)

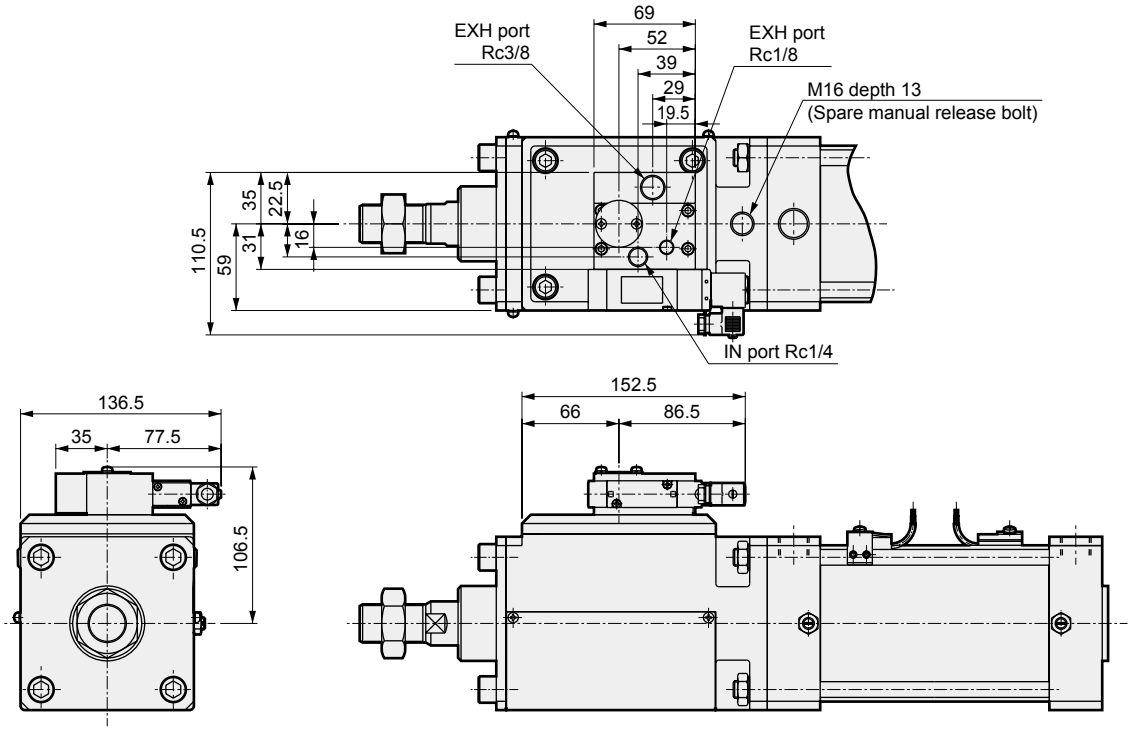
With valve for brake

● JSC3-V-80

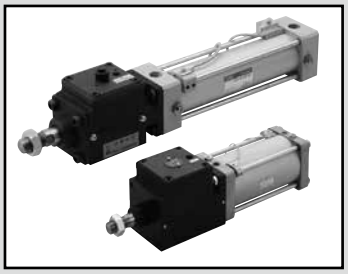


● Note: This model is the same as the standard, except for the dimensions above. Refer to page 784.

● JSC3-V-100



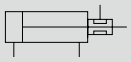
● Note: This model is the same as the standard, except for the dimensions above. Refer to page 784.



Brake cylinder Double acting/low hydraulic

JSC3-H/JSC4-H Series

● Bore size:
JSC3: ø40/ø50/ø63/ø80/ø100
JSC4: ø125/ø140/ø160/ø180

JIS symbol 

RoHS CAD

Specifications

Item			JSC3-H (with switch)					JSC3-SH (with switch)					JSC4-H			
Bore size		mm	ø40	ø50	ø63	ø80	ø100	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	ø180
Actuation			Double acting/low hydraulic					Double acting/low pressure release/low hydraulic					Double acting/low hydraulic			
Working fluid			Hydraulic fluid (compressed air for brake section)													
Max. working pressure		MPa	1.0 (≈150 psi, 10 bar)													
Min. working pressure	Brake section	MPa	0.3 (≈44 psi, 3 bar)					0.25 (≈36 psi, 2.5 bar)					0.3 (≈44 psi, 3 bar)			
	Cylinder	MPa	0.2 (≈29 psi, 2 bar)					0.2 (≈29 psi, 2 bar)					0.1 (≈15 psi, 1 bar)			
Proof pressure		MPa	1.6 (≈230 psi, 16 bar)													
Ambient temperature		°C	5 (41°F) to 50 (122°F)													
Port size	Brake section		Rc1/8		Rc1/4		Rc3/8	Rc1/8		Rc1/4		Rc3/8	Rc1/2			
	Cylinder		Rc1/4	Rc3/8		Rc1/2		Rc1/4	Rc3/8		Rc1/2		Rc1/2	Rc3/4		
Stroke tolerance		mm	$^{+0.9}_{0}$ (to 360), $^{+1.4}_{0}$ (to 1000)					$^{+0.9}_{0}$ (to 360), $^{+1.4}_{0}$ (to 1000)					$^{+1.0}_{0}$ (to 300), $^{+1.4}_{0}$ (to 1000), $^{+1.8}_{0}$ (to 2000)			
Cushion			Air cushion										Cushioned			
Effective air cushion length		mm	14.6	16.6		20.6	23.6	14.6	16.6		20.6	23.6	21.6			
Holding force		N	980	1569	2451	3922	6178	784	1255	1961	3138	4941	9600	12000	15800	20000
Allowable absorbed energy	Cushioned	J	Note: The cushioning of the low hydraulic cylinder cannot absorb large energy. We recommend using an external shock absorber.													
	Without cushion	J	Note: Without any cushion, this product cannot absorb large energy generated by an external load. We recommend using an external shock absorber.													

Note: Brake section is air operated.

Stroke length

Bore size (mm)		Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
JSC3	ø40	50, 75, 100, 150, 200, 250 , 300, 350, 400, 450, 500	600	1600	1
	ø50			2000	
	ø63			2500	
	ø80		700		
	ø100		800	*3	
JSC4	ø125	50, 75, 100, 150, 200, 250 , 300		2000	
	ø140				
	ø160				
	ø180		900		

*1 : If max. stroke length is exceeded, product specifications may not be met, depending on conditions. Refer to Ending Page 69.
*2 : The custom stroke length is available in 1 mm increments.
*3 : The max. stroke length available for ø63 to ø100 bore size models with bellows is 2000 mm.

Min. stroke length with JSC3 switch (T switch)

● Min.stroke length with T0/T5 switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1 : The values in ( ) are of T*V (radial lead wire).
*2 : When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Min. stroke length with JSC3 switch (T switch)

● Min. stroke length with T8 switch

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke length with T2/T3 switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

● Min. stroke length with T1/T2Y/T3Y/T2W/T3W/T2YD switches

Switch quantity	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Bore size	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	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)
ø50	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)
ø63	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)
ø80	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)
ø100	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)

*1: The values in ( ) are of T*V (radial lead wire). T2YD does not have a radial lead wire (V).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

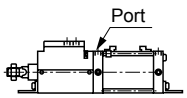
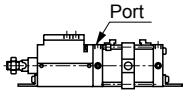
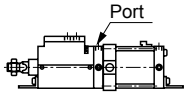
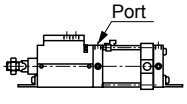
● Min. stroke length with T2W/T3W switches

	Different surface mounting				Same surface mounting				Center trunnion mounting				Rod side trunnion mounting No position detection at rod side stroke end.	Head side trunnion mounting No position detection at head side stroke end.
Switch quantity	1	2	3	4	1	2	3	4	1	2	3	4	1	1
ø40	20(5)	20(10)	20(15)	25(25)	20(5)	65(50)	110(80)	155(110)	110(80)	110(80)	170(140)	170(140)	50(35)	50(35)
ø50	20(5)	20(10)	20(15)	20(20)	20(5)	20(10)	65(40)	65(40)	110(80)	110(80)	110(60)	110(60)	50(35)	50(35)
ø63	20(5)	20(10)	20(15)	25(25)	20(5)	20(10)	65(40)	65(40)	115(85)	115(85)	115(65)	115(65)	55(40)	55(40)
ø80	15(5)	15(10)	15(15)	25(25)	15(5)	15(10)	60(40)	60(40)	120(90)	120(90)	120(70)	120(70)	55(40)	55(40)
ø100	10(5)	10(10)	20(20)	25(25)	10(5)	10(10)	60(40)	60(40)	130(100)	130(100)	130(85)	130(85)	60(45)	60(45)

*1: The values in ( ) are of T*V (radial lead wire).
*2: When the stroke length is 15 mm or less, the two switches could turn ON at the same time. In this case, adjust switch mounting positions to be as far apart as possible.

Min. stroke length with JSC4 switch (T switch)

● ø125 to 180

Item / Bore size (mm)	Stroke length when mounted on the same surface	Center trunnion mounting stroke	Rod side trunnion mounting stroke	Head side trunnion mounting stroke
				
ø125	20 or more	120 or more	70 or more	
ø140		125 or more	75 or more	
ø160		130 or more	80 or more	
ø180		135 or more	85 or more	

Switch specifications (T type switch)

● 1-color/2-color display/for AC magnetic field proof

Item	Proximity 2-wire	Proximity 2-wire			Proximity 3-wire				Reed 2-wire							Proximity 2-wire
	T1H/ T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	T3WH/ T3WV	T0H/T0V		T5H/T5V		T8H/T8V			T2YD(*4) T2YDT
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller			For programmable controller, relay				For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay			For programmable controller
Output method	-				NPN output	PNP output	NPN output	NPN output	-							
Pwr. supp. V.	-				10 to 28 VDC				-							
Load voltage	85 to 265 VAC	10 to 30 VDC		24 VDC ±10%	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 100 mA	5 to 20 mA (*3)			100 mA or less		50 mA or less		5 to 50 mA	7 to 20 mA	≤50 mA	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator lamp	LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Yellow LED (Lit when ON)	Red/green LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)		Without indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)
Leakage current	≤1 mA at 100 VAC, ≤2 mA at 200 VAC	1 mA or less			10 μA or less				0 mA							1 mA or less
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272

*1 : Refer to Ending Page 1 for detailed switch specifications and dimensions.
*2 : Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
*3 : The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)
*4 : AC magnetic field proof switch (T2YD/T2YDT) cannot be used in DC magnetic fields.

Cylinder weight

● JSC3(ø40 to ø100)

[Unit: kg]

Item/ mounting / Bore size (mm)	Product weight when stroke length (S) = 0 mm: Basic (00)	Foot (LB)	Flange (FA, FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TC)	Switch weight	Mounting bracket weight: T type	H type	Additional weight per S = 100 mm
ø40	2.48	2.66	2.91	2.83	2.83	2.86	Refer to the weight in the switch specifications.	0.024	0.028	0.39
ø50	3.47	3.67	3.97	3.87	3.87	3.97		0.022	0.026	0.46
ø63	5.09	5.49	6.19	5.79	5.79	5.89		0.020	0.024	0.50
ø80	8.15	8.85	9.95	9.65	9.65	9.45		0.026	0.029	0.90
ø100	14.70	15.70	17.40	16.90	16.90	17.30		0.024	0.028	1.12

(Example) Product weight of JSC3-H-LB-50B-200-T0H-D

Product weight for stroke length 0 mm … 3.67 kg
Additional weight for stroke length 200 mm … $0.46\times\frac{200}{100}=0.92$ kg
Weight of 2 TOH switches …… 0.018×2=0.036 kg
Weight of 2 mounting brackets …… 0.022×2=0.044 kg
Product weight …… 3.67+0.92+0.036+0.044=4.670 kg

● JSC4(ø125 to ø180)

(Unit: kg)

Item/mounting / Bore size (mm)	Product weight when stroke length (S) = 0 mm: Axial foot (LB)	Flange (FA/FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TA/TB/TC)	Switch weight: Switch	Mounting bracket	Additional weight per S = 100 mm
ø125	25.72	27.52	27.22	27.32	27.62	Refer to the weight in the switch specifications.	0.028	1.54
ø140	32.95	36.35	34.75	34.95	34.15		0.030	1.78
ø160	42.85	46.65	44.75	45.05	46.15		0.034	2.22
ø180	61.55	69.05	64.45	64.95	65.15		0.038	2.96

(Example) Product weight of JSC4-H-LB-125B-300-T0H-D

Product weight when S = 0 mm…… 25.72 kg
Additional weight when S = 300 mm…… $1.54\times\frac{300}{100}=4.62$ kg
Weight of 2 switches (T0H-D) …… 0.018×2=0.036 kg
Weight of 2 switch brackets …… 0.028×2=0.056 kg
Product weight …… 25.72+4.62+0.036+0.056=30.432 kg

Theoretical thrust table

(Unit: N)

Bore size (mm)		Operating direction	Working pressure MPa: 0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
JSC3	ø40	Push	1.26×10^2	1.88×10^2	2.51×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	1.01×10^3	1.13×10^3	1.26×10^3
		Pull	1.06×10^2	1.58×10^2	2.11×10^2	3.17×10^2	4.22×10^2	5.28×10^2	6.33×10^2	7.39×10^2	8.44×10^2	9.50×10^2	1.06×10^3
	ø50	Push	1.96×10^2	2.95×10^2	3.93×10^2	5.89×10^2	7.85×10^2	9.82×10^2	1.18×10^3	1.37×10^3	1.57×10^3	1.77×10^3	1.96×10^3
		Pull	1.65×10^2	2.47×10^2	3.30×10^2	4.95×10^2	6.60×10^2	8.25×10^2	9.90×10^2	1.15×10^3	1.32×10^3	1.48×10^3	1.65×10^3
	ø63	Push	3.12×10^2	4.68×10^2	6.23×10^2	9.35×10^2	1.25×10^3	1.56×10^3	1.87×10^3	2.18×10^3	2.49×10^3	2.81×10^3	3.12×10^3
		Pull	2.80×10^2	4.20×10^2	5.61×10^2	8.41×10^2	1.12×10^3	1.40×10^3	1.68×10^3	1.96×10^3	2.24×10^3	2.52×10^3	2.80×10^3
	ø80	Push	5.03×10^2	7.54×10^2	1.01×10^3	1.51×10^3	2.01×10^3	2.51×10^3	3.02×10^3	3.52×10^3	4.02×10^3	4.52×10^3	5.03×10^3
		Pull	4.54×10^2	6.80×10^2	9.07×10^2	1.36×10^3	1.81×10^3	2.27×10^3	2.72×10^3	3.17×10^3	3.63×10^3	4.08×10^3	4.54×10^3
	ø100	Push	7.85×10^2	1.18×10^3	1.57×10^3	2.36×10^3	3.14×10^3	3.93×10^3	4.71×10^3	5.50×10^3	6.28×10^3	7.07×10^3	7.85×10^3
		Pull	7.15×10^2	1.07×10^3	1.43×10^3	2.14×10^3	2.86×10^3	3.57×10^3	4.29×10^3	5.00×10^3	5.72×10^3	6.43×10^3	7.15×10^3
JSC4	ø125	Push	1.23×10^3	1.84×10^3	2.45×10^3	3.68×10^3	4.91×10^3	6.14×10^3	7.36×10^3	8.59×10^3	9.82×10^3	1.10×10^4	1.23×10^4
		Pull	1.13×10^3	1.70×10^3	2.26×10^3	3.39×10^3	4.52×10^3	5.65×10^3	6.79×10^3	7.92×10^3	9.05×10^3	1.02×10^4	1.13×10^4
	ø140	Push	1.54×10^3	2.31×10^3	3.08×10^3	4.62×10^3	6.16×10^3	7.70×10^3	9.24×10^3	1.08×10^4	1.23×10^4	1.39×10^4	1.54×10^4
		Pull	1.44×10^3	2.16×10^3	2.89×10^3	4.33×10^3	5.77×10^3	7.22×10^3	8.66×10^3	1.01×10^4	1.15×10^4	1.30×10^4	1.44×10^4
	ø160	Push	2.01×10^3	3.02×10^3	4.02×10^3	6.03×10^3	8.04×10^3	1.01×10^4	1.21×10^4	1.41×10^4	1.61×10^4	1.81×10^4	2.01×10^4
		Pull	1.88×10^3	2.83×10^3	3.77×10^3	5.65×10^3	7.54×10^3	9.42×10^3	1.13×10^4	1.32×10^4	1.51×10^4	1.70×10^4	1.88×10^4
	ø180	Push	2.54×10^3	3.82×10^3	5.09×10^3	7.03×10^3	1.02×10^3	1.27×10^4	1.53×10^4	1.78×10^4	2.04×10^4	2.29×10^4	2.54×10^4
		Pull	2.39×10^3	$3.58+10^3$	4.77×10^3	7.16×10^3	9.54×10^3	1.19×10^4	1.43×10^4	1.67×10^4	1.91×10^4	2.15×10^4	2.39×10^4

How to order (ø40 to ø100)

Without switch (built-in magnet for switch)

JSC3-○H—LB-40○B-50————S I

With switch (built-in magnet for switch)

JSC3-○H—LB-40○B-50-T0H-R-S I

With strong magnetic field proof (for H0, H0Y switches) switch (built-in magnet for switch)

JSC3-○HL2-LB-40○B-50-H0-R-S I

Model No.

Ⓐ Brake release pressure

Ⓑ Mounting *1

Ⓒ Bore size

Ⓓ Port thread

Ⓔ Cushion

Ⓕ Stroke length *2 *3

Ⓖ Switch model No. *5

* indicates the lead wire length.

Ⓗ Switch quantity *6

Ⓘ Option *7

Ⓙ Accessory *8

⚠ Precautions for model selection

*1 : Mounting bracket will be shipped assembled with the product. (Head side special flange is attached separately)

*2 : If the stroke exceeds the max. stroke length, refer to Ending Page 69.

*3 : The max. stroke length available for ø63 to ø100 bore size models with bellows is 2000 mm.

*4 : Refer to pages 818 and 819 for the min. stroke length with switch.

*5 : T2YD, T2YDT, H0, and H0Y are strong magnetic field proof switches.

*6 : When selecting TA or TB as mounting, the switch quantity is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.

*7 : For S, T, and G position indications, check the respective dimensions.

*8 : "I" and "Y" cannot be selected together.

*9 : Refer to Ending Page 85 for custom specifications of rod end form.

[Example of model No.]

JSC3-H-LB-40B-50-T0H-R-SI

Model: Brake cylinder Double acting/low hydraulic

Ⓐ Brake release pressure: Standard 0.3 MPa
Ⓑ Mounting : Axial foot
Ⓒ Bore size : ø40 mm
Ⓓ Port thread : Rc thread
Ⓔ Cushion : Both sides cushioned
Ⓕ Stroke length : 50 mm
Ⓖ Switch model No. : Reed switch TOH, lead wire 1 m
Ⓗ Switch quantity : 1 on rod side
Ⓘ Option : Cushion needle position S
Ⓙ Accessory : Rod eye

Code	Description
Ⓐ Brake release pressure	
Blank	Standard (0.3 MPa)
S	Low pressure release (0.25 MPa)
Ⓑ Mounting	
00	Basic
LB	Axial foot
FA	Rod side flange
FB	Head side flange
FC	Head side special flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion
Ⓒ Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
Ⓓ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)
Ⓔ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓕ Stroke length (mm)

Bore size	Stroke length *4	Available stroke length	Custom stroke length
ø40	**1 to 600**	**1600**	**In 1 mm increments**
ø50	**1 to 600**	**2000**	
ø63	**1 to 600**	**2500**	
ø80	**1 to 700**	**2500**	
ø100	**1 to 800**	**2500**	

Ⓖ Switch model No.

Refer to the switch model numbers on the next page.

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

Ⓗ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3
4	4 (when there are more than 4 switches, indicate switch quantity.)

Ⓘ Option

		Max. ambient temperature	instantaneous max. temp
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		

Ⓙ 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 No. 2 bracket (2 pcs./set)

[G] Switch model No.

T type switch						
Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Display	Lead wire
TOH*	TOV*	Reed	●	●	1-color display	2-wire
T5H*	T5V*		●	●	Without indicator lamp	
T8H*	T8V*		●	●	1-color display	
T1H*	T1V*	Proximity	●		1-color display	2-wire
T2H*	T2V*			●		
T3H*	T3V*			●		3-wire
T2WH*	T2WV*			●	2-color display	2-wire
T2YH*	T2YV*			●		
T3WH*	T3WV*			●		3-wire
T3YH*	T3YV*			●		
T3PH*	T3PV*			●	1-color display	3-wire
T2YD*	-			●	2-color display for AC magnetic field	2-wire
T2YDT*	-			●		
T2JH*	T2JV*			●	1-color display off-delay	2-wire
H type switch						
HO*	-	Reed	●	●	Strong magnetic field proof	2-wire
HOY*	-			●	Strong magnetic field 2-color display	

How to order brake unit

JSC3 - 40 - BRAKE-UNIT

Bore size (Item Ⓒ on page 822)

● Mounting FA

JSC3 - FA - 40 - BRAKE-UNIT

Bore size (Item Ⓒ on page 822)

How to order T type switch

● Switch body + mounting bracket set

JSC3 - T0H - 40

Switch model No. (Item Ⓖ) | Bore size (Item Ⓒ on page 822)

● Switch body only

SW - T0H

Switch model No. (Item Ⓖ)

● Mounting bracket set

JSC3 - TS - 40

Mounting bracket | Bore size (Item Ⓒ on page 822)

How to order T2YD type switch

● Switch body + mounting bracket set
·ø40 to ø100

JSC3 - T2YD - 40

Switch model No. (Item Ⓖ) | Bore size (Item Ⓒ on page 822)

● Switch body only
·ø40 to ø100

SW - T2YD

Switch model No. (Item Ⓖ)

● Mounting bracket set

JSC3 - T - 40

Mounting bracket | Bore size (Item Ⓒ on page 822)

How to order H type switch

● Switch body + mounting bracket set

JSC3-L2 - H0 - 40

Switch model No. (Item Ⓖ) | Bore size (Item Ⓒ on page 822)

● Switch body only

SW - H0

Switch model No. (Item Ⓖ)

● Mounting bracket set

JSC3-L2 - H - 40

Mounting bracket | Bore size (Item Ⓒ on page 822)

How to order mounting bracket

● ø40 to ø100

Bore size (mm) / Mounting bracket	ø40	ø50	ø63	ø80	ø100
Foot (LB) *1	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 bracket (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis bracket (CB) *2	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set. *2: A pin and a snap ring are attached.
*3: All mounting brackets have mounting bolts attached.

How to order (ø125 to 180)

Without switch (without magnet for switch)

JSC4-H - LB - 125 ○ B - 50 ——— S I

With switch (built-in magnet for switch)

JSC4-LH - LB - 125 ○ B - 50 - T0H - R - S I

Ⓐ Mounting *1 | Ⓑ Bore size | Ⓒ Port thread | Ⓓ Cushion | Ⓔ Stroke length *2 | Ⓕ Switch model No. (* indicates the lead wire length.) | Ⓖ Switch quantity *3 | Ⓗ Option *4 | Ⓘ Accessory *5

Code	Description
Ⓐ Mounting	
LB	Axial foot
FA	Rod side flange
FB	Head side flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion

Ⓑ Bore size (mm)	
125	ø125
140	ø140
160	ø160
180	ø180

Ⓒ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)

Ⓓ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓔ Stroke length (mm)

Bore size	Stroke length	Available stroke	Custom stroke length
ø125	**1 to 800**	**2000**	**In 1 mm increments**
ø140	**1 to 800**	**2000**	
ø160	**1 to 800**	**2000**	
ø180	**1 to 900**	**2000**	

Ⓕ Switch model No.

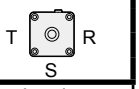
Axial lead wire	Radial lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	**T0V***	Reed	●	●	1-color display	2-wire
T5H*	**T5V***	Reed	●	●	Without indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color display	2-wire
T1H*	**T1V***	Proximity	●		1-color display	2-wire
T2H*	**T2V***	Proximity		●	1-color display	2-wire
T3H*	**T3V***	Proximity		●	1-color display	3-wire
T3PH*	**T3PV***	Proximity		●	1-color display (PNP output)	3-wire
T2WH*	**T2WV***	Proximity		●	2-color display	2-wire
T2YH*	**T2YV***	Proximity		●	2-color display	2-wire
T3WH*	**T3WV***	Proximity		●	2-color display	3-wire
T3YH*	**T3YV***	Proximity		●	2-color display	3-wire
T2JH*	**T2JV***	Proximity		●	1-color display off-delay	2-wire
T2YD*	**-**	Proximity		●	2-color display for AC magnetic field	2-wire
T2YDT*	**-**	Proximity		●	2-color display for AC magnetic field	2-wire

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

Ⓖ Switch quantity	
R	1 on rod side
H	1 on head side
D	2
T	3
4	4

Ⓗ Option

		Max. ambient temp.	Instantaneous max. temp
J	Bellows	100°C	200°C
L	Bellows	250°C	400°C
M	Piston rod material (stainless steel)		
Blank	Cushion needle position (standard)		
R	Cushion needle position R		
S	Cushion needle position S		
T	Cushion needle position T		
C2	With cushion section check valve		



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

Made-to-order product code	***6**
-S092	JSC3-LH Compatible mounting dimensions

⚠ Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product.
*2 : Refer to page 819 for the min. stroke length with switch.
*3 : When selecting TA or TB as mounting, the switch quantity is limited to "H" (1 on head side) for TA, and R (1 on rod side) for TB.
*4 : Refer to page 825 for the cushion needle position indication.
*5 : "I" and "Y" cannot be selected together.
*6 : Refer to page 829 for details.

[Example of model No.]

JSC4-LH-LB-125B-50-T0H-R-SI

Model: Brake cylinder Double acting/low hydraulic

Ⓐ Mounting : Axial foot
Ⓑ Bore size : ø125 mm
Ⓒ Port thread : Rc thread
Ⓓ Cushion : Both sides cushioned
Ⓔ Stroke length : 50 mm
Ⓕ Switch model No. : Reed switch T0H, lead wire 1 m
Ⓖ Switch quantity : 1 on rod side
Ⓗ Option : Cushion needle position S
Ⓘ Accessory : Rod eye

How to order brake unit

JSC4 - **125** - **BRAKE-UNIT**

Bore size (Item Ⓑ on page 824)

How to order T type switch

● Switch body + mounting bracket set

JSC4-LN - **T0H** - **125**

Switch model No. (Item Ⓕ on page 824)
Bore size (Item Ⓑ on page 824)

● Switch body only

SW - **T0H**

Switch model No. (Item Ⓕ on page 824)

● Mounting bracket set

JSC4-LN - **TS** - **125**

Bore size (Item Ⓑ on page 824)

How to order T2YD type switch

● Switch body + mounting bracket set

JSC4-LN - **T2YD** - **125**

Switch model No. (Item Ⓕ on page 824)
Bore size (Item Ⓑ on page 824)

● Switch body only

SW - **T2YD**

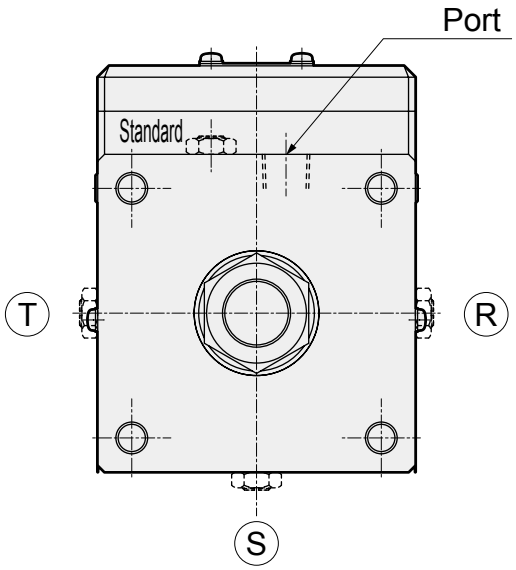
Switch model No. (Item Ⓕ on page 824)

● Mounting bracket set

JSC4-LN - **T** - **125**

Bore size (Item Ⓑ on page 824)

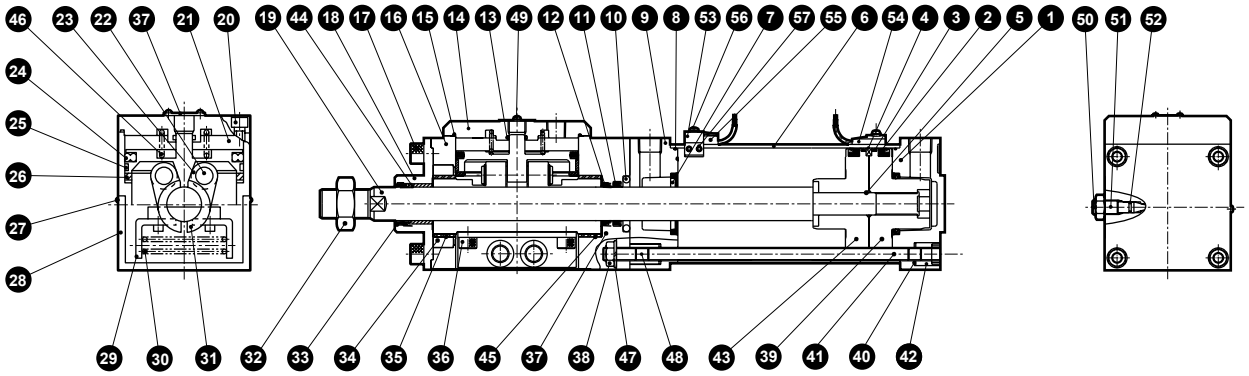
Cushion needle position (needle position from rod direction with the port on the top side)



Certified class 2 pressure vessel stroke length

Bore size	Stroke length
ø160	1948 or more
ø180	1526 or more

Internal structure and parts list (ø40 to ø100)



Brake section cannot be disassembled

No.	Part name	Material	Remarks
1	Head cover	Aluminum alloy die-casting	Paint
2	Piston packing	Nitrile rubber	
3	Wear ring	Polyacetal resin	
4	Magnet	Plastic	
5	Piston gasket	Nitrile rubber	
6	Cylinder tube	Aluminum alloy	Hard alumite
7	Cushion packing	Nitrile rubber, steel	
8	Cylinder gasket	Nitrile rubber	
9	Rod cover	Aluminum alloy die-casting	Paint
10	Metal seal	Nitrile rubber	
11	Rod packing	Nitrile rubber	
12	Dust wiper	Nitrile rubber	
13	Cap gasket A	Nitrile rubber	
14	Body cap	Cast iron	Nitriding
15	Cap gasket B	Nitrile rubber	
16	Brake body	Aluminum alloy casting	Alumite
17	Hexagon socket head cap screw	Alloy steel	Black finish
18	Rod metal	Steel	Manganese phosphate
19	Piston rod	Steel	Industrial chrome plating
20	Hexagon socket head cap screw	Alloy steel	Black finish
21	Brake piston	Cast iron	Manganese phosphate
22	Parallel pin	Steel	
23	Bearing		
24	Piston packing B	Nitrile rubber	
25	Wear ring	Polyacetal resin	
26	Cushion rubber	Urethane rubber	
27	Phillips pan head machine screw	Steel	Zinc chromate

Note: Never disassemble the brake section, as the powerful spring installed can be dangerous.

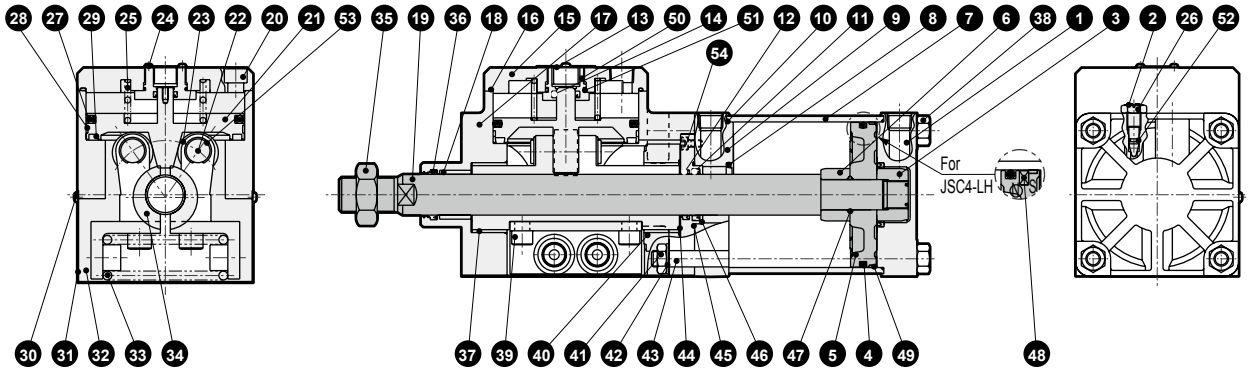
No.	Part name	Material	Remarks
28	Cover	Steel	Paint
29	Spring holder	Steel	Zinc chromate
30	Spring	Steel	
31	Brake shoe metal	Cast iron	Nickeling
32	Rod nut	Steel	Zinc chromate
33	Dust wiper	Nitrile rubber	
34	DU ring	Steel	Black finish
35	Bush	Oil impregnated bearing alloy	
36	Hexagon socket head cap screw	Alloy steel	Black finish
37	Dust cover	Aluminum alloy	Paint
38	Hexagon nut	Steel	Black finish
39	Piston H	Aluminum alloy die-casting	
40	Tie rod	Steel	Zinc chromate
41	Conical spring washer	Steel	Black finish
42	Round nut	Steel	Zinc chromate
43	Piston R	Aluminum alloy die-casting	
44	Bush B	Oil impregnated bearing alloy	
45	Thrust washer		
46	Spring	Steel	Paint
47	Toothed washer	Steel	Black finish
48	Hexagon socket set screw	Steel	Black finish
49	Phillips pan head machine screw/captive washer	Steel	Zinc chromate
50	Cushion needle	Copper alloy	Nickeling
51	Needle nut	Copper alloy	Nickeling
52	Needle gasket	Nitrile rubber	
With switch			
53	Switch mounting base	Aluminum alloy	
54	Switch holder	Aluminum alloy	
55	Cylinder switch		
56	Phillips pan head machine screw	Steel	Zinc chromate
57	Hexagon socket set screw	Alloy steel	Black finish

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	JSC3-H- 40K	2 3 7 8 10 11 12 33 52
ø50	JSC3-H- 50K	
ø63	JSC3-H- 63K	
ø80	JSC3-H- 80K	
ø100	JSC3-H-100K	

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

Internal structure and parts list (ø125 to ø180)



Brake section cannot be disassembled

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Head cover	Aluminum alloy casting	Chromate	28	Wear ring	Polyacetal resin	
2	Cushion needle	Copper alloy		29	Cushion rubber	Urethane rubber	
3	Cushion ring A	Steel	Zinc chromate	30	Cross-recessed pan head machine screw	Steel	Zinc chromate
4	Piston packing	Nitrile rubber		31	Cover	Steel	Paint
5	Piston	Aluminum alloy casting		32	Spring holder	Steel	Manganese phosphate
6	Cushion ring B	Steel	Zinc chromate	33	Spring	Steel	Black finish
7	Cylinder tube	Aluminum alloy	Hard alumite	34	Brake shoe metal	Cast iron	Nickeling
8	Cushion packing	Nitrile rubber/steel		35	Rod nut	Steel	Zinc chromate
9	Rod cover	Aluminum alloy casting	Chromate	36	Dust wiper	Nitrile rubber	
10	Cylinder gasket	Nitrile rubber		37	Bush A	Oiles drymet	
11	Rod packing	Nitrile rubber		38	Hexagon nut	Steel	Zinc chromate
12	Dust wiper	Nitrile rubber		39	Hexagon socket head cap screw	Alloy steel	Black finish
13	Dust cover	Aluminum alloy	Alumite	40	Ring	Steel	Black finish
14	Rod packing	Nitrile rubber		41	Hexagon nut	Steel	Zinc chromate
15	Body cap	Aluminum alloy casting	Black alumite	42	Toothed washer	Steel	Zinc chromate
16	Cap gasket	Nitrile rubber		43	Tie rod	Steel	Zinc chromate
17	Brake body	Aluminum cast iron	Alumite	44	Thrust washer	Steel	
18	Bush B	Oil impregnated bearing alloy		45	Metal gasket	Nitrile rubber	
19	Piston rod	Steel	Industrial chrome plating	46	Rod metal	Cast iron	Zinc chromate
20	Hexagon socket head cap screw	Alloy steel	Black finish	47	Piston gasket	Nitrile rubber	
21	Brake piston	Cast iron	Manganese phosphate	48	Magnet	Rubber	JSC4-LN only
22	Bearing pin	Steel		49	Wear ring	Polyacetal resin	
23	Bearing	-		50	Body cap	Cast iron	Manganese phosphate
24	Phillips pan head machine screw/captive washer	Steel	Zinc chromate	51	O-ring	Nitrile rubber	
25	Spring	Steel	Paint	52	Needle gasket	Nitrile rubber	
26	Needle nut	Steel	Zinc chromate	53	E type snap ring	Steel	Zinc chromate
27	Piston packing B	Nitrile rubber		54	Hexagon socket head cap screw	Steel	Black finish

Repair parts list

Bore size	Kit No.	Repair parts No.
ø125	JSC4-H-125K	4 8 10 11 12 36 45 49 52
ø140	JSC4-H-140K	
ø160	JSC4-H-160K	
ø180	JSC4-H-180K	

Dimensions

● ø40 to ø100

Same as JSC3 (double acting/single rod). Refer to pages 784 to 793.

● ø125 to ø180

Same as JSC4-N (double acting/no-lubrication). Refer to pages 796 to 803.

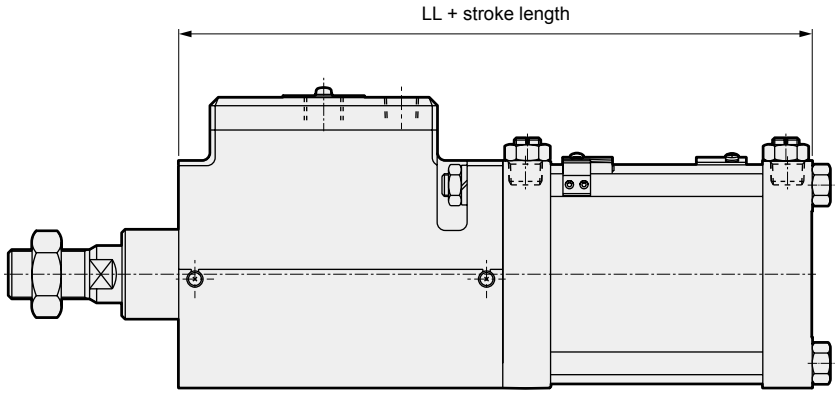
Introduction of custom order products

■ JSC3-LH compatible mounting dimensions

How to order

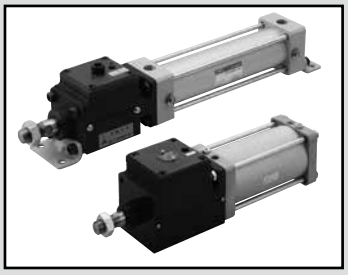
When making an order, add "-S092" at the end of the model No.

Dimensions



Note: LL dimensions on pages 796 to 803 are as follows.

Code / Bore size (mm)	Dimensions table LL
ø125	311
ø140	338
ø160	367
ø180	388

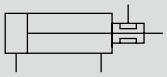


Brake cylinder Double acting/heat resistance

JSC3-T/JSC4-T Series

● Bore size:
JSC3: ø40/ø50/ø63/ø80/ø100/ø125
JSC4: ø140/ø160/ø180

JIS symbol



RoHS CAD

Specifications

Item			JSC3-T					JSC3-ST					JSC4-T			
Bore size		mm	ø40	ø50	ø63	ø80	ø100	ø40	ø50	ø63	ø80	ø100	ø125	ø140	ø160	ø180
Actuation			Double acting/heat resistant					Double acting/low pressure release/heat resistance					Double acting/heat resistant			
Working fluid			Compressed air													
Max. working pressure		MPa	1.0 (≈150 psi, 10 bar)													
Min. working pressure	Brake section	MPa	0.3 (≈44 psi, 3 bar)					0.25 (≈36 psi, 2.5 bar)					0.3 (≈44 psi, 3 bar)			
	Cylinder	MPa	0.1 (≈15 psi, 1 bar)					0.1 (≈15 psi, 1 bar)					0.05 (≈7.3 psi, 0.5 bar)			
Proof pressure		MPa	1.6 (≈230 psi, 16 bar)													
Ambient temperature		°C	5 (41°F) to 120 (248°F) (*2)													
Port size	Brake section		Rc1/8		Rc1/4		Rc3/8	Rc1/8		Rc1/4		Rc3/8	Rc1/2			
	Cylinder		Rc1/4	Rc3/8		Rc1/2		Rc1/4	Rc3/8		Rc1/2		Rc1/2	Rc3/4		
Stroke tolerance		mm	$^{+0.9}_{0}$(to 360), $^{+1.4}_{0}$(to 1000)					$^{+0.9}_{0}$(to 360), $^{+1.4}_{0}$(to 1000)					$^{+1.0}_{0}$(to 300), $^{+1.4}_{0}$(to 1000), $^{+1.8}_{0}$(to 2000)			
Working piston speed		mm/s	50 to 1000 (Operate within the allowable absorbed energy.)													
Cushion			Air cushion													
Effective air cushion length		mm	14.6	16.6		20.6	23.6	14.6	16.6		20.6	23.6	21.6			
Lubrication (*1)			Not available													
Holding force		N	980	1569	2451	3922	6178	784	1255	1961	3138	4941	9600	12000	15800	20000
Allowable absorbed energy	Cushioned	J	4.29	8.37	15.8	27.9	49.8	4.29	8.37	15.8	27.9	49.8	63.6	91.5	116	152
	Without cushion	J	0.067	0.079	0.079	0.201	0.301	0.067	0.079	0.079	0.201	0.301	0.371	0.386	0.386	0.958
			Note: Without any cushion, this product cannot absorb large energy generated by an external load. We recommend using an external shock absorber.													

*1 : Periodically apply additional heat-resistant grease.
*2 : The ambient temperature for the following products is 5 to 100°C.

Bore size	Stroke length
ø160	1948 or more
ø180	1526 or more

Custom order of the above is available when using in applications with a temperature range of 5 to 120°C. Contact CKD.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Available stroke length (mm)	Min. stroke length (mm)
ø 40	50, 75, 100, 150, 200, 250, 300, 350, 400, 450, 500	600	1600	1
ø 50			2000	
ø 63			2500	
ø 80		700		
ø100		800	*2	
ø125	50, 75, 100, 150, 200, 250, 300		2000	
ø140				
ø160				
ø180		900		

*1 : If max. stroke length is exceeded, product specifications may not be met, depending on the conditions. Refer to Ending Page 69.
The custom stroke length is available in 1 mm increments.
*2 : The max. stroke length available for ø63 to ø100 bore size models with bellows is 2000 mm.

Cylinder weight

● JSC3(ø40 to ø100)

[Unit: kg]

Item/mounting / Bore size (mm)	Product weight when stroke length (S) = 0 mm						Additional weight per S = 100 mm
	Basic (00)	Foot (LB)	Flange (FA, FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TC)	
ø40	2.48	2.66	2.91	2.83	2.83	2.86	0.39
ø50	3.47	3.67	3.97	3.87	3.87	3.97	0.46
ø63	5.09	5.49	6.19	5.79	5.79	5.89	0.50
ø80	8.15	8.85	9.95	9.65	9.65	9.45	0.90
ø100	14.70	15.70	17.40	16.90	16.90	17.30	1.12

(Example) Product weight of JSC3-T-LB-50B-200

Product weight for stroke length 0 mm ..... 3.67 kg
Additional weight for stroke length 200 mm ..... $0.46 \times \frac{200}{100}$ = 0.92 kg
Product weight ..... 3.67 kg + 0.92 kg = 4.59 kg

● JSC4(ø125 to ø180)

(Unit: kg)

Item/mounting / Bore size (mm)	Product weight when stroke length (S) = 0 mm					Additional weight per S = 100 mm
	Axial foot (LB)	Flange (FA/FB)	Eye bracket (CA)	Clevis bracket (CB)	Trunnion (TA/TB/TC)	
ø125	25.72	27.52	27.22	27.32	27.62	1.54
ø140	32.95	36.35	34.75	34.95	34.15	1.78
ø160	42.85	46.65	44.75	45.05	46.15	2.22
ø180	61.55	69.05	64.45	64.95	65.15	2.96

(Example) Product weight of JSC4-T-LB-125B-300

● Product weight when S = 0 mm ..... 25.72 kg
● Additional weight when S = 300 mm $1.54 \times \frac{300}{100}$ = 4.62 kg
● Product weight ..... 25.72 + 4.62 = 30.34 kg

Theoretical thrust table

(Unit: N)

Bore size (mm)		Operating direction	Working pressure MPa										
			0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
JSC3	ø40	Push	1.26×10^{2}	1.88×10^{2}	2.51×10^{2}	3.77×10^{2}	5.03×10^{2}	6.28×10^{2}	7.54×10^{2}	8.80×10^{2}	1.01×10^{3}	1.13×10^{3}	1.26×10^{3}
		Pull	1.06×10^{2}	1.58×10^{2}	2.11×10^{2}	3.17×10^{2}	4.22×10^{2}	5.28×10^{2}	6.33×10^{2}	7.39×10^{2}	8.44×10^{2}	9.50×10^{2}	1.06×10^{3}
	ø50	Push	1.96×10^{2}	2.95×10^{2}	3.93×10^{2}	5.89×10^{2}	7.85×10^{2}	9.82×10^{2}	1.18×10^{3}	1.37×10^{3}	1.57×10^{3}	1.77×10^{3}	1.96×10^{3}
		Pull	1.65×10^{2}	2.47×10^{2}	3.30×10^{2}	4.95×10^{2}	6.60×10^{2}	8.25×10^{2}	9.90×10^{2}	1.15×10^{3}	1.32×10^{3}	1.48×10^{3}	1.65×10^{3}
	ø63	Push	3.12×10^{2}	4.68×10^{2}	6.23×10^{2}	9.35×10^{2}	1.25×10^{3}	1.56×10^{3}	1.87×10^{3}	2.18×10^{3}	2.49×10^{3}	2.81×10^{3}	3.12×10^{3}
		Pull	2.80×10^{2}	4.20×10^{2}	5.61×10^{2}	8.41×10^{2}	1.12×10^{3}	1.40×10^{3}	1.68×10^{3}	1.96×10^{3}	2.24×10^{3}	2.52×10^{3}	2.80×10^{3}
	ø80	Push	5.03×10^{2}	7.54×10^{2}	1.01×10^{3}	1.51×10^{3}	2.01×10^{3}	2.51×10^{3}	3.02×10^{3}	3.52×10^{3}	4.02×10^{3}	4.52×10^{3}	5.03×10^{3}
		Pull	4.54×10^{2}	6.80×10^{2}	9.07×10^{2}	1.36×10^{3}	1.81×10^{3}	2.27×10^{3}	2.72×10^{3}	3.17×10^{3}	3.63×10^{3}	4.08×10^{3}	4.54×10^{3}
	ø100	Push	7.85×10^{2}	1.18×10^{3}	1.57×10^{3}	2.36×10^{3}	3.14×10^{3}	3.93×10^{3}	4.71×10^{3}	5.50×10^{3}	6.28×10^{3}	7.07×10^{3}	7.85×10^{3}
		Pull	7.15×10^{2}	1.07×10^{3}	1.43×10^{3}	2.14×10^{3}	2.86×10^{3}	3.57×10^{3}	4.29×10^{3}	5.00×10^{3}	5.72×10^{3}	6.43×10^{3}	7.15×10^{3}
JSC4	ø125	Push	1.23×10^{3}	1.84×10^{3}	2.45×10^{3}	3.68×10^{3}	4.91×10^{3}	6.14×10^{3}	7.36×10^{3}	8.59×10^{3}	9.82×10^{3}	1.10×10^{4}	1.23×10^{4}
		Pull	1.13×10^{3}	1.70×10^{3}	2.26×10^{3}	3.39×10^{3}	4.52×10^{3}	5.65×10^{3}	6.79×10^{3}	7.92×10^{3}	9.05×10^{3}	1.02×10^{4}	1.13×10^{4}
	ø140	Push	1.54×10^{3}	2.31×10^{3}	3.08×10^{3}	4.62×10^{3}	6.16×10^{3}	7.70×10^{3}	9.24×10^{3}	1.08×10^{4}	1.23×10^{4}	1.39×10^{4}	1.54×10^{4}
		Pull	1.44×10^{3}	2.16×10^{3}	2.89×10^{3}	4.33×10^{3}	5.77×10^{3}	7.22×10^{3}	8.66×10^{3}	1.01×10^{4}	1.15×10^{4}	1.30×10^{4}	1.44×10^{4}
	ø160	Push	2.01×10^{3}	3.02×10^{3}	4.02×10^{3}	6.03×10^{3}	8.04×10^{3}	1.01×10^{4}	1.21×10^{4}	1.41×10^{4}	1.61×10^{4}	1.81×10^{4}	2.01×10^{4}
		Pull	1.88×10^{3}	2.83×10^{3}	3.77×10^{3}	5.65×10^{3}	7.54×10^{3}	9.42×10^{3}	1.13×10^{4}	1.32×10^{4}	1.51×10^{4}	1.70×10^{4}	1.88×10^{4}
	ø180	Push	2.54×10^{3}	3.82×10^{3}	5.09×10^{3}	7.03×10^{3}	1.02×10^{3}	1.27×10^{4}	1.53×10^{4}	1.78×10^{4}	2.04×10^{4}	2.29×10^{4}	2.54×10^{4}
		Pull	2.39×10^{3}	$3.58+10^{3}$	4.77×10^{3}	7.16×10^{3}	9.54×10^{3}	1.19×10^{4}	1.43×10^{4}	1.67×10^{4}	1.91×10^{4}	2.15×10^{4}	2.39×10^{4}

How to order (ø40 to ø100)

Without switch

JSC3 - ◯ T - LB - 40 ◯ B - 50 - S I

- Model No.
- Ⓑ Mounting *1
- Ⓐ Brake release pressure
- Ⓒ Bore size
- Ⓓ Port thread
- Ⓔ Cushion
- Ⓕ Stroke length *2 *3
- Ⓖ Option *4
- Ⓗ Accessory *6

⚠ Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product. (Head side special flange is attached separately)

*2 : If the stroke exceeds the max. stroke length, refer to Ending Page 69.

*3 : The max. stroke length available for ø63 to ø100 bore size models with bellows is 2000 mm.

*4 : For S, T, and G position indications, check the respective dimensions.

*5 : Refer to Ending Page 85 for custom specifications of rod end form.

*6 : "I" and "Y" cannot be selected together.

[Example of model No.]

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

Model: Brake cylinder double acting/heat resistance

Ⓐ Brake release pressure	: Standard 0.3 MPa
Ⓑ Mounting	: Axial foot
Ⓒ Bore size	: ø40 mm
Ⓓ Port thread	: Rc thread
Ⓔ Cushion	: Both sides cushioned
Ⓕ Stroke length	: 50 mm
Ⓖ Option	: Cushion needle position S
Ⓗ Accessory	: Rod eye

Code	Description
Ⓐ Brake release pressure	
Blank	Standard (0.3 MPa)
S	Low pressure release (0.25 MPa)
Ⓑ Mounting	
00	Basic
LB	Axial foot
FA	Rod side flange
FB	Head side flange
FC	Head side special flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion
Ⓒ Bore size (mm)	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
Ⓓ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)
Ⓔ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓕ Stroke length (mm)

Bore size	Stroke length	Available stroke length	Custom stroke length
ø40	**1 to 600**	**1600**	**In 1 mm increments**
ø50	**1 to 600**	**2000**	
ø63	**1 to 600**	**2500**	
ø80	**1 to 700**	**2500**	
ø100	**1 to 800**	**2500**	

Ⓖ Option

		Max. ambient temperature	instantaneous max. temp
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		

Ⓗ 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 No. 2 bracket (2 pcs./set)

How to order mounting bracket (ø40 to ø100)

Bore size (mm) / Mounting bracket	ø40	ø50	ø63	ø80	ø100
Foot (LB) *1	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 bracket (CA)	S1-CA-40	S1-CA-50	S1-CA-63	S1-CA-80	S1-CA-100
Clevis bracket (CB) *2	S1-CB-40	S1-CB-50	S1-CB-63	S1-CB-80	S1-CB-100

*1: The foot mounting bracket is provided as 2 pcs./set.

*2: A pin and a snap ring are attached.

*3: All mounting brackets have mounting bolts attached.

How to order (ø125 to ø180)

JSC4-T - LB - 125 ( ) B - 50 - S ( )

Ⓐ Mounting *1

Ⓑ Bore size

Ⓒ Port thread

Ⓓ Cushion

Ⓔ Stroke length

Ⓕ Option

Ⓖ Accessory *4

Code	Description
Ⓐ Mounting	
LB	Axial foot
FA	Rod side flange
FB	Head side flange
CA	Eye bracket
CB	Clevis bracket (pin and snap ring attached)
TC	Intermediate trunnion
TA	Rod side trunnion
TB	Head side trunnion
Ⓑ Bore size (mm)	
125	ø125
140	ø140
160	ø160
180	ø180
Ⓒ Port thread	
Blank	Rc thread
N	NPT thread (made-to-order product)
G	G thread (made-to-order product)
Ⓓ Cushion	
B	Both sides cushioned
R	Rod side cushioned
H	Head side cushioned
N	Without cushion

Ⓔ Stroke length (mm)

Bore size	Stroke length	Available stroke	Custom stroke
ø125	**1 to 800**	**2000**	**In 1 mm increments**
ø140	**1 to 800**	**2000**	
ø160	**1 to 800**	**2000**	
ø180	**1 to 900**	**2000**	

Ⓕ Option

		Max. ambient temp.	instantaneous max. temp
L	Bellows	250°C	400°C
M	Piston rod material (stainless steel)		
*3 **Blank**	Cushion needle position (standard)	Standard	
R	Cushion needle position R	T R	
S	Cushion needle position S	S	
T	Cushion needle position T		
C2	With cushion section check valve		

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

⚠ Precautions for model No. selection

*1 : Mounting bracket will be shipped assembled with the product.
*2 : When selecting TA or TB as mounting, the switch quantity is limited to "H" (1 on head side) for TA, and "R" (1 on rod side) for TB.
*3 : Check the figures below for the cushion needle position indication.
*4 : "I" and "Y" cannot be selected together.

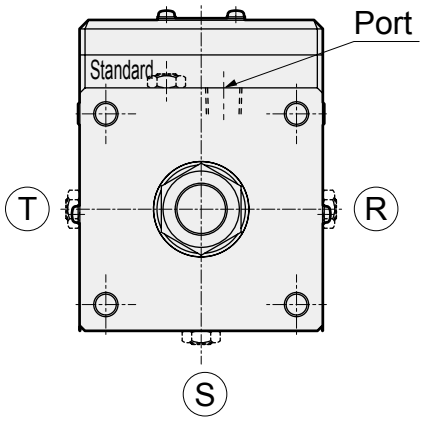
[Example of model No.]

JSC4-T-LB-125B-50-SI

Model: Brake cylinder double acting/heat resistance

Ⓐ Mounting : Axial foot
Ⓑ Bore size : ø125 mm
Ⓒ Port thread : Rc thread
Ⓓ Cushion : Both sides cushioned
Ⓔ Stroke length : 50 mm
Ⓕ Option : Cushion needle position S
Ⓖ Accessory : Rod eye

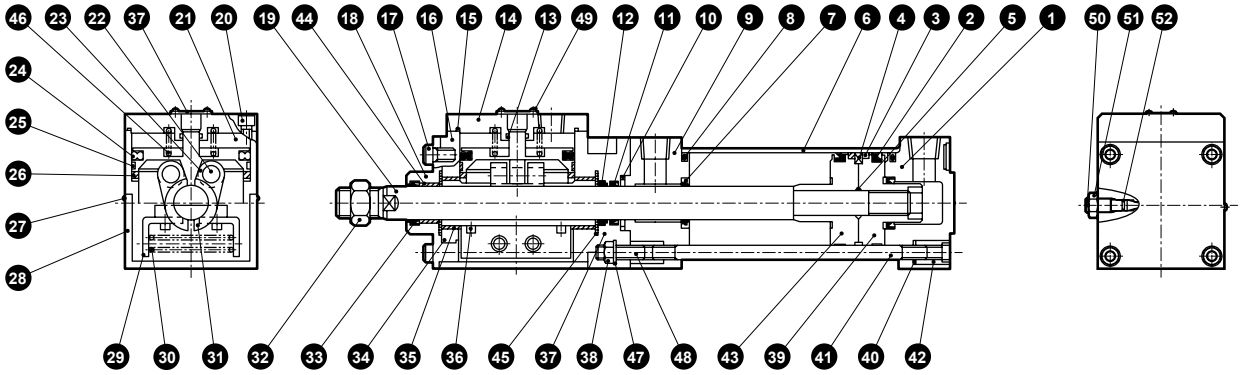
Cushion needle position (needle position from rod direction with the port on the top side)



Certified class 2 pressure vessel stroke length

Bore size	Stroke length
ø160	1948 or more
ø180	1526 or more

Internal structure and parts list (ø40 to ø100)



Brake section cannot be disassembled

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Head cover	Aluminum alloy die-casting	Paint	28	Cover	Steel	Paint
2	Piston packing	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	Fluoro rubber, steel		34	DU ring	Steel	Black finish
8	Cylinder gasket	Fluoro rubber		35	Bush	Oil impregnated bearing alloy	
9	Rod cover	Aluminum alloy die-casting	Paint	36	Hexagon socket head cap screw	Alloy steel	Black finish
10	Metal seal	Fluoro rubber		37	Dust cover	Aluminum alloy	Paint
11	Rod packing	Fluoro rubber		38	Hexagon nut	Steel	Black finish
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	Body cap	Cast iron	Nitriding	41	Conical spring washer	Steel	Black finish
15	Cap gasket B	Fluoro rubber		42	Round nut	Steel	Zinc chromate
16	Brake body	Aluminum alloy casting	Alumite	43	Piston R	Aluminum alloy die-casting	
17	Hexagon socket head cap screw	Alloy steel	Black finish	44	Bush B	Oil impregnated bearing alloy	
18	Rod metal	Steel	Manganese phosphate	45	Thrust washer		
19	Piston rod	Steel	Industrial chrome plating	46	Spring	Steel	Paint
20	Hexagon socket head cap screw	Alloy steel	Black finish	47	Toothed washer	Steel	Black finish
21	Brake piston	Cast iron	Manganese phosphate	48	Hexagon socket set screw	Steel	Black finish
22	Parallel pin	Steel		49	Phillips pan head machine screw/captive washer	Steel	Zinc chromate
23	Bearing			50	Cushion needle	Copper alloy	Nickeling
24	Piston packing B	Fluoro rubber		51	Needle nut	Copper alloy	Nickeling
25	Wear ring	Special resin		52	Needle gasket	Fluoro rubber	
26	Cushion rubber	Fluorosilicone rubber					
27	Phillips pan head machine screw	Steel	Zinc chromate				

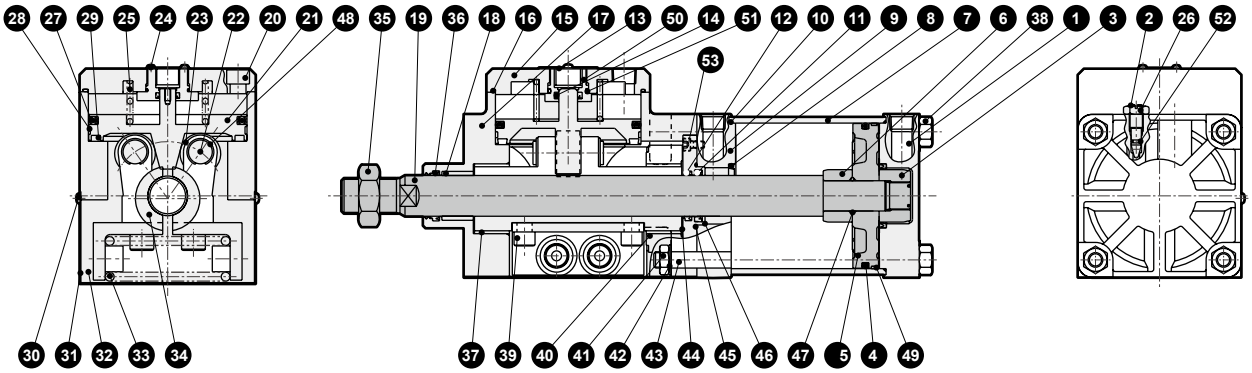
Note: Never disassemble the brake section, as the powerful spring installed can be dangerous.

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø40	JSC3-T-40K	2 3 7 8 10 11 12 33 52
ø50	JSC3-T-50K	
ø63	JSC3-T-63K	
ø80	JSC3-T-80K	
ø100	JSC3-T-100K	

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

Internal structure and parts list (ø125 to ø180)



Brake section cannot be disassembled

No.	Part name	Material	Remarks
1	Head cover	Aluminum alloy casting	Chromate
2	Cushion needle	Copper alloy	
3	Cushion ring A	Steel	Zinc chromate
4	Piston packing	Fluoro rubber	
5	Piston	Aluminum alloy casting	
6	Cushion ring B	Steel	Zinc chromate
7	Cylinder tube	Aluminum alloy	Hard alumite
8	Cushion packing	Fluoro rubber/steel	
9	Rod cover	Aluminum alloy casting	Chromate
10	Cylinder gasket	Fluoro rubber	
11	Rod packing	Fluoro rubber	
12	Dust wiper	Fluoro rubber	
13	Dust cover	Aluminum alloy	Alumite
14	Rod packing	Fluoro rubber	
15	Body cap	Aluminum alloy casting	Black alumite
16	Cap gasket	Fluoro rubber	
17	Brake body	Aluminum cast iron	Alumite
18	Bush B	Oil impregnated bearing alloy	
19	Piston rod	Steel	Industrial chrome plating
20	Hexagon socket head cap screw	Alloy steel	Black finish
21	Brake piston	Cast iron	Manganese phosphate
22	Bearing pin	Steel	
23	Bearing	-	
24	Phillips pan head machine screw/captive washer	Steel	Zinc chromate
25	Spring	Steel	Paint
26	Needle nut	Steel	Zinc chromate

No.	Part name	Material	Remarks
27	Piston packing B	Fluoro rubber	
28	Wear ring	Acetal resin	
29	Cushion rubber	Silicone rubber	
30	Cross-recessed pan head machine screw	Steel	Zinc chromate
31	Cover	Steel	Paint
32	Spring holder	Steel	Manganese phosphate
33	Spring	Steel	Black finish
34	Brake shoe metal	Cast iron	Nickeling
35	Rod nut	Steel	Zinc chromate
36	Dust wiper	Fluoro rubber	
37	Bush A	Oiles drymet	
38	Hexagon nut	Steel	Zinc chromate
39	Hexagon socket head cap screw	Alloy steel	Black finish
40	Ring	Steel	Black finish
41	Hexagon nut	Steel	Zinc chromate
42	Toothed washer	Steel	Zinc chromate
43	Tie rod	Steel	Zinc chromate
44	Thrust washer	Steel	
45	Metal gasket	Fluoro rubber	
46	Rod metal	Cast iron	Zinc chromate
47	Piston gasket	Fluoro rubber	
48	E type snap ring	Steel	Zinc chromate
49	Wear ring	Fiber-reinforced phenolic resin	
50	Body cap	Cast iron	Manganese phosphate
51	O-ring	Fluoro rubber	
52	Needle gasket	Fluoro rubber	
53	Hexagon socket head cap screw	Steel	Black finish

Repair parts list

Bore size	Kit No.	Repair parts No.
ø125	JSC4-T-125K	4 8 10 11 12 36 45 49 52
ø140	JSC4-T-140K	
ø160	JSC4-T-160K	
ø180	JSC4-T-180K	

Dimensions

· Dimensions of bore sizes ø40 to ø100 are the same as those of JSC3 (double acting/single rod). Refer to pages 784 to 793.
· Dimensions of bore sizes ø125 to ø180 are the same as those of JSC4-N (double acting/no-lubrication). Refer to pages 796 to 803.