



Table for standard stroke

Tube I.D.	Stroke (mm)	Long stroke (mm)	Max. stroke (mm)
ø20	25,50,75,100,125,150,200	201~350	1200
ø25	25,50,75,100,125,150,200,250,300	301~400	
ø32		301~450	
ø40		301~800	
ø50		301~1200	500
ø63	301~500		
ø80	301~500		
ø100	301~500		

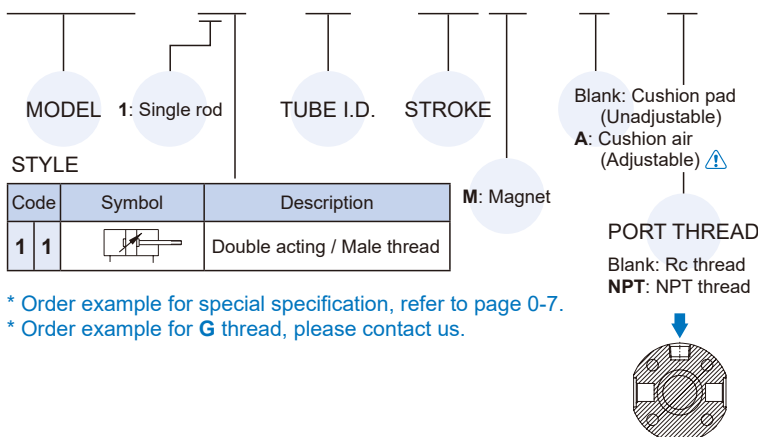
* Intermediate stroke are available, please contact us.

Specification

Model	MCCG								
Acting type	Double acting								
Tube I.D. (mm)	20	25	32	40	50	63	80	100	
Port size	Rc1/8			Rc1/4			Rc3/8	Rc1/2	
Medium	Air								
Max. operating perssure	1 MPa								
Min. operating perssure	0.05 MPa								
Proof pressure	1.5 MPa								
Lubrication	Not required								
Ambient temperature	-5~+60°C (No freezing)								
Available speed range	50~500 mm/sec								
Max. allowable kinetic energy (J)	Cushion pad	0.07	0.10	0.17	0.3	0.5	0.85	1.48	2.48
	Cushion air	0.09	0.14	0.23	0.45	0.85	1.23	2.95	4.18
Sensor switch	RCM (Please refer to page 8-16)								
Sensor switch band	BMG20	BMG25	BMG32	BMG40	BMG50	BMG63	BMG80	BMG100	

Order example

MCCG - 11 - 40 - 100M - A - □

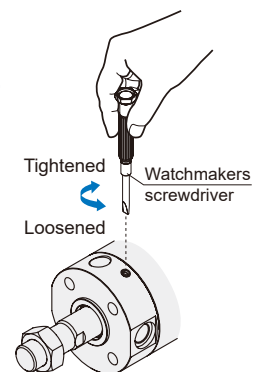


* Order example for special specification, refer to page 0-7.
* Order example for G thread, please contact us.

Caution

For (A) Cushion air (Adjustable)

- To adjust a cushion needle, please slowly turn the needle valve from the fully closed status to the required status which needs to be within 2.5 turns.
- If the needle valve loosen excessively, the buffer doesn't take effect and the lifetime of cylinder would be shortened.



■ Mounting accessories

Accessories						
Code	LB (Purchase 2 pcs)	CB	FAC	FBC	SDB-R ^{*1} (with TA)	SDB-H ^{*1} (with TB)
Mounting Tube I.D.						
ø20	LB-C1-20	CB-C1-20	FAC-C1-20		SDB-C1-20	
ø25	LB-C1-25	CB-C1-25	FAC-C1-25		SDB-C1-25	
ø32	LB-C1-32	CB-C1-32	FAC-C1-32		SDB-C1-32	
ø40	LB-C1-40	CB-C1-40	FAC-C1-40		SDB-C1-40	
ø50	LB-C1-50	CB-C1-50	FAC-C1-50		SDB-C1-50	
ø63	LB-C1-63	CB-C1-63	FAC-C1-63		SDB-C1-63	
ø80	LB-C1-80	CB-C1-80	FAC-C1-80		-	
ø100	LB-C1-100	CB-C1-100	FAC-C1-100		-	

Accessories					Connector	
Code	CB+SDB+PIN ^{*1} (with Pin)	CB+SDB+PIN ^{*1,*2} (with Pin)	TA (Front trunnion)	TB (Rear trunnion)	Y	I
Mounting Tube I.D.						
ø20	CB+SDB+PIN-C1-20	-	TA-C1-20		Y-C1-20	I-C1-20
ø25	CB+SDB+PIN-C1-25	-	TA-C1-25		Y-C1-25	I-C1-25
ø32	CB+SDB+PIN-C1-32	-	TA-C1-32			
ø40	CB+SDB+PIN-C1-40	-	TA-C1-40		Y-C1-40	I-C1-40
ø50	CB+SDB+PIN-C1-50	-	TA-C1-50		Y-C1-50	I-C1-50
ø63	CB+SDB+PIN-C1-63	-	TA-C1-63			
ø80	-	CB+SDB+PIN-C1-80	-		Y-C1-80	I-C1-80
ø100	-	CB+SDB+PIN-C1-100	-		Y-C1-100	I-C1-100

1. Mounting procedures please refer to page 3-90.
2. SDB accessories (Order example SDB-C1-80 / 100).

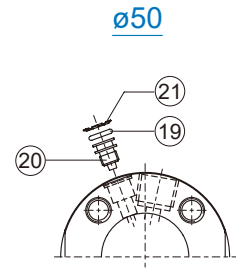
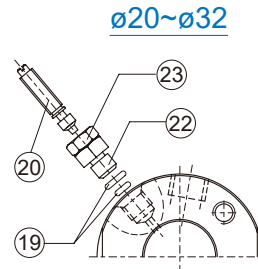
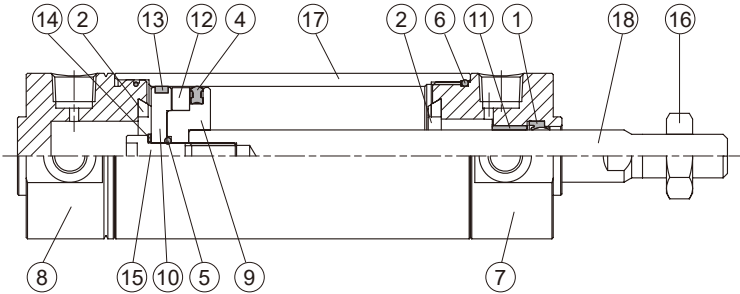
■ Pin

Rod nut	
Code	NUT
Mounting Tube I.D.	
ø20	NUT-M8x1.25x5Hx13B
ø25	NUT-M10x1.25x6Hx17B
ø32	
ø40	NUT-M14x1.5x8Hx22B
ø50	NUT-M18x1.5x11Hx26B
ø63	
ø80	NUT-M22x1.5x13Hx32B
ø100	NUT-M26x1.5x14Hx35B

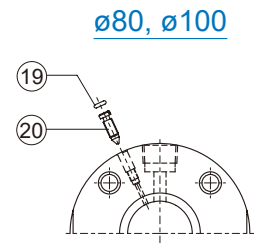
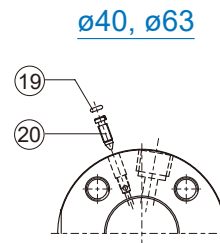
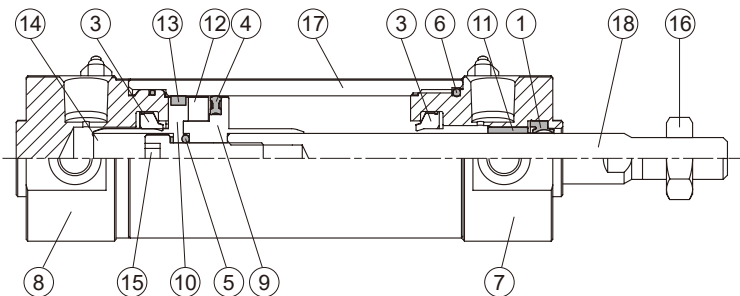
Applicable	Y&I connector	CB accessories
Code	PIN-Y-P (With snap ring)	PIN-CB-P (With snap ring)
Fig Tube I.D.		
ø20	PIN-C1-20-2-P	PIN-C1-20-1-P
ø25	PIN-C1-25-2-P	PIN-C1-25-1-P
ø32		PIN-C1-32-1-P
ø40	PIN-C1-40-2-P	PIN-C1-40-1-P
ø50	PIN-C1-50-2-P	PIN-C1-50-1-P
ø63		PIN-C1-63-1-P
ø80	PIN-C1-80-1-P	PIN-C1-80-1-P
ø100	PIN-C1-100-1-P	PIN-C1-100-1-P

ROUND CYLINDER

Cushion pad Unadjustable



Cushion air Adjustable



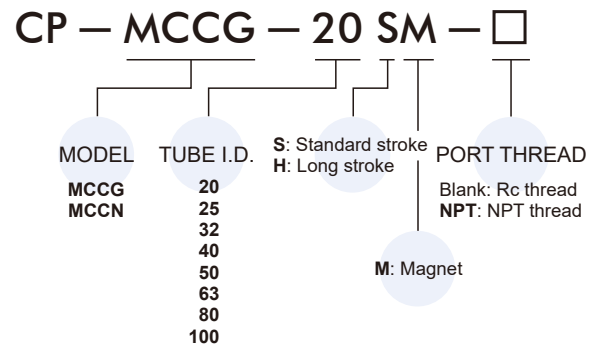
Material

A: Component parts, B: Repair kits

No.	Cushion		Part name	Material	Q'y	A	B	Note
	Pad	Air				(inclusion)		
1	●	●	Rod packing	NBR	1	●	●	
2	●	●	Cushion pad	NBR	2	●	●	
3	●	●	Cushion pad	NBR	2	●	●	
4	●	●	Piston packing	NBR	1	●	●	
5	●	●	O-ring	NBR	1	●	●	
6	●	●	O-ring	NBR	1 or 2	●	●	ø50~100 (Q'y=2)
7	●	●	Rod cover	Aluminum alloy	1	●		
8	●	●	Head cover	Aluminum alloy	1	●		
9	●	●	Piston-R	Aluminum alloy	1	●		
10	●	●	Piston-H	Aluminum alloy	1	●		
11	●	●	Bush	Bearing alloy	1	●		
12	●	●	Magnet ring	Magnet material	1	◎		◎ Option
			Spacer ring	Aluminum alloy	1	●		for ø20~ø32
13	●	●	Wear ring	Resin	1	●		
14	●	●	Washer	Carbon steel	1	●		ø20 without
15	●	●	Piston bolt	Carbon steel	1	●		
16	●	●	Nut	Carbon steel	1	●		
17	●	●	Cylinder tube	Aluminum alloy	1			
18	●	●	Piston rod	Carbon steel	1			ø20~25 stainless steel
19	●	●	O-ring	NBR	4 or 2			ø40~80 (Q'y=2)
20	●	●	Needle valve	Stainless steel	2			*1
21	●	●	Needle valve packing	Carbon steel	2			only for ø50
22	●	●	Needle valve fixed nut	Stainless steel	2			only for ø20~32
23	●	●	Hex nut	Carbon steel	2			only for ø20~32

*1. ø50: Copper, ø63~100: Carbon steel

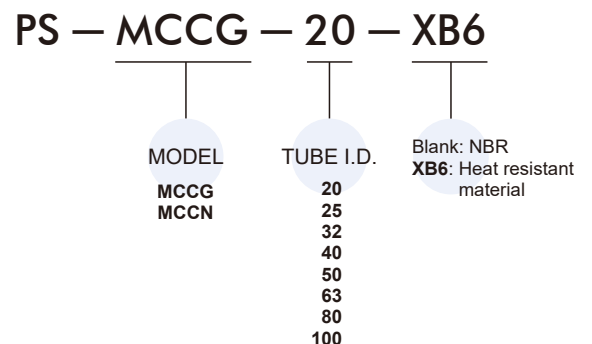
Order example of component parts

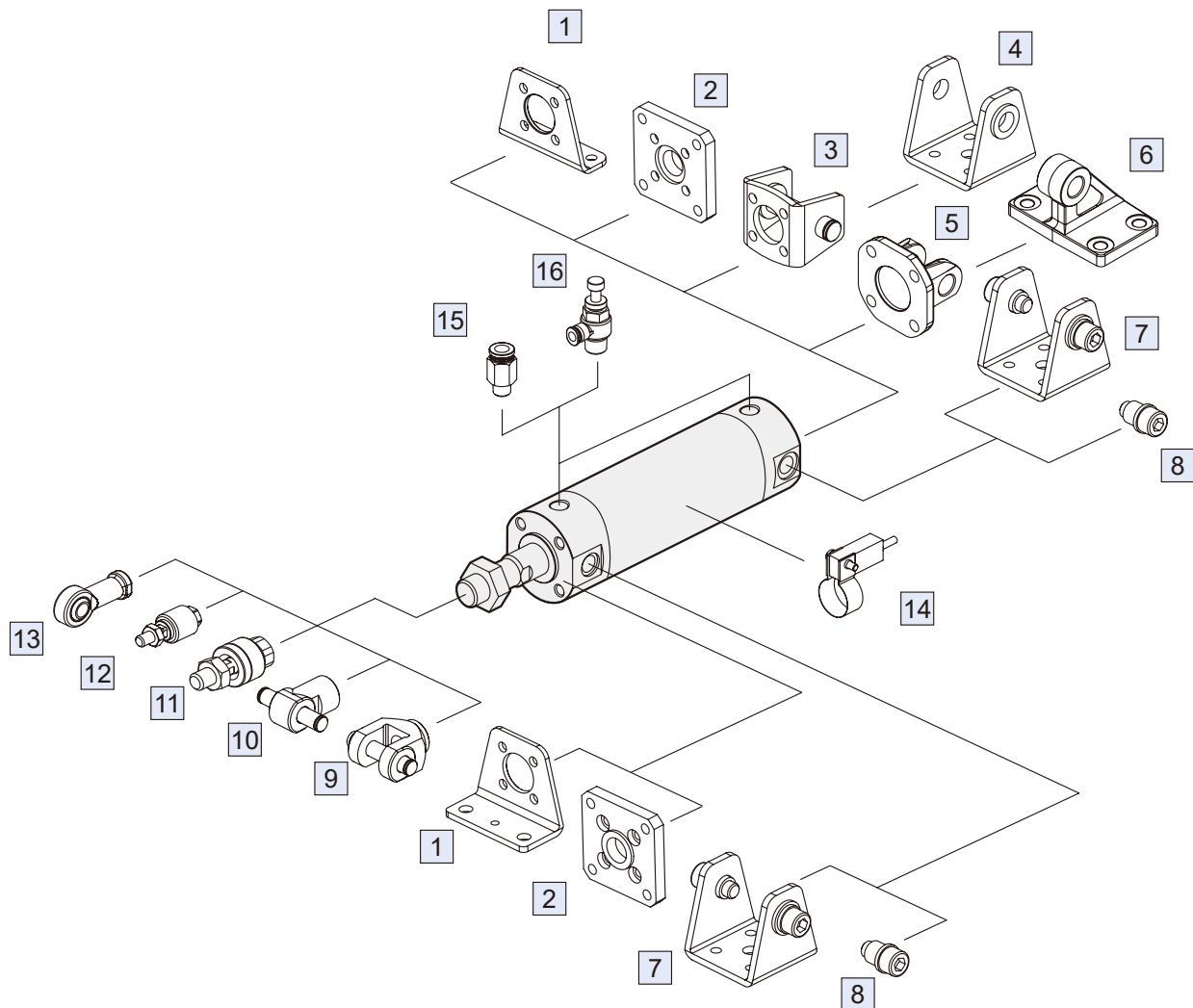


* MCCN only be used for NPT.

* Order example for G thread, please consult us.

Order example of repair kits





No.	Accessories	Material	Page
1	Mounting accessories LB	Carbon steel	3-87
2	Mounting accessories FAC/FBC	Carbon steel	3-87
3	Mounting accessories CB+PIN *1	Carbon steel	3-88, 91
4	Mounting accessories SDB *1	Carbon steel	3-89
5	Mounting accessories CB+PIN *2	Cast iron / *3	3-88, 91
6	Mounting accessories SDB *2	Cast iron	3-89
7	Mounting accessories SDB-R/H	Carbon steel	3-89
8	Mounting accessories TA/TB	Carbon steel	3-90

No.	Accessories	Material	Page
9	Accessories Y+PIN	Carbon steel	3-91
10	Accessories I+PIN	Carbon steel	3-91
11	Floating joint MFC	Carbon steel	8-2
12	Floating joint MFCS	Carbon steel	8-5
13	Female rod ends PHS	Carbon steel	8-6
14	Sensor switch RCM+BMG**	—	8-16
15	Fitting PC (PISCO)	—	8-3 (Vol.1)
16	Speed controller JSC (PISCO)	—	8-15 (Vol.1)

*1. For tube I.D. $\varnothing 20\sim 63$.

*2. For tube I.D. $\varnothing 80, 100$.

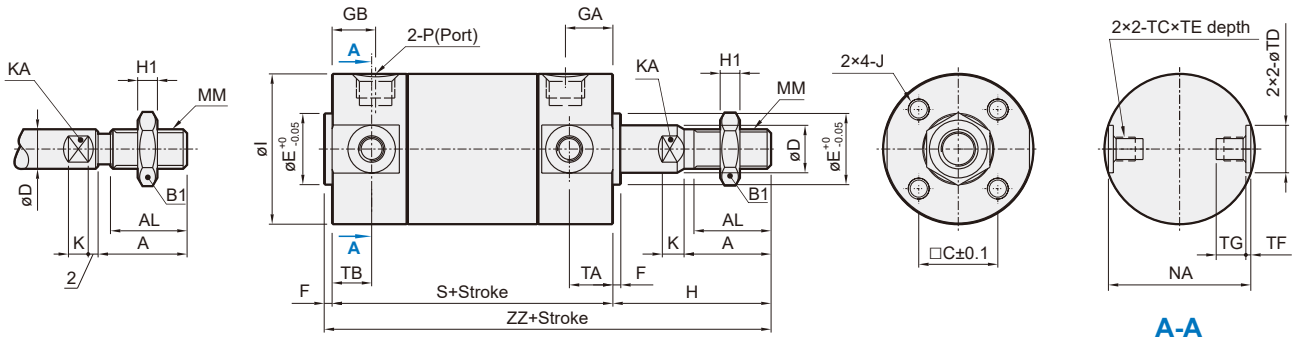
*3. PIN material is carbon steel.

ROUND CYLINDER

mindman

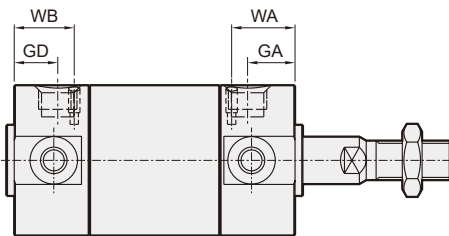
$\phi 20, \phi 25$

$\phi 32\sim\phi 100$



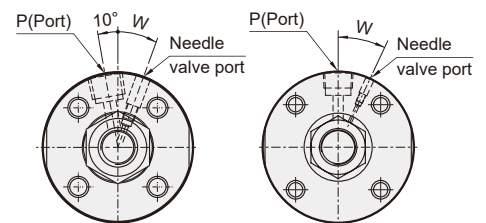
With cushion air (Adjustable)

A



$\phi 20\sim\phi 63$

$\phi 80, \phi 100$



Code Tube I.D.	Standard stroke range	Long stroke range	A	AL	B1	C	D	E	F	GA	GB	GD	H	H1	I	J	K	KA
20	~200	201~350	18	15.5	13	14	8	12	2	12	12 (12)	12 (12)	35	5	26	M4×0.7×7 dp	4	6
25	~300	301~400	22	19.5	17	16.5	10	14	2	12	12 (12)	12 (12)	40	6	31	M5×0.8×7.5 dp	5	8
32	~300	301~450	22	19.5	17	20	12	18	2	12	11 (12)	11 (12)	40	6	38	M5×0.8×8 dp	5.5	10
40	~300	301~800	30	27	22	26	16	25	2	13	12 (13)	10 (13)	50	8	47	M6×1.0×12 dp	6	14
50	~300	301~1200	35	32	26	32	20	30	2	14	13 (13)	12 (14)	58	11	58	M8×1.25×16 dp	7	18
63	~300	301~700	35	32	26	38	20	32	2	14	13 (13)	12 (14)	58	11	72	M10×1.5×16 dp	7	18
80	~300	301~700	40	37	32	50	25	40	3	20	16 (16)	16 (16)	71	13	89	M10×1.5×22 dp	10	22
100	~300	301~700	40	37	35	60	30	50	3	20	16 (16)	16 (16)	71	14	110	M12×1.75×22 dp	10	26

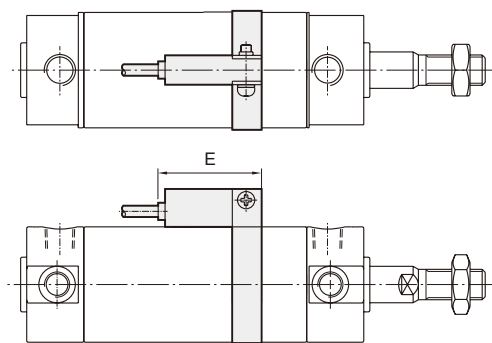
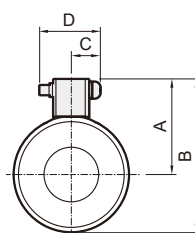
Code Tube I.D.	MM	NA	P	S	TA	TB	TC	TD _{H9}	TE	TF	TG	W	WA	WB	ZZ
20	M8×1.25	24	Rc1/8	69(77)	11	11 (11)	M5×0.8	8 ^{+0.036} ₀	4	0.5	5.5	40°	14	14 (14)	106 (114)
25	M10×1.25	29	Rc1/8	69(77)	11	11 (11)	M6×0.75	10 ^{+0.036} ₀	5	1	6.5	40°	14	13 (13)	111 (119)
32	M10×1.25	36	Rc1/8	71(79)	11	10 (11)	M8×1.0	12 ^{+0.043} ₀	5.5	1.25	7.5	30°	14	13 (13)	113 (121)
40	M14×1.5	44	Rc1/8	78(87)	12	10 (12)	M10×1.25	14 ^{+0.043} ₀	6	1.25	8	20°	16	15 (16)	130 (139)
50	M18×1.5	55	Rc1/4	90(102)	13	12 (13)	M12×1.25	16 ^{+0.043} ₀	7.5	2	10	20°	16	16 (16)	150 (162)
63	M18×1.5	69	Rc1/4	90(102)	13	12 (13)	M14×1.5	18 ^{+0.043} ₀	11.5	3	14.5	20°	18	18 (18)	150 (162)
80	M22×1.5	86	RC3/8	108(122)	-	-	-	-	-	-	-	25°	24	20 (20)	182 (196)
100	M26×1.5	106	RC1/2	108(122)	-	-	-	-	-	-	-	25°	24	20 (20)	182 (196)

(): Dimension for long stroke.

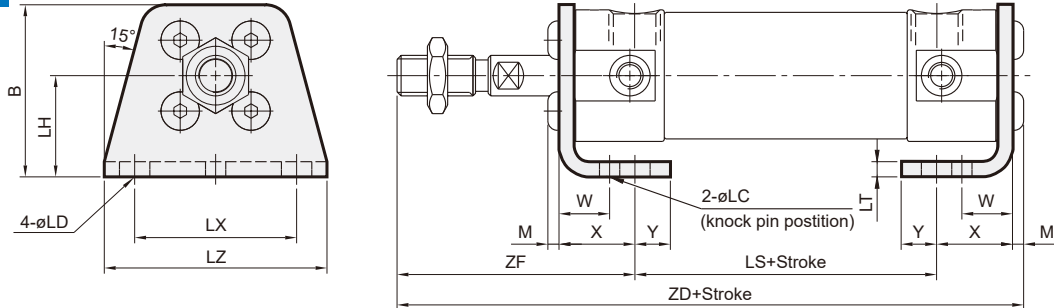
Installation of sensor switch

Sensor switch: RCM (Band: BMG**)

Code Tube I.D.	A	B	C	D	E
20	24	37.5	7	16	28
25	26.5	42.5	7	16	28
32	30.5	50.5	7	16	28
40	35	59.5	7	16	28
50	40.5	70.5	7	16	28
63	47.5	84.5	7	16	28
80	56	101.5	7	16	28
100	66.5	122.5	7	16	28



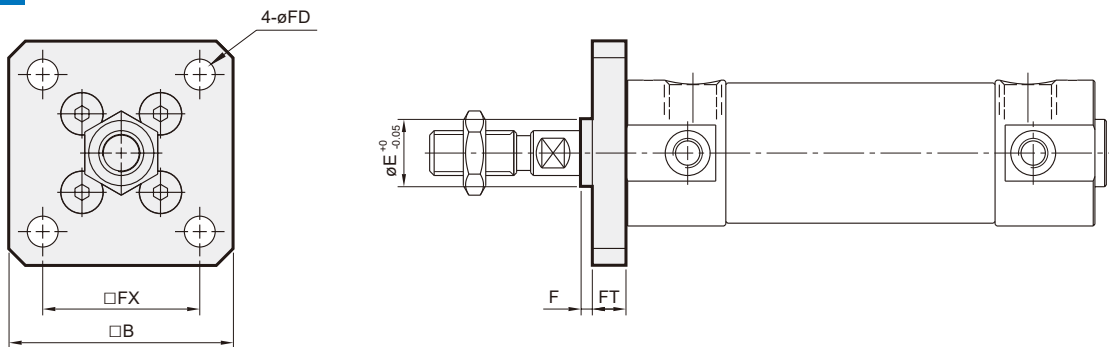
LB



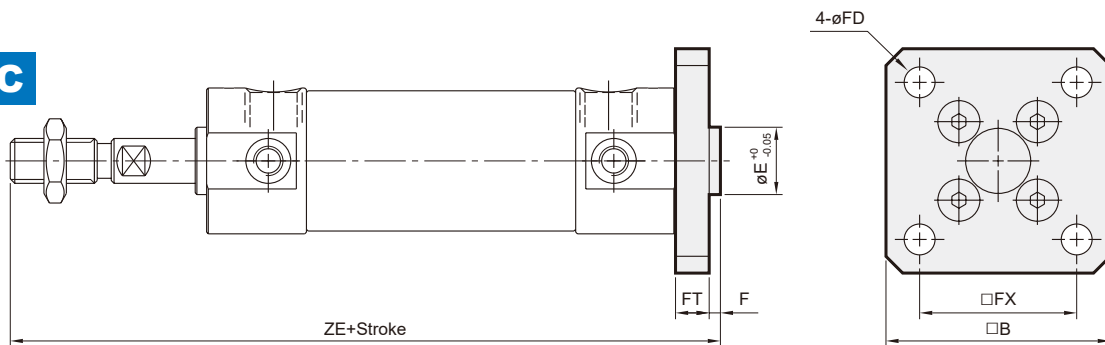
Code Tube I.D.	B	LC	LD	LH	LS	LT	LX	LZ	M	W	X	Y	ZD	ZF
20	34	4	6	20	45 (53)	3	32	44	2.2	10	15	7	109.2 (117.2)	47
25	38.5	4	6	22	45 (53)	3	36	49	2.8	10	15	7	114.8 (122.8)	52
32	45	4	6.6	25	45 (53)	3	44	58	2.8	10	16	8	116.8 (124.8)	53
40	54.5	4	6.6	30	51 (60)	3	54	71	3.3	10	16.5	8.5	134.3 (143.3)	63.5
50	70.5	5	9	40	55 (67)	4.5	66	86	4.4	17.5	22	11	156.9 (168.9)	75.5
63	82.5	5	11	45	55 (67)	4.5	82	106	5.5	17.5	22	13	158.0 (170.0)	75.5
80	101	6	11	55	60 (74)	4.5	100	125	5.5	20	28.5	14	189.0 (203.0)	95.0
100	121	6	14	65	60 (74)	6	120	150	6.2	20	30	16	192.2 (206.2)	95.0

(): Dimension for long stroke.

FAC



FBC

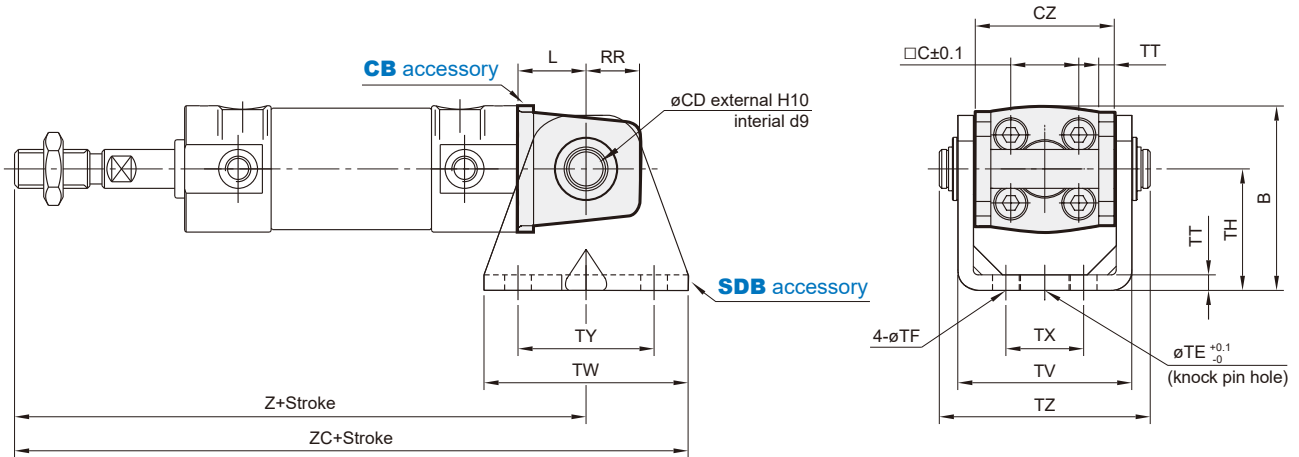


Code Tube I.D.	B	E	F	FX	FD	FT	ZE
20	40	12	2	28	5.5	6	112 (120)
25	44	14	2	32	5.5	7	118 (126)
32	53	18	2	38	6.6	7	120 (128)
40	61	25	2	46	6.6	8	138 (147)
50	76	30	2	58	9	9	159 (171)
63	92	32	2	70	11	9	159 (171)
80	104	40	3	82	11	11	193 (207)
100	128	50	3	100	14	14	196 (210)

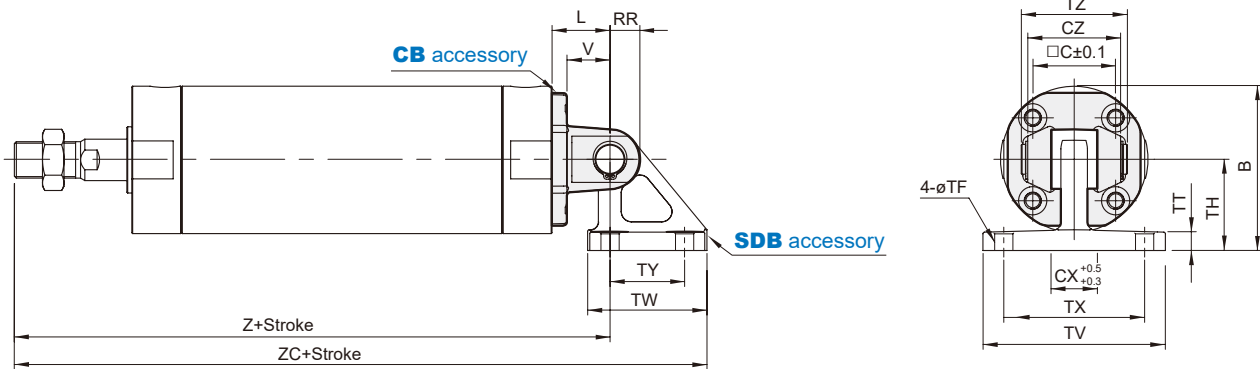
(): Dimension for long stroke.

CB SDB+Pin (Extra purchase)

$\varnothing 20 \sim 63$



$\varnothing 80, 100$



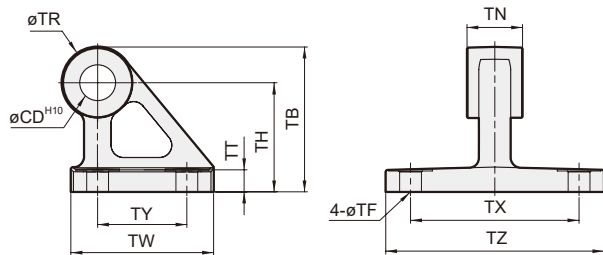
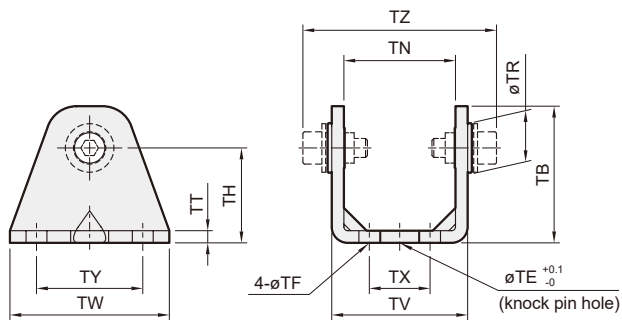
Code Tube I.D.	B	C	CD	CX	CZ	L	RR	V	TE	TF	TH	TT	TV	TW	TX	TY	TZ	Z	ZC
20	38	14	8	-	29	14	11	-	10	5.5	25	3.2	35.8	42	16	28	43.4	118 (126)	139 (147)
25	45.5	16.5	10	-	33	16	13	-	10	5.5	30	3.2	39.8	42	20	28	48	125 (133)	146 (154)
32	54	20	12	-	40	20	15	-	10	6.6	35	4.5	49.4	48	22	28	59.4	131 (139)	155 (163)
40	63.5	26	14	-	49	22	18	-	10	6.6	40	4.5	58.4	56	30	30	71.4	150 (159)	178 (187)
50	79	32	16	-	60	25	20	-	20	9	50	6	72.4	64	36	36	86	173 (185)	205 (217)
63	96	38	18	-	74	30	22	-	20	11	60	8	90.4	74	46	46	105.4	178 (190)	215 (227)
80	99.5	50	18	28	56	35	18	26	-	11	55	11	110	72	85	45	64	214 (228)	272.5 (286.5)
100	120	60	22	32	64	43	22	32	-	13.5	65	12	130	93	100	60	72	222 (236)	298.5 (312.5)

(): Dimension for long stroke.

SDB

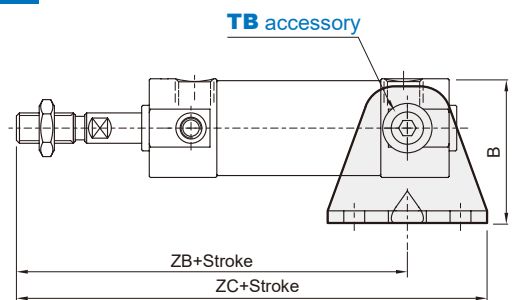
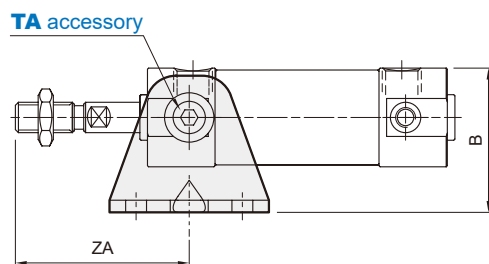
$\phi 20 \sim 63$ TA / TB (Extra purchase)

$\phi 80, 100$



SDB-R $\phi 20 \sim 63$

SDB-H $\phi 20 \sim 63$

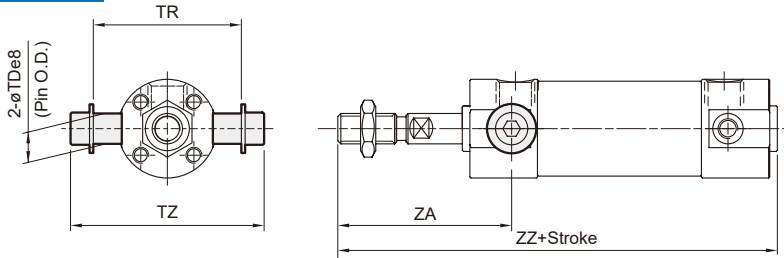


Code Tube I.D.	B	CD	TB	TE	TF	TH	TN	TR	TT	TV	TW	TX	TY	TZ	ZA	ZB	ZC	Applicable pin O.D.
20	38	-	36	10	5.5	25	29.3	14	3.2	35.8	42	16	28	51	46	93(101)	114(122)	8d9 -0.040 -0.076
25	45.5	-	43	10	5.5	30	33.1	16	3.2	39.8	42	20	28	58.2	51	98(106)	119(127)	10d9 -0.040 -0.076
32	54	-	50	10	6.6	35	40.4	18	4.5	49.4	48	22	28	71.5	51	101(108)	125(132)	12d9 -0.050 -0.093
40	63.5	-	58	10	6.6	40	49.2	22	4.5	58.4	56	30	30	88.5	62	118(125)	146(153)	14d9 -0.050 -0.093
50	79	-	70	20	9	50	60.4	25	6	72.4	64	36	36	109	71	136(147)	168(179)	16d9 -0.050 -0.093
63	96	-	82	20	11	60	74.6	27	8	90.4	74	46	46	131	71	136(147)	173(184)	18d9 -0.050 -0.093
80	-	18	73	-	11	55	28	36	11	-	72	85	45	110	-	-	-	18d9 -0.050 -0.093
100	-	22	90	-	13.5	65	32	50	12	-	93	100	60	130	-	-	-	22d9 -0.085 -0.117

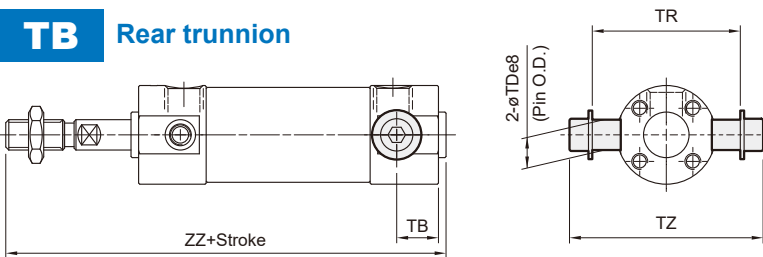
(): Dimension for long stroke.

ROUND CYLINDER

TA Front trunnion



TB Rear trunnion

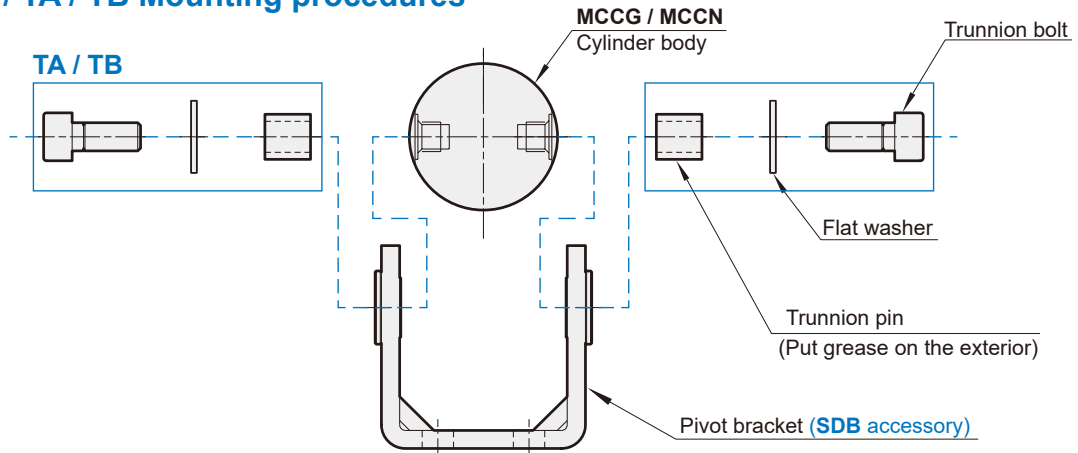


Code Tube I.D.	TB	TDe8	TR	TZ	ZA	ZZ
20	11(11)	8 ^{+0.025} _{-0.047}	39	51	46	106 (114)
25	11(11)	10 ^{+0.025} _{-0.047}	43	58.2	51	111 (119)
32	10(11)	12 ^{+0.032} _{-0.059}	53.5	71.5	51	113 (121)
40	10(12)	14 ^{+0.032} _{-0.059}	64.5	88.5	62	130 (139)
50	12(13)	16 ^{+0.032} _{-0.059}	80	109	71	150 (162)
63	12(13)	18 ^{+0.032} _{-0.059}	98	131	71	150 (162)

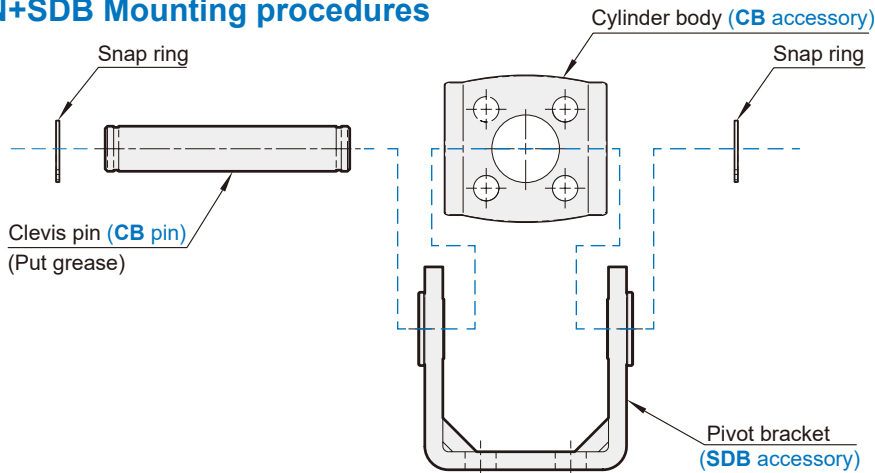
(): Dimension for long stroke.

MCCG / MCCN

SDB-R(H) / TA / TB Mounting procedures



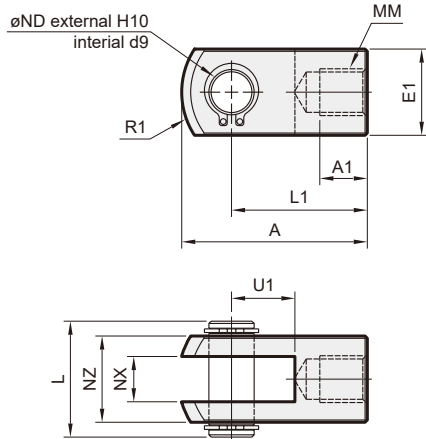
CB+PIN+SDB Mounting procedures



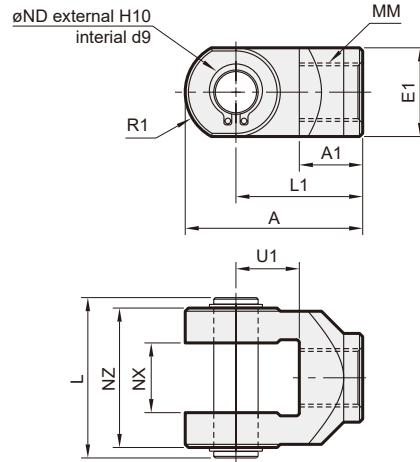
ROUND CYLINDER

Y connector

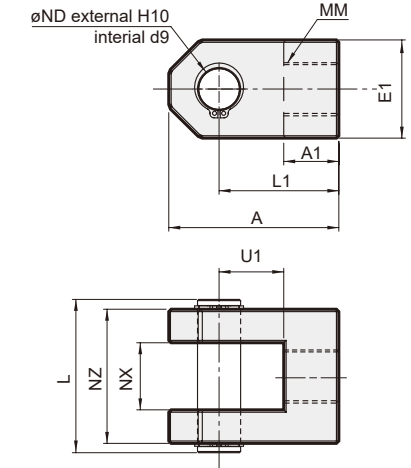
$\phi 20 \sim \phi 32$



$\phi 40 \sim \phi 63$



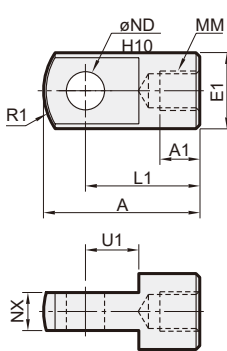
$\phi 80, \phi 100$



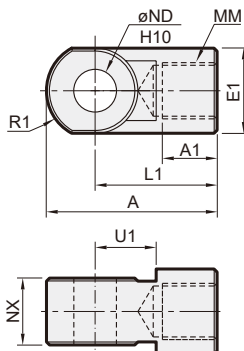
Code Tube I.D.	A	A1	E1	L	L1	MM	R1	U1	ND	NX	NZ
20	34	8.5	$\square 16$	21	25	M8×1.25	14	11.5	8	8 ^{+0.4} _{+0.2}	15.88
25,32	41	10.5	$\square 20$	25.6	30	M10×1.25	18	14	10	10 ^{+0.4} _{+0.2}	19.05
40	42	16	$\phi 20$	41.6	30	M14×1.5	12	14	10	18 ^{+0.5} _{+0.3}	36
50,63	56	20	$\phi 25$	50.6	40	M18×1.5	16	20	14	22 ^{+0.5} _{+0.3}	44
80	71	23	41	64	50	M22×1.5	-	26	18	28 ^{+0.5} _{+0.3}	56
100	79	24	47	72	55	M26×1.5	-	30	22	32 ^{+0.5} _{+0.3}	64

I connector

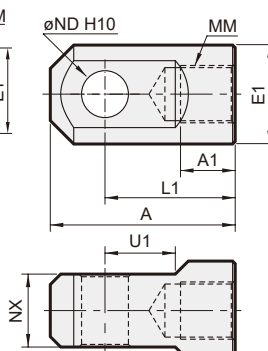
$\phi 20 \sim \phi 32$



$\phi 40 \sim \phi 63$

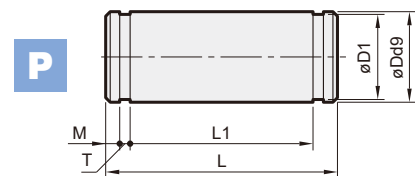


$\phi 80, \phi 100$



Code Tube I.D.	A	A1	E1	L1	MM	R1	U1	ND _{H10}	NX
20	34	8.5	$\phi 16$	25	M8×1.25	14	11.5	8 ^{+0.058} ₀	8 ^{-0.2} _{-0.4}
25,32	41	10.5	$\phi 20$	30	M10×1.25	18	14	10 ^{+0.058} ₀	10 ^{-0.2} _{-0.4}
40	42	14	$\phi 22$	30	M14×1.5	12	14	10 ^{+0.058} ₀	18 ^{-0.3} _{-0.5}
50,63	56	18	$\phi 28$	40	M18×1.5	16	20	14 ^{+0.070} ₀	22 ^{-0.3} _{-0.5}
80	71	21	$\phi 38$	50	M22×1.5	-	27	18 ^{-0.070} ₀	28 ^{-0.3} _{-0.5}
100	79	21	$\phi 45$	55	M26×1.5	-	31	22 ^{-0.084} ₀	32 ^{-0.3} _{-0.5}

PIN



for CB

Code Tube I.D.	Dd9	D1	L	L1	M	T	Snap ring
20	8 ^{-0.04} _{-0.08}	7.6	43.4	38.6	1.5	0.9	STW-8
25	10 ^{-0.04} _{-0.08}	9.6	48	42.6	1.55	1.15	STW-10
32	12 ^{-0.05} _{-0.09}	11.5	59.4	54	1.55	1.15	STW-12
40	14 ^{-0.05} _{-0.09}	13.4	71.4	65	2.05	1.15	STW-14
50	16 ^{-0.05} _{-0.09}	15.2	86	79.6	2.05	1.15	STW-16
63	18 ^{-0.05} _{-0.09}	17.0	105.4	97.8	2.45	1.35	STW-18
80	18 ^{-0.05} _{-0.09}	17	64	56.2	2.55	1.35	STW-18
100	22 ^{-0.06} _{-0.11}	21	72	64.2	2.55	1.35	STW-22

for Y & I connector

Code Tube I.D.	Dd9	D1	L	L1	M	T	Snap ring
20	8 ^{-0.04} _{-0.08}	7.6	21	16.2	1.5	0.9	STW-8
25,32	10 ^{-0.04} _{-0.08}	9.6	25.6	20.2	1.55	1.15	STW-10
40	10 ^{-0.04} _{-0.08}	9.6	41.6	36.2	1.55	1.15	STW-10
50,63	14 ^{-0.05} _{-0.09}	13.4	50.6	44.2	2.05	1.15	STW-14
80	18 ^{-0.05} _{-0.09}	17	64	56.2	2.55	1.35	STW-18
100	22 ^{-0.06} _{-0.11}	21	72	64.2	2.55	1.35	STW-22