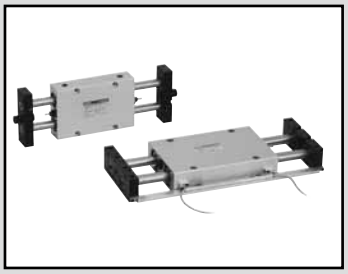
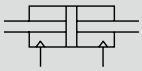


Unit cylinder Metal bush bearing/with switch

UCA2 Series

● Bore size: φ10/φ16/φ25/φ32

JIS symbol



Specifications

Descriptions	UCA2 UCA2-L (with switch)			
Bore size mm	φ10	φ16	φ25	φ32
Actuation	Double acting			
Working fluid	Compressed air			
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)			
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)		0.1 (≈15 psi, 1 bar)	
Proof pressure MPa	1.5 (≈220 psi, 15 bar)			
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)			
Port size	M5		Rc1/8	
Stroke tolerance mm	+1.0 0			
Working piston speed mm/s	30 to 300			
Non-rotating accuracy Note	±0.1°	±0.05°		±0.02°
Max. operating frequency Cycle/min.	30			
Cushion	Shock absorber integrated			
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			
Allowable absorbed energy J	0.25	0.65	2.4	4.5

Note: Values of when the stroke length is 0 mm (excluding deflection of the piston rod)

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke with switch (mm)
φ10	25/50/75/100	100	25	10: With 1 switch (*2) 20: With 2 switches (*2) 75: With 3 switches
φ16	25/50/75/100 125/150/175/200	200		
φ25		200		
φ35		200		

*1: Products with stroke length other than standard stroke length are not available.
*2: Min. stroke length when adjusted with the stopper.

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
φ10	Push	-	-	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
	Pull	-	-	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
φ16	Push	-	-	49.0	73.5	98.0	1.23×10^2	1.47×10^2	1.72×10^2	1.96×10^2	2.21×10^2	2.45×10^2
	Pull	-	-	49.0	73.5	98.0	1.23×10^2	1.47×10^2	1.72×10^2	1.96×10^2	2.21×10^2	2.45×10^2
φ25	Push	67.4	1.01×10^2	1.35×10^2	2.02×10^2	2.70×10^2	3.37×10^2	4.04×10^2	4.72×10^2	5.39×10^2	6.06×10^2	6.74×10^2
	Pull	67.4	1.01×10^2	1.35×10^2	2.02×10^2	2.70×10^2	3.37×10^2	4.04×10^2	4.72×10^2	5.39×10^2	6.06×10^2	6.74×10^2
φ32	Push	1.21×10^2	1.81×10^2	2.41×10^2	3.62×10^2	4.83×10^2	6.03×10^2	7.24×10^2	8.44×10^2	9.65×10^2	1.09×10^3	1.21×10^3
	Pull	1.21×10^2	1.81×10^2	2.41×10^2	3.62×10^2	4.83×10^2	6.03×10^2	7.24×10^2	8.44×10^2	9.65×10^2	1.09×10^3	1.21×10^3

Switch specifications

● 1-color/2-color display

Descriptions	Reed 2-wire				Proximity 2-wire		Proximity 3-wire		
	T0H/T0V		T5H/T5V		T2H/T2V	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3WH/ T3WV
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		Programmable controller dedicated		For programmable controller, relay		
Output method	-		-		-		NPN output	PNP output	NPN output
Power supply voltage	-		-		-		10 to 28 VDC		
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 20 mA (*1)		100 mA or less		50 mA or less
Indicator lamp	LED (Lit when ON)		Without indicator lamp		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)
Leakage current	0 mA				1 mA or less		10 μA or less		
Weight g	1 m:18 3 m:49 5 m:80				1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80		

*1 : The above 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)
*2 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*3 : Refer to Ending Page 1 for other switch specifications.
*4 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight (X: body fixing)

- Values in ( ) include the switch mounting rail.

[Unit: kg]

Model No.	Stroke length (mm)								Switch weight per 1 pc.
	25	50	75	100	125	150	175	200	
UCA2-X-10	0.30(0.35)	0.37(0.42)	0.43(0.49)	0.49(0.55)	-	-	-	-	Refer to the weight in the switch specifications.
UCA2-X-16	0.53(0.56)	0.66(0.71)	0.78(0.84)	0.91(0.98)	1.04(1.12)	1.17(1.25)	1.30(1.39)	1.42(1.52)	
UCA2-X-25	1.00(1.04)	1.20(1.26)	1.41(1.47)	1.61(1.68)	1.81(1.89)	2.02(2.11)	2.22(2.32)	2.43(2.53)	
UCA2-X-32	1.65(1.69)	1.95(2.01)	2.25(2.31)	2.55(2.62)	2.85(2.93)	3.15(3.24)	3.45(3.55)	3.75(3.85)	

Cylinder weight (Y: plate fixing)

- Values in ( ) include the switch mounting rail.

[Unit: kg]

Model No.	Stroke length (mm)								Switch weight per 1 pc.
	25	50	75	100	125	150	175	200	
UCA2-Y-10	0.30(0.33)	0.37(0.40)	0.43(0.46)	0.49(0.52)	-	-	-	-	Refer to the weight in the switch specifications.
UCA2-Y-16	0.53(0.56)	0.66(0.69)	0.78(0.82)	0.91(0.95)	1.04(1.08)	1.17(1.21)	1.30(1.34)	1.42(1.47)	
UCA2-Y-25	1.00(1.03)	1.20(1.23)	1.41(1.44)	1.61(1.65)	1.81(1.85)	2.02(2.06)	2.20(2.27)	2.43(2.47)	
UCA2-Y-32	1.65(1.68)	1.95(1.98)	2.25(2.29)	2.55(2.59)	2.85(2.89)	3.15(3.19)	3.45(3.50)	3.75(3.80)	

How to order

Without switch (without magnet for switch)

UCA2 - X - 10 ○ - 25 ——— P1A

With switch (built-in magnet for switch)

UCA2-L - X - 10 ○ - 25 - T2H - RA - P1A

Ⓐ Fixing method

Ⓑ Bore size

Ⓒ Port thread

Ⓓ Stroke length
Refer to page 630 for the min. stroke length.

Ⓔ Switch model No.
*1

Ⓕ Switch quantity
*2

Ⓖ Option
*3

Code	Content
Ⓐ Fixing method	
X	Body fixing
Y	Plate fixing

Ⓑ Bore size (mm)	
10	φ10
16	φ16
25	φ25
32	φ32

Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ25 and over) (custom order product)
GN	G thread (φ25 and over) (custom order product)

Ⓓ Stroke length (mm)

Bore size (φ)		10	16	25	32
25	25	●	●	●	●
50	50	●	●	●	●
75	75	●	●	●	●
100	100	●	●	●	●
125	125		●	●	●
150	150		●	●	●
175	175		●	●	●
200	200		●	●	●

Ⓔ 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***		●	●	no indicator lamp	
T2H*	**T2V***	Prox.		●	1-color display	2-wire
T3H*	**T3V***			●		3-wire
T3PH*	**T3PV***			●	1-color display (PNP output) (custom)	3-wire
T2WH*	**T2WV***	Prox.		●	2-color display	2-wire
T3WH*	**T3WV***			●		3-wire

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

Ⓕ Switch quantity		
RA	1	Plate A side
RB		Plate B side
D	2	
T	3	

Ⓖ Option		
P1A	Single adjusting stopper	Plate A side
P1B		Plate B side
P2	Double adjusting stoppers	

⚠ Precautions for model No. selection

*1 : Magnet is not built into the type without switch. For specifications with switch but without switch installed, a magnet and magnet rail are mounted but a switch rail is not.
*2 : Min. stroke length with three switches: 75 (mm)
*3 : Difference between side A and side B is described in the dimensions.

[Example of model No.]

UCA2-L-X-10-25-T2H-RA-P1A

Model: Unit cylinder metal bush bearing
Ⓐ Fixing method : Body fixing
Ⓑ Bore size : φ10 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 25 mm
Ⓔ Switch model No. : Proximity switch T2H, lead wire length 1 m
Ⓕ Switch quantity : 1 (plate A side)
Ⓖ Option : Single adjusting stopper (plate A side)

How to order switch

●Switch body + mounting bracket set (including switch rail)... ①

UCA2 - T0H - X - 10 - 25 - RA

- T0H: Switch model No. (Item Ⓔ on the previous page)
- X: Fixing method (Item Ⓐ on the previous page)
- 10: Bore size (Item Ⓑ on the previous page)
- 25: Stroke length (Item Ⓓ on the previous page)
- RA: Switch quantity (Item Ⓕ on the previous page)

● Mounting bracket set (including switch rail) + magnet...②

UCA2 - T - X - 10 - 25

- X: Fixing method (Item Ⓐ on the previous page)
- 10: Bore size (Item Ⓑ on the previous page)
- 25: Stroke length (Item Ⓓ on the previous page)

●Mounting bracket set (including switch rail)... ③

UCA2 - T - X - 10 - 25 - SW - RAIL

- X: Fixing method (Item Ⓐ on the previous page)
- 10: Bore size (Item Ⓑ on the previous page)
- 25: Stroke length (Item Ⓓ on the previous page)

● Switch body only...④

SW - T0H

- T0H: Switch model No. (Item Ⓔ on the previous page)

1) When changing from the type without switch to the type with T type switch

Changed content	Switch required	Switch not required
UCA2-[X.Y] → UCA2-L-[X.Y]	② + ④	②

* A switch can be installed separately even if “switch not required” is selected. (when you already have a T type switch, etc.)

2) When only the magnet for T type switch is installed

Changed content	Switch required	Switch not required
UCA2-L-[X.Y] → UCA2-L-[X.Y] Without switch With switch	①	③

When it was not possible to install a switch in UCA2-L and up models. (Magnet only installed)

3) When changing from the type with S type switch to the type with T type switch

Changed content	Switch required	Switch not required
S type switch → T type switch	② + ④	-

* Set of switch rail, mounting bracket and switch body will be replaced.

How to order shock absorber set

● For φ10
UCA2-10-NCK

● For φ16 to φ32 (common)
UCA2-16-NCK

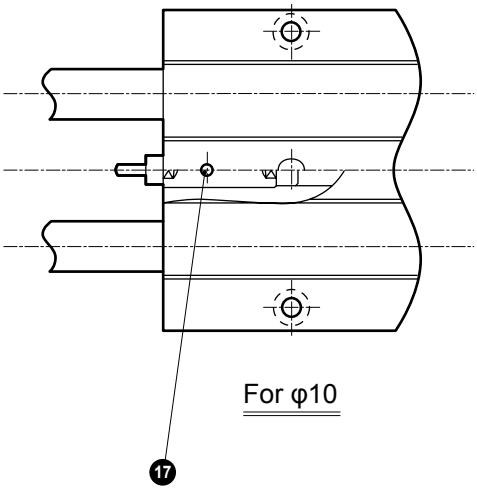
Specifications for rechargeable battery

(Catalog No. CC-1226A)

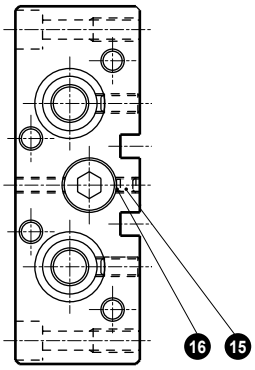
● Design compatible with rechargeable battery manufacturing process.

UCA2-……-P4*

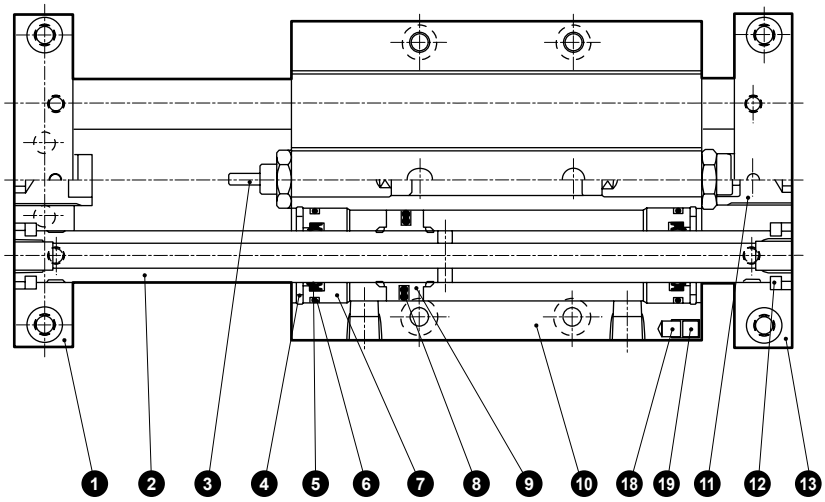
Internal structure and parts list

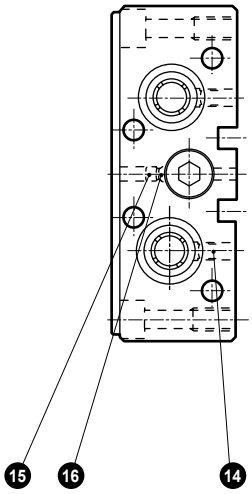


For φ10



[For UCA2-X-25, 32]





No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate (A)	Aluminum alloy	Alumite	10	Cylinder body	Aluminum alloy	Hard alumite
2	Piston rod	Steel	Industrial chrome plating	11	Stopper	Steel	Chromate
3	Shock absorber		φ10:UCA2-10-NCK φ16 to 32:UCA2-16-NCK	12	Split ring	Steel	Black finish
				13	End plate (B)	Aluminum alloy	Alumite
4	C type snap ring for hole	Steel	Zinc phosphate	14	Hexagon socket set screw	Alloy steel	Black finish
5	Rod packing	Nitrile rubber		15	Hexagon socket set screw	Alloy steel	
6	Rod metal gasket	Nitrile rubber		16	Set shoe	Aluminum alloy	
7	Rod metal	Aluminum alloy	Alumite	17	Hexagon socket set screw	Alloy steel	
8	Piston packing	Nitrile rubber		18	Magnet	Special alloy	UCA2-L-Y only
9	Piston	Aluminum alloy		19	Hexagon socket set screw	Stainless steel	UCA2-L-Y only

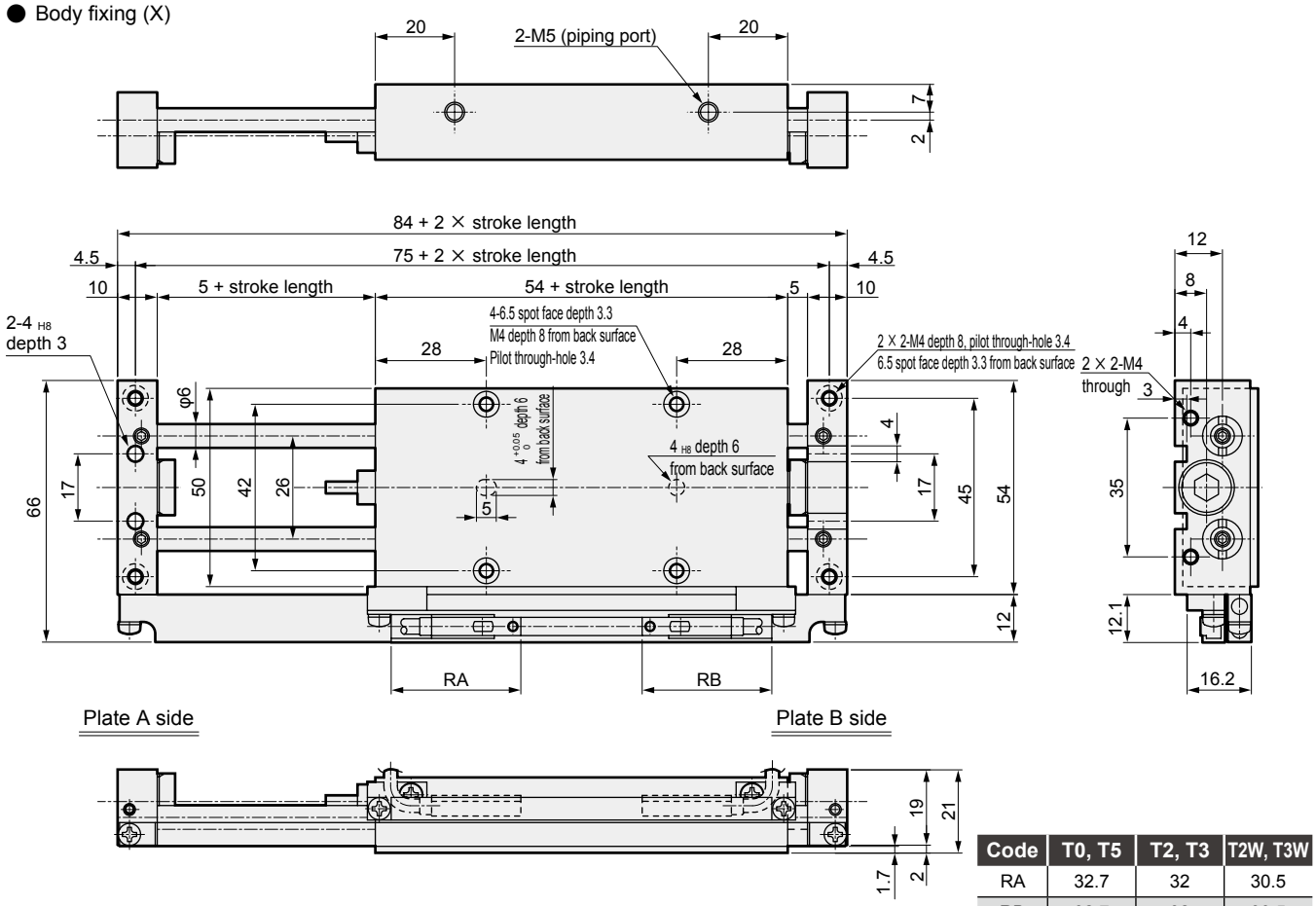
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
φ10	UCA2-10K	❺ ❻ ❽ ⓮
φ16	UCA2-16K	
φ25	UCA2-25K	
φ32	UCA2-32K	

Note: The repair parts are common between the metal bush bearing and ball bearing.

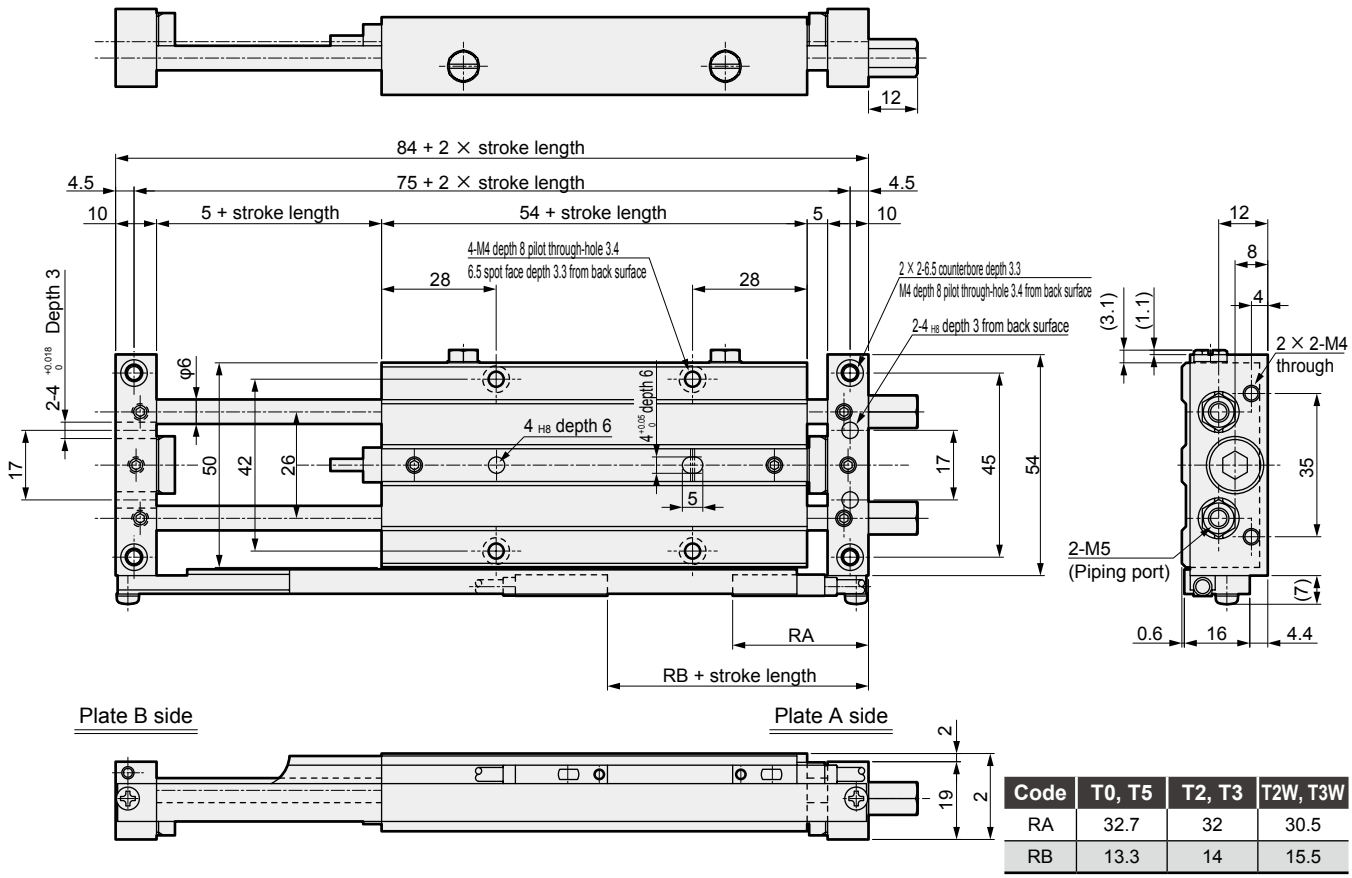
Dimensions: φ10 CAD

● Body fixing (X)



Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)

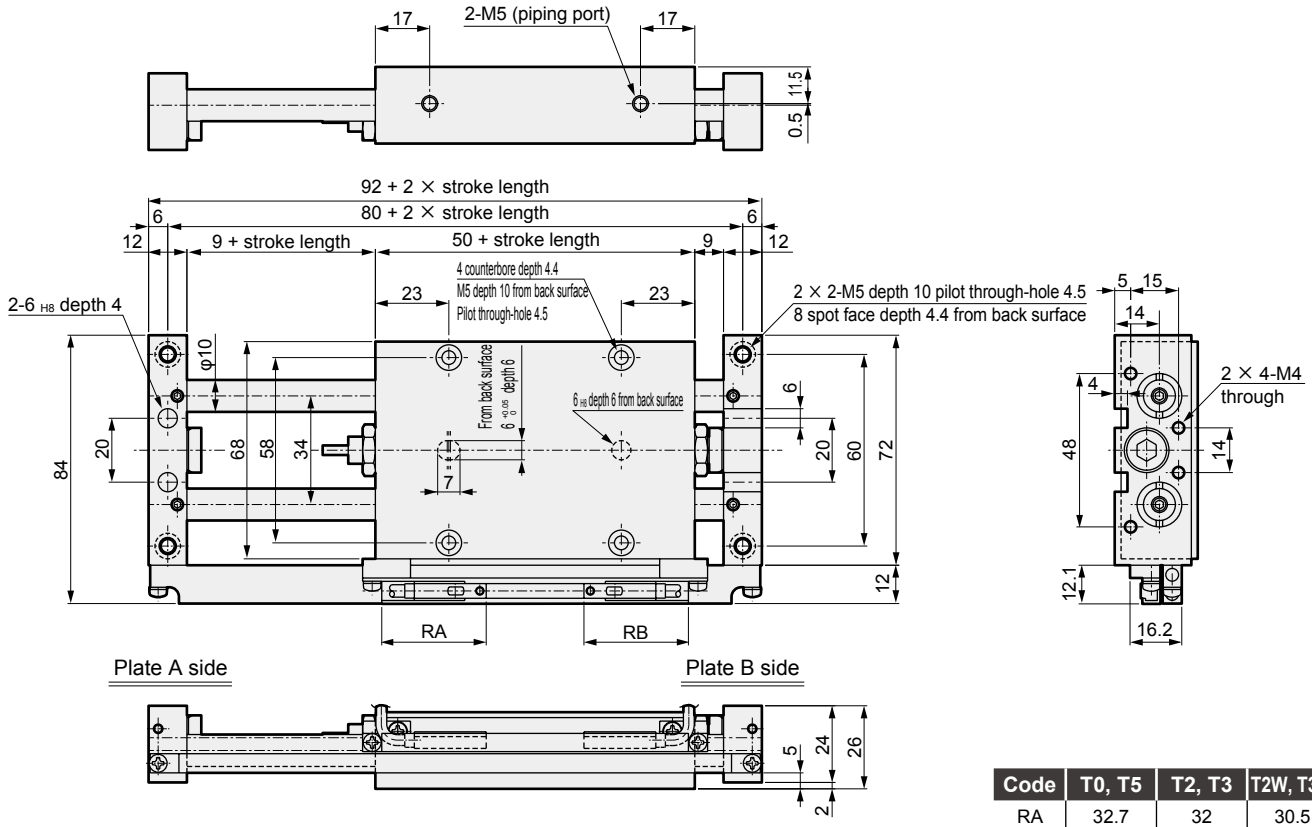


Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	13.3	14	15.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

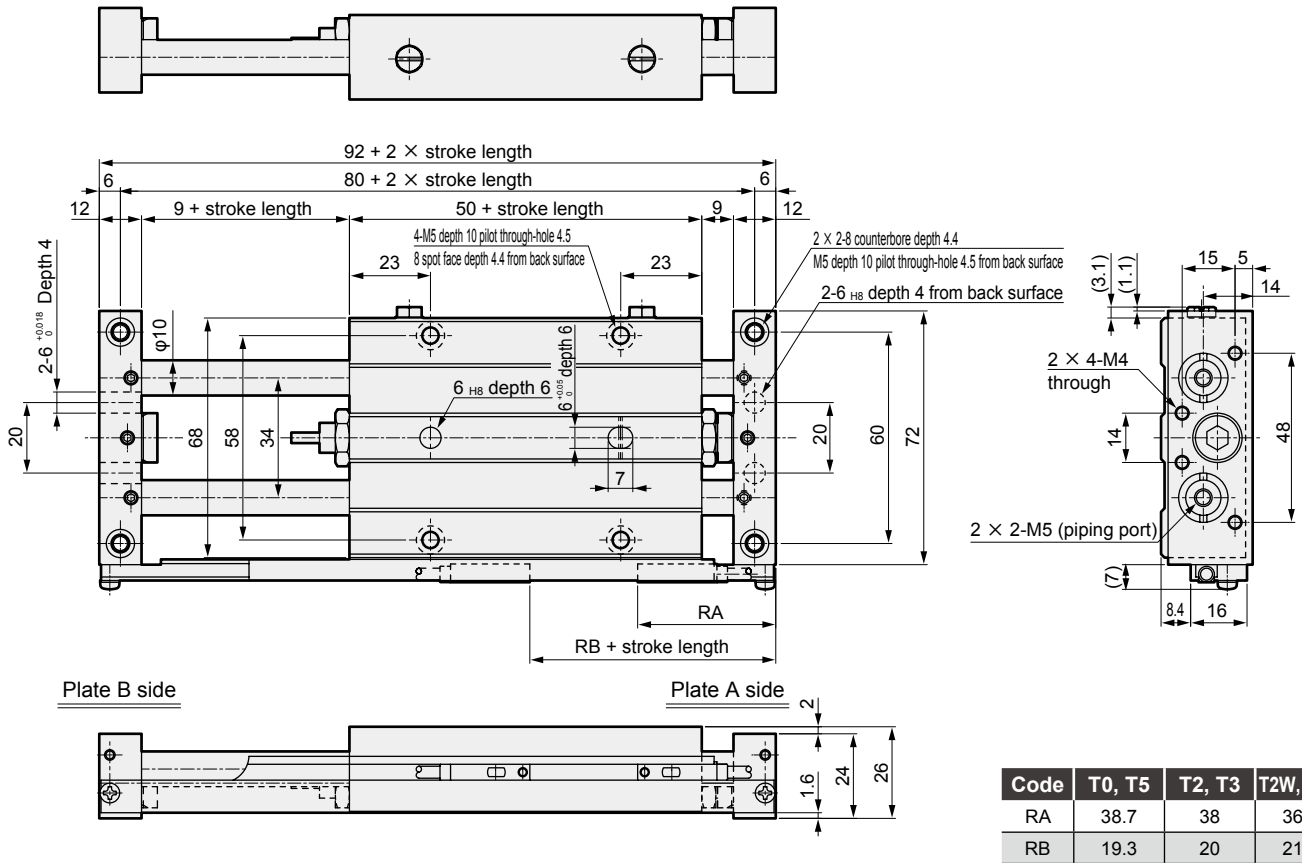
Dimensions: φ16

● Body fixing (X)



Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)

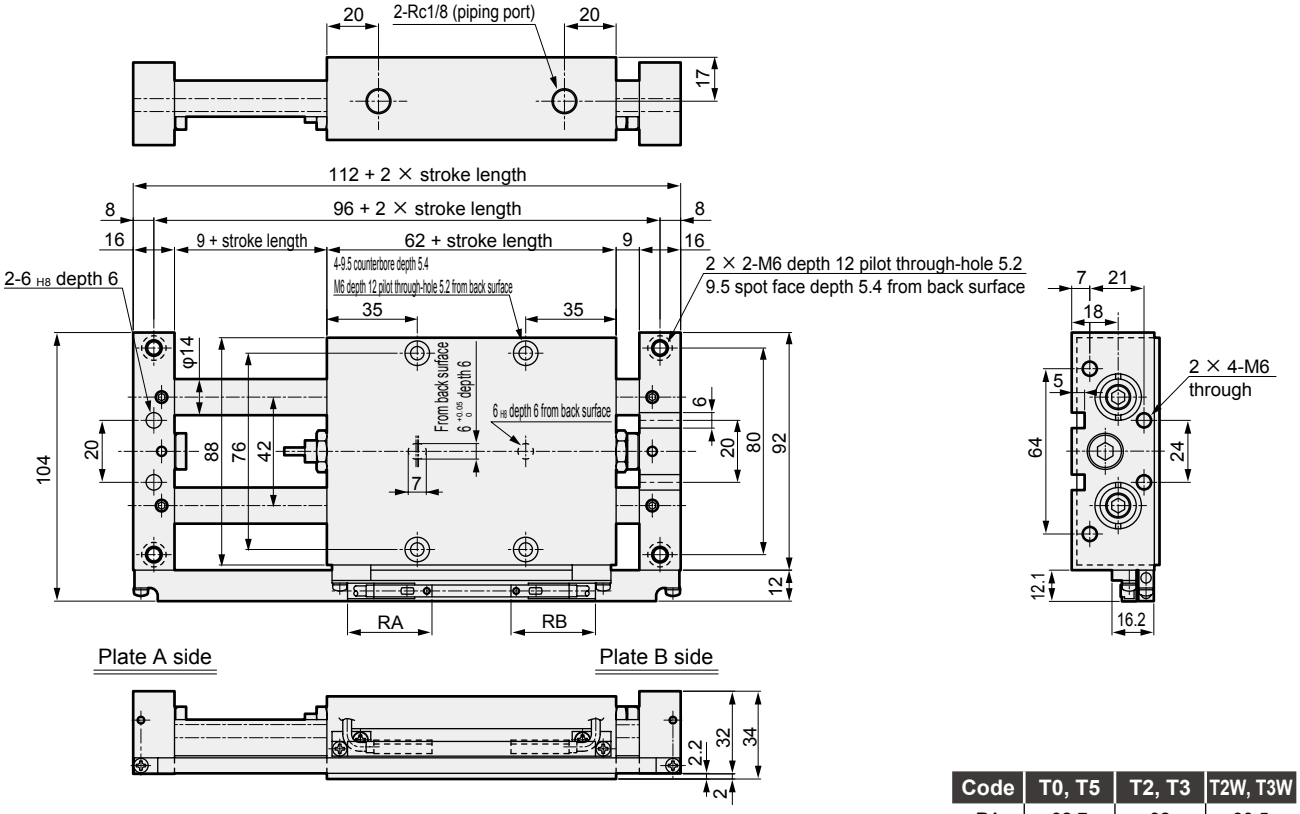


Code	T0, T5	T2, T3	T2W, T3W
RA	38.7	38	36.5
RB	19.3	20	21.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

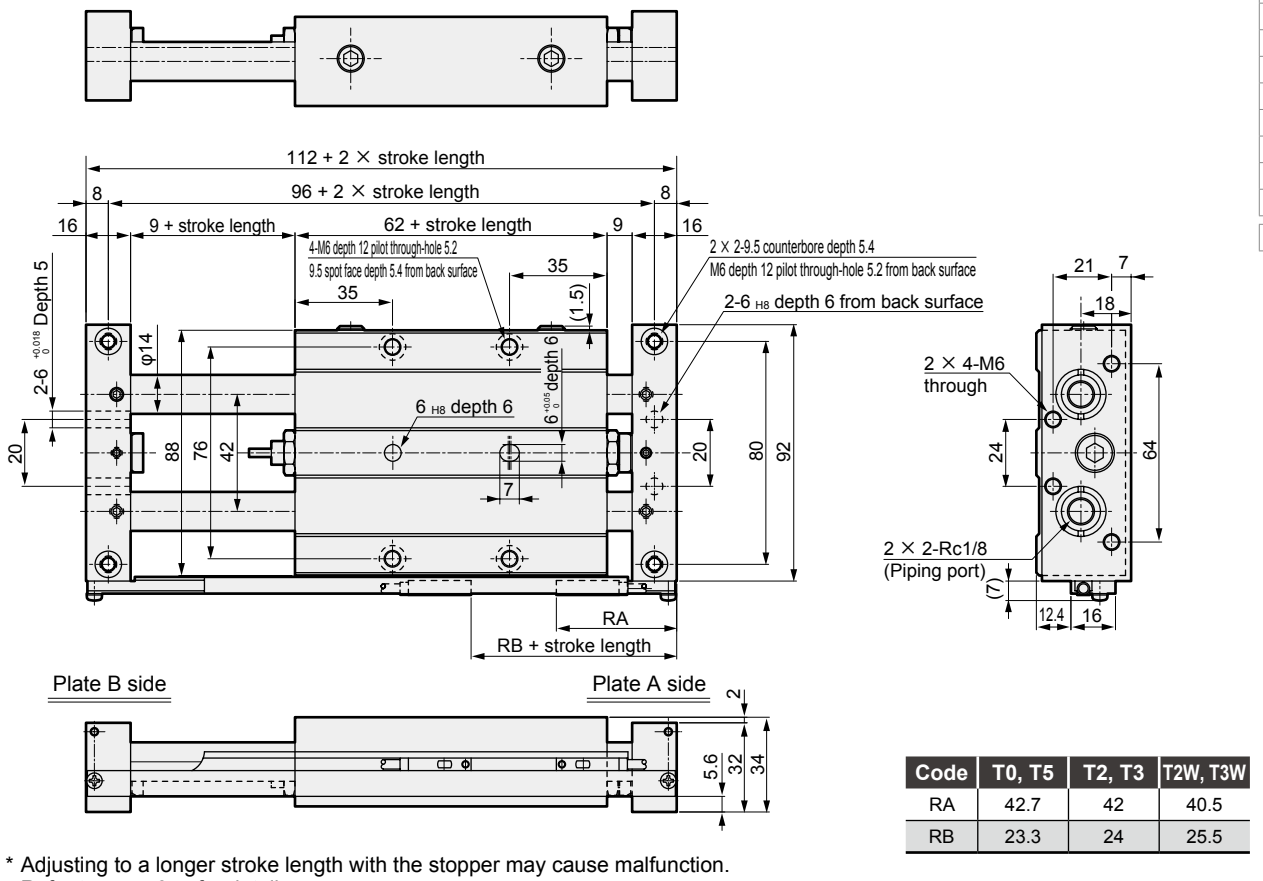
Dimensions: φ25 CAD

● Body fixing (X)



Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)

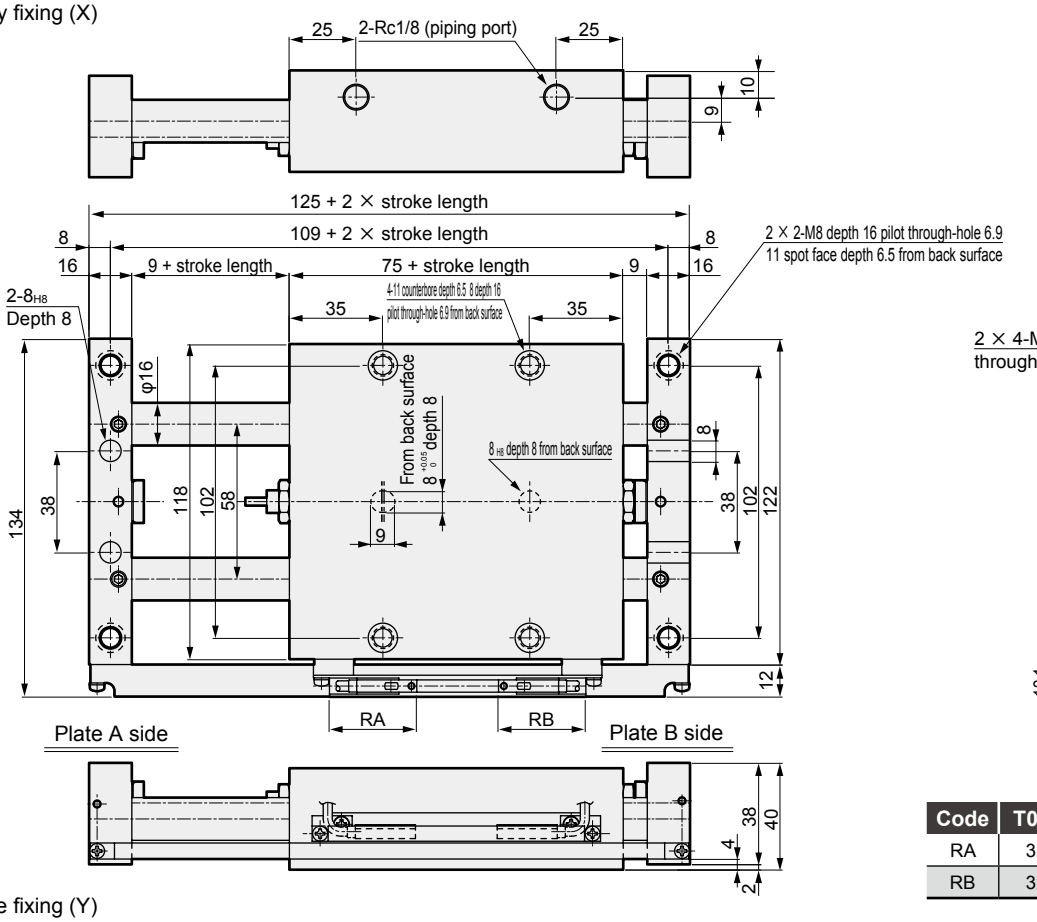


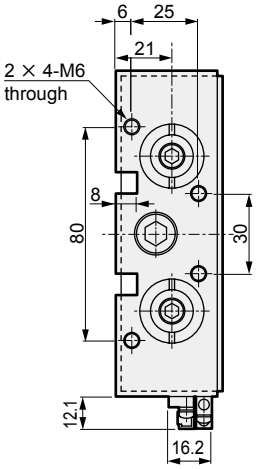
Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

Dimensions: φ32 CAD

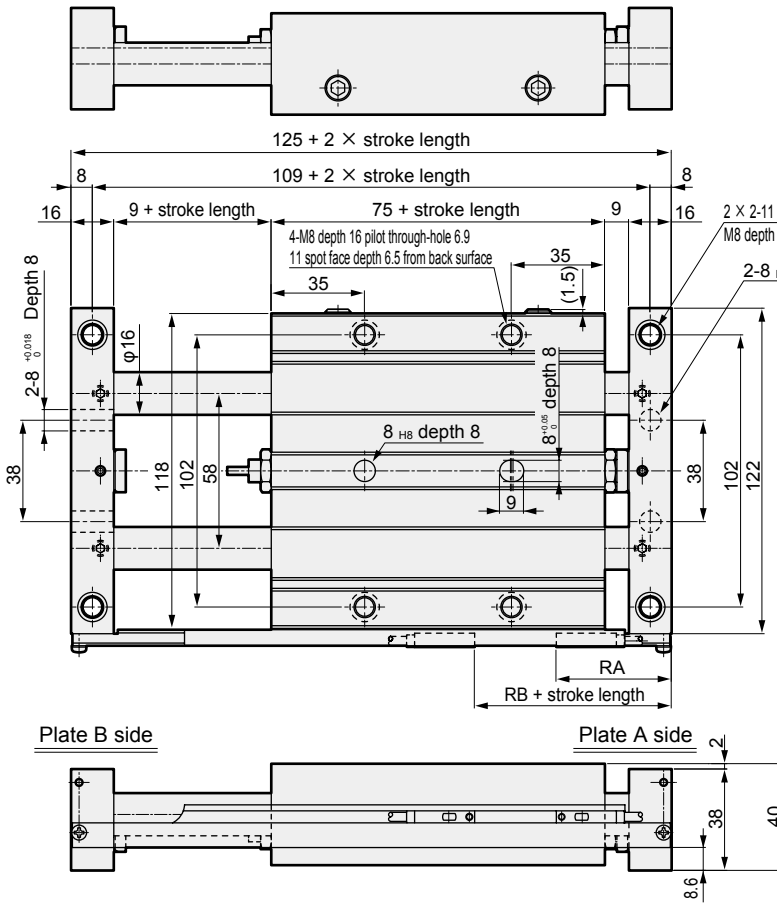
● Body fixing (X)

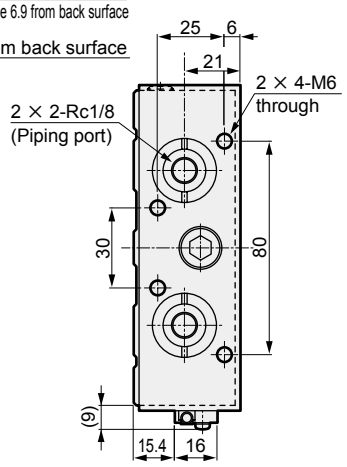




Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)



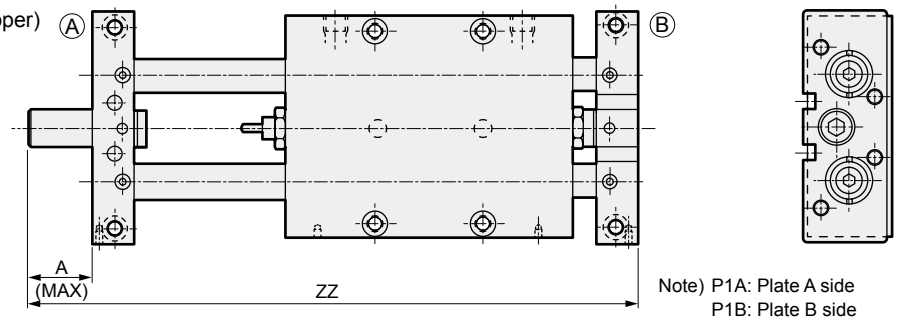


Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

Dimensions: Adjusting stopper

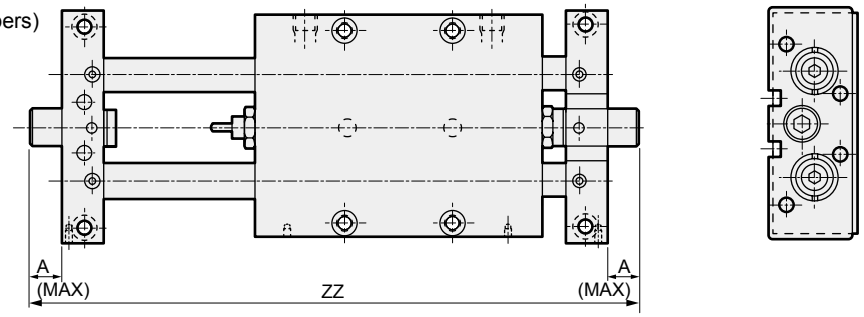
● UCA2-X/Y 10/16/25/32 -* *-P1* (single adjusting stopper)



Note) P1A: Plate A side
P1B: Plate B side

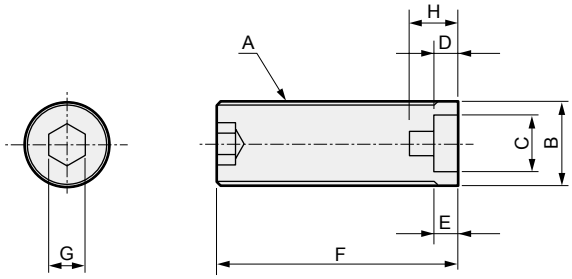
Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-10	25	159	209	259	309	-	-	-	-
UCA2-16		167	217	267	317	367	417	467	517
UCA2-25		187	237	287	337	387	437	487	537
UCA2-32		200	250	300	350	400	450	500	550

● UCA2-X/Y 10/16/25/32 -* *-P2* (double adjusting stoppers)



Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-10	12.5	159	209	259	309	-	-	-	-
UCA2-16		167	217	267	317	367	417	467	517
UCA2-25		187	237	287	337	387	437	487	537
UCA2-32		200	250	300	350	400	450	500	550

Stopper dimensions

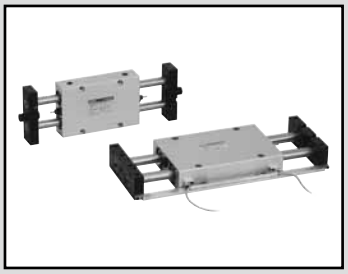


Code / Bore size (mm)	A	B	C	D	E	F		G	H
φ10	M14×1	φ14	φ10	4	4	Standard	14.5	6	8
						P2	27		
						P1	39.5		
φ16	M14×1	φ14	φ10	8	4	Standard	17	6	-
						P2	29.5		
						P1	42		
φ25	M14×1	φ14	φ10	6.5	4	Standard	21	6	-
						P2	33.5		
						P1	46		
φ32	M16×1	φ16	φ10	5.5	4	Standard	21	8	-
						P2	33.5		
						P1	46		

Model No. of discrete adjusting stoppers

● Standard

Part/part name / Bore size (mm)	Standard stopper		Single stopper		Double stoppers	
	Model No.	Weight g	Model No.	Weight g	Model No.	Weight g
φ10	UCA2-P-10	12	UCA2-P1-10	38	UCA2-P2-10	25
φ16	UCA2-P-16	12	UCA2-P1-16	38	UCA2-P2-16	25
φ25	UCA2-P-25	17	UCA2-P1-25	44	UCA2-P2-25	30
φ32	UCA2-P-32	22	UCA2-P1-32	58	UCA2-P2-32	40

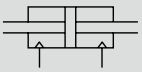


Unit cylinder Ball bearing/with switch

UCA2-B Series

● Bore size: φ10/φ16/φ25/φ32

JIS symbol



RoHS CAD

Specifications

Descriptions	UCA2-B UCA2-BL (with switch)			
Bore size mm	φ10	φ16	φ25	φ32
Actuation	Double acting			
Working fluid	Compressed air			
Max. working pressure MPa	1.0 (≈150 psi, 10 bar)			
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)		0.1 (≈15 psi, 1 bar)	
Proof pressure MPa	1.5 (≈220 psi, 15 bar)			
Ambient temperature °C	-10 (14°F) to 60 (140°F) (no freezing)			
Port size	M5		Rc1/8	
Stroke tolerance mm	+1.0 0			
Working piston speed mm/s	30 to 300			
Non-rotating accuracy *1	±0.04°	±0.03°	±0.015°	±0.015°
Max. operating frequency Cycle/min.	30			
Cushion	Shock absorber integrated			
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			
Allowable absorbed energy J	0.25	0.65	2.4	4.5

*1: Values of when the stroke length is 0 mm (excluding deflection of the piston rod)

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)	Min. stroke with switch (mm)
φ10	25/50/75/100	100	25	10: With 1 switch 20: With 2 switches 75: With 3 switches
φ16	25/50/75/100 125/150/175/200	200		
φ25				
φ35				

Note: Products with stroke length other than standard stroke length are not available.

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
φ10	Push	-	-	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
	Pull	-	-	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
φ16	Push	-	-	49.0	73.5	98.0	1.23×10^2	1.47×10^2	1.72×10^2	1.96×10^2	2.21×10^2	2.45×10^2
	Pull	-	-	49.0	73.5	98.0	1.23×10^2	1.47×10^2	1.72×10^2	1.96×10^2	2.21×10^2	2.45×10^2
φ25	Push	67.4	1.01×10^2	1.35×10^2	2.02×10^2	2.70×10^2	3.37×10^2	4.04×10^2	4.72×10^2	5.39×10^2	6.06×10^2	6.74×10^2
	Pull	67.4	1.01×10^2	1.35×10^2	2.02×10^2	2.70×10^2	3.37×10^2	4.04×10^2	4.72×10^2	5.39×10^2	6.06×10^2	6.74×10^2
φ32	Push	1.21×10^2	1.81×10^2	2.41×10^2	3.62×10^2	4.83×10^2	6.03×10^2	7.24×10^2	8.44×10^2	9.65×10^2	1.09×10^3	1.21×10^3
	Pull	1.21×10^2	1.81×10^2	2.41×10^2	3.62×10^2	4.83×10^2	6.03×10^2	7.24×10^2	8.44×10^2	9.65×10^2	1.09×10^3	1.21×10^3

Switch specifications

● 1-color/2-color display

Descriptions	Reed 2-wire				Proximity 2-wire		Proximity 3-wire		
	T0H/T0V		T5H/T5V		T2H/T2V	T2WH/ T2WV	T3H/ T3V	T3PH/T3PV (custom)	T3WH/ T3WV
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		Dedicated for programmable controller		For programmable controller, relay		
Output method	-		-		-		NPN output	PNP output	NPN output
Power supply voltage	-		-		-		10 to 28 VDC		
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	10 to 30 VDC	24 VDC ±10%	30 VDC or less		
Load current	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 20 mA (*1)		100 mA or less		50 mA or less
Indicator lamp	LED (Lit when ON)		Without indicator lamp		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)
Leakage current	0 mA				1 mA or less		10 μA or less		
Weight g	1 m:18 3 m:49 5 m:80				1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80		

*1 : The above 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)
*2 : The T0/T5 switch can also be used with 220 VAC. Contact CKD about working conditions.
*3 : Refer to Ending Page 1 for other switch specifications.
*4 : Dimensions depend on switch model No. Refer to Ending Page 18 for details.

Cylinder weight (X: body fixing) -

Values in ( ) include the switch mounting rail.

[Unit: kg]

Model No.	Stroke length (mm)								Switch weight per 1 pc.
	25	50	75	100	125	150	175	200	
UCA2-B-X-10	0.36(0.41)	0.42(0.47)	0.48(0.54)	0.54(0.61)	-	-	-	-	Refer to the weight in the switch specifications.
UCA2-B-X-16	0.80(0.85)	0.92(0.98)	1.05(1.11)	1.18(1.25)	1.31(1.38)	1.44(1.51)	1.56(1.65)	1.69(1.78)	
UCA2-B-X-25	1.32(1.37)	1.53(1.58)	1.73(1.79)	1.94(2.01)	2.14(2.22)	2.35(2.43)	2.55(2.75)	2.76(2.85)	
UCA2-B-X-32	2.21(2.26)	2.51(2.57)	2.81(2.87)	3.11(3.18)	3.41(3.49)	3.71(3.79)	4.01(4.10)	4.31(4.40)	

Cylinder weight (Y: plate fixing) -

Values in ( ) include the switch mounting rail.

[Unit: kg]

Model No.	Stroke length (mm)								Switch weight per 1 pc.
	25	50	75	100	125	150	175	200	
UCA2-B-Y-10	0.36(0.39)	0.42(0.46)	0.48(0.54)	0.54(0.60)	-	-	-	-	Refer to the weight in the switch specifications.
UCA2-B-Y-16	0.80(0.83)	0.92(0.96)	1.05(1.09)	1.18(1.22)	1.31(1.35)	1.44(1.48)	1.56(1.61)	1.69(1.74)	
UCA2-B-Y-25	1.32(1.36)	1.53(1.56)	1.73(1.77)	1.94(1.98)	2.14(2.18)	2.35(2.39)	2.55(2.60)	2.76(2.80)	
UCA2-B-Y-32	2.21(2.24)	2.51(2.54)	2.81(2.85)	3.11(3.15)	3.41(3.45)	3.71(3.75)	4.01(4.06)	4.31(4.36)	

How to order

Without switch (without magnet for switch)

UCA2-B — X - 10 ○ - 25 ———— P1A

With switch (built-in magnet for switch)

UCA2-BL - X - 10 ○ - 25 - T2H - RA - P1A

Ⓐ Fixing method

Ⓑ Bore size

Ⓒ Port thread

Ⓓ Stroke length
Refer to page 640 for the min. stroke length.

Ⓔ Switch model No.
*1

Ⓕ Switch quantity
*2

Ⓖ Option
*3

Code	Content
Ⓐ Fixing method	
X	Body fixing
Y	Plate fixing

Ⓑ Bore size (mm)	
10	φ10
16	φ16
25	φ25
32	φ32

Ⓒ Port thread	
Blank	Rc thread
NN	NPT thread (φ25 and over) (custom order product)
GN	G thread (φ25 and over) (custom order product)

Ⓓ Stroke length (mm)

Bore size (φ)		10	16	25	32
25	25	●	●	●	●
50	50	●	●	●	●
75	75	●	●	●	●
100	100	●	●	●	●
125	125		●	●	●
150	150		●	●	●
175	175		●	●	●
200	200		●	●	●

Ⓔ 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***		●	●	no indicator lamp	
T2H*	**T2V***	Prox.		●	1-color display	2-wire
T3H*	**T3V***			●		3-wire
T3PH*	**T3PV***			●	1-color display (PNP output) (custom)	3-wire
T2WH*	**T2WV***	Prox.		●	2-color display	2-wire
T3WH*	**T3WV***			●		3-wire

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

Ⓕ Switch quantity

RA	1	Plate A side
RB		Plate B side
D	2	
T	3	

Ⓖ Option

P1A	Single adjusting stopper	Plate A side
P1B		Plate B side
P2	Double adjusting stoppers	

⚠ Precautions for model No. selection

*1 : Magnet is not built into the type without switch. For specifications with switch but without switch installed, a magnet and magnet rail are mounted but a switch rail is not.
*2 : Min. stroke length with three switches: 75 (mm)
*3 : Difference between side A and side B is described in the dimensions.

[Example of model No.]

UCA2-BL-X-10-25-T2H-RA-P1A

Model: Unit cylinder ball bearing
Ⓐ Fixing method : Body fixing
Ⓑ Bore size : φ10 mm
Ⓒ Port thread : Rc thread
Ⓓ Stroke length : 25 mm
Ⓔ Switch model No.: Proximity switch T2H, lead wire length 1 m
Ⓕ Switch quantity : 1 (plate A side)
Ⓖ Option : Single adjusting stopper (plate A side)

How to order switch

● Switch body + mounting bracket set (including switch rail)...①

UCA2-B - T0H - X - 10 - 25 - RA

- T0H: Switch model No. (Item Ⓔ on the previous page)
- X: Fixing method (Item Ⓐ on the previous page)
- 10: Bore size (Item Ⓑ on the previous page)
- 25: Stroke length (Item Ⓓ on the previous page)
- RA: Switch quantity (Item Ⓕ on the previous page)

● Mounting bracket set (including switch rail) + magnet...②

UCA2-B - T - X - 10 - 25

- X: Fixing method (Item Ⓐ on the previous page)
- 10: Bore size (Item Ⓑ on the previous page)
- 25: Stroke length (Item Ⓓ on the previous page)

● Mounting bracket set (including switch rail)...③

UCA2-B - T - X - 10 - 25 - SW - RAIL

- X: Fixing method (Item Ⓐ on the previous page)
- 10: Bore size (Item Ⓑ on the previous page)
- 25: Stroke length (Item Ⓓ on the previous page)

● Switch body only...④

SW - T0H

- T0H: Switch model No. (Item Ⓔ on the previous page)

1) When changing from the type without switch to the type with T type switch

Changed content	Switch required	Switch not required
UCA2-B-[X.Y] → UCA2-BL-[X.Y]	② + ④	②

* A switch can be installed separately even if “switch not required” is selected. (when you already have a T type switch, etc.)

2) When only the magnet for T type switch is installed

Changed content	Switch required	Switch not required
UCA2-BL-[X.Y] → UCA2-BL-[X.Y] Without switch With switch	①	③

When it was not possible to install a switch in UCA2-BL and up models. (Magnet only installed)

3) When changing from the type with S type switch to the type with T type switch

Changed content	Switch required	Switch not required
S type switch → T type switch	② + ④	-

* Set of switch rail, mounting bracket and switch body will be replaced.

How to order shock absorber set

● For φ10

UCA2-10-NCK

● For φ16 to φ32 (common)

UCA2-16-NCK

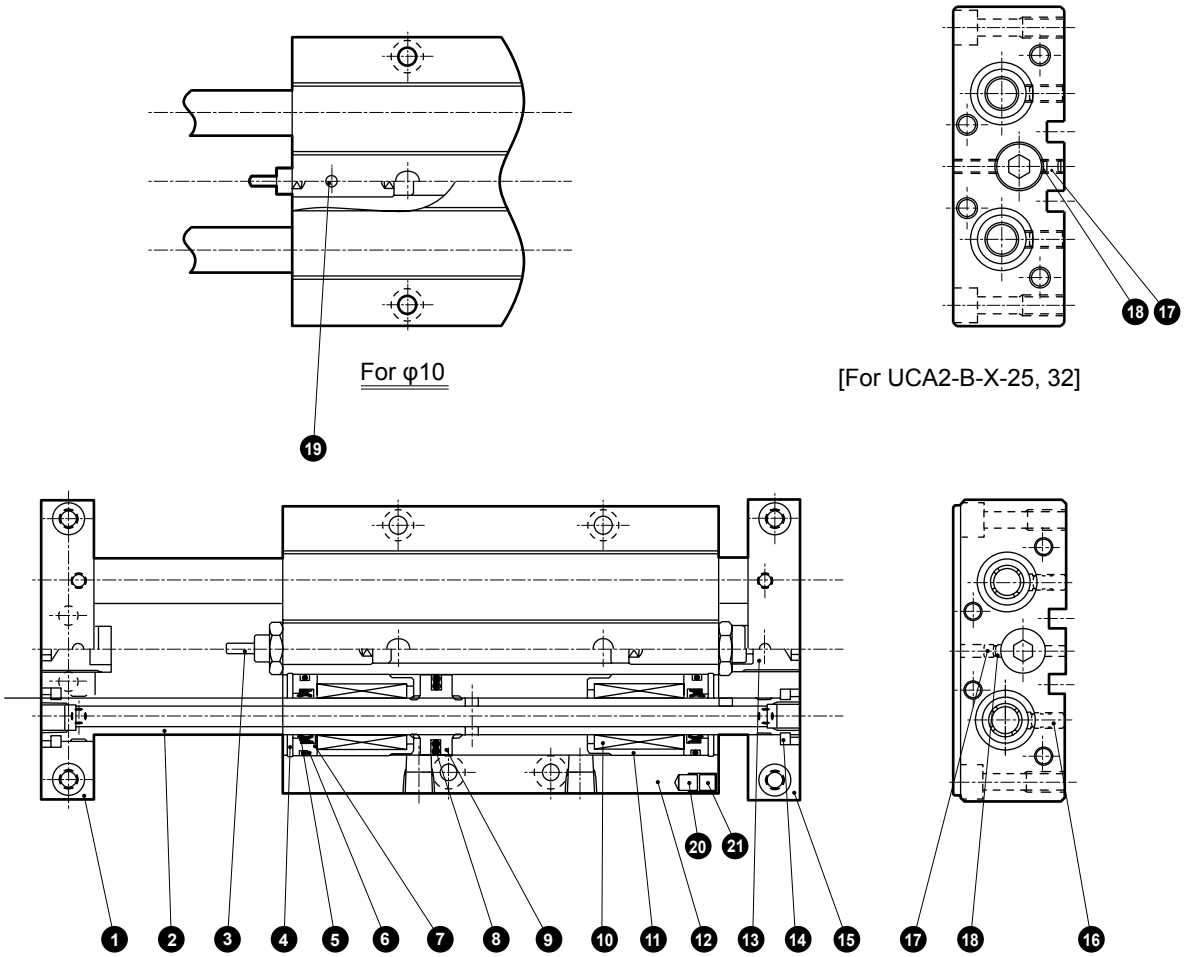
Specifications for rechargeable battery

(Catalog No. CC-1226A)

● Design compatible with rechargeable battery manufacturing process.

UCA2-B - …… - P4*

Internal structure and parts list



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate (A)	Aluminum alloy	Alumite	11	Housing	Aluminum alloy	φ25 and φ32 only
2	Piston rod	Steel	Industrial chrome plating	12	Cylinder body	Aluminum alloy	Hard alumite
3	Shock absorber		φ10:UCA2-10-NCK φ16 to 32:UCA2-16-NCK	13	Stopper	Steel	Chromate
				14	Split ring	Steel	Black finish
4	C type snap ring for hole	Steel	Zinc phosphate	15	End plate (B)	Aluminum alloy	Alumite
5	Rod packing	Nitrile rubber		16	Hexagon socket set screw	Alloy steel	Black finish
6	Rod metal gasket	Nitrile rubber		17	Hexagon socket set screw	Alloy steel	
7	Rod metal	Aluminum alloy	Chromate	18	Set shoe	Aluminum alloy	
8	Piston packing	Nitrile rubber		19	Hexagon socket set screw	Alloy steel	
9	Piston	Aluminum alloy		20	Magnet	Special alloy	UCA2-L-Y only
10	Ball bearing			21	Hexagon socket set screw	Stainless steel	UCA2-L-Y only

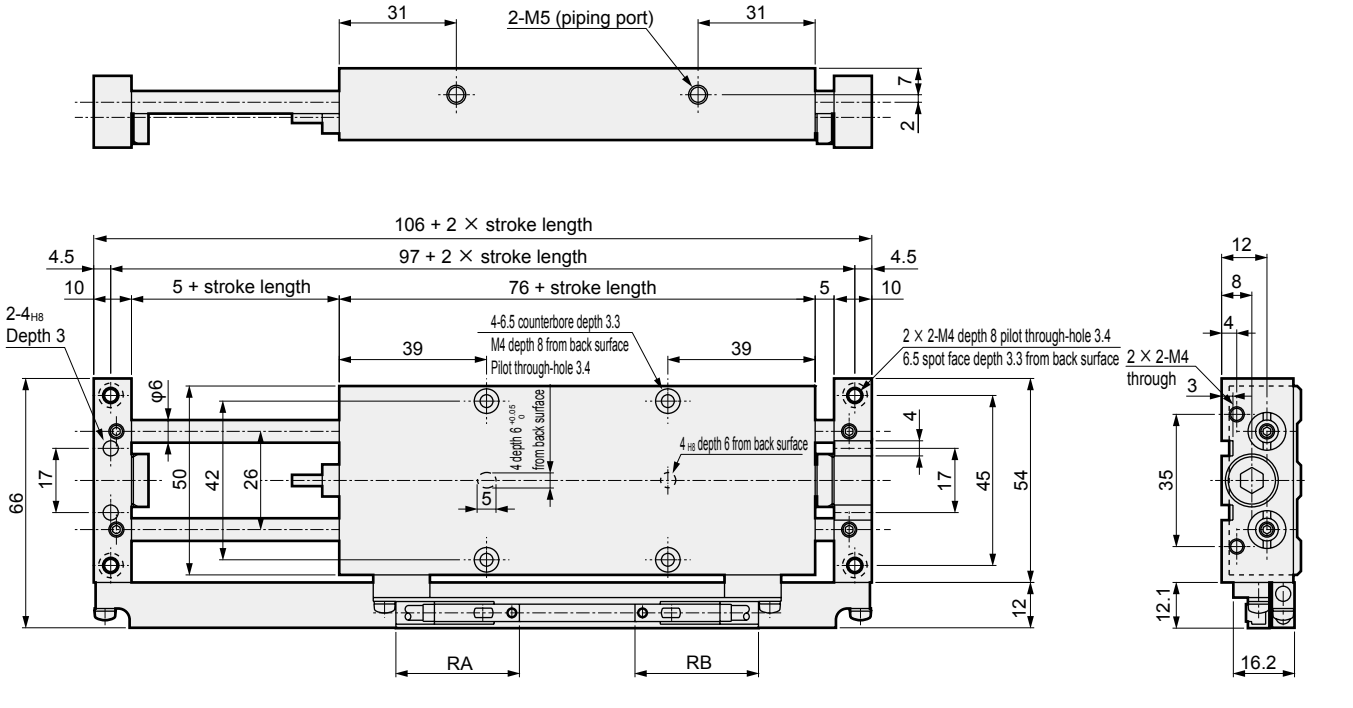
Repair parts list

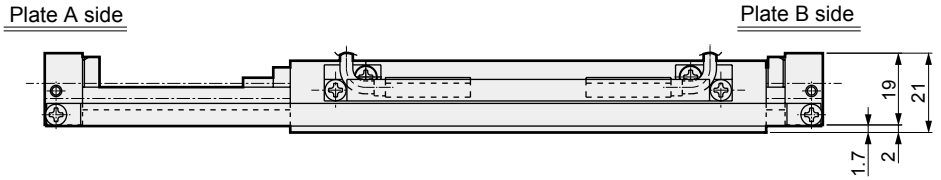
Bore size (mm)	Kit No.	Repair parts No.
φ10	UCA2-10K	❺ ❻ ❽ ⓰
φ16	UCA2-16K	
φ25	UCA2-25K	
φ32	UCA2-32K	

Note: The repair parts are common between the metal bush bearing and ball bearing.

Dimensions: φ10 CAD

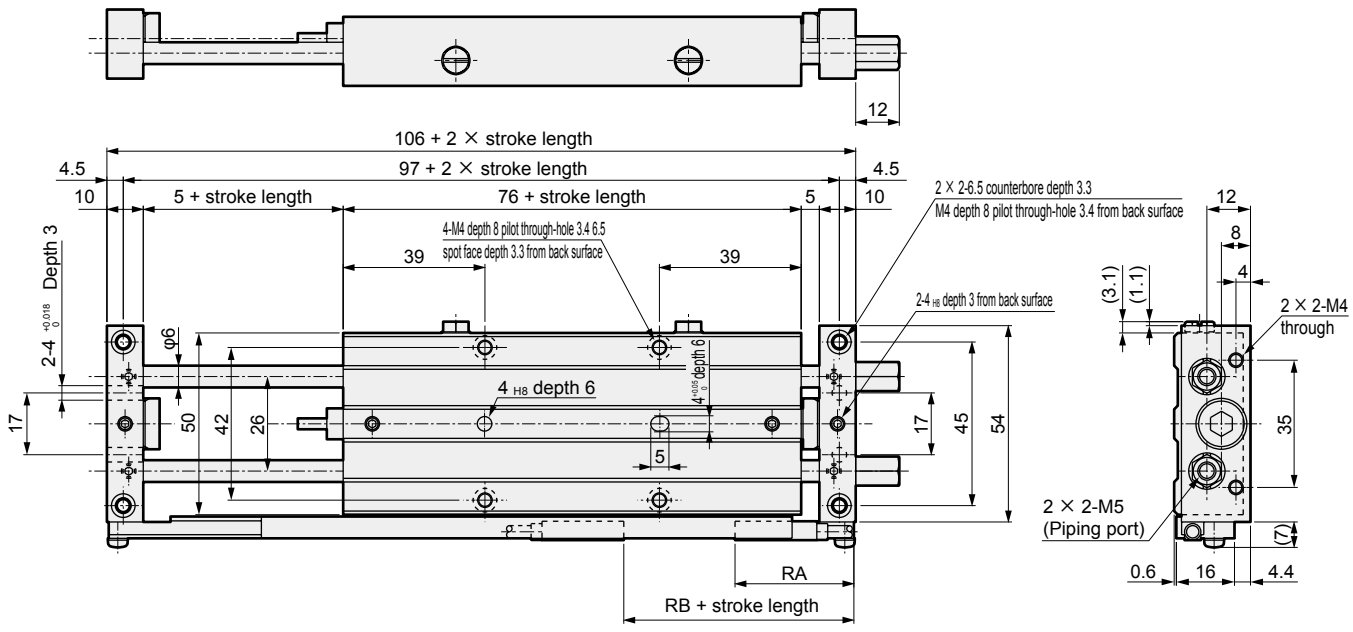
● Body fixing (X)

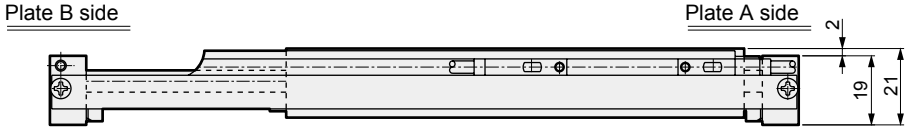




Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)



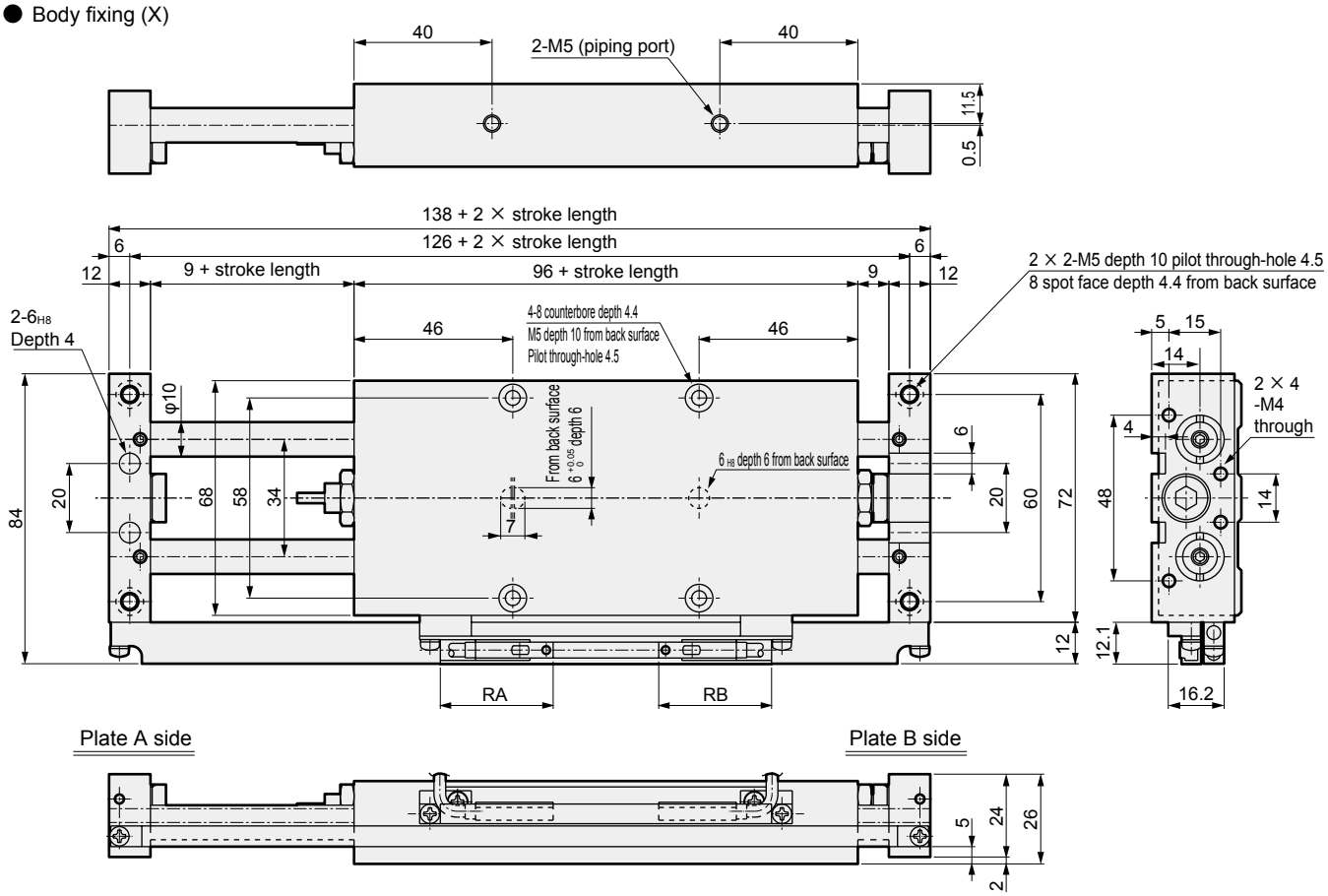


Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	13.3	14	15.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

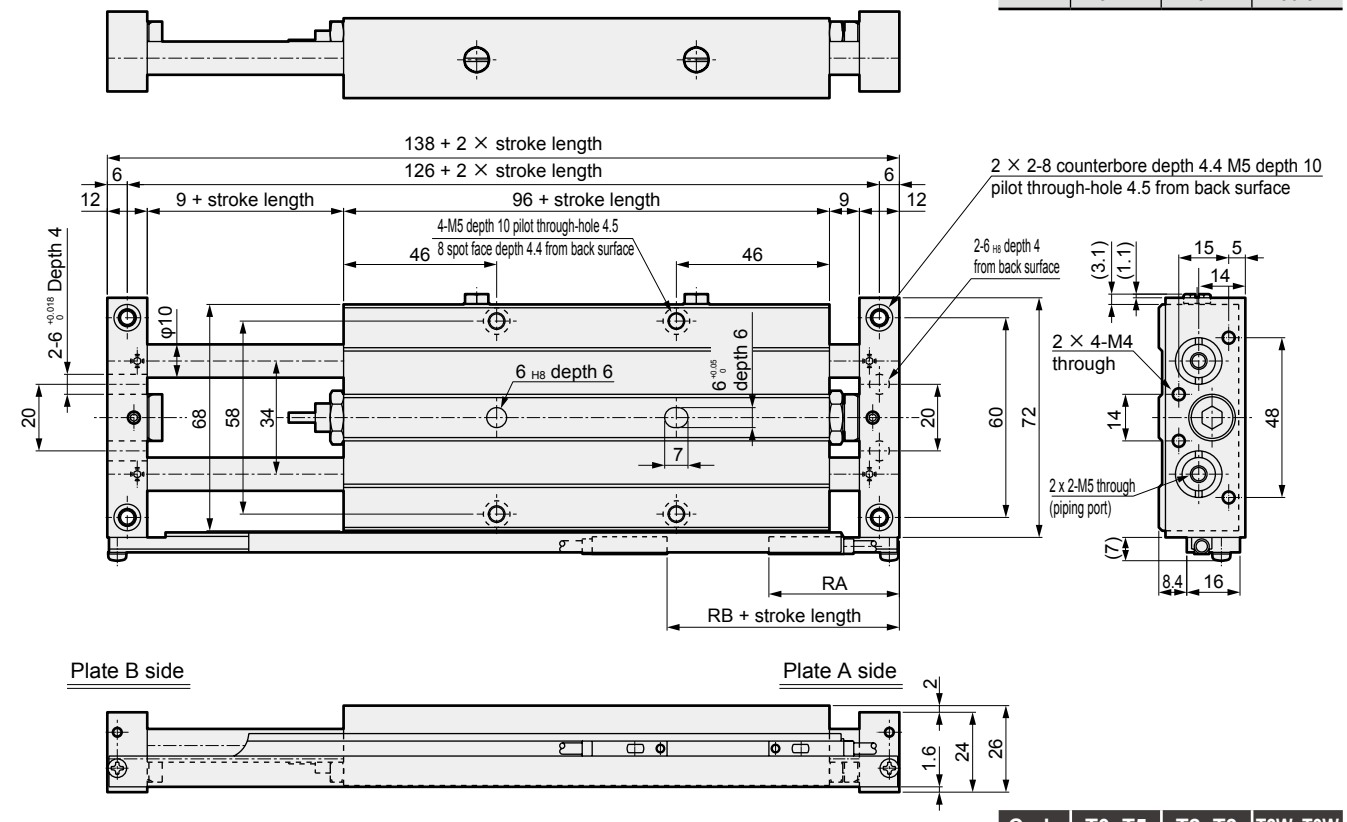
Dimensions: φ16 CAD

● Body fixing (X)



Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)

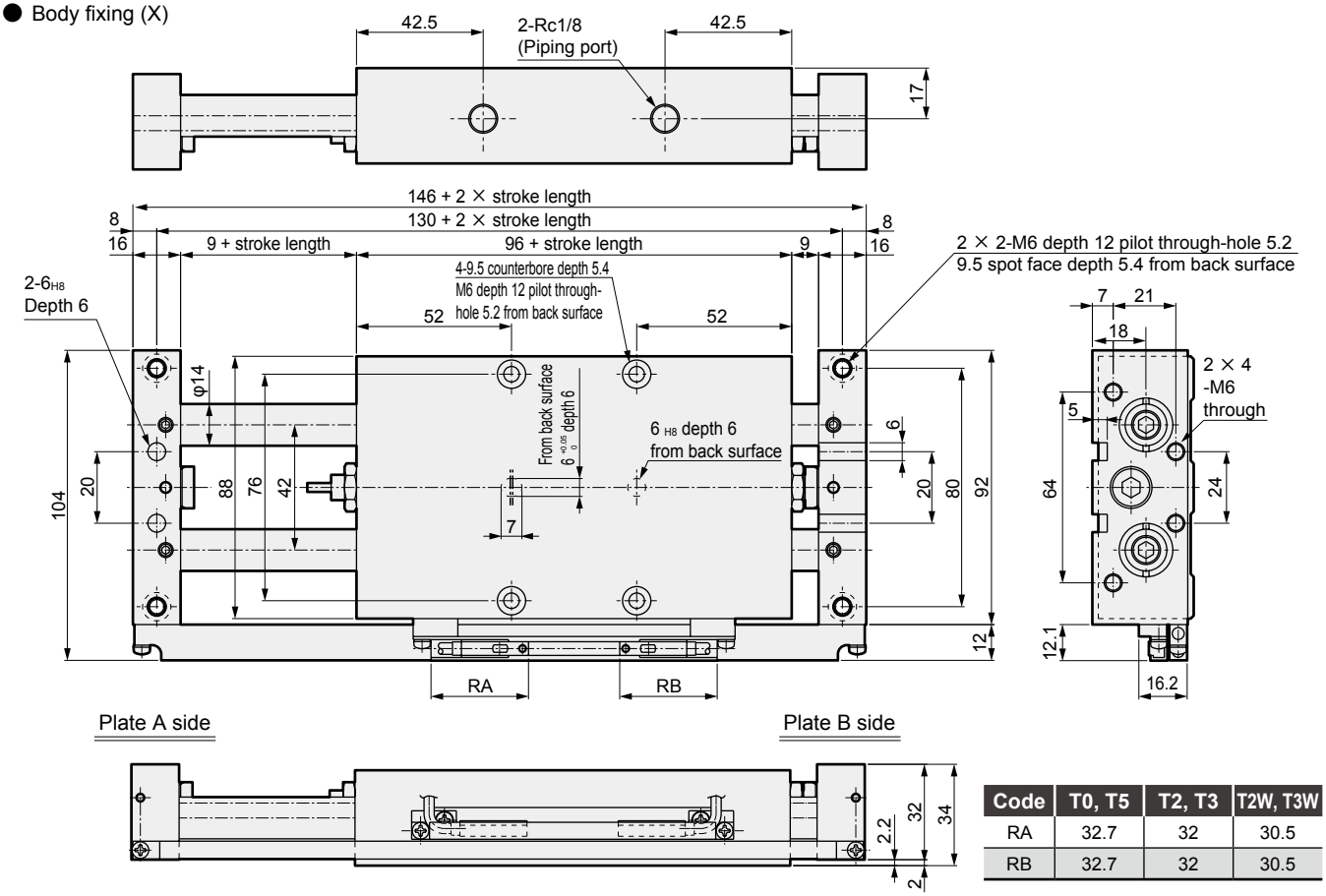


Code	T0, T5	T2, T3	T2W, T3W
RA	38.7	38	36.5
RB	19.3	20	21.5

* Adjusting to a longer stroke length with the stopper may cause malfunction. Refer to page 657 for details.

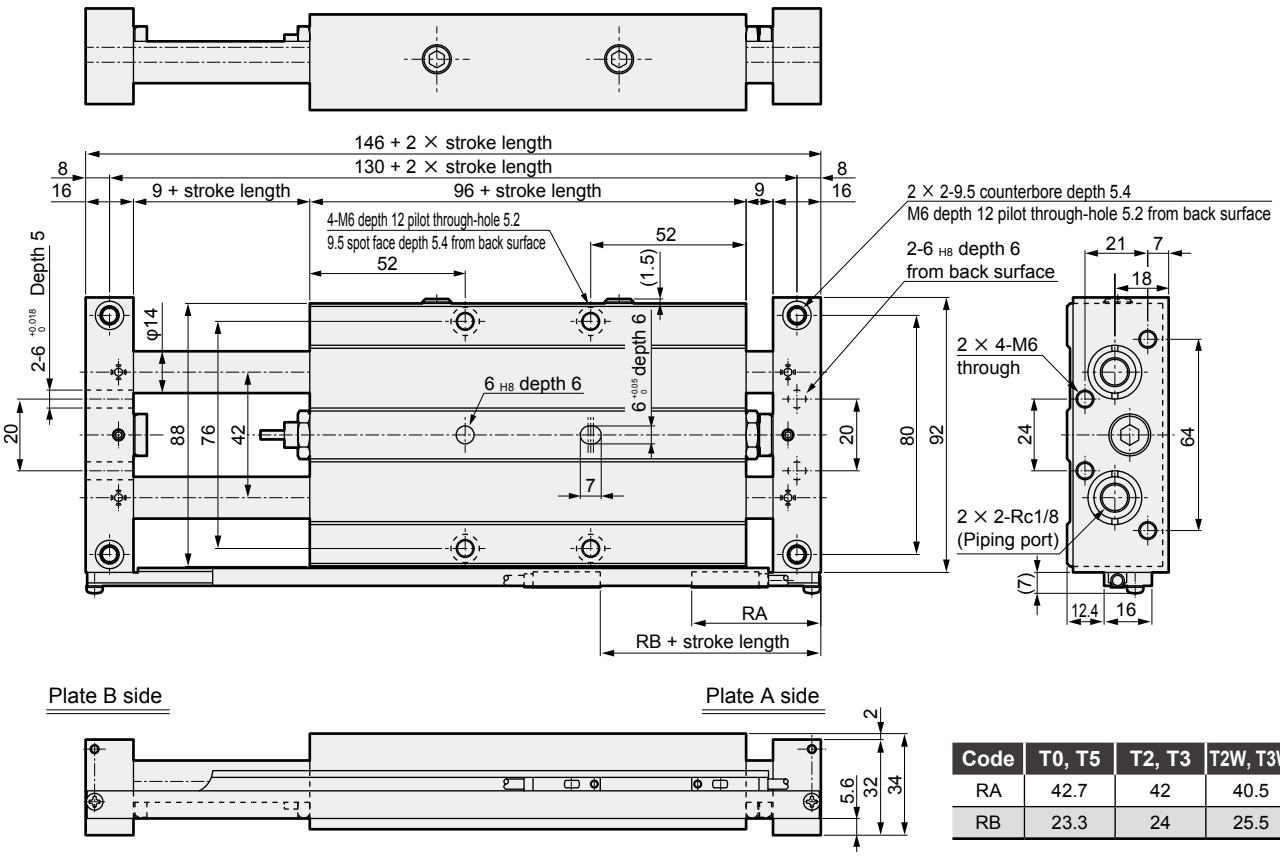
Dimensions: φ25 CAD

● Body fixing (X)



Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)

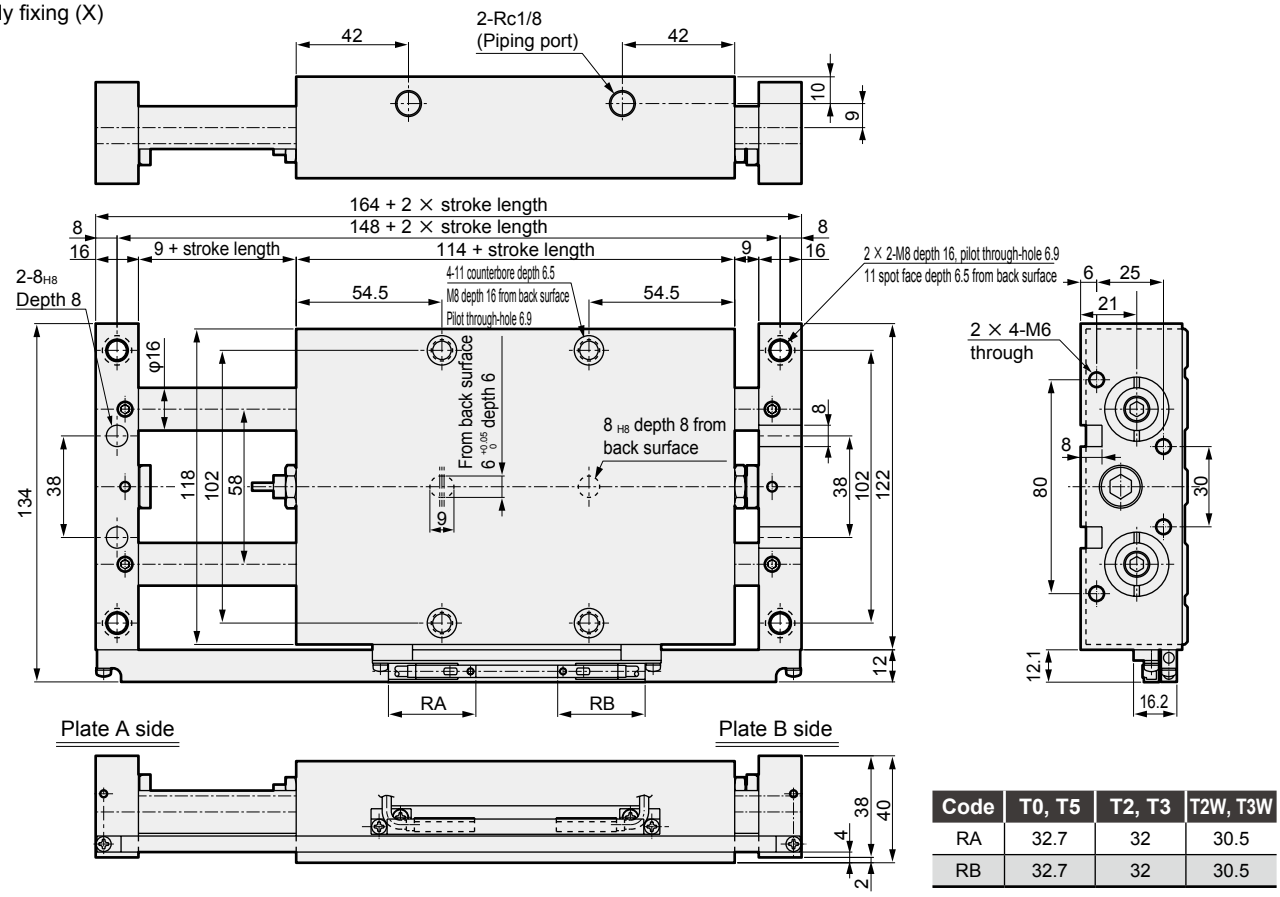


Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

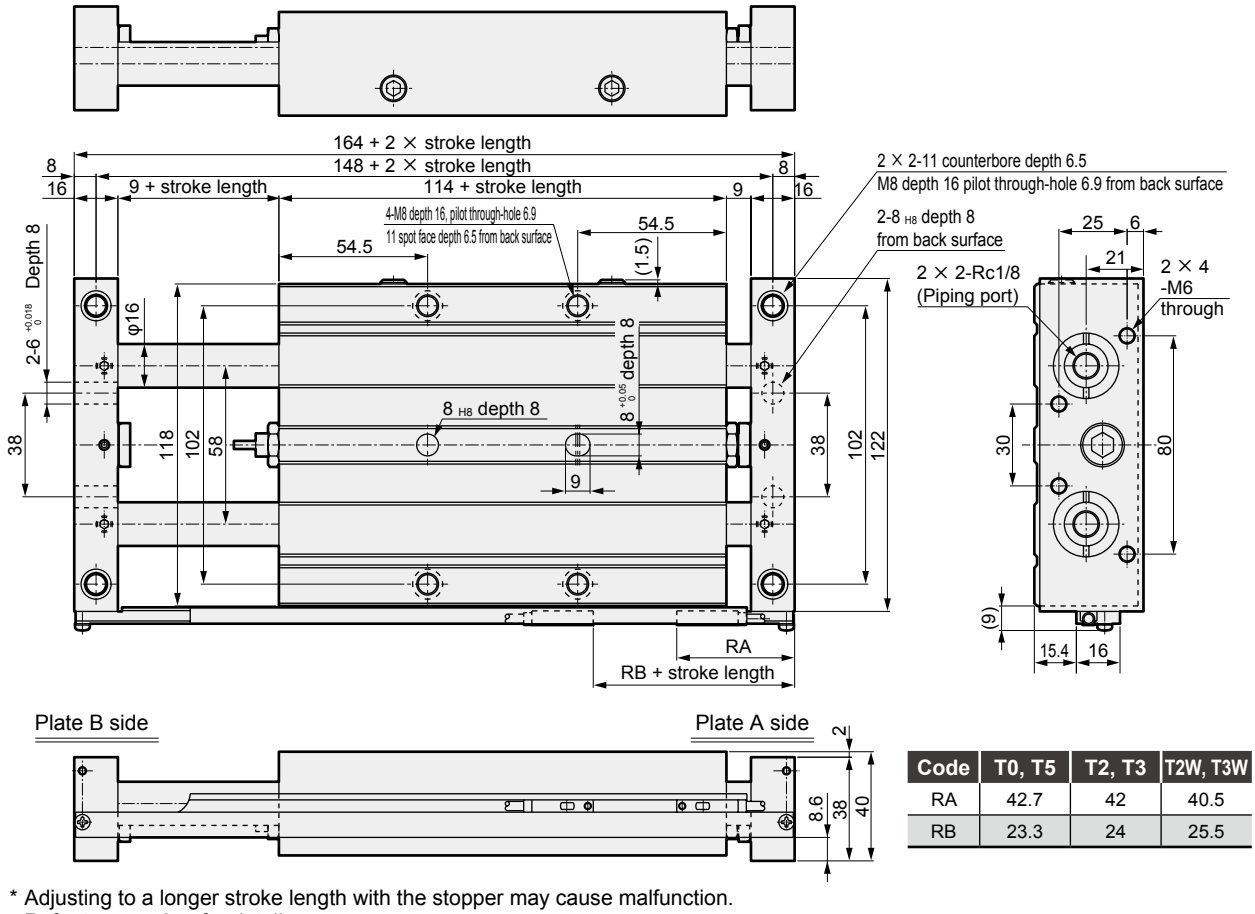
Dimensions: φ32 CAD

● Body fixing (X)



Code	T0, T5	T2, T3	T2W, T3W
RA	32.7	32	30.5
RB	32.7	32	30.5

● Plate fixing (Y)

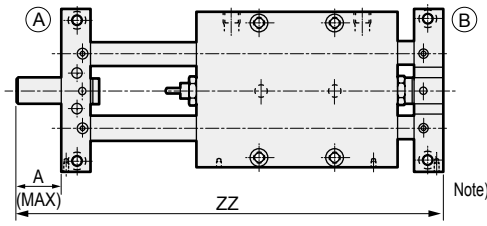


Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

* Adjusting to a longer stroke length with the stopper may cause malfunction.
Refer to page 657 for details.

Dimensions: Adjusting stopper

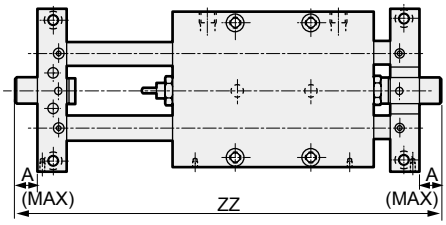
● UCA2-B-$\frac{X}{Y}$-$\begin{matrix}10\\16\\25\\32\end{matrix}$-* *-P1* (single adjusting stopper)



Note) P1A: Plate A side
P1B: Plate B side

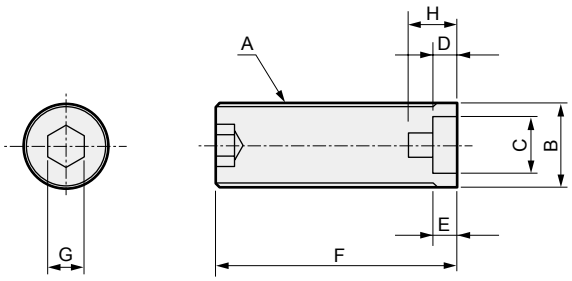
Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-B-10	25	181	231	281	331	-	-	-	-
UCA2-B-16		213	263	313	363	413	463	513	563
UCA2-B-25		221	271	321	371	421	471	521	571
UCA2-B-32		239	289	339	389	439	489	539	589

● UCA2-B-$\frac{X}{Y}$-$\begin{matrix}10\\16\\25\\32\end{matrix}$-* *-P2* (double adjusting stoppers)



Model No.	A(MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-B-10	12.5	181	231	281	331	-	-	-	-
UCA2-B-16		213	263	313	363	413	463	513	563
UCA2-B-25		221	271	321	371	421	471	521	571
UCA2-B-32		239	289	339	389	439	489	539	589

Stopper dimensions



Code / Bore size (mm)	A	B	C	D	E	F		G	H
φ10	M14×1	φ14	φ10	4	4	Standard	14.5	6	8
						P2	27		
						P1	39.5		
φ16	M14×1	φ14	φ9.4	8	4	Standard	17	6	-
						P2	29.5		
						P1	42		
φ25	M14×1	φ14	φ9.4	6.5	4	Standard	21	6	-
						P2	33.5		
						P1	46		
φ32	M16×1	φ16	φ9.4	5.5	4	Standard	21	8	-
						P2	33.5		
						P1	46		

Model No. of discrete adjusting stoppers

● Standard

Part/part name / Bore size (mm)	Standard stopper		Single stopper		Double stoppers	
	Model No.	Weight g	Model No.	Weight g	Model No.	Weight g
φ10	UCA2-P-10	12	UCA2-P1-10	38	UCA2-P2-10	25
φ16	UCA2-P-16	12	UCA2-P1-16	38	UCA2-P2-16	25
φ25	UCA2-P-25	17	UCA2-P1-25	44	UCA2-P2-25	30
φ32	UCA2-P-32	22	UCA2-P1-32	58	UCA2-P2-32	40

■ Stopper adjustment method

- To adjust the stroke length, loosen the fixing set screw and turn the stopper bolt. After adjustment, tighten the fixing set screw. Recommended tightening torque of set screw: 1.4 N·m
- Adjustable ranges of the stoppers are shown in Table A.
- Do not adjust to a longer stroke length. Doing so may cause malfunction. Keep the standard stopper from protruding from the end plate.
  Keep the single adjusting stopper P1 and double adjusting stoppers P2 from protruding more than the initial state.

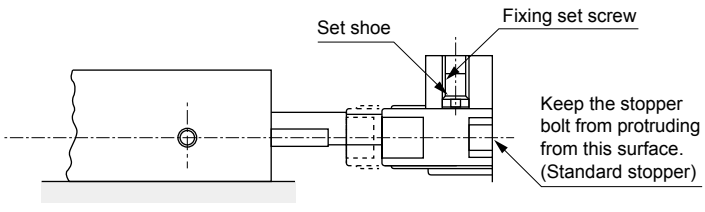


Table A

Descriptions	Adjustable stroke length		Initial protrusion B
Standard stopper	Each side	-5 mm	0 mm
Single adjusting stopper P1A	Plate A side	-30 mm	P1 : 25 mm Standard: 0 mm
	Plate B side	-5 mm	
Single adjusting stopper P1B	Plate B side	-30 mm	
	Plate A side	-5 mm	
Double adjusting stoppers P2	Each surface	-17.5 mm	12.5 mm