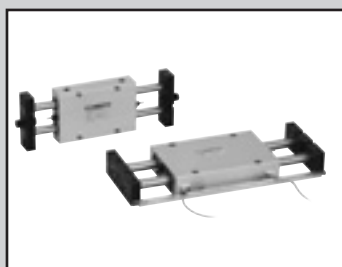


LCM
 LCR
 LCG
 LCW
 LCX
 STM
 STG
 STS/STL
 STR2
UCA2
 ULK*
 JSK/M2
 JSG
 USC3/USC4
 USSD
 UFCD
 USC
 UB
 JSB3
 LMB
 LML
 HCM
 HCA
 LBC
 CAC4
 UCAC2
 CAC-N
 UCAC-N
 RCS2
 RCC2
 PCC
 SHC
 MCP
 GLC
 MFC
 BBS
 RRC
 GRC
 RV3*
 NHS
 HRL
 LN
 Hand
 Chuk
 MecHnd/Chuk
 ShkAbs
 FJ
 FK
 SpdContr
 Ending



Unit cylinder Metal bush bearing/with switch

UCA2 Series

● Bore size: $\varnothing 10/\varnothing 16/\varnothing 25/\varnothing 32$

JIS symbol



Specifications

Item		UCA2 UCA2-L (with switch)			
Bore size	mm	ø10	ø16	ø25	ø32
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 is 0 mm (excluding deflection of the piston rod)

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch (mm)
$\varnothing 10$	25/50/75/100	100	25	10: With 1 switch (*2) 20: With 2 switches (*2) 75: With 3 switches
$\varnothing 16$	25/50/75/100	200		
$\varnothing 25$		200		
$\varnothing 35$		200		

*1: Products with stroke other than standard stroke are not available.

*2: Min. stroke 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
$\varnothing 10$	Push	-	15.1	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
	Pull	-	15.1	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
$\varnothing 16$	Push	-	36.8	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	-	36.8	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
$\varnothing 25$	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
$\varnothing 32$	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 LED

Item	Reed 2-wire				Proximity 2-wire		Proximity 3-wire		
	T0H/T0V		T5H/T5V		T2H/T2V	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3WH/ T3WV
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (no 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 50mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 20 mA (*3)		100 mA or less		50 mA or less
Indicator lamp	LED (Lit when ON)		No 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	0mA				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 : 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.

Cylinder weight (X: body fixing)

—Values in () include the switch mounting rail.

[Unit: kg]

Model No.	Stroke (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 (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)	

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

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

A Fixing method

B Bore size

C Port thread

D Stroke

Refer to page 640 for the min. stroke.

E Switch model No.
*1

F Switch quantity
*2

G Option
*3

Code	Description					
A Fixing method						
X	Body fixing					
Y	Plate fixing					
B Bore size (mm)						
10	ø10					
16	ø16					
25	ø25					
32	ø32					
C Port thread						
Blank	Rc thread					
NN	NPT thread (ø25 and over) (Made-to-order product)					
GN	G thread (ø25 and over) (made-to-order product)					
D Stroke (mm)						
Bore size (ø)		10	16	25	32	
25	25	●	●	●	●	
50	50	●	●	●	●	
75	75	●	●	●	●	
100	100	●	●	●	●	
125	125		●	●	●	
150	150		●	●	●	
175	175		●	●	●	
200	200		●	●	●	
E Switch model No.						
Straight Lead wire	L-shaped Lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	No indicator lamp	
T2H*	T2V*	Prox.		●	1-color LED	2-wire
T3H*	T3V*			●		3-wire
T3PH*	T3PV*	Prox.		●	1-color LED (PNP output)	3-wire
T2WH*	T2WV*			●		2-wire
T3WH*	T3WV*			●	2-color LED	3-wire
* Lead wire length						
Blank	1m (Standard)					
3	3m (Option)					
5	5m (Option)					
F Switch quantity						
RA	1	Plate A side				
RB		Plate B side				
D	2					
T	3					
G 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 with three switches: 75 (mm)

*3 : Difference between side A and side B is described in the dimensions.

[Example of model No.]

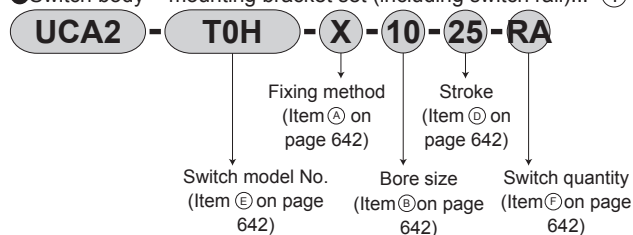
UCA2-L-X-10-25-T2H-RA-P1A

Model: Unit cylinder metal bush bearing

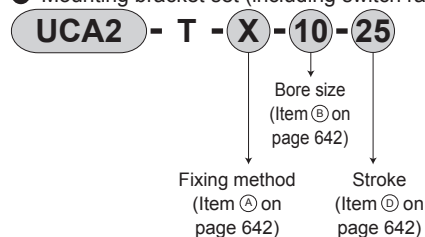
- A Fixing method : Body fixing
- B Bore size : ø10 mm
- C Port thread : Rc thread
- D Stroke : 25mm
- E Switch model No. : Proximity switch T2H, lead wire length 1 m
- F Switch quantity : 1 (plate A side)
- G Option : Single adjusting stopper (plate A side)

How to order switch

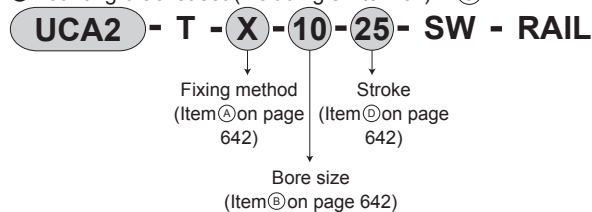
- Switch body + mounting bracket set (including switch rail)... ①



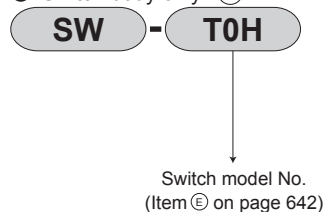
- Mounting bracket set (including switch rail) + magnet...②



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



- Switch body only...④



1) When changing from the type without switch to the type with T-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-switch, etc.)

2) When only the magnet for T-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-switch

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

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

How to order shock absorber set

- For ø10

UCA2-10-NCK

- For ø16 to ø32 (common)

UCA2-16-NCK

Specifications for rechargeable battery (Catalog No. CC-1226A)

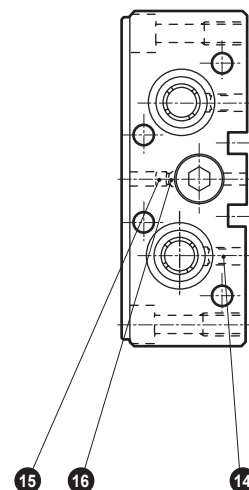
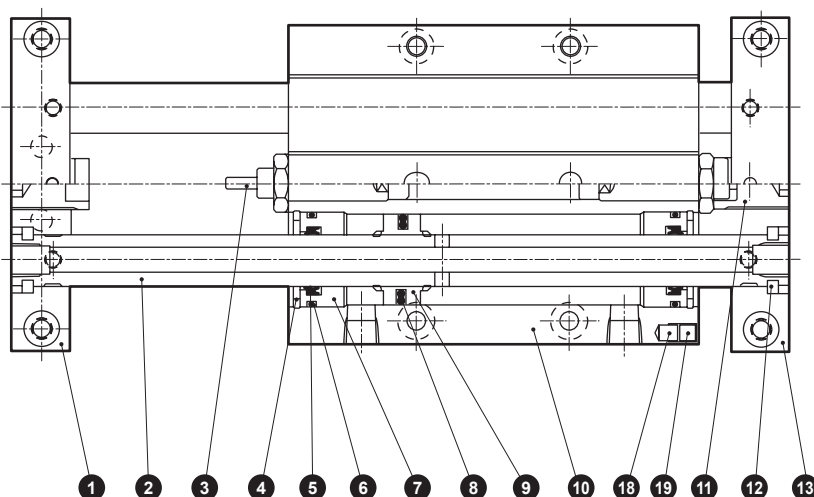
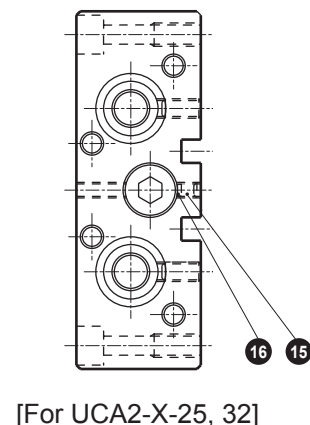
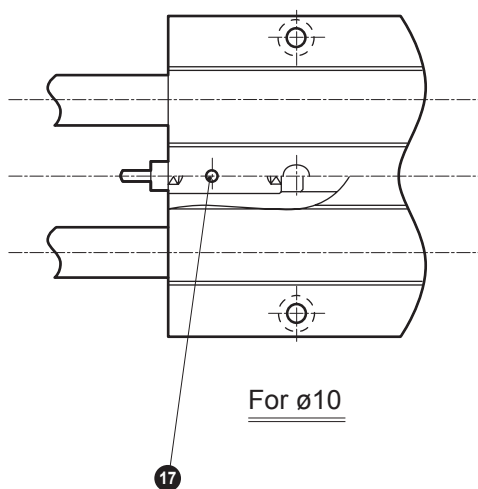
- Design compatible with rechargeable battery manufacturing process.

UCA2-..... - P4*

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Internal structure and parts list

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



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		ø10:UCA2-10-NCK ø16 to 32:UCA2-16-NCK	12	Split ring	Steel	Black finish
4	C-snap ring for hole	Steel	Zinc phosphate	13	End plate (B)	Aluminum alloy	Alumite
5	Rod packing	Nitrile rubber		14	Hexagon socket set screw	Alloy steel	Black finish
6	Rod metal gasket	Nitrile rubber		15	Hexagon socket set screw	Alloy steel	
7	Rod metal	Aluminum alloy	Alumite	16	Set shoe	Aluminum alloy	
8	Piston packing	Nitrile rubber		17	Hexagon socket set screw	Alloy steel	
9	Piston	Aluminum alloy		18	Magnet	Special alloy	UCA2-L-Y only
				19	Hexagon socket set screw	Stainless steel	UCA2-L-Y only

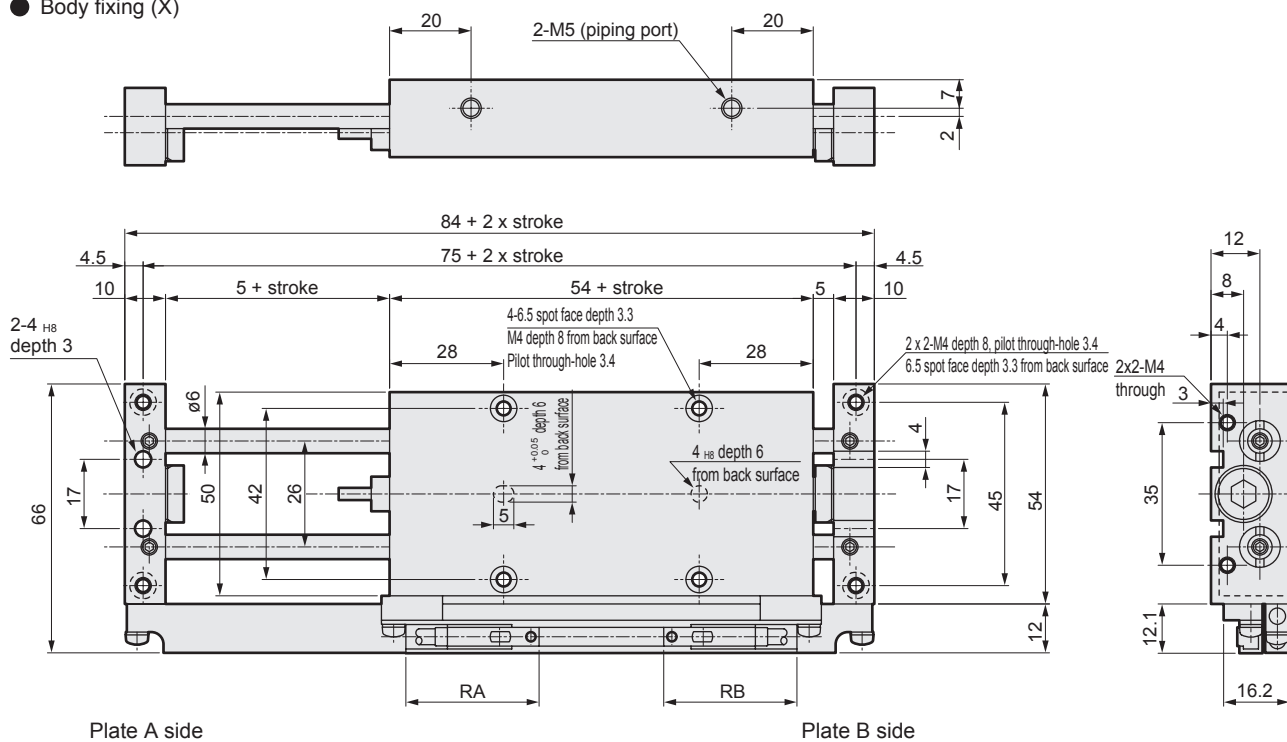
Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø10	UCA2-10K	5 6 8 14
ø16	UCA2-16K	
ø25	UCA2-25K	
ø32	UCA2-32K	

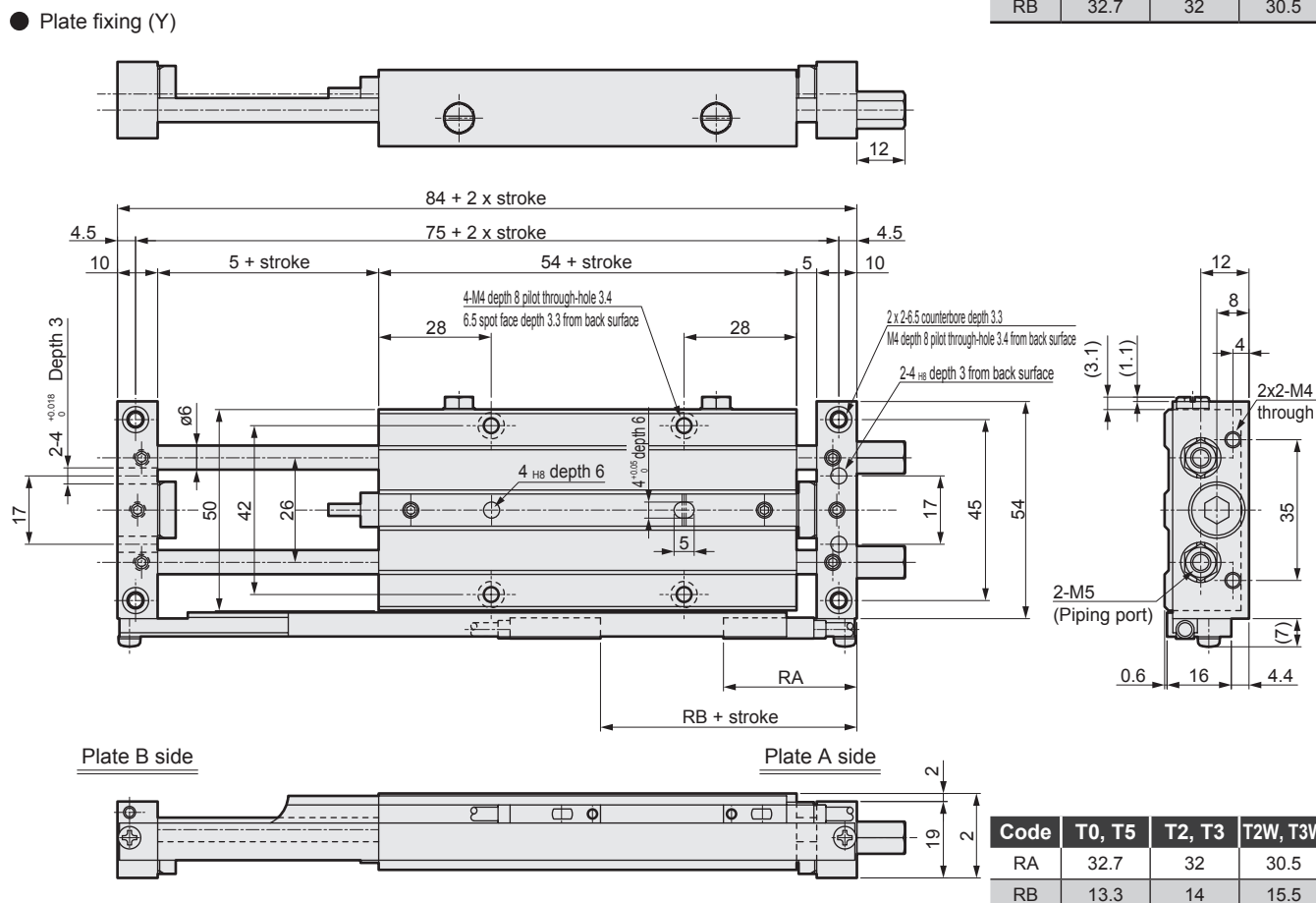
Note: The repair parts are common between the metal bush bearing and ball bearing.

Dimensions: $\varnothing 10$ 

● Body fixing (X)



● Plate fixing (Y)

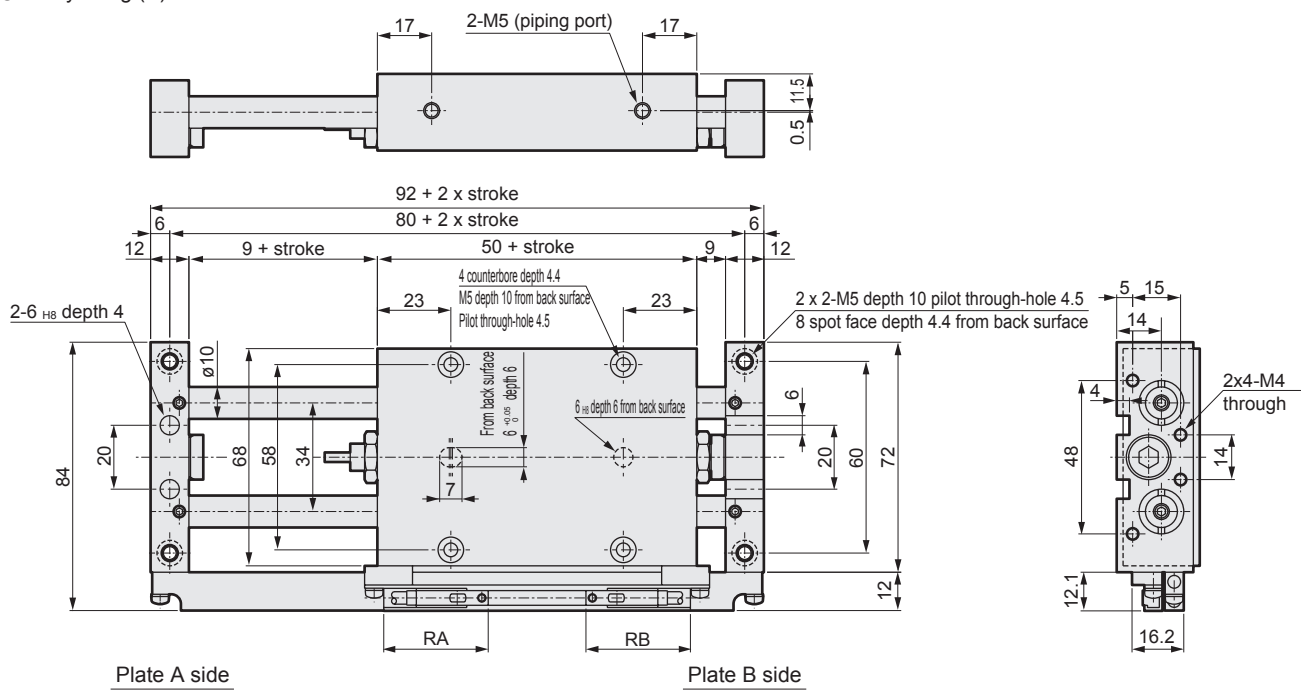


* Adjusting to a longer stroke with the stopper may cause malfunction.
Refer to page 667 for details.



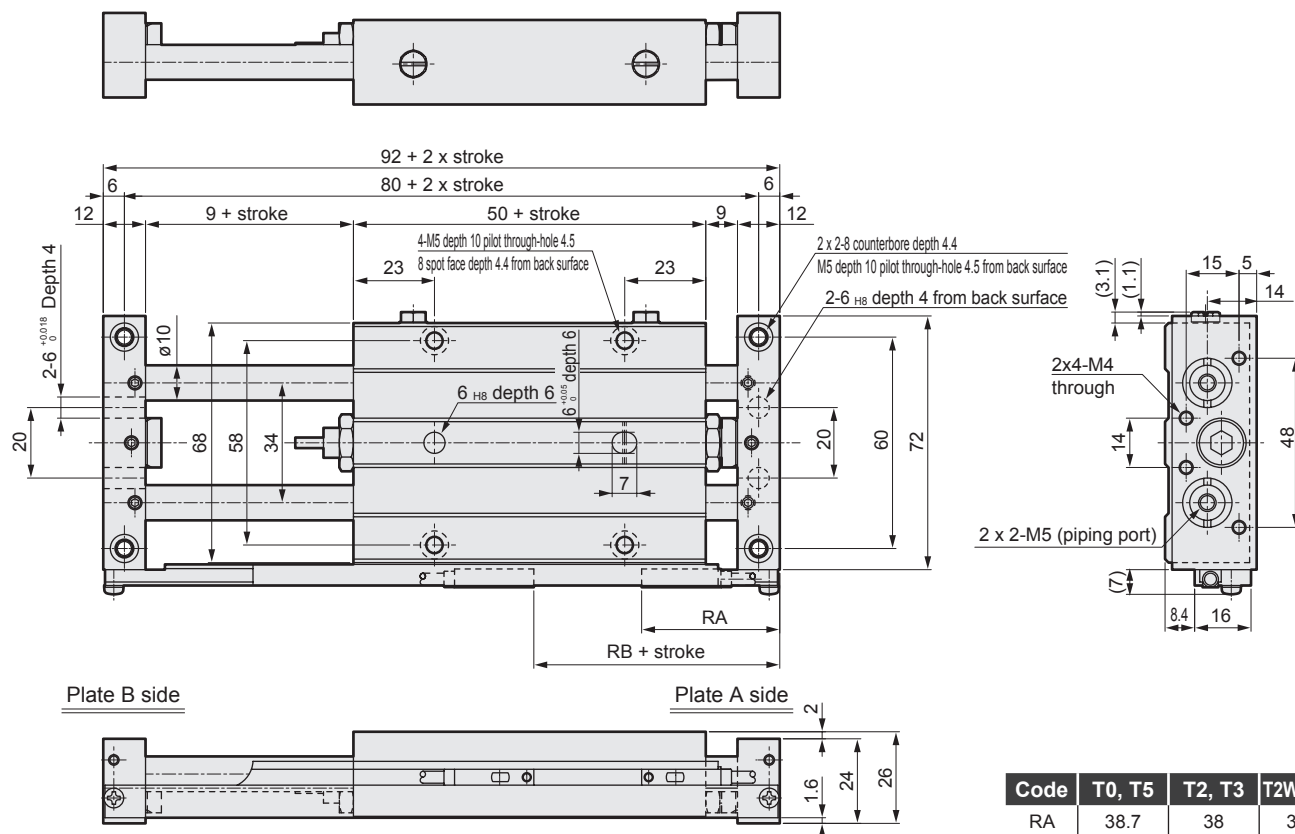
Dimensions: $\varnothing 16$

● Body fixing (X)



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

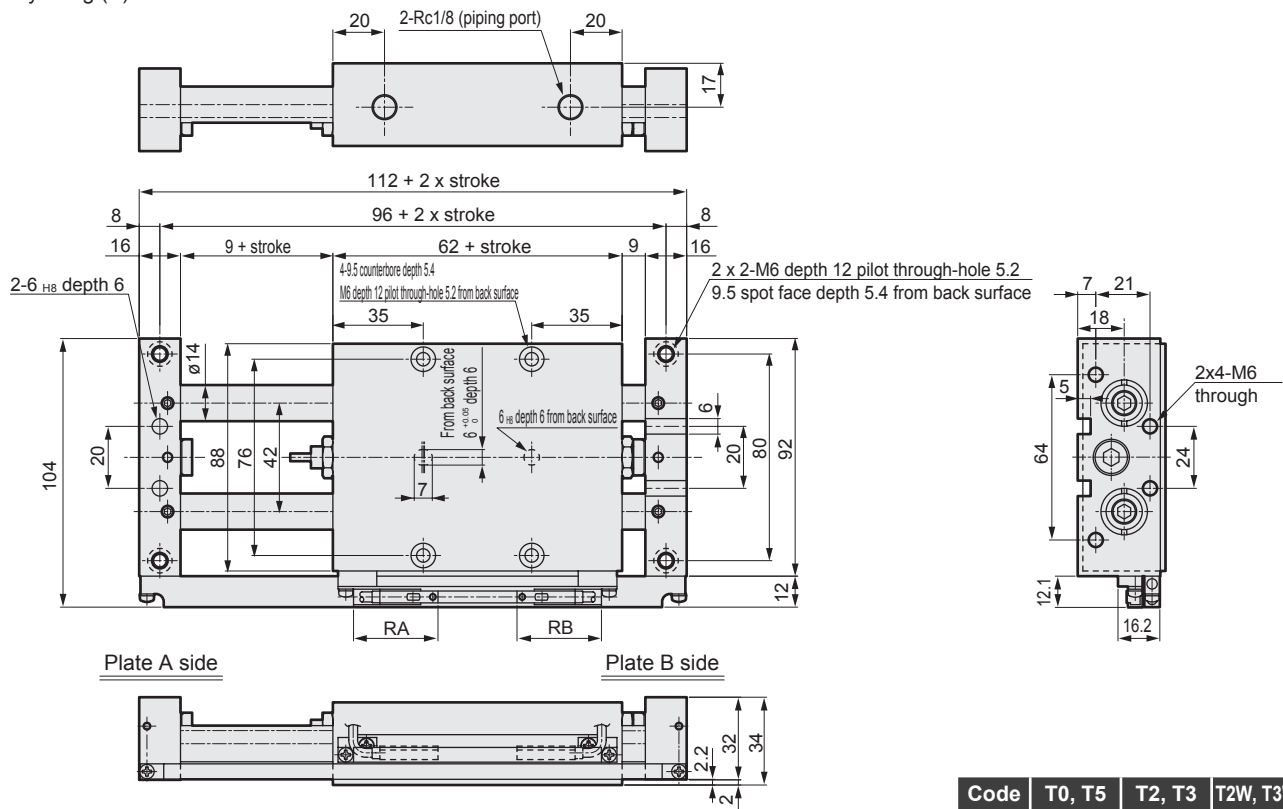
● Plate fixing (Y)



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

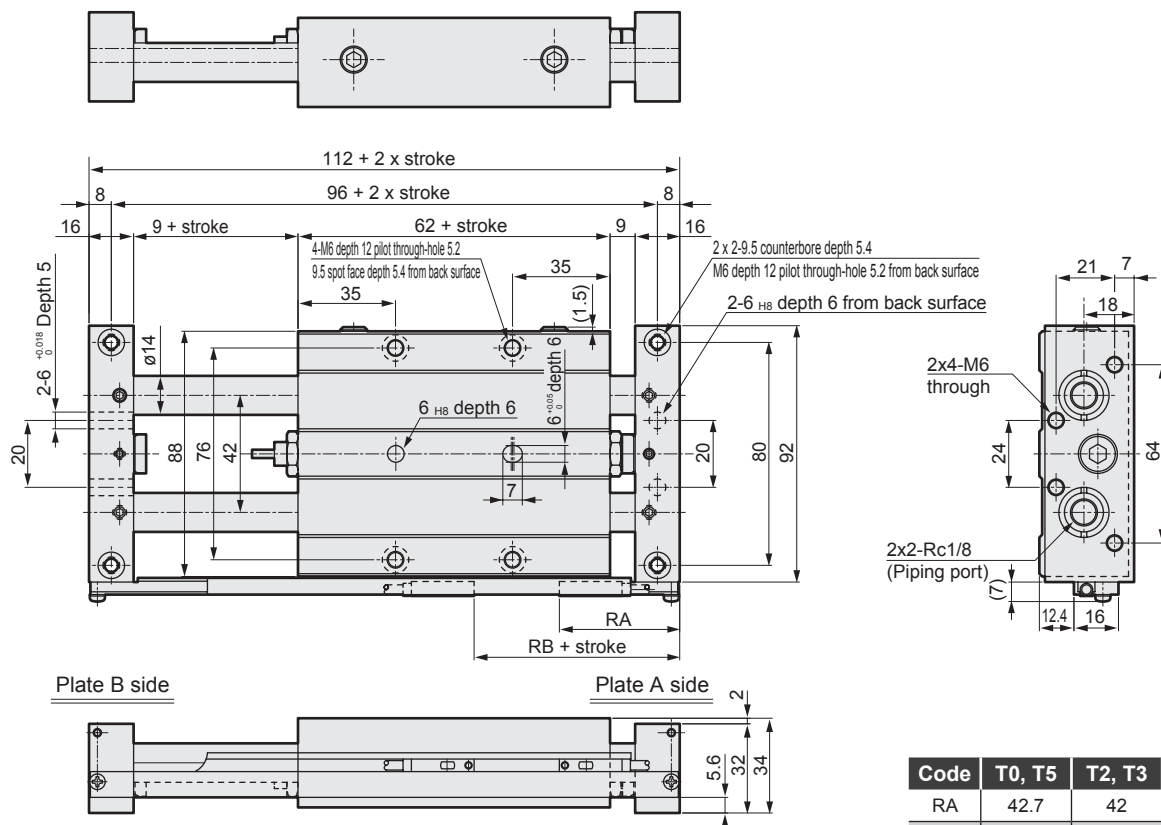
* Adjusting to a longer stroke with the stopper may cause malfunction. Refer to page 667 for details.

- 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)



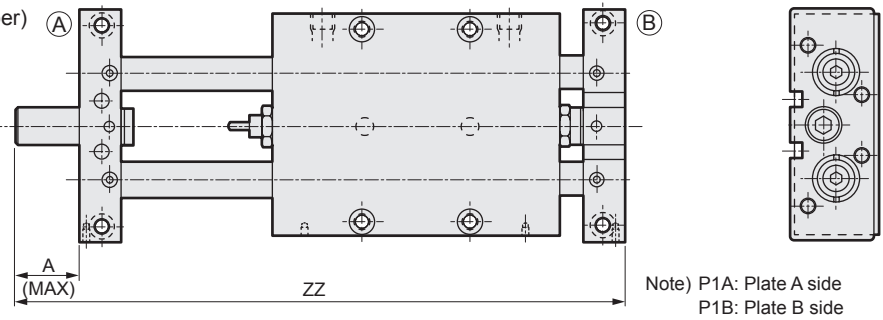
Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

* Adjusting to a longer stroke with the stopper may cause malfunction.
Refer to page 667 for details.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USD
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
Mechnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

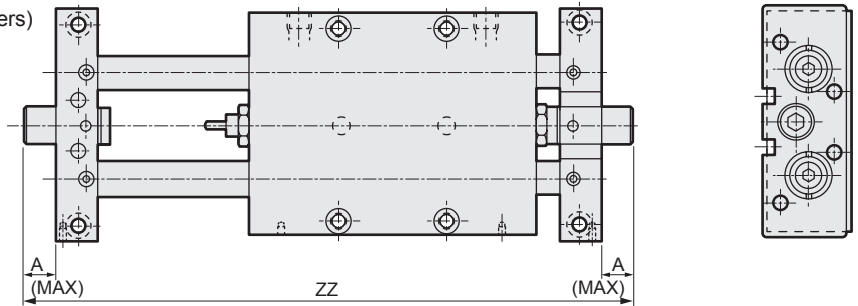
Dimensions: Adjusting stopper

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



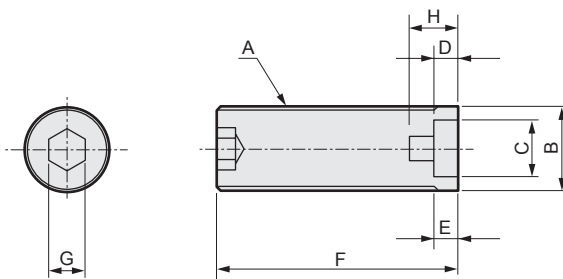
Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-10	25	159	209	259	309	-	-	-	-
UCA2-16		167	217	267	317	367	417	467	517
UCA2-25		187	237	287	337	387	437	487	537
UCA2-32		200	250	300	350	400	450	500	550

- UCA2- $\begin{matrix} 10 \\ X \\ 16 \\ 25 \\ Y \\ 32 \end{matrix}$ * *-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	A	B	C	D	E	F		G	H
Bore size (mm)									
ø10	M14x1	ø14	ø10	4	4	Standard	14.5	6	8
						P2	27		
						P1	39.5		
ø16	M14x1	ø14	ø10	8	4	Standard	17	6	-
						P2	29.5		
						P1	42		
ø25	M14x1	ø14	ø10	6.5	4	Standard	21	6	-
						P2	33.5		
						P1	46		
ø32	M16x1	ø16	ø10	5.5	4	Standard	21	8	-
						P2	33.5		
						P1	46		

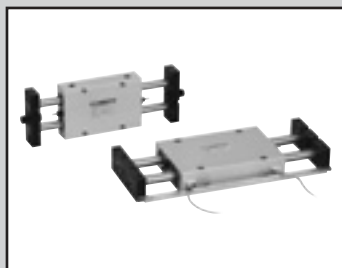
Model No. of discrete adjusting stoppers

- Standard

Part/part name	Standard stopper		Single stopper		Double stoppers	
	Model No.	Weight g	Model No.	Weight g	Model No.	Weight g
ø10	UCA2-P-10	12	UCA2-P1-10	38	UCA2-P2-10	25
ø16	UCA2-P-16	12	UCA2-P1-16	38	UCA2-P2-16	25
ø25	UCA2-P-25	17	UCA2-P1-25	44	UCA2-P2-25	30
ø32	UCA2-P-32	22	UCA2-P1-32	58	UCA2-P2-32	40

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



Unit cylinder Ball bearing/with switch

UCA2-B Series

● Bore size: $\phi 10/\phi 16/\phi 25/\phi 32$

JIS symbol



Specifications

Item	UCA2-B UCA2-BL (with switch)			
Bore size mm	ø10	ø16	ø25	ø32
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 is 0 mm (excluding deflection of the piston rod)

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch (mm)
ø10	25/50/75/100	100	25	10: With 1 switch 20: With 2 switches 75: With 3 switches
ø16	25/50/75/100 125/150/175/200	200		
ø25				
ø35				

Note: Products with stroke other than standard stroke 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
$\phi 10$	Push	-	15.1	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
	Pull	-	15.1	20.1	30.2	40.2	50.3	60.3	70.4	80.4	90.5	1.01×10^2
$\phi 16$	Push	-	36.8	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	-	36.8	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
$\phi 25$	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
$\phi 32$	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 LED

Item	Reed 2-wire				Proximity 2-wire		Proximity 3-wire		
	T0H/T0V		T5H/T5V		T2H/T2V	T2WH/ T2WV	T3H/ T3V	T3PH/ T3PV	T3WH/ T3WV
Applications	For programmable control- ler, relay		For programmable controller, relay, IC circuit (no 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 50mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 20 mA (*3)		100 mA or less		50 mA or less
Indicator lamp	LED (Lit when ON)		No 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	0mA				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 : 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)

Cylinder weight (X: body fixing) —

Values in () include the switch mounting rail.

[Unit: kg]

Model No.	Stroke (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 (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)	

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

UCA2-B Series

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

A Fixing method

B Bore size

C Port thread

D Stroke
Refer to page 650 for the min.
stroke.

E Switch model No.
*1

F Switch quantity
*2

G Option
*3

⚠ 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 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-25-25-T2H-RA-P1A

Model: Unit cylinder ball bearing

A Fixing method : Body fixing

B Bore size : ø25 mm

C Port thread : Rc thread

D Stroke : 25 mm

E Switch model No.: Proximity switch T2H, lead wire length 1 m

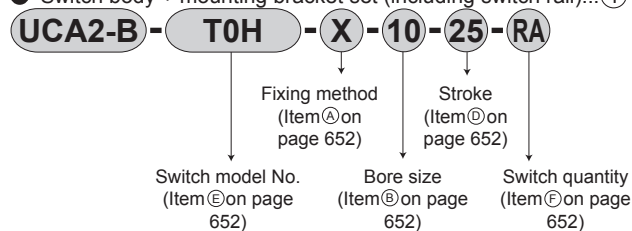
F Switch quantity : 1 (plate A side)

G Option : Single adjusting stopper (plate A side)

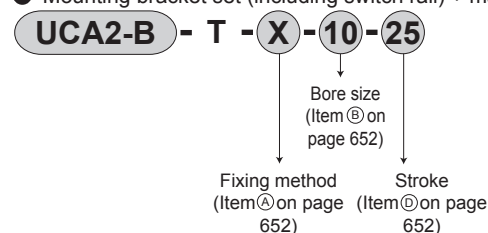
Code	Description					
A Fixing method						
X	Body fixing					
Y	Plate fixing					
B Bore size (mm)						
10	ø10					
16	ø16					
25	ø25					
32	ø32					
C Port thread						
Blank	Rc thread					
NN	NPT thread (ø25 and over) (made-to-order product)					
GN	G thread (ø25 and over) (made-to-order product)					
D Stroke (mm)						
Bore size (ø)		10	16	25	32	
25	25	●	●	●	●	
50	50	●	●	●	●	
75	75	●	●	●	●	
100	100	●	●	●	●	
125	125		●	●	●	
150	150		●	●	●	
175	175		●	●	●	
200	200		●	●	●	
E Switch model No.						
Straight lead wire	L-shaped lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
T0H*	T0V*	Reed	●	●	1-color LED	2-wire
T5H*	T5V*		●	●	no indicator lamp	
T2H*	T2V*			●	1-color	2-wire
T3H*	T3V*	Prox.		●	LED	3-wire
T3PH*	T3PV*			●	1-color LED (PNP output)	3-wire
T2WH*	T2WV*	Prox.		●	2-color	2-wire
T3WH*	T3WV*			●	LED	3-wire
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
F Switch quantity						
RA	1	Plate A side				
RB		Plate B side				
D	2					
T	3					
G Option						
P1A	Single adjusting stopper	Plate A side				
P1B		Plate B side				
P2	Double adjusting stoppers					

How to order switch

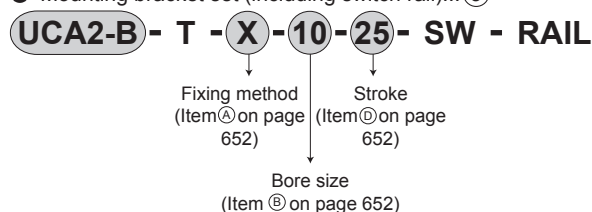
- Switch body + mounting bracket set (including switch rail)...①



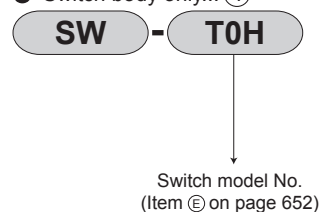
- Mounting bracket set (including switch rail) + magnet...②



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



- Switch body only...④



1) When changing from the type without switch to the type with T-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-switch, etc.)

2) When only the magnet for T-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-switch

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

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

How to order shock absorber set

- For ø10

UCA2-10-NCK

- For ø16 to ø32 (common)

UCA2-16-NCK

Specifications for rechargeable battery

(Catalog No. CC-1226A)

- Design compatible with rechargeable battery manufacturing process.

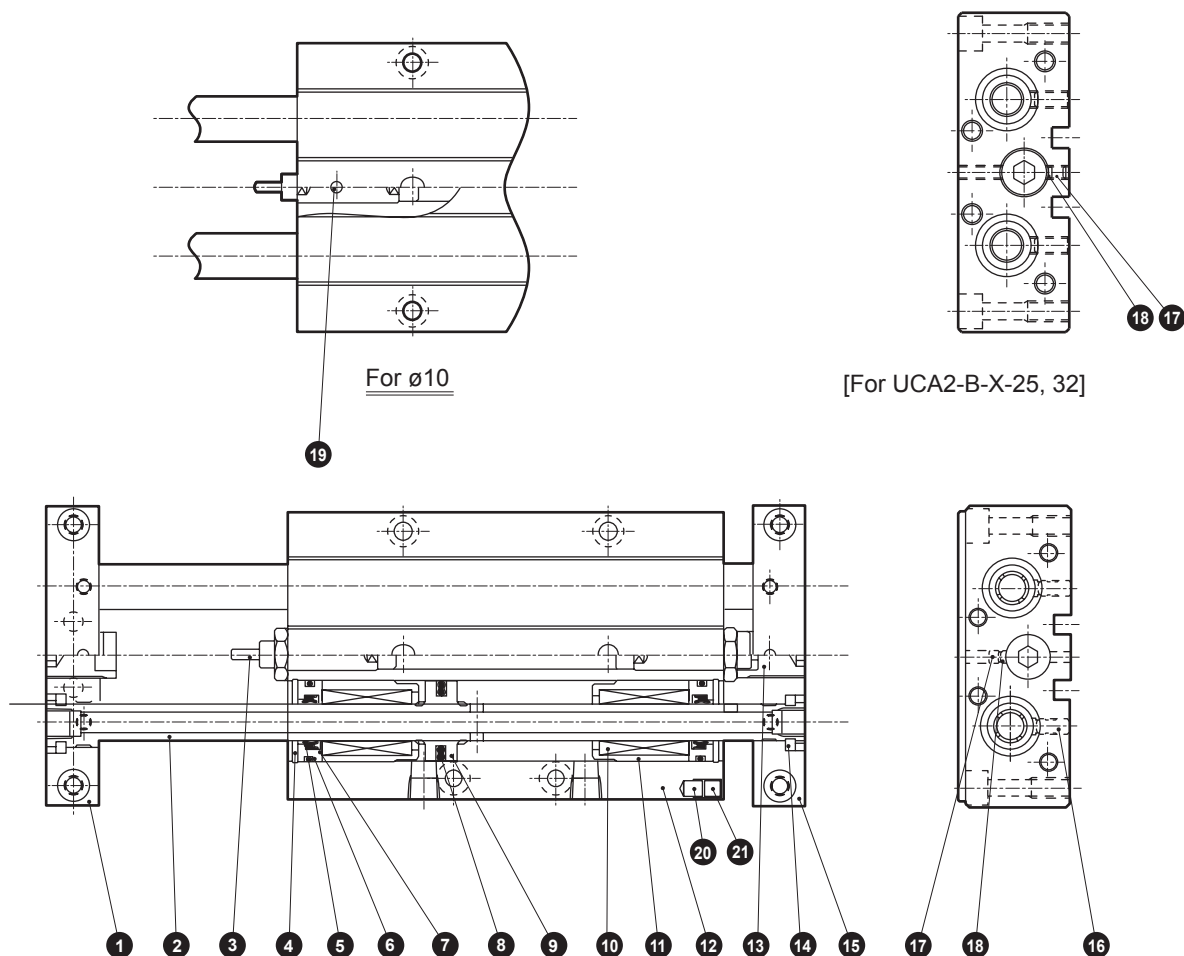
UCA2-B - - P4*

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

UCA2-B Series

Internal structure and parts list

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending



No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate (A)	Aluminum alloy	Alumite	11	Housing	Aluminum alloy	ø25 and ø32 only
2	Piston rod	Steel	Industrial chrome plating	12	Cylinder body	Aluminum alloy	Hard alumite
3	Shock absorber		ø10:UCA2-10-NCK ø16 to 32:UCA2-16-NCK	13	Stopper	Steel	Chromate
4	C-snap ring for hole	Steel	Zinc phosphate	14	Split ring	Steel	Black finish
5	Rod packing	Nitrile rubber		15	End plate (B)	Aluminum alloy	Alumite
6	Rod metal gasket	Nitrile rubber		16	Hexagon socket set screw	Alloy steel	Black finish
7	Rod metal	Aluminum alloy	Chromate	17	Hexagon socket set screw	Alloy steel	
8	Piston packing	Nitrile rubber		18	Set shoe	Aluminum alloy	
9	Piston	Aluminum alloy		19	Hexagon socket set screw	Alloy steel	
10	Ball bearing			20	Magnet	Special alloy	UCA2-L-Y only
				21	Hexagon socket set screw	Stainless steel	UCA2-L-Y only

Repair parts list

Bore size (mm)	Kit No.	Repair parts No.
ø10	UCA2-10K	5 6 8 16
ø16	UCA2-16K	
ø25	UCA2-25K	
ø32	UCA2-32K	

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

Dimensions: $\varnothing 10$



● Body fixing (X)

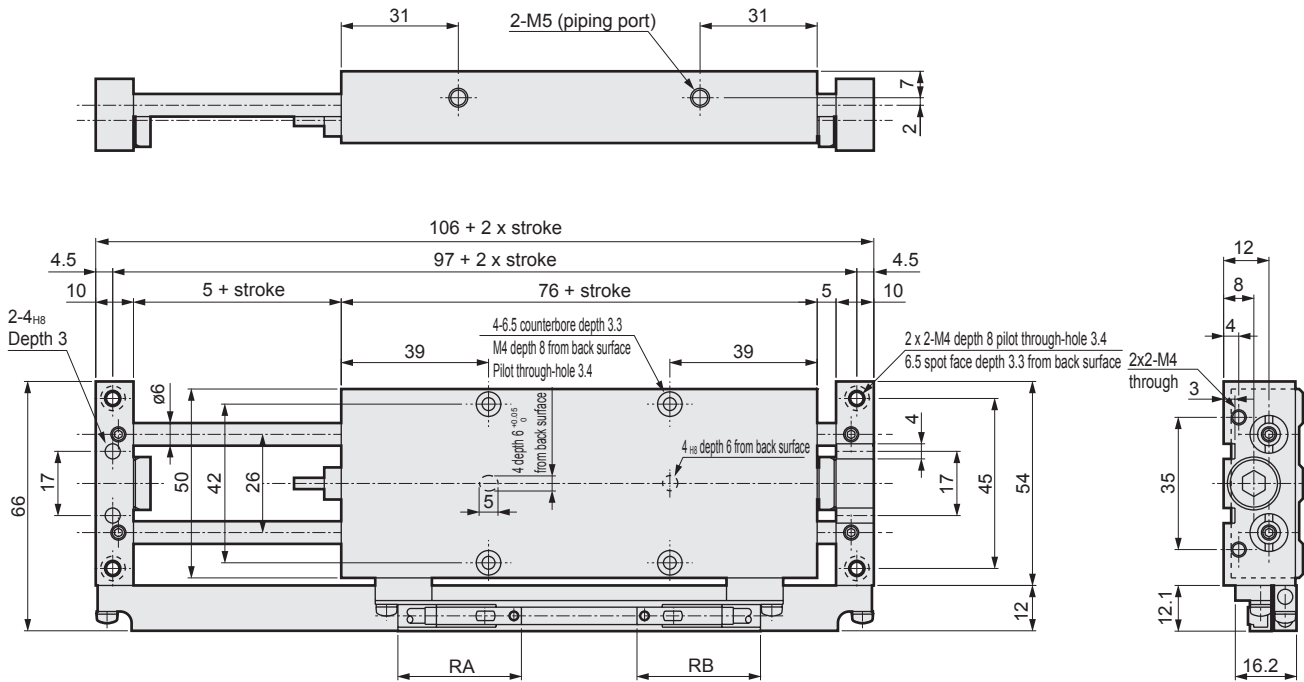
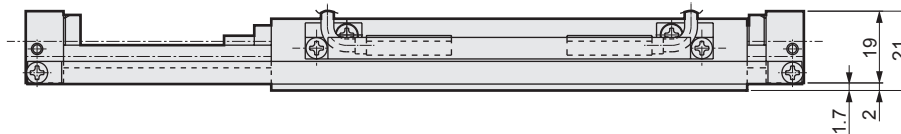


Plate A side

Plate B side



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

● Plate fixing (Y)

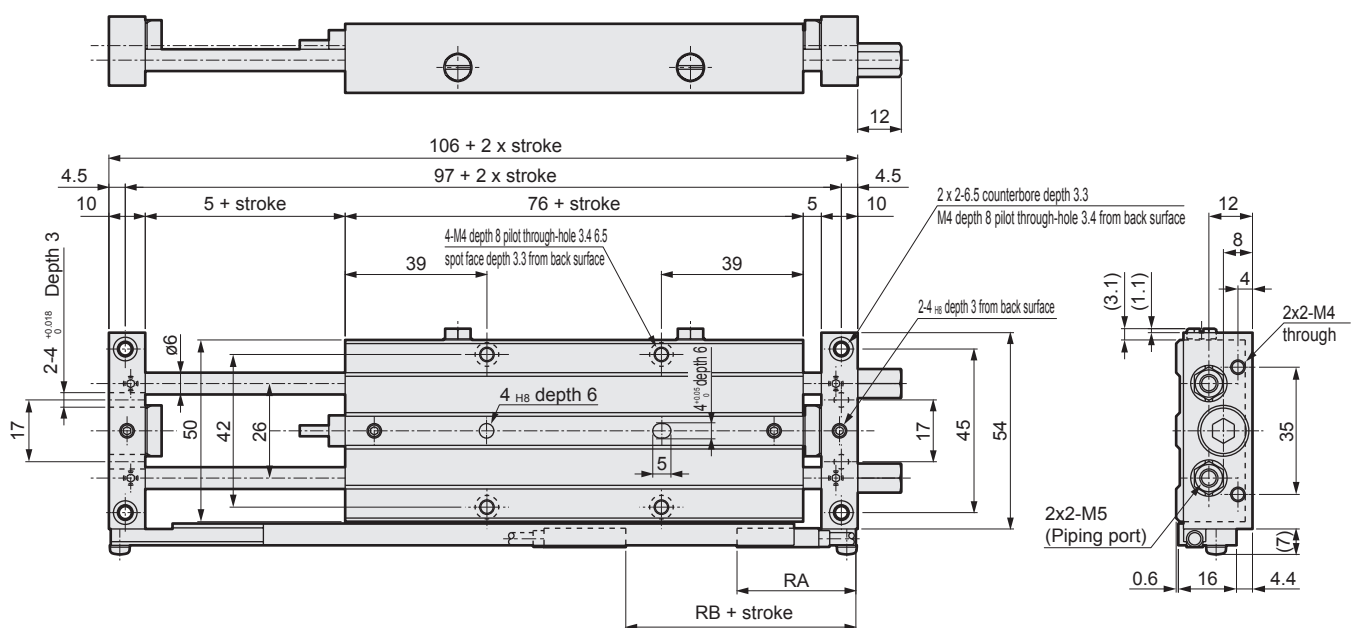
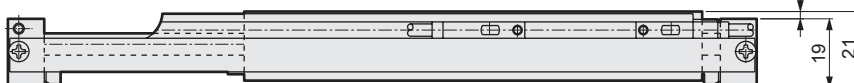


Plate B side

Plate A side



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

* Adjusting to a longer stroke with the stopper may cause malfunction.
Refer to page 667 for details.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

UCA2-B Series

Dimensions: ø16 



- Body fixing (X)

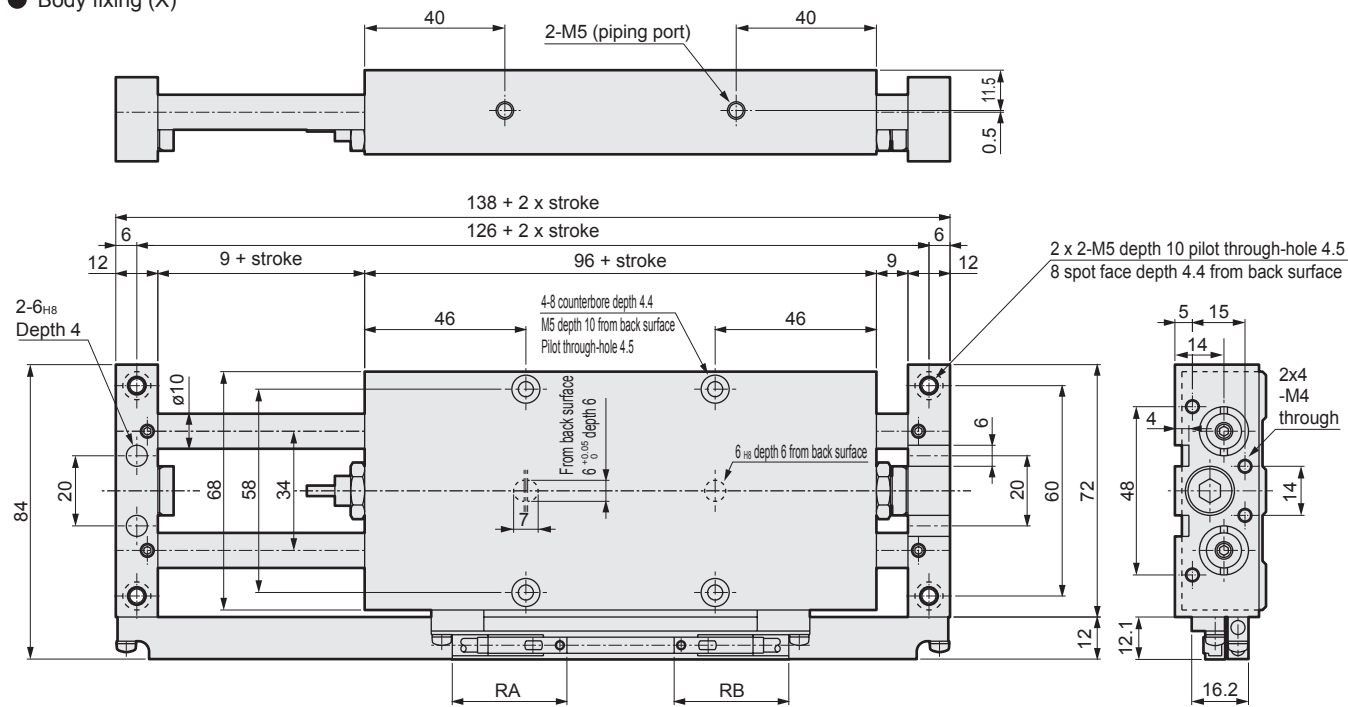


Plate A side

Plate B side



- Plate fixing (Y)



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

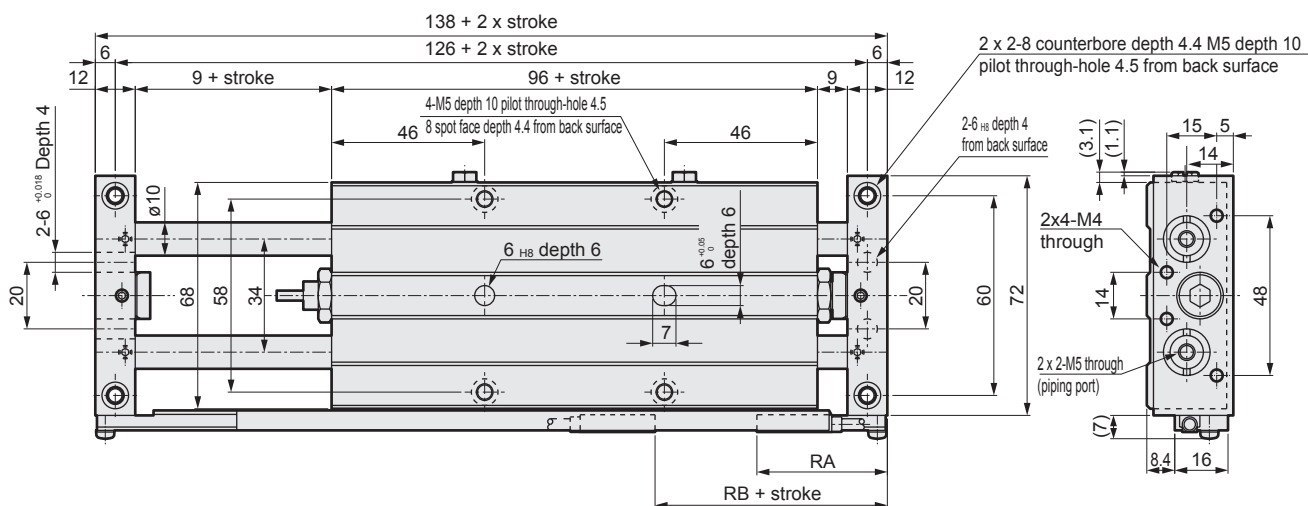
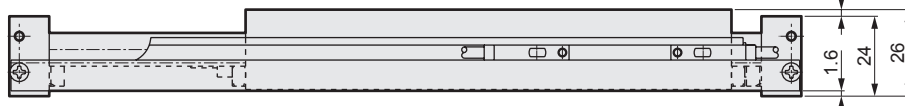


Plate B side

Plate A side



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

* Adjusting to a longer stroke with the stopper may cause malfunction. Refer to page 667 for details.

Dimensions: $\varnothing 25$ 

● Body fixing (X)

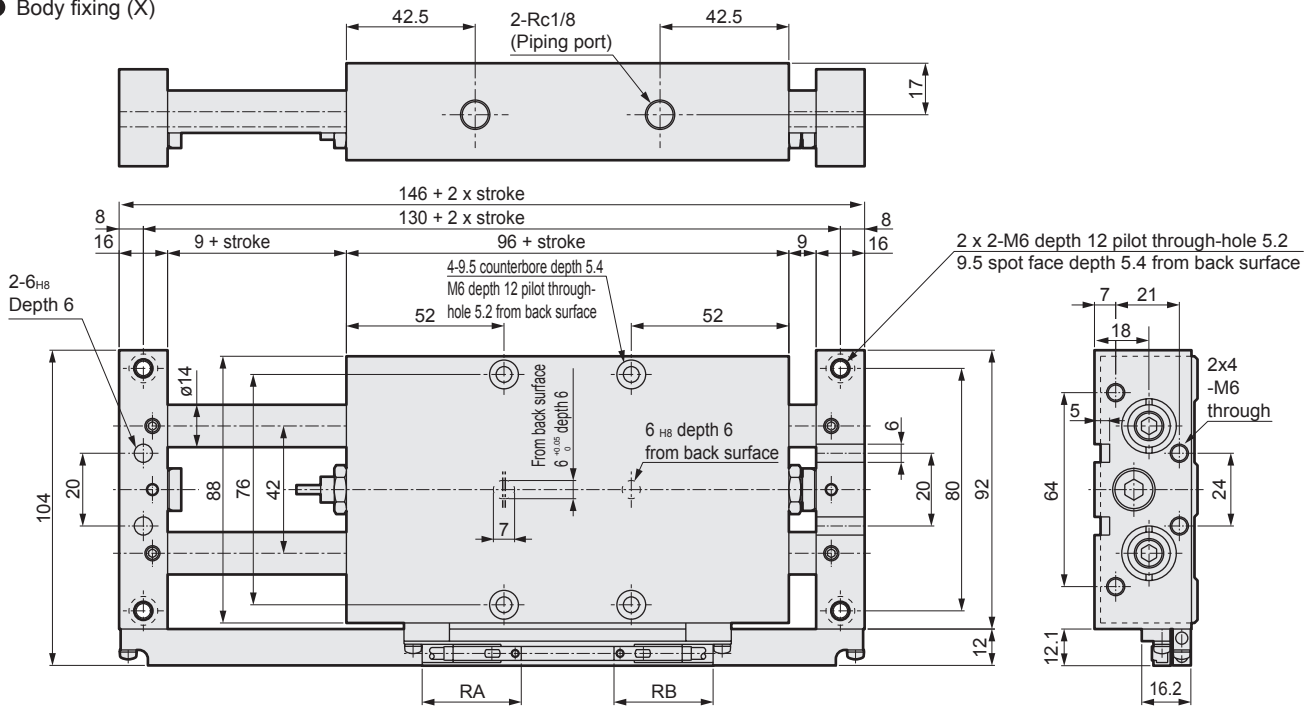
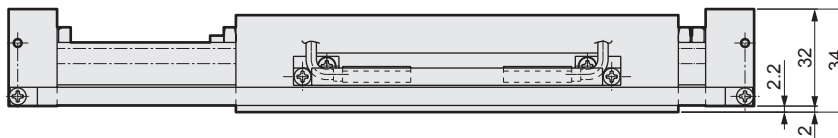


Plate A side

Plate B side



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

● Plate fixing (Y)

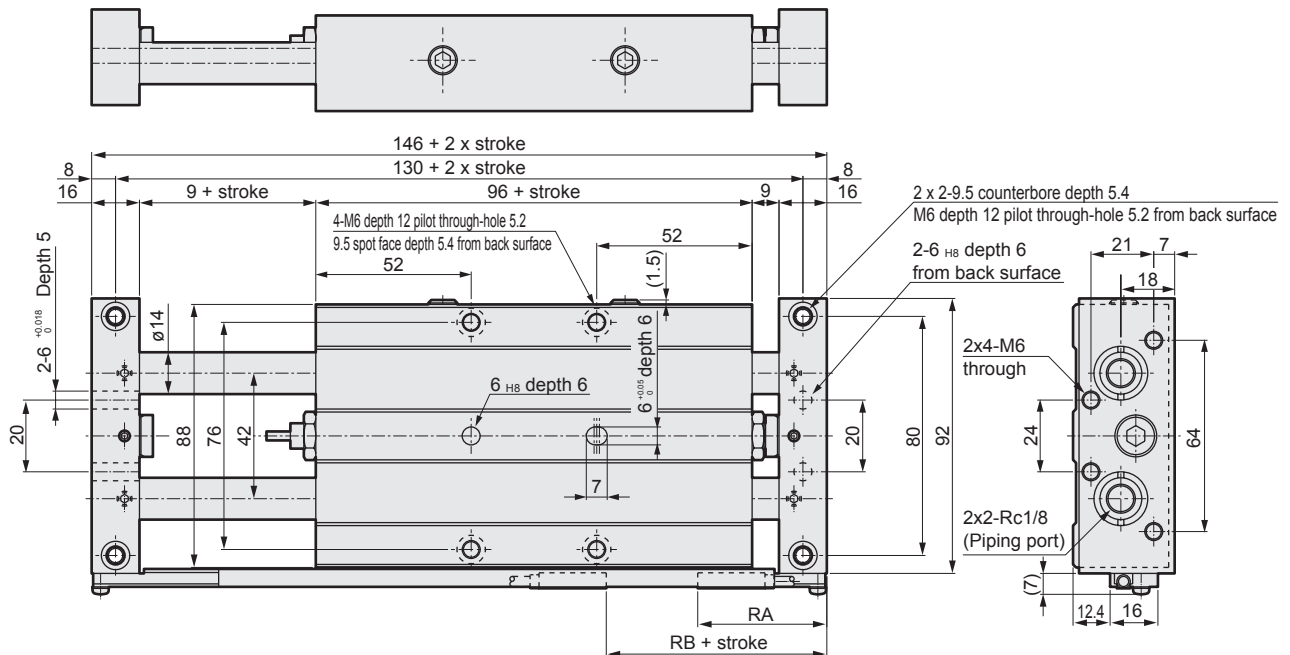
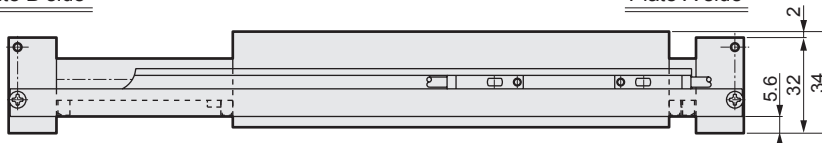


Plate B side

Plate A side



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

* Adjusting to a longer stroke with the stopper may cause malfunction.
Refer to page 667 for details.

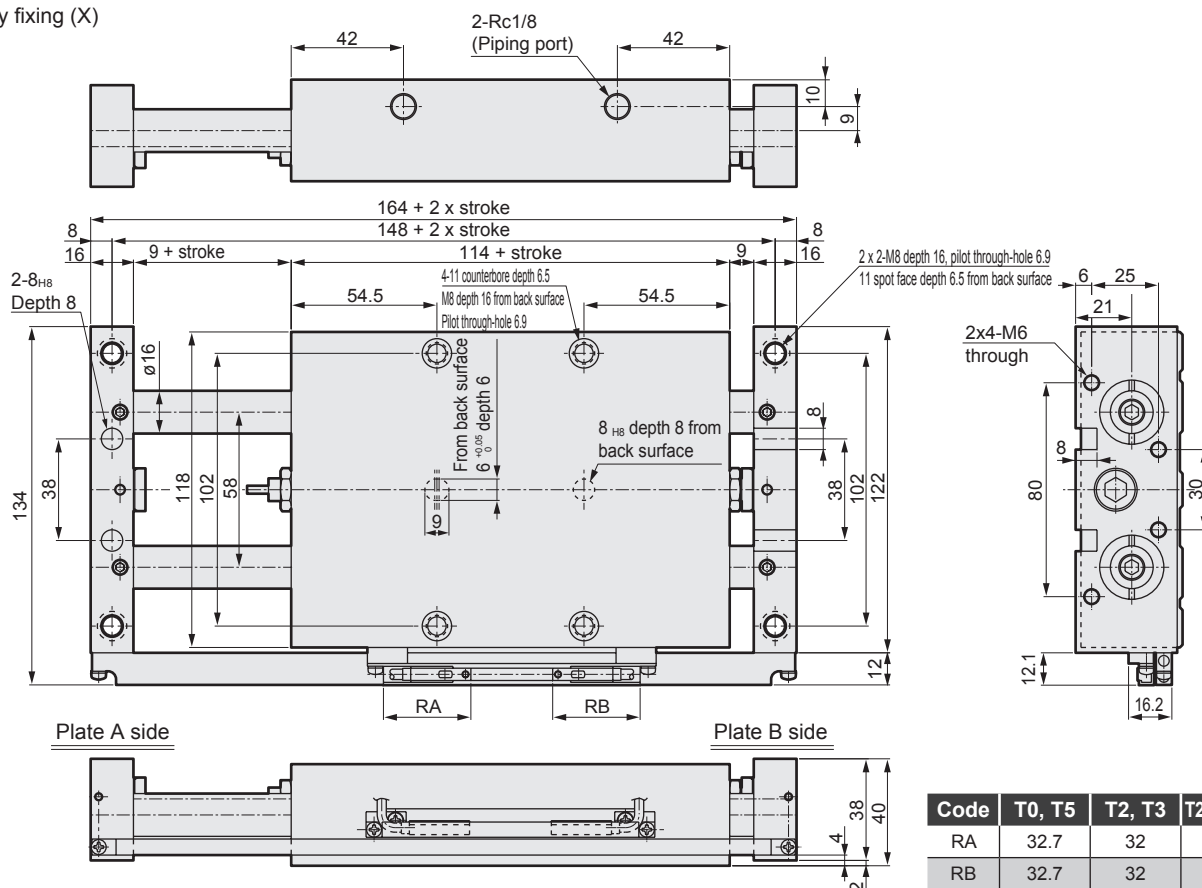
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

UCA2-B Series

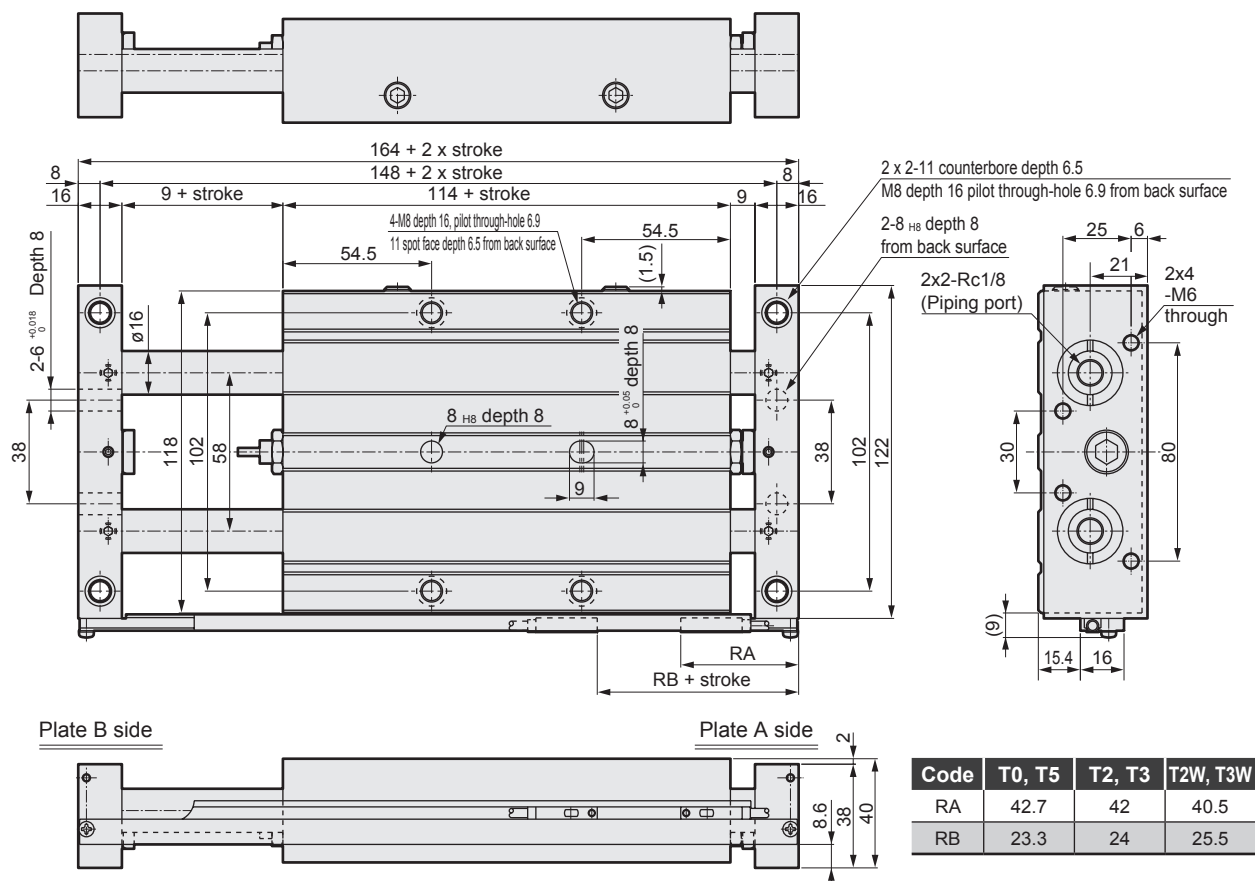
Dimensions: ø32



● Body fixing (X)



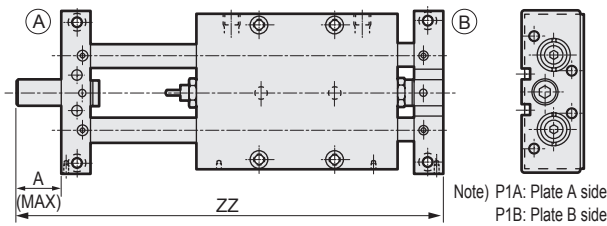
● Plate fixing (Y)



* Adjusting to a longer stroke with the stopper may cause malfunction.
Refer to page 667 for details.

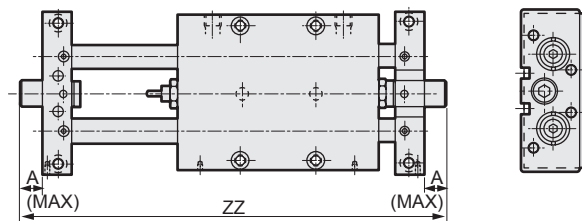
Dimensions: Adjusting stopper

- UCA2-B-X_Y-* *P1* (single adjusting stopper)
- 10
16
25
32



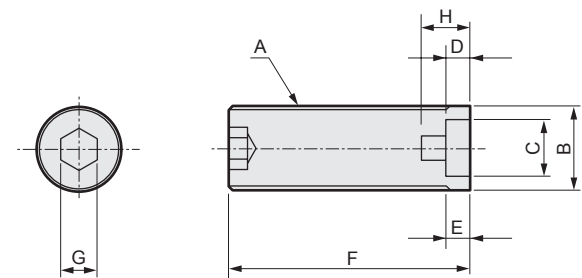
Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-B-10	25	181	231	281	331	-	-	-	-
UCA2-B-16		213	263	313	363	413	463	513	563
UCA2-B-25		221	271	321	371	421	471	521	571
UCA2-B-32		239	289	339	389	439	489	539	589

- UCA2-B-X_Y-*P2* (double adjusting stoppers)
- 10
16
25
32



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	A	B	C	D	E	F	G	H
Bore size (mm)								
ø10	M14x1	ø14	ø10	4	4	Standard	14.5	6
						P2	27	
						P1	39.5	
ø16	M14x1	ø14	ø9.4	8	4	Standard	17	6
						P2	29.5	
						P1	42	
ø25	M14x1	ø14	ø9.4	6.5	4	Standard	21	6
						P2	33.5	
						P1	46	
ø32	M16x1	ø16	ø9.4	5.5	4	Standard	21	8
						P2	33.5	
						P1	46	

Model No. of discrete adjusting stoppers

- Standard

Part/part name	Standard stopper		Single stopper		Double stoppers	
Bore size (mm)	Model No.	Weight g	Model No.	Weight g	Model No.	Weight g
ø10	UCA2-P-10	12	UCA2-P1-10	38	UCA2-P2-10	25
ø16	UCA2-P-16	12	UCA2-P1-16	38	UCA2-P2-16	25
ø25	UCA2-P-25	17	UCA2-P1-25	44	UCA2-P2-25	30
ø32	UCA2-P-32	22	UCA2-P1-32	58	UCA2-P2-32	40

Stopper adjustment method

- To adjust the stroke, 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. 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.

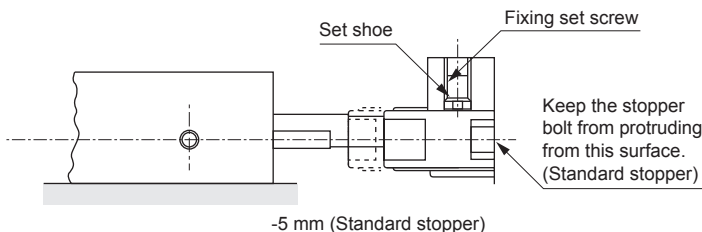


Table A

Item	Adjustable stroke	Initial protrusion B
Standard stopper	Each side -5 mm	0 mm
Single adjusting stopper P1A	Plate A side -30 mm Plate B side -5 mm	P1 : 25 mm Standard: 0 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

