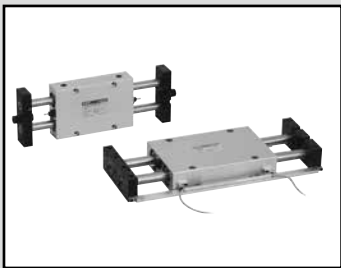


LCM
 LCR
 LCG
 LCW
 LCX
 STM
 STG
 STS/STL
 STR2
 UCA2
 ULK*
 JSK/M2
 JSG
 USC3/USC4
 USSD
 UFCD
 USC
 UB
 JSB3
 LMB
 LML
 HCM
 HCA
 LBC
 CAC4
 UCAC2
 CAC-N
 UCAC-N
 RCS2
 RCC2
 PCC
 SHC
 MCP
 GLC
 MFC
 BBS
 RRC
 GRC
 RV3*
 NHS
 HRL
 LN
 Hand
 Chuk
 MecHnd/Chuk
 ShkAbs
 FJ
 FK
 SpdContr
 Ending



Unit cylinder Metal bush bearing/with switch

UCA2 Series

● Bore size: ø10/ø16/ø25/ø32

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 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)
ø10	25/50/75/100	100	25	10: With 1 switch (*2) 20: With 2 switches (*2) 75: With 3 switches
ø16	25/50/75/100	200		
ø25		200		
ø35		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
ø10	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
ø16	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
ø25	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
ø32	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

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 (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 (*3)		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 : 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 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)	

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
UCA2
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 length
Refer to page 640 for the min. stroke length.

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 length (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.						
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire
			AC	DC		
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*	Prox.		●	1-color display (PNP output)	3-wire
T2WH*	T2WV*			●		2-wire
T3WH*	T3WV*			●		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	Single adjusting stopper	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.]

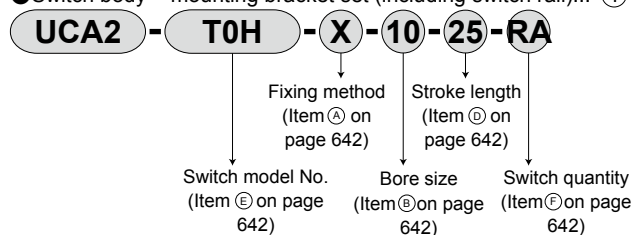
UCA2-L-X-25-25-T2H-RA-P1A

Model: Unit cylinder metal bush bearing

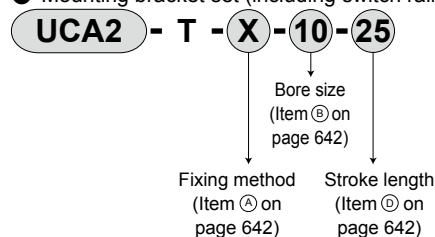
- A** Fixing method : Body fixing
- B** Bore size : ø25 mm
- C** Port thread : Rc thread
- D** Stroke length : 25 mm
- E** Switch model No. : Proximity switch T2H, lead wire length 1 m
- F** Switch quantity : 1 (plate A side)
- G** Option : Single adjusting stopper (plate A side)

How to order switch

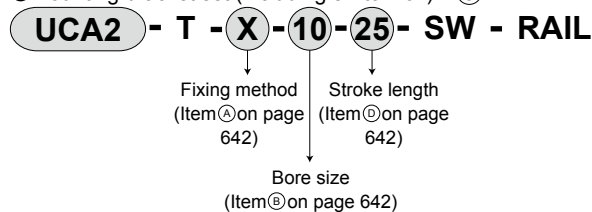
- Switch body + mounting bracket set (including switch rail)... ①



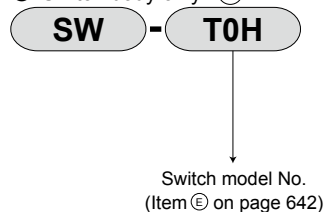
- Mounting bracket set (including switch rail) + magnet...②



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



- Switch body only...④



1) When changing from the type without switch to the type with T 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 ø10

UCA2-10-NCK

- For ø16 to ø32 (common)

UCA2-16-NCK

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

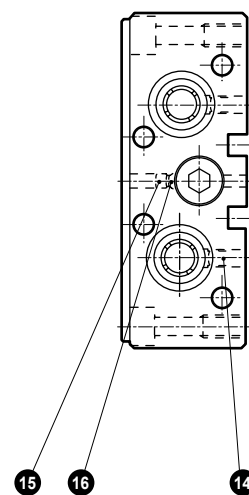
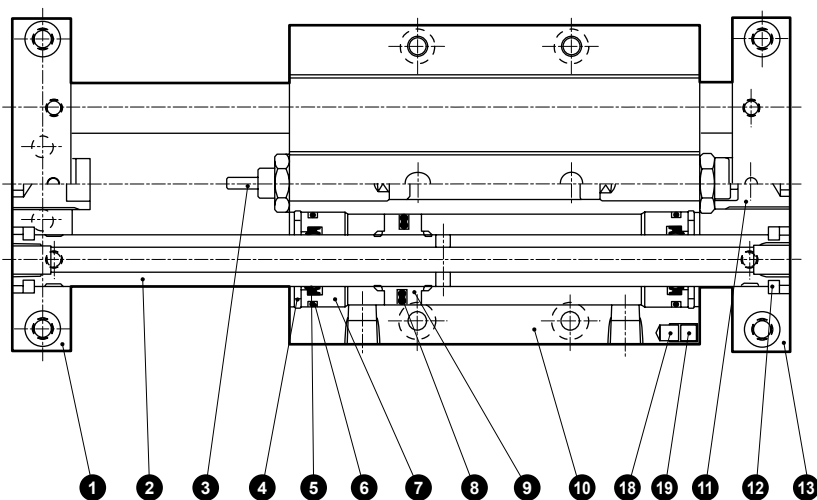
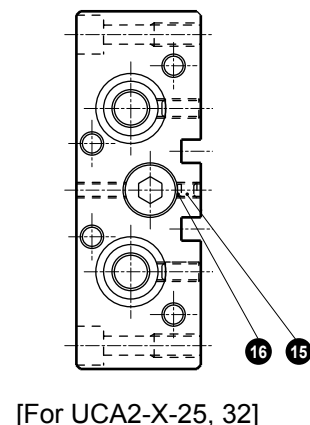
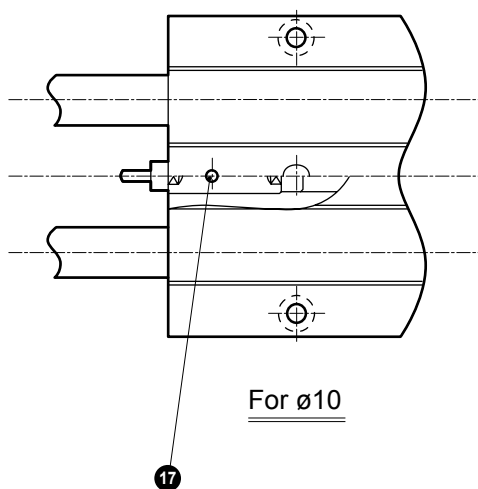
- Design compatible with rechargeable battery manufacturing process.

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



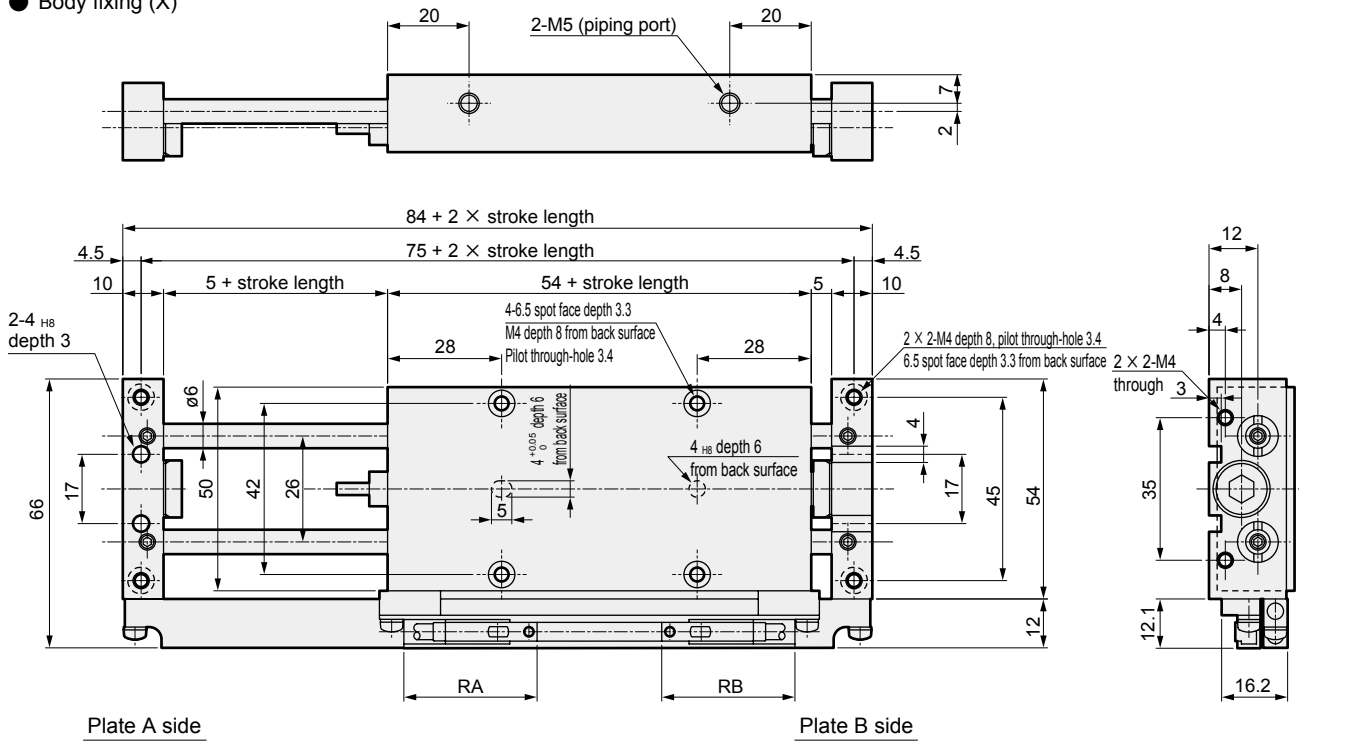
No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	End plate (A)	Aluminum alloy	Alumite	10	Cylinder body	Aluminum alloy	Hard alumite
2	Piston rod	Steel	Industrial chrome plating	11	Stopper	Steel	Chromate
3	Shock absorber		ø10:UCA2-10-NCK ø16 to 32:UCA2-16-NCK	12	Split ring	Steel	Black finish
4	C type 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	

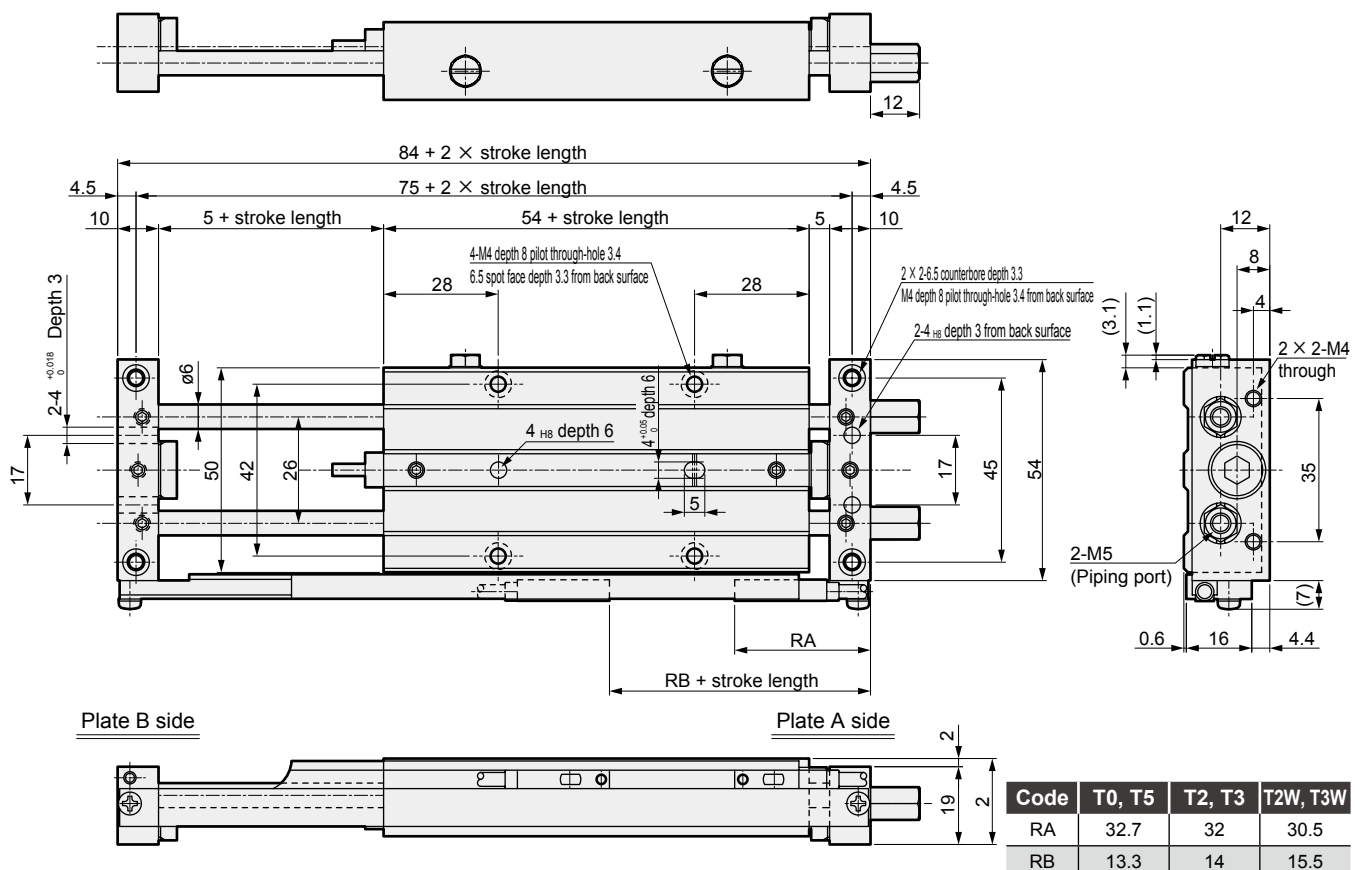
Note: The repair parts are common between the metal bush bearing and ball bearing.

- 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)



* Adjusting to a longer stroke length 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
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Dimensions: ø16

- Body fixing (X)

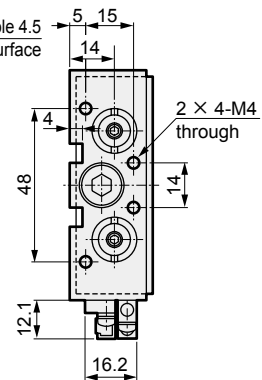
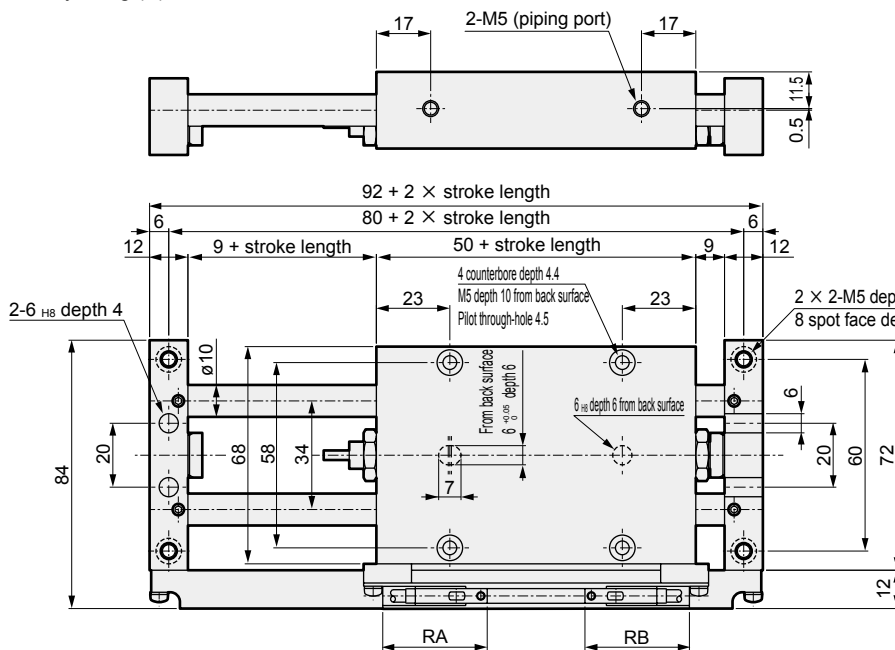
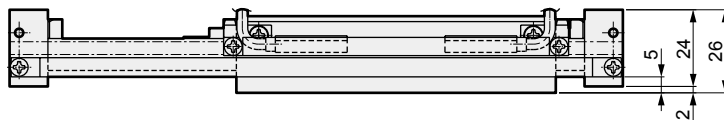
Plate A side

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)

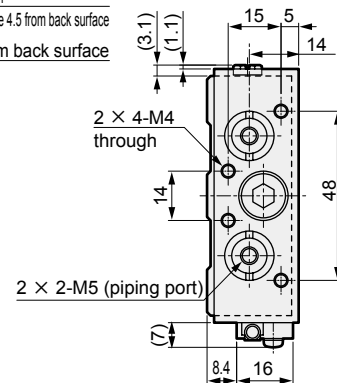
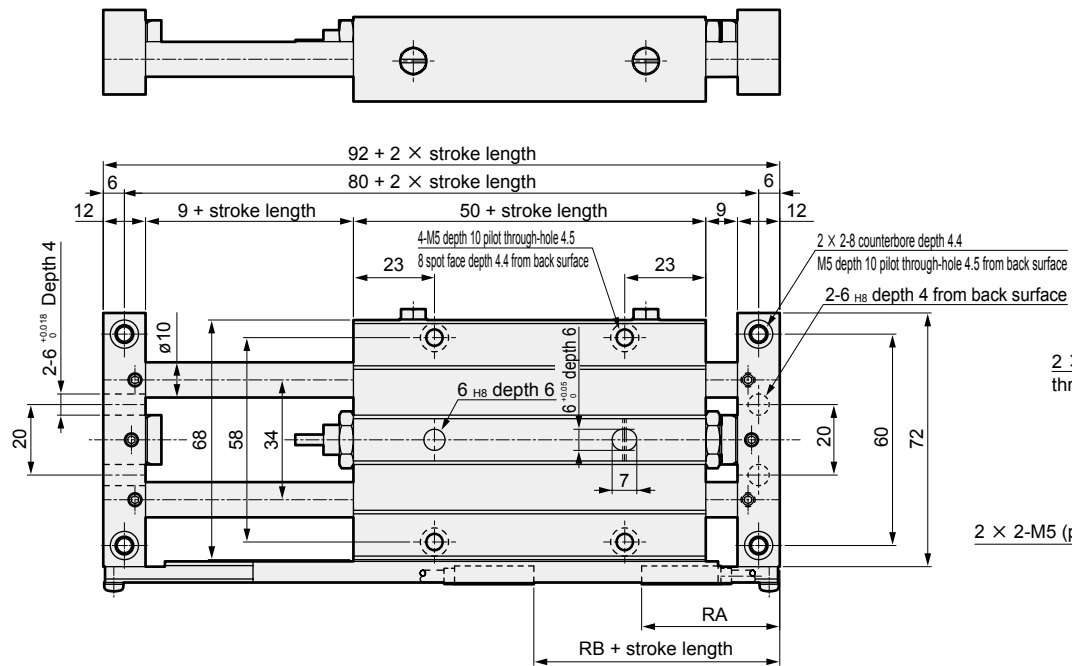
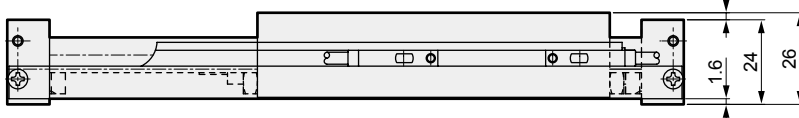


Plate B side

Plate A side



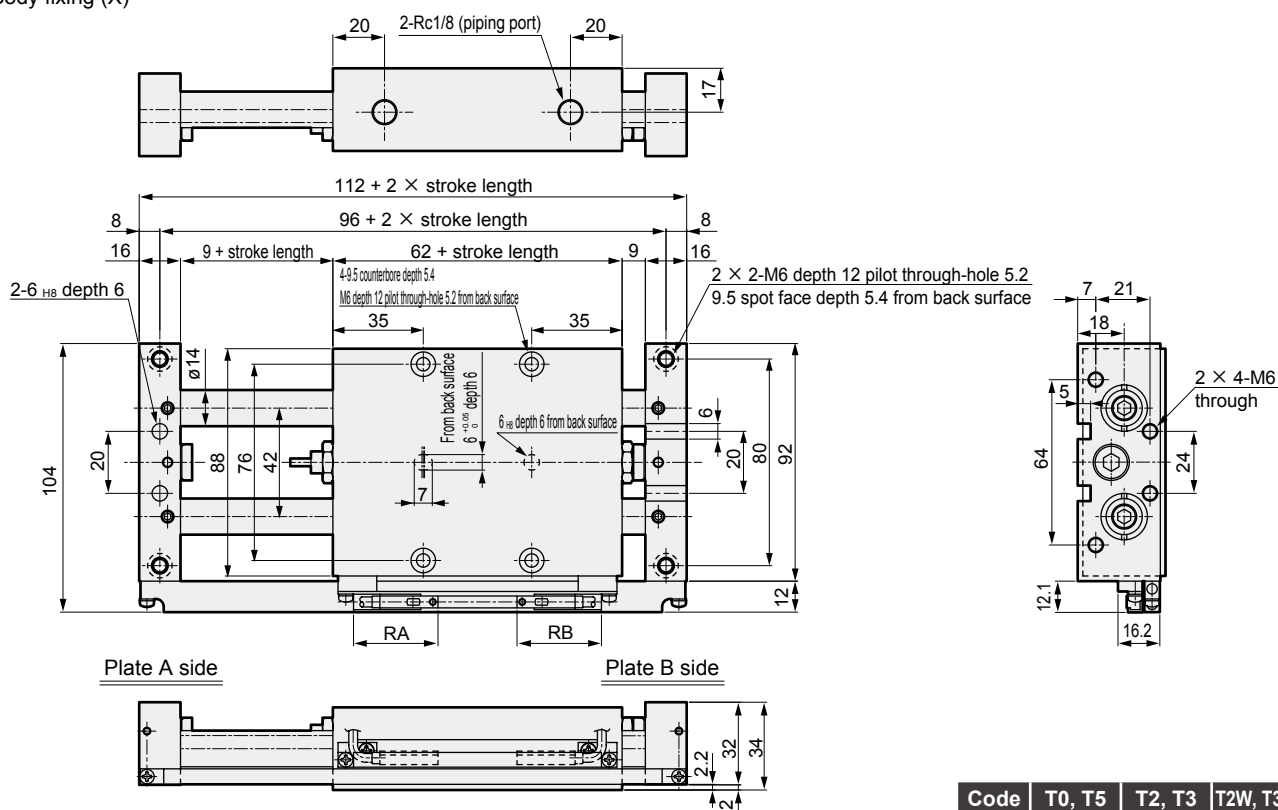
Code	T0, T5	T2, T3	T2W, T3W
RA	38.7	38	36.5
RB	19.3	20	21.5

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

Dimensions: $\varnothing 25$

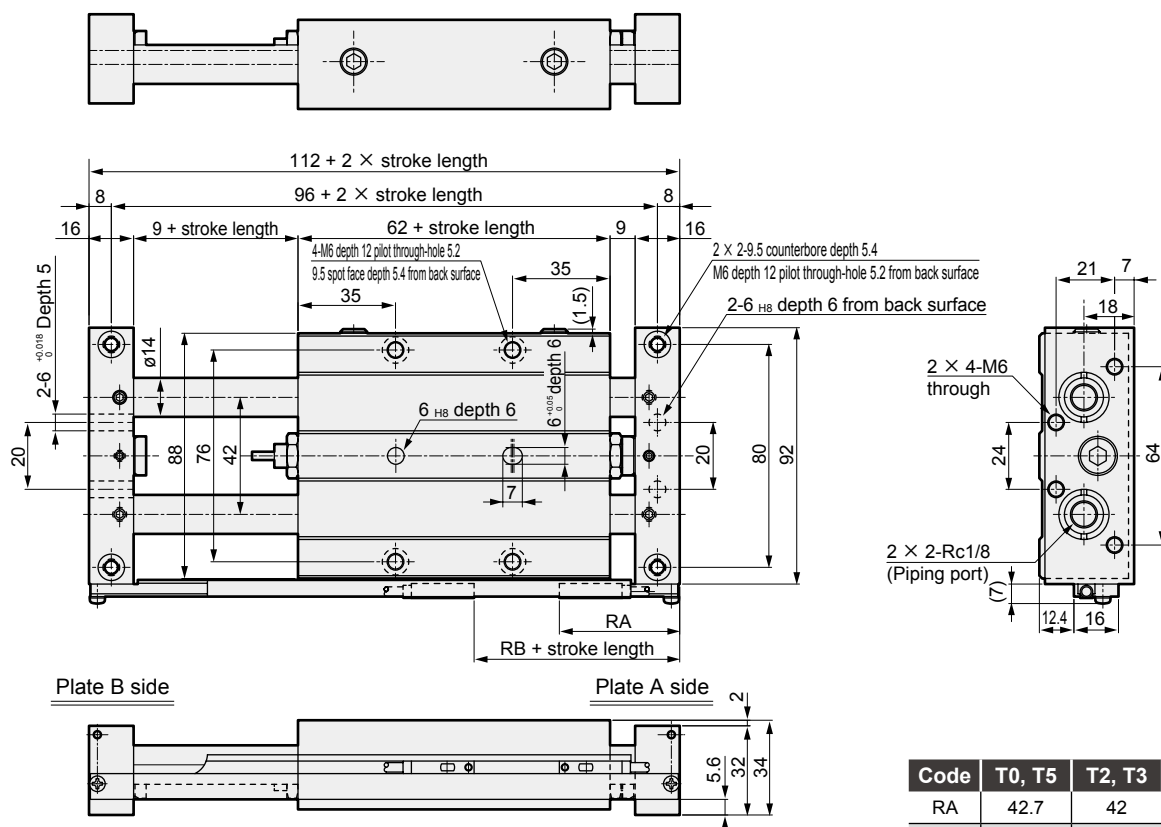


● Body fixing (X)



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

● Plate fixing (Y)



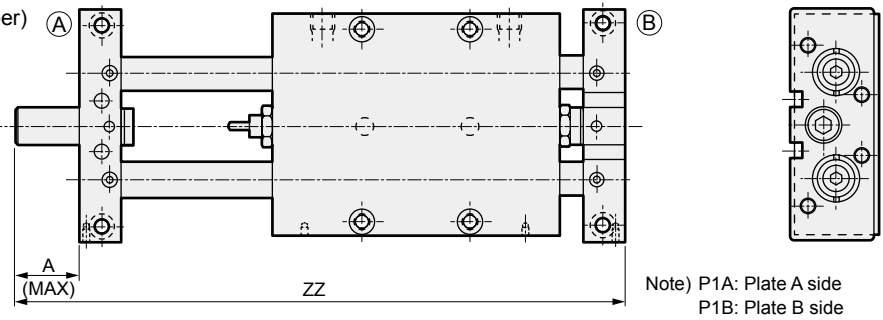
Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

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

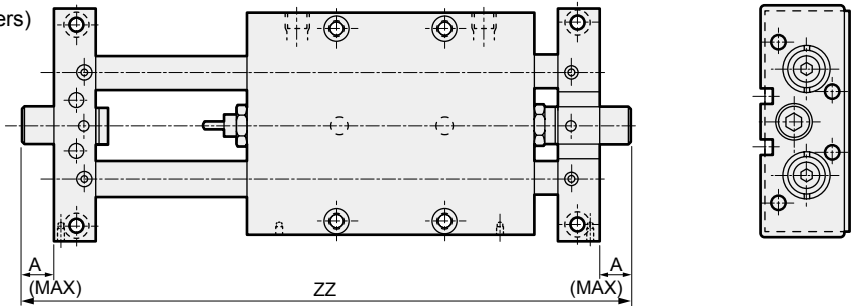
Dimensions: Adjusting stopper

● UCA2-X₁₀-Y₁₆* *-P1* (single adjusting stopper)



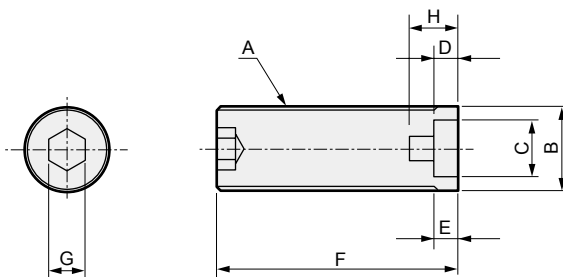
Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-10	25	159	209	259	309	-	-	-	-
UCA2-16		167	217	267	317	367	417	467	517
UCA2-25		187	237	287	337	387	437	487	537
UCA2-32		200	250	300	350	400	450	500	550

● UCA2-X₁₀-Y₁₆* *-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



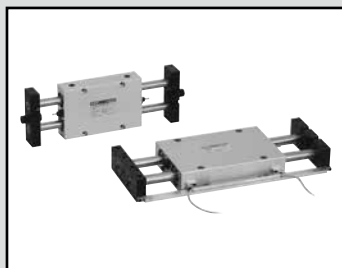
Code	A	B	C	D	E	F		G	H
Bore size (mm)									
ø10	M14 × 1	ø14	ø10	4	4	Standard	14.5	6	8
						P2	27		
						P1	39.5		
ø16	M14 × 1	ø14	ø10	8	4	Standard	17	6	-
						P2	29.5		
						P1	42		
ø25	M14 × 1	ø14	ø10	6.5	4	Standard	21	6	-
						P2	33.5		
						P1	46		
ø32	M16 × 1	ø16	ø10	5.5	4	Standard	21	8	-
						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



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 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)
ø10	25/50/75/100	100	25	10: With 1 switch 20: With 2 switches 75: With 3 switches
ø16	25/50/75/100	200		
ø25				
ø35				

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
$\phi 10$	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

UCA2-B Series

Specifications

Switch specifications

- 1-color/2-color display

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 (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 (*3)		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		1 m:18		
3 m:49					3 m:49				
5 m:80					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 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)	

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 length
Refer to page 650 for the min.
stroke length.

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 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-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 length : 25 mm

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

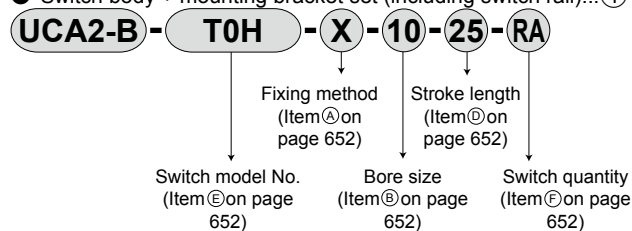
F Switch quantity : 1 (plate A side)

G Option : Single adjusting stopper (plate A side)

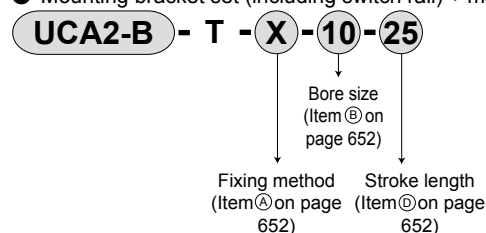
Code	Description						
A Fixing method							
X	Body fixing						
Y	Plate fixing						
B Bore size (mm)							
10	ø10						
16	ø16						
25	ø25						
32	ø32						
C Port thread							
Blank	Rc thread						
NN	NPT thread (ø25 and over) (made-to-order product)						
GN	G thread (ø25 and over) (made-to-order product)						
D Stroke length (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.							
Axial lead wire	Radial lead wire	Contact	Voltage		Indicator	Lead wire	
			AC	DC			
T0H*	T0V*	Reed	●	●	1-color display	2-wire	
T5H*	T5V*		●	●	no indicator lamp		
T2H*	T2V*			●	1-color		2-wire
T3H*	T3V*			●	display		3-wire
T3PH*	T3PV*	Prox.		●	1-color display (PNP output)	3-wire	
T2WH*	T2WV*	Prox.		●	2-color	2-wire	
T3WH*	T3WV*			●	display	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

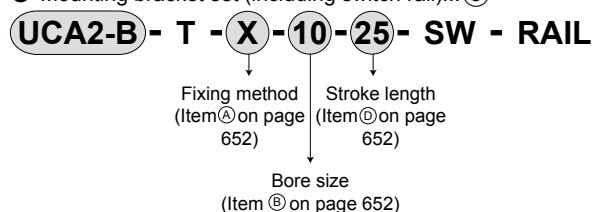
- Switch body + mounting bracket set (including switch rail)...①



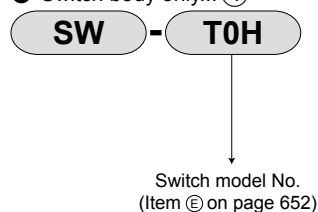
- Mounting bracket set (including switch rail) + magnet...②



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



- Switch body only...④



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

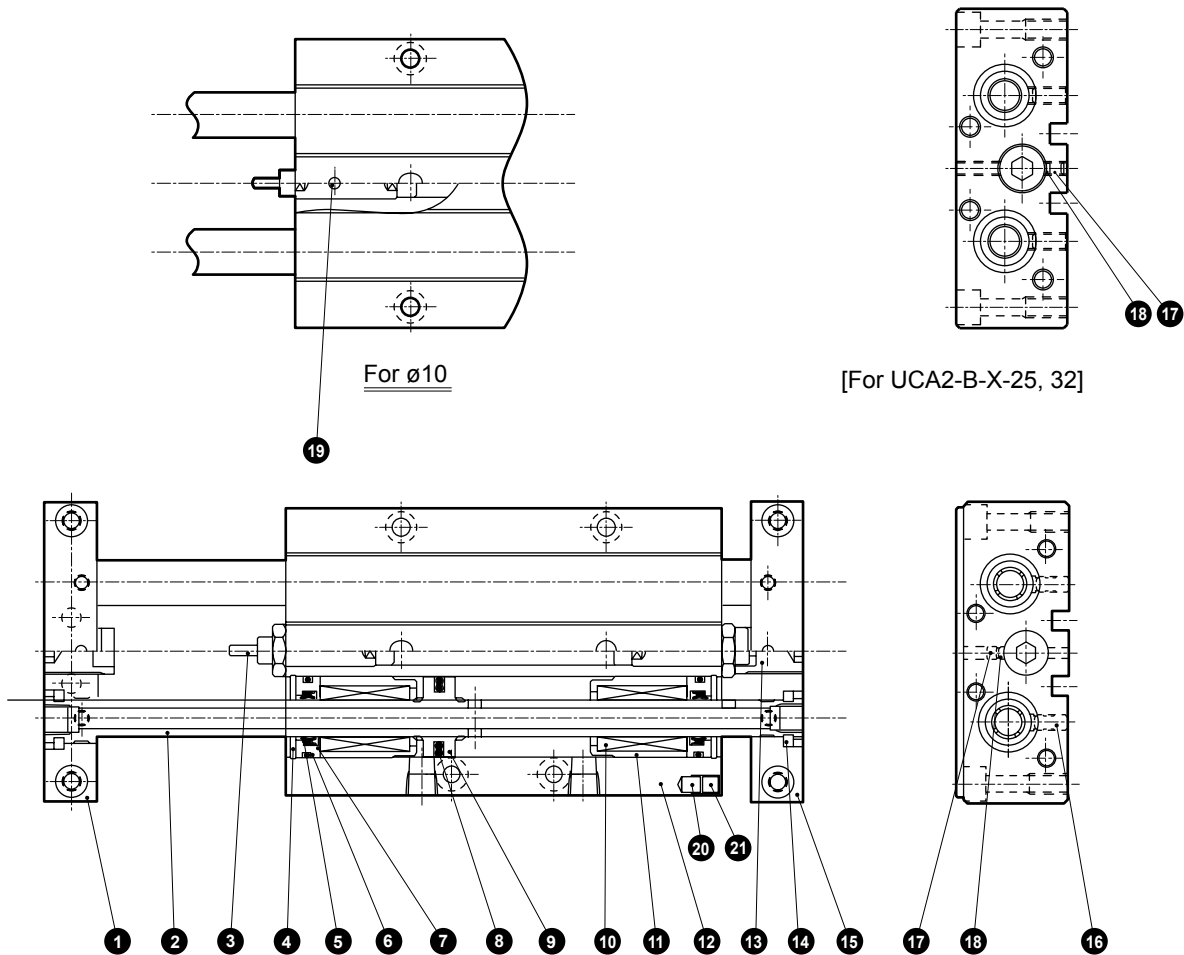
UCA2-B - - P4*

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

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

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	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 type 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)

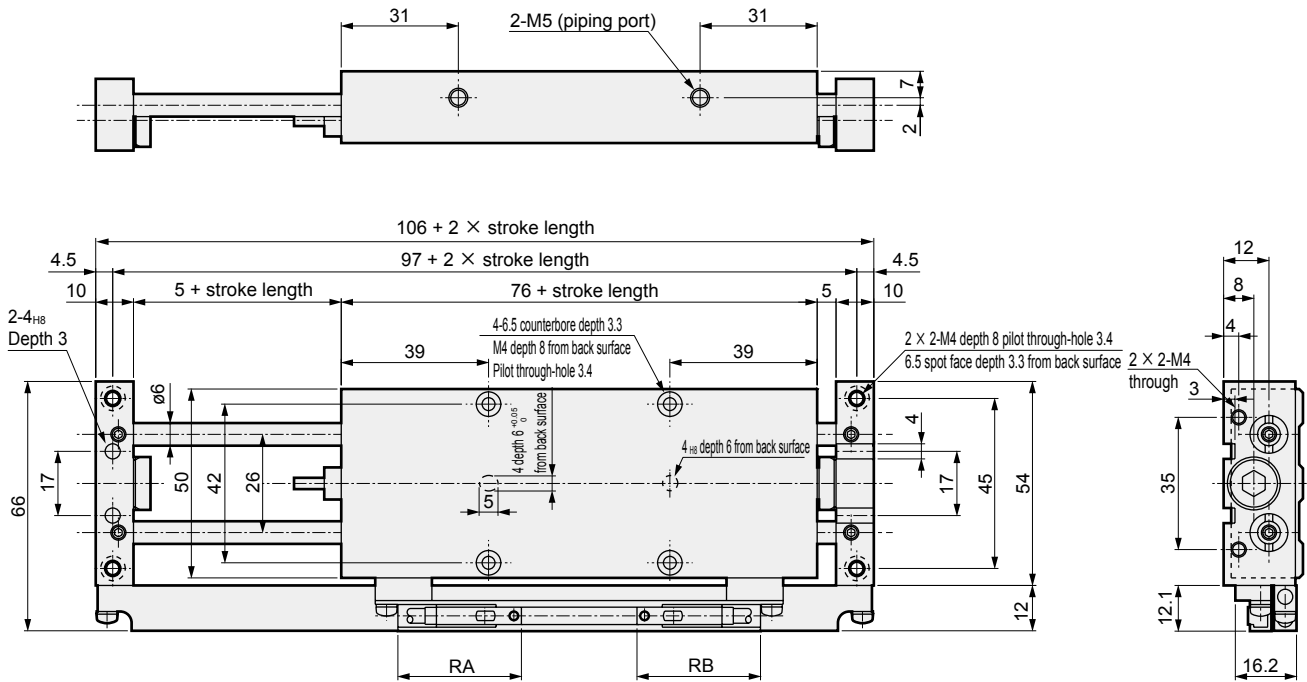


Plate A side

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)

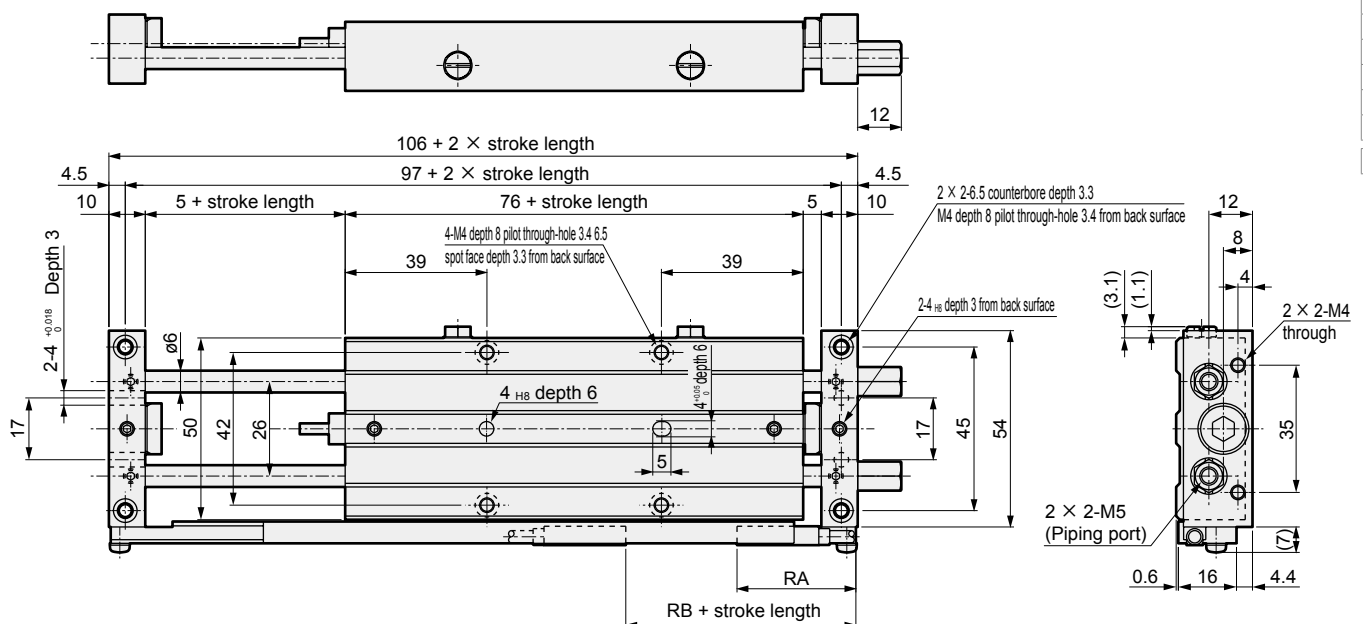


Plate B side

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 length with the stopper may cause malfunction.
Refer to page 667 for details.

UCA2-B Series

Dimensions: ø16 



- Body fixing (X)

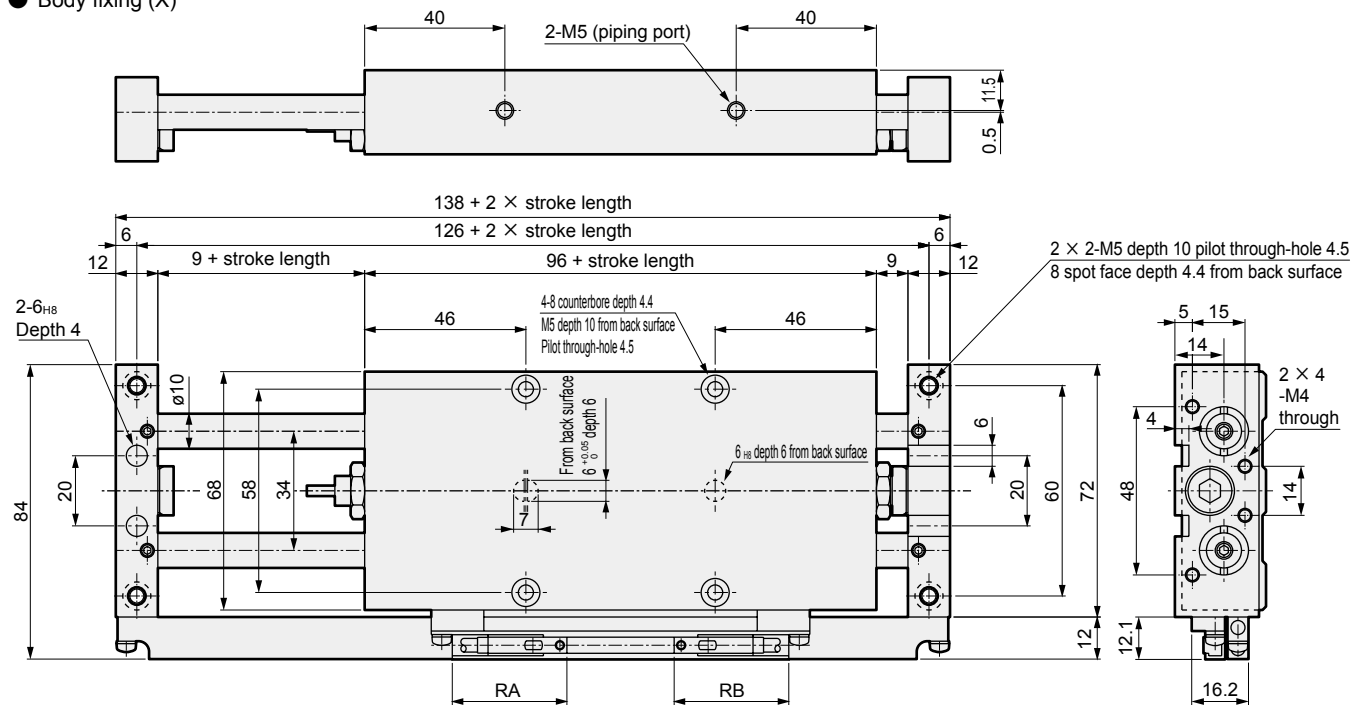


Plate A side

Plate B side



- Plate fixing (Y)

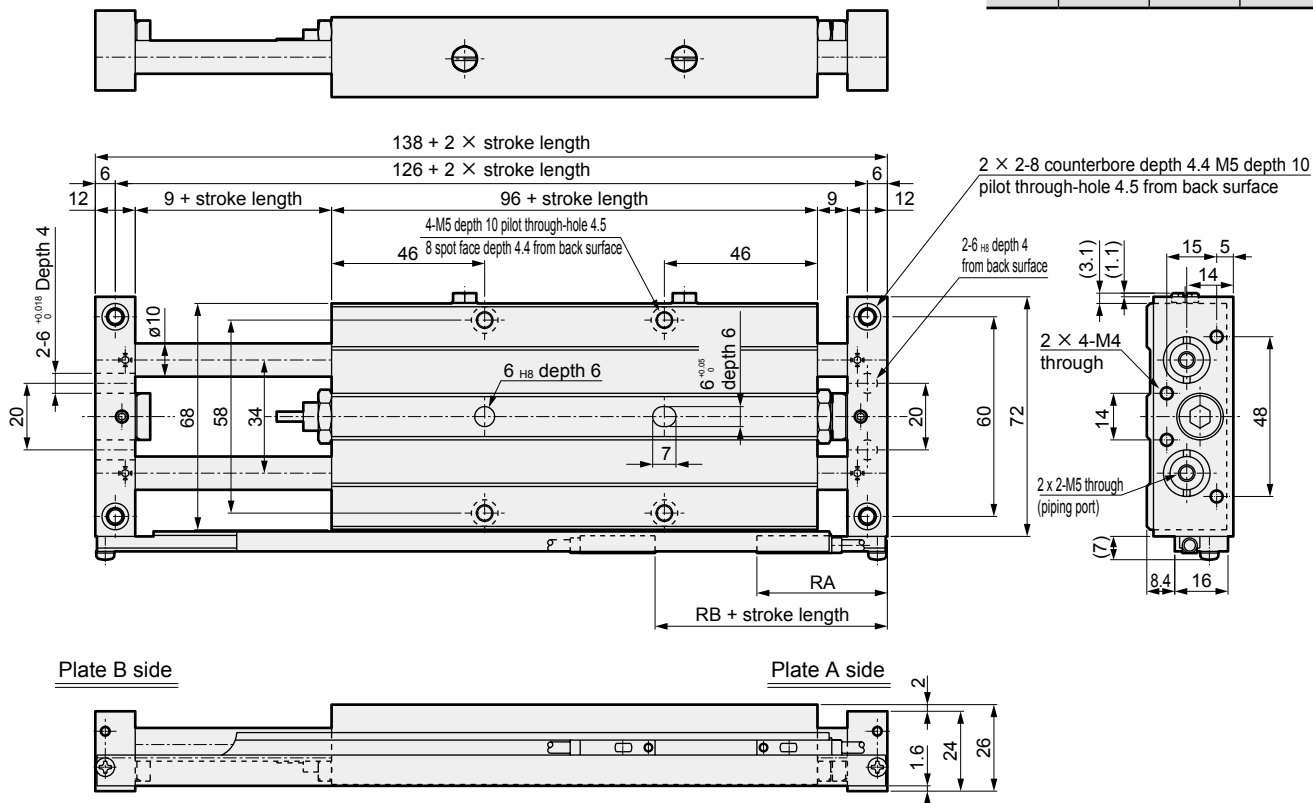
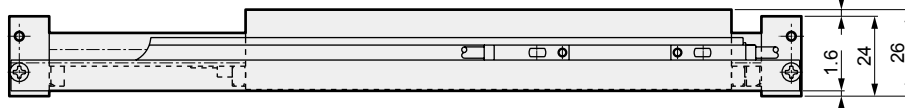


Plate B side

Plate A side



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

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 667 for details.

Dimensions: $\varnothing 25$ 

● Body fixing (X)

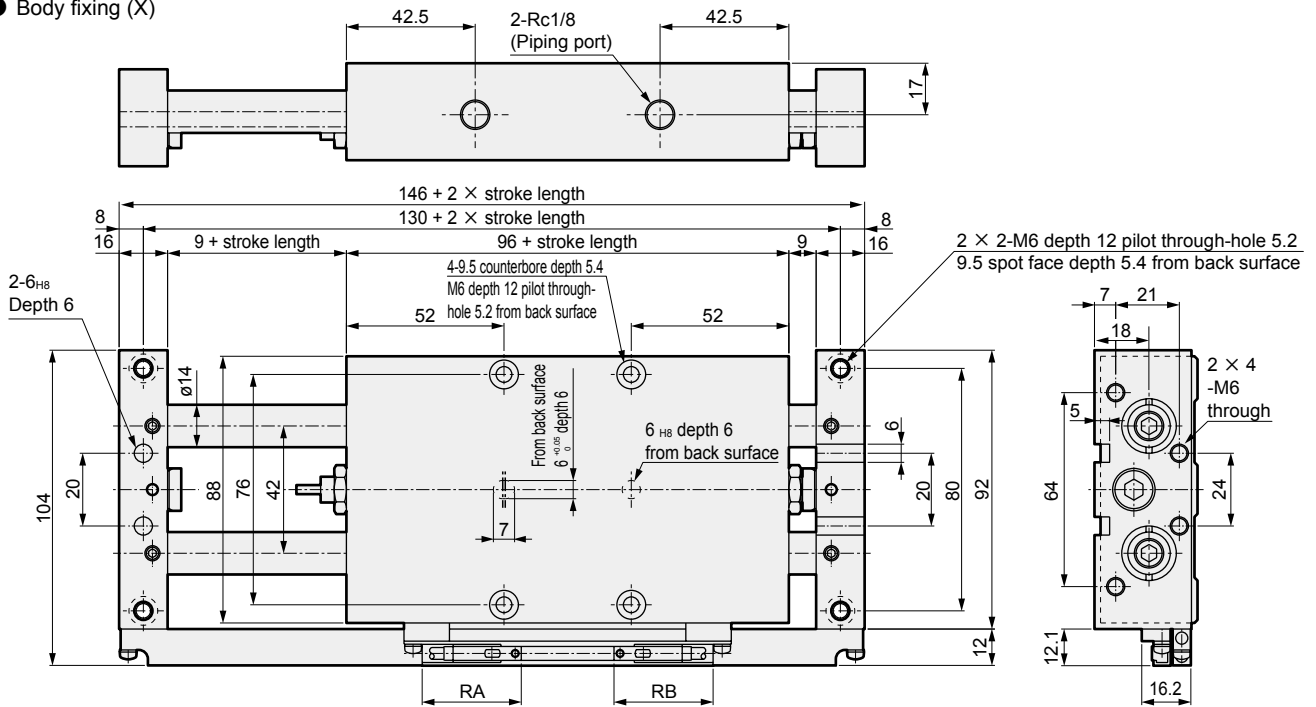
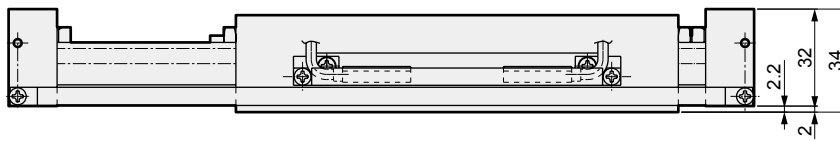


Plate A side

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)

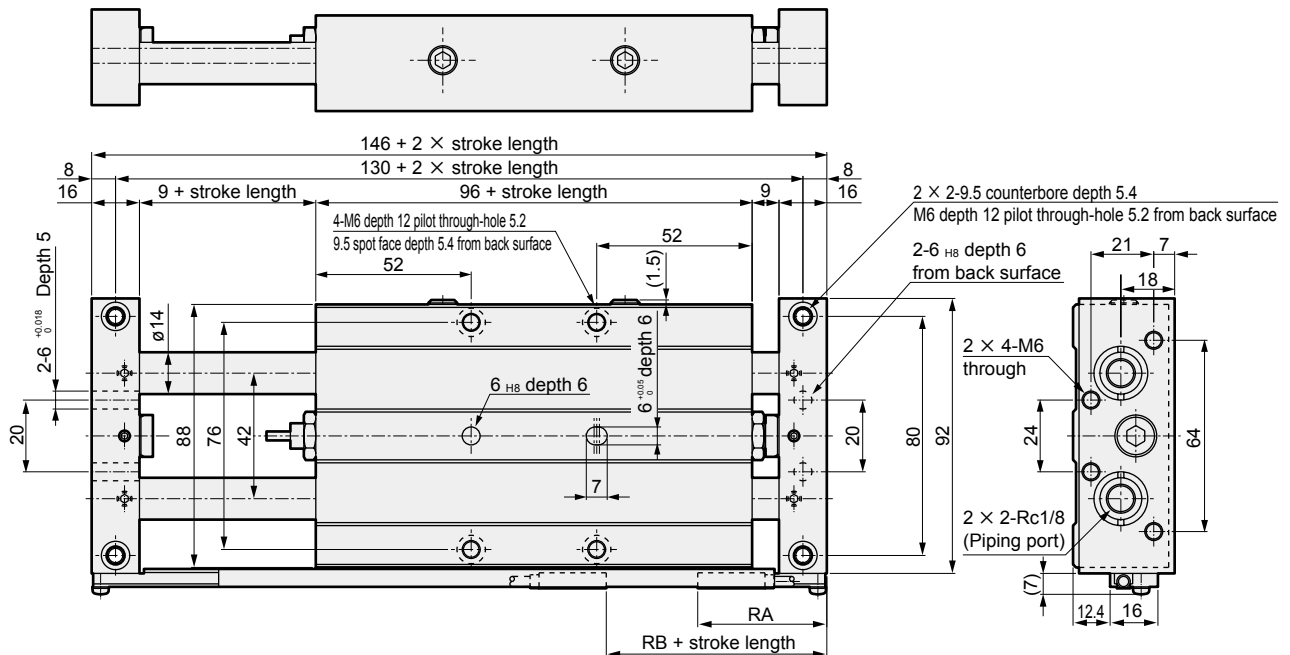
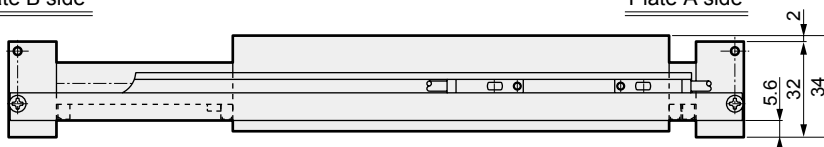


Plate B side

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 length with the stopper may cause malfunction.
Refer to page 667 for details.

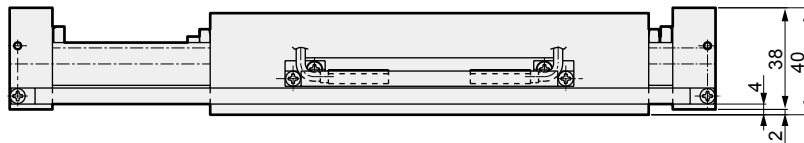
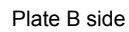
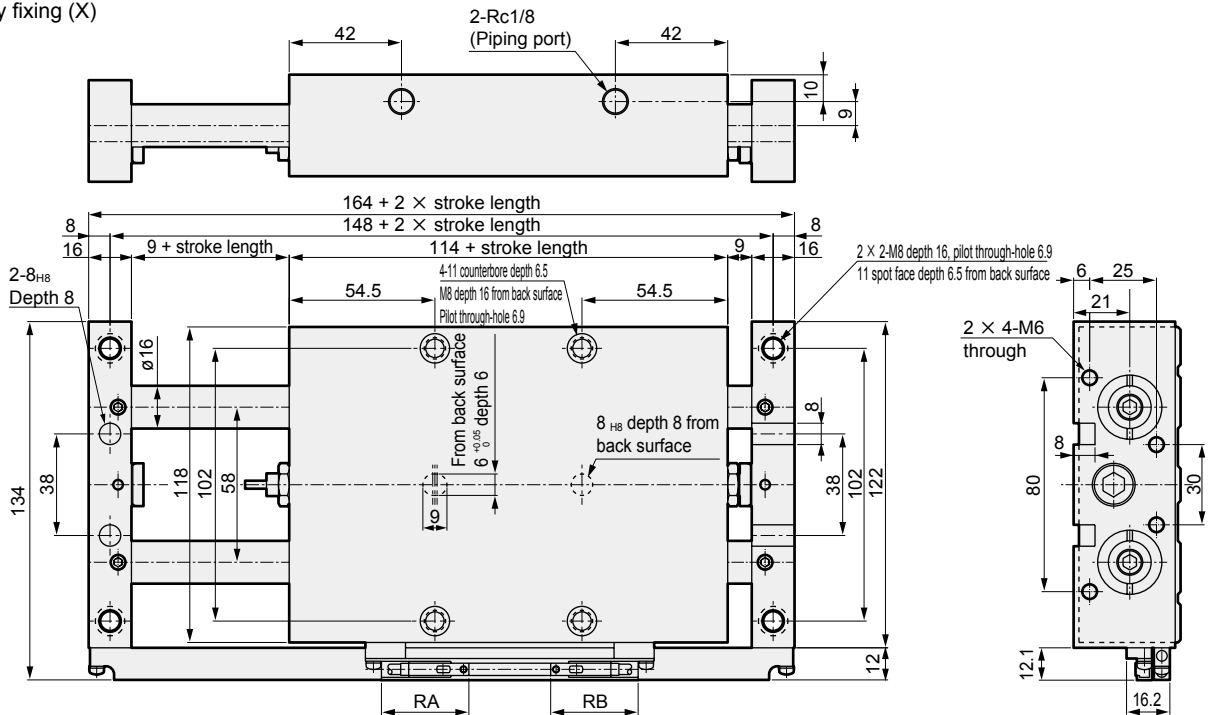
LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

UCA2-B Series



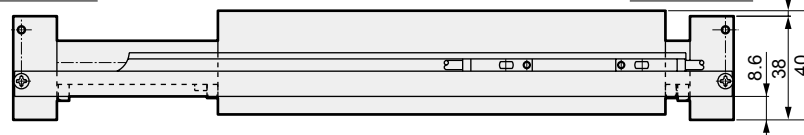
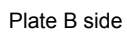
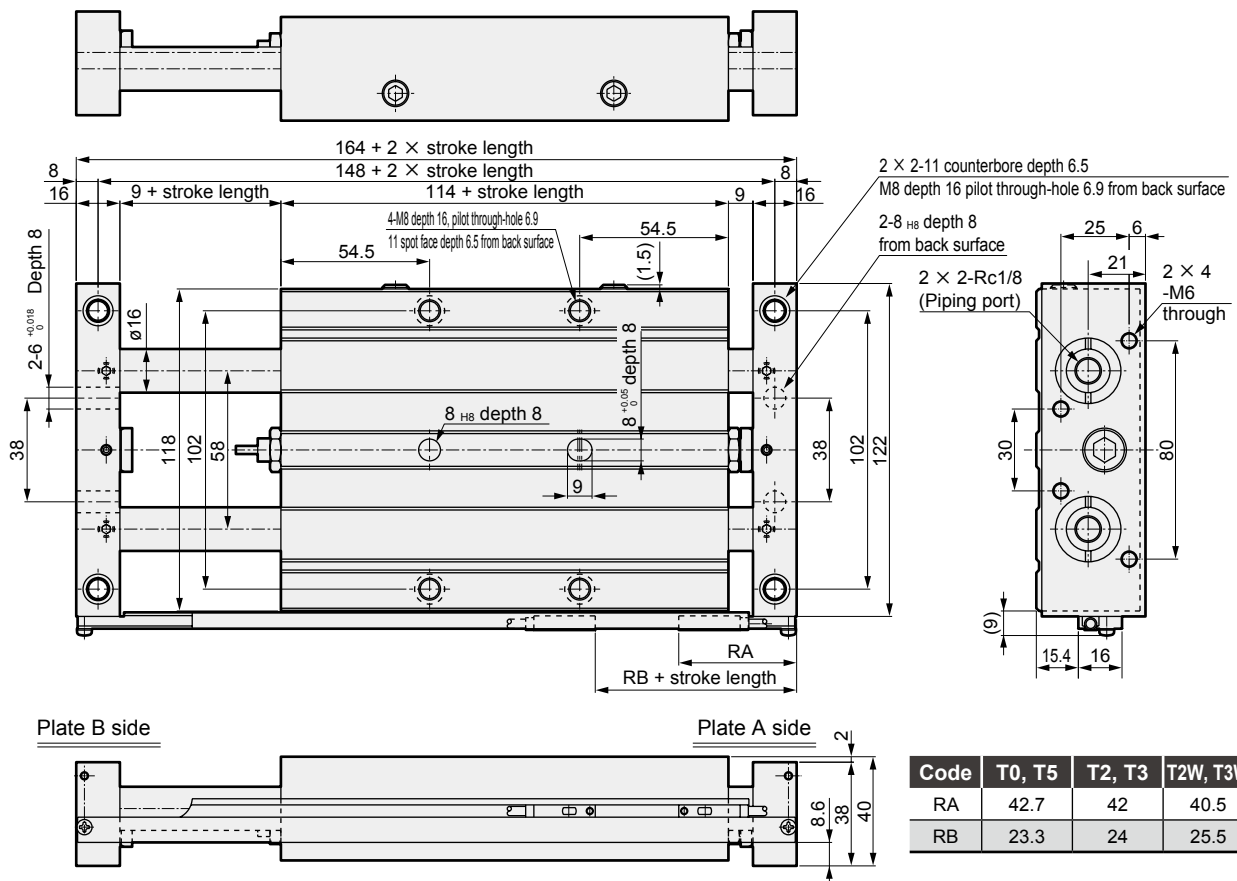
Dimensions: ø32

- Body fixing (X)



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

- Plate fixing (Y)

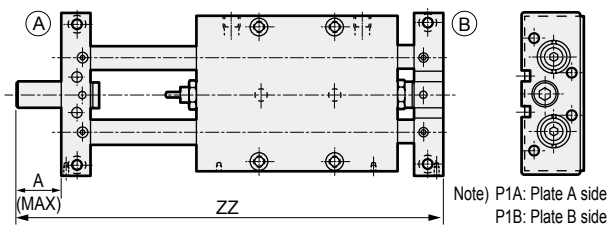


Code	T0, T5	T2, T3	T2W, T3W
RA	42.7	42	40.5
RB	23.3	24	25.5

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

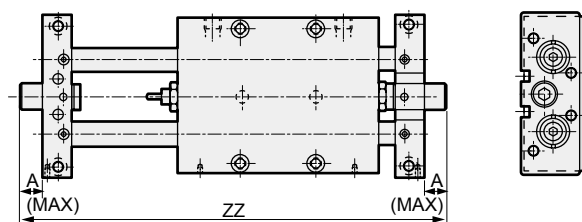
Dimensions: Adjusting stopper

- UCA2-B-X₁₀¹⁶-Y₂₅³² *P1* (single adjusting stopper)



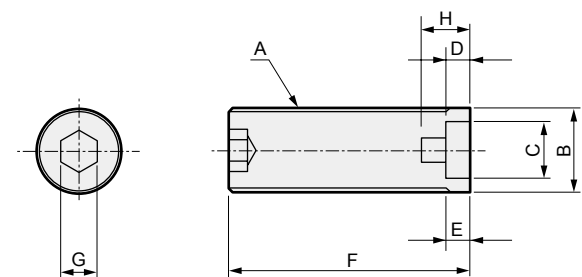
Model No.	A (MAX)	ZZ							
		25st	50st	75st	100st	125st	150st	175st	200st
UCA2-B-10	25	181	231	281	331	-	-	-	-
UCA2-B-16		213	263	313	363	413	463	513	563
UCA2-B-25		221	271	321	371	421	471	521	571
UCA2-B-32		239	289	339	389	439	489	539	589

- UCA2-B-X₁₀¹⁶-Y₂₅³² *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	A	B	C	D	E	F	G	H
Bore size (mm)								
ø10	M14×1	ø14	ø10	4	4	Standard	14.5	6
						P2	27	
						P1	39.5	
ø16	M14×1	ø14	ø9.4	8	4	Standard	17	6
						P2	29.5	
						P1	42	
ø25	M14×1	ø14	ø9.4	6.5	4	Standard	21	6
						P2	33.5	
						P1	46	
ø32	M16×1	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 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.

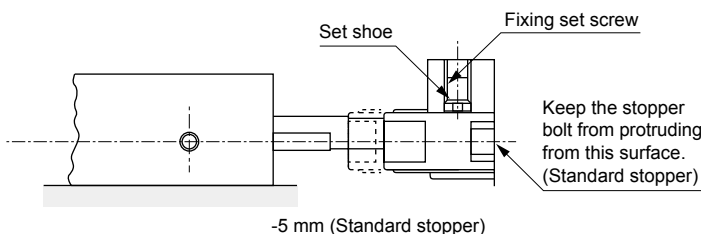


Table A

Item	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	Standard: 0 mm
	Plate A side	-5 mm	
Double adjusting stoppers P2	Each surface	-17.5 mm	12.5 mm

