CAC-N32/40
UCAC-N32/40
Lightweight clamp cylinder

ø32/ø40

Overview

A small and lightweight clamp cylinder that contributes to reduction in the weight of welding jigs, etc.

CONTENTS

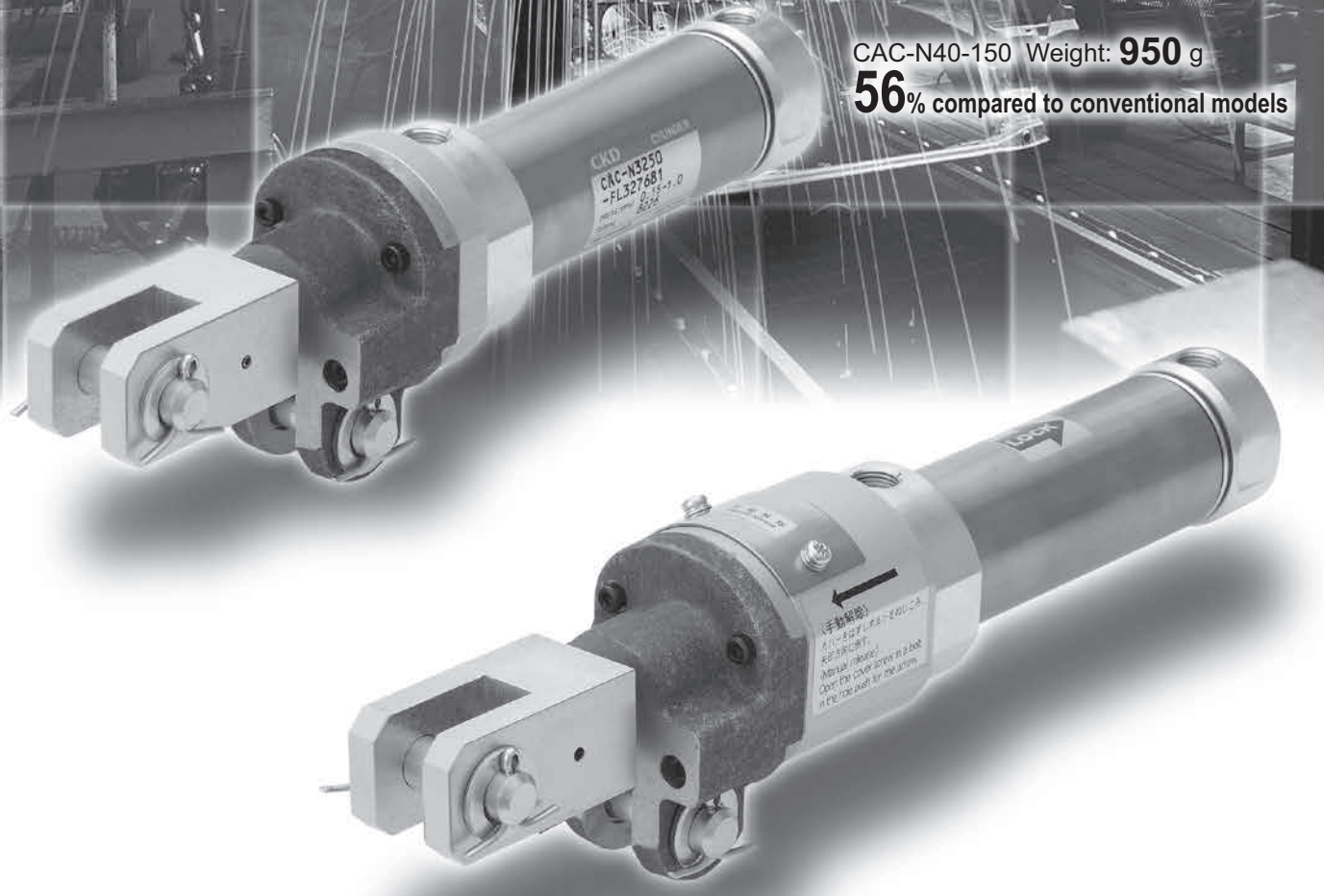
The cylinder switches T2YH, T2YV, T3YH, and T3YV are scheduled for end of production at the end of December 2023.

New Compact Lightweight Clamp Cylinder Helps Lighten Welding Jigs and Tools

Clamp cylinder
CAC-N Series
Bore size ø32, ø40

- The highly reliable lightweight CMK2 Series is incorporated in the cylinder.
- Reed switches, proximity switches, 2-color displays, and strong magnetic field proof switches can be mounted.

CAC-N40-150 Weight: **950** g
56% compared to conventional models

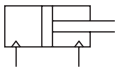
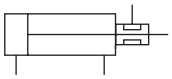


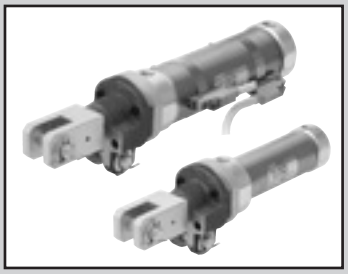
Clamp cylinder with position locking
UCAC-N Series
Bore size ø32, ø40

- Free position locking mechanism on CAC-N Series
- Locking at any position is possible, when the cylinder is stationary
- Free movement in the lock's reverse direction

Lightweight clamp cylinder/position locking and lightweight clamp cylinder
CAC-N32/40, UCAC-N32/40 Series

●: Standard ◎: Option

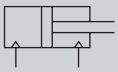
Variation	Model No. JIS symbol	Bore size (mm)	Stroke (mm)	Min. stroke (mm)	Max. stroke (mm)	Accessory Rod clevis Y	Switch	Page
Lightweight clamp cylinder	CAC-N32/40 	ø32/ø40	50/75/100/ 125/150	5	150	◎	◎	1046
Lightweight position locking clamp cylinder	UCAC-N32/40 	ø32/ø40	50/75/100/ 125/150	5	150	◎	◎	1052



Lightweight clamp cylinder/double acting/single rod

CAC-N32/N40 Series

● Bore size: ø32, ø40

JIS symbol 

Specifications

Item			CAC-N32	CAC-N40
Bore size		mm	ø32	ø40
Actuation			Double acting	
Max. working pressure		MPa	1.0	0.7
Min. working pressure		MPa	0.15	
Proof pressure		MPa	1.6	1.05
Ambient temperature		°C	-10 to 60 (no freezing)	
Port size			Rc1/8	
Working piston speed		mm/s	50 to 500	50 to 400
Cushion			Rubber cushion	
Lubrication			Not required (use turbine oil ISO VS32 if necessary for lubrication)	
Mounting			Clevis bracket	
Allowable absorbed energy	J	PUSH	0.424	
		PULL	0.424	0.639

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch (mm)
ø32	50, 75, 100, 125, 150	150	5	10
ø40				

Cylinder weight

(Unit: kg)

Bore size (mm)	Product weight per 0 mm stroke	Additional weight per 100 mm stroke	Weight per switch	Switch rail + band weight (per switch)	Weight of mounting bracket (tie rod mounting)	Weight of tie rod at 0 mm stroke	Additional weight of tie rod per S = 10 mm
ø32	0.45	0.15	Refer to the weight in the switch specifications on the next page.	0.009	0.021	0.019	0.003
ø40	0.53	0.17					

(Example) Product weight of CAC-N40-50-TOH-R

- Product weight at 0mm stroke 0.53kg
- Additional weight at 50mm stroke 0.17 x $\frac{50}{100}$ = 0.085kg
- Weight of TOH switch 0.018kg
- Weight of switch rail + 1 band 0.009kg
- Product weight 0.53+0.085+0.018+0.009=0.642kg

Switch specifications

● 1-color/2-color LED

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/ T2JV	T2YH/ T2YV	T3H/ T3V	T3PH/ T3PV	T3YH/ T3YV	TOH/TOV		T5H/T5V		T8H/T8V		
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay			For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection		For programmable controller, relay		
Output method	-			NPN output	PNP output	NPN output	-						
Power supply voltage	-			10 to 28 VDC			-						
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100 mA	5 to 20 mA (*3)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA
Indicator	LED (Lit when ON)	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)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)		
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA						
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142		

*1 : 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)

● AC magnetic field

Item	Proximity 2-wire
	T2YD, T2YDT
Applications	Dedicated for programmable controller
Indicator	Red/green LED (Lit when ON)
Load voltage	24 VDC ±10%
Load current	5 to 20 mA
Internal voltage drop	6 V or less
Leakage current	1.0 mA or less
Output delay time (*1) (Delay ON, delay OFF)	30 to 60 mS
Lead wire (*2, 3)	Oil resistant vinyl cabtyre cable ø6, 0.5 mm^2 x 2-conductor (standard 1 m)
Insulation resistance	100 MΩ and over with 500 VDC megger
Withstand voltage	No failure after 1 minute of 1,000 VAC application.
Shock resistance	980 m/s^2
Ambient temperature	-10 to +60°C
Degree of protection	JIS C0920 (water-tight), IEC Standard IP67, oil resistance
Weight g	1 m:61 3 m:166 5 m:272

*1 : Indicates the time from magnetic sensor detection of the piston magnet until switch output.
*2 : 3 m and 5 m lead wires are available as options.
*3 : Flame-resistant lead wires are available as options.
*4 : Switch for AC magnetic field cannot be used in DC magnetic field.

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa									
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	$1.21x10^2$	$1.61x10^2$	$2.41x10^2$	$3.22x10^2$	$4.02x10^2$	$4.83x10^2$	$5.63x10^2$	$6.43x10^2$	$7.24x10^2$	$8.04x10^2$
	Pull	$1.04x10^2$	$1.38x10^2$	$2.07x10^2$	$2.76x10^2$	$3.46x10^2$	$4.15x10^2$	$4.84x10^2$	$5.53x10^2$	$6.22x10^2$	$6.91x10^2$
ø40	Push	$1.88x10^2$	$2.51x10^2$	$3.77x10^2$	$5.03x10^2$	$6.28x10^2$	$7.54x10^2$	$8.80x10^2$	-	-	-
	Pull	$1.65x10^2$	$2.21x10^2$	$3.31x10^2$	$4.41x10^2$	$5.51x10^2$	$6.62x10^2$	$7.72x10^2$	-	-	-

How to order

● Without switch (built-in magnet for switch)

CAC - N40 ○ - 50 ——— Y

● With switch (built-in magnet for switch)

CAC - N40 ○ - 50 - T0H - R ○ - Y

Ⓐ Bore size

Ⓑ Port thread

Ⓒ Stroke

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

Ⓔ Switch quantity

Ⓕ Switch mounting position and mounting type

Ⓖ Accessory *1

Code	Description
Ⓐ Bore size (mm)	
N32	ø32
N40	ø40
Ⓑ Port thread	
Blank	Rc thread
N	NPT thread (made to order)
G	G thread (made-to-order product)
Ⓒ Stroke (mm)	
50, 75, 100, 125, 150	

Ⓓ Switch model No.

Straight lead wire	L-shaped lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	**T0V***	Reed	●	●	1-color LED	2-wire
T5H*	**T5V***	Reed	●	●	No indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color LED	2-wire
T1H*	**T1V***	Proximity	●		1-color LED	2-wire
T2H*	**T2V***	Proximity		●	1-color LED	2-wire
T3H*	**T3V***	Proximity		●	1-color LED	3-wire
T3PH*	**T3PV***	Proximity		●	1-color LED	3-wire
T2YH*	**T2YV***	Proximity		●	2-color LED	2-wire
T3YH*	**T3YV***	Proximity		●	2-color LED	3-wire
T2YD*	-	Proximity		●	2-color LED	2-wire
T2YDT*	-	Proximity		●	AC magnetic field	2-wire
T2JH*	**T2JV***	Proximity		●	1-color LED off-delay	2-wire

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

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓕ Switch mounting position and mounting type		
A	Tie rod mounting *2	
C		
Blank	Band mounting *3	

Ⓖ Accessory	
Blank	Without accessory (rod eye)
Y	Rod clevis

Precautions for model No. selection

*1 : A pin, a split pin and a plain washer are attached with Y.
*2 : When the switch model No. is not specified, the mounting method will be tie rod only.
*3 : Tie rods cannot be retrofitted on cylinders with the switch mounting position and method left blank.

[Example of model No.]

CAC-N40-50-T0H-R-Y

Model: Lightweight clamp cylinder
Ⓐ Bore size : ø40 mm
Ⓑ Port thread : Rc thread
Ⓒ Stroke : 50 mm
Ⓓ Switch model No. : : Reed switch TOH, lead wire length 1 m
Ⓔ Switch quantity : 1 on rod side
Ⓕ Switch mounting position and mounting type : Band mounting
Ⓖ Accessory : Rod clevis

How to order switch

[Switch mounting: Band]

A) Switch body + mounting bracket set

CMK2 - T0H - 40

- 40: Bore size (Item A on page 1048)
- T0H: Switch model No. (Item D on page 1048)

B) Switch body only

SW - T0H

- T0H: Switch model No. (Item D on page 1048)

C) Mounting bracket set

CMK2 - T - 32

- 32: Bore size (Item A on page 1048)

[Switch mounting: Tie rod]

A) Switch body + mounting bracket set (=B+C+D)

CAC-N - T0H - 50

- 50: Stroke (Item C on page 1048)
- T0H: Switch model No. (Item D on page 1048)

B) Switch body only

SW - T0H

- T0H: Switch model No. (Item D on page 1048)

C) Mounting bracket kit

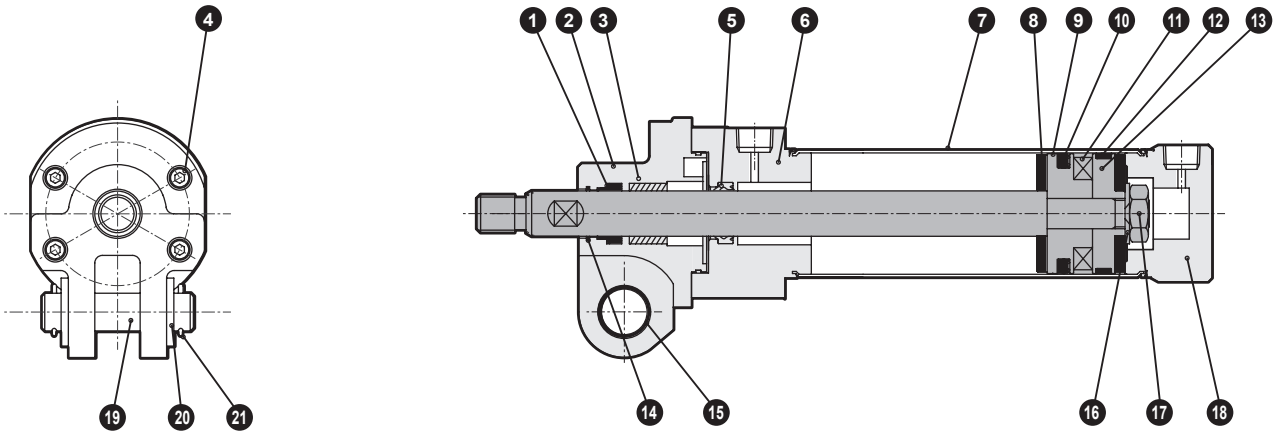
CAC-N - T

D) Mounting tie rod kit

CAC-N - TIE - ROD - KIT - 50

- 50: Stroke (Item C on page 1048)

Internal structure and parts list



Cannot be disassembled

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Scraper	Nitrile rubber		12	Wear ring	Acetal resin	
2	Front clevis	Aluminum alloy	Alumite	13	Piston B	Aluminum alloy	
3	Bush	Copper alloy		14	Metal scraper	Copper	
4	Hexagon socket head cap screw	Steel		15	Bush for clevis	Dry bearing	
5	Rod packing	Nitrile rubber		16	Plain washer	Steel	Chromate
6	Rod cover	Aluminum alloy		17	Hexagon nut	Steel	Chromate
7	Tube	Stainless steel		18	Head cover	Aluminum alloy	
8	Cushion rubber	Urethane rubber		19	Pin	Steel	Chromate
9	Piston A	Aluminum alloy		20	Plain washer	Steel	Chromate
10	Piston packing	Nitrile rubber		21	Split pin	Steel	Chromate
11	Magnet	Plastic					

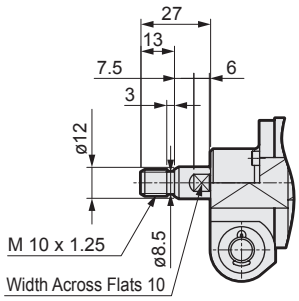
Note: The cylinder is a swaging and cannot be disassembled.

Dimensions

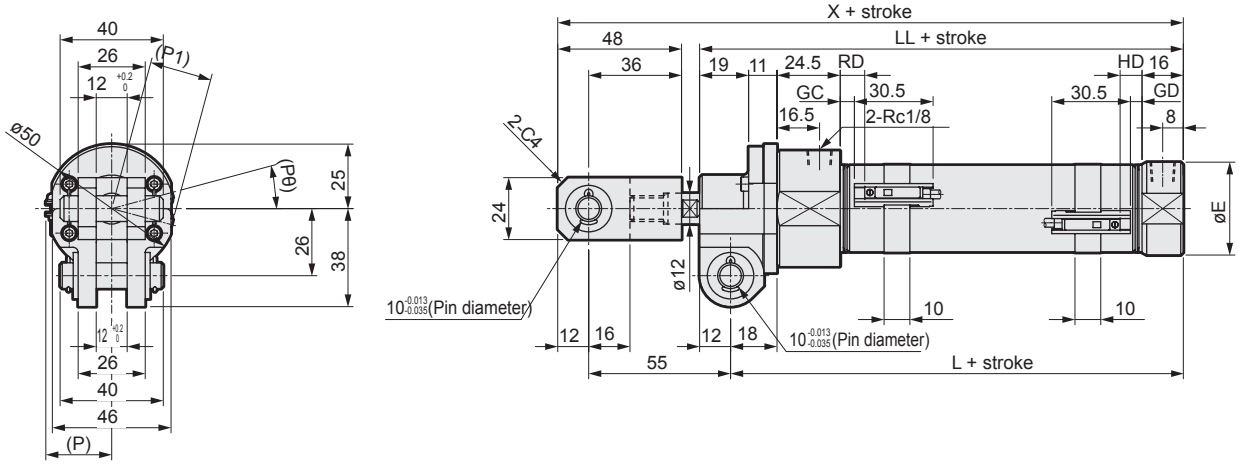
● Switch mounting: Band

● With 1-color LED switch

Without rod eye

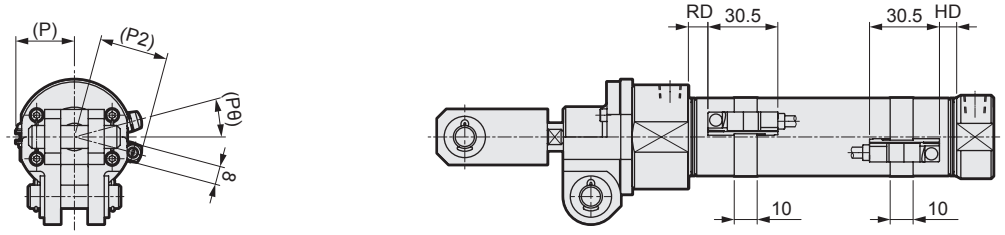


With rod clevis (Y)



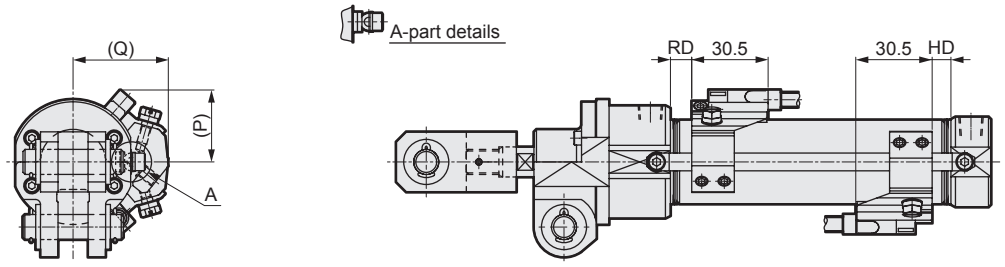
Code / Bore size	E	L	LL	X	T0,T5,T2,T3 GC	T0,T5,T2,T3 GD	T0,T5,T2,T3 RD	T0,T5,T2,T3 HD	P	P1	Pθ
ø32	36	95.5	107.5	162.5	5.5	4.5	9.5	8.5	25.5	24.3	15
ø40	45	99.5	111.5	166.5	7.5	6.5	11.5	10.5	29.5	28.3	12

● T1*, T8*, with 2-point display switch

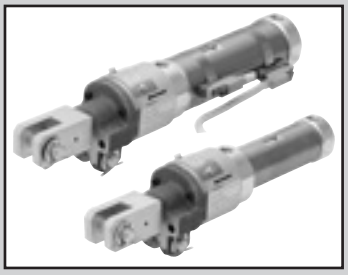


Code / Bore size	RD T1,T²₃Y,T2YD,T2J	RD T8	HD T1,T²₃Y,T2YD,T2J	HD T8	P	P2 T1,T2YD	P2 T²₃Y,T8	Pθ
ø32	8.5	3.5	7.5	2.5	25.5	35.5	30.1	15
ø40	10.5	5.5	9.5	4.5	29.5	39.5	34.1	12

● Switch mounting: Tie rod



Code / Bore size	(Q)	(P)	RD	HD
ø32	(38)	(29)	8.5	7.5
ø40	(42)	(29)	10.5	9.5

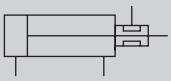


Lightweight position locking clamp cylinder

UCAC-N32/N40 Series

● Bore size: ø32, ø40

JIS symbol



RoHS CAD

Specifications

Item		UCAC-N32	UCAC-N40
Bore size	mm	ø32	ø40
Actuation		Double acting	
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)	0.7 (≈100 psi, 7 bar)
Min. working pressure	MPa	0.25 (≈36 psi, 2.5 bar)	
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)	1.05 (≈150 psi, 10.5 bar)
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)	
Port size		Rc1/8	
Working piston speed	mm/s	50 to 500	50 to 400
Cushion		Rubber cushion	
Lubrication		Not required (use turbine oil ISO VS32 if necessary for lubrication)	
Mounting		Clevis bracket	
Position locking mechanism		Forward/backward locking	
Lock force	N	631	
Allowable absorbed energy	J PUSH	0.424	
	J PULL	0.424	0.639

Stroke

Bore size (mm)	Standard stroke (mm)	Max. stroke (mm)	Min. stroke (mm)	Min. stroke with switch (mm)
ø32	50, 75, 100, 125, 150	150	5	10
ø40				

Switch specifications

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

Item	Proximity 2-wire			Proximity 3-wire			Reed 2-wire							Proximity 2-wire
	T1H/T1V	T2H/T2V	T2YH/T2YV	T3H/T3V	T3PH/T3PV	T3YH/T3YV	TOH/TOV		T5H/T5V		T8H/T8V			T2YD(*4) T2YDT
Applications	For programmable controller, relay, compact solenoid valve	Dedicated for programmable controller		For programmable controller, relay			For programmable controller, relay		For programmable controller, relay, IC circuit (no indicator lamp), serial connection		For programmable controller, relay			Dedicated for programmable controller
Output method	-			NPN output	PNP output	NPN output	-							
Pwr. supp. V.	-			10 to 28 VDC			-							
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC	24 VDC ±10%
Load current	5 to 100 mA	5 to 20 mA (*3)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	≤20 mA	5 to 50 mA	7 to 20 mA	7 to 10 mA	5 to 20 mA
Indicator	LED (Lit when ON)	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)	LED (Lit when ON)		No indicator lamp		LED (Lit when ON)			Red/green LED (Lit when ON)
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA							1 mA or less
Weight g	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80	1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80		1 m:33 3 m:87 5 m:142	1 m:18 3 m:49 5 m:80				1 m:33 3 m:87 5 m:142			1 m:61 3 m:166 5 m:272

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

Cylinder weight

(Unit: kg)

Bore size (mm)		Product weight per 0 mm stroke	Additional weight per 100 mm stroke	Weight per switch	Switch rail + band weight (per switch)	Weight of mounting bracket (tie rod mounting)	Weight of tie rod at 0 mm stroke	Additional weight of tie rod per S = 10 mm
ø32	Forward locking: F	0.71	0.15	Refer to the weight in the switch specifications on the previous page.	0.009	0.024	0.019	0.003
	Backward locking: B	0.65						
ø40	Forward locking: F	0.78	0.17					
	Backward locking: B	0.72						

(Example) Product weight of UCAC-N32-50-B-TOH-D

- Product weight at 0 mm stroke (backward locking: B) ..... 0.65 kg
- Additional weight per 50 mm stroke ..... $0.15 \times \frac{50}{100} = 0.075$ kg
- Weight of 2 TOH switches ..... 0.018x2=0.036 kg
- Weight of switch rail + 2 bands ..... 0.009x2=0.018 kg
- Product weight ..... 0.65+0.075+0.036+0.018=0.779 kg

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa								
		0.25	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø32	Push	2.01×10^2	2.41×10^2	3.22×10^2	4.02×10^2	4.83×10^2	5.63×10^2	6.43×10^2	7.24×10^2	8.04×10^2
	Pull	1.73×10^2	2.07×10^2	2.76×10^2	3.46×10^2	4.15×10^2	4.84×10^2	5.53×10^2	6.22×10^2	6.91×10^2
ø40	Push	3.14×10^2	3.77×10^2	5.03×10^2	6.28×10^2	7.54×10^2	8.80×10^2	-	-	-
	Pull	2.76×10^2	3.31×10^2	4.41×10^2	5.51×10^2	6.62×10^2	7.72×10^2	-	-	-

How to order

● Without switch (built-in magnet for switch)

UCAC - N32 - 50 - B ——— Y

● With switch (built-in magnet for switch)

UCAC - N32 - 50 - B - T0H - D ○ - Y

Ⓐ Bore size

Ⓑ Stroke

Ⓒ Lock direction

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

Ⓔ Switch quantity

Ⓕ Switch mounting position and mounting type

Ⓖ Accessory *1

Code	Item
Ⓐ Bore size (mm)	
N32	ø32
N40	ø40

Ⓑ Stroke (mm)	
50	50
75	75
100	100
125	125
150	150

Ⓒ Lock direction	
F	Forward locking
B	Backward locking

Ⓓ Switch model No.

Straight lead wire	L-shaped lead wire	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	**T0V***	Reed	●	●	1-color LED	2-wire
T5H*	**T5V***	Reed	●	●	No indicator lamp	2-wire
T8H*	**T8V***	Reed	●	●	1-color LED	2-wire
T1H*	**T1V***	Proximity	●		1-color LED	2-wire
T2H*	**T2V***	Proximity		●	1-color LED	2-wire
T3H*	**T3V***	Proximity		●	1-color LED	3-wire
T3PH*	**T3PV***	Proximity		●	1-color LED	3-wire
T2YH*	**T2YV***	Proximity		●	2-color LED	2-wire
T3YH*	**T3YV***	Proximity		●	2-color LED	3-wire
T2YD*	**-**	Proximity		●	2-color LED	2-wire
T2YDT*	**-**	Proximity		●	AC magnetic field	2-wire
T2JH*	**T2JV***	Proximity		●	1-color LED off-delay	2-wire

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

Ⓔ Switch quantity	
R	1 on rod side
H	1 on head side
D	2

Ⓕ Switch mounting position and mounting type		
A	Tie rod mounting *2	
C		
Blank	Band mounting *3	

Ⓖ Accessory	
Blank	Without accessory (rod eye)
Y	Rod clevis (pin, split pin and plain washer attached)

Precautions for model No. selection

*1: A pin, split pin, and plain washer are attached with Y.
*2: When the switch model No. is not specified, the mounting method will be tie rod only.
*3: Tie rods cannot be retrofitted on cylinders with the switch mounting position and method left blank.

[Example of model No.]

UCAC-N32-50-B-T0H-D-Y

Model: Lightweight position locking clamp cylinder Double acting

Ⓐ Bore size : ø32 mm
Ⓑ Stroke : 50 mm
Ⓒ Lock direction : Backward locking
Ⓓ Switch model No. : Reed switch TOH, lead wire length 1 m
Ⓔ Switch quantity : 2
Ⓕ Switch mounting position and mounting type : Band mounting
Ⓖ Accessory : Rod clevis

How to order switch

[Switch mounting: Band]

A) Switch body + mounting bracket set

CMK2 - T0H - 32

- 32: Bore size (Item A on page 1054)
- T0H: Switch model No. (Item D on page 1054)

B) Switch body only

SW - T0H3

- T0H3: Switch model No. (Item D on page 1054)

C) Mounting bracket set

CMK2 - T - 32

- 32: Bore size (Item A on page 1054)

[Switch mounting: Tie rod]

A) Switch body + mounting bracket set (=B+C+D)

CAC-N - T0H - 50

- 50: Stroke (Item B on page 1054)
- T0H: Switch model No. (Item D on page 1054)

B) Switch body only

SW - T0H

- T0H: Switch model No. (Item D on page 1054)

C) Mounting bracket kit

CAC-N - T

D) Mounting tie rod kit

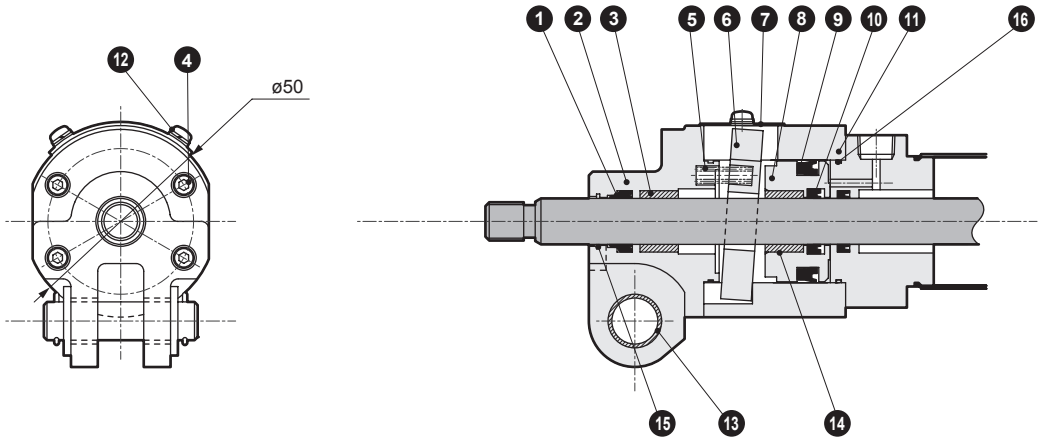
CAC-N - TIE - ROD - KIT - 50

- 50: Stroke (Item B on page 1054)

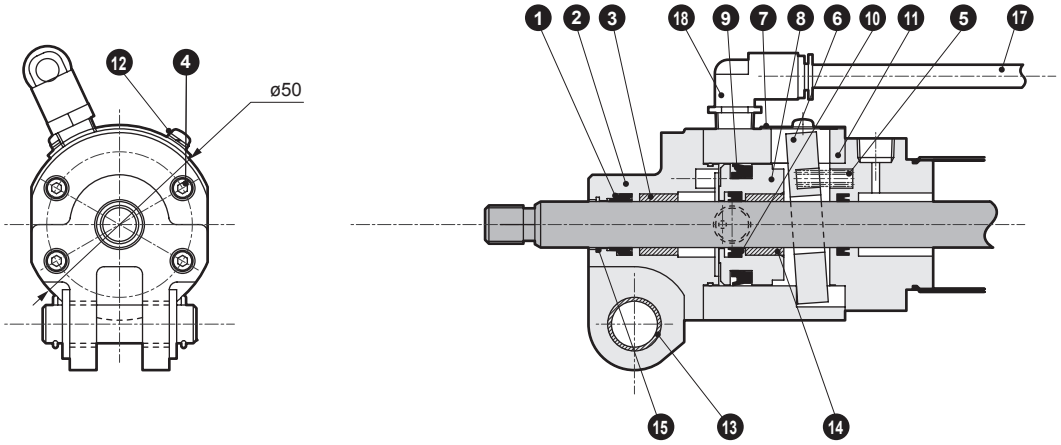
Internal structure and parts list

* The cylinder is the same as CAC-N32/N40. Refer to page 1050.

● With backward locking (UCAC-N32/N40-B)



● With forward locking (UCAC-N32/N40-F)



Cannot be disassembled

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Scraper	Nitrile rubber		10	Lock rod packing	Nitrile rubber	
2	Rod cover	Aluminum alloy	Alumite	11	Intermediate cover	Aluminum alloy	Alumite
3	Metal	Copper alloy		12	Cross-recessed pan head machine screw	Steel	Chromate
4	Hexagon socket head cap screw	Steel		13	Bush for clevis	Oiles drymet	
5	Spring	Steel	Black finish	14	Metal	Copper alloy	
6	Lock plate	Cast iron		15	Metal scraper	Copper alloy	
7	Dust cover	Stainless steel		16	Gasket	Nitrile rubber	
8	Release piston	Aluminum alloy	Alumite	17	Bypass tube		
9	Lock piston packing	Nitrile rubber		18	Push-in fitting		

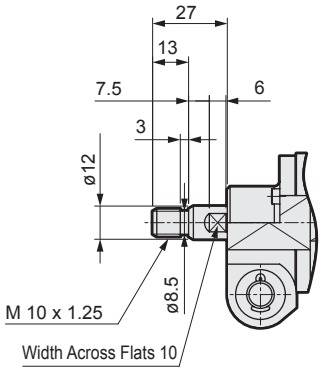
Note: The cylinder is a swaging type and cannot be disassembled.
Also, do not disassemble the lock as it may lead to a decrease in holding force.

dimensions CAD

● Switch mounting: Band

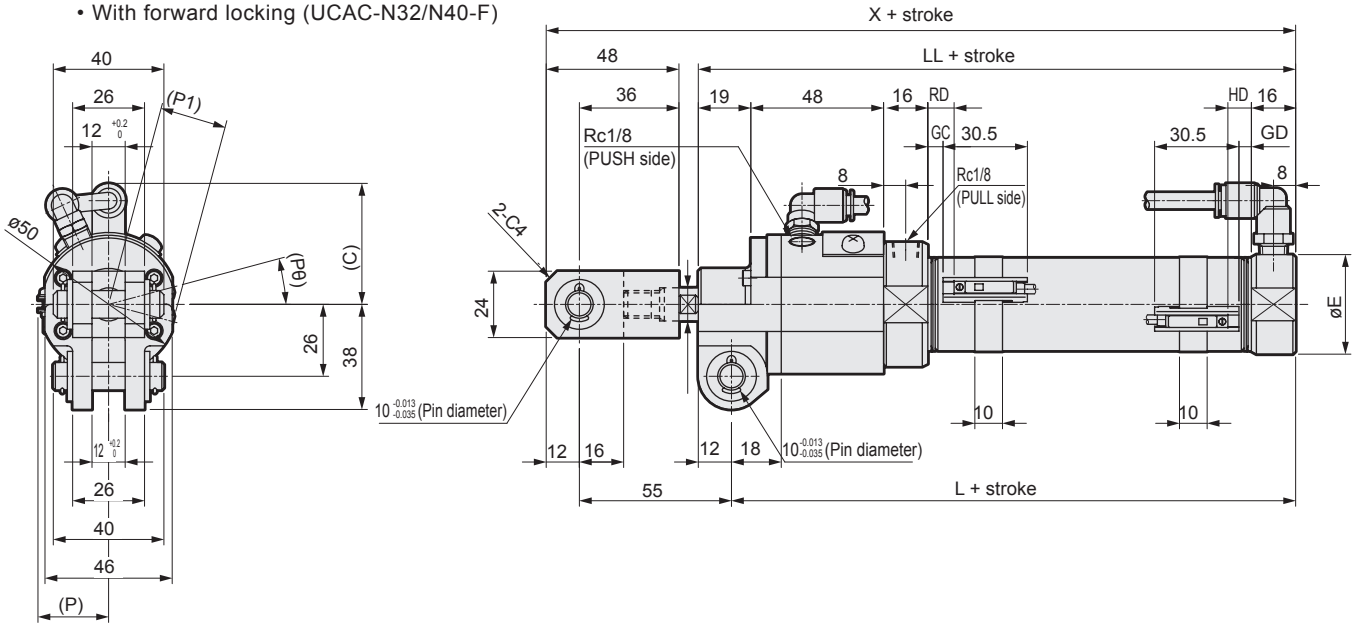
● With 1-color LED switch

● Without rod eye

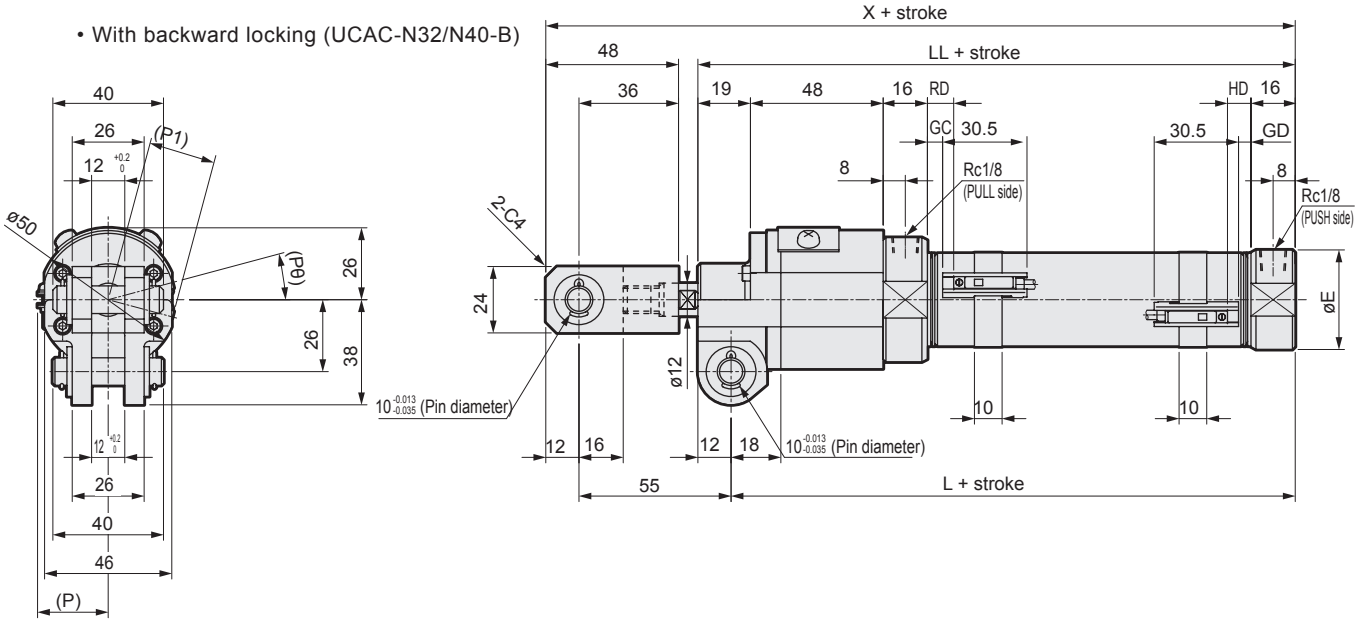


● With rod clevis (Y)

• With forward locking (UCAC-N32/N40-F)



• With backward locking (UCAC-N32/N40-B)

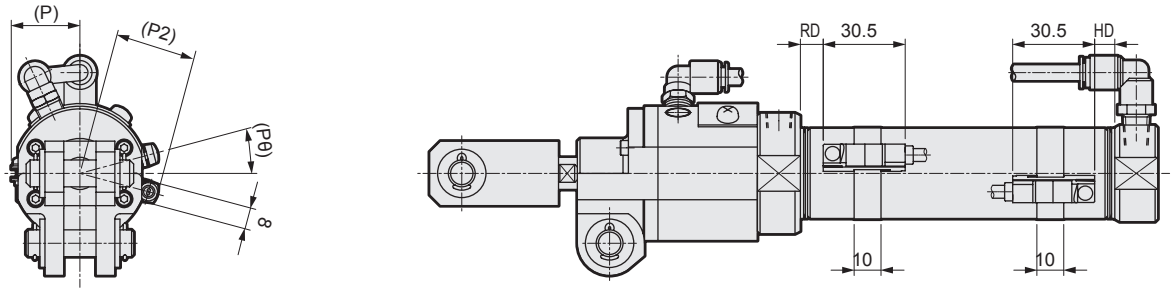


Code / Bore size	C	E	L	LL	X	T0,T5,T2,T3 GC	T0,T5,T2,T3 GD	T0,T5,T2,T3 RD	T0,T5,T2,T3 HD	P	P1	Pθ
ø32	44	36	124	136	191	5.5	4.5	9.5	8.5	25.5	24.3	15
ø40	49	45	128	140	195	7.5	6.5	11.5	10.5	29.5	28.3	12

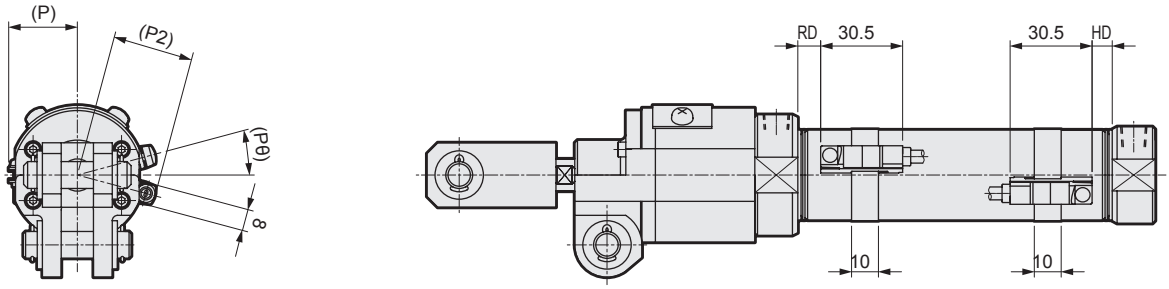
Dimensions CAD

● T1*, T8*, with 2-color LED switch

• With forward locking (UCAC-N32/N40-F)

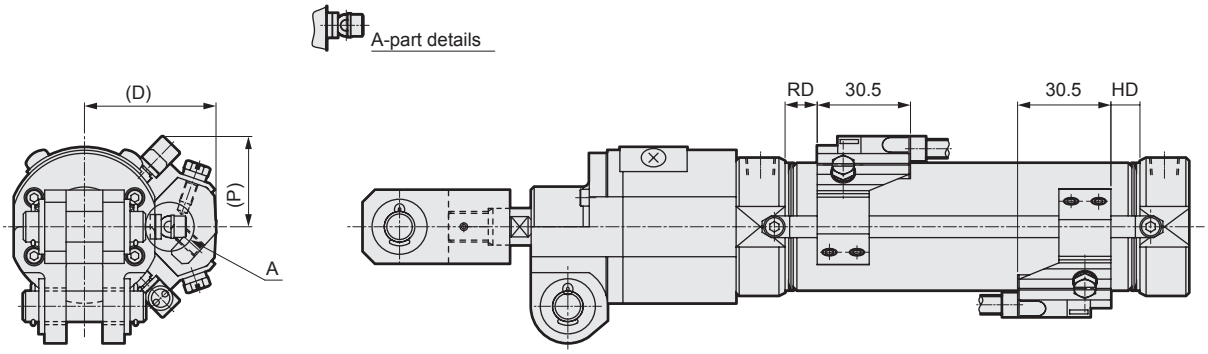


• With backward locking (UCAC-N32/N40-B)



Code / Bore size	RD		HD		P	P2		Pθ
	T1, T^2_3Y, T2YD, T2J	T8	T1, T^2_3Y, T2YD, T2J	T8		T1, T2YD	T^2_3Y, T8	
ø32	8.5	3.5	7.5	2.5	25.5	35.5	30.1	15
ø40	10.5	5.5	9.5	4.5	29.5	39.5	34.1	12

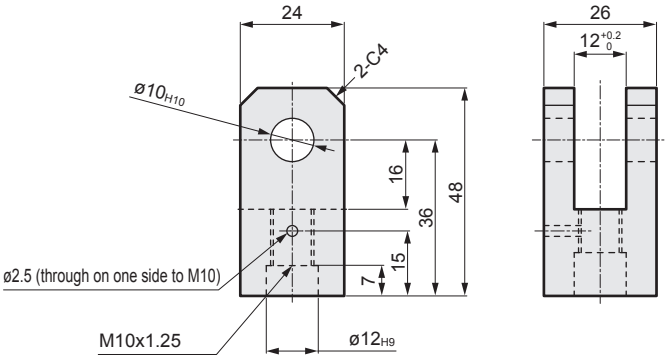
● Switch mounting: Tie rod



Code / Bore size	(D)	(P)	RD	HD
ø32	(38)	(29)	8.5	7.5
ø40	(43)	(30)	10.5	9.5

Accessory dimensions

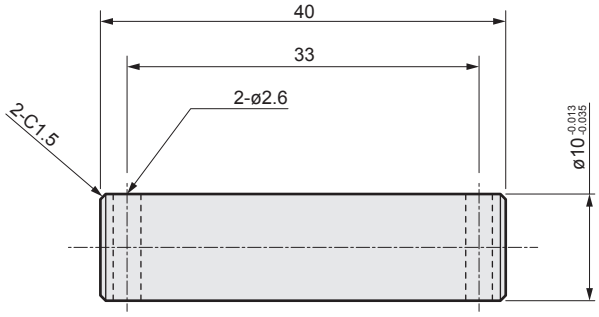
● Rod clevis (Y) Material: Steel
Zinc chromate treatment



* A pin, split pin, spring pin and plain washer are attached.

Model No.	Applicable clamp	Weight (kg)
CAC-N-Y	CAC-N, UCAC-N	0.15

● Clevis pin Material: Steel
Zinc chromate treatment



* A split pin and flat washer are attached.

Model No.	Applicable clamp	Weight (kg)
CAC-N-P	CAC-N, UCAC-N	0.02

Pneumatic components

Safety Precautions

Be sure to read this section before use.
Refer to Intro Page 73 for general information of the cylinder, and to Intro Page 80 for general information of the cylinder switch.

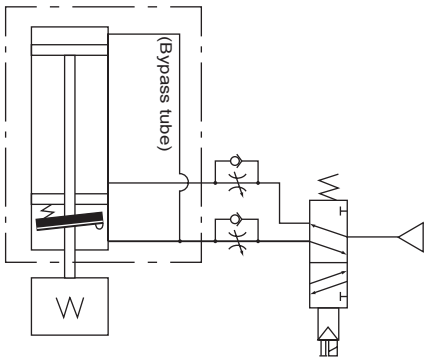
Product-specific cautions: Lightweight clamp cylinder with position locking UCAC-N32/N40

Design/selection

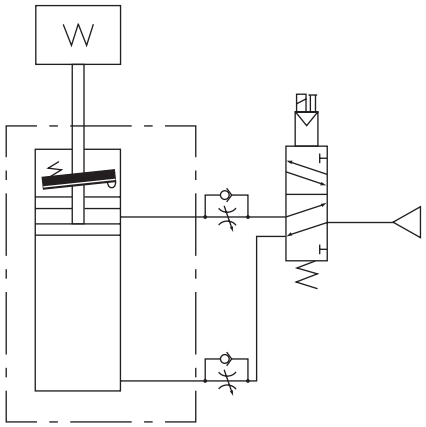
⚠ CAUTION

■ Basic circuit
To control the advance and retract speeds individually, a speed controller must be installed.

● Forward locking F type



● Backward locking B type



Using the emergency stop will move the cylinder backward in a forward locking type and forward in a backward locking type, returning it to the original position. (When there is no residual pressure, the cylinder stops at that point.)

Mounting, installation and adjustment

⚠ CAUTION

■ Flush the connected pipes sufficiently when mounting to prevent foreign materials or cutting chips from entering the cylinder.

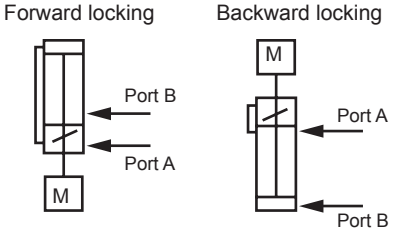
■ Protect the piston rod sliding surface from scratches and dents.
It will cause damage to the packing, etc., and may lead to air leakage.

Use/maintenance

⚠ WARNING

■ For safety purposes, prevent the load from falling under its own weight during maintenance. Do not apply torque to the rod when locked because the locking force may decrease, creating a dangerous condition.
Also, use this product in mechanisms in which the rod does not rotate.

■ Make sure to supply pressure to port B , and before unlocking, check that load is not applied to the lock mechanism.
If pressure is supplied to port A when both ports A and B are exhausted and the piston is locked, the lock may not be released or the piston rod may pop out even if the lock is released. This can be extremely hazardous.



■ If the cylinder is held with pressure is applied on the locking mechanism, the lock could be released.
Do not use 3-position closed center and 3-position P/A/B connection solenoid valves.

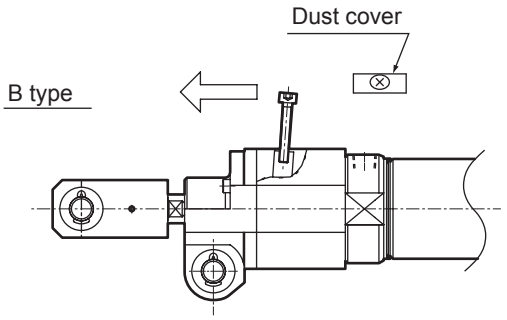
■ If a back pressure is applied while locked, the lock may be released. Use a discrete solenoid valve for brake release, or use an individual exhaust manifold.

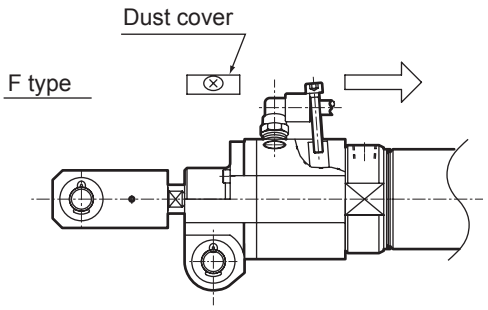
■ Do not use with the by-pass tube disconnected as lock response could be delayed.

■ Note that due to the structure, a 1 mm deviation may occur when stopped with the lock.

■ How to unlock manually

1. Remove the dust cover A.
2. Screw the hexagon socket bolt (length: 40 or more recommended) fully into the screw hole M4 of the lock metal.
3. Push the hexagon socket bolt in the direction of the arrow to free the rod.





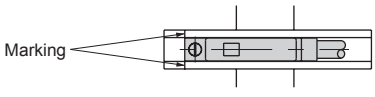
■ Do not disassemble the unit, as doing so may be dangerous.

1. Common (with T-switch)

⚠ CAUTION

■ When moving the switch stroke-direction

- The 1-color LED switch can be fine-tuned by ±3 mm from the default. If the adjusting range exceeds ±3 mm, or when fine-tuning the 2-color LED switch, move the band position.
- Loosen the switch fixing screw, shift the switch along the rail, then tighten at the specified position.
  When using T2, T3, T0, or T5, use a flathead screwdriver (clockwork screwdriver, precision screwdriver, etc.) with a grip diameter of 5 to 6 mm, a 2.4 mm or smaller tip, and a thickness of 0.3 mm or less to tighten the screws with a tightening torque of 0.1 to 0.2 N·m.
  When using T1, T*C, T2J, T2Y, T3Y, or T8, tighten the screw with a tightening torque of 0.5 to 0.7 N·m.
- The switch bracket rail has a marking 4 mm from the rail end. Use as a guide to the mounting position when replacing the switch. Switch rail markings are set to the default switch max. sensitivity position. The max. sensitivity position will change when the switch is changed or when the band is moved. Adjust the position accordingly in this case.

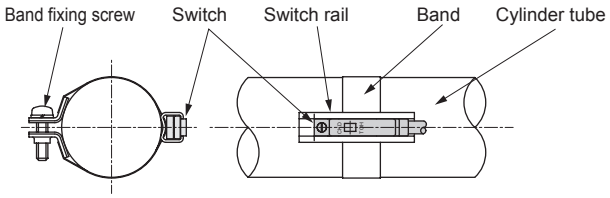


■ When moving the switch position to the circumferential direction

- Loosen the band fixing screw, shift the switch rail in the circumferential direction, then tighten at the specified position. Tightening torque is 0.6 to 0.8 N·m.

■ When the band position shifts

- Loosen the band fixing screw, shift the switch rail and band along the cylinder tube, and tighten at the specified position. Tightening torque is 0.6 to 0.8 N·m.



■ Switch mounting and travel method for tie rod mounting (A/C)

Mounting method

(1) Pass the plain and spring washers through the slotted hexagon head bolt, and fit it onto the holder.
(2) Fit the bracket onto the cylinder tie rod and tighten the hexagon socket head cap screw. Tightening torque is 0.5 to 0.7 N·m.
(3) Lastly, tighten the hexagon socket set screw. Tightening torque is 1.7 to 2.0 N·m.

Travel method

(1) Fine adjustment
Loosen the slotted hex socket bolt, move only the switch body, and fix at the required position. Tightening torque is 0.5 to 0.7 N·m.
(2) Rough adjustment
Completely loosen the slotted bolt and set screws, and move the entire mounting bracket to the required position. Tighten the slotted bolt. Tightening torque is 0.5 to 0.7 N·m.
Then tighten the set screw. Tightening torque is 1.7 to 2.0 N·m.