



Free Mount Cylinder for Vacuum

Series **ZCUK**

A free mount cylinder with a vacuum passage in the rod to meet the requirements for

air cylinder + vacuum pad.

A vacuum passage has been provided in the rod of the CUK cylinder to enable a vacuum pad to be installed on the end of the rod.



Not necessary to provide vacuum tubing space at the end of the rod.

The area around the vacuum pad is uncluttered.

● Non-rotating rod ●

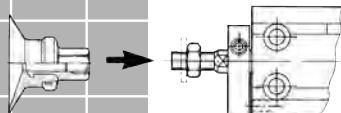
A guide is provided as standard equipment
Rod non-rotating accuracy
(no load: when the rod is retracted on the detent plate side):

ø10, ø16 $\pm 0.8^\circ$
ø20, ø25, ø32 $\pm 0.5^\circ$

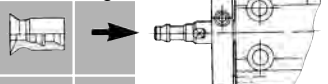
Do not apply a lateral load to the piston rod. Because the piston rod is a hollow rod, a lateral load can cause the piston rod to bend or break.

● Vacuum pad (pad diameter: ø2 to ø50) ●

<Vertical female threads> <Male threads>



<Direct mounting>



<Barb fitting>

● Auto switch

Reed switches:

D-A9□ (cable cord, in-line entry)
D-A9□V (cable cord, perpendicular entry)

Solid state switches:

D-M9□, D-M9□W (cable cord, in-line entry)
D-M9□V, D-M9□WV (cable cord, perpendicular entry)

● How to provide piping to the vacuum side

Cap piping

The piston rod of the vacuum side does not protrude. Also, the vacuum outlet tube does not move when the piston is operating.

Vacuum port pressure range: -101kPa to 0.6MPa
Pressurize only when releasing the vacuum. At that time, use it under the cylinder operating pressure.

Rod piping

Lighter weight than the cap piping.

Can also be used for air blowing.

Vacuum port pressure range: -101kPa to 0.6MPa



Free Mount Cylinder for Vacuum Series ZCUK

How to Order

Basic ZCUK C 16 20 D

With auto switch ZCDUK C 16 20 D A90 S

Built-in magnet

Style (Tubing method in vacuum side)/(Rod end shape)
 C — Cap piping/Male thread
 D — Cap piping/Pad direct mounting
 Q — Rod piping/Male thread
 R — Rod piping/Pad direct mounting

Bore size (mm)
 10 — 10mm
 16 — 16mm
 20 — 20mm
 25 — 25mm
 32 — 32mm

Bore size—Stroke (mm)
 10, 16 — 5, 10, 15, 20, 25, 30
 20, 25, 32 — 5, 10, 15, 20, 25, 30, 40, 50

Acting
 D — Double acting

Auto switch
 — Without auto switch
 S — Number of auto switches
 — 2 pcs.
 S — 1 pc

Refer to the table below for auto switch model no.

Auto Switch Specifications

Type	Special function	Electrical entry	Indicator light	Lead wire (output)	Load voltage		Auto-switch model		Wire length* (m)			Applicable load	
					DC	AC	Perp.	In-line	0.5 (-)	3 (L)	5 (Z)	IC	Relay PLC
Reed switch		Grommet	Yes	2-wire	24V	5V 12V or less	A90V	A90	●	●	—	IC	Relay PLC
				3-wire (NPN)	—	5V	—	A96V	A96	●	●	—	IC
Solid state switch	Diagnosis indication (2 colours)	Grommet	No	3-wire (NPN)	24V	12V	—	M9NV	M9N	●	●	—	Relay PLC
				3-wire (PNP)				M9PV	M9P	●	●	—	
				2-wire				M9BV	M9B	●	●	—	
				3-wire (NPN)				M9NW	M9NW	●	●	○	
				3-wire (PNP)				M9PW	M9PW	●	●	○	
				2-wire				M9BW	M9BW	●	●	○	

*Lead wire length symbol 0.5m No symbol Ex.) A93
 3m L Ex.) A93L
 5m Z Ex.) M9NWZ

*○: Can be manufactured upon receipt of the order.
 *"D-9□" auto-switches are also mountable (D-90, D-90A, D-93A and D-97).
 Refer to p. 6-15 Vol.1 for details.

How to Order Vacuum Pad

• In case of rod end male thread

ZPT 02 U N B4

Pad dia. (mm)
 02 — ø2
 04 — ø4
 06 — ø6
 08 — ø8
 10 — ø10
 13 — ø13
 16 — ø16
 20 — ø20
 25 — ø25
 32 — ø32
 40 — ø40
 50 — ø50

Vacuum entry (Mounting thread diameter)

Symbol	thread dia.	ø2 to ø8	ø10 to ø16	ø20 to ø32	ø40, ø50
B4	M4	●	—	—	—
B5	M5	●	●	—	—
B6	M6	—	●	●	—
B8	M8	—	—	●	●
B10	M10 X 1.25	—	—	●	●

Material
 N — NBR
 S — Silicon rubber
 U — Urethane rubber
 F — Fluorine rubber
 GN — Conductive NBR (ø2 to ø16)
 GS — Conductive silicon rubber (ø2 to ø16)

Pad Style
 U — Flat
 C — Flat with ribs
 D — Deep
 B — Bellows

(Application: Refer to table ①)

Table ① Pad dia./Pad style

Dia. (mm)	2	4	6	8	10	13	16	20	25	32	40	50
Style												
Flat	●	●	●	●	●	●	●	●	●	●	●	●
Flat with ribs	—	—	—	—	●	●	●	●	●	●	●	●
Deep	—	—	—	—	●	—	●	—	●	—	●	—
Bellows	—	—	●	●	●	●	●	●	●	●	●	●

• In case of pad direct mounting

ZP 04 U N X11

Pad dia. (mm)
 02 — ø2
 04 — ø4
 06 — ø6
 08 — ø8
 10 — ø10
 13 — ø13
 16 — ø16
 20 — ø20
 25 — ø25
 32 — ø32
 40 — ø40
 50 — ø50

Suffix symbol

Symbol	Applicable cylinder
X11	ZC(D)UK R 10
—	ZC(D)UK R 16 to 32

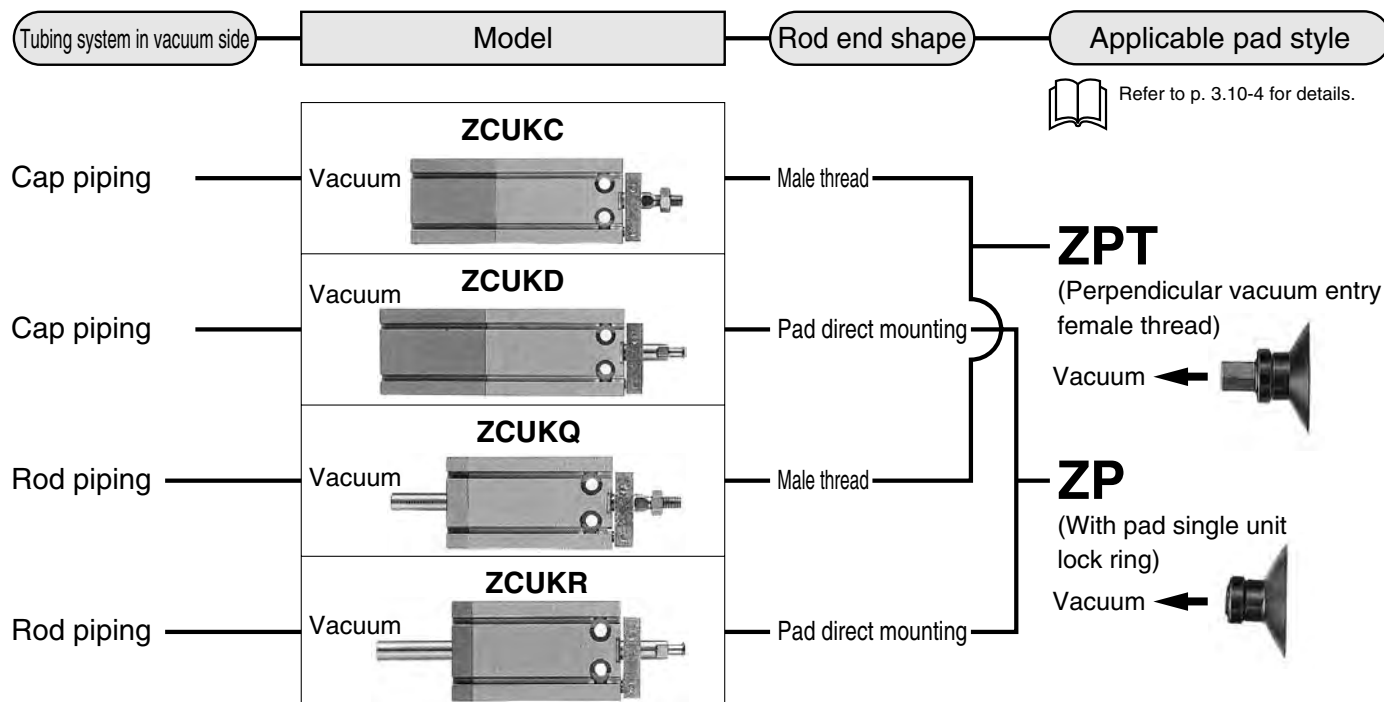
(Note) "X11" Pad: ø2 to ø18 diameter and flat style only available.

Material
 N — NBR
 S — Silicon rubber
 U — Urethane rubber
 F — Fluorine rubber
 GN — Conductive NBR (ø2 to ø16)
 GS — Conductive silicon rubber (ø2 to ø16)

Pad style
 U — Flat
 C — Flat with ribs
 D — Deep
 B — Bellows (except "X11")

Note) Refer to p. 10-138 for combination of cylinder and pad.

Free Mount Cylinder for Vacuum *Series ZCUK*



⚠ Precautions

⚠ Caution

① Do not place your finger in the clearance between the detent plate and the cylinder tube.

Never insert your finger between the non-rotating plate and the cylinder tube to prevent it from being pinched when the piston rod retracts. If your finger is caught, it could injure your finger because the cylinder outputs a considerable amount of force.

② Make sure that rotational torque is not applied to the piston rod. If this is unavoidable, operate the cylinder within the allowable rotational torque listed in the table below.

Allowable Rotational Torque

Bore size(mm)	ø10	ø16	ø20	ø25	ø32
Allowable rotational torque (N·m)	0.02	0.04	0.10	0.15	0.20

③ To secure a workpiece to the end of the piston rod, tighten the workpiece onto the piston rod with the piston rod fully retracted so that torque is not applied to the piston rod.

④ To install a cylinder, tighten it within the torque values indicated in the table below.

Proper Tightening Torque

Bore size (mm)	Hexagon socket head bolt diameter(mm)	Proper tightening torque (Nm)
ø10	M3	1.08 ±10%
ø16	M4	2.45 ±10%
ø20, ø25	M5	5.10 ±10%
ø32	M6	8.04 ±10%

Specifications

Fluid	Air
Proof pressure	1.05MPa
Max. operating pressure	0.7MPa
Vacuum port pressure	-101kPa to 0.6MPa ⁽¹⁾ (At vacuum release 0 to 0.6MPa)
Ambient and fluid temperature	Without auto-switch: -10°C to +70°C With auto-switch: -10°C to +60°C (No freezing)
Lubrication	Not required
Piston speed	50 to 500mm/s
Cushion	Rubber bumper at both sides
Stroke allowance	$\begin{smallmatrix} +1.0 \\ 0 \end{smallmatrix}$
Thread tolerance	JIS 2 Class
Rod tip screw	With or without (Pad direct mounting)
Mounting	Basic type
Applicable pad	Refer to p.10-138 for details.



Note 1) For a cap style, supply pressure only when vacuum is released. That pressure should be less than the cylinder pressure.

Non-rotating Rod Accuracy (No load/At retraction of the rod at the locking plate side)

Tube bore size (mm)	ø10	ø16	ø20	ø25	ø32
Non-rotating piston rod accuracy	±0.8°			±0.5°	

Minimum Operating Pressure

(MPa)

Tube bore size (mm)	ø10	ø16	ø20	ø25	ø32
Min. operating pressure (MPa)	0.13	0.13	0.11	0.11	0.11

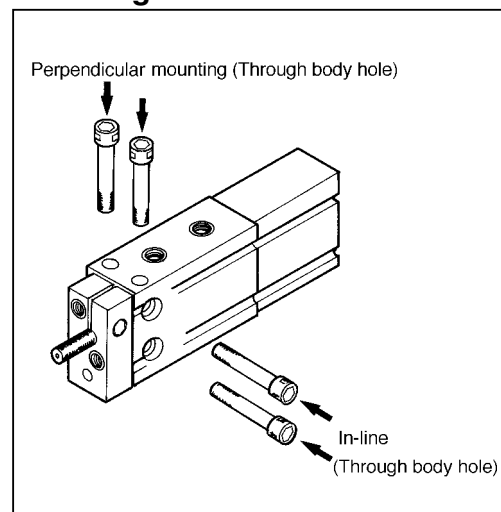
Series ZCUK

Applicable Auto Switch Model

Model		Electrical entry		Indicator light
Reed switch	D-A90		2 wire/In line	Unavailable
	D-A93		3 wire/In line	Available
	D-A96			
	D-A90V		2 wire/Perpendicular	Unavailable
	D-A93V		3 wire/Perpendicular	Available
	D-A96V			
Solid state switch	D-M9N	Grommet	3 wire/NPN/In line	Available
	D-M9P		3 wire/PNP/In line	
	D-M9B		2 wire/In line	
	D-M9NW		3 wire/NPN/In line (2 colour indicator)	
	D-M9PW		3 wire/PNP/In line (2 colour indicator)	
	D-M9BW		2 wire/In line (2 colour indicator)	
	D-M9NV		3 wire/NPN/Perpendicular	
	D-M9PV		3 wire/PNP/Perpendicular	
	D-M9BV		2 wire/Perpendicular	
	D-M9NWV		3 wire/NPN/Perpendicular (2 colour indicator)	
	D-M9PWV		3 wire/PNP/Perpendicular (2 colour indicator)	
	D-M9BWV		2 wire/Perpendicular (2 colour indicator)	

"D-9□" auto switches are also mountable (D-90, D-90A, D-93A and D-97).
Refer to p.6-15 Vol.1 for details.

Mounting



Standard Stroke

(mm)

Cylinder bore (mm)	Double acting/Single rod, Non-rotating piston rod							
	Stroke (mm)							
	5	10	15	20	25	30	40	50
10	●	●	●	●	●	●	—	—
16	●	●	●	●	●	●	—	—
20	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●
32	●	●	●	●	●	●	●	●

Min. Stroke for Mounting Auto switch

Applicable auto switch	No. of switches	
	1 pc.	2 pcs.
D-M9□ D-M9□V	5	5
D-M9□W D-M9□WV	5	10
D-A9□ D-A9□V	5	10

Theoretical Force/Double Acting Style

Unit: N

Cylinder bore (mm)	Rod dia. (mm)	Effective area (cm ²)	Operating pressure (MPa)		
			0.3	0.5	0.7
10	4	66.0	19.8	33	46.2
16	6	172	51.6	86	121
20	8	264	79.2	132	185
25	10	412	124	206	289
32	12	691	207	346	484

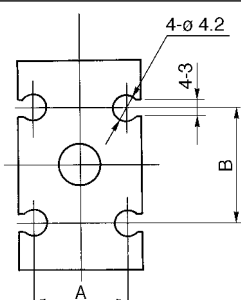
Cylinder/Applicable Pad

●In case of rod end male thread

Use series ZPT pad (vertical vacuum entry/female thread mounting).

Cylinder		Pad(ZPT02 to 50□□ -B4 to 10)													Thread dia.
Model	Bore (mm)	Pad dia. (mm)													
		2	4	6	8	10	13	16	20	25	32	40	50		
ZCUKC	10	●	●	●	●	—	—	—	—	—	—	—	—	M4	
ZCUKQ	16	●	●	●	●	●	●	●	—	—	—	—	—	M5	
ZCDUKC	20	—	—	—	—	●	●	●	●	●	—	—	—	M6	
ZCDUKQ	25	—	—	—	—	—	—	—	●	●	●	●	●	M8	
	32	—	—	—	—	—	—	—	●	●	●	●	●	M10 X 1.25	

Switch Groove Location



Bore size	A	B
10	10.3	13
16	15	18
20	21	23
25	27	25
32	35	27

●In case of pad direct mounting

Use series ZP pad (single unit).

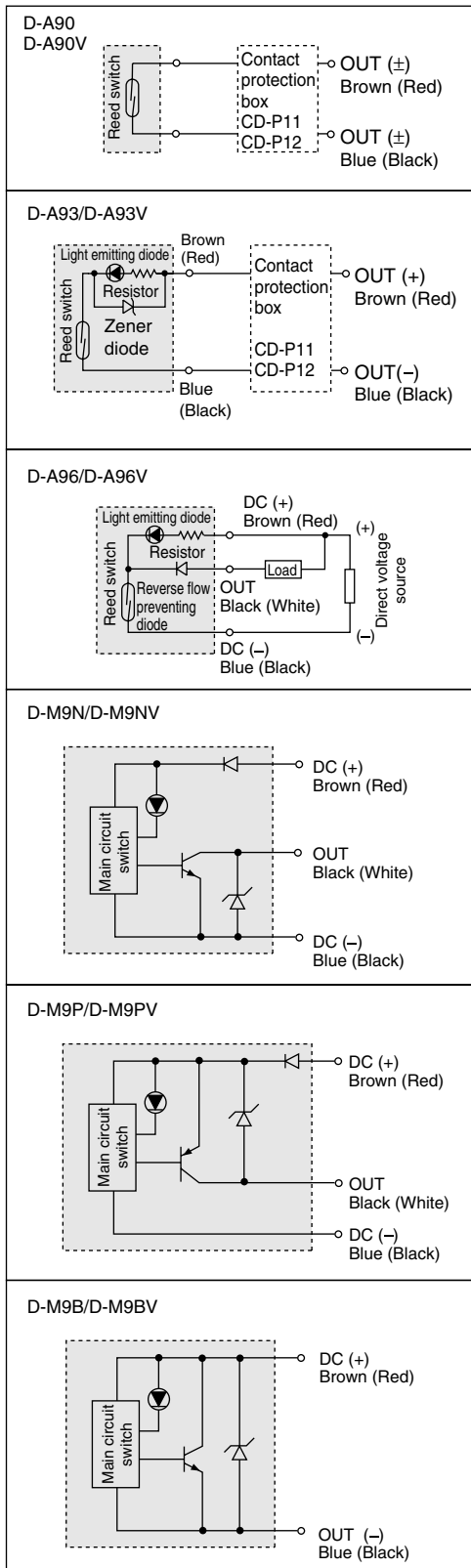
Cylinder		Pad (ZP02 to 50□□)												
Model	Bore (mm)	Pad dia. (mm)												
ZCUKD	10 ⁽¹⁾	●	●	●	●	—	—	—	—	—	—	—	—	—
ZCUKR	16	●	●	●	●	—	—	—	—	—	—	—	—	—
ZCDUKD	20	—	—	—	—	●	●	—	—	—	—	—	—	—
ZCDUKR	25	—	—	—	—	—	—	●	●	—	—	—	—	—
	32	—	—	—	—	—	—	—	—	—	—	—	—	●

Note 1) When using "ZC(D) UK^U_R10", use ZP02 to 08U* -X11. Pad shape is flat only.

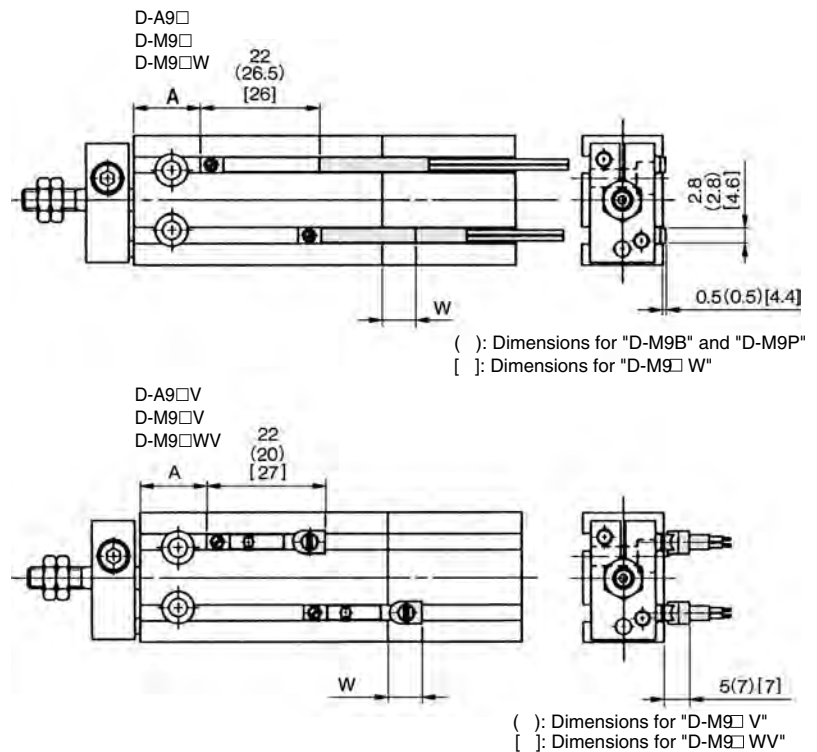
Free Mount Cylinder for Vacuum Series **ZCDUK**

Auto Switch Specifications

Auto Switch Internal Circuit



Auto Switch Setting Position



Bore size (mm)	D-A9□/D-A9□V			D-M9B/D-M9P			D-M9N			D-M9□V			D-M9□W			D-M9□WV		
	A	B	W	A	B	W	A	B	W	A	B	W	A	B	W	A	B	W
6	13	5.5	-3.5	17.5	10	5	17.5	10	0.5	17.5	10	-1.5	16.5	9	3.5	16.5	9	4.5
10	12	9	-7.5	16.5	13.5	1	16.5	13.5	-3.5	16.5	13.5	-5.5	15.5	12.5	-0.5	15.5	12.5	0.5
16	15.5	11	-9.5	20	15.5	-1	20	15.5	-5.5	20	15.5	-7.5	19	14.5	-2.5	19	14.5	-1.5
20	19.5	14.5	-13	24	19	-4.5	24	19	-9	24	19	-11	23	18	-6	23	18	-5
25	22	16	-14.5	27.5	20.5	-6	27.5	20.5	-10.5	27.5	20.5	-12.5	25.5	19.5	-7.5	25.5	19.5	-6.5
32	23	18	-16.5	28.5	22.5	-8	28.5	22.5	-12.5	28.5	22.5	-14.5	26.5	21.5	-9.5	26.5	21.5	-8.5

Notes) 1. With the W type, the negative dimensions indicated in the table are for installing on the left side of the reference position indicated in the drawing above.

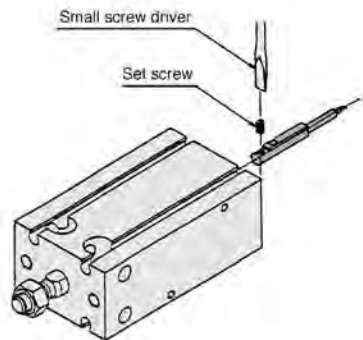
2. In the case of the 5mm stroke and the 10mm stroke types, due to the operation range, there are times in which the switch might not turn OFF or 2 switches will turn ON simultaneously. To set the position, place the switch 1 to 4mm outside the values indicated in the above table and inspect to make sure that the switch operates correctly.

Auto Switch Specifications

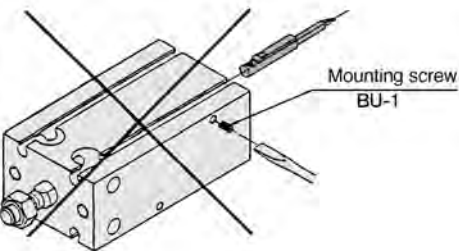
How to Mount Auto Switches

Mounting

D-A9□, M9□, A9□V, M9□V



- To tighten the auto switch mounting screws, use a watchmaker's screwdriver with a grip diameter of 5 to 6mm.
- Tighten the screws to a torque of approximately 0.10 to 0.20 N·m.



- Do not install using BU-1 (mounting screws used exclusively for D-9□ model auto switch). (Failure to observe this precaution could cause the auto switch to break.)

Contact Protection Box

The D-A9□ and D-A9□V model switches are not provided with a built-in contact protection circuit.

- ①The operating load is an inductive load.
 - ②The length of wiring to the load exceeds 5 metres.
 - ③The load voltage is 100VAC.
- Use a contact protection box if any one of the conditions given above applies.

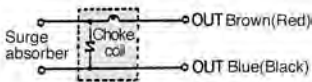
Part No.	CD-P11	CD-P12
Load voltage	AC100V	AC200V
Max. Load current	25mA	12.5mA
	DC24V	50mA

*Lead wire length: Switch side 0.5m
Load side 0.5m

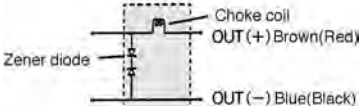


Contact protection box/ Internal circuit

CD-P11



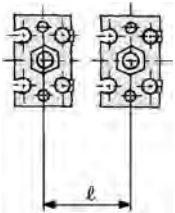
CD-P12



Precautions for installing an auto switch close to a cylinder

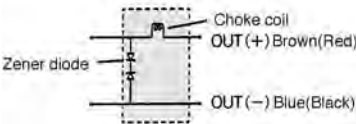
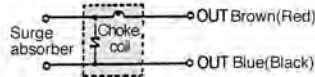
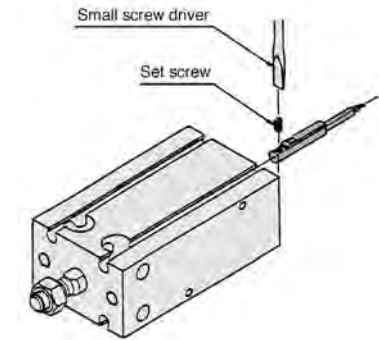
If the mounting pitch of a free-mount cylinder with D-A9□, D-M9□ type auto switch is less than the dimensions indicated in the table below, the auto switch could malfunction. Therefore, make sure to provide a greater clearance. If use under the dimensions indicated below is unavoidable, it is necessary to provide a shield. To do so, affix a steel plate or a magnetic shield plate (MU-S025) to the corresponding position of the cylinder that is placed near the auto switch. (Contact SMC for further details.) If a shield plate is not used, it could cause the auto switch to malfunction.

Bore size(mm)	Mounting pitch ℓ (mm)
10	20
16	33
20	40
25	46
32	56



Weight Table

Basic/With auto switch

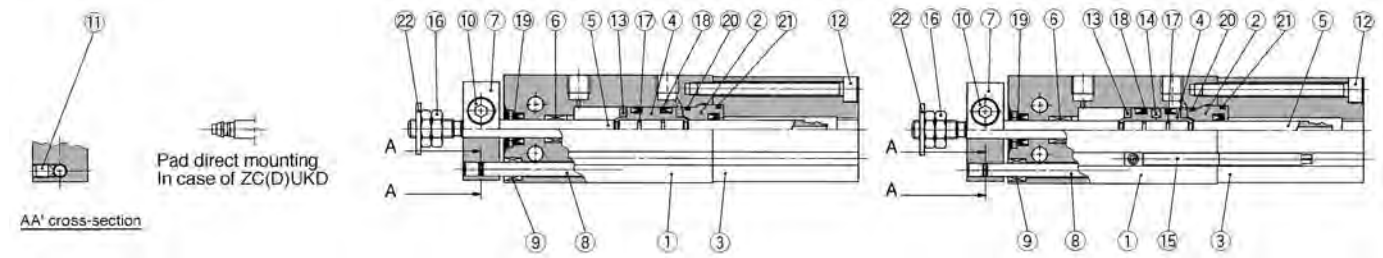


Free Mount Cylinder for Vacuum *Series ZCUK*

Construction

Cap piping/Male thread: ZC(D)UKC
 ø10

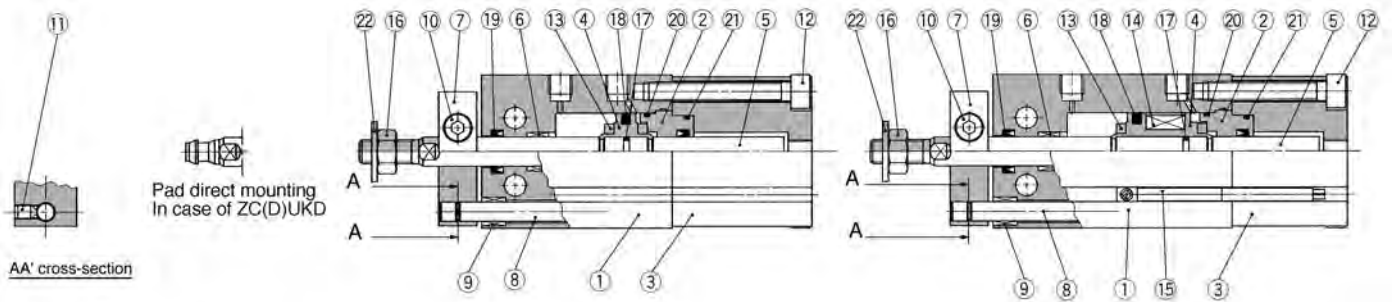
With auto switch



Refer to series CUK for outside color of the piston rod, tube and cap.

ø16 to ø32

With auto switch



Refer to series CUK for outside color of the piston rod, tube and cap.

Component Parts

No.	Description	Material	Notes
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Rod cover B	Aluminum bearing alloy	Chromated
③	Cap	Aluminum alloy	Hard anodized
④	Piston	Aluminum alloy	Chromated
⑤	Piston rod	Stainless steel	
⑥	Bush	Oil impregnated sintered metal	
⑦	Plate	Aluminum alloy	Black anodized
⑧	Guide rod	Stainless steel	
⑨	Bush	Oil impregnated sintered metal	
⑩	Hexagon set screw	Carbon steel	Black zinc chromated
⑪	Hexagon socket head cap screw	Carbon steel	Black zinc chromated
⑫	Hexagon set screw	Carbon steel	Nickel plated

Component Parts

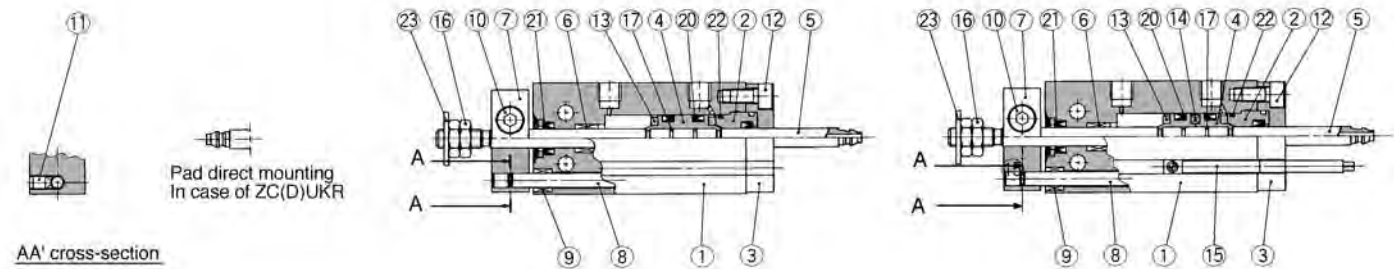
No.	Description	Material	Notes
⑬	Damper	Urethane	
⑭	Magnet	Magnetic material	
⑮	Auto switch	—	
⑯	Rod end nut	Carbon steel	Nickel plated
⑰	Piston gasket	NBR	
⑱	Piston seal	NBR	
⑲	Rod seal		
⑳	Gasket		
㉑	Gasket for cap		
㉒	Seal washer	Rolled steel/NBR	

Series ZCUK

Construction

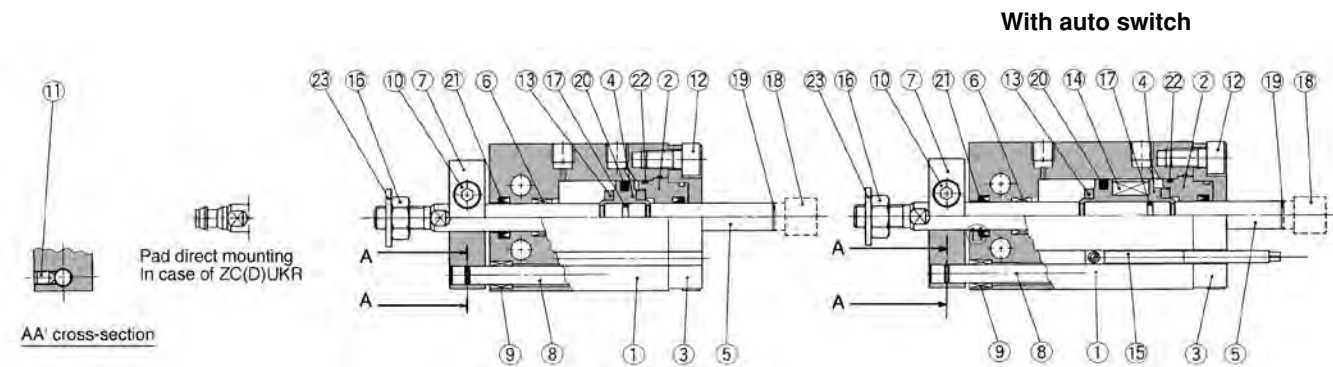
Rod piping/Male thread: ZC(D)UKQ

ø10



Refer to series CUK for outside colour of the piston rod, tube and cap.

ø16 to ø32



Refer to series CUK for outside colour of the piston rod, tube and cap.

Component Parts

No.	Description	Material	Notes
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Rod cover B	Aluminum bearing alloy	Chromated
③	Rod cover retainer plate	Aluminum alloy	Hard anodized
④	Piston	Aluminum alloy	Chromated
⑤	Piston rod	Stainless steel	
⑥	Bush	Oil impregnated sintered metal	
⑦	Plate	Aluminum alloy	Black anodized
⑧	Guide rod	Stainless steel	
⑨	Bush	Oil impregnated sintered metal	
⑩	Hexagon set screw	Carbon steel	Black zinc chromated
⑪	Hexagon socket head cap screw	Carbon steel	Black zinc chromated
⑫	Hexagon set screw	Carbon steel	Nickel plated

Component Parts

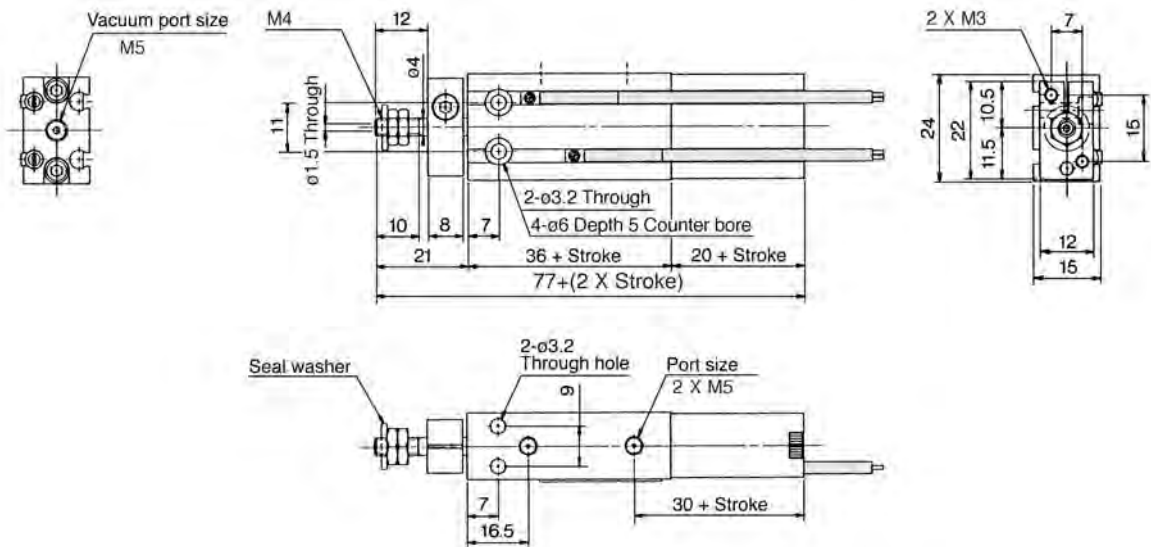
No.	Description	Material	Notes
⑬	Damper	Urethane	
⑭	Magnet	Magnetic material	
⑮	Auto switch	—	
⑯	Rod end nut	Carbon steel	Nickel plated
⑰	Piston gasket	NBR	
⑱	Socket	Carbon steel	ø16 only
⑲	Gasket	NBR	ø16 only
⑳	Piston seal		
㉑	Rod seal		
㉒	Gasket		
㉓	Seal washer	Rolled steel/NBR	

Free Mount Cylinder for Vacuum **Series ZCUK**

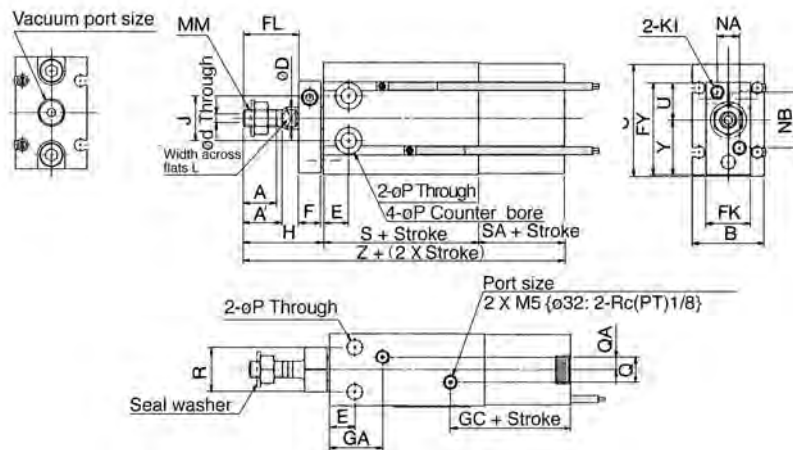
Vacuum Piping: Cap Piping/Rod End Shape: Male Thread

ZC(D)UKC **Cylinder bore** — **Stroke** D

ø10



ø16 to ø32



Model	Port size		Stroke range (mm)	A	A'	B	C	ød	øD	E	F	FK	FL	FY	GA	GC
	Air port	Vacuum port														
ZC(D)UKC16	M5	M5	5 to 30	11	12.5	20	32	2	6	7	8	13	17	28	16.5 ⁽¹⁾	31
ZC(D)UKC20	M5	Rc(PT) 1/8	5 to 50	12	14	26	40	3	8	9	8	16	20	33	19	33.5
ZC(D)UKC25	M5	Rc(PT) 1/8	5 to 50	15.5	18	32	50	4	10	10	10	20	22	43.5	21.5	34
ZC(D)UKC32	Rc(PT) 1/8	Rc(PT) 1/8	5 to 50	19.5	22	40	62	5	12	11	12	24	29	51.5	23	35

Model	H	J	KI	L	MM	NA	NB	øP	Q	QA	R	S	SA	øT	U	Y	Z
ZC(D)UKC16	26	14	M4	5	M5	6	18	4.5	4	2	12	30(40)	19.5	7.6 Depth 6.5	12.5	15.5	75.5(85.5)
ZC(D)UKC20	29	16	M4	6	M6	8	20	5.5	9	4.5	16	36(46)	21	9.3 Depth 9	13.5	19.5	86(96)
ZC(D)UKC25	33	20	M5	8	M8	10	28	5.5	9	4.5	20	40(50)	21	9.3 Depth 8	19	24.5	94(104)
ZC(D)UKC32	42	24	M5	10	M10 X 1.25	12	32	6.6	13.5	4.5	24	42(52)	22	11 Depth 11.5	21	30.5	106(116)

(): In case of a mounted auto switch.

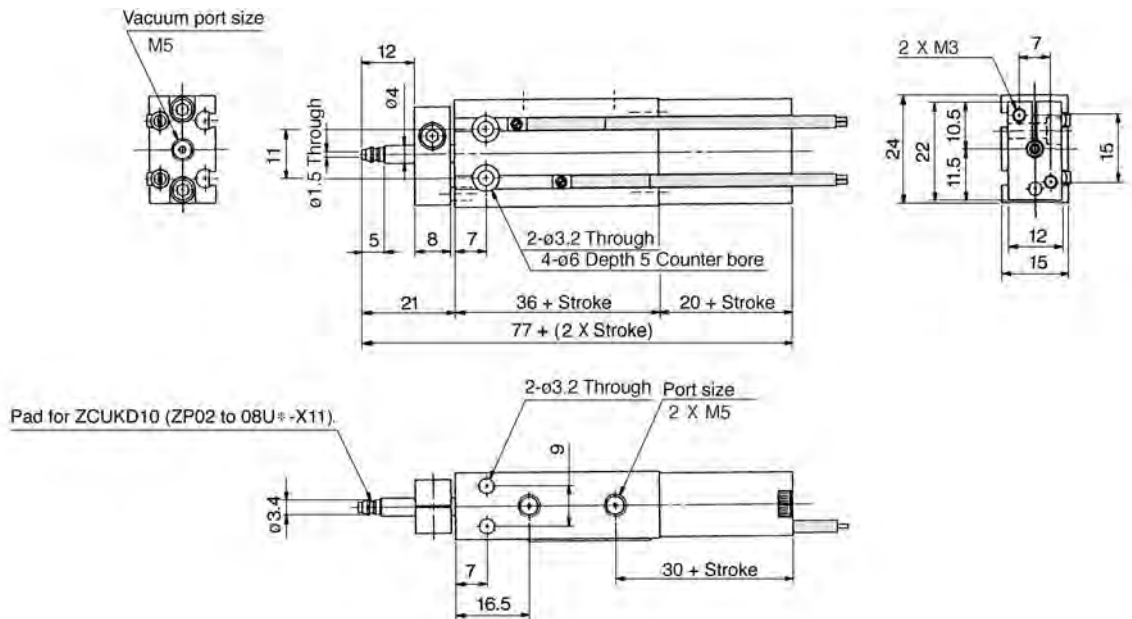
Note 1) In case of ZCUK16-5D: 14.5mm.

Series ZCUK

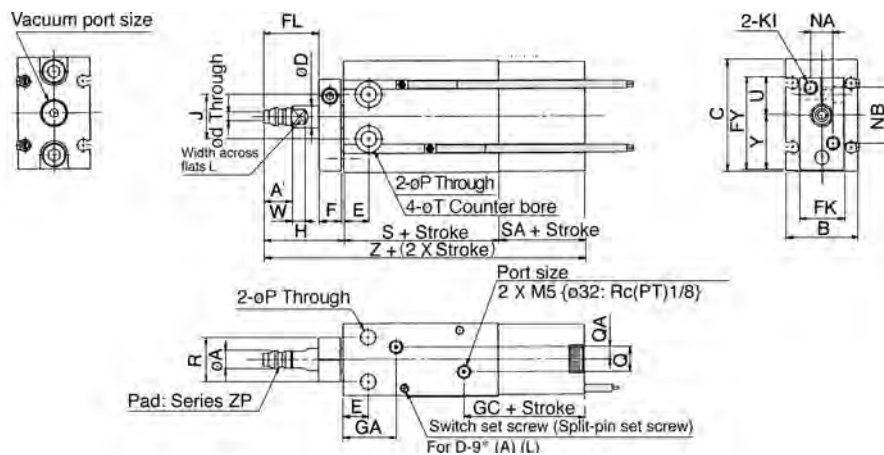
Vacuum Piping: Cap Piping/Rod End Shape: Pad Direct Mounting

ZC(D)UKD Cylinder bore Stroke D

ø10



ø16 to ø32



Model	Port size		Stroke range (mm)	øA	A'	B	C	ød	øD	E	F	FK	FL	FY	GA	GC
	Air port	Vacuum port														
ZC(D)UKD16	M5	M5	5 to 30	5	7	20	32	2	6	7	8	13	17	28	16.5 ⁽¹⁾	31
ZC(D)UKD20	M5	Rc(PT) 1/8	5 to 50	6.6	8	26	40	3	8	9	8	16	20	33	19	33.5
ZC(D)UKD25	M5	Rc(PT) 1/8	5 to 50	8	9	32	50	4	10	10	10	20	22	43.5	21.5	34
ZC(D)UKD32	Rc(PT) 1/8	Rc(PT) 1/8	5 to 50	11.5	10.5	40	62	5	12	11	12	24	29	51.5	23	35

Model	H	J	KI	L	NA	NB	øP	Q	QA	R	S	SA	øT	U	W	Y	Z
ZC(D)UKD16	26	14	M4	5	6	18	4.5	4	2	12	30(40)	19.5	7.6 Depth 6.5	12.5	3.5	15.5	75.5(85.5)
ZC(D)UKD20	29	16	M4	6	8	20	5.5	9	4.5	16	36(46)	21	9.3 Depth 8	13.5	5	19.5	86(96)
ZC(D)UKD25	33	20	M5	8	10	28	5.5	9	4.5	20	40(50)	21	9.3 Depth 9	19	5	24.5	94(104)
ZC(D)UKD32	42	24	M5	10	12	32	6.6	13.5	4.5	24	42(52)	22	11 Depth 11.5	21	5	30.5	106(116)

(): In case of a mounted auto switch. Note 1) In case of ZCUK16-5D: 14.5mm.

ZC(D)UKQ **Cylinder bore**—**Stroke D**

Model	H	HA	J	KI	L	MM	NA	NB	øP	Q	QA	R	S	SA	øT	U	Y	Z
ZC(D)UKQ16	26	5	14	M4	5	M5	6	18	4.5	4	2	12	30(40)	7.5	7.6 Depth 6.5	12.5	15.5	68.5(78.5)
ZC(D)UKQ20	29	5	16	M4	6	M6	8	20	5.5	9	4.5	16	36(46)	9	9.3 Depth 8	13.5	19.5	79(89)
ZC(D)UKQ25	33	5	20	M5	8	M8	10	28	5.5	9	4.5	20	40(50)	9	9.3 Depth 9	19	24.5	87(97)
ZC(D)UKQ32	42	5	24	M5	10	M10 X 1.25	12	32	6.6	13.5	4.5	24	42(52)	10	11 Depth 11.5	21	30.5	99(109)

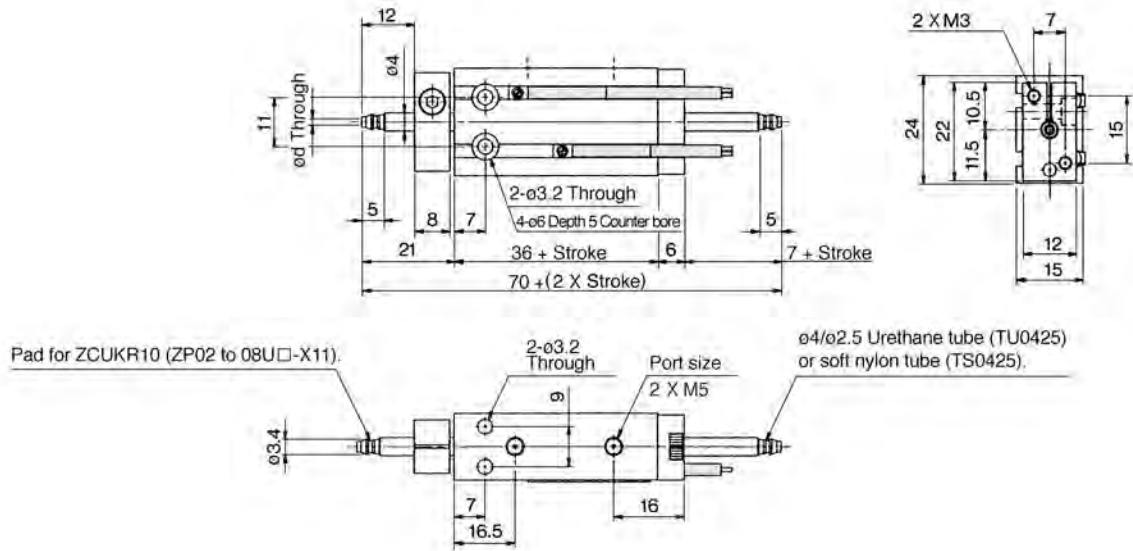
Note 2) In case of socket equipped type.

Series ZCUK

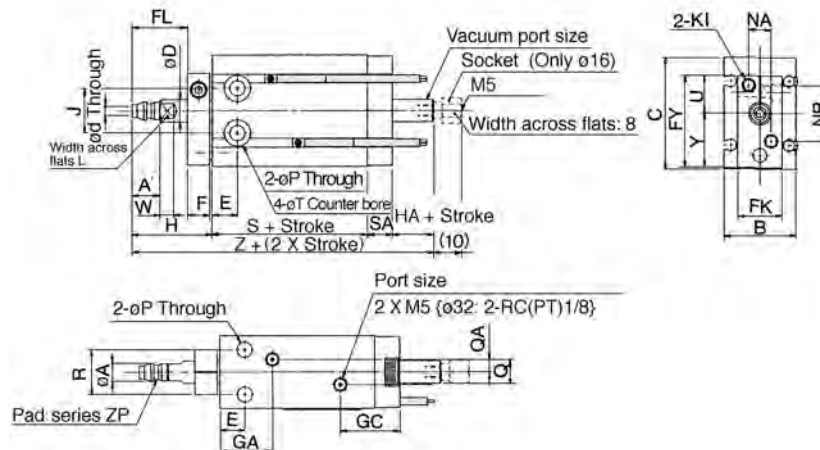
Vacuum Piping: Rod Piping/Rod End Shape: Pad Direct Mounting

ZC(D)UKR Cylinder bore Stroke D

ø10



ø16 to ø32



Model	Port size		Stroke range (mm)	øA	A	B	C	ød	øD	E	F	FK	FL	FY	GA	GC
	Air port	Vacuum port														
ZC(D)UKR16	M5	M5 ⁽²⁾	5 to 30	5	7	20	32	2	6	7	8	13	17	28	16.5 ⁽¹⁾	19
ZC(D)UKR20	M5	M5	5 to 50	6.6	8	26	40	3	8	9	8	16	20	33	19	21.5
ZC(D)UKR25	M5	M5	5 to 50	8	9	32	50	4	10	10	10	20	22	43.5	21.5	22
ZC(D)UKR32	Rc(PT)1/8	Rc(PT)1/8	5 to 50	11.5	10.5	40	62	5	12	11	12	24	29	51.5	23	23

Model	H	HA	J	KI	L	NA	NB	øP	Q	QA	R	S	SA	øT	U	W	Y	Z
ZC(D)UKR16	26	5	14	M4	5	6	18	4.5	4	2	12	30(40)	7.5	7.6 Depth 6.5	12.5	3.5	15.5	68.5(78.5)
ZC(D)UKR20	29	5	16	M4	6	8	20	5.5	9	4.5	16	36(46)	9	9.3 Depth 8	13.5	5	19.5	79(89)
ZC(D)UKR25	33	5	20	M5	8	10	28	5.5	9	4.5	20	40(50)	9	9.3 Depth 9	19	5	24.5	87(97)
ZC(D)UKR32	42	5	24	M5	10	12	32	6.6	13.5	4.5	24	42(52)	10	11 Depth 11.5	21	5	30.5	99(109)

(): In case of a mounted auto switch.

Note 1) In case of ZCUKR16-5D: 14.5mm.

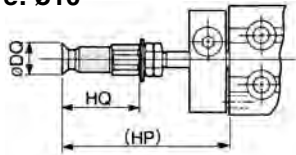
Note 2) In case of socket equipped type.

Free Mount Cylinder for Vacuum Series **ZCUK**

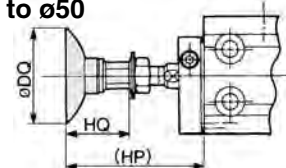
Dimensions of Pad Mounted Model

Rod end shape: Male thread

Tube bore: $\phi 10$



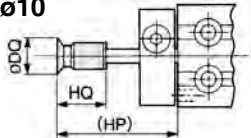
Tube bore: $\phi 16$ to $\phi 50$



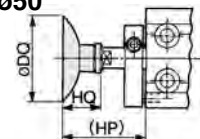
Model	Flat/Flat with ribs														Deep				Bellows										Applicable pad model
	Dia.(mm)	2	4	6	8	10	13	16	20	25	32	40	50	10	16	25	40	6	8	10	13	16	20	25	32	40	50		
ZC(D)UKC10 ZC(D)UKQ10	øDQ	2.6	4.8	7	9	—	—	—	—	—	—	—	—	—	—	—	—	7	9	—	—	—	—	—	—	—	—	ZPT□□□-B4	
	HQ	19.5	19.5	19.5	19.5	—	—	—	—	—	—	—	—	—	—	—	—	20.5	20.5	—	—	—	—	—	—	—	—		
	HP	36.5	36.5	36.5	36.5	—	—	—	—	—	—	—	—	—	—	—	—	—	37.5	37.5	—	—	—	—	—	—	—		—
ZC(D)UKC16 ZC(D)UKQ16	øDQ	2.6	4.8	7	9	12	15	18	—	—	—	—	—	12	18	—	—	7	9	12	15	18	—	—	—	—	—	ZPT□□□-B5	
	HQ	19.5	19.5	19.5	19.5	21	21	21.5	—	—	—	—	—	24	25	—	—	20.5	20.5	25	27.5	29	—	—	—	—	—		
	HP	41.5	41.5	41.5	41.5	44	42	42.5	—	—	—	—	—	45	46	—	—	42.5	42.5	46	48.5	50	—	—	—	—	—		
ZC(D)UKC20 ZC(D)UKQ20	øDQ	—	—	—	—	12	15	18	23	28	35	—	—	12	18	28	—	—	—	12	15	18	22	27	34	—	—	ZPT□□□-B6	
	HQ	—	—	—	—	21	21	21.5	23	23	23.5	—	—	24	25	29	—	—	—	25	27.5	29	32.5	33	38	—	—		
	HP	—	—	—	—	44	44	44.5	46	46	46.5	—	—	47	48	52	—	—	—	48	50.5	52	55.5	56	61	—	—		
ZC(D)UKC25 ZC(D)UKQ25	øDQ	—	—	—	—	—	—	—	—	23	28	35	43	53	—	—	28	43	—	—	—	—	—	22	27	34	43	53	ZPT□□□-B8
	HQ	—	—	—	—	—	—	—	—	29	29	29.5	32	33	—	—	35	42.5	—	—	—	—	—	38.5	39	44	47.5	51.5	
	HP	—	—	—	—	—	—	—	—	—	54	54	54.5	57	58	—	—	60	67.5	—	—	—	—	—	63.5	64	69	72.5	
ZC(D)UKC32 ZC(D)UKQ32	øDQ	—	—	—	—	—	—	—	—	23	28	35	43	53	—	—	28	43	—	—	—	—	—	22	27	34	43	53	ZPT□□□-B10
	HQ	—	—	—	—	—	—	—	—	32	32	32.5	35	36	—	—	38	45.5	—	—	—	—	—	41.5	42	47	50.5	54.5	
	HP	—	—	—	—	—	—	—	—	—	64	64	64.5	67	68	—	—	70	77.5	—	—	—	—	—	73.5	74	79	82.5	

Rod end shape: Pad Direct mounting

Tube bore: $\phi 10$



Tube bore: $\phi 16$ to $\phi 50$

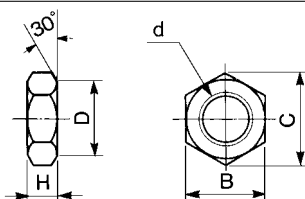


Model	Flat/Flat with ribs														Deep				Bellows										Applicable pad model
	Dia. (mm)	2	4	6	8	10	13	16	20	25	32	40	50	10	16	25	40	6	8	10	13	16	20	25	32	40	50		
ZC(D)UKD10 ZC(D)UKR10	øDQ	2.6	4.8	7	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ZP□U□-X11 ^(Note)	
	HQ	10	10	10	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
	HP	26	26	26	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
ZC(D)UKD16 ZC(D)UKR16	øDQ	2.6	4.8	7	9	—	—	—	—	—	—	—	—	—	—	—	—	7	9	—	—	—	—	—	—	—	—	ZP□□□	
	HQ	12	12	12	12	—	—	—	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	—	—	—	—		
	HP	31	31	31	31	—	—	—	—	—	—	—	—	—	—	—	—	32	32	—	—	—	—	—	—	—	—		
ZC(D)UKD20 ZC(D)UKR20	øDQ	—	—	—	—	12	15	18	—	—	—	—	—	12	18	—	—	—	—	—	12	15	18	—	—	—	—	ZP□□□	
	HQ	—	—	—	—	12	12	12.5	—	—	—	—	—	15	16	—	—	—	—	—	16	18.5	20	—	—	—	—		
	HP	—	—	—	—	33	33	33.5	—	—	—	—	—	36	37	—	—	—	—	—	37	39.5	41	—	—	—	—		
ZC(D)UKD25 ZC(D)UKR25	øDQ	—	—	—	—	—	—	—	—	23	28	35	—	—	—	—	28	—	—	—	—	—	—	22	27	34	—	ZP□□□	
	HQ	—	—	—	—	—	—	—	—	14	14	14.5	—	—	—	—	20	—	—	—	—	—	23.5	24	29	—	—		
	HP	—	—	—	—	—	—	—	—	38	38	38.5	—	—	—	—	44	—	—	—	—	—	—	47.5	48	53	—		
ZC(D)UKD32 ZC(D)UKR32	øDQ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43	—	—	—	—	—	—	—	—	—	43	53	ZP□□□
	HQ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	—	—	—	—	—	—	—	—	34	38		
	HP	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60.5	—	—	—	—	—	—	—	—	65.5	69.5	

(Note) ZP□U□-X11: Flat style only.

Accessory Dimensions (Attached only to a rod end male thread type.)

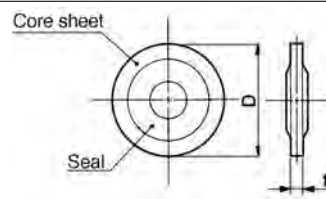
Rod end nut



Material: Carbon steel

Parts No.	Applicable cylinder bore (mm)	d	H	B	C	D
NTP-010	10	M4	2.4	7	8.1	6.8
NTJ-015A	16	M5	4	8	9.2	7.8
NT-015A	20	M6	5	10	11.5	9.8
NT-02	25	M8	5	13	15.0	12.5
NT-03	32	M10 X 1.25	6	17	19.6	16.5

Seal washer



Material: Core sheet — Rolled steel
Seal — NBR

Parts No.	Applicable cylinder bore (mm)	t	D
WCS4 X 0.7	10	1.2	11.5
WCS5 X 0.8	16	1.2	12.5
WCS6 X 1	20	1.2	14.0
WCS8 X 1	25	1.6	15.5
WCS10 X 1	32	1.6	18.0