

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

Non-rotating rod accuracy
(no load: when the rod is retracted on the detent plate side):
 $\phi 10, \phi 16$ ————— $\pm 0.8^\circ$
 $\phi 20, \phi 25, \phi 32$ ————— $\pm 0.5^\circ$

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.

● Auto switch

Reed auto switch:

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

Solid state auto switch:

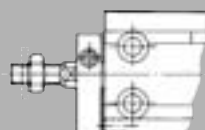
D-M9□, D-M9□W (Heavy-duty cord, in-line entry)
 D-M9□V, D-M9□WV (Heavy-duty cord, perpendicular entry)

● Vacuum pad (Pad diameter: $\phi 2$ to $\phi 50$) ●

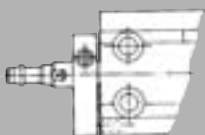
<Perpendicular female thread>



<Male thread>



<Direct mounting>



<Barb fitting>

● How to provide piping to the vacuum side

Cap piping

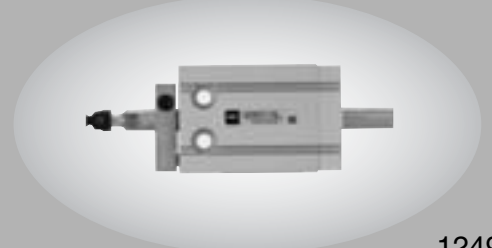
The piston rod of the vacuum side does not protrude. Also, the vacuum outlet tube does not move when the piston is operating.

Vacuum port pressure range: -101 kPa to 0.6 MPa
 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: -101 kPa to 0.6 MPa



ZA

ZX

ZR

ZM

ZMA

ZQ

ZH

ZU

ZL

ZY□

ZF□

ZP□

SP

ZCUK

AMJ

AMV

AEP

HEP

Related Equipment

Free Mount Cylinder for Vacuum Series ZCUK

How to Order

ZCUK C 16 - 20 D

With auto switch
ZCDUK C 16 - 20 D - M9BW

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

10	10 mm
16	16 mm
20	20 mm
25	25 mm
32	32 mm

Port thread type

Symbol	Type	Bore size
Nil	M5 x 0.8	ø10, ø16, ø20, ø25
	Rc1/8	ø32
TN	NPT1/8	ø32
TF (Note)	G1/8	ø32

Note) In the case of rod piping (Q, R), TF (G1/8) is not available.

Acting

D	Double acting
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Auto switch

Nil	Without auto switch
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* Refer to the table below for applicable auto switches.

Number of auto switches

Nil	2 pcs.
S	1 pc.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) ZCDUKC20-20D

Cylinder standard stroke (mm)

10, 16	5, 10, 15, 20, 25, 30
20, 25, 32	5, 10, 15, 20, 25, 30, 40, 50

Applicable Auto Switch/Refer to Best Pneumatics No. 2 for the detailed specifications on auto switches.

Type	Special function	Electrical entry	Indicator/light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length (m)				Pre-wired connector	Applicable load					
					DC	AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)		IC circuit	Relay, PLC				
Reed switch	Diagnostic indication (2-color indication)	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	●	○	○	—	IC circuit	Relay, PLC			
				3-wire (PNP)				M9PV	M9P	●	●	○	○						
				2-wire				M9BV	M9B	●	●	○	○				—		
				3-wire (NPN)				M9NWV	M9NW	●	●	○	○						
				3-wire (PNP)				M9PWV	M9PW	●	●	○	○						
				2-wire				M9BWV	M9BW	●	●	○	○						
Solid state switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V	—	A96V	A96	●	—	●	—	—	IC circuit	—			
				2-wire				100 V	A93V	A93	●	—	●				—	—	Relay, PLC
									100 V or less	A90V	A90	●	—				●		

* Lead wire length symbols: 0.5 m..... Nil (Example) M9NW
 1 m..... M (Example) M9NWM
 3 m..... L (Example) M9NWL
 5 m..... Z (Example) M9NWZ

* Solid state auto switches marked with "○" are produced upon receipt of order.

* Refer to pages 796 and 797 for the details on auto switches with a pre-wired connector.
 * Auto switches are shipped together but not assembled.

How to Order Vacuum Pad Note) Refer to page 1252 for combination of cylinder and pad.

• In the case of rod end male

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 x 0.7	●	—	—	—
B5	M5 x 0.8	●	●	—	—
B6	M6 x 1	—	●	●	—
B8	M8 x 1.25	—	—	●	●
B10	M10 x 1.25	—	—	●	●

Material

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluororubber
GN	Conductive NBR (ø2 to ø16 only)
GS	Conductive silicon rubber (ø2 to ø16 only)

Table (1) Pad Dia./Pad Type

Type	2	4	6	8	10	13	16	20	25	32	40	50
Flat	●	●	●	●	●	●	●	●	●	●	●	●
Flat with ribs	—	—	—	—	●	●	●	●	●	●	●	●
Deep	—	—	—	—	●	—	●	—	●	—	●	—
Bellows	—	—	●	●	●	●	●	●	●	●	●	●

• In the 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	Applicable cylinder model
X11	ZC(D)UK _R 10
Nil	ZC(D)UK _R 16 to 32

Note) -X11 pad: ø2 to ø8 diameter and flat style only.

Material

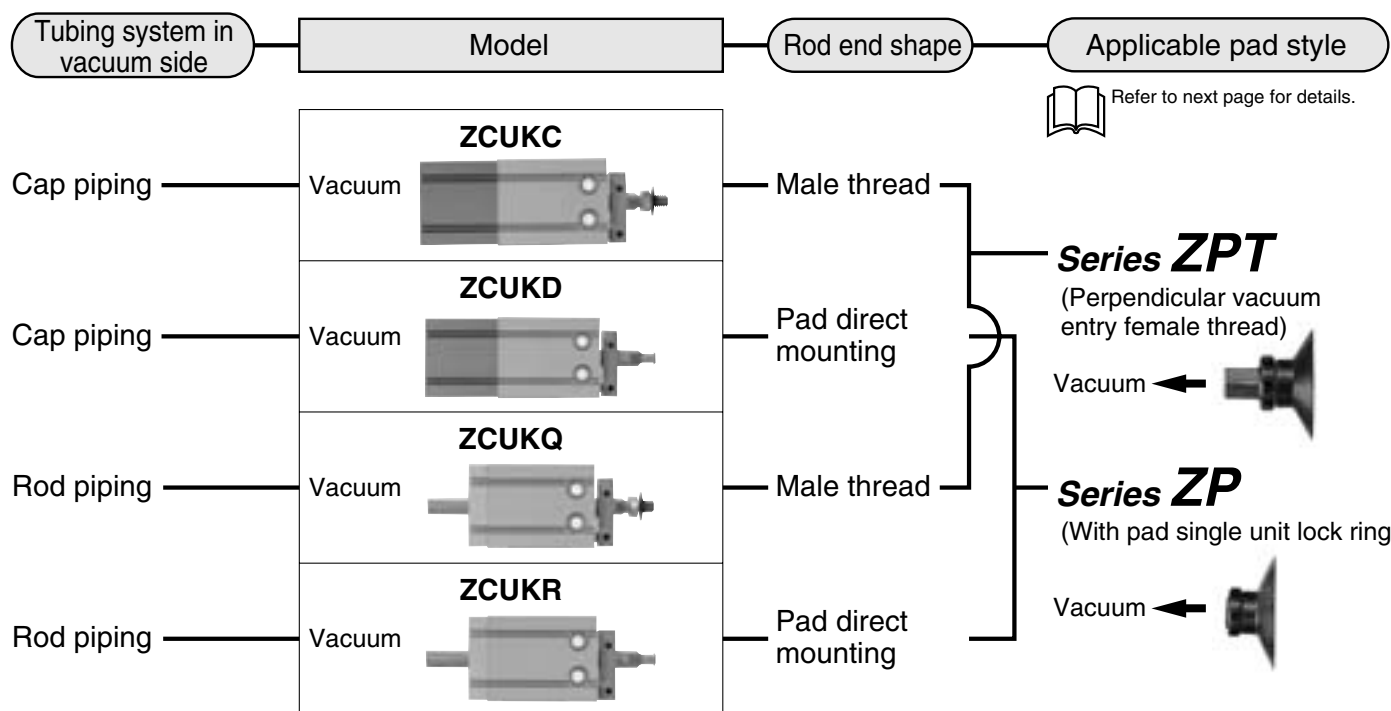
N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluororubber
GN	Conductive NBR (ø2 to ø16 only)
GS	Conductive silicon rubber (ø2 to ø16 only)

Pad type

U	Flat
C	Flat with ribs
D	Deep
B	Bellows (Except "-X11")

Pad type Application: Refer to "Table (1)".

U	Flat
C	Flat with ribs
D	Deep
B	Bellows



- ZA
 - ZX
 - ZR
 - ZM
 - ZMA
 - ZQ
 - ZH
 - ZU
 - ZL
 - ZY□
 - ZF□
 - ZP□
 - SP
 - ZCUK**
 - AMJ
 - AMV
 - AEP
 - HEP
- Related Equipment

⚠ Precautions

Be sure to read before handling.
Refer to front matters 38 and 39 for Safety Instructions and pages 844 to 846 for Vacuum Equipment Precautions.

⚠ Caution

- Do not place your finger in the clearance between the detent plate and the cylinder tube. Never put your finger between the non-rotating plate and cylinder tube. Your finger may be 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.
- 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

- 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.
- 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 (N·m)
ø10	M3	1.08 ± 10%
ø16	M4	2.45 ± 10%
ø20, ø25	M5	5.10 ± 10%
ø32	M6	8.04 ± 10%

Specifications

Bore size (mm)	ø10	ø16	ø20	ø25	ø32
Fluid	Air				
Proof pressure	1.05 MPa				
Maximum operating pressure	0.7 MPa				
Minimum operating pressure	0.13 MPa			0.11 MPa	
Vacuum port pressure	-101 kPa to 0.6 MPa (At vacuum release 0 to 0.6 MPa) <small>Note</small>				
Ambient and fluid temperature	Without auto switch: -10 to +70°C (No freezing) With auto switch: -10 to +60°C (No freezing)				
Lubrication	Not required				
Piston speed	50 to 500 mm/s				
Cushion	Rubber bumper on both sides				
Stroke allowance	+1.0 0				
Rod tip screw	With or without (Pad direct mounting)				
Mounting	Basic style				
Applicable pad	Refer to next page for details.				

Note) 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 plateside)

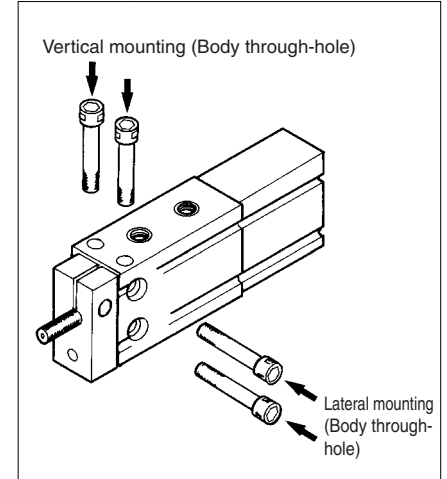
Bore size (mm)	ø10	ø16	ø20	ø25	ø32
Non-rotating rod accuracy	±0.8°		±0.5°		

Series ZCUK

Standard Stroke

Applicable cylinder Stroke (mm)	Double acting style/Single rod type/Non-rotating rod							
	Stroke (mm)							
Bore size (mm)	5	10	15	20	25	30	40	50
10	●	●	●	●	●	●	—	—
16	●	●	●	●	●	●	—	—
20	●	●	●	●	●	●	●	●
25	●	●	●	●	●	●	●	●
32	●	●	●	●	●	●	●	●

Mounting



Theoretical Output/Double Acting Type

Unit: N

Bore size (mm)	Rod dia. (mm)	Piston area (mm 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

Minimum Stroke for Mounting Auto Switch

Number of auto switches	Applicable auto switch		
	D-A9□, D-A9□V	D-M9□, D-M9□V	D-M9□W, D-M9□VW
1 pc.	5	5	5
2 pcs.	10	5	10

Cylinder/Applicable Pad

• In the case of rod end male thread

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

Cylinder Model	Bore size (mm)	Pad (ZPT02 to 50□□-B4 to 10)										Thread dia.		
		Rod dia. (mm)												
		2	4	6	8	10	13	16	20	25	32	40	50	
ZCUKC	10	●	●	●	●	—	—	—	—	—	—	—	—	M4 x 0.7
ZCUKQ	16	●	●	●	●	●	●	—	—	—	—	—	—	M5 x 0.8
ZCDUKC	20	—	—	—	—	●	●	●	●	●	—	—	—	M6 x 1.0
ZCDUKQ	25	—	—	—	—	—	—	●	●	●	●	●	—	M8 x 1.25
	32	—	—	—	—	—	—	●	●	●	●	●	●	M10 x 1.25

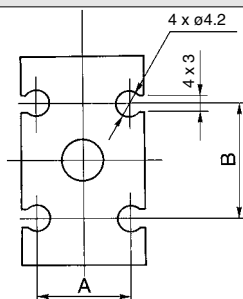
• In the case of pad direct mounting

Use series ZP pad (single unit).

Cylinder Model	Bore size	Pad (ZP02 to 50□□)											
		Rod dia. (mm)											
		2	4	6	8	10	13	16	20	25	32	40	50
ZCUKD ZCUKR ZCDUKD ZCDUKR	10 Note 1)	●	●	●	●	—	—	—	—	—	—	—	—
	16	●	●	●	●	—	—	—	—	—	—	—	—
	20	—	—	—	—	●	●	●	—	—	—	—	—
	25	—	—	—	—	—	—	—	●	●	●	—	—
	32	—	—	—	—	—	—	—	—	—	—	●	●

Note) When using "ZC(D)UK_R10", use ZP02 to 08U□-X11. Pad shape is flat only.

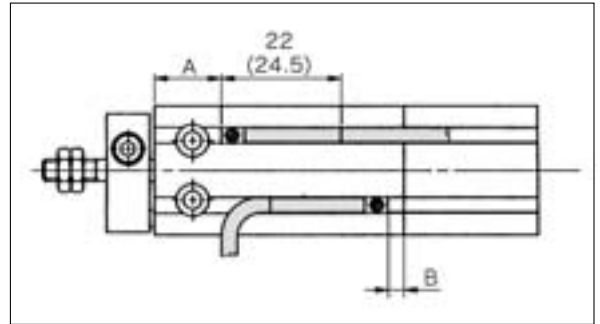
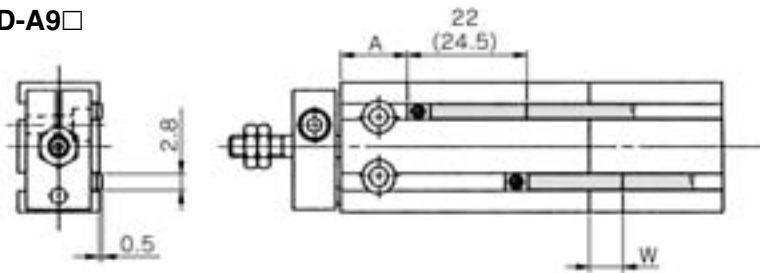
Auto Switch Groove



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

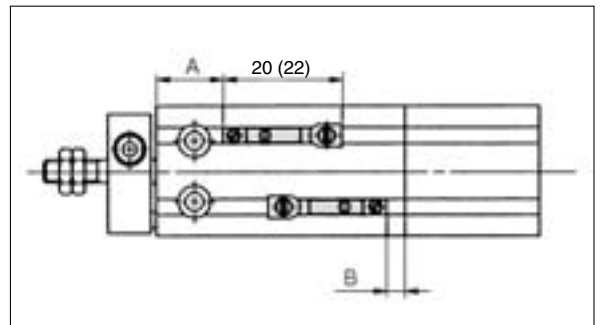
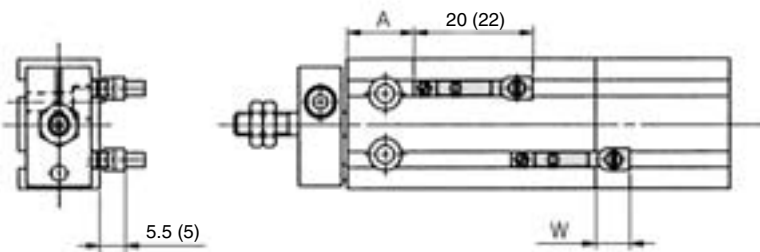
Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height

D-M9□
D-M9□W
D-A9□



() : Denotes the values of D-A93.

D-M9□V
D-M9□WV
D-A9□V



() : Denotes the values of D-A9□V.

(mm)

Bore size (mm)	D-A9□, D-A9□V			D-M9□, D-M9□W			D-M9□V, D-M9□WV		
	A	B	W	A	B	W	A	B	W
10	12.5	3	-1.5 (1)	16.5	7.5	2.5	16.5	7.5	0.5
16	16	4	-2 (0.5)	20	8	1.5	20	8	0
20	20	6	-4 (-1.5)	24	10	0	24	10	-2
25	22.5	7	-5.5 (-3)	26.5	11.5	-1.5	26.5	11.5	-3.5
32	23.5	8	-6.5 (-4)	27.5	12.5	-2.5	27.5	12.5	-4.5



Note 1) Figures in the table above are used as a reference when mounting the auto switches for stroke end detection. In the case of actually setting the auto switches, adjust them after confirming their operation.

Note 2) Negative figures in the table show dimensions mounted inside cylinder body.

Note 3) In the case of 5 mm stroke or the 10 mm stroke, there are times in which the auto switches will not turn OFF or 2 auto switches will turn ON simultaneously due to their movement range. Therefore, set the position approximately 1 to 4 mm outward from the values given in the table above. Then, perform an operation inspection to make sure that the auto switches operate normally (if 1 switch is used, make sure that it turns ON and OFF properly; if 2 auto switches are used, make sure that both switches turn ON).

Note 4) Figures in () in the table W are D-A93.

Operation Range

(mm)

Auto switch model	Bore size				
	10	16	20	25	32
D-A9□, A9□V	6	9	11	12.5	14
D-M9□, M9□V D-M9□W, M9□WV	4	5	7	7	7

* Since this is the average value at a normal temperature including hysteresis (tolerance $\pm 30\%$), it is not guaranteed.

Figures may change substantially depending upon the surrounding environment.

ZA

ZX

ZR

ZM

ZMA

ZQ

ZH

ZU

ZL

ZY□

ZF□

ZP□

SP

ZCUK

AMJ

AMV

AEP

HEP

Related Equipment

Auto Switch Specifications

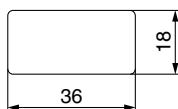
Mounting of Auto Switch

Cautions on Proximity Installation

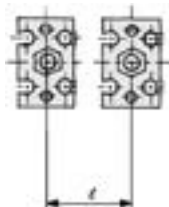
When free mounting cylinders equipped with auto switches are used, the auto switches could activate unintentionally if the installed distance is less than the dimensions shown in the table. Therefore, make sure to provide a greater clearance. Due to unavoidable circumstances, if they must be used with less distance than the dimensions given in the table, the cylinders must be shielded. Therefore, affix a steel plate or a magnetic shielding plate (MU-S025) to the area on the cylinder that corresponds to the adjacent auto switch. (Please contact SMC for details.) Auto switches may malfunction if a shielding plate is not used.

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

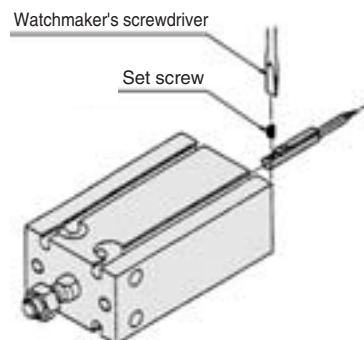
Shielding plate (MU-S025) dimensions



Material: Ferrite stainless steel, Thickness: 0.3 mm
The product is attached to the cylinder since the bottom side is pre-treated with adhesive glue.



Mounting



- To tighten the auto switch mounting screws, use a watchmaker's screwdriver with a grip diameter of 5 to 6 mm.

Tightening torque of auto switch mounting screws

(N·m)

Auto switch model	Tightening torque
D-A9□(V)	0.10 to 0.20
D-M9□(V)	0.05 to 0.15
D-M9□W(V)	

Mass

Basic Style/With Auto Switch (): Denotes the values with D-A93.

Unit: g

Model	Bore size (mm)	Cylinder stroke (mm)							
		5	10	15	20	25	30	40	50
ZC(D)UKC	10	63 (68)	69 (79)	75 (85)	81 (91)	87 (97)	93 (103)	—	—
	16	103 (128)	115 (145)	127 (157)	139 (169)	151 (181)	163 (193)	—	—
	20	180 (214)	204 (244)	228 (267)	252 (292)	276 (316)	300 (340)	348 (388)	396 (436)
	25	304 (358)	343 (402)	382 (441)	421 (480)	460 (519)	499 (558)	577 (636)	655 (714)
	32	514 (587)	574 (652)	634 (712)	694 (772)	754 (832)	814 (892)	934 (1012)	1054 (1132)
ZC(D)UKQ	10	49 (54)	53 (63)	57 (67)	61 (71)	65 (75)	69 (79)	—	—
	16	79 (104)	86 (116)	93 (123)	100 (130)	107 (137)	114 (144)	—	—
	20	145 (179)	159 (198)	173 (212)	187 (226)	201 (240)	215 (254)	243 (282)	271 (310)
	25	259 (313)	279 (338)	299 (358)	319 (378)	339 (398)	359 (418)	399 (458)	439 (498)
	32	421 (494)	451 (529)	481 (559)	511 (589)	541 (619)	571 (649)	631 (709)	691 (769)

Besides the models listed in How to Order, the following auto switches are applicable.

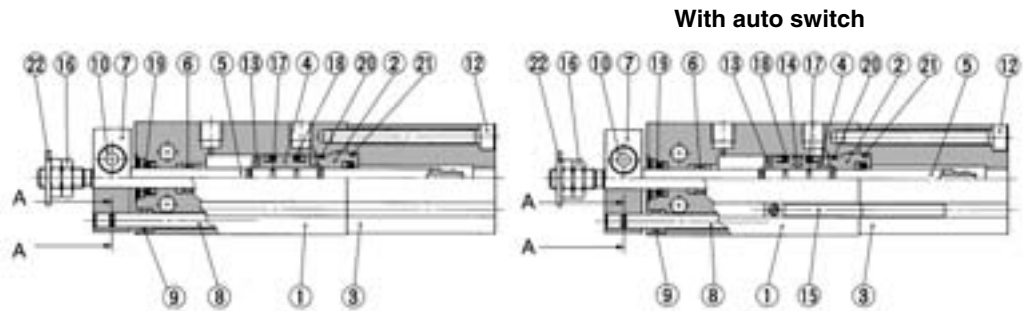
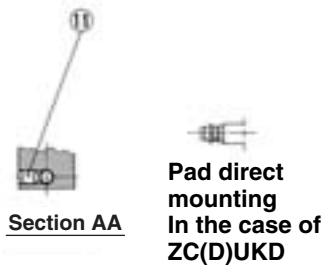
* For solid state switches, auto switches with a pre-wired connector are also available. Refer to pages 796 and 797 for details.

* Normally closed (NC = b contact), solid state switch (D-F9G/F9H type) are also available. Refer to Best Pneumatics No. 2 for details.

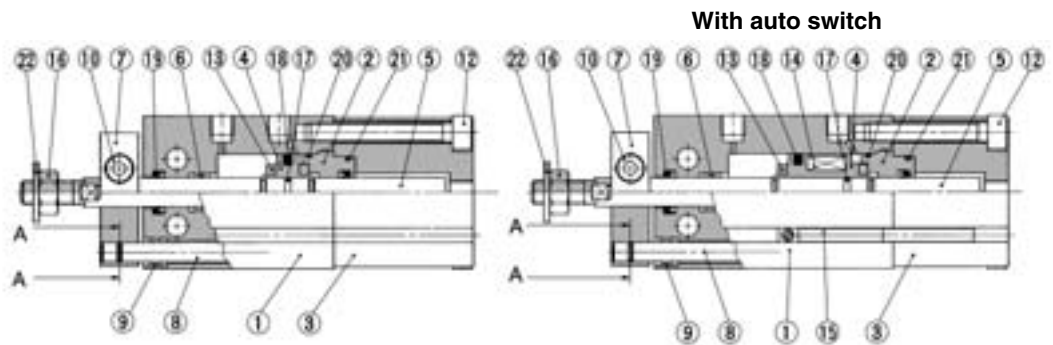
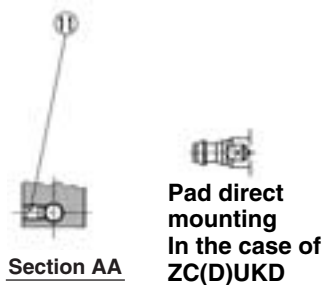
Construction

Cap piping/Male thread: ZC(D)UKC

ø10



ø16 to ø32



Component Parts

No.	Description	Material	Note
1	Cylinder tubing	Aluminum alloy	Hard anodized
2	Rod cover B	Aluminum 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	Nickel plated
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	Note
13	Damper	Urethane	
14	Magnet	—	
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	

Replacement Parts: Seal Kit

Kit no.	Bore size / Part no.				
	ø10	ø16	ø20	ø25	ø32
	ZCU10-PS	ZCU16-PS	ZCU20-PS	ZCU25-PS	ZCU32-PS

* Seal kit includes 18, 19, 20 and 21. Order the seal kit based on each bore size.

* Seal kit includes a grease pack (10 g).

Order with the following part number when only the grease pack is needed.

Grease pack part no.: GR-S-010 (10 g)

ZA
ZX
ZR
ZM
ZMA
ZQ
ZH
ZU
ZL
ZY□
ZF□
ZP□
SP
ZCUK
AMJ
AMV
AEP
HEP

Related
Equipment

Series ZCUK

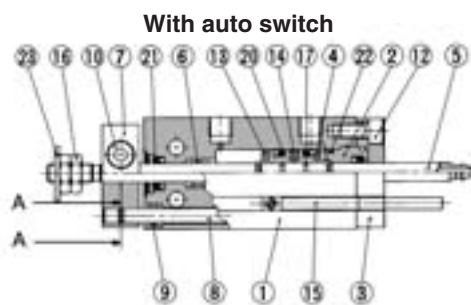
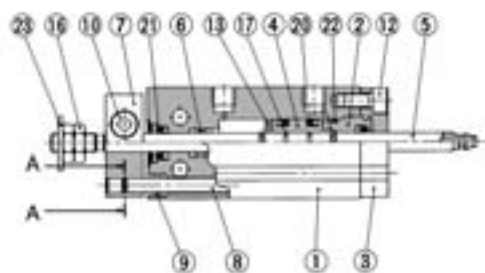
Construction

Rod piping-Male thread: ZC(D)UKQ

ø10



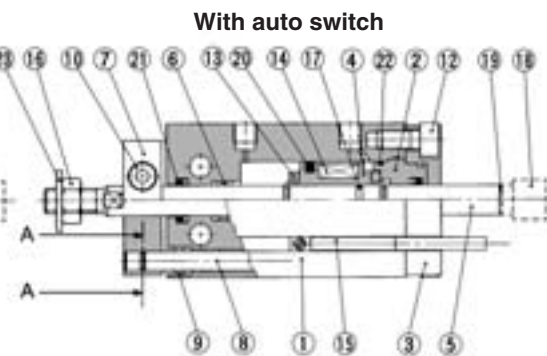
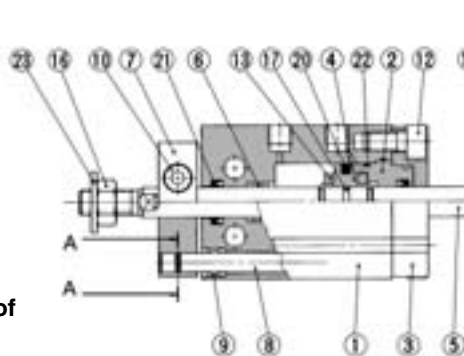
Pad direct mounting
In the case of
ZC(D)UKR



ø16 to ø32



Pad direct mounting
In the case of
ZC(D)UKR



Component Parts

No.	Description	Material	Note
1	Cylinder tubing	Aluminum alloy	Hard anodized
2	Rod cover B	Aluminum 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	Nickel plated
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	Note
13	Damper	Urethane	
14	Magnet	—	
15	Auto switch	—	
16	Rod end nut	Carbon steel	Nickel plated
17	Piston gasket	NBR	
18	Socket	Carbon steel	ø16 only
19	Gasket		ø16 only
20*	Piston seal	NBR	
21*	Rod seal		
22*	Gasket		
23	Seal washer	Rolled steel/NBR	

Replacement Parts: Seal Kit Rod piping

Kit no.	Bore size / Part no.				
	ø10	ø16	ø20	ø25	ø32
	CUW10D-PS	CUW16D-PS	CUW20D-PS	CUW25D-PS	CUW32D-PS

* Seal kit includes 20, 21 and 22. Order the seal kit based on each bore size.

* Seal kit includes a grease pack (10 g).

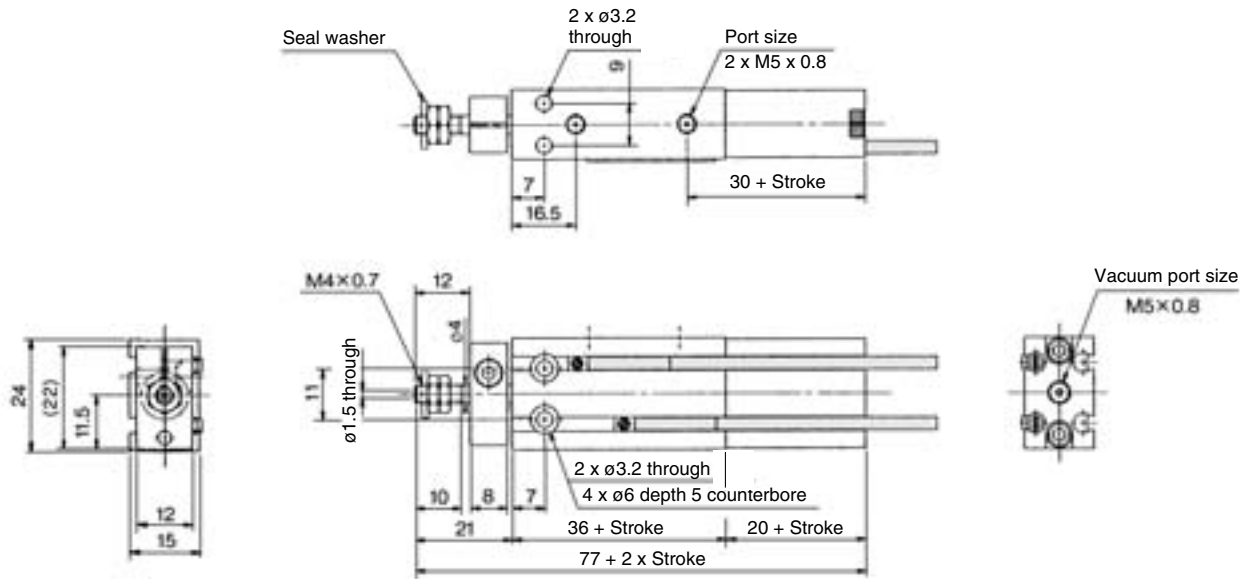
Order with the following part number when only the grease pack is needed.

Grease pack part no.: GR-S-010 (10 g)

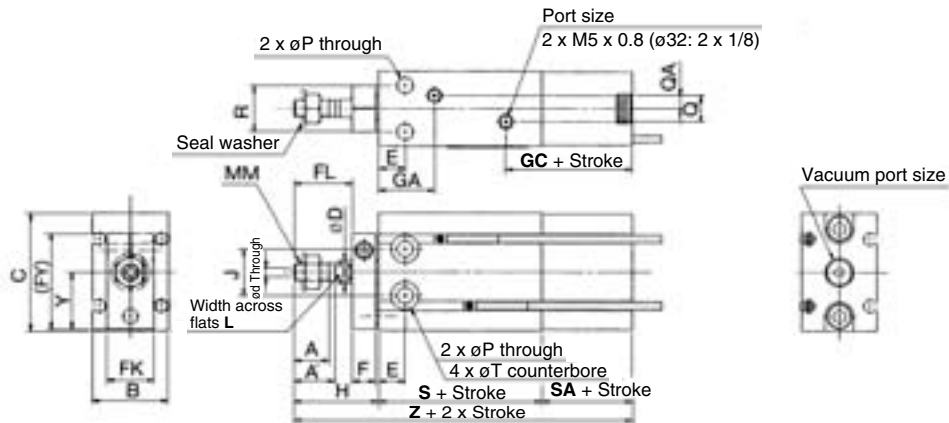
Vacuum Piping: Cap Piping/Rod End Shape: Male Thread

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 x 0.8	M5 x 0.8	5 to 30	11	12.5	20	32	2	6	7	8	13	17	28	16.5 ^{Note 1)}	31
ZC(D)UKC20	M5 x 0.8	1/8	5 to 50	12	14	26	40	3	8	9	8	16	20	33	19	33.5
ZC(D)UKC25	M5 x 0.8	1/8	5 to 50	15.5	18	32	50	4	10	10	10	20	22	43.5	21.5	34
ZC(D)UKC32	1/8	1/8	5 to 50	19.5	22	40	62	5	12	11	12	24	29	51.5	23	34.5

Model	H	J	L	MM	øP	Q	QA	R	S	SA	øT	Y	Z
ZC(D)UKC16	26	14	5	M5 x 0.8	4.5	4	2	12	30 (40)	19.5	7.6 depth 6.5	15.5	75.5 (85.5)
ZC(D)UKC20	29	16	6	M6 x 1.0	5.5	9	4.5	16	36 (46)	21	9.3 depth 9	19.5	86 (96)
ZC(D)UKC25	33	20	8	M8 x 1.25	5.5	9	4.5	20	40 (50)	21	9.3 depth 8	24.5	94 (104)
ZC(D)UKC32	42	24	10	M10 x 1.25	6.6	13.5	4.5	24	42 (52)	22	11 depth 11.5	30.5	106 (116)

(): In the case of a mounted auto switch.

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

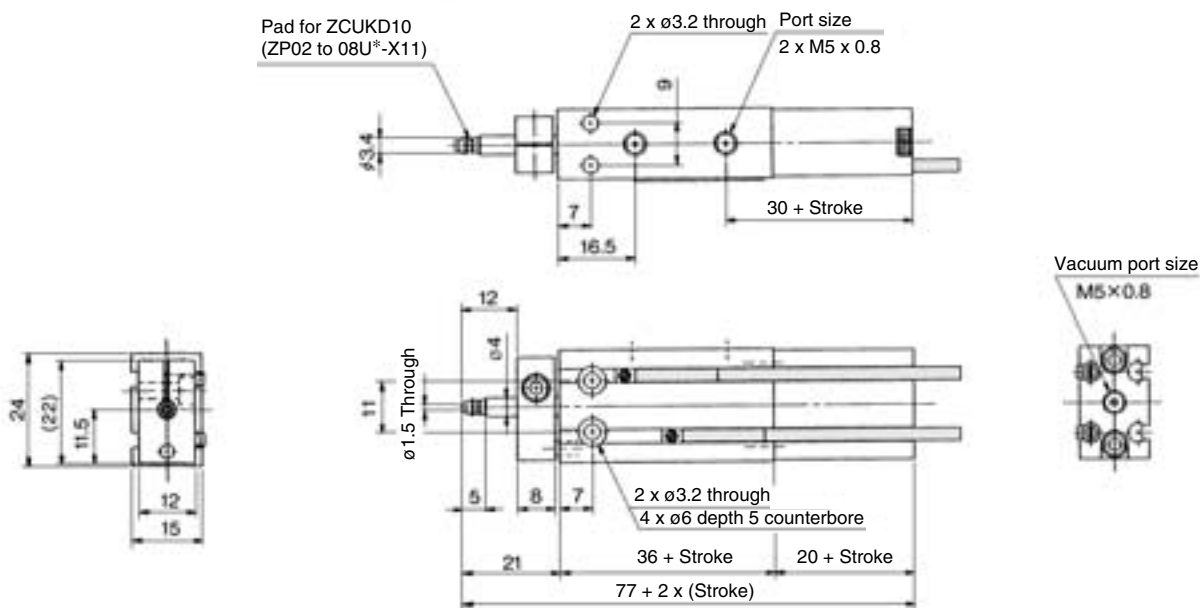
- ZA
- ZX
- ZR
- ZM
- ZMA
- ZQ
- ZH
- ZU
- ZL
- ZY□
- ZF□
- ZP□
- SP
- ZCUK**
- AMJ
- AMV
- AEP
- HEP

Related Equipment

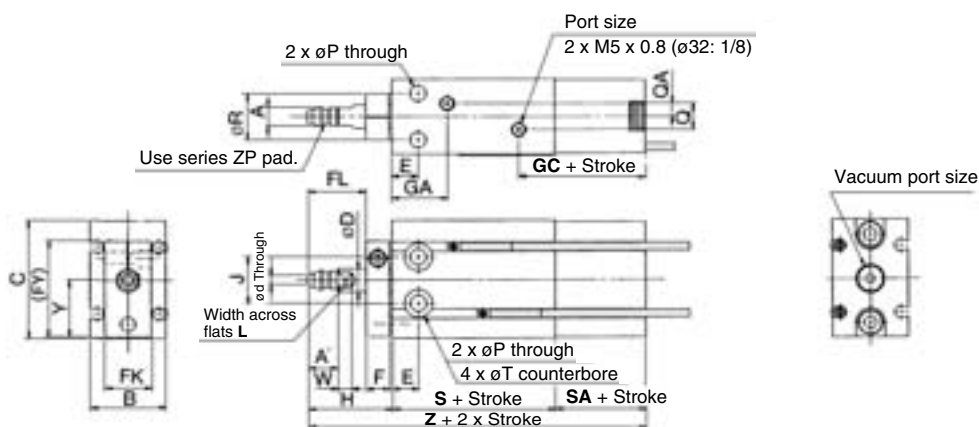
Series ZCUK

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 x 0.8	M5 x 0.8	5 to 30	5	7	20	32	2	6	7	8	13	17	28	16.5 ^{Note 1)}	31
ZC(D)UKD20	M5 x 0.8	1/8	5 to 50	6.6	8	26	40	3	8	9	8	16	20	33	19	33.5
ZC(D)UKD25	M5 x 0.8	1/8	5 to 50	8	9	32	50	4	10	10	10	20	22	43.5	21.5	34
ZC(D)UKD32	1/8	1/8	5 to 50	11.5	10.5	40	62	5	12	11	12	24	29	51.5	23	34.5

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

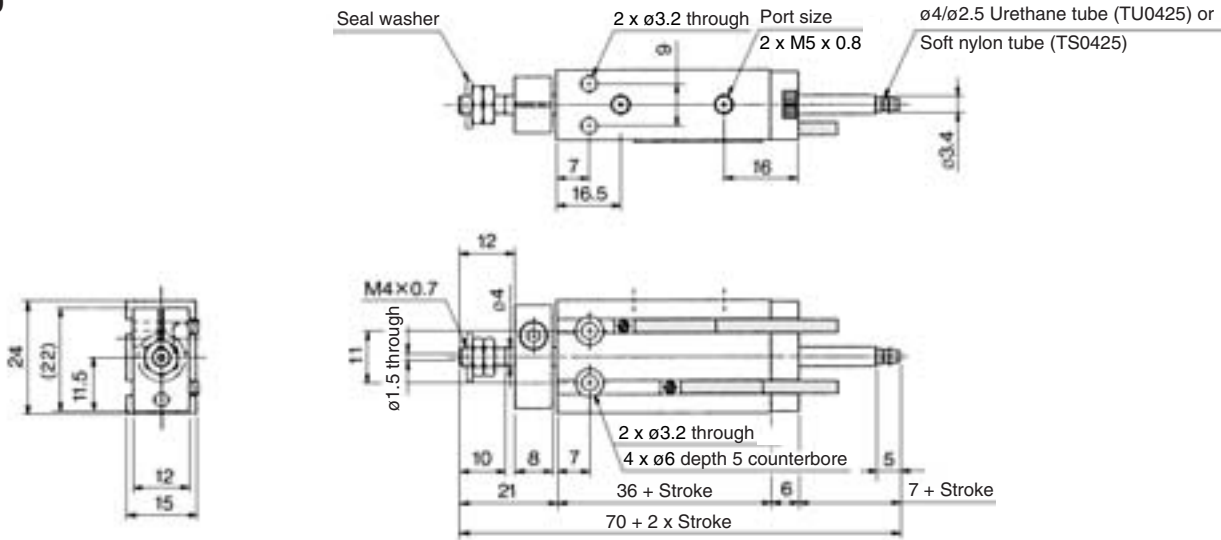
(): In the case of a mounted auto switch.

Note 1) In the case of ZCUKD16-5D: 14.5 mm.

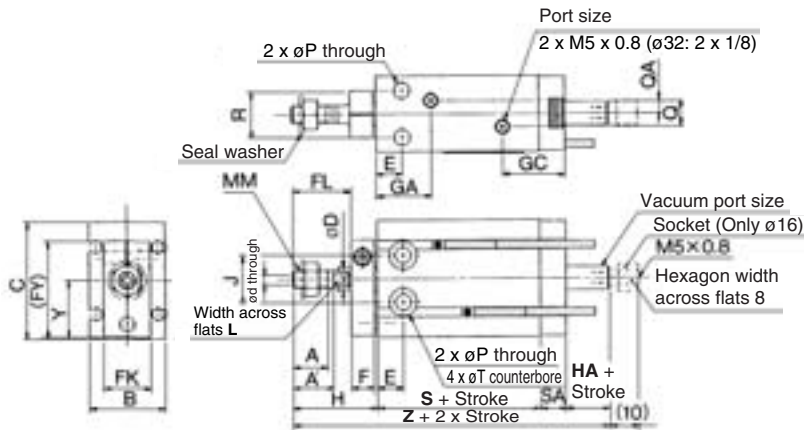
Vacuum Piping: Rod Piping/Rod End Shape: Male Thread

ZC(D)UKQ 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)UKQ16	M5 x 0.8	M5 x 0.8 ^{Note 2)}	5 to 30	11	12.5	20	32	2	6	7	8	13	17	28	16.5 ^{Note 1)}	19
ZC(D)UKQ20	M5 x 0.8	M5 x 0.8	5 to 50	12	14	26	40	3	8	9	8	16	20	33	19	21.5
ZC(D)UKQ25	M5 x 0.8	M5 x 0.8	5 to 50	15.5	18	32	50	4	10	10	10	20	22	43.5	21.5	22
ZC(D)UKQ32	1/8	1/8	5 to 50	19.5	22	40	62	5	12	11	12	24	29	51.5	23	22.5

Model	H	HA	J	L	MM	øP	Q	QA	R	S	SA	øT	Y	Z
ZC(D)UKQ16	26	5	14	5	M5 x 0.8	4.5	4	2	12	30 (40)	7.5	7.6 depth 6.5	15.5	68.5 (78.5)
ZC(D)UKQ20	29	5	16	6	M6 x 1.0	5.5	9	4.5	16	36 (46)	9	9.3 depth 8	19.5	79 (89)
ZC(D)UKQ25	33	5	20	8	M8 x 1.25	5.5	9	4.5	20	40 (50)	9	9.3 depth 9	24.5	87 (97)
ZC(D)UKQ32	42	5	24	10	M10 x 1.25	6.6	13.5	4.5	24	42 (52)	10	11 depth 11.5	30.5	99 (109)

(): In the case of a mounted auto switch.

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

Note 2) In the case of socket equipped type.

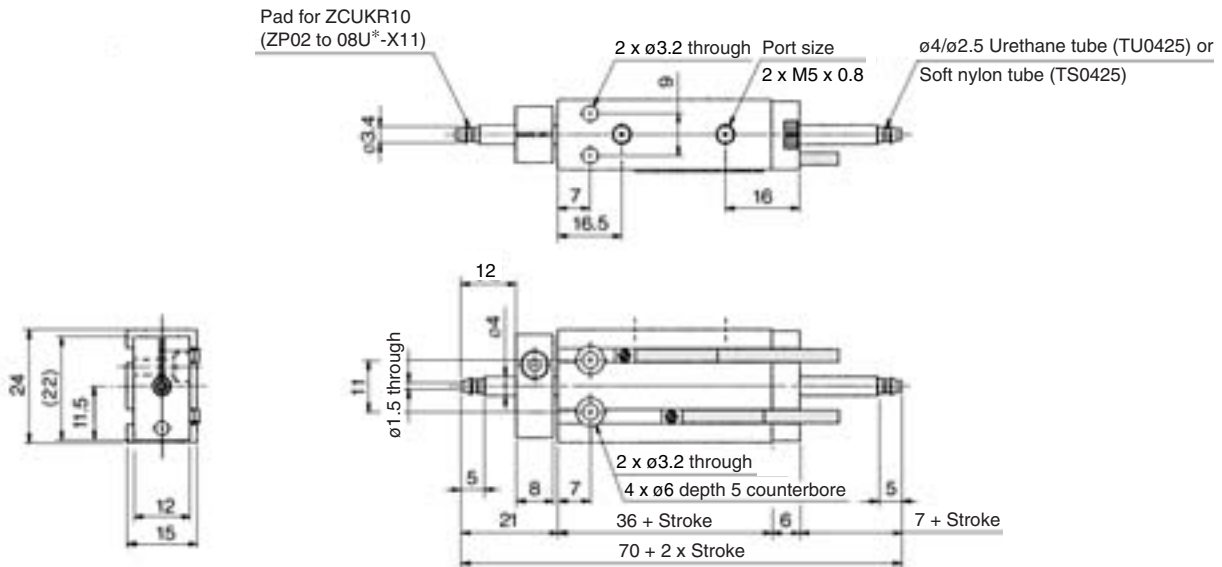
- ZA
- ZX
- ZR
- ZM
- ZMA
- ZQ
- ZH
- ZU
- ZL
- ZY□
- ZF□
- ZP□
- SP
- ZCUK**
- AMJ
- AMV
- AEP
- HEP

Related Equipment

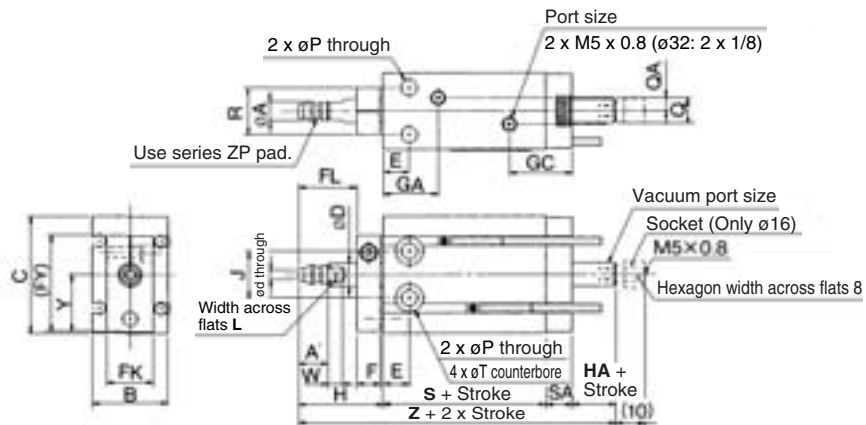
Series ZCUK

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 x 0.8	M5 x 0.8 ^{Note 2)}	5 to 30	5	7	20	32	2	6	7	8	13	17	28	16.5 ^{Note 1)}	19
ZC(D)UKR20	M5 x 0.8	M5 x 0.8	5 to 50	6.6	8	26	40	3	8	9	8	16	20	33	19	21.5
ZC(D)UKR25	M5 x 0.8	M5 x 0.8	5 to 50	8	9	32	50	4	10	10	10	20	22	43.5	21.5	22
ZC(D)UKR32	1/8	1/8	5 to 50	11.5	10.5	40	62	5	12	11	12	24	29	51.5	23	22.5

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

(): In the case of a mounted auto switch.

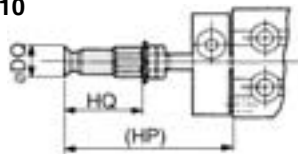
Note 1) In the case of ZCUKQ16-5D: 14.5 mm.

Note 2) In the case of socket equipped type.

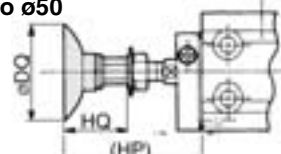
Dimensions of Pad Mounted Model

Rod end shape: Male thread

Tube bore: $\phi 10$



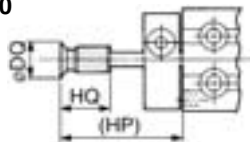
Tube bore: $\phi 16$ to $\phi 50$



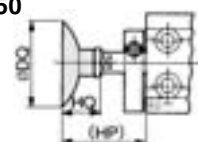
Model	Flat/Flat with ribs														Deep				Bellows										Applicable pad model
	Dia.(mm)	2	4	6	8	10	13	16	20	25	32	40	50	10	16	25	40	6	8	10	13	16	20	25	32	40	50		
ZC(D)UKC10 ZC(D)UKQ10	ϕ DQ	2.6	4.8	7	9	—	—	—	—	—	—	—	—	—	—	—	—	7	9	—	—	—	—	—	—	—	—	ZPT□□□-B4	
	HQ	19.5	19.5	19.5	19.5	—	—	—	—	—	—	—	—	—	—	—	—	20.5	20.5	—	—	—	—	—	—	—	—		
	HP	36.5	36.5	36.5	36.5	—	—	—	—	—	—	—	—	—	—	—	—	37.5	37.5	—	—	—	—	—	—	—	—		
ZC(D)UKC16 ZC(D)UKQ16	ϕ DQ	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	21	21	21.5	—	—	—	—	—	—	24	25	—	—	24	25	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	ϕ DQ	—	—	—	—	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	ϕ DQ	—	—	—	—	—	—	—	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	76.5		
ZC(D)UKC32 ZC(D)UKQ32	ϕ DQ	—	—	—	—	—	—	—	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	86.5		

Rod end shape: Pad direct mounting

Tube bore: $\phi 10$



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

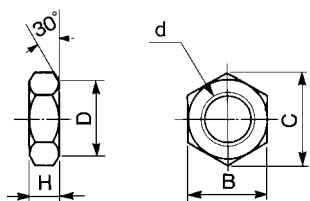


Model	Flat/Flat with ribs														Deep				Bellows										Applicable pad model
	Dia.(mm)	2	4	6	8	10	13	16	20	25	32	40	50	10	16	25	40	6	8	10	13	16	20	25	32	40	50		
ZC(D)UKD10 ZC(D)UKR10	ϕ DQ	2.6	4.8	7	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	ZP□U□-X11 <small>(Note)</small>		
	HQ	10	10	10	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
	HP	26	26	26	26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
ZC(D)UKD16 ZC(D)UKR16	ϕ DQ	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	ϕ DQ	—	—	—	—	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	ϕ DQ	—	—	—	—	—	—	—	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	ϕ DQ	—	—	—	—	—	—	—	—	—	—	43	53	—	—	—	43	—	—	—	—	—	—	—	—	43	53	ZP□□□	
	HQ	—	—	—	—	—	—	—	—	—	—	18.5	19.5	—	—	—	29	—	—	—	—	—	—	—	—	34	38		
	HP	—	—	—	—	—	—	—	—	—	—	50	51	—	—	—	60.5	—	—	—	—	—	—	—	—	65.5	69.5		

Note) ZP□U□-X11: Flat type only.

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

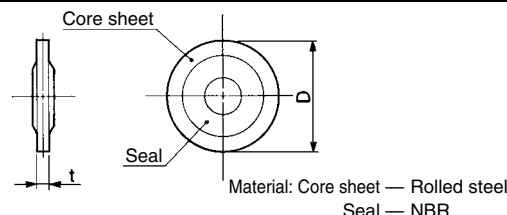
Rod end nut



Material: Carbon steel

Part no.	Applicable cylinder bore (mm)	d	H	B	C	D
NTP-010	10	M4 x 0.7	2.4	7	8.1	6.8
NTJ-015A	16	M5 x 0.8	4	8	9.2	7.8
NT-015A	20	M6 x 1.0	5	10	11.5	9.8
NT-02	25	M8 x 1.25	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

Part 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

- ZA
- ZX
- ZR
- ZM
- ZMA
- ZQ
- ZH
- ZU
- ZL
- ZY□
- ZF□
- ZP□
- SP
- ZCUK
- AMJ
- AMV
- AEP
- HEP
- Related Equipment