

Product of the Week

Self Sealing Vacuum Cups

Many applications use multiple vacuum cups to lift objects or multiple parts. If even one of the cups do not seal, there can be a loss of pressure to all cups.

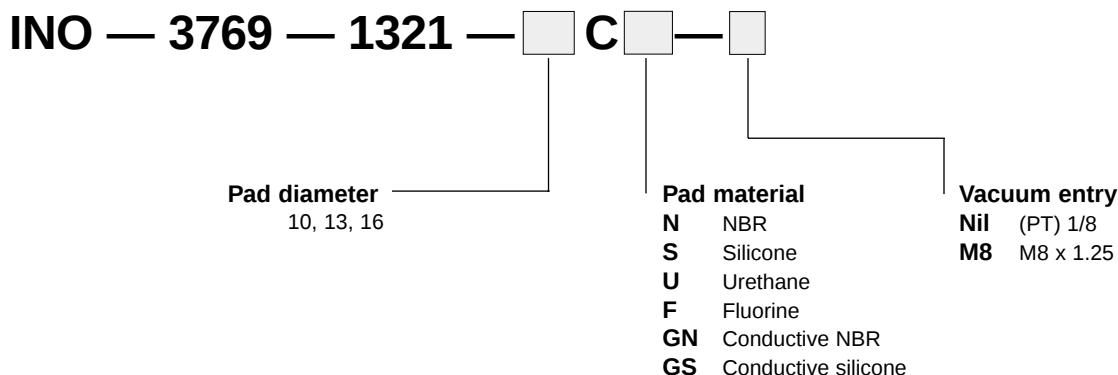
SMC addresses this problem with series INO Self Sealing Vacuum Cups. By utilizing a small mechanical check valve, it only opens when the cup comes in contact with a part. This will maintain system vacuum pressure if one part is absent.

Features & Benefits

- 3 available cup sizes
- 6 cup materials for different applications
- Built in check valve
- Larger sizes available



How to order



For further information, contact your local SMC branch office . . .

ATLANTA, GA
(770) 624-1940

CHICAGO, IL
(630) 393-0080

DALLAS, TX
(972) 406-0082

INDIANAPOLIS, IN
(317) 899-4743

MINNEAPOLIS, MN
(612) 688-3490

PHOENIX, AZ
(602) 492-0908

SAN FRANCISCO, CA
(408) 943-9600

AUSTIN, TX
(512) 926-2646

CINCINNATI, OH
(606) 647-5600

DETROIT, MI
(810) 463-2300

LOS ANGELES, CA
(714) 669-1701

NASHVILLE, TN
(615) 331-0020

PORTLAND, OR
(503) 252-9299

ST. LOUIS, MO
(314) 209-0080

BOSTON, MA
(978) 326-3600

CLEVELAND, OH
(330) 963-2727

HOUSTON, TX
(713) 460-0762

MILWAUKEE, WI
(414) 827-0080

NEWARK, NJ
(908) 253-3241

RICHMOND, VA
(804) 222-2762

TAMPA, FL
(813) 243-8350

CHARLOTTE, NC
(704) 597-9292

COLUMBUS, OH
(614) 895-9765



Business Development Center, Indianapolis, IN

ROCHESTER, NY
(716) 321-1300

TULSA, OK
(918) 252-7820

Non-adhesion type

INO - 3769 - 2304 - 08C * * - * *

INO - 3769 - 1989 - 06B * *

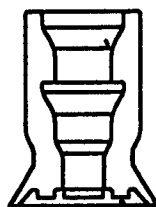
INO - 3769 - 2217 - 06C * *

Application : Since rubber with less adhesive is used, smooth desorption of work becomes possible.

Feature 1 : Pad adsorption section with non-flat surface (Except for INO-3769-1989-06B * *)

Comparison with standard products

1 : Pad adsorption section non-flat surface.



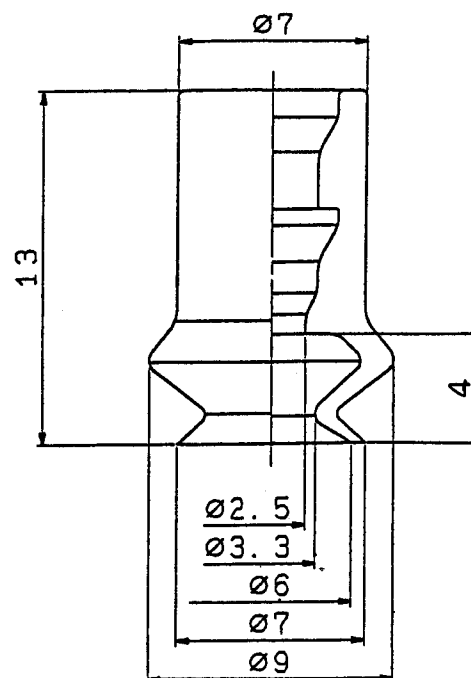
Non-flat face in adsorption surface.

How To Order / Dimensions

How to order

INO-3769-1989- 06 B * *

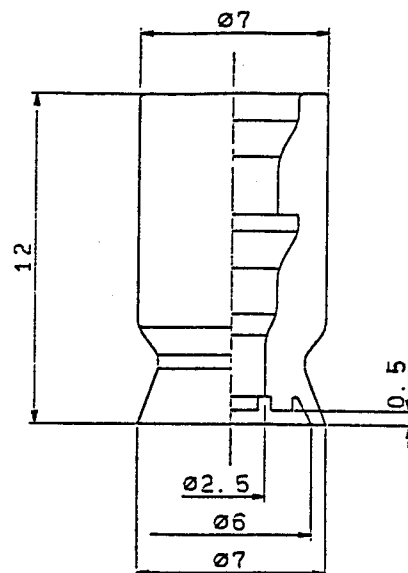
Pad material	N : NBR
	U: Urethane rubber
	F : Fluorine rubber
	GN: Conductive NBR
Pad shape	B : Bellows
Bore	06 : $\phi 6$



How to order

INO-3769-2217-06 C * *

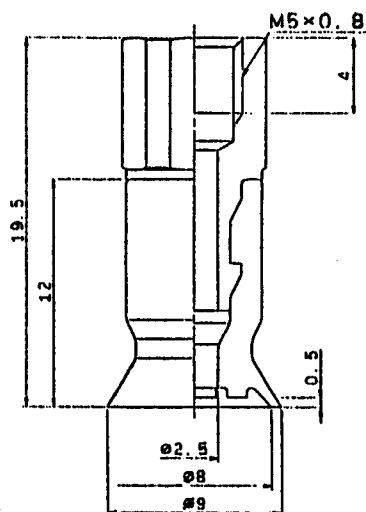
Pad material	N : NBR
	S : Silicon rubber
	U : Urethane rubber
	F : Fluorine rubber
	GN: Conductive NBR
	GS: Conductive Silicon rubber
Pad shape	C : Ribbed flat type
Bore	06 : $\phi 6$



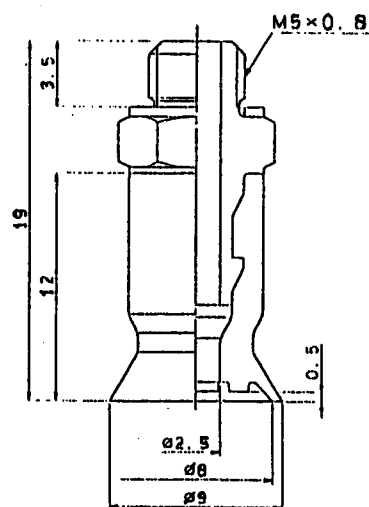
How to order

INO-3769-2304-08 C * * - * *

Specifications	Nil : Only pad
	A5 : M5 male-thread
	B5 : M5 female-thread
Material	N : NBR
	S : Silicon rubber
	U : Urethane rubber
	F : Fluorine rubber
	GN : Conductive NBR
	GS : Conductive silicon rubber
Pad shape	C : Ribbed flat type
Bore	08 : $\phi 8$



INO-3769-2304-08CXX-B5



INO-3769-2304-08CXX-A5

Small buffer

INO - 3769 - 1825 - * * U * *

INO - 3769 - 1819 - 02 U * *

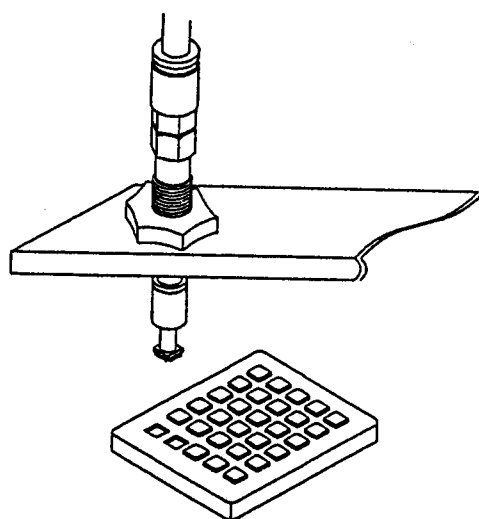
INO - 3769 - 1959 - * * U * * - *

Application : Used in adsorption transfer of small works

Feature 1 : Mounting intervals of pad becomes short by adopting mounting thread M6 to main body for
buffer mounting

Comparison with standard products

1 : Mounting thread M6



How to order

INO-3769-1825-**-** U ** - *

Specifications	Nil : Pad with buffer
	G : Only pad (only $\phi 3, \phi 4$)
(Note1) Pad material	N : NBR
	S : Silicon rubber
	U : Urethane rubber
	F : Fluorine rubber
	GN : Conductive NBR
	GS : Conductive Silicon rubber
Pad shape	U : Flat type
Bore size	02 : $\phi 2$
	03 : $\phi 3$
	04 : $\phi 4$

How to order (single pad)

INO3769-727-02 U ** -G

Pad material (see note 1)	
Pad shape U : Flat type	
Bore 02 : $\phi 2$	

Model	A	B
INO-3769-1825-02U **	2	2.5
INO-3769-1825-03U **	3	3.5
INO-3769-1825-04U **	4	4.5

How to order

INO-3769-1819-02 U **

Pad material N : NBR	
(note 1)	S : Silicon rubber
	U : Urethane rubber
	F : Fluorine rubber
	GN : Conductive NBR
	GS : Conductive silicon rubber
Pad shape U : Flat type	
Bore 02 : $\phi 2$	

How to order (single pad)

INO-3769-727-02 U ** -G

Pad material (see Note 1)	
Pad shape U : Flat type	
Bore size 02 : $\phi 2$	

How to order

INO-3769-1959-**-** U ** - *

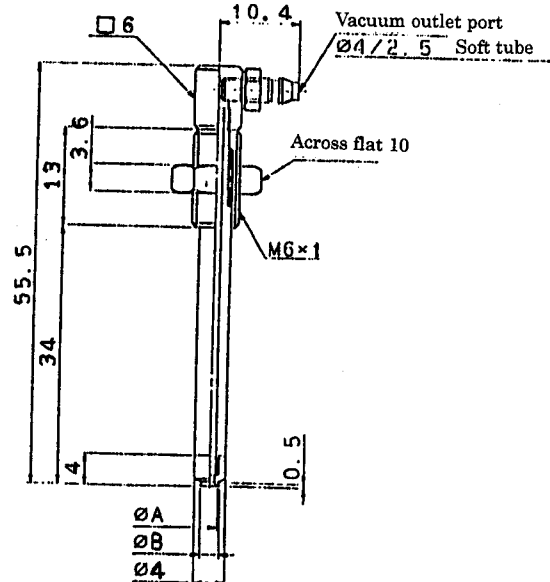
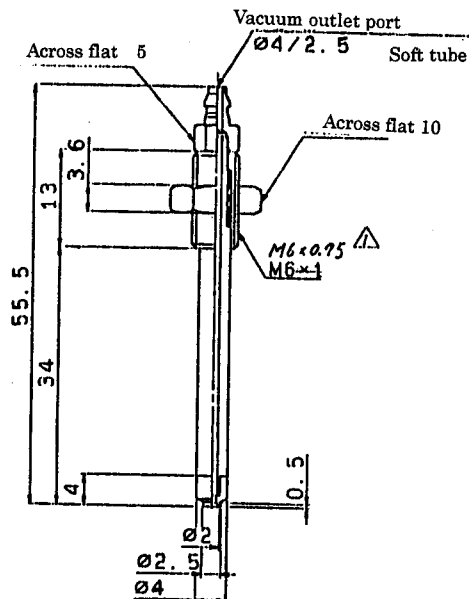
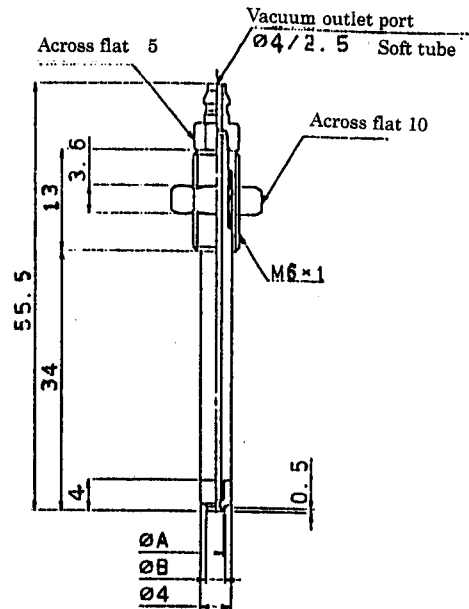
Specifications	Nil : Pad with buffer
	G : Only pad (only $\phi 3, \phi 4, \phi 6, \phi 8$)
(Note1) Pad material	N : NBR
	S : Silicon rubber
	U : Urethane rubber
	F : Fluorine rubber
	GN : Conductive NBR
	GS : Conductive Silicon rubber
Pad shape	U : Flat type
Bore size	02 : $\phi 2$
	03 : $\phi 3$
	04 : $\phi 4$
	06 : $\phi 6$
	08 : $\phi 8$

How to order (single pad)

INO3769-727-02 U ** -G

Pad material (see note 1)	
Pad shape U : Flat type	
Bore 02 : $\phi 2$	

Model	A	B
INO-3769-1959-02U **	2	2.5
INO-3769-1959-03U **	3	3.5
INO-3769-1959-04U **	4	4.5
INO-3769-1959-06U **	6	6.5
INO-3769-1959-08U **	8	8.5



Conductive Sponge Pad

INO-3769-1745-SG09

Application: Absorb semiconductor products whose work surface is uneven such as BGA

Note: BGA is an abbreviation for Ball Grid Array.

Feature 1: Pad is made of closed cell sponge.

Feature 2: Work can be sealed well even if the surface is uneven.

Feature 3: Volume specific resistance value of material is

$$10^5 \Omega \cdot \text{cm}$$

Comparison with Standard Products

1. Material is made of sponge.

How to Order

How to Order

INO - 3769 - 1745 SG 09

Pad Dia. 09: $\phi 9$

Pad Specification: SG: Conductive Sponge Pad

Part No. of Pad

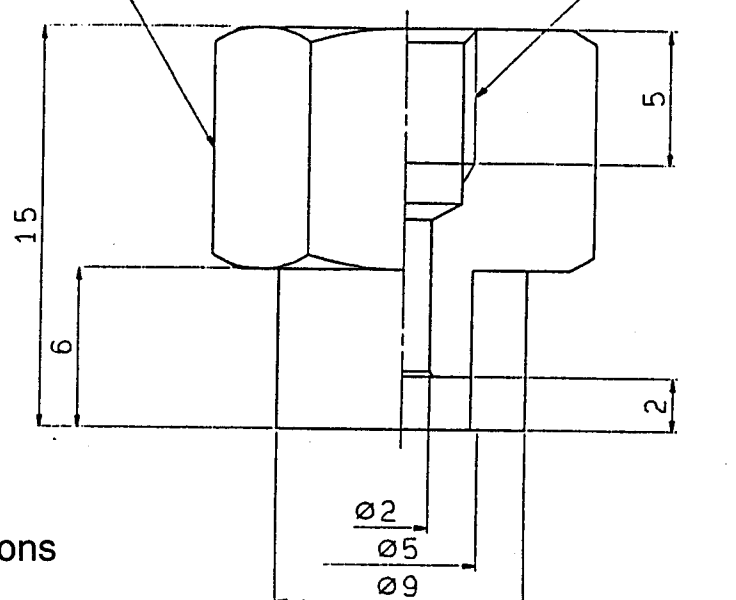
INO - 3769 - 1745 - G

Part No. of Adapter

INO - 3769 - 1745 - A

Width Across Flats 12

M5 $\times$ 0.8



Dimensions

Ball-spline buffer

INO - 3769 - 1923 - * * U * *

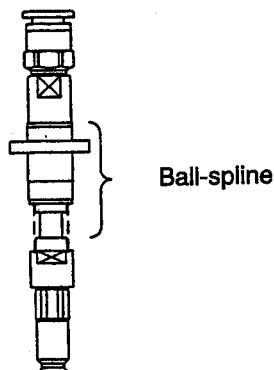
INO - 3769 - 1777 - * * U * * - * *

Application : Buffer for high precision positioning

Feature1 : Smooth buffer operation is prevented by using ball-spline.

Comparison with standard products

1 : Ball-spline is used in buffer



How To Order / Dimensions

How to order

INO-3769-1923-* * U * *

Pad material	N : NBR
	S : Silicon rubber
	U : Urethane rubber
	F : Fluorine rubber
	GN: Conductive NBR
	GS: Conductive silicon rubber
Pad shape	U : Flat type
Bore	02 : $\phi 2$
	04 : $\phi 4$
	06 : $\phi 6$
	08 : $\phi 8$
	10 : $\phi 10$

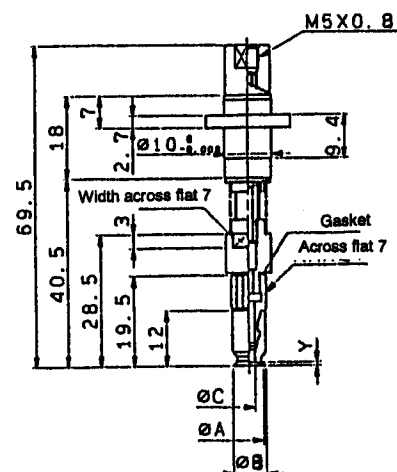
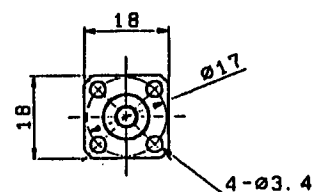


Chart 1

Model	A	B	C	Y
INO-3769-1923-02U * *	2	2.6	1.2	0.8
INO-3769-1923-04U * *	4	4.8	1.6	
INO-3769-1923-06U * *	6	7	2.5	
INO-3769-1923-08U * *	8	9		1
INO-3769-1923-10U * *	10	11		0.8

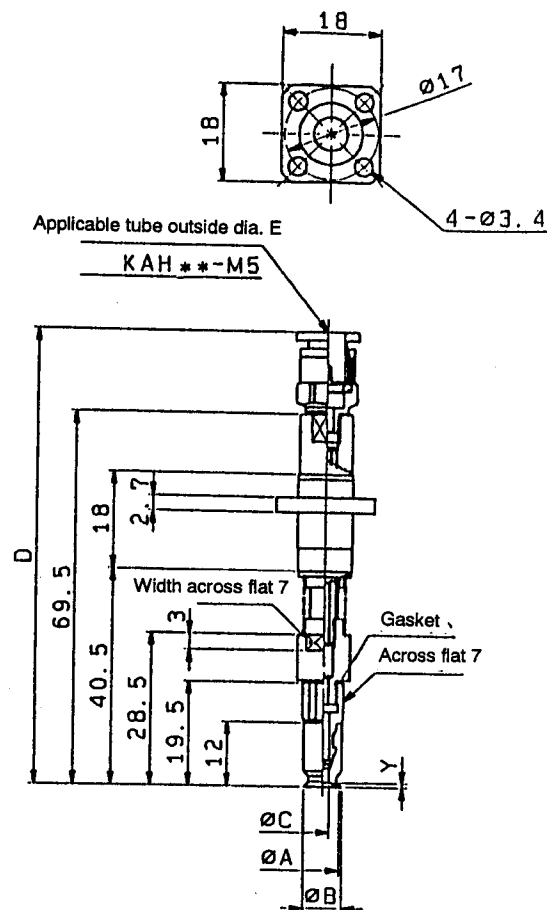
How to order

INO-3769-1777-**-**U**-**-**

Vacuum output port 04 : ϕ 4 tube
 06 : ϕ 6 tube
 Pad material N : NBR
 S : Silicon rubber
 U : Urethane rubber
 F : Fluorine rubber
 GN : Conductive NBR
 GS : Conductive Silicon rubber
 Pad shape U : Flat type
 Bore size 02 : ϕ 2
 04 : ϕ 4
 06 : ϕ 6
 08 : ϕ 8
 10 : ϕ 10

hart 1

Model	A	B	C	D		Y
				E:4	E:6	
IO-3769-1777-02U* *- *- *	2	2.6	1.2	83.5	84.5	0.8
IO-3769-1777-04U* *- *- *	4	4.8	1.6			
IO-3769-1777-06U* *- *- *	6	7	2.5			
IO-3769-1777-08U* *- *- *	8	9				1
IO-3769-1777-10U* *- *- *	10	11				0.8





P. G. Information

SP997E-018E

SMC CORPORATION
1-16-4 Shimbashi, Minato-ku
Tokyo 105-8659, JAPAN

Compact Pad

INO-3769-1788-06UE

INO-3769-1784-3507WCL

INO-3769-1743- **

INO-3769-1764- **U**

INO-3769-1858- *

Application: Suction carry of small works such as semiconductors

Feature 1: INO-3769 -1788-06UE

INO-3769 -1784-3507WCL

INO-3769 -1743- **

INO-3769 -1764- ** U **

INO-3769 -1858- *

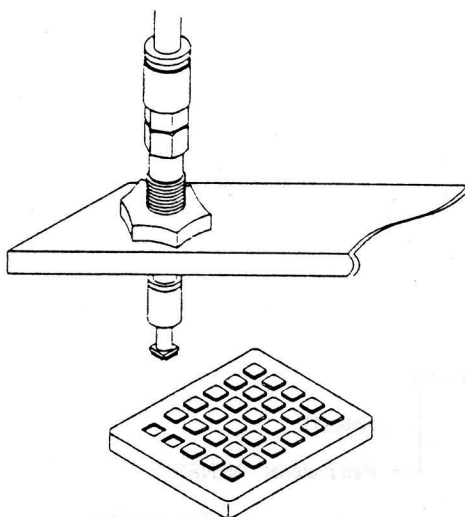
→ Pad material: EPDM

→ Clean pad

→ Shorter overall length

→ Shorter overall length

→ Shorter overall length



How To Order

How To Order

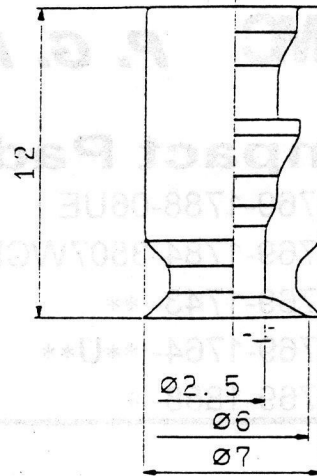
INO - 3769 - 1788 - 06 U E

Pad material E: EPDM

Pad shape U: Flat

Pad dia. 06: $\phi 6$

Dimensions



How To Order

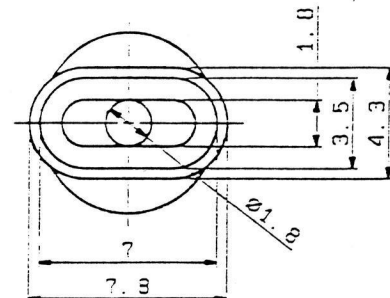
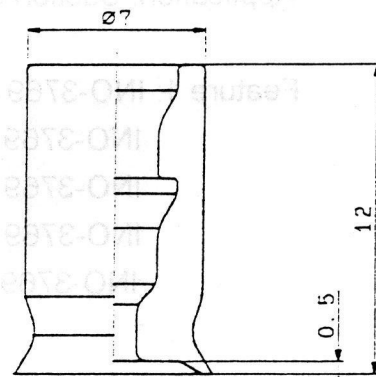
INO - 3769 - 1784 - 3507 W CL

Pad material CL: Clean pad

Pad shape W: Elliptical pad

Pad dia. 3507: 3.5x7

(Short dia.x Long dia.)



How To Order

INO - 3769 - 1743 - **

Note (1)

Pad material N: NBR

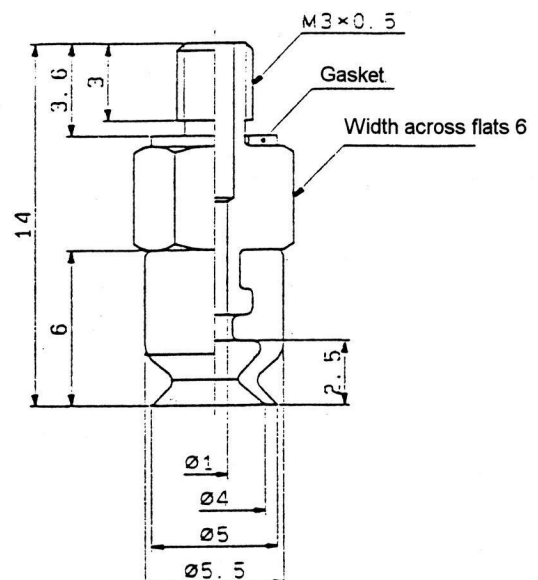
S: Silicon rubber

U: Urethane rubber

F: Fluorine rubber

GN: Conductive NBR

GS: Conductive silicon rubber



Part Number of Pad Only

INO - 3769 - 982 - **

Pad material : Refer to Note (1)

Part Number of Adapter

INO - 3769 - 1743 - A

How To Order

INO -3769 -1764 - ** U **

Note (1) Pad material

N: NBR

S: Silicon rubber

U: Urethane rubber

F: Fluorine rubber

GN: Conductive NBR

GS: Conductive silicon rubber

Pad shape U: Flat

Note (2) Pad dia. 02: $\phi 2$

03: $\phi 3$

04: $\phi 4$

06: $\phi 6$

08: $\phi 8$

Part Number of Pad only

INO -3769 - 6 -U **** - G

Pad material : Refer to Note (1).

Pad dia.: Refer to Note (2).

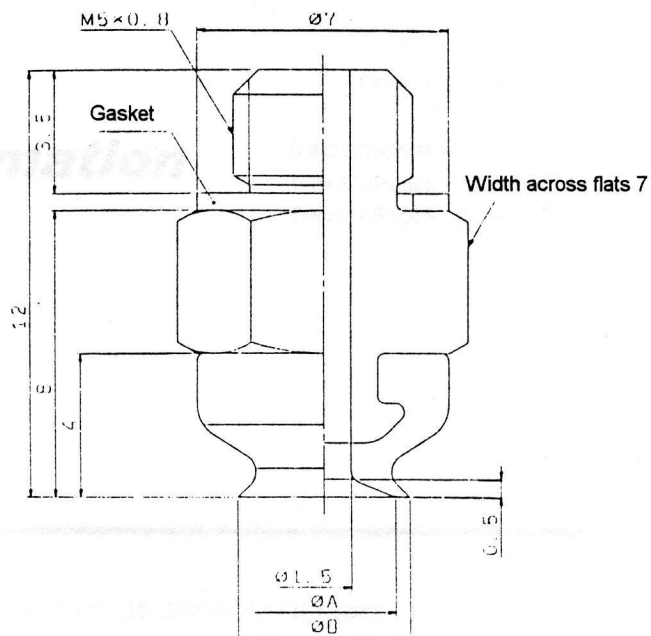


Table 1

Model No.	A	B
INR -3769 -1764 - 02U **	2	2.6
INR -3769 -1764 - 03U **	3	3.5
INR -3769 -1764 - 04U **	4	4.8
INR -3769 -1764 - 06U **	6	7
INR -3769 -1764 - 08U **	8	9

How To Order

INO -3769 -1858 - *

Pad material

N: NBR

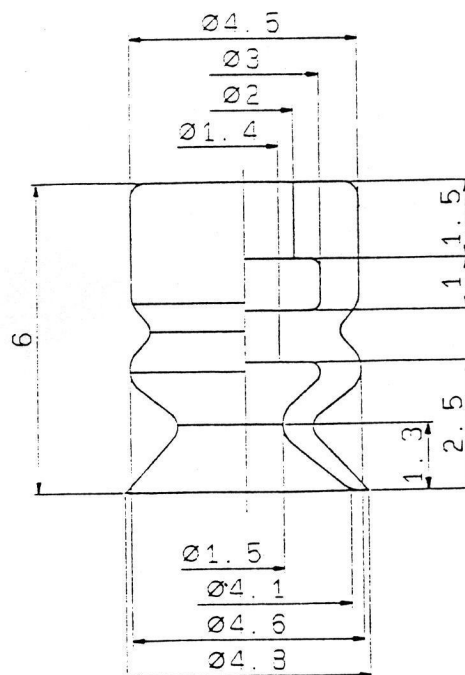
S: Silicon rubber

U: Urethane rubber

F: Fluorine rubber

GN: Conductive NBR

GS: Conductive silicon rubber



Replacement Parts: Pad unit (With lock ring/Without lock ring)

Pad Unit/How to Order

ZP 10 U N X19

Pad diameter (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

Lock ring

—	With lock ring
-X19	Without lock ring (ø10 or larger)

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)

*ø20 or larger are manufactured upon receipt of order.

Pad style

U	Flat
C	Flat with ribs
D	Deep
B	Bellows

Lock Ring Unit/How to Order

ZPL 1

Applicable pad dia. (mm)

1	ø10 to ø16
2	ø20 to ø32
3	ø40, ø50

ZX

ZR

ZM

ZH

ZU

ZL

ZF

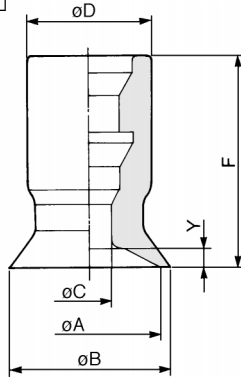
ZP

ZCU

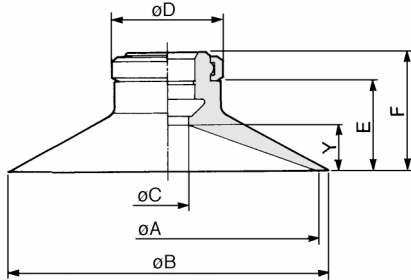
Vacuum related

Flat style (U)

ZP02U□ to 08U□



ZP10U□ to 50U□

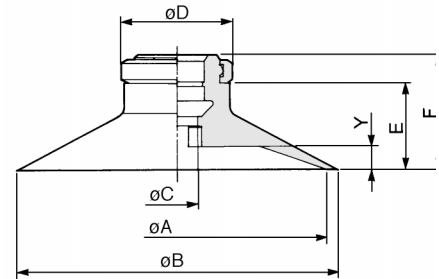


Model	Nom.size	øA	øB	øC	øD	E	F	Y
ZP02U□	U02	2	2.6	1.2	7	—	12	0.8
ZP04U□	U04	4	4.8	1.6	7	—	12	0.8
ZP06U□	U06	6	7	2.5	7	—	12	0.8
ZP08U□	U08	8	9	2.5	7	—	12	1
ZP10U□	U10	10	12	4	13	7.7	12	3
ZP13U□	U13	13	15	4	13	7.7	12	3
ZP16U□	U16	16	18	4	13	8.2	12.5	3.5
ZP20U□	U20	20	23	4	15	9.5	14	4
ZP25U□	U25	25	28	4	15	9.5	14	4
ZP32U□	U32	32	35	4	15	10	14.5	4.5
ZP40U□	U40	40	43	7	18	13.7	18.5	6.5
ZP50U□	U50	50	53	7	18	14.7	19.5	7.5

*Put in the symbol for material at the end of model no.

Flat with ribs (C)

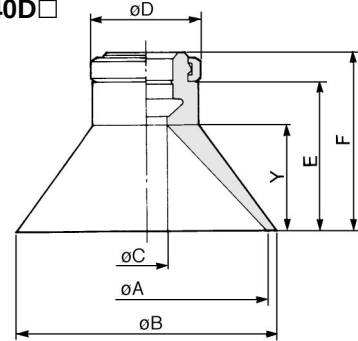
ZP10C□ to 50C□



Model	Nom.size	øA	øB	øC	øD	E	F	Y
ZP10C□	C10	10	12	4	13	7.7	12	1.7
ZP13C□	C13	13	15	4	13	7.7	12	1.8
ZP16C□	C16	16	18	4	13	8.2	12.5	1.2
ZP20C□	C20	20	23	4	15	9.5	14	1.7
ZP25C□	C25	25	28	4	15	9.5	14	1.8
ZP32C□	C32	32	35	4	15	10	14.5	2.3
ZP40C□	C40	40	43	7	18	13.7	18.5	3.3
ZP50C□	C50	50	53	7	18	14.7	19.5	3.8

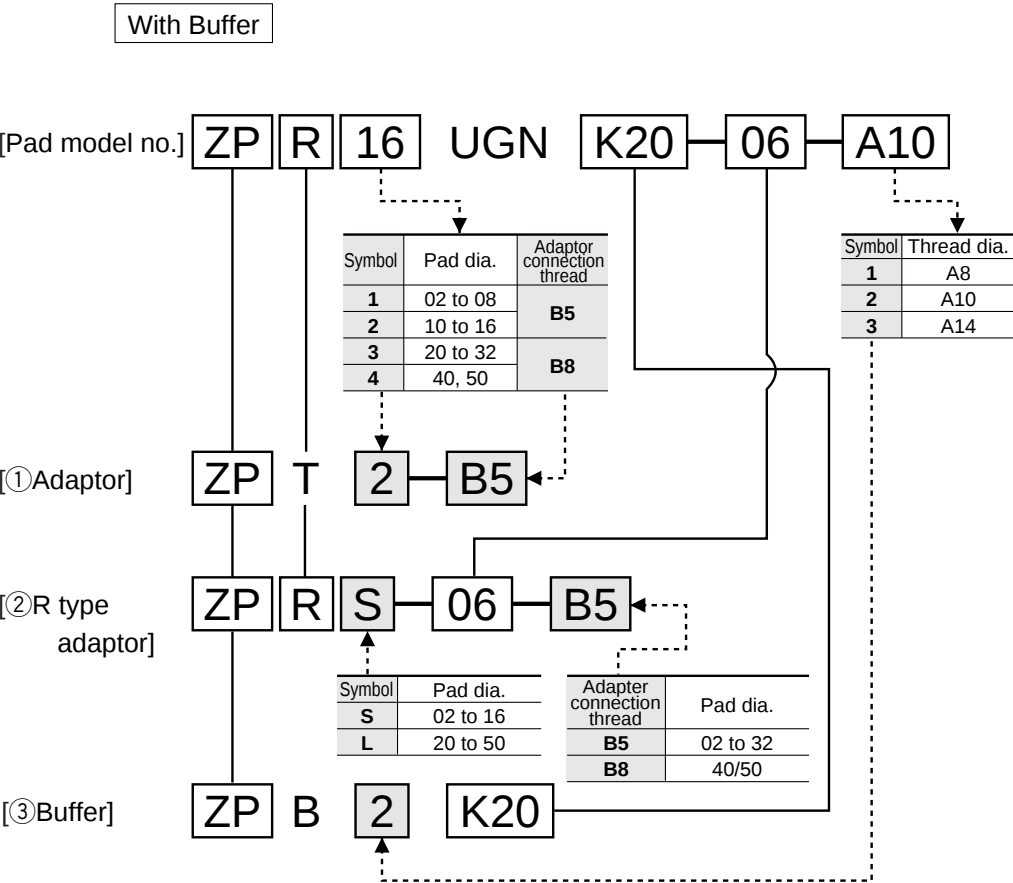
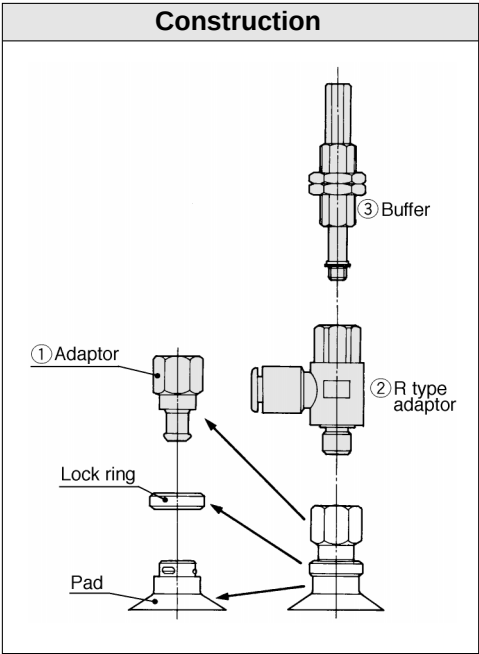
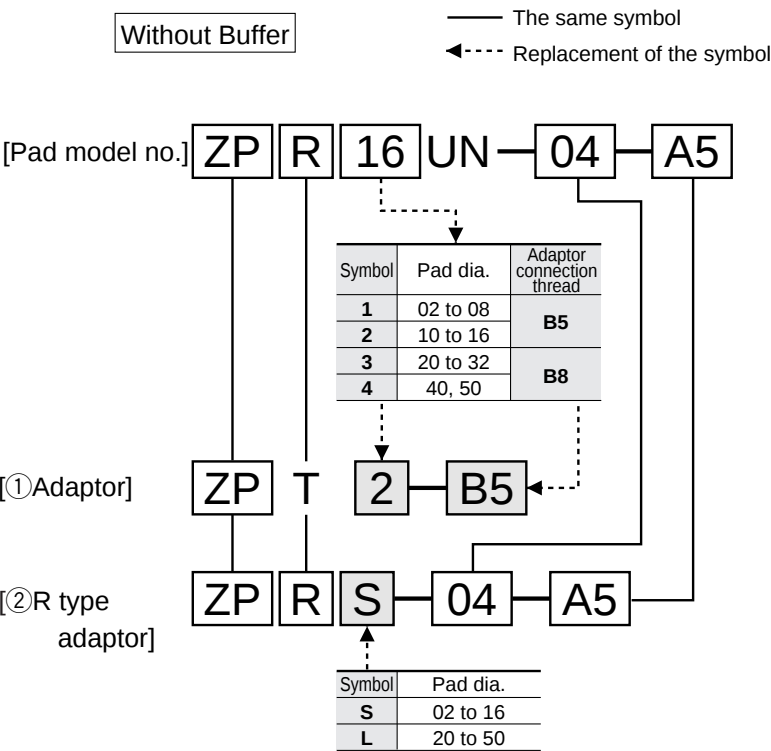
Deep style (D)

ZP10D□ to 40D□



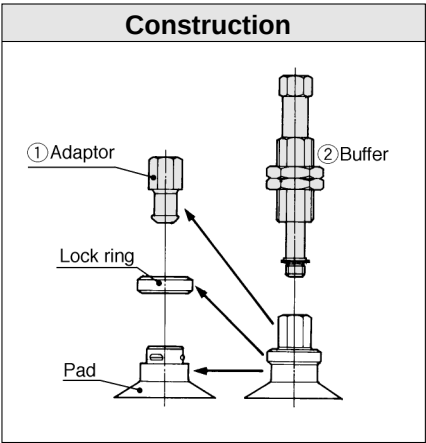
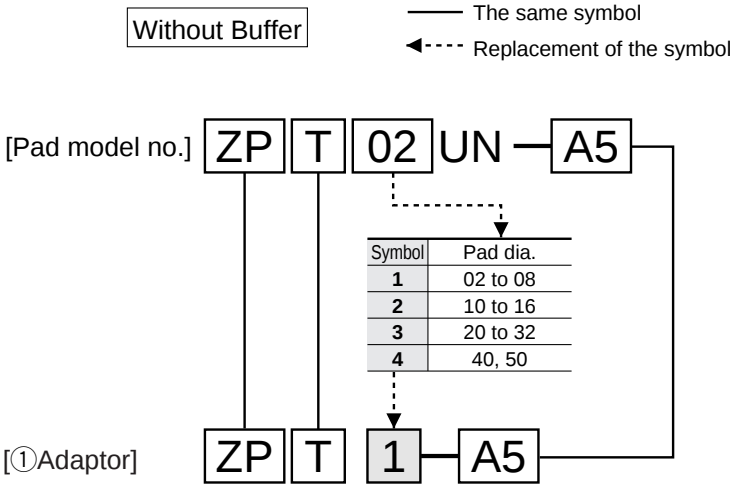
Model	Nom.size	øA	øB	øC	øD	E	F	Y
ZP10D□	D10	10	12	4	13	10.7	15	6
ZP16D□	D16	16	18	4	13	11.7	16	7
ZP25D□	D25	25	28	4	15	15.5	20	10
ZP40D□	D40	40	43	7	18	24.2	29	17

Replacement Parts: Adaptor/Buffer (Series ZPR)

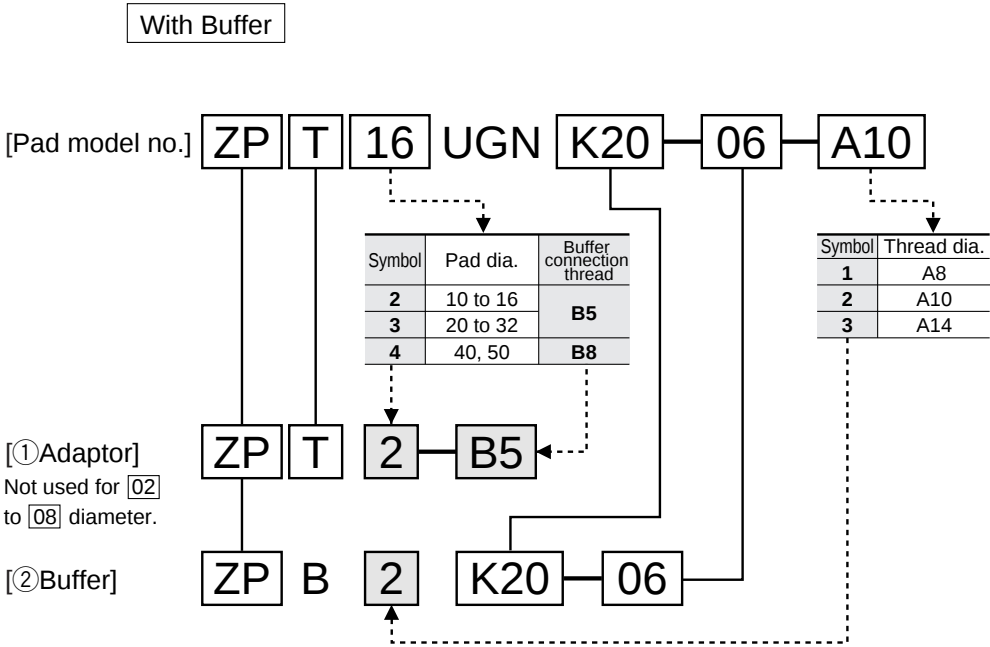


Replacement Parts: Adaptor/Buffer (Series ZPT)

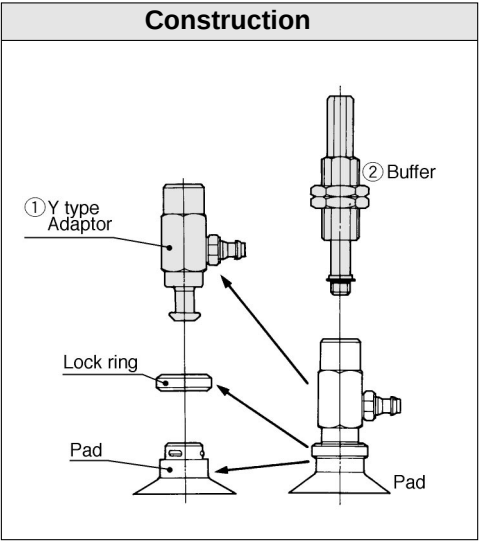
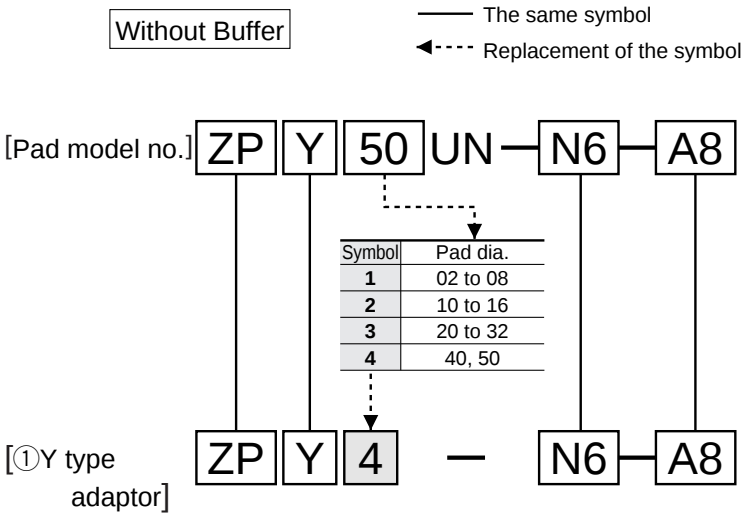
Appropriate adaptor or buffer can be selected for the currently used pad model.



- ZX
- ZR
- ZM
- ZH
- ZU
- ZL
- ZF
- ZP**
- ZCU
- Vacuum related



Replacement Parts: Adaptor/Buffer (Series ZPY)



- ZX
- ZR
- ZM
- ZH
- ZU
- ZL
- ZF
- ZP**
- ZCU
- Vacuum related

