■Vacuum Fittings

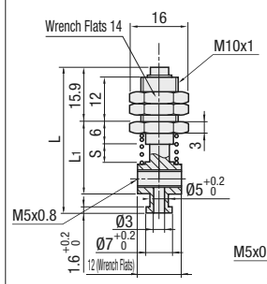




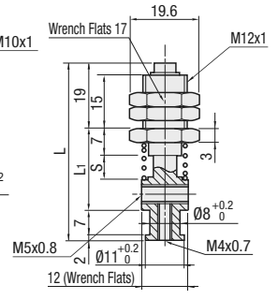
RoHS

Type	Material			Surface Treatment	
	Main Body	Spring	Nut	Main Body	Nut
SRK SRKN SRKNS	EN AW-2011 Equiv.	JIS-SWP-A	EN 1.0038 Equiv.	Clear Anodize	Nickel Plating

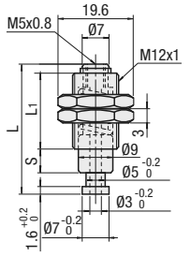
SRK10 1010 1015



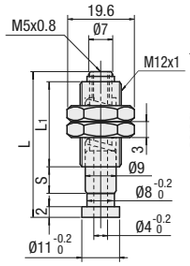
SRK20 2010 2015



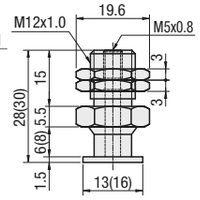
SRKN10 1010 1015



SRKN20 2010 2015



SRKNS40 50



Dimensions in ( ) are for SRKNS50.

Part Number Type	Part Number No.	Stroke S	L	L_1	Spring Constant	Spring Max. Load	Applicable Pad	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50~100
SRK	10	5	40	19	0.030kgf	0.55kgf	SRP6~12 SRPF12		
	1010	10	45	24	0.025kgf				
	1015	15	50	29	0.020kgf				
	20	5	48	20	0.037kgf		SRP15~40 SRPF20		
	2010	10	53	25	0.032kgf				
	2015	15	58	30	0.027kgf				

Part Number Type	Part Number No.	Stroke S	L	L_1	Spring Constant	Spring Max. Load	Applicable Pad	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50~100
SRKN	10	5	35	22	0.030kgf	0.55kgf	SRP6~12 SRPF12		
	1010	10	45	27	0.025kgf				
	1015	15	55	32	0.020kgf				
	20	5	39	22	0.037kgf		SRP15~40 SRPF20		
	2010	10	49	27	0.032kgf				
	2015	15	59	32	0.027kgf				

Part Number Type	Part Number No.	Applicable Pad	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50~100
SRKNS	40	SRPS40		
	50	SRPS50		

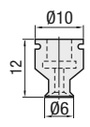
Ordering Example — Part Number: SRK10

■Suction Cups

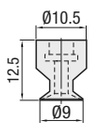


RoHS

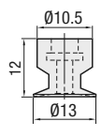
SRP6



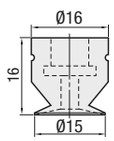
SRP9



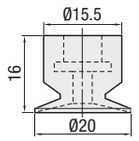
SRP12



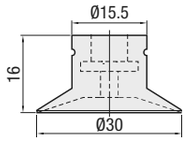
SRP15



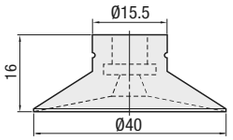
SRP20



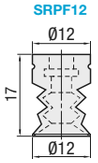
SRP30



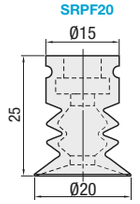
SRP40



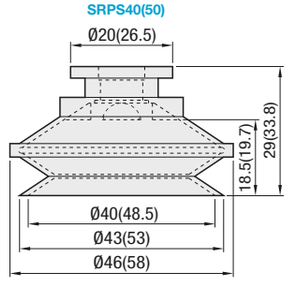
SRPF12



SRPF20



SRPS40(50)



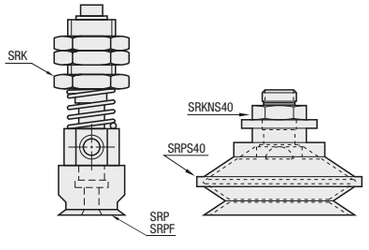
Type	Material	Color	Hardness
SRP SRPF	Silicon Rubber	Sky Blue	Shore A40
SRPS		Translucent	Shore A50

Dimensions in ( ) are for SRPS50.

Part Number Type	Part Number No.	Applicable Vacuum Fitting	Mounting	Unit Price 1 ~ 49 pc(s).	Volume Discount Rate 50~100
SRP	6	SRK10 SRK10□□ SRKN10 SRKN10□□	Recessed Type		
	9				
	12				
	15	SRK20 SRK20□□ SRKN20 SRKN20□□			
	20				
	30				
	40				
SRPF	12	SRK10 SRK10□□ SRKN10 SRKN10□□			
	20	SRK20 SRK20□□ SRKN20 SRKN20□□			
SRPS	40	SRKNS40			
	50	SRKNS50			

Not usable in combination with vacuum fittings on **P.1445, P.1447, P.1449, P.1451.**

Example



Ordering Example — Part Number: SRP30

Holders for Mini Suction Cups / Mini Suction Cups

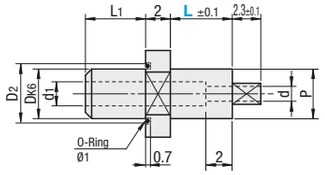
Vacuum Pens / Vacuum Attachments

■ Holders for Mini Suction Cup

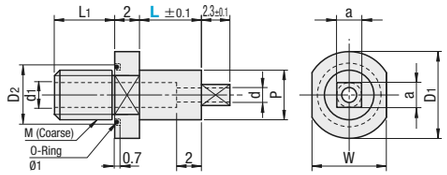


RoHS

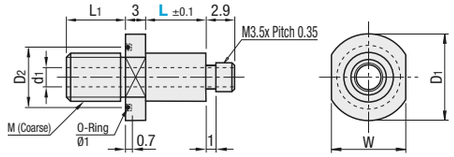
MHLD (Press Fit)



MHLDM (Threaded)



MHLDK (Threaded)



MHLDK can be used with Vacuum Attachments in **P.1444**.

M Material: Body: EN 1.4305 Equiv.
O-Ring NBR (JIS B2401 Class 1 A)

Part Number Type	No.	L Selection	a Tolerance		M Coarse	Dk6	P	d	d1	L1	D1	D2	W	MHLD Unit Price 1~9 pc(s).	MHLD Volume Discount Rate 10~20	MHLDM Unit Price 1~9 pc(s).	MHLDM Volume Discount Rate 10~20	MHLDK Unit Price 1~9 pc(s).	MHLDK Volume Discount Rate 10~20
MHLD	1.7	5 10 15	1.7	0	M5	5	5	1.2	2	6	9	7	8					-	-
MHLDM	2.7		2.7	-0.03	M6	6	6	2.3	3	8	10	8	9					-	-
MHLDK	5		-	-	M5	-	5	-	2	6	9	7	8	-	-	-	-		
	6		-		M6	-	6	-	2	8	10	8	9	-	-	-	-		

Ordering Example: Part Number - L → MHLD1.7 - 10

■ Mini Suction Cups

Type Round Type	Type Square Type	Material	Hardness	Heat Resistance Temp.	Volume Specific Resistance
RBTR	RBTS	Nitrile Rubber (Black)	Shore A80	-20~150°C	1.0x10⁵Ω・cm
SCTR	SCTS	Silicon Rubber (Black)	Shore A60	-70~200°C	1.0x10⁵Ω・cm

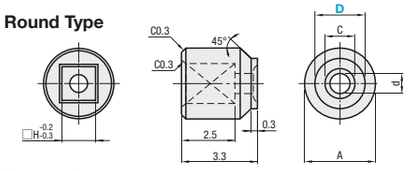




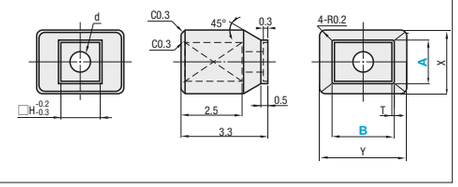
RoHS

The photo is enlarged.

Round Type



Square Type

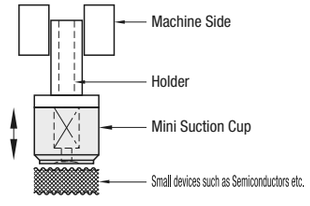


Part Number Type	D	C	A	d	H	Applicable Holder	Unit Price RBTR	Unit Price SCTR
<Round Type> RBTR SCTR	1	-	4	0.5	1.7	MHLDM		
	1.25	-						
	1.5	0.9						
	1.75	1.2		1				
	2	1.4						
	2.5	1.9						
	3	2.3						
	4	3.2	5					
	5	4.2			2.7			
	6	4.9	7					
	7	5.9						

Part Number Type	A	B	X	Y	T	d	H	Applicable Holder	Unit Price RBTS	Unit Price SCTS
<Square Type> RBTS SCTS	2	4	4	6	0.4	1	1.7	MHLDM		
	2.5	5								
	3	6		7						
	4	8	5	9	0.5		2.7			
	5	10	6	10.5						
	6	12	6.5	12.5						
	7	14	7.5	14.5						

Ordering Example: Part Number - B → RBTR2 / RBTS2.5 - 5

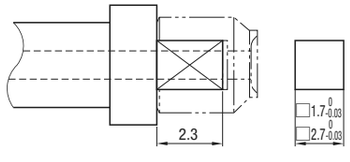
Example



■What is Mini Suction Cup?

Designed to suction and detach minute devices without making scratch on them. This can be used as the packaging equipment for suctioning and removing component devices, as well as for manufacturing and inspecting semiconductor devices such as die holders and IC handlers.

Holder End Machining Guide



■Features

1. Makes no scratch on devices.
2. Easy replacement by commonalizing the holder insert part.
3. Devices can surely be sucked and detached.

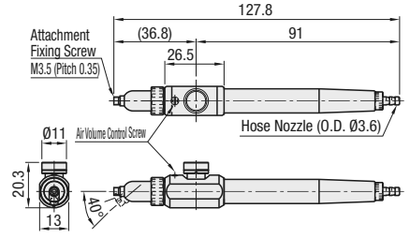
The applicable tip type of Mini Suction Cup must be selected in accordance with the size and shape of the current object device. For the mating holder insertion part, however, only 2 types are offered and are commonalized to enable easy insertion and replacement of Mini Suction Cup tips.
To suck, apply air pressure.
To remove, stop the air pressure.
The surface of the suction portion of the mini suction cups is treated with satin finish, providing easy device removal.
The material of RBTR and RBTS is NBR (Nitrile Rubber) and can suck (convey) devices without making scratch on them.
The material of SCTR and SCTS is silicon rubber and excels in chemical, heat, low temperature and weather resistance.

■ Vacuum Pens

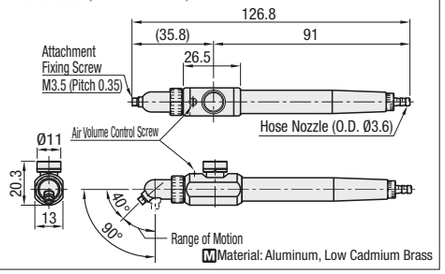


RoHS

MKPEN (0 ~ 40° Bent)



MKPEL (40 ~ 90° Bent)



M Material: Aluminum, Low Cadmium Brass

Part Number Type	Applicable Tube I.D.	Accessory	MKPEN Unit Price 1~2 pc(s).	MKPEN Volume Discount Rate 3~10	MKPEL Unit Price 1~2 pc(s).	MKPEL Volume Discount Rate 3~10
MKPEN MKPEL	3	Ø3 Silicon Tube L=1m				

■ Features

- Press the button lightly to suck and release it to detach.
- Suction/Detachment can be controlled smoothly by using the air volume control function.
- The air flow rate be changed by adjusting the thread according to weight and size of sucking objects.

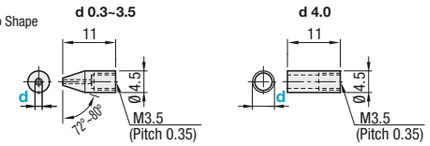
■ Vacuum Attachments - Chip Type



RoHS

Type	M Material	S Surface Treatment	Heat Resistance Temp.	Electrical Resistance
NICR	Low Cadmium Brass	Nickel / Chrome Plating	200°C	-
NIFE	PTFE (Teflon)	-	260°C	$10^{16}\Omega$
NIEK	Conductive PEEK	-	250°C	$10^{5}\Omega$

Tip Shape



■ Features

Brass : Low cost and heat resistant
Teflon : Since the material is soft, the product is very little likely to damage the sucking workpiece and is excellent in chemical resistance.
Conductive PEEK : Convenient in handling small electronic parts that require static protection.

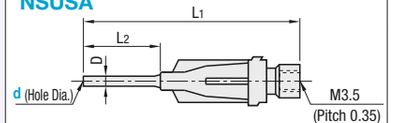
Please use in combination with Holder for Mini Suction Cup Tip Male Thread (MHLDK **P.1443**) and Vacuum Pen (MKPEN, MKPEL).

■ Vacuum Attachments - Fine Type



RoHS

NSUSA



M Material: End Part: EN 1.4301 Equiv. Resin Part: Polypropylene

Part Number Type	d	D	L1	L2	Unit Price 1~9 pc(s).	Volume Discount Rate 10~20
NSUSA	0.10	0.23	35.7	12.7		
	0.15	0.3				
	0.20	0.41				
	0.33	0.64				
	0.51	0.81				
	0.84	1.27				
	1.37	1.65				
	1.52	1.83				

Part Number Type	d	NICR Unit Price 1~9 pc(s).	NICR Volume Discount Rate 10~20	NIFE Unit Price 1~9 pc(s).	NIFE Volume Discount Rate 10~20	NIEK Unit Price 1~9 pc(s).	NIEK Volume Discount Rate 10~20
NICR NIFE NIEK	0.3						
	0.4						
	0.5						
	0.6						
	0.7						
	0.8						
	1.0						
	1.2						
	1.5						
	2.0						
	2.5						
	3.0						
	3.5						
	4.0						

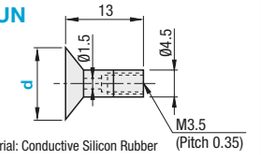
d3.5 is not available for NIEK.

■ Vacuum Attachments Conductive Rubber Suction Type



RoHS

NPUN

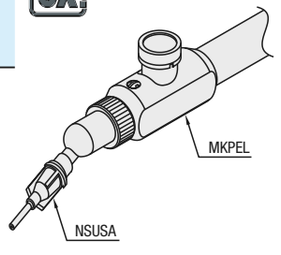


M Material: Conductive Silicon Rubber

Part Number Type	d	Unit Price 1~9 pc(s).	Volume Discount Rate 10~20
NPUN	6		
	10		
	15		
	20		

Ordering Example: Part Number → MKPEN / NICR0.3

Example



Suction Cup Fittings (With Pads)

Standard / Deep Type

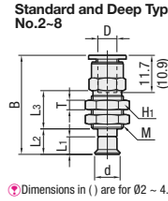
■Fixed Type Up: One-Touch (Shape K)



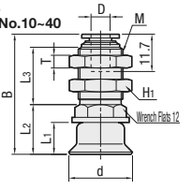
Type	Accessory	Pad Shape	Pad Material
MVPKN	Suction Cups: VPNT	Standard	Nitrile Rubber
MVPKE	Suction Cups: VPUE	Standard	Conductive Silicon Rubber
MVPKF	Suction Cups: VPUF	Standard	Fluoro Rubber
MVFKN	Suction Cups: VPFT	Deep	Nitrile Rubber
MVFKF	Suction Cups: VPFF	Deep	Fluoro Rubber

Standard and Deep Type

No.2~8



No.10~40



Dimensions in ( ) are for Ø2 ~ 4.

M Fitting Material: Brass S Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	D	d	L1	Shape K B	L2	L3	Wrench Flats H1	T	M	Mass g	Unit Price 1 ~ 50 pc(s) MVPKN	MVPKE	MVPKF
MVPK (Standard)	N E F	2	4	2	4	28.3	6	10	8	2	M6x0.75	6			
		3	4	3	4	28.3	6	10	8	2	M6x0.75	6			
		4	4	4	4	28.3	6	10	8	2	M6x0.75	6			
		6	6	6	7	32.6	9.5	12	12	3	M10x1.0	12.5			
		8	6	8	5.5	31.1	8	12	12	3	M10x1.0	12.5			
		10	6	10	8	34.1	12	18.5	14	4	M12x1.0	21			
		15	6	15	9	35.1	13	18.5	14	4	M12x1.0	21.5			
		20	6	20	10	37.7	15.6	18	17	4	M14x1.0	36.5			

Part Number Type	Pad Material	No.	D	d	L1	Shape K B	L2	L3	Wrench Flats H1	T	M	Mass g	Unit Price 1 ~ 30 pc(s) MVFKN	MVFKF
MVFK (Deep)	N F	20	6	20	11	38.7	16.6	18	17	4	M14x1.0	36.5		
		25	6	25	12	39.7	17.6	18	17	4	M14x1.0	37		
		30	6	30	14	41.7	19.6	18	17	4	M14x1.0	39		
		40	6	40	17.5	45.2	23.1	18	17	4	M14x1.0	47		

For orders larger than indicated quantity, please check with WOS.

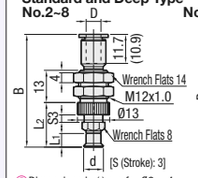
■Spring Type Up: One-Touch (Shape T)



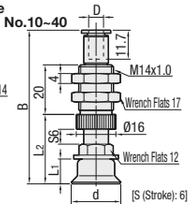
Type	Accessory	Pad Shape	Pad Material
MVPTN	Suction Cups: VPNT	Standard	Nitrile Rubber
MVPTE	Suction Cups: VPUE	Standard	Conductive Silicon Rubber
MVPTF	Suction Cups: VPUF	Standard	Fluoro Rubber
MVFTN	Suction Cups: VPFT	Deep	Nitrile Rubber
MVFTF	Suction Cups: VPFF	Deep	Fluoro Rubber

Standard and Deep Type

No.2~8



No.10~40



Dimensions in ( ) are for Ø2 ~ 4.

M Fitting Material: Brass S Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	D	d	L1	Shape T B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 50 pc(s) MVPTN	MVPTE	MVPTF
MVPT (Standard)	N E F	2	4	2	4	43.2	17.5	17	0.9~1.9			
		3	4	3	4	43.2	17.5	17				
		4	4	4	4	43.2	17.5	17				
		6	6	6	7	43.2	19.5	18.5				
		8	6	8	5.5	45.6	18	18.5				
		10	6	10	8	60.1	26	35.5	4.0~7.1			
		15	6	15	9	61.1	27	36				
		20	6	20	10	62.1	28	39.5	7.0~12.6			

Part Number Type	Pad Material	No.	D	d	L1	Shape T B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVFTN	MVFTF
MVFT (Deep)	N F	20	6	20	11	63.1	29	39.5	7.0~12.6		
		25	6	25	12	64.1	30	40			
		30	6	30	14	66.1	32	42.5			
		40	6	40	17.5	69.6	35.5	50.5			

For orders larger than indicated quantity, please check with WOS.

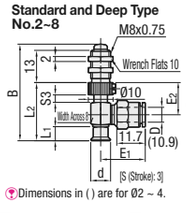
■Spring Type Side: One-Touch (Shape L)



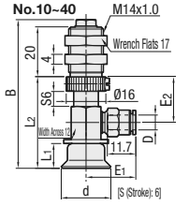
Type	Accessory	Pad Shape	Pad Material
MVPLN	Suction Cups: VPNT	Standard	Nitrile Rubber
MVPLE	Suction Cups: VPUE	Standard	Conductive Silicon Rubber
MVPLF	Suction Cups: VPUF	Standard	Fluoro Rubber
MVFLN	Suction Cups: VPFT	Deep	Nitrile Rubber
MVFLF	Suction Cups: VPFF	Deep	Fluoro Rubber

Standard and Deep Type

No.2~8



No.10~40



Dimensions in ( ) are for Ø2 ~ 4.

M Fitting Material: Brass S Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	D	d	L1	Shape L B	L2	E1	E2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 50 pc(s) MVPLN	MVPLE	MVPLF
MVPL (Standard)	N E F	2	4	2	4	40	24	16.7	12.5	13.5	0.9~1.9			
		3	4	3	4	40	24	16.7	12.5	13.5				
		4	4	4	4	40	24	16.7	12.5	13.5				
		6	6	6	7	41	25	18.1	13	15.5				
		8	6	8	5.5	39.5	23.5	18.1	13	15.5				
		10	6	10	8	58.1	35	20.1	18.5	47.5	4.0~7.1			
		15	6	15	9	59.1	36	20.1	18.5	48				
		20	6	20	10	60.1	37	20.1	18.5	51.5	7.0~12.6			

Part Number Type	Pad Material	No.	D	d	L1	Shape L B	L2	E1	E2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVFLN	MVFLF
MVFL (Deep)	N F	20	6	20	11	61.1	38	20.1	18.5	51.5	7.0~12.6		
		25	6	25	12	62.1	39	20.1	18.5	52			
		30	6	30	14	64.1	41	20.1	18.5	54			
		40	6	40	17.5	67.6	44.5	20.1	18.5	62			

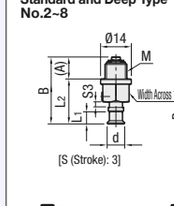
■Direct-Mount Spring Type Screw (Shape S)



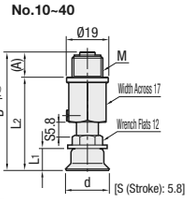
Type	Accessory	Pad Shape	Pad Material
MVPSN	Suction Cups: VPNT	Standard	Nitrile Rubber
MVPSE	Suction Cups: VPUE	Standard	Conductive Silicon Rubber
MVPSF	Suction Cups: VPUF	Standard	Fluoro Rubber
MVFSN	Suction Cups: VPFT	Deep	Nitrile Rubber
MVFSF	Suction Cups: VPFF	Deep	Fluoro Rubber

Standard and Deep Type

No.2~8



No.10~40



M Fitting Material: Brass S Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	d	L1	Shape S M	(A)	B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVPSN	MVPSE	MVPSF
MVPS (Standard)	N E F	2	2	4	M10x1	9.5	32	22.5	14.5	2.3~3.9			
		3	4	4	M10x1	9.5	32	22.5	14.5				
		4	4	4	M10x1	9.5	32	22.5	14.5				
		6	6	7	M10x1	9.5	32	22.5	14.5				
		8	8	5.5	M10x1	9.5	30.5	21.0	14.5				
		10	10	8	M14x1	11.7	51	39.3	55.5	7.9~15.0			
		15	15	9	M14x1	11.7	52	40.3	56				
		20	20	10	M14x1	11.7	54	42.3	58.5				

Part Number Type	Pad Material	No.	d	L1	Shape S M	(A)	B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVFSN	MVFSF
MVFS (Deep)	N F	20	20	11	M14x1	11.7	55	43.3	58.5	7.9~15.0		
		25	25	12	M14x1	11.7	56	44.3	59			
		30	30	14	M14x1	11.7	58	46.3	61			
		40	40	17.5	M14x1	11.7	61.5	49.8	69			

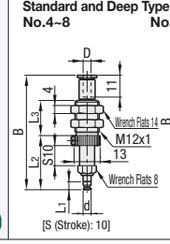
■Spring Type Long Stroke (Shape R)



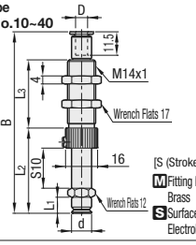
Type	Accessory	Pad Shape	Pad Material
MVPRN	Suction Cups: VPNT	Standard	Nitrile Rubber
MVPRE	Suction Cups: VPUE	Standard	Conductive Silicon Rubber
MVPRF	Suction Cups: VPUF	Standard	Fluoro Rubber
MVFRN	Suction Cups: VPFT	Deep	Nitrile Rubber
MVFRF	Suction Cups: VPFF	Deep	Fluoro Rubber

Standard and Deep Type

No.4~8



No.10~40



M Fitting Material: Brass S Surface Treatment Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	D	d	L1	Shape R B	L2	L3	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 20 pc(s). MVPRN	MVPRE	MVPRF
MVPR (Standard)	N E F	4	4	4	4	57.2	27	17.5	20.5	0.6~1.7			
		6	4	6	7	56.7	26.5	17.5	20	0.8~2.7			
		8	4	8	5.5	55.2	25	17.5	20	0.8~2.7			
		10	6	10	8	64.6	30.5	20	36.5	2.0~5.2			
		15	6	15	9	65.6	31.5	20	37	2.0~5.2			
		20	6	20	10	68.1	34	20	42	3.3~10.0			

Part Number Type	Pad Material	No.	D	d	L1	Shape R B	L2	L3	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 20 pc(s). MVFRN	MVFRF
MVFR (Deep)	N F	20	6	20	10	69.1	35	20	42	2.0~5.2		
		25	6	25	11	70.1	36	20	42.5	3.3~10.0		
		30	6	30	12	72.1	38	20	44.5	3.3~10.0		
		40	6	40	14	75.6	41.5	20	53	3.3~10.0		

For orders larger than indicated quantity, please check with WOS.

Cautions for installation of Suction Cup Fittings

For Spring Type, mount Fittings without tightening the Shaft parts with spanner, etc. Otherwise, the Shaft key groove may be deformed, and may cause malfunction.

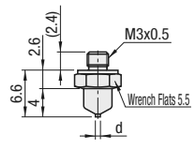
Suction Cup Fittings (With Pads) / Suction Cup Units

Small Type

■Direct Mounting Type Small (Shape J)



Type	Accessory	Pad Shape	Pad Material
MVPJN	Suction Cups: VPJN	Small	Nitrile Rubber
MVPJS	Suction Cups: VPJS	Small	Conductive Silicon Rubber
MVPJF	Suction Cups: VPJF	Small	Fluoro Rubber



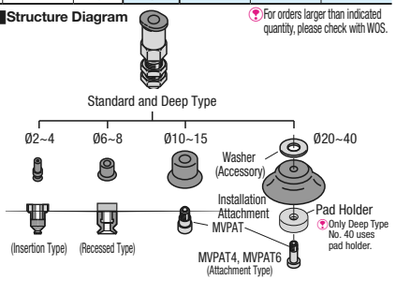
M Fitting Material: Brass S Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	d	Unit Price 1 ~ 20 pc(s). MVPJN	MVPJS	MVPJF
MVPJ (Small)	N S F	0.7	0.7			
		1	1			
		1.5	1.5			
		2	2			
		3	3			
		4	4			

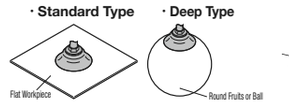
For orders larger than indicated quantity, please check with WOS.

■Structure Diagram



Example

- Standard Type is suitable for suction on flat workpiece.
- Deep Type is suitable for suction on round objects.



■Applicable spherical surface size list for deep type suction cups

Applicable minimum diameter

Spherical diameter: S (mm)	Ø30	Ø40	Ø50	Ø80
Applicable Pad Sizd : d(mm)	20	25	30	40

■Suction Cup Units RoHS

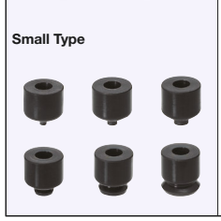
Standard Type



Deep Type



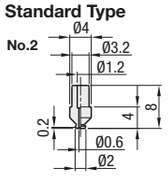
Small Type



Type	Material	Pad Shape	Hardness	Color
VPNT	Nitrile Rubber	Standard	Shore A50 ~ 60	Black
VPUE	Conductive Silicon Rubber	Standard	Shore A60	Black
VPUF	Fluoro Rubber	Standard	Shore A50 ~ 60	Gray
VPFT	Nitrile Rubber	Deep	Shore A50 ~ 60	Black
VPFF	Fluoro Rubber	Deep	Shore A50 ~ 60	Gray
VPJN	Nitrile Rubber	Small	Shore A55	Black
VPJS	Conductive Silicon Rubber	Small	Shore A60	Black
VPJF	Fluoro Rubber	Small	Shore A55	Gray

Standard Type

No.2



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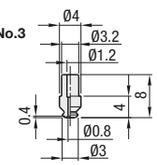

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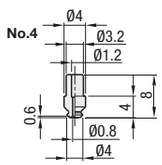

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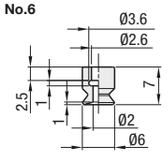

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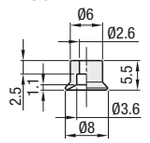

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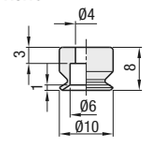

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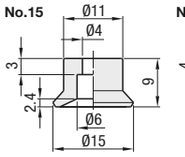

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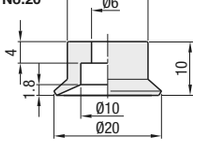
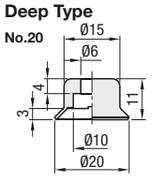


Deep Type

No.20



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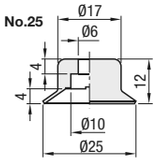

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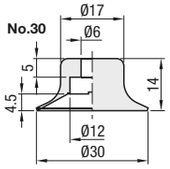

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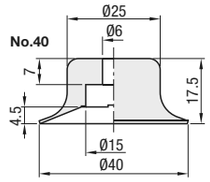
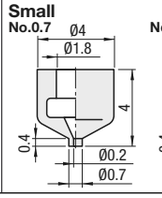


Small

No.0.7



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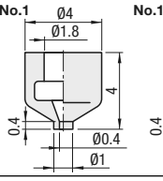

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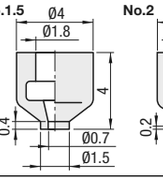

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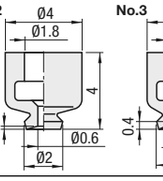

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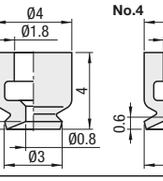

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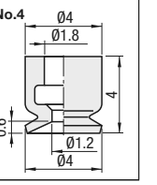


Part Number Type	No.	Applicable Vacuum Fitting No.	Mounting	VPNT Unit Price 1 ~ 9 pc(s).	VPNT Volume Discount Rate 10~20	VPUE Unit Price 1 ~ 9 pc(s).	VPUE Volume Discount Rate 10~20	VPUF Unit Price 1 ~ 9 pc(s).	VPUF Volume Discount Rate 10~20
VPNT VPUE VPUF	2	2	Insertion Type						
	3	3							
	4	4	Recessed Type						
	6	6							
	8	8							
	10	10	Attachment Type						
	15	15							
	20	20							

For orders larger than indicated quantity, please check with WOS.

Specifications

Type	VPNT, VPFT, VPJN	VPUE, VPJS	VPUF, VPFF, VPJF
Max. Operating Temp.	110°	180°	230°
Min. Operating Temp.	-30°	-40°	-10°
Weather Resistance	△	◎	○
Ozone Resistance	△	◎	◎
Acid Resistance	△	○	◎
Alkali Resistance	○	◎	×
Oil Resistance (Gasoline, Light Oil)	◎	△	◎
Oil Resistance (Benzene, Toluene)	△	△	◎
Surface Resistivity	-	10^4~10^6Ω/sq	-

Part Number Type	No.	Applicable Vacuum Fitting MVF□	Mounting	VPFT Unit Price 1 ~ 9 pc(s).	VPFT Volume Discount Rate 10~20	VPFF Unit Price 1 ~ 9 pc(s).	VPFF Volume Discount Rate 10~20
VPFT VPFF	20	20	Attachment Type				
	25	25					
	30	30					
	40	40					

Not available in combination with vacuum fittings (SRK, SRKN, SRKNS) on **P.1441**.

For orders larger than indicated quantity, please check with WOS.

Ordering Example: Part Number MVPKN4, VPFF30

Part Number Type	No.	Applicable Vacuum Fitting MVPJ□	VPJN Unit Price 1 ~ 9 pc(s).	VPJN Volume Discount Rate 10~20	VPJS Unit Price 1 ~ 9 pc(s).	VPJS Volume Discount Rate 10~20	VPJF Unit Price 1 ~ 9 pc(s).	VPJF Volume Discount Rate 10~20
VPJN VPJS VPJF	0.7	0.7						
	1	1						
	1.5	1.5						
	2	2						
	3	3						
	4	4						

For orders larger than indicated quantity, please check with WOS.

Characteristic Data

- Standard and Deep Type

Suction Cup Fittings (With Pads)

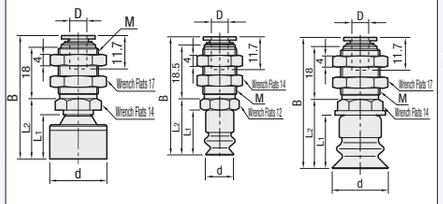
Sponge Type / Bellows Type

■Fixed Type Up: One-Touch (Shape K)



Type	Accessory		Pad Shape	Pad Material
MVSKS	Suction Cups	VPSK	Sponge	Chloroprene Rubber
MVBKN		VPBT	Bellows	Nitrile Rubber
MVBKE		VPBE		Conductive Silicon Rubber

Sponge Type No.10~30 / Bellows Type No.10 / Bellows Type No.20~40



RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape K B	L2	M	Mass g	Unit Price 1 ~ 30 pc(s)
MVSK (Sponge)	S	10	6	10	9.5	37.2	15.1	M14x1.0	31.5	
		15	6	15	9.5	37.2	15.1	M14x1.0	32	
		20	6	20	15.5	43.2	21.1	M14x1.0	33.5	
		25	6	25	15.5	43.2	21.1	M14x1.0	35	
		30	6	30	15.5	43.2	21.1	M14x1.0	35	

Part Number Type	Pad Material	No.	D	d	L1	Shape K B	L2	M	Mass g	Unit Price 1 ~ 30 pc(s) MVBKN	MVBKE
MVBK (Bellows)	N E	10	6	10	16	42.1	20	M12x1.0	21.5		
		20	6	20	19	46.7	24.6	M14x1.0	36.5		
		30	6	30	23	50.7	28.6	M14x1.0	40		
		40	6	40	30	57.7	35.6	M14x1.0	48.5		

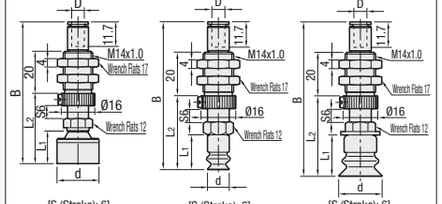
For orders larger than indicated quantity, please check with WOS.

■Spring Type - Up: One-Touch (Shape T)



Type	Accessory		Pad Shape	Pad Material
MVSTS	Suction Cups	VPSK	Sponge	Chloroprene Rubber
MVBTN		VPBT	Bellows	Nitrile Rubber
MVBTE		VPBE		Conductive Silicon Rubber

Sponge Type No.10~30 / Bellows Type No.10 / Bellows Type No.20~40



[S (Stroke): 6]

RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape T B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s)
MVST (Sponge)	S	10	6	10	9.5	61.6	27.5	35	7.0~12.6	
		15	6	15	9.5	61.6	27.5	35.5		
		20	6	20	15.5	67.6	33.5	37		
		25	6	25	15.5	67.6	33.5	38.5		
		30	6	30	15.5	67.6	33.5	38.5		

Part Number Type	Pad Material	No.	D	d	L1	Shape T B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVBTN	MVBTE
MVBT (Bellows)	N E	10	6	10	16	68.1	34	36	4.0~7.1		
		20	6	20	19	71.1	37	39.5	7.0~12.6		
		30	6	30	23	75.1	41	43.5			
		40	6	40	30	82.1	48	52			

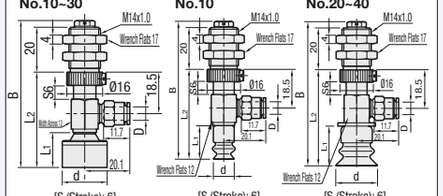
For orders larger than indicated quantity, please check with WOS.

■Spring Type Side: One-Touch (Shape L)



Type	Accessory		Pad Shape	Pad Material
MVSLS	Suction Cups	VPSK	Sponge	Chloroprene Rubber
MVBLN		VPBT	Bellows	Nitrile Rubber
MVBLE		VPBE		Conductive Silicon Rubber

Sponge Type No.10~30 / Bellows Type No.10 / Bellows Type No.20~40



[S (Stroke): 6]

RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape L B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s)
MVSL (Sponge)	S	10	6	10	9.5	59.6	36.5	46.5	7.0~12.6	
		15	6	15	9.5	59.6	36.5	47		
		20	6	20	15.5	65.6	42.5	48.5		
		25	6	25	15.5	65.6	42.5	50		
		30	6	30	15.5	65.6	42.5	50		

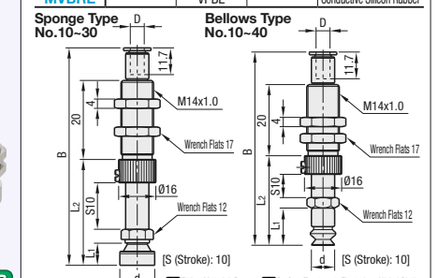
Part Number Type	Pad Material	No.	D	d	L1	Shape L B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVBLN	MVBLE
MVBL (Bellows)	N E	10	6	10	16	66.1	43	48	4.0~7.1		
		20	6	20	19	69.1	46	51.5	7.0~12.6		
		30	6	30	23	73.1	50	55			
		40	6	40	30	80.1	57	63.5			

■Spring Type Long Stroke (Shape R)



Type	Accessory		Pad Shape	Pad Material
MVSRS	Suction Cups	VPSK	Sponge	Chloroprene Rubber
MVBRN		VPBT	Bellows	Nitrile Rubber
MVBRE		VPBE		Conductive Silicon Rubber

Sponge Type No.10~30 / Bellows Type No.10~40



[S (Stroke): 10]

RoHS

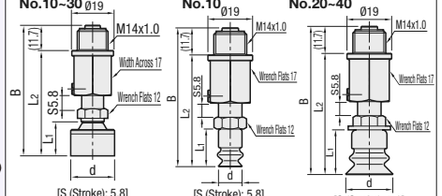
MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

■Direct-Mount Spring Type - Screw (Shape S)



Type	Accessory		Pad Shape	Pad Material
MVSSS	Suction Cups	VPSK	Sponge	Chloroprene Rubber
MVBSN		VPBT	Bellows	Nitrile Rubber
MVBSE		VPBE		Conductive Silicon Rubber

Sponge Type No.10~30 Ø19 / Bellows Type No.10 Ø19 / Bellows Type No.20~40 Ø19



[S (Stroke): 5.8]

RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	d	L1	Shape S B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s)
MVSS (Sponge)	S	10	10	9.5	53.5	41.8	54	7.9~15.0	
		15	15	9.5	53.5	41.8	54.5		
		20	20	15.5	59.5	47.8	56		
		25	25	15.5	59.5	47.8	57.5		
		30	30	15.5	59.5	47.8	57.5		

Part Number Type	Pad Material	No.	d	L1	Shape S B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVBSN	MVBSE
MVBS (Bellows)	N E	10	10	16	59	47.3	56	7.9~15.0		
		20	20	19	63	51.3	58.5			
		30	30	23	67	55.3	62			
		40	40	30	74	62.3	70.5			

Part Number Type	Pad Material	No.	D	d	L1	Shape R B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 20 pc(s).
MVSR (Sponge)	S	10	6	10	9.5	67.6	33.5	37.5	3.3~10.0	
		15	6	15	9.5	67.6	33.5	38	3.3~10.0	
		20	6	20	15.5	73.6	39.5	39.5	3.3~10.0	
		25	6	25	15.5	73.6	39.5	41	3.3~10.0	
		30	6	30	15.5	73.6	39.5	41	3.3~10.0	

Part Number Type	Pad Material	No.	D	d	L1	Shape R B	L2	Mass g	Spring Max. Load (N)	Unit Price 1 ~ 20 pc(s). MVBRN	MVBRE
MVBR (Bellows)	N E	10	6	10	16	72.6	38.5	37	2.0~5.2		
		20	6	20	19	77.1	43	42	3.3~10.0		
		30	6	30	23	81.1	47	45.5	3.3~10.0		
		40	6	40	30	88.1	54	54.5	3.3~10.0		

For orders larger than indicated quantity, please check with WOS.

Cautions for installation of Suction Cup Fittings
For Spring Type, mount Fittings without tightening the Shaft parts with spanner, etc. Otherwise, the Shaft key groove may be deformed, and may cause malfunction.

Ordering Example: Part Number MVSKS10

Suction Cup Units / Installation Attachments

Sponge Type / Bellows Type

■Suction Cup Units

Sponge Type



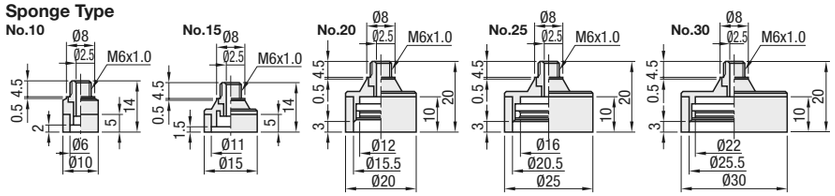
Bellows Type



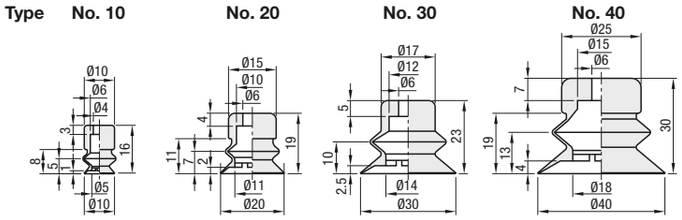
RoHS

Type	Material	Pad Shape	Hardness	Color
VPSK	Chloroprene Rubber	Sponge	-	Black
VPBT	Nitrile Rubber	Bellows	Shore A55	Black
VPBE	Conductive Silicon Rubber		Shore A60	Black

Sponge Type



Bellows Type

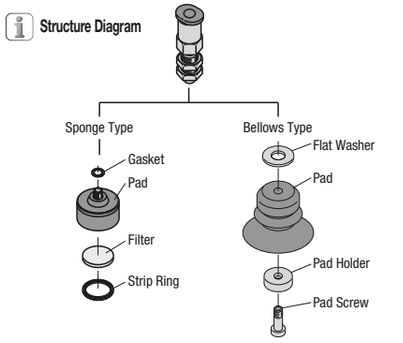


Part Number Type	No.	Applicable Vacuum Fitting MVS□	Mounting	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~30
VPSK	10	10	Attachment Type		
	15	15			
	20	20			
	25	25			
	30	30			

Not available in combination with vacuum fittings (SRK, SRKN, SRKNS) on **P.1441**.

Part Number Type	No.	Applicable Vacuum Fitting MVB□	Mounting	VPBT Unit Price 1 ~ 9 pc(s).	VPBT Volume Discount Rate 10~30	VPBE Unit Price 1 ~ 9 pc(s).	VPBE Volume Discount Rate 10~30
VPBT VPBE	10	10	Attachment Type				
	20	20					
	30	30					
	40	40					

Structure Diagram

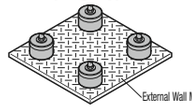


For the Bellows Type No.10, no Flat Washer or Pad Holder is required.
No other part is supplied with a suction cup sold as a single item.

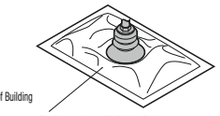
Example

- The Sponge Type is best suited for sticking to workpieces with uneven surfaces.
- Bellows Type is suitable for suction on soft workpiece such as vinyl.

Sponge Type



Bellows Type

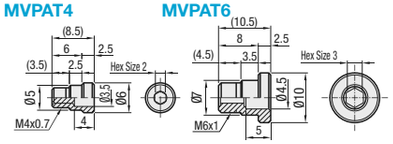


■Installation Attachment



RoHS

MVPAT4 MVPAT6



MMaterial: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	No.	Mass (g)	Applicable Pad	Unit Price 1 ~ 50 pc(s)
MVPAT	4	1.1	No.10 - No.15	
	6	3	No.20	

- MVPAT4 is applicable for Standard and Bellows Types.
- MVPAT6 is applicable for Standard, Deep and Bellows Types.

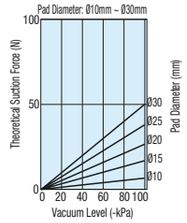
Ordering Example: Part Number VPSK10

■Specifications

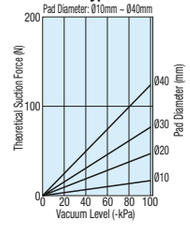
Type		VPSK	VPBT	VPBE
Max. Operating Temp.		80°	110°	180°
Min. Operating Temp.		-45°	-30°	-40°
Weather Resistance		○	△	◎
Ozone Resistance		○	△	◎
Acid Resistance		△	△	○
Alkali Resistance		◎	○	◎
Oil Resistance	(Gasoline, Light Oil)	×	◎	△
	(Benzene, Toluene)	△	△	△
Surface Resistivity		-	-	10^4~10^6Ω/sq

■Characteristic Data

• Sponge Type



• Bellows Type



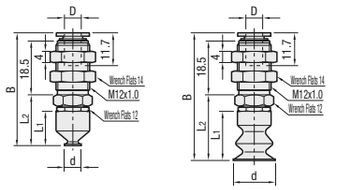
Suction Cup Fittings (With Pads)
Soft Type / Soft Bellows Type

■Fixed Type Up: One-Touch (Shape K)



Type	Accessory		Pad Shape	Pad Material
MVCKN	Suction Cups	VPCT	Soft	Nitrile Rubber
MVCKE		VPCE		Conductive Silicon Rubber
MVDKN		VPDT	Soft Bellows	Nitrile Rubber

Soft Type No.4~15 **Soft Bellows Type No.6~15**



RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape K B	Shape K L2	Shape K Mass g	Unit Price 1 ~ 30 pc(s) MVCKN	Unit Price 1 ~ 30 pc(s) MVCKE
MVCK (Soft)	N E	4	6	4	12.2	40.4	18.3	9.5		
		6	6	6	12.2	40.4	18.3	16		
		8	6	8	12.2	40.4	18.3	16		
		10	6	10	14	42.2	20.1	24.5		
		15	6	15	14	42.2	20.1	24.5		

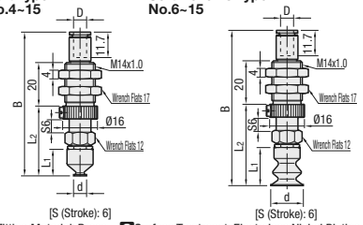
Part Number Type	Pad Material	No.	D	d	L1	Shape K B	Shape K L2	Shape K Mass g	Unit Price 1 ~ 30 pc(s)
MVDK (Soft Bellows)	N	6	6	6	15	43.2	21.1	16	
		8	6	8	15	43.2	21.1	16	
		10	6	10	15.5	43.7	21.6	24.5	
		15	6	15	17.5	45.7	23.6	25	

■Spring Type Up: One-Touch (Shape T)



Type	Accessory		Pad Shape	Pad Material
MVCTN	Suction Cups	VPCT	Soft	Nitrile Rubber
MVCTE		VPCE		Conductive Silicon Rubber
MVDTN		VPDT	Soft Bellows	Nitrile Rubber

Soft Type No.4~15 **Soft Bellows Type No.6~15**



RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape T B	Shape T L2	Shape T Mass g	Shape T Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVCTN	Unit Price 1 ~ 30 pc(s) MVCTE
MVCT (Soft)	N E	4	6	4	12.2	66.4	32.3	20.5	4.0~7.1		
		6	6	6	12.2	66.4	32.3	22			
		8	6	8	12.2	66.4	32.3	22			
		10	6	10	14	68.2	34.1	39			
		15	6	15	14	68.2	34.1	39			

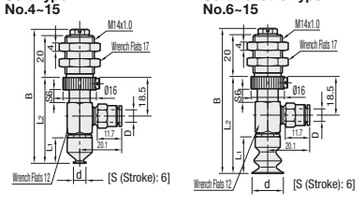
Part Number Type	Pad Material	No.	D	d	L1	Shape T B	Shape T L2	Shape T Mass g	Shape T Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s)
MVDT (Soft Bellows)	N	6	6	6	15	69.2	35.1	22	4.0~7.1	
		8	6	8	15	69.2	35.1	22		
		10	6	10	15.5	69.7	35.6	39		
		15	6	15	17.5	71.7	37.6	39.5		

■Spring Type Side: One-Touch (Shape L)



Type	Accessory		Pad Shape	Pad Material
MVCLN	Suction Cups	VPCT	Soft	Nitrile Rubber
MVCLE		VPCE		Conductive Silicon Rubber
MVDLN		VPDT	Soft Bellows	Nitrile Rubber

Soft Type No.4~15 **Soft Bellows Type No.6~15**



RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape L B	Shape L L2	Shape L Mass g	Shape L Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVCLN	Unit Price 1 ~ 30 pc(s) MVCLE
MVCL (Soft)	N E	4	6	4	12.2	64.4	41.3	17	4.0~7.1		
		6	6	6	12.2	64.4	41.3	19			
		8	6	8	12.2	64.4	41.3	19			
		10	6	10	14	66.2	43.1	51			
		15	6	15	14	66.2	43.1	51			

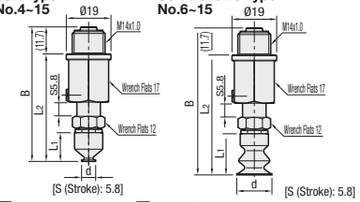
Part Number Type	Pad Material	No.	D	d	L1	Shape L B	Shape L L2	Shape L Mass g	Shape L Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s)
MVDL (Soft Bellows)	N	6	6	6	15	67.2	44.1	19	4.0~7.1	
		8	6	8	15	67.2	44.1	19		
		10	6	10	15.5	67.7	44.6	51		
		15	6	15	17.5	69.7	46.6	51.5		

■Direct-Mount Spring Type - Screw (Shape S)



Type	Accessory		Pad Shape	Pad Material
MVCSN	Suction Cups	VPCT	Soft	Nitrile Rubber
MVCSE		VPCE		Conductive Silicon Rubber
MVDSN		VPDT	Soft Bellows	Nitrile Rubber

Soft Type No.4~15 **Soft Bellows Type No.6~15**



RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	d	L1	Shape S B	Shape S L2	Shape S Mass g	Shape S Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s) MVCSN	Unit Price 1 ~ 30 pc(s) MVCSE
MVCS (Soft)	N E	4	4	12.2	57.3	45.6	18	7.9~15.0		
		6	6	12.2	57.3	45.6	18			
		8	8	12.2	57.3	45.6	18			
		10	10	14	59.1	47.4	59			
		15	15	14	59.1	47.4	59			

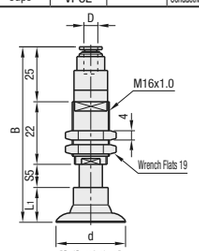
Part Number Type	Pad Material	No.	d	L1	Shape S B	Shape S L2	Shape S Mass g	Shape S Spring Max. Load (N)	Unit Price 1 ~ 30 pc(s)
MVDS (Soft Bellows)	N	6	6	15	60.1	48.4	18	7.9~15.0	
		8	8	15	60.1	48.4	18		
		10	10	15.5	60.6	48.9	59		
		15	15	17.5	62.6	50.9	59.5		

■Vacuum Cylinder Type (M Shape)



Type	Accessory		Pad Shape	Pad Material
MVCMN	Suction Cups	VPCT	Soft	Nitrile Rubber
MVCME		VPCE		Conductive Silicon Rubber

Soft Type No.4~15



RoHS

MFitting Material: Brass SSurface Treatment: Electroless Nickel Plating

Part Number Type	Pad Material	No.	D	d	L1	Shape M B	Shape M Mass g	Unit Price 1 ~ 20 pc(s). MVCMN	Unit Price 1 ~ 20 pc(s). MVCME
MVCM (Soft)	N E	4	6	4	12	64	34		
		6	6	6	12	64	34		
		8	6	8	12	64	34		
		10	6	10	14	66	34.5		
		15	6	15	14	66	34.5		

Cautions for installation of Suction Cup Fittings
For Spring Type, Mount Fittings without tightening the Shaft parts with spanner, etc. Otherwise, the Shaft key groove may be deformed, and may cause malfunction.

Ordering Example **Part Number** MVCKN4

Suction Cup Units
Soft Type / Soft Bellows Type

■Suction Cup Units

Soft Type



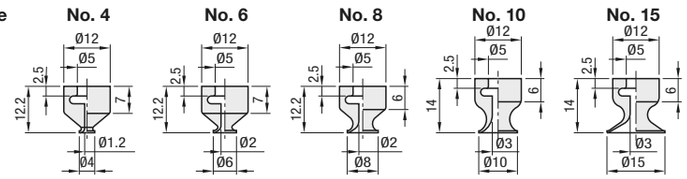
Soft Bellows Type



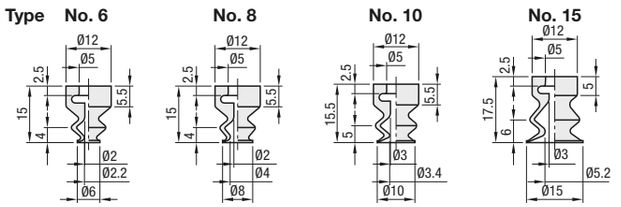
RoHS

Type	Material	Pad Shape	Hardness	Color
VPCT	Nitrile Rubber	Soft	Shore A55	Black
VPCE	Conductive Silicon Rubber		Shore A60	Black
VPDT	Nitrile Rubber	Soft Bellows	Shore A55	Black

Soft Type



Soft Bellows Type

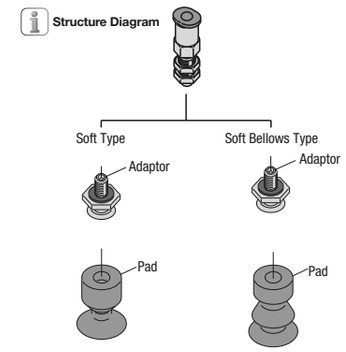


Part Number Type	No.	Applicable Vacuum Fitting MVC□	Mounting	VPCT Unit Price 1 ~ 9 pc(s).	VPCT Volume Discount Rate 10~30	VPCE Unit Price 1 ~ 9 pc(s).	VPCE Volume Discount Rate 10~30
VPCT VPCE	4	4	Attachment Type				
	6	6					
	8	8					
	10	10					
	15	15					

Part Number Type	No.	Applicable Vacuum Fitting MVD□	Mounting	Unit Price 1 ~ 9 pc(s).	Volume Discount Rate 10~30
VPDT	6	6	Attachment Type		
	8	8			
	10	10			
	15	15			

Ordering Example **Part Number** MVCKN4 VPDT10

Structure Diagram

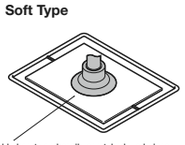


■Specifications

Type	VPCT, VPDT	VPCE
Max. Operating Temp.	110°	180°
Min. Operating Temp.	-30°	-40°
Weather Resistance	△	◎
Ozone Resistance	△	◎
Acid Resistance	△	○
Alkali Resistance	○	◎
Oil Resistance (Gasoline, Light Oil)	◎	△
Oil Resistance (Benzene, Toluene)	△	△
Surface Resistivity	-	10^4~10^6Ω/sq

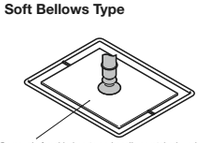
Example

Soft Type



Removal of molded parts and easily scratched workpiece

Soft Bellows Type

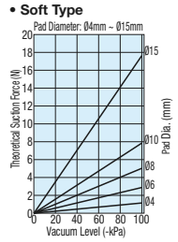


Removal of molded parts and easily scratched workpiece

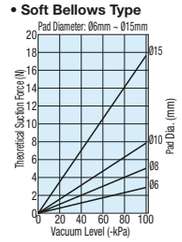
- Soft Type is excellent in flexibility, and is capable of sucking a workpiece without making no scratch on them relatively.
- The Soft Bellows Type is excellent in flexibility and best suitable for sticking to things like paper.

■Characteristic Data

• Soft Type



• Soft Bellows Type



Suction Cup Fittings (With Pads)

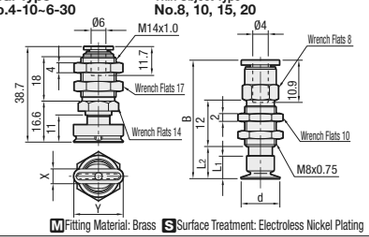
Oval Type / Thin Object Type

■Fixed Type Up: One-Touch (Shape K)



Type	Accessory		Pad Shape	Pad Material
MVEKN	Suction Cups	VPET	Oval	Nitrile Rubber
MVEKS		VPES		Silicon Rubber
MVPKS		VPTS	For Thin Object	Nitrile Rubber
MVPKSS		VPTSS		Phlorosilicon

Oval Type No.4-10~6-30 / **Thin Object Type No.8, 10, 15, 20**



Ⓜ Fitting Material: Brass Ⓢ Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	X	Y	Mass g	Unit Price 1 ~ 30 pc(s). MVEKN	MVEKS
MVEK (Oval)	N S	4-10	4	10	31.5		
		4-20		20	32		
		4-30		30	32.5		
		5-10	5	10	31.5		
		5-20		20	32		
		5-30		30	32.5		
		6-10	6	10	31.5		
		6-20		20	32		
		6-30		30	32.5		

Part Number Type	Pad Material	No.	d	L1	Shape K B	L2	Mass g	Unit Price 1 ~ 30 pc(s). MVPKS	MVPKSS
MVPK (Thin Object Type)	S SS	8	8	5.5	30.3	8	10.2		
		10	10	5.8	30.6	8.3	10.2		
		15	15	6.5	31.3	9	10.3		
		20	20	7.3	32.1	9.8	10.4		

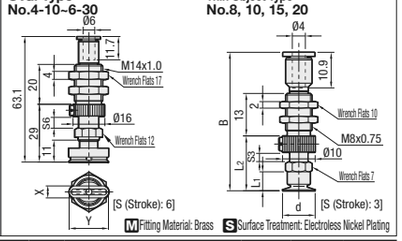
For orders larger than indicated quantity, please check with WOS.

■Spring Type Up: One-Touch (Shape T)



Type	Accessory		Pad Shape	Pad Material
MVETN	Suction Cups	VPET	Oval	Nitrile Rubber
MVETS		VPES		Silicon Rubber
MVPTS		VPTS	For Thin Object	Nitrile Rubber
MVPTSS		VPTSS		Phlorosilicon

Oval Type No.4-10~6-30 / **Thin Object Type No.8, 10, 15, 20**



Ⓜ Fitting Material: Brass Ⓢ Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	X	Y	Shape T Spring Max. Load (N)	Mass g	Unit Price 1 ~ 30 pc(s). MVETN	MVETS
MVET (Oval)	N S	4-10	4	10	7.0~12.6	35		
		4-20		20		35.5		
		4-30		30		36		
		5-10	5	10		35		
		5-20		20		35.5		
		5-30		30		36		
		6-10	6	10		35		
		6-20		20		35.5		
		6-30		30		36		

Part Number Type	Pad Material	No.	d	L1	Shape T B	L2	Spring Max. Load (N)	Mass g	Unit Price 1 ~ 30 pc(s). MVPTS	MVPTSS
MVPT (Thin Object Type)	S SS	8	8	5.5	42.2	16.5	1.0~1.9	8.9		
		10	10	5.8	42.5	16.8		8.9		
		15	15	6.5	43.2	17.5		9.0		
		20	20	7.3	44	18.3		9.1		

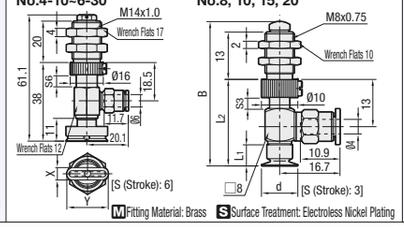
For orders larger than indicated quantity, please check with WOS.

■Spring Type Side: One-Touch (Shape L)



Type	Accessory		Pad Shape	Pad Material
MVELN	Suction Cups	VPET	Oval	Nitrile Rubber
MVELS		VPES		Silicon Rubber
MVPLS		VPTS	For Thin Object	Nitrile Rubber
MVPLSS		VPTSS		Phlorosilicon

Oval Type No.4-10~6-30 / **Thin Object Type No.8, 10, 15, 20**



Ⓜ Fitting Material: Brass Ⓢ Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	X	Y	Shape L Spring Max. Load (N)	Mass g	Unit Price 1 ~ 30 pc(s). MVELN	MVELS
MVEL (Oval)	N S	4-10	4	10	7.0~12.6	46.5		
		4-20		20		47		
		4-30		30		47.5		
		5-10	5	10		46.5		
		5-20		20		47		
		5-30		30		47.5		
		6-10	6	10		46.5		
		6-20		20		47		
		6-30		30		47.5		

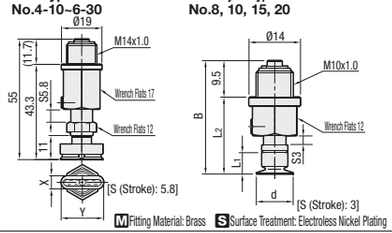
Part Number Type	Pad Material	No.	d	L1	Shape L B	L2	Spring Max. Load (N)	Mass g	Unit Price 1 ~ 30 pc(s). MVPLS	MVPLSS
MVPL (Thin Object Type)	S SS	8	8	5.5	39.5	23.5	1.0~1.9	14.2		
		10	10	5.8	39.8	23.8		14.2		
		15	15	6.5	40.5	24.5		14.3		
		20	20	7.3	41.3	25.3		14.4		

■Direct-Mount Spring Type - Screw (Shape S)



Type	Accessory		Pad Shape	Pad Material
MVESN	Suction Cups	VPET	Oval	Nitrile Rubber
MVESS		VPES		Silicon Rubber
MVPSS		VPTS	For Thin Object	Nitrile Rubber
MVPSSS		VPTSS		Phlorosilicon

Oval Type No.4-10~6-30 / **Thin Object Type No.8, 10, 15, 20**



Ⓜ Fitting Material: Brass Ⓢ Surface Treatment: Electroless Nickel Plating

RoHS

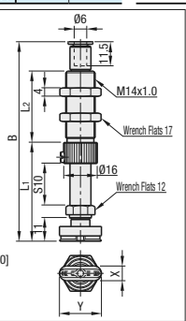
Part Number Type	Pad Material	No.	X	Y	Shape S Spring Max. Load (N)	Mass g	Unit Price 1 ~ 30 pc(s). MVESN	MVESS
MVES (Oval)	N S	4-10	4	10	7.9~15.0	54		
		4-20		20		54.5		
		4-30		30		55		
		5-10	5	10		54		
		5-20		20		54.5		
		5-30		30		55		
		6-10	6	10		54		
		6-20		20		54.5		
		6-30		30		55		

Part Number Type	Pad Material	No.	d	L1	Shape S B	L2	Spring Max. Load (N)	Mass g	Unit Price 1 ~ 30 pc(s). MVPSS	MVPSSS
MVPS (Thin Object Type)	S SS	8	8	5.5	30.5	21	2.3~3.9	14.2		
		10	10	5.8	30.8	21.3		14.2		
		15	15	6.5	31.5	22		14.3		
		20	20	7.3	32.3	22.8		14.4		

■Spring Type Long Stroke (Shape R)



Type	Accessory		Pad Shape	Pad Material
MVERN	Suction Cups	VPET	Oval	Nitrile Rubber
MVERS		VPES		Silicon Rubber



Ⓜ Fitting Material: Brass
Ⓢ Surface Treatment: Electroless Nickel Plating

RoHS

Part Number Type	Pad Material	No.	X	Y	Shape R B	L1	L2	Spring Max. Load (N)	Mass g	Unit Price 1 ~ 20 pc(s). MVERN	MVERS
MVER (Oval)	N S	4-10	4	10	69.1	35	20	3.3~10.0	37.5		
		4-20		20					38		
		4-30		30					38.5		
		5-10	5	10					37.5		
		5-20		20					38		
		5-30		30					38.5		
		6-10	6	10					37.5		
		6-20		20					38		
		6-30		30					38.5		

For orders larger than indicated quantity, please check with WOS.

Cautions for installation of Suction Cup Fittings

For Spring Type, Mount Fittings without tightening the Shaft parts with spanner, etc.
Otherwise, the Shaft key groove may be deformed, and may cause malfunction.

Ordering Example: Part Number **VPET4-10**

Suction Cup Units

Oval Type / Thin Object Type

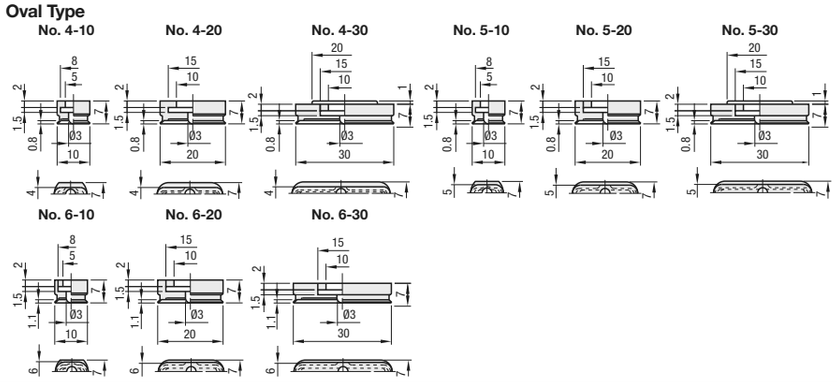
■Suction Cup Units Oval Type



RoHS

Type	Material	Pad Shape	Hardness	Color
VPET	Nitrile Rubber	Oval	Shore A55	Black
VPES	Silicon Rubber		Shore A55	Milky White

Oval Type



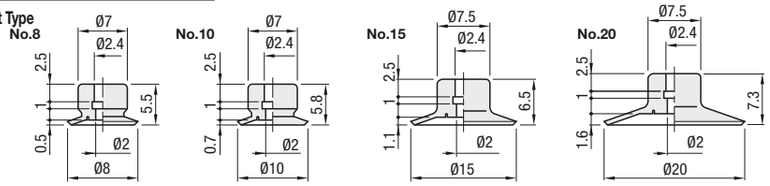
■Suction Cup Units Thin Object Type



RoHS

Type	Material	Hardness	Color
VPTS	Nitrile Rubber	Shore A55	Black
VPTSS	Phlorosilicon	Shore A55	Light Brown

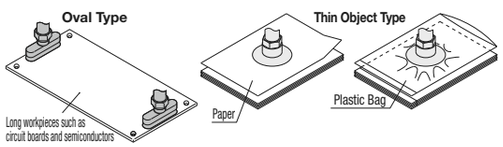
Thin Object Type



Part Number Type	No.	Applicable Vacuum Fitting MVE□	Mounting	VPET Unit Price 1 ~ 9 pc(s).	VPET Volume Discount Rate 10~30	VPES Unit Price 1 ~ 9 pc(s).	VPES Volume Discount Rate 10~30
VPET VPES	4-10	4-10	Embedded				
	4-20	4-20					
	4-30	4-30					
	5-10	5-10					
	5-20	5-20					
	5-30	5-30					
	6-10	6-10					
	6-20	6-20					
	6-30	6-30					

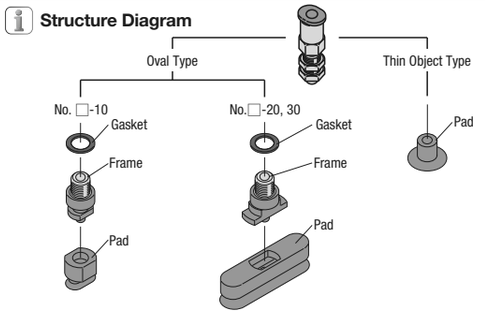
Part Number Type	No.	Applicable Vacuum Fitting MVP□S, MVP□SS	Mounting	VPTS Unit Price 1 ~ 9 pc(s).	VPTS Volume Discount Rate 10~50	VPTSS Unit Price 1 ~ 9 pc(s).	VPTSS Volume Discount Rate 10~50
VPTS VPTSS	8	8	Embedded				
	10	10					
	15	15					
	20	20					

Example
- Oval Type is suitable for workpiece requiring several small pads.
- Thin Object Type is suitable for conveying a thin paper-like object such as vinyl.



Ordering Example: Part Number **VPTS8**

Structure Diagram

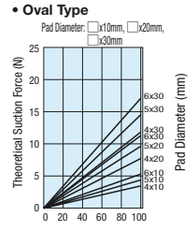


■Specifications

Type	VPET, VPTS	VPES, VPTSS
Max. Operating Temp.	110°	180°
Min. Operating Temp.	-30°	-50°
Weather Resistance	△	○
Ozone Resistance	△	◎
Acid Resistance	△	○
Alkali Resistance	○	◎
Oil Resistance (Gasoline, Light Oil)	◎	△
Oil Resistance (Benzene, Toluene)	△	△
Surface Resistivity	-	-

■Properties

• Oval Type



• Thin Object Type

