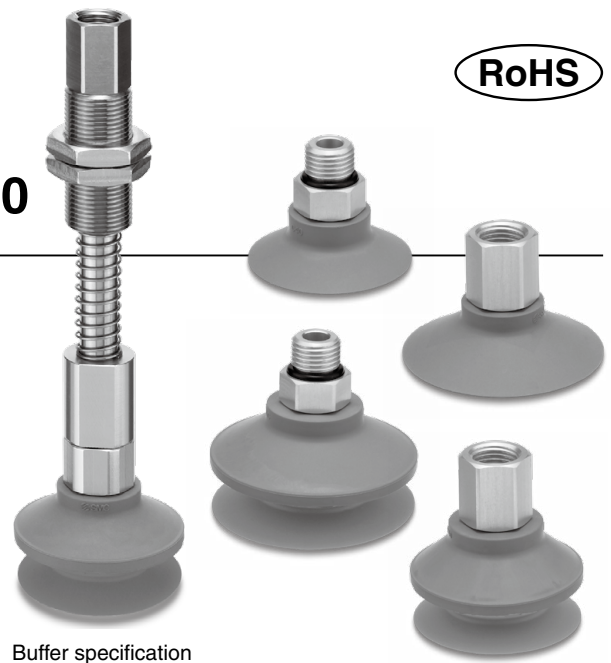


# Vacuum Pad

RoHS

**Flat type with ribs**     $\varnothing 20, \varnothing 25, \varnothing 32, \varnothing 40, \varnothing 50$   
**Bellows type**

**Suitable for the adsorption transfer of corrugated cardboard, etc., requiring abrasion resistance**



Buffer specification

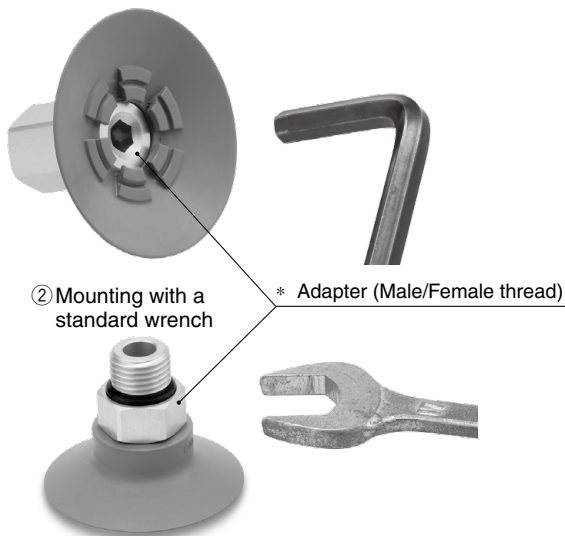
**Material: FS61 (Fluoro-based rubber) improves abrasion resistance**

\* More than twice the abrasion resistance of SMC's urethane pads

**Easier maintenance**

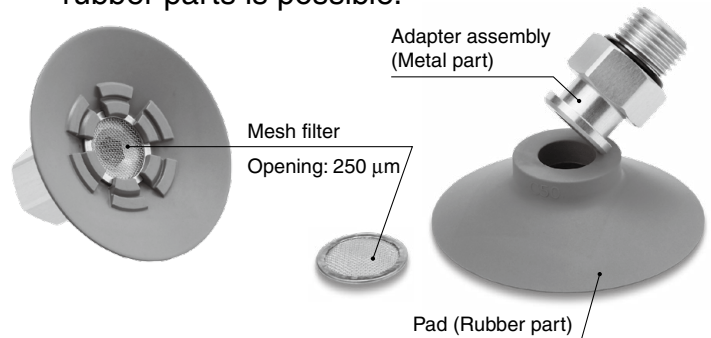
- Compatible with 2 types of mounting tools

① Mounting with a hexagon wrench



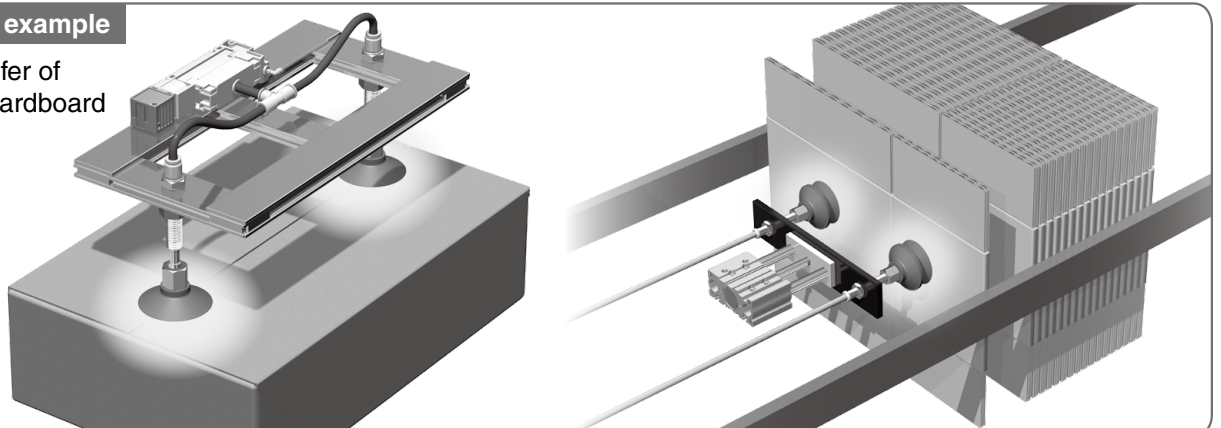
**Reduced suction of foreign matter due to mesh filter**

- Reduced suction of foreign matter into the vacuum pump and ejector
- The pad and mesh filter can be replaced without tools.
- The separation and disposal of the metal and rubber parts is possible.



**Application example**

For the transfer of corrugated cardboard



**ZP3C Series**



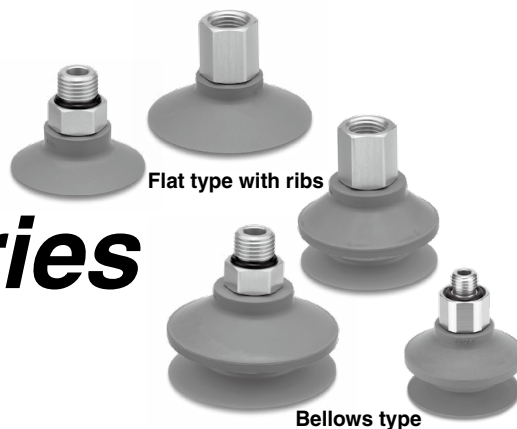
21-E777 ©



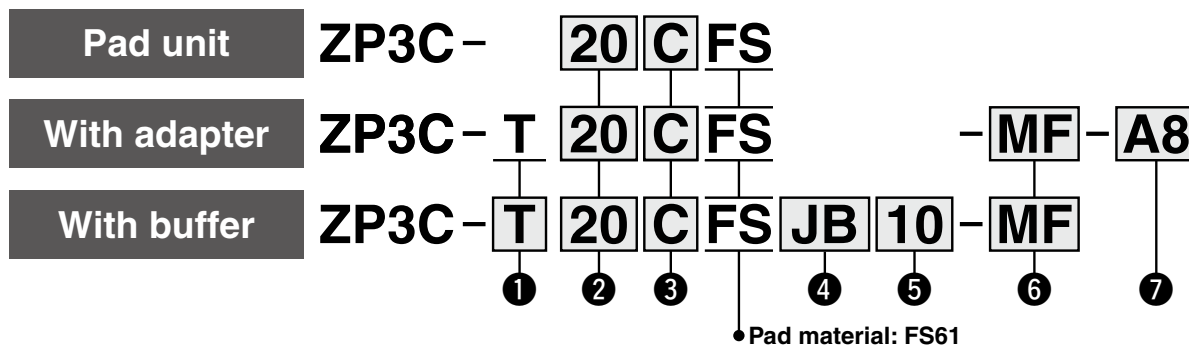
# Vacuum Pad

Flat Type with Ribs Bellows Type

# ZP3C Series



## How to Order



### ① Vacuum inlet direction

<b>Nil</b>	Pad unit
<b>T</b>	Vertical
<b>Y*1</b>	Lateral

\*1 Only selectable for the type with a buffer

### ② Pad diameter

<b>20</b>	ø20
<b>25</b>	ø25
<b>32</b>	ø32
<b>40</b>	ø40
<b>50</b>	ø50

### ③ Pad form

<b>C</b>	Flat type with ribs
<b>B</b>	Bellows type

### ④ Buffer specifications

<b>JB</b>	Rotating, With bushing
-----------	------------------------

### ⑤ Buffer stroke

Stroke [mm]	Pad diameter [mm]	
	ø20 to ø32	ø40, ø50
<b>10</b>	●	●
<b>20</b>	●	—
<b>30</b>	●	●
<b>50</b>	—	●

### ⑥ Mesh filter

<b>Nil</b>	Without mesh filter
<b>MF</b>	With mesh filter

### ⑦ Connection thread

Type	Thread	Symbol	Size	Pad diameter [mm]	
				ø20 to ø32	ø40, ø50
Direct mounting	Male thread	<b>A8</b>	M8 x 1	●	—
		<b>A10</b>	M10 x 1	—	●
		<b>AG01</b>	G1/8	●	—
	Female thread	<b>AG02</b>	G1/4	—	●
		<b>BG01</b>	G1/8	●	—
		<b>BG02</b>	G1/4	—	●

\* Use the connection thread for the vacuum inlet.

## Specifications

### Pad/Mesh filter specifications

<b>Pad</b>	<b>Material</b>	FS61 (Fluoro-based rubber)
	<b>Color</b>	Green
	<b>Hardness (Shore A: ±5°)</b>	65
<b>Mesh filter</b>	Opening: 250 μm	

### Adapter specifications

Connection	Male thread		Female thread	
	ø20 to ø32	ø40, ø50	ø20 to ø32	ø40, ø50
Pad diameter	ø20 to ø32	ø40, ø50	ø20 to ø32	ø40, ø50
Connection thread	M8 x 1 G1/8	M10 x 1 G1/4	G1/8	G1/4
Vacuum inlet	Use the connection thread.			

### Buffer specifications

Pad diameter		ø20 to ø32			ø40, ø50		
Non-rotating specification		Rotating, With bushing					
Stroke		10	20	30	10	30	50
Connection thread		M14 x 1			M18 x 1.5		
Spring reactive force [N]	At 0 stroke	3.0			5.0		
	At full stroke	4.5	5.0	5.2	6.5	8.5	10.5



# ZP3C Series

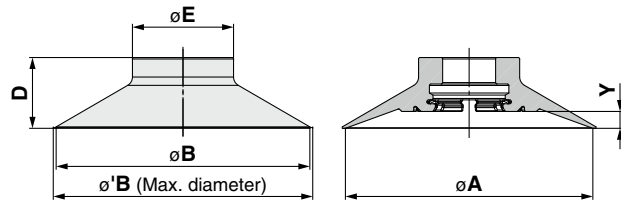
## Dimensions

### Single Unit

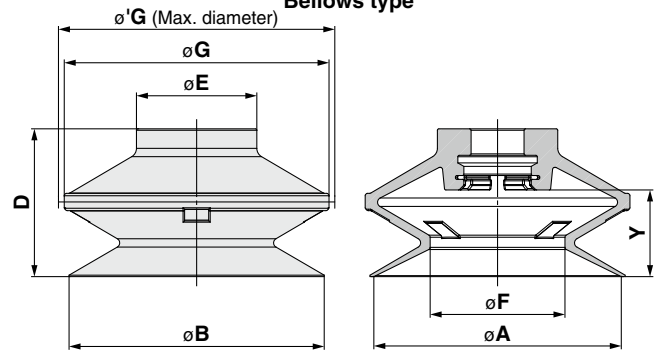
ZP3C - **20** **C** FS

① ②

Flat type with ribs



Bellows type



	Model			A	B	'B*2	D	E	F	G	'G*2	Y	Weight [g]
	① Pad dia.	② Pad form	*1 Pad material										
ZP3C	20	C	FS	21.4	23	23.3	10	15	—	—	—	2	2.2
	25			26.4	28	28.4			—	—	—		2.7
	32			31.4	33	33.5	11		—	—	—	2.5	3.5
	40			41.4	43	44.2			13.7	—	—		—
	50			51.4	52.7	53.9	14.7		21	—	—	—	3.5
	20	B		21.4	23	—	17	15		16	24	26	8
	25			26.4	28	—	20	17	18	29	31	11	5.7
	32			31.4	33	—	21.8		18.5	35	37	12.8	8.4
	40			41.4	43	—	28.7		24	25	45	47.5	16
	50			51.4	53	—	30.7	25	28	55	57.5	18	26.6

\*1 FS: FS61 (Fluoro-based rubber)

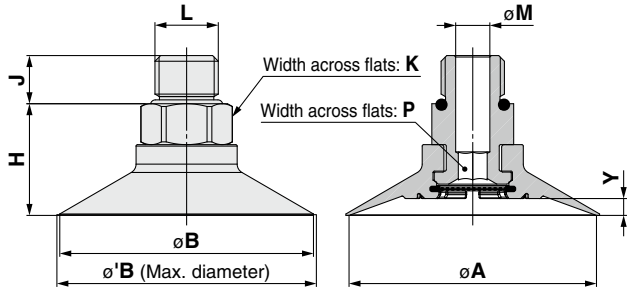
\*2 Achieved vacuum pressure: Reference at -85 [kPa]

**Dimensions**

**With adapter Flat type with ribs/Male thread**

ZP3C - T **20** C FS - **MF** - **A8**

① ② ③



<b>A8</b>	M8 x 1
<b>A10</b>	M10 x 1
<b>AG01</b>	G1/8
<b>AG02</b>	G1/4

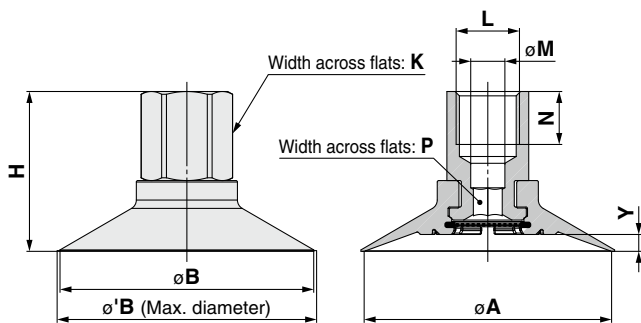
Model							H	J	K	L	M	P	Weight [g]					
Vacuum inlet direction	① Pad dia.	Pad form	Pad material*1	② Mesh filter	③ Connection thread													
ZP3C	T	C	FS	Nil MF	A8	20	6.5	14	M8 x 1	4	4	8						
						25						8.4						
						32						9.2						
						40						16.7						
						50						20.5						
						20						7.3						
					A10	22.2	7.5	17	M10 x 1	6	6	16.7						
						23.2						20.5						
						17						14	G1/8	4	4	7.3		
						AG01										18	7.7	
																AG02	22.2	8.5
																	23.2	18.2
10	17	G1/4	7.1	6	21.9													

\*1 FS: FS61 (Fluoro-based rubber)

**With adapter Flat type with ribs/Female thread**

ZP3C - T **20** C FS - **MF** - **BG01**

① ② ③



<b>BG01</b>	G1/8
<b>BG02</b>	G1/4

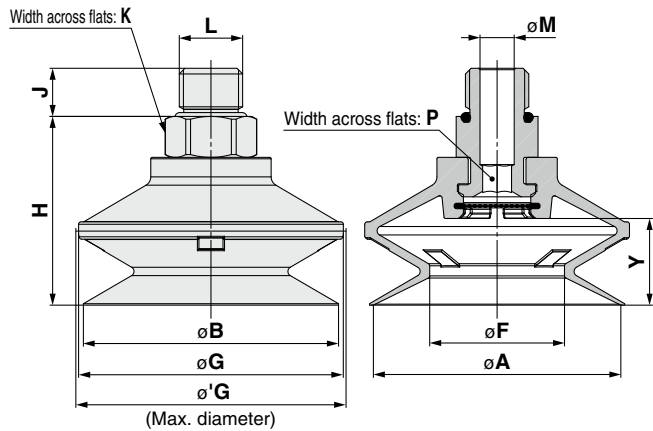
Model							H	K	L	M	N	P	Weight [g]
Vacuum inlet direction	① Pad dia.	Pad form	Pad material*1	② Mesh filter	③ Connection thread								
ZP3C	T	C	FS	Nil MF	BG01	24.5	14	G1/8	4	7.4	4	8.2	
						25						8.6	
						32						9.4	
						40						18.9	
					BG02	32.2	17	G1/4	7.1	11	6	18.9	
						33.2						22.6	

\*1 FS: FS61 (Fluoro-based rubber)

# ZP3C Series

## Dimensions

### With adapter Bellows type/Male thread



ZP3C - T **20** B FS - **MF** - **A8**

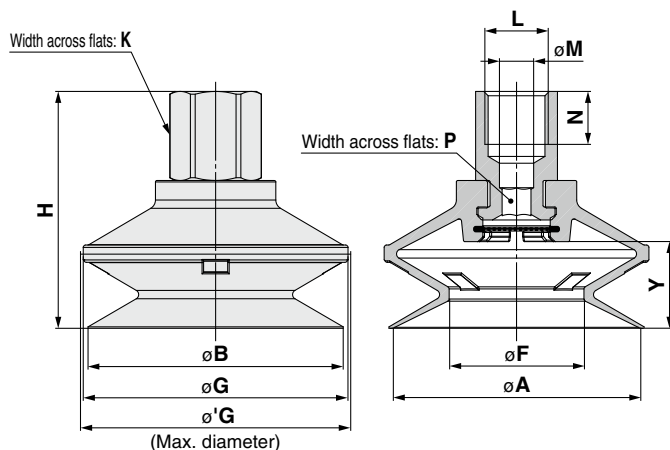
①                      ②                      ③

<b>A8</b>	M8 x 1
<b>A10</b>	M10 x 1
<b>AG01</b>	G1/8
<b>AG02</b>	G1/4

Model							H	J	K	L	M	P	Weight [g]					
Vacuum inlet direction	① Pad dia.	Pad form	Pad material*1	② Mesh filter	③ Connection thread													
ZP3C	T	B	FS	Nil MF	A8	27	6.5	14	M8 x 1	4	4	9.4						
						30						11.4						
						31.8						14.2						
						37.2						26.5						
						39.2							35.4					
						24												
					AG01	7.5	14	G1/8	4	4	8.7							
											27	10.7						
											28.8	13.4						
											AG02	10	17	G1/4	7.1	6	28.0	
																	37.2	36.9
																	39.2	

\*1 FS: FS61 (Fluoro-based rubber)

### With adapter Bellows type/Female thread



ZP3C - T **20** B FS - **MF** - **BG01**

①                      ②                      ③

<b>BG01</b>	G1/8
<b>BG02</b>	G1/4

Model							H	K	L	M	N	P	Weight [g]
Vacuum inlet direction	① Pad dia.	Pad form	Pad material*1	② Mesh filter	③ Connection thread								
ZP3C	T	B	FS	Nil MF	BG01	31.5	14	G1/8	4	7.4	4	9.6	
						34.5						11.6	
						36.3						14.4	
						47.2						28.7	
						49.2							37.6
						24							
					BG02	17	17	G1/4	7.1	11	6		
												47.2	
												49.2	
												49.2	

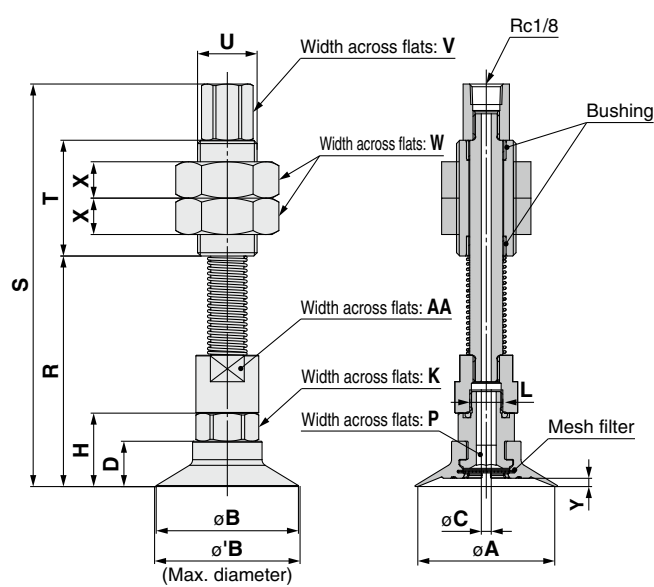
\*1 FS: FS61 (Fluoro-based rubber)



# ZP3C Series

## Dimensions

**With buffer** Flat type with ribs/Vacuum inlet direction: Vertical



ZP3C - T **20** C FS **JB** **10** - **MF**

①

②

③

④

JB	Rotating, With bushing
----	---------------------------

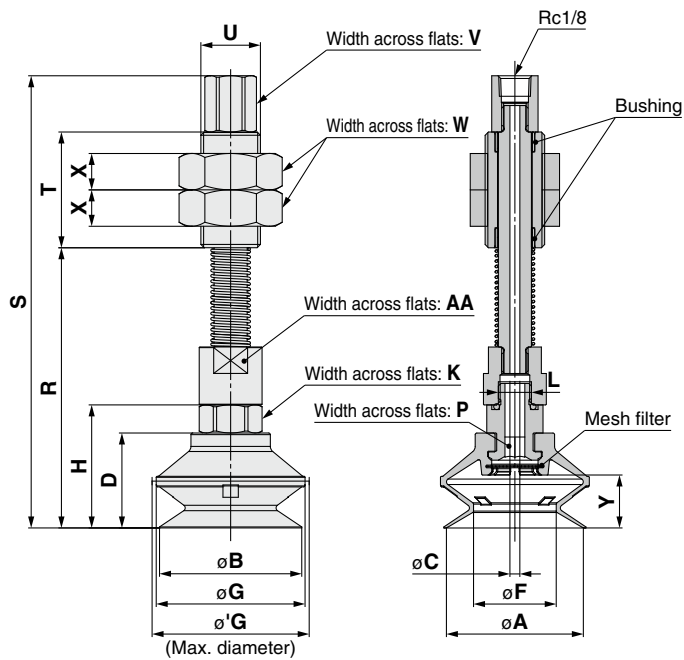
Model							C	H	K	L	P	R	S	T	U	V	W	X	AA	Weight [g]															
Vacuum inlet direction	① Pad dia.	Pad form	Pad material*1	② Buffer spec.	③ Buffer stroke	④ Mesh filter																													
ZP3C	T	20	C	FS	JB	Nil MF	3	20	14	M8 x 1	4	66	111	30	M14 x 1	12	19	4	13	81.4															
												78	123							85.8															
												91	136							90.6															
												66	111							81.9															
		78										123	86.2																						
		91										136	91																						
		67										112	82.7																						
		79										124	87.1																						
	92	137	91.8																																
	50	40	50	50	50	50	3	22.2	17	M10 x 1	6	69.7	121.7	35	M18 x 1.5	14	27	11	16	207.7															
												94.7	146.7							222.2															
												114.7	166.7							233.6															
												70.7	122.7							211.4															
		95.7										147.7	225.9																						
		115.7										167.7	237.4																						
		50										50	50							50	50	50	3	23.2	17	M10 x 1	6	69.7	121.7	35	M18 x 1.5	14	27	11	16
94.7																												146.7	222.2						
114.7	166.7		233.6																																
70.7	122.7		211.4																																
95.7	147.7	225.9																																	
115.7	167.7	237.4																																	

\*1 FS: FS61 (Fluoro-based rubber)



## Dimensions

**With buffer** Bellows type/Vacuum inlet direction: Vertical



ZP3C - T **20** B FS **JB** **10** - **MF**

①

②

③

④

JB	Rotating, With bushing
----	---------------------------

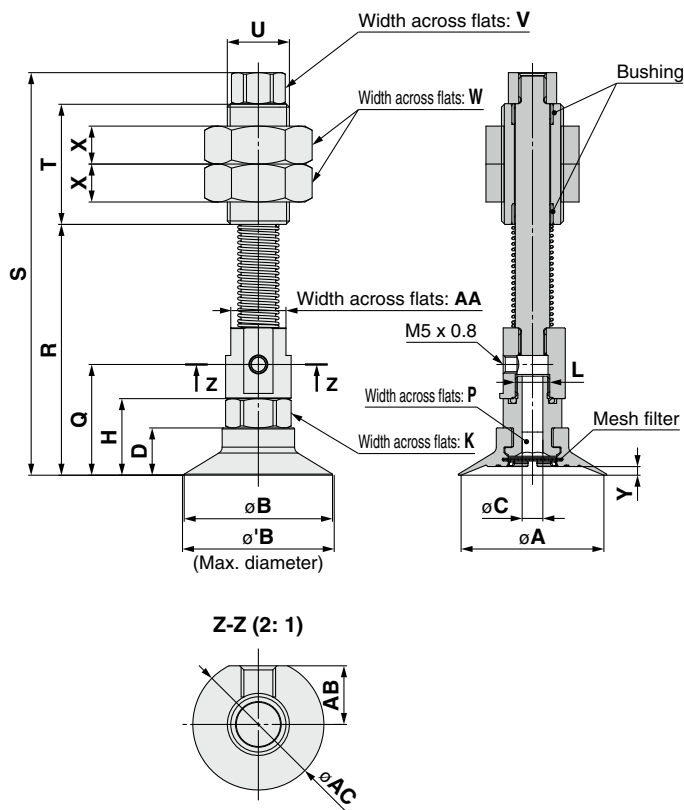
Model							C	H	K	L	P	R	S	T	U	V	W	X	AA	Weight [g]																
Vacuum inlet direction	① Pad dia.	Pad form	Pad material*1	② Buffer spec.	③ Buffer stroke	④ Mesh filter																														
ZP3C	T	20	B	FS	JB	Nil MF	3	27	14	M8 x 1	4	73	118	30	M14 x 1	12	19	4	13	82.8																
												85	130							87.2																
												98	143							92																
												76	121							84.9																
		88										133	89.3																							
		101										146	94																							
		77.8										122.8	87.6																							
		89.8										134.8	92																							
	102.8	147.8	96.7																																	
	40	32	B	FS	JB	Nil MF	3	31.8	17	M10 x 1	6	84.7	136.7	35	M18 x 1.5	14	27	11	16	217.5																
												109.7	161.7							232.0																
												129.7	181.7							243.4																
												86.7	138.7							226.4																
		50										32	B							FS	JB	Nil MF	3	39.2	17	M10 x 1	6	111.7	163.7	35	M18 x 1.5	14	27	11	16	240.9
																												131.7	183.7							252.3
																												111.7	163.7							240.9
131.7																												183.7	252.3							

\*1 FS: FS61 (Fluoro-based rubber)

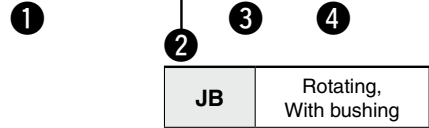


**Dimensions**

**With buffer** Flat type with ribs/Vacuum inlet direction: Lateral



ZP3C - Y **20** C FS **JB** **10** - **MF**



Model							C	H	K	L	P	Q	R	S	T	U	V	W	X	AA	AB	AC	Weight [g]
Vacuum inlet direction	1 Pad dia.	Pad form	Pad material*1	2 Buffer spec.	3 Buffer stroke	4 Mesh filter																	
ZP3C	Y	20	C	FS	JB	Nil MF	4	20	14	M8 x 1	4	29	66	104	30	M14 x 1	12	19	4	14	6.5	15	81.9
													78	116									87
													91	129									92.5
													66	104									82.4
		78											116	87.4									
		91											129	92.9									
		67											105	83.2									
		79											117	88.2									
	92	130	93.7																				
	50	40	C	FS	JB	Nil MF	6	22.2	17	M10 x 1	6	32.1	72.7	116.7	35	M18 x 1.5	14	27	11	16	8.5	19	206.1
													97.7	141.7									222.0
													117.7	161.7									234.5
													73.7	117.7									209.8
		98.7						142.7				225.7											
		118.7						162.7				238.2											

\*1 FS: FS61 (Fluoro-based rubber)

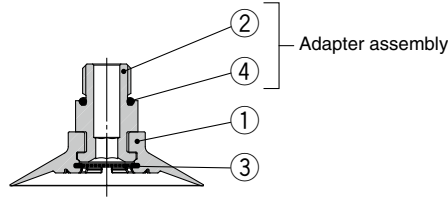




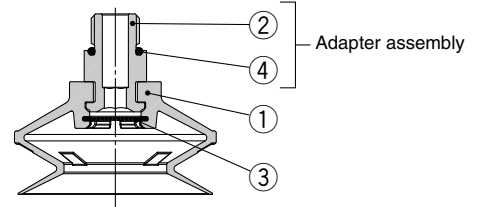
# Vacuum Pad **ZP3C Series** Construction

## With adapter

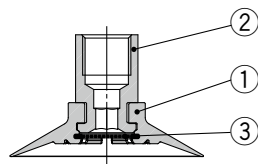
ZP3C-T□CFS-MF-A□



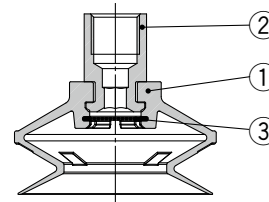
ZP3C-T□BFS-MF-A□



ZP3C-T□CFS-MF-BG□



ZP3C-T□BFS-MF-BG□

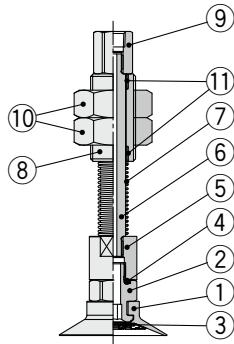


## Component Parts

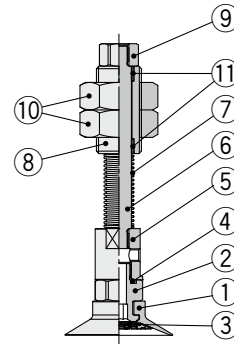
No.	Description	Material	Note
1	Pad	FS61 (Fluoro-based rubber)	Color: Green
2	Adapter	Aluminum alloy (Clear anodized)	
3	Mesh filter	Stainless steel	With mesh filter
4	O-ring	NBR	

## With buffer

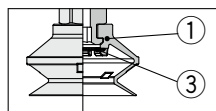
ZP3C-T□CFSJB□-□



ZP3C-Y□CFSJB□-□



ZP3C-Y□BFSJB□-□



## Component Parts

No.	Description	Material	Note
1	Pad	FS61 (Fluoro-based rubber)	Color: Green
2	Adapter	Aluminum alloy (Clear anodized)	
3	Mesh filter	Stainless steel	With mesh filter
4	O-ring	NBR	
5	Adapter	Aluminum alloy (Clear anodized)	
6	Piston rod	Structural steel (Hard chrome plating)	
7	Return spring	Stainless steel	
8	Buffer body	Brass (Electroless nickel plating)	
9	Buffer adapter	Brass (Electroless nickel plating)	
10	Nut	Steel (Zinc chromated)	
11	Bushing	—	

## Replacement Parts Mesh Filter Unit

Part number	Applicable pad dia.
ZPMF-60-D11	ø20 to ø32
ZPMF-60-D18	ø40, ø50

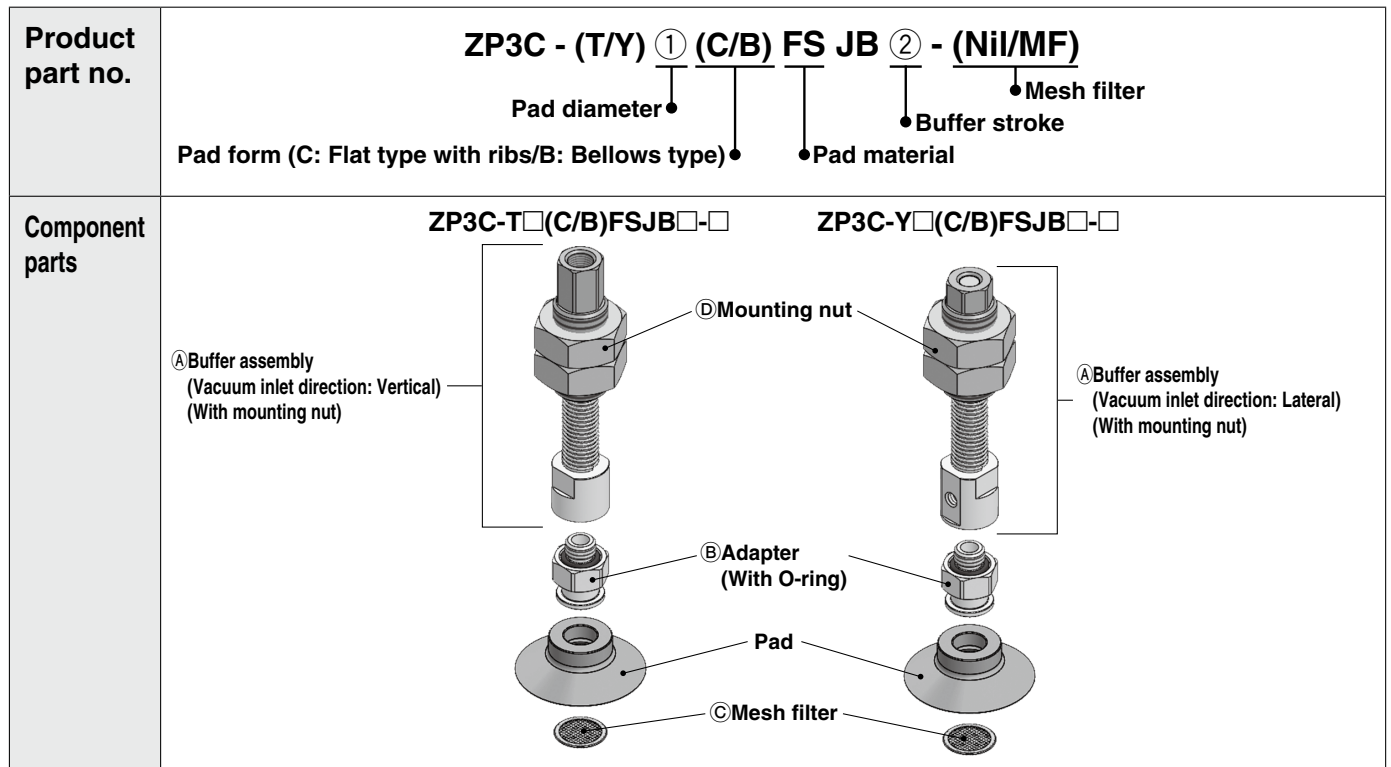
# Vacuum Pad *ZP3C Series* Mounting Bracket Assembly

## Adapter Assembly: Vacuum Inlet Direction **Vertical** T Type/ZP3C-T

Product part no.	<p style="text-align: center;"><b>ZP3C - T</b> ① (C/B) FS □ - ②</p> <p style="text-align: center;">             Pad diameter •      • Connection thread (Male/Female thread)              Pad form (C: Flat type with ribs/B: Bellows type) •      • Mesh filter              • Pad material         </p>	
Component Parts	<p>ZP3C-T□(C/B)FS-□-A□</p> <p>① Adapter (With O-ring) Pad ② Mesh filter</p>	<p>ZP3C-T□(C/B)FS-□-BG□</p> <p>① Adapter Pad ② Mesh filter</p>

			Symbol	① Pad diameter symbol				
				20	25	32	40	50
① Adapter (Single unit)	② Connection thread	Male thread	M8 x 1	A8	ZP3CA-T3-A8			—
			M10 x 1	A10	—	ZP3CA-T4-A10		
		G1/8	AG01	ZP3CA-T3-AG01			—	
		G1/4	AG02	—	ZP3CA-T4-AG02			
	Female thread	G1/8	BG01	ZP3CA-T3-BG01			—	
		G1/4	BG02	—	ZP3CA-T4-BG02			
② Mesh filter (Single unit)				ZPMF-60-D11			ZPMF-60-D18	

■ Buffer Assembly: Vacuum Inlet Direction **Vertical** T Type/ZP3C-T, **Lateral** Y Type/ZP3C-Y



		Symbol	① Pad diameter symbol				
			20	25	32	40	50
② Buffer stroke	Stroke	10		●			●
		20		●			—
		30		●			●
		50		—			●
Ⓐ Buffer assembly (With mounting nut)			ZP3EB-(T/Y)JB ②			ZP3EB-(T/Y)1JB ②	
Ⓑ Adapter (Single unit)			ZP3CA-T3-A8			ZP3CA-T4-A10	
Ⓒ Mesh filter (Single unit)			ZPMF-60-D11			ZPMF-60-D18	
Ⓓ Mounting nut (Single unit)	M14 x 1		ZPNA-M14			—	
	M18 x 1.5		—			NT-05	

[Buffer assembly part number example]

Product part no. ZP3C - T 40CFS JB 10

Buffer assembly ZP3EB - T 1 JB 10

② Buffer stroke





# ZP3C Series Specific Product Precautions

Be sure to read this before handling the products.

## Mounting

### 1. When mounting the product, tighten with the tightening torque shown in the table below.

If excessive or insufficient tightening torque is applied, sealing failure or loose screws may result.

When using a product equipped with a buffer, if the buffer is tightened to a torque beyond the appropriate tightening torque range, the buffer may malfunction.

#### With Adapter (Male thread type)

Model	Connection thread size	Proper tightening torque [N·m]
ZP3C-T□(C/B)FS-□-A8	M8 x 1	4.5 to 5.5
ZP3C-T□(C/B)FS-□-A10	M10 x 1	8 to 10
ZP3C-T□(C/B)FS-□-AG01	G1/8	3 to 5
ZP3C-T□(C/B)FS-□-AG02	G1/4	8 to 12

#### With Adapter (Female thread type)

Model	Connection thread size	Proper tightening torque [N·m]
ZP3C-T□(C/B)FS-□-BG01	G1/8	3 to 5
ZP3C-T□(C/B)FS-□-BG02	G1/4	8 to 12

#### With Buffer

Model	Connection thread size	Proper tightening torque [N·m]
ZP3C-(T/Y)(20 to 32)(C/B)FSJB□-□	M14 x 1	6.5 to 7.5
ZP3C-(T/Y)(40/50)(C/B)FSJB□-□	M18 x 1.5	28 to 32

## Handling

### 1. When adsorbing workpieces, such as cardboard, that have a tendency to allow vacuum pressure leakage, consider the drop in vacuum pressure due to leakage when selecting.

Before using this product, sufficiently verify the mesh filter in your operating environment.


### 2. Periodically inspect the mesh filter.

An adsorbing malfunction may be caused by the clogging of the mesh filter.

### 3. When the vacuum pad is pressed, make sure it stays within the stroke range.

If this product is used with a stroke exceeding the maximum stroke, the pad may be broken or may reach the end of its service life earlier.

### 4. Vacuum pads are consumable. Please replace them when cracks or deformation is confirmed during periodic maintenance.

 **Safety Instructions** Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

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