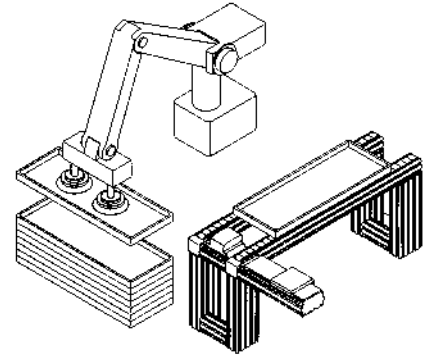


Vacuum Pads for Heavy Duty Material Handling

Series ZPT/ZPX

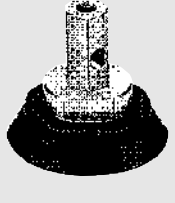
Ideal for heavy weight material or objects with a large surface area
Examples: CRT, Car body



Pad diameters ø40, ø50, ø63, ø80, ø100, ø125

Pad materials NBR, Silicon rubber, Urethane rubber, Fluorine rubber, EPR

Variations

Style	Without buffer		With buffer		Page
	Mounting	Vacuum entry	Mounting	Vacuum entry	
 Series ZPT Vertical vacuum entry	Male thread Female thread	Female thread Common (Use vacuum entry)		Buffer mounting (Male thread) Female thread	3.9-74 to 3.9-78
 Series ZPX Lateral vacuum entry	Female thread	Female thread		Buffer mounting (Male thread) Female thread	3.9-79 to 3.9-82

Series ZPT ZPX	Pad dia.						
	Buffer stroke	ø40	ø50	ø63	ø80	ø100	ø125
	25	○	○	○	○	○	○
	50	○	○	○	○	○	○
	75	○	○	○	○	○	○
	100	—	—	—	—	○	○

Pad material and Characteristics

◎ : Little or no influence ○ : Can be used depending on conditions X: Not suitable

Material	Item	Durometer HS (±5°)	Temperature range (°C)	Oil resistance (Gasoline)	Oil resistance (Benzol)	Alkali resistance	Acid resistance	Weatherability	Ozone resistance	Abrasion resistance	Water resistance	Solvents (benzene, toluene)
NBR		50°	0 to 120	◎	X	○	○	X	X	◎	○	X
Silicon rubber		50°	-30 to 200	X	X	○	X	◎	◎	X	○	X
Urethane rubber		60°	0 to 60	◎	X	X	X	○	◎	◎	X	X
Fluorine rubber		60°	0 to 250	◎	◎	X	◎	◎	◎	○	◎	◎
EPR		50°	-20 to 150	X	X	◎	○	◎	◎	○	◎	X

The above table covers only general characteristics of subject rubber materials.

Pad materials used by SMC pass nominal JIS material standards; however, actual performance depends on operating conditions.

Series ZPT/ZPX

Selecting The Vacuum Pad

A vacuum pad diameter (ϕD) can be determined by calculation if the lifting force needed to perform the work function is known. The weight of the workpiece and any potential dynamic forces involved during movement (lifting, stopping, rotating, etc.) need to be considered. The area of one pad can be divided to an equivalent area of multiple pads (n) as necessary, based on these forces and the shape of the load.

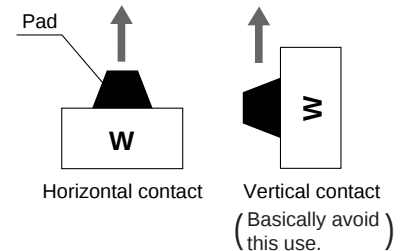
Calculation Method: Pad Diameter

A vacuum pad diameter with applied safety factor based on lifting orientation of workpiece (vertical or horizontal) can be derived from calculations or by using the Selection Graph shown below.

Calculations

$$\phi D = \sqrt{\frac{4}{3.14} \times \frac{1}{P} \times \frac{W}{n} \times t \times 1000}$$

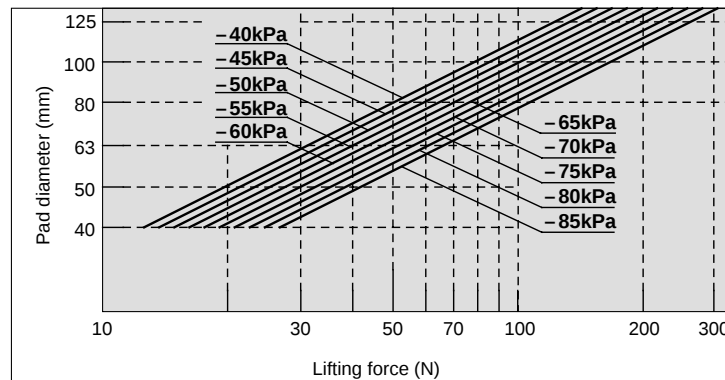
ϕD : Pad diameter (mm)
 n : Number of pads used
 W : Lifting force (N)
 P : Stable vacuum pressure (kPa)
 t : Factor of safety:
 Horizontal pad contact: ≥ 4 (dynamic)
 Vertical pad contact: ≥ 8 (dynamic)



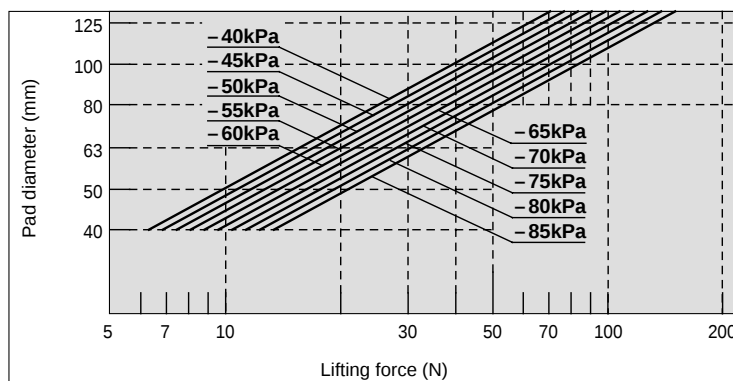
Graphical Method

The pad diameter required for horizontal (selection graphs ① and ②) or vertical contact can be found by setting the weight of the work the number of pads to contact the workpiece and the stable adsorption vacuum pressure.

Selection Graph① Selection graph of pad diameter by lift force horizontal (Reference value)



Selection Graph② Selection graph of pad diameter by lift force vertical (Reference value)



How to Read the Graph

Example: Work load 20kg (Lifting force: 196N)
 Conditions: Desired number of pads 5 pcs.
 Working vacuum pressure -60kPa
 Horizontal lifting

Selection procedure

From left condition
 Lifting force per pad: $196\text{N} \div 5 \text{ pcs.} = 39.2\text{N}$
 From Selection Graph ① as horizontal lifting
 Lifting force 39.2N
 Extend to the y-axis from the corresponding point of vacuum pressure -60kPa; result is to select a pad diameter bigger than 63mm.

Series ZPT/ZPX

Application Data

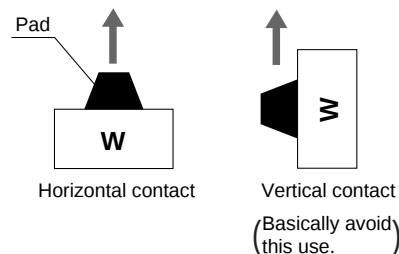
Theoretical Lifting Force

Theoretical lifting force for pad can be derived from calculations or taken directly from theoretical lifting force table.

Calculations

$$W = P \times S \times 0.1 \times \frac{1}{t}$$

W: Lifting force (N)
P: Stable vacuum pressure (kPa)
S: Pad area (cm²)
t: Factor of safety:
Horizontal pad contact: ≥ 4 (dynamic)
Vertical pad contact: ≥ 8 (dynamic)



Theoretical Lifting Force Table

Determine theoretical lifting force (excluding safety factor) from pad diameter size and working vacuum pressure. Divide the result by the appropriate safety factor to determine applicable lifting force.

Lifting force = Theoretical lifting force ÷ t

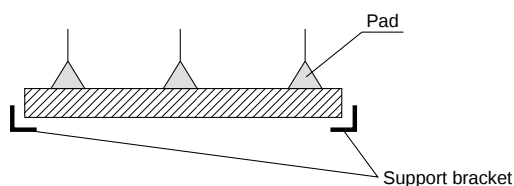
Table of Theoretical Lifting Force (Theoretical lifting force = P X S X 0.1)

Pad diameter (mm)	ø40	ø50	ø63	ø80	ø100	ø125
Adsorption area cm ²	12.6	19.6	31.2	50.3	78.5	122.7
Vacuum pressure kPa	-85	107	167	264.9	427	667.3
	-80	101	157	249.3	401.9	628
	-75	94.5	147	233.7	376.8	588.8
	-70	88.2	137	218.1	351.7	549.5
	-65	81.9	127	202.5	326.6	510.3
	-60	75.6	118	187	301.4	471
	-55	69.3	108	171.4	276.3	431.8
	-50	63.0	98.0	155.8	251.2	392.5
	-45	56.7	88.2	140.2	226.1	353.3
	-40	50.4	78.4	124.6	201	314



Precautions for Use

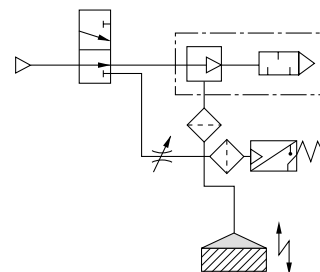
① The quantity and placement of pads should be considered when transferred work has a large surface area.



Install support brackets to prevent work from dropping according to your requirements.

② Vacuum response time and vacuum breaking time are influenced by internal volume of large bellows size pad, which has more volume than the large flat ribbed type pad. When response time is important, consider the following measures:

- Use a larger capacity ejector.
- Set a vacuum breaking valve.



ZX

ZR

ZM

ZY

ZH

ZU

ZL

ZF

ZP

ZCU

CYV

Vacuum related

Series ZPT

Vertical Vacuum Entry without Buffer



Standard Specifications

Connection	Vacuum entry direction		Vertical	
	Mounting		Male thread	Female thread
	Thread diameter	ø40, ø50	M14 X 1	M8/M10
		ø63, ø80	M16 X 1.5	M8/M10/M12/M16 X 1.5
		ø100, ø125	M16 X 1.5	M12/M16 X 1.5
Vacuum entry port		Rc(PT) 1/8	Use the mounting port	

Pad Style

Pad diameter (mm)	ø40, ø50, ø63, ø80, ø100, ø125
Material (colour)	NBR (Black), Silicon rubber (White), Urethane rubber (Brown), Fluorine rubber (Black with mark F), EPR (Black with mark E)
Durometer	NBR/Silicon rubber/EPR (50°), Urethane rubber/Fluorine rubber (60°)

Weight Table (Other materials) (g)

Pad diameter	Silicon rubber	Urethane rubber	Fluorine rubber	EPR
ø40	-1	0	5	-1
ø50	-1	0	8	0
ø63	-2	0	16	0
ø80	-3	1	27	-1
ø100	-5	1	53	-1
ø125	-8	3	84	0

Add NBR weight to the table above for other materials.

Weight Table (NBR)

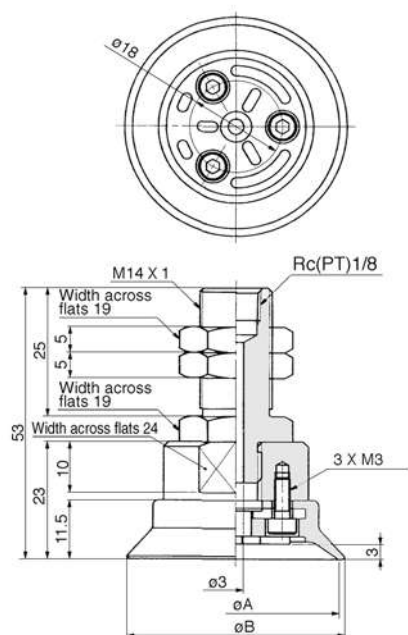
Model	Weight (g)	Model	Weight (g)
ZPT40HN-A14	71	ZPT80HN-A16	178
ZPT40HN-B8	38	ZPT80HN-B8	144
ZPT40HN-B10	37	ZPT80HN-B10	143
ZPT50HN-A14	83	ZPT80HN-B12	141
ZPT50HN-B8	50	ZPT80HN-B16	139
ZPT50HN-B10	49	ZPT100HN-A16	350
ZPT63HN-A16	149	ZPT100HN-B12	301
ZPT63HN-B8	115	ZPT100HN-B16	299
ZPT63HN-B10	114	ZPT125HN-A16	414
ZPT63HN-B12	112	ZPT125HN-B12	365
ZPT63HN-B16	110	ZPT125HN-B16	363

How to Order

ZPT 40 H N — A14			
Pad diameter (mm)		Vacuum entry/Mounting thread diameter	
40	ø40	A14	M14 X 1
50	ø50	A16	M16 X 1.5
63	ø63	B8	M8
80	ø80	B10	M10
100	ø100	B12	M12
125	ø125	B16	M16 X 1.5
Pad style		Material	
H	Heavy duty pad	N	NBR
		S	Silicon rubber
		U	Urethane rubber
		F	Fluorine rubber
		E	EPR

Vertical Vacuum Entry without Buffer Series **ZPT**

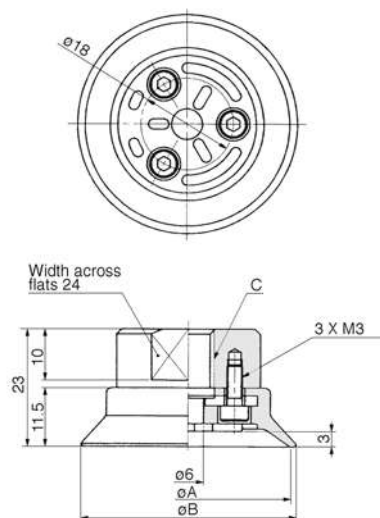
ZPT⁴⁰₅₀H□-A14 (Male thread)



Unit: mm

Model	øA	øB
ZPT40H□-A14	40	42
ZPT50H□-A14	50	52

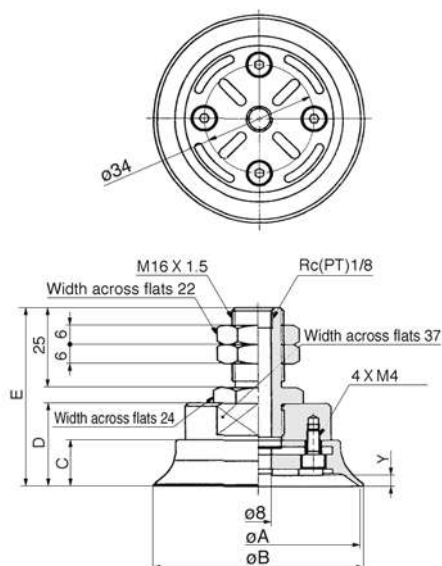
ZPT⁴⁰₅₀H□-B□ (Female thread)



Unit: mm

Model	øA	øB	C
ZPT40H□-B8	40	42	M8
ZPT40H□-B10	40	42	M10
ZPT50H□-B8	50	52	M8
ZPT50H□-B10	50	52	M10

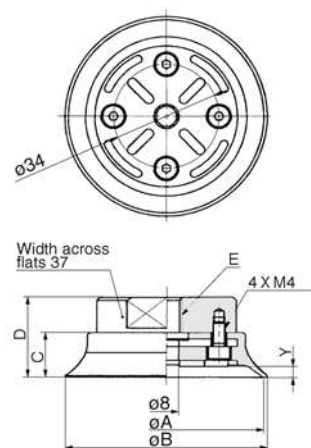
ZPT⁶³₈₀H□-A16 (Male thread)



Unit: mm

Model	øA	øB	C	D	E	Y
ZPT63H□-A16	63	65	14.5	26	56	3.5
ZPT80H□-A16	80	82	16.5	28	58	4.5

ZPT⁶³₈₀H□-B□ (Female thread)



Unit: mm

Model	øA	øB	C	D	E	Y
ZPT63H□-B8	63	65	14.5	26	M8	3.5
ZPT63H□-B10	63	65	14.5	26	M10	3.5
ZPT63H□-B12	63	65	14.5	26	M12	3.5
ZPT63H□-B16	63	65	14.5	26	M16 X 1.5	3.5
ZPT80H□-B8	80	82	16.5	28	M8	4.5
ZPT80H□-B10	80	82	16.5	28	M10	4.5
ZPT80H□-B12	80	82	16.5	28	M12	4.5
ZPT80H□-B16	80	82	16.5	28	M16 X 1.5	4.5

ZX

ZR

ZM

ZY

ZH

ZU

ZL

ZF

ZP

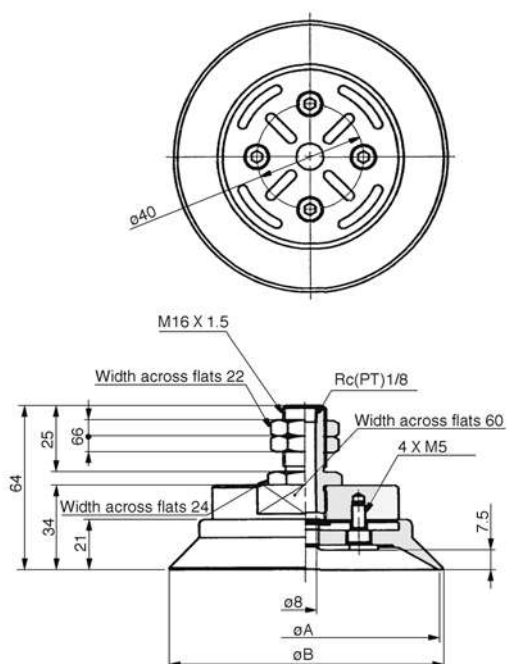
ZCU

CYV

Vacuum
related

Series ZPT

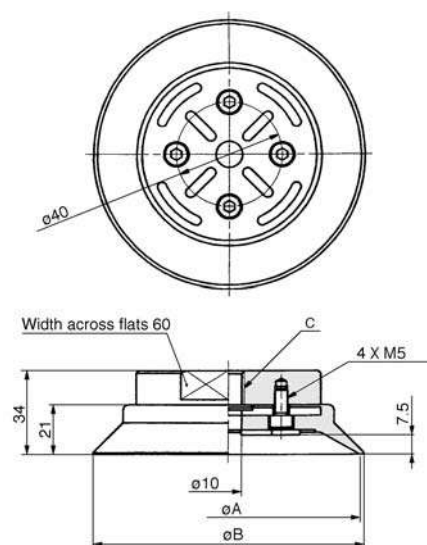
ZPT¹⁰⁰₁₂₅H□-A16 (Male thread)



Unit: mm

Model	øA	øB
ZPT100H□-A16	100	103
ZPT125H□-A16	125	128

ZPT¹⁰⁰₁₂₅H□-B□ (Female thread)



Unit: mm

Model	øA	øB	C
ZPT100H□-B12	100	103	M12
ZPT100H□-B16	100	103	M16 X 1.5
ZPT125H□-B12	125	128	M12
ZPT125H□-B16	125	128	M16 X 1.5

Series ZPT

Vertical Vacuum Entry with Buffer



Standard Specifications

Connection	Vacuum entry direction		Vertical
	Mounting		Male thread
	Thread diameter	ø40, ø50	M18 X 1.5
		ø63, ø80	M18 X 1.5
ø100, ø125		M22 X 1.5	
Vacuum entry port			Rc (PT) ^{1/8}

Buffer style		Rotating (J)
Buffer stroke	ø40 to ø80	25, 50, 75 (mm)
	ø100, ø125	25, 50, 75, 100 (mm)

Pad Style

Pad diameter (mm)	ø40, ø50, ø63, ø80, ø100, ø125
Material (colour)	NBR (Black), Silicon rubber (White), Urethane rubber (Brown), Fluorine rubber (Black with mark F), EPR (Black with mark E)
Durometer	NBR/Silicon rubber/EPR (50°), Urethane rubber/Fluorine rubber (60°)

Weight Table (Other materials) (g)

Pad diameter	Silicon rubber	Urethane rubber	Fluorine rubber	EPR
ø40	-1	0	5	-1
ø50	-1	0	8	0
ø63	-2	0	16	0
ø80	-3	1	27	-1
ø100	-5	1	53	-1
ø125	-8	3	84	0

Add NBR weight to the table above for other materials.

Weight Table (NBR)

Model	Weight (g)	Model	Weight (g)
ZPT40HNJ25-B01-A18	125	ZPT80HNJ50-B01-A18	251
ZPT40HNJ50-B01-A18	145	ZPT80HNJ75-B01-A18	272
ZPT40HNJ75-B01-A18	166	ZPT100HNJ25-B01-A22	489
ZPT50HNJ25-B01-A18	137	ZPT100HNJ50-B01-A22	529
ZPT50HNJ50-B01-A18	157	ZPT100HNJ75-B01-A22	574
ZPT50HNJ75-B01-A18	195	ZPT100HNJ100-B01-A22	613
ZPT63HNJ25-B01-A18	202	ZPT125HNJ25-B01-A22	553
ZPT63HNJ50-B01-A18	222	ZPT125HNJ50-B01-A22	593
ZPT63HNJ75-B01-A18	243	ZPT125HNJ75-B01-A22	638
ZPT80HNJ25-B01-A18	214	ZPT125HNJ100-B01-A22	677

How to Order

ZPT 40 H N J 25 — B01 — A18

Pad diameter	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
125	ø125

Mounting thread diameter	
A18	M18 X 1.5 (ø40 to ø80)
A22	M22 X 1.5 (ø100, ø125)

Vacuum entry	
B01	Rc(PT) ^{1/8}

Pad style	
H	Heavy duty pad

Material	
N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluorine rubber
E	EPR

Buffer stroke (Without detent)

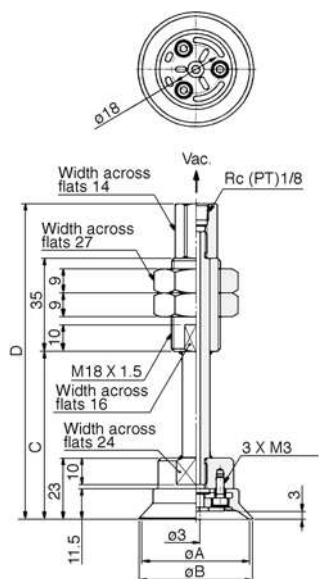
Stroke	ø40	ø50	ø63	ø80	ø100	ø125
25	●	●	●	●	●	●
50	●	●	●	●	●	●
75	●	●	●	●	●	●
100	—	—	—	—	●	●

Spring reactive force

Pad diameter	ø40 to ø80	ø100, ø125
0 stroke	6.9N	10N
Stroke end	11.8N	15N

Series ZPT

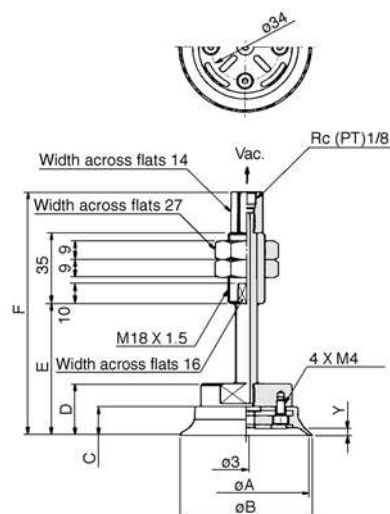
ZPT₄₀⁴⁰₅₀H□J□-B01-A18 (with buffer)



Unit: mm

Model	øA	øB	C	D
ZPT40H□J25-B01-A18	40	42	63	118.5
ZPT40H□J50-B01-A18	40	42	98	153.5
ZPT40H□J75-B01-A18	40	42	134	189.5
ZPT50H□J25-B01-A18	50	52	63	118.5
ZPT50H□J50-B01-A18	50	52	98	153.5
ZPT50H□J75-B01-A18	50	52	134	189.5

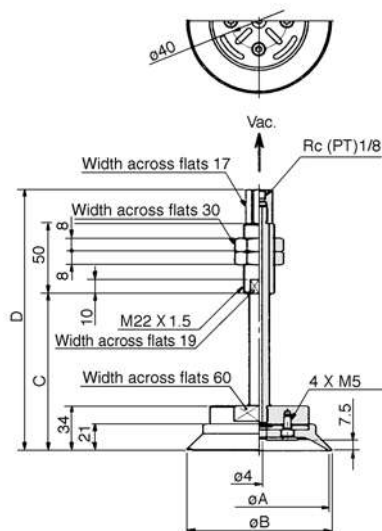
ZPT₆₃⁶³₈₀H□J□-B01-A18 (with buffer)



Unit: mm

Model	øA	øB	C	D	E	F	Y
ZPT63H□J25-B01-A18	63	65	14.5	26	66	121.5	3.5
ZPT63H□J50-B01-A18	63	65	14.5	26	101	156.5	3.5
ZPT63H□J75-B01-A18	63	65	14.5	26	137	192.5	3.5
ZPT80H□J25-B01-A18	80	83	16.5	28	68	123.5	4.5
ZPT80H□J50-B01-A18	80	83	16.5	28	103	158.5	4.5
ZPT80H□J75-B01-A18	80	83	16.5	28	139	194.5	4.5

ZPT₁₀₀¹⁰⁰₁₂₅H□J□-B01-A22 (with buffer)



Unit: mm

Model	øA	øB	C	D
ZPT100H□J25-B01-A22	100	103	78	152
ZPT100H□J50-B01-A22	100	103	114	188
ZPT100H□J75-B01-A22	100	103	154	228
ZPT100H□J100-B01-A22	100	103	189	263
ZPT125H□J25-B01-A22	125	128	78	152
ZPT125H□J50-B01-A22	125	128	114	188
ZPT125H□J75-B01-A22	125	128	154	228
ZPT125H□J100-B01-A22	125	128	189	263

Series ZPX

Lateral Vacuum Entry without Buffer



Standard Specifications

Mounting	Vacuum entry direction	Lateral
	Connection	Female thread
	Thread diameter	ø40, ø50
		ø63, ø80
		ø100, ø125
	Vacuum entry port	Rc(PT) 1/8

Pad Style

Pad diameter (mm)	ø40, ø50, ø63, ø80, ø100, ø125
Material (colour)	NBR (Black), Silicon rubber (White), Urethane rubber (Brown), Fluorine rubber (Black with mark F), EPR (Black with mark E)
Durometer	NBR/Silicon rubber/EPR (50°), Urethane rubber/Fluorine rubber (60°)

Weight Table (Other materials) (g)

Pad diameter	Silicon rubber	Urethane rubber	Fluorine rubber	EPR
ø40	-1	0	5	-1
ø50	-1	0	8	0
ø63	-2	0	16	0
ø80	-3	1	27	-1
ø100	-5	1	53	-1
ø125	-8	3	84	0

Add NBR weight to the table above for other materials.

Weight Table (NBR)

Model	Weight (g)	Model	Weight (g)
ZPX40H□-B01-B8	148	ZPX100H□-B01-B10	418
ZPX40H□-B01-B10	150	ZPX100H□-B01-B12	414
ZPX50H□-B01-B8	160	ZPX125H□-B01-B10	482
ZPX50H□-B01-B10	158	ZPX125H□-B01-B12	478
ZPX63H□-B01-B10	229		
ZPX63H□-B01-B12	219		
ZPX80H□-B01-B10	258		
ZPX80H□-B01-B12	254		

How to Order

ZPX 40 H N — B01 — B8

Pad diameter	
40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
125	ø125

Mounting thread diameter		ø40/ø50	ø63/ø80	ø100/ø125
B8	M8	●	—	—
B10	M10	●	●	●
B12	M12	—	●	●

Vacuum entry	
B01	Re(PT) 1/8

Pad style	
H	Heavy duty pad

Material	
N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluorine rubber
E	EPR

ZX

ZR

ZM

ZY

ZH

ZU

ZL

ZF

ZP

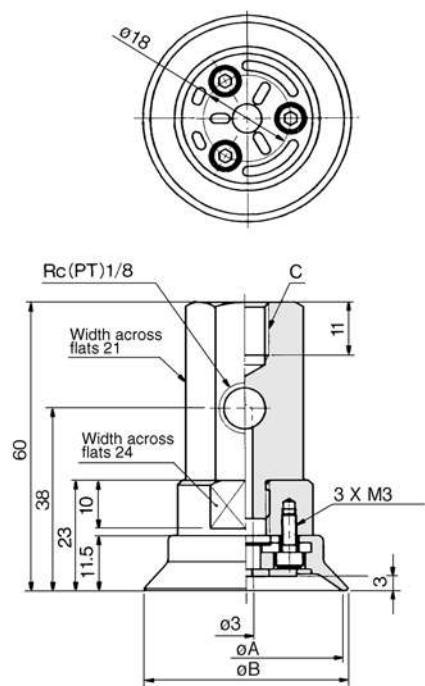
ZCU

CYV

Vacuum related

Series ZPX

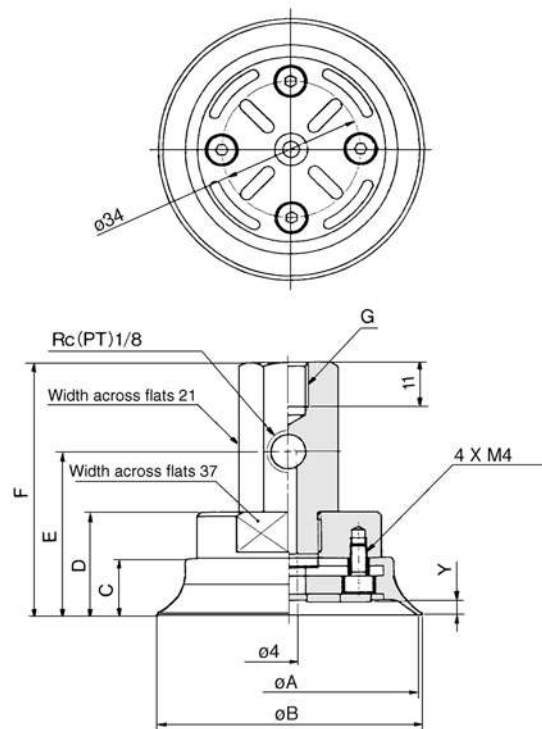
ZPX⁴⁰₅₀H□-B01-B□ (Female thread)



Unit: mm

Model	ϕA	ϕB	C
ZPX40H□-B01-B8	40	42	M8
ZPX40H□-B01-B10	40	42	M10
ZPX50H□-B01-B8	50	52	M8
ZPX50H□-B01-B10	50	52	M10

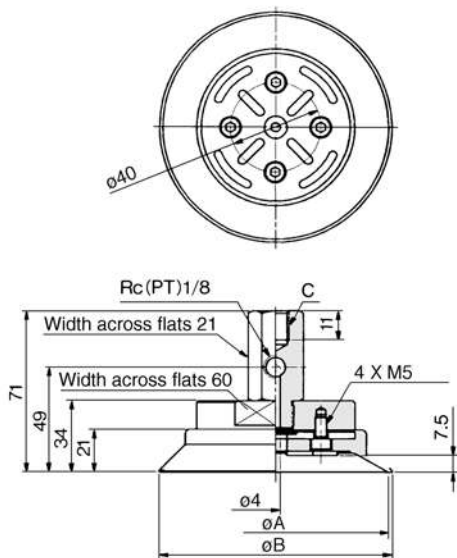
ZPX⁶³₈₀H□-B01-B□ (Female thread)



Unit: mm

Model	ϕA	ϕB	C	D	E	F	Y	G
ZPX63H□-B01-B10	63	65	14.5	26	41	63	3.5	M10
ZPX63H□-B01-B12	63	65	14.5	26	41	63	3.5	M12
ZPX80H□-B01-B10	80	82	16.5	28	43	65	4.5	M10
ZPX80H□-B01-B12	80	82	16.5	28	43	65	4.5	M125

ZPX¹⁰⁰₁₂₅H□-B01-B□ (Female thread)



Unit: mm

Model	ϕA	ϕB	C
ZPX100H□-B01-B10	100	103	M10
ZPX100H□-B01-B12	100	103	M12
ZPX125H□-B01-B10	125	128	M10
ZPX125H□-B01-B12	125	128	M12

Series ZPX

Lateral Vacuum Entry with Buffer



Standard Specifications

Mounting	Vacuum entry direction	
	Lateral	
	Connection	
	Male thread	
Thread diameter	ø40, ø50	M18 X 1.5
	ø63, ø80	M18 X 1.5
	ø100, ø125	M22 X 1.5
Vacuum entry port		Rc(PT) 1/8

Buffer style		Rotating (J)
Buffer stroke	ø40 to ø80	25, 50, 75 (mm)
	ø100, ø125	25, 50, 75, 100 (mm)

Pad Style

Pad diameter (mm)	ø40, ø50, ø63, ø80, ø100, ø125
Material (colour)	NBR (Black), Silicon rubber (White), Urethane rubber (Brown), Fluorine rubber (Black with mark F), EPR (Black with mark E)
Durometer	NBR/Silicon rubber/EPR (50°), Urethane rubber/Fluorine rubber (60°)

Weight Table (Other materials) (g)

Pad diameter	Silicon rubber	Urethane rubber	Fluorine rubber	EPR
ø40	-1	0	5	-1
ø50	-1	0	8	0
ø63	-2	0	16	0
ø80	-3	1	27	-1
ø100	-5	1	53	-1
ø125	-8	3	84	0

Add NBR weight to the table above for other materials.

Weight Table (NBR)

Model	Weight (g)	Model	Weight (g)
ZPX40HNJ25-B01-A18	266	ZPX80HNJ50-B01-A18	401
ZPX40HNJ50-B01-A18	287	ZPX80HNJ75-B01-A18	424
ZPX40HNJ75-B01-A18	310	ZPX100HNJ25-B01-A22	638
ZPX50HNJ25-B01-A18	278	ZPX100HNJ50-B01-A22	677
ZPX50HNJ50-B01-A18	299	ZPX100HNJ75-B01-A22	721
ZPX50HNJ75-B01-A18	322	ZPX100HNJ100-B01-A22	760
ZPX63HNJ25-B01-A18	351	ZPX125HNJ25-B01-A22	702
ZPX63HNJ50-B01-A18	372	ZPX125HNJ50-B01-A22	741
ZPX63HNJ75-B01-A18	395	ZPX125HNJ75-B01-A22	785
ZPX80HNJ25-B01-A18	380	ZPX125HNJ100-B01-A22	824

How to Order

ZPX 40 H N J 25 — B01 — A18

Pad diameter (mm)

40	ø40
50	ø50
63	ø63
80	ø80
100	ø100
125	ø125

Mounting thread diameter

A18	M8 (ø40 to ø80)
A22	M10 (ø100, ø125)

Vacuum entry

B01	Rc(PT) 1/8
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Pad style

H	Heavy duty pad
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Material

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluorine rubber
E	EPR

Buffer stroke (Rotating)

Stroke	ø40	ø50	ø63	ø80	ø100	ø125
25	●	●	●	●	●	●
50	●	●	●	●	●	●
75	●	●	●	●	●	●
100	—	—	—	—	●	●

Spring reactive force

Pad diameter	ø40 to ø80	ø100, ø125
0 Stroke	6.9N	10N
Stroke end	11.8N	15N

ZX

ZR

ZM

ZY

ZH

ZU

ZL

ZF

ZP

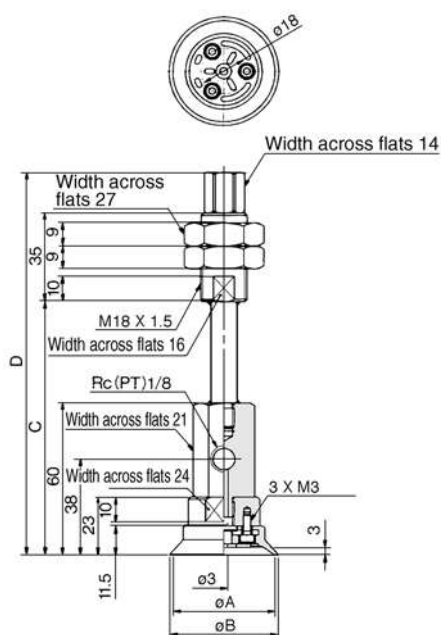
ZCU

CYV

Vacuum related

Series ZPX

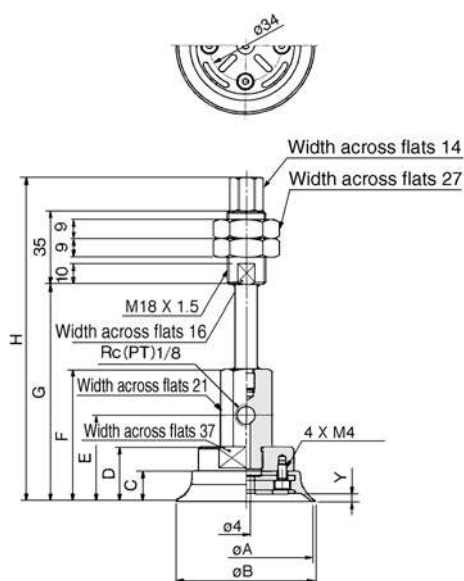
ZPX⁴⁰₅₀H□J□-B01-A18 (with buffer)



Unit: mm

Model	$\varnothing A$	$\varnothing B$	C	D
ZPX40H□J25-B01-A18	40	42	100	151
ZPX40H□J50-B01-A18	40	42	135	186
ZPX40H□J75-B01-A18	40	42	171	222
ZPX50H□J25-B01-A18	50	52	100	151
ZPX50H□J50-B01-A18	50	52	135	186
ZPX50H□J75-B01-A18	50	52	171	222

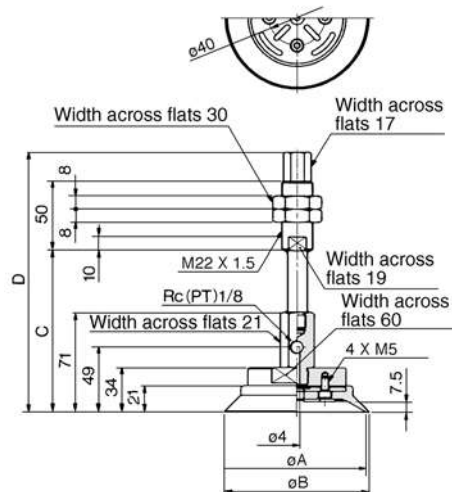
ZPX⁶³₈₀H□J□-B01-A18 (with buffer)



Unit: mm

Model	ØA	ØB	C	D	E	F	G	H	Y
ZPX63H□J25-B01-A18	63	65	14.5	26	41	63	103	154	3.5
ZPX63H□J50-B01-A18	63	65	14.5	26	41	63	136	189	3.5
ZPX63H□J75-B01-A18	63	65	14.5	26	41	63	172	225	3.5
ZPX80H□J25-B01-A18	80	82	16.5	28	43	65	105	156	4.5
ZPX80H□J50-B01-A18	80	82	16.5	28	43	65	138	191	4.5
ZPX80H□J75-B01-A18	80	82	16.5	28	43	65	174	227	4.5

ZPX₁₂₅¹⁰⁰H□J□-B01-A18 (with buffer)



Unit: mm

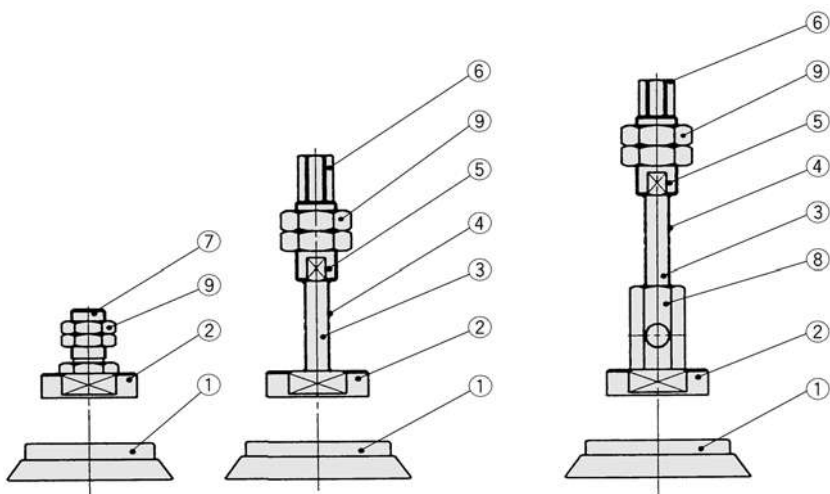
Model	$\varnothing A$	$\varnothing B$	C	D
ZPX100H□J25-B01-A22	100	103	115	186
ZPX100H□J50-B01-A22	100	103	151	222
ZPX100H□J75-B01-A22	100	103	191	262
ZPX100H□J100-B01-A22	100	103	226	297
ZPX125H□J25-B01-A22	125	128	115	186
ZPX125H□J50-B01-A22	125	128	151	222
ZPX125H□J75-B01-A22	125	128	191	262
ZPX125H□J100-B01-A22	125	128	226	297

Vacuum Pads for Heavy Duty Material Handling Series ZPT/ZPX

Construction

Series ZPT

Series ZPX



Component Parts

No.	Description	Material	Surface treatment
①	Pad	NBR, Silicone rubber, Urethane rubber, Fluorine rubber, EPR	—
②	Adaptor plate	Aluminum	—
③	Piston rod	Carbon steel	Hard chrome plated
④	Spring	Stainless steel	—
⑤	Buffer body	Aluminum	—
⑥	Buffer adaptor	Brass	Electroless nickel plated
⑦	Adaptor A	Brass	Electroless nickel plated
⑧	X type adaptor	Brass	Electroless nickel plated
⑨	Mounting nut	Rolled steel	Black zinc chromated

Replacement Parts: Pad Unit

How to Order/Pad Unit

ZP		40	H	N	
Pad diameter			Pad style		Material
40	ø40		H	Heavy duty	N NBR
50	ø50				S Silicon rubber
63	ø63				U Urethane rubber
80	ø80				F Fluorine rubber
100	ø100				E EPR
125	ø125				

Pad Unit Weight

(NBR)

Model	Weight (g)
ZP40HN	15
ZP50HN	27
ZP63HN	57
ZP80HN	86
ZP100HN	160
ZP125HN	224

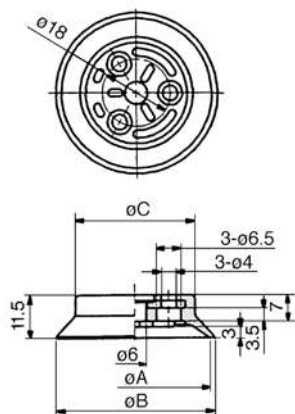
(g)

Pad diameter	Silicon rubber	Urethane rubber	Fluorine rubber	EPR
ø40	-1	0	5	-1
ø50	-1	0	8	0
ø63	-2	0	16	0
ø80	-3	1	27	-1
ø100	-5	1	53	-1
ø125	-8	3	84	0

Add NBR weight to the table on the right for other materials.

Dimensions

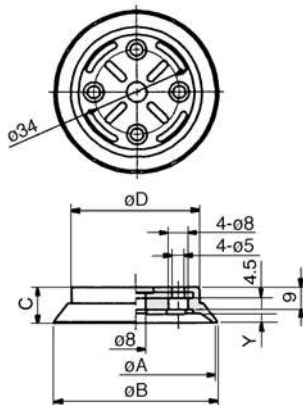
ZP₄₀⁵⁰H□



Model	øA	øB	øC
ZP40H□	40	42	32
ZP50H□	50	52	42

Unit: mm

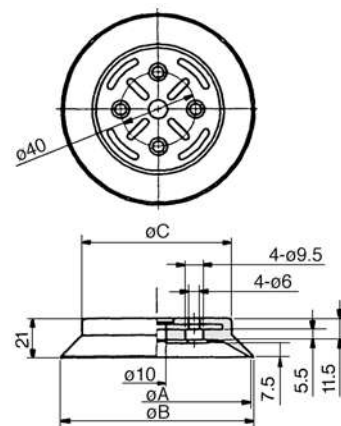
ZP₆₃⁸⁰H□



Model	øA	øB	C	D	Y
ZP63H□	63	65	14.5	54	3.5
ZP80H□	80	82	16.5	68	4.5

Unit: mm

ZP₁₀₀¹²⁵H□

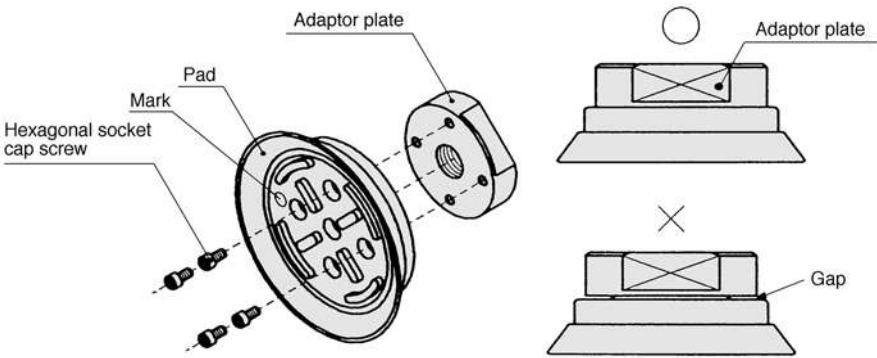


Model	øA	øB	øC
ZP100H□	100	103	80
ZP125H□	125	128	104

Unit: mm

Series ZPT/ZPX

How to Assemble/Disassemble



Remove bolts with a hex. key wrench from the pad underside. Tighten new pad with the bolts ensuring there is no gap between the adaptor plate and the pad.

How to Distinguish Different Pad Materials

Checking the mark on the pad's interior surface as shown in the figure on the left.

Material	Color	Mark
NBR	Black	—
Silicon rubber	White	—
Urethane rubber	Brown	—
Fluorine rubber	Black	F
EPR	Black	E

Replacement Parts/Mounting Nut

How to Order

ZPNA—M16

Mounting thread

M16	M16 X 1.5
M18	M18 X 1.5
M22	M22 X 1.5

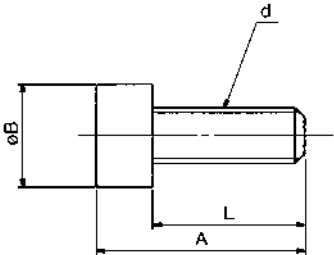
Mounting nut part number of "M14 X 1" is "SN-015A".

Dimensions

Unit: mm				
Part number	A	B	d	H
SN-015A	19	21.9	M14 X 1	5
ZPNA-M16	22	25.4	M16 X 1.5	6
ZPNA-M18	27	31.2	M18 X 1.5	9
ZPNA-M22	30	34.6	M22 X 1.5	8

Bolts

Dimensions



Unit: mm			
A	øB	d	L
11	5.5	M3	8
12	7	M4	8
15	8.5	M5	10