



Vacuum Pad: Ball Joint Type

Series

ZPT/ZPR

Pad diameters: $\varnothing 10$, $\varnothing 13$, $\varnothing 16$, $\varnothing 20$
 $\varnothing 25$, $\varnothing 32$, $\varnothing 40$, $\varnothing 50$



Ball joint type ideal for adsorption on slanted work surfaces

Series ZPT: Vertical vacuum entry type
Series ZPR: Lateral vacuum entry type One-Touch fitting

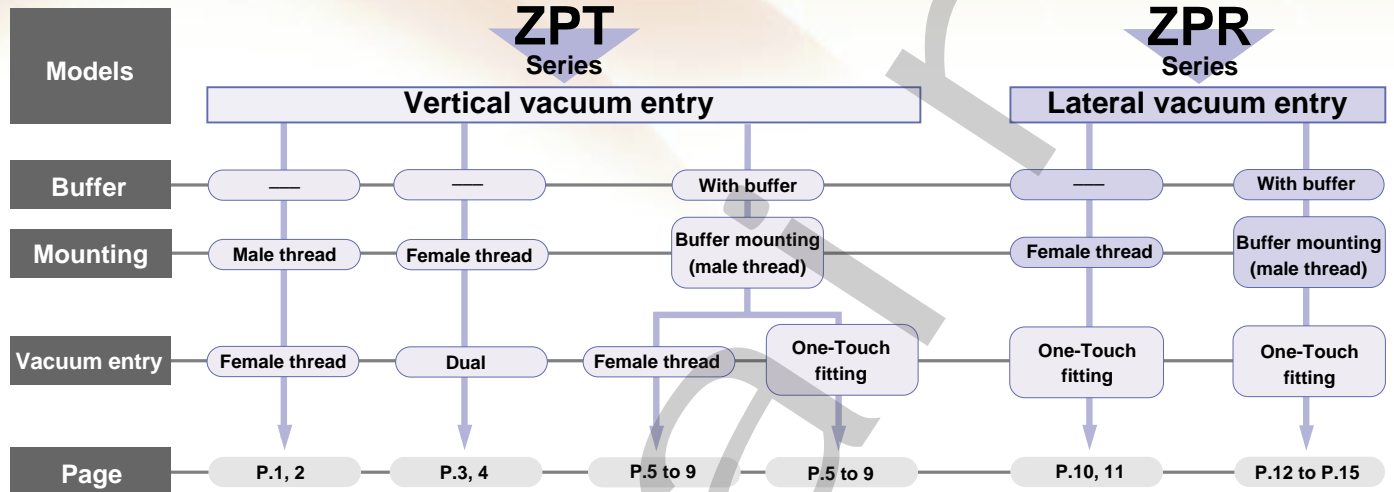
Vacuum Pad: Ball Joint Type

Series ZPT/ZPR

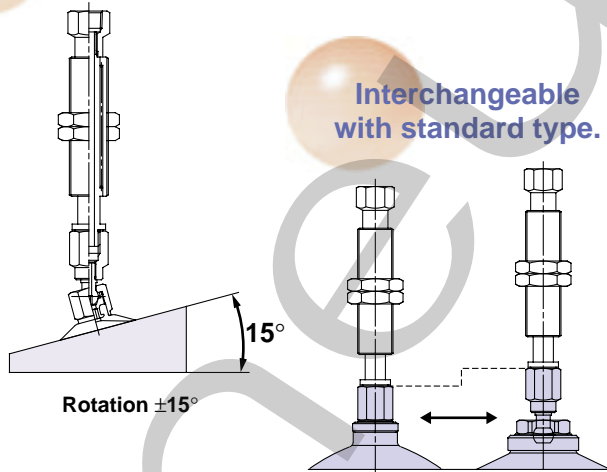
Pad diameters: $\varnothing 10$, $\varnothing 13$, $\varnothing 16$, $\varnothing 20$, $\varnothing 25$, $\varnothing 32$, $\varnothing 40$, $\varnothing 50$

Pad materials: NBR, Silicon rubber, Urethane rubber, Fluoro rubber, Conductive NBR, Conductive silicon rubber

Series variations



Adsorption is possible even on a slanted surface.



		Buffer stroke							
Pad diameter	Buffer stroke	$\varnothing 10$	$\varnothing 13$	$\varnothing 16$	$\varnothing 20$	$\varnothing 25$	$\varnothing 32$	$\varnothing 40$	$\varnothing 50$
10mm		•	•	•	•	•	•	•	•
20mm		•	•	•	•	•	•	•	•
30mm		•	•	•	•	•	•	•	•
40mm		•	•	•	—	—	—	—	—
50mm		•	•	•	•	•	•	•	•

Pad materials and characteristics

⊙: Little or no effect ○: Can be used depending on conditions X: Not suitable

Material	Item	Durometer HS ($\pm 5^\circ$)	Operating temperature range $^\circ\text{C}$	Oil resistance (gasoline)	Oil resistance (benzol)	Alkali resistance	Acid resistance	Weather resistance	Ozone resistance	Abrasion resistance	Water resistance	Solvent resistance (benzene, toluene)
NBR		50°	0 to 120	⊙	X	○	○	○	X	⊙	○	X
Silicon rubber		40°	- 30 to 200	X	X	○	X	⊙	⊙	X	○	X
Urethane rubber		60°	0 to 60	⊙	X	X	X	○	⊙	⊙	X	X
Fluoro rubber		60°	0 to 250	⊙	⊙	X	⊙	⊙	⊙	○	⊙	⊙
Conductive NBR		50°	0 to 100	○	X	○	X	○	X	○	○	X
Conductive silicon rubber		50°	- 10 to 200	X	X	○	X	⊙	⊙	X	○	X

The characteristics shown above represent the general properties of the rubber materials.

Pad materials used by P/A meet JIS material standards, however, even in pad tests similar to JIS material tests, results differ depending upon shape and operating conditions.

Vertical
Vacuum
Entry

Series ZPT

Without Buffer/Male Thread

How to Order



ZPT **25** F **GN** - **B5** - **A8**

Pad diameter (mm)

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

Mounting thread diameter male thread

Symbol	Thread	Pad dia. (mm)
A8	M8 x 1	ø10 to ø16
A10	M10 x 1	ø20 to ø32
A14	M14 x 1	ø40, ø50

Vacuum entry

B5	M5 x 0.8
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Pad material

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluoro rubber
GN*	Conductive NBR
GS*	Conductive silicon rubber

Pad type

F	Ball joint
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* ø20 and larger are manufactured upon receipt of order.

Note) Pads are exclusively ball joint type and are not interchangeable with other pads.

Standard Specifications

Vacuum entry direction		Vertical	
Connection		Mounting	Vacuum entry
		Male thread	Female thread
Pad diameter (mm)	ø10 to ø16	M8 x 1	M5 x 0.8
	ø20 to ø32	M10 x 1	
	ø40, ø50	M14 x 1	
Ball joint rotation		±15°	

Weight Table

(g)

Pad diameter (mm)	Mounting (male thread)	Vacuum entry (female thread)
		M5 x 0.8
ø10 to ø16	M8 x 1	20
ø20 to ø32	M10 x 1	24
ø40, ø50	M14 x 1	55

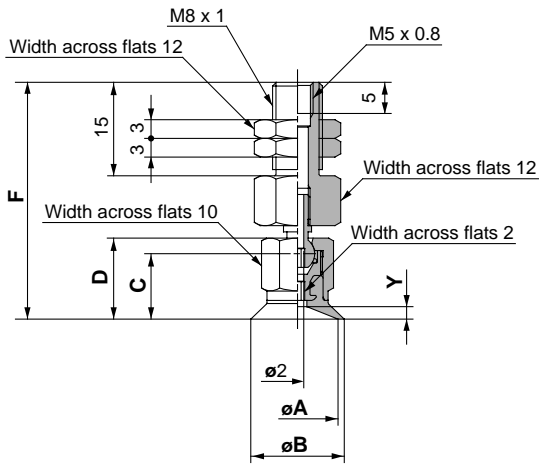
Pad Types

Pad type	Ball joint					
Pad diameter (mm)	ø10, ø13, ø16, ø20, ø25, ø32, ø40, ø50					
Material	NBR	Silicon rubber	Urethane rubber	Fluoro rubber	Conductive NBR	Conductive silicon rubber
Colour	Black	White	Brown	Black with green mark	Black with 1 white mark	Black with 2 white marks
Durometer <small>Note</small>	50°	40°	60°	60°	50°	50°

Note: Shore Durometer A scale HS(±5°)

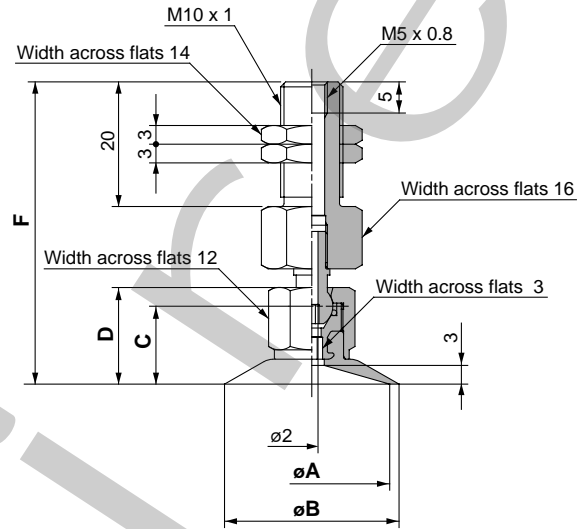
Series ZPT Without Buffer/Male Thread

ZPT 10/13/16 F□□-B5-A8 (Without Buffer/Male Thread)



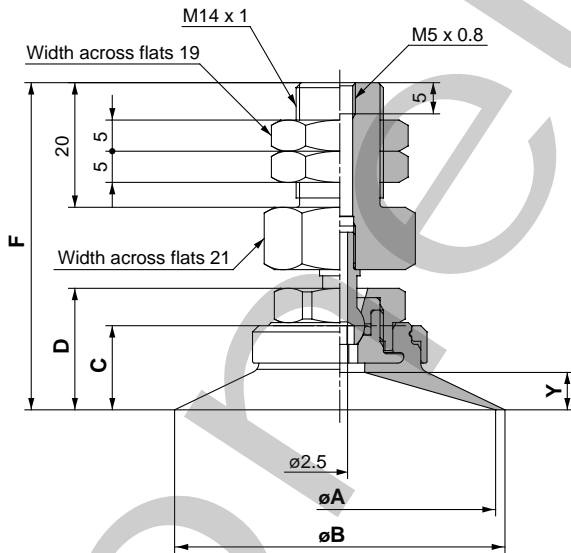
Dimensions (mm)						
Model	A	B	C	D	F	Y
ZPT10F□□-B5-A8	10	12	10	12.5	37.5	1.5
ZPT13F□□-B5-A8	13	15	10.5	13	38	
ZPT16F□□-B5-A8	16	18				

ZPT 20/25/32 F□□-B5-A10 (Without Buffer/Male Thread)



Dimensions (mm)					
Model	A	B	C	D	F
ZPT20F□□-B5-A10	20	22	12.5	15.5	48.5
ZPT25F□□-B5-A10	25	28			
ZPT32F□□-B5-A10	32	35	13	16	49

ZPT 40/50 F□□-B5-A14 (Without Buffer/Male Thread)



Dimensions (mm)						
Model	A	B	C	D	F	Y
ZPT40F□□-B5-A14	40	43	12.5	18.5	51.5	5
ZPT50F□□-B5-A14	50	53	13.5	19.5	52.5	6

Vertical
Vacuum
Entry

Series ZPT

Without Buffer/Female Thread



How to Order

ZPT 20 F GS B01

Pad diameter (mm)

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

Pad type

F	Ball joint
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Vacuum entry
(same as mounting thread)

Connection	Symbol	Thread diameter	Pad diameter (mm)		
			ø10 to ø16	ø20 to ø32	ø40, ø50
Female thread	B5	M5 x 0.8	•	•	–
	B8	M8 x 1.25	–	•	•
	B01	Rc(PT)1/8	–	•	•

Pad material

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluoro rubber
GN*	Conductive NBR
GS*	Conductive silicon rubber

* ø20 and larger are manufactured upon receipt of order.

Note) Pads are exclusively ball joint type and are not interchangeable with other pads.

Standard Specifications

Vacuum entry direction	Vertical	
Connection	Mounting/Vacuum entry	
	Female thread	
Pad diameter (mm)	ø10 to ø16	M5 x 0.8
		M5 x 0.8
	ø20 to ø32	M8 x 1.25
		Rc(PT)1/8
	ø40, ø50	M8 x 1.25
Rc(PT)1/8		
Ball joint rotation	±15°	

Weight Table

(g)

Pad diameter (mm)	Vacuum entry (female thread)		
	M5 x 0.8	M8 x 1.25	Rc(PT)1/8
ø10 to ø16	10	–	–
ø20 to ø32	14	17	19
ø40, ø50	–	47	46

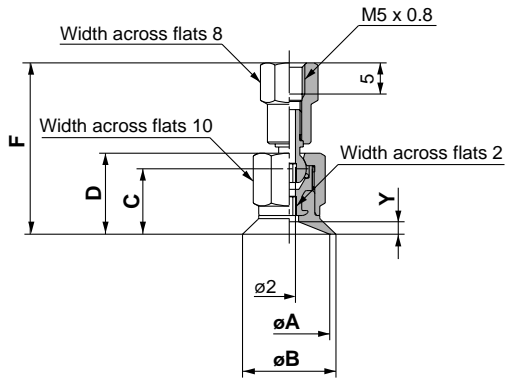
Pad Types

Pad type	Ball joint					
Pad diameter (mm)	ø10, ø13, ø16, ø20, ø25, ø32, ø40, ø50					
Material	NBR	Silicon rubber	Urethane rubber	Fluoro rubber	Conductive NBR	Conductive silicon rubber
Colour	Black	White	Brown	Black with green mark	Black with 1 white mark	Black with 2 white marks
Durometer Note	50°	40°	60°	60°	50°	50°

Note: Shore Durometer A scale HS(±5°)

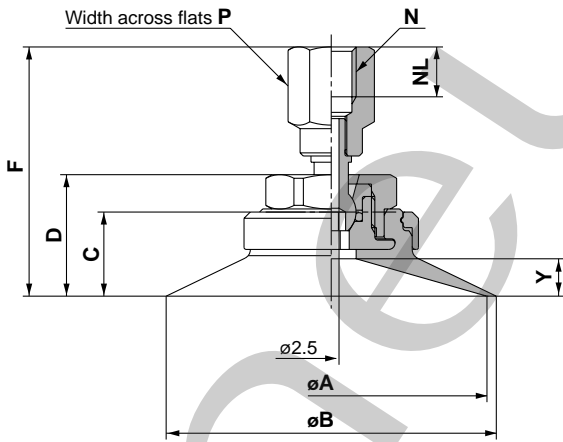
Series ZPT Without Buffer/Female Thread

ZPT 10/13/16 F□□-B5 (Without Buffer/Female Thread)



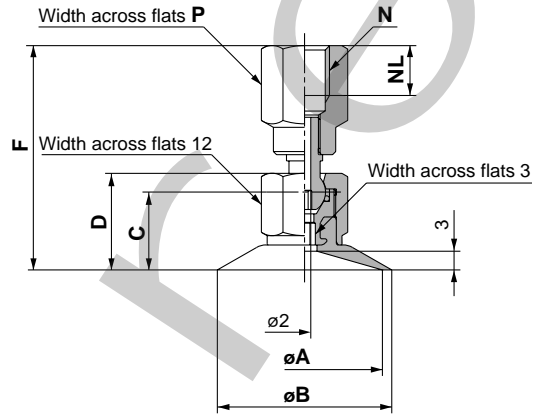
Dimensions (mm)						
Model	A	B	C	D	F	Y
ZPT10F□□-B5	10	12	10	12.5	27	1.5
ZPT13F□□-B5	13	15	10.5	13	27.5	
ZPT16F□□-B5	16	18				

ZPT 40/50 F□□-B 8/01 (Without Buffer/Female Thread)



Dimensions (mm)									
Model	A	B	C	D	F	N	NL	P	Y
ZPT40F□□-B8	40	43	12.5	18.5	39	M8 x 1.25	8	12	5
ZPT40F□□-B01						Rc(PT)1/8	6.2	14	
ZPT50F□□-B8	50	53	13.5	19.5	40	M8 x 1.25	8	12	6
ZPT50F□□-B01						Rc(PT)1/8	6.2	14	

ZPT 20/25/30 F□□-B 5/8/01 (Without Buffer/Female Thread)



Dimensions (mm)								
Model	A	B	C	D	F	N	NL	P
ZPT20F□□-B5	20	22	12.5	15.5	32	M5 x 0.8	5	9
ZPT20F□□-B8					36	M8 x 1.25	8	12
ZPT20F□□-B01					36	Rc(PT)1/8	6.2	14
ZPT25F□□-B5	25	28	12.5	15.5	32	M5 x 0.8	5	9
ZPT25F□□-B8					36	M8 x 1.25	8	12
ZPT25F□□-B01					36	Rc(PT)1/8	6.2	14
ZPT32F□□-B5	32	35	13	16	32.5	M5 x 0.8	5	9
ZPT32F□□-B8					36.5	M8 x 1.25	8	12
ZPT32F□□-B01					36.5	Rc(PT)1/8	6.2	14

Vertical
Vacuum
Entry

Series ZPT With Buffer

How to Order

ZPT 10 F GN J 20 04 A10

● **Pad diameter (mm)**

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

● **Pad type**

F	Ball joint
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● **Pad material**

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluoro rubber
GN*	Conductive NBR
GS*	Conductive silicon rubber

* ø20 and larger are manufactured upon receipt of order.

● **Buffer type**

J	Without detent
K	With detent

● **Mounting thread diameter/male thread**
(Refer to Table 1 for applications.)

● **Vacuum entry**
(Refer to Table 1 for applications.)

Table 1 Vacuum entry/Mounting thread diameter

Pad diameter (mm)			Mounting thread diameter (male thread)		
			ø10 to ø16	ø20 to ø50	
Connection	Thread diameter,	Symbol	M10 x 1	M14 x 1	
	Piping diameter		A10	A14	
Vacuum entry	Female thread	M5 x 0.8	B5	•	–
		Rc(PT)1/8	B01	–	•
	One-Touch fitting	ø4 tube	04	•	–
		ø6 tube	06	•	•
ø8 tube	08	–	•		

● **Buffer stroke**

Symbol	Stroke	Pad diameter (mm)	
		ø10 to ø16	ø20 to ø50
10	10mm	•	•
20	20mm	•	•
30	30mm	•	•
40	40mm	•	–
50	50mm	•	•

Buffer spring reactive force

Pad diameter (mm)	0 stroke	Stroke end
ø10 to ø16	1.0N{0.10kgf}	3.0N{0.31kgf}
ø20 to ø50	2.0N {0.20kgf}	5.0N{0.51kgf}

Note) Pads are exclusively ball joint type and are not interchangeable with other pads.

Pad Types

Pad type	Ball joint					
Pad diameter (mm)	ø10, ø13, ø16, ø20, ø25, ø32, ø40, ø50					
Material	NBR	Silicon rubber	Urethane rubber	Fluoro rubber	Conductive NBR	Conductive silicon rubber
Colour	Black	White	Brown	Black with green mark	Black with 1 white mark	Black with 2 white marks
Durometer <small>Note</small>	50°	40°	60°	60°	50°	50°

Note: Shore Durometer A scale HS(±5°)

Series ZPT With Buffer



Standard Specifications

Vacuum entry		Vertical		
Connection		Mounting	Vacuum entry	
		Buffer male thread	Female thread	One-Touch fitting
Pad diameter (mm)	ø10 to ø16	M10 x 1	M5 x 0.8	ø4 tube
	ø20 to ø50	M14 x 1	Rc(PT)1/8	ø6 tube
Ball joint rotation				±15°

Buffer Specifications

Pad diameter (mm)	ø10 to ø16		ø20 to ø50	
Mounting	M10 x 1		M14 x 1	
Stroke (mm)	10, 20, 30, 40, 50		10, 20, 30, 50	
Spring reactive force	0 stroke	1.0N {0.10kgf}	0 stroke	2.0N {0.20kgf}
	Stroke end	3.0N {0.31kgf}	Stroke end	5.0N {0.51kgf}
Detent specifications	Without detent (J), With detent (K)			

Weight Table

(g)

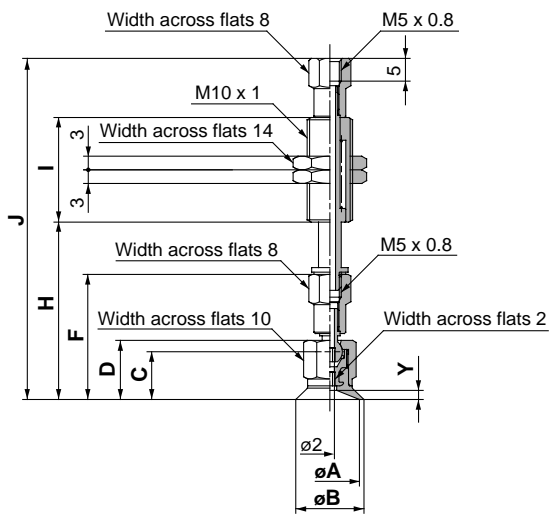
Pad diameter (mm)	Vacuum entry				
	Female thread		One-Touch fitting		
	M5 x 0.8	Rc(PT)1/8	ø4 tube	ø6 tube	ø8 tube
ø10 to ø16	30	–	32	33	–
ø20 to ø32	–	128	–	133	139
ø40, ø50	–	158	–	159	167

Additional Weight by Stroke

(g)

Pad diameter (mm)	Stroke (mm)			
	20	30	40	50
ø10 to ø16	+10.5	+12.5	+22.5	+24
ø20 to ø50	+37.5	+40	–	+66.5

ZPT 10/13/16 F□□ J/K 10-B5-A10
(With Buffer/Female Thread)



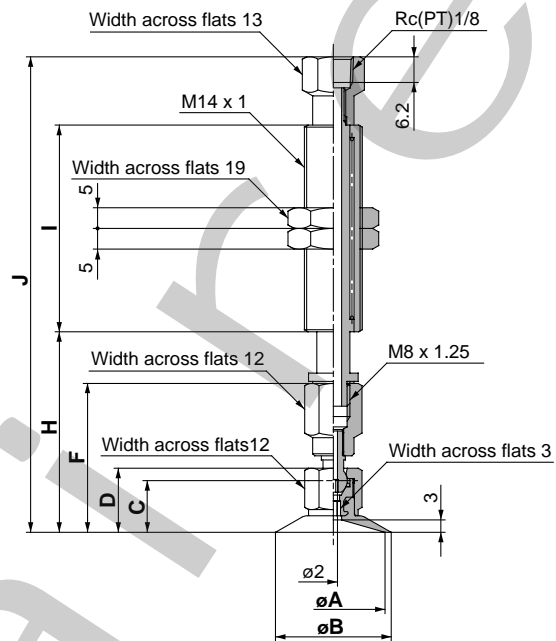
Dimensions/10mm stroke

Model	A	B	C	D	F	H	I	J	Y
ZPT10F□□□10-B5-A10	10	12	10	12.5	27	38.5	23	74.5	1.5
ZPT13F□□□10-B5-A10	13	15	10.5	13	27.5	39		75	2
ZPT16F□□□10-B5-A10	16	18							

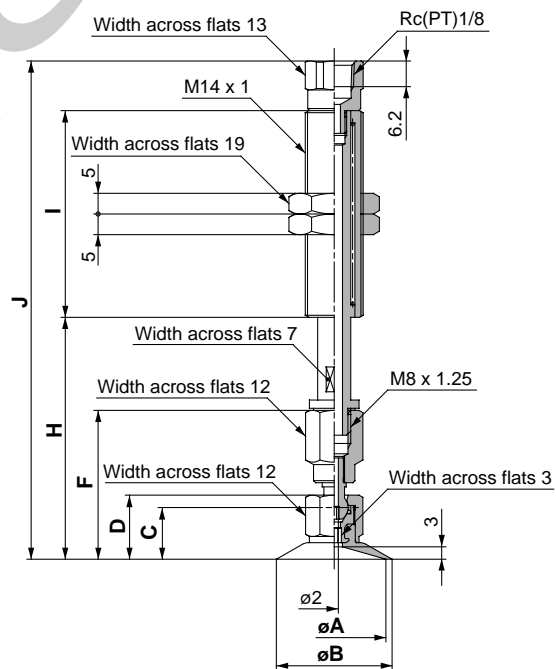
Additional dimensions by stroke (mm)

Stroke	H	I	J
20	+10	+28	+38
30	+20		+48
40	+30	+54	+84
50	+40		+94

ZPT 20/25/32 F□□ J/K 10-B01-A14
(With Buffer/Female Thread)



With a stroke of 10mm



With a stroke of 20 to 50mm

Dimensions/10mm stroke

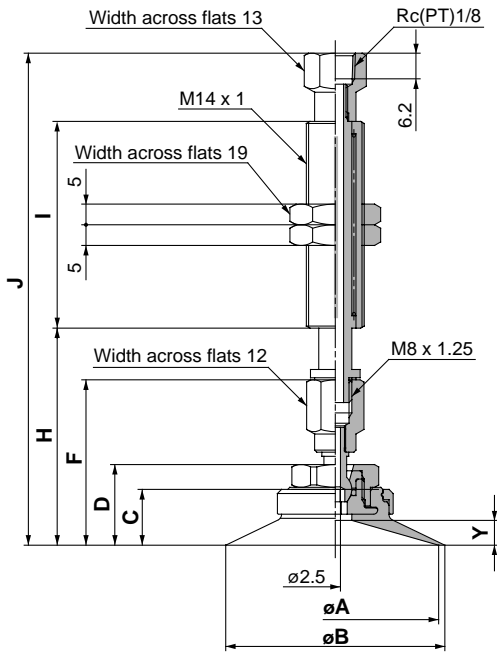
Model	A	B	C	D	F	H	I	J
ZPT20F□□□10-B01-A14	20	22	12.5	15.5	36	48.5	50	115
ZPT25F□□□10-B01-A14	25	28						115.5
ZPT32F□□□10-B01-A14	32	35	13	16	36.5	49		

Additional dimensions by stroke (mm)

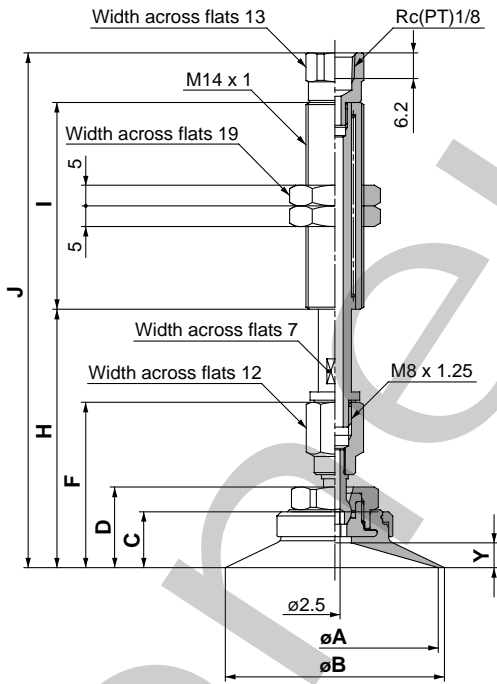
Stroke	H	I	J
20	+10		+5.5
30	+20	±0	+15.5
50	+40	±25	+60.5

Series ZPT With Buffer

ZPT 40/50 F□□ J/K 10-B01-A14
(With Buffer/Female Thread)



With a stroke of 10mm



With a stroke of 20 to 50mm

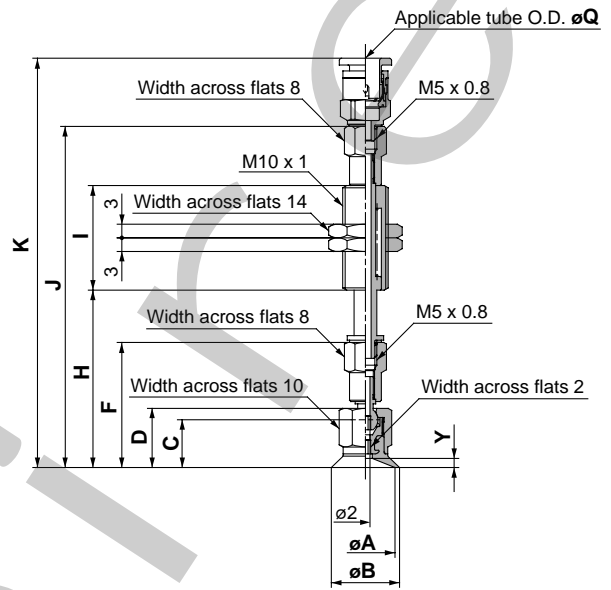
Dimensions/10mm stroke (mm)

Model	A	B	C	D	F	H	I	J	Y
ZPT40F□□□10-B01-A14	40	43	12.5	18.5	39	51.5	50	118	5
ZPT50F□□□10-B01-A14	50	53	13.5	19.5	40	52.5	50	119	6

Additional dimensions by stroke(mm)

Stroke	H	I	J
20	+10		+5.5
30	+20	±0	+15.5
50	+40	+25	+60.5

ZPT 10/13/16 F□□ J/K 10-0□-A10
(With Buffer/One-Touch Fitting)



Dimensions/10mm stroke (mm)

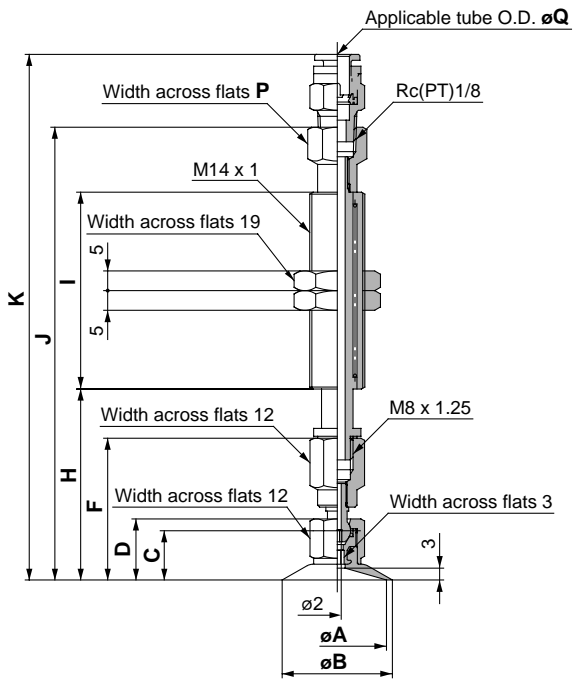
Model	A	B	C	D	F	H	I	J	Q:4 K	Q:6 K	Y
ZPT10F□□□10-0□-A10	10	12	10	12.5	27	38.5		74.5	88.5	89.5	1.5
ZPT13F□□□10-0□-A10	13	15					23	75	89	90	2
ZPT16F□□□10-0□-A10	16	18	10.5	13	27.5	39					

Additional dimensions by stroke (mm)

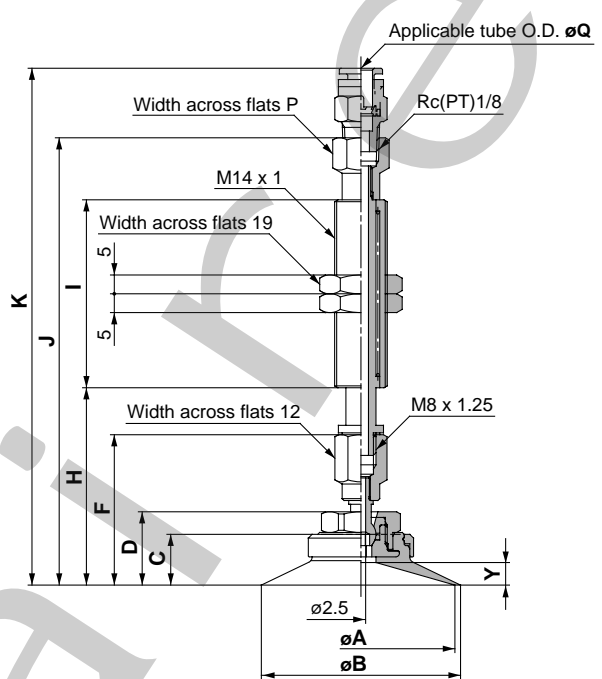
Stroke	H	I	J	K
20	+10		+38	
30	+20	+28	+48	
40	+30		+84	
50	+40	+54	+94	

ZPT 20/25/32 F□□ J/K 10-0□-A14
(With Buffer/One-Touch Fitting)

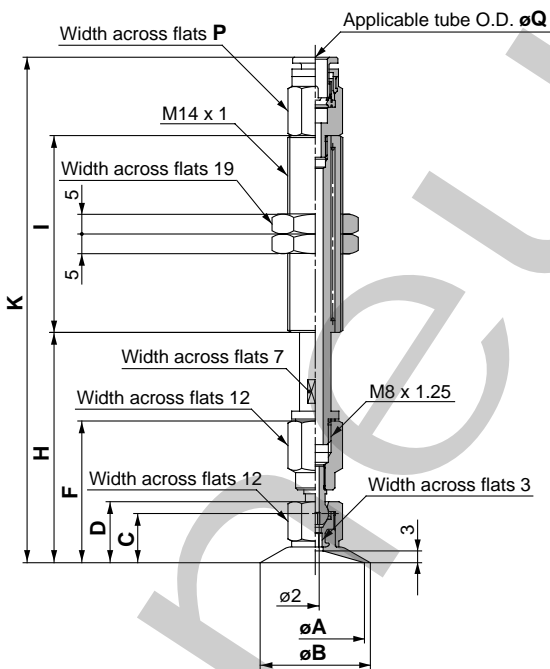
ZPT 40/50 F□□ J/K 10-0□-A14
(With Buffer/One-Touch Fitting)



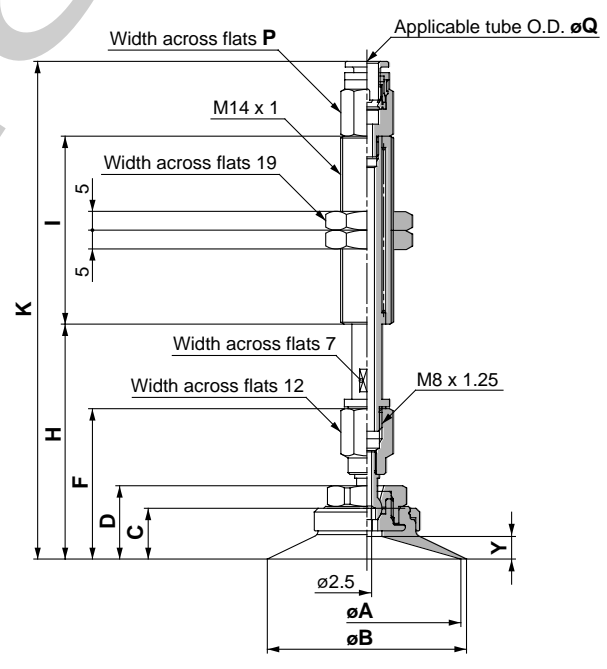
With a stroke of 10mm



With a stroke of 10mm



With a stroke of 20 to 50mm



With a stroke of 20 to 50mm

Dimensions/10mm stroke

Model	A	B	C	D	F	H	I	J	Q: 6		Q: 8	
									K	P	K	P
ZPT20F□□10-0□-A14	20	22	12.5	15.5	36	48.5	50	115	133.5	13	137	13
ZPT25F□□10-0□-A14	25	28	12.5	15.5	36	48.5	50	115	133.5	13	137	13
ZPT32F□□10-0□-A14	32	35	13	16	36.5	49		115.5	134		135.5	

Additional dimensions by stroke (mm)

Stroke	H	I	Q: 6		Q: 8	
			K	P	K	P
20	+10	±0	-5.1		-3.6	
30	+20	±0	-4.9	-1	-6.4	+1
50	+40	+25	-49.9		-51.4	

Dimensions/10mm stroke

Model	A	B	C	D	F	H	I	J	Q: 6		Q: 8		Y
									K	P	K	P	
ZPT40F□□10-0□-A14	40	43	12.5	18.5	39	51.5	50	118	136.5	13	140	13	5
ZPT50F□□10-0□-A14	50	53	13.5	19.5	40	52.5	50	119	137.5	13	141	13	5

Additional dimensions by stroke (mm)

Stroke	H	I	Q: 6		Q: 8	
			K	P	K	P
20	+10	±0	-5.1		-3.6	
30	+20	±0	+4.9	-1	-6.4	+1
50	+40	+25	+49.9		-51.4	

Lateral
Vacuum
Entry

Series ZPR

Without Buffer/Female Thread

How to Order

ZPR 10 F GS 06 B5



Pad diameter (mm)

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

Pad type

F	Ball joint
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Pad material

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluoro rubber
*GN	Conductive NBR
*GS	Conductive silicon rubber

* ø20 and larger are manufactured upon receipt of order.

Mounting thread diameter/female thread
(Refer to Table 1 for applications.)

Vacuum entry
(Refer to Table 1 for applications.)

Table 1 Vacuum entry/Mounting thread diameter

Pad diameter (mm)		Mounting thread diameter				
		ø10 to ø16	ø20 to ø50			
Connection	Thread diameter, Piping diameter	Symbol	M5 x 0.8	M5 x 0.8	M8 x 1.25	
	Vacuum entry	One-Touch fitting	ø4 tube	04	•	–
ø6 tube			06	•	•	•
ø8 tube			08	–	•	•

Note) Pads are exclusively ball joint type and are not interchangeable with other pads.

Standard Specifications

Vacuum entry direction		Lateral	
Connection		Connection	Vacuum entry
		Female thread	One-Touch fitting
Pad diameter (mm)	ø10 to ø16	M5 x 0.8	ø4 tube
			ø6 tube
Pad diameter (mm)	ø20 to ø50	M5 x 0.8	ø6 tube
			ø8 tube
		M8 x 1.25	ø6 tube
			ø8 tube
Ball joint rotation		±15°	

Weight Table

(g)

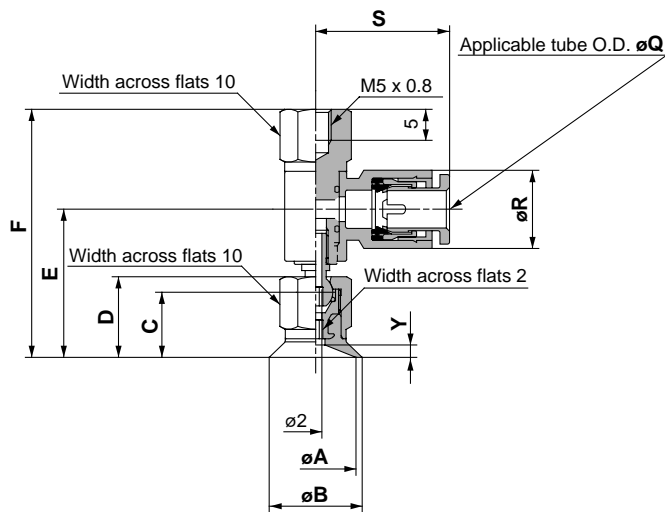
Pad diameter (mm)	Mounting female thread	Vacuum entry (One-Touch fitting)		
		ø4 tube	ø6 tube	ø8 tube
ø10 to ø16	M5 x 0.8	18	19	–
	M5 x 0.8	–	22	23
ø20 to ø32	M8 x 1.25	–	21	22
	M5 x 0.8	–	58	60
ø40, ø50	M8 x 1.25	–	57	59

Pad Types

Pad type	Ball joint					
Pad diameter (mm)	ø10, ø13, ø16, ø20, ø25, ø32, ø40, ø50					
Material	NBR	Silicon rubber	Urethane rubber	Fluoro rubber	Conductive NBR	Conductive silicon rubber
Colour	Black	White	Brown	Black with green mark	Black with 1 white mark	Black with 2 white marks
Durometer [†] Note	50°	40°	60°	60°	50°	50°

Note: Shore Durometer A scale HS(±5°)

ZPR 10/13/16 F□□-0□-B5
(Without Buffer/Female Thread)



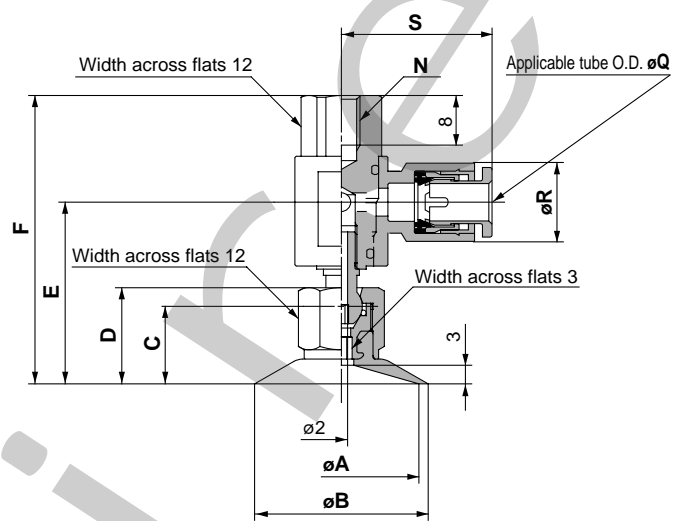
Dimensions (mm)

Model	A	B	C	D	E	F	Y
ZPR10F□□-0□-B5	10	12	10	12.5	23.4	39.5	1.5
ZPR13F□□-0□-B5	13	15	10.5	13	23.9	40	2
ZPR16F□□-0□-B5	16	18					

Dimensions by tube diameter (mm)

Pad diameter (mm)	Q: 4		Q: 6	
	R	S	R	S
ø10 to ø16	10.4	20.6	12.8	21.6

ZPR 20/25/32 F□□-0□-B 5/8
(Without Buffer/Female thread)



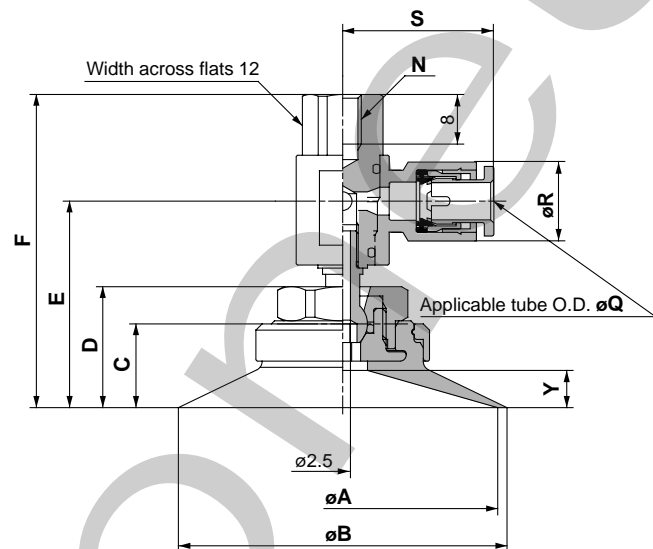
Dimensions (mm)

Model	A	B	C	D	E	F	N
ZPR20F□□-0□-B5	20	22	12.5	15.5	29.3	46.5	M5 x 0.8
ZPR20F□□-0□-B8							M8 x 1.25
ZPR25F□□-0□-B5	25	28	12.5	15.5	29.3	46.5	M5 x 0.8
ZPR25F□□-0□-B8							M8 x 1.25
ZPR32F□□-0□-B5	32	35	13	16	29.8	47	M5 x 0.8
ZPR32F□□-0□-B8							M8 x 1.25

Dimensions by tube diameter (mm)

Pad diameter (mm)	Q: 6		Q: 8	
	R	S	R	S
ø20 to ø32	12.8	24.3	15.2	26.2

ZPR 40/50 F□□-0□-B8
(Without Buffer/Female Thread)



Dimensions (mm)

Model	A	B	C	D	E	F	N	Y
ZPR40F□□-0□-B8	40	43	12.5	18.5	32.3	49.5	M8 x 1.25	5
ZPR50F□□-0□-B8	50	53	13.5	19.5	33.3	50.5		6

Dimensions by tube diameter (mm)

Pad diameter (mm)	Q: 6		Q: 8	
	R	S	R	S
ø40, ø50	12.8	24.3	15.2	26.2

Lateral
Vacuum
Entry

Series ZPR With Buffer

How to Order

ZPR **10** **F** **GN** **J** **30** **06** **A10**

Pad diameter (mm) ●

10	ø10
13	ø13
16	ø16
20	ø20
25	ø25
32	ø32
40	ø40
50	ø50

Pad type ●

F	Ball joint
----------	------------

Pad material ●

N	NBR
S	Silicon rubber
U	Urethane rubber
F	Fluoro rubber
GN*	Conductive NBR
GS*	Conductive silicon rubber

* ø20 and larger are manufactured upon receipt of order.

Buffer type ●

J	Without detent
K	With detent

Buffer spring reactive force

Pad diameter (mm)	0 stroke	Stroke end
ø10 to ø16	1.0N {0.10kgf}	3.0N {0.31kgf}
ø20 to ø50	2.0N {0.20kgf}	5.0N {0.51kgf}

Note) Pads are exclusively ball joint type and are not interchangeable with other pads.

Pad Types

Pad type	Ball joint					
	ø10, ø13, ø16, ø20, ø25, ø32, ø40, ø50					
Material	NBR	Silicon rubber	Urethane rubber	Fluoro rubber	Conductive NBR	Conductive silicon rubber
Colour	Black	White	Brown	Black with green mark	Black with 1 white mark	Black with 2 white marks
Durometer <small>Note</small>	50°	40°	60°	60°	50°	50°

Note: Shore Durometer A scale HS(±5°)

● Mounting thread diameter/male thread
(Refer to Table 1 for applications.)

● Vacuum entry
(Refer to Table 1 for applications.)

Table 1 Vacuum entry/Mounting thread diameter

Pad diameter (mm)		Mounting thread diameter (male thread)			
		ø10 to ø16	ø20 to ø50		
Connection	Thread diameter, Piping diameter	M10 x 1	M14 x 1		
	Symbol	A10	A14		
Vacuum entry	One-Touch fitting	ø4 tube	04	•	–
		ø6 tube	06	•	•
		ø8 tube	08	–	•

● Buffer stroke

Symbol	Stroke	Pad diameter (mm)	
		ø10 to ø16	ø20 to ø50
10	10mm	•	•
20	20mm	•	•
30	30mm	•	•
40	40mm	•	–
50	50mm	•	•



Standard Specifications

Vacuum entry direction		Lateral	
Connection		Mounting	Vacuum entry
		Male thread	One-Touch fitting
Pad diameter (mm)	ø10 to ø16	M10 x 1	ø4 tube
			ø6 tube
	ø20 to ø50	M14 x 1	ø6 tube
ø8 tube			
Ball joint rotation		±15°	

Buffer Specifications

Pad diameter (mm)	ø10 to ø16		ø20 to ø50	
Mounting	M10 x 1		M14 x 1	
Stroke (mm)	10, 20, 30, 40, 50		10, 20, 30, 50	
Spring reactive force	0 stroke	1.0N {0.10kgf}	0 stroke	2.0N {0.20kgf}
	Stroke end	3.0N {0.31kgf}	Stroke end	5.0N {0.51kgf}
Detent specifications	Without detent (J), With detent (K)			

Weight Table

(g)

Pad diameter (mm)	Vacuum entry		
	One-Touch fitting		
	ø4 tube	ø6 tube	ø8 tube
ø10 to ø16	34	35	–
ø20 to ø32	–	38	39
ø40, ø50	–	134	136

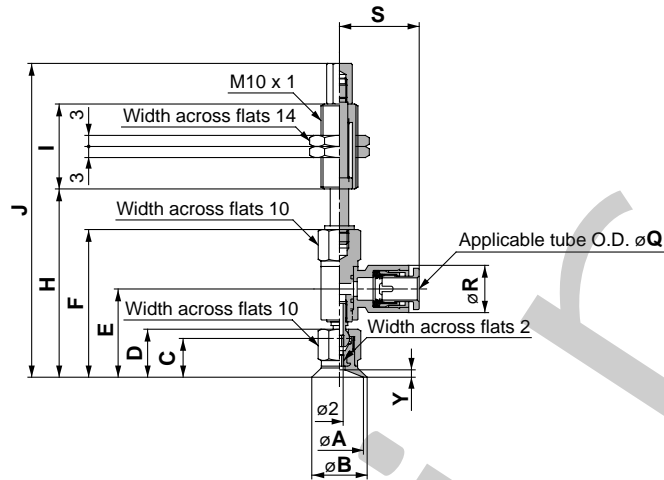
Additional Weight by Stroke

(g)

Pad diameter (mm)	Stroke (mm)			
	20	30	40	50
ø10 to ø16	+10.5	+12.5	+22.5	+24
ø20 to ø50	+37.5	+40	–	+66.5

Series ZPR With Buffer

ZPR 10/13/16 F□□ J/K10-0□-A10
(With Buffer)



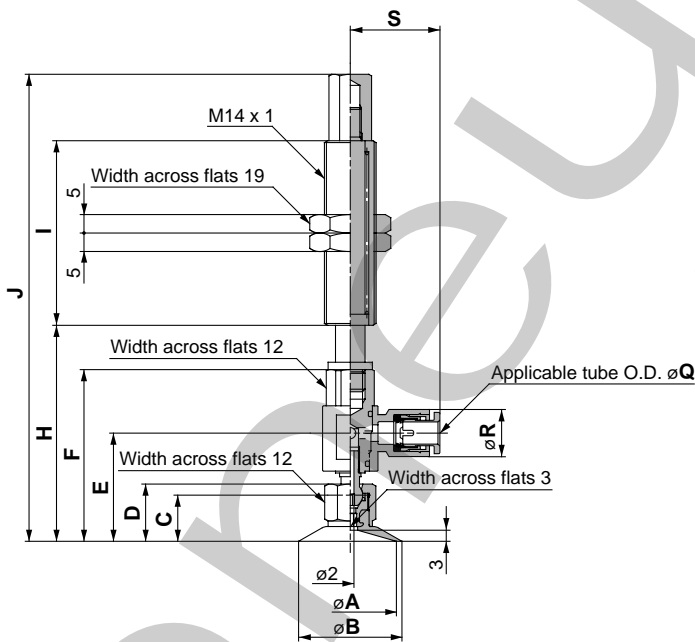
Dimensions/10mm stroke (mm)

Model	A	B	C	D	E	F	H	I	J	Q: 4		Q: 6		Y	
										R	S	R	S		
ZPR10F□□□10-0□-A10	10	12	10	12.5	23.4	39.5	50.5	23	84.5					1.5	
ZPR13F□□□10-0□-A10	13	15							10.4	20.6	12.8	21.6			2
ZPR16F□□□10-0□-A10	16	18	10.5	13	23.9	40	51		85						

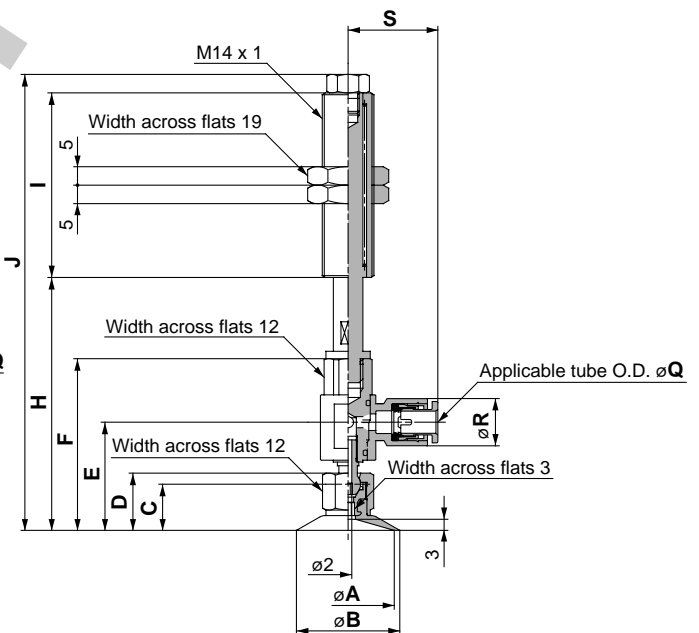
Additional dimensions by stroke (mm)

Stroke	H	I	J
20	+10	+28	+38
30	+20		+48
40	+30	+54	+84
50	+40		+94

ZPR 20/25/32 F□□ J/K10-0□-A14
(With Buffer)



With a stroke of 10mm



With a stroke of 20 to 50mm

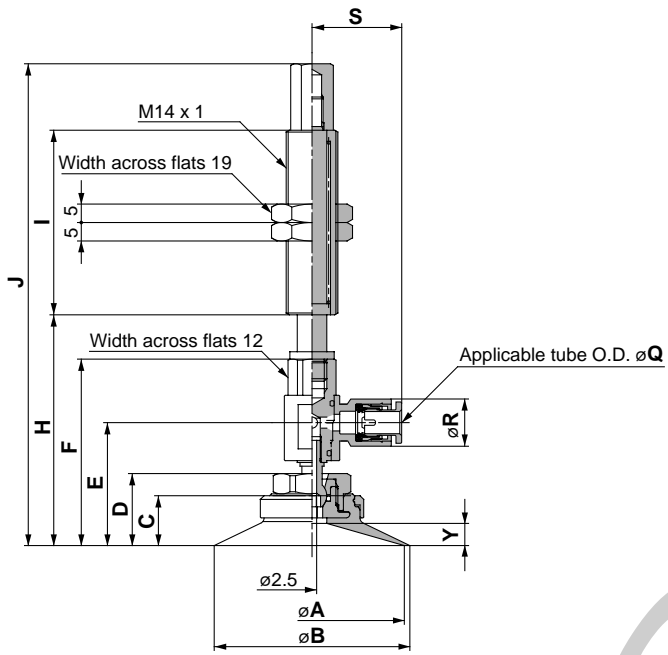
Dimensions/10mm stroke (mm)

Model	A	B	C	D	E	F	H	I	J	Q: 6		Q: 8		
										R	S	R	S	
ZPR20F□□□10-0□-A14	20	22	12.5	15.5	29.3	46.5	58.5	50	126.5					
ZPR25F□□□10-0□-A14	25	28	13	16	29.8	47	59		127	12.8	24.3	15.2	26.2	
ZPR32F□□□10-0□-A14	32	35												

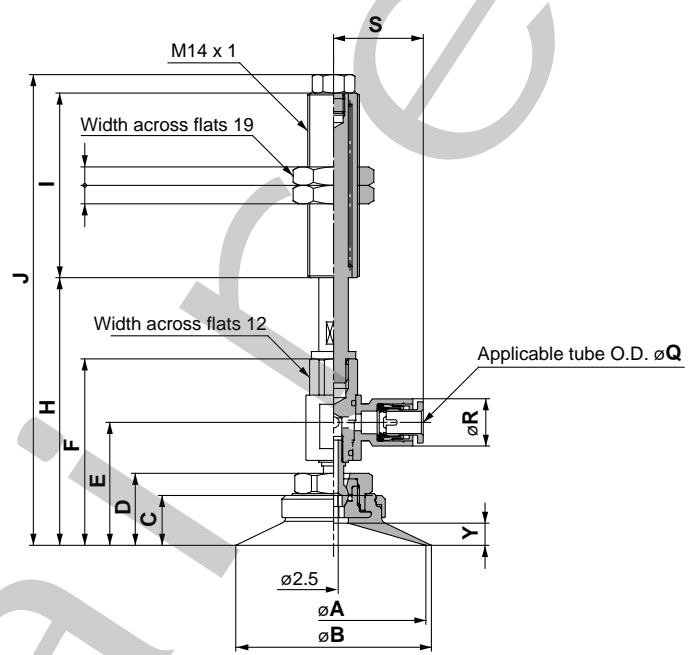
Additional dimensions by stroke (mm)

Stroke	H	I	J
20	+10	±0	-3
30	+20		+7
50	+40	+25	+52

ZPR 40/50 F□□ J/K 10-0□-A14
(With Buffer)



With a stroke of 10mm



With a stroke of 20 to 50mm

Dimensions/10mm stroke

Model	A	B	C	D	E	F	H	I	J	(mm)				
										Q: 6		Q: 8		Y
										R	S	R	S	
ZPR40F□□□10-0□-A14	40	43	12.5	18.5	32.3	49.5	61.5	50	129.5	12.8	24.3	15.2	26.2	5
ZPR50F□□□10-0□-A14	50	53	13.5	19.5	33.3	50.5	62.5		130.5					6

Additional dimensions by stroke (mm)

Stroke	H	I	J
20	+10		-3
30	+20	±0	+7
50	+40	+25	+52