

# PB□ series 2-Stage Vacuum Pad

## Product features

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### Feature

- Average difference in height: Designed as double corrugated pad is suitable for uneven workpieces, for example, tube materials or cartons.
- Diversification: Various sizes, materials and brackets can be selected.
- Durability: Rubber with extremely high oil resistance material, long lifetime and high strength.



### PB series selection table:

Pad type	1					2	3	4				5		
	Bracket							Outer diameter	Stroke	Vacuum pad material				Ball joint type
	F	K	T	FS	TS	N	S			SE	E	05	20	60
PB	●	●	●	●	●	06	3 • 10	●	●	●	●	●		
	●	●	●	●	●	08		●	●	●	●	●		
	●	●	●	●	●	10	4 • 10	●	●	●	●	●		
	●	●	●	●	●	15		●	●	●	●	●		
	●	●	●	●	●	20	6 • 15	●	●	●	●		●	
	●	●	●	●	●	30		●	●	●	●		●	
	●	●	●	●	●	40		●	●	●	●		●	
	●	●	●	●	●	50		●	●	●	●		●	
	●	●	●		●	60	10 • 30	●	●	●	●			●
	●	●	●		●	80		●	●					●

# PB□ series 2-Stage Vacuum Pad

Code of order

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## Code of order **PBFS 10 x 4 N - R**



1	Bracket	Vertical entry	Vertical entry with fitting	Side entry	Vertical entry with spring	Side entry with spring
	Mark	F	K	T	FS	TS
	Image					

2	Mark	06	08	10	15	20	30	40	50	60	80
	Pad dia. (mm)	Ø6	Ø8	Ø10	Ø15	Ø20	Ø30	Ø40	Ø50	Ø60	Ø80

3 ● Only available to FS, TS series

Mark	Stroke (mm)	Outer diameter (mm)	Mark	Stroke (mm)	Outer diameter (mm)
3	3	Ø6, Ø8	6	6	Ø20, Ø30 Ø40, Ø50
10	10				
4	4	Ø10, Ø15	15	15	
10	10				

● Only available to TS series

Mark	Stroke (mm)	Outer diameter (mm)
10	10	Ø60, Ø80
30	30	

4	Mark	Vacuum pad material	Hardness (HS)	Ambient and fluid temperature	Color	Electrical resistance(Note)
	N	NBR(Rubber)	A60/S	-26~120°C	Black	-
	S	Silicon, Silicone rubber	A60/S	-20~180°C	White	-
	SE	Anti-static rubber	A60/S	-20~180°C	Black	10 <sup>4</sup> ~10 <sup>6</sup> Ω • cm
	E	Low resistance & anti-static rubber	A70/S	-20~180°C	Black	200 Ω • cm

● Note: The above value covers only general characteristics of subject rubber materials. Pad materials used by CHELIC pass internal standard.

5		With ball joint type
Mark	Outer diameter (mm)	
05	Ø5, Ø6, Ø8, Ø10, Ø15	
20	Ø20, Ø25, Ø30, Ø35, Ø40, Ø50	
60	Ø60, Ø80	

● Note: According to vacuum pad specification to py proper free holder.

● Note :Please refer to P3-2.96

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## Product features

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### Vacuum pad material

Mark	Vacuum pad material	Hardness (HS)	Ambient and fluid temperature	Color	Electrical resistance(Note)
N	NBR(Rubber)	A60/S	-26~120°C	Black	-
S	Silicon, Silicone rubber	A60/S	-20~180°C	White	-
SE	Anti-static rubber	A50/S	-20~180°C	Black	$10^4 \sim 10^6 \Omega \cdot \text{cm}$
E	Low resistance & anti-static rubber	A70/S	-20~180°C	Black	$200 \Omega \cdot \text{cm}$

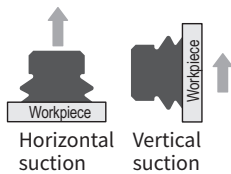
Note: The above value covers only general characteristics of subject rubber materials. Pad materials used by CHELIC pass internal standard.

### Vacuum control system

Theoretical suction is calculated from pad size and vacuum value, which is only a number for reference. Theoretical suction is a number under static status. Please reserve enough margin while adding workpieces and movement.

Before confirm the Qty and location of suction pad, please reserve enough margin.

#### ● Suction type



#### ● Calculation formu

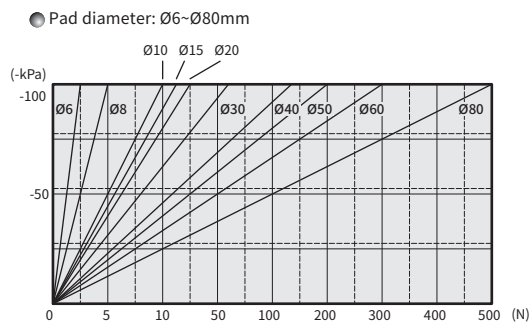
$$W = \frac{P \times A}{-10}$$

W: Force N

P : Vacuum pressure kPa

A : Pad area dimensions  $\text{cm}^2$

### Theoretical suction



### Product weight

Item	PB									
Model	6	8	10	15	20	30	40	50	60	80
Weight(g)	0.25	0.27	0.63	0.94	1.6	5.3	10.7	20.5	35.6	81

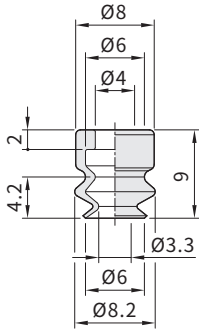
# PB□ series 2-Stage Vacuum Pad

Dimensions-Double layer PB series

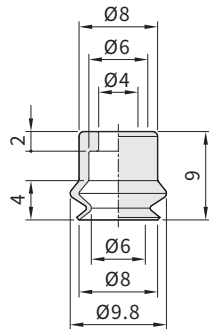
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## External dimensions

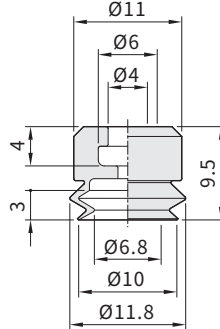
● PB 06



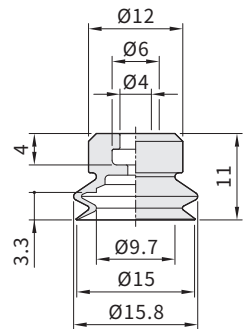
● PB 08



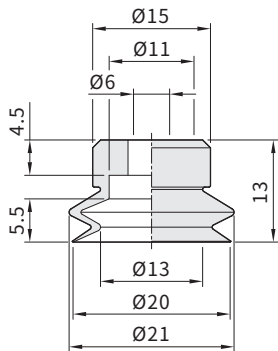
● PB 10



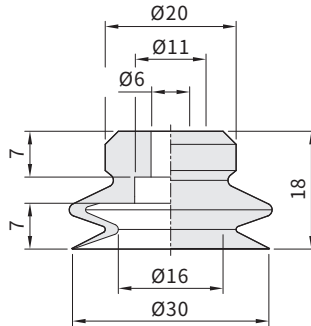
● PB 15



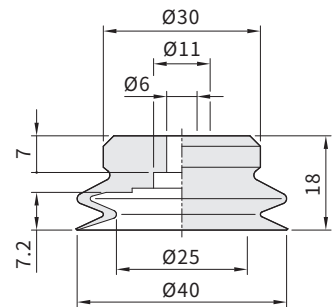
● PB 20



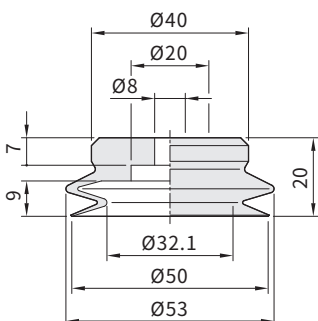
● PB 30



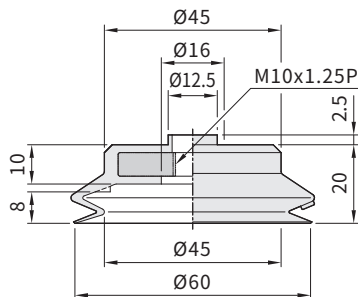
● PB 40



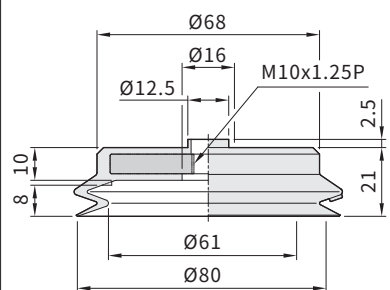
● PB 50



● PB 60



● PB 80



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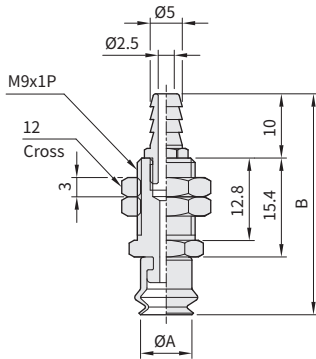
VP

# PB□ series 2-Stage Vacuum Pad

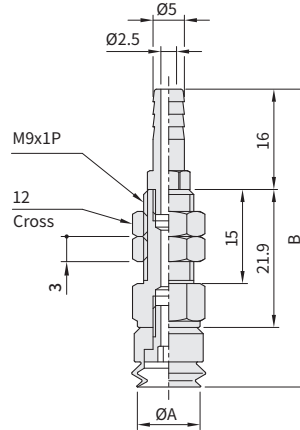
Dimensions-PBF series/ Vertical entry

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■ Ø6, Ø8



■ Ø10, Ø15



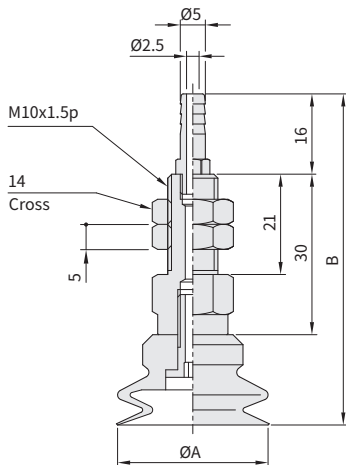
Unit: mm

Pad type	Model	Pad dia. A	Whole length B	C	Size of PU tube
Circle pad	PBF-06	Ø2	20.8	34.4	PU tube Ø6xØ4
	PBF-08	Ø8	23.5	34.4	

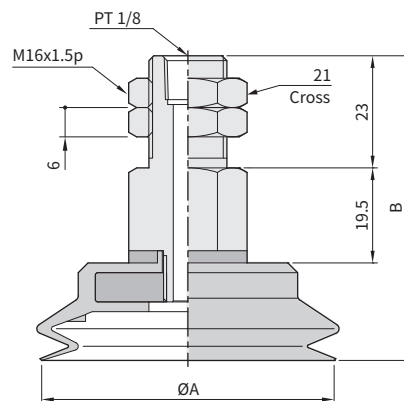
Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBF-10	Ø10	47.5	PU tube Ø6xØ4
	PBF-15	Ø15	49	

■ Ø20 ~ Ø50



■ Ø60, Ø80



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBF-20	Ø20	61	PU tube Ø6xØ4
	PAF-30	Ø30	66	
	PBF-40	Ø40	66	
	PBF-80	Ø50	68	

Unit: mm

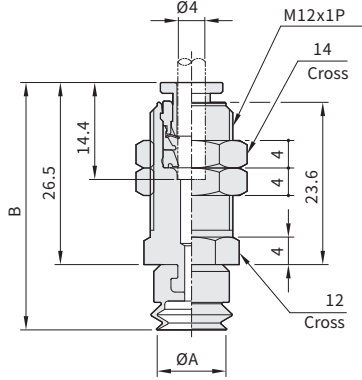
Pad type	Model	Pad dia. A	Whole length B	Size of joint
Circle pad	PBF-60	Ø60	62.5	PT 1/8
	PBF-80	Ø80	63.5	

# PB□ series 2-Stage Vacuum Pad

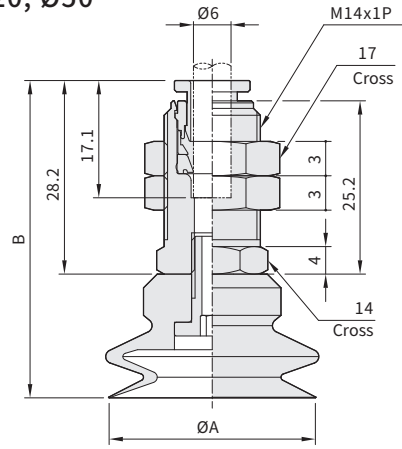
Dimensions-PBK series/ Vertical entry with fitting

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## Ø6, Ø15



## Ø20, Ø50



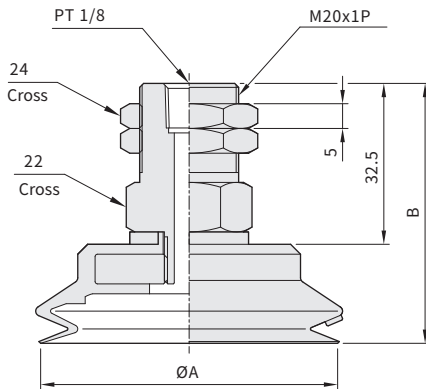
Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBK-06	Ø6	35.5	PU tube Ø4 x Ø2.5
	PBK-08	Ø8	35.5	
	PBK-10	Ø10	36	
	PBK-15	Ø15	37.5	

Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBK-20	Ø20	41.2	PU tube Ø6 x Ø4
	PBK-30	Ø30	46.2	
	PBK-40	Ø40	46.2	
	PBK-50	Ø50	48.2	

## Ø60 ~ Ø80



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	C	Size of joint
Circle pad	PBK-60	Ø60	52.5	22.5	PT 1/8
	PBK-80	Ø80	53.5	23.5	

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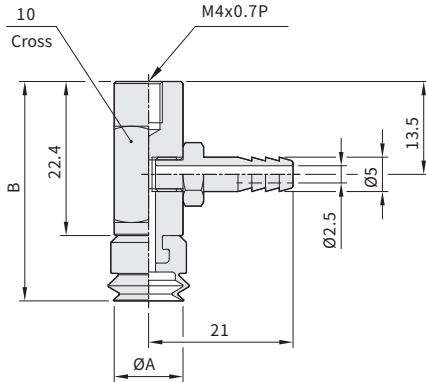
VP

# PB□ series 2-Stage Vacuum Pad

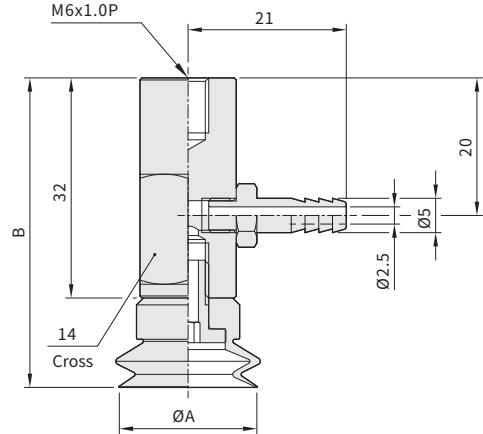
Dimensions-PBT series/ Side entry

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■ Ø6, Ø15



■ Ø20, Ø50



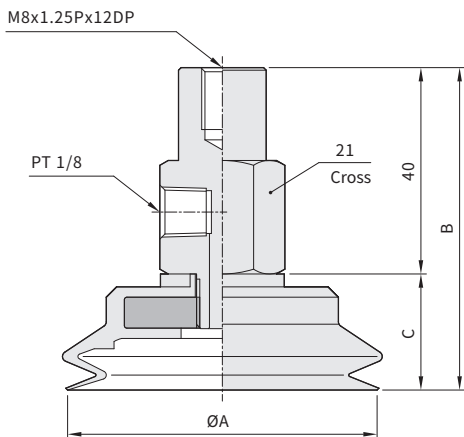
Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBT-06	Ø6	31.4	PU tube Ø4xØ2.5
	PBT-08	Ø8	31.4	
	PBT-10	Ø10	31.9	
	PBT-15	Ø15	33.4	

Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBT-20	Ø20	45	PU tube Ø6xØ4
	PBT-30	Ø30	50	
	PBT-40	Ø40	50	
	PBT-50	Ø50	52	

■ Ø60 ~ Ø80



Unit: mm

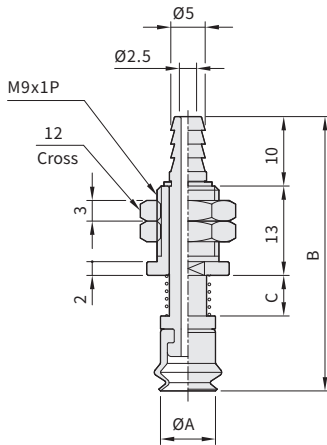
Pad type	Model	Pad dia. A	Whole length B	C	Size of joint
Circle pad	PBT-60	Ø60	62.5	22.5	PT 1/8
	PBT-80	Ø80	63.5	23.5	

# PB□ series 2-Stage Vacuum Pad

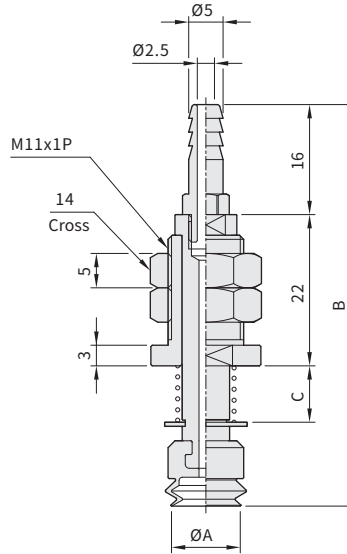
Dimensions-PBFS series/ Vertical entry with spring

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■ Ø6, Ø8



■ Ø10, Ø15



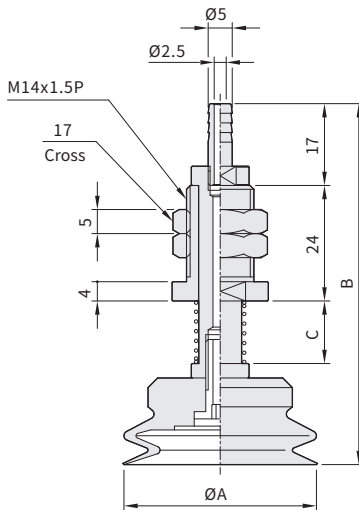
Unit: mm

Unit: mm

Pad type	Model	Pad dia. A	Stroke 3		Stroke 10		Size of PU tube Ø6xØ4	Spring compression length
			B	C	B	C		
Circle pad	PBFS-06	Ø6	40	6	54	20	Ø6xØ4	3, 10
	PBFS-08	Ø8	40	6	54	20		

Pad type	Model	Pad dia. A	Stroke 4		Stroke 10		Size of PU tube Ø6xØ4	Spring compression length
			B	C	B	C		
Circle pad	PBFS-10	Ø10	58.4	8	70.4	20	Ø6xØ4	4, 10
	PBFS-15	Ø15	59.9	8	71.9	20		

■ Ø20 ~ Ø50



Unit: mm

Pad type	Model	Pad dia. A	Stroke 6		Stroke 15		Size of PU tube Ø6 x Ø4	Spring compression length
			B	C	B	C		
Circle pad	PBFS-20	Ø20	69	13	89.5	30	Ø6 x Ø4	6, 15
	PBFS-30	Ø30	75	13	94.5	30		
	PBFS-40	Ø40	75	13	94.5	30		
	PBFS-50	Ø50	77	13	96.5	30		

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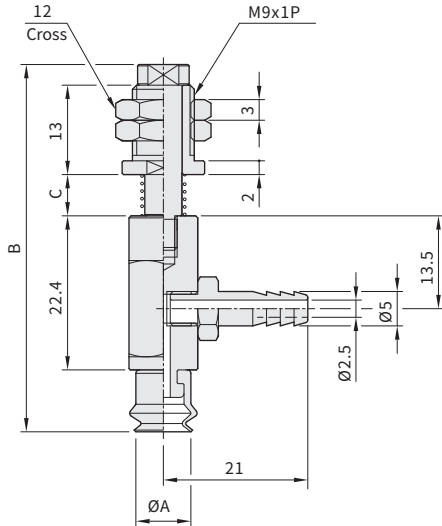


# PB□ series 2-Stage Vacuum Pad

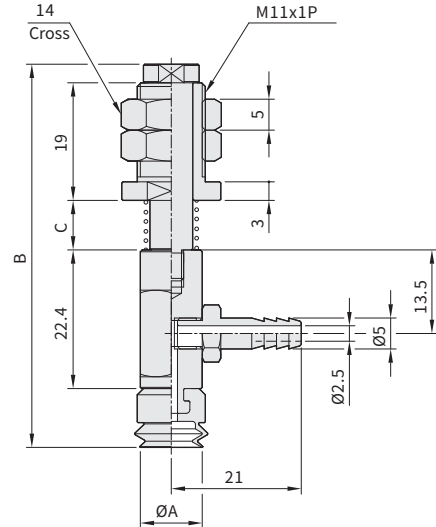
Dimensions-PBTS series/ Side entry with spring

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■ Ø6, Ø8



■ Ø10, Ø15



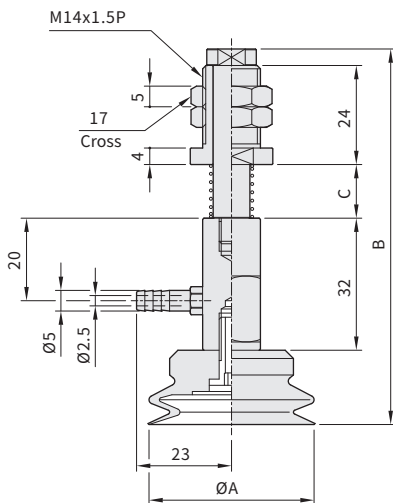
Unit: mm

Pad type	Model	Pad dia.		Stroke 3		Stroke 10		Size of PU tube	Spring compression length
		A	B	B	C	B	C		
Circle pad	PBTS-06	Ø6	53.4	6	67.4	20	20	PU tube Ø6xØ4	3, 10
	PBTS-08	Ø8	53.4	6	67.4	20	20		

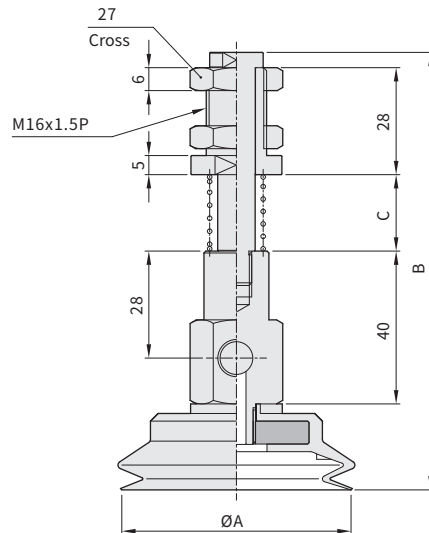
Unit: mm

Pad type	Model	Pad dia.		Stroke 4		Stroke 10		Size of PU tube	Spring compression length
		A	B	C	B	C			
Circle pad	PBTS-10	Ø10	61.9	8	73.9	20	20	PU tube Ø6xØ4	4, 10
	PBTS-15	Ø15	63.4	8	75.4	20	20		

■ Ø20, Ø50



■ Ø60 ~ Ø80



Unit: mm

Pad type	Model	Pad dia.		Stroke 6		Stroke 15		Size of PU tube	Spring compression length
		A	B	B	C	B	C		
Circle pad	PBTS-20	Ø20	83	13	96	30	30	PU tube Ø6 x Ø4	6, 15
	PBTS-30	Ø30	91	13	108	30	30		
	PBTS-40	Ø40	91	13	108	30	30		
	PBTS-50	Ø50	93	13	110	30	30		

Unit: mm

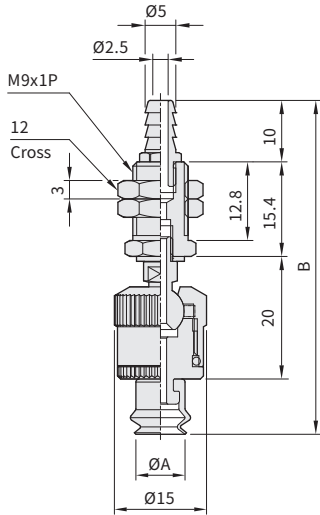
Pad type	Model	Pad dia.		Stroke 10		Stroke 30		Size of PU tube	Spring compression length
		A	B	C	B	C			
Circle pad	PBTS-60	Ø60	114.5	20	154.5	60	60	PU tube Ø6xØ4	10, 30
	PBTS-80	Ø80	115.5	20	155.5	60	60		

# PB□ series 2-Stage Vacuum Pad

Dimensions-PBF-R series/ Vertical entry-Ball joint type

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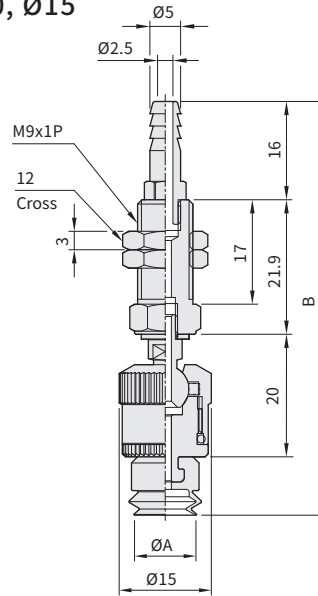
## Ø6, Ø8



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBF-06-R	Ø6	54.5	PU tube 6 x 4
	PBF-08-R	Ø8	54.5	

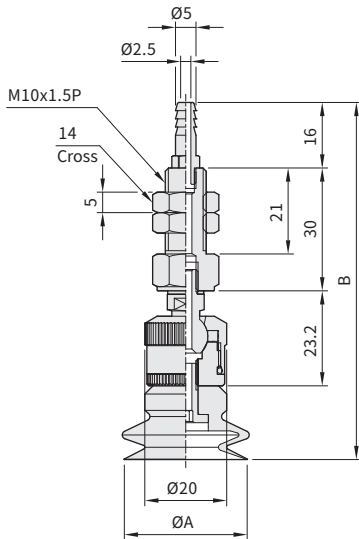
## Ø10, Ø15



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBF-10-R	Ø10	67.5	PU tube 6 x 4
	PBF-15-R	Ø15	69	

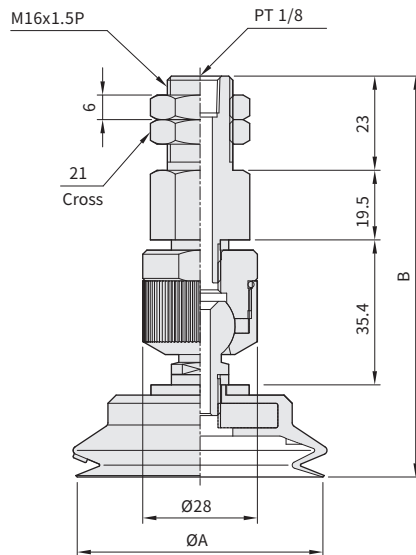
## Ø20 ~ Ø50



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBF-20-R	Ø20	82.2	PU tube 6 x 4
	PBF-30-R	Ø30	87.2	
	PBF-40-R	Ø40	87.2	
	PBF-50-R	Ø50	89.2	

## Ø60 ~ Ø80



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBF-60-R	Ø60	98	PT 1/8
	PBF-80-R	Ø80	99	

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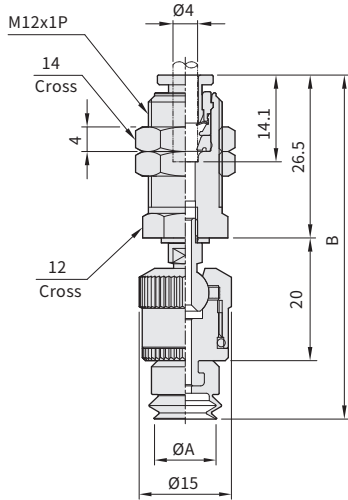
VP

# PB□ series 2-Stage Vacuum Pad

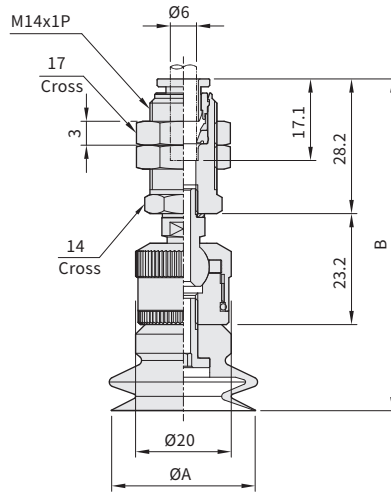
Dimensions-PBK-R series/ Vertical entry with fitting-Ball joint type

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## Ø6, Ø15



## Ø20 ~ Ø50



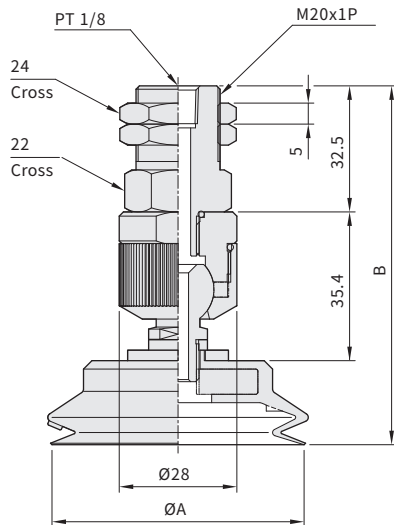
Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBK-06-R	Ø6	55.5	PU tube Ø4 x Ø2.5
	PBK-08-R	Ø8	55.5	
	PBK-10-R	Ø10	56	
	PBK-15-R	Ø15	57.5	

Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBK-20-R	Ø20	64.5	PU tube 4 x 6
	PBK-30-R	Ø30	69.5	
	PBK-40-R	Ø40	69.5	
	PBK-50-R	Ø50	71.5	

## Ø60, Ø80



Unit: mm

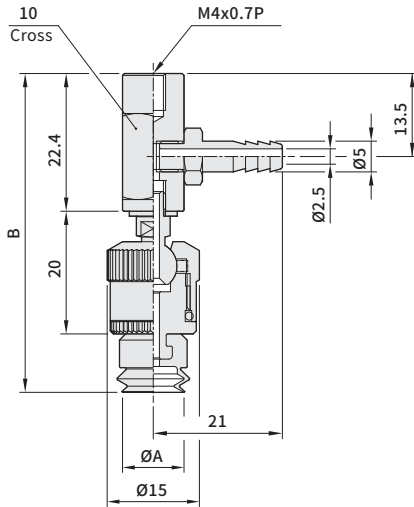
Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBK-60-R	Ø60	85.5	PT 1/8
	PBK-80-R	Ø80	86.5	

# PB□ series 2-Stage Vacuum Pad

Dimensions-PBT-R series/ Side entry-Ball joint type

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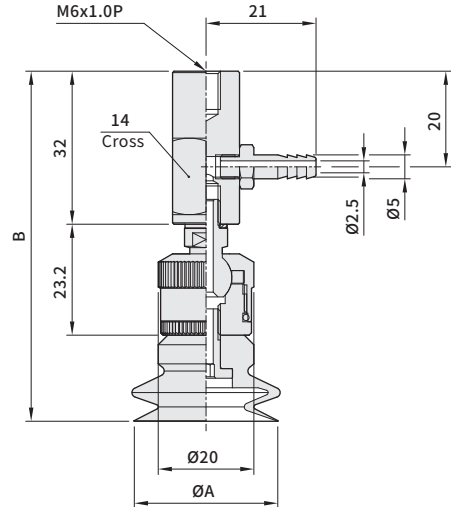
## ■ Ø6 ~ Ø15



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBT-06-R	Ø6	51.4	PU tube 6 x 4
	PBT-08-R	Ø8	51.4	
	PBT-10-R	Ø10	51.9	
	PBT-15-R	Ø15	53.4	

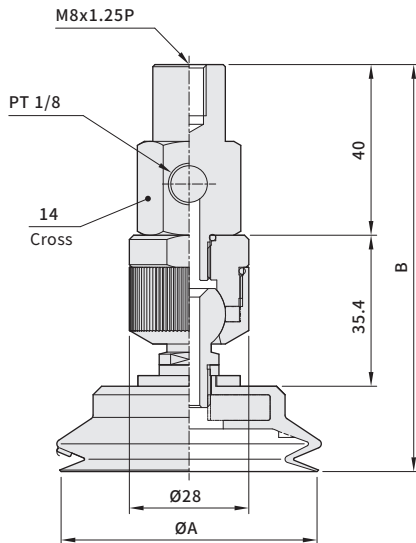
## ■ Ø20 ~ Ø50



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBT-20-R	Ø20	68.2	PU tube 4 x 6
	PBT-30-R	Ø30	73.2	
	PBT-40-R	Ø40	73.2	
	PBT-50-R	Ø50	75.2	

## ■ Ø60, Ø80



Unit: mm

Pad type	Model	Pad dia. A	Whole length B	Size of PU tube
Circle pad	PBK-60-R	Ø60	85.5	PT 1/8
	PBK-80-R	Ø80	86.5	

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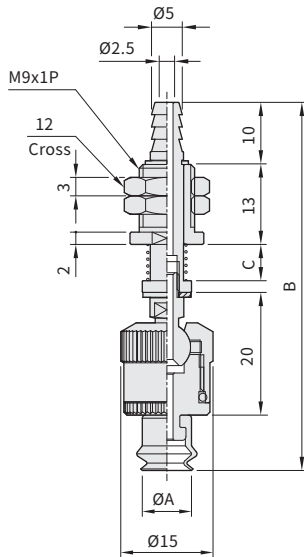
VP

# PB□ series 2-Stage Vacuum Pad

Dimensions-PBFS-R series/ Vertical entry with spring-Ball joint type

CHELIC

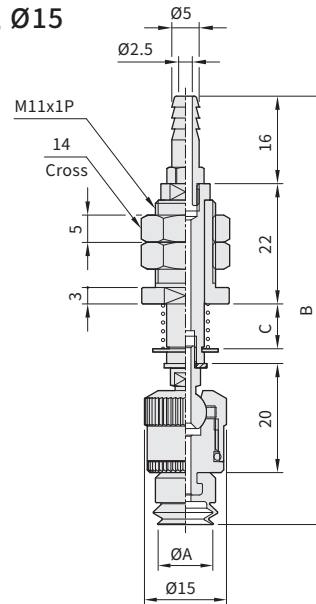
## Ø6, Ø8



Unit: mm

Pad type	Model	Pad dia. A	Stroke 3		Stroke 10		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBFS-06- <b>R</b>	Ø6	60	6	74	20	PU tube 6 x 4	3, 10
	PBFS-08- <b>R</b>	Ø8	60	6	74	20		

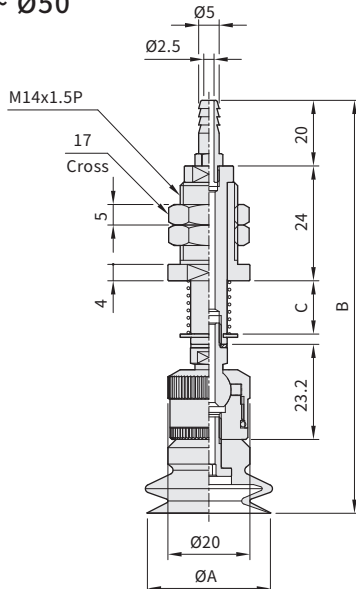
## Ø10, Ø15



Unit: mm

Pad type	Model	Pad dia. A	Stroke 4		Stroke 10		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBFS-10- <b>R</b>	Ø10	78.5	8	90.5	20	PU tube 6 x 4	4, 10
	PBFS-15- <b>R</b>	Ø15	80	8	92	20		

## Ø20 ~ Ø50



Unit: mm

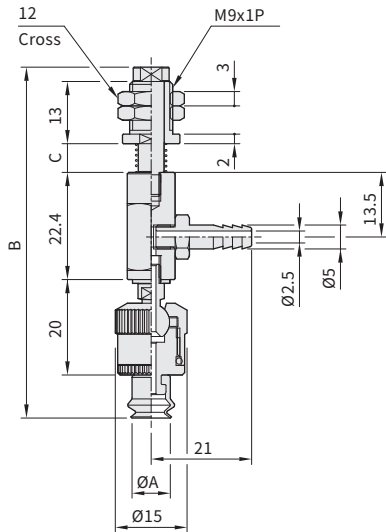
Pad type	Model	Pad dia. A	Stroke 6		Stroke 15		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBFS-20- <b>R</b>	Ø20	95.7	13	112.7	30	PU tube 6 x 4	6, 15
	PBFS-30- <b>R</b>	Ø30	100.7	13	117.7	30		
	PBFS-40- <b>R</b>	Ø40	100.7	13	117.7	30		
	PBFS-50- <b>R</b>	Ø50	102.7	13	119.7	30		

# PB□ series 2-Stage Vacuum Pad

Dimensions-PBTS-R series/ Side entry with spring-Ball joint type

CHELIC

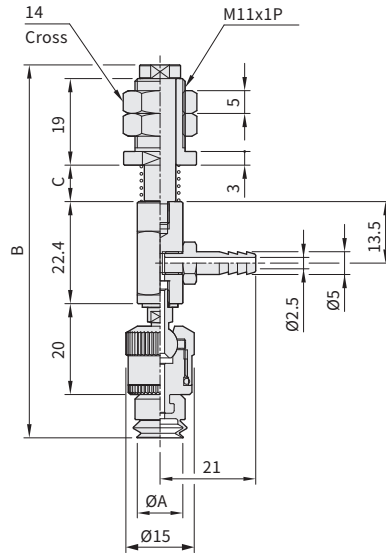
■ Ø6, Ø8



Unit: mm

Pad type	Model	Pad dia. A	Stroke 3		Stroke 10		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBTS-06-R	Ø6	73.4	6	87.4	20	PU tube 6 x 4	3, 10
	PBTS-08-R	Ø8	73.4	6	87.4	20		

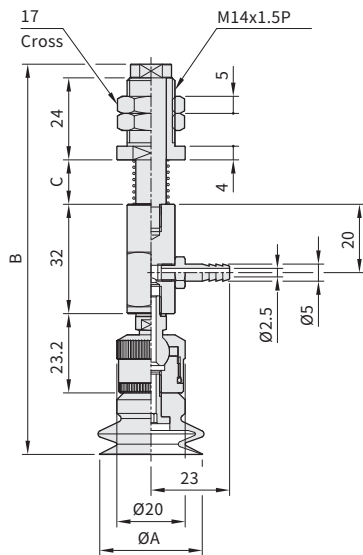
■ Ø10, Ø15



Unit: mm

Pad type	Model	Pad dia. A	Stroke 4		Stroke 10		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBTS-10-R	Ø10	81.9	8	93.9	20	PU tube 6 x 4	4, 10
	PBTS-15-R	Ø15	83.4	8	95.4	20		

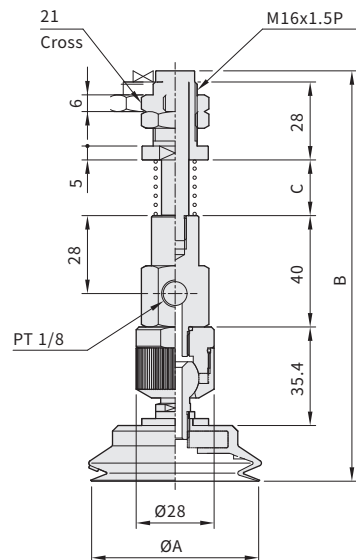
■ Ø20, Ø50



Unit: mm

Pad type	Model	Pad dia. A	Stroke 6		Stroke 15		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBTS-20-R	Ø20	109.2	13	126.2	30	PU tube 6 x 4	6, 15
	PBTS-30-R	Ø30	114.2	13	131.2	30		
	PBTS-40-R	Ø40	114.2	13	131.2	30		
	PBTS-50-R	Ø50	116.2	13	133.2	30		

■ Ø60, Ø80



Unit: mm

Pad type	Model	Pad dia. A	Stroke 10		Stroke 30		Size of PU tube	Spring compression length
			B	C	B	C		
Circle pad	PBTS-60-R	Ø60	147.5	20	187.5	60	PT 1/8	10, 30
	PBTS-80-R	Ø80	148.5	20	188.5	60		

PA

PB

PC

PAG

PAO

PAP

PAQ

PAW

PAL

PBL

PCL

PAR

PS

VP