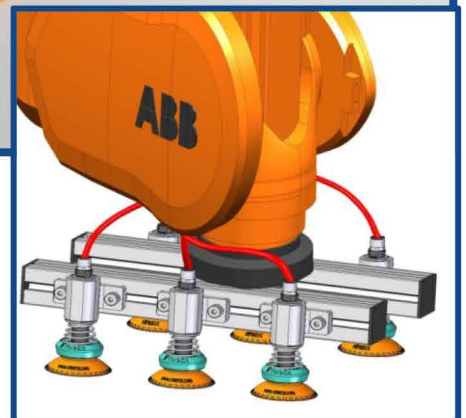


# Vacuum Technology

# VMECA

## SMART PLUNGERS



## Smart Plungers



## Features



### [ Plungers ]

- Easy to maintenance – less down time.
- Easy and flexible mount on profile (T-slot)
- Durable material with light weight
- Long product life time
- Compact design
- Less slide friction (with ball bush)



### [ Smart Cup ]

- Easy assemble/disassemble
- No need tool for pad replace
- Saving cost
- Long product lifetime
- Ball joint integrated (wide angle)
- Good lifting force.
- Eco-friendly recycled products
- Various suction cup type and size available.

Your application for optimal performance,  
 Choose **Smart Plungers** – best solution!!



**SPF 4040**



**SPF 4080**



**SPL Series**  
 (Level Spring Type)



**SPB Series**  
 (Ball Joint Type + Level spring)



**VDF Type**  
 (Ø50, 60, 80, 100)



**VBF Type**  
 (Ø50, 60, 80, 100)



**FCF Type**  
 (Ø 30, 40, 50, 60, 70, 80, 100, 125)



## SPL (Level Spring Type)



Order No.

SPL 20 - VDF 50 PU

①

②

① Model / Stroke

SPL 20 - 20 mm

SPL 30 - 30 mm

SPL 50 - 50 mm

SPL 70 - 70 mm

② Suction Cup

VBF50PU - Ø50

VBF60PU - Ø60

VBF80PU - Ø80

VBF100PU - Ø100

FCF30PU - Ø30

FCF40PU - Ø40

FCF50PU - Ø50

FCF60PU - Ø60

FCF70PU - Ø70

FCF80PU - Ø80

FCF100PU - Ø100

FCF125PU - Ø125

VDF50PU - Ø50

VDF60PU - Ø60

VDF80PU - Ø80

VDF100PU - Ø100

- Easy replace suction cup rubber
- Various spring stroke option available
- Less slide friction (with ball bush)
- Light weight and long lifetime (hard anodized aluminum)
- Compact size (tapered shape return spring)
- Easy installation and flexible mount  
(Integral bracket with level spring plunger)

## SPB

Order No.

### (Ball Joint + Level Spring Type)



SPB 20SB - VDF 50 PU

①

②

① Model / Stroke

SPB 20 - 20 mm

② Suction Cup

VBF50PU - Ø50

VBF60PU - Ø60

VBF80PU - Ø80

VBF100PU - Ø100

FCF30PU - Ø30

FCF40PU - Ø40

FCF50PU - Ø50

FCF60PU - Ø60

FCF70PU - Ø70

FCF80PU - Ø80

FCF100PU - Ø100

FCF125PU - Ø125

VDF50PU - Ø50

VDF60PU - Ø60

VDF80PU - Ø80

VDF100PU - Ø100

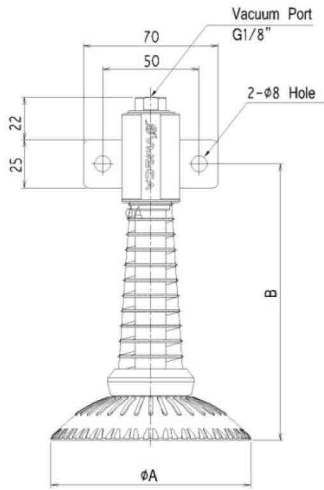
- Easy replace suction cup rubber
- Always return back to center position (wide ball-joint angle)
- Less slide friction (with ball bush)
- Light weight and long lifetime (hard anodized aluminum)
- Very compact size (compare with typical ball-joint mount)
- Easy installation and flexible mount  
(Integral bracket with level spring plunger)



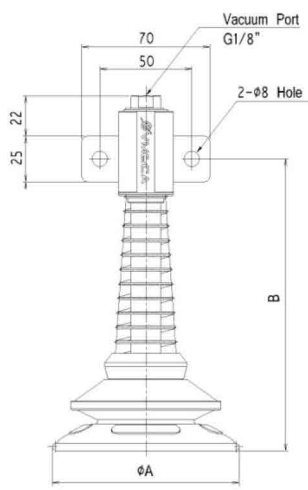
## Dimensional information

### SPL (Level Spring Type)

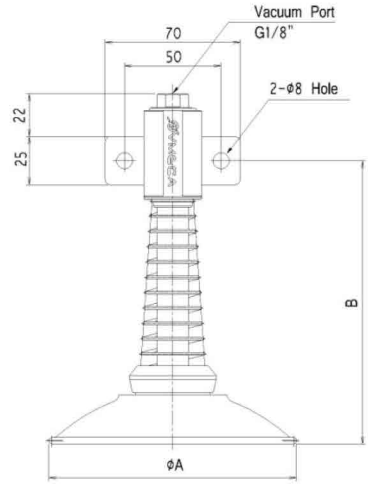
[Measure unit : mm]



[VDF Type]



[VBF Type]



[FCF Type]

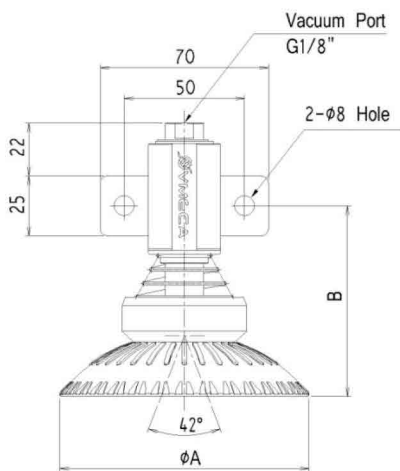
VDF (ØA)	Stroke (B)			
	20 Stroke	30 Stroke	50 Stroke	70 Stroke
50	71	92	112	134
60	74	95	115	137
80	77.6	98.6	118.6	140.6
100	80.3	101.3	121.3	143.3

VBF (ØA)	Stroke (B)			
	20 Stroke	30 Stroke	50 Stroke	70 Stroke
50	79.2	100.2	120.2	142.2
60	81	101.9	121.9	143.9
80	92.6	113.6	133.6	155.6
100	96.3	117.3	137.3	159.3

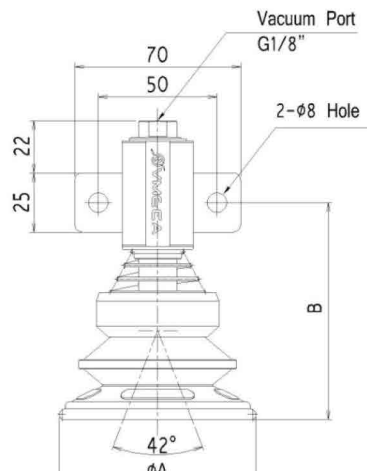
FCF (ØA)	Stroke (B)			
	20 Stroke	30 Stroke	50 Stroke	70 Stroke
50				
60				
70				
80	77.7	99	119	141
100	76.9	97.9	117.9	139.9
125	83.5	104.5	124.5	146.5

### SPB (Ball Joint + Level Spring Type)

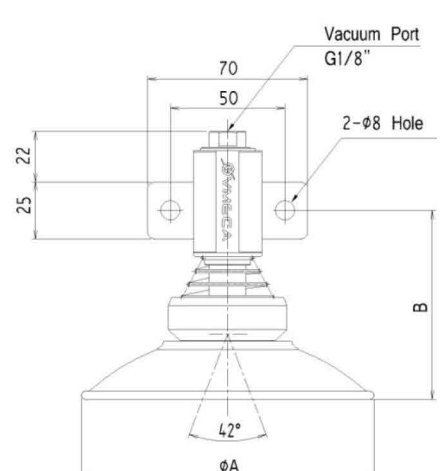
[Measure unit : mm]



[VDF Type]



[VBF Type]



[FCF Type]

VDF(ØA)	B	Stroke
50	70	20
60	73	
80	76.6	
100	79.3	
125	83.5	

VDF(ØA)	B	Stroke
50	70	20
60	73	
80	76.6	
100	79.3	
125	83.5	

FCF(ØA)	B	Stroke
50		20
60		
70		
80	77	
100	76	

## VBF Series (Bellows & Flat)

### Features and Strengths

- ✓ Enhancing the adhesion to the surface
- ✓ Good lifting force can be achieved with this cup in the vertical plane
- ✓ Prevent transformation when lifting thin metal plate



### Suitable for Handling

- Plywood · Carton box · Sheet metal
- Veneer sheets · Automotive panels and door

### Order No.

**VBF 80 PU**

① | ②

① Model		
VBF 50	-	Ø 50
VBF 60	-	Ø 60
VBF 80	-	Ø 80
VBF 100	-	Ø 100

② Material		
PU	-	Poly Urethane

### Recommended (max.) lifting forces

Model	Volume (cm <sup>3</sup> )	Lifting force (kg) - Perpendicular			Lifting force (kg) - Parallel		
		-20kPa	-60kPa	-90kPa	-20kPa	-60kPa	-90kPa
VBF50	11	4.18	13.2	16.28	2.09	9.6	14.7
VBF60	22	8.94	16.26	18.54	6.84	12.84	16.92
VBF80	59.5	11.92	21.68	24.72	9.12	17.12	22.56
VBF100	103.5	14.9	27.1	30.9	11.4	21.4	28.2

## FCF Series (Flat Curve)

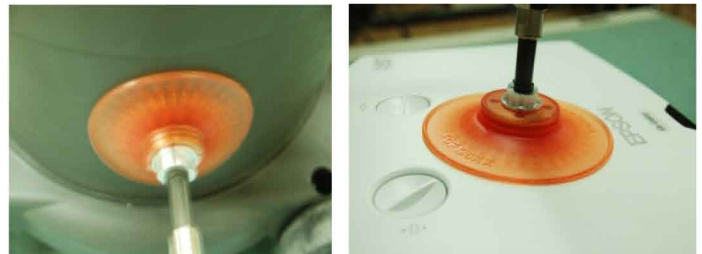
### Features and Strengths

- ✓ Highest transmission of holding forces
- ✓ Highly wear-resistant PU material
- ✓ Especially on oily sheet metal handling
- ✓ Avoidance of deep-drawing, even with thin sheets



### Suitable for Handling

- . Flat sheet metal
- . Press line
- . Veneer sheet
- . Automotive panels
- . Slightly curved surface



### Order No.

**FCF 80 PU**

- ① |
- ② |

① Model		
FCF 50	-	Ø 50
FCF 60	-	Ø 60
FCF 70	-	Ø 70
FCF 80	-	Ø 80
FCF 100	-	Ø 100
FCF 125	-	Ø 125

② Material		
PU	-	Poly Urethane

### Recommended (max.) lifting force

Model	Volume (cm <sup>3</sup> )	Lifting force (kg) - Perpendicular			Lifting force (kg) - Parallel		
		-20kPa	-60kPa	-90kPa	-20kPa	-60kPa	-90kPa
FCF50							
FCF60							
FCF70							
FCF80	36.0	9	23	31	8	23	28
FCF100	58.0	14	35	48	12	32	45
FCF125	115.0	20	49	68	18	42	64

## VDF Series (Deep Flat Curve)

### Features and Strengths

- ✓ Good adjustment to different work-piece outlines
- ✓ Highest transmission of holding forces
- ✓ Highly wear-resistant PU material
- ✓ Especially on oily sheet metal handling
- ✓ Avoidance of deep-drawing, even with thin sheets



### Suitable for Handling

- . Sheet metal
- . Carton box
- . Press line
- . Automotive panels and door
- . Concaved surface



### Order No.

**VDF 80 PU**

① | ②

① Model		
VDF 50	-	Ø 50
VDF 60	-	Ø 60
VDF 80	-	Ø 80
VDF 100	-	Ø 100

② Material		
PU	-	Poly Urethane

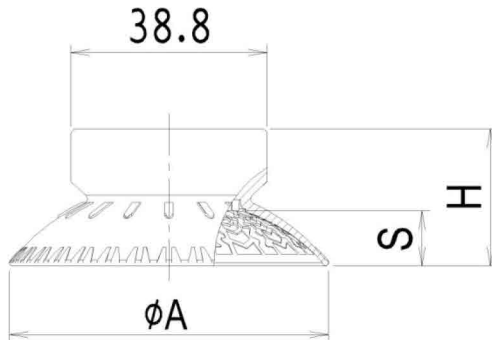
### Recommended (max.) lifting force

Model	Volume (cm <sup>3</sup> )	Lifting force (kg) - Perpendicular			Lifting force (kg) - Parallel		
		-20kPa	-60kPa	-90kPa	-20kPa	-60kPa	-90kPa
VDF50	14	4.1	10.1	14	3.5	9.2	18.5
VDF60	24	5.6	13.7	19	4.3	3.8	24.5
VDF80	50.5	8.6	21.2	29.3	7.2	18.5	27
VDF100	94	12.6	30.8	41.7	12.3	28.2	39.6

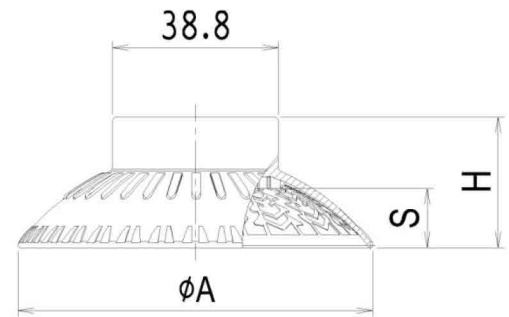


## Dimensional information

### VDF

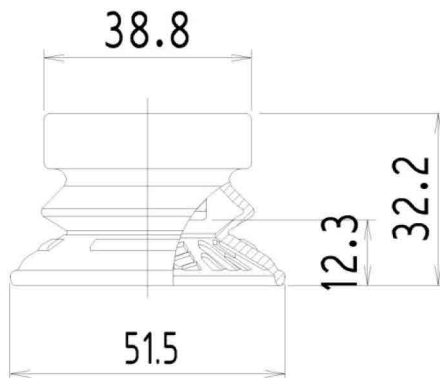


Model	ϕA	S	H
VDF50	53	8.4	24
VDF60	63	10.9	27

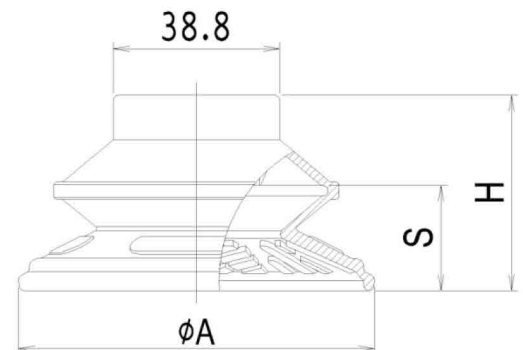


Model	ϕA	S	H
VDF80	83	13.9	30.6
VDF100	103.7	17.3	33.3

### VBF

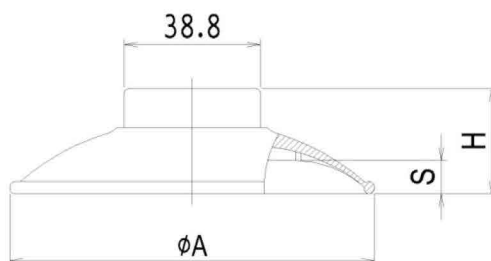


Model	ϕA	S	H
VBF50	51.5	12.3	32.2



Model	ϕA	S	H
VBF60	62.8	15.8	33.9
VBF80	83	24.5	45.6
VBF100	102	26	49.3

### FCF



Model	A1	ST	H1
FCF 50			
FCF 60			
FCF 70			
FCF 80	82.5	7.6	31
FCF 100	104	9.5	29.9
FCF 125	128	13	36.5

## SPF 4040



Technical Data	
Material	- A6N01S-T5
Surface Processing	- Anodized
Weight	- 1.95kg/m
Section Area	- 720.4mm <sup>2</sup>
Second Section Moment	- I <sub>x</sub> = 11.4 x 10cm <sup>4</sup> - I <sub>y</sub> = 12.0 x 10cm <sup>4</sup>
Specification	- 4,000mm / 6,000mm
Color	- Silver

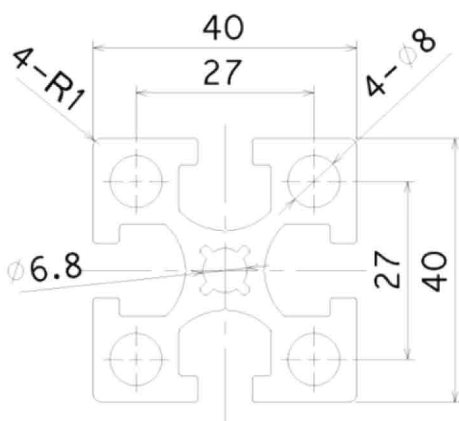
## SPF 4080



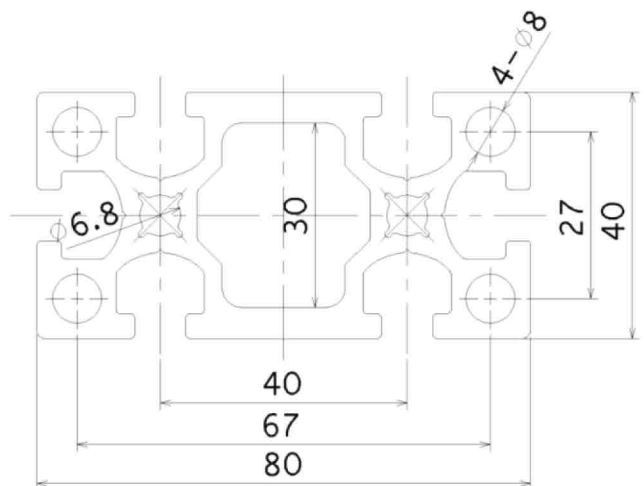
Technical Data	
Material	- A6N01S-T5
Surface Processing	- Anodized
Weight	- 3.39kg/m
Section Area	- 1,251.8mm <sup>2</sup>
Second Section Moment	- I <sub>x</sub> = 22.5 x 10cm <sup>4</sup> - I <sub>y</sub> = 79.1 x 10cm <sup>4</sup>
Specification	- 4,000mm / 6,000mm
Color	- Silver

### Dimensional Information

## SPF 4040



## SPF 4080



[Measure unit : mm]

## SBK 4035 (Bracket)



Technical Data	
Material	- ALDC – 8
Color	- Bright
Application	- 40mm (for profile connection)

## SBK 4075 (Bracket)



Technical Data	
Material	- ALDC – 8
Color	- Bright
Application	- 40mm (for profile connection)

## SBT - 08 (inc. Bolt, Nut)



Technical Data (Bolt)	
Material	- SCMM-440
Application	- 8mm (part for mounting)

Technical Data (Nut)	
Material	- ALDC – 8
Application	- 8mm (part for mounting)

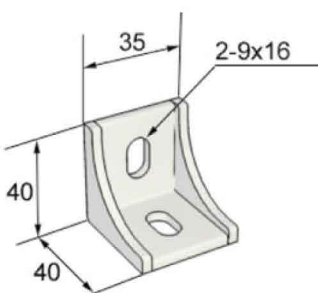
## SPC 4040, SPC 4080 (Profile Cover)



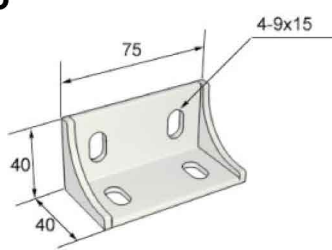
Technical Data		
제품	Application	Material
SPC 4040	4040 Profile frame connection	PVC / AL
SPC 4080	4080 Profile frame connection	PVC / AL

## Dimensional information

### SPB 4035



### SPB 4075



[Measure unit : mm]