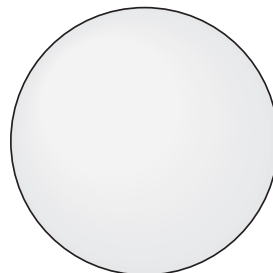
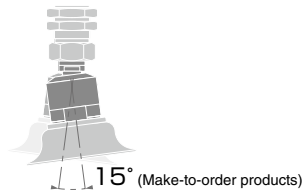
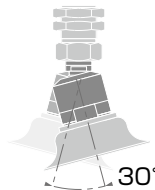


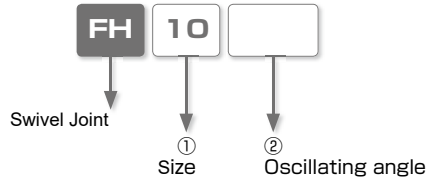
Vacuum Cup Ball Swiveling Attachment Swivel Joint

- *Suitable for lifting work-pieces with rounded or inclined surface*



Swivel Joint

Model Designation (Example)



① Swivel joint size

Code	10	20	60
Cup size (mm)	ø10, ø15	ø20 ~ ø50, 4×10 ~ 8×30	ø60 ~ ø100

※ . Joint size code "20" is applicable for cup size ø10mm and ø15mm for sponge series due to the structural reasons.

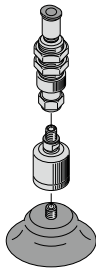
② Oscillating angle

Code	No code	— 15
Oscillating angle	30°	15° (option)

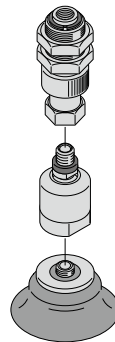
Installing Method

Use a proper tool to tighten the knurling part of FH10 and FH20 or use a wrench to tighten the parallel cut part of FH60. Refer to the dimensional drawings of the parallel cut part.

● FH10 and FH20



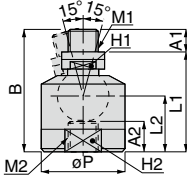
● FH60



Swivel Joint

FH Swivel Joint

RoHS compliant



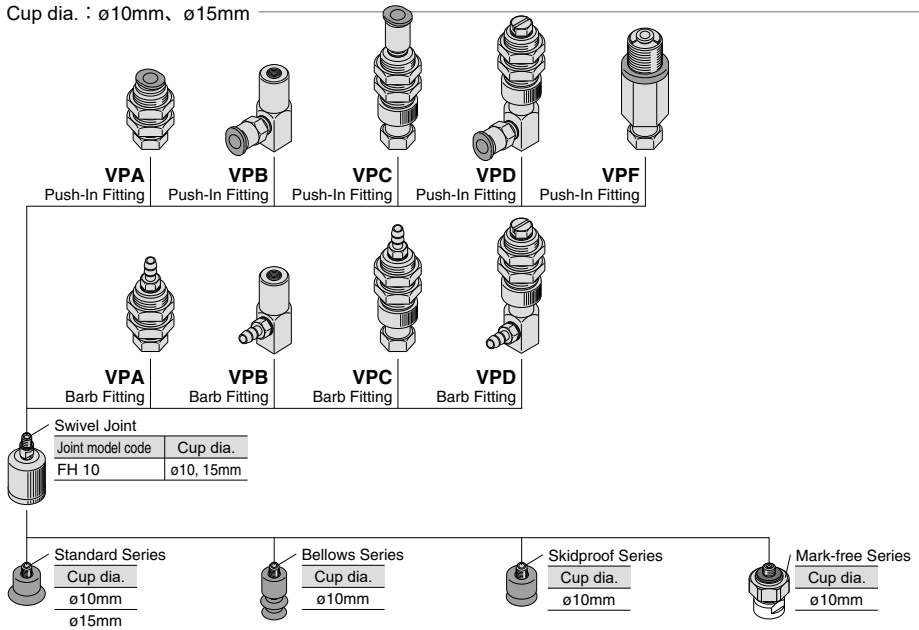
Unit : mm

Model code	M1	M2	A1	A2	B	L1	L2	øP	Hex. H1	Hex. H2	Weight (g)	CAD file name
FH10□	M4x0.7	M4x0.7	3.4	7	23	19.6	11.1	15	4	—	9	VVP-229
FH20□	M6x1	M6x1	6	6.5	28.5	22.5	12.5	20	7	—	19.5	
FH60□	M10x1.5	M10x1.5	10	9.5	40.5	30.5	18.5	28	12	24	57.5	

※ Fill in □ in Model code with "15" for oscillating angle 15 degrees

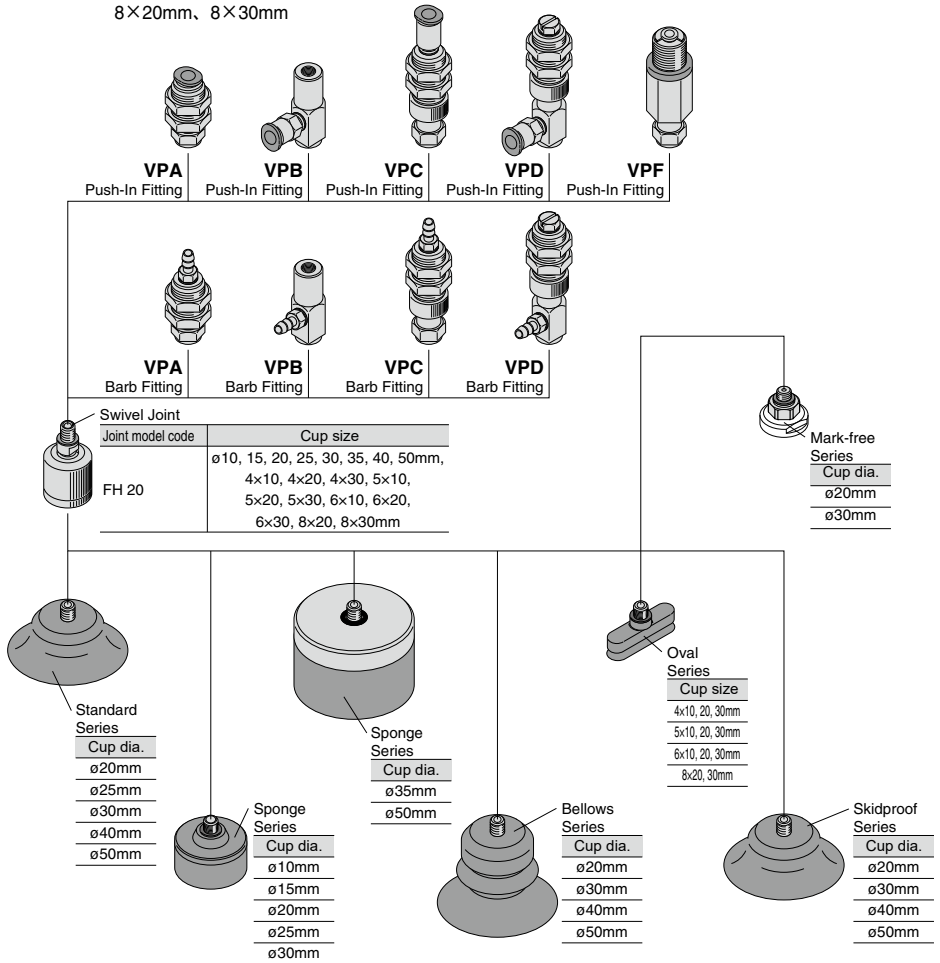
Construction (FH10)

● Cup dia. : ø10mm, ø15mm



Construction (FH20)

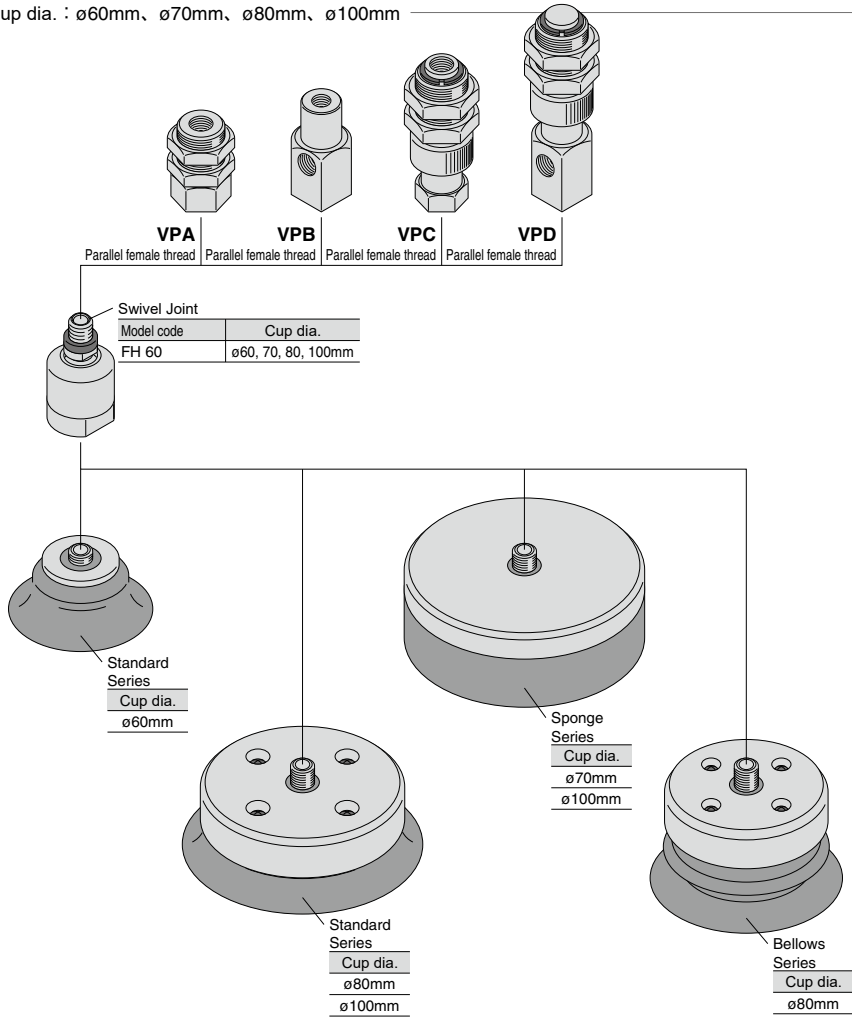
- Cup dia. : $\phi 10\text{mm}$, $\phi 15\text{mm}$, $\phi 20\text{mm}$, $\phi 25\text{mm}$, $\phi 30\text{mm}$, $\phi 35\text{mm}$, $\phi 40\text{mm}$, $\phi 50\text{mm}$, $4 \times 10\text{mm}$,
Oval cup : $4 \times 20\text{mm}$, $4 \times 30\text{mm}$, $5 \times 10\text{mm}$, $5 \times 20\text{mm}$, $5 \times 30\text{mm}$, $6 \times 10\text{mm}$, $6 \times 20\text{mm}$, $6 \times 30\text{mm}$,
 $8 \times 20\text{mm}$, $8 \times 30\text{mm}$



Swivel Joint

Construction (FH60)

● Cup dia. : $\phi 60\text{mm}$, $\phi 70\text{mm}$, $\phi 80\text{mm}$, $\phi 100\text{mm}$



△ Detailed Safety Instructions

Before using PISCO products, be sure to read "Safety Instructions" and "Safety Instruction Manual" and "Common Safety Instructions for Vacuum Series".

Warning

1. Swivel Joint shall not be combined with non-PISCO brand vacuum cup and cup direct mounting filter. Do not use it for other purpose. Swivel Joint is designed for PISCO vacuum cup only. Thus wrong usage may cause damage to the product.
2. When a work-piece is conveyed by a pad with Swivel Joint, consider the acceleration, impacts and wind pressure. Otherwise, there is a possibility of damaging the joint by the excessive load.
3. Avoid any excessive pressure on Swivel Joint. Otherwise, there is a possibility of damaging the joint.

Caution

1. Pay special attention to the angle position of Swivel Joint. The angle position can be changed after sucking work-piece by work-piece weight and acceleration or impact during transportation.
2. When Swivel Joint is attached or replaced, refer to the following recommended tightening torque to tighten the parallel cut part of the joint.

- Table: Recommended tightening torque

Thread size (mm)	Tightening torque
M4×0.7	0.5 ~ 0.6N·m
M6×1	1.5 ~ 2N·m
M10×1.5	5 ~ 8N·m