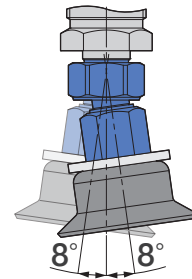


Suitable for lifting workpieces with sloping and curved surfaces

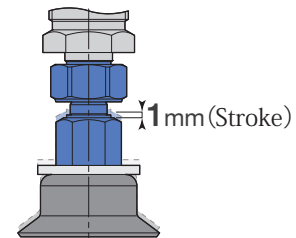
## Swivel Connector for suction cups



■ For adapting to angled surfaces

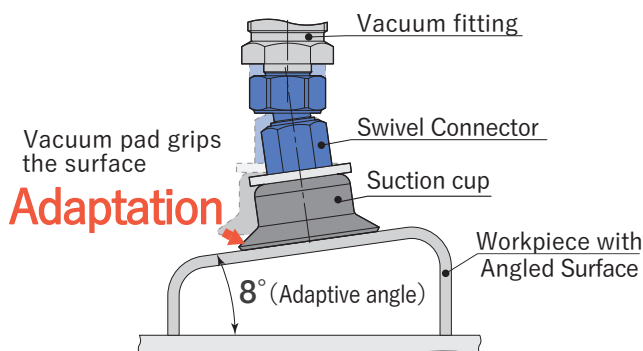


■ 1mm Cushion (stroke) to reduce shock when contact is made

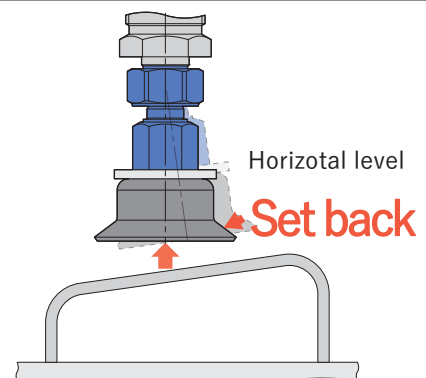


■ Internal spring resets Vacuum cup to Horizontal position

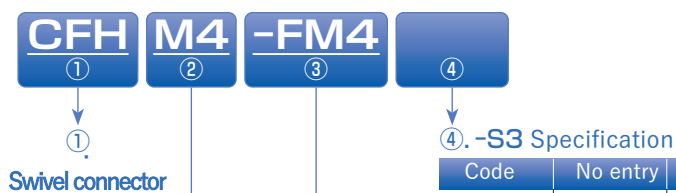
### ■ LIFTING



### ■ DISCHARGING



Model Designation (Example)



Code	No entry	-S3
Type	Standard	Metal parts : Copper alloy free Sealing parts : FKM or NHBR

③. Female thread port size

Code	-FM4	-FM5	-FM6	
Size	M4x0.7	M5x0.8	M6x1	
Connection	Screw-mount			
Connecting code	-M4	—	-M6	
Cup size (mm) · Type code	∅4	L	—	
	∅6	L, LB	—	
	∅8	L, LB	—	
	∅10	R, L, LB, K, B, W, F, FH	—	S
	∅15	R, A, L, LB, B, F, FH	—	S
	∅20	—	—	R, A, L, LB, K, B, W, F, FH, S
	∅25	—	—	R, A, B, F, FH, S
	∅30	—	—	R, A, L, K, B, W, F, FH, S
	∅35	—	—	S
	∅40	—	—	R, A, L, K, B, W
	∅50	—	—	R, A, K, B, W, S
	2x4	—	—	E
	3.5x7	—	—	E
	4x10	—	—	E
	4x20	—	—	E
	4x30	—	—	E
	5x10	—	—	E
5x20	—	—	E	
5x30	—	—	E	
6x10	—	—	E	
6x20	—	—	E	
6x30	—	—	E	
8x20	—	—	E	
8x30	—	—	E	

※) The details of suction cup type code  
 R : Standard General, A : Standard Deep, L : Soft, LB : Soft bellows, K : Skidproof, B : Bellows, W : Multi-bellows  
 F : Flat, FH : Flat high flow, S : Sponge, E : Oval

②. Male thread port size

Code	M4	M5	M6
Size	M4x0.7	M5x0.8	M6x1
Connection	Screw-mount		
Connecting code	-M4	—	-M6

△ Caution

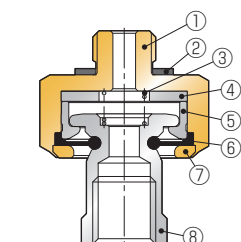
1. Depending on the condition of use, wearing may occur inside of Swivel connector. Please check the dust emission influence on the usage.
2. Swivel connector does not have rotating prevention structure. So it may not suitable for swinging/rotating transportation.
3. The products is made of stainless steel but this is not for rust prevention. Rusts may occur depending on the condition of use.
4. When installing Swivel connector, please make sure tightening the thread according to the torque in the following table with appropriate tools

Thread size	Tightening torque (N·m)
M4x0.7	0.7~0.8
M5x0.8	1~1.5
M6x1	1.5~2.0

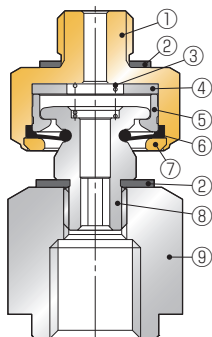
## Specification

Fluid	Air
Service vacuum pressure (kPa)	0 ~ -29.5inHg (0 ~ -100)
Service temperature range (°C)	32 ~ 140 °F (0 ~ 60) (no freezing)

## Structure



CFH□-FM4(-S3) or  
CFH□-FM5(-S3)

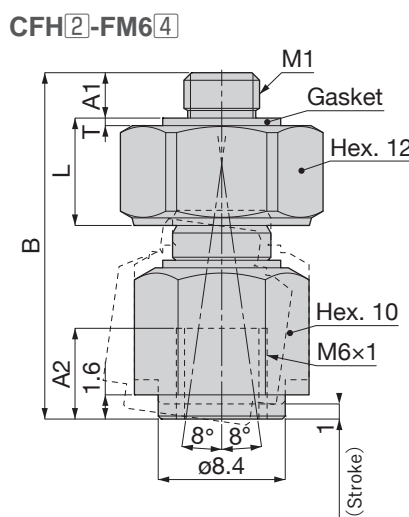
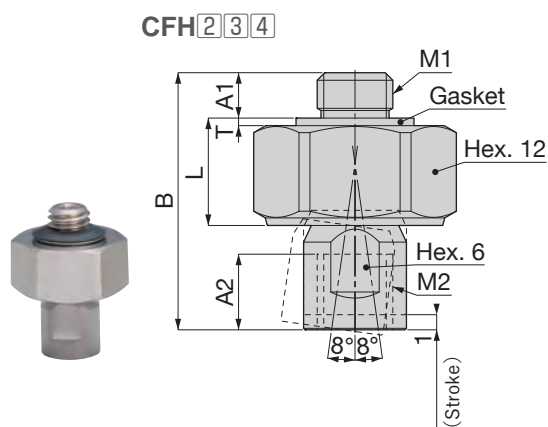


CFH□-FM6(-S3)

No.	Part	Material/Treatment	
		Standard	-S3 specification
①	Metal body	Brass (Electroless nickel-plated)	Stainless steel (Austenitic or Ferritic) ※1
②	Gasket	SPCC + NBR (Cup connecting code : -M4)	SUS316 + FKM
		SUS304 + NBR (Cup connecting code : -M5)	
		SUS304 + NBR (Cup connecting code : -M6)	
③	Spring	SUS304	
④	Spacer	SUS304 + Nitriding	
⑤	Retainer	Stainless steel ※1 + Nitriding	
⑥	Diaphragm	FKM	
⑦	Plate	Brass (Electroless nickel-plated)	Stainless steel (Austenitic or Ferritic) ※1
⑧	Guide	Stainless steel ※1 + Nitriding	
⑨	Screw adapter	Brass (Electroless nickel-plated)	Stainless steel (Austenitic or Ferritic) ※1

※1) Anti-corrosivity is equivalent to SUS303

## Dimensions



Unit : mm

Model code	M1	M2	A1	A2	B	L	T	Weight (g)	Price (\$)		Suction cup connecting code	
									4 : No entry	4 : -S3		
CFHM4-FM4 [4]	M4x0.7	M4x0.7	2.9[3]	4	16	7.2[7.1]	0.6[0.5]	6.1	19.09	28.18	-M4	
CFHM4-FM5 [4]		M5x0.8		5					17	19.09	28.18	—
CFHM5-FM4 [4]	M5x0.8	M4x0.7	3	4	16	7.1	0.5	6.1	19.09	28.18	-M4	
CFHM5-FM5 [4]		M5x0.8		5					17	19.09	28.18	—
CFHM5-FM6 [4]		M6x1		6					22.9	12	23.64	32.73
CFHM6-FM5 [4]	M6x1	M5x0.8	4	5	18	7.1	0.5	6.4	19.06	28.18	—	
CFHM6-FM6 [4]		M6x1		6					23.9	12	23.64	32.73

※) The dimensions in the brackets [ ] are for -S3 specification

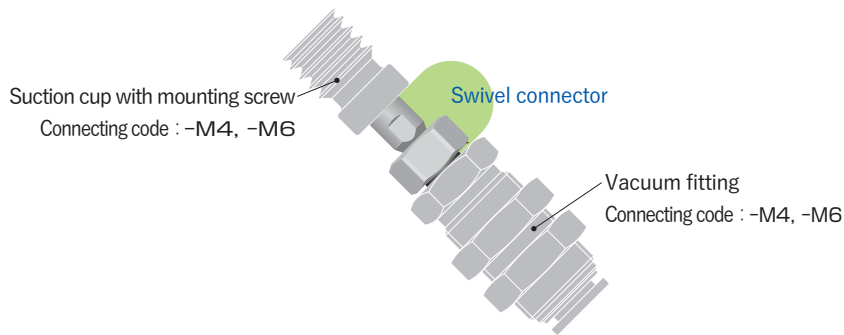
Vacuum cup types

Cup type	Standard		Soft	Soft bellows	Skidproof	Bellows	Multi-bellows
	General	Deep					
Swivel connector model code	Cup dia./size (mm)						
<b>CFHM4-FM4</b>	ø10, ø15	ø15	ø4~ø15	ø6~ø15	ø10	ø10, ø15	ø10
<b>CFHM6-FM6</b>	ø20~ø50		ø20~ø40	ø20	ø20~ø50	ø20~ø50	ø20~ø50

Cup type	Flat	Flat high suction flow	Sponge	Oval
	Swivel connector model code	Cup dia./size (mm)		
<b>CFHM4-FM4</b>	ø10, ø15		—	—
<b>CFHM6-FM6</b>	ø20~ø30		ø10~ø50	2×4~8×30

※) The vacuum cups with cup connecting code : -M4, -M6 can be installed



Vacuum fittings

Fitting type	Miniature	<b>VPMA</b>	<b>VPMB</b>	—	<b>VPMC</b>	<b>VPMD</b>	—	—
	Standard	<b>VPA</b>	<b>VPB</b>	—	<b>VPC</b>	<b>VPD</b>	—	<b>VPF</b>
		—	<b>VPHE</b>	<b>VPHEW</b>	<b>VPHC</b>	<b>VPHD</b>	<b>VPHDW</b>	—
	Outer spring plunger	—	—	—	<b>VPOC</b>	<b>VPOD</b>	—	—
Low dust emission	—	—	—	<b>VPLFC</b>	—	—	—	
Port position	Fitting			Level compensator			Spring leveler	
	Top	Right angle	Both sides	Top	Right angle	Both sides	Direct-mount	
Connection : Screw								
Cup connecting code	<b>-M4</b>	○	○	○	○	○	○	
	<b>-M6</b>	○	○	○	○	○	○	