

SUCTION CUPS / Mark free flat Structure

FF20



Features and Strengths

Excellent performance for very thin and light weight products
Mark free

Examples of use

Semiconductor, Display, Thin Film



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular		
		- 20 kPa	- 60 kPa	- 90 kPa
FF20	0.07	0.54	1.35	1.6

※ The lifting force above does not include safety factor

Material Specifications

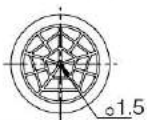
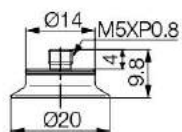
Material	Hardness Shore (°)	Color	Temperature (°C)
NBR	60	Black	-20~110
Silicone	55	Red	-70~200
White Silicone	55	Translucent White	-70~200
White Silicone (FDA)	55	Translucent White	-70~200
High temp. Silicone	50	Blue	-70~280
Conductive Silicone	70	Smoky Black	-45~90
Urethane	60	Dark Green	0~100
Mark Free	75	Black	-10~100

Material Resistance

Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Alcohol	Good	Good	Good	Good	Good	Fair	Good
Acid	Fair	Poor	Poor	Poor	Poor	Poor	Excellent

Dimension

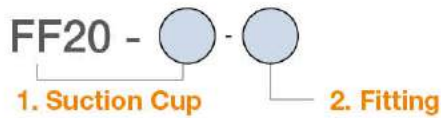
[Unit : mm]



[With M5M fitting]



Build an Ordering No.



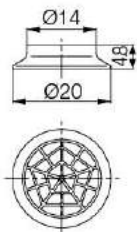
1. Suction cup	Description	Symbol
	Mark free and Flat structure suction cup, 20mm diameter, Nitrile (NBR)	FF20-N
	Mark free and Flat structure suction cup, 20mm diameter, Silicone	FF20-S
	Mark free and Flat structure suction cup, 20mm diameter, White silicone	FF20-WS
	Mark free and Flat structure suction cup, 20mm diameter, White silicone (FDA)	FF20-WS (FDA)
	Mark free and Flat structure suction cup, 20mm diameter, High temperature silicone	FF20-HS
	Mark free and Flat structure suction cup, 20mm diameter, Conductive silicone	FF20-CS
	Mark free and Flat structure suction cup, 20mm diameter, Urethane	FF20-U
	Mark free and Flat structure suction cup, 20mm diameter, Mark free	FF20-A
2. Fitting	Description	Symbol
	Fitting, M5 male	M5M

Spare Parts – Rubber Parts

Part No.	Description	Weight (g)	Color
FF20-N	Mark free and Flat structure suction cup, 20mm diameter, Nitrile (NBR)	0.99	Black
FF20-S	Mark free and Flat structure suction cup, 20mm diameter, Silicone	0.94	Red
FF20-WS	Mark free and Flat structure suction cup, 20mm diameter, White silicone	0.96	Translucent White
FF20-WS (FDA)	Mark free and Flat structure suction cup, 20mm diameter, White silicone (FDA)	0.96	Translucent White
FF20-HS	Mark free and Flat structure suction cup, 20mm diameter, High temperature silicone	1.02	Blue
FF20-CS	Mark free and Flat structure suction cup, 20mm diameter, Conductive silicone	0.98	Smoky Black
FF20-U	Mark free and Flat structure suction cup, 20mm diameter, Urethane	1.02	Dark Green
FF20-A	Mark free and Flat structure suction cup, 20mm diameter, Mark free	1.06	Black

Dimension

[Unit : mm]



Spare Parts – Fittings

Part No. (Code No.)	Fitting size	Description	Weight (g)
350 007 0102	M5M	M5 male	2.59