

SUCTION CUPS / Deep

VD Series

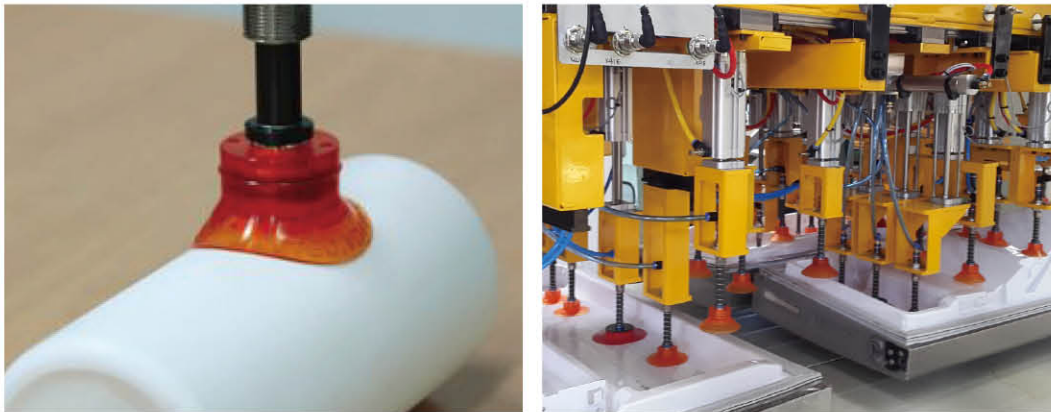
Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Advantages

Best suited to curved or irregular surfaces
Strong lifting force when transferring without shaking goods

Application



Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels

Available size options

Model	Description	Model	Description
VD30	Deep suction cup, Ø30	VD70	Deep suction cup, Ø70
VD40	Deep suction cup, Ø40	VD85	Deep suction cup, Ø85
VD50	Deep suction cup, Ø50	VD85X	Deep suction cup, Ø85
VD60	Deep suction cup, Ø60	VD90F	Deep suction cup, Ø90



I Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel			Page
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa	
VD30	4.50	1.22	2.55	3.06	0.73	1.53	1.83	342
VD40	7.00	2.04	3.97	5.00	1.22	2.38	3.00	344
VD50	13.50	3.57	7.44	9.38	2.14	4.46	5.62	346
VD60	22.00	5.50	14.00	18.50	3.30	8.40	11.10	348
VD70	38.00	7.15	18.80	24.90	4.20	11.60	16.20	350
VD85	60.00	10.00	28.00	39.00	6.00	16.80	23.40	352
VD85X	68.00	10.00	28.00	39.00	6.00	16.80	23.40	354
VD90F	56.00	9.25	24.36	32.17	7.97	14.42	18.15	356

※ The lifting force above does not include safety factor

SUCTION CUPS / Deep

VD30



Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD30	4.50	1.22	2.55	3.06	0.73	1.53	1.83

※ 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
Polyurethane	60	Translucent Orange	0~60

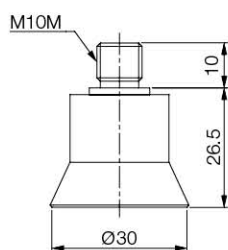
※ For additional material, see page 32~33

Material Resistance

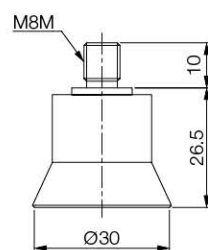
Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free	Polyurethane
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good	Excellent
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent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

Dimension

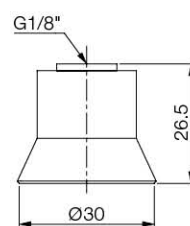
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[With M10M fitting]



[With M8M fitting]



[With 18F fitting]

Build an Ordering No.



: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 30mm diameter, Nitrile (NBR), M8 male	12.87	VD30-N-M8M
	Deep suction cup, 30mm diameter, Silicone, M8 male	12.83	VD30-S-M8M
	Deep suction cup, 30mm diameter, White silicone, M8 male	12.5	VD30-WS-M8M
	Deep suction cup, 30mm diameter, White silicone (FDA), M8 male	12.5	VD30-WS-M8M (FDA)
	Deep suction cup, 30mm diameter, High temperature silicone, M8 male	13.3	VD30-HS-M8M
	Deep suction cup, 30mm diameter, Conductive silicone, M8 male	12.74	VD30-CS-M8M
	Deep suction cup, 30mm diameter, Urethane, M8 male	13.33	VD30-U-M8M
	Deep suction cup, 30mm diameter, Mark free, M8 male	13.20	VD30-A-M8M
	Deep suction cup, 30mm diameter, Polyurethane, M8 male	11.75	VD30-PU-M8M
	Deep suction cup, 30mm diameter, Nitrile (NBR), M10 male	12.63	VD30-N-M10M
	Deep suction cup, 30mm diameter, Silicone, M10 male	12.26	VD30-S-M10M
	Deep suction cup, 30mm diameter, White silicone, M10 male	12.56	VD30-WS-M10M
	Deep suction cup, 30mm diameter, White silicone (FDA), M10 male	12.56	VD30-WS-M10M (FDA)
	Deep suction cup, 30mm diameter, High temperature silicone, M10 male	130.5	VD30-HS-M10M
	Deep suction cup, 30mm diameter, Conductive silicone, M10 male	12.5	VD30-CS-M10M
	Deep suction cup, 30mm diameter, Urethane, M10 male	13.08	VD30-U-M10M
	Deep suction cup, 30mm diameter, Mark free, M10 male	13.64	VD30-A-M10M
	Deep suction cup, 30mm diameter, Polyurethane, M10 male	11.53	VD30-PU-M10M
	Deep suction cup, 30mm diameter, Nitrile (NBR), G1/8 female	10.32	VD30-N-18F
	Deep suction cup, 30mm diameter, Silicone, G1/8 female	9.81	VD30-S-18F
	Deep suction cup, 30mm diameter, White silicone, G1/8 female	10.02	VD30-WS-18F
	Deep suction cup, 30mm diameter, White silicone (FDA), G1/8 female	10.02	VD30-WS-18F (FDA)
	Deep suction cup, 30mm diameter, High temperature silicone, G1/8 female	10.67	VD30-HS-18F
	Deep suction cup, 30mm diameter, Conductive silicone, G1/8 female	10.24	VD30-CS-18F
	Deep suction cup, 30mm diameter, Urethane, G1/8 female	10.57	VD30-U-18F
	Deep suction cup, 30mm diameter, Mark free, G1/8 female	11.14	VD30-A-18F
	Deep suction cup, 30mm diameter, Polyurethane, G1/8 female	9.42	VD30-PU-18F

SUCTION CUPS / Deep

VD40

Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD40	7.00	2.04	3.97	5.00	1.22	2.38	3.00

※ 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
Polyurethane	60	Translucent Orange	0~60

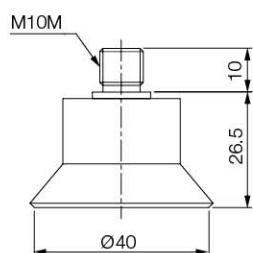
※ For additional material, see page 32~33

Material Resistance

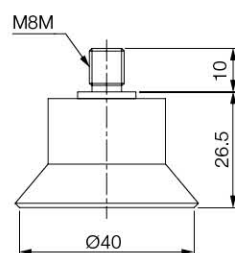
Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free	Polyurethane
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good	Excellent
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent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

Dimension

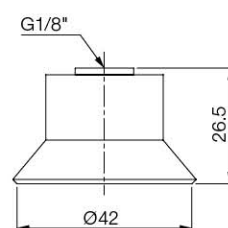
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[With M10M fitting]



[With M8M fitting]



[With 18F fitting]

Build an Ordering No.



: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 40mm diameter, Nitrile (NBR), M8 male	17.66	VD40-N-M8M
	Deep suction cup, 40mm diameter, Silicone, M8 male	17.08	VD40-S-M8M
	Deep suction cup, 40mm diameter, White silicone, M8 male	17.14	VD40-WS-M8M
	Deep suction cup, 40mm diameter, White silicone (FDA), M8 male	17.14	VD40-WS-M8M (FDA)
	Deep suction cup, 40mm diameter, High temperature silicone, M8 male	18.26	VD40-HS-M8M
	Deep suction cup, 40mm diameter, Conductive silicone, M8 male	17.48	VD40-CS-M8M
	Deep suction cup, 40mm diameter, Urethane, M8 male	18.29	VD40-U-M8M
	Deep suction cup, 40mm diameter, Mark free, M8 male	19.07	VD40-A-M8M
	Deep suction cup, 40mm diameter, Polyurethane, M8 male	16.12	VD40-PU-M8M
	Deep suction cup, 40mm diameter, Nitrile (NBR), M10 male	18.08	VD40-N-M10M
	Deep suction cup, 40mm diameter, Silicone, M10 male	16.92	VD40-S-M10M
	Deep suction cup, 40mm diameter, White silicone, M10 male	17.56	VD40-WS-M10M
	Deep suction cup, 40mm diameter, White silicone (FDA), M10 male	17.56	VD40-WS-M10M (FDA)
	Deep suction cup, 40mm diameter, High temperature silicone, M10 male	18.69	VD40-HS-M10M
	Deep suction cup, 40mm diameter, Conductive silicone, M10 male	17.9	VD40-CS-M10M
	Deep suction cup, 40mm diameter, Urethane, M10 male	18.73	VD40-U-M10M
	Deep suction cup, 40mm diameter, Mark free, M10 male	19.53	VD40-A-M10M
	Deep suction cup, 40mm diameter, Polyurethane, M10 male	16.5	VD40-PU-M10M
	Deep suction cup, 40mm diameter, Nitrile (NBR), G1/8 female	14.58	VD40-N-18F
	Deep suction cup, 40mm diameter, Silicone, G1/8 female	14.36	VD40-S-18F
	Deep suction cup, 40mm diameter, White silicone, G1/8 female	14.16	VD40-WS-18F
	Deep suction cup, 40mm diameter, White silicone (FDA), G1/8 female	14.16	VD40-WS-18F (FDA)
	Deep suction cup, 40mm diameter, High temperature silicone, G1/8 female	16.74	VD40-HS-18F
	Deep suction cup, 40mm diameter, Conductive silicone, G1/8 female	14.95	VD40-CS-18F
	Deep suction cup, 40mm diameter, Urethane, G1/8 female	15.67	VD40-U-18F
	Deep suction cup, 40mm diameter, Mark free, G1/8 female	17.07	VD40-A-18F
	Deep suction cup, 40mm diameter, Polyurethane, G1/8 female	13.31	VD40-PU-18F

SUCTION CUPS / Deep

VD50



Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD50	13.50	3.57	7.44	9.38	2.14	4.46	5.62

※ 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
Polyurethane	60	Translucent Orange	0~60

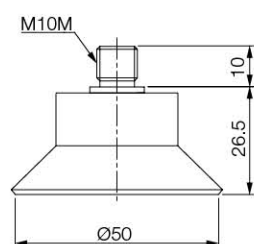
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Material Resistance

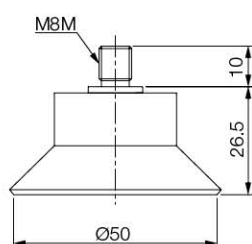
Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free	Polyurethane
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good	Excellent
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent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

Dimension

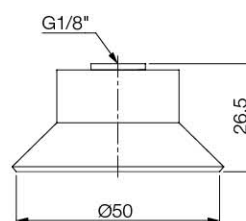
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[With M10M fitting]



[With M8M fitting]



[With 18F fitting]

Build an Ordering No.



: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 50mm diameter, Nitrile (NBR), M8 male	21.03	VD50-N-M8M
	Deep suction cup, 50mm diameter, Silicone, M8 male	20.82	VD50-S-M8M
	Deep suction cup, 50mm diameter, White silicone, M8 male	20.42	VD50-WS-M8M
	Deep suction cup, 50mm diameter, White silicone (FDA), M8 male	20.42	VD50-WS-M8M (FDA)
	Deep suction cup, 50mm diameter, High temperature silicone, M8 male	21.74	VD50-HS-M8M
	Deep suction cup, 50mm diameter, Conductive silicone, M8 male	20.82	VD50-CS-M8M
	Deep suction cup, 50mm diameter, Urethane, M8 male	21.78	VD50-U-M8M
	Deep suction cup, 50mm diameter, Mark free, M8 male	22.72	VD50-A-M8M
	Deep suction cup, 50mm diameter, Polyurethane, M8 male	19.2	VD50-PU-M8M
	Deep suction cup, 50mm diameter, Nitrile (NBR), M10 male	21.22	VD50-N-M10M
	Deep suction cup, 50mm diameter, Silicone, M10 male	20.18	VD50-S-M10M
	Deep suction cup, 50mm diameter, White silicone, M10 male	20.61	VD50-WS-M10M
	Deep suction cup, 50mm diameter, White silicone (FDA), M10 male	20.61	VD50-WS-M10M (FDA)
	Deep suction cup, 50mm diameter, High temperature silicone, M10 male	21.94	VD50-HS-M10M
	Deep suction cup, 50mm diameter, Conductive silicone, M10 male	21.01	VD50-CS-M10M
	Deep suction cup, 50mm diameter, Urethane, M10 male	21.98	VD50-U-M10M
	Deep suction cup, 50mm diameter, Mark free, M10 male	22.92	VD50-A-M10M
	Deep suction cup, 50mm diameter, Polyurethane, M10 male	19.37	VD50-PU-M10M
	Deep suction cup, 50mm diameter, Nitrile (NBR), G1/8 female	34.39	VD50-N-18F
	Deep suction cup, 50mm diameter, Silicone, G1/8 female	18.06	VD50-S-18F
	Deep suction cup, 50mm diameter, White silicone, G1/8 female	35.56	VD50-WS-18F
	Deep suction cup, 50mm diameter, White silicone (FDA), G1/8 female	35.56	VD50-WS-18F (FDA)
	Deep suction cup, 50mm diameter, High temperature silicone, G1/8 female	21.56	VD50-HS-18F
	Deep suction cup, 50mm diameter, Conductive silicone, G1/8 female	34.05	VD50-CS-18F
	Deep suction cup, 50mm diameter, Urethane, G1/8 female	19.99	VD50-U-18F
	Deep suction cup, 50mm diameter, Mark free, G1/8 female	20.47	VD50-A-18F
	Deep suction cup, 50mm diameter, Polyurethane, G1/8 female	31.39	VD50-PU-18F

SUCTION CUPS / Deep

VD60



Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD60	22.00	5.50	14.00	18.50	3.30	8.40	11.10

※ 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
Polyurethane	60	Translucent Orange	0~60

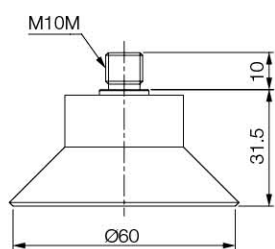
※ For additional material, see page 32~33

Material Resistance

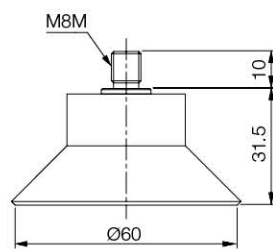
Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free	Polyurethane
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good	Excellent
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent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

Dimension

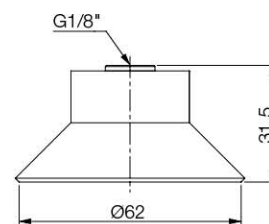
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[With M10M fitting]



[With M8M fitting]



[With 18F fitting]

Build an Ordering No.



: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 60mm diameter, Nitrile (NBR), M8 male	35.51	VD60-N-M8M
	Deep suction cup, 60mm diameter, Silicone, M8 male	34.31	VD60-S-M8M
	Deep suction cup, 60mm diameter, White silicone, M8 male	34.49	VD60-WS-M8M
	Deep suction cup, 60mm diameter, White silicone (FDA), M8 male	34.49	VD60-WS-M8M (FDA)
	Deep suction cup, 60mm diameter, High temperature silicone, M8 male	36.72	VD60-HS-M8M
	Deep suction cup, 60mm diameter, Conductive silicone, M8 male	35.16	VD60-CS-M8M
	Deep suction cup, 60mm diameter, Urethane, M8 male	36.78	VD60-U-M8M
	Deep suction cup, 60mm diameter, Mark free, M8 male	38.36	VD60-A-M8M
	Deep suction cup, 60mm diameter, Polyurethane, M8 male	32.42	VD60-PU-M8M
	Deep suction cup, 60mm diameter, Nitrile (NBR), M10 male	35.45	VD60-N-M10M
	Deep suction cup, 60mm diameter, Silicone, M10 male	28.18	VD60-S-M10M
	Deep suction cup, 60mm diameter, White silicone, M10 male	34.43	VD60-WS-M10M
	Deep suction cup, 60mm diameter, White silicone (FDA), M10 male	34.43	VD60-WS-M10M (FDA)
	Deep suction cup, 60mm diameter, High temperature silicone, M10 male	36.65	VD60-HS-M10M
	Deep suction cup, 60mm diameter, Conductive silicone, M10 male	35.1	VD60-CS-M10M
	Deep suction cup, 60mm diameter, Urethane, M10 male	36.72	VD60-U-M10M
	Deep suction cup, 60mm diameter, Mark free, M10 male	38.3	VD60-A-M10M
	Deep suction cup, 60mm diameter, Polyurethane, M10 male	32.36	VD60-PU-M10M
	Deep suction cup, 60mm diameter, Nitrile (NBR), G1/8 female	33.00	VD60-N-18F
	Deep suction cup, 60mm diameter, Silicone, G1/8 female	31.29	VD60-S-18F
	Deep suction cup, 60mm diameter, White silicone, G1/8 female	26.09	VD60-WS-18F
	Deep suction cup, 60mm diameter, White silicone (FDA), G1/8 female	26.09	VD60-WS-18F (FDA)
	Deep suction cup, 60mm diameter, High temperature silicone, G1/8 female	37.04	VD60-HS-18F
	Deep suction cup, 60mm diameter, Conductive silicone, G1/8 female	26.13	VD60-CS-18F
	Deep suction cup, 60mm diameter, Urethane, G1/8 female	34.19	VD60-U-18F
	Deep suction cup, 60mm diameter, Mark free, G1/8 female	40.28	VD60-A-18F
	Deep suction cup, 60mm diameter, Polyurethane, G1/8 female	30.13	VD60-PU-18F

SUCTION CUPS / Deep

VD70

Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD70	38.00	7.15	18.80	24.90	4.20	11.60	16.20

※ The lifting force above does not include safety factor

Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
Polyurethane	60	Translucent Orange	0~60

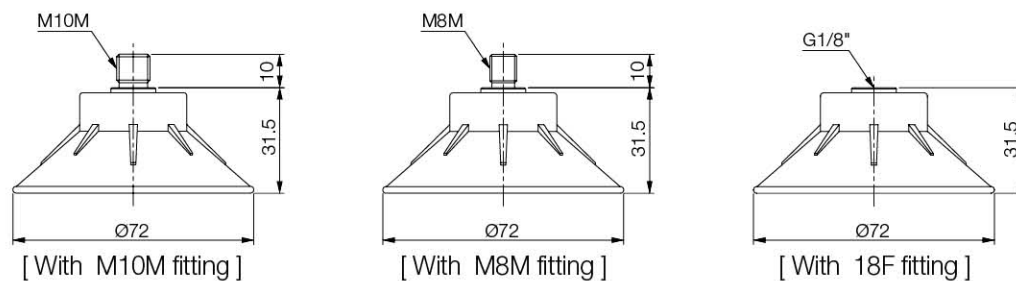
※ For additional material, see page 32~33

Material Resistance

Description	Polyurethane
Wear Resistance	Excellent
Oil	Excellent
Weather / Ozone	Excellent
Alcohol	Fair
Acid	Fair

Dimension

[Unit : mm]



Build an Ordering No.



: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 70mm diameter, Polyurethane, M8 male	46.51	VD70-PU-M8M
	Deep suction cup, 70mm diameter, Polyurethane, M10 male	47.25	VD70-PU-M10M
	Deep suction cup, 70mm diameter, Polyurethane, G1/8 female	41.26	VD70-PU-18F

SUCTION CUPS / Deep

VD85



Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD85	60.00	10.00	28.00	39.00	6.00	16.80	23.40

※ 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

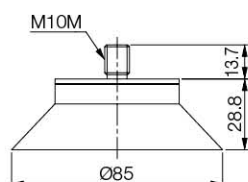
※ For additional material, see page 32~33

Material Resistance

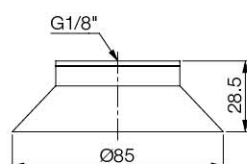
Description	NBR	Silicone	White Silicone	High temp. Silicone	Conductive Silicone	Urethane	Mark Free
Wear Resistance	Excellent	Good	Good	Good	Good	Excellent	Good
Oil	Excellent	Poor	Poor	Poor	Poor	Excellent	Excellent
Weather / Ozone	Fair	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Alcohol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

Dimension

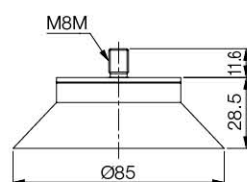
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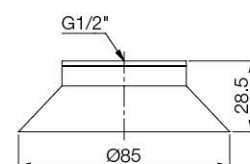
[With M10M fitting]



[With 1/8F fitting]

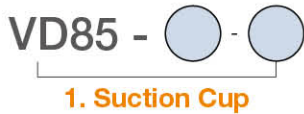


[With M8M fitting]



[With 1/2F fitting]

I Build an Ordering No.



: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 85mm diameter, Nitrile (NBR), M8 male	67.94	VD85-N-M8M
	Deep suction cup, 85mm diameter, Silicone, M8 male	64.63	VD85-S-M8M
	Deep suction cup, 85mm diameter, White silicone, M8 male	65.99	VD85-WS-M8M
	Deep suction cup, 85mm diameter, White silicone (FDA), M8 male	65.99	VD85-WS-M8M (FDA)
	Deep suction cup, 85mm diameter, High temperature silicone, M8 male	70.25	VD85-HS-M8M
	Deep suction cup, 85mm diameter, Conductive silicone, M8 male	67.28	VD85-CS-M8M
	Deep suction cup, 85mm diameter, Urethane, M8 male	70.38	VD85-U-M8M
	Deep suction cup, 85mm diameter, Mark free, M8 male	73.4	VD85-A-M8M
	Deep suction cup, 85mm diameter, Nitrile (NBR), M10 male	69.84	VD85-N-M10M
	Deep suction cup, 85mm diameter, Silicone, M10 male	66.43	VD85-S-M10M
	Deep suction cup, 85mm diameter, White silicone, M10 male	67.84	VD85-WS-M10M
	Deep suction cup, 85mm diameter, White silicone (FDA), M10 male	67.84	VD85-WS-M10M (FDA)
	Deep suction cup, 85mm diameter, High temperature silicone, M10 male	72.22	VD85-HS-M10M
	Deep suction cup, 85mm diameter, Conductive silicone, M10 male	69.16	VD85-CS-M10M
	Deep suction cup, 85mm diameter, Urethane, M10 male	72.35	VD85-U-M10M
	Deep suction cup, 85mm diameter, Mark free, M10 male	75.45	VD85-A-M10M
	Deep suction cup, 85mm diameter, Nitrile (NBR), G1/8 female	65.01	VD85-N-18F
	Deep suction cup, 85mm diameter, Silicone, G1/8 female	60.65	VD85-S-18F
	Deep suction cup, 85mm diameter, White silicone, G1/8 female	63.15	VD85-WS-18F
	Deep suction cup, 85mm diameter, White silicone (FDA), G1/8 female	63.15	VD85-WS-18F (FDA)
	Deep suction cup, 85mm diameter, High temperature silicone, G1/8 female	67.22	VD85-HS-18F
	Deep suction cup, 85mm diameter, Conductive silicone, G1/8 female	67.37	VD85-CS-18F
	Deep suction cup, 85mm diameter, Urethane, G1/8 female	67.35	VD85-U-18F
	Deep suction cup, 85mm diameter, Mark free, G1/8 female	71.64	VD85-A-18F
	Deep suction cup, 85mm diameter, Nitrile (NBR), G1/2 female	55.71	VD85-N-12F
	Deep suction cup, 85mm diameter, Silicone, G1/2 female	52.93	VD85-S-12F
	Deep suction cup, 85mm diameter, White silicone, G1/2 female	54.14	VD85-WS-12F
	Deep suction cup, 85mm diameter, White silicone (FDA), G1/2 female	54.14	VD85-WS-12F(FDA)
	Deep suction cup, 85mm diameter, High temperature silicone, G1/2 female	57.64	VD85-HS-12F
	Deep suction cup, 85mm diameter, Conductive silicone, G1/2 female	63.19	VD85-CS-12F
	Deep suction cup, 85mm diameter, Urethane, G1/2 female	64.98	VD85-U-12F
	Deep suction cup, 85mm diameter, Mark free, G1/2 female	66.97	VD85-A-12F

SUCTION CUPS / Deep

VD85X



Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD85X	68.00	10.00	28.00	39.00	6.00	16.80	23.40

※ 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

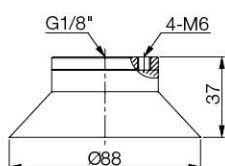
※ For additional material, see page 32~33

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

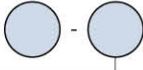
Dimension

[Unit : mm]



[With 18F fitting]

Build an Ordering No.

VD85X -  : Pre-mounted fitting
 1. Suction Cup

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 85mm diameter, Nitrile (NBR), G1/8 female	85.25	VD85X-N-18F
	Deep suction cup, 85mm diameter, Silicone, G1/8 female	83.31	VD85X-S-18F
	Deep suction cup, 85mm diameter, White silicone, G1/8 female	82.81	VD85X-WS-18F
	Deep suction cup, 85mm diameter, White silicone (FDA), G1/8 female	82.81	VD85X-WS-18F (FDA)
	Deep suction cup, 85mm diameter, High temperature silicone, G1/8 female	88.15	VD85X-HS-18F
	Deep suction cup, 85mm diameter, Conductive silicone, G1/8 female	84.42	VD85X-CS-18F
	Deep suction cup, 85mm diameter, Urethane, G1/8 female	88.32	VD85X-U-18F
	Deep suction cup, 85mm diameter, Mark free, G1/8 female	92.1	VD85X-A-18F

SUCTION CUPS / Deep

VD90F

Features and Strengths

Suitable for curved or irregular surfaces.
Excellent performance for round corners and edges

Examples of use

Automobile Roofs and Doors, Metal Sheets, Plastic Sheets,
Veneer Sheets, Shaped Metal panels



Recommended Lifting Force (Max.)

Model	Volume (cm ³)	Lifting Force (Kg) - Perpendicular			Lifting Force (Kg) - Parallel		
		- 20 kPa	- 60 kPa	- 90 kPa	- 20 kPa	- 60 kPa	- 90 kPa
VD90F	56.00	9.25	24.36	32.17	7.97	14.42	18.15

※ The lifting force above does not include safety factor

Material Specifications

Material	Hardness Shore (°)	Color	Temperature (°C)
Polyurethane	60	Translucent Orange	0~60

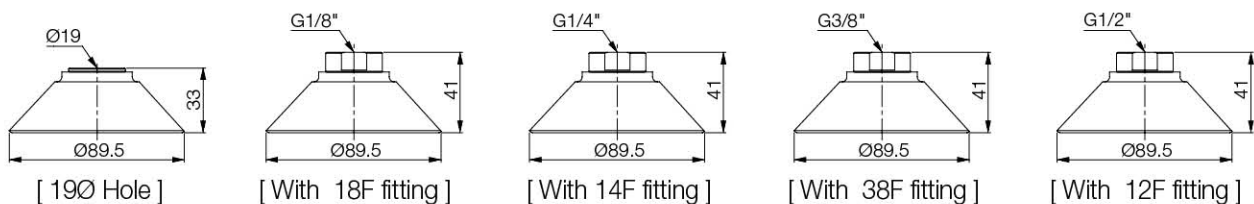
※ For additional material, see page 32~33

Material Resistance

Description	Polyurethane
Wear Resistance	Excellent
Oil	Excellent
Weather / Ozone	Excellent
Alcohol	Fair
Acid	Fair

Dimension

[Unit : mm]



Build an Ordering No.

VD90F -  - 
1. Suction Cup

: Pre-mounted fitting

1. Suction cup	Description	Weight (g)	Symbol
	Deep suction cup, 90mm diameter, Polyurethane, G1/8 female	65.49	VD90F-PU-18F
	Deep suction cup, 90mm diameter, Polyurethane, G1/4 female	63.05	VD90F-PU-14F
	Deep suction cup, 90mm diameter, Polyurethane, G3/8 female	60.60	VD90F-PU-38F
	Deep suction cup, 90mm diameter, Polyurethane, G1/2 female	59.88	VD90F-PU-12F
	Deep suction cup, 90mm diameter, Polyurethane, 19Ø hole	49.21	VD90F-PU-H19
	Deep suction cup, 90mm diameter, Polyurethane, M10 male	57.68	VD90F-PU-M10M