GENERAL CHARACTERISTICS OF RUBBER COMPOUNDS

TRADE NAME	INTERN. CODE	VT CODE	POSITIVE CHARACTERISTICS	NEGATIVE CHARACTERISTICS	COLOUR	TEMPERATURE OF USE	HARDNESS	CHEMICAL RESISTANCE	FOOD STANDARDS	USE
NITRILE OR OIL-RESISTANT RUBBER	NBR	A	Highly resistant to oil, heat and ageing. Low permanent deformation and low gas permeability.	Limited ozone resistance, if untreated. Low dielectric strength, Low resilience.	Black	From -40 to + 130°C	60 - 70° Sh.A	Resistance to mineral oils, hydrocarbons, water, vapour, gas and vegetable oils.	Non-toxic vacuum cups can be produced upon request.	The excellent mechanical characteristics of this compound allow the vacuum cups to withstand heavy-duty work such as tears, crushing, bumps, etc. They are suitable for gripping metal plates, glass and loads with a smooth surface.
BENZ RUBBER	HNBR	B	Excellent resistance to wear, ageing, chlorine-containing oils, grease and petrol. Low permanent deformation. Does not leave marks on the gripping surfaces of the vacuum cups.	Low dielectric strength, Low resilience.	Black Red	From -40 to + 170°C	60 - 75° Sh.A	Resistance to chlorine-containing mineral oils, hydrocarbons, water, vapour, gas and vegetable oils.	Production of non-toxic vacuum cups not recommended.	The vacuum cups produced with this compound are able to withstand heavy-duty work such as tears, crushing, bumps, etc. They are suitable for gripping metal plates, glass and loads with a smooth surface. Especially recommended for the AUTOMOTIVE sector.
BIOND NON-MARKING RUBBER	----	BA	Biond compound with good elastic yield and resistance to wear, cutting and tearing. Has the property of not leaving stains, marks or prints on the gripping surfaces.	Poor resistance to oils and heat.	Grey	From -30 to + 80°C	45 - 60° Sh.A	Fair resistance to sea water, acids and medium concentration alkalis.	Non-toxic vacuum cups can be produced upon request.	Vacuum cups produced with this compound are suitable for gripping marble, wood, glass, metal sheets, etc., without leaving marks or prints on the gripping surfaces.
ANTI-STATIC NITRILE RUBBER	NBR-AS	AS	Highly resistant to oil, heat and ageing. Low permanent deformation. Highly conductive and anti-static compound.	Limited ozone resistance if untreated. Low resilience.	Black	From -40 to + 130°C	60 - 70° Sh.A	Excellent resistance to mineral oils, hydrocarbons, water, vapour, gas and vegetable oils.	Production of non-toxic vacuum cups not recommended.	In addition to the normal use of the NBR compound, the vacuum cups made with this compound can be used in all those cases where it is necessary to dissipate electrostatic charges accumulated on the gripping surfaces.
PARA RUBBER	NR	N	Excellent elastic yield and resistance to wear, cutting and tearing. Exceptional elongation at break.	Poor resistance to oils and heat.	Black	From -70 to + 80°C	45 - 50° Sh.A	Fair resistance to sea water, acids and medium concentration alkalis.	Non-toxic vacuum cups can be produced upon request.	The flexibility of the compound allows these vacuum cups to grip on rough and irregular surfaces. They are suitable for wood, cardboard, marble, bricks, glass and plastic.

TRADE NAME	INTERN. CODE	VT CODE	POSITIVE CHARACTERISTICS	NEGATIVE CHARACTERISTICS	COLOUR	TEMPERATURE OF USE	HARDNESS	CHEMICAL RESISTANCE	FOOD STANDARDS	USE
NATURAL RUBBER	NR	NG	The same compound described above, untreated.	Poor resistance to ageing, oils and heat.	Beige	From -50 to + 70°C	40 - 45° Sh.A	As NR described above.	Non-toxic vacuum cups can be produced upon request.	The higher flexibility of the compound allows these vacuum cups to grip on very rough and irregular surfaces. The vacuum cups made with this compound are recommended for gripping paper, cardboard, plastic, plastic film for packaging, etc.
GERANIUM FOAM RUBBER	NR	OF	Excellent elastic yield and resistance to tearing. Exceptional elongation at break.	Poor resistance to ageing, oils and heat.	Orange	From -40 to + 80°C	25 - 30° Sh.A	Fair resistance to sea water, acids and medium concentration alkalis.	Compound not recommended for food use.	The softness of the foam rubber makes it possible to create vacuum cups for gripping loads with raw or very rough surfaces.
SILICON	VMQ	S	Perfect performance at high and low temperatures. Conductive compound.	Modest mechanical properties. Can leave marks on the gripping surfaces of vacuum cups.	Neutral White Red	From -50 to +300°C	40 - 45° Sh.A	Excellent resistance to chlorinates, solvents, ozone, oxygen and U.V.	It is possible to produce vacuum cups according to FDA, BGA, TSCA, etc. food standards.	Silicon vacuum cups are used in the food and electronics industry, in packaging and in all those cases where the contact surface has very high or very low temperatures.
ANTI-STATIC SILICON	VMQ-AS	SAS	Perfect performance at low and high temperatures. Highly conductive and anti-static compound.	Modest mechanical properties. Can leave marks on the gripping surfaces of vacuum cups.	Neutral White	From -50 to + 200°C	40 - 45° Sh.A	Similar to VMQ silicon compound.	Compound not recommended for food use.	Anti-static silicon vacuum cups are used in the electronics, the recording industry and in all those cases where it is necessary to dissipate electrostatic charges from the gripping surface.
STABILISED SILICON	VMQ-SS	SS	Perfect performance at high and low temperatures. Conductive and non-marking compound. Does not leave marks or prints on the gripping surfaces.	Modest mechanical properties.	Neutral White	From -50 to + 300°C	40 - 45°Sh.A	Similar to VMQ silicon compound.	It is possible to produce vacuum cups for food use.	The stabilised silicon vacuum cups are widely used in the ceramic industry and in all those cases where, in addition to withstanding high temperatures, marks or prints must not be left on the gripping surfaces.
MAGNETIC SILICON	----	SMG	Perfect performance at high and low temperatures. Highly conductive, magnetically detectable compound.	Modest mechanical properties. Can leave marks on the gripping surfaces of vacuum cups if not stabilised.	Black	From -50 to + 250°C	45 - 50° Sh.A	Excellent resistance to chlorinates, solvents, ozone, oxygen and U.V.	The chemical composition of the compound contains exclusively substances authorised by regulation FDA CFR 21: 177-2600 " METAL DETECTABLE COMPOUND - HEAT CONDUCTIVITY COMPOUND "	Magnetic silicon vacuum cups are used in the food industry and have the characteristic of being easily detectable by metal detectors used for food protection in case of breakage or accidental detachment.

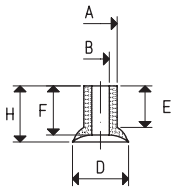
TRADE NAME	INTERN. CODE	VT CODE	POSITIVE CHARACTERISTICS	NEGATIVE CHARACTERISTICS	COLOUR	TEMPERATURE OF USE	HARDNESS	CHEMICAL RESISTANCE	FOOD STANDARDS	USE
VITON®	FKM	V	Excellent resistance to chemical deterioration; perfect for lubricants and heat. Good compression performance and elastic yield. Does not leave marks.	Poor resistance to alkalis and ketones.	Green Brown	From -20 to + 300°C	50 - 60° Sh.A	Excellent resistance to sunlight, flame and high temperatures, to aromatic and aliphatic hydrocarbons, to chemical agents and chlorinated solvents.	Production of non-toxic vacuum cups not recommended.	This compound is used to produce vacuum cups that are highly qualified for the mechanical, oil, chemical, pharmaceutical, aeronautical and nuclear industries.
VULKOLLAN® POLYURE-THANE	AU-EU	PU	Very high resistance to abrasion, traction, bending and oils. Does not leave marks.	Poor resistance to water, alkalis and acids.	Ivory Blue	From -30 to + 100°C	60 - 70° Sh.A	Excellent resistance to petroleum products.	Production of non-toxic vacuum cups not recommended.	Suitable for producing vacuum cups subjected to heavy-duty, intense and continuous use.
DUTRAL®	EPDM	EPDM	Excellent resistance to heat, atmospheric agents and ageing. Excellent resistance to low temperatures.	Poor elasticity.	Black	From -60 to + 150°C	50 - 70° Sh.A	Good resistance to aggressive chemicals and oxygen.	Production of non-toxic vacuum cups not recommended.	EPDM vacuum cups are recommended for machines operating outdoors, in contact with atmospheric agents and sea water. Excellent performance in contact with printing inks and solvents.
NEOPRENE®	CR	NE	Fair resistance to oils. Excellent resistance to ozone, sea water and ageing. Good resistance to cutting, abrasion and combustion.	Poor elastic yield. Risk of permanent deformation over time.	Black	From -20 to + 120°C	50 - 70° Sh.A	Excellent resistance to petroleum products, sunlight, atmospheric agents, ozone and flames.	Production of non-toxic vacuum cups not recommended.	Vacuum cups made with this compound are used in the electrical industry and on handling systems that operate outside, in contact with atmospheric agents.
NEOPRENE® FOAM RUBBER	CR	NF	Fair resistance to oils. Excellent resistance to ozone, sea water and ageing. Good resistance to cutting, abrasion and combustion.	Poor elasticity. Tendency to deform over time.	Black	From -20 to + 80°C	30 - 35 Sh.A	Excellent resistance to oil products, sunlight, atmospheric agents, and ozone.	Not recommended for food use.	The softness that characterises this foam rubber allows for the use of vacuum cups for gripping coarse or very rough surfaces operating outside in contact with atmospheric agents.
EXTRA SOFT FOAM RUBBER	EPDM	SB	Excellent resistance to heat, atmospheric agents, low temperatures and ageing.	Low resistance to oils and modest mechanical properties.	Black	From -40 to + 130°C	8 ÷ 10 Sh.A	Good resistance to aggressive chemicals and oxygen.	Not advised for direct contact with food products.	The softness of this rubber foam makes it suitable for use on grip surfaces for loads with coarse or very rough surfaces.

VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling small objects with flat, slightly concave or convex surfaces.
This range of widely used cups has diameters ranging from 4 to 9 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto a nickel-plated brass support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a male threaded pin to facilitate fastening to the automation.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon request in minimum quantities to be defined in the order.

VACUUM CUPS

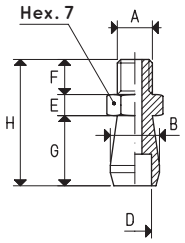
Item	Force Kg	Volume mm^3	A Ø	B Ø	D Ø	E	F	H
01 04 10 *	0.03	16	3	1.5	4	6.0	7.0	7.5
01 05 10 *	0.05	23	3	1.5	5	6.0	7.0	8.0
01 06 10 *	0.07	26	3	1.5	6	6.0	7.0	8.0
01 07 07 *	0.10	40	5	2.0	7	6.0	6.0	7.0
01 08 10 *	0.12	66	5	2.5	8	6.0	7.0	8.0
01 09 07 *	0.15	56	5	2.0	9	5.5	6.0	7.0



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

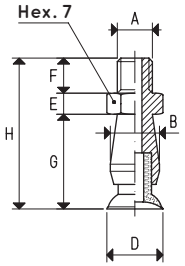
SUPPORTS

Item	A Ø	B Ø	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 01	M5	7	2.90	3	5	10	18	brass	01 04 10 01 05 10 01 06 10	4
00 08 02	M5	7	4.75	3	5	10	18	brass	01 07 07 01 08 10 01 09 07	4



VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 04 10 *	0.03	M5	7	4	3	5	13.0	21.0	01 04 10	00 08 01	4
08 05 10 *	0.05	M5	7	5	3	5	13.5	21.5	01 05 10	00 08 01	4
08 06 10 *	0.07	M5	7	6	3	5	13.5	21.5	01 06 10	00 08 01	4
08 07 07 *	0.10	M5	7	7	3	5	13.5	21.5	01 07 07	00 08 02	4
08 08 10 *	0.12	M5	7	8	3	5	13.5	21.5	01 08 10	00 08 02	4
08 09 07 *	0.15	M5	7	9	3	5	12.5	20.5	01 09 07	00 08 02	4



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

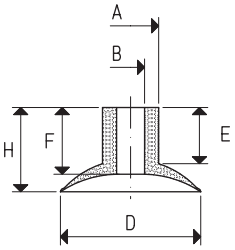
Adapters for GAS - NPT threading available on page 1.130

VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling objects with flat, slightly concave or convex surfaces.
This range of widely used cups has diameters ranging from 10 to 45 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto a nickel-plated brass or anodised aluminium support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a male threaded pin to facilitate fastening to the automation.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon specific request in minimum quantities to be defined in the order.

VACUUM CUPS

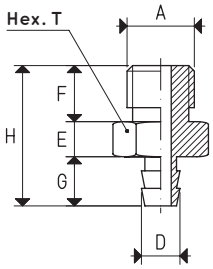
Item	Force Kg	Volume mm^3	A Ø	B Ø	D Ø	E	F	H
01 10 10 *	0.19	227	7	4.0	10	8.5	8.5	11.0
01 12 10 *	0.28	254	8	4.0	12	8.0	9.0	11.0
01 15 10 *	0.44	364	8	4.0	15	8.0	9.5	12.0
01 18 10 *	0.63	502	8	4.0	18	8.0	9.5	12.0
01 20 10 *	0.78	536	8	4.0	20	8.0	9.5	12.0
01 22 10 *	0.95	723	8	4.0	22	8.0	10.0	13.0
01 25 15 *	1.23	1628	12	6.0	25	10.0	11.5	16.0
01 30 15 *	1.76	2055	12	6.0	30	10.0	12.5	17.0
01 35 15 *	2.40	3292	15	10.0	35	10.0	11.5	16.0
01 40 15 *	3.14	4740	15	10.0	40	10.0	12.5	18.0
01 45 15 *	3.98	8553	15	10.0	45	10.0	14.5	23.0



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

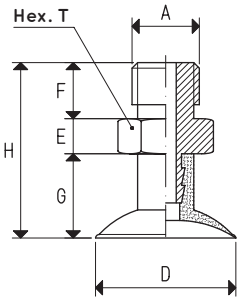
SUPPORTS

Item	A Ø	D Ø	E	F	G	H	T	Support material	For vacuum cup item	Weight g
00 08 03	G1/8"	5.5	5	8	7.0	20.0	12	brass	01 10 10 01 12 10 01 15 10 01 18 10 01 20 10 01 22 10	9
00 08 05	G1/8"	7.5	5	8	9.5	22.5	12	brass	01 25 15 01 30 15	10
00 08 20	G1/4"	12.0	8	14	10.0	32.0	17	aluminium	01 35 15 01 40 15 01 45 15	11



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	D Ø	E	F	G	H	T	Vacuum cup item	Support item	Weight g
08 10 10 *	0.19	G1/8"	10	5	8	11	24	12	01 10 10	00 08 03	9.0
08 12 10 *	0.28	G1/8"	12	5	8	11	24	12	01 12 10	00 08 03	9.6
08 15 10 *	0.44	G1/8"	15	5	8	12	25	12	01 15 10	00 08 03	9.7
08 18 10 *	0.63	G1/8"	18	5	8	12	25	12	01 18 10	00 08 03	9.7
08 20 10 *	0.78	G1/8"	20	5	8	12	25	12	01 20 10	00 08 03	9.8
08 22 10 *	0.95	G1/8"	22	5	8	13	26	12	01 22 10	00 08 03	10.2
08 25 15 *	1.23	G1/8"	25	5	8	16	29	12	01 25 15	00 08 05	12.0
08 30 15 *	1.76	G1/8"	30	5	8	17	30	12	01 30 15	00 08 05	12.7
08 35 15 *	2.40	G1/4"	35	8	14	16	38	17	01 35 15	00 08 20	13.6
08 40 15 *	3.14	G1/4"	40	8	14	18	40	17	01 40 15	00 08 20	14.1
08 45 15 *	3.98	G1/4"	45	8	14	23	45	17	01 45 15	00 08 20	17.6



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

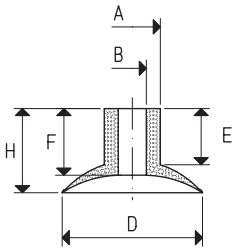
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling objects with flat, slightly concave or convex surfaces.
This range of widely used cups has diameters ranging from 10 to 45 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto a nickel-plated brass or anodised aluminium support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a female threaded pin to facilitate fastening to the automation.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon specific request in minimum quantities to be defined in the order.

VACUUM CUPS

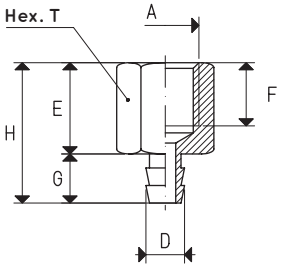
Item	Force Kg	Volume mm³	A Ø	B Ø	D Ø	E	F	H
01 10 10 *	0.19	227	7	4.0	10	8.5	8.5	11.0
01 12 10 *	0.28	254	8	4.0	12	8.0	9.0	11.0
01 15 10 *	0.44	364	8	4.0	15	8.0	9.5	12.0
01 18 10 *	0.63	502	8	4.0	18	8.0	9.5	12.0
01 20 10 *	0.78	536	8	4.0	20	8.0	9.5	12.0
01 22 10 *	0.95	723	8	4.0	22	8.0	10.0	13.0
01 25 15 *	1.23	1628	12	6.0	25	10.0	11.5	16.0
01 30 15 *	1.76	2055	12	6.0	30	10.0	12.5	17.0
01 35 15 *	2.40	3292	15	10.0	35	10.0	11.5	16.0
01 40 15 *	3.14	4740	15	10.0	40	10.0	12.5	18.0
01 45 15 *	3.98	8553	15	10.0	45	10.0	14.5	23.0



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

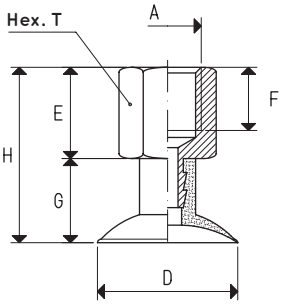
SUPPORTS

Item	A Ø	D Ø	E	F	G	H	T	Support material	For vacuum cup item	Weight g
00 08 04	G1/8"	5.5	13	10	7.0	20.0	12	brass	01 10 10 01 12 10 01 15 10 01 18 10 01 20 10 01 22 10	8.1
00 08 14	G1/8"	7.5	13	10	9.5	22.5	12	brass	01 25 15 01 30 15	9.8
00 08 21	G1/4"	12.0	17	13	10.0	27.0	17	aluminium	01 35 15 01 40 15 01 45 15	9.3



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	D Ø	E	F	G	H	T	Vacuum cup item	Support item	Weight g
08 10 25 *	0.19	G1/8"	10	13	10	11	24	12	01 10 10	00 08 04	8.1
08 12 25 *	0.28	G1/8"	12	13	10	11	24	12	01 12 10	00 08 04	8.7
08 15 25 *	0.44	G1/8"	15	13	10	12	25	12	01 15 10	00 08 04	8.8
08 18 25 *	0.63	G1/8"	18	13	10	12	25	12	01 18 10	00 08 04	8.8
08 20 25 *	0.78	G1/8"	20	13	10	12	25	12	01 20 10	00 08 04	9.3
08 22 25 *	0.95	G1/8"	22	13	10	13	26	12	01 22 10	00 08 04	9.3
08 25 25 *	1.23	G1/8"	25	13	10	16	29	12	01 25 15	00 08 14	11.8
08 30 25 *	1.76	G1/8"	30	13	10	17	30	12	01 30 15	00 08 14	12.5
08 35 25 *	2.40	G1/4"	35	17	13	16	33	17	01 35 15	00 08 21	11.9
08 40 25 *	3.14	G1/4"	40	17	13	18	35	17	01 40 15	00 08 21	12.4
08 45 25 *	3.98	G1/4"	45	17	13	23	40	17	01 45 15	00 08 21	15.9



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

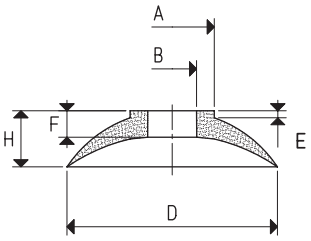
VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling objects with flat, slightly concave or convex surfaces.
This range of widely used cups has diameters ranging from 25 to 35 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto a nickel-plated brass support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a male threaded pin to facilitate fastening to the automation.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon specific request in minimum quantities to be defined in the order.

VACUUM CUPS

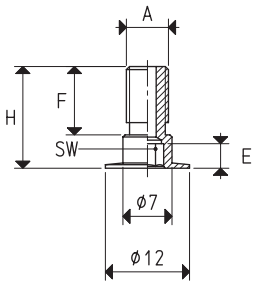
Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	E	F	H
01 25 10 *	1.23	1.4	12	6	25	2	3.5	8
01 30 10 *	1.76	1.8	12	6	30	1	3.5	8
01 35 10 *	2.40	2.4	12	6	35	1	3.5	8

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

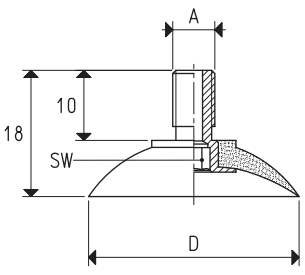
Item	A Ø	E	F	H	SW	Support material	For vacuum cup item	Weight g
00 08 08	M6	3.5	10	14.5	3	brass	01 25 10 01 30 10 01 35 10	2.7
00 08 60	G1/8"	4.0	10	14.5	4	brass	01 25 10 01 30 10 01 35 10	5.6



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	SW	D Ø	Vacuum cup item	Support item	Weight g
08 25 10 *	1.23	M6	3	25	01 25 10	00 08 08	3.9
08 25 11 *	1.23	G1/8"	4	25	01 25 10	00 08 60	6.8
08 30 10 *	1.76	M6	3	30	01 30 10	00 08 08	4.6
08 30 11 *	1.76	G1/8"	4	30	01 30 10	00 08 60	7.5
08 35 10 *	2.40	M6	3	35	01 35 10	00 08 08	5.1
08 35 11 *	2.40	G1/8"	4	35	01 35 10	00 08 60	8.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

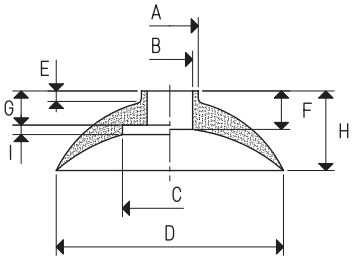
Adapters for GAS - NPT threading available on page 1.130

VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling objects with flat, slightly concave or convex surfaces.
This range of widely used cups has diameters ranging from 45 to 60 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto an anodised aluminium support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a male threaded pin to facilitate fastening to the automation. Moreover, those with ¼" threading have a M8 threaded hole for any necessary insertion of a grub screw with calibrated hole (see pg. 1.129), having the function of reducing the quantity of air to be suctioned.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon specific request in minimum quantities to be defined in the order.

VACUUM CUPS

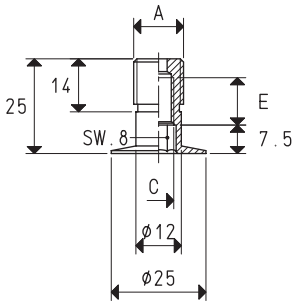
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	G	H	I
01 45 10 *	3.98	8.1	15	10	--	45	5	9.5	--	18	--
01 60 10 *	7.06	18.2	15	10	25	60	4	--	10	22	2.5



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

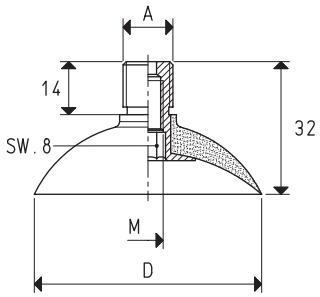
SUPPORTS

Item	A Ø	E	C Ø	Support material	For vacuum cup item	Weight g
00 08 22	G1/4"	10	M8	aluminium	01 45 10 01 60 10	5.9
00 08 44	G1/8"	--	--	aluminium	01 45 10 01 60 10	5.1
00 08 313	M6	--	--	brass	01 45 10 01 60 10	3.3
00 08 314	M8	--	--	brass	01 45 10 01 60 10	4.3
00 08 92	M10	--	--	brass	01 45 10 01 60 10	5.2



VACUUM CUPS WITH SUPPORT

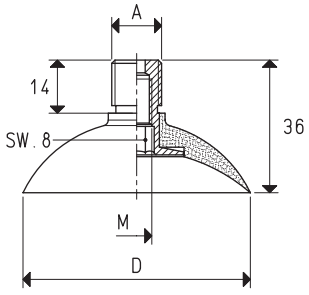
Item	Force Kg	A Ø	D Ø	M Ø	Vacuum cup item	Support item	Weight g
08 45 10 *	3.98	G1/4"	45	M8	01 45 10	00 08 22	12.6
08 45 11 *	3.98	G1/8"	45	--	01 45 10	00 08 44	11.8
08 45 12 *	3.98	M6	45	--	01 45 10	00 08 313	10.0
08 45 13 *	3.98	M8	45	--	01 45 10	00 08 314	11.0
08 45 14 *	3.98	M10	45	--	01 45 10	00 08 92	11.9



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	D Ø	M Ø	Vacuum cup item	Support item	Weight g
08 60 10 *	7.06	G1/4"	60	M8	01 60 10	00 08 22	20.8
08 60 11 *	7.06	G1/8"	60	--	01 60 10	00 08 44	20.0
08 60 12 *	7.06	M6	60	--	01 60 10	00 08 313	18.2
08 60 13 *	7.06	M8	60	--	01 60 10	00 08 314	19.2
08 60 14 *	7.06	M10	60	--	01 60 10	00 08 92	20.1



* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

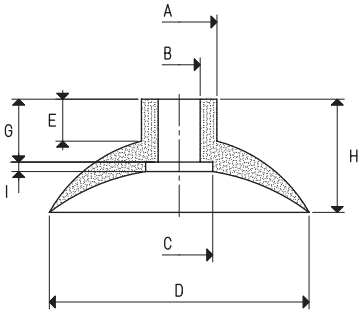
VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling objects with flat, slightly concave or convex surfaces.
These widely used vacuum cups have a diameter of 85 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto an anodised aluminium support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a male threaded pin to facilitate fastening to the automation. Moreover, they have a M8 threaded hole for any necessary insertion of a grub screw with calibrated hole (see pg. 1.129), having the function of reducing the quantity of air to be suctioned.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon specific request in minimum quantities to be defined in the order.

VACUUM CUPS

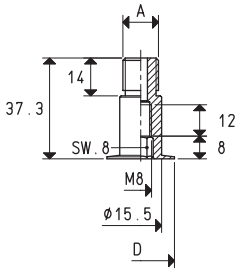
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	G	H	I
01 85 10 *	14.18	54.8	25	15	25	85	16	23	41	4.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

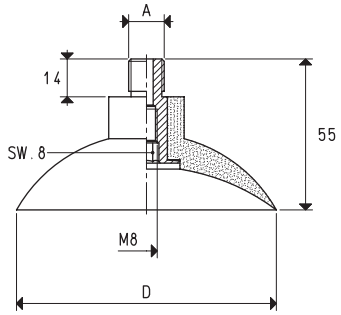
Item	A Ø	D Ø	Support material	For vacuum cup item	Weight g
00 08 28	G1/4"	25	aluminium	01 85 10	13.4
00 08 136	G1/8"	25	aluminium	01 85 10	9.2
00 08 91	M10x1,25	25	brass	01 85 10	38.4



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	D Ø	Vacuum cup item	Support item	Weight g
08 85 10 *	14.18	G1/4"	85	01 85 10	00 08 28	49.3
08 85 12 *	14.18	G1/8"	85	01 85 10	00 08 136	45.1
08 85 13 *	14.18	M10x1,25	85	01 85 10	00 08 91	73.4

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

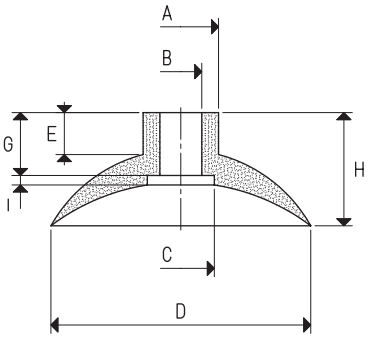
VACUUM CUPS WITH SUPPORTS

These traditional cup-shaped vacuum cups are suited for gripping and handling objects with flat, slightly concave or convex surfaces.
These widely used vacuum cups have a diameter of 85 mm and are normally available in standard compounds: natural para rubber N, oil-resistant rubber A and silicon S.
They can be cold fitted with no adhesive onto an anodised aluminium support.
The support has been specially shaped to perfectly fit with the vacuum cup and is equipped with a female threaded pin to facilitate fastening to the automation.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.
Cups in special compounds, listed on pg. 31, and supports in different materials can be provided upon specific request in minimum quantities to be defined in the order.

VACUUM CUPS

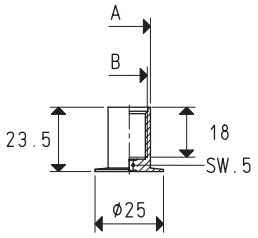
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	F	G	H	I
01 85 10 *	14.18	54.8	25	15	25	85	16	23	41	4.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

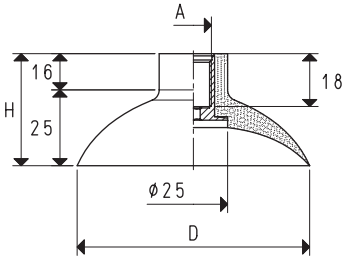
Item	A Ø	B Ø	Support material	For Vacuum cup item	Weight g
00 08 29	15.5	M12	aluminium	01 85 10	6.6
00 08 46	15.5	G1/4"	aluminium	01 85 10	6.5



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	D Ø	H	Vacuum cup item	Support item	Weight g
08 85 25 *	14.18	G1/4"	85	41	01 85 10	00 08 46	42.4
08 85 26 *	14.18	M12	85	41	01 85 10	00 08 29	42.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

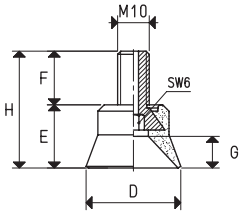
VACUUM CUPS WITH VULCANISED SUPPORT

This range of rather sturdy and deep cups is designed to handle bodywork parts and components in moulded steel sheet.
These cups are produced with a special compound called BENZ, which can withstand heavy-duty work and the chlorine usually contained in the oil used for moulding and drawing of steel sheets.
The galvanised steel support is vulcanised onto the cup. Galvanised steel adapters are also available in order to modify the suction connection from M10 to gas threading.
Cups in other special compounds, listed on pg. 31 can be provided upon request in minimum quantities to be defined in the order.

VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	D Ø	E	F	G	H	Support material	Weight g
08 30 38 B	1.80	3.1	30	20	17	10	37	steel	20.8
08 40 41 B	3.20	6.4	40	23	18	12	41	steel	24.9
08 40 41 N	3.20	6.4	40	23	18	12	41	steel	24.9

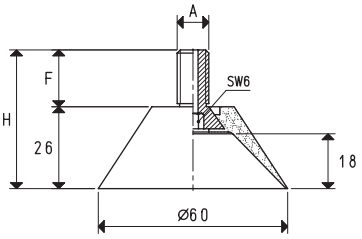
Compound: B= BENZ rubber; N= natural para rubber



VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A Ø	F	H	Support material	Weight g
08 60 45 B	7.10	25.9	M10	18	44	steel	29.5
08 60 45 1/4" B	7.10	25.9	G1/4"	10	44	steel	29.5

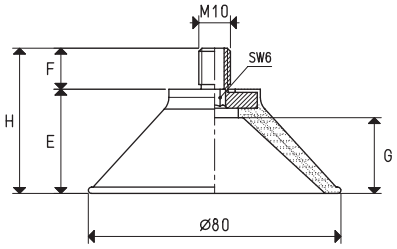
Compound: B= BENZ rubber



VACUUM CUPS WITH VULCANISED SUPPORT

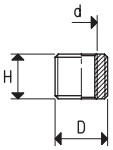
Item	Force Kg	Volume cm^3	E	F	G	H	Support material	Weight g
08 80 50 B	12.60	41.2	33	12.5	26	51	steel	58.0

Compound: B= BENZ rubber



ADAPTERS

Item	D Ø	d Ø	H	Support material	Weight g
00 08 130	G1/4"	M10	14	steel	4.9
00 08 131	G3/8"	M10	14	steel	12.8



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

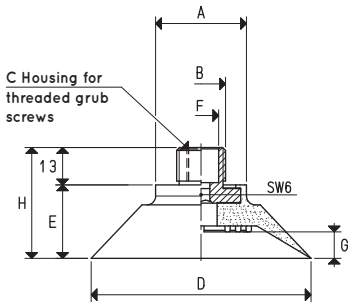
VACUUM CUPS WITH VULCANISED SUPPORT

These cups are specially designed for gripping moulded or drawn sheet metal and are largely used in the automotive sector.
Their ground lip allows an immediate gripping of the load even at the slightest resting pressure and ensures perfect vacuum seal.
These cups are produced in a special compound called BENZ, able to withstand the chlorine usually contained in the oils used for moulding and drawing the steel sheets.
The galvanised steel support is is vulcanised onto the cup.
The cups can be provided upon request in minimum quantities in natural para rubber, in silicon or in special compounds, listed on pg. 31.

VACUUM CUPS WITH MALE VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F Ø	G	H	Support material	Weight g
08 50 40 *	4.90	10.3	31	G3/8"	--	50	16.0	12	6.5	29.0	steel	38.5
08 50 40 GR B	4.90	10.3	31	G3/8"	G1/8"	50	16.0	--	6.5	29.0	steel	38.5
08 75 40 *	11.04	29.3	31	G3/8"	--	75	25.0	12	9.0	38.0	steel	57.9
08 75 40 GR B	11.04	29.3	31	G3/8"	G1/8"	75	25.0	--	9.0	38.0	steel	57.9
08 75 40 GR N	11.04	29.3	31	G3/8"	G1/8"	75	25.0	--	9.0	38.0	steel	57.9
08 100 40 *	19.62	42.6	32	G3/8"	--	100	26.0	12	9.0	39.0	steel	78.3
08 100 50 *	19.62	70.6	32	G3/8"	--	100	30.5	12	15.0	43.5	steel	74.8
08 50 40 1/4" B	4.90	10.3	31	G1/4"	--	50	16.0	--	6.5	29.0	steel	37.4
08 75 40 1/4" B	11.04	29.3	31	G1/4"	--	75	25.0	--	9.0	38.0	steel	57.6
08 100 40 1/4" B	19.62	42.6	32	G1/4"	--	100	26.0	--	9.0	39.0	steel	76.8
08 50 40 M10 B	4.90	10.3	31	M10	--	50	16.0	--	6.5	29.0	steel	32.7
08 100 50 M10 B	19.62	70.6	32	M10	--	100	30.5	--	15.0	43.5	steel	70.2
08 75 40 M14 B	11.04	29.3	31	M14 x 1.5	--	75	25.0	--	9.0	38.0	steel	54.9
08 100 50 M14 B	19.62	70.6	32	M14 x 1.5	--	100	30.5	--	15.0	43.5	steel	74.9

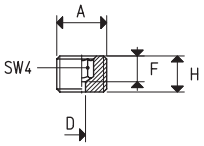
* Complete the code indicating the compound: B= BENZ rubber; N= natural para rubber; S = silicon



THREADED GRUB SCREWS WITH CALIBRATED HOLE

Item	A Ø	D Ø	F	H	Grub screw material	Weight g
00 08 427	G1/8"	1.0	5	11	brass	3.0
00 08 164	G1/8"	1.2	5	11	brass	3.0
00 08 165	G1/8"	1.5	5	11	brass	3.0
00 08 334	G1/8"	3.0	4	13	brass	4.0

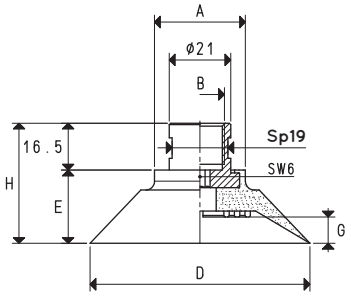
Threaded grub screws with calibrated hole, for vacuum cups with extension GR.



VACUUM CUPS WITH FEMALE VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	D Ø	E	G	H	Support material	Weight g
08 50 40 F B	4.90	10.3	31	G3/8"	50	16.0	6.5	32.5	steel	49.5
08 75 40 F B	11.04	29.3	31	G3/8"	75	25.0	9.0	41.5	steel	68.3
08 75 40 F S	11.04	29.3	31	G3/8"	75	25.0	9.0	41.5	steel	68.3
08 100 40 F B	19.62	42.6	32	G3/8"	100	26.0	9.0	42.5	steel	89.3
08 100 40 F S	19.62	42.6	32	G3/8"	100	26.0	9.0	42.5	steel	89.3
08 100 50 F B	19.62	70.6	32	G3/8"	100	30.5	15.0	47.0	steel	88.8
08 100 50 F S	19.62	70.6	32	G3/8"	100	30.5	15.0	47.0	steel	88.8

Compound: B= BENZ rubber; S = silicon



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

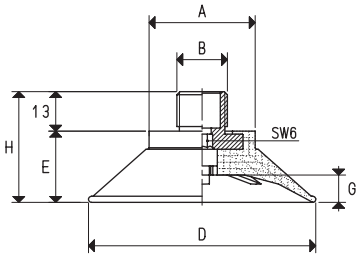
VACUUM CUPS WITH VULCANISED SUPPORT

These vacuum cups are very similar to those described on the previous page: they differ only for their round lip and their internal cleats.
These features allow them to be used even in the most heavy-duty conditions.
The field of use is the same.
They are also made with BENZ compound and the galvanised steel support is vulcanised onto the cup.
Also these cups can be provided upon request in minimum quantities and in other special compounds, listed on pg. 31, to be defined in the order.

VACUUM CUPS WITH MALE VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	E	G	H	Support material	Weight g
08 50 99 B	4.90	10.3	30	G3/8"	50	23.5	9	36.5	steel	43.2
08 75 99 B	11.04	29.3	35	G3/8"	75	23.5	9	36.5	steel	59.2
08 100 99 B	19.62	42.6	35	G3/8"	100	40.0	12	53.0	steel	113.2
08 100 99 N	19.62	42.6	35	G3/8"	100	40.0	12	53.0	steel	113.2
08 50 99 1/4" B	4.90	10.3	30	G1/4"	50	23.5	9	36.5	steel	39.4
08 75 99 1/4" B	11.04	29.3	35	G1/4"	75	23.5	9	36.5	steel	55.2
08 100 99 1/4" B	19.62	42.6	35	G1/4"	100	40.0	12	53.0	steel	109.2

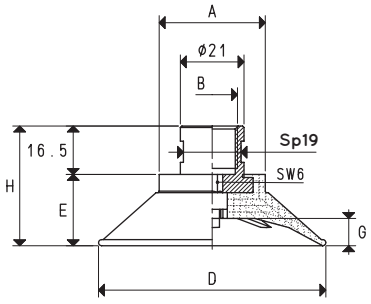
Compound: B= BENZ rubber; N= natural para rubber



VACUUM CUPS WITH FEMALE VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	E	G	H	Support material	Weight g
08 50 99 F B	4.90	10.3	31	G3/8"	50	23.5	9	40.0	steel	55.6
08 50 99 F S	4.90	10.3	31	G3/8"	50	23.5	9	40.0	steel	55.6
08 75 99 F B	11.04	29.3	35	G3/8"	75	23.5	9	40.0	steel	70.5
08 75 99 F S	11.04	29.3	35	G3/8"	75	23.5	9	40.0	steel	70.5
08 100 99 F B	19.62	42.6	35	G3/8"	100	40.0	12	56.5	steel	118.8

Compound: B= BENZ rubber; S = silicon



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

MAXIGRIP CUPS

These vacuum cups have been created as an alternative to the ordinary cups used in the robot-automotive field. They offer an excellent solution to gripping and handling problems that could arise on vacuum-driven handlers in every industry sector.
They can be both round and oval, flat and bellows-type, and equipped with support. The extremely flexible outside lip, which can be associated with the typical features of the bellows cups, helps them adapt on flat, concave and convex surfaces with no risk of deforming or breaking even the thinnest objects to be handled.
The innovative design of the inside of the cups, which facilitates the drainage of oil and water, ensures a high friction coefficient with the gripping surface and, in particular, a unique grip on oil-covered metal sheets or wet glass or marble sheets. This particular feature guarantees a firm grip and, therefore, accurate placement of the load to be handled.

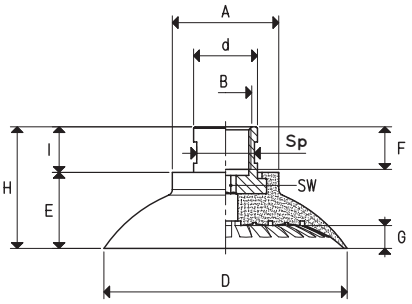
MAXIGRIP standard vacuum cups are made with our exclusive BENZ compound:
- Hardness 60-75°Sh.
- Working temperature between -40 and +170°C
- Stain-resistant
- Excellent resistance to abrasion, water and to oils containing chlorine.

Their aluminium support is vulcanised onto the cup. A wide range of accessories, such as adapters, couplers and articulated joints, allows them to be installed on any vacuum-driven handler.
These cups can also be provided in the special compounds listed on pg. 31, thanks to their universality of use.

ROUND FLAT AND BELLOWS VACUUM CUPS

VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	Sp	D Ø	d Ø	E	F	G	H	I	SW	Support material	Weight g
VRP 40*	3.14	3.7	26	G1/4"	15	40	17	16	14	4.0	31	15	6	aluminium	33.6
VRP 50*	4.90	7.4	30	G3/8"	19	50	21	18	14	5.0	33	15	6	aluminium	49.3
VRP 60*	7.06	13.9	30	G3/8"	19	60	21	21	14	6.0	36	15	6	aluminium	55.3
VRP 80*	12.56	29.6	35	G3/8"	19	80	21	25	14	7.5	40	15	6	aluminium	74.9
VRP 100*	19.62	51.6	35	G3/8"	19	100	21	25	14	9.5	40	15	6	aluminium	80.7
VRP 125*	30.66	96.5	35	G3/8"	19	125	21	33	14	12.5	48	15	6	aluminium	139.6

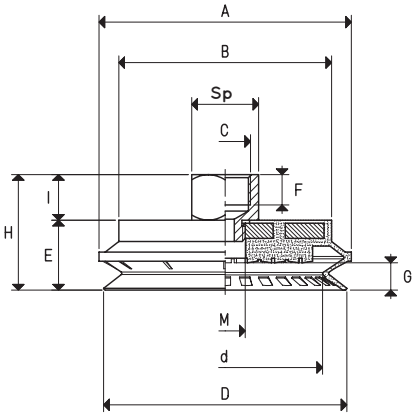


* Complete the code indicating the compound: B= BENZ rubber; N= natural para rubber; S = silicon

Note: Can be supplied with NPT threading for minimum quantities of 100 pieces per item.
Ordering example: VRP 80 NPT B

BELLOWS VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	Sp	D Ø	d Ø	E	F	G	H	I	M Ø	Support material	Weight g
VRS 40*	3.14	9.7	43	30	G1/4"	17	40	24	21.0	10	7.0	35.0	14	G1/8"	aluminium	56.3
VRS 50*	4.90	15.6	53	40	G3/8"	22	50	34	21.0	10	7.0	36.0	15	G1/4"	aluminium	77.6
VRS 60*	7.06	22.8	63	50	G3/8"	22	60	44	21.0	10	7.0	36.0	15	G1/4"	aluminium	107.9
VRS 80*	12.56	47.3	83	70	G3/8"	22	80	64	23.0	10	9.0	38.0	15	G1/4"	aluminium	205.9
VRS 100*	19.62	104.2	103	80	G3/8"	22	100	79	29.0	10	13.0	44.0	15	G1/4"	aluminium	269.0
VRS 125*	30.66	202.5	128	105	G3/8"	22	125	100	32.5	10	16.5	47.5	15	G1/4"	aluminium	464.2



* Complete the code indicating the compound: B= BENZ rubber; N= natural para rubber; S = silicon

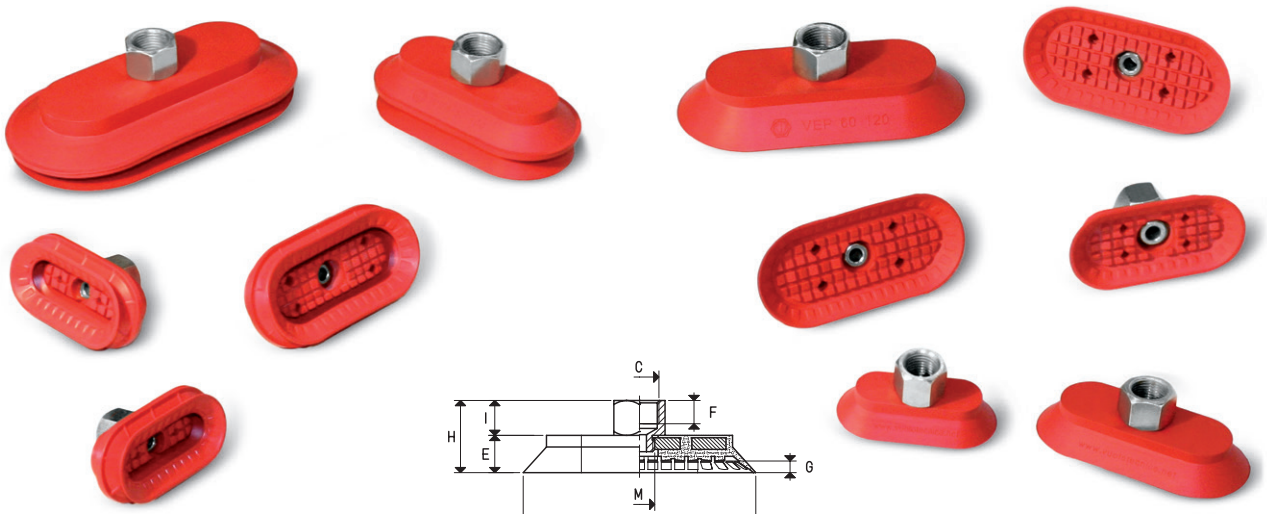
Note: Height "C" available with NPT threading. Ordering example: VRS 80 NPT B

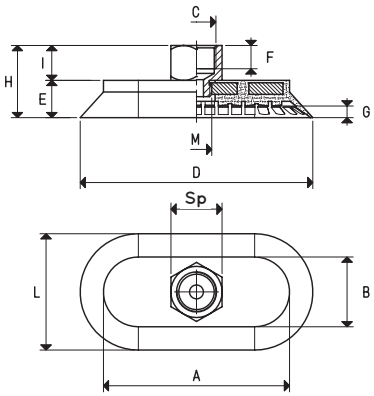
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

FLAT AND BELLOWS ELLIPTICAL VACUUM CUPS



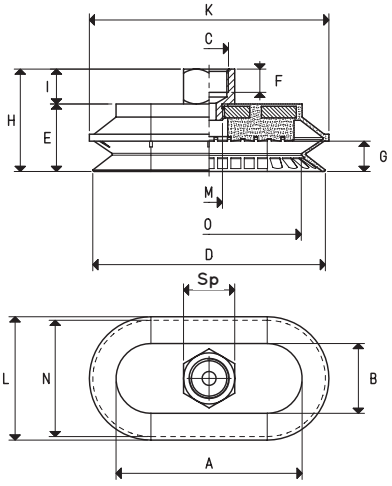


ELLIPTICAL VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A	B	C Ø	Sp	D	E	F	G	H	I	L	M Ø	Support material	Weight g
VEP 30 60 *	4.01	4.5	47	17	G1/4"	17	60	13	10	3	27	14	30	G1/8"	aluminium	42.6
VEP 30 90 *	6.26	7.0	77	17	G1/4"	17	90	13	10	3	27	14	30	G1/8"	aluminium	63.5
VEP 40 80 *	7.14	13.2	70	30	G1/4"	17	80	14	10	4	28	14	40	G1/8"	aluminium	68.0
VEP 50 100 *	11.15	15.0	80	30	G3/8"	22	100	16	10	5	31	15	50	G1/4"	aluminium	110.0
VEP 60 120 *	16.06	32.1	95	35	G3/8"	22	120	18	10	6	33	15	60	G1/4"	aluminium	156.1
VEP 70 140 *	21.86	53.5	110	40	G3/8"	22	140	19	10	7	34	15	70	G1/4"	aluminium	199.4

* Complete the code indicating the compound: B= BENZ rubber; N= natural para rubber; S = silicon

Note: Height "C" available with NPT threading. Ordering example: VEP 40 80 NPT B



BELLOWS ELLIPTICAL VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A	B	C Ø	Sp	D	E	F	G	H	K	I	L	M Ø	N	O	Support material	Weight g
VES 30 60 *	4.01	12.6	50	20	G1/4"	17	60	21	10	7.0	35	63	14	33	G1/8"	30	44.5	aluminium	49.5
VES 40 80 *	7.14	24.8	70	30	G1/4"	17	80	23	10	9.0	37	83	14	43	G1/8"	40	64.0	aluminium	91.9
VES 50 100 *	11.15	57.6	80	30	G3/8"	22	100	29	10	13.0	44	103	15	53	G1/4"	50	79.0	aluminium	125.3
VES 70 140 *	21.86	122.8	110	40	G3/8"	22	140	33	10	16.5	48	143	15	73	G1/4"	70	109.0	aluminium	227.8

* Complete the code indicating the compound: B= BENZ rubber; N= natural para rubber; S = silicon

Note: Height "C" available with NPT threading. Ordering example: VES 40 80 NPT B

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

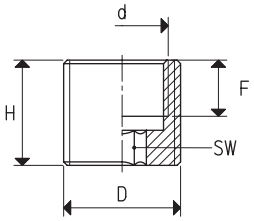
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

ADAPTERS FOR MAXIGRIP VACUUM CUPS

These standard accessories provide various MAXIGRIP CUP assembly options.
The galvanised steel adapters transform the female standard support thread connections into male and the gas ones into metric.
The internal hexagonal housing allows for an easy screwing on the supports.

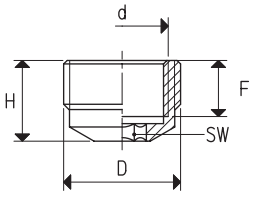
MF ADAPTER FOR VRP VACUUM CUPS

Item	D Ø	d Ø	F	H	SW	Weight g
00 08 215	G3/8"	G1/4"	8	14	6	11.5



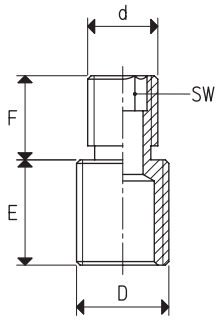
MF ADAPTER FOR VRS - VEP - VES VACUUM CUPS

Item	D Ø	d Ø	F	H	SW	Weight g
00 08 216	G3/8"	G1/4"	8	11.5	6	6.0



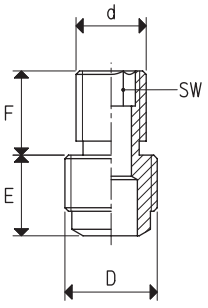
MM ADAPTER FOR VRP VACUUM CUPS

Item	D Ø	d Ø	E	F	SW	Weight g
00 08 217	G1/4"	G1/4"	15	10	6	16.7
00 08 218	G1/4"	M10 x 1.5	15	12	6	10.2
00 08 219	G1/4"	M14 x 1.5	15	12	6	16.0
00 08 220	G3/8"	G1/4"	14	10	6	18.4
00 08 221	G3/8"	M10 x 1.5	14	12	6	16.3
00 08 222	G3/8"	M14 x 1.5	14	12	6	22.5



MM ADAPTER FOR VRS - VEP - VES VACUUM CUPS

Item	D Ø	d Ø	E	F	SW	Weight g
00 08 223	G1/4"	G1/4"	11.5	10	6	13.9
00 08 224	G1/4"	M10 x 1.5	13.0	12	6	10.1
00 08 225	G1/4"	M14 x 1.5	13.0	12	6	15.8
00 08 226	G3/8"	G1/4"	10.5	11	6	16.6
00 08 227	G3/8"	M10 x 1.5	10.5	13	6	14.2
00 08 228	G3/8"	M14 x 1.5	10.5	13	6	20.2



Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

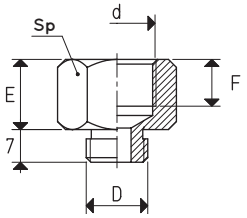
Adapters for GAS - NPT threading available on page 1.130

ACCESSORIES FOR MAXIGRIP VACUUM CUPS

The accessories shown on this page are suitable for the previously described MAXIGRIP CUPS.
MF adapters are suitable for increasing female connections of 1/8 "and 1/4" gas threaded connection vacuum cups to a larger size, still female, of 1/4" or 3/8" with gas or NPT threading, upon request.
Those that are galvanised steel and with gas threading and those with NPT threading are made of aluminium.
AQ adapters with square flange and male or female threaded connections made of anodised aluminium are suitable for robotic gripping systems to allow for quick installation of vacuum cups on the special profiles, used in the AUTOMOTIVE sector. The built-in seal guarantees perfect vacuum seal.

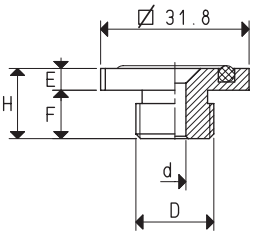
MF ADAPTER FOR VRP-VRS-VEP-VES VACUUM CUPS

Item	E	F	D Ø	d Ø	Sp	Adapter material	Weight g
00 08 207	14	10	G1/8"	G1/4"	17	aluminium	17.6
00 08 208	15	10	G1/4"	G3/8"	22	aluminium	31.0
00 08 329	17	12	G1/8"	1/4" NPT	17	steel	17.6
00 08 328	22	16	G1/4"	3/8" NPT	22	steel	31.0



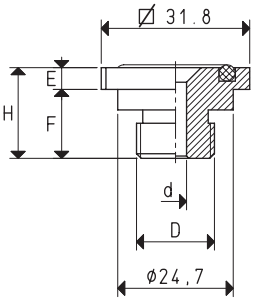
SQUARE ADAPTER FOR VRP-VRS-VEP-VES VACUUM CUPS

Item	H	E	F	D Ø	d Ø	Material	Weight g	O-ring spare part item
AQ 32 1/8"	13	4.6	8.4	G1/8"	5	aluminium	11.8	00 08 214
AQ 32 1/4"	13	4.6	8.4	G1/4"	5	aluminium	13.2	00 08 214
AQ 32 3/8"	13	4.6	8.4	G3/8"	5	aluminium	15.6	00 08 214
AQ 32 1/2"	13	4.6	8.4	G1/2"	5	aluminium	17.2	00 08 214



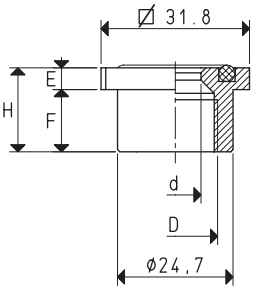
SQUARE ADAPTER FOR VRP-VRS-VEP-VES VACUUM CUPS

Item	H	E	F	D Ø	d Ø	Material	Weight g	O-ring spare part item
AQS 32 1/8"	16.1	4.6	11.5	G1/8"	5	aluminium	12.2	00 08 214
AQS 32 1/4"	20.0	4.6	15.4	G1/4"	5	aluminium	13.6	00 08 214
AQS 32 3/8"	20.0	4.6	15.4	G3/8"	5	aluminium	16.2	00 08 214
AQS 32 1/2"	20.0	4.6	15.4	G1/2"	5	aluminium	17.8	00 08 214



SQUARE ADAPTER FOR VRP-VRS-VEP-VES VACUUM CUPS

Item	H	E	F	D Ø	d Ø	Material	Weight g	O-ring spare part item
AQ 32 1/4" F	17.9	4.6	13.3	G1/4"	11	aluminium	15.2	00 08 214
AQ 32 3/8" F	17.9	4.6	13.3	G3/8"	11	aluminium	14.1	00 08 214



Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

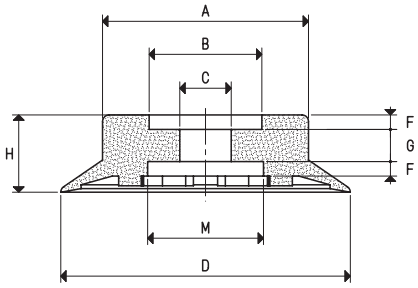
Adapters for GAS - NPT threading available on page 1.130

ROUND FLAT VACUUM CUPS WITH SUPPORTS

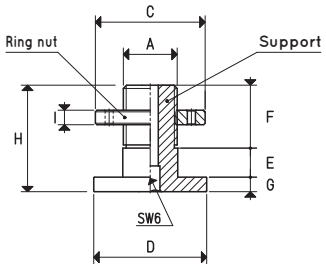
The cups described on this page have been designed to solve most of the gripping problems that can arise handling wooden or plastic panels, thin glass or marble sheets, fragile metal sheets, ceramic or baked clay tiles, etc.
Their low, strong and slightly tilted lip does not swipe on the loading surface during the gripping phase.
The cleats on the inside of these cups, along with reducing the volume of air to be sucked, create a perfect supporting surface which prevents any gripping surface deformation as well as vertically lifted loads from slipping. These cups can be cold fitted with no adhesives onto their anodised aluminium support and locked by the ring nut. These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.

VACUUM CUPS

Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	F	G	H	M Ø
01 76 24 *	11.33	15.8	54	35	16	76	4.5	10	24	36
01 90 24 *	15.89	19.5	64	35	16	90	4.5	10	24	36
01 110 24 *	23.74	27.2	79	35	16	110	4.5	10	24	36
01 150 36 *	45.00	75.8	98	70	16	150	6.0	17	36	70



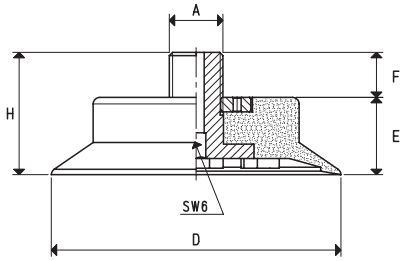
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

Item	A Ø	C Ø	D Ø	E	F	G	H	I	Support/ring nut material	For vacuum cup item	Weight g
00 08 108	G1/4"	34	35	9	19.5	4.5	33.0	4.5	aluminium	01 76 24 01 90 24 01 110 24	31.2
00 08 110	G3/8"	34	35	9	19.5	4.5	33.0	4.5	aluminium	01 76 24 01 90 24 01 110 24	33.7
00 08 112	G3/8"	69	69	15	22.0	5.5	42.5	6.0	aluminium	01 150 36	132.1

Note: the ring nut is provided automatically when the support is ordered with its own item



VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	D Ø	E	F	H	Vacuum cup item	Support item	Weight g
08 76 24 1/4" *	11.33	G1/4"	760	24	14	38	01 76 24	00 08 108	83.1
08 90 24 1/4" *	15.89	G1/4"	900	24	14	38	01 90 24	00 08 108	112.0
08 110 24 1/4" *	23.74	G1/4"	110	24	14	38	01 110 24	00 08 108	168.2
08 76 24 3/8" *	11.33	G3/8"	760	24	14	38	01 76 24	00 08 110	85.6
08 90 24 3/8" *	15.89	G3/8"	900	24	14	38	01 90 24	00 08 110	114.5
08 110 24 3/8" *	23.74	G3/8"	110	24	14	38	01 110 24	00 08 110	170.7
08 150 36 *	45.00	G3/8"	150	36	14	50	01 150 36	00 08 112	436.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

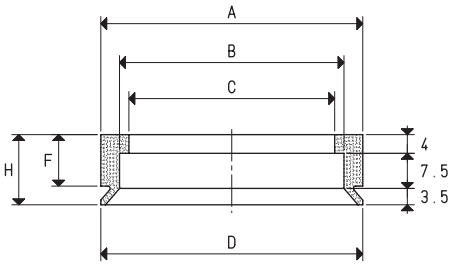
ROUND FLAT VACUUM CUP WITH SUPPORT

The cups described on this page have been designed for gripping soft drink cans. They can obviously be also used for gripping other objects with flat smooth or slightly rough surfaces.
The shape of its lip allows a firm grip of the surface of the load to be handled, eliminating any oscillation and reducing the air volume contained within, thus allowing quicker grip and release.
These cups can be cold fitted with no adhesives onto their anodised aluminium support equipped with a threaded hole in the centre to allow their fastening to the automation.
This cup is extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.

VACUUM CUP

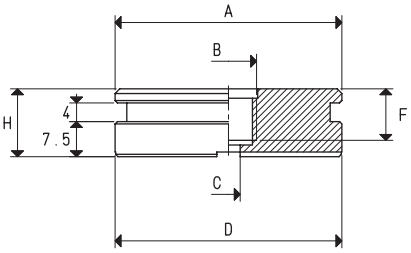
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	F	H
01 56 15 *	6.15	7.1	56	48	44	56	11	15

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORT

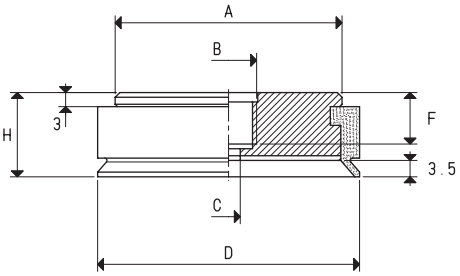
Item	A Ø	B Ø	C Ø	D Ø	F	H	Support material	For vacuum cup item	Weight g
00 08 83	48.5	M12	5	48.5	11	14.5	aluminium	01 56 15	67.4



VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	F	H	Vacuum cup item	Support item	Weight g
08 56 15 *	6.15	48.5	M12	5	56	11	18	01 56 15	00 08 83	78

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

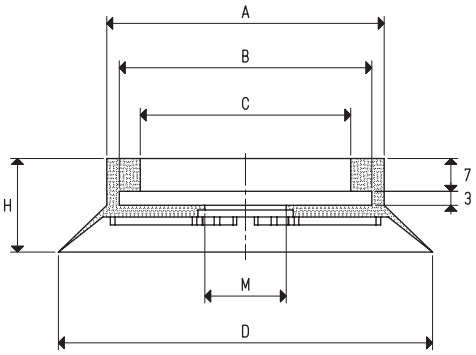
ROUND FLAT VACUUM CUP WITH SUPPORTS

These cups feature a particularly thin and soft lip, which allows it to grip very rough surfaces. Its supporting surface with cleats guarantees a firm grip on the load to be handled. These cups have been specially designed for gripping ceramic tiles with smooth, rough and non-slip surfaces, although, due to their features, they can also be used for handling glass, marble and cement objects.
These cups can be cold fitted with no adhesives onto their anodised aluminium support equipped with a threaded hole in the centre to allow their fastening to the automation.
This cup is extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.

VACUUM CUP

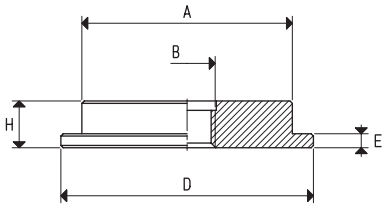
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	H	M Ø
01 80 20 *	12.56	27.2	58	54	45	80	20	17

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

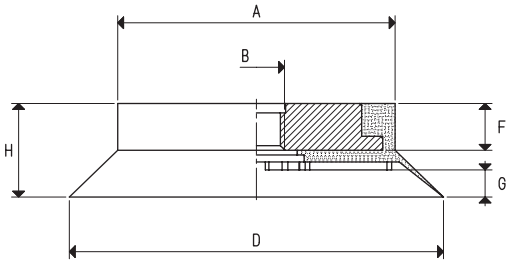
Item	A Ø	B Ø	D Ø	E	H	Support material	For vacuum cup item	Weight g
00 08 126	45	M12	54	3	10	aluminium	01 80 20	45.5
00 08 143	45	G1/2"	54	3	10	aluminium	01 80 20	41.5



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	F	G	H	Vacuum cup item	Support item	Weight g
08 80 20 *	12.56	58	M12	80	10	6	20	01 80 20	00 08 126	70.7
08 80 20 1/2" *	12.56	58	G1/2"	80	10	6	20	01 80 20	00 08 143	66.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

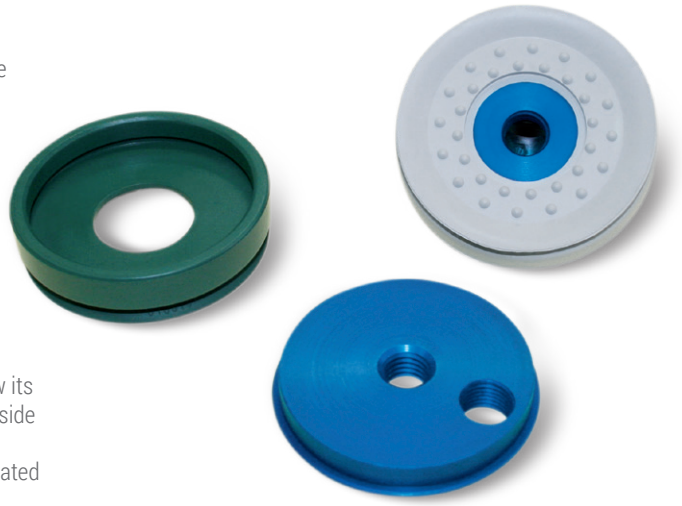


Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

ROUND FLAT VACUUM CUPS WITH SUPPORTS

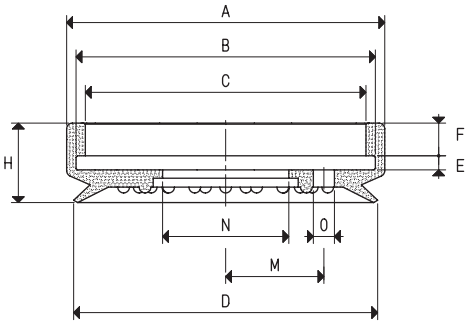
These cups have been designed in particular for handling metal sheets, glass, wooden panels, machined marble and granite and other similar materials.
The shape of their lips allows a firm grip of the surface of the load to be handled, eliminating any oscillation and significantly reducing the air volume contained within, thus allowing quicker grip and release. These cups are provided with cleats which, besides avoiding the load to bend in correspondence of the gripping point, also have the purpose of increasing the friction surface with the vertically lifted load, preventing it from slipping. They are normally available in the three standard compounds but can be supplied in special compounds listed on pg. 31 and in a minimum amount to be defined in the order, upon request.
These cups can be cold fitted with no adhesives onto their anodised aluminium support equipped with a threaded hole in the centre to allow its fastening to the automation and, upon request, can be supplied with a side hole with gas threading for the suction fitting.
These cups are extremely easy to replace; simply request the cup indicated in the table in the desired compound when requesting the spare part.



VACUUM CUPS

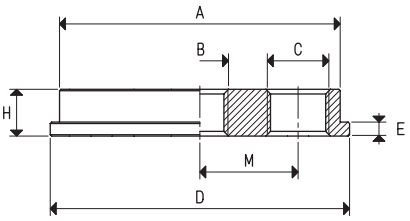
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	H	M	N Ø	O Ø
01 65 15 *	8.29	9.1	68	63	59	65	3	7	17	--	27	--
01 65 16 *	8.29	9.1	68	63	59	65	3	7	17	21	27	4.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

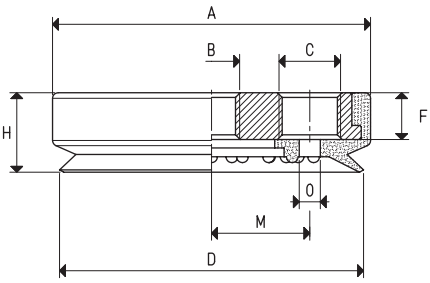
Item	A Ø	B Ø	C Ø	D Ø	E	H	M	For vacuum cup item	Support material	Weight g
00 08 32	60	M12	--	64	3	10	--	01 65 15	aluminium	80.6
00 08 424	60	G1/4"	--	64	3	10	--	01 65 15	aluminium	80.6
00 02 36	60	M8	G1/4"	64	3	10	21	01 65 16	aluminium	78.1
00 06 13	60	M12	G1/4"	64	3	10	21	01 65 16	aluminium	77.1



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	F	H	M	O Ø	Vacuum cup item	Support item	Weight g
08 65 15 *	8.29	69	M12	--	65	10	17	--	--	01 65 15	00 08 32	102.0
08 65 15 1/4" *	8.29	69	G1/4"	--	65	10	17	--	--	01 65 15	00 08 424	102.0
08 65 16 *	8.29	69	M8	G1/4"	65	10	17	21	4.5	01 65 16	00 02 36	100.0
08 65 17 *	8.29	69	M12	G1/4"	65	10	17	21	4.5	01 65 16	00 06 13	98.5

* Complete the code indicating the compound: B= BENZ rubber; N= natural para rubber; S = silicon



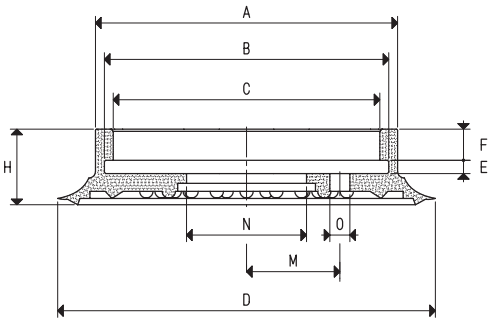
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

VACUUM CUPS

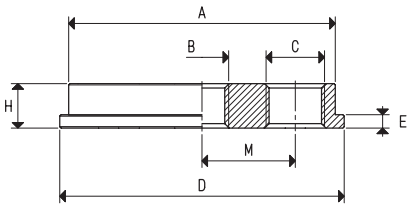
Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	M	N Ø	O Ø
01 85 15 *	14.18	13.0	68	63	59	85	3	7	17	--	27	--
01 85 16 *	14.18	13.0	68	63	59	85	3	7	17	21	27	4.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

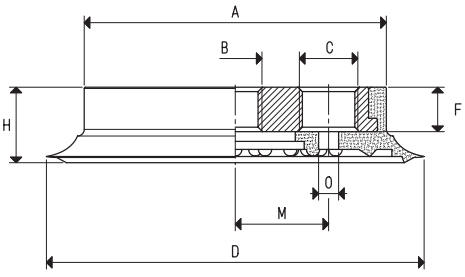
Item	A Ø	B Ø	C Ø	D Ø	E	H	M	For vacuum cup item	Support material	Weight g
00 08 32	60	M12	--	64	3	10	--	01 85 15	aluminium	80.6
00 08 234	60	G1/2"	--	64	3	10	--	01 85 15	aluminium	78.3
00 08 424	60	G1/4"	--	64	3	10	--	01 85 15	aluminium	80.6
00 08 233	60	G3/4"	--	64	3	10	--	01 85 15	aluminium	77.3
00 02 36	60	M8	G1/4"	64	3	10	21	01 85 16	aluminium	78.1
00 06 13	60	M12	G1/4"	64	3	10	21	01 85 16	aluminium	77.1



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	F	H	M	O Ø	Vacuum cup item	Support item	Weight g
08 85 15 *	14.18	69	M12	--	85	10	17	--	--	01 85 15	00 08 32	110.3
08 85 15 1/2" *	14.18	69	G1/2"	--	85	10	17	--	--	01 85 15	00 08 234	108.0
08 85 15 1/4" *	14.18	69	G1/4"	--	85	10	17	--	--	01 85 15	00 08 424	107.0
08 85 15 3/4" *	14.18	69	G3/4"	--	85	10	17	--	--	01 85 15	00 08 233	107.0
08 85 16 *	14.18	69	M8	G1/4"	85	10	17	21	4.5	01 85 16	00 02 36	107.7
08 85 17 *	14.18	69	M12	G1/4"	85	10	17	21	4.5	01 85 16	00 06 13	106.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

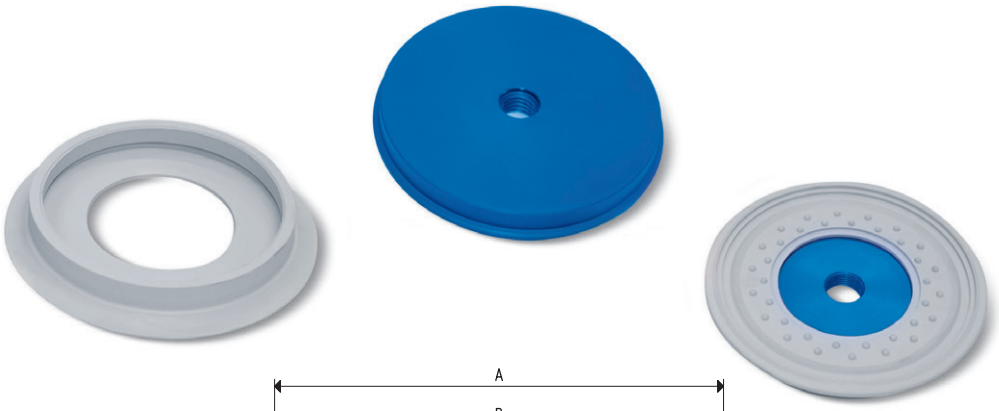


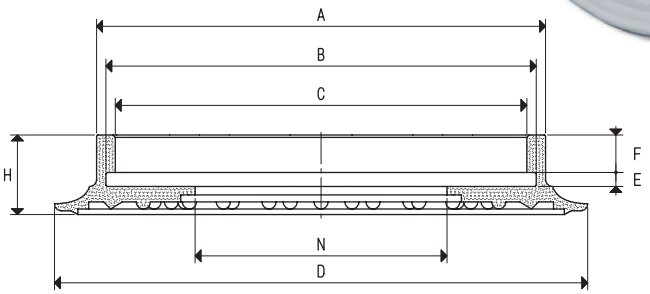
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

ROUND FLAT VACUUM CUP WITH SUPPORTS

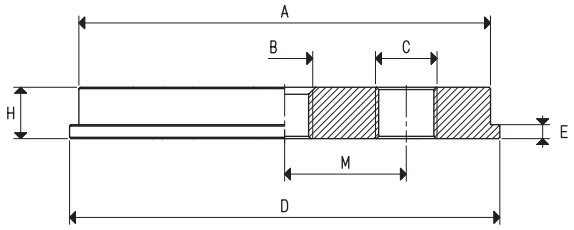




VACUUM CUP

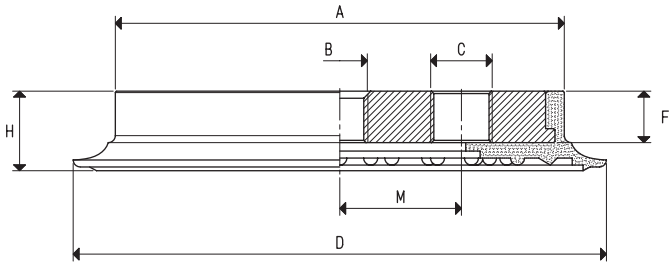
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	H	N Ø
01 110 10 *	23.74	24.9	96	91	87	114	3	8	17	54

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

Item	A Ø	B Ø	C Ø	D Ø	E	H	M	For vacuum cup item	Support material	Weight g
00 08 33	88	M12	--	92	3	11	--	01 110 10	aluminium	188.9
00 02 37	88	M8	G1/4"	92	3	11	26	01 110 10	aluminium	188.8
00 06 14	88	M12	G1/4"	92	3	11	26	01 110 10	aluminium	185.8
00 08 123	88	G3/8"	--	92	3	11	--	01 110 10	aluminium	186.1



VACUUM CUPS WITH SUPPORT

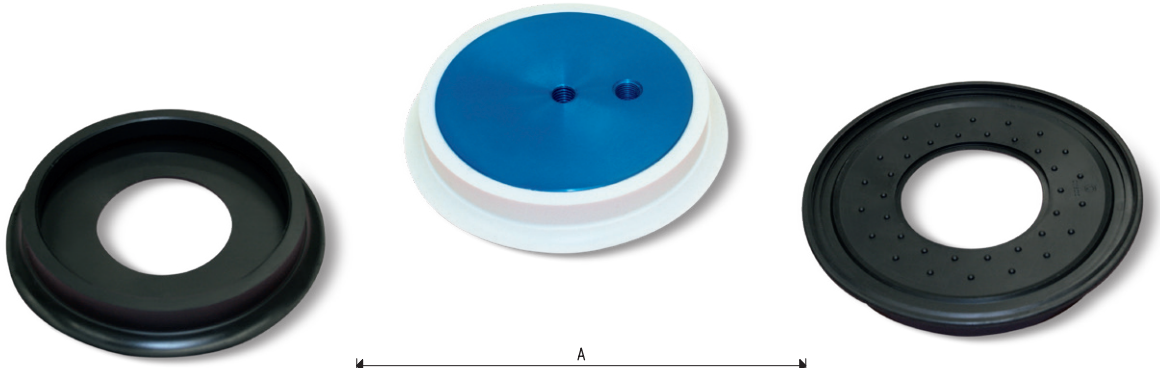
Item	Force Kg	A Ø	B Ø	C Ø	D Ø	F	H	M	Vacuum cup item	Support item	Weight g
08 110 10 *	23.74	97	M12	--	114	11	17	--	01 110 10	00 08 33	233.2
08 110 11 *	23.74	97	M8	G1/4"	114	11	17	26	01 110 10	00 02 37	233.1
08 110 12 *	23.74	97	M12	G1/4"	114	11	17	26	01 110 10	00 06 14	230.1
08 110 13 *	23.74	97	G3/8"	--	114	11	17	--	01 110 10	00 08 123	230.4

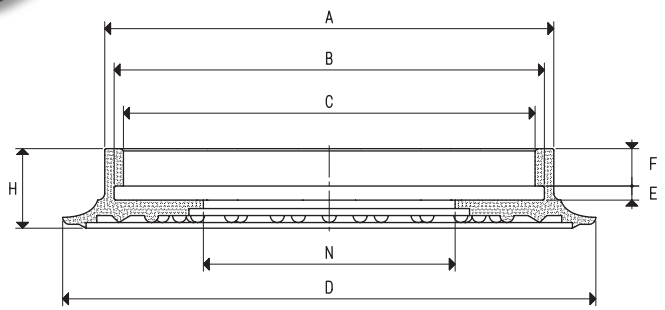
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

ROUND FLAT VACUUM CUP WITH SUPPORTS

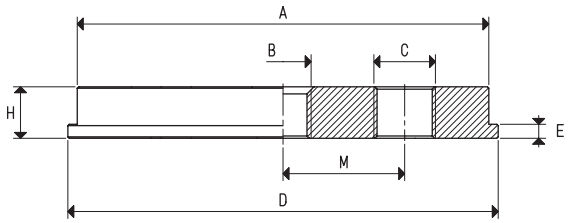




VACUUM CUP

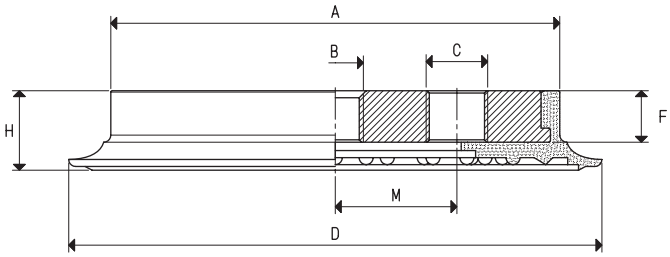
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	H	N Ø
01 150 10 *	45.00	75.7	133	125	118	154	4	11	23	64

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORTS

Item	A Ø	B Ø	C Ø	D Ø	E	H	M	For vacuum cup item	Support material	Weight g
00 08 35	120	M12	--	127	4	15	--	01 150 10	aluminium	471.3
00 08 107	120	M12	G3/8"	127	4	15	30	01 150 10	aluminium	476.9
00 08 119	120	G3/8"	--	127	4	15	--	01 150 10	aluminium	478.9
00 08 145	120	G3/8"	G3/8"	127	4	15	27	01 150 10	aluminium	471.9
00 06 15	120	M12	G1/4"	127	4	15	30	01 150 10	aluminium	476.3



VACUUM CUPS WITH SUPPORT

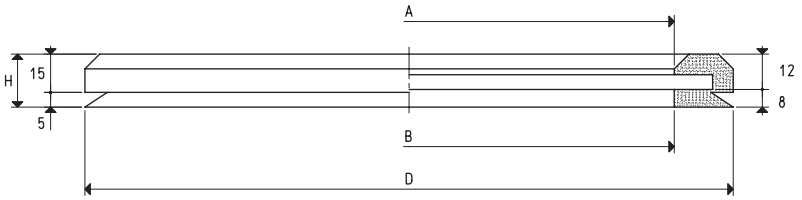
Item	Force Kg	A Ø	B Ø	C Ø	D Ø	F	H	M	Vacuum cup item	Support item	Weight g
08 150 10 *	45.00	135	M12	--	154	15	23	--	01 150 10	00 08 35	583.3
08 150 12 *	45.00	135	M12	G3/8"	154	15	23	30	01 150 10	00 08 107	588.9
08 150 13 *	45.00	135	G3/8"	--	154	15	23	--	01 150 10	00 08 119	590.9
08 150 14 *	45.00	135	G3/8"	G3/8"	154	15	23	27	01 150 10	00 08 145	583.9
08 150 16 *	45.00	135	M12	G1/4"	154	15	23	30	01 150 10	00 06 15	588.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

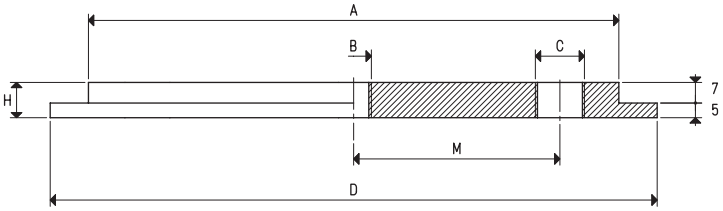
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

ROUND FLAT VACUUM CUP WITH SUPPORT



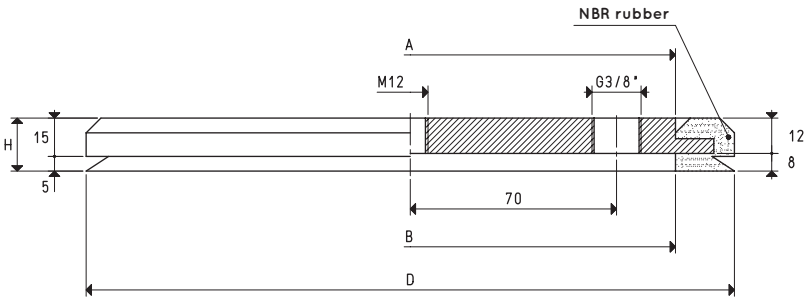
VACUUM CUP

Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	H	Compound
01 220 10 A	78.5	203.4	180	180	220	20	oil-resistant rubber



SUPPORT

Item	A Ø	B Ø	C Ø	D Ø	H	M	Support material	For vacuum cup item	Weight Kg
00 08 37	180	M12	G3/8"	206	12	70	aluminium	01 220 10 A	0.95



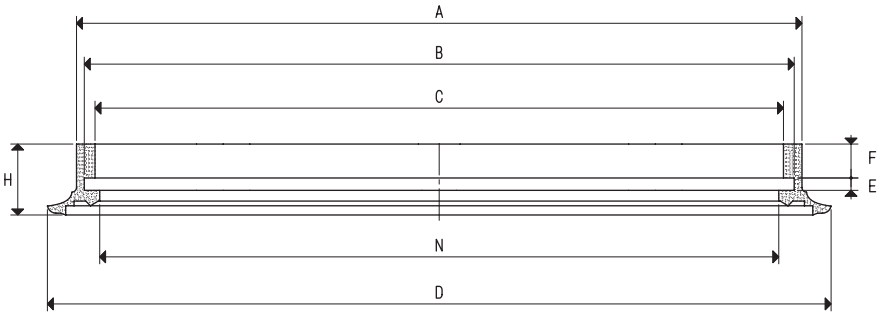
VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	H	Vacuum cup item	Support item	Weight Kg
08 220 10 A	78.5	180	180	220	20	00 08 37	01 220 10 A	1.12

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

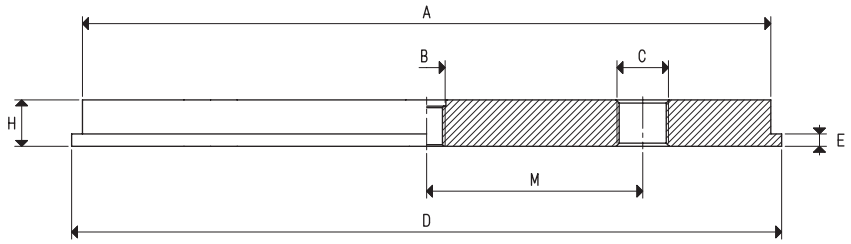
ROUND FLAT VACUUM CUP WITH SUPPORT



VACUUM CUP

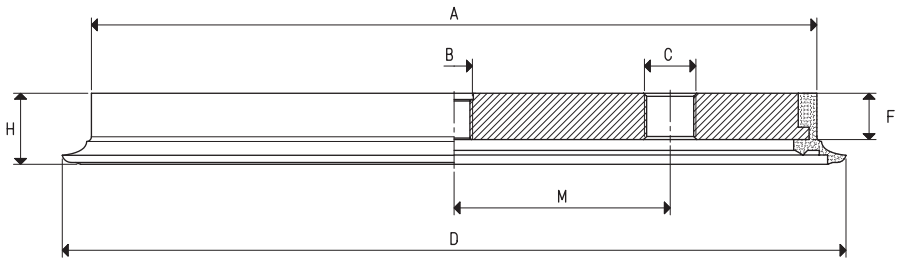
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	H	N Ø
01 250 20 *	122.60	200.0	235	227	220	254	4	11	23	220

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



SUPPORT

Item	A Ø	B Ø	C Ø	D Ø	E	H	M	For vacuum cup item	Support material	Weight Kg
00 08 115	223	M12	G3/8"	230	4	15	70	01 250 20	aluminium	1.65



VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	F	H	M	Vacuum cup item	Support item	Weight Kg
08 250 20 *	122.60	237	M12	G3/8"	254	15	23	70	01 250 20	00 08 115	1.78

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

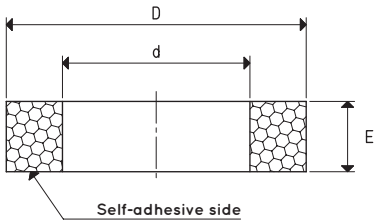
ROUND FLAT FOAM RUBBER VACUUM CUPS WITH SUPPORTS

These foam rubber cups are made with a special compound called GERANIUM, with a density that allows them to grip even uneven and very rough surfaces maintaining their elasticity also after many working cycles. They are provided with self-adhesive side for a quick fixing to their support. This series of cups has been designed for handling loads with raw or very rough surfaces (sawn, bush-hammered or flamed marble, textured, non-slip or profiled metal sheets, striped Plexiglass, raw cement manufactures, garden tiles with fret, etc.) and in all those cases in which traditional cups cannot be used.
In case of lubricated gripping surfaces, we recommend using NF neoprene foam rubber. The working temperature range is between -40°C and +80°C for OF GERANIUM foam rubber and between -20°C and +80°C for NF neoprene.
Their supports are made with anodised aluminium and are provided with a threaded hole in the centre for fastening them to the automation. The larger ones, on the other hand, have a side threaded hole for vacuum connection.
For the spare part, all you have to do is request the self-adhesive foam rubber cup indicated in the table in the required compound.

VACUUM CUPS

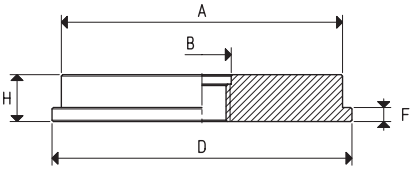
Item	Force Kg	Volume cm^3	D Ø	d Ø	E
01 42 15 *	0.78	4.7	40	20	15
01 64 15 *	3.5	18.8	64	40	15
01 92 15 *	8.5	48.2	92	64	15

* Complete the code indicating the compound: OF= geranium foam rubber; NF= neoprene foam rubber



SUPPORTS

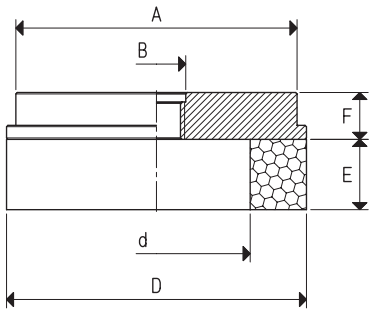
Item	A Ø	B Ø	D Ø	F	H	Support material	For vacuum cup item	Weight g
00 08 147	40	M12	40	--	10	aluminium	01 42 15	32.8
00 08 118	40	G1/4"	40	--	10	aluminium	01 42 15	32.8
00 08 32	60	M12	64	3	10	aluminium	01 64 15	80.6
00 08 424	60	G1/4"	64	3	10	aluminium	01 64 15	80.6
00 08 33	88	M12	92	3	11	aluminium	01 92 15	188.9
00 08 123	88	G3/8"	92	3	11	aluminium	01 92 15	186.1



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	d Ø	E	F	Vacuum cup item	Support item	Weight g
08 42 15 *	0.78	40	M12	40	20	15	10	01 42 15	00 08 147	35.6
08 42 15 1/4" *	0.78	40	G1/4"	40	20	15	10	01 42 15	00 08 118	35.6
08 64 15 *	3.5	60	M12	64	40	15	10	01 64 15	00 08 32	86.5
08 64 15 1/4" *	8.29	60	G1/4"	64	40	15	10	01 64 15	00 08 424	86.5
08 92 15 *	8.5	88	M12	92	64	15	11	01 92 15	00 08 33	199.1
08 92 15 3/8" *	8.5	88	G3/8"	92	64	15	11	01 92 15	00 08 123	196.3

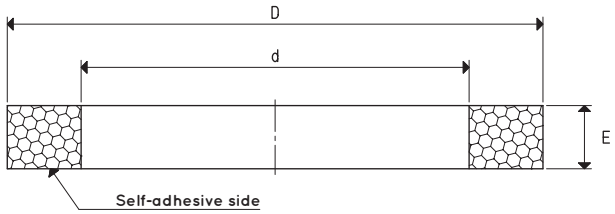
* Complete the code indicating the compound: OF= geranium foam rubber; NF= neoprene foam rubber



Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

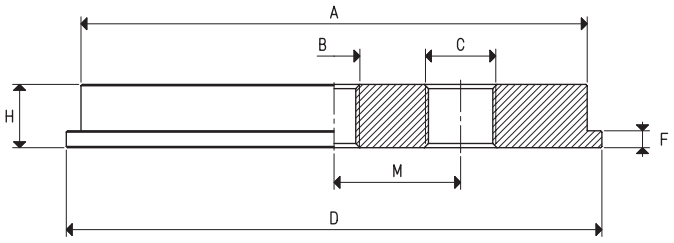
Adapters for GAS - NPT threading available on page 1.130



VACUUM CUPS

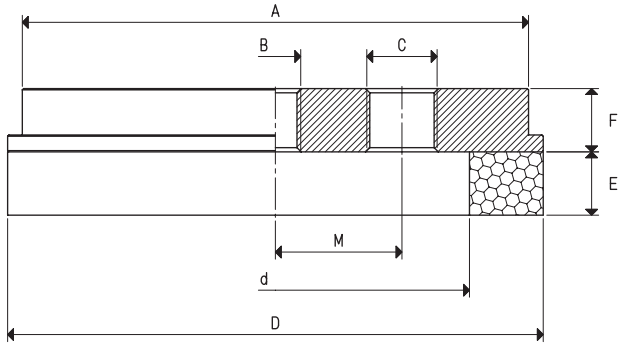
Item	Force Kg	Volume cm^3	D Ø	d Ø	E
01 127 15 *	17.5	99.6	127	92	15
01 180 15 *	38.5	230.7	180	140	15
01 220 15 *	63.6	381.5	220	180	15

* Complete the code indicating the compound: OF= geranium foam rubber; NF= neoprene foam rubber



SUPPORT

Item	A Ø	B Ø	C Ø	D Ø	F	H	M	Support material	For vacuum cup item	Weight Kg
00 08 107	120	M12	G3/8"	127	4	15	30	aluminium	01 127 15	0.48
00 08 58	160	M12	G3/8"	180	5	12	60	aluminium	01 180 15	0.74



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	d Ø	E	F	M	Vacuum cup item	Support item	Weight Kg
08 127 15 *	17.5	120	M12	G3/8"	127	92	15	15	30	01 127 15	00 08 107	0.49
08 180 15 *	38.5	160	M12	G3/8"	180	140	15	12	60	01 180 15	00 08 58	0.78

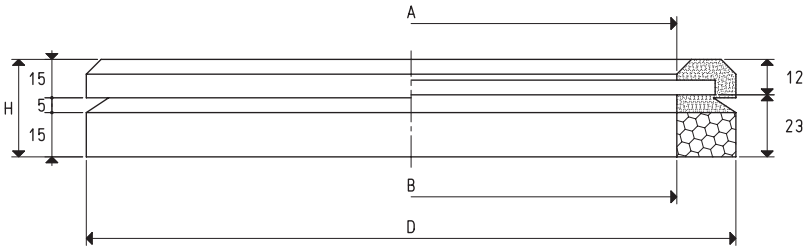
* Complete the code indicating the compound: OF= geranium foam rubber; NF= neoprene foam rubber

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

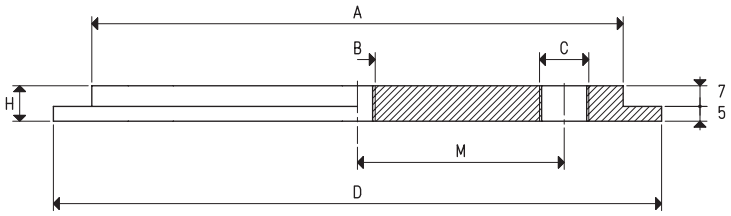
ROUND FLAT FOAM RUBBER VACUUM CUPS WITH SUPPORT

The detail that sets these cups apart from the previously described cups is its lip, made of nitrile rubber, combined with foam rubber in the GERANIUM compound or neoprene compound. This shape allows for gripping on very rough or even grooved surfaces. They are especially suitable for gripping and handling cement objects with surfaces finished with fret, marble and bush-hammered or flamed granites.
The working temperature range is between -40°C and +80°C for OF GERANIUM foam rubber and between -20°C and +80°C for NF neoprene.
The support is made with anodised aluminium and is provided with a threaded hole in the centre for fastening them to the automation, and a side threaded hole for vacuum connection. The cup is cold fitted on it without the use of adhesives. To replace, simply request the single vacuum cup indicated in the table in the desired compound.



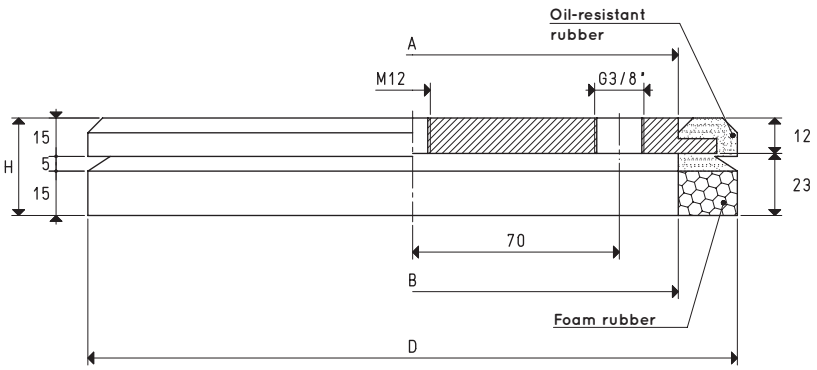
VACUUM CUPS

Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	H	Compound
01 220 10 OF	63.6	585.0	180	180	220	35	geranium foam rubber
01 220 10 NF	63.6	585.0	180	180	220	35	neoprene foam rubber



SUPPORT

Item	A Ø	B Ø	C Ø	D Ø	H	M	Support material	For vacuum cup item	Weight Kg
00 08 37	180	M12	G3/8"	206	12	70	aluminium	01 220 10	0.95



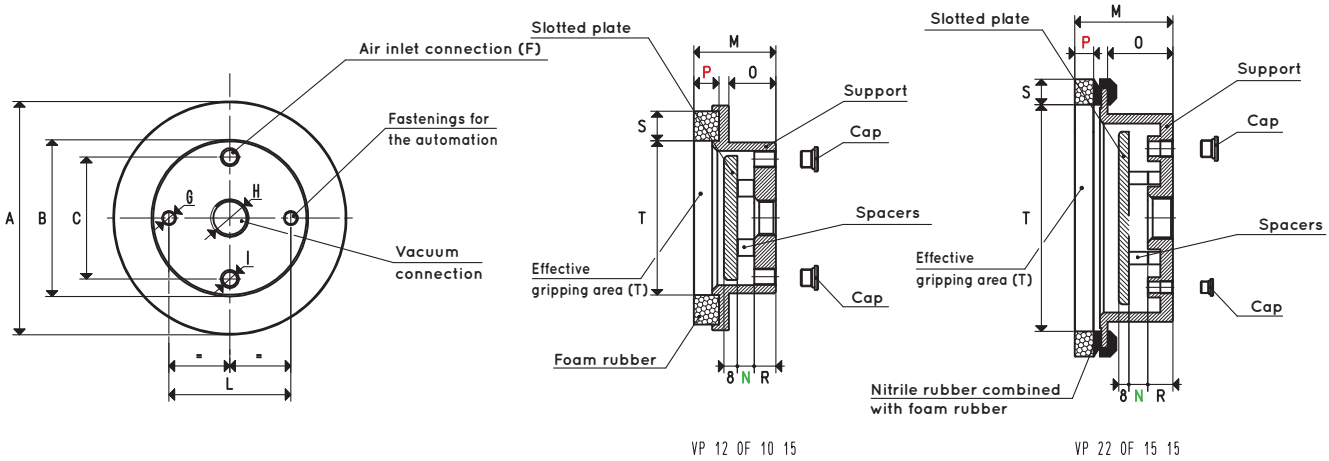
VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	H	Vacuum cup item	Support item	Weight Kg
08 220 10 OF	63.6	180	180	220	35	00 08 37	01 220 10 OF	0.98
08 220 10 NF	63.6	180	180	220	35	00 08 37	01 220 10 NF	0.97

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

For the gripping of bags, packs and flexible containers in paper or plastic, containing powders, granulated products, loose or liquid products. These new vacuum cups have been designed and manufactured to safely grip even the most difficult and irregular packages. Made of anodised aluminium and equipped with a slotted plate inside them to allow flexible containers to perfectly adapt to the cup, as well as a special foam rubber seal which, following the inevitable creases that form on flexible containers during gripping, prevents perimeter vacuum losses.
They are especially suitable for gripping flow packs, flexible containers for intravenous therapy, bags of sweets or other similar products, plastic bags of granulated products, of cement, sugar or flour, etc.
The lifting force was calculated considering a level of vacuum of at least -75 Kpa, the total surface enclosed within the seal and a factor of safety 3.



VP 12 OF 10 15 VP 22 OF 15 15

ROUND VACUPREDATOR VACUUM CUPS

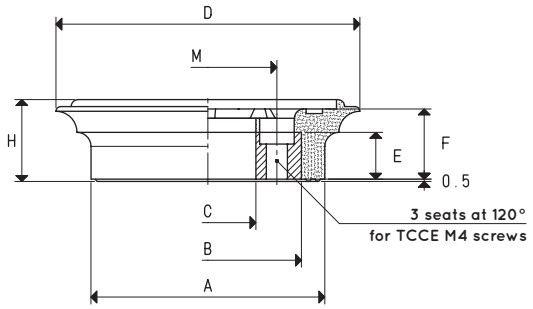
Item	Force Kg	A Ø	B Ø	C	F Ø	G Ø	H Ø	I Ø	L	M	N	O	P	R	S	T Ø	Weight Kg
VP 12 OF 10 15	17.5	134	89	70	G1/8"	M8	G1/2"	G1/8"	70	49	10	28	15	13	17.5	92	0.54
VP 22 OF 15 15	63.6	220	165	110	G1/4"	M12	G1"	G1/8"	120	78	15	52	15	20	20.0	180	1.55

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

FLAT ROUND VACUUM CUPS WITH VULCANISED SUPPORT, FOR CLAMPING GLASS AND MARBLE

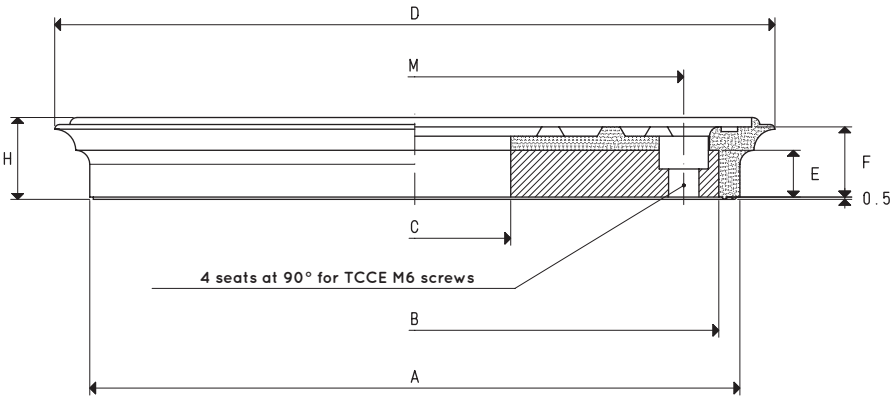
Glass and marble manufacturers' machining centres require increasingly accurate and safe clamping systems. This has led us to creating this new series of cups.
They are vulcanised onto a steel support and are provided with a hole in the centre for vacuum connection or for a ball valve, as well as with 3-4 holes on the internal circumference for housing Allen screws.
Their extremely flexible lip allows them to easily adapt to the sheets to be held, with no risk of deformation or rupture, even for the thinnest ones.
The particular shape of the internal support plane of these cups ensures a high friction coefficient with the gripping surface and especially a considerable grip on wet glass and marble sheets, thanks to the water drainage. All this guarantees a firm, safe grip.
Furthermore, these cups feature the highest accuracy of their thickness, whose nominal height has a tolerance of only five hundredths of millimetre.
They are normally produced with oil-resistant rubber A, but they can be ordered in other compounds, listed on pg. 31, upon request and in minimum quantities to be defined in the order.



VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	H	M Ø	Support material	Weight Kg
08 65 11 A	6.7	5.5	50	40	20.5	65	10	15	17.5	29.5	steel	0.09
08 85 11 A	12.0	7.7	70	60	40.5	85	10	15	17.5	49.5	steel	0.14

Compound: A = oil-resistant rubber



VACUUM CUP WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	E	F	H	M Ø	Support material	Weight Kg
08 150 11 A	42.7	47.1	139	130	41	150	10	15	17.5	115	steel	1.0

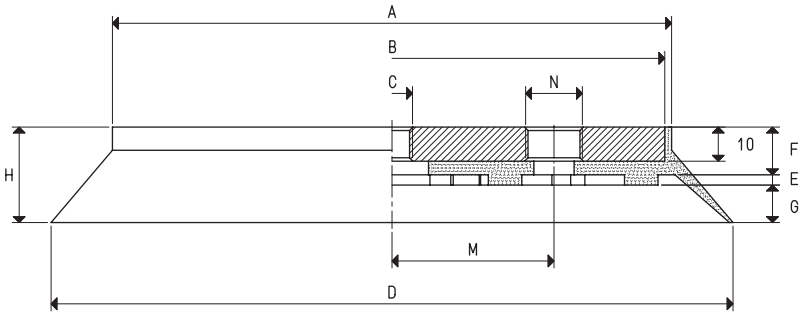
Compound: A = oil-resistant rubber

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

FLAT ROUND VACUUM CUPS WITH VULCANISED SUPPORT

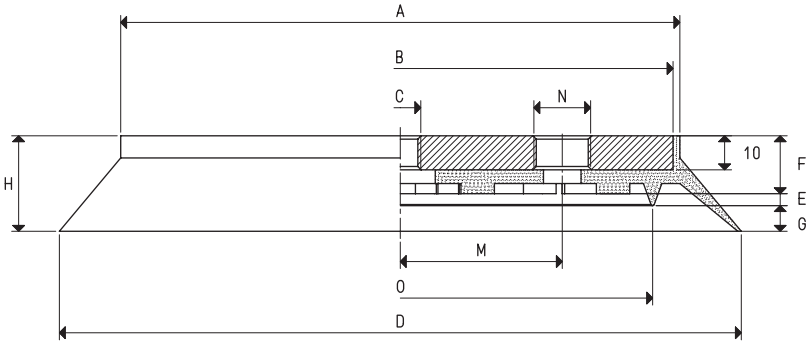
These cups have been designed for lifting and handling heavy loads, both vertically and horizontally. They are vulcanised onto a steel support and are provided with a central threaded hole for its fastening to the automation and with a side threaded hole for vacuum connection.
These cups have a labyrinth graved face made with the same compound as the cup, which allows gripping even the thinnest and most fragile glass and marble sheets, with no bending in the gripping area. The shape of its lip and the choice of the compound with which they are made ensure a firm grip on uneven and corrugated surfaces.
The 08 .. 40 series, along with sharing the same features, has an internal vertical lip which allows them to grip extremely rough surfaces, such as embossed or profiled metal sheets, sawn marble or granite, wooden boards, precast cement, etc.



VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	G	H	M	N Ø	Support material	Weight Kg
08 110 15 M8 *	23.7	78.5	74	70	M8	110	2	14	10	26	26.0	G1/4"	steel	0.35
08 110 15 *	23.7	78.5	74	70	M12	110	2	14	10	26	26.0	G1/4"	steel	0.33
08 150 15 *	45.0	158.9	115	110	M12	150	2	14	10	26	40.0	G3/8"	steel	0.83
08 200 10 *	78.5	341.9	164	160	M12	200	3	14	11	28	47.5	G3/8"	steel	1.75
08 250 10 *	122.6	540.1	214	210	M12	250	3	14	11	28	72.5	G3/8"	steel	3.00
08 300 10 *	176.6	871.8	266	260	M16	300	5	15	11	31	89.0	G1/2"	steel	4.70
08 350 10 *	240.4	1210.1	316	310	M16	350	5	15	11	31	89.0	G1/2"	steel	6.60

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	G	H	M	N Ø	O Ø	Support material	Weight Kg
08 110 40 M8*	9.07	77.7	74	70	M8	110	3	16	7	26	26.0	G1/4"	68	steel	0.36
08 110 40 *	9.07	77.7	74	70	M12	110	3	16	7	26	26.0	G1/4"	68	steel	0.34
08 150 40 *	21.60	156.0	115	110	M12	150	3	16	7	26	40.0	G3/8"	105	steel	0.85
08 200 40 *	42.90	334.6	164	160	M12	200	3	17	8	28	47.5	G3/8"	148	steel	1.70
08 250 40 *	75.30	546.2	214	210	M12	250	3	17	8	28	72.5	G3/8"	196	steel	3.00
08 300 40 *	120.70	874.4	266	260	M16	300	3	18	10	31	89.0	G1/2"	248	steel	4.60
08 350 40 *	174.20	1219.4	316	310	M16	350	3	18	10	31	89.0	G1/2"	298	steel	6.50

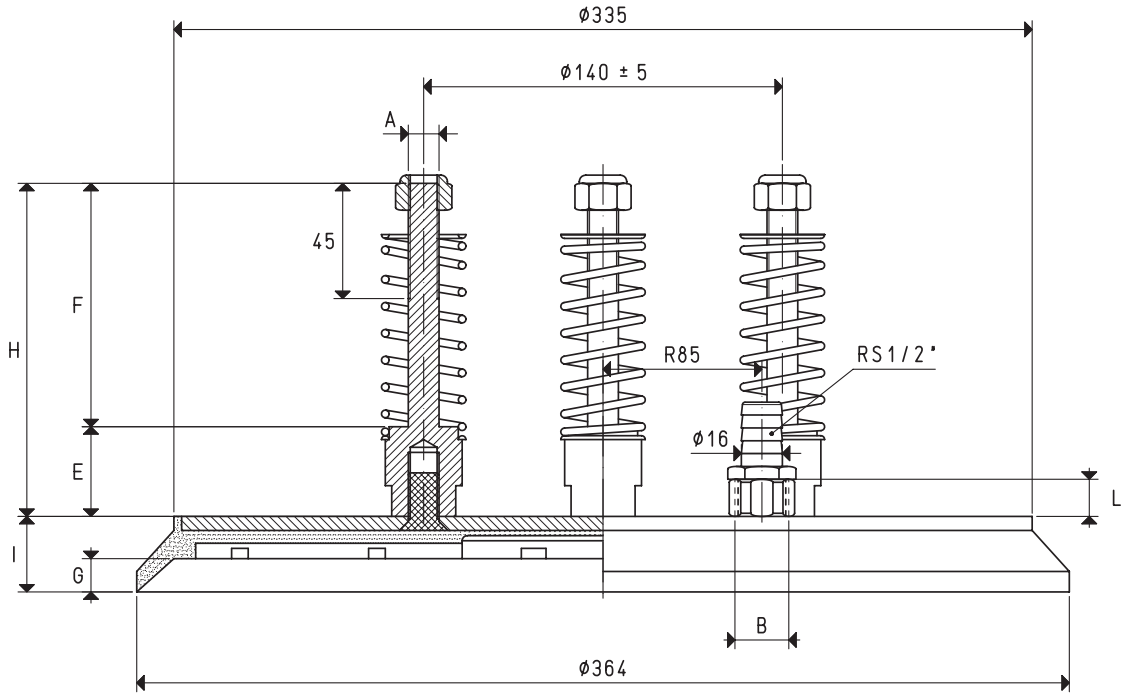
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

FLAT ROUND VACUUM CUP WITH VULCANISED SUPPORT

These cups are recommended for handling very heavy loads both vertically and horizontally.
They are vulcanised onto a steel support and have a labyrinth graved face made in the same compound as the cup.
The support is provided with four steel pins with as many self-locking nuts for guiding the cups and fastening them to the automation, as well as with a threaded sleeve for vacuum connection.
Moreover, these cups are provided with four springs to cushion its impact with the load to be lifted.
These cups are available in the three standard compounds.



VACUUM CUP WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm^3	A Ø	B Ø	E	F	G	H	I	L	Support material	Weight Kg
08 360 10 *	254.3	1397.5	M12	G1/2"	35	95	13	130	29	16	steel	4.75

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

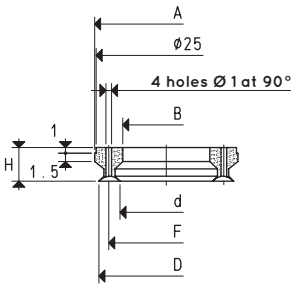
CIRCULAR RIM VACUUM CUPS WITH SUPPORTS

These cups have been designed to meet the need of lifting objects with a central hole.
Their very thin lip allows them to grip very rough surfaces, such as grinding wheels and discs.
They are particularly recommended for handling CDs, perforated discs, toothed wheels, pulleys and other similar objects.
Their supports are made with anodised aluminium and are provided with a threaded hole in the centre to allow suction, as well as its fastening to the automation.
The cups are cold fitted onto them without any adhesives.
To guarantee maximum flexibility, the cups for gripping grinding discs are made with natural para rubber N, while those for handling CDs are made with silicon S. Cups in special compounds, listed on pg. 31, can be provided upon request in minimum quantities to be defined in the order.
To replace, simply request the single vacuum cup indicated in the table in the desired compound.

VACUUM CUP

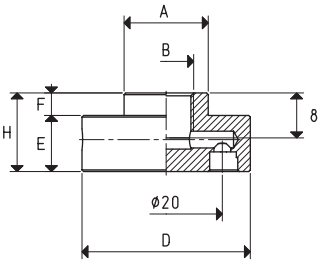
Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	d Ø	F Ø	H
01 24 06 S	0.6	1.3	25.5	15.5	24	16.5	20	6

Compound: S= silicon



SUPPORT

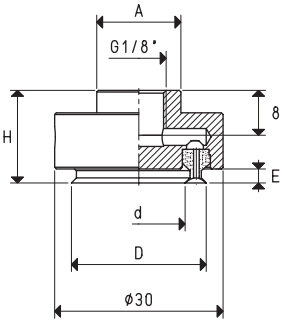
Item	A Ø	B Ø	D Ø	E	F	H	Support material	For vacuum cup item	Weight g
00 08 232	15	G1/8"	30	10	4	14	aluminium	01 24 06	16.7



VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	D Ø	d Ø	E	H	Vacuum cup item	Support item	Weight g
08 24 06 S	0.6	15	24	16.5	2.5	16.5	01 24 06 S	00 08 232	18.1

Compound: S= silicon

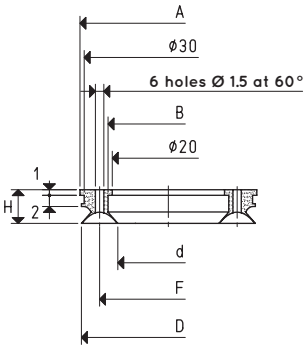


Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

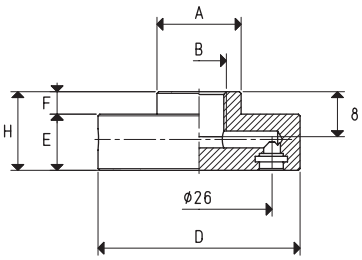
CIRCULAR RIM VACUUM CUP WITH SUPPORT



VACUUM CUP

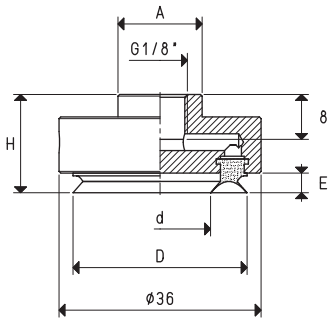
Item	Force Kg	Volume cm^3	A Ø	B Ø	D Ø	d Ø	F Ø	H
01 31 06 S	1.25	2.0	31.5	21.5	31	18	24.5	6

Compound: S= silicon



SUPPORT

Item	A Ø	B Ø	D Ø	E	F	H	Support material	For vacuum cup item	Weight g
00 08 231	15	G1/8"	36	10	4	14	aluminium	01 31 06	24.9



VACUUM CUP WITH SUPPORT

Item	Force Kg	A Ø	D Ø	d Ø	E	H	Vacuum cup item	Support item	Weight g
08 31 06 S	1.25	15	31	18	3.6	17.6	01 31 06 S	00 08 231	26.6

Compound: S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

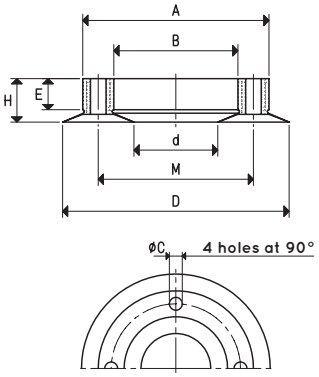
Adapters for GAS - NPT threading available on page 1.130

CIRCULAR RIM VACUUM CUPS WITH SUPPORTS

VACUUM CUPS

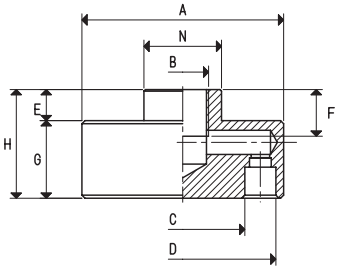
Item	Force Kg	Volume cm^3	A Ø	B Ø	C Ø	D Ø	d Ø	E	H	M Ø
01 46 13 N	3.87	4.7	35	23	3	46	12	8.5	12.5	29
01 73 14 N	9.02	16.6	60	40	5	73	27	10.0	14.0	50
01 95 14 N	16.28	27.0	71	51	6	95	27	10.0	14.5	61

Compound: N = natural para rubber



SUPPORTS

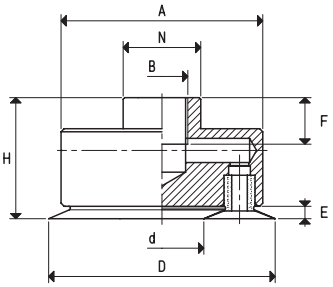
Item	A Ø	B Ø	C Ø	D Ø	E	F	G	H	N Ø	Support material	For vacuum cup item	Weight g
00 08 68	40	M12	23	35	7	10	18	25	20	aluminium	01 46 13	47.2
00 08 72	65	G3/8"	40	60	10	15	25	35	25	aluminium	01 73 14	169.1
00 08 73	76	G3/8"	51	71	10	15	27	37	25	aluminium	01 95 14	266.0



VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	d Ø	E	F	H	N Ø	Vacuum cup item	Support item	Weight g
08 46 13 N	3.87	40	M12	46	12	4.5	10	29.5	20	01 46 13 N	00 08 68	53.1
08 73 14 N	9.02	65	G3/8"	73	27	4.0	15	39.0	25	01 73 14 N	00 08 72	189.4
08 95 14 N	16.28	76	G3/8"	95	27	5.5	15	42.5	25	01 95 14 N	00 08 73	292.9

Compound: N = natural para rubber

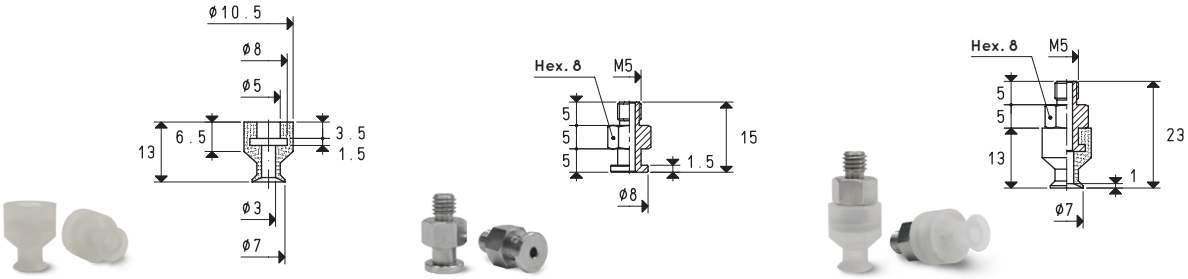


Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

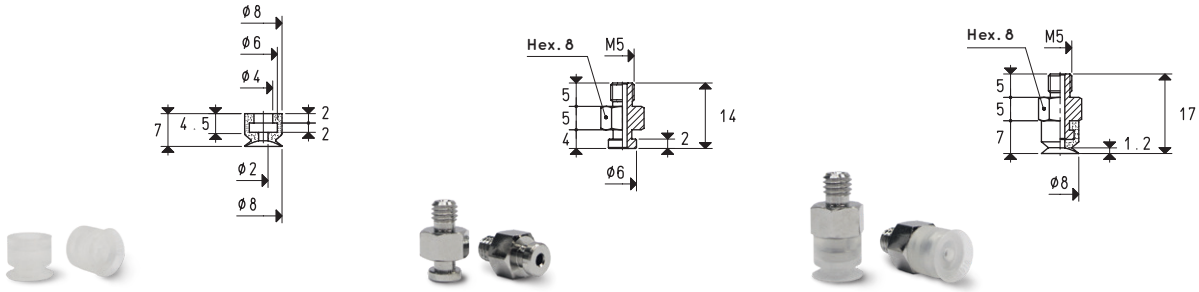
SPECIAL VACUUM CUPS WITH SUPPORTS

The cups shown on this page and on the next have been designed to solve many of the gripping and handling problems we have encountered in over thirty years of activity. They differ from all the other cups for the variety of their shapes.
They are suited for gripping CDs, labels, bags, paper or plastic sheets, stickers, chocolates, cardboard, tiles, small metal objects, plastic objects, etc.
Their nickel-plated brass or anodised aluminium supports are provided with a threaded male or female pin to enable suction and to fasten them to the automation.
These cups can be manually assembled onto their supports with no adhesives, simply by pressing them in. They are provided in standard compounds and, upon request, can be provided in minimum quantities and in other special compounds, listed on pg. 31, to be defined in the order.



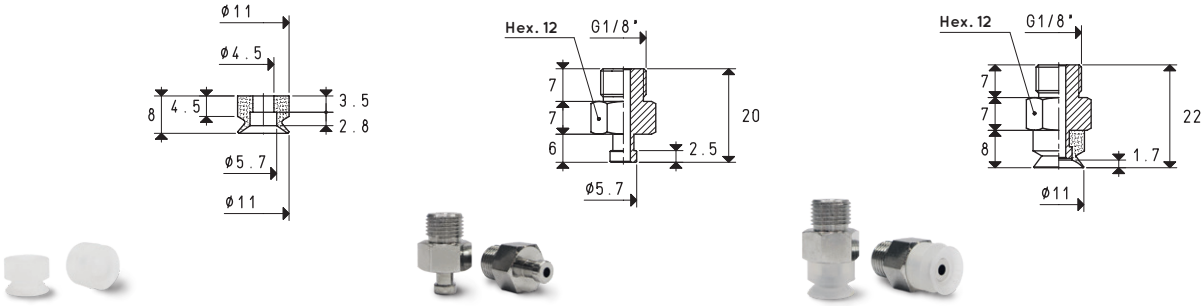
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup wit upport item	Weight g
01 07 13 *	0.10	19	00 08 236	brass	3	08 07 13 *	3.6

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 08 07 *	0.13	31	00 08 237	brass	3	08 08 07 *	3.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



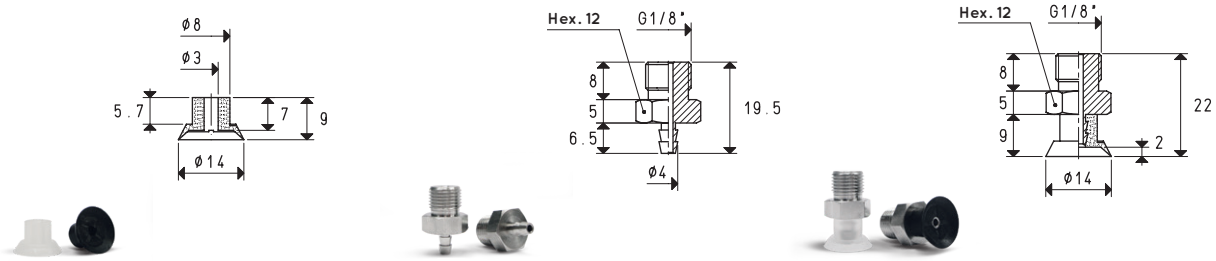
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 11 08 *	0.24	95	00 08 238	brass	7	08 11 08 *	7.6

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

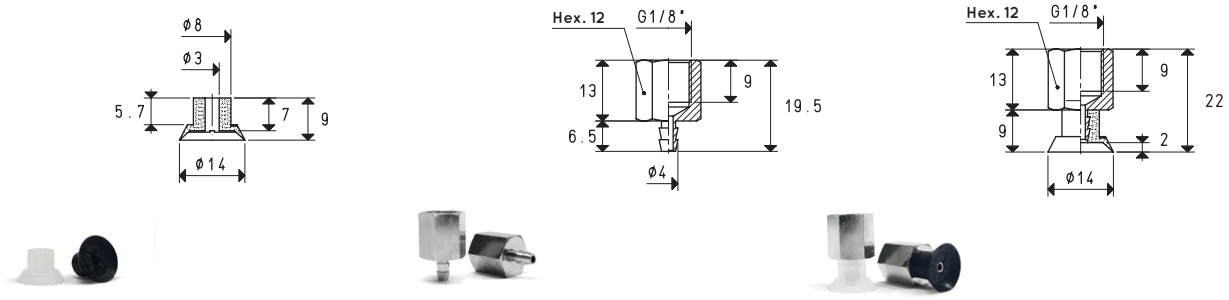
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL VACUUM CUPS WITH SUPPORTS



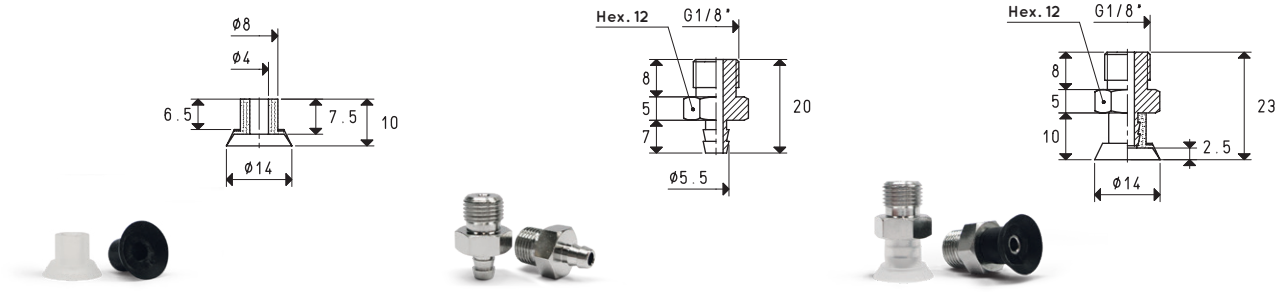
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 09 *	0.38	220	00 08 239	brass	8.0	08 14 09 *	8.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



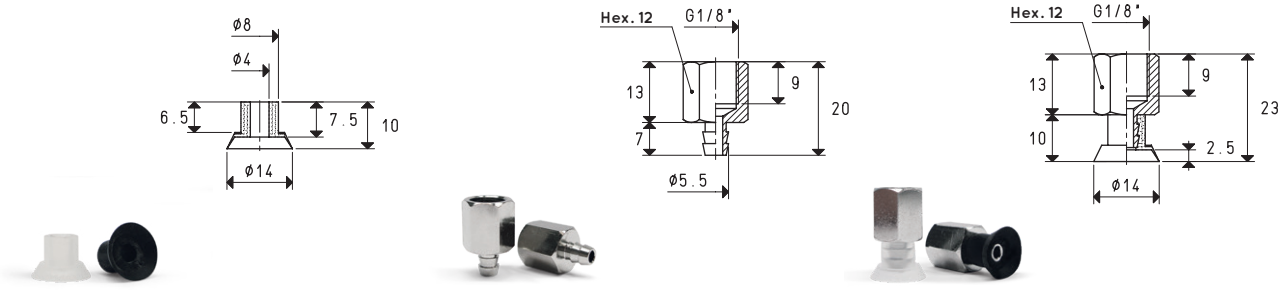
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 09 *	0.38	220	00 08 240	brass	7.0	08 14 09 F *	7.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 10 *	0.38	301	00 08 03	brass	9.0	08 14 10 *	9.4

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



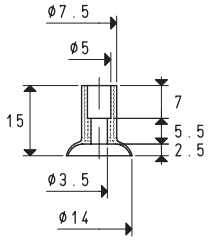
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 10 *	0.38	301	00 08 04	brass	8.1	08 14 10 F *	8.5

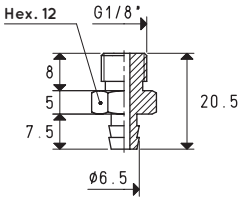
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

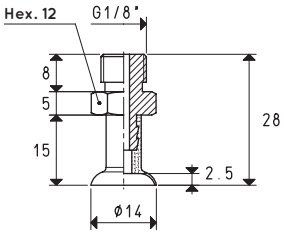
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL VACUUM CUPS WITH SUPPORTS

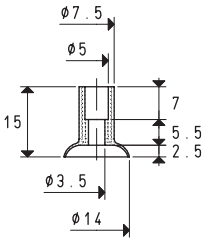


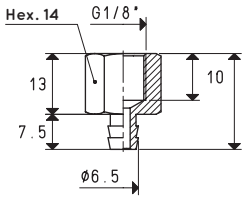


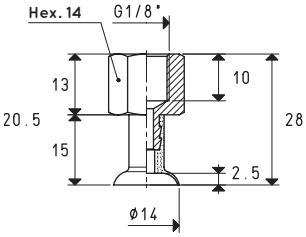


Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 15 *	0.38	270	00 08 67	brass	11.4	08 14 15 *	11.9

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

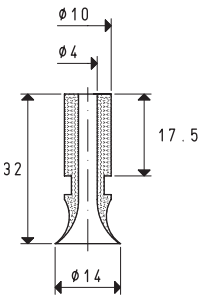


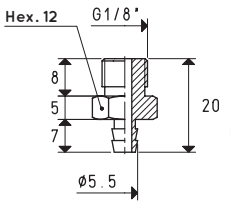


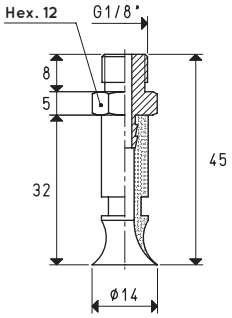


Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 15 *	0.38	270	00 08 64	brass	13.9	08 14 15 F *	14.4

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon





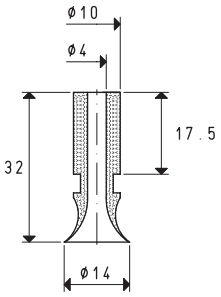


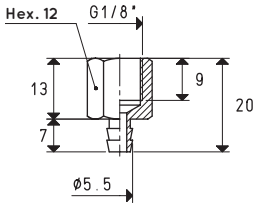
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 32 *	0.38	397	00 08 03	brass	9.0	08 14 32 *	10.9

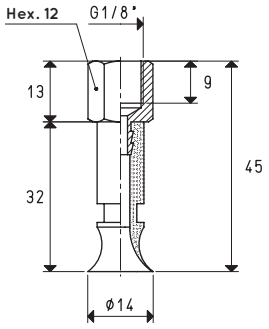
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

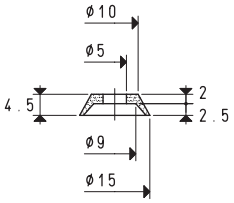


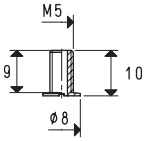


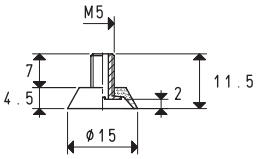


Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 14 32 *	0.38	397	00 08 04	brass	8.1	08 14 32 F *	10.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

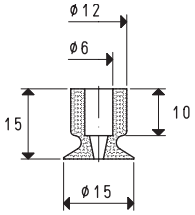


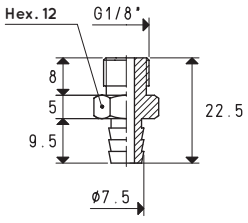


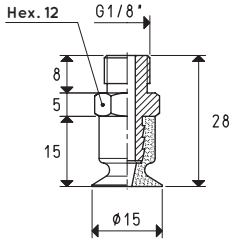


Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 15 04 *	0.44	250	00 08 241	brass	1.5	08 15 04 *	1.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon







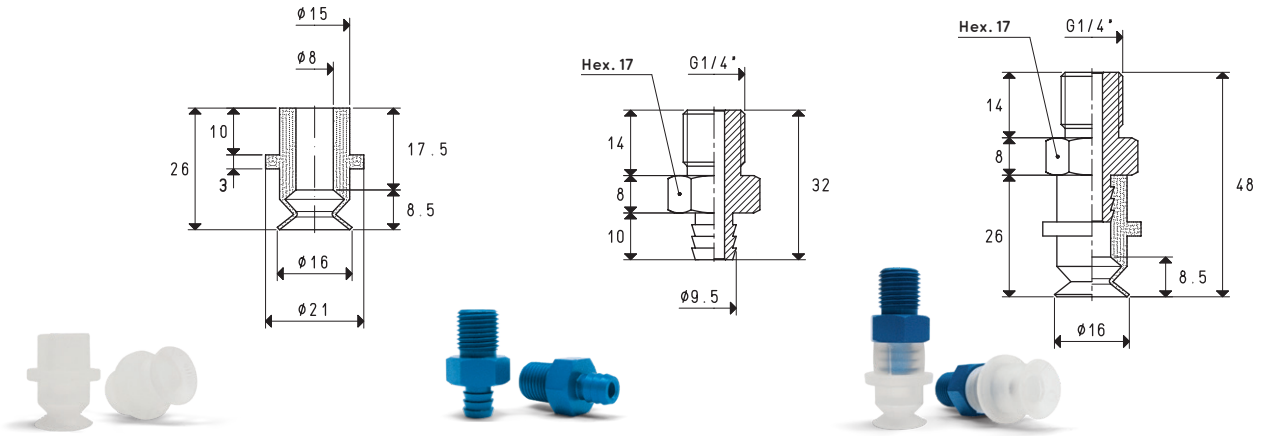
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 15 15 *	0.03	14	00 08 05	brass	10.4	08 15 15 *	11.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

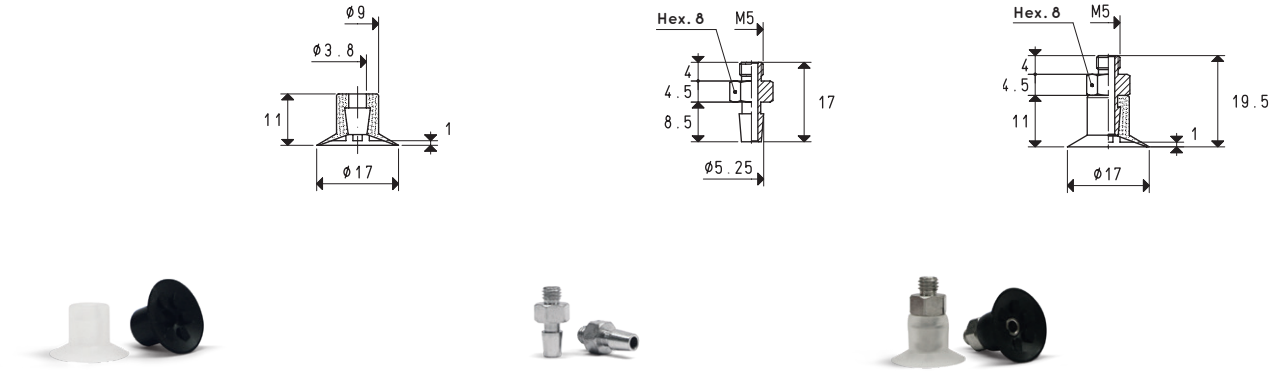
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL VACUUM CUPS WITH SUPPORTS



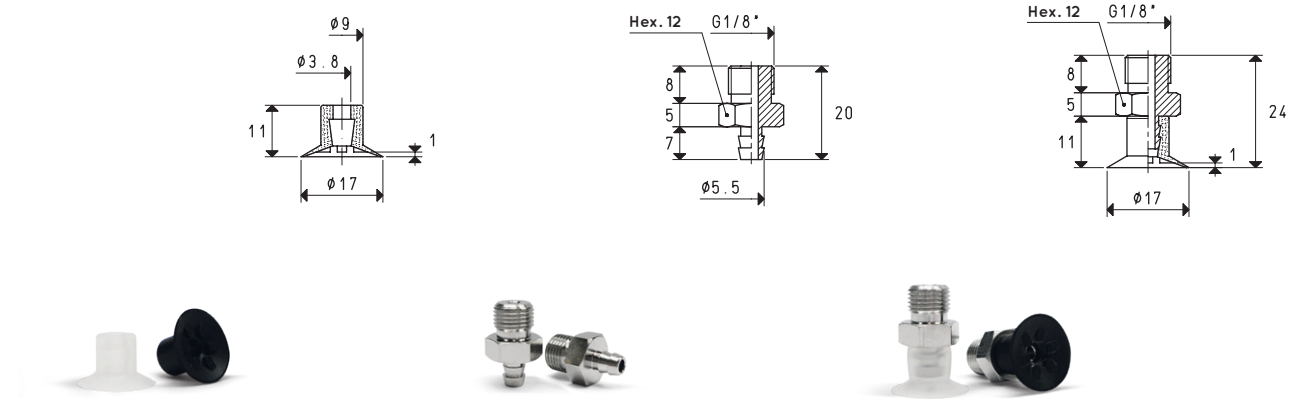
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 16 26 *	0.50	7	293	00 08 18	aluminium	10.3	08 16 26 *	13.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 17 12 *	0.60	213	00 08 06	brass	2.6	08 17 12 *	3.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

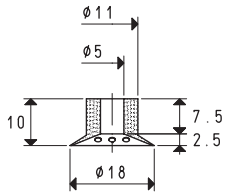


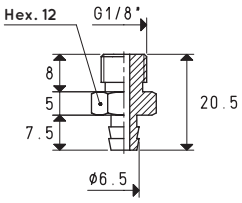
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 17 12 *	0.60	213	00 08 03	brass	9.0	08 17 13 *	9.7

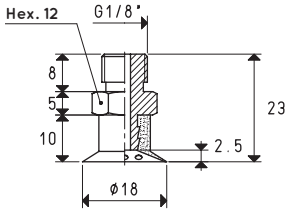
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

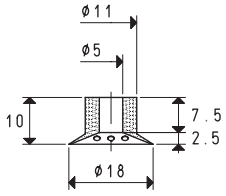


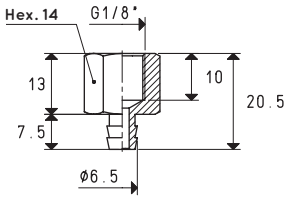


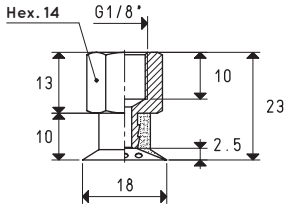


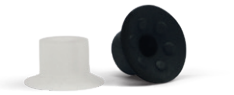
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 12 *	0.63	459	00 08 67	brass	11.4	08 18 12 *	12.2

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



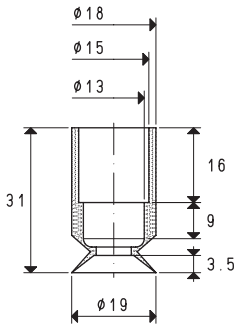


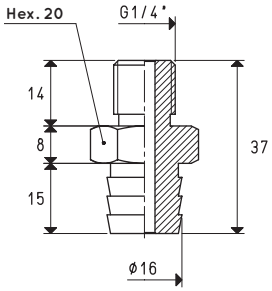


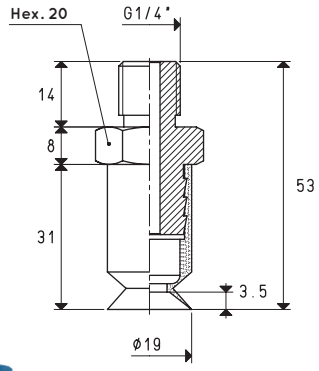


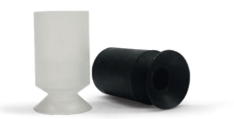
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 12 *	0.63	459	00 08 64	brass	13.9	08 18 12 F *	14.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon









Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 19 31 *	0.70	5	532	00 08 09	aluminium	18.1	08 19 31 *	20.9

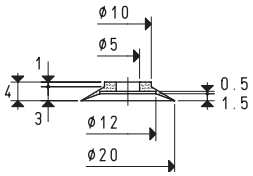
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

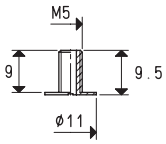
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

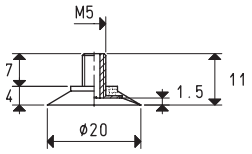
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

SPECIAL VACUUM CUPS WITH SUPPORTS

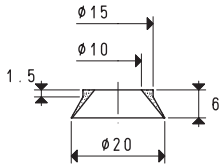


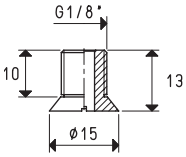


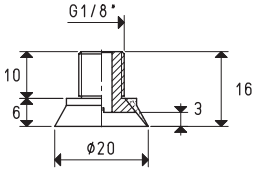


Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 04 *	0.78	365	00 08 242	brass	1.8	08 20 04 *	2.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

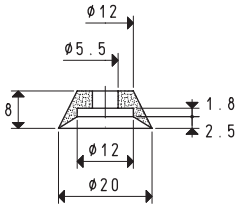


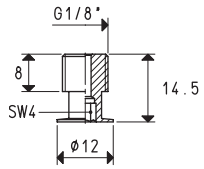


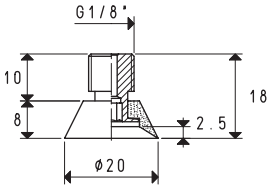


Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 06 *	0.78	1068	00 08 243	brass	6.0	08 20 06 *	6.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

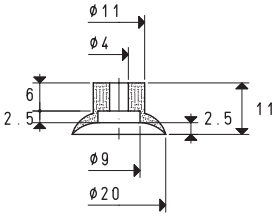


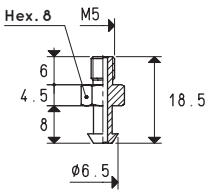


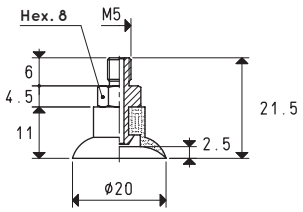


Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 08 *	0.78	804	00 08 60	brass	5.6	08 20 08 *	6.4

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon







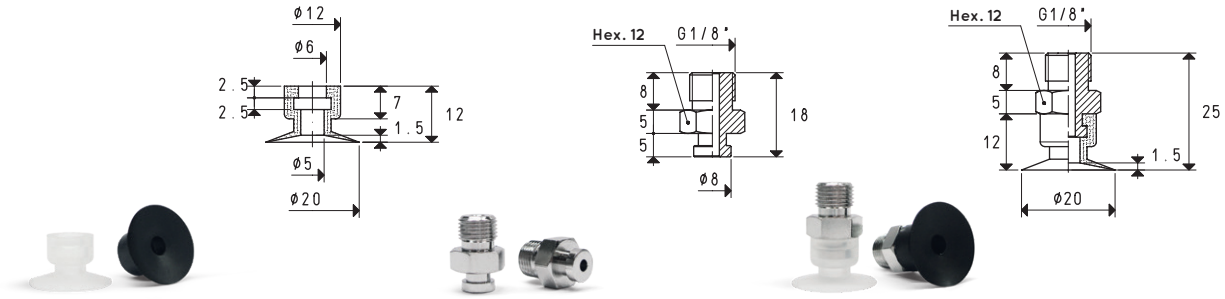
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 11 *	0.78	784	00 08 245	brass	2.7	08 20 11 *	3.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

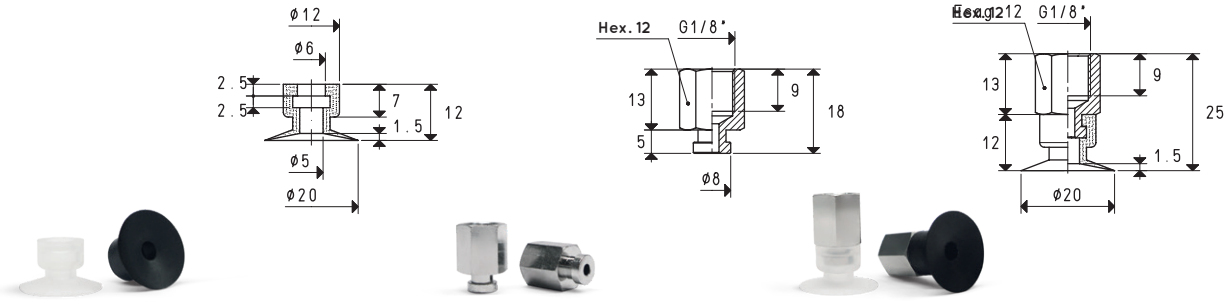
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL VACUUM CUPS WITH SUPPORTS



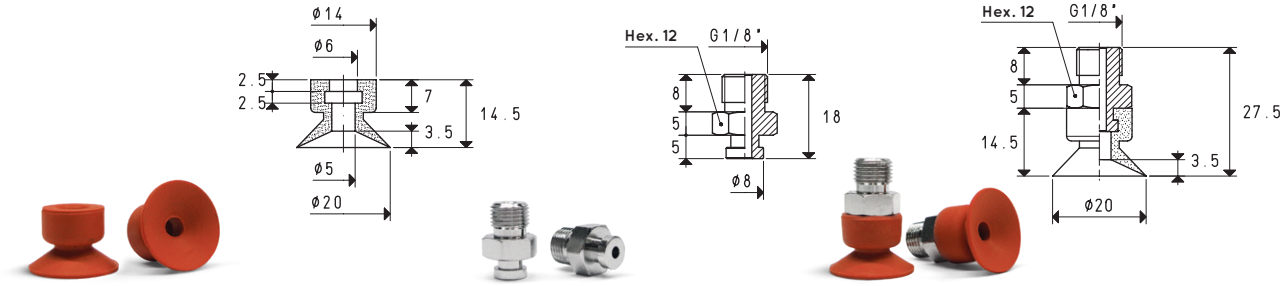
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 12 *	0.78	314	00 08 146	brass	9.8	08 20 12 *	10.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



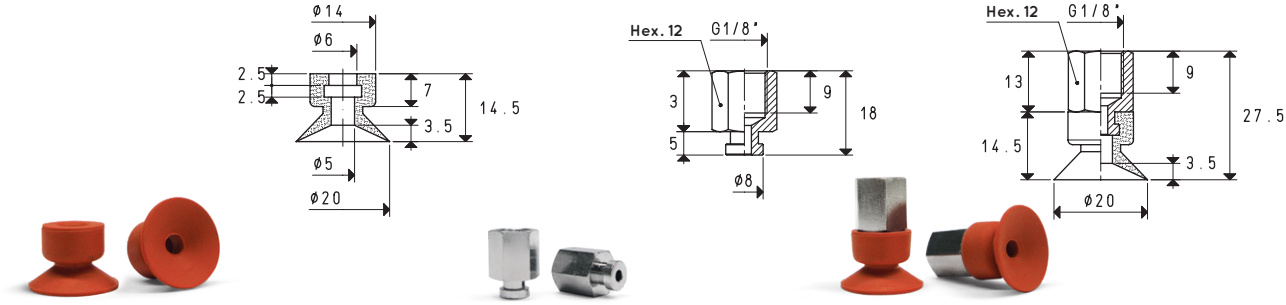
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 12 *	0.78	314	00 08 155	brass	9.1	08 20 12 F *	10.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 14 N	0.78	589	00 08 146	brass	9.8	08 20 14 *	11.3

Compound: N= orange colour natural rubber



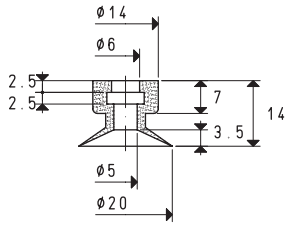
Vacuum cup item	Force Kg	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 14 N	0.78	589	00 08 155	brass	9.1	08 20 14 F *	10.6

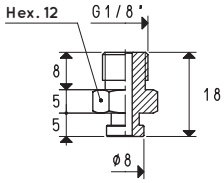
Compound: N= orange colour natural rubber

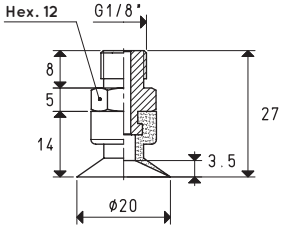
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

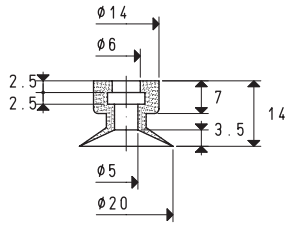


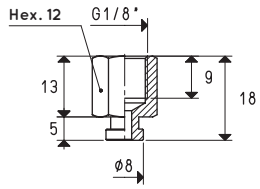


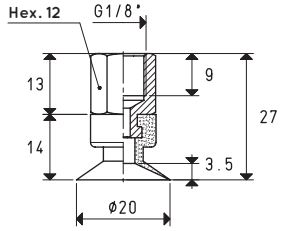


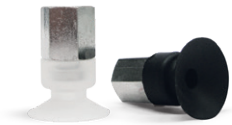
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 15 *	0.78	599	00 08 146	brass	9.8	08 20 15 *	11.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



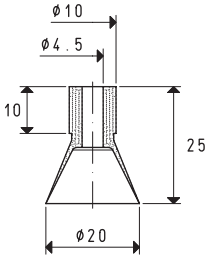


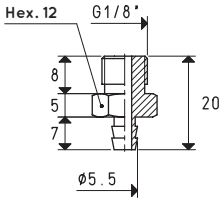


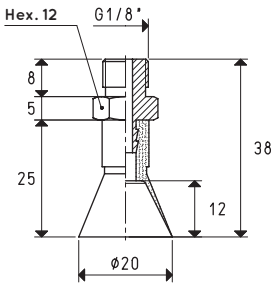


Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 15 *	0.78	599	00 08 155	brass	9.1	08 20 15 F *	10.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon







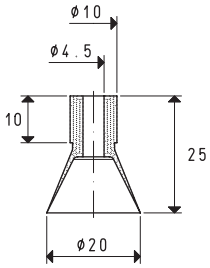
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 24 *	0.78	1.9	00 08 03	brass	9.0	08 20 24 *	10.2

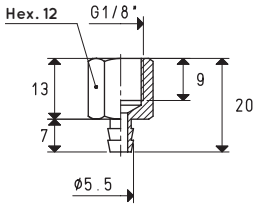
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

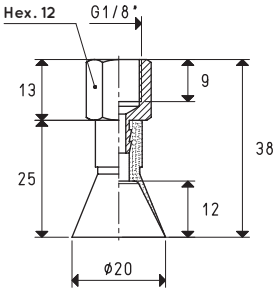
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL VACUUM CUPS WITH SUPPORTS

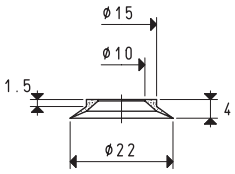


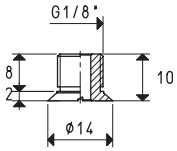


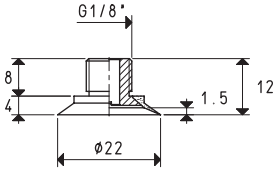


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 24 *	0.78	1.9	00 08 04	brass	8.1	08 20 24 F *	9.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

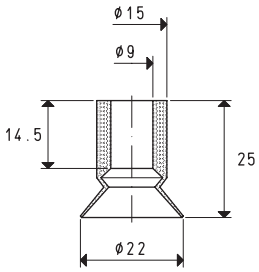


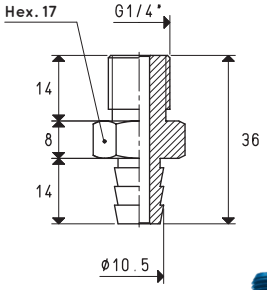


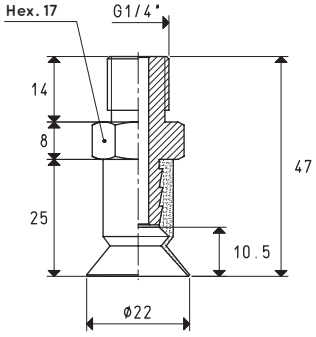


Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 22 06 *	0.95	681	00 08 246	brass	5.0	08 22 06 *	5.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon





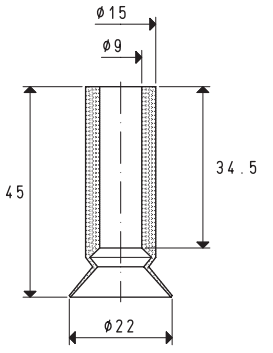


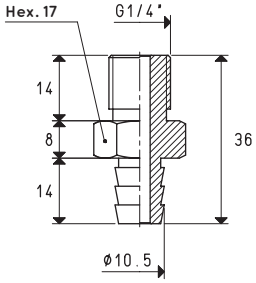
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 22 24 *	0.95	7	1.3	00 08 10	aluminium	11.0	08 22 24 *	13.6

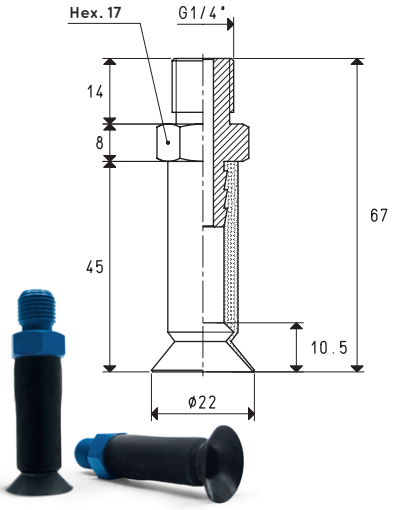
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

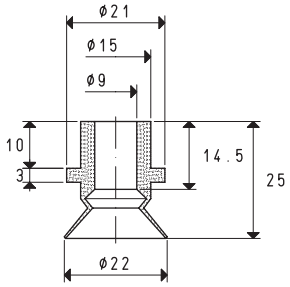


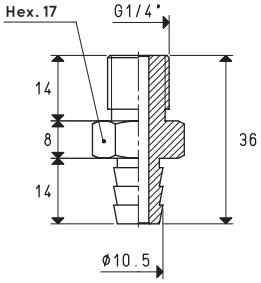


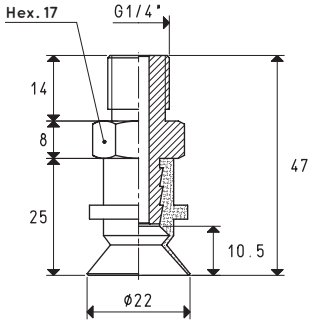


Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 22 45 *	0.95	7	2.7	00 08 10	aluminium	11.0	08 22 45 *	16.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

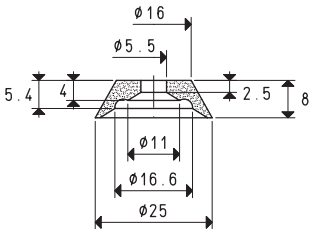


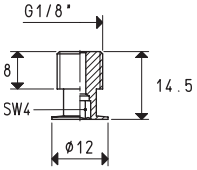


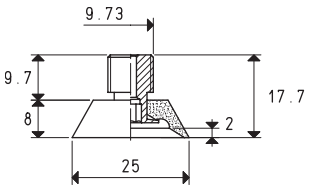


Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 22 99 *	0.95	7	1.7	00 08 10	aluminium	11.0	08 22 99 *	13.8

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon





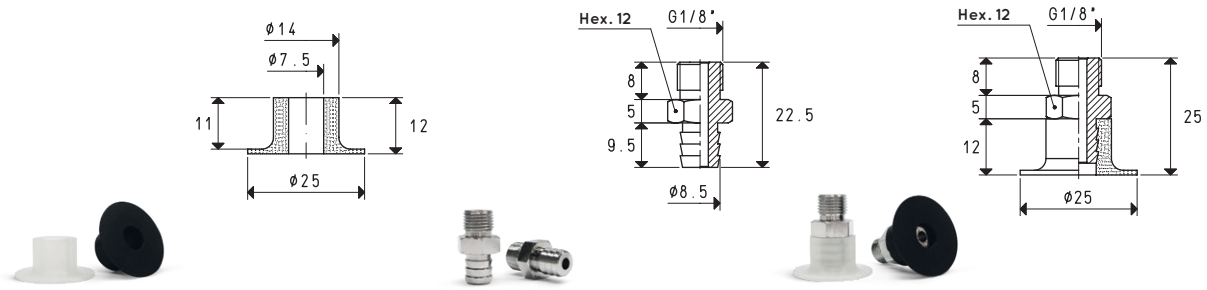


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 25 08 *	1.23	1.1	00 08 60	brass	5.6	08 25 08 *	7.4

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

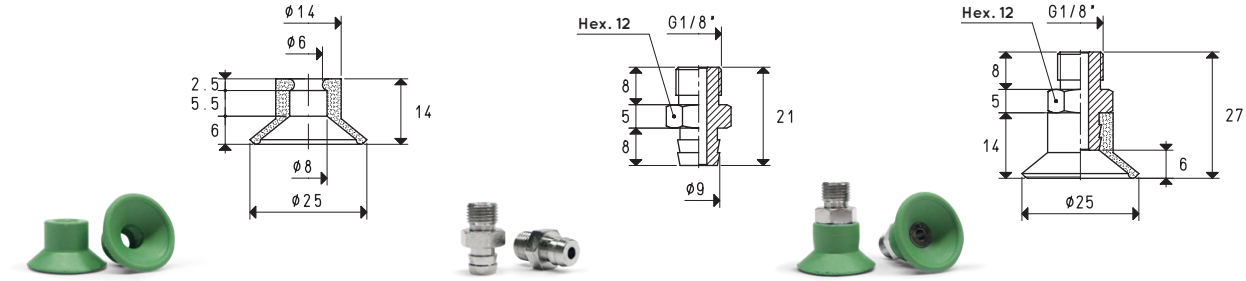
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130



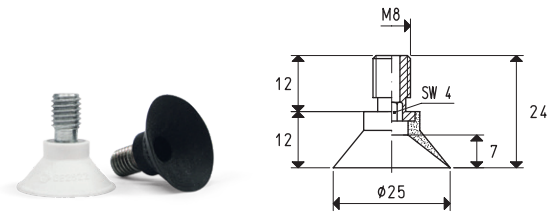
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 25 12 *	0.11	125	00 08 82	brass	11.2	08 25 12 *	12.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



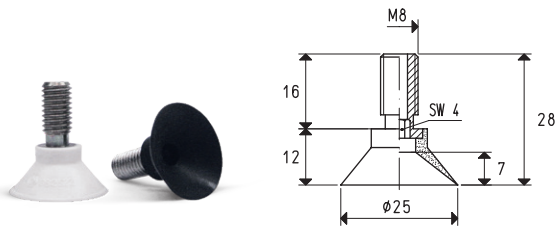
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 25 14 N	1.23	1.1	00 08 101	brass	10.8	08 25 14 *	12.6

Compound: N= green colour natural rubber



Vacuum cup with vulcanised support Item	Force Kg	Volume cm^3	Support material	Weight g
08 25 22 *	1.23	1.6	steel	5.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

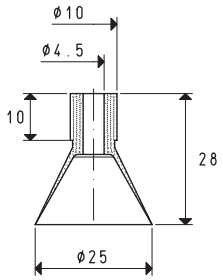


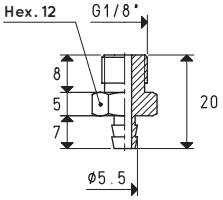
Vacuum cup with vulcanised support Item	Force Kg	Volume cm^3	Support material	Weight g
08 25 27 *	1.23	1.6	steel	5.2

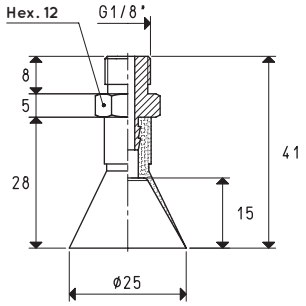
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

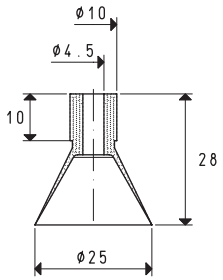


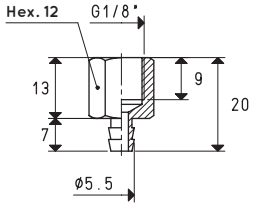


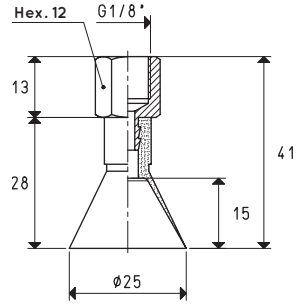


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 25 28 *	1.23	3.4	00 08 03	brass	9.0	08 25 28 *	10.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

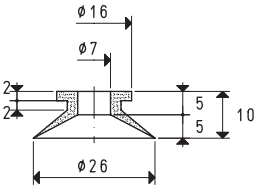


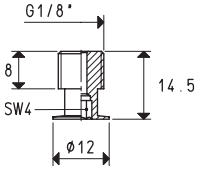


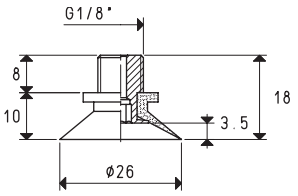


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 25 28 *	1.23	3.4	00 08 04	brass	8.1	08 25 28 F *	9.8

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon





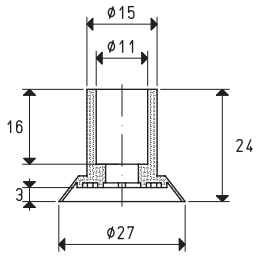


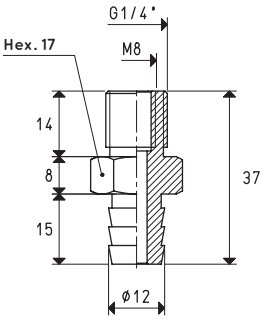
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 26 10 *	1.33	1.1	00 08 60	brass	5.6	08 26 10 *	6.5

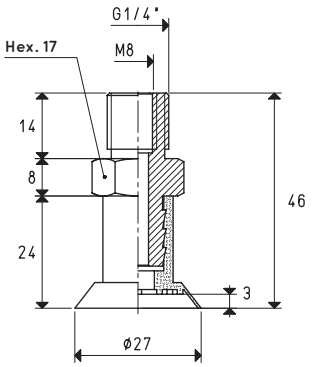
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

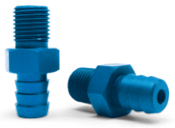
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130



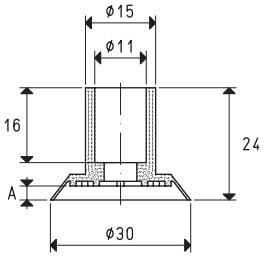


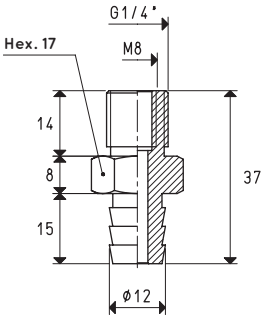


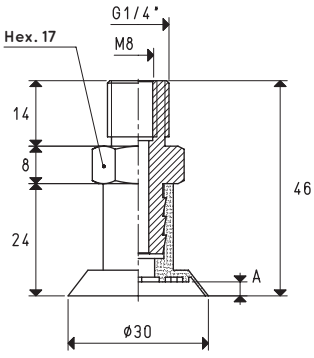


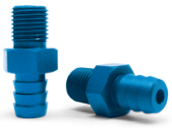
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 27 24 *	1.43	2.2	00 08 15	aluminium	12.3	08 27 24 *	15.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



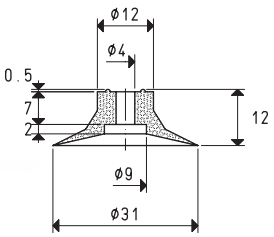


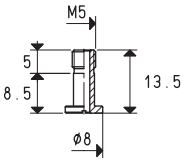


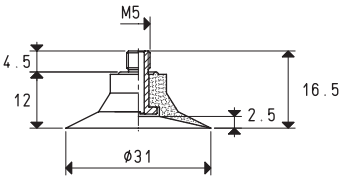


Vacuum cup item	Force Kg	A	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 24 *	1.76	3.0	2.2	00 08 15	aluminium	12.3	08 30 24 *	15.2
01 30 24 L *	1.76	1.5	1.8	00 08 15	aluminium	12.3	08 30 24 L *	15.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon







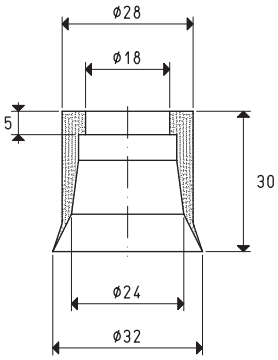
Vacuum cup item	Force Kg	Volume mm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 31 12 *	1.89	991	00 08 249	brass	1.8	08 31 12 *	3.4

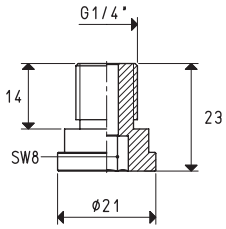
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

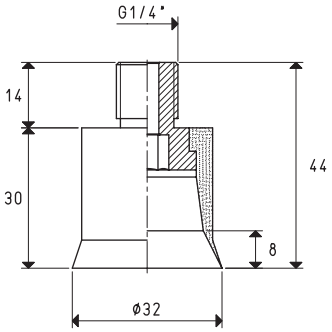
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

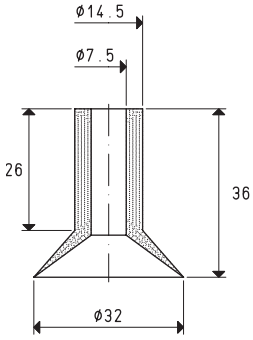


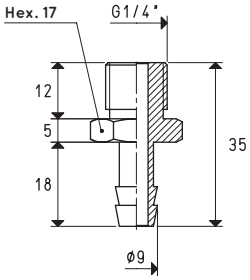


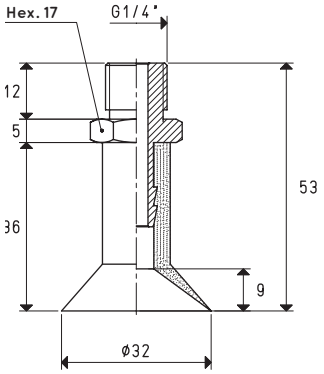


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 32 30 *	2.00	11.4	00 08 250	aluminium	8.6	08 32 30 *	14.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon





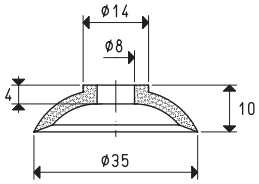


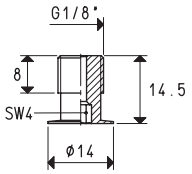
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 32 36 *	2.00	3.4	00 08 19	brass	22.7	08 32 36 *	27.8

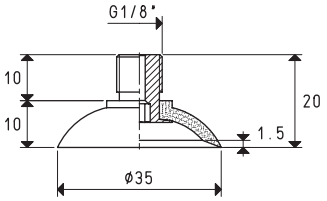
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

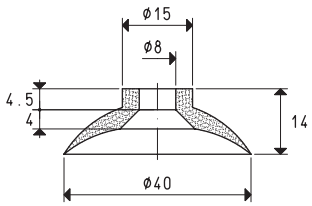


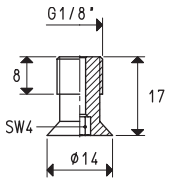


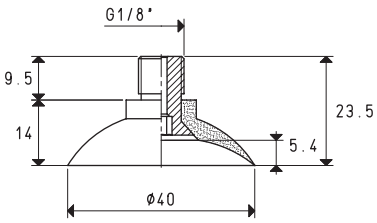


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 35 12 *	2.40	2.9	00 08 244	brass	5.9	08 35 12 *	8.8

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

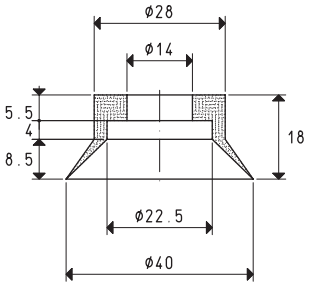


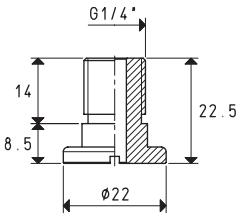


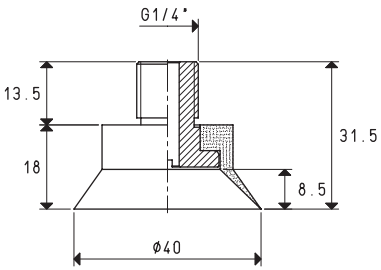


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 14 *	3.14	4.8	00 08 247	brass	8.4	08 40 14 *	12.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon







Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 18 *	3.14	8.2	00 08 81	aluminium	8.8	08 40 18 *	15.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

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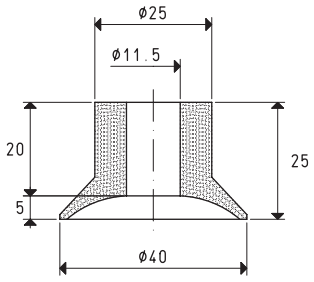
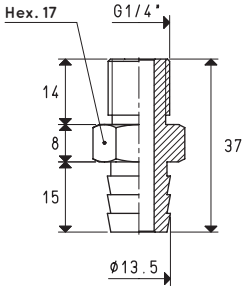
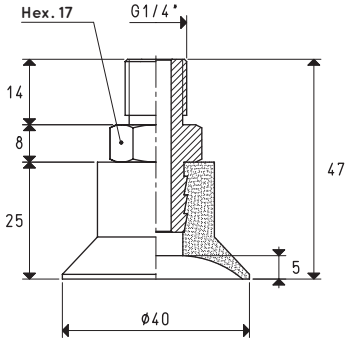
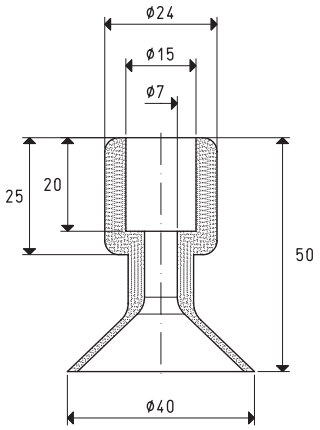


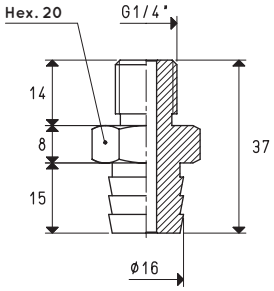


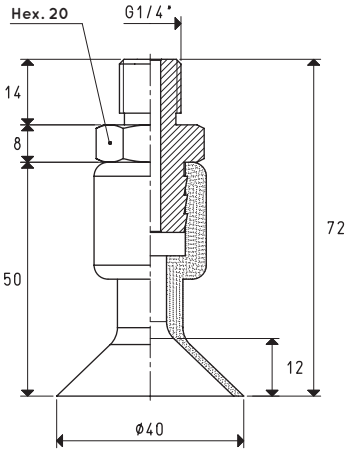


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 25 *	3.14	3.4	00 08 127	aluminium	11.5	08 40 24 *	21.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon; NG= yellow rubber





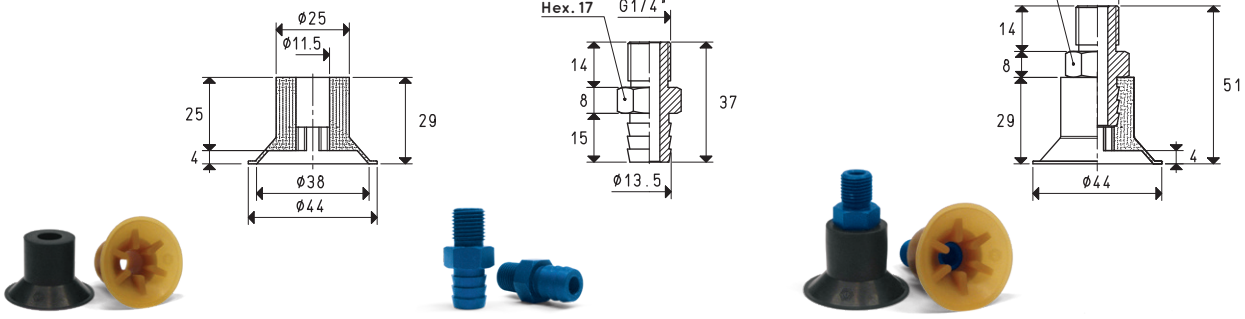


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 70 *	3.14	6.3	00 08 09	aluminium	18.1	08 40 70 *	32.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

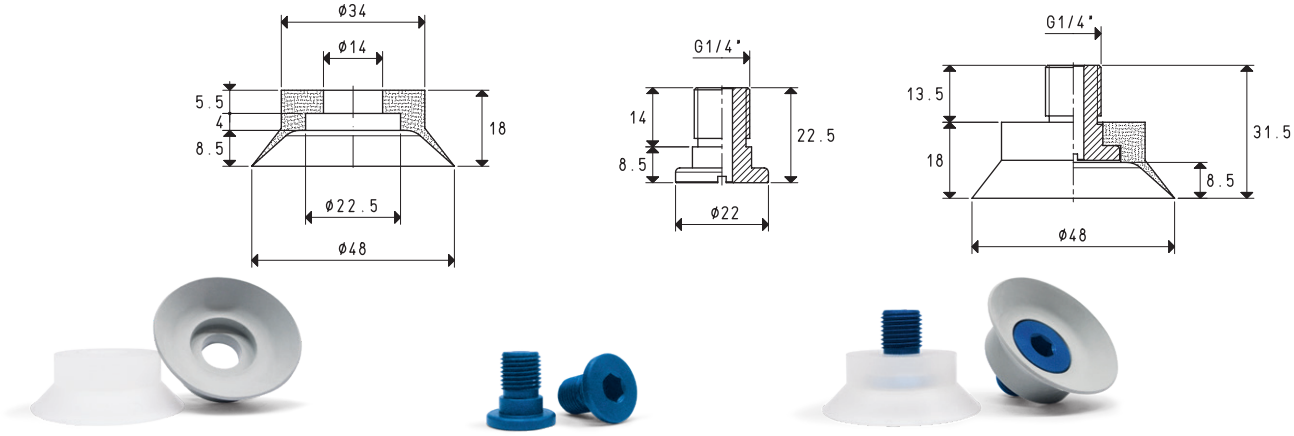
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130



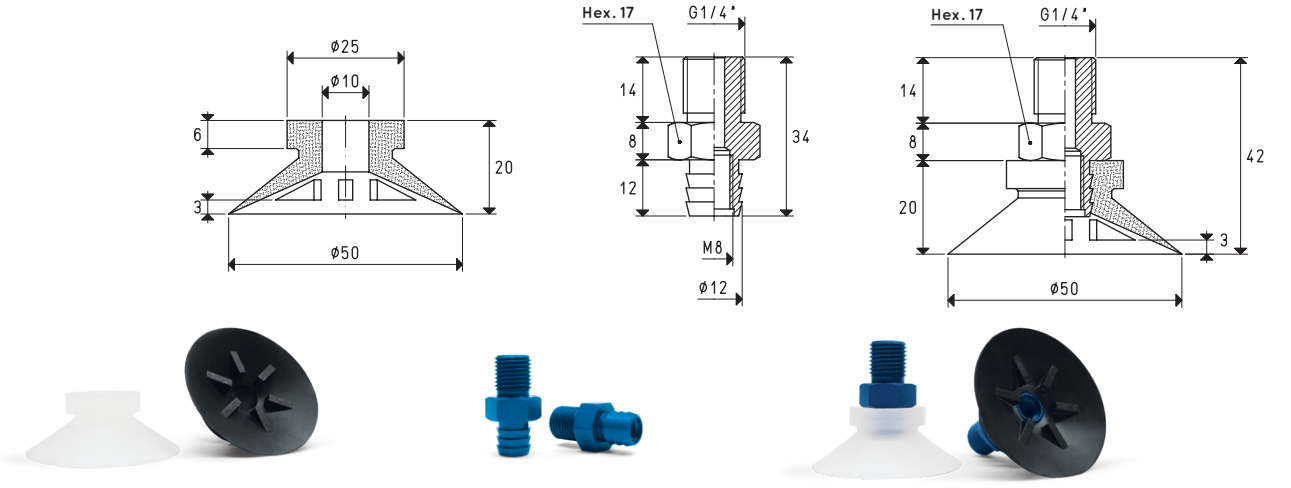
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 44 30 N	3.80	6.7	00 08 127	aluminium	11.5	08 44 30 *	22.8
01 44 30 NG	3.80	6.7	00 08 127	aluminium	11.5	08 44 30 *	22.8

Compounds: N = natural para rubber; NG= yellow rubber



Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 48 18 *	4.52	11.6	00 08 81	aluminium	8.8	08 48 18 *	17.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon



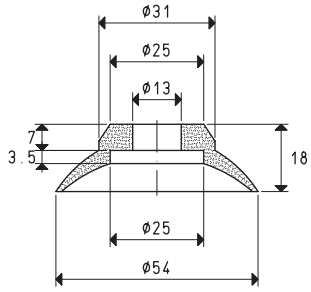
Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 50 20 *	4.90	7.0	00 08 24	aluminium	10.3	08 50 20 *	20.3

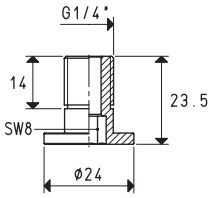
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

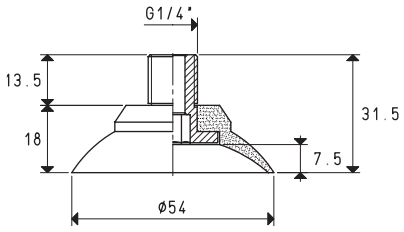
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$

Adapters for GAS - NPT threading available on page 1.130

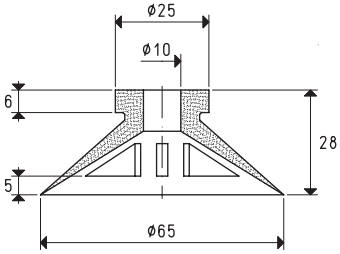


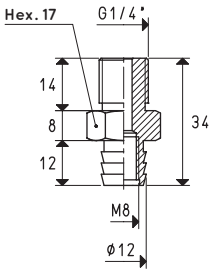


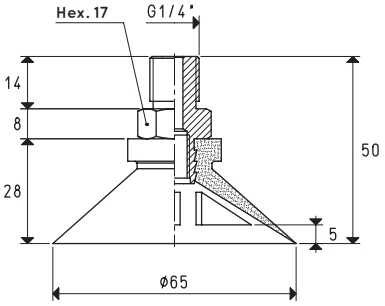


Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 54 18 *	5.72	11.4	00 08 248	aluminium	5.8	08 54 18 *	16.4

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon







Vacuum cup item	Force Kg	Volume cm^3	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 65 28 *	8.20	21.0	00 08 24	aluminium	10.3	08 65 28 *	26.0

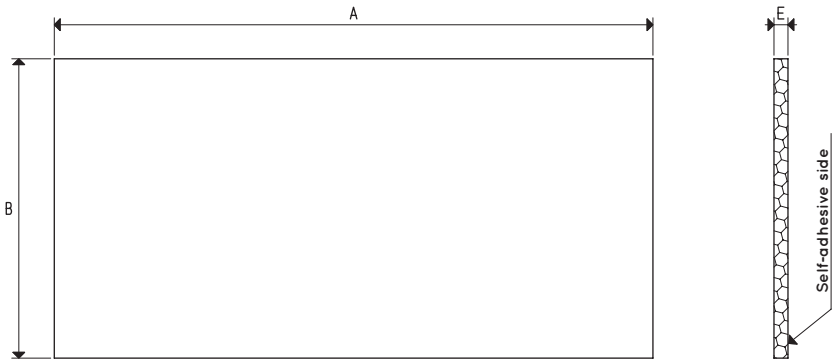
* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

OF FOAM RUBBER SHEETS AND STRIPS

The foam rubber used for our cups can be provided in sheets or strips of the sizes indicated in the table.
Both the OF foam rubber strips and the sheets have a self-adhesive side which allows a quick and easy fixing to the metal support.
These sheets and strips can be used to make cups of every shape and to handle loads with raw or very rough surfaces. They can be supplied in different sizes and density upon request and in quantities to be defined in the order.
The working temperature ranges from -40°C to +80°C.
Excellent compressive and breaking strength, with elongation up to 350%. Poor resistance to oils, ozone and flame.
NOTE: OF foam rubber is obtained by the expansion of a natural rubber, subjected to leavening through a chemical-thermal treatment.
Surface porosity with the same density, therefore, can vary, not compromising its effectiveness.

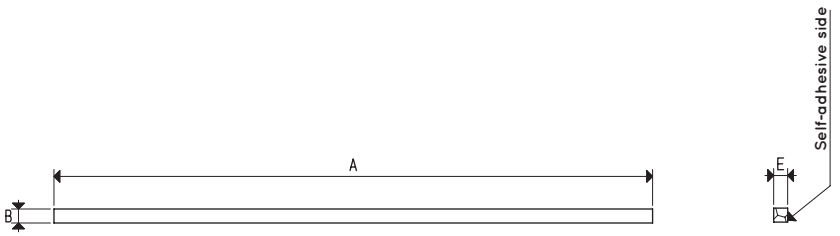


OF FOAM RUBBER SHEETS

Item	A	B	E
LGS 10 OF	2050/1950	920/880	10 ± 1.50
LGS 15 OF	2050/1950	920/880	15 ± 1.60
LGS 20 OF	2050/1950	920/880	20 ± 1.90
LGS 25 OF	2050/1950	920/880	25 ± 1.90
LGS 30 OF	2050/1950	920/880	30 ± 2.00
LGS 40 OF	2050/1950	920/880	40 ± 2.50
LGS 45 OF	2050/1950	920/880	45 ± 2.50

Note: The minimum size available is half a sheet.

Note: Considering the nature of OF rubber foam, the size of slabs in the table may vary, even beyond tolerances.



OF FOAM RUBBER STRIPS

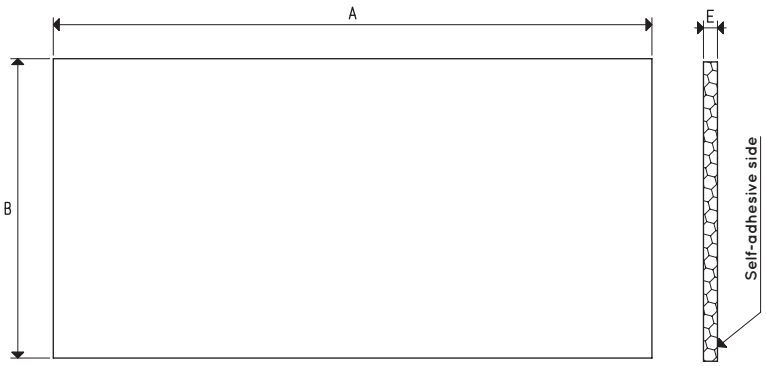
Item	A	B	E
SGS 10 10 OF	2050/1950	10 ± 1.50	10 ± 0,50
SGS 15 10 OF	2050/1950	15 ± 1.60	10 ± 0,50
SGS 20 10 OF	2050/1950	20 ± 1.90	10 ± 0,50
SGS 20 15 OF	2050/1950	20 ± 1.90	15 ± 0,75

Note: Considering the nature of OF rubber foam, the size of strips in the table may vary.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

SB EXTRA SOFT FOAM RUBBER SHEETS

Specifically designed for the production of OCTOPUS system gripping surface. This black foam rubber has an open cellular structure and is made of EPDM rubber.
SB extra soft foam rubber sheets have a self-adhesive side for quick, easy fixing to metal supports.
The temperature of use ranges from -40°C to + 130°C and it offers excellent resistance to heat, atmospheric agents, low temperatures and ageing.
The low density and softness of this foam rubber allows gripping surfaces to adapt to any kind of surface.



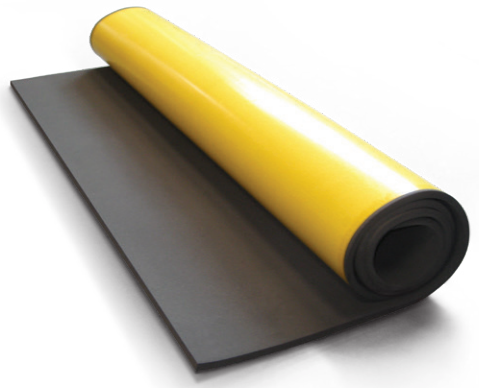
SB EXTRA SOFT FOAM RUBBER SHEETS

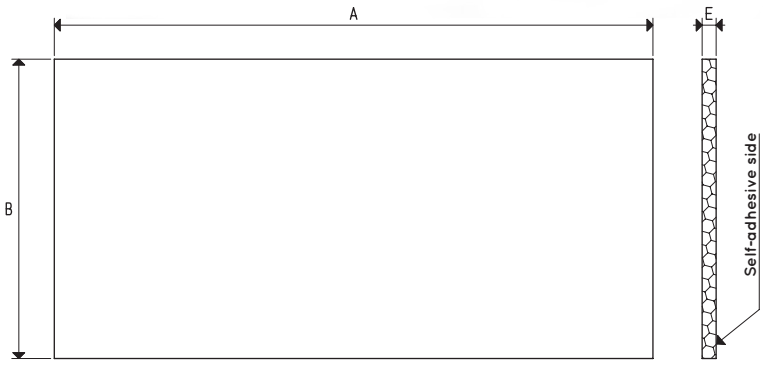
Item	A	B	E
LGS 10 SB	2050/1950	920/880	10 ± 1.50
LGS 15 SB	2050/1950	920/880	15 ± 1.60
LGS 20 SB	2050/1950	920/880	20 ± 1.90
LGS 30 SB	2050/1950	920/880	30 ± 2.00
LGS 40 SB	2050/1950	920/880	40 ± 2.50

Note: The minimum size available, half a sheet, is 1000 x 900 mm.

NF NEOPRENE FOAM RUBBER SHEETS

This type of foam rubber made with Neoprene rubber is black in colour and has a closed cellular structure, allowing it to offer greater compressive strength at the cost of less elasticity and a tendency to deform over time.
NF Neoprene foam rubber sheets have a self-adhesive side for quick, easy fixing to metal supports. Excellent resistance to oil products, sunlight, atmospheric agents, and ozone. Not recommended for food use.
This type of foam rubber allows for the use of vacuum cups for gripping coarse or very rough surfaces operating outside in contact with atmospheric agents.
The working temperature ranges for the foam are from -40°C to +100 °C.





NF NEOPRENE FOAM RUBBER SHEETS

Item	A	B	E
LGS 10 NF	2050/1950	920/880	10 ± 1.50
LGS 15 NF	2050/1950	920/880	15 ± 1.60
LGS 20 NF	2050/1950	920/880	20 ± 1.90
LGS 30 NF	2050/1950	920/880	30 ± 2.00
LGS 40 NF	2050/1950	920/880	40 ± 2.50

Note: The minimum size available, half a sheet, is 1000 x 900 mm.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$