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.

1

BELLOWS CUPS WITH SUPPORTS FOR GRIPPING FLOW PACKS

Thanks to their specific conformation and flexibility, the vacuum cups illustrated and described on this page are especially suitable for installation on automatic, high production machines in the packaging sector, and for the gripping and handling of flow packs.

The vacuum cups are available in different compounds for food use and can be cold fitted on their special supports without the aid of adhesives. Upon request, 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

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	Bellows stroke mm
01 20 30 S	0.78	3.0	13	8	12	20	10	11.5	30	11
01 30 45 S	1.76	11.4	18	11	19	30	16	19.0	45	20

Compound: S= silicon
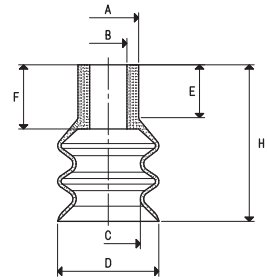
SUPPORTS

Item	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 18	9.5	8	14	10	32	aluminium	01 20 30	10.3
00 08 127	13.5	8	14	15	37	aluminium	01 30 45	11.5
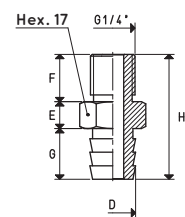
VACUUM CUPS WITH SUPPORT

Item	Force Kg	B	C Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 20 30 S	0.78	17	G1/4"	20	8	14	30	52	01 20 30	00 08 18	12.5
08 30 45 S	1.76	17	G1/4"	30	8	14	45	67	01 30 45	00 08 127	18.4

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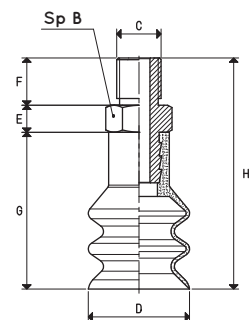
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6} = \dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
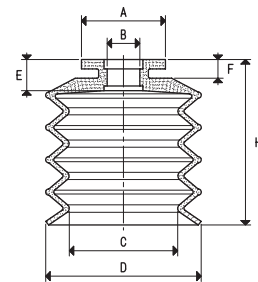
BELLOWS VACUUM CUPS WITH MALE AND FEMALE SUPPORTS

The bellows cups described on these pages have been specially designed for handling baked goods, such as biscuits, bread, pizza, etc., as well as plastic or paper bags containing chocolates, sweets, pasta, flour, powder, etc.
Thanks to their great flexibility, they can also be used to compensate flatness errors or for gripping on inclined surfaces. Their anodised aluminium supports are provided with a threaded male or female central pin to allow suction and to fasten it to the automation.
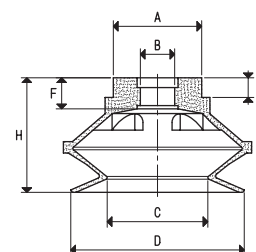The vacuum cups can be fitted on them without the aid of adhesives.
To replace, simply request the single vacuum cup indicated in the table in the desired compound.

1

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	Bellows stroke mm
01 20 23 *	0.78	3.4	14.5	5.0	14	20	5	4	23	16
01 30 32 *	1.76	11.4	20.0	6.5	21	30	7	5	32	22
01 40 42 *	3.14	33.0	20.0	6.5	28	40	7	5	42	32
01 50 53 *	4.90	53.3	27.0	10.5	35	50	10	6	53	32

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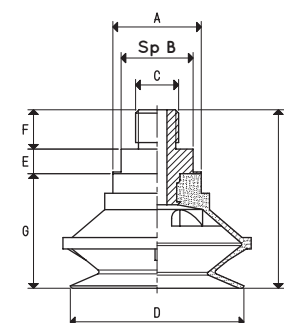
MALE SUPPORTS

Item	A Ø	B	C Ø	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 133	14.5	13	G1/8"	8.5	5.5	8	5.0	18.5	aluminium	01 20 23	3.5
00 08 135	20.0	17	G1/4"	10.0	7.5	12	7.5	27.0	aluminium	01 30 32 01 40 42	9.5
00 08 142	27.0	22	G1/4"	14.0	7.5	12	9.5	29.0	aluminium	01 50 53	15.7
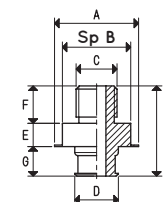
VACUUM CUPS WITH MALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 20 23 *	0.78	14.5	13	G1/8"	20	5.5	8	23	36.5	01 20 23	00 08 133	5.3
08 30 32 *	1.76	20.0	17	G1/4"	30	7.5	12	32	51.5	01 30 32	00 08 135	15.1
08 40 42 *	3.14	20.0	17	G1/4"	40	7.5	12	42	61.5	01 40 42	00 08 135	21.1
08 50 53 *	4.90	27.0	22	G1/4"	50	7.5	12	53	72.5	01 50 53	00 08 142	40.1

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

VACUUM CUP ACCESSORIES

STAINLESS STEEL DISC FILTERS

Item	D Ø	For vacuum cup item
00 08 295	17	01 20 23
00 08 293	27	01 30 32
00 08 279	35	01 40 42

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

BELLOWS VACUUM CUPS WITH FEMALE SUPPORTS

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	Bellows stroke mm
01 20 23 *	0.78	3.4	14.5	5.0	14	20	5	4	23	16
01 30 32 *	1.76	11.4	20.0	6.5	21	30	7	5	32	22
01 40 42 *	3.14	33.0	20.0	6.5	28	40	7	5	42	32
01 50 53 *	4.90	53.3	27.0	10.5	35	50	10	6	53	32

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

FEMALE SUPPORTS

Item	A Ø	B	C Ø	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 132	14.5	13	G1/8"	8.5	12	8	5.0	17.0	aluminium	01 20 23	3.8
00 08 134	20.0	17	G1/4"	10.0	14	10	7.5	21.5	aluminium	01 30 32	8.3
										01 40 42	
00 08 141	27.0	22	G1/4"	14.0	14	10	9.5	23.5	aluminium	01 50 53	19.7
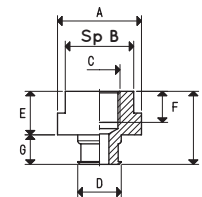
VACUUM CUPS WITH FEMALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 20 23 F *	0.78	14.5	13	G1/8"	20	12	8	23	35	01 20 23	00 08 132	5.6
08 30 32 F *	1.76	20.0	17	G1/4"	30	14	10	32	46	01 30 32	00 08 134	13.9
08 40 42 F *	3.14	20.0	17	G1/4"	40	14	10	42	56	01 40 42	00 08 134	19.9
08 50 53 F *	4.90	27.0	22	G1/4"	50	14	10	53	67	01 50 53	00 08 141	44.1

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

VACUUM CUP ACCESSORIES

STAINLESS STEEL DISC FILTERS

Item	D Ø	For vacuum cup item
00 08 295	17	01 20 23
00 08 293	27	01 30 32
00 08 279	35	01 40 42

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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

REINFORCED BELLOWS VACUUM CUPS
WITH MALE AND FEMALE SUPPORTS

The particular shape of these bellows cups allows them to quickly crumple up when in contact with the surface of the load to be lifted and in presence of a vacuum. This quick movement prevents the load below from remaining stuck to the surfaces or load underneath.

Thanks to this particular feature, these bellows cups are recommended for handling paper and cardboard sheets, thin metal sheets, wooden panels, glass sheets etc.

Thanks to their great flexibility, they can also be used to compensate flatness errors or for gripping on inclined surfaces. Their anodised aluminium supports are provided with a threaded male or female central pin to allow suction and to fasten it to the automation. The vacuum cups can be fitted on them without the aid of adhesives.

To replace, simply request the single vacuum cup indicated in the table in the desired compound.

1

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	Bellows stroke mm
01 22 19 *	0.95	2.5	14.5	5.0	11.0	22	4	5.5	19	10
01 34 26 *	2.26	8.0	14.5	5.0	17.0	34	4	5.5	26	12
01 43 28 *	3.62	15.3	20.0	6.5	21.5	43	4	7.0	28	14
01 53 35 *	5.51	30.5	27.0	10.5	30.5	53	6	9.5	35	16

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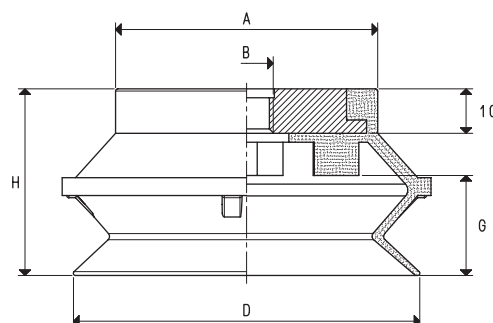
MALE SUPPORTS

Item	A Ø	B	C Ø	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 133	14.5	13	G1/8"	8.5	5.5	8	5.0	18.5	aluminium	01 22 19 01 34 26	3.5
00 08 135	20.0	17	G1/4"	10.0	7.5	12	7.5	27.0	aluminium	01 43 28	9.5
00 08 142	27.0	22	G1/4"	14.0	7.5	12	9.5	29.0	aluminium	01 53 35	15.7
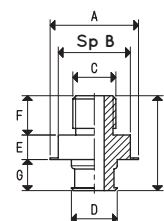
VACUUM CUPS WITH MALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 22 19 *	0.95	14.5	13	G1/8"	22	5.5	8	19	32.5	01 22 19	00 08 133	6.2
08 34 26 *	2.26	14.5	13	G1/8"	34	5.5	8	26	39.5	01 34 26	00 08 133	15.2
08 43 28 *	3.62	20.0	17	G1/4"	43	7.5	12	28	47.5	01 43 28	00 08 135	18.5
08 53 35 *	5.51	27.0	22	G1/4"	53	7.5	12	35	54.5	01 53 35	00 08 142	33.3

* 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

1

REINFORCED BELLOWS VACUUM CUPS WITH FEMALE SUPPORTS
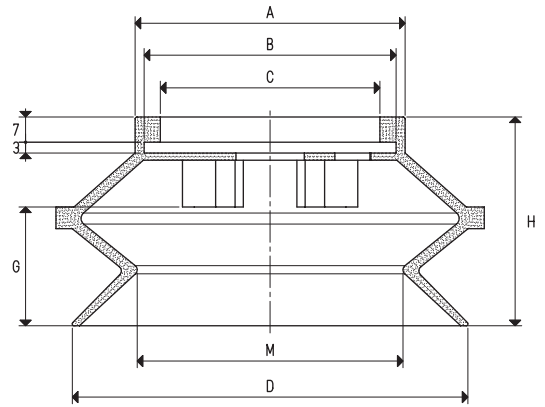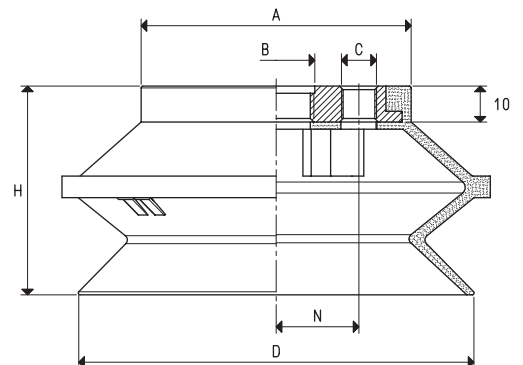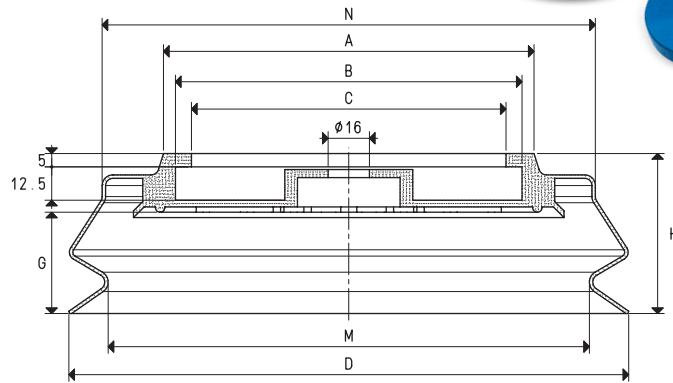
VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	Bellows stroke mm
01 22 19 *	0.95	2.5	14.5	5.0	11.0	22	4	5.5	19	10
01 34 26 *	2.26	8.0	14.5	5.0	17.0	34	4	5.5	26	12
01 43 28 *	3.62	15.3	20.0	6.5	21.5	43	4	7.0	28	14
01 53 35 *	5.51	30.5	27.0	10.5	30.5	53	6	9.5	35	16

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

FEMALE SUPPORTS

Item	A Ø	B	C Ø	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 132	14.5	13	G1/8"	8.5	8	12	5.0	17.0	aluminium	01 22 19 01 34 26	3.8
00 08 134	20.0	17	G1/4"	10.0	10	14	7.5	21.5	aluminium	01 43 28	8.3
00 08 141	27.0	22	G1/4"	14.0	10	14	9.5	23.5	aluminium	01 53 35	19.7
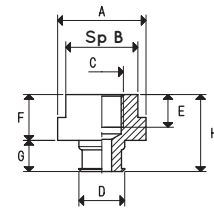
VACUUM CUPS WITH FEMALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 22 19 F *	0.95	14.5	13	G1/8"	22	8	12	19	31	01 22 19	00 08 132	6.5
08 34 26 F *	2.26	14.5	13	G1/8"	34	8	12	26	38	01 34 26	00 08 132	9.5
08 43 28 F *	3.62	20.0	17	G1/4"	43	10	14	28	42	01 43 28	00 08 134	17.3
08 53 35 F *	5.51	27.0	22	G1/4"	53	10	14	35	49	01 53 35	00 08 141	37.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
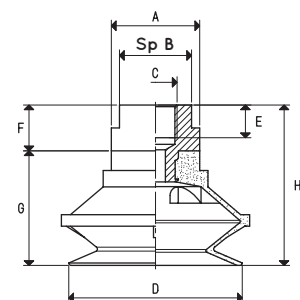
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

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

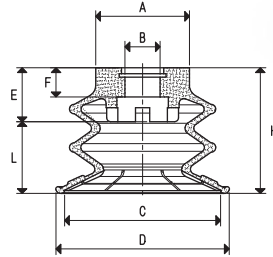# REINFORCED BELLOWS VACUUM CUPS WITH SUPPORTS

The cups described on these pages share the same features with the previously described bellows cups, only these have larger dimensions that allow them to lift much heavier loads; moreover, their anodised aluminium supports also have a central threaded hole for their fastening to the automation. The larger ones also have an additional side hole for vacuum connection. The difference is that these supports are provided with a disc instead of with a pin. These cups can be cold fitted onto their supports without any adhesives.

To replace, simply request the single vacuum cup indicated in the table in the desired compound.

1

VACUUM CUP

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	G	H	M Ø	Bellows stroke mm
01 75 42 *	11.93	89.4	59	54	45	78	22.5	42	56	22.5

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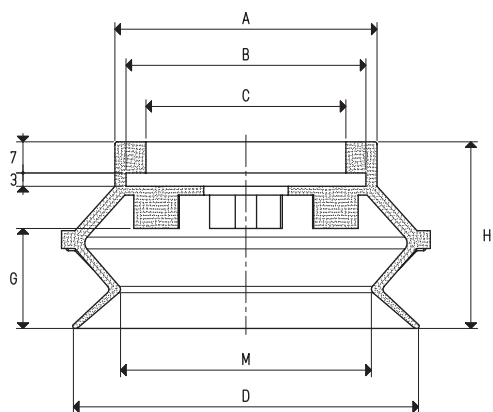
SUPPORTS

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 75 42	45.5
00 08 143	45	G1/2"	54	3	10	aluminium	01 75 42	41.5
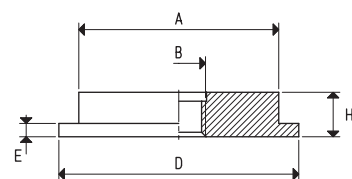
VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	D Ø	G	H	Vacuum cup item	Support item	Weight g
08 75 42 *	11.93	59	M12	78	22.5	42	01 75 42	00 08 126	94.8
08 75 42 1/2" *	11.93	59	G1/2"	78	22.5	42	01 75 42	00 08 143	90.8

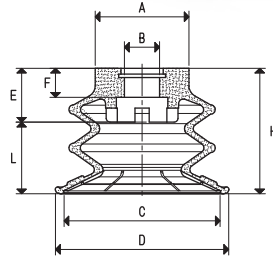* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

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

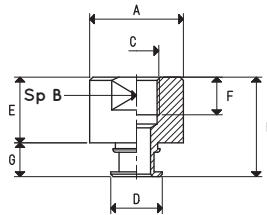# REINFORCED BELLOWS VACUUM CUPS WITH SUPPORTS

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	G	H	M Ø	Bellows stroke mm
01 110 58 *	23.70	281.9	75	70	61	110	33	58	74	33
01 150 74 *	45.00	726.1	112	107	98	150	49	74	103	49

* 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	N	H	Support material	For vacuum cup item	Weight g
00 08 162	61	G1/2"	G1/8"	70	3	23	10	aluminium	01 110 58	78.9
00 08 163	98	G1/2"	G1/8"	107	3	35	10	aluminium	01 150 74	211.8
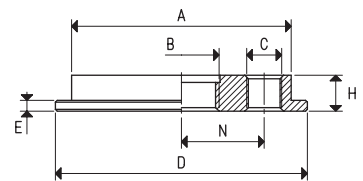
VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	H	N	Vacuum cup item	Support item	Weight g
08 110 58 *	23.70	75	G1/2"	G1/8"	110	58	23	01 110 58	00 08 162	190.7
08 150 74 *	45.00	112	G1/2"	G1/8"	150	74	35	01 150 74	00 08 163	458.7

* 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

BELLOWS VACUUM CUPS FOR GLASS WITH SUPPORTS

This range of cups has been designed for vertically gripping stocked glass sheets. By laying the cup on the glass surface and opening the vacuum, the sheet will place itself orthogonally to the floor perfectly adhering to the cup internal face. The glass sheet can then be handled in any direction in full safety.
Their aluminium aluminium support has a central threaded hole for fastening it to the machine and for the vacuum connection. These cups can be cold fitted onto their supports without any adhesives.

1

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	G	H	M Ø	N Ø	Bellows stroke mm
01 150 55 *	45.00	471.6	78	70	58	150	33	55	120	125	33
01 210 60 *	86.50	1220.6	138	130	118	210	38	61	180	185	38

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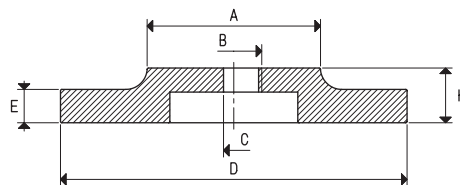
SUPPORTS

Item	A Ø	B Ø	C Ø	D Ø	E	H	Support material	For vacuum cup item	Weight g
00 08 280	35	G1/2"	--	70	12.5	22.5	aluminium	01 150 55	120
00 08 281	65	G1/2"	--	130	12.5	23.5	aluminium	01 210 60	465
00 08 286	35	---	8	70	12.5	22.5	aluminium	01 150 55	125
00 08 287	65	---	8	130	12.5	23.5	aluminium	01 210 60	470
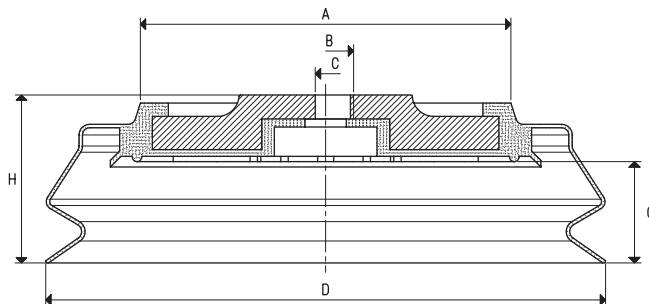
VACUUM CUPS WITH SUPPORT

Item	Force Kg	A Ø	B Ø	C Ø	D Ø	G	H	Vacuum cup item	Support item	Weight g
08 150 55 *	45.00	78	G1/2"	--	150	33	60	01 150 55	00 08 280	245
08 210 60 *	86.50	138	G1/2"	--	210	38	67	01 210 60	00 08 281	650
08 150 56 *	45.00	78	---	8	150	33	60	01 150 55	00 08 286	250
08 210 61 *	86.50	138	---	8	210	38	67	01 210 60	00 08 287	655

* 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 TWO BELLOWS FOR HEAVY-DUTY PACKAGING
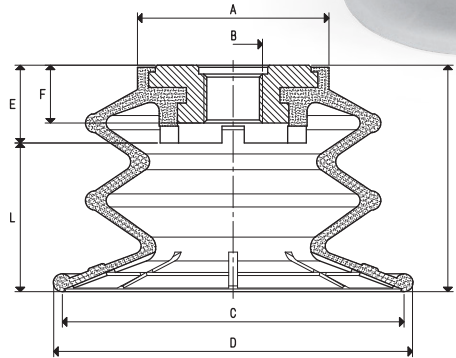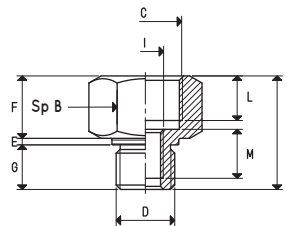
Specifically designed vacuum cups for tripping and handling particularly heavy boxes and cardboard packaging in general.

Their thick, sturdy lip absorbs tears and sudden accelerations, typical of robotised movements. The double bellows enables improved adaptability to the gripping surface, even if not perfectly perpendicular to the axis of the vacuum cup, and can recover evident unevenness of the loads to be lifted.

The supports, all made of anodised aluminium, are equipped with a male or female central threaded pin to allow suctioning and clamping to the automation. The vacuum cups can be fitted on them without the aid of adhesives.

To replace, simply request the single vacuum cup indicated in the table in the desired compound.

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	L	Bellows stroke mm
01 35 27 *	2.26	7.3	20	7.5	34	37	11.5	6.2	27	15.5	13
01 52 40 *	5.31	25.2	27	11.5	52	55	16.0	8.2	39	23.0	20

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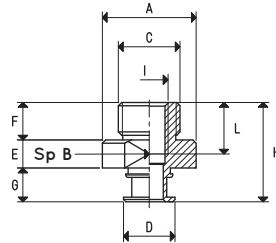
MALE SUPPORTS

Item	A Ø	B	C Ø	D Ø	E	F	G	H	I	L	Support material	For vacuum cup item	Weight g
00 08 394	20	17	G1/8"	11	6.0	8	7.2	21.2	M5	8	aluminium	01 35 27	6.2
00 08 395	27	20	G1/8"	15	7.5	8	9.2	24.7	M5	8	aluminium	01 52 40	13.2
00 08 366	20	17	G1/4"	11	6.0	8	7.2	21.2	M8	11	aluminium	01 35 27	6.2
00 08 364	27	20	G1/4"	15	7.5	8	9.2	24.7	M8	11	aluminium	01 52 40	13.2
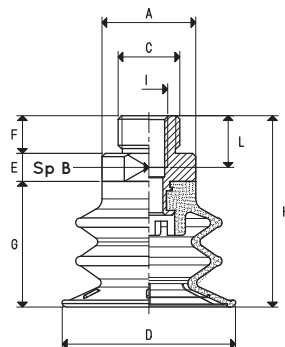
VACUUM CUPS WITH MALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	E	F	G	H	I	L	Vacuum cup item	Support item	Weight g
08 35 27 1/8 *	2.26	20	17	G1/8"	37	6.0	8	27	41.0	M5	8	01 35 27	00 08 394	13.0
08 52 40 1/8 *	5.31	27	20	G1/8"	55	7.5	8	39	54.5	M5	8	01 52 40	00 08 395	34.5
08 35 27 *	2.26	20	17	G1/4"	37	6.0	8	27	41.0	M8	11	01 35 27	00 08 366	12.9
08 52 40 *	5.31	27	20	G1/4"	55	7.5	8	39	54.5	M8	11	01 52 40	00 08 364	34.3

* 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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

VACUUM CUPS WITH TWO BELLOWS WITH FEMALE SUPPORTS

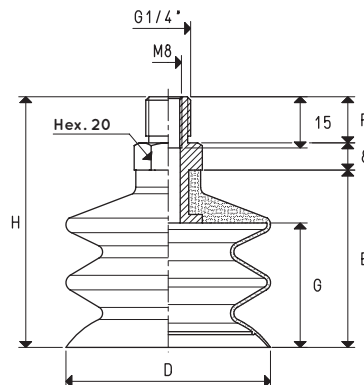### VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	L	Bellows stroke mm
01 35 27 *	2.26	7.3	20	7.5	34	37	11.5	6.2	27	15.5	13
01 52 40 *	5.31	25.2	27	11.5	52	55	16.0	8.2	39	23.0	20

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

FEMALE SUPPORTS

Item	A Ø	B	C Ø	D Ø	E	F	G	H	Support material	For vacuum cup item	Weight g
00 08 396	20	17	G1/8"	11	14	8	7.2	21.2	aluminium	01 35 27	9.7
00 08 397	27	20	G1/8"	15	14	8	9.2	23.2	aluminium	01 52 40	20.0
00 08 392	20	17	G1/4"	11	14	10	7.2	21.2	aluminium	01 35 27	7.8
00 08 393	27	20	G1/4"	15	14	10	9.2	23.2	aluminium	01 52 40	18.1
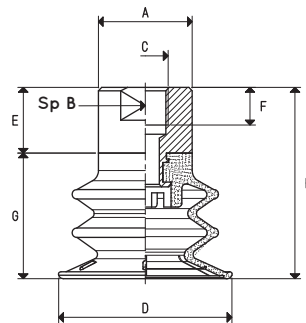
VACUUM CUPS WITH FEMALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	E	F	G	H	Vacuum cup item	Support item	Weight g
08 35 27 1/8 F *	2.26	20	17	G1/8"	37	14	8	27	41	01 35 27	00 08 396	16.5
08 52 40 1/8 F *	5.31	27	20	G1/8"	55	14	8	39	53	01 52 40	00 08 397	41.3
08 35 27 F *	2.26	20	17	G1/4"	37	14	10	27	41	01 35 27	00 08 392	14.6
08 52 40 F *	5.31	27	20	G1/4"	55	14	10	39	53	01 52 40	00 08 393	39.4

* 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 TWO BELLOWS WITH MALE SUPPORTS

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	L	Bellows stroke mm
08 75 43 SR *	11.19	74.3	43.0	G1/4"	75.5	80.5	17.5	13.7	50	32.5	28
08 110 73 SR *	24.17	250.6	63.5	G3/8"	113.4	119.0	25.5	19.4	75	49.5	40

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

MALE SUPPORTS

Item	B	C Ø	D Ø	E	F	G	H	I	L	Support material	For vacuum cup item	Weight g
00 08 373	8	G1/4"	G1/4"	2	10	10	22	M8	11	aluminium	08 75 43 SR	4.1
00 08 372	8	G3/8"	G1/4"	2	13	10	25	M8	11	aluminium	08 75 43 SR	7.4
00 08 376	8	G3/8"	G3/8"	3	13	15.5	31.5	M8	11	aluminium	08 110 73 SR	14.1
00 08 375	8	G1/2"	G3/8"	3	13	15.5	31.5	M8	11	aluminium	08 110 73 SR	15.5
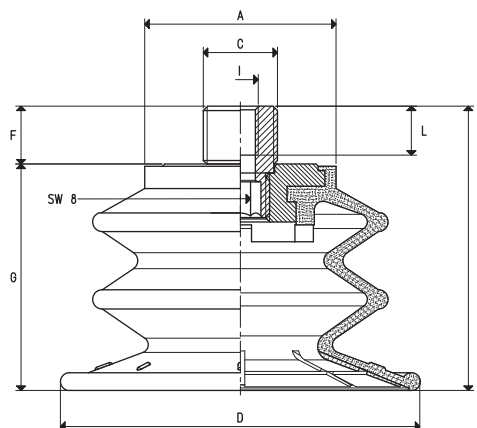
VACUUM CUPS WITH MALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	F	G	H	I	L	Vacuum cup item	Support item	Weight g
08 75 43 M *	11.19	43.0	8	G1/4"	80.5	10	50	60	M8	11	08 75 43 SR	00 08 373	75.0
08 75 43 3/8 M *	11.19	43.0	8	G3/8"	80.5	13	50	63	M8	11	08 75 43 SR	00 08 372	78.3
08 110 73 M *	24.17	63.5	8	G3/8"	119.0	13	75	88	M8	11	08 110 73 SR	00 08 376	220.3
08 110 73 1/2 M *	24.17	63.5	8	G1/2"	119.0	13	75	88	M8	11	08 110 73 SR	00 08 375	221.7

* 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 CUPS WITH TWO BELLOWS WITH FEMALE SUPPORTS

VACUUM CUPS

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	F	H	L	Bellows stroke mm
08 75 43 SR *	11.19	74.3	43.0	G1/4"	75.5	80.5	17.5	13.7	50	32.5	28
08 110 73 SR *	24.17	250.6	63.5	G3/8"	113.4	119.0	25.5	19.4	75	49.5	40

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

FEMALE SUPPORTS

Item	B	C Ø	D Ø	E	F	G	H	I	L	M	Support material	For vacuum cup item	Weight g
00 08 374	22	G3/8"	G1/4"	1.5	14	10.0	25.5	M8	10	11	aluminium	08 75 43 SR	12.0
00 08 377	23	G1/2"	G3/8"	3.0	17	15.5	35.5	M8	13	11	aluminium	08 110 73 SR	17.8
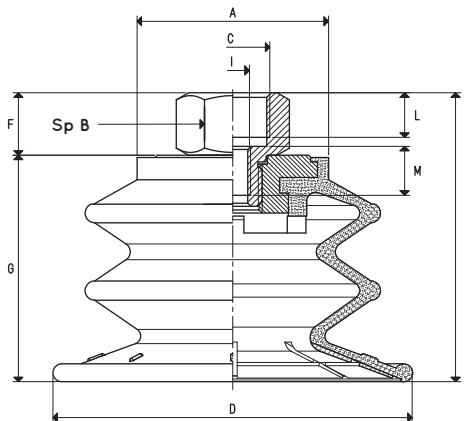
VACUUM CUPS WITH FEMALE SUPPORT

Item	Force Kg	A Ø	B	C Ø	D Ø	F	G	H	I	L	M	Vacuum cup item	Support item	Weight g
08 75 43 3/8 *	11.19	43.0	22	G3/8"	80.5	14	50	64	M8	10	11	08 75 43 SR	00 08 374	82.9
08 110 73 1/2 *	24.17	63.5	23	G1/2"	119.0	17	75	92	M8	13	11	08 75 43 SR	00 08 377	224.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
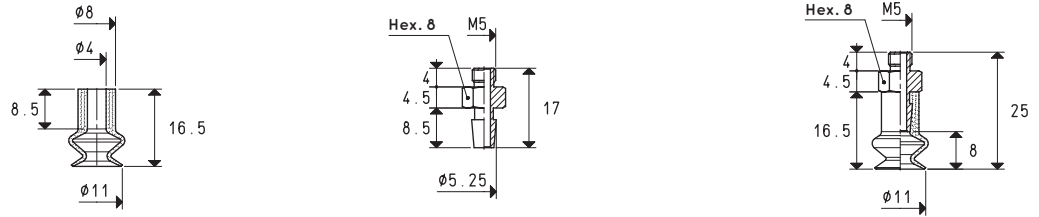
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

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

VACUUM CUPS WITH ONE BELLOWS WITH VULCANISED SUPPORT

The cups described on this page, unlike the previous ones, are vulcanised onto an aluminium hexagonal support with a male or female threaded connector, inside of which there is an M8 threaded hole for the possible insertion of a calibrated grub screw (see page 1.129).
 The main feature of these bellows cups is that they quickly crumple up during the grip, thus lifting the load for a few centimetres, independently of the movements of the lifting frame; this quick movement avoids that the load beneath,remains stuck to the lifted one.
Due to this feature, they are particularly suited for handling thin metal sheets, glass sheets, chipboard or compressed wood panels, laminated plastic etc.
Thanks to their great flexibility, they can also be used to compensate flatness errors or for gripping on inclined surfaces.
The cups 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.
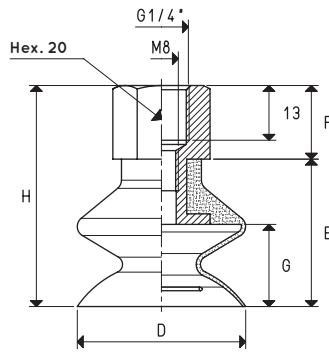
VACUUM CUPS WITH ONE BELLOWS WITH WITH VULCANISED FEMALE SUPPORT

Item	Force Kg	Volume cm³	D Ø	E	F	G	H	Bellows stroke mm	Support material	Weight g
08 40 30 *	3.14	16.2	40	35	17	18	52	12	aluminium	32.4
08 50 30 *	4.90	27.9	50	37	17	20	54	13	aluminium	40.9
08 60 30 *	7.06	46.8	60	39	17	21	56	14	aluminium	53.6
08 85 30 *	14.08	107.2	85	50	17	31	67	21	aluminium	122.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
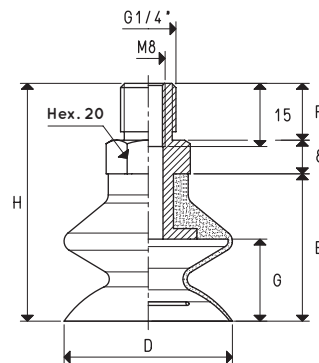
VACUUM CUPS WITH ONE BELLOWS WITH WITH VULCANISED MALE SUPPORT

Item	Force Kg	D Ø	E	F	G	H	Support material	Weight g
08 40 30 M *	3.14	40	35	13.5	18	56.5	aluminium	29.1
08 50 30 M *	4.90	50	37	13.5	20	58.5	aluminium	39.0
08 60 30 M *	7.06	60	39	13.5	21	60.5	aluminium	51.2
08 85 30 M *	14.08	85	50	13.5	31	71.5	aluminium	115.0

* 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.

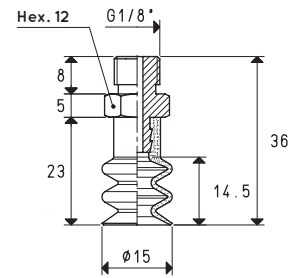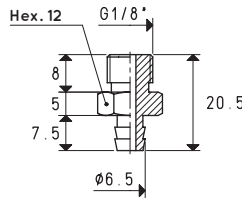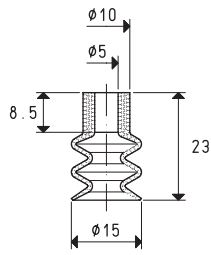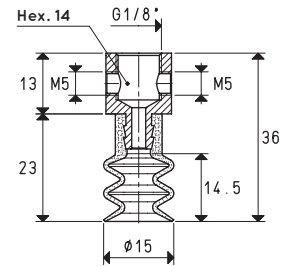Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

VACUUM CUPS WITH TWO BELLOWS WITH VULCANISED SUPPORT

These cups are the same as the ones described in the previous page, only with an additional bellows.
The technical features and availability are the same.

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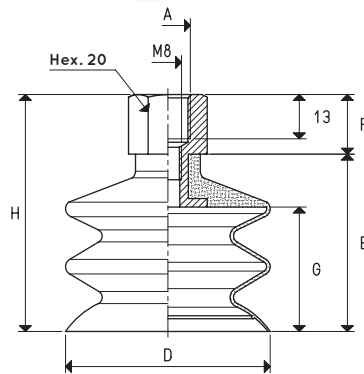
VACUUM CUPS WITH TWO BELLOWS WITH FEMALE VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	D Ø	E	F	G	H	Bellows stroke mm	Support material	Weight g
08 40 60 *	3.14	23.6	G1/4"	40	52	17	35	69	20	aluminium	39.6
08 50 50 *	4.90	41.6	G1/4"	50	55	17	38	72	24	aluminium	49.6
08 60 50 *	7.06	63.0	G1/4"	60	58	17	41	75	25	aluminium	72.4
08 60 50M12 *	7.06	63.0	M12	60	58	17	41	75	25	aluminium	73.0
08 85 50 *	14.08	175.6	G1/4"	85	78	17	58	95	38	aluminium	168.0
08 85 50M12 *	14.08	175.6	M12	85	78	17	58	95	38	aluminium	169.0

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

VACUUM CUPS WITH TWO BELLOWS WITH MALE VULCANISED SUPPORT

Item	Force Kg	D Ø	E	F	G	H	Support material	Weight g
08 40 60M *	3.14	40	52	13.5	35	73.5	aluminium	35.5
08 50 50M *	4.90	50	55	13.5	38	76.5	aluminium	49.3
08 60 50M *	7.06	60	58	13.5	41	79.5	aluminium	66.0
08 85 50M *	14.08	85	78	13.5	58	99.5	aluminium	157.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
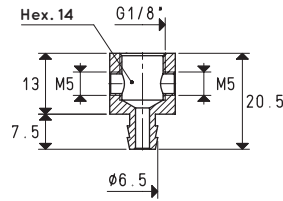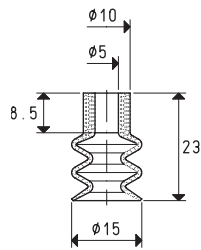
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

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

BELLOWS VACUUM CUPS WITH VULCANISED SUPPORT

The main feature of these bellows cups is that they quickly crumple up during the grip, thus lifting the load for a few centimetres, independently of the movements of the lifting frame; this quick movement avoids that the load beneath, remains stuck to the lifted one.

Due to this feature, they are particularly suited for handling thin metal sheets, glass sheets, chipboard or compressed wood panels, laminated plastic etc. Thanks to their great flexibility, they can also be used to compensate flatness errors or for gripping on inclined surfaces. These bellows cups are vulcanised onto a galvanised steel support or aluminium support and are provided with a central threaded hole for its fastening to the automatism and with a side threaded hole for vacuum connection or vacuum degree detection.

This range of cups is available in the three standard compounds.
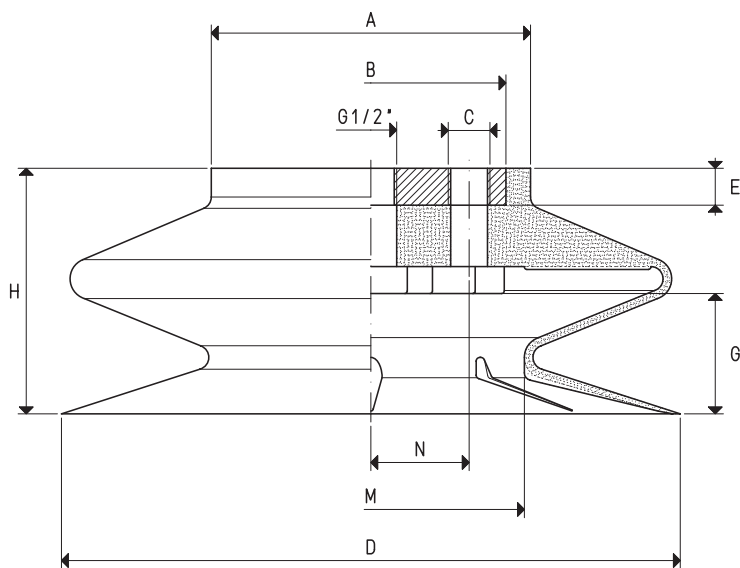
BELLOWS VACUUM CUPS WITH VULCANISED SUPPORT

Item	Force Kg	Volume cm³	A Ø	B Ø	C Ø	D Ø	E	G	H	M Ø	N	Bellows stroke mm	Support material	Weight Kg
08 110 30 *	23.7	103.2	78	65	G1/8"	110	10	23	45	55	23	20	steel	0.35
08 150 30 *	45.0	323.3	78	65	G1/8"	150	10	33	60	75	23	31	steel	0.49
08 180 30 *	63.5	503.0	94	80	G1/8"	180	10	33	70	84	30	31	steel	0.81
08 250 30 *	122.6	1528.3	130	100	G3/8"	250	15	49	100	125	35	45	aluminium	1.54

* 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.

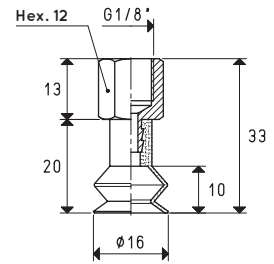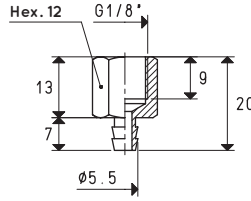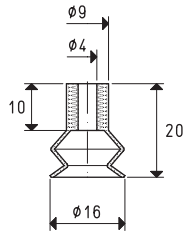Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL BELLOWS CUPS WITH SUPPORTS

These bellows cups crumple up when in contact with surface to be gripped and in presence of a vacuum, thus creating a quick lifting movement independently from the automation. This rapid movement prevents the load beneath from remaining stuck to the lifted one. Thanks to their great flexibility, they can also be used to compensate flatness errors or for gripping on inclined surfaces.

The cups shown on this page are the ideal solution for our customers; in fact, they have been designed for handling biscuits, stickers, crackers, sheets, labels, small metal and plastic objects, cardboard, paper and plastic bags, delicate products, chocolate and regular eggs, laminated plastic, 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 without any 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.
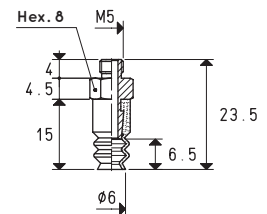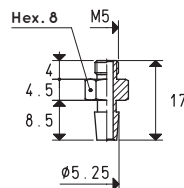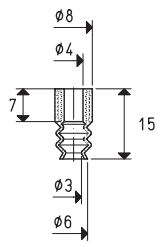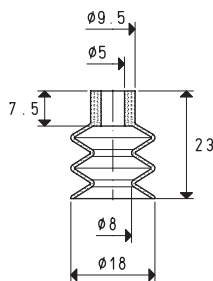
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 06 50 *	0.07	5	135	00 08 06	AVP	2.6	08 06 50 *	3.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
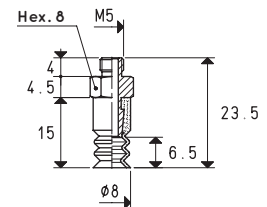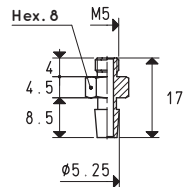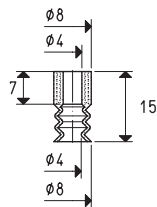
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 08 50 *	0.12	5	155	00 08 06	AVP	2.6	08 08 50 *	3.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
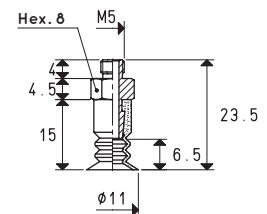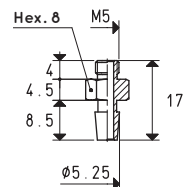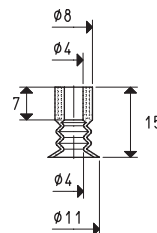
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 11 50 *	0.23	6	178	00 08 06	AVP	2.6	08 11 50 *	3.2

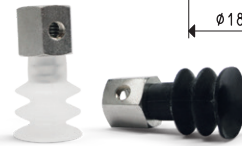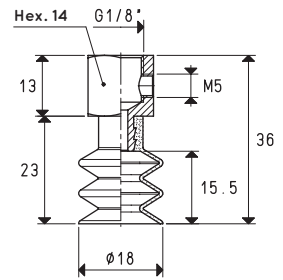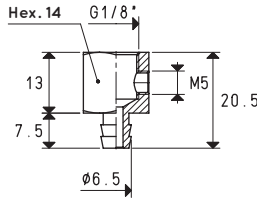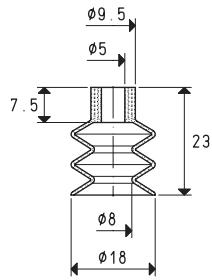* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
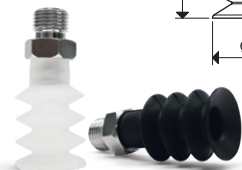
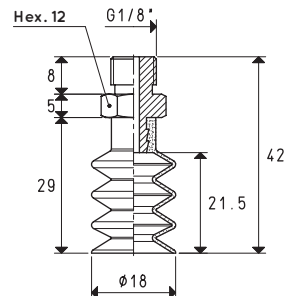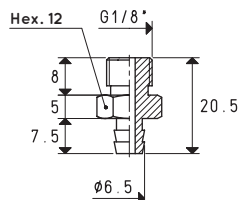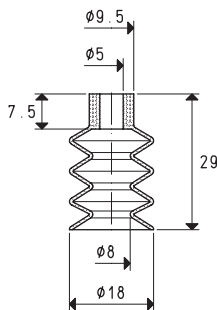# SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 11 16 *	0.23	6	319	00 08 06	AVP	2.6	08 11 16 *	3.3

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
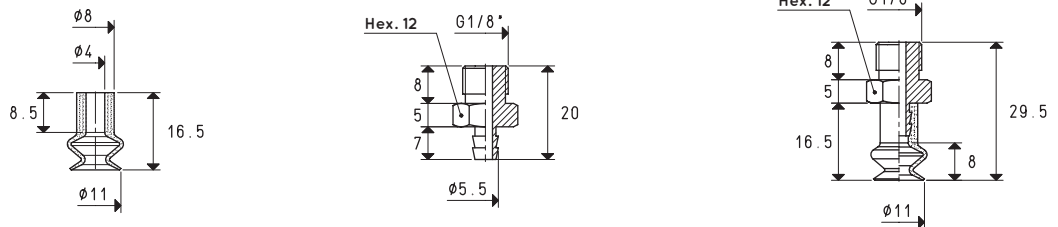
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 11 16 *	0.23	6	319	00 08 03	brass	9.0	08 11 17 *	9.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
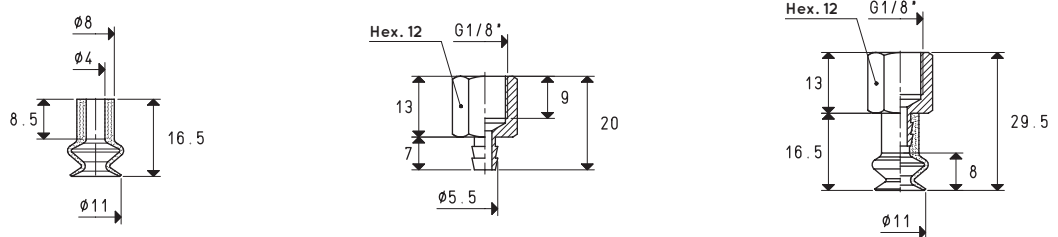
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 11 16 *	0.23	6	319	00 08 04	brass	8.1	08 11 17 F *	8.8

* 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.

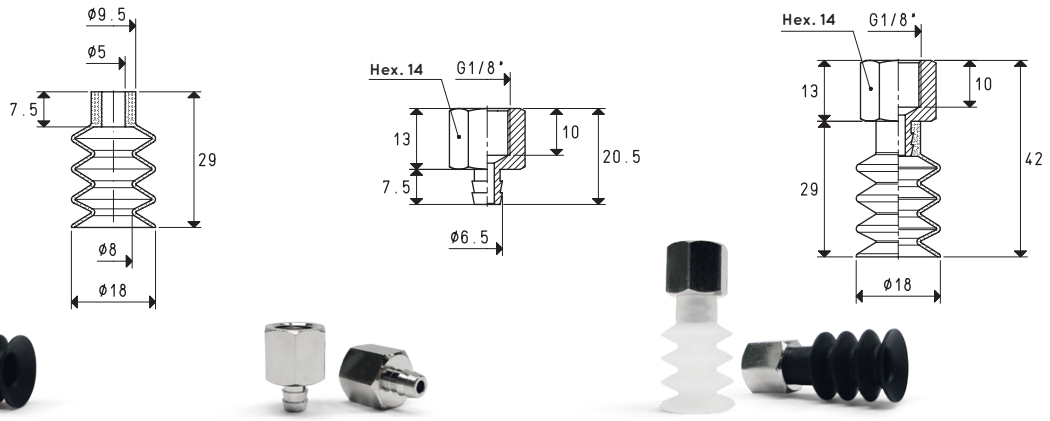Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
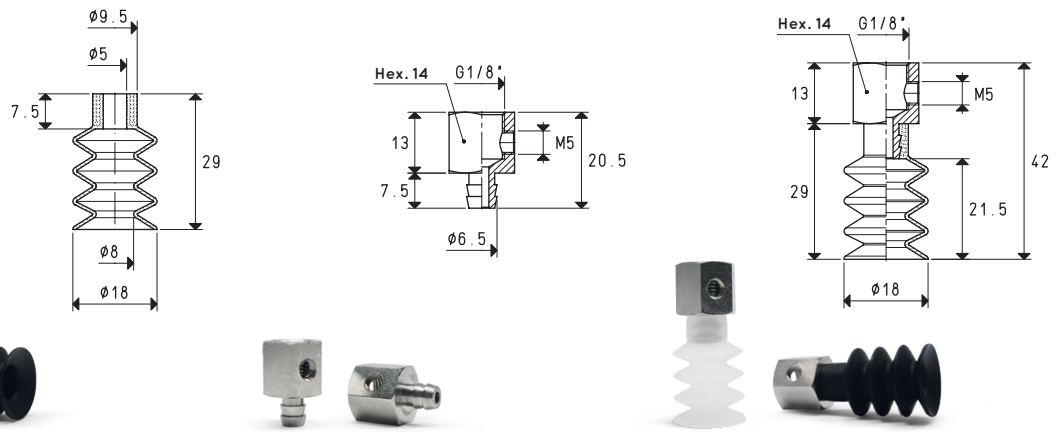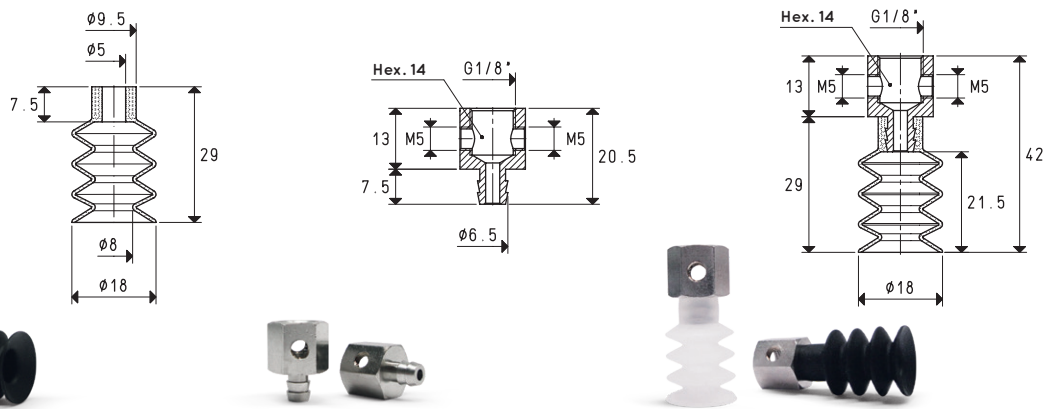
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 15 23 *	0.44	10	952	00 08 67	brass	11.4	08 15 23 *	12.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
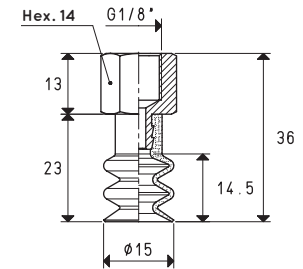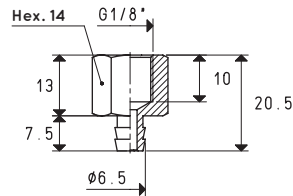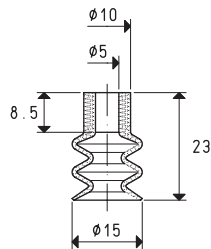
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 15 23 *	0.44	10	952	00 08 64	brass	13.9	08 15 23 F *	15.2

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
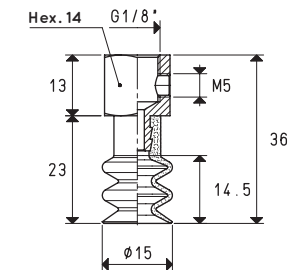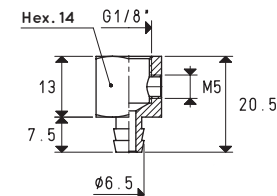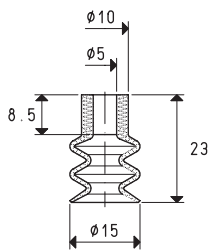
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 15 23 *	0.44	10	952	00 08 65	brass	13.7	08 15 24 F *	15.0

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
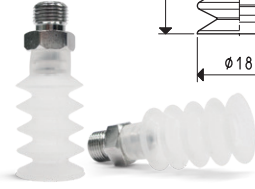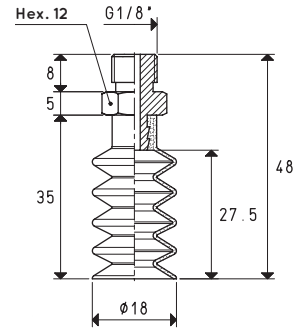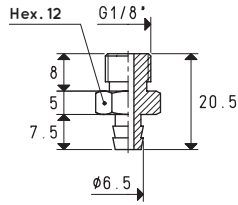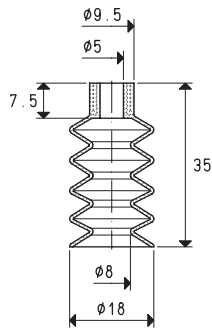
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

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
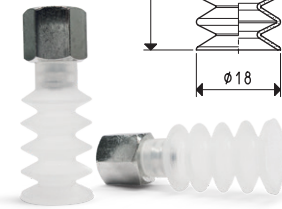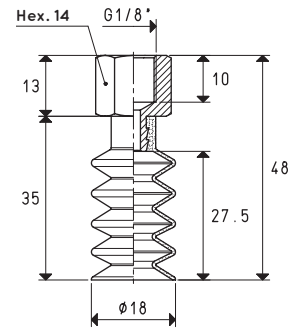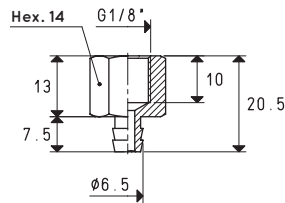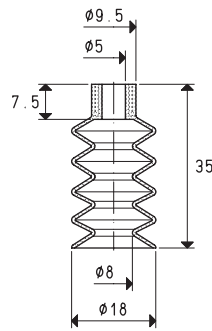
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 15 23 *	0.44	10	952	00 08 66	brass	13.5	08 15 26 F *	14.8

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
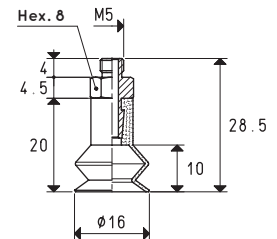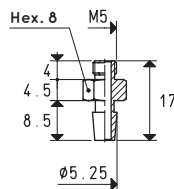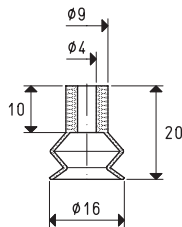
Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 16 20 *	0.50	7	970	00 08 06	AVP	2.6	08 16 20 *	3.6

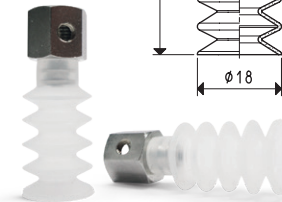* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
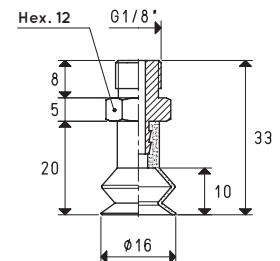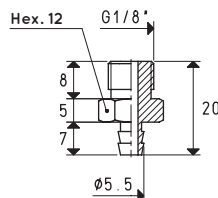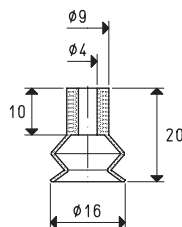
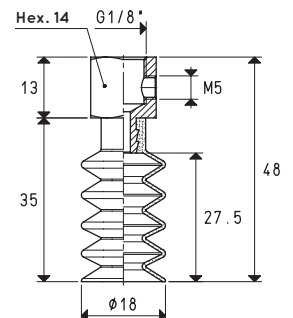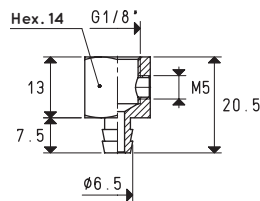| Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 16 20 *	0.50	7	970	00 08 03	brass	9.0	08 16 21 *	10.0

* 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
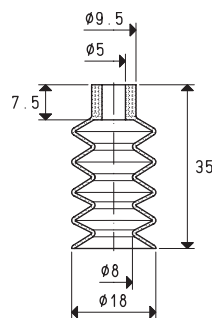
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume mm³	support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 16 20 *	0.50	8	970	00 08 04	brass	8.1	08 16 21 F *	9.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
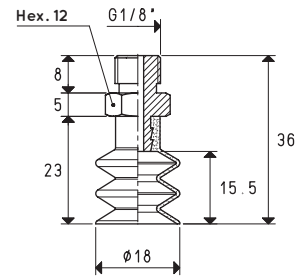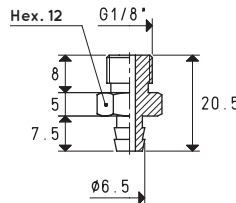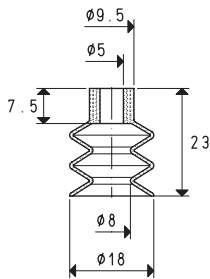
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 23 *	0.63	11	1.8	00 08 67	brass	11.4	08 18 23 *	12.9

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
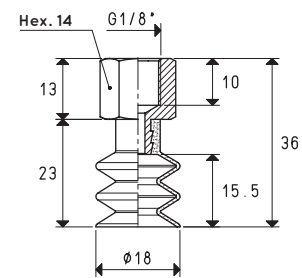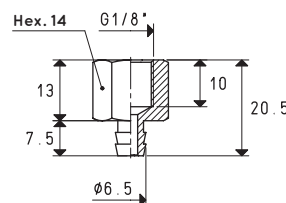
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 23 *	0.63	11	1.8	00 08 64	brass	13.9	08 18 23 F *	15.4

* 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.

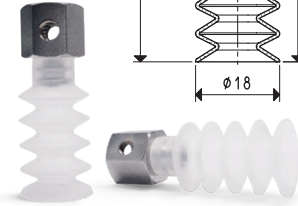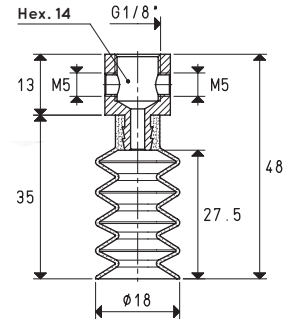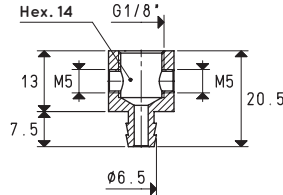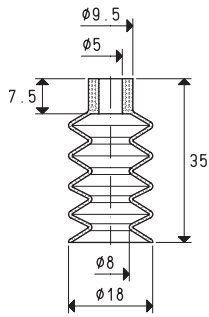Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 23 *	0.63	11	1.8	00 08 65	brass	13.7	08 18 24 F *	15.2

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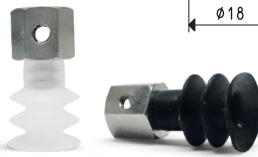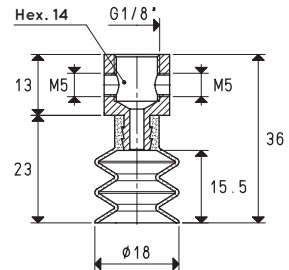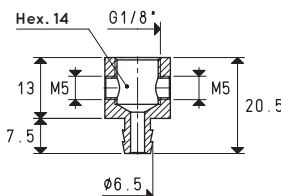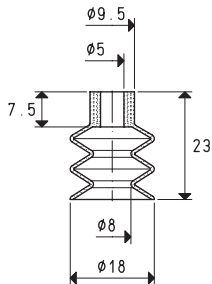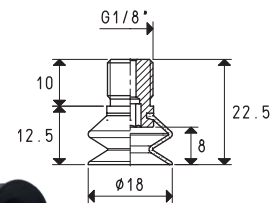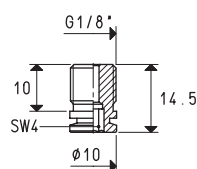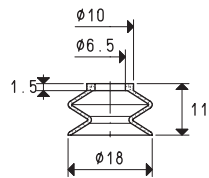

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 23 *	0.63	11	1.8	00 08 66	brass	13.5	08 18 26 F *	15.0

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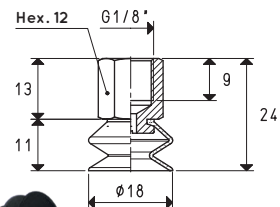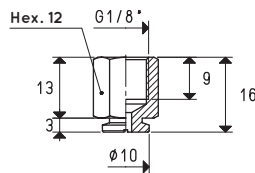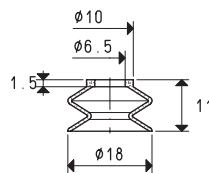

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 29 *	0.63	15	2.5	00 08 67	brass	11.4	08 18 29 *	13.2

* 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

1

SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 29 *	0.63	15	2.5	00 08 64	brass	13.9	08 18 29 F *	15.7

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 29 *	0.63	15	2.5	00 08 65	brass	13.7	08 18 30 F *	15.5

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 29 *	0.63	15	2.5	00 08 66	brass	13.5	08 18 31 F *	15.3

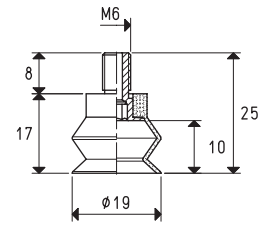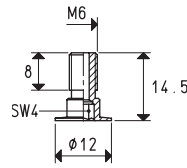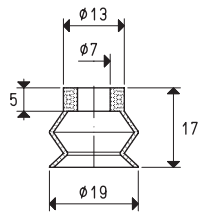* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
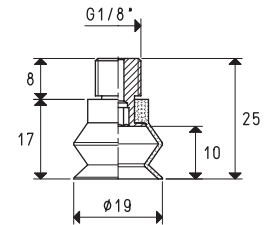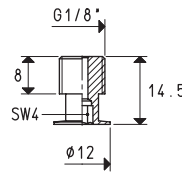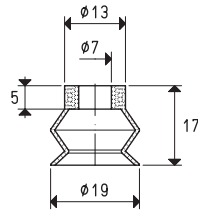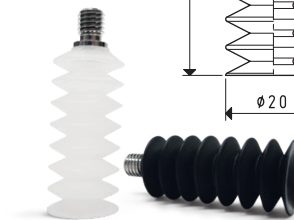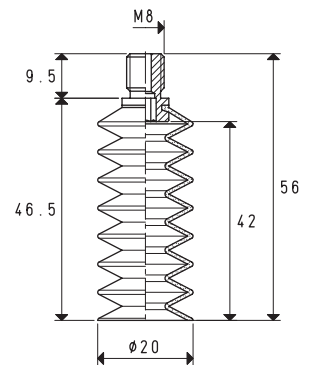
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 35 *	0.63	18	3.1	00 08 67	brass	11.4	08 18 35 *	13.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
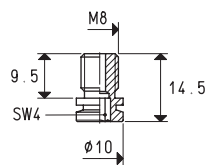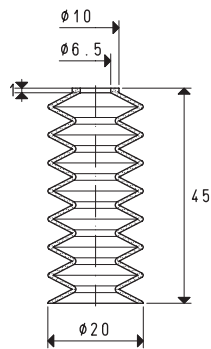
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 35 *	0.63	18	3.1	00 08 64	brass	13.9	08 18 35 F *	16.2

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 35 *	0.63	18	3.1	00 08 65	brass	13.7	08 18 36 F *	16.0

* 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.

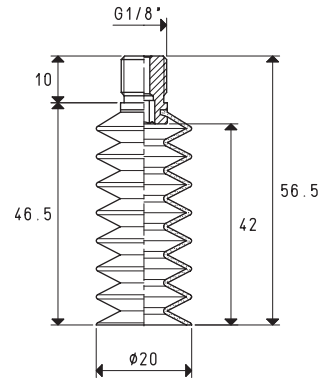Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
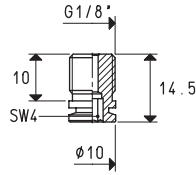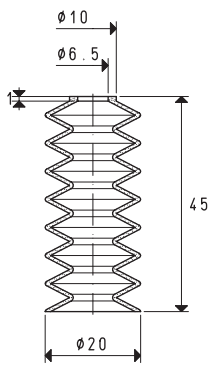
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 35 *	0.63	18	3.1	00 08 66	brass	13.5	08 18 37 F *	15.8

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
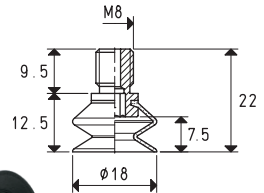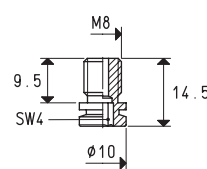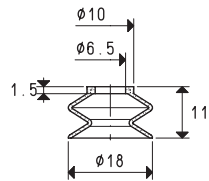
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 50 *	0.63	5.5	1.1	00 08 07	brass	4.8	08 18 50 *	5.5

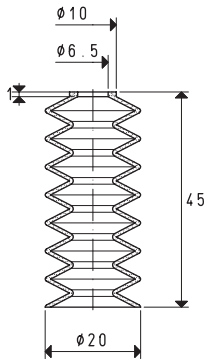* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 50 *	0.63	5.5	1.1	00 08 61	brass	6.5	08 18 51 *	7.2

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 18 50 *	0.63	5.5	1.1	00 08 62	brass	9.4	08 18 52 *	10.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
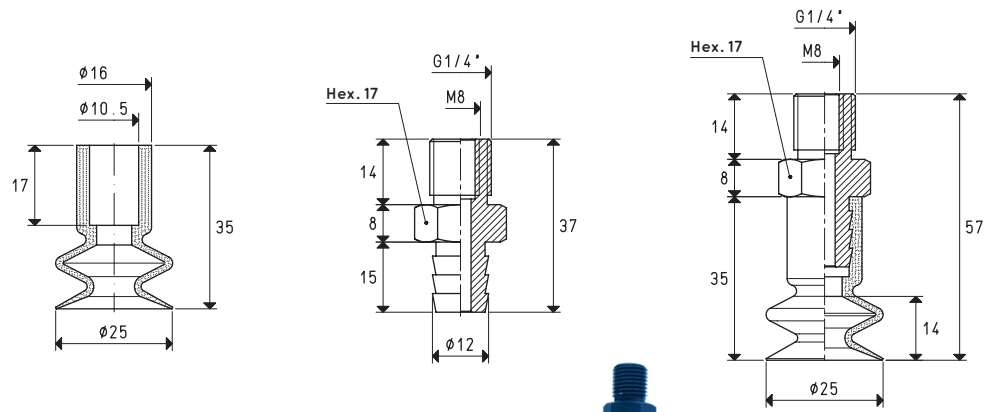
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

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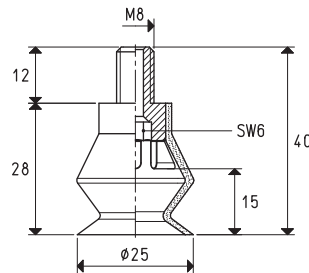
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 19 17 *	0.70	8	1.9	00 08 08	brass	2.7	08 19 17 *	4.0

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

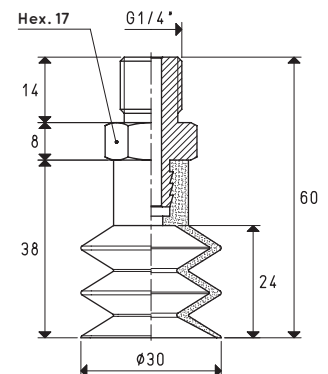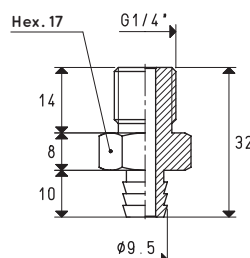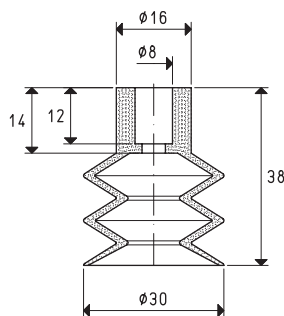| Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 19 17 *	0.70	8	1.9	00 08 60	brass	5.6	08 19 18*	6.9

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 60 *	0.78	28	5.4	00 08 07	brass	4.8	08 20 60 *	9.0

* 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
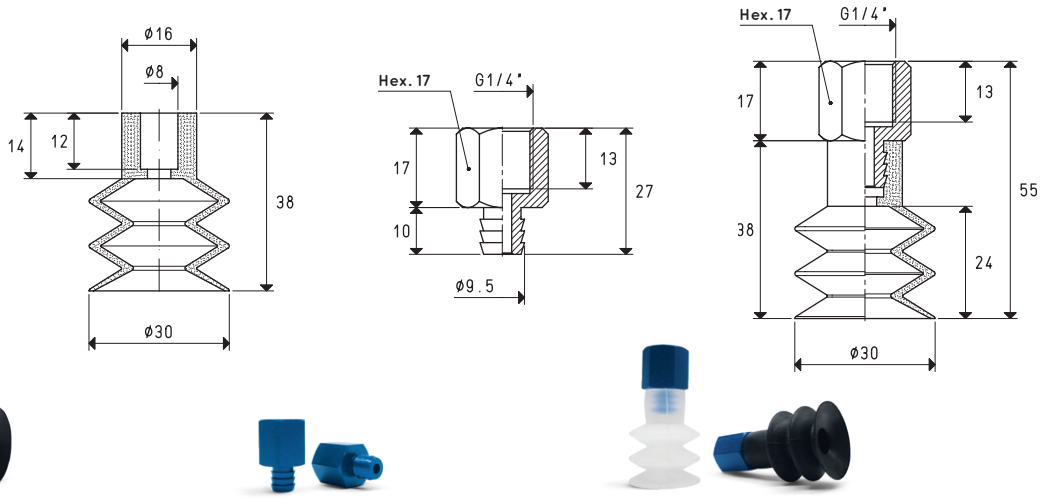
1

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 60 *	0.78	28	5.4	00 08 61	brass	6.5	08 20 61 *	10.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
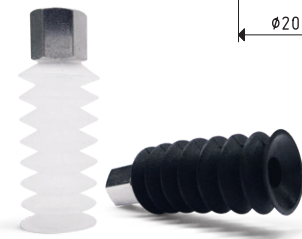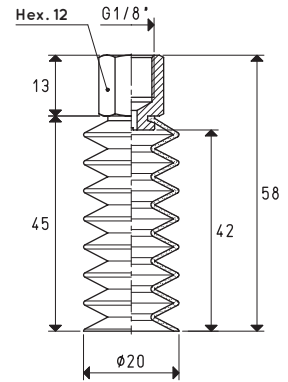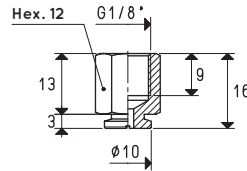
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 20 60 *	0.78	28	5.4	00 08 62	brass	4.4	08 20 62 *	8.6

* 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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
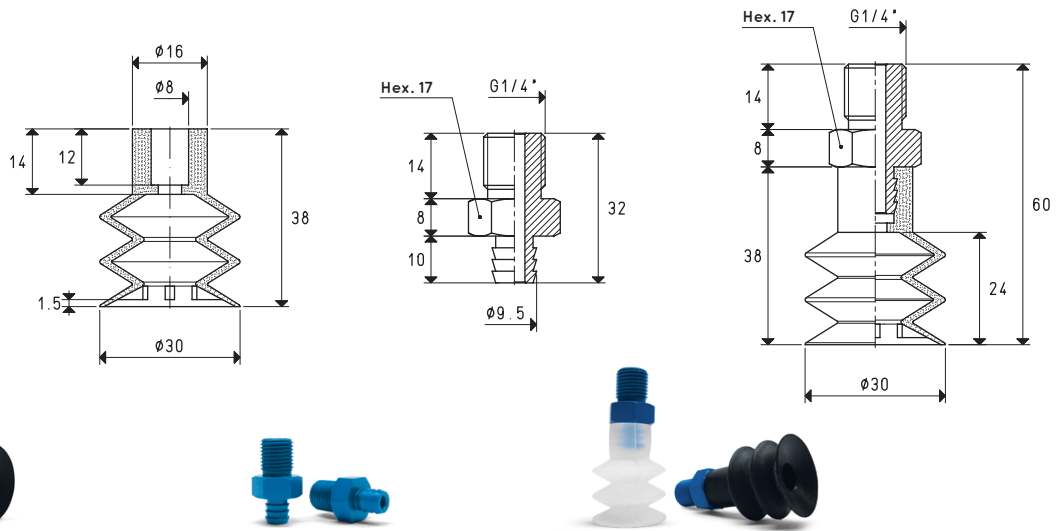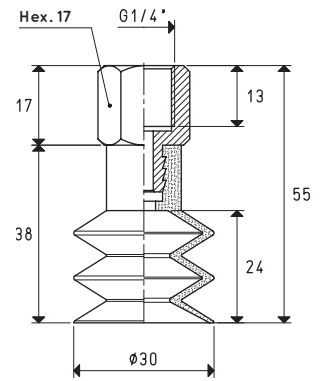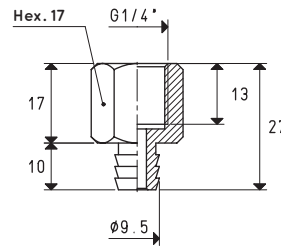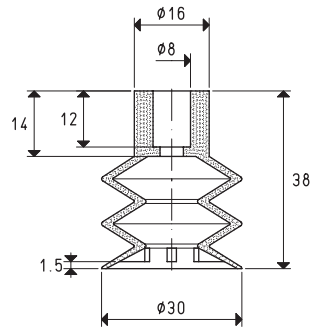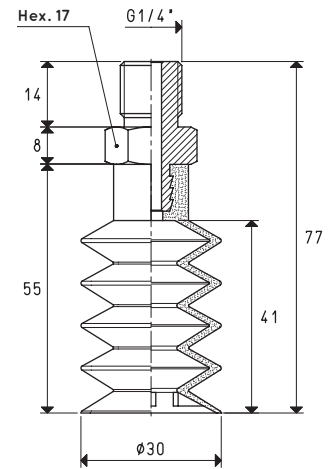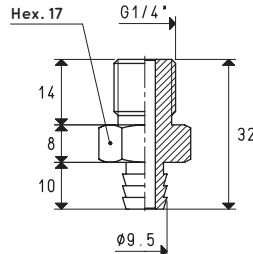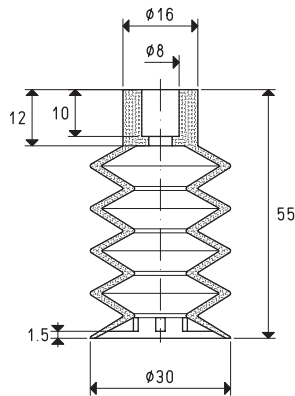
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 25 35 *	1.23	10	2.5	00 08 15	aluminium	12.3	08 25 35 *	17.3

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

Vacuum cup with vulcanised support Item	Force Kg	Bellows stroke mm	Volume cm³	Support material	Weight g
08 25 40 *	1.23	9	4.1	steel	13.0

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 50 *	1.76	14	6.5	00 08 18	aluminium	10.3	08 30 50 *	17.9

* 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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
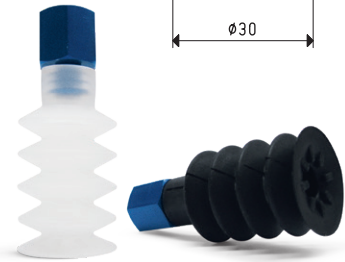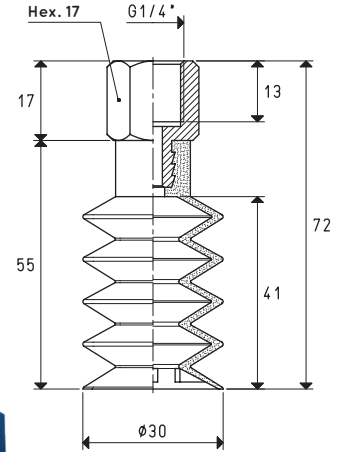
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 50 *	1.76	14	6.5	00 08 50	aluminium	8.5	08 30 50 F *	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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 99 *	1.76	14	6.5	00 08 18	aluminium	10.3	08 30 99 *	18.5

* 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.

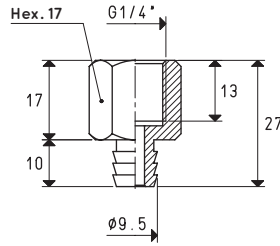Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
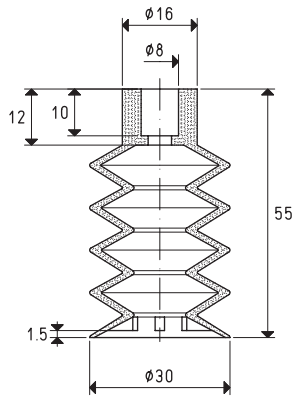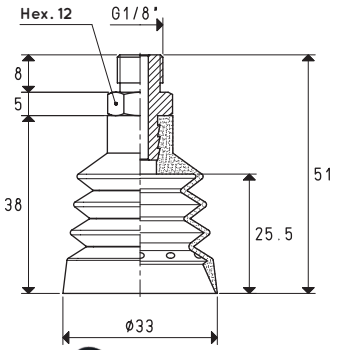
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 99 *	1.76	14	6.5	00 08 50	aluminium	8.5	08 30 99 F *	16.7

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 55 *	1.76	24	10.6	00 08 18	aluminium	10.3	08 30 55 *	23.1

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
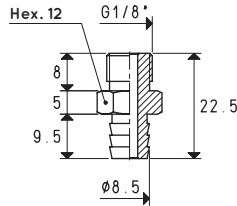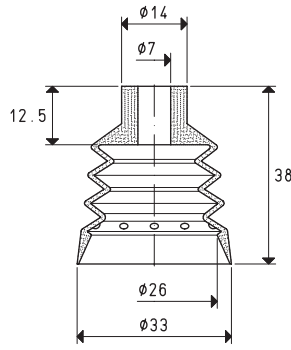
Note: The force of the vacuum cups indicated in the table represents 1/3 of the value of the theoretical force calculated at a level of vacuum of -75 KPa and a factor of safety 3.

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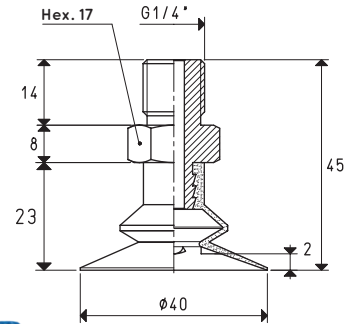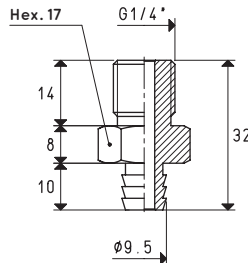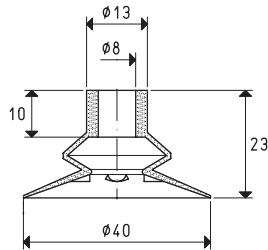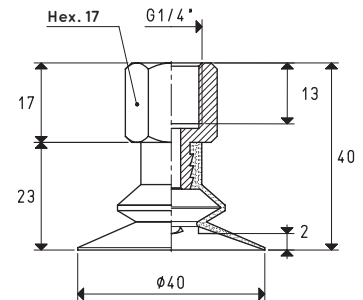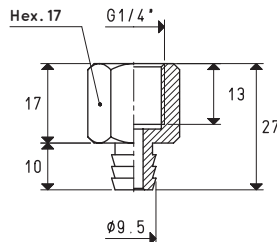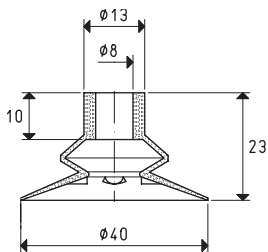
SPECIAL BELLOWS CUPS WITH SUPPORTS

1

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 30 55 *	1.76	24	10.6	00 08 50	aluminium	8.5	08 30 55 F *	21.3

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

Vacuum cup with vulcanised support Item	Force Kg	Bellows stroke mm	Volume cm³	Support material	Weight g
08 32 40 *	2.00	10	6.9	steel	14.0

* 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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6} = \dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
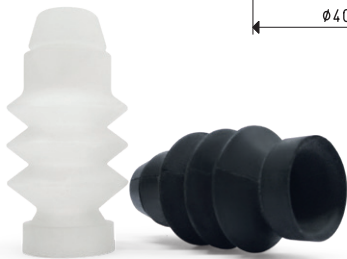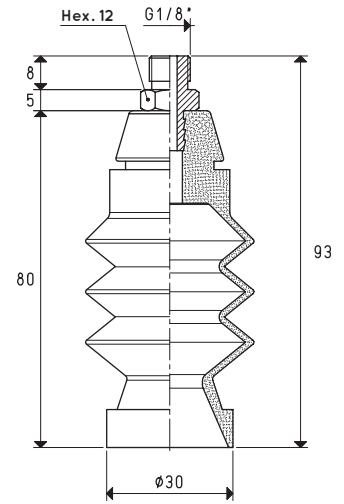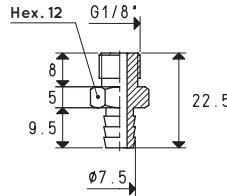
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 33 50 *	2.13	9	12.0	00 08 82	brass	11.2	08 33 50 *	18.8

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 50 *	2.40	7	4.3	00 08 18	aluminium	10.3	08 40 50 *	14.9

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 50 *	2.40	7	4.3	00 08 50	aluminium	8.5	08 40 50 F *	13.1

* 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.

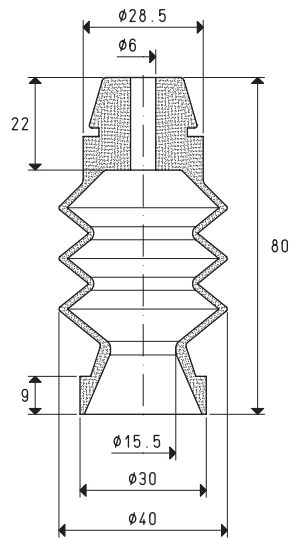Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 80 *	1.76	32	32.4	00 08 05	brass	10.0	08 40 80 *	38.7

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
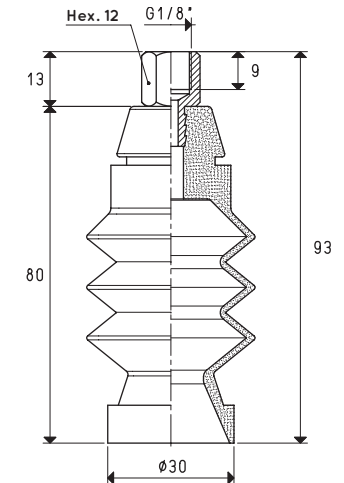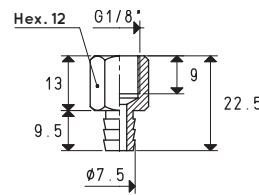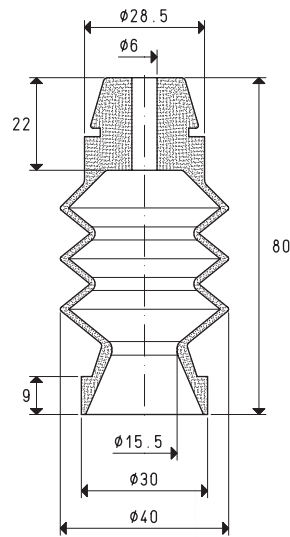
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 40 80 *	1.76	32	32.4	00 08 14	brass	9.8	08 40 80 F *	38.5

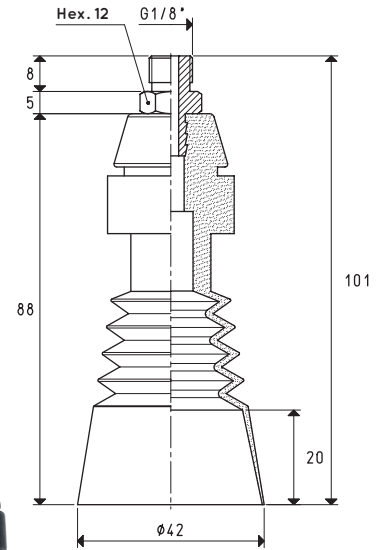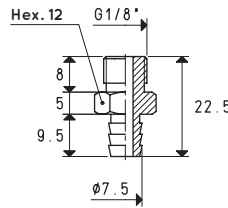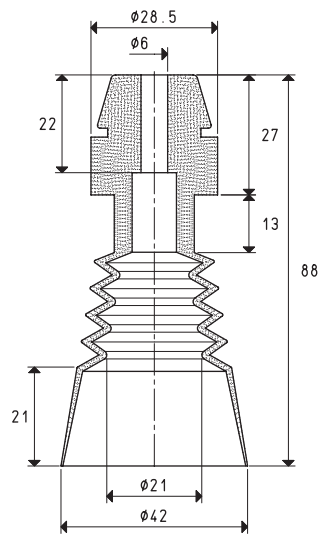* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6} = \dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
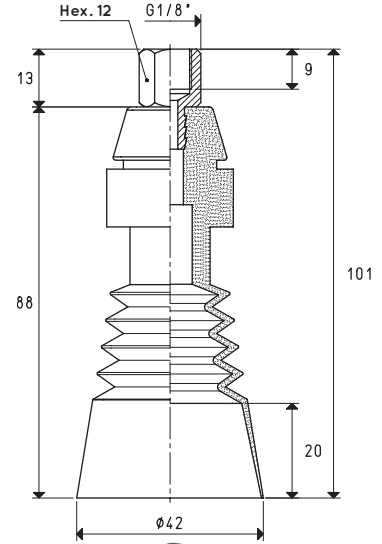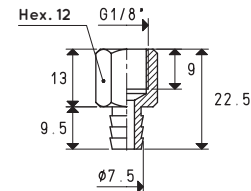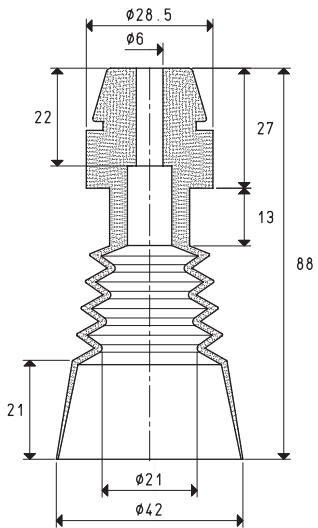
SPECIAL BELLOWS CUPS WITH SUPPORTS

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 42 90 *	3.00	13	34.6	00 08 05	brass	10.0	08 42 90 *	34.5

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 42 90 *	3.00	13	34.6	00 08 14	brass	9.8	08 42 90 F *	34.3

* 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.

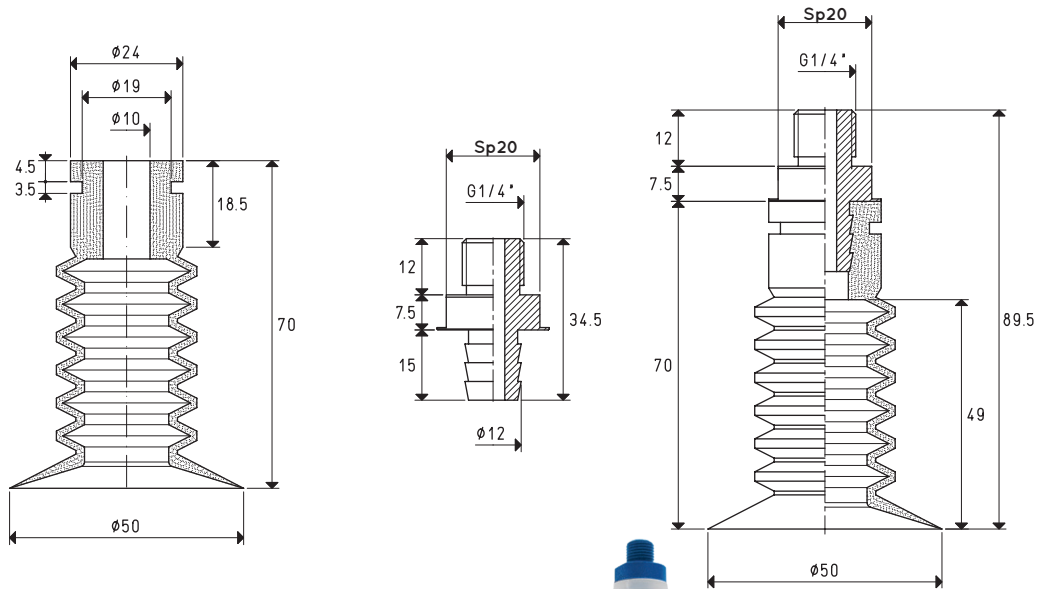Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)   inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130
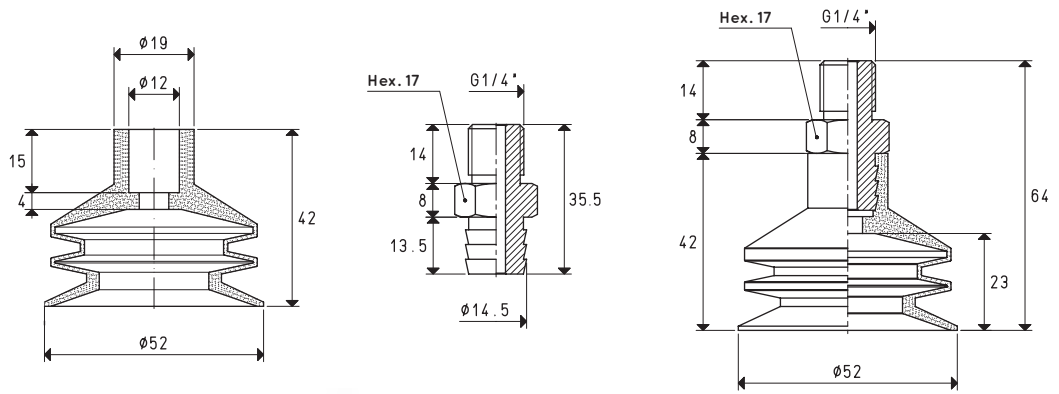
3D drawings are available on **vuototecnica.net**

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Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 50 70 *	4.90	28	32.2	00 08 148	aluminium	14.5	08 50 70 *	36.8

* 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 cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 52 50 *	5.30	13	22.7	00 08 26	aluminium	13.5	08 52 50 *	38.2

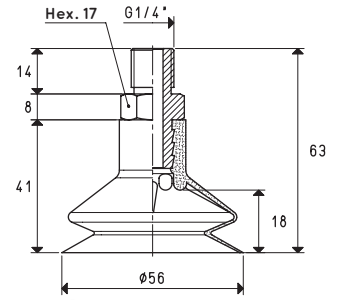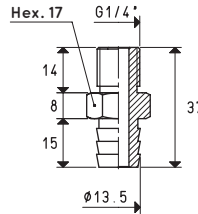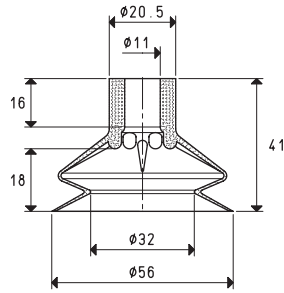* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon

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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 56 30 *	6.15	18	28.0	00 08 127	aluminium	11.5	08 56 30 *	28.5

* Complete the code indicating the compound: A= oil-resistant rubber; N= natural para rubber; S= silicon
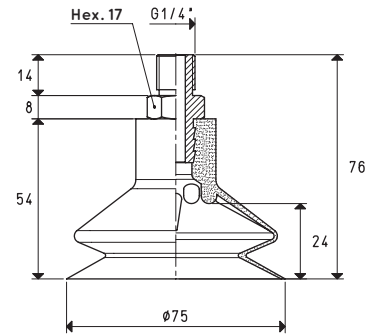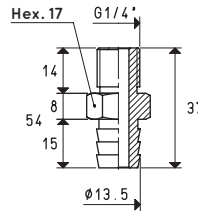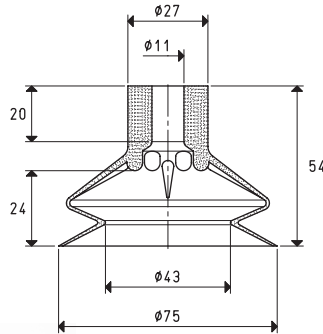
Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 75 30 *	11.04	24	62.9	00 08 127	aluminium	11.5	08 75 30 *	48.1

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

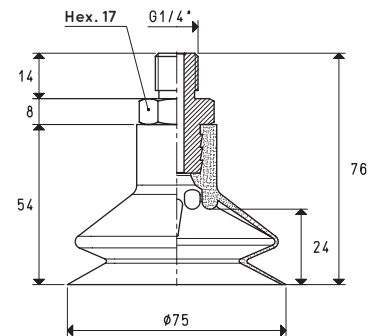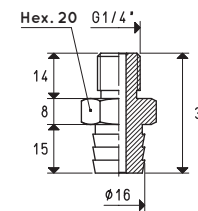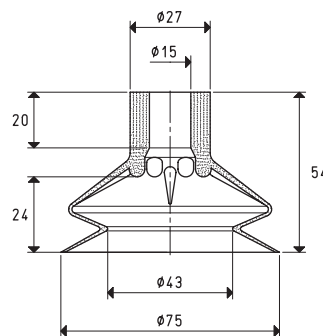| Vacuum cup item	Force Kg	Bellows stroke mm	Volume cm³	Support item	Support material	Weight g	Vacuum cup with support item	Weight g
01 75 31 *	11.04	24	63.1	00 08 09	aluminium	18.1	08 75 31 *	54.7

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 = $\dfrac{mm}{25.4}$; pounds = $\dfrac{g}{453.6}$ = $\dfrac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

1

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.

1
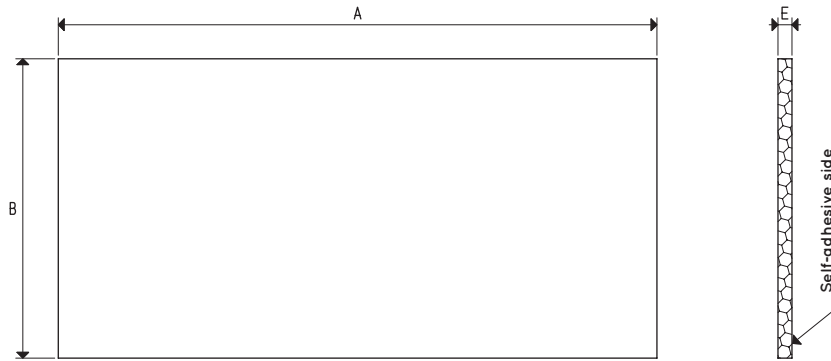
OF FOAM RUBBER SHEETS

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.
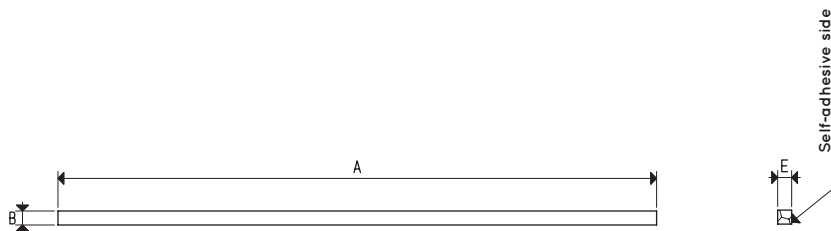
OF FOAM RUBBER STRIPS

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.
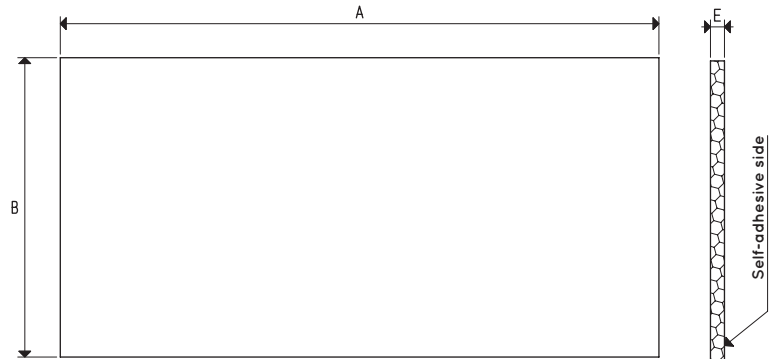
The low density and softness of this foam rubber allows gripping surfaces to adapt to any kind of surface.

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.
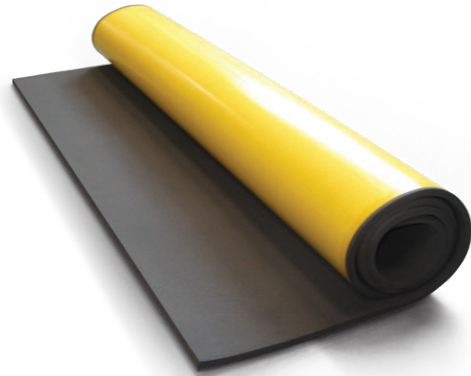
NF NEOPRENE FOAM RUBBER SHEETS

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.
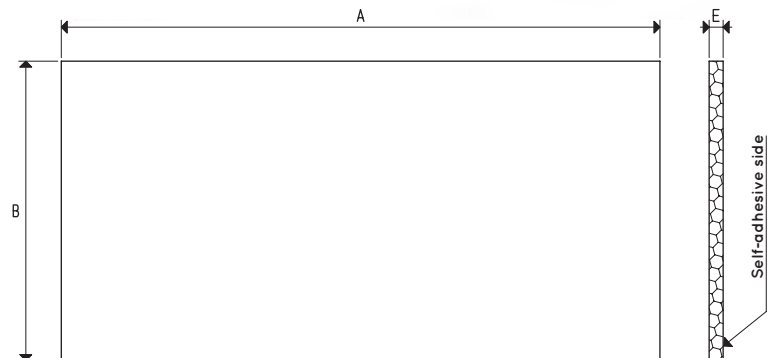
The working temperature ranges for the foam are from -40°C to +100 °C.

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 = $\frac{g}{453.6}$ = $\frac{Kg}{0.4536}$