OCTOPUS VACUUM GRIPPING SYSTEMS

HANLEY CONTROLS
CLONMEL
www.hccl.ie

OCTOPUS VACUUM GRIPPING SYSTEM - GENERAL DESCRIPTION	PG.	9.00 ÷	9.01
OCTOPUS GRIPPING SYSTEM COMPOSITION	PG.	9.02 ÷	9.03
OCTOPUS GRIPPING SYSTEM item SO 15 20 MX	PG.	9.04	
OCTOPUS GRIPPING SYSTEM item SO 20 30 X, SO 20 40 X and SO 20 60 X	PG.	9.05	
OCTOPUS GRIPPING SYSTEM item SO 30 30 X, SO 30 40 X, SO 30 50 X, SO 40 40 X and SO 40 60 X	PG.	9.06	
OCTOPUS GRIPPING SYSTEM item SO 40 100 X, SO 60 80 X, SO 60 120 X and SO 80 100 X	PG.	9.07	
SMALL OCTOPUS VACUUM GRIPPING SYSTEMS item SO DO 10 X, SO 08 08 X and SO O7 120 X	PG.	9.08	
ROUND OCTOPUS GRIPPING SYSTEM item SO DO 35 X and SO DO 50 X	PG.	9.09	
STANDARD SUCTION PLATES PX and P2X FOR OCTOPUS SYSTEMS	PG.	9.10	
STANDARD SUCTION PLATES WITH SHUT-OFF VALVES PXE and P2XE FOR OCTOPUS SYSTEMS	PG.	9.11	
SPECIAL SUCTION PLATES PY and P2Y FOR OCTOPUS SYSTEMS	PG.	9.12	
SPECIAL SUCTION PLATES WITH SHUT-OFF VALVES PY2E and P2Y2E FOR OCTOPUS SYSTEMS	PG.	9.13	
SPECIAL SUCTION PLATES PZ and P2Z FOR OCTOPUS SYSTEMS	PG.	9.14	
VACUUM CUP SUCTION PLATES PV FOR OCTOPUS SYSTEMS	PG.	9.15	
VACUUM CUP SUCTION PLATES PV2 FOR OCTOPUS SYSTEMS	PG.	9.16	
VACUUM CUP SUCTION PLATES WITH SHUT-OFF VALVES PVE FOR OCTOPUS SYSTEMS	PG.	9.17	
VACUUM CUP SUCTION PLATES WITH SHUT-OFF VALVES P2V2E FOR OCTOPUS SYSTEMS	PG.	9.18	
BAG GRIPPING SUCTION PLATES PJ FOR OCTOPUS SYSTEMS	PG.	9.19	
OCTOPUS GRIPPING BARS - GENERAL DESCRIPTION	PG.	9.20 ÷	9.21
OCTOPUS GRIPPING BARS item BO O8 60 X, BO O8 80 X and BO O8 100 X	PG.	9.22	
OCTOPUS GRIPPING BARS item BO 12 40 X, BO 12 60 X and BO 12 80 X	PG.	9.23	
OCTOPUS GRIPPING BARS item BO 12 100 X, BO 08 120 X, BO 12 120 X and BO 12 140 X	PG.	9.24	
STANDARD SUCTION PLATES PX and P2X FOR OCTOPUS GRIPPING BARS	PG.	9.25	
VACUUM CUP SUCTION PLATES PV FOR OCTOPUS GRIPPING BARS	PG.	9.26	
SUCTION PLATES WITH SHUT-OFF VALVES PXE and P2XE FOR OCTOPUS GRIPPING BARS	PG.	9.27	
VACUUM CUP SUCTION PLATES WITH SHUT-OFF VALVES PVE FOR OCTOPUS GRIPPING BARS	PG.	9.28	
LOCKING PLATES FOR OCTOPUS GRIPPING BARS	PG.	9.29 ÷	9.30
FLANGE FIXING SUPPORT FOR OCTOPUS SYSTEMS WITHOUT VACUUM GENERATOR	PG.	9.31	
ACCESSORIES AND SPARE PARTS FOR OCTOPUS GRIPPING SYSTEMS AND BARS	PG.	9.32 ÷	9.34
SPECIAL OCTOPUS GRIPPING SYSTEM PRODUCTS	PG.	9.35 ÷	9.37
SPECIAL OCTOPUS GRIPPING SYSTEM PRODUCTS WITH 3D PRINTER	PG.	9.38	
OCTOPUS VACUUM GRIPPING SYSTEM QUESTIONNAIRE	PG.	9.39 ÷	9.42

3D drawings are available on **vuototecnica.net**

OCTOPUS VACUUM GRIPPING SYSTEM - GENERAL DESCRIPTION

3D drawings are available on **vuototecnica.net**

The OCTOPUS system is our answer to the ever increasing requirements of operational flexibility for palletising robots and vacuum gripping systems in general.
In fact, this system allows gripping objects of any shape and nature, provided that they do not have an excessive transpiration, without having to place or change vacuum cups, and even when their surface occupies only 5% of the entire suction plate. The maximum weight of the load to be lifted will obviously be proportional to the gripping surface.
Standard OCTOPUS systems are composed of:

- One or two compressed air-fed vacuum generator as shown in the picture and in the drawing, that has to be ordered separately, since it is not included in the code, with the exception of item SO 15 20 MX.
- An anodised aluminium box, open on one side, with a built-in micro-fine mesh filter in stainless steel that protects the vacuum generator and is very easy to inspect. On the top outside of the box there are one or more connections for possible installation of control devices or solenoid valves for prompt restoration of the atmospheric pressure on its inside.
- A suction plate sealing the box, also made with anodised aluminium, with calibrated holes equidistant from each other and coated with a special perforated foam rubber. This suction plate can thus perfectly adapt to any gripping surface, whether it be smooth, rough or irregular. With the same system, for instance, it is possible to grip and handle cardboard boxes and the wooden pallet that supports it.

These OCTOPUS systems are also available upon request in dimensions and with vacuum tables and vacuum generators other than those indicated in the tables.

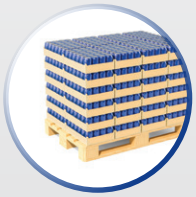
SPECIAL SOLUTIONS FOR ALL SECTORS WITH OCTOPUS VACUUM GRIPPING SYSTEMS

CERAMICS

PACKAGING

MARBLE

PLASTIC

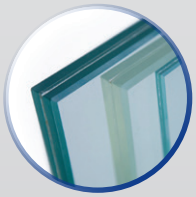

FOOD

PHARMACEUTICALS

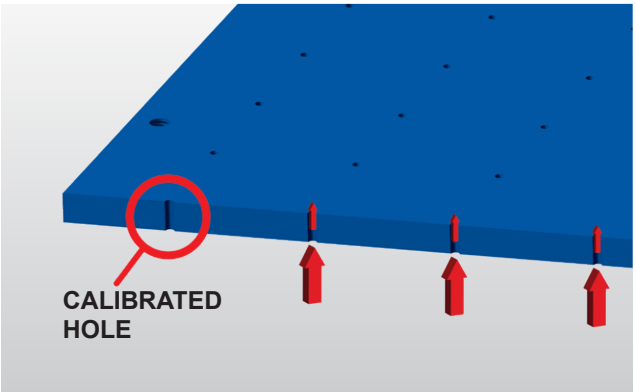
WOOD

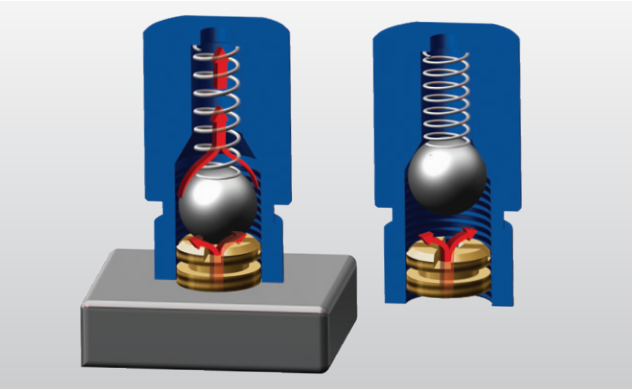
CONSTRUCTION

PALLETS


GLASS

TECHNIQUES USED FOR THE CREATION OF OCTOPUS SUCTION PLATES:



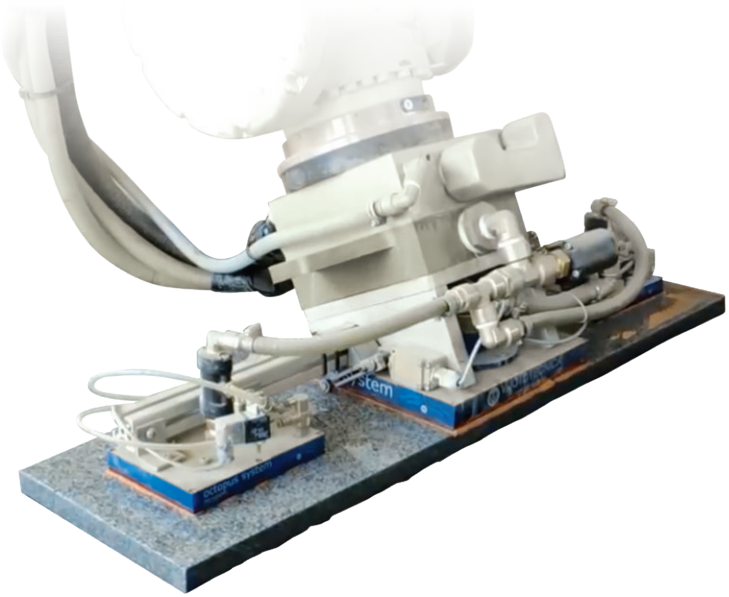


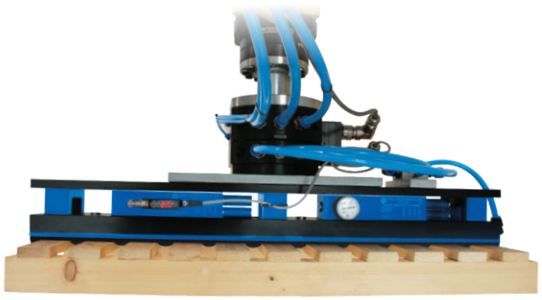
WITH CALIBRATED HOLES

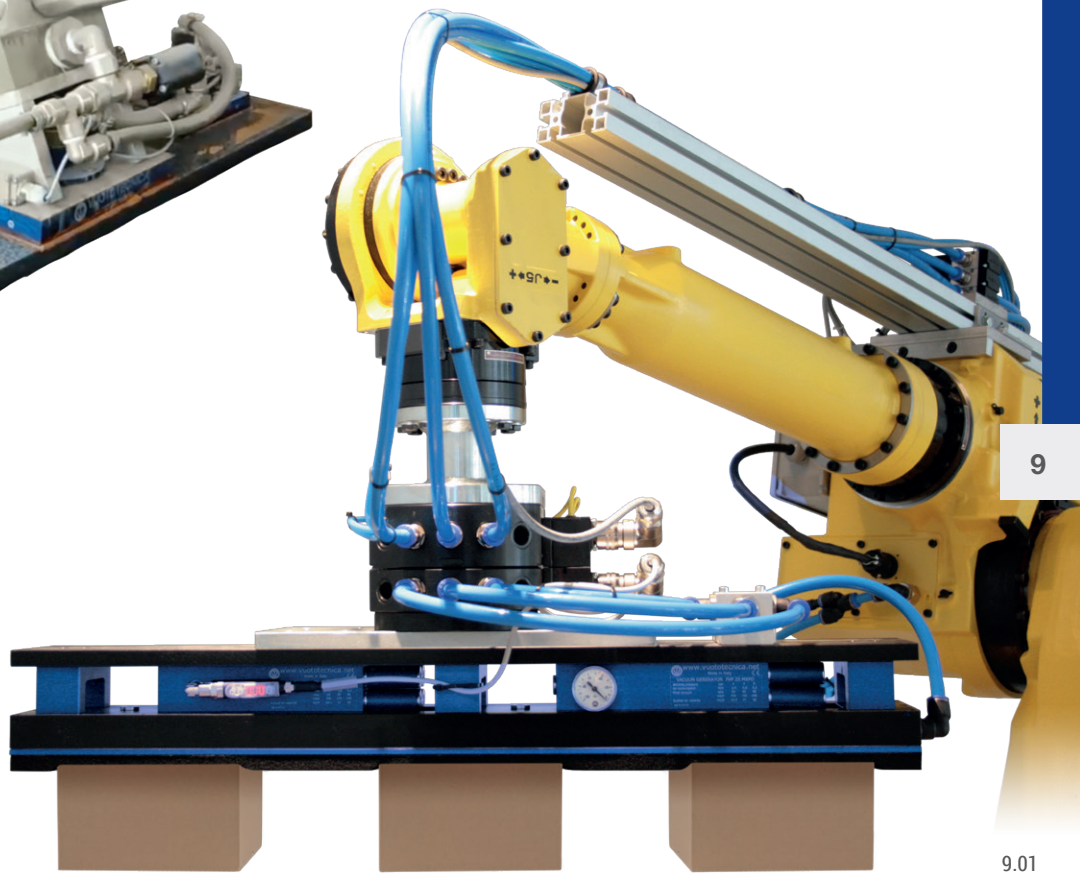
The calibrated holes drilled onto the aluminium suction plates, based on their number and cross-section, allows for the selection of the exact flow rate of the vacuum generator to be used: in fact, when the vacuum differential is reached with all calibrated holes of the open suction plate on the OCTOPUS system is 0 mbar, this means that the flow rate of the vacuum generator used is correct, but due to the operating principle of the OCTOPUS systems, it will be necessary to increase it to obtain a vacuum differential greater than 0 mbar.
It will therefore be necessary to use a generator with a higher flow rate to obtain a vacuum differential greater than the greater the flow rate of the generator used. In this way, it is possible to determine which percentage of the surface of the load to be gripped can remain uncovered during the gripping phase, in compliance with the safety parameters.
This technique requires a greater expenditure of energy with respect to the use of shut-off valves.

WITH SHUT-OFF VALVES

Shut-off valves, when properly calibrated, allow a certain quantity of fluid to go through; afterwards, if the fluid continues to go through, they automatically close.
When applied on the section plates, without a load to be gripped or in the presence of a defective grip on foam rubber, they automatically close suction, thus preventing the level of vacuum from lowering on the remaining holes or vacuum cups that are regularly being gripped. This feature reduces the vacuum generator flow rate compared to standard OCTOPUS systems, to the benefit of energy savings. Moreover, the particular shape of our shut-off valves allows the use of the gripping surfaces in any position.







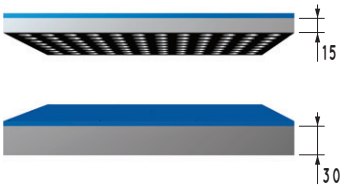
OCTOPUS GRIPPING SYSTEM COMPOSITION AND RELATIVE IDENTIFICATION CODES

The OCTOPUS systems described on the following pages are equipped as standard with PX suction plates. Should you want to replace these plates with others with different features you will have to modify the identification codes as described in this page.

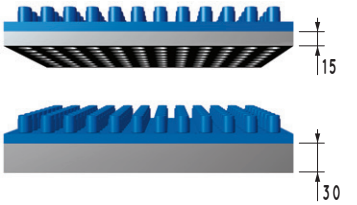
Example of a standard OCTOPUS system composition with a gripping plane of **300x400 mm:**

Vacuum generator (to be ordered separately)		item PVP 150 MD PO

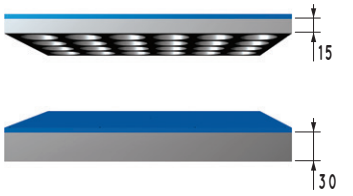
OCTOPUS system body		item SO 30 40



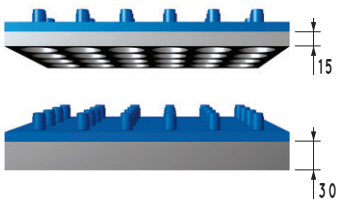
With suction plate	PX	item SO 30 40 X
With suction plate	P2X	item SO 30 40 2X



With suction plate	PX and shut-off valves	item SO 30 40 XE
With suction plate	P2X and shut-off valves	item SO 30 40 2XE



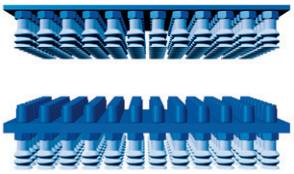
With suction plate	PY	item SO 30 40 Y
With suction plate	P2Y	item SO 30 40 2Y



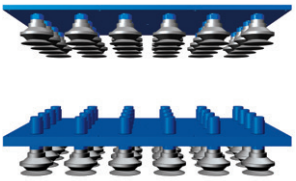
With suction plate	PY and shut-off valves	item SO 30 40 Y2E
With suction plate	P2Y and shut-off valves	item SO 30 40 2Y2E

OCTOPUS GRIPPING SYSTEM COMPOSITION AND RELATIVE IDENTIFICATION CODES

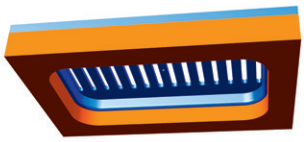
With suction plate	PZ	item SO 30 40 Z
With suction plate	P2Z	item SO 30 40 2Z



With suction plate (1/8" vacuum cup supports, vacuum cups not included)	PV	item SO 30 40 V
With suction plate (1/8" vacuum cup supports, vacuum cups not included)	PV and shut-off valves	item SO 30 40 VE



With suction plate (1/4" vacuum cup supports, vacuum cups not included)	P2V	item SO 30 40 2V
With suction plate (1/4" vacuum cup supports, vacuum cups not included)	P2V and shut-off valves	item SO 30 40 2V2E



With suction plate	PJ	item SO 30 40 J

Example of an order for an OCTOPUS system with suction plate P2Y, complete with vacuum generator:
1 PVP 150 MD PO
1 SO 30 40 2Y

Example of an order for an OCTOPUS system with suction plate P2V, complete with silicon vacuum cups vacuum generator:
1 PVP 150 MD PO
1 SO 30 40 2V
36 01 40 42 S

Example of an order for an OCTOPUS system with suction plate PX and shut-off valves, complete with vacuum generator:
1 PVP 150 MD PO
1 SO 30 40 XE

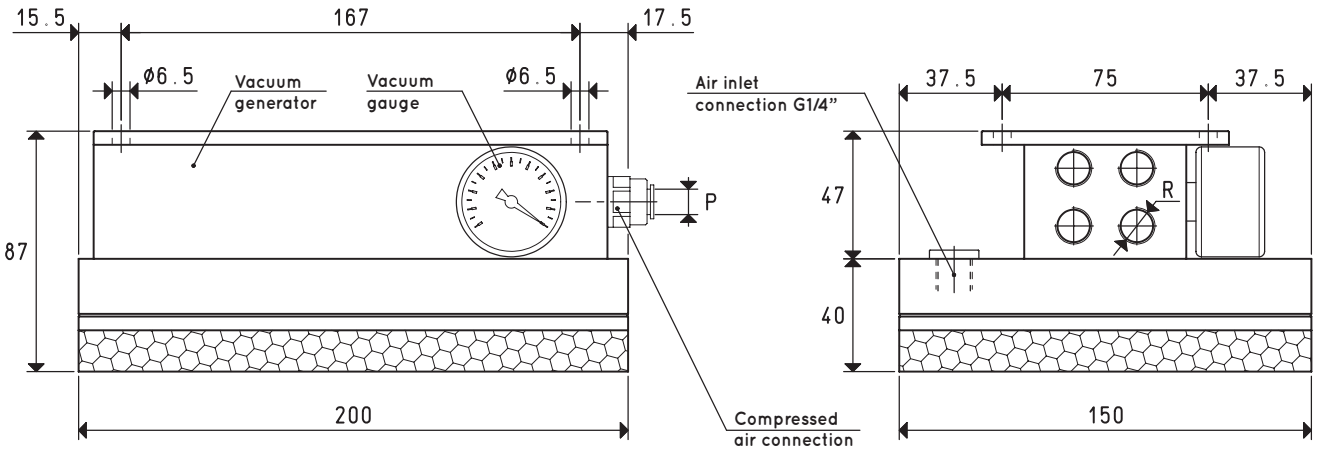
VACUUM GENERATORS USED ON OCTOPUS SYSTEMS

Although not an included part, the standard OCTOPUS gripping system generators indicated in the tables have been selected after careful evaluation of the best ratio achieved between performance and consumption of compressed air. Contact our technical department before replacing them with others having different characteristics.

FASTENING AND CONNECTION ALTERNATIVES

It is possible to connect the OCTOPUS system to a remote installed vacuum generator or to an alternative vacuum source, by fixing one of the special flange supports shown and described on the following pages instead of the generator.

3D drawings are available on **vuototecnica.net**



Item		SO 15 20 MX
Suction plate	item	PX 15 20
Gripping force	Kg	21.2
Vacuum generator	item	N°1 PVP 25 MX PO
Maximum supply pressure	bar	6
Maximum level of vacuum	-KPa	90
Air consumption at 6 bar	Nl/s	3.2
Intake air flow rate	m^3/h	31.0
Temperature of use	°C	-20 / +80
Weight	Kg	2.1
P Connection for compressed air tube	Ø ext.	8
R Exhaust connection	Ø	N° 4 x G1/4"

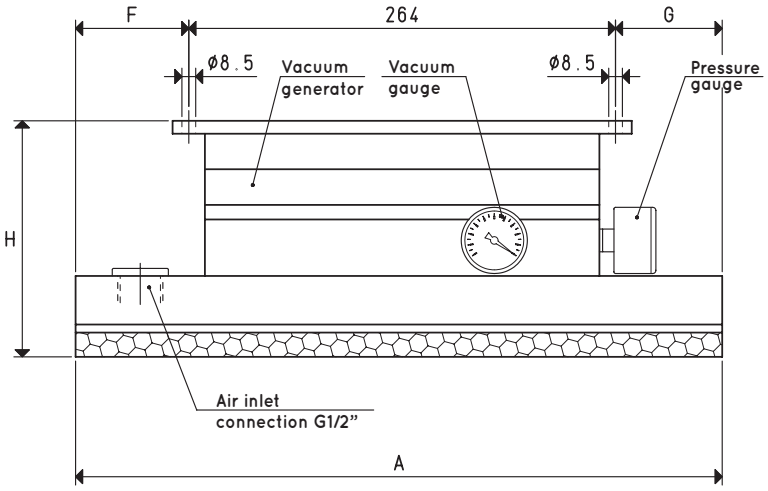
NOTE: The vacuum generator indicated in the table are included with the OCTOPUS system

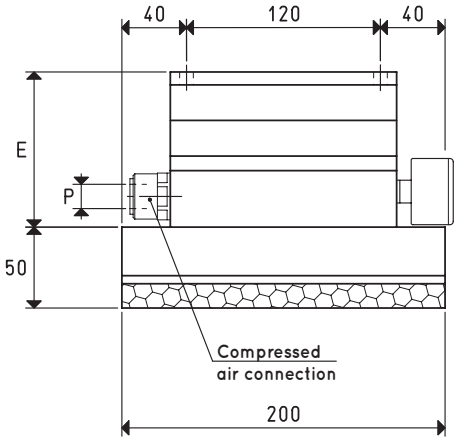
NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.

Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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

3D drawings are available on **vuototecnica.net**





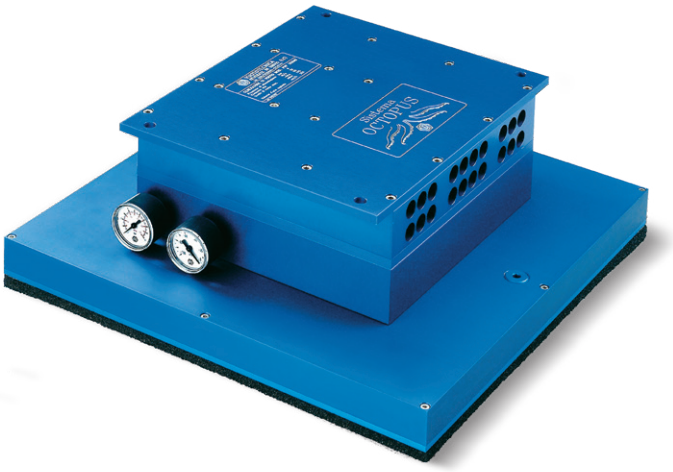
Item		SO 20 30 X	SO 20 40 X	SO 20 60 X
Suction plate	item	PX 20 30	PX 20 40	PX 20 60
Gripping force	Kg	42.4	56.6	84.8
Fitted for vacuum generator	item	N°1 PVP 100 M PO	N°1 PVP 140 M PO	N°1 PVP 200 M PO
Maximum supply pressure	bar	6	6	6
Maximum level of vacuum	-KPa	90	90	90
Air consumption at 6 bar	Nl/s	9.8	13.0	19.4
Intake air flow rate	m^3/h	108.0	152.0	200.0
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	7.0	8.6	10.7
A		300	400	600
E		74	96	96
F		20	70	170
G		16	66	166
H		124	146	146
P Connection for compressed air tube	Ø ext.	15	15	15

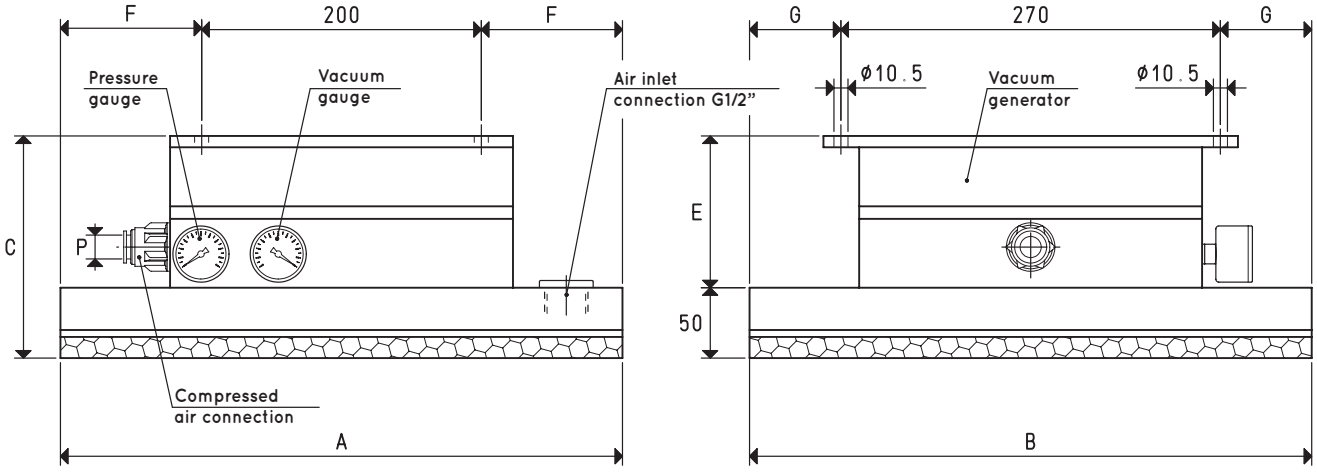
NOTE: The code SO .. .. X only identifies the OCTOPUS system body with relative suction plate PX.
The vacuum generator indicated in the table is not included with the OCTOPUS system and therefore must be ordered separately with its own code.

NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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

3D drawings are available on **vuototecnica.net**





Item		SO 30 30 X	SO 30 40 X	SO 30 50 X	SO 40 40 X	SO 40 60 X
Suction plate	item	PX 30 30	PX 30 40	PX 30 50	PX 40 40	PX 40 60
Gripping force	Kg	63.6	84.8	106.0	113.1	169.6
Fitted for vacuum generator	item	N°1 PVP 150 MD PO	N°1 PVP 150 MD PO	N°1 PVP 300 MD PO	N°1 PVP 300 MD PO	N°1 PVP 300 MD PO
Maximum supply pressure	bar	6	6	6	6	6
Maximum level of vacuum	-KPa	90	90	90	90	90
Air consumption at 6 bar	Nl/s	16.0	16.0	32.0	32.0	32.0
Intake air flow rate	m^3/h	200.0	200.0	400.0	400.0	400.0
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	11.5	12.5	15.0	17.0	19.0
A		300	400	500	400	400
B		300	300	300	400	600
C		138	138	158	158	158
E		88	88	108	108	108
F		50	100	150	100	200
G		15	15	15	65	65
P Connection for compressed air tube	Ø ext.	15	15	15	15	15

NOTE: The code SO .. .. X only identifies the OCTOPUS system body with relative suction plate PX.
The vacuum generator indicated in the table is not included with the OCTOPUS system and therefore must be ordered separately with its own code.

NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

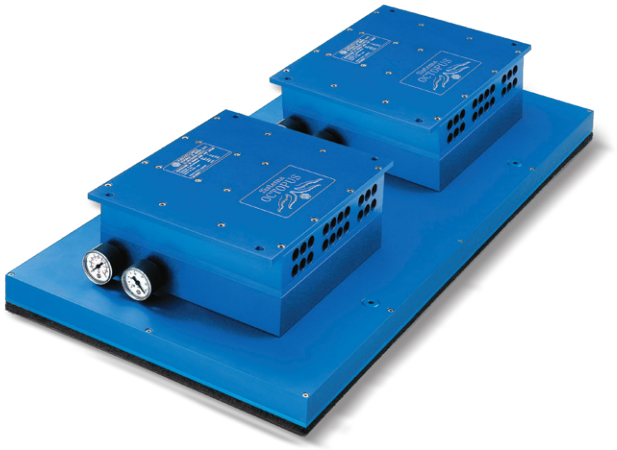
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

OCTOPUS VACUUM GRIPPING SYSTEM

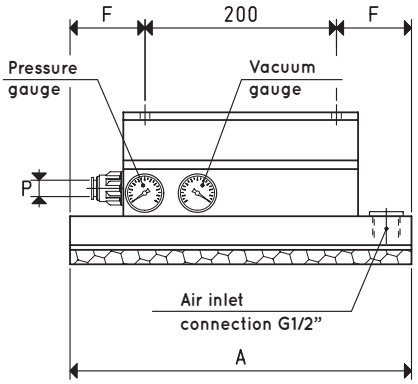
The standard OCTOPUS systems represented on this page differ from those previously described by their larger dimensions and the number of vacuum generators that compose them. More precisely:

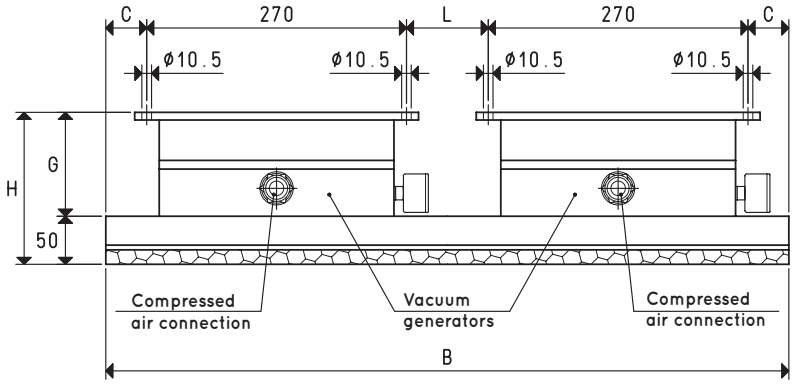
- Two compressed air-fed vacuum generator as shown in the picture and in the drawing, that have to be ordered separately, since it is not included in the item code.
- An anodised aluminium box, open on one side, with a built-in micro-fine mesh filter in stainless steel that protects the vacuum generator and is very easy to inspect. On the top outside of the box there are one or more connections for possible installation of control devices or solenoid valves for prompt restoration of the atmospheric pressure on its inside.
- A suction plate sealing the box, also made with anodised aluminium, with calibrated holes equidistant from each other and coated with a special perforated foam rubber. This suction plate can thus perfectly adapt to any gripping surface, whether it be smooth, rough or irregular. With the same system, for instance, it is possible to grip and handle tomato jars, paint cans, ceramic tiles, cardboard boxes, etc. and the wooden pallet that supports them.

These OCTOPUS systems are also available upon request in dimensions and with vacuum tables and vacuum generators other than those indicated in the table.



3D drawings are available on **vuototecnica.net**



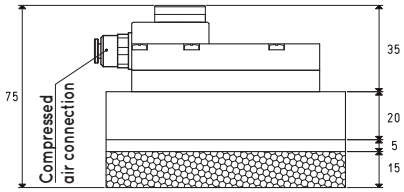


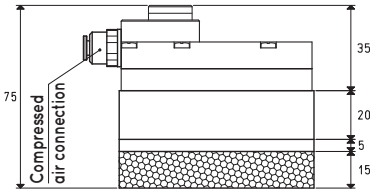
Item		SO 40 100 X	SO 60 80 X	SO 60 120 X	SO 80 100 X
Suction plate	item	PX 40 100	PX 60 80	PX 60 120	PX 80 100
Gripping force	Kg	282.6	339.2	508.7	597.4
Fitted for vacuum generators	item	N°2 PVP 300 MD PO	N°2 PVP 300 MD PO	N°2 PVP 450 MD PO	N°2 PVP 450 MD PO
Maximum supply pressure	bar	6	6	6	6
Maximum level of vacuum	-KPa	90	90	90	90
Air consumption at 6 bar	Nl/s	64.0	64.0	95.6	95.6
Intake air flow rate	m^3/h	800.0	800.0	1160	1160
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	34.0	37.5	50.0	53.5
A		400	600	600	800
B		1000	800	1200	1000
C		120	70	170	120
F		100	200	200	300
G		108	108	130	130
H		158	158	180	180
L		220	120	320	220
P Connection for compressed air tube	Ø ext.	15	15	22	22

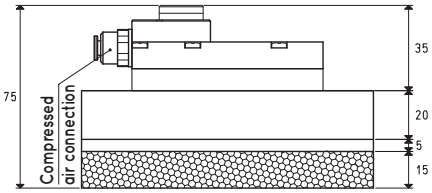
NOTE: The code SO .. .. X only identifies the OCTOPUS system body with relative suction plate PX.
The vacuum generators indicated in the table are not included with the OCTOPUS system and therefore must be ordered separately with its own code.

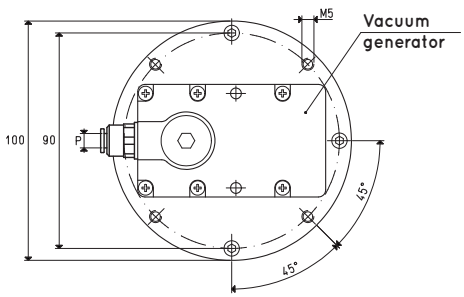
NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

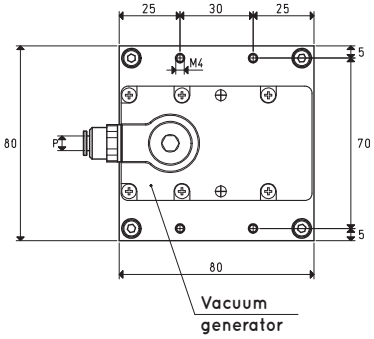
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

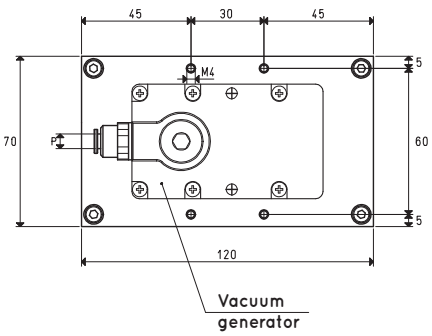










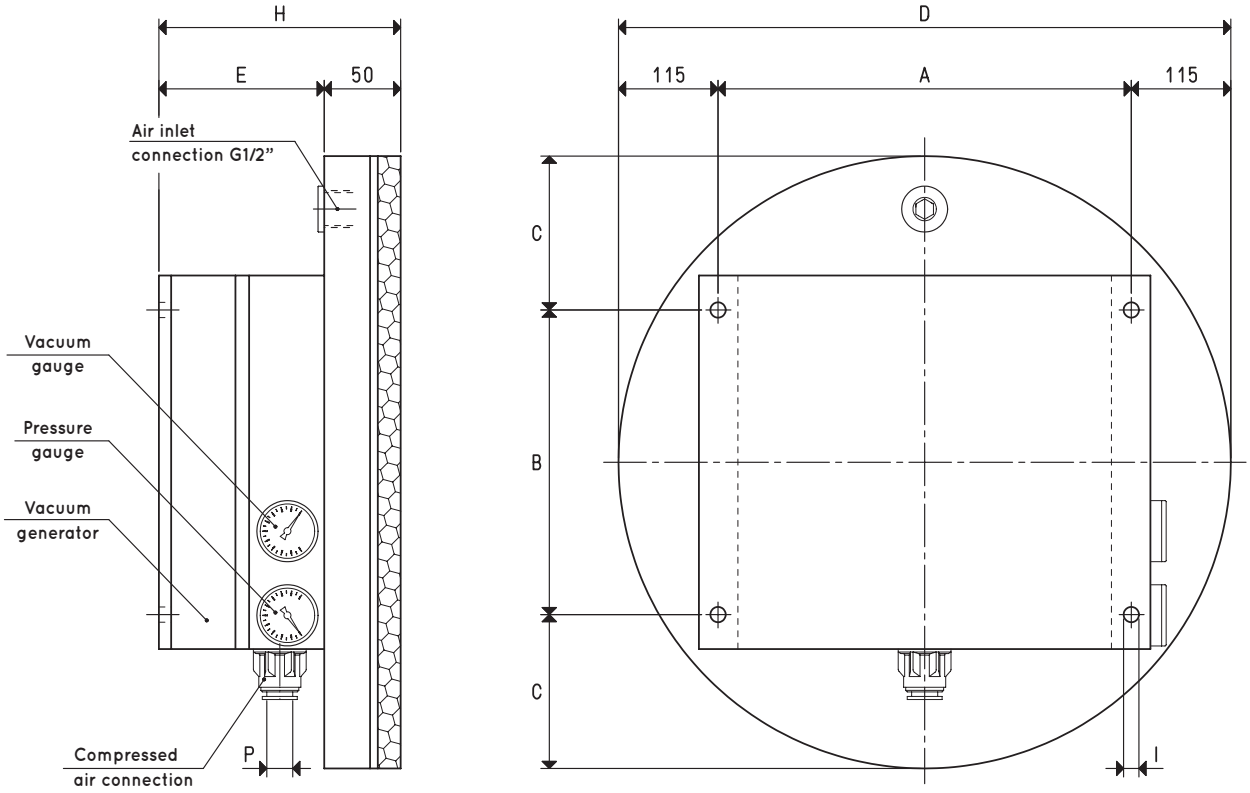


Item		SO DO 10 X	SO 08 08 X	SO 07 12 X
Suction plate	item	PX DO 10	PX 08 08	PX 07 12
Gripping force	Kg	4	3	4
Vacuum generator	item	M14PO	M14PO	M14PO
Maximum supply pressure	bar	5	5	5
Maximum level of vacuum	-KPa	85	85	85
Air consumption at 6 bar	Nl/s	2.5	2.5	2.5
Intake air flow rate	m^3/h	12.6	12.6	12.6
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	0.5	0.4	0.7
P Connection for compressed air tube	Ø ext.	6	6	6

NOTE: The vacuum generator indicated in the table is included with the OCTOPUS system.

NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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



Item		SO DO 35 X	SO DO 50 X
Suction plate	item	PX DO 35	PX DO 50
Gripping force	Kg	65.4	139.6
Fitted for vacuum generator	item	N°1 PVP 170 M PO	N°1 PVP 300 MD PO
Maximum supply pressure	bar	6	6
Maximum level of vacuum	-KPa	90	90
Air consumption at 6 bar	Nl/s	16.3	32.0
Intake air flow rate	m^3/h	182.0	400.0
Temperature of use	°C	-20 / +80	-20 / +80
Weight	Kg	9.5	17.0
A		120	270
B		264	200
C		43	150
D	Ø	350	500
E		96	108
H		146	158
I		8.5	10.5
P Connection for compressed air tube	Ø ext.	15	15

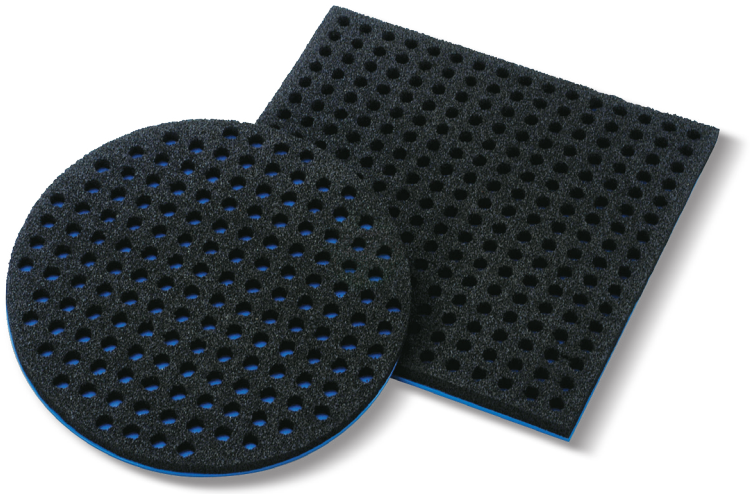
NOTE: The code SO DO . X only identifies the OCTOPUS system body with relative suction plate PX.
The vacuum generator indicated in the table is not included with the OCTOPUS system and therefore must be ordered separately with its own code.
NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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

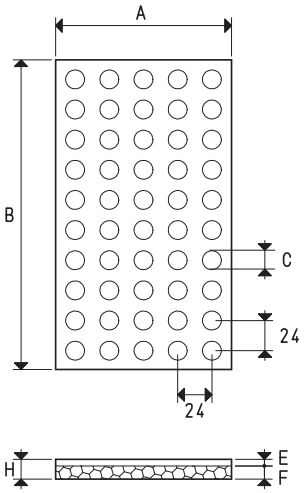
3D drawings are available on **vuototecnica.net**

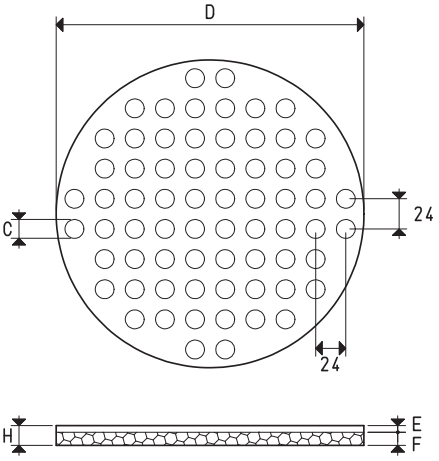
STANDARD SUCTION PLATES PX and P2X FOR OCTOPUS SYSTEMS

The suction plates PX described on this page are installed as standard on all OCTOPUS systems and, therefore, can be supplied as a spare or replacement part.
They are made with anodised aluminium sheets with calibrated holes equidistant from each other and coated with a special perforated foam rubber with two different thicknesses: 15 mm for suction plates of the PX range; 30 mm, for special suction plates of the P2X range. The foam rubber is also perforated at the calibrated holes, but its holes have a diameter of 15 mm. The use of calibrated holes allows for exact calculation of the flow rate of the vacuum generator to be used, to ensure that, even in the presence of losses due to transpiration or even in case of failure to cover the object to be gripped, a minimum sufficient level of vacuum remains for gripping and handling the load.
Their lifting force was calculated considering a level of vacuum of at least -75 Kpa, the total surface of the holes within the foam rubber and a factor of safety 3.



Item	Force Kg	A	B	C Ø	D Ø	E	F	H	Holes No.	Only rubber item	Weight Kg
PX 07 12	4.0	70	120	15	---	5	15	20	28	X 07 12	0.13
PX 08 08	3.0	80	80	15	---	5	15	20	16	X 08 08	0.12
PX 15 20	21.2	150	200	15	---	5	15	20	48	X 15 20	0.40
PX 20 30	42.4	200	300	15	---	5	15	20	96	X 20 30	0.80
PX 20 40	56.6	200	400	15	---	5	15	20	128	X 20 40	1.10
PX 20 60	84.8	200	600	15	---	5	15	20	192	X 20 60	1.70
PX 30 30	63.6	300	300	15	---	5	15	20	144	X 30 30	1.30
PX 30 40	84.8	300	400	15	---	5	15	20	192	X 30 40	1.70
PX 30 50	106.0	300	500	15	---	5	15	20	240	X 30 50	2.10
PX 40 40	113.1	400	400	15	---	5	15	20	256	X 40 40	2.20
PX 40 60	169.6	400	600	15	---	5	15	20	384	X 40 60	3.40
PX 40 100	282.6	400	1000	15	---	5	15	20	656	X 40 100	5.60
PX 60 80	339.2	600	800	15	---	5	15	20	768	X 60 80	6.70
PX 60 120	508.7	600	1200	15	---	5	15	20	1176	X 60 120	10.10
PX 80 100	597.4	800	1000	15	---	5	15	20	1353	X 80 100	11.30
PX DO 10	9.0	---	---	15	100	5	15	20	21	X DO 10	0.12
PX DO 35	65.4	---	---	15	350	5	15	20	148	X DO 35	1.30
PX DO 50	139.6	---	---	15	500	5	15	20	316	X DO 50	2.30
P2X 07 12	4.0	70	120	15	---	5	30	35	28	2X 07 12	0.26
P2X 08 08	3.0	80	80	15	---	5	30	35	16	2X 08 08	0.24
P2X 15 20	21.2	150	200	15	---	5	30	35	48	2X 15 20	0.44
P2X 20 30	42.4	200	300	15	---	5	30	35	96	2X 20 30	0.89
P2X 20 40	56.6	200	400	15	---	5	30	35	128	2X 20 40	1.21
P2X 20 60	84.8	200	600	15	---	5	30	35	192	2X 20 60	1.77
P2X 30 30	63.6	300	300	15	---	5	30	35	144	2X 30 30	1.36
P2X 30 40	84.8	300	400	15	---	5	30	35	192	2X 30 40	1.78
P2X 30 50	106.0	300	500	15	---	5	30	35	240	2X 30 50	2.22
P2X 40 40	113.1	400	400	15	---	5	30	35	256	2X 40 40	2.41
P2X 40 60	169.6	400	600	15	---	5	30	35	384	2X 40 60	3.55
P2X 40 100	282.6	400	1000	15	---	5	30	35	656	2X 40 100	5.96
P2X 60 80	339.2	600	800	15	---	5	30	35	768	2X 60 80	7.18
P2X 60 120	508.7	600	1200	15	---	5	30	35	1176	2X 60 120	10.73
P2X 80 100	597.4	800	1000	15	---	5	30	35	1353	2X 80 100	11.93
P2X DO 10	9.0	---	---	15	100	5	30	35	21	2X DO 10	0.14
P2X DO 35	65.4	---	---	15	350	5	30	35	148	2X DO 35	1.49
P2X DO 50	139.6	---	---	15	500	5	30	35	316	2X DO 50	2.48

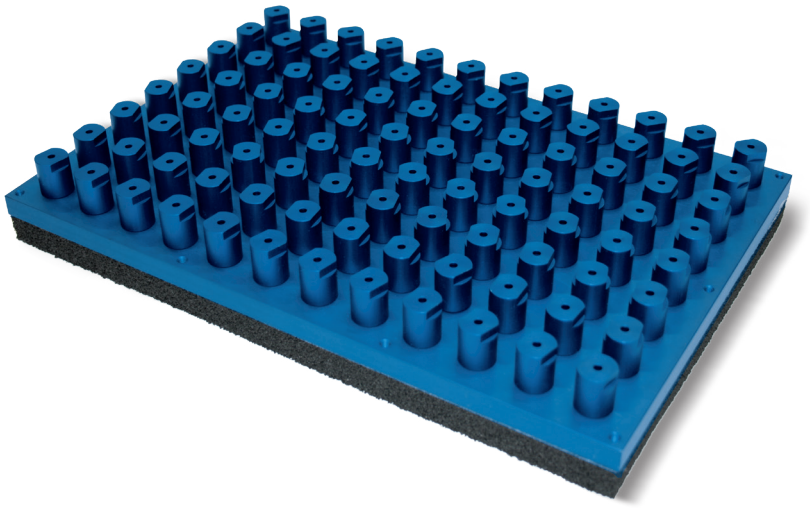




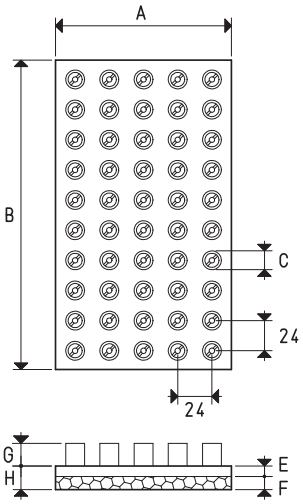
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

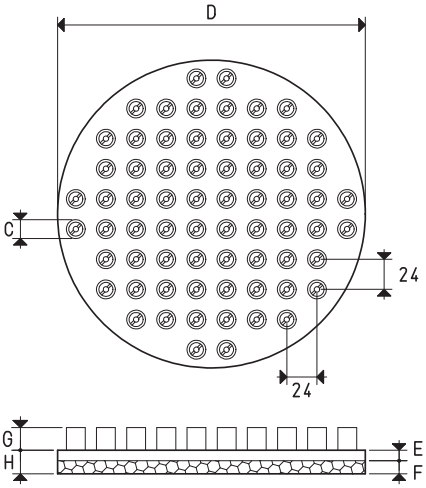
STANDARD SUCTION PLATES WITH SHUT-OFF VALVES PXE and P2XE FOR OCTOPUS SYSTEMS

The suction plates described on this page are the same as the previously described PX and P2X, but with the addition of shut-off valves inserted in each hole. In absence of an object to grip or in case of a defective grip of the foam rubber, the shut-off valves automatically close the suction inlet, thus preventing the level of vacuum from decreasing on the other gripping holes.
This feature reduces the vacuum generator flow rate compared to standard OCTOPUS systems, to the benefit of energy savings. Moreover, the particular shape of our shut-off valves allows the use of the gripping surfaces in any position.



Item	Force Kg	A	B	C Ø	D Ø	E	F	G	H	Valves No.	Only rubber item	Weight Kg
PXE 20 30	42.4	200	300	15	---	10	15	18	25	96	X 20 30	1.76
PXE 20 40	56.6	200	400	15	---	10	15	18	25	128	X 20 40	2.38
PXE 20 60	84.8	200	600	15	---	10	15	18	25	192	X 20 60	3.62
PXE 30 30	63.6	300	300	15	---	10	15	18	25	144	X 30 30	2.74
PXE 30 40	84.8	300	400	15	---	10	15	18	25	192	X 30 40	3.62
PXE 30 50	106.0	300	500	15	---	10	15	18	25	240	X 30 50	4.50
PXE 40 40	113.1	400	400	15	---	10	15	18	25	256	X 40 40	4.76
PXE 40 60	169.6	400	600	15	---	10	15	18	25	384	X 40 60	7.24
PXE 40 100	282.6	400	1000	15	---	10	15	18	25	656	X 40 100	12.16
PXE 60 80	339.2	600	800	15	---	10	15	18	25	768	X 60 80	14.38
PXE 60 120	508.7	600	1200	15	---	10	15	18	25	1176	X 60 120	21.86
PXE 80 100	597.4	800	1000	15	---	10	15	18	25	1353	X 80 100	24.83
PXE DO 35	65.4	---	---	15	350	10	15	18	25	148	X DO 35	2.78
PXE DO 50	139.6	---	---	15	500	10	15	18	25	308	X DO 50	5.38
P2XE 20 30	42.4	200	300	15	---	10	30	18	40	96	2X 20 30	1.85
P2XE 20 40	56.6	200	400	15	---	10	30	18	40	128	2X 20 40	2.49
P2XE 20 60	84.8	200	600	15	---	10	30	18	40	192	2X 20 60	3.69
P2XE 30 30	63.6	300	300	15	---	10	30	18	40	144	2X 30 30	2.80
P2XE 30 40	84.8	300	400	15	---	10	30	18	40	192	2X 30 40	3.70
P2XE 30 50	106.0	300	500	15	---	10	30	18	40	240	2X 30 50	4.62
P2XE 40 40	113.1	400	400	15	---	10	30	18	40	256	2X 40 40	4.97
P2XE 40 60	169.6	400	600	15	---	10	30	18	40	384	2X 40 60	7.24
P2XE 40 100	282.6	400	1000	15	---	10	30	18	40	656	2X 40 100	12.52
P2XE 60 80	339.2	600	800	15	---	10	30	18	40	768	2X 60 80	14.86
P2XE 60 120	508.7	600	1200	15	---	10	30	18	40	1176	2X 60 120	22.49
P2XE 80 100	597.4	800	1000	15	---	10	30	18	40	1353	2X 80 100	25.46
P2XE DO 35	65.4	---	---	15	350	10	30	18	40	148	2X DO 35	2.97
P2XE DO 50	139.6	---	---	15	500	10	30	18	40	308	2X DO 50	5.56



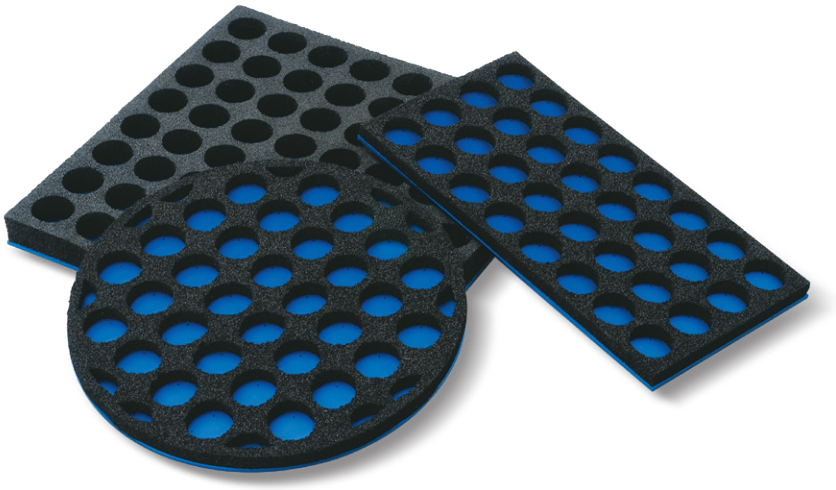


Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

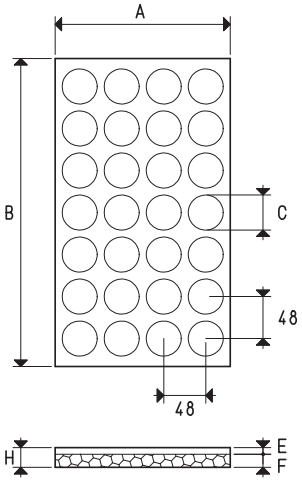
3D drawings are available on **vuototecnica.net**

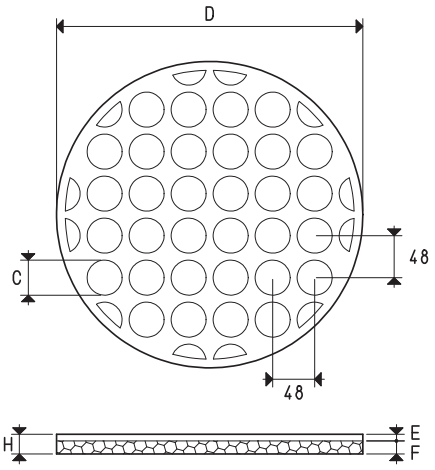
SPECIAL SUCTION PLATES PY and P2Y FOR OCTOPUS SYSTEMS

Compared to the standard ones, when given the same gripping surface, these suction plates develop a greater force (item PY) and can grip even very rough and uneven surfaces (item P2Y).
They are made with anodised aluminium with calibrated holes and coated with special perforated foam rubber, with two different thicknesses upon request.
They are perfectly interchangeable with the standard suction plates.
Their lifting force was calculated considering a level of vacuum of at least -75 Kpa, the total surface of the holes within the foam rubber and a factor of safety 3.



Item	Force Kg	A	B	C Ø	D Ø	E	F	H	Holes No.	Only rubber item	Weight Kg
PY 15 20	37.7	150	200	40	---	5	15	20	12	Y 15 20	0.39
PY 20 30	75.4	200	300	40	---	5	15	20	24	Y 20 30	0.78
PY 20 40	100.5	200	400	40	---	5	15	20	32	Y 20 40	1.07
PY 20 60	150.8	200	600	40	---	5	15	20	48	Y 20 60	1.66
PY 30 30	113.0	300	300	40	---	5	15	20	36	Y 30 30	1.27
PY 30 40	150.8	300	400	40	---	5	15	20	48	Y 30 40	1.65
PY 30 50	188.4	300	500	40	---	5	15	20	60	Y 30 50	2.04
PY 40 40	201.0	400	400	40	---	5	15	20	64	Y 40 40	2.14
PY 40 60	301.5	400	600	40	---	5	15	20	96	Y 40 60	3.35
PY 40 100	502.4	400	1000	40	---	5	15	20	164	Y 40 100	5.50
PY 60 80	602.9	600	800	40	---	5	15	20	192	Y 60 80	6.61
PY 60 120	904.4	600	1200	40	---	5	15	20	294	Y 60 120	10.01
PY 80 100	1037.3	800	1000	40	---	5	15	20	315	Y 80 100	11.24
PY DO 35	100.5	---	---	40	350	5	15	20	37	Y DO 35	1.25
PY DO 50	213.5	---	---	40	500	5	15	20	79	Y DO 50	2.24
P2Y 15 20	37.7	200	200	40	---	5	30	35	12	2Y 15 20	0.42
P2Y 20 30	75.4	200	300	40	---	5	30	35	24	2Y 20 30	0.85
P2Y 20 40	100.5	200	400	40	---	5	30	35	32	2Y 20 40	1.15
P2Y 20 60	150.8	200	600	40	---	5	30	35	48	2Y 20 60	1.69
P2Y 30 30	113.0	300	300	40	---	5	30	35	36	2Y 30 30	1.30
P2Y 30 40	150.8	300	400	40	---	5	30	35	48	2Y 30 40	1.68
P2Y 30 50	188.4	300	500	40	---	5	30	35	60	2Y 30 50	2.10
P2Y 40 40	201.0	400	400	40	---	5	30	35	64	2Y 40 40	2.29
P2Y 40 60	301.5	400	600	40	---	5	30	35	96	2Y 40 60	3.45
P2Y 40 100	502.4	400	1000	40	---	5	30	35	164	2Y 40 100	5.80
P2Y 60 80	602.9	600	800	40	---	5	30	35	192	2Y 60 80	7.01
P2Y 60 120	904.4	600	1200	40	---	5	30	35	294	2Y 60 120	10.60
P2Y 80 100	1037.3	800	1000	40	---	5	30	35	315	2Y 80 100	11.81
P2Y DO 35	100.5	---	---	40	350	5	30	35	37	2Y DO 35	1.39
P2Y DO 50	213.5	---	---	40	500	5	30	35	79	2Y DO 50	2.36

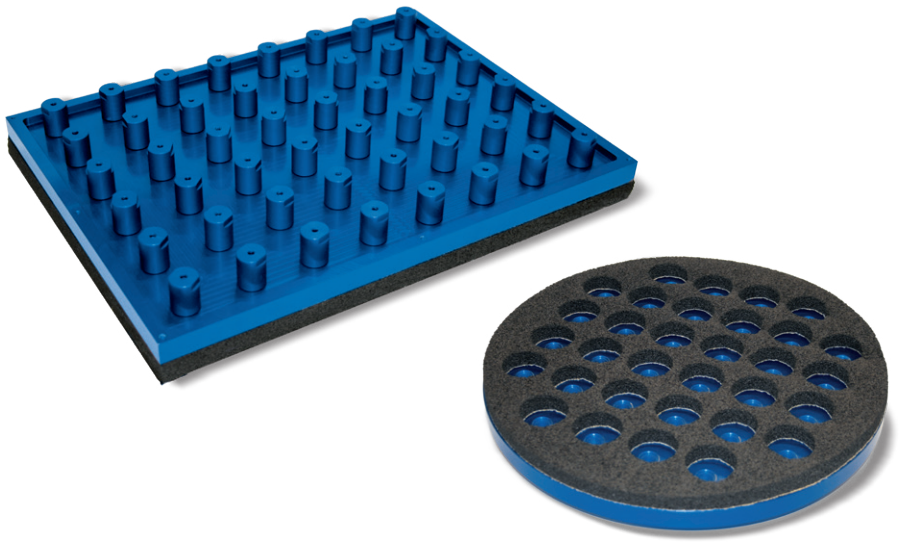




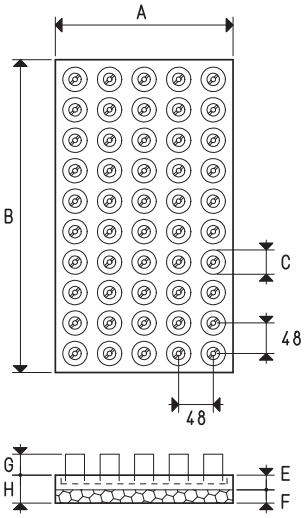
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

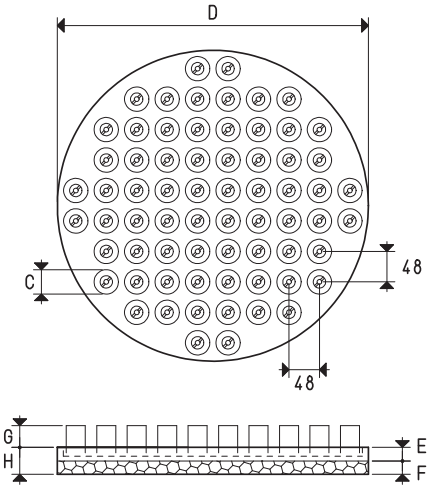
SPECIAL SUCTION PLATES WITH SHUT-OFF VALVES PY2E and P2Y2E FOR OCTOPUS SYSTEMS

The suction plates described on this page are the same as the previously described PY and P2Y, but with the addition of shut-off valves inserted in each hole. In absence of an object to grip or in case of a defective grip of the foam rubber, the shut-off valves automatically close the suction inlet, thus preventing the level of vacuum from decreasing on the other gripping holes.
This feature reduces the vacuum generator flow rate compared to OCTOPUS systems with calibrated holes, to the benefit of energy savings. Also these plates an be used in any position without altering the operating features.



Item	Force Kg	A	B	C Ø	D Ø	E	F	G	H	Valves No.	Only rubber item	Weight Kg
PY2E 20 30	75.4	200	300	40	---	17	15	18	32	24	Y 20 30	1.26
PY2E 20 40	100.5	200	400	40	---	17	15	18	32	32	Y 20 40	1.71
PY2E 20 60	150.8	200	600	40	---	17	15	18	32	48	Y 20 60	2.62
PY2E 30 30	113.0	300	300	40	---	17	15	18	32	36	Y 30 30	1.99
PY2E 30 40	150.8	300	400	40	---	17	15	18	32	48	Y 30 40	2.61
PY2E 30 50	188.4	300	500	40	---	17	15	18	32	60	Y 30 50	3.24
PY2E 40 40	201.0	400	400	40	---	17	15	18	32	64	Y 40 40	3.42
PY2E 40 60	301.5	400	600	40	---	17	15	18	32	96	Y 40 60	5.27
PY2E 40 100	502.4	400	1000	40	---	17	15	18	32	160	Y 40 100	8.70
PY2E 60 80	602.9	600	800	40	---	17	15	18	32	192	Y 60 80	10.45
PY2E 60 120	904.4	600	1200	40	---	17	15	18	32	288	Y 60 120	15.77
PY2E 80 100	1037.3	800	1000	40	---	17	15	18	32	320	Y 80 100	17.64
PY2E DO 35	100.5	---	---	40	350	17	15	18	32	32	Y DO 35	1.89
PY2E DO 50	213.5	---	---	40	500	17	15	18	32	76	Y DO 50	3.76
P2Y2E 20 30	75.4	200	300	40	---	17	30	18	47	24	2Y 20 30	1.33
P2Y2E 20 40	100.5	200	400	40	---	17	30	18	47	32	2Y 20 40	1.79
P2Y2E 20 60	150.8	200	600	40	---	17	30	18	47	48	2Y 20 60	2.65
P2Y2E 30 30	113.0	300	300	40	---	17	30	18	47	36	2Y 30 30	2.02
P2Y2E 30 40	150.8	300	400	40	---	17	30	18	47	48	2Y 30 40	2.64
P2Y2E 30 50	188.4	300	500	40	---	17	30	18	47	60	2Y 30 50	3.30
P2Y2E 40 40	201.0	400	400	40	---	17	30	18	47	64	2Y 40 40	3.57
P2Y2E 40 60	301.5	400	600	40	---	17	30	18	47	96	2Y 40 60	5.37
P2Y2E 40 100	502.4	400	1000	40	---	17	30	18	47	160	2Y 40 100	9.00
P2Y2E 60 80	602.9	600	800	40	---	17	30	18	47	192	2Y 60 80	10.85
P2Y2E 60 120	904.4	600	1200	40	---	17	30	18	47	288	2Y 60 120	16.36
P2Y2E 80 100	1037.3	800	1000	40	---	17	30	18	47	320	2Y 80 100	18.21
P2Y2E DO 35	100.5	---	---	40	350	17	30	18	47	32	2Y DO 35	2.03
P2Y2E DO 50	213.5	---	---	40	500	17	30	18	47	76	2Y DO 50	3.88

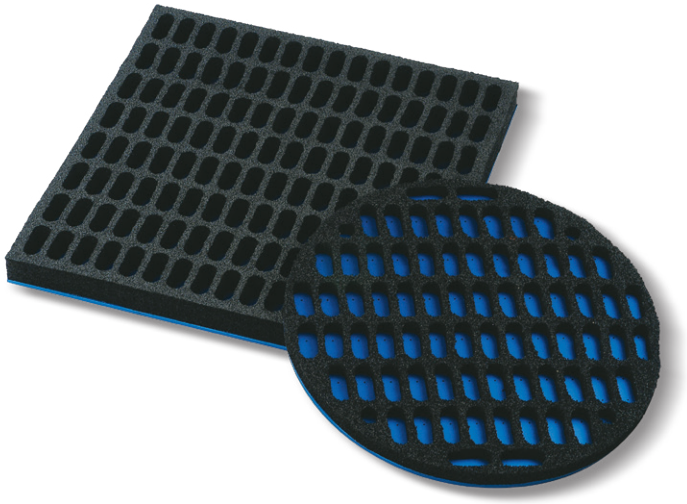




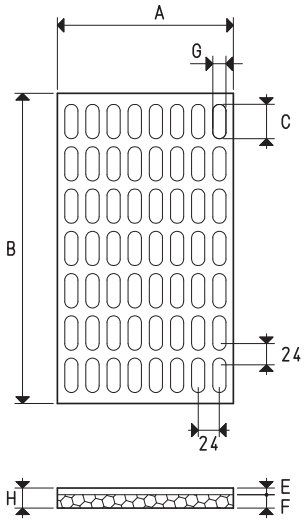
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

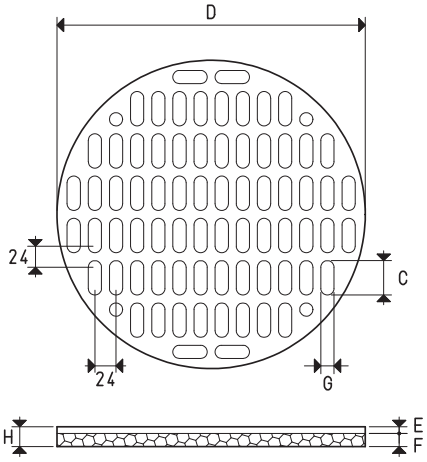
SPECIAL SUCTION PLATES PZ and P2Z FOR OCTOPUS SYSTEMS

Among all the suction plates described up to now, these are the ones which develop the greatest lifting force given the same gripping surface and level of vacuum. Moreover, the P2Z version is also able to grip very rough and uneven surfaces.
They are made with light alloys, equipped with calibrated holes and coated with special foam rubber with slot holes, with two different thicknesses. They are perfectly interchangeable with the standard suction plates.
Their lifting force has been calculated considering a level of vacuum of at least -75 Kpa, the total surface of the slot holes within the foam rubber and a safety factor 3.



Item	Force Kg	A	B	C	D Ø	E	F	G	H	Holes No.	Only rubber item	Weight Kg
PZ 15 20	41.0	150	200	42	---	5	15	18	20	24	Z 15 20	0.40
PZ 20 30	82.4	200	300	42	---	5	15	18	20	48	Z 20 30	0.80
PZ 20 40	109.8	200	400	42	---	5	15	18	20	64	Z 20 40	1.09
PZ 20 60	164.7	200	600	42	---	5	15	18	20	96	Z 20 60	1.68
PZ 30 30	123.5	300	300	42	---	5	15	18	20	72	Z 30 30	1.28
PZ 30 40	164.7	300	400	42	---	5	15	18	20	96	Z 30 40	1.67
PZ 30 50	206.0	300	500	42	---	5	15	18	20	120	Z 30 50	2.06
PZ 40 40	219.6	400	400	42	---	5	15	18	20	128	Z 40 40	2.17
PZ 40 60	329.4	400	600	42	---	5	15	18	20	192	Z 40 60	3.38
PZ 40 100	549.0	400	1000	42	---	5	15	18	20	328	Z 40 100	5.54
PZ 60 80	658.8	600	800	42	---	5	15	18	20	384	Z 60 80	6.64
PZ 60 120	988.3	600	1200	42	---	5	15	18	20	588	Z 60 120	10.05
PZ 80 100	1143.1	800	1000	42	---	5	15	18	20	660	Z 80 100	11.30
PZ DO 35	126.9	---	---	42	350	5	15	18	20	74	Z DO 35	1.26
PZ DO 50	271.1	---	---	42	500	5	15	18	20	158	Z DO 50	2.26
P2Z 15 20	41.0	200	200	42	---	5	30	18	35	24	2Z 15 20	0.44
P2Z 20 30	82.4	200	300	42	---	5	30	18	35	48	2Z 20 30	0.88
P2Z 20 40	109.8	200	400	42	---	5	30	18	35	64	2Z 20 40	1.18
P2Z 20 60	164.7	200	600	42	---	5	30	18	35	96	2Z 20 60	1.72
P2Z 30 30	123.5	300	300	42	---	5	30	18	35	72	2Z 30 30	1.33
P2Z 30 40	164.7	300	400	42	---	5	30	18	35	96	2Z 30 40	1.71
P2Z 30 50	206.0	300	500	42	---	5	30	18	35	120	2Z 30 50	2.14
P2Z 40 40	219.6	400	400	42	---	5	30	18	35	128	2Z 40 40	2.32
P2Z 40 60	329.4	400	600	42	---	5	30	18	35	192	2Z 40 60	3.48
P2Z 40 100	549.0	400	1000	42	---	5	30	18	35	328	2Z 40 100	5.84
P2Z 60 80	658.8	600	800	42	---	5	30	18	35	384	2Z 60 80	7.05
P2Z 60 120	988.3	600	1200	42	---	5	30	18	35	588	2Z 60 120	10.64
P2Z 80 100	1143.1	800	1000	42	---	5	30	18	35	660	2Z 80 100	11.85
P2Z DO 35	126.9	---	---	42	350	5	30	18	35	74	2Z DO 35	1.42
P2Z DO 50	271.1	---	---	42	500	5	30	18	35	158	2Z DO 50	2.39

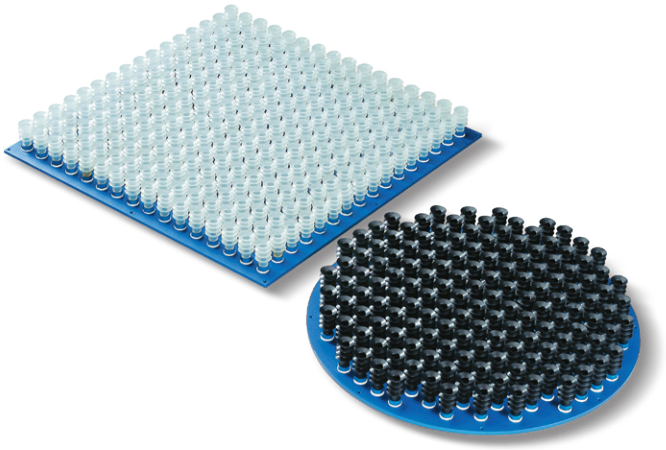


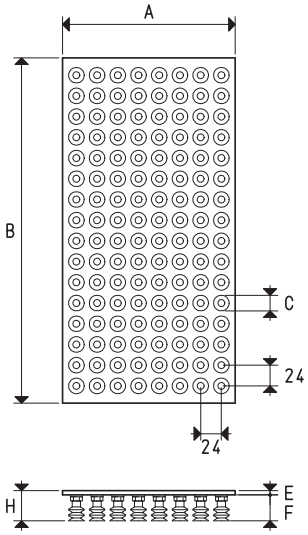


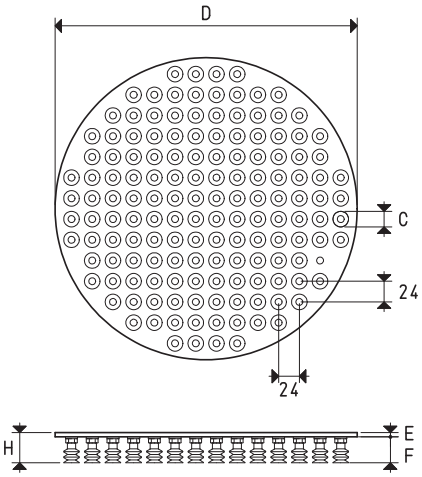
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

VACUUM CUP SUCTION PLATES PV and PV2 FOR OCTOPUS SYSTEMS

These suction plates provided with vacuum cups have been designed to ensure a better grip on uneven and very flexible surfaces (pasta or candy bags, blister or skin-film packs, thin cardboard boxes, etc.), which are difficult to grip with suction plates coated with foam rubber. We recommend using bellows cups. Thanks to their great flexibility, they adapt themselves to any gripping surface, following its profiles and movements during the lifting phase, guaranteeing a firm and safe grip. They are made with anodised aluminium, as are the vacuum cup supports screwed onto them, which are 1/8" gas supports for the PV version and 1/4"gas for the P2V version. They are each equipped with a calibrated hole.
The cups are cold assembled onto the supports with no adhesives and can be provided in other compounds. Also these suction plates are perfectly interchangeable with the standard ones.
Their lifting force has been calculated considering a level of vacuum of at least -75 Kpa, the total vacuum cup surface and a safety factor 3. Upon request, they can be provided with different cups, as long as the diameter does not exceed 22 mm for the PV suction plates and 45 mm for the P2V ones.





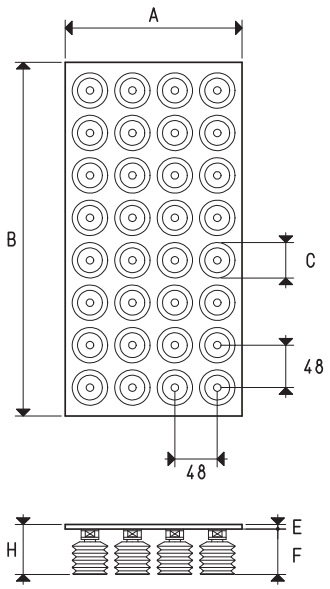


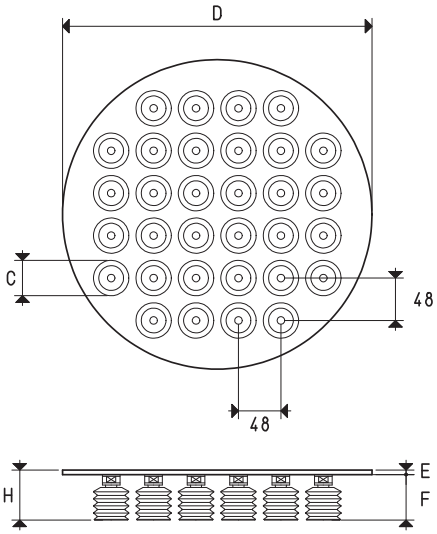
Item	Force Kg	A	B	C Ø	D Ø	E	F	H	Vacuum cup example item	Vacuum cups No.	Weight Kg
PV 15 20	30.2	150	200	18	---	5	36	41	01 18 29	48	0.54
PV 20 30	60.5	200	300	18	---	5	36	41	01 18 29	96	1.13
PV 20 40	80.6	200	400	18	---	5	36	41	01 18 29	128	1.54
PV 20 60	121.0	200	600	18	---	5	36	41	01 18 29	192	2.37
PV 30 30	90.7	300	300	18	---	5	36	41	01 18 29	144	1.80
PV 30 40	121.0	300	400	18	---	5	36	41	01 18 29	192	2.37
PV 30 50	151.2	300	500	18	---	5	36	41	01 18 29	240	2.94
PV 40 40	167.0	400	400	18	---	5	36	41	01 18 29	256	3.09
PV 40 60	242.0	400	600	18	---	5	36	41	01 18 29	384	4.74
PV 40 100	413.3	400	1000	18	---	5	36	41	01 18 29	656	7.89
PV 60 80	483.9	600	800	18	---	5	36	41	01 18 29	768	9.38
PV 60 120	740.8	600	1200	18	---	5	36	41	01 18 29	1176	14.21
PV 80 100	852.4	800	1000	18	---	5	36	41	01 18 29	1353	16.03
PV DO 35	93.2	---	---	18	350	5	36	41	01 18 29	148	1.81
PV DO 50	194.0	---	---	18	500	5	36	41	01 18 29	308	3.37

NOTE: The code PV .. .. only identifies the suction plate with the relative supports for the vacuum cups screwed onto it.
The vacuum cups indicated in the table or those chosen freely are not included with the suction plate and therefore must be ordered separately.

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

3D drawings are available on **vuototecnica.net**





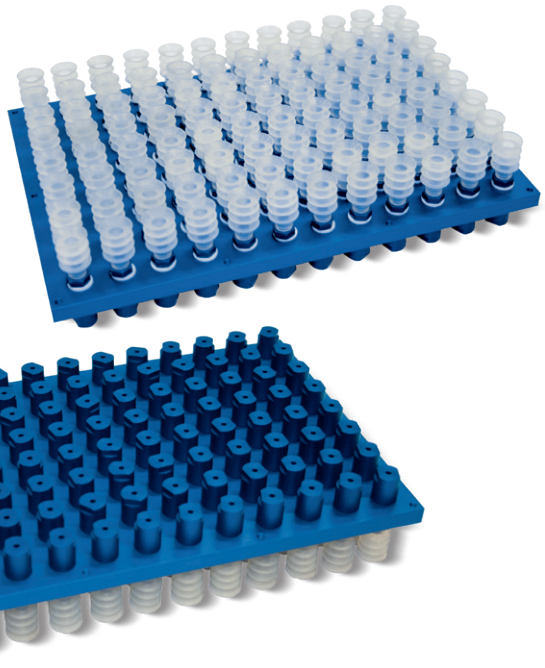
Item	Force Kg	A	B	C Ø	D Ø	E	F	H	Vacuum cup example item	Vacuum cups No.	Weight Kg
P2V 15 20	37.7	150	200	40	---	5	51.5	56.5	01 40 42	12	0.56
P2V 20 30	75.4	200	300	40	---	5	51.5	56.5	01 40 42	24	1.12
P2V 20 40	100.5	200	400	40	---	5	51.5	56.5	01 40 42	32	1.67
P2V 20 60	150.8	200	600	40	---	5	51.5	56.5	01 40 42	48	2.24
P2V 30 30	113.0	300	300	40	---	5	51.5	56.5	01 40 42	36	1.68
P2V 30 40	150.8	300	400	40	---	5	51.5	56.5	01 40 42	48	2.24
P2V 30 50	188.4	300	500	40	---	5	51.5	56.5	01 40 42	60	2.80
P2V 40 40	201.0	400	400	40	---	5	51.5	56.5	01 40 42	64	3.34
P2V 40 60	301.5	400	600	40	---	5	51.5	56.5	01 40 42	96	4.48
P2V 40 100	502.4	400	1000	40	---	5	51.5	56.5	01 40 42	160	8.35
P2V 60 80	602.9	600	800	40	---	5	51.5	56.5	01 40 42	192	8.96
P2V 60 120	904.3	600	1200	40	---	5	51.5	56.5	01 40 42	288	13.44
P2V 80 100	1004.8	800	1000	40	---	5	51.5	56.5	01 40 42	320	16.70
P2V DO 35	100.5	---	---	40	350	5	51.5	56.5	01 40 42	32	1.67
P2V DO 50	213.5	---	---	40	500	5	51.5	56.5	01 40 42	76	3.17

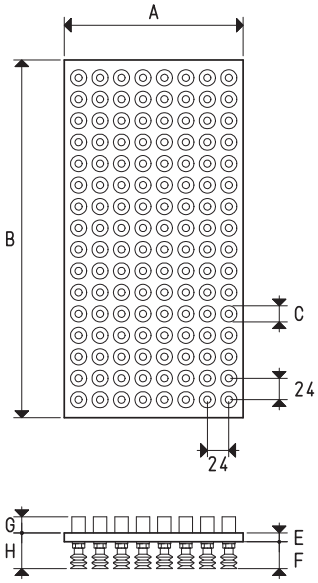
NOTE: The code P2V .. .. only identifies the suction plate with the relative supports for the vacuum cups screwed onto it.
The vacuum cups indicated in the table or those chosen freely are not included with the suction plate and therefore must be ordered separately.

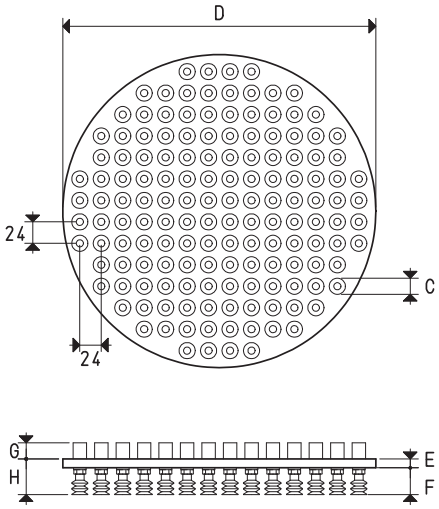
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

VACUUM CUP SUCTION PLATES WITH SHUT-OFF VALVES PVE and P2V2E FOR OCTOPUS SYSTEMS

The suction plates described on this page are the same as the previously described PY and P2V, but with the addition of shut-off valves inserted in each vacuum cup support connection. In absence of an object to grip or in case of a defective grip of the cup, the shut-off valves automatically close the suction inlet, thus preventing the level of vacuum from decreasing on the other gripping vacuum cups. This feature reduces the vacuum generator flow rate compared to OCTOPUS systems with calibrated holes, to the benefit of energy savings. Also these plates an be used in any position without compromising correct operation.







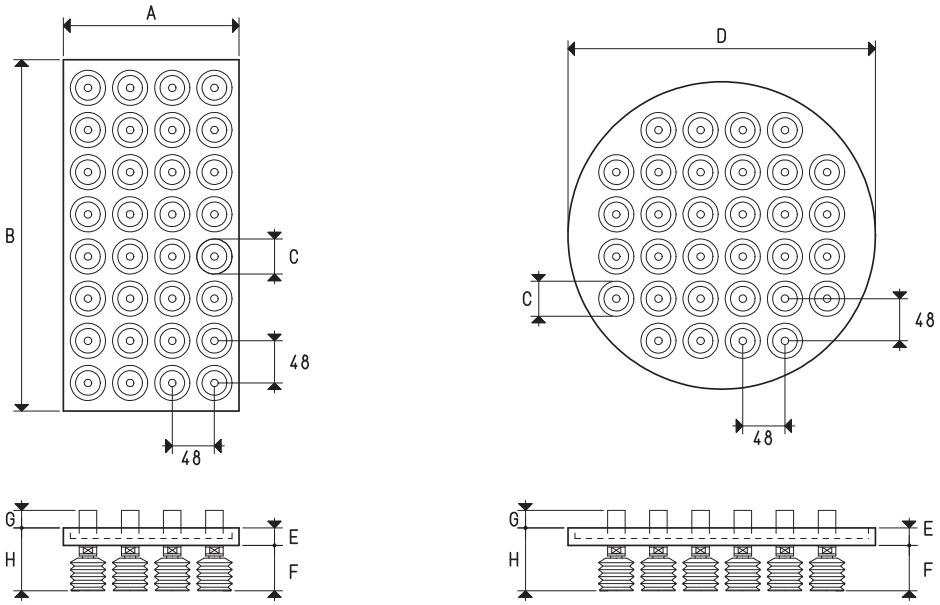
Item	Force Kg	A	B	C Ø	D Ø	E	F	G	H	Vacuum cup example item	Valves and vacuum cups No.	Weight Kg
PVE 20 30	60.5	200	300	18	---	10	36	18	46	01 18 29	96	2.09
PVE 20 40	80.6	200	400	18	---	10	36	18	46	01 18 29	128	2.82
PVE 20 60	121.0	200	600	18	---	10	36	18	46	01 18 29	192	4.18
PVE 30 30	90.7	300	300	18	---	10	36	18	46	01 18 29	144	3.24
PVE 30 40	121.0	300	400	18	---	10	36	18	46	01 18 29	192	4.18
PVE 30 50	151.2	300	500	18	---	10	36	18	46	01 18 29	240	6.27
PVE 40 40	167.0	400	400	18	---	10	36	18	46	01 18 29	256	5.64
PVE 40 60	242.0	400	600	18	---	10	36	18	46	01 18 29	384	8.36
PVE 40 100	413.3	400	1000	18	---	10	36	18	46	01 18 29	656	14.45
PVE 60 80	483.9	600	800	18	---	10	36	18	46	01 18 29	768	17.06
PVE 60 120	740.8	600	1200	18	---	10	36	18	46	01 18 29	1176	25.97
PVE 80 100	852.4	800	1000	18	---	10	36	18	46	01 18 29	1353	29.56
PVE DO 35	93.2	---	---	18	350	10	36	18	46	01 18 29	148	3.29
PVE DO 50	194.0	---	---	18	500	10	36	18	46	01 18 29	308	6.45

NOTE: The code PVE .. .. only identifies the suction plate with the relative supports for the vacuum cups screwed onto it and the built-in shut-off valves.
The vacuum cups indicated in the table or those chosen freely are not included with the suction plate and therefore must be ordered separately.

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

VACUUM CUP SUCTION PLATES WITH SHUT-OFF VALVES P2V2E FOR OCTOPUS SYSTEMS

3D drawings are available on **vuototecnica.net**



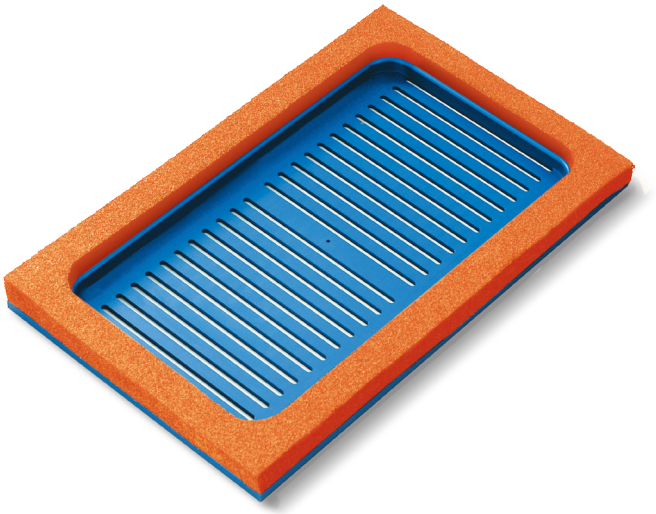
Item	Force Kg	A	B	C Ø	D Ø	E	F	G	H	Vacuum cup example item	Valves and vacuum cups No.	Weight Kg
P2V2E 20 30	75.4	200	300	40	---	17	51.5	18	68.5	01 40 42	24	1.60
P2V2E 20 40	100.5	200	400	40	---	17	51.5	18	68.5	01 40 42	32	2.31
P2V2E 20 60	150.8	200	600	40	---	17	51.5	18	68.5	01 40 42	48	3.20
P2V2E 30 30	113.0	300	300	40	---	17	51.5	18	68.5	01 40 42	36	2.40
P2V2E 30 40	150.8	300	400	40	---	17	51.5	18	68.5	01 40 42	48	3.20
P2V2E 30 50	188.4	300	500	40	---	17	51.5	18	68.5	01 40 42	60	4.00
P2V2E 40 40	201.0	400	400	40	---	17	51.5	18	68.5	01 40 42	64	4.62
P2V2E 40 60	301.5	400	600	40	---	17	51.5	18	68.5	01 40 42	96	6.40
P2V2E 40 100	502.4	400	1000	40	---	17	51.5	18	68.5	01 40 42	160	11.55
P2V2E 60 80	602.9	600	800	40	---	17	51.5	18	68.5	01 40 42	192	12.80
P2V2E 60 120	904.3	600	1200	40	---	17	51.5	18	68.5	01 40 42	288	19.20
P2V2E 80 100	1004.8	800	1000	40	---	17	51.5	18	68.5	01 40 42	320	23.10
P2V2E DO 35	100.5	---	---	40	350	17	51.5	18	68.5	01 40 42	32	2.31
P2V2E DO 50	213.5	---	---	40	500	17	51.5	18	68.5	01 40 42	76	4.53

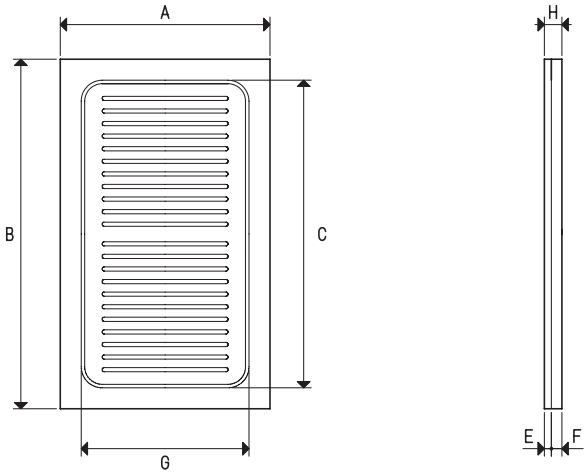
NOTE: The code P2V2E .. .. only identifies the suction plate with the relative supports for the vacuum cups screwed onto it and the built-in shut-off valves.
The vacuum cups indicated in the table or those chosen freely are not included with the suction plate and therefore must be ordered separately.

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

BAG GRIPPING SUCTION PLATES PJ FOR OCTOPUS SYSTEMS

These suction plates have been designed to allow gripping paper or plastic bags containing powders, granulated products, bulk products or liquids. These suction plates are associated with OCTOPUS systems that fully exploit their performance. They are made with anodised aluminium and are provided with a special foam rubber seal. They are perfectly interchangeable with the OCTOPUS system standard suction plates. The special shapes of the seal and the face allow reducing bag deformation during gripping, reducing vacuum loss to a minimum and guaranteeing the largest gripping surface possible. Their lifting force has been calculated considering a level of vacuum of at least -75 Kpa, the total gripping surface enclosed in the seal and a safety factor 3.





Item	Force Kg	A	B	C	E	F	G	H	Only rubber item	Weight Kg
PJ 07 12	4.0	70	120	100	5.0	15	50	15.0	J 07 12	0.09
PJ 08 08	3.0	80	80	60	5.0	15	60	15.0	J 08 08	0.08
PJ 15 20	24.6	150	200	170	7.5	15	120	22.5	J 15 20	0.46
PJ 20 30	73.4	200	300	230	10.0	30	130	40.0	J 20 30	0.92
PJ 20 40	106.0	200	400	330	10.0	30	130	40.0	J 20 40	1.25
PJ 20 60	171.0	200	600	530	10.0	30	130	40.0	J 20 60	1.84
PJ 30 40	188.4	300	400	330	10.0	30	230	40.0	J 30 40	1.84
PJ 30 50	246.0	300	500	430	10.0	30	230	40.0	J 30 50	2.30
PJ 40 60	436.0	400	600	530	10.0	30	330	40.0	J 40 60	3.68

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

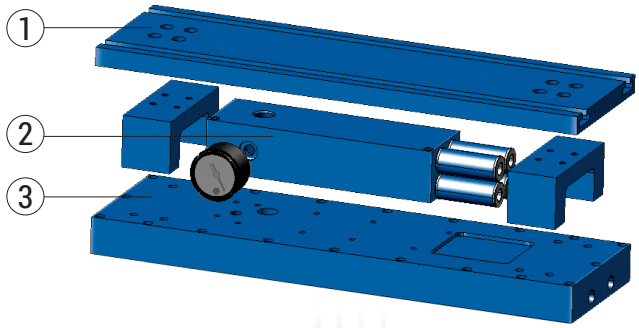
OCTOPUS VACUUM GRIPPING BARS - GENERAL DESCRIPTION

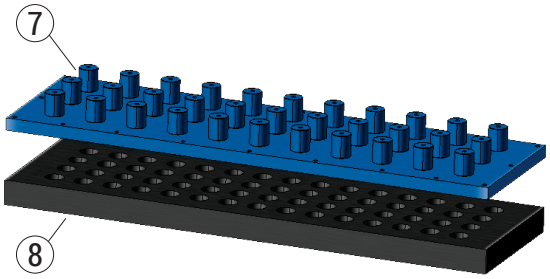
These bars have been created to further facilitate the installation of OCTOPUS vacuum gripping systems on palletising robots. They are based on the same operating principle and, in addition to the advantages and technical features of the standard OCTOPUS, are equipped with a grooved support plate to allow quick installation on the machine and easy positioning with respect to the load to be gripped.

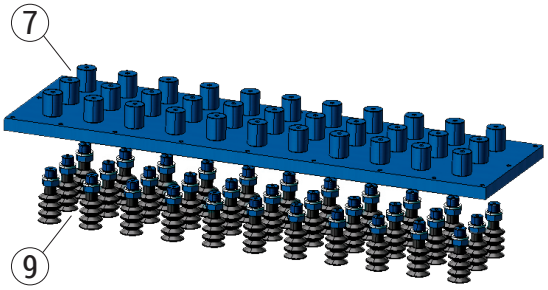
They are in fact composed of:

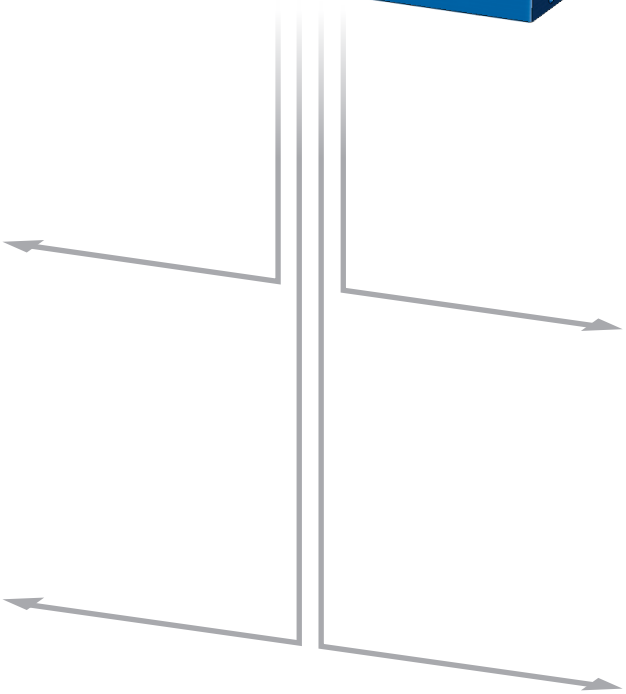
- A slotted anodised aluminium fixing plate for quick installation onto the machine
- One or more compressed air-fed vacuum generators, depending on their size
- A connection equipped with quick coupling for feeding compressed air to the generators
- An anodised aluminium box, open on one side, with two air inlet connections inside at the end of the cycle, for quick restoration of the atmospheric pressure and one for possible installation of a vacuum switch.
- A suction plate sealing the box, also made with anodised aluminium, with calibrated holes equidistant from each other and coated with a special perforated foam rubber. This suction plate can thus perfectly adapt to any gripping surface, whether it be smooth, rough or irregular. With the same bar, for example, it is possible to grip and move wooden joists or metal profiles and the pallet that supports them.

The OCTOPUS gripping bars described so far are the standard bars: they can be supplied upon request with suction plates and with shut-off valves and, to make them even lighter, the aluminium parts can be made of Polizene, a thermoplastic material that decreases the weight by about 40%.









3D drawings are available on **vuototecnica.net**

COMPOSITION OF THE OCTOPUS GRIPPING BARS

The OCTOPUS gripping bars are composed of:

(1) A grooved support plate made of anodised aluminium for rapid installation on the machine and easy positioning with respect to the load to be picked up.

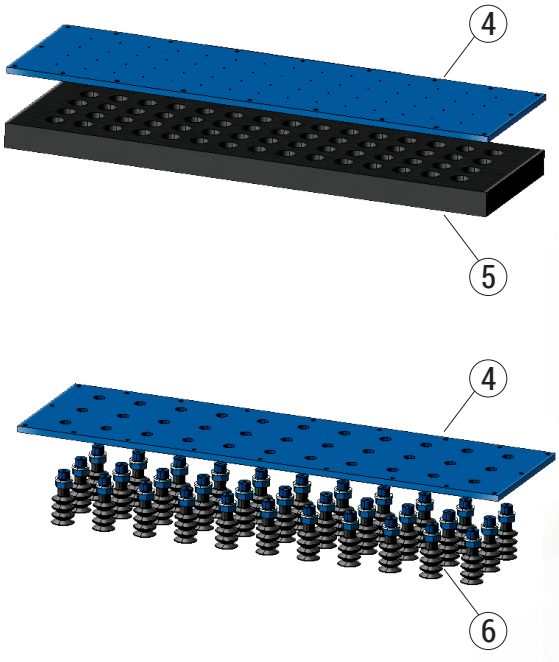
(2) One or more compressed air-fed vacuum generators, depending on the size of the bars.

(3) An anodised aluminium box, open on one side, with two air inlet connections inside at the end of the cycle, for quick restoration of the atmospheric pressure and one for possible installation of a vacuum switch.

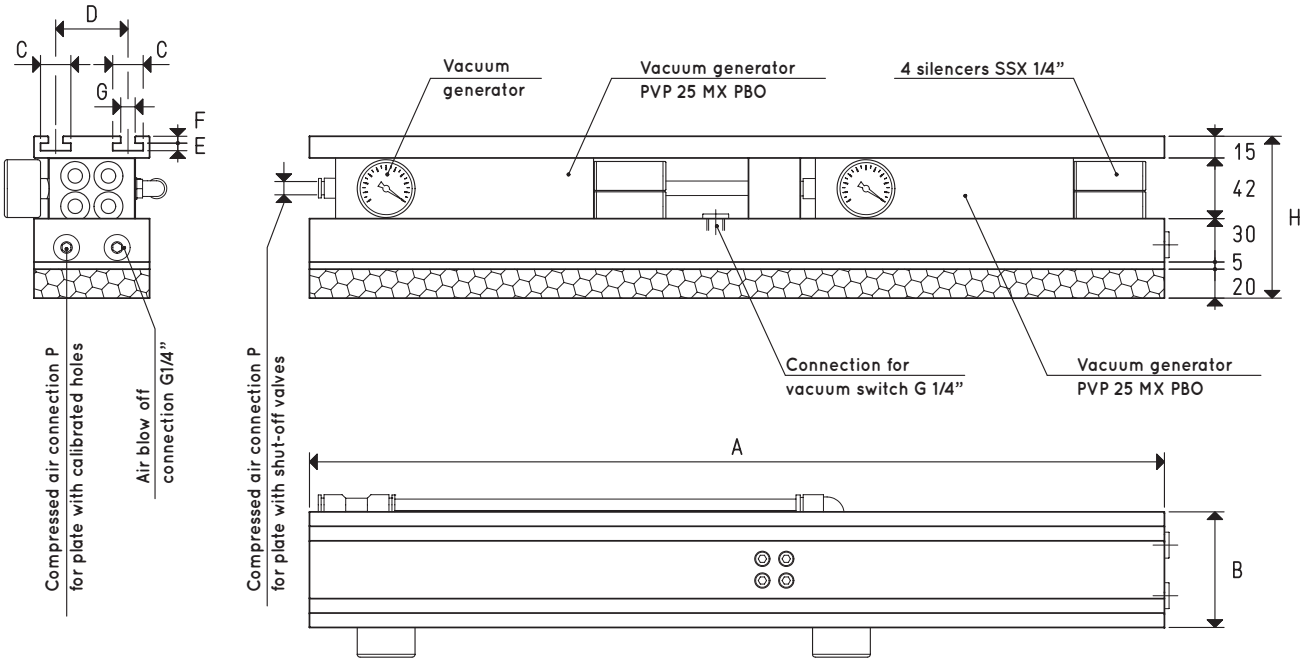
(4) A micro-perforated anodised aluminium suction plate to close the bar body, coated with special perforated foam rubber (5), with 15 mm diameter holes, axial to the calibrated holes of the plate, with thickness 20 mm **(PX)** or 30 mm **(P2X)** or with bellows (6) vacuum cups 18 mm **(PV)**.

Or:

(7) A suction plate with shut-off valves coated with foam rubber (8), with 15 mm diameter holes, thickness 20 mm **(PXE)** or 30 mm **(P2XE)** or with vacuum cups (9) diameter 18 mm **(PVE)**.



3D drawings are available on **vuototecnica.net**



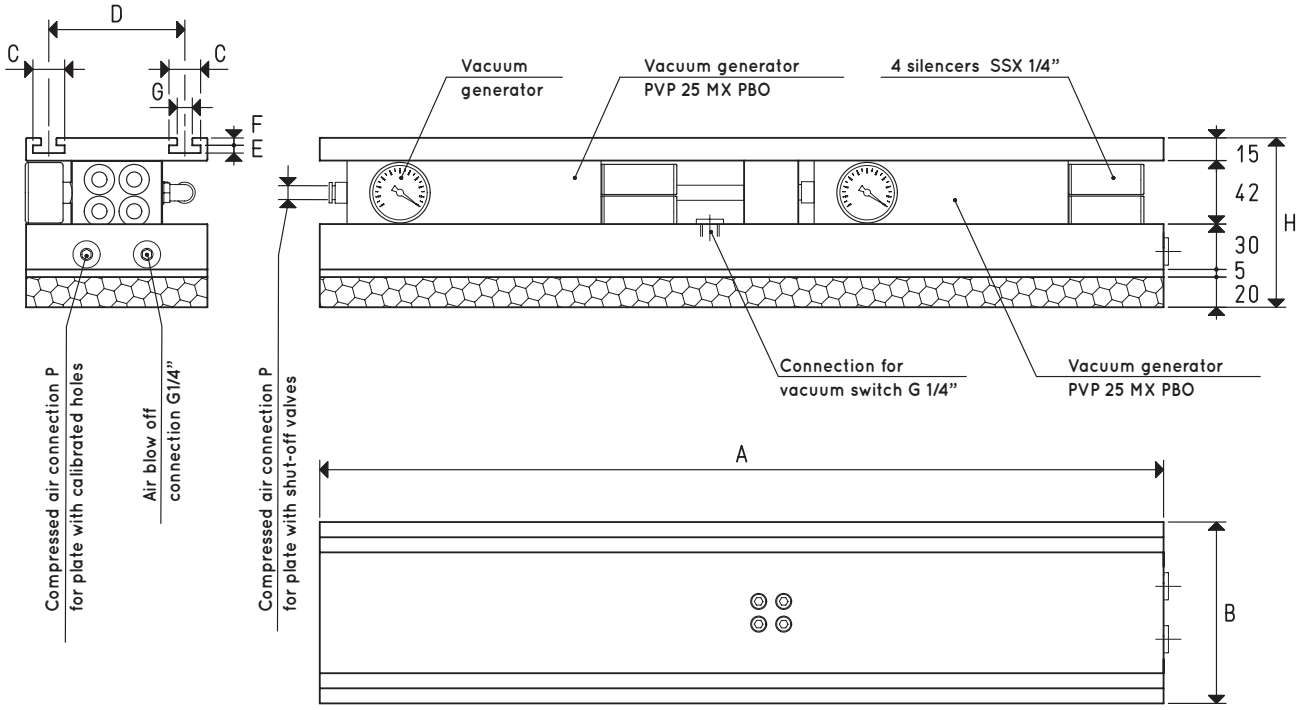
Item		BO 08 60 X	BO 08 80 X	BO 08 100 X
Suction plate	item	PX 08 60	PX 08 80	PX 08 100
Gripping force	Kg	31.7	42.2	54.1
Fitted for vacuum generators	item	N°2 PVP 25 MX PBO	N°2 PVP 25 MX PBO	N°2 PVP 25 MX PBO
Maximum supply pressure	bar	6	6	6
Maximum level of vacuum	-KPa	90	90	90
Air consumption at 6 bar	Nl/s	6.4	6.4	6.4
Intake air flow rate	m^3/h	62	62	62
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	6	8	10
A		600	800	1000
B		80	80	80
C		21	21	21
D		50	50	50
E		5.2	5.2	5.2
F		4.8	4.8	4.8
G		10	10	10
H		112	112	112
P Connection for compressed air tube	Ø ext.	8	8	8

NOTE: The code BO 08 .. X identifies the body of the OCTOPUS bar with relative suction plate PX, the grooved support plate and the vacuum generators indicated in the table.
Add the letters CD to the item for an Octopus bar supplied without vacuum generators and with closing plates with distributor item 00 BO 07 assembled (Example: BO 08 80 X CD).

NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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

3D drawings are available on **vuototecnica.net**



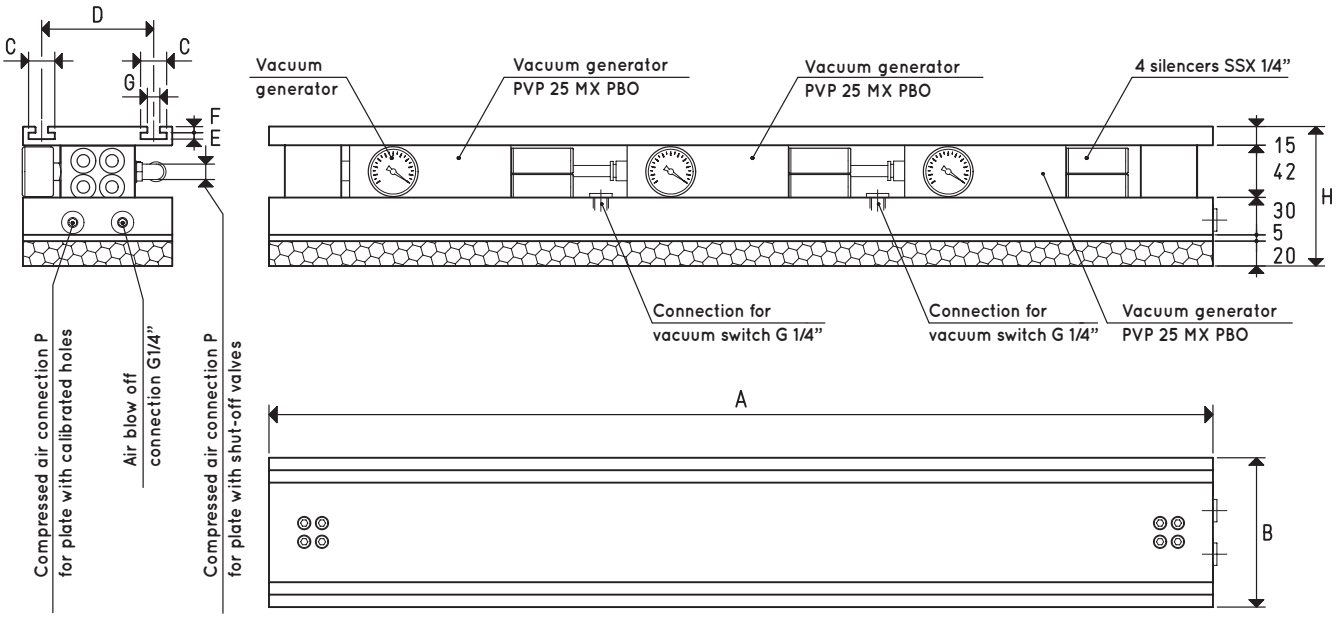
Item		BO 12 40 X	BO 12 60 X	BO 12 80 X
Suction plate	item	PX 12 40	PX 12 60	PX 12 80
Gripping force	Kg	25.7	42.2	56.3
Fitted for vacuum generators	item	N°1 PVP 25 MX PBO	N°2 PVP 25 MX PBO	N°2 PVP 25 MX PBO
Maximum supply pressure	bar	6	6	6
Maximum level of vacuum	-KPa	90	90	90
Air consumption at 6 bar	Nl/s	3.2	6.4	6.4
Intake air flow rate	m^3/h	31	62	62
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	4.5	8.1	10.8
A		400	600	800
B		120	120	120
C		21	21	21
D		90	90	90
E		5.2	5.2	5.2
F		4.8	4.8	4.8
G		10	10	10
H		112	112	112
P Connection for compressed air tube	Ø ext.	8	8	8

NOTE: The code BO 12 .. X identifies the body of the OCTOPUS bar with relative suction plate PX, the grooved support plate and the vacuum generators indicated in the table.
Add the letters CD to the item for an Octopus bar supplied without vacuum generators and with closing plates with distributor item 00 BO 07 assembled (Example: BO 12 60 X CD).

NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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

3D drawings are available on **vuototecnica.net**



Item		BO 12 100 X	BO 08 120 X	BO 12 120 X	BO 12 140 X
Suction plate	item	PX 12 100	PX 08 120	PX 12 120	PX 12 140
Gripping force	Kg	72.2	64.7	86.2	100.3
Fitted for vacuum generators	item	N°3 PVP 25 MX PBO	N°3 PVP 25 MX PBO	N°3 PVP 25 MX PBO	N°4 PVP 25 MX PBO
Maximum supply pressure	bar	6	6	6	6
Maximum level of vacuum	-KPa	90	90	90	90
Air consumption at 6 bar	Nl/s	9.6	9.6	9.6	12.8
Intake air flow rate	m^3/h	93	93	93	124
Temperature of use	°C	-20 / +80	-20 / +80	-20 / +80	-20 / +80
Weight	Kg	14.5	13	17.4	20.8
A		1000	1200	1200	1400
B		120	80	120	120
C		21	21	21	21
D		90	50	90	90
E		5.2	5.2	5.2	5.2
F		4.8	4.8	4.8	4.8
G		10	10	10	10
H		112	112	112	112
P Connection for compressed air tube	Ø ext.	8	8	8	8

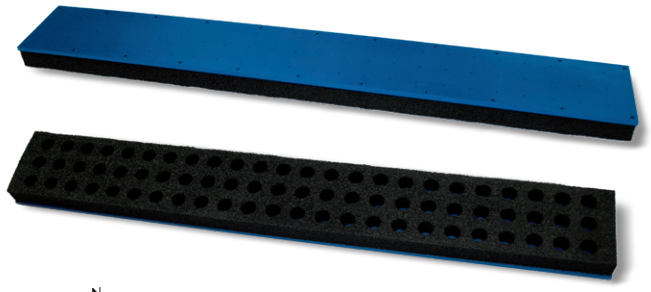
NOTE: The code BO .. .. X identifies the body of the OCTOPUS bar with relative suction plate PX, the grooved support plate and the vacuum generators indicated in the table.
Add the letters CD to the item for an Octopus bar supplied without vacuum generators and with closing plates with distributor item 00 BO 07 assembled (Example: BO 12 100 X CD).

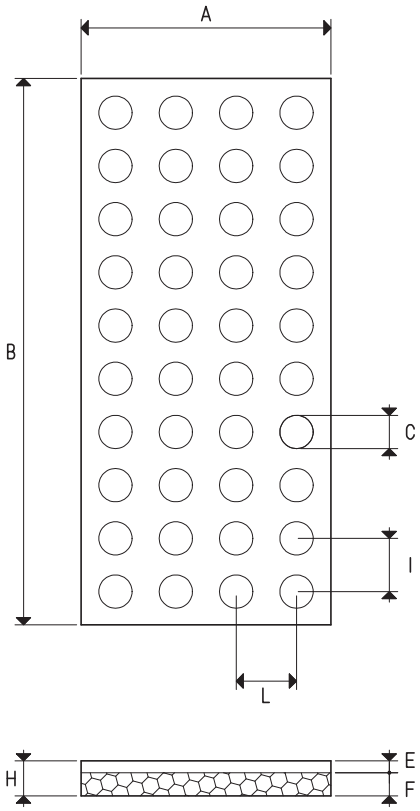
NOTE: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

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

STANDARD SUCTION PLATES PX and P2X FOR OCTOPUS GRIPPING BARS

The suction plates PX described on this page are installed as standard on all OCTOPUS gripping bars and, therefore, can be supplied as a spare or replacement part.
They are made with anodised aluminium sheets with calibrated holes equidistant from each other and coated with a special perforated foam rubber with two different thicknesses: 20 mm for suction plates of the PX range and 30 mm for special plates P2X. Their lifting force was calculated considering a level of vacuum of at least -75 Kpa, the total surface of the holes within the foam rubber and a factor of safety 3.





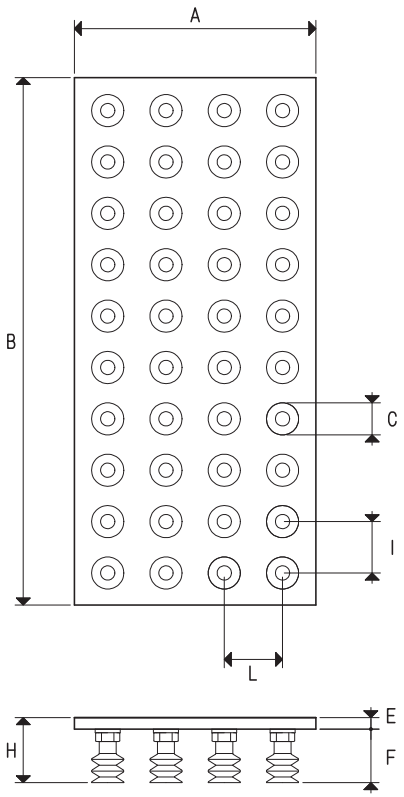
Item	Force Kg	A	B	C Ø	E	F	H	Holes No.	I	L	Only rubber item	Weight Kg
PX 08 60	31.7	80	600	15	5	20	25	72	24	24	00 BO 12	0.70
PX 08 80	42.2	80	800	15	5	20	25	96	24	24	00 BO 18	0.94
PX 08 100	54.1	80	1000	15	5	20	25	123	24	24	00 BO 97	1.06
PX 08 120	64.7	80	1200	15	5	20	25	147	24	24	00 BO 101	1.12
PX 12 40	25.7	120	400	20	5	20	25	33	34	35	00 BO 68	0.70
PX 12 60	42.2	120	600	15	5	20	25	96	24	24	00 BO 27	1.06
PX 12 80	56.3	120	800	15	5	20	25	128	24	24	00 BO 05	1.41
PX 12 100	72.2	120	1000	15	5	20	25	164	24	24	00 BO 36	1.75
PX 12 120	86.2	120	1200	15	5	20	25	196	24	24	00 BO 40	2.11
PX 12 140	100.3	120	1400	15	5	20	25	228	24	24	00 BO 63	2.47
P2X 08 60	31.7	80	600	15	5	30	35	72	24	24	00 BO 79	0.72
P2X 08 80	42.2	80	800	15	5	30	35	96	24	24	00 BO 80	0.96
P2X 08 100	54.1	80	1000	15	5	30	35	123	24	24	00 BO 106	1.10
P2X 08 120	64.7	80	1200	15	5	30	35	147	24	24	00 BO 107	1.18
P2X 12 40	25.7	120	400	20	5	30	35	33	34	35	00 BO 81	0.78
P2X 12 60	42.2	120	600	15	5	30	35	96	24	24	00 BO 82	1.10
P2X 12 80	56.3	120	800	15	5	30	35	128	24	24	00 BO 83	1.45
P2X 12 100	72.2	120	1000	15	5	30	35	164	24	24	00 BO 84	1.80
P2X 12 120	86.2	120	1200	15	5	30	35	196	24	24	00 BO 85	2.17
P2X 12 140	100.3	120	1400	15	5	30	35	228	24	24	00 BO 86	2.54

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

3D drawings are available on **vuototecnica.net**

VACUUM CUP SUCTION PLATES PV FOR OCTOPUS GRIPPING BARS

These suction plates provided with vacuum cups have been designed to ensure a better grip on uneven and very flexible surfaces (pasta or candy bags, blister or skin-film packs, thin cardboard boxes, etc.), which are difficult to grip with suction plates coated with foam rubber. We recommend using bellows cups. Thanks to their great flexibility, they adapt themselves to any gripping surface, following its profiles and movements during the lifting phase, guaranteeing a firm and safe grip. They are made with anodised aluminium, as are the vacuum cup supports screwed onto them, which are 1/8" gas supports and are each equipped with a calibrated hole.
The cups are cold assembled onto the supports with no adhesives and can be provided in other compounds. Also these suction plates are perfectly interchangeable with the standard ones.
Their lifting force has been calculated considering a level of vacuum of at least -75 Kpa, the total vacuum cup gripping surface and a safety factor 3.
They can be supplied upon request with different vacuum cups, provided that their diameter is no larger than 22 mm.



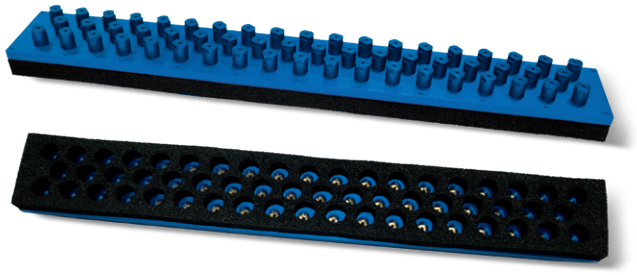
Item	Force Kg	A	B	C Ø	E	F	H	Vacuum cup example item	I	L	Vacuum cups No.	Weight Kg
PV 08 60	45.4	80	600	18	5	36	41	01 18 29	24	24	72	0.83
PV 08 80	60.5	80	800	18	5	36	41	01 18 29	24	24	96	1.26
PV 08 100	75.6	80	1000	18	5	36	41	01 18 29	24	24	120	1.52
PV 08 120	92.6	80	1200	18	5	36	41	01 18 29	24	24	147	1.82
PV 12 40	20.8	120	400	18	5	36	41	01 18 29	34	35	33	1.14
PV 12 60	60.5	120	600	18	5	36	41	01 18 29	24	24	96	1.42
PV 12 80	80.6	120	800	18	5	36	41	01 18 29	24	24	128	1.90
PV 12 100	100.8	120	1000	18	5	36	41	01 18 29	24	24	160	2.37
PV 12 120	121.0	120	1200	18	5	36	41	01 18 29	24	24	192	2.84
PV 12 140	143.7	120	1400	18	5	36	41	01 18 29	24	24	228	3.40

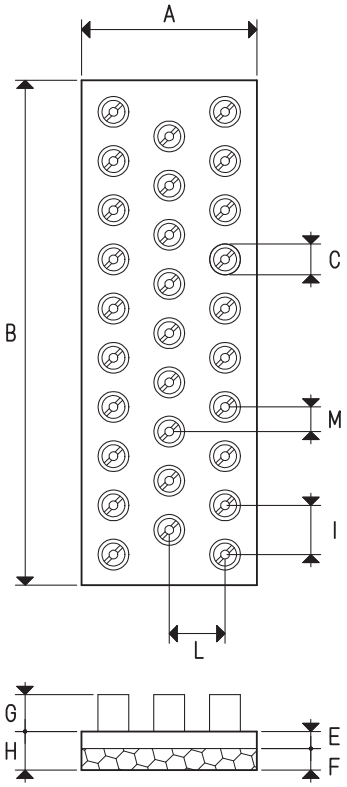
NOTE: The code PV .. .. only identifies the suction plate with the relative supports for the vacuum cups screwed onto it.
The vacuum cups indicated in the table or those chosen freely are not included with the suction plate and therefore must be ordered separately.

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

SUCTION PLATES WITH SHUT-OFF VALVES PXE and P2XE FOR OCTOPUS GRIPPING BARS

The suction plates described on this page are the same as the previously described PX and P2X, but with the addition of shut-off valves inserted in each hole. In absence of an object to grip or in case of a defective grip of the foam rubber, the shut-off valves automatically close the suction inlet, thus preventing the level of vacuum from decreasing on the other gripping holes.
This feature reduces the vacuum generator flow rate compared to standard OCTOPUS gripping bars, to the benefit of energy savings. Moreover, the particular shape of our shut-off valves allows the use of the gripping surfaces in any position.





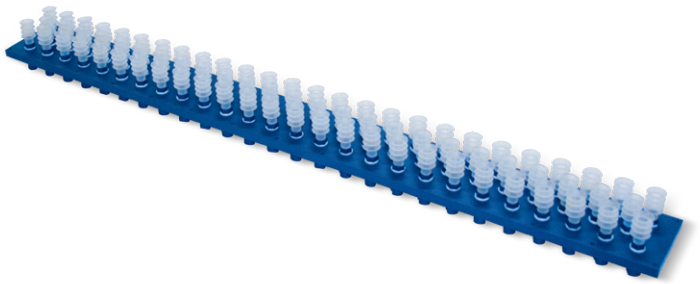
Item	Force Kg	A	B	C Ø	E	F	G	H	I	L	M	Valves No.	Only rubber item	Weight Kg
PXE 08 60	43.7	80	600	20	10	20	18	30	30	20	15	56	00 BO 21	1.69
PXE 08 80	60.0	80	800	20	10	20	18	30	30	20	15	77	00 BO 25	2.25
PXE 08 100	74.1	80	1000	20	10	20	18	30	30	20	15	95	00 BO 111	2.27
PXE 08 120	90.5	80	1200	20	10	20	18	30	30	20	15	116	00 BO 113	2.54
PXE 12 40	25.7	120	400	20	10	20	18	30	34	35	15	33	00 BO 68	2.03
PXE 12 60	42.1	120	600	20	10	20	18	30	40	25	20	54	00 BO 32	2.53
PXE 12 80	57.7	120	800	20	10	20	18	30	40	25	20	74	00 BO 23	3.38
PXE 12 100	73.3	120	1000	20	10	20	18	30	40	25	20	94	00 BO 43	4.22
PXE 12 120	88.9	120	1200	20	10	20	18	30	40	25	20	114	00 BO 45	5.07
PXE 12 140	104.5	120	1400	20	10	20	18	30	40	25	20	134	00 BO 76	6.08
P2XE 08 60	43.7	80	600	20	10	30	18	40	30	20	15	56	00 BO 87	1.72
P2XE 08 80	60.0	80	800	20	10	30	18	40	30	20	15	77	00 BO 88	2.28
P2XE 08 100	74.1	80	1000	20	10	30	18	40	30	20	15	95	00 BO 114	2.30
P2XE 08 120	90.5	80	1200	20	10	30	18	40	30	20	15	116	00 BO 115	2.58
P2XE 12 40	25.7	120	400	20	10	30	18	40	34	35	15	33	00 BO 81	2.06
P2XE 12 60	42.1	120	600	20	10	30	18	40	40	25	20	54	00 BO 89	2.58
P2XE 12 80	57.7	120	800	20	10	30	18	40	40	25	20	74	00 BO 90	3.44
P2XE 12 100	73.3	120	1000	20	10	30	18	40	40	25	20	94	00 BO 91	4.30
P2XE 12 120	88.9	120	1200	20	10	30	18	40	40	25	20	114	00 BO 92	5.16
P2XE 12 140	104.5	120	1400	20	10	30	18	40	40	25	20	134	00 BO 93	6.16

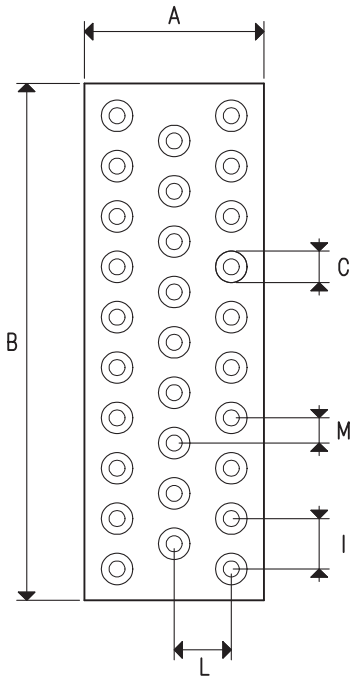
Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

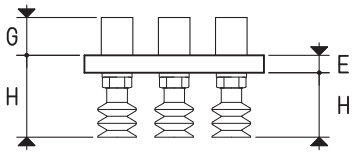
3D drawings are available on **vuototecnica.net**

VACUUM CUP SUCTION PLATES WITH SHUT-OFF VALVES PVE FOR OCTOPUS GRIPPING BARS

The suction plates described on this page are the same as the previously described PY and P2V, but with the addition of shut-off valves inserted in each vacuum cup support connection. In absence of an object to grip or in case of a defective grip of the cup, the shut-off valves automatically close the suction inlet, thus preventing the level of vacuum from decreasing on the other gripping vacuum cups. This feature reduces the vacuum generator flow rate compared to standard OCTOPUS gripping bars with calibrated holes, to the benefit of energy savings. Their particular shape of our shut-off valves allows the use of the gripping surfaces in any position.







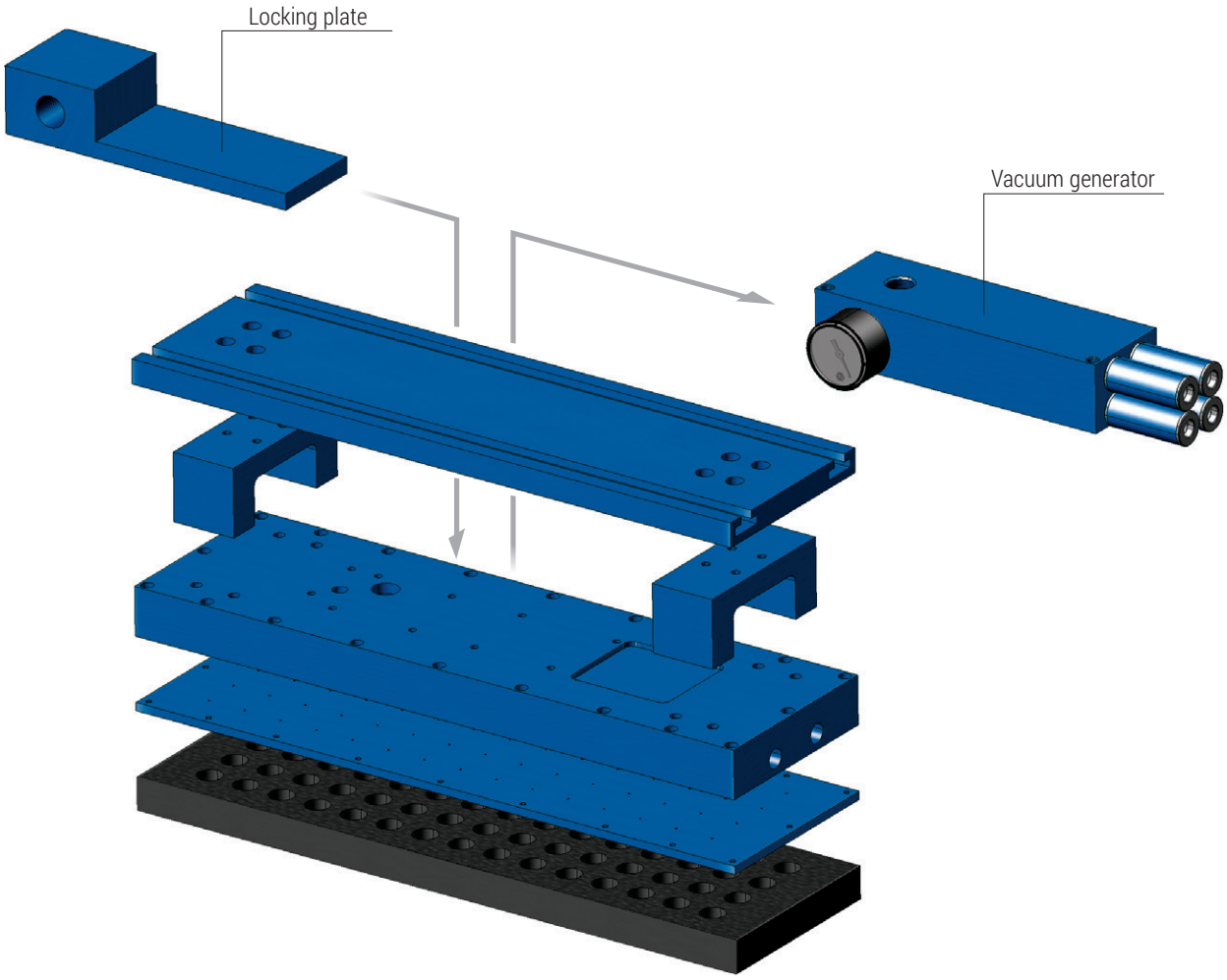
Item	Force Kg	A	B	C Ø	E	F	G	H	I	L	M	Vacuum cup example item	Valves and vacuum cups No.	Weight Kg
PVE 08 60	35.3	80	600	18	10	36	18	46	30	20	15	01 18 29	56	1.96
PVE 08 80	48.5	80	800	18	10	36	18	46	30	20	15	01 18 29	77	2.61
PVE 08 100	59.9	80	1000	18	10	36	18	46	30	20	15	01 18 29	95	2.91
PVE 08 120	73.0	80	1200	18	10	36	18	46	30	20	15	01 18 29	116	3.28
PVE 12 40	20.8	120	400	18	10	36	18	46	34	35	--	01 18 29	33	2.35
PVE 12 60	34.0	120	600	18	10	36	18	46	40	25	20	01 18 29	54	2.93
PVE 12 80	46.6	120	800	18	10	36	18	46	40	25	20	01 18 29	74	3.92
PVE 12 100	59.2	120	1000	18	10	36	18	46	40	25	20	01 18 29	94	4.89
PVE 12 120	71.8	120	1200	18	10	36	18	46	40	25	20	01 18 29	114	5.88
PVE 12 140	84.4	120	1400	18	10	36	18	46	40	25	20	01 18 29	134	7.05

NOTE: The code PVE .. .. only identifies the suction plate with the relative supports for the vacuum cups screwed onto it and the built-in shut-off valves.
The vacuum cups indicated in the table or those chosen freely are not included with the suction plate and therefore must be ordered separately.

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

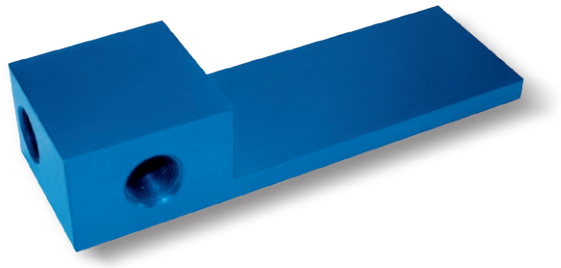
LOCKING PLATE WITH DISTRIBUTOR FOR OCTOPUS GRIPPING BARS WITHOUT VACUUM GENERATOR

The locking plates with distributor described on this page have been designed to connect an OCTOPUS gripping bar to a remotely installed vacuum generator or to an alternative vacuum source. The plate, made of anodised aluminium, is fastened with screws to the body of the OCTOPUS bar in place of the generator. The distributor is equipped with connections for direct connection to the OCTOPUS bar, to the generator or to the alternative vacuum source and to the instruments for reading and control of the level of vacuum. The unused connections can be closed with the metal caps provided.
The locking plate with distributor is suitable for all OCTOPUS gripping bars that use vacuum generators PVP 12 MX and PVP 25 MX.

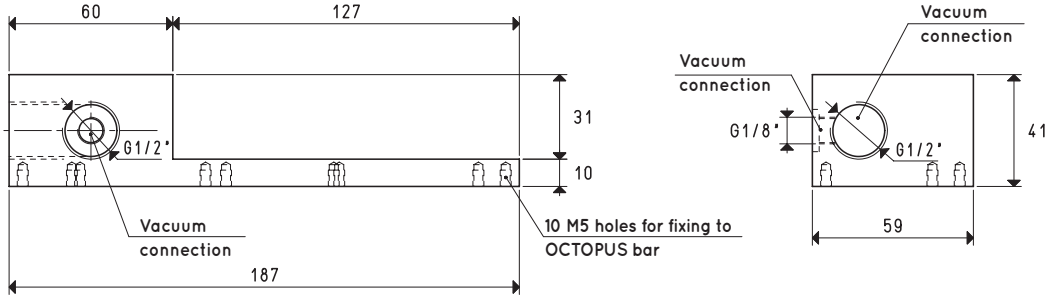


3D drawings are available on **vuototecnica.net**

LOCKING PLATE WITH DISTRIBUTOR FOR OCTOPUS GRIPPING BARS WITHOUT VACUUM GENERATOR

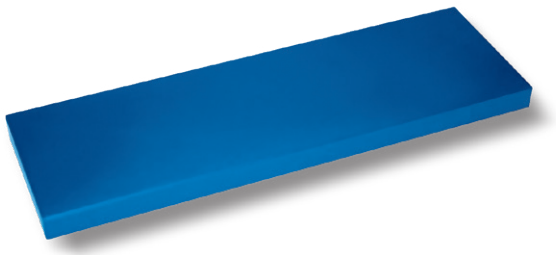


Item	For OCTOPUS gripping bars
00 BO 07	BO 08 60 X - BO 08 80 X BO 08 100 X - BO 08 120 X BO 12 40 X - BO 12 60 X BO 12 80 X - BO 12 100 X BO 12 120 X - BO 12 140 X

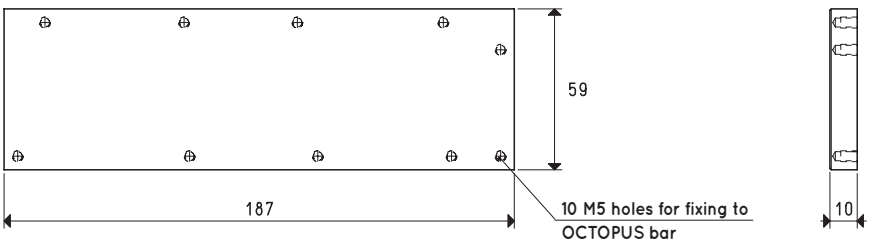


LOCKING PLATE FOR OCTOPUS GRIPPING BARS WITHOUT VACUUM GENERATOR

Use the locking plate illustrated and described on this page to close the suction holes on the body of the OCTOPUS bar, left free by the removal of the vacuum generator.
The plate, made of anodised aluminium, is fastened with screws to the body of the OCTOPUS bar in place of the generator. The seal with which it is provided ensures a perfect vacuum seal.
The locking plate is suitable for all OCTOPUS gripping bars that use vacuum generators PVP 12 MX and PVP 25 MX.



Item	For OCTOPUS gripping bars
00 BO 06	BO 08 60 X - BO 08 80 X BO 08 100 X - BO 08 120 X BO 12 40 X - BO 12 60 X BO 12 80 X - BO 12 100 X BO 12 120 X - BO 12 140 X



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

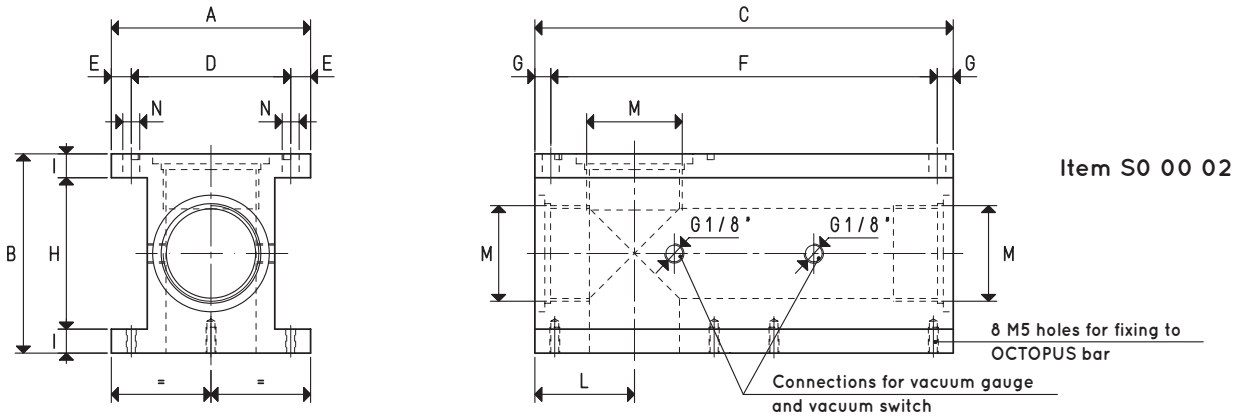
FLANGE FIXING SUPPORT FOR OCTOPUS SYSTEMS WITHOUT VACUUM GENERATOR

The fixing supports described on this page have been designed to connect an OCTOPUS system to a remotely installed vacuum generator or to an alternative vacuum source.
The supports, made with anodised aluminium, have two flanges: one to be fixed on the OCTOPUS system in the place of the generator and the other on the machine.
They are also equipped with connections for direct connection to the OCTOPUS system, to the generator or to the alternative vacuum source and to the instruments for reading and control of the level of vacuum. The unused connections can be closed with the metal caps provided.
The flange supports are currently available in the versions shown on this page and are suitable for OCTOPUS systems that use the vacuum generators indicated to beside the item:

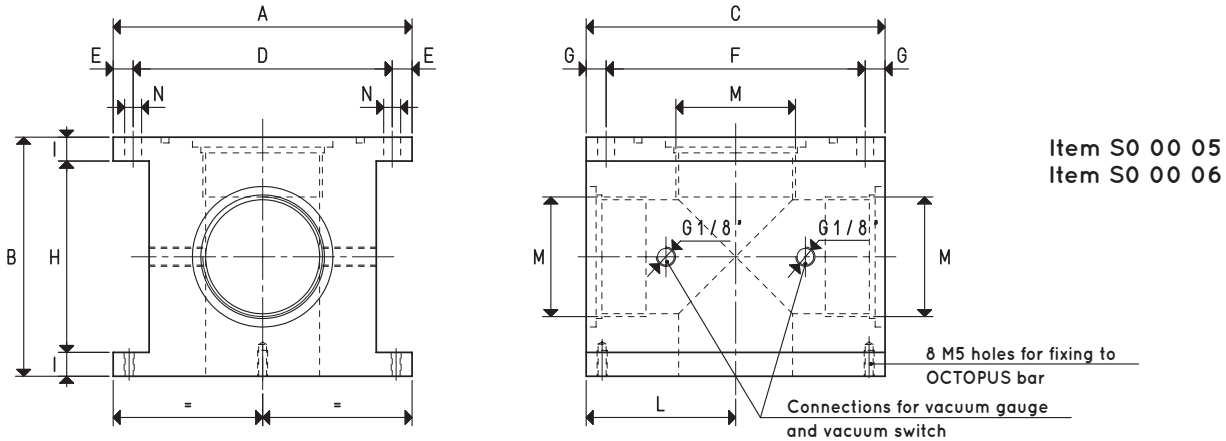
- Item SO 00 02 PVP 100 ÷ 200M
- Item SO 00 05 PVP 150 ÷ 300MD
- Item SO 00 06 PVP 450 MD

NOTE: The vacuum gauges and vacuum switches shown in the photo are not included with the supports.

3D drawings are available on **vuototecnica.net**



Item SO 00 02



Item SO 00 05
Item SO 00 06

Item	A	B	C	D	E	F	G	H	I	L	M Ø	N Ø	Weight Kg
SO 00 02	100	100	210	80	10	194	8	76	12	50	G1" 1/2	8.5	2.8
SO 00 05	150	120	150	130	10	134	8	96	12	75	G2"	8.5	4.2
SO 00 06	150	145	150	130	10	134	8	121	12	75	G2" 1/2	8.5	4.3

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity)

inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

3D drawings are available on **vuototecnica.net**

Digital vacuum switch with 1/8” gas axial connection

Item	Description
12 10 10	Digital vacuum switch

Electrical cable with axial connector

Item	Description
00 12 20	Electrical connection cable with axial connector for digital vacuum switch

Electrical cable with radial connector

Item	Description
00 12 21	Electrical connection cable with radial connector for digital vacuum switch

Vacuum gauge Ø 40 mm with 1/8” coaxial gas coupler

Item	Description
09 03 15	Vacuum gauge

Pressure gauge Ø 40 mm with 1/8” coaxial gas coupler

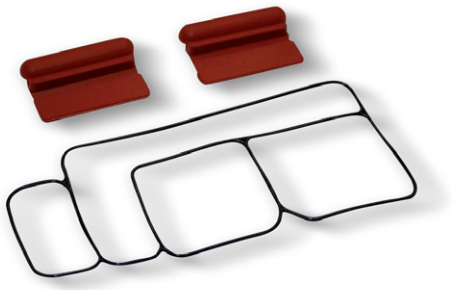
Item	Description
09 03 25	Pressure gauge

Silencer

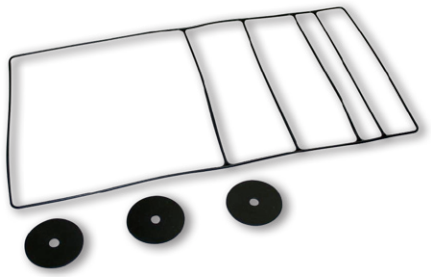
Item	For generator item
SSX 1/4"	PVP 25 MX PO - PVP 25 MX PBO

Sealing kit and reed valves

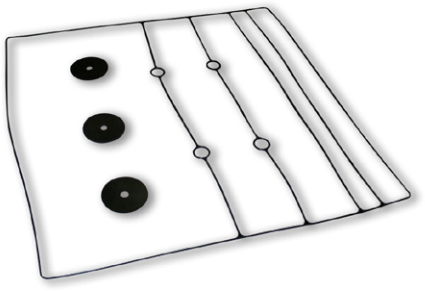
Item	For generator item
00 KIT PVP 25 MX	PVP 25 MX PO - PVP 25 MX PBO



Item	For generator item
00 KIT PVP 100 M	PVP 100 M PO
00 KIT PVP 140 M	PVP 140 M PO
00 KIT PVP 170 M	PVP 170 M PO
00 KIT PVP 200 M	PVP 200 M PO



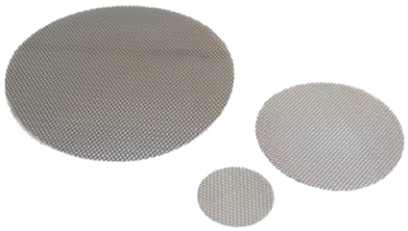
Item	For generator item
00 KIT PVP 150 MD	PVP 150 MD PO
00 KIT PVP 300 MD	PVP 300 MD PO
00 KIT PVP 450 MD	PVP 450 MD PO



3D drawings are available on **vuototecnica.net**

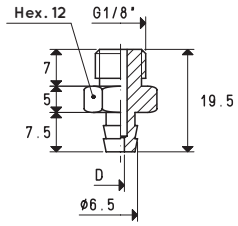
Stainless steel disc filters

Item	D	For OCTOPUS systems
00 SO 05	25	SO 15 20 - BO 08 60 - BO 08 80 - BO 08 100 - BO 08 120 BO 12 40 - BO 12 60 - BO 12 80 - BO 12 100 - BO 12 120 - BO 12 140
00 SO 10	50	SO 20 30 - SO 20 40 - SO 20 60 - SO DO 35
00 SO 14	80	SO 30 30 - SO 30 40 - SO 30 50 - SO 40 40 SO 40 60 - SO DO 50 - SO 40 100 - SO 60 80 SO 60 120 - SO 80 100

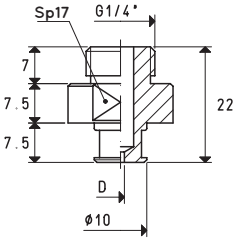


Supports for vacuum cups with calibrated hole

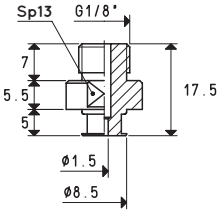
Item	D Ø	Weight g	Support material	For vacuum cup item
00 08 157	1.5	4	aluminium	01 18 29
00 08 178	2.5	4	aluminium	01 18 29



Item	D Ø	Weight g	Support material	For vacuum cup item
00 08 158	1,5	8	aluminium	01 40 42
00 08 425	5	8	aluminium	01 40 42



Item	Weight g	Support material	For vacuum cup item
00 08 170	4	aluminium	01 20 23



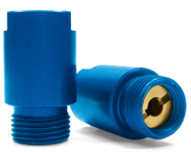
Shut-off valves

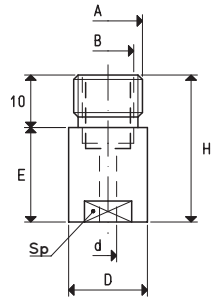
Item	A Ø	B Ø	d Ø	D Ø	E	H	Ch	Weight g	Support material
14 01 06	G1/4"	G1/8"	3.25	15	18	28	12	10	aluminium

Minimum trigger flow = 1.5 m³/h — Minimum level of vacuum = -250 mbar

Item	A Ø	B Ø	d Ø	D Ø	E	H	Ch	Weight g	Support material
14 01 07	G3/8"	G1/4"	4.50	20	25	35	17	24	aluminium

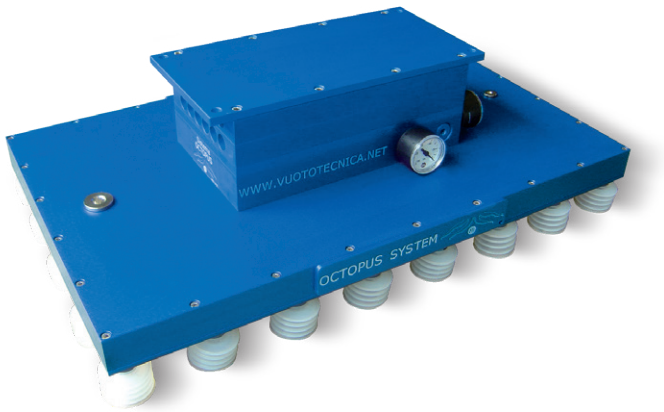
Minimum trigger flow = 4 m³/h — Minimum level of vacuum = -250 mbar





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

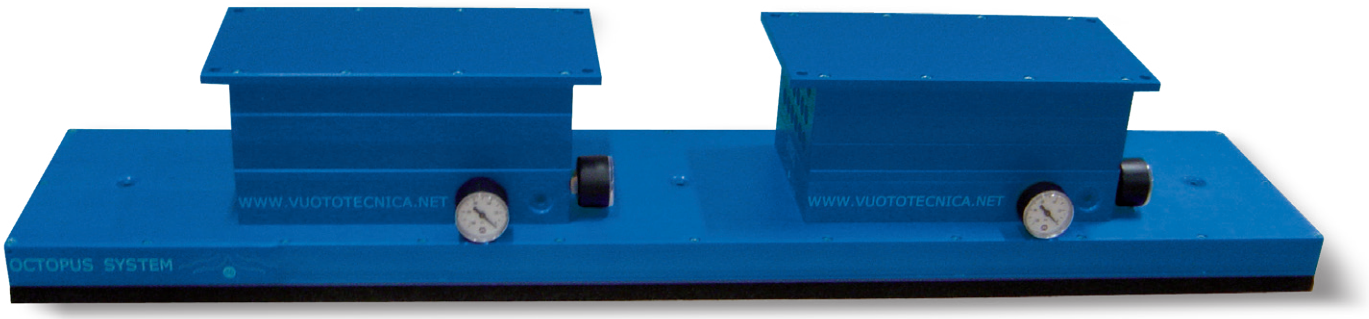
mm 270x420 - SO 27 42 2V



mm 330x550 - SO 33 55 2V

mm 180x210 - SO 18 21 2C X

mm 70x200 - SO 07 20 X



mm 200x1000 - SO 20 100 X

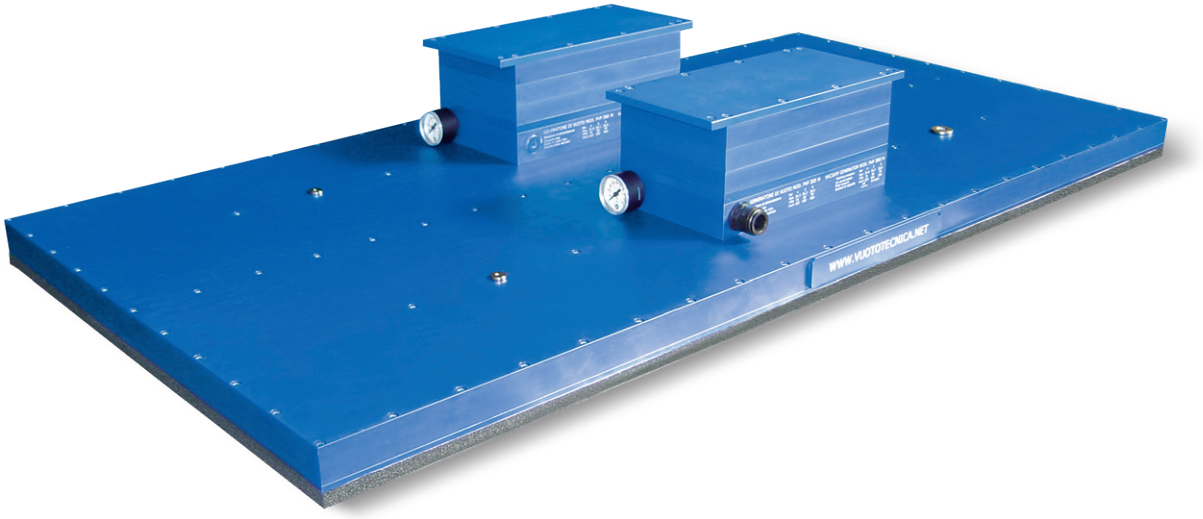
3D drawings are available on **vuototecnica.net**

mm 300x360 with fixing support - SO 30 36 X

mm 70x140 with digital vacuum switch - SO 07 14 V

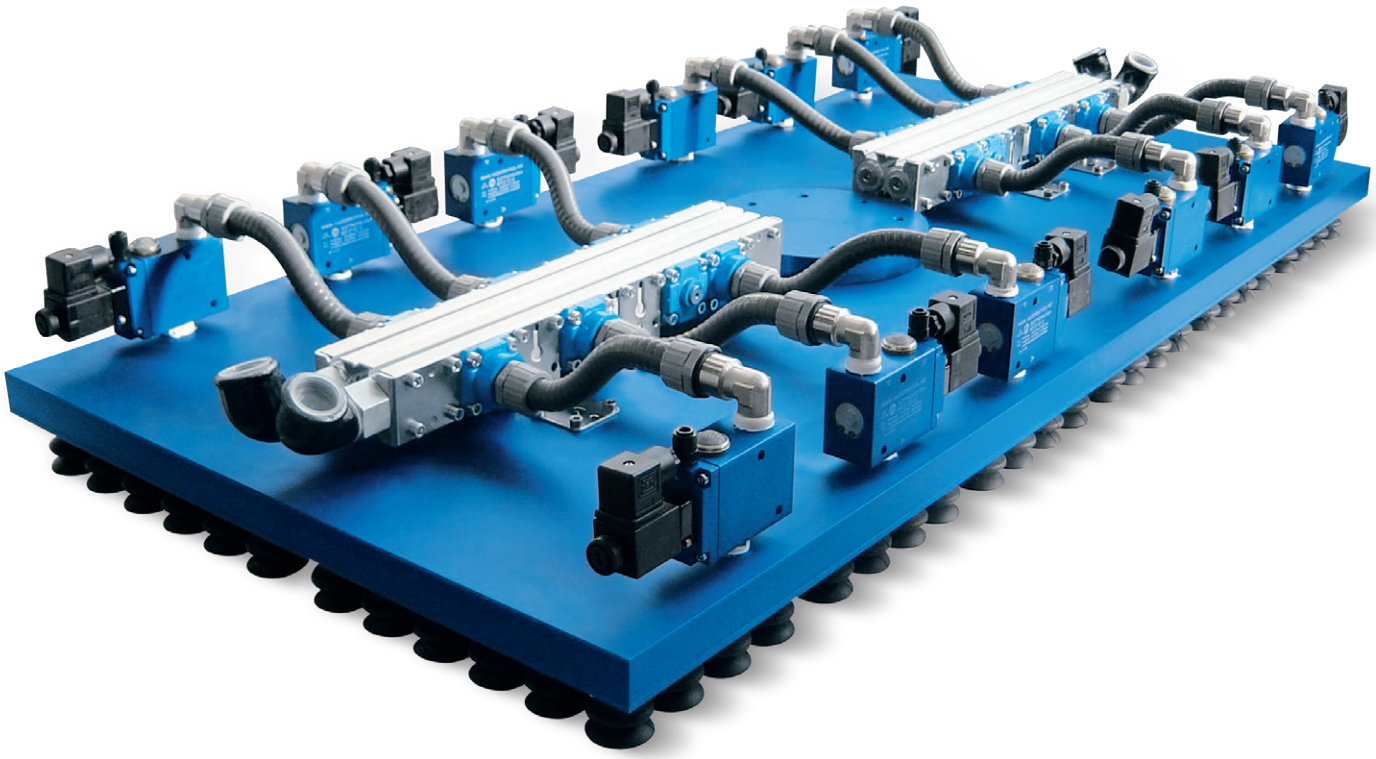
mm 210x360 with 3 independent chambers - SO 21 36 V

mm Ø400 with fixing support and vacuum interception solenoid valve - SO DO 40 V

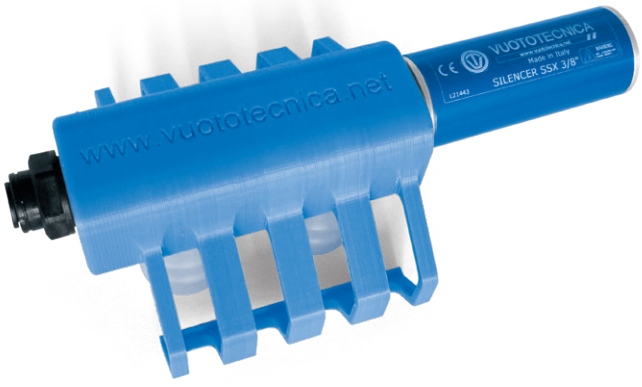


mm 600x1200 with 2 independent chambers - SO 60 120 X

3D drawings are available on **vuototecnica.net**



mm 620x1240 with 12 independent chambers - SO 62 127 2V



NOTE: Octopus gripping systems made with 3D printer can be supplied in colours: blue, black, white and red.

OCTOPUS VACUUM GRIPPING SYSTEM QUESTIONNAIRE

For a correct dimensioning of an octopus vacuum gripping system, it is important to know and assess the features of the load to be handled.
For this reason, please fill out the following form and send it back to us via e-mail or fax.
We will suggest the best Octopus to solve your problem.
A drawing of the product to be handled or the product itself would allow us to offer the best solution.
E-mail: tecnico@vuototecnica.net
Fax: + 39 039 5320015

Company

.....

Address

.....

Post code / City ***Country***

....

Contact person:

.....

Telephone ***Fax***

....

E-mail

.....

1) In which industrial sector would the Octopus be used?

☐ *Plastic* ☐ *Wood* ☐ *Glass/Solar* ☐ *Steel sheet*
☐ *Marble/Stone* ☐ *Ceramic/Baked clay* ☐ *Paper/Cardboard* ☐ *Packaging*
☐ *Automotive* ☐ *Graphics* ☐ *Pharmaceuticals* ☐ *Food*
☐ *Cosmetics* ☐ *Bottling* ☐ *Other sectors* .....

2) With what material is the product to be handled made?

☐ *Plastic* ☐ *Glass* ☐ *Wood* ☐ *Paper/Cardboard*
☐ *Steel sheet* ☐ *Marble/Granite* ☐ *Rubber* ☐ *Other*.....

3) What is the surface of the product to be gripped like?

☐ *Dry* ☐ *Wet* ☐ *Smooth* ☐ *Rough* ☐ *Creased*
☐ *Corrugated* ☐ *Flaky* ☐ *Porous* ☐ *Textured* ☐ *Bush-hammered*

4) On the gripping surface there may be impurities such as:

☐ *Powder* ☐ *Water* ☐ *Oil* ☐ *Solvents* ☐ *Other* .....

5) What is the temperature of the load to be handled?

From - .....*°C to +* .....*°C* ☐ *For a short time °C* ..... ☐ *Continuously °C*.....

6) What do you need to pick up?

Description of product: .....

☐
☐
☐
☐
☐

☐
☐
☐
☐
☐ *Other*

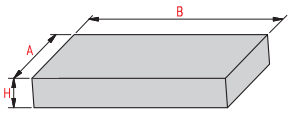
3D drawings are available on **vuototecnica.net**

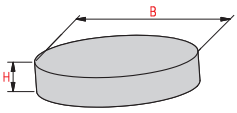
7) What shape is the product to be handled?

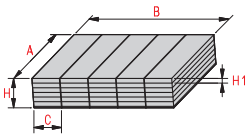
☐ Square ☐ Rectangular ☐ Triangular ☐ Round
☐ Irregular ☐ Other .....

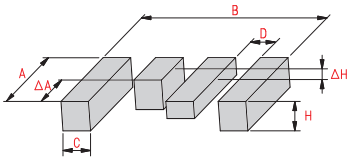
8) What are the dimensions and weight of the load?

☐ Sheet / Block ☐ Cylinder / Disc ☐ Pallets / Tables ☐ Beams / Tiles









Size	A	B	H	H1	C	D	ΔH	ΔA	Weight
Minimum	mm	mm	mm	mm	mm	mm	mm	mm	kg
Maximum	mm	mm	mm	mm	mm	mm	mm	mm	kg

9) On what machine will the Octopus be assembled?

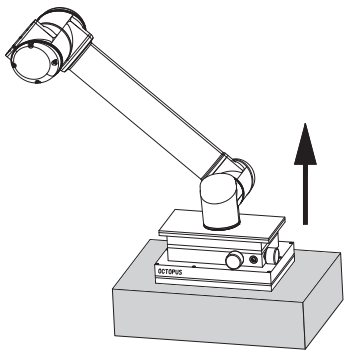
☐ Anthropomorphic robot ☐ Cartesian axes portal ☐ Other .....

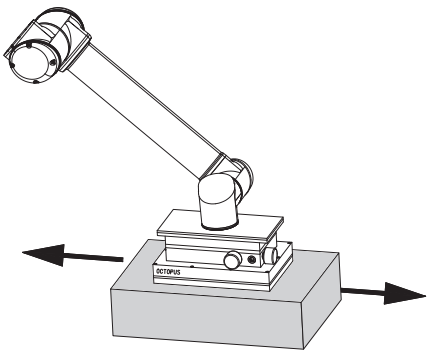
10) From where will the load be picked up?

☐ From a conveyor belt ☐ From a fixed worktop ☐ From another machine

11) How will the load be handled?

☐ Vertically ☐ Horizontally ☐ Both ways





12) In what position will the load to be handled be?

☐ Vertical ☐ Horizontal ☐ Inclined

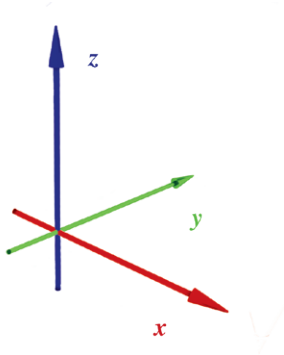
3D drawings are available on **vuototecnica.net**

13) Is the position of the load always well defined?

☐ *Yes* ☐ *No, errors of deviation may occur within:* ..... *mm*

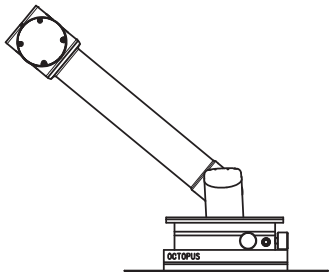
14) What are the maximum acceleration values?

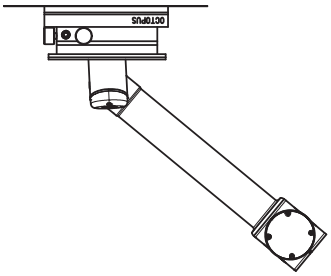
☐ *Z-axis acceleration m/s²* .....
☐ *Y-axis acceleration m/s²* .....
☐ *X-axis acceleration m/s²* .....

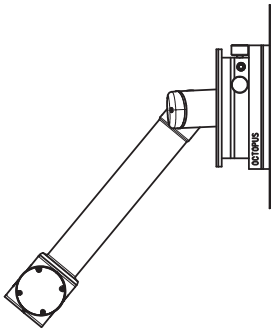


15) How is the product picked up?

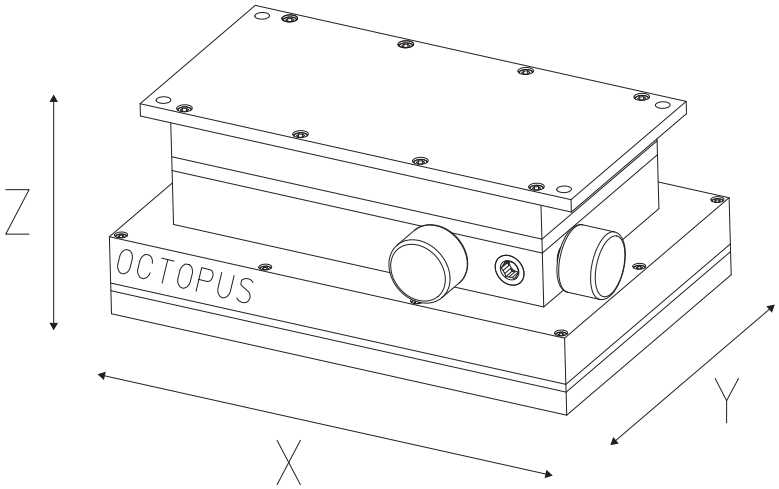
☐ *From above* ☐ *From below* ☐ *From the side*







16) What can the maximum overall dimensions of the Octopus gripping system be, related to your needs?



X ..... *mm* *Y* ..... *mm* *Z* ..... *mm*

3D drawings are available on **vuototecnica.net**

17) By what device would you like to generate the vacuum?

☐ *Electrical vacuum pump*
☐ *Pneumatic vacuum generator*

If you selected a vacuum pump, indicate the electrical characteristics available:

Electrical power: ☐ *Single-phase* ☐ *Volt 230 – 50Hz* ☐ *Other* *Volt* ..... *Hz* .....
☐ *Three-phase* ☐ *Volt 230/400 – 50Hz* ☐ *Other* *Volt* ..... *Hz* .....

If you selected a pneumatic vacuum generator, indicate the characteristics of the available compressor:

☐ *Installed power* *kW* .....
☐ *Maximum compressed air pressure* *bar* .....

18) Other technical data required:

☐ *Maximum gripping time sec* ..... ☐ *Maximum cycle time sec* .....

19) At which height above sea level is the Octopus system to be installed?

☐ *m* .....

20) What other components must be moved in addition to the product?

☐ *Separators* ☐ *Empty pallets* ☐ *Containers* ☐ *Other* .....

For Boxes, containers, vessels and similar, supply:

☐ *Relative drawings* ☐ *Layout* ☐ *Gripping arrangement* ☐ *Other* .....

21) Gripping tests on your samples

We can perform tests for gripping and handling on samples of products supplied by you and can send you videos/images relative to tests performed.

22) Contact

☐ *Do you wish to be called back?* ☐ *Yes* ☐ *No*
☐ *Are you interested in a visit?* ☐ *Yes* ☐ *No* *If yes, what date/time?* .....

HANLEY CONTROLS
CLONMEL
www.hccl.ie