



VACUUM

SEMAK**MATIC**[®]
PNEUMATIC EQUIPMENTS

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SEMAKMATIC

PNEUMATIC EQUIPMENTS

VACUUM

(5.1) VACUUM GENERATOR M5

(5.2) VACUUM GENERATOR 1/4" - 3/8" – 1/2"

(5.5) NBR SUCTION CUPS

(5.6) SILICONE SUCTION CUPS

(5.8) VACUUM SWITCH / DIGITAL

M5 VACUUM GENERATOR

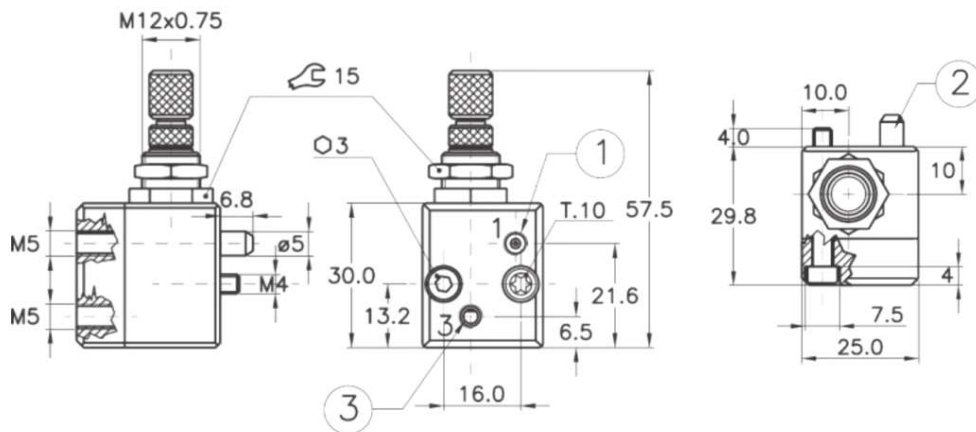


- * *Technopolimer body*
- * *Max. working pressure is 10 bar*
- * *NBR seals*
- * *Vacuum pressure control via adjusting knob*
- * *Suitable density not higher than 1.1 st.*
- * *Min working pressure is 2 bar*

ORDERING CODES for M5 VACUUM GENERATOR

M5 VACUUM GENERATOR

: SMJM5T000000VJ



*M5 serie vacuum generator
can also be used for low viscosity
liquids .*

*Continuous lubrication of the parts
Refrigeration spraying
Spraying lubricants for tools
and cutting blades*

- 1 Inlet pressure
- 2 VACUUM
- 3 Exhaust

Fluid : Compressed filtered air with or without lubrication

Suitable also for water and low viscosity liquids

Pressure range : min. 2 bar - max. 10 bar

Temperature range : - 10 ° C / + 50 ° C

Working system : Venturi effect

Materials

Adjusting knob : Nickel plated brass

Color : Black / orange

Seals : hydrogenated NBR

Body : Technopolimer

Orifice : 0,8 mm

Mounting : In any position

Vacuum condition : Max. regulation of the pressured air at 5 bar (360 mm Hg) (- 0,5 bar) vacuum

Consumption : 100 lt / min.

Ports / thread : 1 Inlet pressure (M5) , 3 Vacuum (M5) , 2 Exhaust (Ø 2 mm)

1/4" VACUUM GENERATOR

1/4" VACUUM GENERATOR

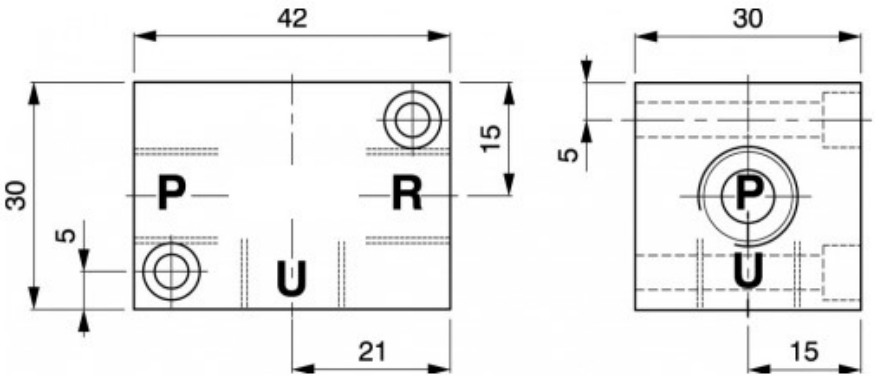


- * Aluminium body Black anodized
- * Max. working pressure is 10 bar
- * Smaller body with efficient suction value
- * 1/4" BSPP threaded U – P – R ports
- * Max. Vacuum 640 mm/Hg
- * Suction volume at 3,5 bar 30 NI/min.

ORDERING CODES for 1/4" VACUUM GENERATOR

1/4 " VACUUM GENERATOR

: SMJ14M000000VJ

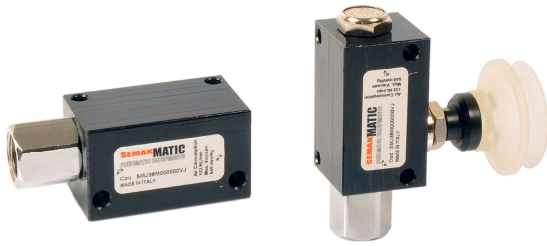


1/4 " serie vacuum generator
can also be used for low viscosity
liquids .

- 1 Inlet pressure (1/4")
- 2 VACUUM (1/4")
- 3 Exhaust (1/4")

Fluid	: Compressed filtered air without lubrication
	Suitable also for low viscosity liquids
Pressure range	: max. 10 bar
Temperature range	: - 10 ° C / + 50 ° C
Working system	: Venturi effect
Suction volume (NI/min.)	
inlet pressure at 2 bar	: 35 NI / min.
inlet pressure at 4 bar	: 30 NI / min.
inlet pressure at 6 bar	: 35 NI / min.
Weight	: 96 gr.
Mounting	: In any position
Vacuum condition	: For efficient vacuum value ,inlet pressure is 3,5 bar . (recommended)
Consumption at 3 bar	: 48 lt / min.
Max.Vacuum value	: 640 mm / Hg. ≈ 0,85 bar (kg/cm2) ≈ 85 kpa

3/8 " VACUUM GENERATOR

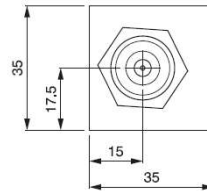
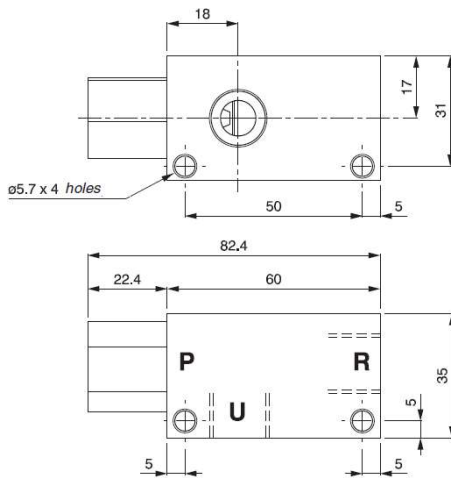


- * Aluminium body Black anodized
- * Max. working pressure is 10 bar
- * Suitable for higher loads
- * 3/8" BSPP threaded U – P – R ports
- * Max. Vacuum 670 mm/Hg
- * Suction volume at 3,5 bar 75 NI/min.

ORDERING CODES for 3/8" VACUUM GENERATOR

3/8 " VACUUM GENERATOR

: SMJ38M000000VJ



3/8 " serie vacuum generator
can also be used for low viscosity
liquids .

- 1 Inlet pressure (3/8 ")
- 2 VACUUM (3/8 ")
- 3 Exhaust (3/8 ")

Fluid : Compressed filtered air without lubrication

Suitable also for low viscosity liquids

Pressure range : max. 10 bar

Temperature range : - 10 ° C / + 50 ° C

Working system : Venturi effect

Suction values (NI / min.)

inlet pressure at 2 bar : 65 NI / min.

inlet pressure at 4 bar : 80 NI / min.

inlet pressure at 6 bar : 90 NI / min.

Weight : 245 gr.

Mounting : In any position

Vacuum condition : For efficient vacuum value , inlet pressure is 4,5 bar. (recommended)

Consumption at 3 bar : 100 lt / min.

Max.Vacuum value : 670 mm / Hg. $\approx$ 0,90 bar (kg/cm²) $\approx$ 90 kpa

1/2 " VACUUM GENERATOR

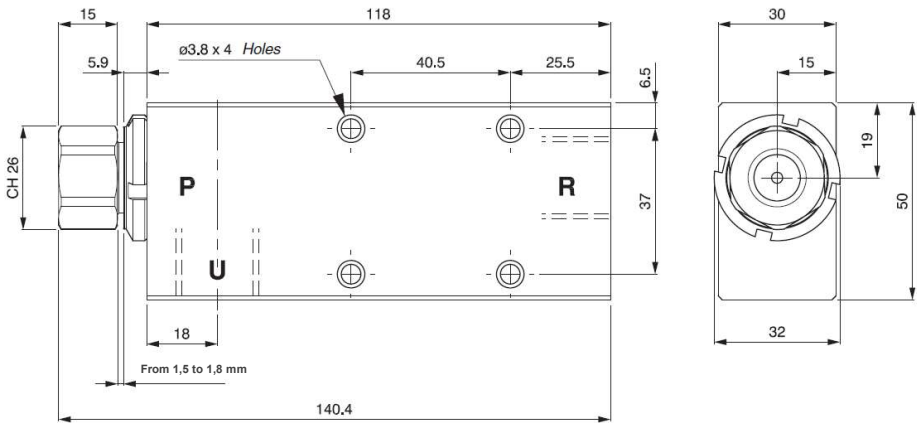
1/2 " VACUUM GENERATOR



- * Aluminium body Black anodized
- * Max. working pressure is 10 bar
- * Suitable for multi suction cup application
- * 1/2 " BSPP threaded vacuum port
- * Max. Vacuum 620 mm/Hg
- * Suction volume at 3,5 bar 270 NI/min.

ORDERING CODES for 1/2 " VACUUM GENERATOR

1/2" VACUUM GENERATOR : SMJ12M000000VJ



1/2" serie vacuum generator
can also be used for low viscosity
liquids .

- 1 Inlet pressure (1/4 ")
- 2 VACUUM (1/2 ")
- 3 Exhaust (3/8 ")

Fluid	: Compressed filtered air without lubrication
	Suitable also for low viscosity liquids
Pressure range	: max. 10 bar
Temperature range	: - 10 ° C / + 50 ° C
Working system	: Venturi effect
Suction values (NI / min.)	
inlet pressure at 2 bar	: 250 NI / min.
inlet pressure at 4 bar	: 300 NI / min.
inlet pressure at 6 bar	: 320 NI / min.
Weight	: 550 gr.
Mounting	: In any position
Vacuum condition	: For efficient vacuum value inlet pressure is 6 bar. (recommended)
Consumption at 3 bar	: 325 lt / min.
Max.Vacuum value	: 620 mm / Hg. ≈ 0,82 bar (kg/cm2) ≈ 82 kpa

NBR SUCTION CUPS


* *NBR serie single stage suction cups*

* *For 1/8" diameters are 18 mm – 25 mm – 35 mm*

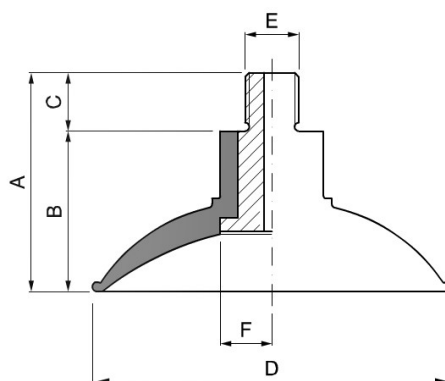
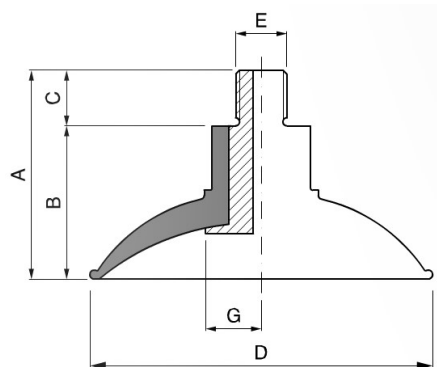
* *For 1/4" diameters are 45 mm – 60 mm - 90 mm*

ORDERING CODES for NBR suction cups

1/8" - 18 mm NBR	: SMJ18NB1800VV
1/8" - 25 mm NBR	: SMJ18NB2500VV
1/8" - 35 mm NBR	: SMJ18NB3500VV
1/4" - 45 mm NBR	: SMJ14NB4500VV
1/4" - 60 mm NBR	: SMJ14NB6000VV
1/4" - 90 mm NBR	: SMJ14NB9000VV

Ø 18 mm – Ø 25 mm – Ø 35 mm – Ø 45 mm

Ø 60 mm – Ø 90 mm



	Ø18	Ø25	Ø35	Ø45	Ø60	Ø90
A	26	17	19	31	33	54
B	12	8	10	17	22	40
C	9	9	9	14	11	14
D	18	25	35	45	60	90
E	1/8"	1/8"	1/8"	1/4"	1/4"	1/4"
F	-	-	-	-	25	25
G	10	12	15	19	-	-

NBR serie suction cups has a special resistance to oil ,heat and aging ,good mechanical properties , low degree of permanent deformation and low gaz permeability .

*Chemical resistance ,
Mineral and vegetable oils , Hydracarbons ,water , vapor and gas .
Temperature of recommended usage – 20 / + 60 °C*

How to choose a suction cup ;

$$D = 308 * \sqrt{\frac{F * K}{V * N}}$$

*D diameter of suction cup
F weight in kg.
K constant (recommended min. 1.5)
V vacuum level mm/ Hg
N number of suction cup*

Material : NBR (nitrile rubber black color)

Support material : Nickel plated brass

Diameters : 18 mm – 25 mm – 35 mm – 45 mm – 60 mm – 90 mm

Temperature of usage : - 20 °C / + 60 °C

Suction forces (recommended) : For Ø 18 mm – 0,4 kg. / Ø 25 mm – 0,8 kg / Ø 35 mm – 1,0 kg.
For Ø 45 mm – 2,0 kg. / Ø 60 mm – 2,5 kg / Ø 90 mm – 5,0 kg.

Threads for the support : 1/8" .. 18 mm – 25 mm – 35 mm / 1/4" ..45 mm – 60 mm – 90 mm

SILICONE SUCTION CUPS



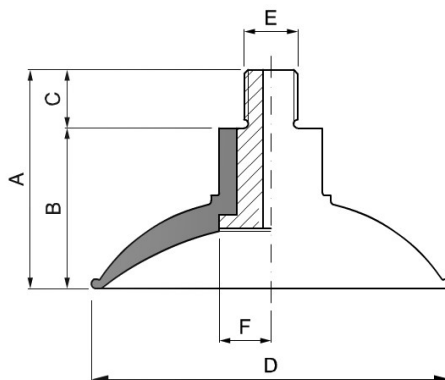
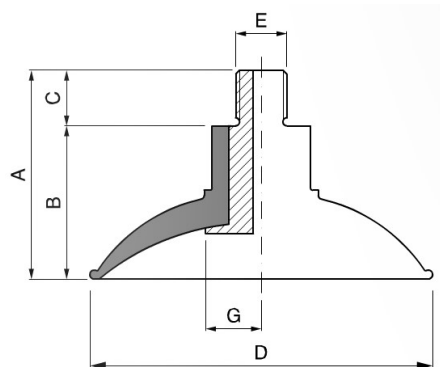
- * *SILICONE serie single stage suction cups*
- * *For 1/8" diameters are 18 mm – 25 mm – 35 mm*
- * *For 1/4" diameters are 45 mm – 60 mm – 90 mm*

ORDERING CODES for SILICONE suction cups

1/8" - 18 mm SILICONE	: SMJ18SI1800VV
1/8" - 25 mm SILICONE	: SMJ18SI2500VV
1/8" - 35 mm SILICONE	: SMJ18SI3500VV
1/4" - 45 mm SILICONE	: SMJ14SI4500VV
1/4" - 60 mm SILICONE	: SMJ14SI6000VV
1/4" - 90 mm SILICONE	: SMJ14SI9000VV

Ø 18 mm – Ø 25 mm – Ø 35 mm – Ø 45 mm

Ø 60 mm – Ø 90 mm



	Ø18	Ø25	Ø35	Ø45	Ø60	Ø90
A	26	17	19	31	33	54
B	12	8	10	17	22	40
C	9	9	9	14	11	14
D	18	25	35	45	60	90
E	1/8"	1/8"	1/8"	1/4"	1/4"	1/4"
F	-	-	-	-	25	25
G	10	12	15	19	-	-

SILICONE serie suction cups has a special resistance to oil ,heat and aging ,good mechanical properties , low degree of permanent deformation and low gaz permeability .

*Chemical resistance ,
Mineral and vegetable oils , Hydracarbons ,water , vapor and gas .*

Temperature of recommended usage – 20 / + 60 °C

$$D = 308 * \sqrt{\frac{F * K}{V * N}}$$

*D diameter of suction cup
F weight in kg.
K constant (recommended min. 1.5)
V vacuum level mm/ Hg
N number of suction cup*

Material : Silicone (white transparante)

Support material : Nickel plated brass

Diameters : 18 mm – 25 mm – 35 mm – 45 mm – 60 mm – 90 mm

Temperature of usage : - 20 °C / + 60 °C

Suction forces (recommended) : For Ø 18 mm – 0,4 kg. / Ø 25 mm – 0,8 kg / Ø 35 mm – 1,0 kg.
For Ø 45 mm – 2,0 kg. / Ø 60 mm – 2,5 kg / Ø 90 mm – 5,0 kg.

Threads for the support : 1/8" .. 18 mm – 25 mm – 35 mm / 1/4" ..45 mm – 60 mm – 90 mm

SILICONE SUCTION CUPS (bellow type)

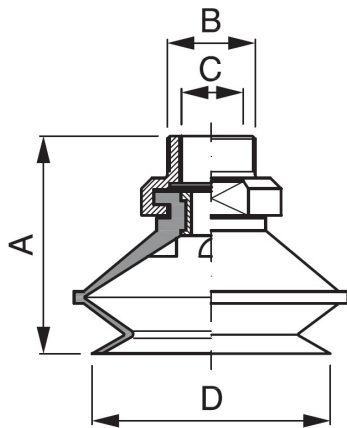


- * *SILICONE serie bellow type suction cups*
- * *Diameters are 20 mm – 30 mm – 40 mm – 50 mm*
- * *Support is 1/8 " bspp (parallel)*

ORDERING CODES for SILICONE bellow type suction cups

1/8" - 20 mm SILICONE	: SMJ18SI200ÇKV
1/8" - 30 mm SILICONE	: SMJ18SI300ÇKV
1/8" - 40 mm SILICONE	: SMJ18SI400ÇKV
1/8" - 50 mm SILICONE	: SMJ14SI500ÇKV

Ø 20 mm – Ø 30 mm – Ø 40 mm – Ø 50 mm



	Ø20	Ø30	Ø40	Ø50
A	26	33	36	43
B	12	8	10	17
C	1/8"	1/8"	1/8"	1/8"
D	20	30	40	50

Bellow suction cups has an internal filtering element .

The support material is anodized black aluminium .

*For the diameter 40 and 50
1/8 " nipple is supplied seperatly .*

SILICONE serie suction cups has a special resistance to oil ,heat and aging ,good mechanical properties , low degree of permanent deformation and low gaz permeability .

*Chemical resistance ,
Mineral and vegetable oils , Hydracarbons ,water , vapor and gas .*

Temperature of recommended usage – 20 / + 60 °C

$$D = 308 * \sqrt{\frac{F * K}{V * N}}$$

*D diameter of suction cup
F weight in kg.
K constant (recommended min. 1.5)
V vacuum level mm/ Hg
N number of suction cup*

Material : Silicone (white transparante)

Support material : Aluminium black anodized

Diameters : 20 mm – 30 mm – 40 mm – 50

Temperature of usage : - 20 °C / + 60 °C

Suction forces (recommended) : For Ø 20 mm – 1 kg. / Ø 30 mm – 1,5 kg
For Ø 40 mm – 2 kg. / Ø 50 mm – 3,0 kg

Threads for the support : 1/8" bspp (parallel)

1/8 " VACUUM SWITCH



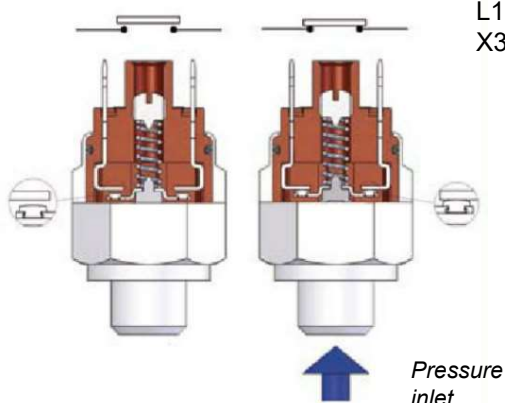
- * *BRASS body with technopolimer cover*
- * *Adjustible VACUUM range .. – 0,2 bar / - 0,9 bar*
- * *Protection cup is IP 54 or IP 65*
- * *Pressure connection thread is 1/8 " bspp (parallel)*
- * *Normally open contact (N.O.)*
- * *Pressure setting with screwdriver .*

ORDERING CODES for 1/8" VACUUM SWITCH

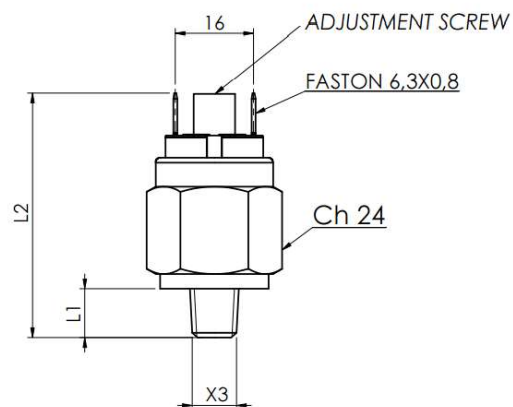
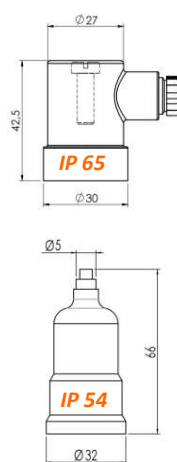
1/8 " VACUUM SWITCH (- 0,2 bar / - 0,9 bar)	: SMPO02M09BAR0V
IP 54 PROTECTION CUP	: SMPO0000IP54KK
IP 65 PROTECTION CUP	: SMPO0000IP65KK

Version : N.O

L2 : 50 mm
L1 : 10 mm
X3 : 1/8 " bspp



Pressure
inlet



Fluid : Compressed filtered air without lubrication

Suitable only for vacuum

Pressure range : - 0,2 bar / – 0,9 bar (150 mmHg / 675 mmHg)

Temperature range : - 10 ° C / + 50 ° C

Working system : Diaphragm actuated

Technical information

Max. Switching current : 0,5 A

Max. Switching voltage : 48 v ac/dc

In accordance with : EN 60730 / I

Protection degree : IP 54 / IP 65 with protection cup

Max. Applicable pressure : 15 bar

Life time : 10⁶ (1 million cycle)

Hysteresis : + / - 100 m bar (0,1 bar)

Seals / Diaphragm : NBR

Weight : 70 gr.

1/8 " DIGITAL VACUUM SWITCH

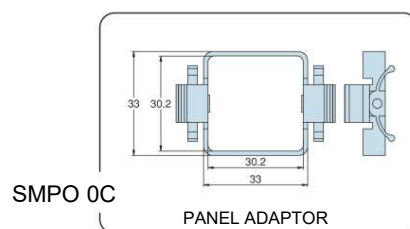
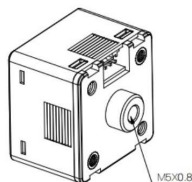
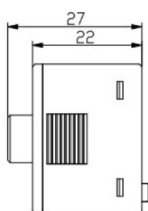
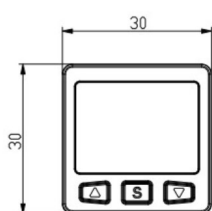

- * **TECHNOPOLIMER compact body .**
- * **Adjustable VACUUM range .. - 0,1 bar / - 0,9 bar**
- * **Prodection degree is IP 40**
- * **Pressure connection thread is 1/8 " bspp (parallel)**
- * **Power supply 24 v DC / 2 OUTPUT**
- * **1. PNP contact (No. & Nc.) ... 2. 4 – 20 mA analog**

ORDERING CODES for 1/8" VACUUM SWITCH

1/8 " VACUUM SWITCH + CABLE 2 m .long + SMPO 13 : SMPO1V

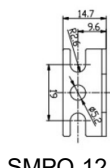
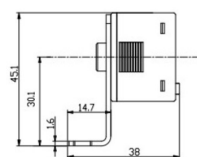
*** FOR THE PROGRAMING of THE PRODUCT PLEASE CONTACT WITH THE SALES DEPARTMENT or VISIT

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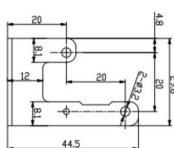


SMPO 0C

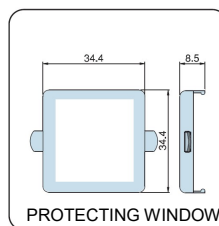
PANEL ADAPTOR



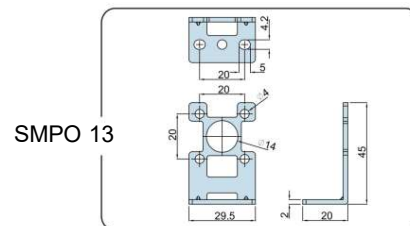
SMPO 12



SMPO 0D



PROTECTING WINDOW



SMPO 13

Fluid : Filtered compressed air , without lubricated

Suitable only for pressured air

Pressure range : min. – 0,1 bar - max. – 0,9 bar

Temperature range : - 10 ° C / + 50 ° C

Response Time : Min. 2.5 ms.

Analog Output details

Output current : 4 to 20 mA

Linearity : +/- 1 %

Load Impedance : Max. 600 Ω / Min. 50 Ω

Pressure port size : 1/8 " bspp

Cable : Oil resistant cable 2m. long (0,15 mm²)

Mounting : In any position ... look at the accessories

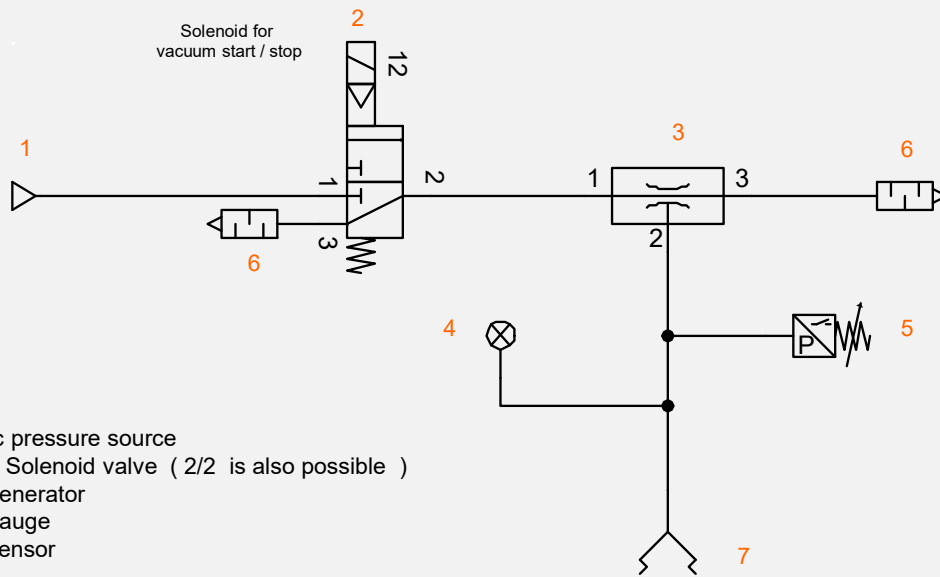
Led color : Green or Red

Switch on indicator : Orange

Weight : 80 gr.

Sample 1

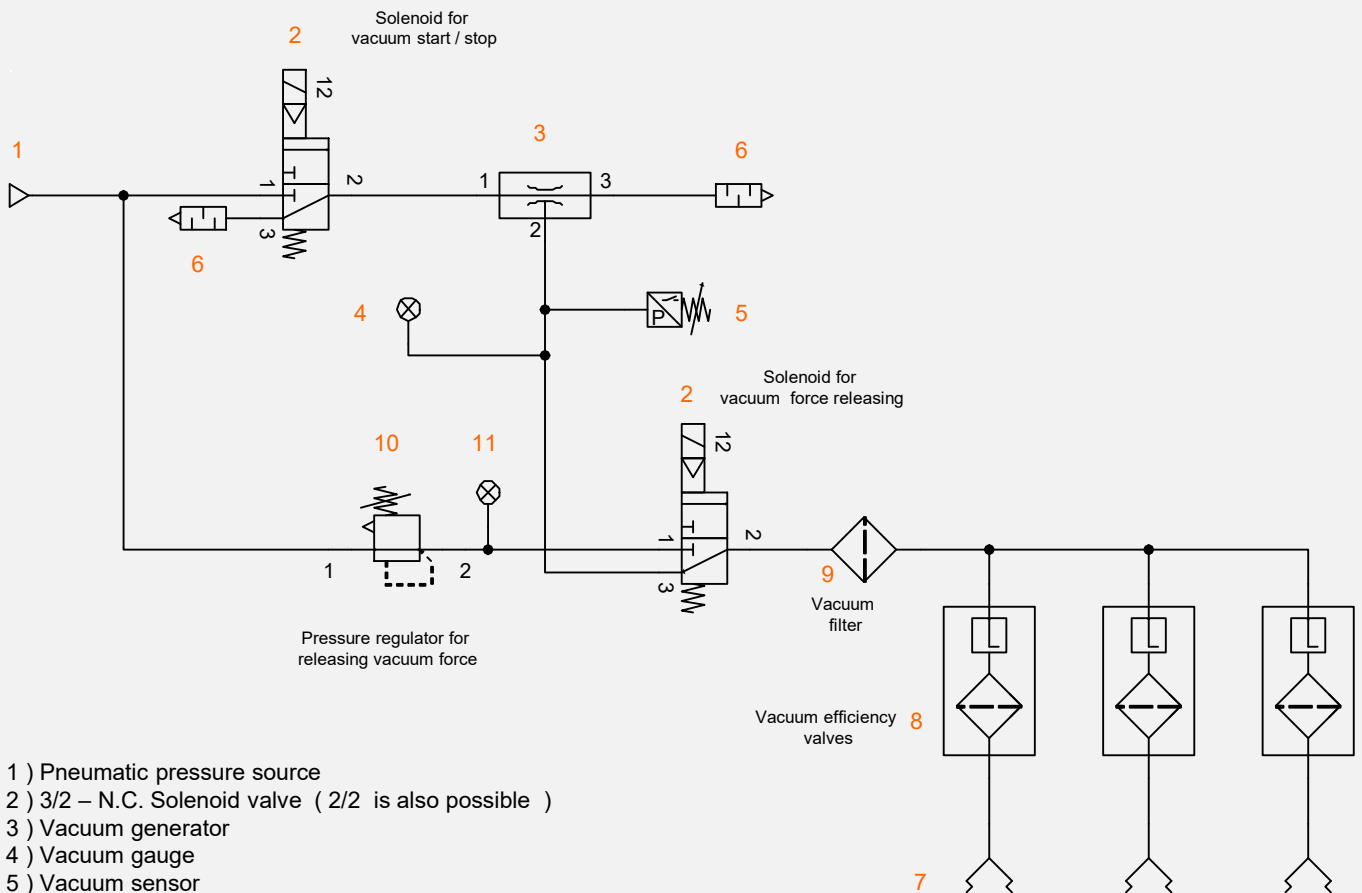
Basic Vacuum circuit with single suction cup



- 1) Pneumatic pressure source
- 2) 3/2 – N.C. Solenoid valve (2/2 is also possible)
- 3) Vacuum generator
- 4) Vacuum gauge
- 5) Vacuum sensor
- 6) Silencer
- 7) Suction cup (bellow type)

Sample 2

Vacuum circuit with multi suction cup



- 1) Pneumatic pressure source
- 2) 3/2 – N.C. Solenoid valve (2/2 is also possible)
- 3) Vacuum generator
- 4) Vacuum gauge
- 5) Vacuum sensor
- 6) Silencer
- 7) Suction cup (bellow type)
- 8) Vacuum efficiency valve
- 9) Vacuum filter
- 10) pressure regulator
- 11) pressure gauge

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