



## MES VACUUM PUMPS – Technical Data Sheet

MES vacuum pumps are designed to create vacuum in the brake boosters of electric vehicles. A vacuum pump includes a one-way valve to keep the vacuum in the booster and an electronic pressure switch: type 70/6E with relative pressure measuring sensor, type 70/6E-2 with absolute pressure measuring sensor.

<b>MECHANICAL AND ELECTRICAL CHARACTERISTICS</b>		
Vacuum Pump Type	<b>70/6 E</b>	<b>70/6 E-2</b>
		
Nominal Voltage [V <sub>DC</sub> ]	12V	12V
Test voltage [V <sub>DC</sub> ]	13V	13V
Voltage range [V <sub>DC</sub> ]	10V ÷ 16V	10V ÷ 16V
Operating Temperature [°C]	-25 ÷ +80 °C	-25 ÷ +80 °C
Storage temperature [°C]	-40 ÷ +85 °C	-40 ÷ +85 °C
MAX Current [A]	< 2.5A	< 5A
Current cut off [A]	16A	16A
MAX. Asymptote pressure @ absolute [Bar]	0.220Bar	0.220Bar
Time to empty a 2 L booster [s]	< 20s	< 10s
Min. pressure switch hysteresis [Bar]	0.050Bar	0.050Bar
Protection degree vacuum pump	IP 54	IP 54
Protection degree connectors	IP57	IP57
Noise level @ 1m (with load) [dB(A)]	< 64dBA	< 64dBA
Connector	AMP 828657-3	AMP 828657-3
Weight [g]	1160g	1370g

**MES Vacuum Pump 70/6 E****VACUUM TEST**

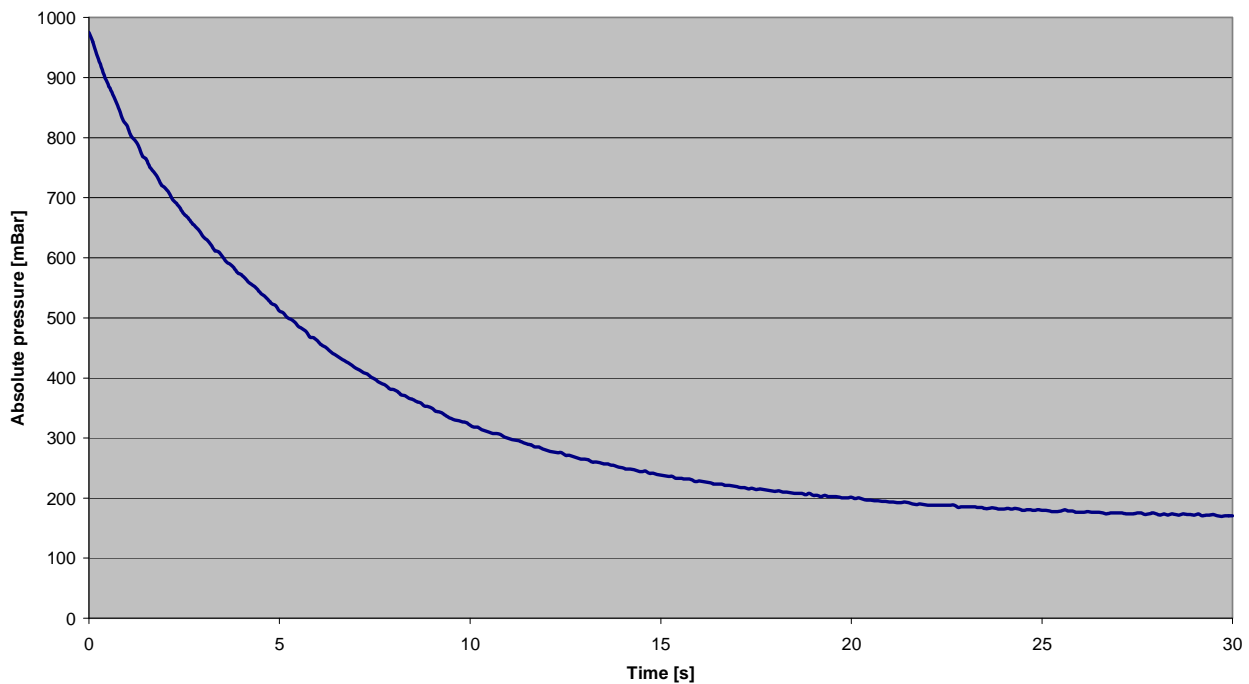
Test conditions:

Voltage 12 [VDC]

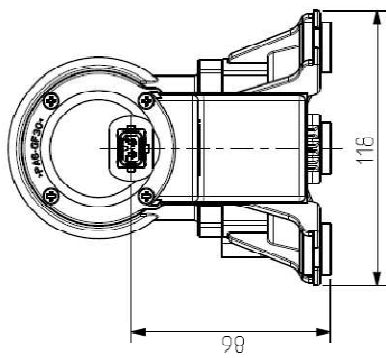
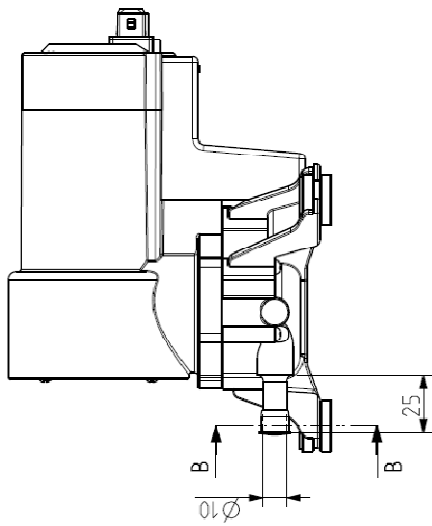
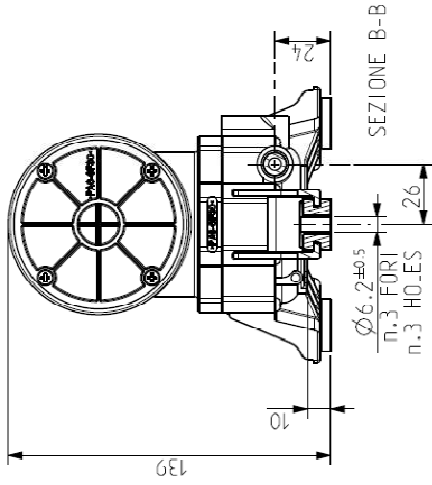
Environment temperature 25 [°C]

Time [s]	Absolute pressure tank [mBar]	Absolute pressure environment [mBar]	Relative pressure $P_{\text{tank}} - P_{\text{Environment}}$ [mBar]
0	974.9	973.8	1.1
1	819.8	972.7	-153.0
2	716.0	972.7	-256.8
3	635.1	974.9	-339.8
4	571.7	972.7	-401.0
5	511.6	972.7	-461.1
10	321.5	971.6	-650.1
20	201.3	971.6	-770.3
30	170.7	971.6	-800.9

Pressure vs time (2 liters tank)



# MES Vacuum Pump 70/6 E




CONNETTORE a 2 POLI AMP N.828657-3  
Mating AMP Female Connector N.828657-3

NOTE:  
TOLLERANZE GENERALI ±1.5  
GENERAL TOLERANCES ±1.5

Modifiche/Modification record

- 05 - Modificata Vaschetta di resinatura circuito, viti e distanziali - 05/04/11 Ossola

		Compressor/Assy DEPRESSORE 70/6 E COMPONENTISTICA	
Disegnato/Drawn Ossola	Verificato/Checked Ossola	Elemento/Part ASSIEME	Trattamenti/Treating --
Data/Date 06/04/10	Scala/Scale 1:2	Materiale/Material --	--
PIANO DI SVILUPPO/Developing PLANE SVILUPPO		Foglio/Sheet 30-90601	1 / 1
Data/Date 05		Modifica/Modification 05	--

## MES Vacuum Pump 70/6 E-2

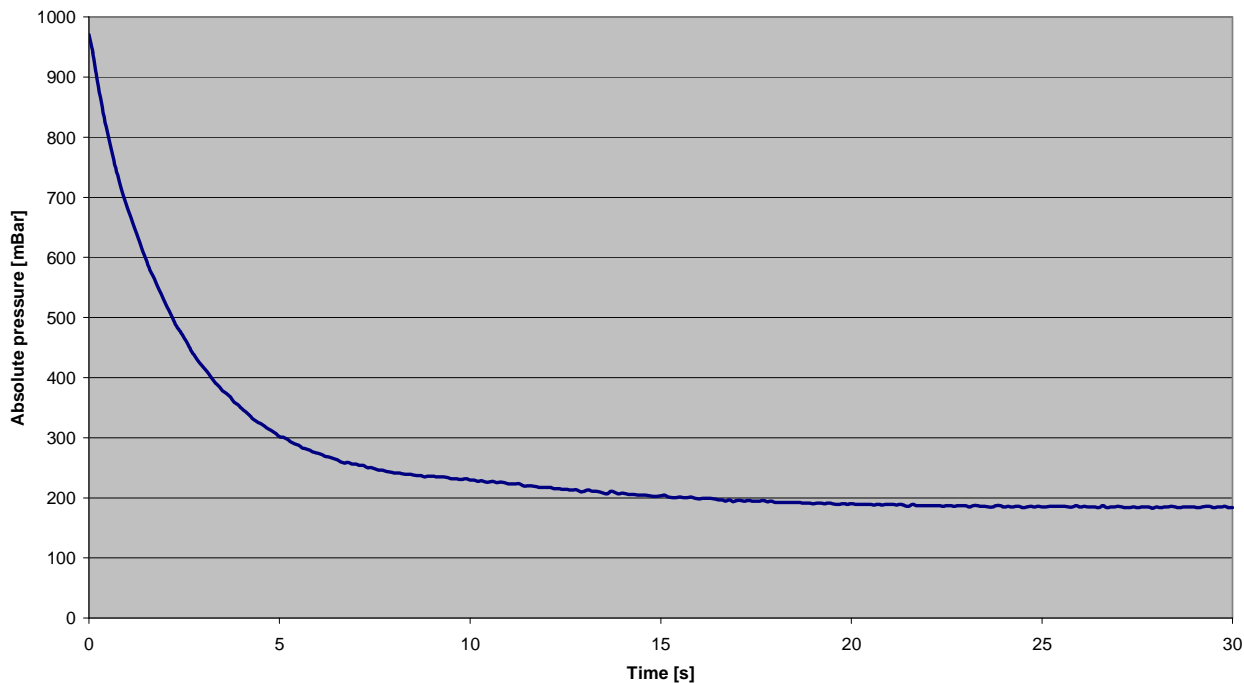
### VACUUM TEST

Test conditions:

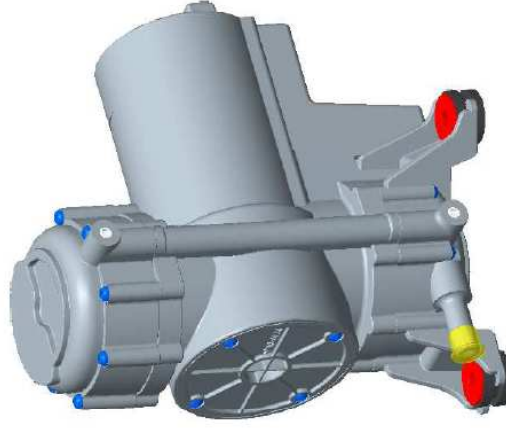
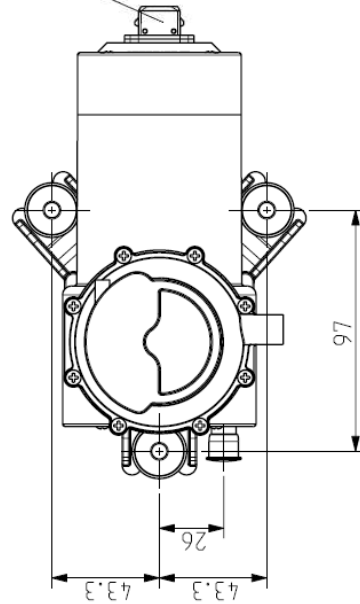
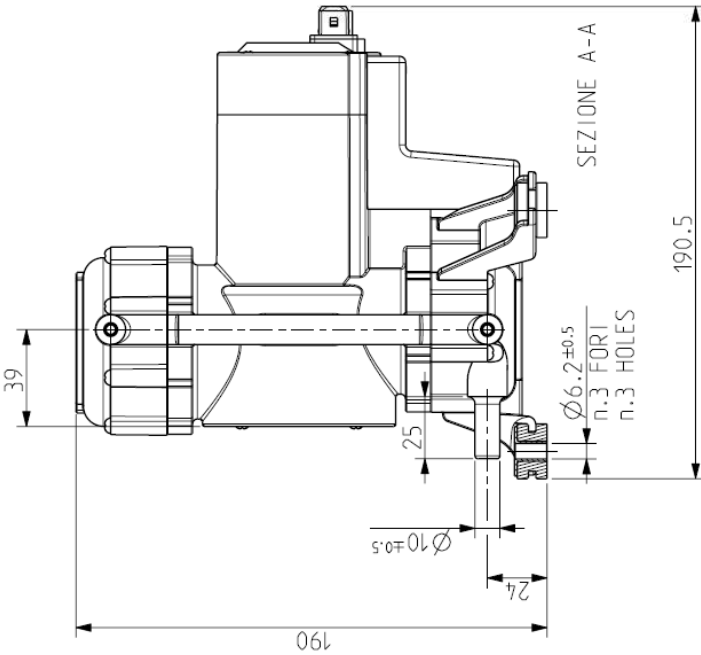
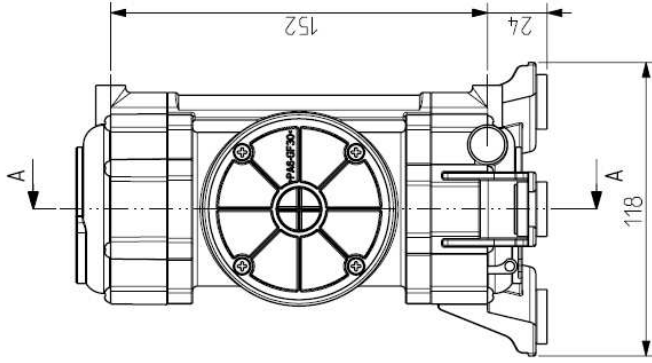
Voltage 12 [VDC]  
 Environment temperature 25 [°C]

Time [s]	Absolute pressure tank [mBar]	Absolute pressure environment [mBar]	Relative pressure $P_{\text{tank}} - P_{\text{Environment}}$ [mBar]
0	970.6	969.5	1.1
1	684.3	968.4	-284.1
2	524.7	968.4	-443.6
3	417.7	968.4	-550.7
4	348.8	969.5	-620.6
5	301.8	969.5	-667.6
10	229.7	969.5	-739.7
20	190.4	968.4	-778.0
30	183.8	969.5	-785.6

Pressure vs time (2 liters tank)



# MES Vacuum Pump 70/6 E-2



NOTE:  
TOLLERANZE GENERALI ±1.5  
GENERAL TOLERANCES ±1.5

CONNETTORE a 2 POLI AMP N.828657-3  
Mating AMP Female Connector N.828657-3

Modifiche/Modification record

 MICROMOTORI ELETTRICI SVIZZERA	Disegnato/Drawn DSS/ola	Visto/Checked	Completato/Assy.	DEPRESSORE 70/6 E-2 COMPONENTISTICA	1 / 1	
	Data/Date 27/10/10	Scala/Scale 1:2	Materiale/Material --	Elemento/Part ASSIEME	Doc./Part Number 30-90600	
					Trattamento/Treating --	