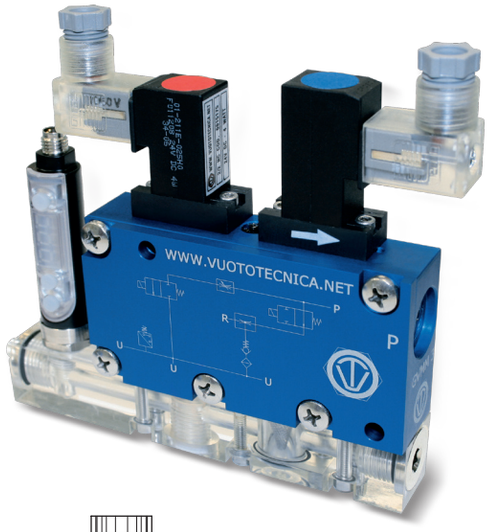
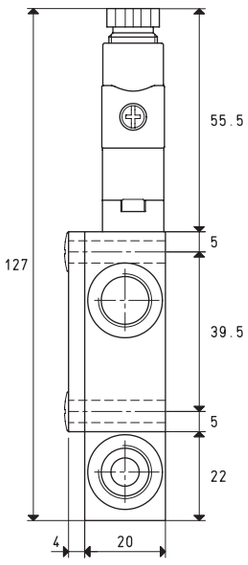
MODULAR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS SERIES GVMM

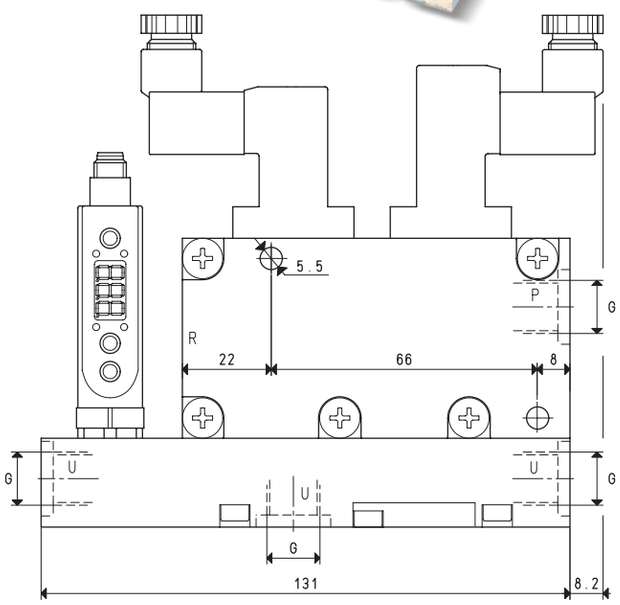
Modular multi-function vacuum generators are true independent vaccum units that offer an entire vacuum control system.
They feature a reduced thickness and weight compared to their suction capacity and they have been designed to be assembled with screws to one or more intermediate modules MI. The original internal connection system for the compressed air supply allows communication with no need for external manifolds.
This modular system allows increasing the number of independent vacuum units according to the requirements. In fact, you can order a multi-function vacuum generator and the intermediate modules with the desired capacities, already assembled, or you can assemble one or more intermediate modules to the GVMM generator that has already been installed on the machine, without having to make particular modifications. GVMM vacuum generators are composed of an anodised aluminium monobloc with lid, inside of which the silenced multiple ejectors are installed and the vacuum chamber and the compressed air supply connection are contained.
The following items are assembled externally:
- A micro solenoid valve for supplying compressed air to the generator.
- A micro solenoid valve for blowing the exhaust compressed air.
- An adjustable flow regulator for dosing the exhaust air.
- A digital vacuum switch with display and commutation LEDs for managing the compressed air supply and for signalling the safety cycle start-up.
- An anodised aluminium or transparent plexiglas manifold provided with vacuum connections with built-in suction filtre, easy to inspect, and a check valve for maintaining the vacuum in case of electricity or compressed air failure.
By activating the compressed air solenoid valve, the generator creates vacuum at the service. Once the preset maximum value is reached, the vacuum switch acts on the solenoid valve electric coil and interrupts the air supply, restoring it when the vacuum value returns below the minimum value.
Along with maintaining the vacuum level within preset safety values (hysteresis), this modulation allows saving a considerable amount of compressed air.
A second vacuum switch signal, also adjustable and independent from the first, can be used to start up the cycle when the vacuum level is suitable for the application. Once the working cycle is completed, the compressed air supply is deactivated and, at the same time, the ejection micro solenoid valve is activated for a quick restoration of the atmospheric pressure at the application.
GVMM multi-function vacuum generators can be installed in any position and are suited for interconnecting vacuum gripping systems for handling sheet steel, glass, marble, ceramic, plastic, cardboard, wood, etc., and, in particular, for the industrial robotics sector which requires eqipment with excellent performance and several independent vacuum units for controlling several applications but with reduced size and weight.

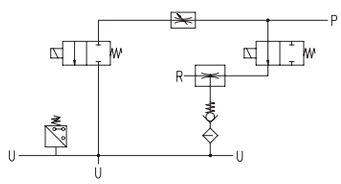
3D drawings available at **www.vuototecnica.net**

MODULAR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS
GVMM 3 and GVMM 7









P=COMPRESSED AIR CONNECTION R=EXHAUST U=VACUUM CONNECTION

Art.		GVMM 3					GVMM 7
Quantity of sucked air	cum/h	2.6	2.8	3.0	5.5	6.0	6.4
Max. vacuum level	-KPa	64	85	85	60	80	85
Final pressure	mbar abs.	360	150	150	400	200	150
Supply pressure	bar (g)	3	4	5	3	4	5
Air consumption	Nl/s	0.6	0.7	0.8	0.9	1.1	1.3
Max. quantity of blown air at 5 bar (g)	l/min			128			128
Supply solenoid valve position	NO/NC			NO			NO
Electric absorption	W			2			2
Ejection solenoid valve position	NC			NC			NC
Electric absorption	W			4			4
Supply voltage	V			24DC			24DC
Vacuum switch output				PNP			PNP
Class of protection	IP			65			65
Working temperature	°C			-10 / +60			-10 / +60
Noise level	dB(A)			66			70
Weight	g			420			420
G	Ø			G1/4"			G1/4"

Note: To order the generator: with supply solenoid valve NC, please indicate the code GVMM .. NC; without the digital vacuum switch, please indicate the code GVMM .. SV.

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

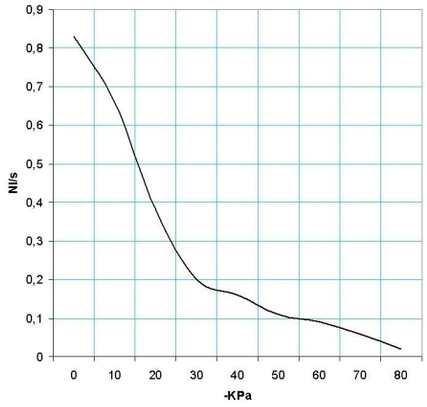
Conversion ratio: inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

GAS-NPT thread adapters available at page 1.117

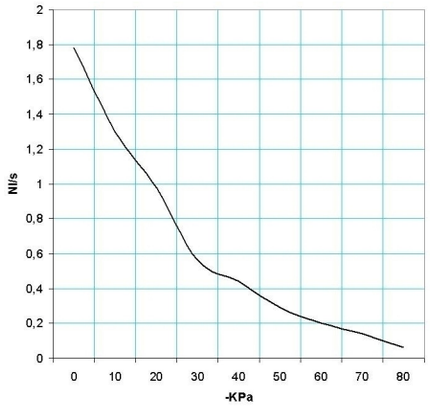
MODULAR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS
GVMM 3 and GVMM 7

Air capacity (Nl/s) at different vacuum levels (-Kpa)

GVMM3



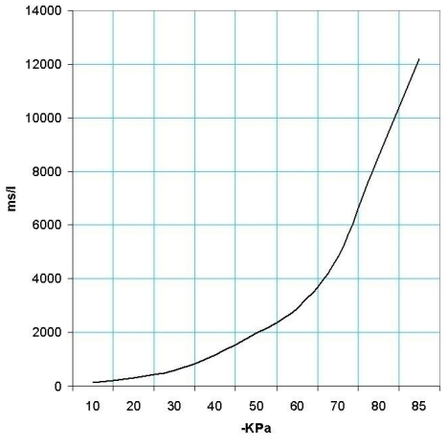
GVMM7



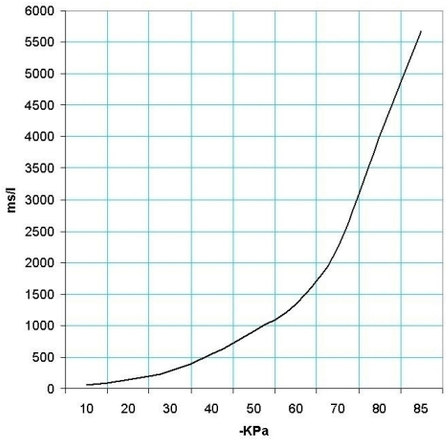
Generator	Supply press.	Air consumption	Air capacity (Nl/s) at different vacuum levels (-KPa)									Max. vacuum level
art.	bar (g)	Nl/s	0	10	20	30	40	50	60	70	80	-KPa
GVMM 3	5.0	0.8	0.83	0.66	0.38	0.20	0.16	0.11	0.09	0.06	0.02	85
GVMM 7	5.0	1.3	1.78	1.30	0.98	0.56	0.44	0.29	0.20	0.14	0.06	85

Evacuation time (ms/l=s/m³) at different vacuum levels (-Kpa)

GVMM3



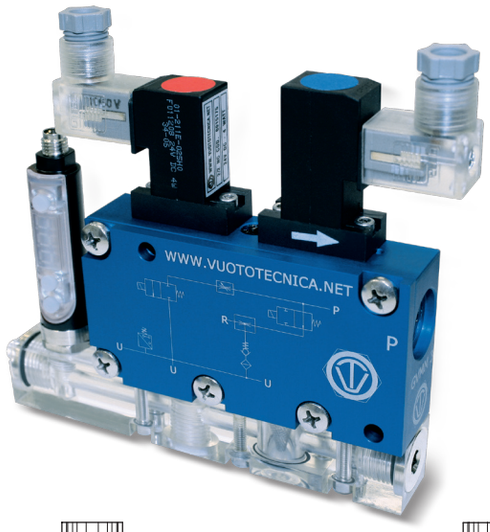
GVMM7

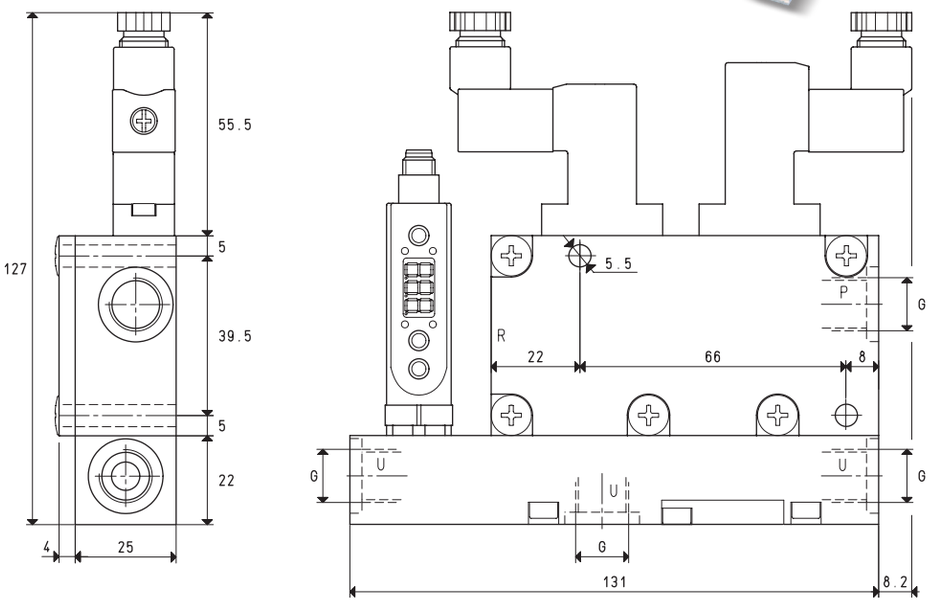


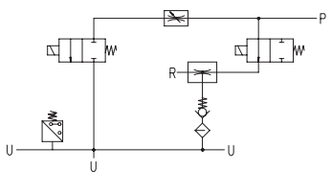
Generator	Supply press.	Air consumption	Evacuation time (ms/l = s/m³) at different vacuum levels (-KPa)									Max. vacuum level
art.	bar (g)	Nl/s	10	20	30	40	50	60	70	80	85	-KPa
GVMM 3	5.0	0.8	128	294	592	1167	1978	2889	4824	8588	12195	85
GVMM 7	5.0	1.3	59	137	275	543	921	1344	2245	3997	5676	85

ACCESSORIES AND SPARE PARTS UPON REQUEST

Art.		GVMM 3	GVMM 7
Sealing kit and reed valve	art.	00 KIT GVMM 3	00 KIT GVMM 7
Electric connection cable with axial connector for vacuum switch	art.	00 12 20	
Electric connection cable with radial connector for vacuum switch	art.	00 12 21	
Electric connection cable set with built-in energy Saving device NO and connectors	art.	00 15 202	
Electric connection cable set with built-in energy Saving device NC and connectors	art.	00 15 203	
Digital vacuum switch	art.	12 10 10	
Supply solenoid valve NO	art.	00 15 176	
Supply solenoid valve NC	art.	00 15 175	







P=COMPRESSED AIR CONNECTION R=EXHAUST U=VACUUM CONNECTION

Art.		GVMM 10					GVMM 14
Quantity of sucked air	cum/h	7.5	8.3	9.1	10.1	11.1	12.1
Max. vacuum level	-KPa	60	80	85	60	80	85
Final pressure	mbar abs.	400	200	150	400	200	150
Supply pressure	bar (g)	3	4	5	3	4	5
Air consumption	Nl/s	1.1	1.4	1.7	1.4	1.7	2.1
Max. quantity of blown air at 5 bar (g)	l/min			128			128
Supply solenoid valve position	NO/NC			NO			NO
Electric absorption	W			2			2
Ejection solenoid valve position	NC			NC			NC
Electric absorption	W			4			4
Supply voltage	V			24DC			24DC
Vacuum switch output				PNP			PNP
Class of protection	IP			65			65
Working temperature	°C			-10 / +60			-10 / +60
Noise level	dB(A)			70			72
Weight	g			460			460
G	Ø			G1/4"			G1/4"

Note: To order the generator: with supply solenoid valve NC, please indicate the code GVMM .. NC; without the digital vacuum switch, please indicate the code GVMM .. SV.

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

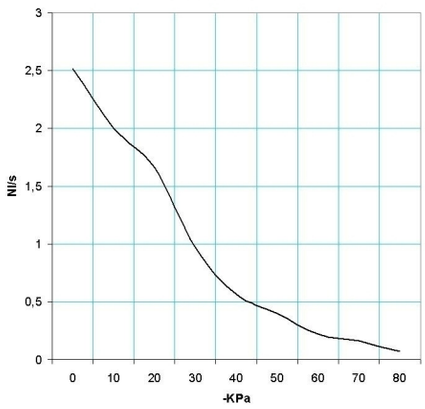
Conversion ratio: inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$

GAS-NPT thread adapters available at page 1.117

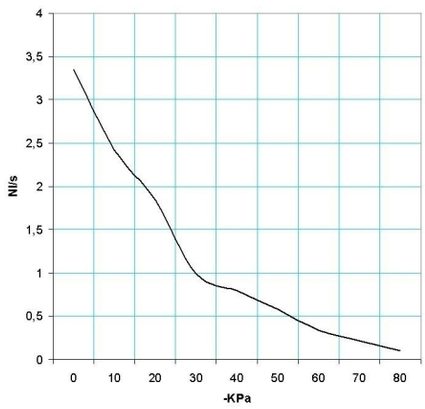
MODULAR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS
GVMM 10 and GVMM 14

Air capacity (Nl/s) at different vacuum levels (-Kpa)

GVMM10



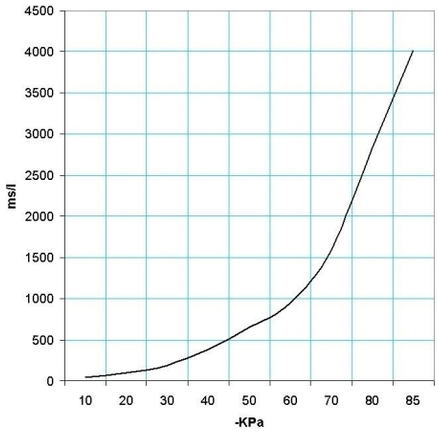
GVMM14



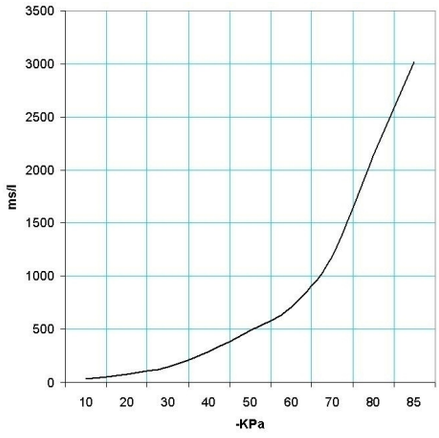
Generator	Supply press.	Air consumption	Air capacity (Nl/s) at different vacuum levels (-KPa)									Max. vacuum level
art.	bar (g)	Nl/s	0	10	20	30	40	50	60	70	80	-KPa
GVMM 10	5.0	1.7	2.52	2.00	1.66	0.97	0.56	0.40	0.22	0.16	0.07	85
GVMM 14	5.0	2.1	3.35	2.42	1.84	0.99	0.80	0.58	0.34	0.22	0.10	85

Evacuation time (ms/l=s/m³) at different vacuum levels (-Kpa)

GVMM10



GVMM14



Generator	Supply press.	Air consumption	Evacuation time (ms/l = s/m³) at different vacuum levels (-KPa)									Max. vacuum level
art.	bar (g)	Nl/s	10	20	30	40	50	60	70	80	85	-KPa
GVMM 10	5.0	1.7	42	97	195	384	651	951	1589	2828	4016	85
GVMM 14	5.0	2.1	31	72	146	288	489	714	1193	2124	3016	85

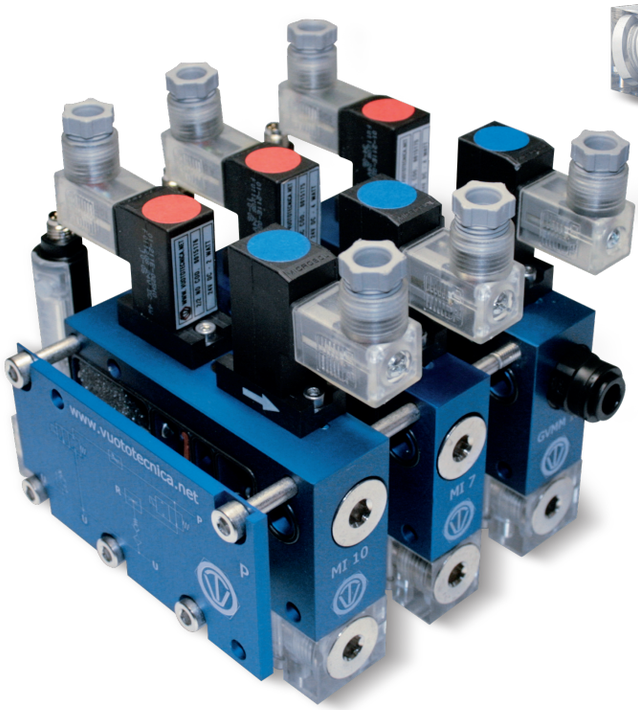
ACCESSORIES AND SPARE PARTS UPON REQUEST

Art.		GVMM 10	GVMM 14
Sealing kit and reed valve	art.	00 KIT GVMM 10	00 KIT GVMM 14
Electric connection cable with axial connector for vacuum switch	art.	00 12 20	
Electric connection cable with radial connector for vacuum switch	art.	00 12 21	
Electric connection cable set with built-in energy Saving device NO and connectors	art.	00 15 202	
Electric connection cable set with built-in energy Saving device NC and connectors	art.	00 15 203	
Digital vacuum switch	art.	12 10 10	
Supply solenoid valve NO	art.	00 15 176	
Supply solenoid valve NC	art.	00 15 175	

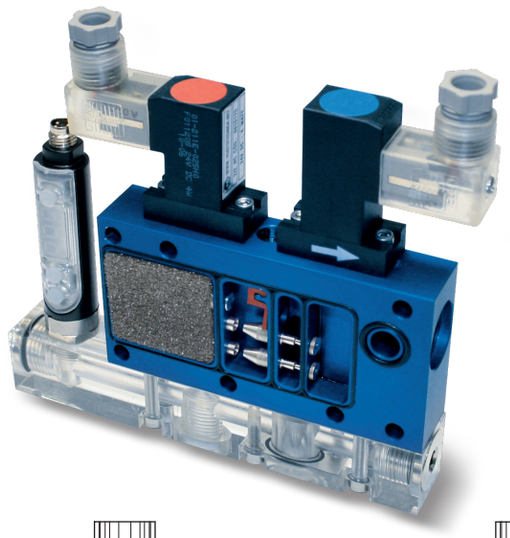
3D drawings available at **www.vuototecnica.net**

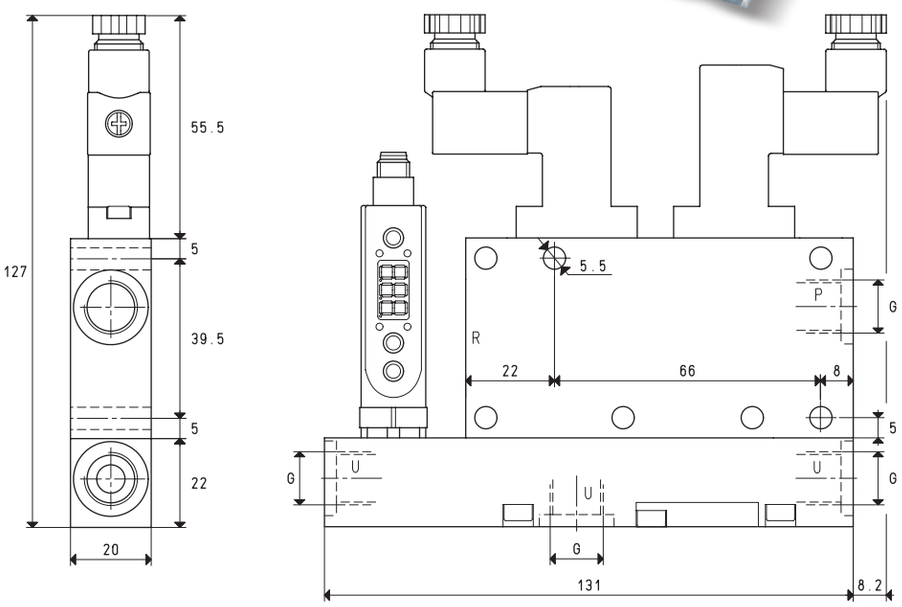
MULTI-STAGE, MULTI-FUNCTION AND MODULAR INTERMEDIATE VACUUM MODULES SERIES MI

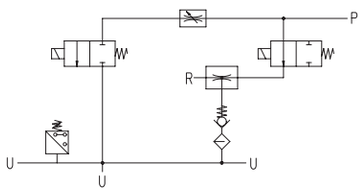
Intermediate modules are non-independent multi-stage and multi-function vacuum generators to be assembled to the generators of the GVMM range.
Their thickness and weight are reduced to the maximum compared to their suction capacity and they have been designed to be enclosed between the lid and the base of the GVMM vacuum generator and fixed with screws. The internal connections for the compressed air supply allow communication between them and the basic generator, with no need for external manifolds.
This way, each module becomes an independent vacuum unit that can control an entire vacuum system.
They can be ordered in the desired amount and capacity, either already assembled onto the GVMM multi-function vacuum generator, or separately, to be assembled to the GVMM generator previously installed onto the machine. In this case, we suggest ordering a screw kit suitable for the number of modules to be assembled.
MI intermediate vacuum modules are made up of the same elements that compose GVMM generators, except for the lid. They operate and they are used as the GVMM multi-function vacuum generator onto which they are assembled.



INTERMEDIATE VACUUM MODULES MI 3 and MI 7







P=COMPRESSED AIR CONNECTION R=EXHAUST U=VACUUM CONNECTION

Art.		MI 3					MI 7
Quantity of sucked air	cum/h	2.6	2.8	3.0	5.5	6.0	6.4
Max. vacuum level	-KPa	64	85	85	60	80	85
Final pressure	mbar abs.	360	150	150	400	200	150
Supply pressure	bar (g)	3	4	5	3	4	5
Air consumption	Nl/s	0.6	0.7	0.8	0.9	1.1	1.3
Max. quantity of blown air at 5 bar (g)	l/min			128			128
Supply solenoid valve position	NO/NC			NO			NO
Electric absorption	W			2			2
Ejection solenoid valve position	NC			NC			NC
Electric absorption	W			4			4
Supply voltage	V			24DC			24DC
Vacuum switch output				PNP			PNP
Class of protection	IP			65			65
Working temperature	°C			-10 / +60			-10 / +60
Noise level	dB(A)			66			70
Weight	g			380			380
G	Ø			G1/4"			G1/4"

Note: To order the generator: with supply solenoid valve NC, please indicate the code MI .. NC; without the digital vacuum switch, please indicate the code MI .. SV.

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

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

GAS-NPT thread adapters available at page 1.117