

MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS SERIES MVG

These generators are true independent vacuum units that can control an entire vacuum gripping system. Their distinctive features are their compact size and great suction capacity.

They are composed of a monobloc anodised aluminium structure onto which are assembled:

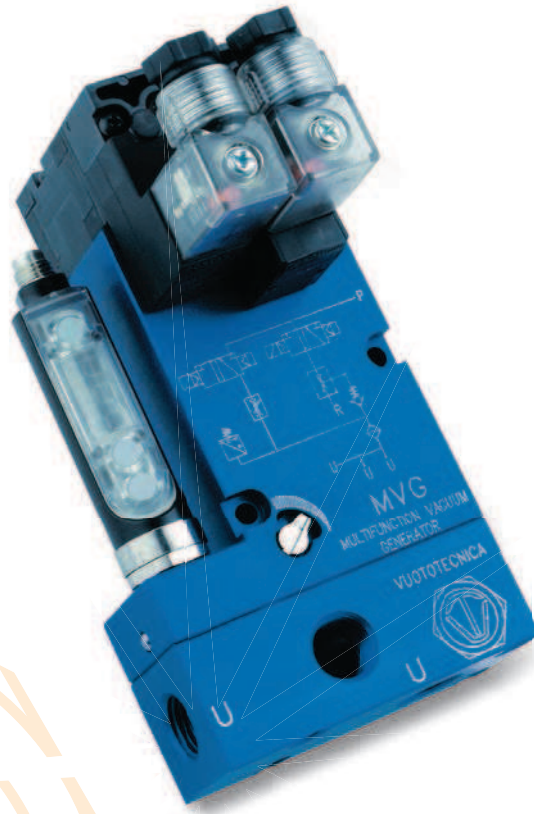
- A modular and silenced multi-stage vacuum generator.
- A micro solenoid valve for supplying compressed air to the generator.
- A micro solenoid valve for blowing the exhaust compressed air.
- An adjustable flow regulator for dosing the exhaust air.
- A unidirectional check valve, located on the suction inlet, for maintaining the vacuum in case of electricity failure.
- A digital vacuum switch provided with display and commutation LEDs, for managing the compressed air supply and for signalling the safety cycle start-up.
- An anodised aluminium manifold provided with vacuum connections and a built-in filter easy to inspect.

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.

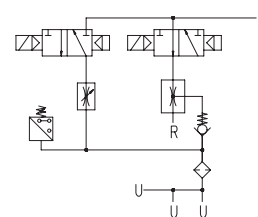
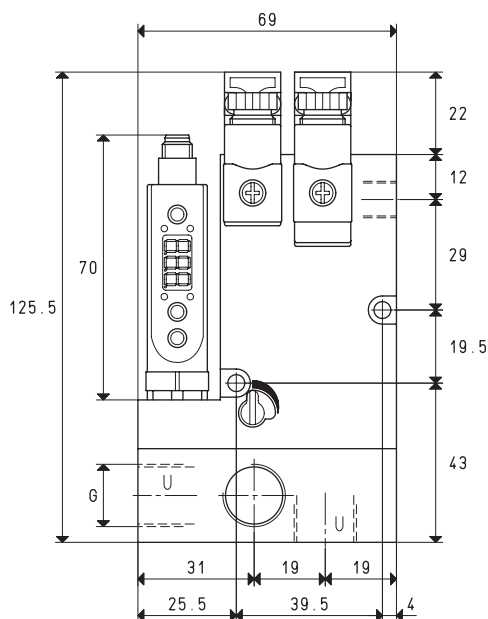
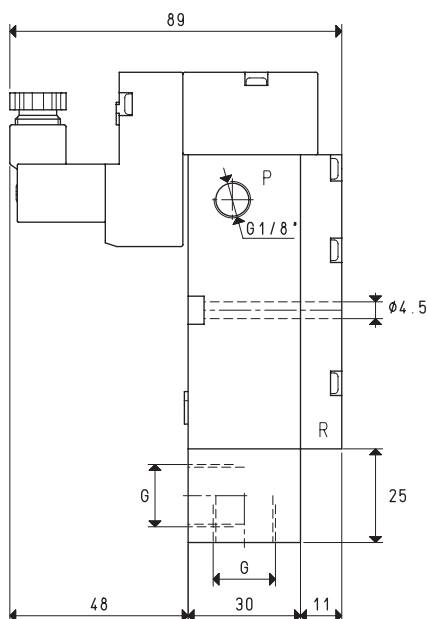
Along with maintaining the vacuum level within preset safety values (hysteresis), this modulation allows saving a considerable amount of compressed air.

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.

MVG 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 equipment with excellent performance and with size and weight reduced to the minimum.



MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS MVG 3 and MVG 7



P=COMPRESSED AIR CONNECTION		R=EXHAUST		U=VACUUM CONNECTION			
Art.						MVG 3	MVG 7
Quantity of sucked air	cum/h	2.8	3.0	3.2	5.6	6.0	6.6
Max. vacuum level	-KPa	50	70	85	50	70	85
Final pressure	mbar abs.	500	300	150	500	300	150
Supply pressure	bar (g)	3	4	5	3	4	5
Air consumption	l/s	0.5	0.6	0.8	0.8	1.0	1.3
Max. quantity of blown air at 5 bar	l/min			205			205
Supply solenoid valve position	NO/NC			NO			NO
Ejection solenoid valve position	NC			NC			NC
Supply voltage	V			24 DC			24 DC
Electric absorption	W			2 x 2			2 x 2
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	Kg			0.666			0.670
G	Ø			G1/4"			G3/8"

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

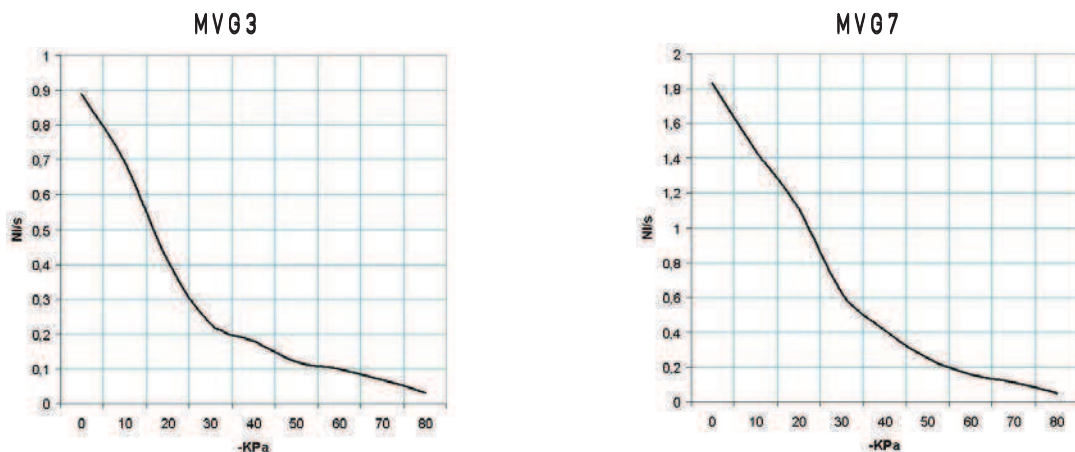
Note: All the vacuum data indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and are obtained with a constant supply pressure.

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

GAS-NPT thread adapters available at page 1.117

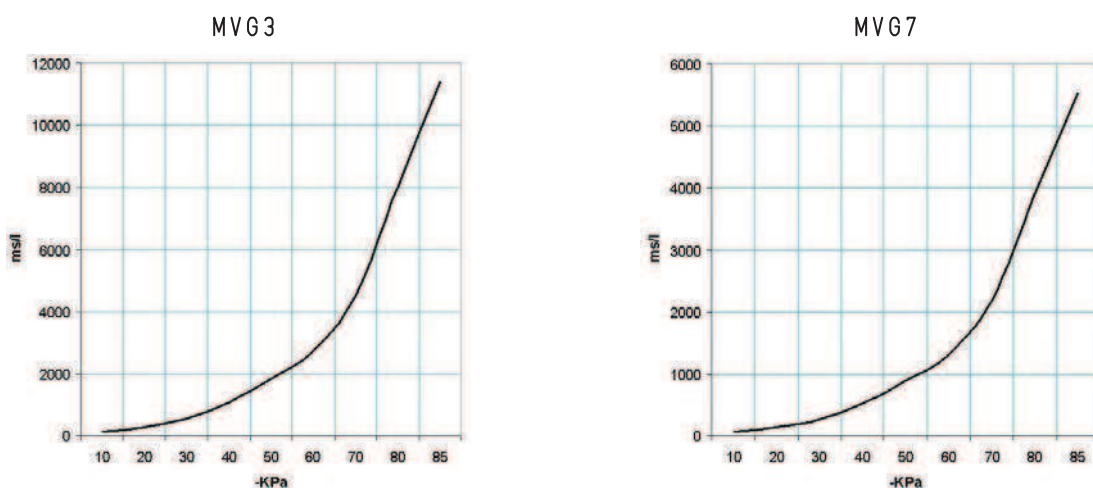
MULTI-FUNCTION VACUUM GENERATORS MVG 3 and MGV 7

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



Generator art.	Supply press. bar (g)	Air consumption NI/s	Air capacity (NI/s) at different vacuum levels (-KPa)										Max. vacuum level
			0	10	20	30	40	50	60	70	80	-KPa	
MVG 3	5.0	0.8	0.89	0.69	0.41	0.23	0.18	0.12	0.10	0.07	0.03	85	
MVG 7	5.0	1.3	1.72	1.44	1.11	0.63	0.41	0.25	0.16	0.11	0.05	85	

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

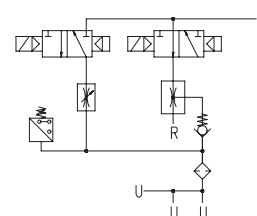
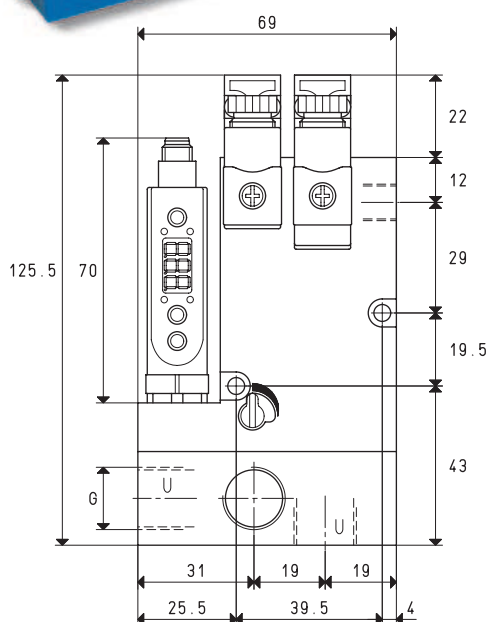
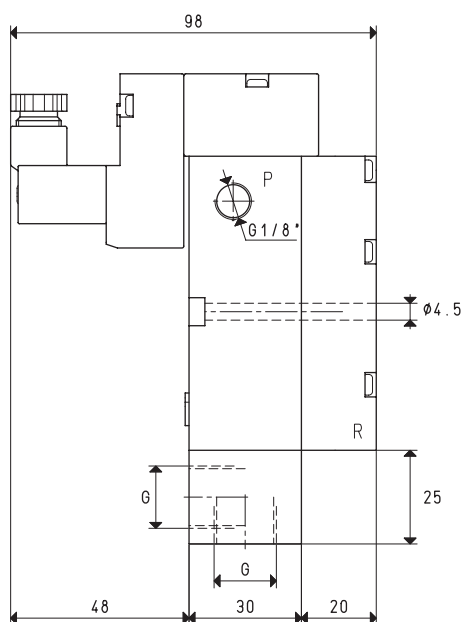


Generator art.	Supply press. bar (g)	Air consumption NI/s	Evacuation time (ms/l = s/m³) at different vacuum levels (-KPa)									Max. vacuum level
			10	20	30	40	50	60	70	80	85	-KPa
MVG 3	5.0	0.8	119	274	552	1088	1845	2694	4499	8009	11373	85
MVG 7	5.0	1.3	58	133	268	529	897	1310	2188	3895	5531	85

ACCESSORIES AND SPARE PARTS UPON REQUEST

Art.		MVG 3	MVG 7
Sealing kit and reed valve	art.	00 KIT MVG 3	00 KIT MVG 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 15 155
Supply solenoid valve NC	art.		00 15 156

MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS MVG 10 and MVG 14



P=COMPRESSED AIR CONNECTION		R=EXHAUST		U=VACUUM CONNECTION			
Art.						MVG 10	MVG 14
Quantity of sucked air	cum/h	7.7	8.4	9.2	10.2	11.2	12.2
Max. vacuum level	-KPa	50	70	85	50	70	85
Final pressure	mbar abs.	500	300	150	500	300	150
Supply pressure	bar (g)	3	4	5	3	4	5
Air consumption	l/s	0.9	1.3	1.7	1.3	1.7	2.1
Max. quantity of blown air at 5 bar (g)	l/min			205			205
Supply solenoid valve position	NO/NC			NO			NO
Ejection solenoid valve position	NC			NC			NC
Supply voltage	V			24 DC			24 DC
Electric absorption	W			1.4 x 2			1.4 x 2
Vacuum switch output				PNP			PNP
Class of protection	IP			65			65
Working temperature	°C			-10 / +60			-10 / +60
Noise level	dB(A)			62			70
Weight	Kg			0.716			0.720
G	Ø			G3/8"			G3/8"

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

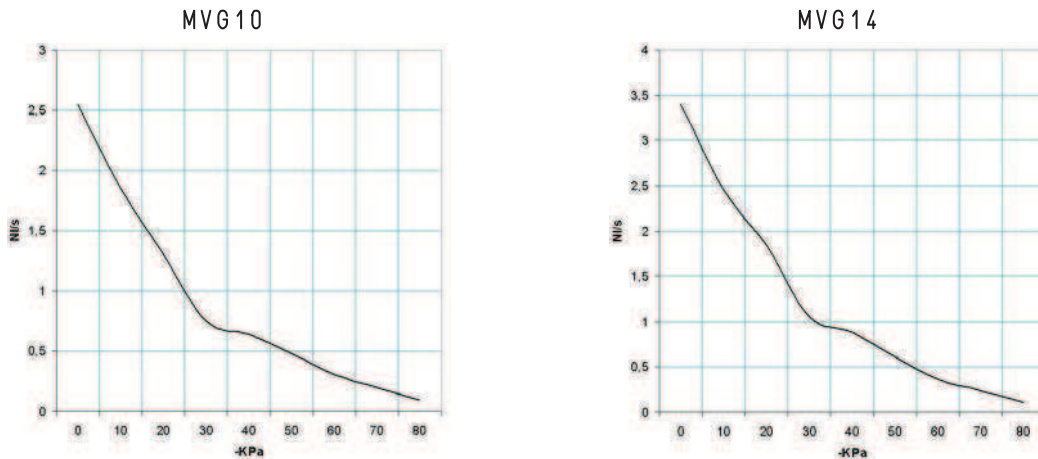
Note: All the vacuum data indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and are obtained with a constant supply pressure.

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

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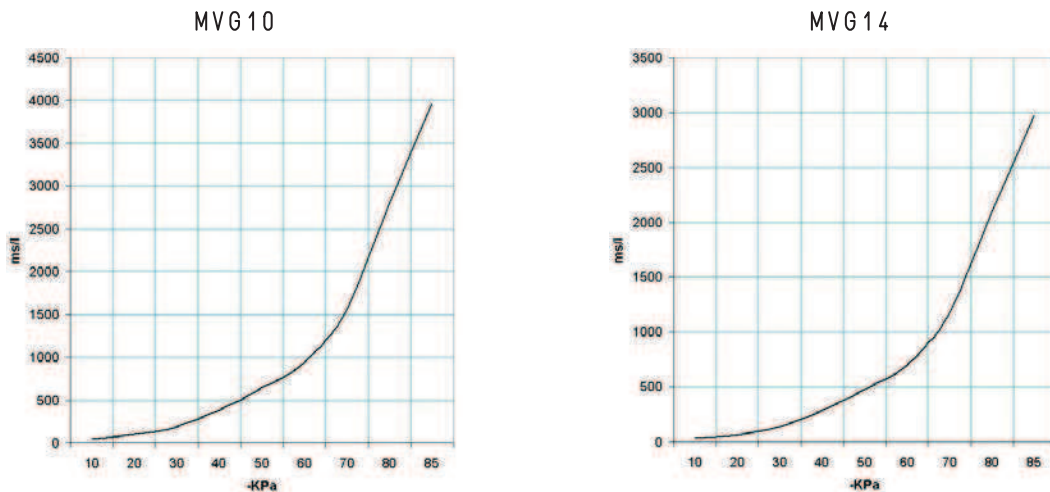
MULTI-FUNCTION VACUUM GENERATORS MVG 10 and MVG 14

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



Generator art.	Supply press. bar (g)	Air consumption NI/s	Air capacity (NI/s) at different vacuum levels (-KPa)										Max. vacuum level
			0	10	20	30	40	50	60	70	80	-KPa	
MVG 10	5.0	1.7	2.55	1.85	1.30	0.75	0.64	0.48	0.30	0.20	0.09	85	
MVG 14	5.0	2.1	3.40	2.45	1.84	1.05	0.88	0.61	0.36	0.24	0.11	85	

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



Generator art.	Supply press. bar (g)	Air consumption NI/s	Evacuation time (ms/l = s/m ³) at different vacuum levels (-KPa)									Max. vacuum level -KPa
			10	20	30	40	50	60	70	80	85	
MVG 10	5.0	1.7	41	95	192	379	642	938	1567	2790	3962	85
MVG 14	5.0	2.1	31	71	144	284	482	704	1175	2092	2971	85

ACCESSORIES AND SPARE PARTS UPON REQUEST

Art.		MVG 10	MVG 14
Sealing kit and reed valve	art.	00 KIT MVG 10	00 KIT MVG 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 15 155
Supply solenoid valve NC	art.		00 15 156