

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 filtre 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.



3D drawings available at www.vuototecnica.net

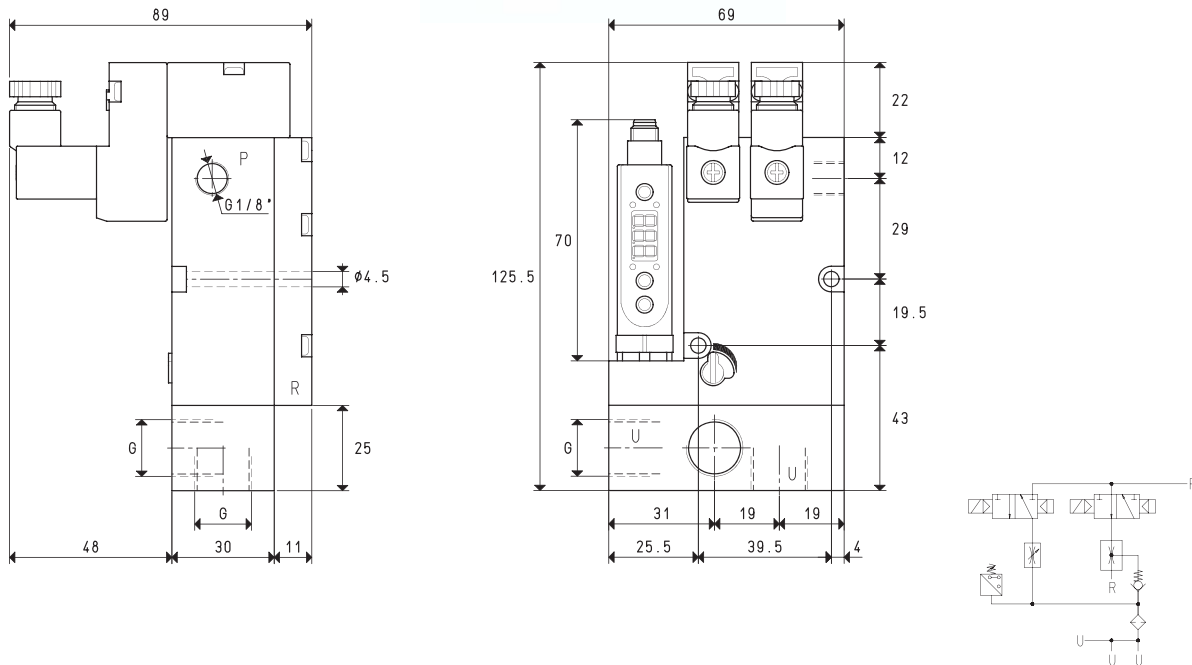
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MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS MVG 3 and MVG 7



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	NI/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.

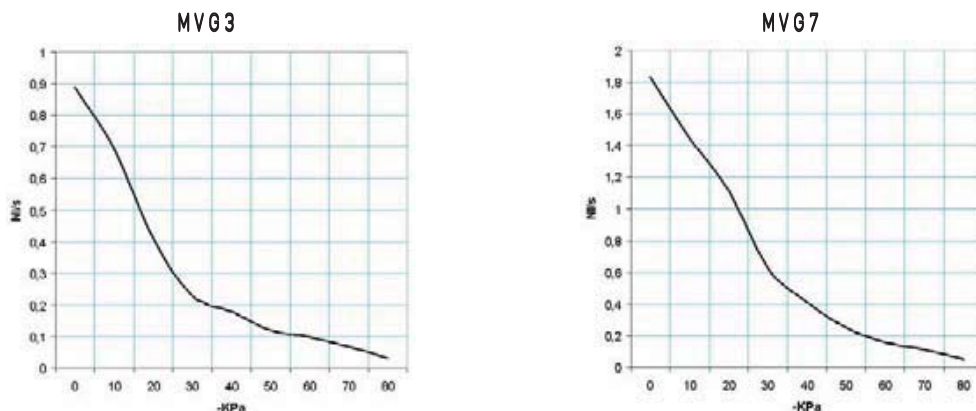
Conversion ratio: inch = $\frac{\text{mm}}{25.4}$; pounds = $\frac{\text{g}}{453.6}$ = $\frac{\text{Kg}}{0.4536}$

GAS-NPT thread adapters available at page 1.117

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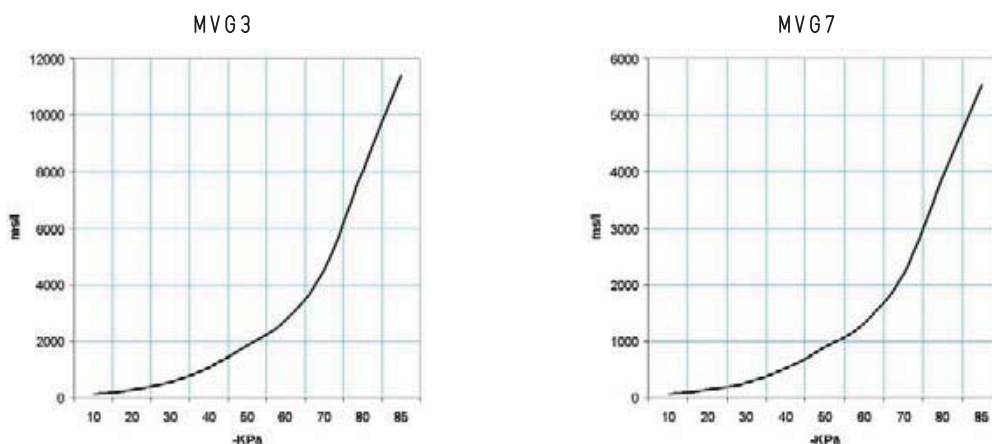
MULTI-FUNCTION VACUUM GENERATORS MVG 3 and MG 7

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 -KPa
			0	10	20	30	40	50	60	70	80	85	
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/m^3) 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 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	

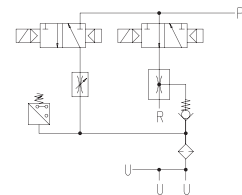
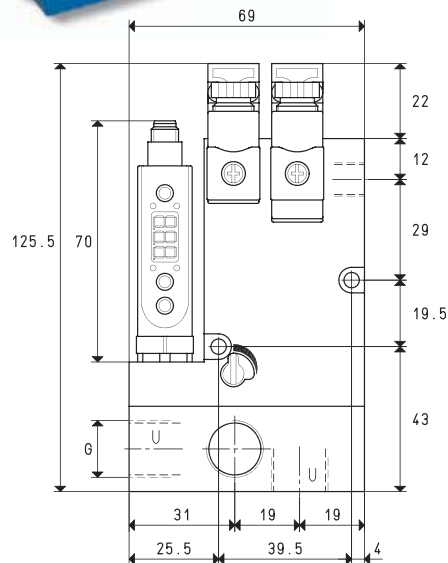
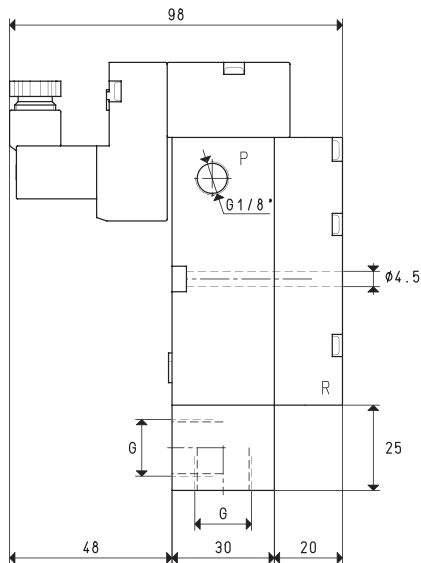
ACCESSORIES AND SPARE PARTS UPON REQUEST

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	art.	00 15 202
Saving device NO and connectors	art.	00 15 203
Electric connection cable set with built-in energy	art.	12 10 10
Saving device NC and connectors	art.	00 15 155
Digital vacuum switch	art.	00 15 156
Supply solenoid valve NO	art.	
Supply solenoid valve NC	art.	

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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	NI/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.

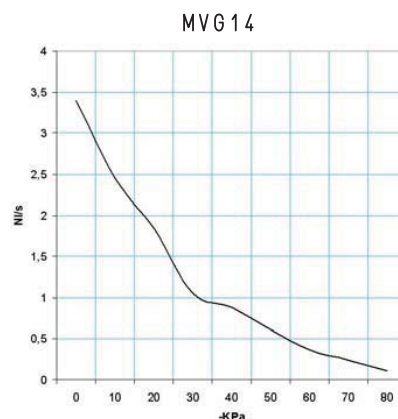
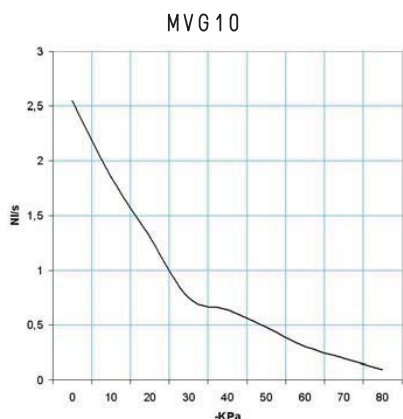
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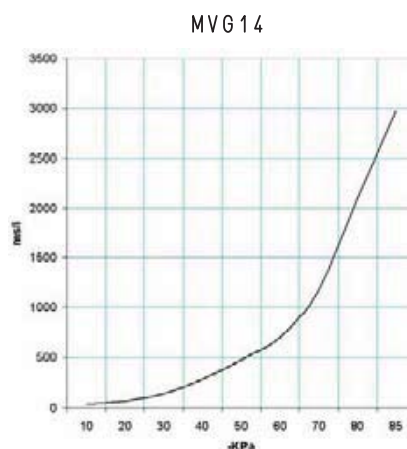
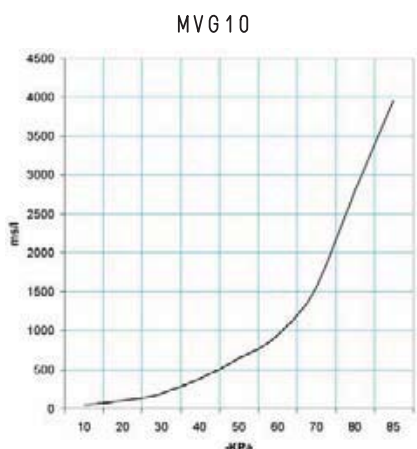
MULTI-FUNCTION VACUUM GENERATORS MVG 10 and MVG 14

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 -KPa
			0	10	20	30	40	50	60	70	80		
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/m^3) 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	art.	00 15 202
Saving device NO and connectors	art.	00 15 203
Electric connection cable set with built-in energy	art.	12 10 10
Saving device NC and connectors	art.	00 15 155
Digital vacuum switch	art.	00 15 156
Supply solenoid valve NO	art.	
Supply solenoid valve NC	art.	

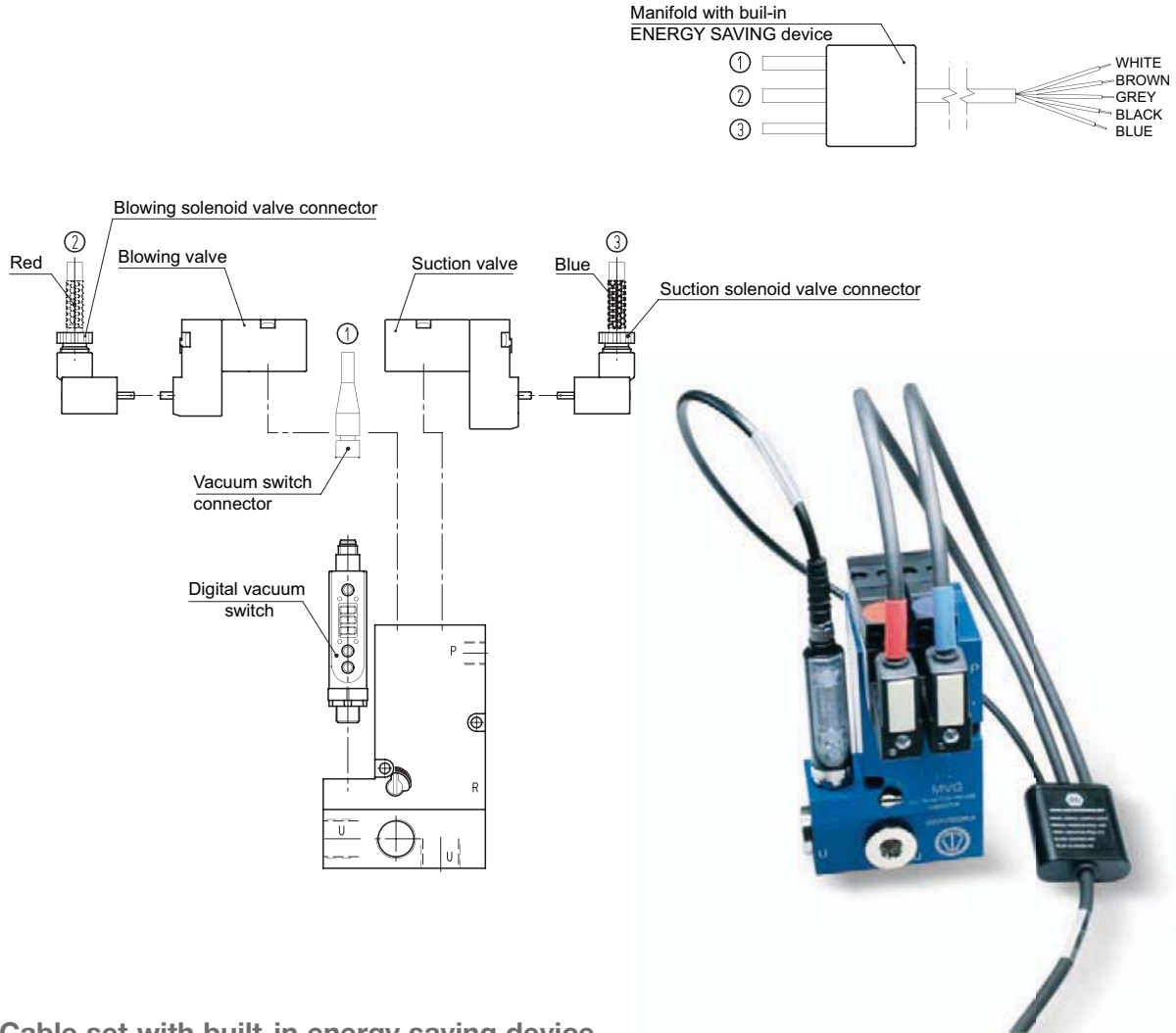
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ACCESSORIES AND SPARE PARTS FOR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS SERIES MVG



Cable set with built-in energy saving device



Art.	Description
00 15 202	Cable set with built-in energy saving device for connection to: <ul style="list-style-type: none"> - Digital vacuum switch - Supply solenoid valve NO - Ejection solenoid valve NC Cable length = 5 mt.

ACCESSORIES AND SPARE PARTS FOR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS SERIES MVG

Cable set with built-in energy saving device



Art.	Description
00 15 203	Cable set with built-in energy saving device for connection to: - Digital vacuum switch - Supply solenoid valve NC - Ejection solenoid valve NC Cable length= 5 mt.

Connector



Art.	Description
00 15 157	Connector with LED for micro solenoid valve

Cable with axial connector



Art.	Description
00 12 20	Electric connection cable with axial connector for digital vacuum switch

Cable with radial connector



Art.	Description
00 12 21	Electric connection cable with radial connector for digital vacuum switch

3D drawings available at www.vuototecnica.net

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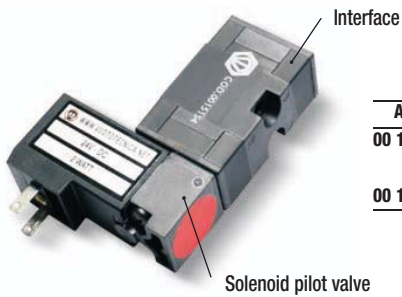
ACCESSORIES AND SPARE PARTS FOR MULTI-STAGE AND MULTI-FUNCTION VACUUM GENERATORS SERIES MVG

Supply solenoid valve NO



Art.	Description
00 15 155	NO solenoid pilot valve with built-in low-absorption electric coil
00 15 154	Interface

Supply solenoid valve NC



Art.	Description
00 15 156	NC solenoid pilot valve with built-in low-absorption electric coil
00 15 154	Interface



Ejection solenoid valve spare plate



Art.	Description
00 15 178	Ejection solenoid valve spare plate

Digital vacuum switch



Art.	Description
12 10 10	Digital vacuum switch