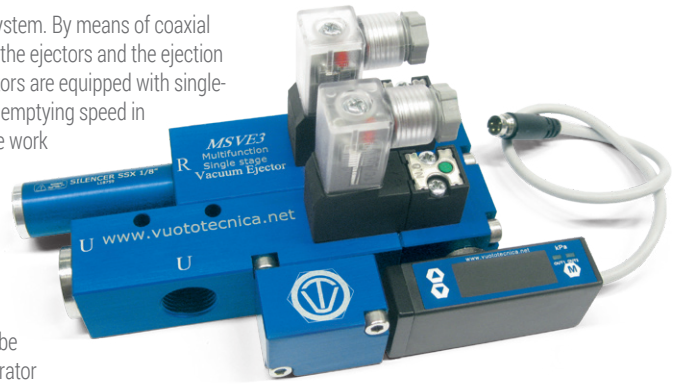
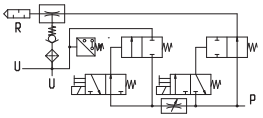
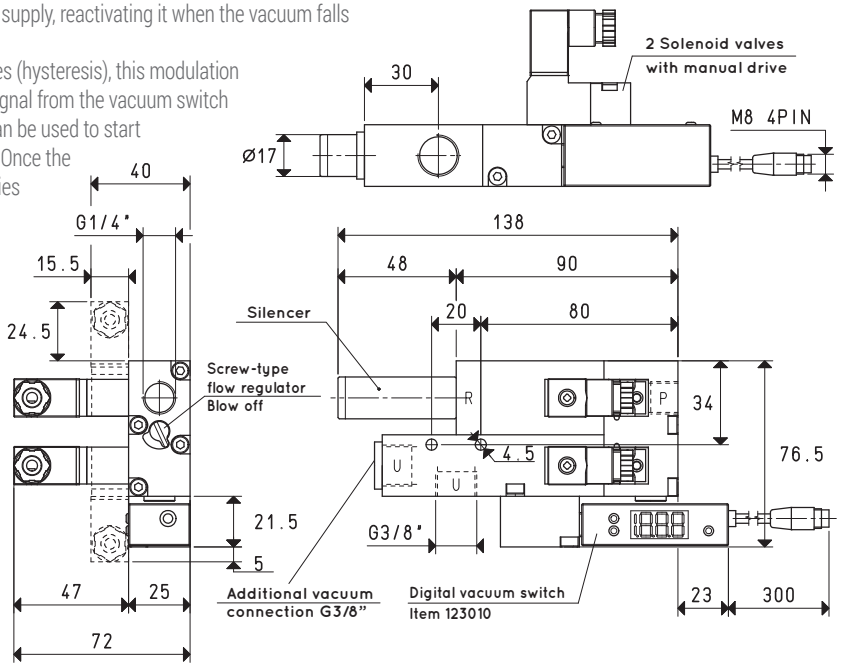
SINGLE-STAGE AND MULTI-FUNCTION VACUUM GENERATORS, MSVE SERIES

The vacuum generators of this new series can fully drive a negative pressure gripping system. By means of coaxial shutters, the original compressed air supply system feeds large quantities of air to both the ejectors and the ejection system, thereby ensuring faster gripping and release of the load. These vacuum generators are equipped with single-stage ejectors, are powered by low pressure (max. 4 bar), and feature an extremely high emptying speed in relation to their suction flow rate. All this allows for increasingly faster high-performance work cycles. Two micro solenoid valves manage the compressed air supply to the vacuum ejector and adjustable discharge blow off. The intensity and duration of the latter are managed through a screw-type flow regulator. The check valve built into the suction connector maintains the vacuum in the event of a power outage. A digital vacuum switch, equipped with a display and commutation LED, manages the compressed air supply and provides a signal to start a cycle under safety conditions. An anodised aluminium distributor with vacuum connectors has an integrated suction filter that can be easily inspected. By activating the compressed air power micro solenoid valve, the generator creates vacuum for use. As soon as the set maximum value is reached, the digital vacuum switch acts on the electric coil of the micro solenoid valve and stops the air supply, reactivating it when the vacuum falls below the minimum level.



Besides maintaining the vacuum level within set safety values (hysteresis), this modulation allows for considerable compressed air savings. A second signal from the vacuum switch (also adjustable and independent with respect to the first) can be used to start the cycle when the vacuum level reached is suitable for use. Once the work cycle is completed, the micro solenoid valve that supplies compressed air to the generator is deactivated while, at the same time, the ejection solenoid valve is activated for quick restoration of the atmospheric pressure upon use. The MSVE vacuum generators can be installed in any position and are suitable for suction gripping systems, handling metal sheets, glass, marble, ceramics, plastic, cardboard, wood, etc. and, in particular, for the industrial robotics sector, where equipment with excellent performance and limited weight and bulk are increasingly required.





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

Item		MSVE 3			MSVE 5		
Intake air flow rate	m^3/h	2.6	2.8	3.0	4.9	5.1	5.1
Maximum level of vacuum	-KPa	40	61	85	40	61	85
Final pressure	mbar abs.	600	390	150	600	390	150
Supply pressure	bar	2	3	4	2	3	4
Air consumption	Nl/s	0.7	0.9	1.2	1.3	1.7	2.2
Max quantity of air blown at 4 bar	l/min			650			650
Internal coaxial shutter position of supply				NO			NO
Supply solenoid valve absorption	W			2.0			2.0
Internal coaxial shutter position of ejection				NC			NC
Ejection solenoid valve absorption	W			2.0			2.0
Supply voltage	V			24DC			24DC
Vacuum switch output				PNP			PNP
Degree of protection	IP			40			40
Temperature of use	°C			-10 / +60			-10 / +60
Noise level at optimal supply pressure	dB(A)			48			44
Weight	g			493			493

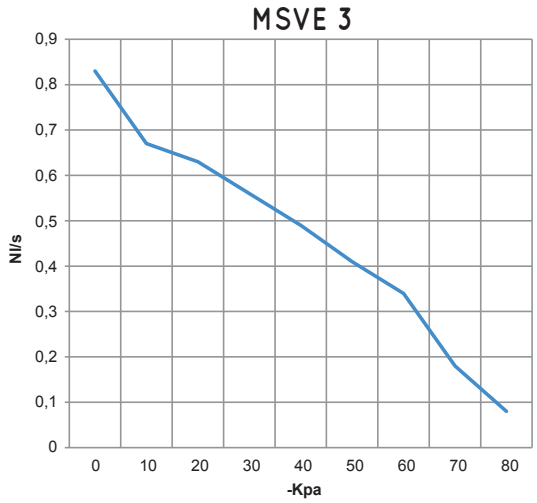
Spare parts		MSVE 3	MSVE 5
Sealing kit	item	00 15 503	00 15 503
Digital vacuum switch	item	12 30 10	12 30 10
NO supply solenoid valve	item	00 07 304	00 07 304
NC supply and blowing solenoid valve	item	00 15 447	00 15 447
Silencer	item	SSX 1/8"	SSX 1/8"

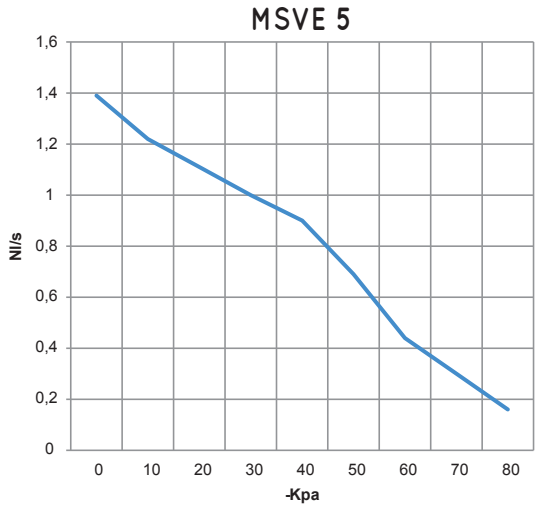
Note: To order a generator with NC supply coaxial shutter, use item code MSVE..NC.
To order a generator without a digital vacuum switch, use item code MSVE..SV.

Note: All vacuum values indicated in the table are valid at the normal atmospheric pressure of 1013 mbar and obtained with a constant supply pressure.
Vacuum generator supply must be carried out with non-lubricated compressed air, 5 micron filtration, in accordance with standard **ISO 8573-1 class 4**.

Transformation ratio: N (newton) = Kg x 9.81 (force of gravity) inch = $\frac{mm}{25.4}$; pounds = $\frac{g}{453.6} = \frac{Kg}{0.4536}$ Adapters for GAS - NPT threading available on page 1.130

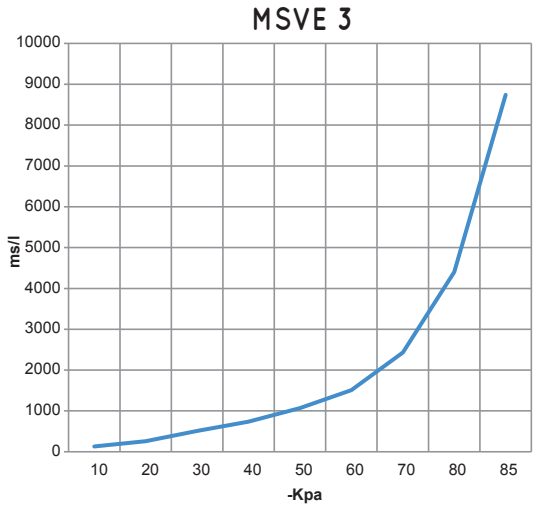
Air flow rate (Nl/s) at different level of vacuum (-KPa) at optimal supply pressure

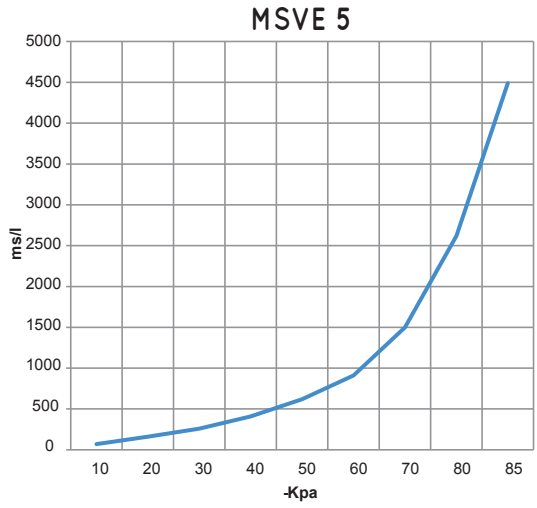




Generator item	Supp. press. bar	Air consumption Nl/s	Air flow rate (Nl/s) at different levels of vacuums (-KPa) at optimal supply pressure									Max vacuum -KPa
			0	10	20	30	40	50	60	70	80	
MSVE 3	4.0	1.2	0.83	0.67	0.63	0.56	0.49	0.41	0.34	0.18	0.08	85
MSVE 5	4.0	2.2	1.39	1.22	1.11	1.00	0.90	0.69	0.44	0.30	0.16	85

Evacuation rates (ms/l = s/m³) at different levels of vacuums (-KPa) at optimal supply pressure





Generator item	Supp. press. bar	Air consumption Nl/s	Evacuation rates (ms/l= s/m³) at different levels of vacuums (-KPa) at optimal supply pressure									Max vacuum -KPa
			10	20	30	40	50	60	70	80	85	
MSVE 3	4.0	1.2	130	260	510	740	1070	1510	2430	4400	8740	85
MSVE 5	4.0	2.2	70	160	260	410	620	910	1500	2620	4490	85