

Ascential

Technologies | Test & Measurement Systems

Vacuum line

Vacuum pumps and
pre-evacuation units

 Galileo

Vacuum pumps

Since 1940, Galileo's vacuum pump line has provided top quality and cost effective vacuum pumps for both industrial and scientific applications. Galileo's dual stage rotary vane vacuum pumps are available in two different series:

Vacsound

Multi-purpose line for up to 28 m³/h (22 cfm) applications



Modular

For wider pumping applications up to 80 m³/h



Galileo pumps feature a special anti-suck back device that isolates the vacuum systems when the pump is stopped, preventing any contamination of the product while being processed.

The temperature is kept constant in every section of the pump thanks to a streamlined forced ventilation and lubrication system, which results in achieving better performance, reduced maintenance downtime and cost reductions.

The items are manufactured with high precision tooling machines and high quality raw materials for enhanced service life.

Each pump is leak tested with helium and is equipped with high flow gas ballasts to increase performance when operating with condensable gases or water vapor.

A built-in trap limits the amount of oil that reaches the exhaust port.

Each Galileo pump can be supplied with a wide range of fittings and accessories such as outlet filters, including high-efficiency options with oil vapor recovery.

Oil mist filter



Type A
plastic type 25KF



Type B
metal type
high efficiency 25KF



Type C
metal type
high efficiency 40KF

Vacsound and **Modular** vacuum pumps comply with CE standards.

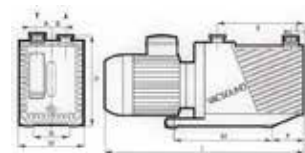


Increase your productivity with absolute accuracy. Even in dangerous environments.

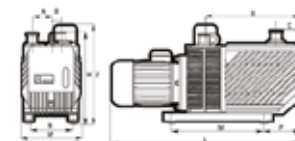
	Vacsound				Modular
	Hz	Units	D18	D28	Hz
Displacement	50	l/min	350	510	D80
	60	l/min	420	610	1342
	60	cfm/min	14.5	21.5	1610
Pumping speed*	50	m ³ /h	17.4	26	57
Ultimate partial pressure		mbar	10 ⁻⁴	10 ⁻⁴	10 ⁻⁴
Ultimate total pressure		mbar	2×10 ⁻³	2×10 ⁻³	2×10 ⁻³
Water vapor tolerance		mbar	30	30	20
Water vapor capacity		g/h	350	550	1000
Oil capacity min/max		l	0.5/1	0.5/1	3.5/4.5
Motor power (3ph)	50	kW	0.55/0.6	0.55/0.6	2
	60	kW	0.55/0.6	0.55/0.6	2.6
Weight (3ph)		kg	30	30	102
Connection ports (in-out)		DN	25KF	25KF	40KF

*According to PNEUROP 6602

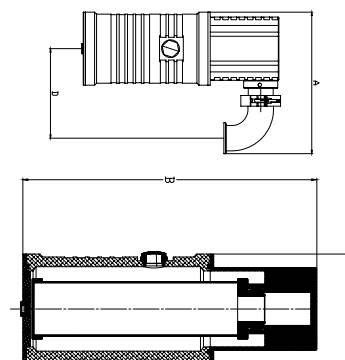
	Vacsound										
	Units	A	B	C	H	L	M	N	P	R	W
D18	mm	40	40	40	242	510	261	130	100	230	164
D20	mm	40	40	40	242	510	261	130	100	230	164



	MODULAR											
	Units	A	B	C	H	L	M	N	P	R	W	Z
D80	mm	75	40	95	375	800	380	210	160	390	255	450



	OIL MIST FILTER			
	Units	TypeA	TypeB	TypeC
Connection port	DN	25KF	25KF	40KF
Weight	Kg	0.16	2.12	4.3
Dimension	A	70	197	252
	B	132	223	345
	C	55	75	130
	D		127	159



Vg502

The vacuum gauge



	Units	Hz
Compatible sensor		Pirani OG914, Pirani OG919, Pirani Active head TPR280, Strain Gauge 4÷20 mA up to 160 bar
Measuring channels	Nr.	2 independent
Units of pressure measurement		Pa, mbar, bar, µHg
Digital readout digit		5
Analog readout		50 dot circular bargraph
Analogical display scale		Logarithmic
Dimension	mm (inch)	96 × 96 × 205 (3.78 × 3.78 × 8)
Weight	Kg (lbs)	1.1 (2.42)
Single phase power supply	Vac	110 to 230
Power supply frequency	Hz	50/60 ± 2%
Maximum absorbed power	VA	40
Maximum working humidity		50% at 40 °C or 90% at 20°C
Working temperature	°C (°F)	0 ÷ 50 (32 ÷ 122)
Storage temperature	°C (°F)	20 ÷ 70 (-4 ÷ 158)
Communication channels	Nr.	3 (full duplex RS232C, half duplex RS485, Wi-Fi)
Relay signals (max 60V / 0.5A)		OW set-point , NO (normally open) HIGH set-point, NO WORKING state, NO PASS state, NO FAIL state, NO
Input signals		Start Cycle, NO Abort Cycle, NO
Vacuum valve output		24VDC max 15VA
Gas ballast valve		24VDC max 15VA
Display updating rate	s	0,3
Other digital outputs configuration		Yes

The **VG502** vacuum gauge has the capability of measuring either vacuum (down to 10^{-3} mbar) or pressure (up to 160 bar), depending on the sensor that is installed (see technical data).

VG502 displays the pressure read on channel A, B or alternatively displays the most accurate read by merging the two channels.

The VG502 can work as a stand-alone instrument or an integrated system with RecData TJ V. The VG502 vacuum gauge can operate in one of three modes:

- ▲ Set Point: standard working mode, the VG502 acts as a measurement instrument
- ▲ Time: the vacuum must be reached in a selected time
- ▲ Pressure Rise Test: when the LOW set point is reached, the interception valve is closed and the rise curve monitored (optional mode)

The VG502 vacuum gauge can enable a gas ballast valve to clean the pump periodically when it's contaminated with condensed vapors.

The VG502 also has also the following features:

- ▲ Easy programming with touch panel or remotely via PC with serial protocol RS232;
- ▲ Integration with RECDATA TJ V to manage one or more VG in a carousel line to display vacuum curve, report and cycle. The connection of each vacuum gauge to the PC with the software Recadata TJ V can be done via RS485 or via Wi-Fi module/protocol;
- ▲ Digital I/O for field/line communication (pass, fail contact) and remote control (start, stop remote input).



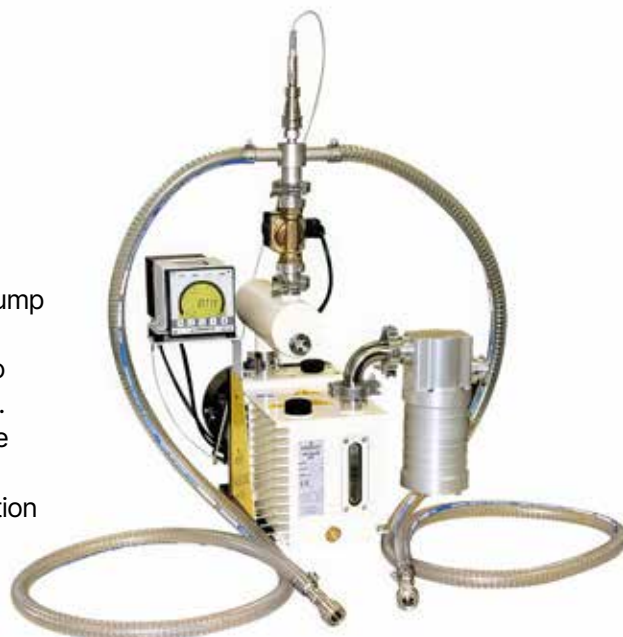
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Diagnovac/Vg

The highly flexible pumping groups

Diagnovac has been designed to meet the requirements of pre-evacuation and drying phases for refrigerant units in production lines with either fixed or mobile carousels. Various models are available depending on the required pump (all the Vacsound and Modular models can be fitted in the Diagnovac), the number of inlets (one for Diagnovac 1, two for Diagnovac 2) and the required supply voltage 3-phase. Diagnovac can be supplied with the VG502 vacuum gauge to perform a vacuum cycle (Diagnovac 1VG with one inlet, Diagnovac 2VG with two inlets) that lasts until the evacuation time or the set point.



With KVT (Kit Vacuum Test)

Pre-evacuation and leak detection unit for one refrigerant unit

This is the latest addition to Galileo TP's growing family of pre-evacuation units for the refrigeration and air conditioning industry.

The system performs leak detection with the pressure rise method, using an interception valve (Vacuum Interception Valve) and a VG502 vacuum gauge connected to a PIRANI device (pressure sensor) on a single refrigeration circuit. The LCD screen will feature the results of the cycle. If the vacuum is better than the programmed set point, a "Pass" message will be displayed.

RecData TJ V

RecData TJ V is a PC software that manages the vacuum stations of cooling units. The test is carried out by collecting the vacuum level from VG502 vacuum gauges either with fixed stations or mobile carousels.

The acquired curves are compared with a group of reference values (minimum and maximum). The test will have a positive result should the acquired curve values be included between the maximum and the minimum values previously set.

It is possible to set different working cycles for different models and to manage the vacuum rise test. The test may last from one second up to a maximum of 9 hours. All the performed tests are stored in a SQL database.

RecData TJ V is completely integrated with the **GEDA** system for data acquisition and statistics, as well as external supervision of the line.



Pre-evacuation units

Diagnovac 1/2	Diagnovac VG 1/2	Diagnovac VG 1/2 + KVT
Pumping group composition	Pumping group composition	Pumping group composition
1 Dual stage rotary vane vacuum pump (es: D18, D28)	1 Dual stage rotary vane vacuum pump (es: D18, D28)	1 Dual stage rotary vane vacuum pump (es: D18, D28)
2 Condensate separator NW25	2 Condensate separator NW25	2 Condensate separator NW25
3 Outlet filter NW25 Type A (or high efficiency Type B oil mist filter NW25)	3 Outlet filter NW25 Type A (or high efficiency Type B oil mist filter NW25)	3 Outlet filter NW25 Type A (or high efficiency Type B oil mist filter NW25)
4 PVC hoses L=2, m (one or two) With 1/4" female quick coupler type Hansen®	4 PVC hoses L=2,0m (one or two) With 1/4" female quick coupler type Hansen®	4 PVC hoses L=2,0m (one or two) With 1/4" female quick coupler type Hansen®
5 Vacuum fittings reducing Tee for n.° 1 hose, (reducing cross for n.° 2 hoses)	3 Vacuum gauge VG502 115/230V 50÷60Hz 1ph	3 Vacuum gauge VG502 115/230V 50÷60Hz 1ph
6 Clamping and centering rings with OR	4 Pirani vacuum head OG919 with 1/4" female quick coupler type Hansen®	4 Pirani vacuum head OG919 with 1/4" female quick coupler type Hansen®
	5 Outlet filter NW25 (or high efficiency oil mist filter NW25)	5 Outlet filter NW25 (or high efficiency oil mist filter NW25)
	6 PVC hoses L=2,0 m (one or two) With 1/4 " female quick coupler type Hansen®	6 PVC hoses L=2,0 m (one or two) With 1/4 " female quick coupler type Hansen®
	7 Vacuum fittings reducing Tee for n.° 1 hose, (reducing cross for n.° 2 hoses)	7 Vacuum fittings reducing Tee for n.° 1 hose, (reducing cross for n.° 2 hoses)
	8 Clamping and centering rings with OR	8 Clamping and centering rings with OR
		9 Vacuum interception valve (VIV) 24 Vac max 8 W The total dimension A with VIV is 710mm

Final vacuum of the systems: 7 Pa

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+39 055 722 13 58 | sales@galileotp.com

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