

Laboratory Vacuum Pump



Picture Courtesy of the Petroleum Engineering Department
at the Colorado School of Mines, Golden, CO USA



PVT Instrumentation

A number of PVT laboratory operations require the use of vacuum pumps. It is essential that mechanical component connections and pressure chambers/sample cylinders are evacuated prior to introduction of hydrocarbons.

Description

A number of PVT laboratory operations require the use of vacuum pumps. Leutert diaphragm pumps are an excellent solution for continuous, oil-free pumping of corrosive gases and vapors. The two-stage construction provides the advantageous combination of high pumping speed and low ultimate vacuum. All major parts in contact with pumped media are made of chemically resistant fluoroplastics. Well-proven PTFE-sandwich diaphragms increase reliability and extend operating life. The pump is equipped with a gas ballast valve for continuous condensate purge increasing the pumping capability of condensible vapors. It features slim design for space-saving installation and good vacuum performance. A manual vacuum regulator valve with dial gauge for adjustment of pumping speed and ultimate vacuum is available as accessory.

Performance features:

- outstanding chemical resistance and superior vapor tolerance
- convenient, quick and simple to use due to the top mounted power switch
- optimized vacuum even with gas ballast for continuous purge
- whisper quiet and very low vibration
- maintenance-free drive system and proven long diaphragm life

Technical Specifications

Number of heads / stages	: 2 / 2
Inlet & outlet connection	: Hose nozzle DN 8-10 mm
Pumping speed at 50 / 60 Hz	: max. 0.44 / 0.53 cfm (0.75 / 0.9 m ³ /h), ISO 21360
Ultimate vacuum (absolute)	: 9 Torr (12 mbar) without gas ballast 15 Torr (20 mbar) with gas ballast
Permissible pressure (absolute)	: max. 17.5 psi (1.2 bar) at gas ballast valve
Max. back pressure (absolute)	: 1.1 bar
Mains voltage	: 230 V AC, 50/60 Hz, 0.8/0.6 A
Rated motor power	: 0.08 hp (0.06 kW)
Rated motor speed at 50/60 Hz	: 1,500 / 1,800 min ⁻¹
Noise level at 50 Hz, typ.	: 45 dB(A) according to DIN 45635
Degree of protection	: IP 40
Temperature range	: operation 10 to 40°C, storage -10 to 60°C
Dimensions (L x W x H)	: approx. 12.3" x 4.8" x 6.7" (312 mm x 121 mm x 170 mm)
Weight	: 14.8 lbs (6.7 kg)
ATEX conformity (only 230V)	: II 3G IIC T3 X Internal Atm. only

