Oil Free Booster | Mini Vacuum Roots Blower

Model
2700

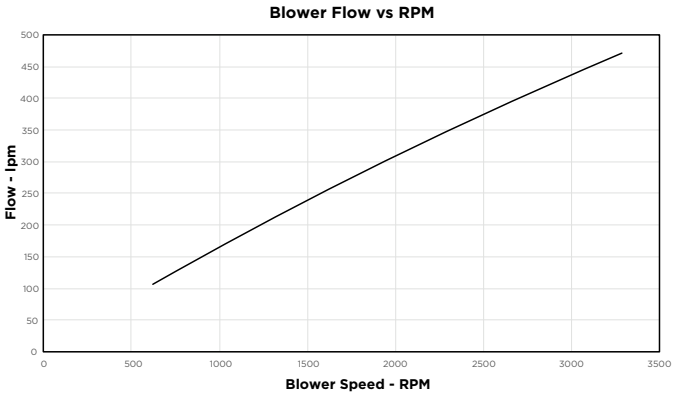
- **Oil-free pumping chamber**
- **Vacuum tight, corrosion resistant**
- **Compact**

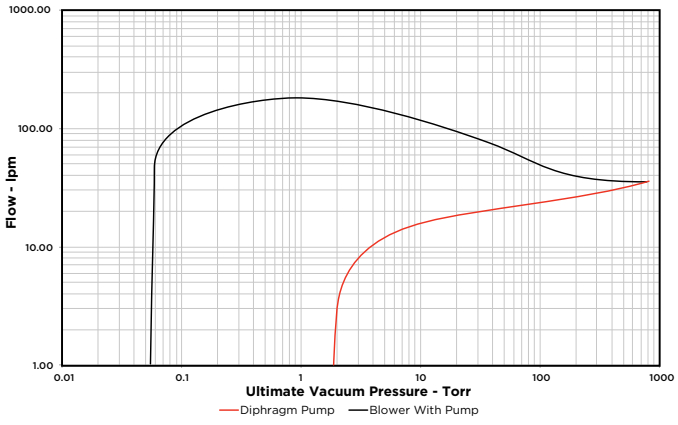
Welch's mini vacuum blower provides high gas flow in a compact size. The flow is accomplished with a set of synchronized impellers spinning in the pump housing. The impellers maintain tight clearances while spinning to enhance the efficiency of the pumping action. Use your existing DC power supply and vacuum control technology to control the variable speed drive mechanism.

The blower has two "modes" of operation: (1) backed by an oil sealed or an oil-free forepump to generate a vacuum pressure from 4 to 100 millitorr or (2) stand-alone blower to generate to generate vacuum pressure to 350 torr.

The benefit of mode (1) is that the blower acts as an added stage to a low flow forepump to improve ultimate vacuum pressure of forepump and also generates comparatively higher flows in the millitorr range compared to the forepump operating alone.

The benefit of mode (2) is the blower can provide high gas flow in a compact size. The flow through blower as a function of impeller rpm is shown





Specifications	
Model	**2700**
Max Free Air Displacement@1400 RPM, lpm	100[1]
Motor RPM at Max Free Free Air Displacement	1400
Ultimate Vacuum Pressure, torr(mbar) (No Backing Pump)	350 (467)
Ultimate Vacuum Pressure, torr (2-stage Rotary Vane Pump/1.5 torr Diaphragm Pump)	$1x10^{-3}/5x10^{-2}$
Operating Pressure Range, torr (mbar) (No Backing Pump)	350 to 760 (467 to 1000)
Motor Voltage, DC volts[2,3]	24
Inlet Thread, Female	¾-20
Outlet Thread, Female NPT	1/4
Duty Cycle	Continuous
Max Power Consumption, Watts	75
Max Amp Draw	4
Ordering Information	
24V Brushless DC	2700D-01

Note:
1. No cooling fan required at 1400 rpm
2. Brushless DC motor
3. User supplies control board

Application Note | Roots Blower

Oil Free Booster
Model 2700 oil-less mini vacuum roots blower pump is used to improve the pumping speeds of roughing pumps between 25 torr to 50 millitorr. The reason is that the pumping speed of roughing pumps, such as rotary vane pumps, diaphragm pumps, gear pumps, and scroll pumps, typically falls off in this pressure region. The blower may be used to pump solvent and corrosive vapors due the proprietary, chemically resistant coating on impellers and chamber. The blower is connected to the inlet of these roughing pumps.