Model
MPC 090 E

Model
2522

Model
2014

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- **Flow rates available meet number of filter holders**
- **Range of built-in accessories and head/diaphragm materials**
- **Models for pressure filtration**
- **Type to meet your application and budget needs**

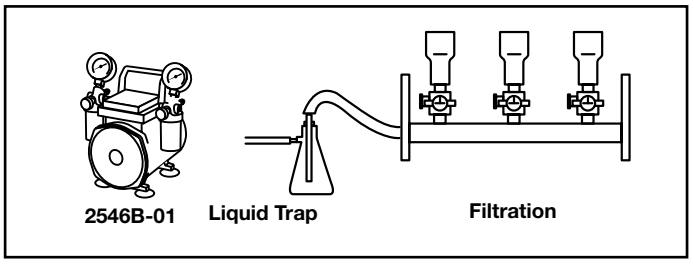
The Wob-l® oil-free vacuum pumps employ an aluminum piston with PTFE seal and are loaded with powerful features for vacuum or pressure filtration. The diaphragm pumps are available in different head/diaphragm materials to handle a range of chemical vapors evolved during filtrations. With these two pump mechanisms and range of materials available, Welch can offer a pump to fit your specific application and budget needs.
A modest vacuum of 40 torr (53 mbar) to 200 torr (266 mbar) is normally sufficient(26 in. Hg to 29.6 in. Hg) for most vacuum filtration applications. Free air displacement requirement for vacuum filtration is dependent on the filter size, leak rate, condition of the filter cake, and number of filter holders.
Pressure filtration normally requires from 2 to 6 bar (30 PSIG to 88 PSIG).

Models 2522, 2534, 2546 These single headed, Wob-l vacuum pumps are standard duty dry pumps and are effective for filtering aqueous or buffer solutions that are not strongly acidic or basic. Flow ranges from 16 lpm to 45 lpm@60Hz and vacuum from 26 in. Hg (133 mbar) to 27.6 in. Hg (80 mbar). Features on these models include vacuum and pressure regulators with gauges, liquid trap at inlet with ball valve to prevent accidental ingestion of solution into pump, and a silencer on outlet for noise reduction.

Model 2567 A twin head Wob-l vacuum is a standard duty pump with a flow of 100 lpm@60Hz and vacuum to 27.6 in. Hg (80mbar). Configured with an inlet catch-pot, vacuum regulator/gauge and exhaust silencer, this pump can handle up to a 6 filter holder manifold.

Model MPC 090 E Diaphragm pump configured for filtering weak acid/base solutions. Pump comes with inlet regulator and catchpot. Flow of 16.7 lpm and ultimate vacuum of 27 in. Hg(100 mbar). Option available with power adapter to connect with a vehicle to permit use in field.

Models 2050, 2060 These Gemini diaphragm pumps are configured for lab or field usage to do sampling or filtration. Gemini pumps have polyaryamide heads and viton diaphragms, tubing and valves making them ideal with water, light organic solvents and weak acids/bases. Flow of 13 lpm and vacuum to 22 in. Hg (266 mbar). Model 2050 is pump only. Model 2060 comes with vacuum gauge/regulator assembly. Includes automobile power adapter for field use (12V DC to AC).



Application Note | Protecting vacuum pump from filtrate

The most common reason filtration pumps fail is because of accidental liquid ingestion into the pump. The filtrate collected in filtering flask overfills and filtrate is suctioned into the vacuum pump. Alternately, the funnel end located in the filtering flask is too close to the flask exit port. Welch recommends a catchpot or flask be located between the pump and the filtering flask to act as a liquid trap.

Model 2019

Model 2014

Model MPC 601 E

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- **Flow rates available to meet number of filter holders**
- **Chemical resistant construction**
- **Vacuum regulation options**
- **Type to meet your application and budget needs**

Diaphragm vacuum pumps with chemical resistant construction are suitable for filtering organic solvents, acids and bases. For this reason, diaphragm pumps are commonly used in applications like filtering precipitate in synthesis reactions and solid phase extraction (SPE). Vacuum level for these models achieve a deep enough vacuum to create a pressure differential in filtering flask with atmospheric pressure to speed filtration. At the same time, the pumps are selected so as not to generate too deep a vacuum to lead to "boiling" of most filtrates collected in the filtering flask.

Model 2019 Economical, light weight, durable diaphragm vacuum pump with PTFE contact surfaces for filtering light organic solvents, weak bases and acid solutions. Material of construction is PTFE coated aluminum, PTFE liner for the diaphragm and fluorinated plastic inlet fitting. Maximum vacuum of 24 in. Hg (200 mbar). Flow of 37 lpm@60Hz. Pump can be used to pressurize up to 18 PSIG. Includes exhaust muffler and also hose fitting to channel exhaust fumes to a fume hood.

Models 2014, 2037 and 2047 DryFast® Chemical duty PTFE diaphragm pumps are effective for filtering organic solvents, acidic and basic solutions. These rugged oil-free pumps handle aggressive vapors since they are corrosion resistant with all PTFE head construction, PTFE diaphragm, fluoroplastic valves and fittings. Built-in vacuum regulation using a bleed valve mounted on front panel. Flow ranges from 35 lpm to 70 lpm@60Hz. Ultimate vacuum to 28.3 in. Hg (53 mbar).

Models MPC 301 E, 601 E and 602 E These one stage models of MPC chemical duty PTFE diaphragm pumps are effective for filtering organic solvents, acidic and basic solutions. The MPC models use PTFE and other fluorinated plastics for the wetted parts to allow aggressive solvent and acid vapors to be pumped. Flow ranges from 38 lpm to 70 lpm@50hz and ultimate vacuum pressure from 75 mbar (27.7 in. Hg) to 30 mbar (29 in. Hg). Optional vacuum regulators with gauges can be mounted on the inlet of the pump to regulate the vacuum level by way of a bleed valve.

Model Selector | Filtration

Filtration Solvent / Media	Chemical Examples	Vacuum Regulation	Number of Filters	Model
Aqueous Vapors	Suspended solids samples Food slurry analysis	Yes	1-2	WOB-L 2522
		Yes	1-4	WOB-L 2534
		Yes	1-6	WOB-L 2546
		Yes	6 funnel manifold	WOB-L 2567
Mild Chemical Vapors	Weak acid /base solutions Field environmental Samples	No	1	GEMINI 2050
		Yes	1	GEMINI 2060
Low-volume Organic Vapors	Alcohol Solutions Solid Phase Extractions	No	1	2019
Strong Chemical Vapors	Chlorinated solvents Strong acid /base solutions Ketones	Yes	1-2	DryFast 2014
		Yes	1-6	DryFast 2037
		Yes	6 funnel manifold	DryFast 2047