

Vacuum ovens are used for drying sensitive substances, which may be damaged by excess heat, and where extremely low residual moisture levels are demanded.

Depending on the solvents used and the temperature limitations of the samples and chamber, a medium to high ultimate vacuum is generally required from the pump. The potentially large quantities of vapour generated from the chamber also mean that the pump should handle vapours well; these may be aqueous, basic or acidic. Piston and diaphragm pumps are most suitable, with PTFE constructed diaphragm pumps being employed where chemical resistance is most important. High flow rates may also be needed where vapour volumes are large.

Recommended Pumps

For most vacuum oven applications a dry pump can be used and this could be either a WOB-L piston pump or a diaphragm pump. When low volatility solvents are being removed at low temperatures then an oil-sealed rotary vane pump is required.

- **WOB-L piston pumps for fast drying of aqueous samples.** These oil-free two stage pumps have a high flow rate, can create a deep vacuum below 10 mbar and come with an inlet trap, vacuum regulator and dial vacuum gauge as standard.
- **MPC diaphragm pumps for chemical duty drying applications.** With PTFE components these pumps are ideal when organic solvents are being removed from samples.
- **LVS diaphragm pump systems for extra protection for your MPC pump and air quality with inlet separator and exhaust condenser.** If vacuum level control is required then an LVS system is ideal.
- **Rotary vane pumps for fast drying of low volatility solvents.** Two stage pumps depending on vacuum level requirement. Use AKS inlet separator to protect pump from ingestion of liquids or particles.

Model Selector for Vacuum Ovens

	Oil-Free Vacuum 2 to 10 mbar		Oil-Seal Deep Vacuum 0.1 mbar to 10-3 mbar
Oven Volume	Aqueous Vapours	Chemical Vapours	Two stage direct drive
Up to 20 litres	2561C-50	MPC 301 Z	CRVpro 4
Up to 50 litres	2561C-50	MPC 302 Z	CRVpro 6
Up to 120 litres	2581C-50	MPC 602 T	CRVpro 8
Up to 250 litres	2581C-50		CRVpro 16

For further information visit **Welch by Gardner Denver** at:

<https://www.camlab.co.uk/welch-m452.aspx>

Camlab Limited

Norman Way Industrial Estate, Over, Cambridge, CB24 5WE, United Kingdom

Tel: +44 (0)1954 233100 Fax: +44 (0)1954 233101

Email: sales@camlab.co.uk www.camlab.co.uk

