

Vacuum Control of Molecular Distillation for Purification of Oils

Molecular distillation processes used in the purification of oils benefit from vacuum control. Historically, this has been problematic, as the vacuum depths needed to achieve gentle separations at relatively low temperatures have not been conducive to accurate vacuum control. Turning a pump on and off to control vacuum, or relying on admittance of “false air” to manage vacuum depths, provides coarse vacuum control, at best.

A new vacuum control option from VACUUBRAND now addresses this challenge. With the VACUUBRAND fine vacuum control package, a programmable vacuum controller relies on signals from a patented, chemical- and shock-resistant external Pirani sensor to open and close an in-line chemical-resistant solenoid valve, to manage vacuum conditions down to the range of 10^{-3} Torr/mbar. These are applications most typically supported with rotary vane pumps. The electronic controller can also control external venting and cooling water valves (purchased separately).

The package is offered in two sizes:

1. The smaller set ([Cat. No. 635983](#)), for pumps with KF DN 16 small flange inlet connections. This set includes a controller, solenoid valve, Pirani sensor, DN 10 mm hose barb for tubing connections, and all necessary small flange components.
2. The larger set ([Cat. No. 635982](#)), for pumps with KF DN 25 small flange inlet connections. This set includes a controller, solenoid valve, Pirani sensor, DN 15 mm hose barb for tubing connections, and all necessary small flange components.



Pump not included

VACUUBRAND Pumps for Molecular Distillation of Oils

Model	Inlet Connection	Ultimate vacuum		Free air capacity at 60 Hz		Cat. No.
		mbar	Torr	cfm	lpm	
Rotary Vane Vacuum Pumps						
RZ 2.5	KF DN 16	2×10^{-3}	1.5×10^{-3}	1.6	47	698123
RZ 6	KF DN 16	2×10^{-3}	1.5×10^{-3}	4.0	113	698133
RZ 9	KF DN 25	2×10^{-3}	1.5×10^{-3}	6.0	165	698143
Chemistry-HYBRID Vacuum Pump*						
RC 6	KF DN 16	2×10^{-3}	1.5×10^{-3}	4.1	115	698563

* HYBRID pump combines rotary vane and diaphragm pump technology for greatly reduced service demands.

Fine-Vac-Control_fly_VAC