

CHOOSING VACUUM EQUIPMENT FOR DRYING CHAMBERS

- Vacuum drying chambers are used for drying very sensitive substances and when it is necessary to guarantee excellent residual drying. They generally need a very good ultimate vacuum depending upon the degree of drying, maximum acceptable temperature and the solvents used. At certain process parameters, there are large quantities of vapors that can only be handled with pump systems of a sufficiently large volume flow rate.



Process requirements

- medium to high vacuum requirements
- optimum heat transfer to the sample for time-saving drying
- depending on the sample material large amounts of vapor must be pumped off
- Condensate and droplet separation needed between pump and oven

Pump requirements

- for aqueous samples: oil-free diaphragm vacuum pumps (not necessarily chemical-resistant type) or for deep ultimate vacuum oil sealed rotary vane pumps
- outstanding chemical resistance and condensate tolerance for drying solvent-based samples
- ultimate vacuum down to 7 mbar, to improve performance compared with water-jet pumps or house vacuum
- vacuum inlet separator (AK) to protect the pump from particles and liquid droplets
- emission condenser for solvent recovery and to minimize environmental and laboratory air pollution
- for applications with large amounts of inflammable solvents: pumps and gauges with ATEX approval

PRODUCT RECOMMENDATIONS

Overview Chemistry diaphragm pumps pg. 33

Better than "water-jet vacuum". With protection for the pump and the environment



MZ 2C NT +AK+EK pg. 49

Deeper vacuum for high boiling solvents or low temperature; good residual drying



MD 4C NT +AK+EK pg. 67

Fully automatic vacuum control down to 0.6 mbar; suitable for high boiling solvents at low temperatures



PC 3003 VARIO pg. 84