



## EVACUATION STATION *PLUS* DEHYDRATION ANALYZER



VTI's "SMARTSTATION ES PLUS" for evacuation of air-conditioner condensers or compressors incorporates mass-spectrometer analysis of the gas being pumped from the product, thus providing improved product quality and reliability and the potential for increased plant productivity.

A major benefit of the analysis capability of this system results from its ability to determine the exact optimum dehydration point, and therefore the optimum pump-down time, for each unit while it is being evacuated. Since the amount of moisture in each unit typically varies, use of the optimum pump-down time for each can minimize the overall production time for evacuation and thereby increase the total plant production capacity.

This combined evacuation and analysis system also addresses the major failure problems that occur during evacuation, which are a time-delay failure in reaching the required vacuum level in the unit or a "Rate-of-Rise" failure. These can be due to evaporation of excessive water contained in the product, evaporation of some other contaminant, or an actual leak in the unit. By analyzing the constituents in the evacuation gas stream, the mass spectrometer identifies the cause or causes of the problem. Continued detection of water vapor indicates excessive moisture in the part, and major detection of the constituents of air indicates a physical leak. The mass spectrometer analysis also detects other contaminants that may cause a failure, such as vapors from residual refrigerant or excessive lubricant, and can be used to identify manufacturing problems.