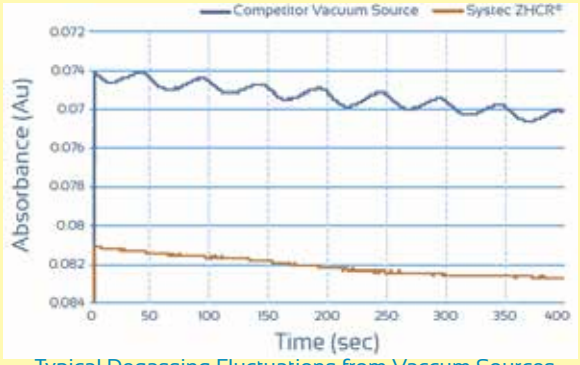
INCREASE THE QUALITY USING SYSTEC® ZHCR AND SYSTEC AF™

SYSTEC® ZHCR VACUUM PUMP

Introducing the ZHCR® (Zero Hysteresis Constant Run) stepper motor driven vacuum pump, designed and developed for membrane degassing of HPLC mobile phase and other fluids used in Analytical Instrumentation.

Employing a micro-stepping closed loop vacuum control strategy permits the pump to maintain a constant vacuum level set-point* by varying the RPM of the stepper motor. The pump initially runs at a high speed which provides for a quick pull down and, as it approaches the vacuum control point, the RPM is gradually reduced until the desired vacuum level is reached. This patented control strategy allows the On-Line Degasser to maintain a virtually constant vacuum that is unaffected by varying degassing loads. As a consequence, fluctuations in baseline due to vacuum hysteresis are eliminated by not having the pump repeatedly stop and start as is done in many older and existing systems.

*50 mmHG for most models and 80 mmHG for Prep



Typical Degassing Fluctuations from Vaccum Sources

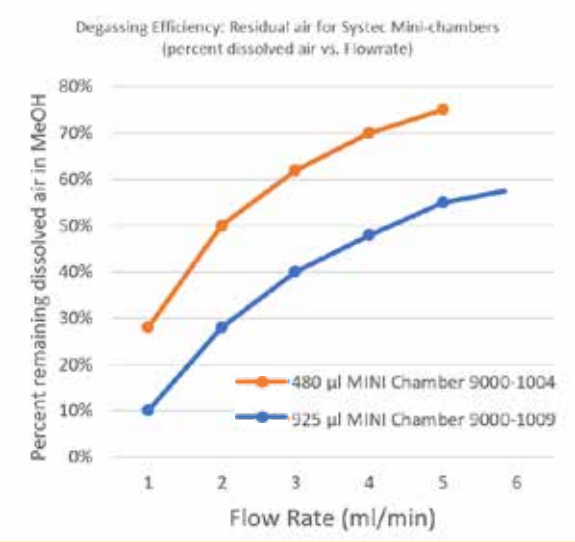
Fluctuations in detector baseline of a single-speed pump compared to the patented technology of the Systec ZHCR® pump. UV detector baseline fluctuations are minimal when compared to traditional stop and start vacuum sources.*

**Vacuum chamber consists of 285 µl of Systec AF™ tubing: flow rate is 1 ml/min, eluent is methanol; wavelength is 215 nm.*

SYSTEC AF™ MEMBRANE

The new Systec AF™ membrane is 50x more permeable and outperforms the older Teflon® PTFE membranes used in many other degassing systems today. This translates into the ability to use shorter tubing for removal of dissolved gasses.

- Ultra-high degassing efficiency
- Low volume
- Considerably shorter equilibration times
- Very easy to prime
- Short vacuum pull-down times, typically 30 seconds
- Single lumen design for consistent degassing
- Inert flow path
- Excellent chemical compatibility flow path
- Long lifetime



Plot shows remaining dissolved air in methanol using a selection of Systec Mini-Chambers. The range of chambers and specifications offered provide ample solutions for system designs.*

** Water and Methanol mixtures between 30 % and 70 % methanol will outgas when more than 38 % dissolved air remains in each of the solvents. Other water and organic mobile phases being mixed using a low pressure gradient system will undergo similar outgassing.*