KEMTRAK

CONCENTRATION & COLOR

3.05 PHARMACEUTICAL & BIOTECH

CHROMATOGRAPHY PRODUCT DETECTION

- Real time in-line continuous measurement
- Non-destructive analysis
- Yield Optimization
- Quality control
- Dual-wavelength measurement
- Zero dead volume, no hold up

The versatility and efficacy of chromatographic techniques have made them essential in both large scale and analytical separation. Chromatography is widely used in bioprocessing to separate protein molecules from concentrated process fluids. The center of a chromatography system is a column, filled with a media specific to the separation being carried out.

APPLICATION

Chromatography is used for protein separation and purification in biotechnology and can require one or more chromatography steps during downstream processing.

Separation through chromatography requires specialized equipment to ensure maximum yield and purity. A Kemtrak DCP007-UV photometer is optimally designed for in-line real time measurement and control, allowing the detection of protein rich solution to be diverted for collection.
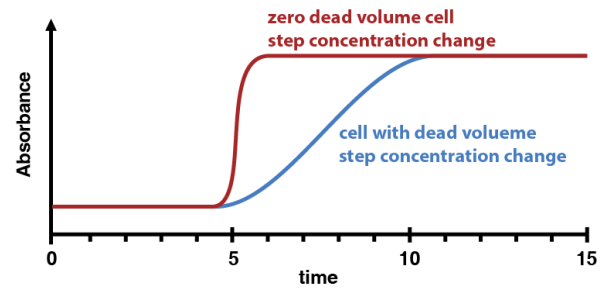
*Effect of absorbance, caused by dead volume/hold up volume on purity and peak sharpness*

INSTALLATION

Post-Column chromatography monitoring,

The Kemtrak DCP007-UV is mounted directly in-line on the column outlet stream.

Installing a Kemtrak DCP007-UV photometer will give an accurate reading of post column protein absorbance/concentration, which is essential throughout the separation to ensure accurate collection to maximize yields and purity control.

The Kemtrak hygienic measurement cell is a convenient size and has a zero dead volume, meaning it ensures ease of installation and no hold up time resulting in an exceptionally quick response.
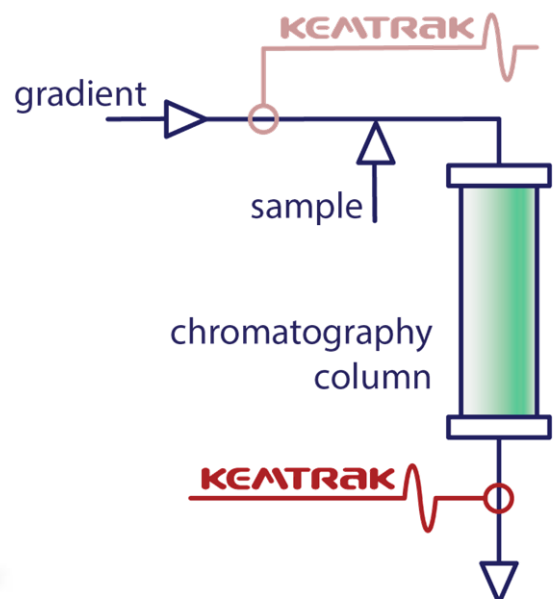
With an optional NIST Validation accessory mounted it will allow the user to do a validation of instrument in-line in a simple way.

THE KEMTRAK DCP007 ANALYZER MEETS A GROWING NEED FOR MEASURING HIGHER PROTEIN LEVELS

Advances in bioprocessing methods have led to protein products being expressed and concentrated to higher and higher levels. Higher protein concentrations mean higher absorbance and Therefore, UV analyzers need the ability to measure accurately at those absorbance levels.

While absorbance measurement is essentially linear, many traditional instruments use light sources that generate a broad spectrum of wavelengths that cause stray light to enter the measurement cell resulting in a non-linear response to protein concentration, particularly at high levels.

Furthermore, traditional light sources are sensitive to temperature, generate a lot of thermal energy, and constantly drift due to deterioration. This makes them less than ideal, particularly for fragile protein molecule work.

The Kemtrak DCP007-UV analyzer will deliver accurate, reliable, and repeatable post column UV measurements and are a minimum requirement during chromatographic separation to ensure good protein fraction purity and maximum yields.

With the unique Kemtrak zero dead volume measurement cell installed at the column outlet, the Kemtrak DCP007-UV analyzer can provide single or dual wavelength UV absorbance analysis, in real time, for improved control of the separation process.

With this, the need for offline testing and manual analysis is greatly reduced. Furthermore, the use of solid-state light sources provides the ability to measure to 4.5A at 280nm and to monitor high concentration processes up to 90 OD linearly without "peak clipping" and the undesirable effects of "hot" and powerful UV light sources on the product.

Therefore, the Kemtrak DCP007-UV is the best analyzer for chromatographic separation.