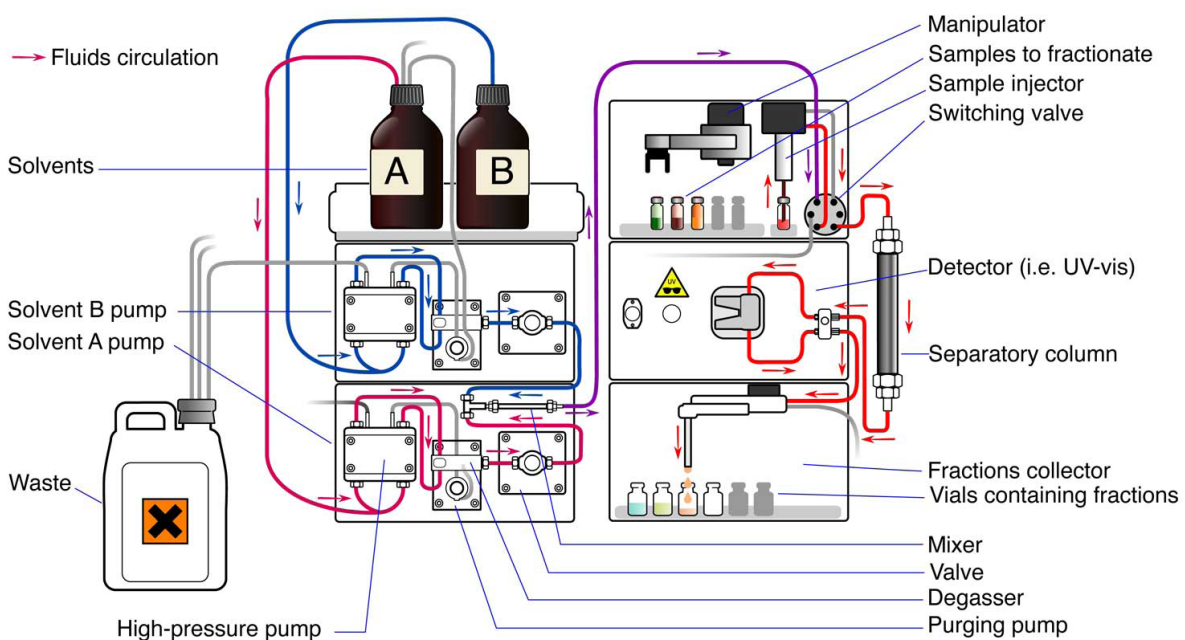


Actuators & Lead Screws for Liquid Chromatography Applications



Liquid Chromatography is an analytical chemistry technique used to separate, identify, and quantify components in a mixture. LC techniques are used in a wide range of industries including biotechnology, pharmaceutical, environment monitoring, food processing, agrochemical and cosmetics.

A Linear actuator is typically used for LC, during the sample preparation stage to remove (or to concentrate) target analytes. A syringe pump is required to generate a constant stream of analyte into an ion source. This schematic below identifies the instrumentation that's required for liquid chromatography.



One of the key challenges for LC applications is adding a precise amount of analyte, and also extracting a precise amount of sample. To do this, LC systems feature a mix of pumps, injection valves and solvent filters – as well as columns and detection equipment. These solutions require:



Linear Stepper Actuators

Haydon Kerk Motion Solutions' line of hybrid stepper motor linear actuators drive a rotor nut on a stainless steel precision acme lead screw. This patented interface reduces tolerances and noise while increasing efficiency and durability over v-thread and bronze nut configurations commonly used in other linear actuators. Available in captive, non-captive and external linear configurations, these actuators are specifically designed for high performance and exceptional endurance in a small package.



Lead Screws

Kerk Lead Screw Assemblies are modified acme thread forms that are optimized for performance. They are available in a broad range of lead screw diameters, leads and nut styles. Self-adjusting, maintenance-free and requiring no lubrication, Kerk lead screws provide maximum accuracy, high reliability, quiet operation and low costs.

In addition to accuracy, a small footprint is also required, as these systems feature many components that must fit into a small package. Juggling the requirements of high power with a small footprint is one of the strengths of Haydon Kerk Motion Solutions' technology, and it's a primary reason why HKP's Linear Stepper Actuators and Lead Screws are preferred for Liquid Chromatography-Mass Spectrometry applications.

To learn more contact us today.

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