



Liquid Chromatography System HPLC รุ่น EX-1600

เครื่อง HPLC เป็นเครื่องมือใช้สำหรับแยกสารประกอบที่สนใจที่ผสมอยู่ในตัวอย่าง โดยกระบวนการแยกสารประกอบที่สนใจจะเกิดขึ้นระหว่างเฟส 2 เฟส คือ เฟสอยู่กับที่ (column) กับเฟสเคลื่อนที่ (mobile phase) จะถูกแยกออกมาในเวลาที่แตกต่างกัน ซึ่งสารผสมที่อยู่ในตัวอย่างสามารถถูกแยกออกจากกันได้นั้นขึ้นอยู่กับความสามารถในการเข้ากันได้ดีของสารนั้นกับ mobile phase หรือ stationary phase สารประกอบตัวไหนที่สามารถเข้ากันได้ดีกับ mobile phase สารนั้นก็จะถูกแยกออกมาก่อนส่วนสารที่เข้ากันได้ไม่ดีกับ mobile phase หรือเข้ากันได้ดีกับ stationary phase ก็จะถูกแยกออกมาทีหลัง โดยสารที่ถูกแยกออกมาได้นี้จะถูกตรวจวัดสัญญาณด้วยตัวตรวจวัด สัญญาณที่บันทึกได้จากตัวตรวจวัดจะมีลักษณะเป็นพีค ซึ่งจะเรียกว่า โครมาโตแกรม โดย HPLC สามารถทดสอบได้ทั้งเชิงคุณภาพ และทดสอบเชิงปริมาณ โดยการเปรียบเทียบกับสารมาตรฐาน

EX 1600 HPLC System is a networked, intelligent, automatic, high-precision chromatograph developed. It employs cutting-edge microcomputer technology that encompasses a diversity of functions without the use of a central controller. The individual units interact with one another, coordinating to simplify your work and free you from the lab.

Digital, Networked, Intelligent, Automatic

Reliable infusion and detection system

Elaborately developed infusion system provides accurate liquid flow for excellent sample reproducibility. The Exformma Arcus HPLC columns ensure qualitative and quantitative reproducibility over ten thousand iterations for sample injections under specified lab conditions.

Superb sensitivity

The unique flow cell design combines parallel dual bore holes with high performance D2 lamps produced by an internationally recognized company to enhance baseline stability and ensure optimal sensitivity.

Leading quaternary technology

The brand new EX1600QP quaternary system features industry-leading infusion unit technology to effectively resolve problems with precision during small-scale mixing processes by allowing smaller pulse fluctuations under micro flow conditions. At present, we are one of the only HPLC producers in the world to offer this technology. Fully digitized technology enhances the user experience with personalized automatic instruments. This resolves problems with the quaternary gradient at low pressure causing large deviations in the amounts for mobile phases. This ensures highly precise proportions for A, B, C and D mobile phases.

Intelligent control system

The EX1600WS chromatographic management system integrates full-featured user-friendly modules, including instrument control, data collection, and data processing modules. It also offers workstation software that meets GMP and FDA21CFR certification requirements, as requested by our users. Multi-task and multiple-window views enable you to keep abreast of all real-time analyses, and the advanced auto-diagnosis function monitors the status of all units in real time with multiple built-in sensors to provide timely solutions.

EX1600P Infusion Unit

- The EX1600P infusion unit has a process monitoring device.
- An optional auto rinsing device is available to make the buffer salt system convenient and worry-free.
- The unit also has many user-friendly assistance functions like automatic piston rod retraction, which allows you to easily replace any consumable.
- If there is a leak inside the instrument, the system will alert the user.
- The unit's timer program allows the user to set human-machine interactions.
- Can be switched on/off automatically.
- Other functions include status detection, fault warning, and online help.
- A network control enables the unit to detect any current or potential failures and offers online solutions.

EX1600QP – The New Digital Quaternary Gradient System

Redefine quaternary gradient precision

Using the EX1600QP quaternary gradient system combined with the Arcus5 auto-sampler is a whole new experience in automation. During the experimental process, the system can mix four mobile phases at any desired ratio, providing you with full convenience and freedom.

The application of innovative digital linear motor technology subverts the traditional cam drive quaternary gradient technology. With this new technology, it is possible to control the infusion unit's piston rod displacement digitally. This function, combined with a new motor featuring millisecond positive-negative switching-process, enables precise switching of up to four channel-in-fusion solenoid valves. This allows analysts to obtain optimal operating experience at any mixing ratio.

Traditional quaternary gradient products based on the cam structure have some inherent defects. The piston rod is set in motion by driving a non-circular cam actuated by a flexible conveyor belt on a step motor. This process is complicated, since the cam curve is not a standard Archimedes line. This means that it is difficult to process, and reproducibility is often poor. In addition, the positive and negative switching of the step motor is based in seconds, so it must rely on a jack-head pump for infusion compensation. This leads to an inaccurate proportion of diverse infusion channels and marked deviation.

EX1600UV UV Detector

- Uses digital exchange system for full control of instruments via RS232, USB or LAN;
- Process monitoring function provided by built-in online leakage monitors that send alerts immediately in case of flow cell leaks or leakage of other key components;
- Smart functions enable automatic light intensity adjustments, automatic leakage alarm, man-machine interaction on time program setting, automatic start-stop function, and diagnosis of potential and existing faults to provide online solutions;
- Unique flow cell design with dual parallel conical bores, effectively amplifies light intensity and energy;
- Automatic spectrum scanning;
- Dual light source detector EX1600UV-VIS meets all detection requirements within the visible light range.