

The PrepTower is a new ECOM high-end compact preparative binary system with high-pressure gradient mixing used for flash and HPLC chromatography. The PrepTower has a modular design, which allows for flexibility in device configuration and laboratory operation.

Detection

- Detection is done by a **4-channel UV-VIS detector** with an optical flow cell.
- The detector measures at up to **4 wavelengths** simultaneously in the range of **190-800 nm** or performs **full scan**.

Flow cell: The flow cell has a unique design for high-flow applications. A wide range of options for optical flow cells can be selected according to the desired detection sensitivity and flow rates.

Options: A **conductivity and pH monitor** may be installed

Mobile Phase Delivery and Mixing:

The system contains **3 pumps:**

- **2 preparative pumps for high-pressure gradient (HPG) mixing**
- **1 auxiliary pump for sample loading**

The two preparative pumps for high-pressure gradient mixing minimize gradient delay. The binary preparative pump configuration allows the PrepTower to achieve exceptionally accurate and precise gradient mixing even at high flow rates. An additional auxiliary loading pump is used for liquid sample injection into the column. Preparative and sample loading paths are separated by a high-pressure switching valve.

The PrepTower has chromatography features, which include **Stacking injections** and a **high level of automation method and sequence programming**.

Custom configurations: Based on customer request, more valves can be installed, like a column bypass and an injection loop valve. The system's modular design allows for fast and easy maintenance tasks.

Fraction collection:

Fraction collection is performed by using a **multi-positional selector valve**. Collection can be triggered manually or by a detector signal threshold level or as a timed event.



Applications: The PrepTower is suited for the most demanding and complex separations, including small molecules, cannabinoids, oligonucleotides, and peptides. The PrepTower is suitable for manufacturing active pharmaceutical ingredients (API), when following GMP regulation guidelines. The system has a 15 MPa backpressure rating, which allows its use in applications utilizing a stationary phase with particle sizes down to 5 μm . The PrepTower is especially useful for applications where a very precise and accurate gradient-mixing composition at a high flow rate is required.

Software and control: The chromatography data software can be either **ECOMAC** or **Clarity**. **Clarity SW** is **FDA 21 CFR Part 11 compliant**. A Windows PC is built-in. The instrument is controlled by a **touchscreen** and an **industrial keyboard**.

PrepTower features and benefits

- High-precision gradient mixing
- Small laboratory bench footprint
- Selection from a wide range of available custom modifications
- Easy maintenance and troubleshooting
- Leakage sensors
- Possibility of extension for additional detectors (ELSD, RID or MS) or fraction collectors
- Built-in PC, display and chromatography data software with SST
- The software follows regulated environment guidelines (FDA CFR 21 Part 11)
- All wetted materials have an EN 3.1 certificate
- Detailed results reports
- Loading pump for large sample volumes
- Automatic injection valve with loop for manual injection of smaller sample volumes
- Column bypass valve
- Stacking injections for increasing throughput

SYSTEMS VERSIONS

Name	Pumps	Detector	Valves	PN
PREPTOWER 1000	2×1000 ml; 1×300 ml	4-channel scanning UV-VIS detector, wavelength range 190–800 nm	4 valves: <ul style="list-style-type: none"> • 3×2-positions sample switching valves • 1×6-positions selector valves 	PRTWA000
PREPTOWER 300	2×300 ml; 1×300 ml		4 valves: <ul style="list-style-type: none"> • 3×2-positions sample switching valves • 1×10-positions selector valves 	PRTWC000

TECHNICAL DETAILS

	Description
Flow cell	preparative flow cell with adjustable optical path of 0.06 mm–5 mm (PN 3HP08000)
Pumps max. flow rate ranges	300, 1000 ml/min
Backpressure	15 MPa
Control	touch screen, keyboard and mouse
Communication	3×USB, 2×LAN, RS232
SW	ECOMAC SW or Clarity SW (FDA 21 CFR Part 11 compliant)
OS	PC board with Windows OS
Power supply	230 V AC, 50 Hz
Power input	1500 VA
Dimensions (W×H×D)	560×1048×672 mm (22.05×41.26×26.46")