

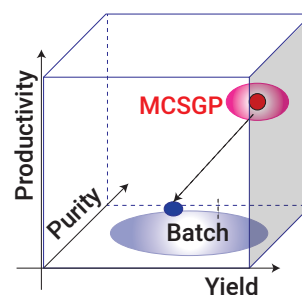
### Preparative Systems

- Contichrom® CUBE small scale benchtop system
- Contichrom TWIN and EcoPrime systems for large scale chromatography delivering over 66 LPM



### Technologies

- N-Rich®: Technology for the Contichrom CUBE to automate the process of impurity enrichment and purification
- CaptureSMB®: Cost effective and efficient Protein A purification method, allowing 2-3X faster processing times
- MCSGP: Impure product-containing side fractions are automatically recycled in a periodic closed-loop process while pure product is continuously extracted. Little product is lost, and a significantly higher yield of purified product is achieved.



### HPLC/UHPLC Columns

- Large portfolio of columns and resins for liquid chromatography with a proven history of superior separation and reproducibility
- Variety of stationary phases designed for Reversed Phase, Normal Phase, SEC, IEX, Chiral, and HIC
- Particle sizes range from UHPLC to Preparative, and column inner diameters from .075 to 300 mm



### Preparative Columns

- YMC has a proven history of direct scale-up from analytical columns to prep scale units
- Preparative columns are available in a variety of configurations

Column Hardware	ID	Length	Description
YMC-Actus®	20, 30, 50 mm	50-250 mm	YMC's advanced preparative columns packed with YMC-Triart, CHIRAL ART, and our classic reversed phase resins
YMC-Actus SP	50-450 mm	250 mm	Spring-assisted axial compression columns that can be packed by YMC with the resin of your choice (including competitor resins)
Glass Columns	5-300 mm	120-1000 mm	Available in lab and pilot scale, with aqueous only, solvent resistant, and high temperature versions
Dynamic Axial Compression	50-1000 mm	700 mm (100-400 mm bed)	Automated self-packing columns for lab, pilot, and industrial scale

## Bulk Resins

- Extensive selection of HPLC/UHPLC stationary phases up to 150  $\mu\text{m}$  with various pore sizes and chemistries
- Multiple solutions for reversed phase, normal phase, ion exchange, size exclusion, and chiral separation
- Packing materials with high density and high loading capacity suitable for HPLC, SFC and SMB chromatography
- Resins can be purchased in LC columns as well as gram to multi-ton quantities of bulk packing material
- Quality control ensures excellent lot-to-lot and scaleup reproducibility



## Customization

- YMC America develops and supplies OEM and custom systems for biotechnology and pharmaceutical customers
- Vertical integration with design, automation, fabrication, and installation all under one roof
- Designed to each user's specification, our custom skids reflect the unique insights of the user
- HPLC & LPLC Chromatography Systems, Process Development Skids, TFF Filtration Skids, In-line Dilution & Formulation, and Cleavage & Deprotection Systems

## Services

- Factory Acceptance Testing (FAT)
- Site Acceptance Testing (SAT)
- Installation Qualification (IQ), and Operational Qualification (OQ)
- Preventive maintenance and training options ensure optimal performance levels

## Method Development

- Leverage the expertise of our laboratories to accelerate your method development
- Our labs are equipped with state-of-the-art instrumentation and staffed by scientists who truly understand method development for your LC analysis or purification
- Bring your product development goals to fruition, whether scaling down, scaling up, or troubleshooting and improvement

## Workshops

- Learn the latest in separation techniques and technologies
- Hands-on work with the Contichrom CUBE
- Customized trainings to suit your company's development needs

