

Varian P2P Load & Lock™ Process Columns

MORE CONVENIENT SAMPLE PROCESSING



Pilot / Process Scale Load & Lock™ Columns

With a complete line of Load & Lock Dynamic/Static Axial Compression (DAC/SAC) columns, from 1 in. to 24 in. ID, in low, medium, and high-pressure models, Varian delivers versatile column solutions for high performance, high throughput, and high yield preparative and process purifications.*

Our Load & Lock columns are designed to get you up and running quickly when you need to pack your own high performance liquid chromatography columns. They combine excellent packed bed stability with enhanced flow distribution to deliver the highest quality purification with maximum speed, flexibility, and ease-of-use. Sample loading is 25% greater than most other DAC type columns, saving time and reducing operating costs, because more material can be purified per unit time or smaller inner diameter columns can be used due to higher loadability.

Varian Load & Lock DAC/SAC columns are very user friendly and allow the chromatographer and chemical engineer to pack any media easily.


Key Benefits

- ▶ Highest performance – Unique fluid/sample distribution system maximizes productivity and achieves superior results
 - ▶ Maximum flexibility – Perform both Dynamic or Static "locked" Axial Compression (DAC/SAC)
 - ▶ Greater convenience – Designed/manufactured for easy operation, to fit your production facility space, and for mobility within the facility
 - ▶ More than 25 years' experience in pilot and production scale column design with low pressure (Bio LC) and medium/high pressure applications (HPLC)
 - ▶ The mobile integrated stainless steel stand houses the column and hydraulic compression system as one self-contained unit and provides unrivalled maneuverability
 - ▶ A 90 degree tilting mechanism allows the column to be positioned horizontally to facilitate the removal of the media by plunger extension, to ease the unpacking process, and minimize handling of media or solvents
 - ▶ Customized column sizes are also available. Optional column water jacket promotes separations at elevated temperatures, improving resolution by enhancing the mass transfer of large solutes.
- * Scalable as standard designs up to 24 in. ID in a variety of column lengths. Custom designs by request.

NOTICE: This document contains references to Varian. Please note that Varian, Inc. is now part of Agilent Technologies. For more information, go to www.agilent.com/chem.

Varian P2P Load & Lock™ Process Columns

Specifications

| Pilot / Process Scale Load & Lock™ | | | | | | | | | | | | | | |
|--|---------------------------|---|----------|---------|---------|-------------|---------|-----------|---------|---------|-----------|---------|---------|---------|
| Internal Diameter (in./cm) | | 4 / 10 | | | 6 / 15 | | | 8 / 20 | | | 10 / 25 | | | |
| Length (cm) (Standard=80 cm)  | | 50 | 80 | 100 | 50 | 80 | 100 | 50 | 80 | 100 | 50 | 80 | 100 | 50 |
| Min. Bed length (cm) | | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Max. Bed length (cm) | | 45 | 72 | 90 | 45 | 72 | 90 | 45 | 72 | 90 | 45 | 72 | 90 | 45 |
| Total Volume (L) | | 3.9 | 6.3 | 7.9 | 8.8 | 14.1 | 17.7 | 15.7 | 25.1 | 31.4 | 24.5 | 39.3 | 49.1 | 50.3 |
| Media capacity | Maximum (Kg) | 2.1 | 3.4 | 4.2 | 4.8 | 7.6 | 9.5 | 8.5 | 13.6 | 17.0 | 13.3 | 21.2 | 26.5 | 19.1 |
| | At 60% (Kg) | 1.4 | 2.3 | 2.8 | 3.2 | 5.0 | 6.4 | 5.7 | 9.0 | 11.3 | 8.8 | 14.1 | 17.7 | 12.7 |
| Column plunger compression | | Bottom-up | | | | | | | | | | | | |
| Max. Working pressure (psi/bar) (Standard=1,500 psi) | | | | | | | | | | | | | | |
| Utilities Required to Operate L&L column | | | | | | | | | | | | | | |
| Dimension | Width (in./cm) | 36/91.4 | 36/91.4 | 36/91.4 | 36/91.4 | 36/91.4 | 36/91.4 | 48/122 | 48/122 | 48/122 | 52/132 | 52/132 | 52/132 | 52/132 |
| | Height (in./cm) | 76/193 | 95/241.3 | 104/264 | 84/213 | 106.5/270.5 | 124/315 | 86/218.5 | 108/275 | 128/325 | 106/270 | 126/320 | 134/340 | 106/270 |
| | Depth (in./cm) | 36/91.4 | 36/91.4 | 36/91.4 | 37/94 | 37/94 | 37/94 | 48/122 | 48/122 | 48/122 | 52/132 | 52/132 | 52/132 | 52/132 |
| Weights (lbs. / kg) | | 400/182 | | | 750/341 | | | 1,200/546 | | | 1,400/636 | | | |
| Additional Features | | | | | | | | | | | | | | |
| Construction | Load & Lock | Standard hydraulic locking mechanism | | | | | | | | | | | | |
| | Rack | 304 Stainless Steel with 316L Stainless Steel hardware | | | | | | | | | | | | |
| | Wetted Parts include | 316L Stainless Steel All wetted parts are 316L Stainless Steel | | | | | | | | | | | | |
| Certification / Qualification | Materials of construction | | | | | | | | | | | | | |
| | Column Qualification | Optional Qualification | | | | | | | | | | | | |



Pilot scale L&L columns
- 6 in. ID



| 12 / 30 | | | 14 / 35 | | | 16 / 40 | | | 18 / 45 | | | 20 /50 | | | 24 / 60 | | |
|---|---------|---------|-----------|---------|---------|-----------|---------|---------|-------------|---------|---------|-------------|---------|---------|-----------|---------|---------|
| 0 | 80 | 100 | 50 | 80 | 100 | 50 | 80 | 100 | 50 | 80 | 100 | 50 | 80 | 100 | 50 | 80 | 100 |
| 0 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 5 | 72 | 90 | 45 | 72 | 90 | 45 | 72 | 90 | 45 | 72 | 90 | 45 | 72 | 90 | 45 | 72 | 90 |
| 0.3 | 56.5 | 70.7 | 48.1 | 77.0 | 96.2 | 62.8 | 100.5 | 125.7 | 79.5 | 127.2 | 159.0 | 98.2 | 157.1 | 196.3 | 141.4 | 226.2 | 282.7 |
| 0.1 | 30.5 | 38.2 | 26.0 | 41.6 | 52.0 | 33.9 | 54.3 | 67.9 | 42.9 | 68.7 | 85.9 | 53.0 | 84.8 | 106.0 | 76.3 | 122.1 | 152.7 |
| 2.7 | 20.4 | 25.4 | 17.3 | 27.7 | 34.6 | 22.6 | 36.2 | 45.2 | 28.6 | 45.8 | 57.3 | 35.3 | 56.5 | 70.7 | 51.0 | 81.4 | 101.8 |
| Top-down | | | | | | | | | | | | | | | | | |
| 100/6.7 500/34 1,000/67 1,500/100 2,000/133 | | | | | | | | | | | | | | | | | |
| 90 psi clean air | | | | | | | | | | | | | | | | | |
| 132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 108/274 | 108/274 | 108/274 |
| 270 | 126/320 | 134/340 | 106/270 | 126/320 | 134/340 | 108/362 | 130/330 | 140/356 | 108/362 | 130/330 | 140/356 | 108/362 | 130/330 | 140/356 | 198/503 | 198/503 | 198/503 |
| 132 | 52/132 | 52/132 | 52/132 | 52/132 | 52/132 | 59/150 | 59/150 | 59/150 | 59/150 | 59/150 | 59/150 | 59/150 | 59/150 | 59/150 | 108/274 | 108/274 | 108/274 |
| 1,600/727 | | | 1,800/818 | | | 2,000/909 | | | 2,200/1,000 | | | 2,400/1,091 | | | 1,600/727 | | |
| 316L Stainless Steel | | | | | | | | | | | | | | | | | |
| Packing mechanism for columns up to 12 in. ID to maintain bed compression | | | | | | | | | | | | | | | | | |
| Steel with rotation capability to ease packing and unpacking operations | | | | | | | | | | | | | | | | | |
| 316 Stainless Steel rack optional upon request | | | | | | | | | | | | | | | | | |
| 316L Stainless Steel, PEEK, TFE, EPDM and Polypropylene | | | | | | | | | | | | | | | | | |
| Wetted parts have a 20RA or better finish and are electropolished | | | | | | | | | | | | | | | | | |
| CE and pressure testing will be supplied | | | | | | | | | | | | | | | | | |
| ASME Code Stamped optional | | | | | | | | | | | | | | | | | |
| Performance Qualification DQ/IQ/OQ for the empty tube is available | | | | | | | | | | | | | | | | | |



Process scale L&L columns
- 12 in. ID



Process scale L&L columns
- 24 in. ID

Varian P2P Load & Lock™ Process Columns

Standard configurations

The Varian Load & Lock Process columns are available in inner diameters from 4 in. (10 cm) to 24 in. (60 cm), in a variety of three (3) basic lengths and five (5) different pressure ranges. The columns can be supplied with stainless steel water jackets, which allow column temperature control.

Pilot / Small Production Scale Load & Lock Columns – 4 in. up to 12 in. ID

- A mobile stand (304 SS) provides a fully integrated Load & Lock Column, hydraulic compression and column tilting system
- Delivered with the standard DAC and SAC hydraulic feature

Production Scale Load & Lock Columns – 14 in. up to 24 in. ID

- A mobile stand (304 SS) provides a fully integrated Load & Lock Column, hydraulic compression and column tilting system
- Hydraulic SAC feature is optional

Please contact your local Varian, Inc. office or distributor directly for technical assistance and price information.



Varian, Inc.
www.varianinc.com
North America: 800.926.3000, 925.939.2400
Europe The Netherlands: 31.118.67.1000
Asia Pacific Australia: 613.9560.7133
Latin America Brazil: 55.11.3238.0400

Other sales offices and dealers throughout the world—
check our Web site.