

CHROMATOGRAPHY

Bio-Rad® EasyPack™ Process Chromatography Columns

- Open column design
- Adjustable height adaptor with central screw mechanism
- Unique frit and flow distributor
- High packing efficiency
- Documentation for regulatory submissions
- Customizable diameter up to 2 m

Optimized Performance

Bio-Rad EasyPack process-scale chromatography columns are designed for industrial applications. These open columns have variable bed-height adaptors, inflatable seals, and fixed bottom end pieces. Their sanitary design ensures hygienic performance and thorough cleaning. All Bio-Rad EasyPack columns come with a complete set of regulatory support documentation.

From pilot to manufacturing scale, Bio-Rad EasyPack columns are directly scalable. To minimize scale-up and development time, these columns have the same basic design for all column configurations. Standard column dimensions include lengths of 300, 600, and 900 mm and diameters from 100 mm to 1 m. Columns are available with glass, 316L stainless-steel, or acrylic column tubes. Columns may be customized to any length up to 1,200 mm or any diameter up to 2 m.

Variable Height Adaptor With Central Screw Adjustment Mechanism

Bio-Rad EasyPack columns have a centralized variable height adaptor for all column diameters up to 1 m, from pilot to manufacturing scale. With its single adjustable central-screw mechanism, the adaptor also allows either flow or axial compression packing. Additionally, the adjustable adaptor provides the flexibility to accommodate any chromatography support at any bed height with a single column.

The adaptor design makes packing and unpacking manageable, ensuring ease of column use. The central screw design allows a single operator to perform column packing and unpacking.

Unique Flow Distribution System

The adaptor and bottom end piece of Bio-Rad EasyPack columns have a unique flow distribution system that enhances packing and running performance and ensures optimal, uniform distribution at all flow rates.

The standard frit is stainless steel with a 20 µm porosity for uniform flow and minimal product retention. The distributor plate directs the flow across the frit quickly and evenly. This distributor plate and frit combination ensures optimal, uniform flow distribution across the bed and through the column at low and high flow rates.

Inflatable Seal Design

The seal design of the Bio-Rad EasyPack adaptors provides added security against leakage and inefficient packing. The design ensures uniform pressure across the seal. The inflatable seals have a minimum wall thickness of 5 mm to prevent leakage and failure. All columns have adaptors through which the seal can be inflated with compressed gas, such as air or nitrogen. If preferred, liquid pumps can be installed so that inert fluids can be used instead of gas.



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Regulatory Support and Quality Assurance

Bio-Rad's manufacturing procedures ensure that each step and every component are fully documented. The qualification documentation package allows production in compliance with U.S. FDA and European regulations. The original documentation and one electronic copy are included with each column. Bio-Rad maintains controlled copies.

Bio-Rad EasyPack chromatography columns are manufactured in compliance with engineering standards for pressure vessels, and each column comes with CE certification. The Bio-Rad manufacturing facility is certified according to ISO 9001:2000 standards.

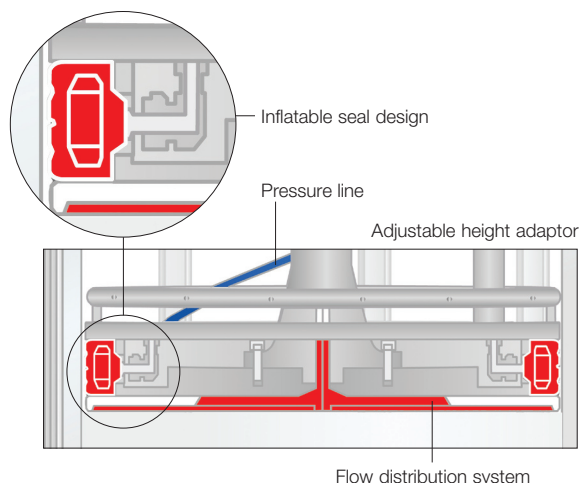
Packing Motor

Bio-Rad offers an optional packing motor for all column diameters. A motor is strongly recommended for column diameters ≥ 450 mm and is required for 800 and 1,000 mm columns. This upgrade allows automatic movement (upward and downward) of the adaptor, which makes packing easier and faster. Both adaptor speed and torque are under variable control. Programming the motor to a defined torque ensures consistent and reproducible column packing.

Customized Columns

In addition to a standard line of columns, Bio-Rad specializes in working with customers to design and manufacture custom columns. Customization may include modification to column dimensions, pressure rating, valves, ports, material, jacketing, etc.

Bio-Rad EasyPack columns are easily upgradable to Bio-Rad® GelTec™ process chromatography columns, which allow packing and cleaning in place.



Spare Parts and Accessories

Standard spare parts include frits, O-rings, inflatable seals, and column tube seals. Available accessories include bubble traps, media transfer devices, and packing motors.

Liquid Handling Systems

Bio-Rad offers automated process chromatography systems that are uniquely engineered to meet process and facility design requirements. The computer-driven operation system meets U.S. FDA 21 CFR Part 11 requirements.

Related Literature

Bulletin 3129, Bio-Rad GelTec process chromatography columns product information sheet

Bulletin 5488, Process-scale chromatography hardware brochure,

Bulletin 2686A, Process chromatography folder

Please contact your local Bio-Rad sales representative for ordering information.

Specifications*

	Bio-Rad EasyPack Column Nominal Internal Diameter (mm)								
	100	200	300	350	400	450	600	800	1,000
Actual internal diameter, mm	100.0 ± 0.4	200 ± 1	296 ± 1	350 ± 1	400 ± 2	446 ± 2	595.5 ± 2	800 ± 2	1,000 ± 3
Motorization available	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Required	Required
Maximum pressure, bar									
Calibrated borosilicate glass	5.2	3.5	2.6	—	—	1.7	—	—	—
Stainless steel 316L	6.0	6.0	6.0	6.0	6.0	6.0	6.0	3.0	3.0
Acrylic	6.0	6.0	6.0	5.5	5.0	4.5	3.0	3.0	3.0
Inflatable seal contents**	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas

* Standard tube heights available: 300, 600, and 900 mm.

** As an option, the column can be modified to use inert liquid for inflation.

— Not available.

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