

SALES LITERATURE

Revision 18-1

EVOLVE™

Process Columns – Semi-Disposible Approach

A "Semi-Disposible Approach" with a refresh kit available for the entire Evolve™ Process Column range to replace all the wetted parts of the column (including the acrylic tube).



essentialLife Solutions
for preparative chromatography

Helping You Succeed!

Our Technology

The Evolve™ product range consists of six cost-effective, ready-to-use process columns (70, 100, 140, 200, 250 and 350 mm diameter) providing a high-performance, easy-to-use, low-maintenance, scalable technology with excellent flow distribution to support bio-process downstream processing applications.

The column tubes are manufactured from pharmaceutical grade acrylic, with a non-metallic flow path and utilize either a woven polymer or hydrophilic sinter (350 mm diameter column only) bed support capable of operating at both high pressure and high flow rates, while eliminating the risk of corrosion in the wetted flow areas.

ELS offers a “Refresh Kit” for the entire Evolve range. The kit contains replacement parts for all the wetted components of the column, allowing an easy exchange and column “refresh”. This provides significant cost savings while eliminating the need to prove clearance of previous product and cleaning validation.

Evolve™ Process Columns are suitable for use with a wide range of chromatography media types - agarose and polymethacrylate based adsorbents - for applications such as protein purification and contaminant removal.

Evolve™ Range



Flow Distribution

- Easy to pack
- Low flow resistance
- Central inlet and ribbed distribution plate
- Integrated bed support and seal
- Woven polypropylene or hydrophilic sinter bed supports
- Minimal dead space

High Performance

- 4 bar pressure rating
- Flow rates up to 1000 cm/h
- 2 - 30 °C operating temperature range
- Scalability between column range
- All elastomers used in wetted regions suitable for biopharmaceutical applications and conform to both FDA and USP VI requirements

Non-Metallic

- Non-metallic flow path enables the use of high salt and guanidine HCl solutions
- Eliminates corrosion risk in wetted flow areas
- Prevents any product inactivation through metal contact
- Chemical resistance (see technical information table at the top of the following page for more details)
- Semi-Disposable Approach

Easy To Use

- Easily adjustable bed height (2 to 52 cm)
- Central adjuster ensures even seal compression
- Low number of components and easy maintenance
- Sanitary connections for quick and easy operation with other process equipment

Technical Information

Internal Diameter (mm):	70 mm	100 mm	140 mm	200 mm	250 mm	350 mm
Product Code:	AB070505	AB100505	AB140505	AB200505	AB250505	AB350505
Cross Sectional Area (cm ²):	38.5	78.5	154	314.2	490.9	962.2
Minimum Bed Height (mm):	20	20	20	20	20	20
Maximum Bed Height (mm):	520	520	520	520	520	520
Maximum Column Volume (L):	2	4	8	16.3	25.5	50
Pressure Rating (Bar):	4	4	4	4	4	4
Operating Temperature (°C):	2 - 30	2 - 30	2 - 30	2 - 30	2 - 30	2 - 30
Bed Support Pore Size (µm):	8	8	8	8	8	10
Chemical Conformity (wetted components):	All commonly used downstream processing buffers and solutions including acids, alcohols, salts, glycols, detergents, denaturants, sodium hypochlorite and sodium hydroxide (see Operating Manuals for full details before use)					
Total Weight Empty (kg):	11.5	12.5	19	45.5	52	100
Adjuster Weight (kg):	4	5	7.5	12.7	15	39
Total Weight Full* (kg):	13	16	26	60	76	148
Footprint (mm):	226	226	282	455	495	700
Maximum Column Height (mm):	1523	1543	1545	1550	1550	1550
Minimum Clearance** (mm):	1620	1620	1620	1750	1750	1750

* Based on bed height of 520 mm and specific gravity 1.05

** Minimum height required to remove adjuster out from above the column tube unit



Ready To Use

Evolve™ Process Columns are supplied with:

- Operating manual (including instructions, material conformity, chemical compatibility, pressure flow curves and replacement parts)
- Tool kit (including torque wrench, spanners, allen keys, spirit level and seal tool)
- Connection kit (including adaptors, clamps and seals)
- Spares kit (including adjuster/flow tube seals and bed support assemblies)

Technical Support

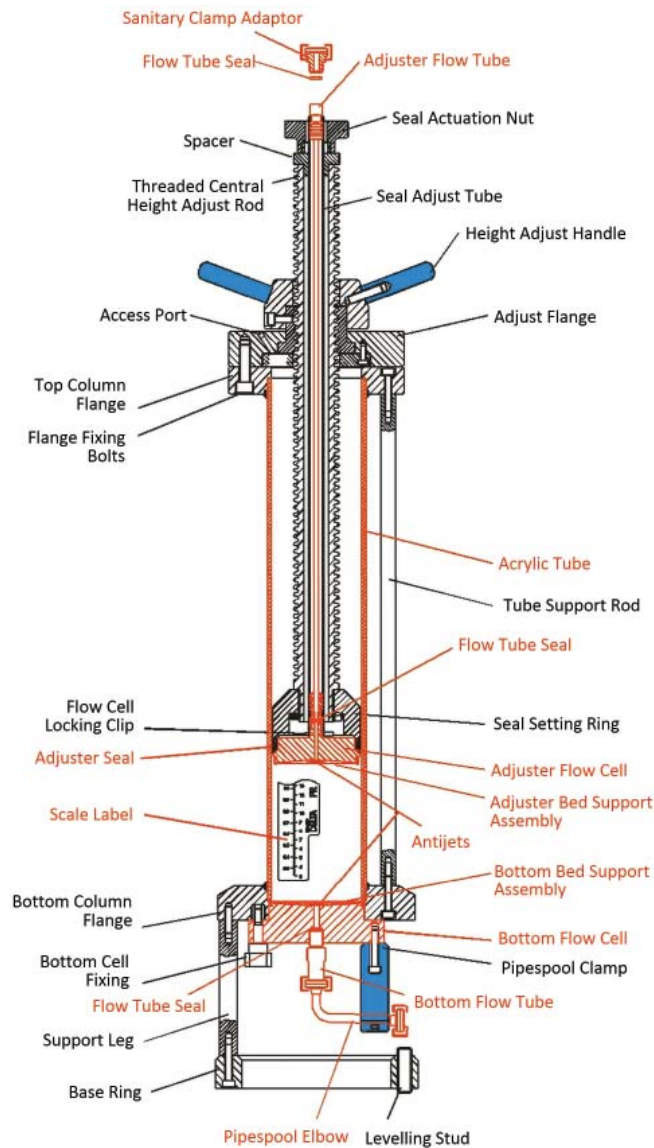
- ELS are experts in chromatography development and can help optimize all process parameters including column packing
- ELS also supply an extensive range of replacement parts and accessories for the Evolve™ Process Column range

Semi-Disposable Approach

ELS offers a **“REFRESH KIT”** to replace all the wetted parts of your used Evolve™ Process Columns (including the acrylic tube):



- **Hygienic** - Prevents cross contamination between multiple protein applications and eliminates the need to prove clearance of previous product and cleaning validation
- **Economical** - Significant cost savings in comparison to purchasing a complete new column
- **Environmentally Friendly** - ELS will recycle your old Evolve™ parts minimizing waste



Schematic Represents - 70, 100 and 140 mm diameter Evolve™ Process Columns

Refresh Kit - Contents

PBL's refresh service kit includes all the accessories and parts, along with an extensive operating manual, to successfully replace all the wetted components. The example shown below represents the 70, 100 and 140 mm diameter Evolve™ Process Columns:



1. Acrylic Tube
2. Scale Label
3. Adjuster Flow Tube
4. Antijets (2x)
5. Flow Tube Seals (3x)
6. Pipespool Elbow
7. Flow Tube Seal, Ladish (3x)
8. Adjuster Seal
9. Sanitary Clamp Adaptor
10. Bottom Flow Tube
11. Adjuster Bed Support Assembly
12. Bottom Bed Support Assembly
13. Top and Bottom Buffer Seals
14. Adjuster Flow Cell
15. Bottom Flow Cell

Ordering Information

Evolve™ Column Type	Product Code
70 mm diameter	AA07CRK
100 mm diameter	AA10CRK
140 mm diameter	AA14CRK
200 mm diameter	AA20CRK
250 mm diameter	AA25CRK
350 mm diameter	AA35CRK



LIMITED WARRANTY

Essential Life Solutions offers a one-year limited guarantee on these columns covering defects in material and workmanship if used under conditions detailed in the instruction manual provided with the column. This guarantee does not include frits, O-Rings and glass tube.

Essential Life Solutions makes no other representation or warranty, express or implied with respect to these columns, and it disclaims all implied warranties of merchantability or fitness for a particular purpose. In no event shall Essential Life Solutions be liable for any special, indirect or consequential damages.

Evolve Process Columns were developed by Prometic Bioseparations Ltd (PBL) in collaboration with Delta Precision Ltd.

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