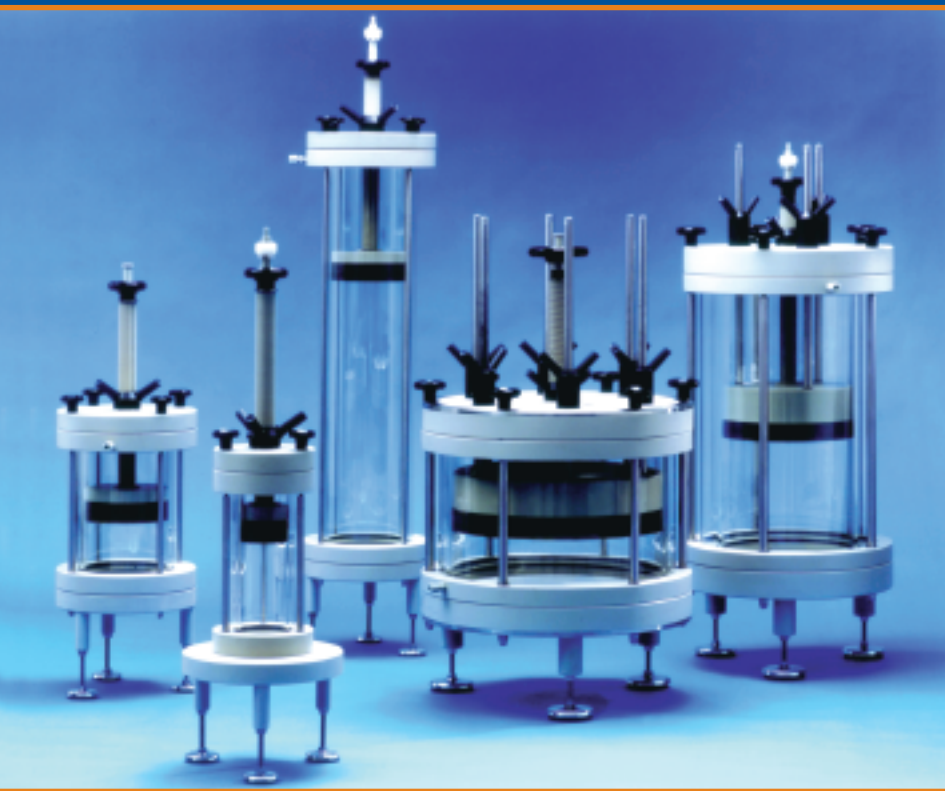


Upscale[®] Columns

From Pilot to Process . . .



HIGHLIGHTS:

- Simple Sanitary Design
- Low Dead Volume
- Reliable Mechanical Seal
- Low Maintenance
- Scalable

Advantages

◆ UNIQUE FLOW DISTRIBUTION SYSTEM

The base plate and piston are equipped with an efficient flow distribution system composed of an anti-jetting device and radial distribution channels utilizing a 20 µm frit. This system ensures a uniform flow of liquid onto the surface of the packing material and out of the column, resulting in improved separation performance. The fluid delivery (inlet tube) system connections are made at the exterior of the column, providing a more visible and reliable connection.

◆ PROVEN MECHANICAL SEAL TECHNOLOGY

The mechanical seal provides simple, accurate and repeatable seal adjustment. The sealing systems at each end of the column have been specifically designed to minimize dead volume, which may trap micro-organisms, retain contaminating substances and/or dilute the sample.

◆ EASE OF USE

The column is easily packed with a few simple adjustments of the coarse and fine seal adjustment controls. A large hub and handwheel make bed height adjustment virtually effortless.

◆ LIGHTWEIGHT DESIGN

The piston assembly is made from polypropylene for a lightweight feel. This facilitates assembly and disassembly for the user without unnecessary exertion or reliance on an external lifting apparatus.

◆ PROTECTIVE JACKET FOR TEMPERATURE CONTROL

The acrylic jacket acts as a temperature control unit and as protection for the interior glass from the production environment, thus ensuring the ruggedness of the column assembly, as well as maintaining operator safety.

UPSCALE® COLUMN MATERIALS OF CONSTRUCTION

Materials in Contact with the Solutions

Column Tube:

9 cm, 18 cm, 30 cm
* 45 cm

Borosilicate Glass
Acrylic

Tube Flanges, Base Plate, Piston, Sanitary Connections:

Piston Seal, O-Ring, Sanitary O-Ring:

Frit (20 µm):

Polypropylene
EPDM
Polyethylene

Materials Not in Contact with the Solutions

Jacket:

Tie Rods, Feet, Internal Central Screw:

Polymethacrylate
TP316L Stainless Steel

◆ HASSLE-FREE SCALE UP

The scale up of process from development through pilot scale through production scale is no problem.

◆ FULL RANGE OF SIZES

Upscale® columns are available in standard diameters of 9, 18, 30, and 45 cm and standard lengths of 30, 60, and 90 cm. Custom-made columns of up to 100 cm diameter are also available.

Upscale® Process Columns



Dimensions (cm)	Pressure (bar)	Volume/ml Min/Max (L)	Bed Height Min/Max (cm)	Liter (cm)	ELS Part No
9 x 30	6	0.0 - 1.6	0 - 25	0.06	265111
9 x 60	6	0.9 - 3.5	15 - 55	0.06	265117
9 x 90	6	2.9 - 5.4	45 - 85	0.06	265118
18 x 30	4	0.0 - 6.4	0 - 25	0.25	265121
18 x 60	4	3.8 - 14.0	15 - 55	0.25	265127
18 x 90	4	11.5 - 21.6	45 - 85	0.25	265128
30 x 30	3	0.0 - 14.8	0 - 21	0.71	265131
30 x 60	3	7.8 - 36.0	11 - 51	0.71	265137
30 x 90	3	28.9 - 56.2	41 - 81	0.71	265138
*45 x 30	2	0.0 - 33.4	0 - 21	1.59	265141
*45 x 60	2	17.1 - 79.3	11 - 51	1.59	265147
*45 x 90	2	63.7 - 128.8	41 - 81	1.59	265148

*45 cm diameter available in acrylic only.