

The only pre-packed columns scalable to 80cm ID

OPUS® 45R, 60R, 80R Pre-packed Chromatography Columns

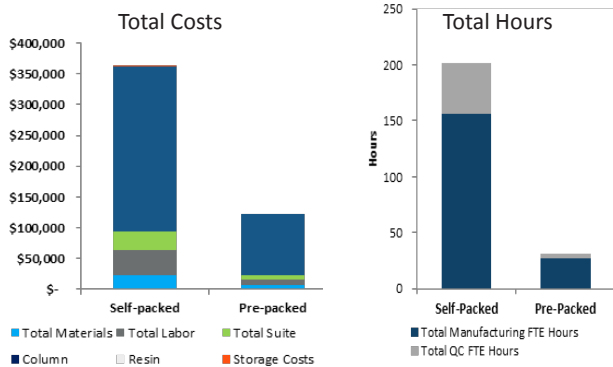


OPUS® 45R, 60R and 80R Columns purify feed streams from production-scale bioreactors.

Specifically engineered to meet the requirements of large-scale bioreactors, OPUS® 45R, 60R and 80R columns match the performance of traditional self-packed columns while delivering the cost and labor savings expected from ready-to-use pre-packed columns.

Cost and labor savings

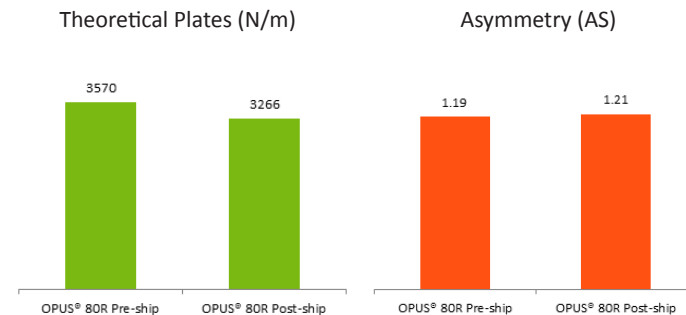
Over 65% cost savings and up to 80% labor savings were achieved when using OPUS® columns compared to self-packed columns.



Assumptions: OPUS® 60R pre-packed column versus purchasing new 60cm diameter automated self-pack equipment (assumes columns are dedicated to a specific molecule).

Performance maintained after shipping

OPUS® columns are shipped in qualified packaging which has passed the International Safe Transit Authority's (ISTA) worst case shipping simulations.



Shipping tests included high temperature (38° C) and high humidity for 36 hours, low temperature (4° C) and low humidity for 36 hours, compression testing (381 kgs on top of crate), 2 hours of random vibrational testing, multiple drop tests. Columns were packed with cross-linked 6% Agarose resin, ~90 micron particle size.

Physical Attributes

	OPUS® 45R	OPUS® 60R	OPUS® 80R
Internal diameter	45.7 cm	59.9 cm	79.9 cm
Column body pressure rating	3 bar		
Bed height range	10-30cm		
Column volume: 20 cm bed height	33 L	56 L	100 L
Assembled column height	≤ 20 cm BH: 90 cm (35 in) > 20 cm BH: 116 cm (45 in)	≤ 20 cm BH: 93 cm (37 in) > 20 cm BH: 120 cm (47 in)	≤ 20 cm BH: 97 cm (38 in) > 20 cm BH: 123 cm (48 in)
Assembled column width	47 cm (18 in)	61 cm (24 in)	81 cm (32 in)
Assembled column depth	54 cm (21 in)	68 cm (27 in)	91 cm (36 in)
Inlet/Outlet flow path internal diameter	12.7 mm (0.5 in)	19.1 mm (0.7 in)	
Inlet/Outlet port connectors (per ASME BPE Standards, current ed.)	½" Sanitary Connector	1" Sanitary Connector	
Estimated weight @ 20 cm BH	68 kg (150 lbs)	160 kg (350 lbs)	310 kg (690 lbs)