

Actus Columns for Preparative Separations with Axial Compression Technology

Based on YMC's extensive experience with Dynamic Axial Compression (DAC) columns, YMC Actus columns offer outstanding durability under high throughput conditions. Actus columns are ideal for milligram scale preparative HPLC.

YMC Actus columns apply Axial Compression Technology to semi-prep scale columns (20 mm and 30 mm i.d.). The column bed is compressed effectively by utilizing the end fitting assembly specifically designed for YMC-Actus.

- Improved bed uniformity (10% higher than conventional columns)
- Reduced occurrence of voids
- Longer overall column lifetime
- Improved resolution and efficiency



Packing Process

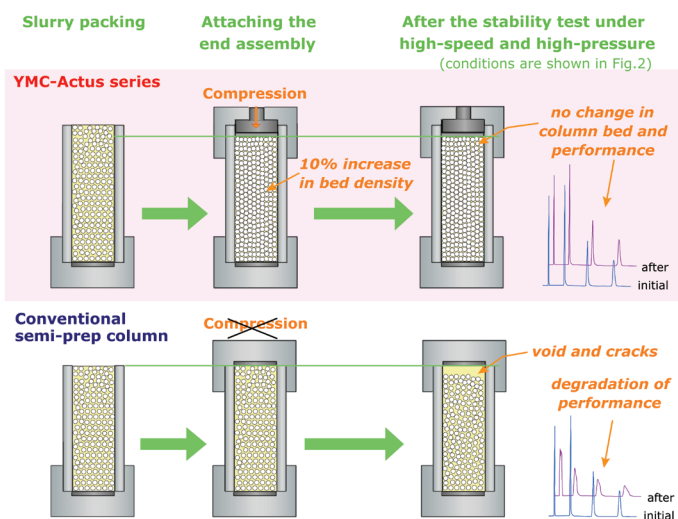


Fig.1 Packing process and bed density of YMC-Actus and conventional semi-prep column. After testing, voids are found in conventional column.

Column Durability

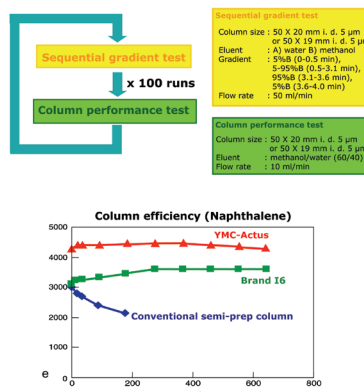


Fig.2 Stability test under high-speed gradient at variable and high pressure

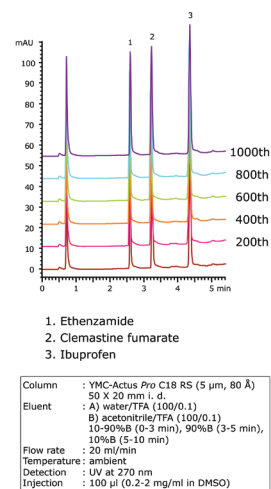


Fig.3 Stability under the condition of fast gradient and 100 % DMSO injections

Choices in Stationary Phase Chemistries (see other side for ordering information)

YMC ACTUS and Prep Guard Column Phase Descriptions

Packing Materials		Pore Size (Å)	Particle Size (µm)	C%	Usable pH Range	Characteristics
Triart series Hybrid Silica	C18	120	5	20	1.0-12.0	Versatile hybrid silica based ODS packing material Great chemical durability Excellent resolution in a variety of conditions Compatible with 100% aqueous mobile phase
	C8	120	5	17	1.0-12.0	Outstanding chemical durability due to hybrid silica based packing material Less hydrophobic than C18
	Phenyl	120	5	17	1.0-10.0	Suitable for aromatic compounds
	PPF (pentafluorophenyl)	120	5	15	1.0-8.0	Suitable for structural isomers
Pro series	Pro C18	120	5	16	2.0-8.0	High performance ODS packing material
	Hydrosphere C18	120	5	12	2.0-8.0	Superior separation for hydrophilic compounds Compatible with 100% aqueous mobile phase
	Pro C18 RS	80	5	22	1.0-10.0	High carbon ODS packing material, high durability
	Pro C8	120	5	10	2.0-7.5	High performance silica-based C8 packing material
YMC-Pack series	ODS-A	120	5	17	2.0-7.5	Standard ODS from analytical to preparative
	ODS-AQ	120	5	14	2.0-7.5	Great separation for hydrophilic compounds
YMC*Gel HG series* High Strength Silica	ODS-A	120	10	17	2.0-7.5	High performance ODS packing material
	ODS-AQ	120	10	15	2.0-7.5	ODS for aqueous eluents
	C8	120	10	10	2.0-7.5	High performance silica-based C8 packing material, less hydrophobic than C18
	C4	120	10	7	2.0-7.5	Less hydrophobic than C8
	TMS	120	10	4	2.0-7.5	Trimethylsilane
	Phenyl	120	10	9	2.0-7.5	Suitable for aromatic compounds
	Amino (NH ₂)	120	10	3	2.0-7.5	For normal phase, HILIC
	Cyano (CN)	120	10	7	2.0-7.5	For normal phase, reversed phase, HILIC
	Diol	120	10	-	2.0-7.5	For normal phase, HILIC
	Silica (SIL)	120	10	-	-	High purity silica for normal phase, HILIC

* Note: HG series materials are also available in 200 Å and 300 Å pore sizes. Please inquire.

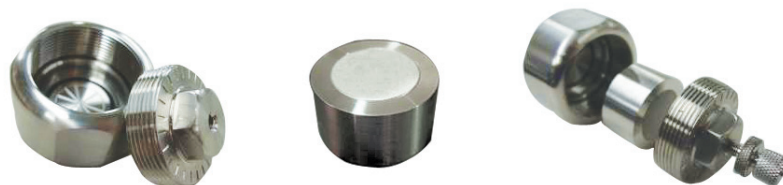
Special Note: All materials listed here are available in other particle sizes and some also in other pore sizes. Please inquire.

Guard Columns for Milligram Scale Preparative Separations

Compatible with Actus Columns and Conventional Packed Column

For milligram scale preparative columns having an inner diameter of 20 or 30 mm, the YMC cartridge-based guard column system is ideal.

- Cartridges are easily installed
- Compatible with YMC Actus, YMC packed columns, or any suitable packed column
- 10 mm bed length Guard Column Cartridges are an inexpensive way to protect prep columns



20 mm i.d. guard column and holder shown here.

Ordering Information:

YMC Actus Columns and Guard Columns

First Half of Product Number Phase

Packing Materials		Pore Size (Å)	Particle Size (µm)	First Half of Product Number
Triart series	C18	120	5	TA12S05
	C8	120	5	TO12S05
	Phenyl	120	5	TPH12S05
	PFP	120	5	TPF12S05
Pro series	Pro C18	120	5	AS12S05
	Hydrosphere C18	120	5	HS12S05
	Pro C18 RS	80	5	RS08S05
	Pro C8	120	5	OS12S05
YMC-Pack series	ODS-A	120	5	AA12S05
	ODS-AQ	120	5	AQ12S05
YMC*Gel HG series*	ODS-A	120	10	AAG12S11
	ODS-AQ	120	10	AQG12S11
	C8	120	10	OCG12S11
	C4	120	10	BUG12S11
	TMS	120	10	TMG12S11
	Phenyl	120	10	PHG12S11
	Amino (NH ₂)	120	10	NHG12S11
	Cyano (CN)	120	10	CNG12S11
	Diol	120	10	DLG12S11
	Silica (SIL)	120	10	SLG12S11

Second Half of Product Number Column Dimension

Second Half of Product Number	Length (mm)	I.D. (mm)
Actus 20 mm I.D. Columns		
-0520WX	50	20
-1020WX	100	20
-1520WX	150	20
-2520WX	250	20
Actus 30 mm I.D. Columns		
-L530WX	75	30
-1030WX	100	30
-1530WX	150	30
-2530WX	250	30

Guard Column Cartridges (requires holder)		
-0120CC	10	20
-0130CC	10	30
Guard Column Cartridge Holder (holder only)		
XPCHSPW2	10	20
XPCHSPW3	10	30

Special Note: All materials listed here are available in other particle sizes and some also in other pore sizes. Please inquire.

To order, specify the Product Number by combining the first half of the number (Phase) with the second half (Column Dimension).

Example: to order a 100 x 20 mm Actus column and 20 mm guard column, packed with Triart Phenyl:

1. Actus Column: **TPH12S05-1020WX**
2. Guard Column: **TPH12S05-0120CC**
3. Guard Column Holder: **XPCHSPW2**
(Guard Column Holder is re-usable)



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