

Finish First with Monolithic Silica HPLC Columns

Onyx is a silica monolithic HPLC column designed for high speed analysis. The monolithic nature allows for "dilute-and-shoot" applications saving scientists valuable sample preparation time.

- Reduce run times by more than 50 %
- "Dilute-and-Shoot" dirty biological samples
- Analytical, capillary, and semi-prep dimensions

Material Characteristics

Packing Material	Macropore Size (µm)	Mesopore Size (Å)	Pore Volume (mL/g)	Surface Area (m²/g)	Carbon Load %	Calculated Bonded Phase Coverage (µmole/m²)	End Capping
Onyx C8	2	130	1.0	300	11	3.8	Yes
Onyx C18	2	130	1.0	300	18	3.6	Yes
Onyx C18*	1.5	130	1.0	300	18	3.6	Yes
Onyx HD-C18	1	130	1.0	300	18	3.6	Yes

Maximum Pressure: 200 Bar; pH Range: 2.0-7.5

*50 x 2.0 mm ID only; enhanced 1.5 µm macropore size for higher efficiencies

High Resolution Monolithic Columns — Onyx HD-C18

- 50 % higher performance compared to our standard Onyx columns
- Backpressure 2 times lower than particle packed columns
- 30 % longer column lifetime compared to some particle packed columns

Monolithic Technology vs. Particle-Based Technology

Onyx

- **Monolithic porous silica rod**
- **Significantly shorter run times**
Cut methods by more than half
- **Low backpressures**
Less stress on system and column
- **High flow rates**
Due to high porosity
- **No inlet bed settling**
Increased reliability, reproducibility, and lifetime



Particle-Based Columns

- **Individual silica particles**
- **High flow resistance**
Limits ability to shorten run times
- **Increased backpressure**
Limits life of pumps, seals, and column
- **Reduced throughput**
Long run times
- **Bed splitting possible**
Shortens column life & lessens reproducibility



10 mm ID Onyx Semi-Prep Column

- Flow rates from 5 – 35 mL/min
- Loading capacities approaching what is typically observed on 21.2 mm ID columns for some samples
- Pore structure rapidly disrupts DMSO injection slug resulting in better mixing & improved binding of analyte to sorbent
- Long lifetimes when analyzing “dirty” samples due to monolithic nature

Excellent Reproducibility

Several parameters, such as peak asymmetry and retention factors, were used to test the reproducibility of Onyx silica monolithic columns and ensure that every batch meets the quality control standards of chromatographers worldwide.



Refer to technical note, [TN-1025](#), for more information pertaining to Onyx reproducibility. Call your Phenomenex representative.

Ordering Information

Part No.	Description	Size (mm)
Capillary Columns		
CHO-7646	Onyx Monolithic C18	150 x 0.1
Analytical Columns		
CHO-8373	Onyx Monolithic C18	50 x 2.0
CHO-8464	Onyx Monolithic C18	25 x 3.0
CHO-8158	Onyx Monolithic C18	100 x 3.0
CHO-7643	Onyx Monolithic C18	100 x 4.6
CHO-7644	Onyx Monolithic C18	50 x 4.6
CHO-7645	Onyx Monolithic C18	25 x 4.6
CHO-8611	Onyx Monolithic HD-C18	100 x 4.6
CHO-7647	Onyx Monolithic C8	100 x 4.6
SemiPrep Columns		
CHO-7878	Onyx Monolithic C18	100 x 10.0
Guard Cartridge System		
KJO-8465	Onyx Monolithic C18 Guard Cartridge Kit (3/pk cartridges + holder)	5 x 3.0
CHO-8466	Onyx Monolithic C18 Guard Cartridges (3/pk)	5 x 3.0
CHO-7649	Onyx Monolithic C18 Guard Cartridges (3/pk)	5 x 4.6
KJO-7652	Onyx Monolithic C18 Guard Cartridge Kit (3/pk cartridges + holder + wrench)	10 x 4.6
CHO-7650	Onyx Monolithic C18 Guard Cartridges (3/pk)	10 x 4.6
Column Coupler		
AQO-7654	Onyx Column Coupler, 0.020 in. ID	



For Onyx Reversed Phase Column
Check Standard, see p. 424



Product based on monolithic technology under
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