



NGC Chromatography System for Low-Volume, High-Resolution Size Exclusion Chromatography



NGC Quest 10 Plus Chromatography System (Bio-Rad™ Laboratories, Inc., catalog #7880003).

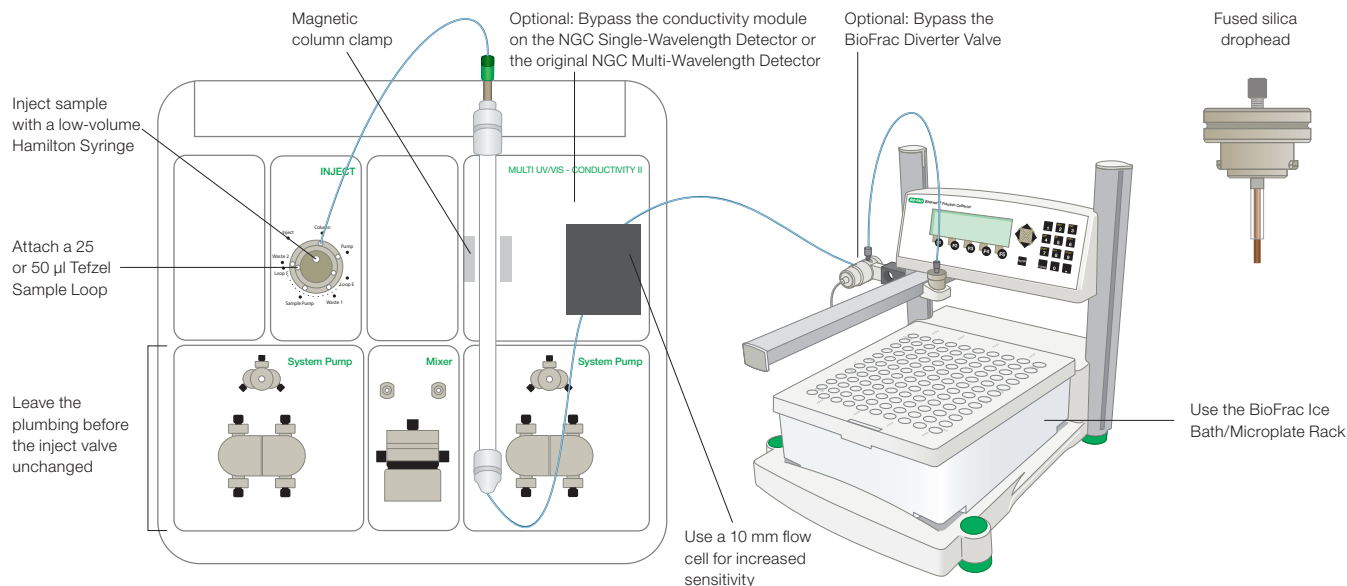
The NGC Quest 10 Plus Chromatography System and BioFrac Fraction Collector are ideal for minimizing system swept volume and reducing sample diffusion in high-resolution size exclusion chromatography for cryogenic electron microscopy (cryo-EM) applications.

The NGC Quest 10 Plus Chromatography System includes system pumps that operate at flow rates of 0.01–10.0 ml/min and a maximum pressure of 3,650 psi, enabling isocratic and gradient applications. To minimize the sample volume injected per run, sample loops with volumes as small as 25 μ l can be used with the NGC inject valve. The NGC Multi-Wavelength Detector Module enables detection of up to four wavelengths from 190 to 800 nm. Utilization of the 10 mm NGC UV Flow Cell increases the overall sensitivity to better visualize protein samples from small injection volumes.

NGC System users may replace the standard orange PEEK tubing after the inject valve with a narrower inner diameter (ID) to further reduce the swept volume. Blue (0.01" ID), yellow (0.007" ID), and red (0.005" ID) PEEK tubing can all be used with NGC Systems to meet your application needs.

The BioFrac Fraction Collector, used with the BioFrac Ice Bath/Microplate Rack and a microplate drophead, is a robust option for low-volume fractionation. With a simple fused silica adaptation to the BioFrac Microplate Drop Head Kit, customers can reduce the drop size from 25 to 7 μ l. The BioFrac Diverter Valve can be used or entirely bypassed for additional swept volume reduction.

Supporting data are available in Micro Scale Separation: Optimizing the Bio-Rad NGC Chromatography System for Low-Volume Size Exclusion Chromatography ([bulletin 3232](#)). For full configuration instructions, see the Optimizing the NGC Chromatography System for Cryo-EM Applications Quick Guide ([bulletin 3229](#)).



NGC Quest 10 Plus Chromatography System and BioFrac Fraction Collector configured for low-volume, high-resolution size exclusion chromatography.

Recommended Materials for Microliter-Scale NGC System Applications

Item	Ordering Information
NGC Quest 10 Plus Chromatography System	Bio-Rad #7880003
NGC UV Flow Cell 10 mm	Bio-Rad #7885023
NGC UV and Conductivity Flow Cell, 10 mm	Bio-Rad #12012531
For use with the NGC Multi-Wavelength Detector II Module	
BioFrac Fraction Collector	Bio-Rad #7410002
BioFrac Ice Bath/Microplate Rack	Bio-Rad #7410017
BioFrac Microplate Drop Head Kit	Bio-Rad #7410088
25 µl Tefzel Sample Loop	Bio-Rad #7500482
50 µl Tefzel Sample Loop	Bio-Rad #7500483
100 µl Microliter Syringe Model 710 N	Hamilton Company #80665
Cemented needle, 22s gauge, 2", point style 3	

PEEK Tubing and Fittings

Item	Ordering Information
Blue PEEK Tubing 5', ID 0.010", OD 1/16"	IDEX Corporation #1531B
Yellow PEEK Tubing 5', ID 0.007", OD 1/16"	IDEX #1536
Red PEEK Tubing 5', ID 0.005", OD 1/16"	IDEX #1535
Ferrule and Lock Ring	Bio-Rad #7500556
PEEK Nut 1/16"	Bio-Rad #7885025

Fused Silica for Use with the BioFrac Microplate Drop Head Kit

Item	Ordering Information
Fused Silica Tubing ID 0.15 mm, OD 0.39 mm	Thermo Fisher Scientific Inc. #00106-10498
ID 150 µm, OD 360 µm	IDEX #FS-115
Fused Silica Carbide Cutter	IDEX #FS-311

ID, inner diameter; OD, outer diameter.

Visit bio-rad.com/NGC for more information.

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