



## NGC Chromatography System for High Flow Rate Applications



The NGC Discover 100 Chromatography System is capable of flow rates up to 200 ml/min using the included NGC Buffer Blending Valve.

NGC Chromatography Systems are customizable and upgradeable for compatibility with high flow rate applications. An NGC Buffer Blending Valve may be added to NGC Quest Chromatography Systems to enable buffer blending and high-flow capabilities. The NGC Scout, Discover, and Discover Pro Chromatography System packages already include an NGC Buffer Blending Valve in their configurations. The NGC Buffer Blending Valve enables automatic inline buffer preparation and generation of pH gradients for quick pH scouting when used in Buffer Blending Mode. When increased flow rates are desired, the NGC Buffer Blending Valve can be alternatively used in High Flow Mode to double the system flow rates.

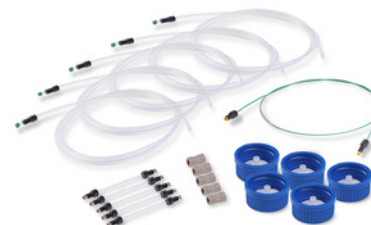
All NGC Chromatography Systems come with a choice of system pumps that operate at a maximum flow rate of 100 ml/min for the NGC 100 Systems and 10 ml/min for the NGC 10 Systems. NGC Chromatography Systems can be operated at double these standard flow rates using High Flow Mode with the NGC Buffer Blending Valve, increasing the maximum flow rates to 20 or 200 ml/min, depending on the system pumps used.

## NGC 100 Systems

High Flow Mode operation using the NGC Buffer Blending Valve with NGC 100 Systems enables the maximum achievable flow rate of 200 ml/min. For NGC System operation at flow rates at or above 80 ml/min, we recommend changing the inlet lines connected to the system pumps or the NGC Buffer Blending Valve (ports Q1–Q4) to 3/16" outer diameter (OD) fluorinated ethylene propylene (FEP). This will help prevent hydrodynamic cavitation — inline bubble formation induced by passing a liquid through a constricted channel at high velocity. To decrease total operating system pressure, the standard green PEEK tubing should be replaced with 1/8" OD FEP tubing. Additionally, any waste lines connected to either the BioFrac or NGC Fraction Collector should be replaced by 3/16" OD FEP tubing. The necessary 3/16" OD FEP tubing, unions, waste lines, and bottle caps are found in the NGC High-Flow Tubing Kit. The maximum allowable flow rate for the BioFrac Fraction Collector is 100 ml/min. Therefore, the NGC Fraction Collector is the preferred fraction collector for flow rates of 80–200 ml/min when using 50 ml tube racks or the BioFrac Prep-20 Preparative Rack.

### Materials and High-Flow Accessories for NGC 100 Chromatography Systems

Item	Additional Information	Catalog Number
NGC Quest 100 Plus Chromatography System	NGC Buffer Blending Valve enables high flow rate applications	7880004
NGC Buffer Blending Valve	Adds high-flow and buffer blending capabilities	7884010
NGC Scout 100 Plus Chromatography System	Includes NGC Buffer Blending Valve	7880008
NGC Discover 100 Chromatography System	Includes NGC Buffer Blending Valve	7880010
NGC Discover 100 Pro Chromatography System	Includes NGC Buffer Blending Valve	7880012
NGC High-Flow Tubing Kit	Included with NGC 100 Systems	7885171
NGC Fraction Collector with Racks	Capable of flow rates up to 200 ml/min	17002070
Rack for 50 ml Tubes	Optional rack for NGC Fraction Collector	12003757
Prep-20 Preparative Rack Kit	Optional rack for NGC Fraction Collector	17002942
FEP Tubing	1/8" OD tubing to replace green PEEK tubing	7500603
PEEK Ferrule 1/8"	Fittings for 1/8" OD tubing	7885055
PEEK Nut 1/8"	Fittings for 1/8" OD tubing	7885015



The NGC High-Flow Tubing Kit facilitates flow rates of 80–200 ml/min.

## NGC 10 Systems

High Flow Mode operation using the NGC Buffer Blending Valve with NGC 10 Systems enables the maximum achievable flow rate of 20 ml/min for these systems. The orange PEEK tubing with 0.02" inner diameter (ID) included with these systems will accommodate the maximum flow rate. No alterations to the system are necessary. If total system pressure is higher than desired at doubled flow rates, green PEEK tubing (0.03" ID) can be used. Both the BioFrac and NGC Fraction Collectors are compatible with flow rates up to 20 ml/min.

### Materials and High-Flow Accessories for NGC 10 Chromatography Systems

Item	Additional Information	Catalog Number
NGC Quest 10 Plus Chromatography System	NGC Buffer Blending Valve enables high flow rate applications	7880003
NGC Buffer Blending Valve	Adds high-flow and buffer blending capabilities	7884010
NGC Scout 10 Plus Chromatography System	Includes NGC Buffer Blending Valve	7880007
NGC Discover 10 Chromatography System	Includes NGC Buffer Blending Valve	7880009
NGC Discover 10 Pro Chromatography System	Includes NGC Buffer Blending Valve	7880011
BioFrac Fraction Collector	Capable of flow rates up to 100 ml/min	7410002
BioFrac Ice Bath/Microplate Rack	Optional rack for 15 ml conical tubes	7410017
BioFrac H4-High Rack Set	Optional rack for 50 ml conical tubes	7410020
BioFrac Prep-20 Preparative Rack	Optional rack for fractionation into 20 collection vessels of any size	7410018
PEEK Tubing	Green, 1/16" OD x 0.03" ID	7600605
PEEK Ferrule 1/8"	Fittings for 1/8" OD tubing	7885055
PEEK Nut 1/8"	Fittings for 1/8" OD tubing	7885015

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