PN3310 Viscometer

## Online Viscometry for FFF and GPC

PN3310 Viscometer

Features

The Postnova PN3310 Viscometer detector is a state-of-the-art intrinsic viscosity detector for Field-Flow Fractionation (FFF) and Size Exclusion Chromatography (GPC/SEC). It is based on the proven Wheatstone-Bridge design for measuring the intrinsic viscosity of macromolecules in solution. The instrument is designed in the modern and compact Postnova FFF detector design.

The Postnova PN3310 Viscometer detector shows an outstanding performance and is equipped with highly sensitive pressure transducers. The special pressure sensor protection system (PSP) automatically avoids critical overpressure on the pressure transducers. The instrument shows excellent baseline stability with extremely low drift and superior signal-to-noise ratio. Up to four analog signals from external detectors (e.g. RI, UV, Fluorescence) can be connected to the PN3310 Viscometer detector. The instrument is fully controlled by the powerful and user-friendly NovaMALS software that can integrate additional detectors such as Multi-Angle Light Scattering (MALS), Refractive Index (RI) and UV Absorbance.
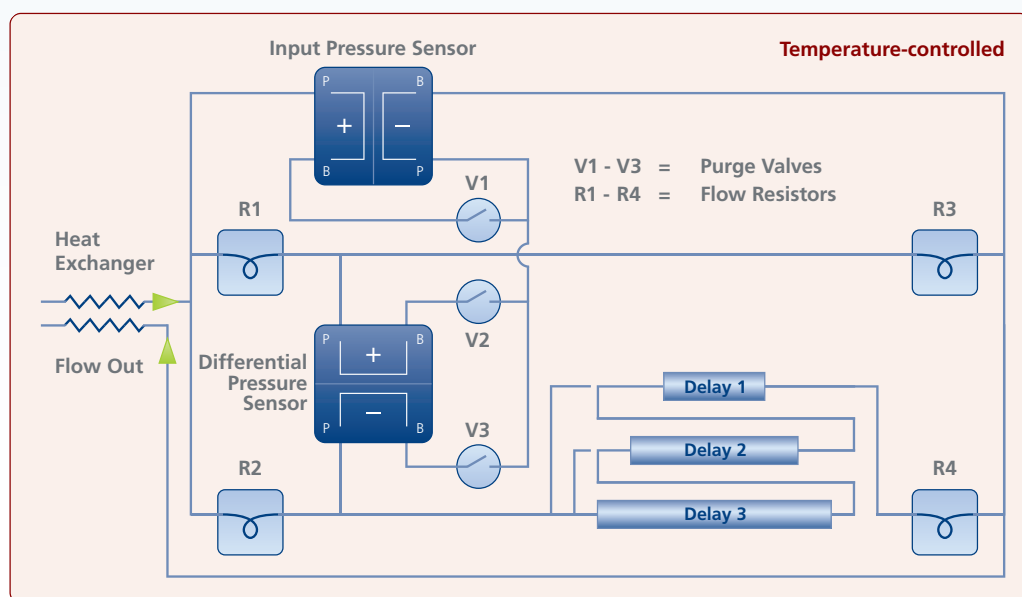
Together with the Postnova PN3621 MALS detector and the Postnova PN3150 RI detector a modular, flexible and compact "Triple Detection System" can be set up. With a Postnova PN3211 Dual Wavelength UV or a PN3242 Diode Array UV as a second concentration detector, even a "Quadruple Detection System" can be configured.

Using the Postnova PN3310 Viscometer detector in combination with a concentration detector (RI, UV) and a light scattering detector (MALS) the molecular size (hydrodynamic, gyration) and the molecular structure (shape, branching) of macromolecules can be determined. Both with and without the addition of a Light Scattering detector to the PN3310 Viscometer, the Mark-Houwink plot (molecular weight vs. intrinsic viscosity) can be derived using the NovaMALS software. The Mark-Houwink plot is the most powerful structure plot in macromolecular analysis containing a large amount of information about the size, shape, structure and molecular weight of macromolecules in solution.

Ordering Information

S-DET-3310-001   PN3310 Viscometer Detector

Z-DET-3310-001   Delay Column 1 small
Z-DET-3310-002   Delay Column 2 medium
Z-DET-3310-003   Delay Column 3 large

Specifications

- Environmental Conditions:
  20 – 80 % relative humidity (non-condensing) at an ambient temperature range of 0 – 40 °C

- Maximum Flow Rate:
  1 – 3 mL/min
  (solvent dependent - water max. 1.5 mL/min; THF max. 3 mL/min)

- Hold-up Volumes:
  13 mL, 9 mL, 5 mL
  (user-selectable)

- Bridge Arm Volume:
  30 µL

- Bridge Operating Temperature:
  Ambient +4 – 60 °C

- Bridge Temperature Stability:
  < 0.01 °C at 35 °C bridge temp.

- Measurement Accuracy:
  +/- 0.25 % of full scale

- Measurement Range:
  Bridge pressure: 240 kPa (35 psi)
  Differential pressure: 5.1 kPa
  (0.74 psi)

- Max. Allowed Bridge Pressure:
  400 kPa (58 psi)

- Max. Allowed Differential Pressure:
  10 kPa (1.45 psi)

- Max. Differential Pressure Noise (*):
  < 0.175 Pa (2.53x10-5 psi)

- Max. Differential Pressure Drift (*):
  < 1.8 Pa/h (2.61x10-4 psi)

- Max. Absolute Pressure Load:
  500 kPa (72.5 psi)

- Shear Rate:
  5000 Hz

- Wetted Materials:
  Stainless steel, Inconel®, FFKM, PVDF

- Transducer Protection:
  Pressure Sensor Protection (PSP)

- Alarms:
  Vapor alarm for organic solvents; optical leakage alarm

- Power Requirements:
  100 – 240 V_{AC} @ 50 – 60 Hz, max. 100 W

- Dimensions (DxWxH):
  460 x 260 x 160 mm

- Weight:
  10 kg

(*) measured with H_2O; Flow rate: 1.0 mL/min

Contact