

# PN1130

## Field-Flow Fractionation Pump



# PN1130 FFF Pump

The new Postnova PN1130 is an isocratic dual piston solvent delivery system optimized for the usage in FFF. It employs short piston stroke technology with two check valves. The working principle of the PN1130 solvent delivery system is shown in Figure 1.

The delivery piston works with a 2 mm stroke length, the compensation piston with 1 mm. The nearly pulseless solvent discharge of the PN1130 results from the high stroke frequency/low stroke volume (20  $\mu\text{L}$ ) and the use of a compensation piston. While the delivery piston discharges the solvent volume, the compensation piston, located on the pressurized side, collects half of the volume. During the return movement of the delivery piston, the collected volume is discharged from the compensation piston.

The microprocessor controlled speed regulation leads to a highly stable motor speed. In contrast to standard regulators, the microprocessor is able to compensate continuously the compressibility of the eluents through a computerized program.

This results in a constant volume delivery throughout the entire delivery range. The microprocessor technology also offers the possibility to handle the programming, application and control of an instrument in a simple manner. Through the alphanumeric display, the operation parameters are shown in clear letters. The user can easily control or change the data. To simplify operation, the number of function keys is kept at a minimum.

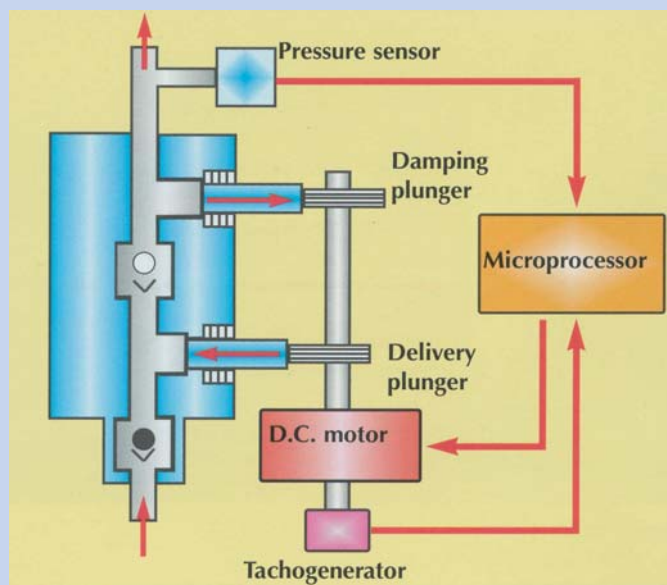
Basically, the user has the choice between two operation modes. The delivery with „Constant Pressure“ and the delivery with „Constant Flow“. The operation modes can be programmed with the following parameters:

- Constant pressure in MPa
- Constant flow in mL/min
- Minimum pressure level
- Maximum pressure level
- Maximum flow
- Compressibility factor
- Maximum run time
- Delay time
- Programmable start delay time and stop delay time.

The new PN1130 pump is equipped with a built-in diagnostic system. This continuously controls the following parameters:

- Power failure
- Program memory
- Minimum pressure levels
- Maximum pressure levels
- Maximum flow
- Motor function

Incorrect data entered by the operator will be ignored by the processor's logic control and indicated by flashing of the display.



## Specifications

- Flow Rate:  
Micro: 0.05 to 4.00 mL/min  
Analytical: 0.10 to 9.95 mL/min  
Preparativ: 40 to 40.00 mL/min
- Pulsation:  
Less than 1 %
- Maximum Pressure:  
Micro: 40 MPa (400 bar)  
Analytical: 40 MPa (400 bar)  
Preparativ: 20 MPa (200 bar)
- Display:  
LCD alphanumeric 2 x 24 characters
- Compressibility Factor:  
Select from 0.7 to 1.0
- Operation Modes:  
Constant flow / Constant pressure
- Remote Control:  
RS232 + Analog Control (flow, start, stop)
- Run Time:  
00:01 to 99:59 h
- Delay Time:  
00:01 to 99:59 h
- Safety Control:  
Minimum/maximum pressure  
Power supply  
Logical data input
- Error Message Transfer:  
Potential free relay contact  
Acoustic and optic signal
- Power Requirements:  
220/110 V; 50/60 Hz
- Dimensions / Weight:  
285 x 130 x 420 mm / 8 kg



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