SVIFCTFX3

Product Datasheet



Resolute[®] Flowdrive SU

Easy to Use, Flexible Single-Use Chromatography Systems

Product Information

The Resolute® Flowdrive SU supports three sizes of flow kit for use in clinical and commercial operations under cGMP*. Conversion kits are available that allow simple swapping between the flow kit sizes. The flow kit volume and flow rate are optimized with near zero hold up valving to deliver highresolution separations, making Resolute® Flowdrive SU suitable for processing columns, membranes, and monoliths. The system is the preferred and demonstrated choice for customers scaling up the Sartobind® Rapid A membrane family when performing Rapid Cycling Chromatography (RCC).

Main Features

- Three flow rate ranges with optimized hold-up volumes on one system
- Ready to use gamma irradiated flow kits
- Error free flow kit installation through 2D layout and shadow boarding

System Concept

The Resolute® Flowdrive SU provides a combination of hardware, automation, and single-use assemblies designed to work together seamlessly. Flexibility is a key requirement for single-use system design. The system offers the end user a choice of single-use sensors for isocratic, gradient, filter | bubble-trap, column, and outlet flow kits.

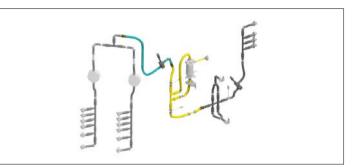


Figure 1: Resolute® Flowdrive Gradient Flow Kit

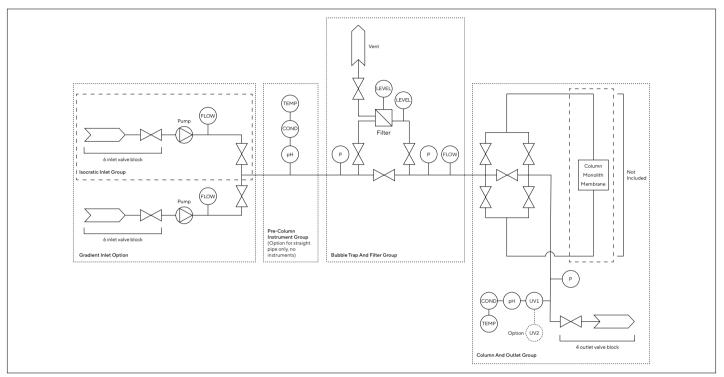


Figure 2: Resolute® Flowdrive SU System P&ID

Process Automation and Control

The Process Step Editor is a programmable logic controllerbased automation that enables process robustness in manufacturing environments and complies with 21 CFR Part 11 and cGMP guidelines.



Figure 3: Fully Maneuverable Touchscreen Human Machine Interface (HMI)

Supervisory control and data acquisition (SCADA) process data is captured using the integrated analytical tool software module via open platform communications (OPC) and saved to a discrete database. Data can be displayed in customized charts, and historical trend analysis can be carried out for comparison of batches. Calculation and reporting of critical process indicators, such as transition analysis, peak asymmetry, and height equivalent to a theoretical plate (HETP), is simplified with the analytical tool.

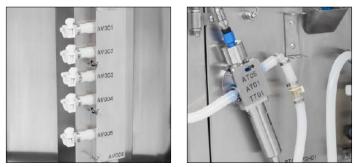


Figure 4: Pinch Valve Buffer Inlet Block (Left); Compact Single-Use Flow Cell (Right)

Technical Data

System Specifications

| System Dimensions and Weight | | |
|--------------------------------|--|--|
| 186×80×180 cm (73×31.6×71 in.) | | |
| 550 kg (1213 lb) | | |
| | | |

| System Capacity | ¼ in. Flow Kits | ¾ in. Flow Kits | ¹ ∕₂ in. Flow Kits |
|---------------------|----------------------------------|-----------------|-------------------------------|
| Volumetric Flow | 8 to 150 L/hr | 18 to 600 L/hr | 36 to 900 L/hr |
| Tubing ID | ¼ in. (0.64 cm) | ¾ in. (0.95 cm) | ½ in. (1.27 cm) |
| Column Diameter* | 6-25 cm | 10-600 cm | 15-600 cm |
| Pressure Rating | | 0 to 4 bar | |
| System Pumps | Up to × 2 diaphragm (single-use) | | |
| Inlets | 6 per pump | | |
| Outlets | | 4 | |
| *Sized at 300 cm/hr | | | |

Component Specifications

| Instruments | Range | Accuracy | Location |
|-----------------------------|--------------------------------------|--------------------------------------------------------|------------------------------------------|
| Flow Meter (¼ in. Flow Kit) | 8 - 150 L/hr | ± 3.6 L/hr or 5% of reading (whichever is greater) | Pre-column, post pump |
| Flow Meter (¾ in. Flow Kit) | 18-600 L/hr | ± 5.4 L/hr or 3% of reading (whichever is greater) | Pre-column, post pump |
| Flow Meter (½ in. Flow Kit) | 36-900 L/hr | ± 10.8 L/hr or 3% of reading (whichever is greater) | Pre-column, post pump |
| Pressure Sensor | 0 to 4 bar | ±0.07 over range 0-2.07 ±0.15 over range 2.07-4.14 | Post pump, pre-column, post-column |
| Conductivity Sensor | 0-150 mS/cm | ±5% at 1.332 mS/cm ±5% at 12.154 mS/cm* | Pre-column, post-column |
| Temperature Sensor | 4-40 °C | 1°C | Part of conductivity sensor |
| pH Sensor | 0-14 pH | ±0.2 pH | Pre-column, post-column |
| UV Sensor | 0-2AU | ±0.03% | Post-column |
| Air Sensor | Integrated in pre-column flow sensor | N/A | Pre-column (integrated into flow sensor) |
| Level Sensor | Capacitive | N/A | Bubble trap (filter) |

*Calibration standards at 22 °C; values will be different at other temperatures.

Ordering Information

Resolute[®] Flowdrive SU System

The system can be ordered under the following part numbers with options on size, electrical rating, and UV wavelength support.

For quotation please contact your local Sales Representative.

| Part Number | Description |
|-------------|-----------------------------------------------------|
| FD900SUCEA | Resolute® Flowdrive SU, 0.5 inch 280 nm, CE |
| FD900SUCEB | Resolute® Flowdrive SU, 0.5 inch 280-300 nm, CE |
| FD900SUCEC | Resolute® Flowdrive SU, 0.5 inch 254-280 nm, CE |
| FD600SUCEA | Resolute® Flowdrive SU, 0.375 inch 280 nm, CE |
| FD600SUCEB | Resolute® Flowdrive SU, 0.375 inch 280 - 300 nm, CE |
| FD600SUCEC | Resolute® Flowdrive SU, 0.375 inch 254-280 nm, CE |
| FD150SUCEA | Resolute® Flowdrive SU, 0.25 inch 280 nm, CE |
| FD150SUCEB | Resolute® Flowdrive SU, 0.25 inch 280-300 nm, CE |
| FD150SUCEC | Resolute® Flowdrive SU, 0.25 inch 254-280 nm, CE |
| FD900SUULA | Resolute® Flowdrive SU, 0.5 inch 280 nm, UL |
| FD900SUULB | Resolute® Flowdrive SU, 0.5 inch 280-300 nm, UL |
| FD900SUULC | Resolute® Flowdrive SU, 0.5 inch 254–280 nm, UL |
| FD600SUULA | Resolute® Flowdrive SU, 0.375 inch 280 nm, UL |
| FD600SUULB | Resolute® Flowdrive SU, 0.375 inch 280-300 nm, UL |
| FD600SUULC | Resolute® Flowdrive SU, 0.375 inch 254-280 nm, UL |
| FD150SUULA | Resolute® Flowdrive SU, 0.25 inch 280 nm, UL |
| FD150SUULB | Resolute® Flowdrive SU, 0.25 inch 280 - 300 nm, UL |
| FD150SUULC | Resolute® Flowdrive SU, 0.25 inch 254 - 280 nm, UL |

Resolute® Flowdrive Flow Kits

For quotation please contact your local Sales Representative.

The table below provides part numbers for the standard product line. Please contact Sartorius for a customized solution.

| Part Number | Description |
|-------------|---------------------------------------------------------------------------------|
| 7450-0481A | Resolute® Flowdrive Flow Kit with $\%$ inch tube size, inlet gradient |
| 7450-0481B | Resolute® Flowdrive Flow Kit with ¾ inch tube size, pre-column |
| 7450-0481C | Resolute® Flowdrive Flow Kit with ¾ inch tube size, bubble trap |
| 7450-0481D | Resolute® Flowdrive Flow Kit with ¾ inch tube size, outlet |
| 7450-0481E | Resolute® Flowdrive Flow Kit with ¾ inch tube size, inlet isocratic |
| 7450-0481F | Resolute® Flowdrive Flow Kit with $\frac{1}{2}$ inch tube size, inlet gradient |
| 7450-0481G | Resolute® Flowdrive Flow Kit with ½ inch tube size, pre-column |
| 7450-0481H | Resolute® Flowdrive Flow Kit with ½ inch tube size, bubble trap |
| 7450-0481J | Resolute® Flowdrive Flow Kit with $\frac{1}{2}$ inch tube size, outlet |
| 7450-0481K | Resolute® Flowdrive Flow Kit with $\frac{1}{2}$ inch tube size, inlet isocratic |
| 7450-0481L | Resolute® Flowdrive Flow Kit with ¾ inch tube size, pre-column bypass |
| 7450-0481M | Resolute® Flowdrive Flow Kit with ½ inch tube size, pre-column bypass |
| 7455-0982S | Resolute® Flowdrive Flow Kit with ¼ inch tube size, inlet gradient |

Resolute[®] Flowdrive Conversion Kits

For quotation, please contact your local Sales Representative.

The following conversion kits are available to allow conversion between the different sizes of system, they comprise of flowmeter sensors and where applicable pump adaptors that are easily interchangeable either by the customer or by Sartorius Service.

| Part Number | Description | |
|------------------|-----------------------------------------------------------------------|--|
| FD150-600CONVKIT | Resolute [®] Flowdrive SU, 0.25 to 0.375 inch conversion kit | |
| FD150-900CONVKIT | Resolute [®] Flowdrive SU, 0.25 to 0.5 inch conversion kit | |
| FD900-150CONVKIT | Resolute [®] Flowdrive SU, 0.5 to 0.25 inch conversion kit | |
| FD900-600CONVKIT | Resolute [®] Flowdrive SU, 0.5 to 0.375 inch conversion kit | |
| FD600-150CONVKIT | Resolute [®] Flowdrive SU, 0.375 to 0.25 inch conversion kit | |
| FD600-900CONVKIT | Resolute® Flowdrive SU, 0.375 to 0.5 inch conversion kit | |

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