

Fraction Collectors Technical Data Sheet

Select the Fraction Collector to Suit Your Needs

DATA SHEET | FRACTION COLLECTOR

FRACTION COLLECTORS FC 203B & FC 204

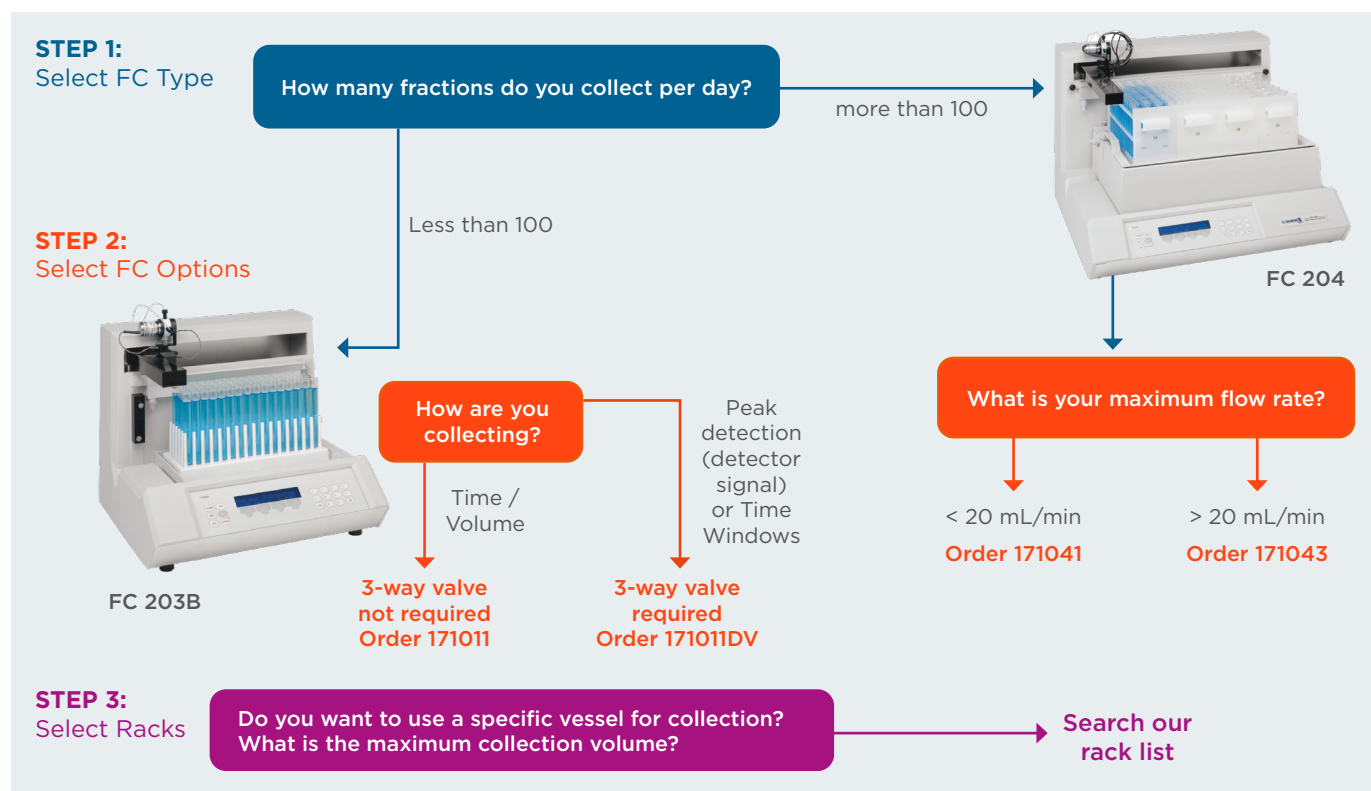
Gilson offers advanced solutions for fraction collection from small footprint to large capacity models. The collectors accommodate a wide variety of collection vessels, including microplates, vials, and tubes. The built-in, easy-to-use keypad makes setup and operation simple. The fraction collectors can be used standalone or controlled by TRILUTION® LC Software. The compact size fits most fume hoods to protect you from hazardous materials.



Figure 1

FC 203B and FC 204

DETERMINE YOUR FRACTION COLLECTION NEEDS IN 3 EASY STEPS!



Available Racks

Rack Code	Part Number	Material	Vessel [Quantity]	Vessel Capacity	Compatible with FC 203B [Quantity]	Compatible with FC 204 [Quantity]
0	270430	Polypropylene	12x32 mm vials [80]	2 mL	Yes [1]	No [NA]
4	130412	Stainless Steel	12 x 75 mm tubes or 12 x 100 mm tubes [80]	5 mL or 8 mL	Yes [1]	No [NA]
11	170413	Stainless Steel	13 x 100 mm tubes [105]	9 mL	Yes [1]	No [NA]
14	170414	Stainless Steel	12 x 75 mm tubes or 12 x 100 mm tubes [128]	5 mL or 8 mL	Yes [1]	No [NA]
15	170415	Aluminum	96-well microplate (shallow and deep) [1]		Yes [1]	No [NA]
16	170416	Aluminum	96-well microplate (shallow) [4]		No [NA]	Yes [1]
16D	170416D	Aluminum	96-well microplate (deep) [4]		No [NA]	Yes [1]
17	170418 (rack) 170417 (rack heightener)	Aluminum	Deep well microplates	2 mL (96-well plate), 5 mL (48-well plate), 10 mL (24-well plate)	No [NA]	Yes [1]
20	150425	Polypropylene	10 x 100 mm tubes [108]	4.5 mL	Yes [1]	Yes [4]
21	150422	Polypropylene	13 x 100 mm tubes [60]	9 mL	Yes [1]	Yes [4]
22	150424	Polypropylene	18 x 150 mm tubes or 18 x 180 mm tubes [44]	25 mL or 32 mL	No [NA]	Yes [4]
23	150426	Polypropylene	17 x 170 mm scintillation vials [44]	6.8 mL	Yes [1]	Yes [4]
23W	270433	Polypropylene and Stainless Steel	15 x 45 mm vials [44]	4 mL	Yes [1]	Yes [4]
24	150427	Polypropylene	28 x 60 mm scintillation vials [14]	20 mL	Yes [1]	Yes [4]
28	150420	Polypropylene	10 x 65 mm tubes or 10 x 75 mm tubes [108]	3 mL or 3.5 mL	Yes [1]	Yes [4]
29	150429	Polypropylene	12 x 65 mm tubes or 12 x 75 mm tubes [60]	3.5 mL or 5 mL	Yes [1]	Yes [4]
29LE	2704342	Polypropylene and Stainless Steel	1.5 mL Eppendorf vials [60]	1.5 mL	Yes [1]	Yes [4]
29SE	2704341	Polypropylene and Stainless Steel	0.5 mL Eppendorf vials [60]	0.5 mL	Yes [1]	Yes [4]

MULTIPLE COLUMN OPTION (AVAILABLE FOR FC 203B AND FC 204)

The multiple column option allows collecting effluent from several columns at the same time. This option should be used in conjunction with time mode collection and requires part number 174732.

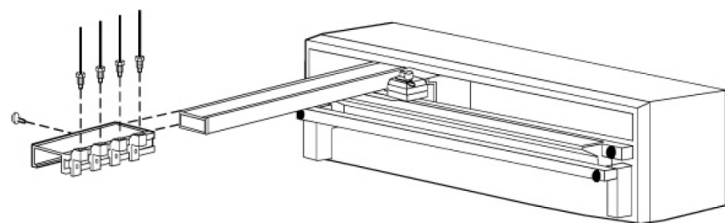


Figure 2

Multiple column adapter for FC 203B and FC 204

Standard Parts

The fraction collectors are shipped ready to use, with drain trough and dispense head already installed, and include the following standard accessories.

FC 203B			FC 204		
Component	Quantity	Part Number	Component	Quantity	Part Number
3-way valve kit (with 171011DV)	1	170730	3-way valve kit	1	170734 or 170735
Rack holder assembly (with antlers)	1	170471	Tray Platform	1	1704743
80-cavity collection plate	1	12040102	Polypropylene Tray	1	1704744
Tube retaining bar (for code 1 rack)	1	170472	Inlet Tubing with 2 fittings	1	1703548
Inlet Tubing with 2 fittings	1	1703548	Tygon Drain Tubing	10 feet	470343706
Polypropylene pan	1	1704731	Inlet Tubing Support Bracket	1	1707202
Terminal Block Connector	1	638310512	Terminal Block Connector	1	638310512
Tube gauge	1	12090002	Spare Fuses	2	6730054007
Spare Fuses	2	6730054007	User's Guide	1	LT1733USB
User's Guide	1	LT1731USB	Quick Reference Guide	1	LT1734
Quick Reference Guide	1	LT1732	Power Cord		
Power Cord					

Replacement Parts

Component	Part Number	Compatibility	
		FC 203B	FC 204
3-way valve kit (includes inlet and outlet tubing, connector and dispensing needle)	Depends on model	170730	170734
Prep 3-way valve kit (flow rates up to 200 mL/min)	170735	No	X
Small bore dispense needle	1707305	For Code 2 and Code 15 racks with 3-way valve	For Code 16 rack with 3-way valve kit
Large bore dispense needle (flow rates > 100 mL/min)	1727304	No	X
Standard bore need for 3-way valve	1707303	X	X
Front drain trough	Depends on model	17013004	17014202
Inlet drop tubing assembly, 0.8 mm	1703548	X	X
Inlet drop tubing assembly, 1.5 mm	1703549	X	X
Inlet tubing assembly for 3-way valve, 2 ft.	1307302	X	X
Drain tubing assembly for 3-way valve, 2 ft.	1307303	X	X

Replacement Parts (Continued)

Component	Part Number	Compatibility	
		FC 203B	FC 204
Drain tubing for drain trough	Depends on model	17074304	470343706
Coupling for 1/4"-28 fittings; package of 5	F1410050	X	X
Drop detector assembly, Valox	Depends on model	170350V (Factory installed)	170354 (Factory installed)
Glass sleeve for drop detector (package of 6)	17235003	X	X
Multiple column adapter	174732	X	X
2-conductor interconnect wire; 6 ft.	709910206	X	X
GSIOC Cable, 30 in.	36078143	X	X
Event Cable	100731	X	X
Pomona cable adapter	6374022611	X	X

FREQUENT Q&A'S

Can I collect in microplates?

Yes, the fraction collectors accept a wide variety of collection vessels, including microplates, microvials, and tubes.

What is the largest volume of tube that can be used?

- The FC 204 can accommodate 18 x 180 mm tubes, holding a maximum volume of 32 mL.
- The FC 203B can accommodate 13 x 100 mm tubes, holding a maximum volume of 9 mL, or 28 x 60 mm scintillation vials, holding a maximum volume of 20 mL.

Can I collect based on a detector signal?

When using peak mode, the detector signal is monitored, and peaks are identified for collection using either an adaptive-slope algorithm or a specified millivolt threshold.

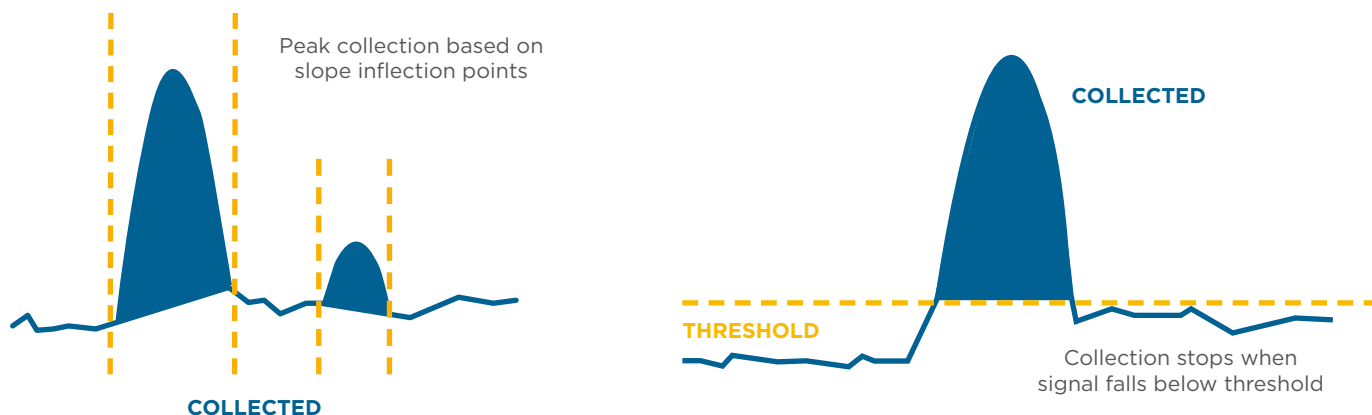


Figure 3

Fraction collection based on detector signal by slope or threshold

Can the fraction collector be used standalone or is software required?

The fraction collectors can operate as stand-alone instruments with an easy-to-use keypad or can be controlled through your PC via TRILUTION® LC Software.

Can I integrate the fraction collector with other systems?

Contact closure inputs are available to remotely start, advance, or stop, making the fraction collectors compatible with most HPLC systems.

Can I collect from multiple columns or flow paths?

Multicolumn adapters are available for collecting up to 18 separate channels.

Can the system be placed in a fume hood?

The compact size of the FC 203B and FC 204 allows them to fit in most fume hoods.

Can I set up different collection windows?

Up to 10 programmable time windows can be added for collecting only what you want, while discarding the column’s void volume, peaks of no interest, and equilibration volumes.

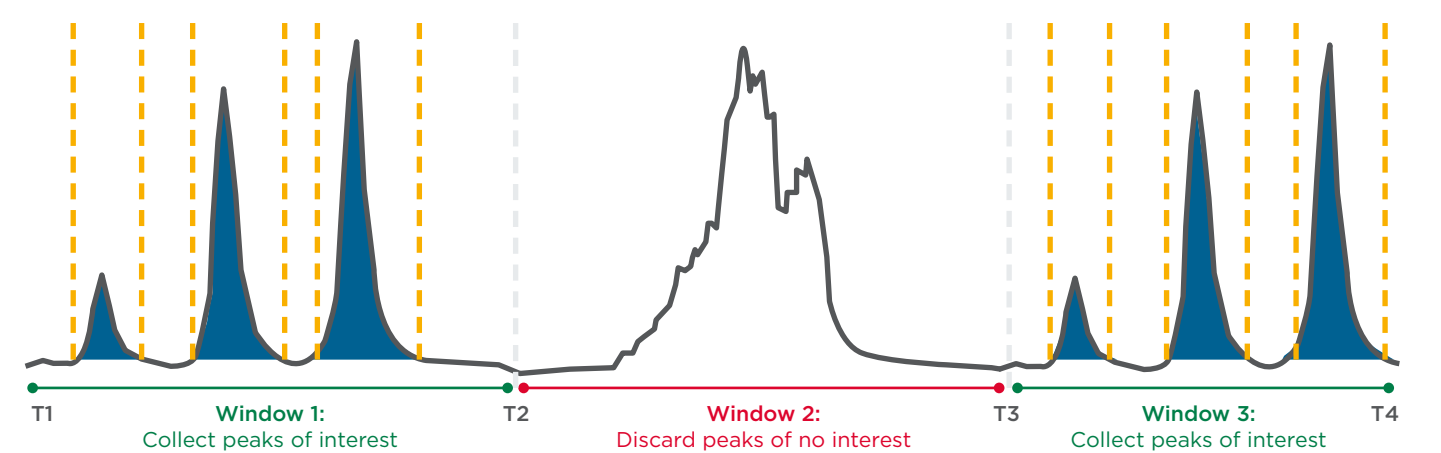


Figure 4
Programmed collection windows

TECHNICAL SPECIFICATIONS FC 203B and FC 204 Fraction Collectors	
Specification	Definition or Value
3-way Valves	FC 203B: 3-port, PTFE, 67 µL internal volume, 3.5 µL dead volume from common port to the normally closed port, up to 20 mL/min with large-bore needle FC 204: 3-port, PTFE, 114 µL internal volume, 6 µL dead volume from common port to the normally closed port, up to 200 mL/min with large-bore needle
Communication Interface	GSIOC; Inputs for start/advance and end/home; output for control of peripheral devices
Data Acquisition	An input channel for analog-to-digital conversion; digital data is transmitted on the GSIOC
Detector Input	±100 mV full scale
Drop Counting	Up to 9,999 drops per fraction Maximum rate: 20 drops/sec
Event Marker	100 ms pulse

Specification	Definition or Value
Front Panel	Five commands, HELP, YES, NO, and 0–9 numeric hard keys; four soft keys
Display Panel	Two-line, 24-character display on backlit LCD
Manufacturing Standards	Meets applicable Safety and EMC certification standards; UL and CE certified
Maximum Collection Volume/Tube	FC 203B: 20 mL scintillation vials (28 x 60 mm) with optional Code 24 rack FC 204: 32 mL tubes (18 x 180 mm) or 25 mL tubes (18 x 50 mm)
Maximum Fractions	FC 203B: 128 tubes (12 x 75 mm) with optional Code 14 rack FC 204: Up to 768 when configured with eight 96-well, 2-mL Whatman/Polyfiltronics microplates on a Code 17 rack
Multiple-Column Collection	Simultaneous collection from up to 8 (FC 203B) or up to 18 (FC 204) columns with installation of optional multiple column adaptor(s)
Multiple-Cycle Operation	Repetitive collection of each sample into same set of tubes or collection of each sample into different set of tubes
Number of Racks	FC 203B: Holds one rack FC 204: Holds one Code 16 or Code 16D rack, one Code 17 rack or up to four Code 20-Series racks (all racks must be the same code)
Operating Modes	Drop, Manual, Peak + Drop, Peak + Time, Time
Peak Detection	Adaptive-slope algorithm that applies user-specified parameters to accommodate drifting baselines, negative, and asymmetrical peaks, or absolute threshold level that collects all peaks above specified mV value Peak parameters: peak height or level, in mV; peak width at half-height, in minutes Minimum peak height for fractionation: 0.1 mV full scale Detector-collector delay: 0.01 minute increments
Power Requirements	Frequency: 50–60 Hz Voltage: 100–120V or 220–240V; main voltage fluctuations not to exceed $\pm 10\%$ of the nominal voltage Current rating: 0.5A for 100–120V, or 0.25A for 220–240V
Programmable Time Units	From 0.01 to 99.99 minutes per tube with a 0.01 minute limit of resolution
Software	Via TRILUTION® LC Software
Time-Based Programming	Up to 10 collection windows and 10 drain steps in any mode
Tube Change Time	100–250 ms (FC 203B) or 100–720 ms (FC 204) center to center, depending on rack type
Zero Power Memory	Maintains memory for a minimum of five years from date of shipment
Dimensions (W x D x H)	FC 203B: 32.4 x 29.2 x 26.7 cm (12.8 x 11.5 x 10.5 in.) FC 204: 47.9 x 46.4 x 33.0 cm (18.9 x 18.3 x 13.0 in.)
Weight	FC 203B: 5 kg (11 lbs.) FC 204: 10.9 kg (24 lbs.)