

FRONTIER[™]**5513** High-Speed Micro Centrifuge



Compact Micro Centrifuge with Modern Touch-Wheel Interface Ideal for High-Speed Lab Applications

The FC5513 is a high-speed benchtop microliter centrifuge capable of generating $17,317 \times g$ with four optional rotors, designed for a range of essential lab applications. Engineered with convenient operation in mind, the FC5513 features a uniquely designed splash-proof front panel with touch-wheel control on an intuitive interface. The compact design saves valuable bench space in the lab.

Standard Features:

- Select from a Variety of Rotors Designed for a Range of Lab Applications—The FC5513 offers standard 24 × 1.5/2 mL microtube rotors with a biocontainment option. This centrifuge can also support spin columns and hematocrit capillary tubes when used with additional rotor options.
- Modern Touch-Wheel Control on a Sleek Splash-Proof Interface—Designed for ease of operation, the FC5513 features convenient control on a protective splash-proof interface, which allows for responsive operation—even when wearing gloves.
- The Compact Design Saves Valuable Benchtop Space—Enclosing all its functionalities within a small footprint, the FC5513 saves valuable space on the lab bench.

FRONTIER[™]5513 High-Speed Micro Centrifuge

Sleekly designed interface enables smooth operation for a great user experience

- Easy-to-Use touch-wheel interface for parameter adjustments
- Convenient interface shows both set and actual parameters
- One-touch toggling between RPM/RCF, Acc/Dec
- Crisp display on a double-line LCD display with backlight

Solid engineering to ensure functionality and reliability

- True splash-proof panel protects the centrifuge from accidental sample spilling
- Maintenance-free induction motor produces maximum G-force of 17317 \times g
- Speeds up to 13500 rpm in less than 15 seconds with microtubes
- 10 acceleration/deceleration settings
- 99 memory sets to quickly store and recall commonly used parameters
- Rotor imbalance sensing systems stops the unit when the loadings are imbalanced

Flexible rotor selections to cover essential laboratory applications

- Standard offer comes with 24 \times 1.5/2.0 mL microtube rotors
- Compatible with 4 optional rotors, maximum capacity of $24 \times 1.5/2.0 \mbox{ mL}$
- Support spin-column and hematocrit capillary through additional rotor options
- Biocontainment rotor available for safe handling of hazardous samples







FRONTIER[™]5513 Rotors and Accessories

| Order No. | | 30472301 | | | |
|-----------------|--|-----------------------------------|----------|-----------|-------------------|
| (O) | Description | Rotor, Angle, 24 × 1.5/2.0 mL, V2 | | | |
| | Max. Speed 13500 rpm | | | | |
| | Max. RCF | 17317 × g | | | |
| Accessories | | | | | |
| Order No. | Description | Vol./Tube | Diameter | Tube type | No.of tubes/rotor |
| Without Adapter | Rotor, Angle, 24 × 1.5/2.0 mL, V2 | 1.5/2.0 mL | 11 mm | Microtube | 24 |
| 30130885 | Adapter, 1 × 0.5 mL D8 mm, 6/pk | 0.5 mL | 8 mm | Microtube | 24 |
| 30130884 | Adapter, $1 \times 0.2/0.4$ mL D6 mm, 6/pk | 0.2/0.4 mL | 6 mm | Microtube | 24 |

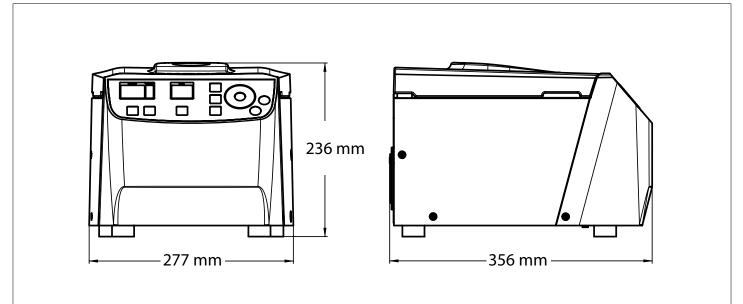
| | Order No. | 30472302 | | | |
|-----------------|--|---|----------|-----------|-------------------|
| 194 | Description | Rotor, Angle, 24 × 1.5/2.0 mL, Sealable, V2 | | | e, V2 |
| | Max. Speed | 13500 rpm | | | |
| | Max. RCF | 17317 × g | | | |
| Accessories | | | | | |
| Order No. | Description | Vol./Tube | Diameter | Tube type | No.of tubes/rotor |
| Without Adapter | Rotor, Angle, $24 \times 1.5/2.0$ mL, Sealable, V2 | 1.5/2.0 mL | 11 mm | Microtube | 24 |
| 30130885 | Adapter, 1 \times 0.5 mL D8 mm, 6/pk | 0.5 mL | 8 mm | Microtube | 24 |
| 30130884 | Adapter, 1 × 0.2/0.4 mL D6 mm, 6/pk | 0.2/0.4 mL | 6 mm | Microtube | 24 |

| Order | Order No. | 30472303 |
|-------|-------------|---|
| | Description | Rotor, Angle, $18 \times 2 \text{ mL SC}^*$ |
| | Max. Speed | 13500 rpm |
| | Max. RCF | 15484 × g |

*SC-Spin Column

| Order No. | 30472304 |
|-------------|---|
| Description | Rotor, Hematocrit, $24 \times Capillaries$, V2 |
| Max. Speed | 13000 rpm |
| Max. RCF | 16058 × g |

Dimensions



FRONTIER[™]55I3 High-Speed Micro Centrifuge

| Model | FC5513 |
|---|--|
| Speed Range | 200 rpm – 13500 rpm; 10 rpm/set |
| Maximum RCF | 17317 × g; 10 × g/set |
| Maximum Capacity (Rotor) | 24 × 1.5/2.0 mL |
| Temperature Range | Air cool |
| Running Time | Quick Spin, 10 sec to 99 hr 59 min 59 sec, or continuous |
| Noise Level | ≤ 60 dB(A) |
| Acc/Dec Levels | 10 |
| Allowable Density at Maximum Speed | 1.2 g/mL |
| Allowable Kinetic Energy | 2129 Nm |
| AC Power | 230 V ~ 50/60 Hz |
| Voltage Fluctuation | ± 10% |
| Current Consumption | 1.9 A |
| Power Consumption | 170 W |
| Dimensions ($W \times D \times H$) | 277 × 356 × 236 mm |
| Net Weight (with rotor) | 12.6 kg |
| Shipping Dimensions ($W \times D \times H$) | 370 × 470 × 340 mm |
| Shipping Weight (with rotor) | 14 kg |
| Environment | For indoor use only |

Other Standard Features and Equipment

Ten acceleration and ten deceleration rates, pre-selection of running time from 10s to 99h 59min or continuous, audible signal at the end of each run with melody options, quick spin for short runs

Compliance

- Product Safety: IEC/EN 61010-1; IEC/EN 61010-2-020
- Electromagnetic Compatibility: IEC/EN 61326-1 Class B, Basic environments
- Compliance Mark: CE

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The management system governing the manufacture of this product is ISO 9001:2015 certified.

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Frontier[™] 5515 & 5515R High-Speed Microliter Centrifuges



Smooth and Dependable High-Speed Microliter Centrifuge for Liquid Separation Applications

Frontier 5515 and 5515R microliter benchtop centrifuges provide high-speed operation for spin-down applications requiring a wide variety of tube volumes and capacities. With refrigeration capabilities (FC5515R), 10 acceleration/deceleration settings, multiple safety features, and an unmatched capacity, Frontier provides stable liquid separation for life science applications requiring high-speed operation.

Standard Features Include:

- Easy-to-Use Control Panel that Supports Simple Operation—The intuitive control panel with rotary knob puts the centrifuge's simple operations at your fingertips, including the ability to set and recall speed and g-force, as well as control the temperature (FC5515R only).
- Sophisticated Technology that Drives High-Performance—A powerful brushless induction motor, 10 acceleration and deceleration settings, and memory for up to 99 commonly-used parameters are a few of Frontier's features that propel high-performance.
- Several Safety Features that Protect Against Injury—Among Frontier's safety attributes are a motorized lid locking system and a rotor imbalance sensor that stops the centrifuge if the rotors become imbalanced or sudden shock occurs, protecting the operator from by the high-speed spinning rotors.
- Seven Rotor Sizes that Provide Flexibility for Varied Centrifugation Needs— Compatible with seven different rotors, more than any centrifuge in its class, the highly-versatile Frontier can be used for various applications of different volumes.

Frontier[™]5515&5515R High-speed Microliter Centrifuges

Easy-to-Use Control Panel

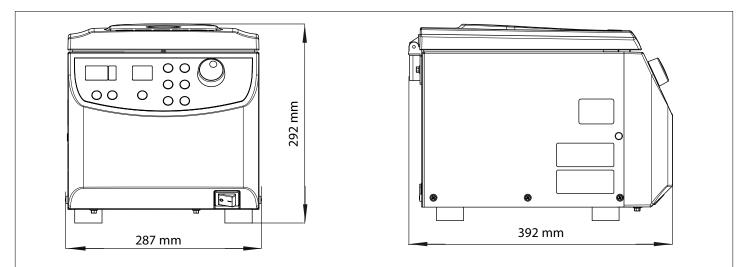
- Easy-to-turn rotary knob for parameter adjustments
- Waterproof keypad provides protection that helps significantly increase the lifespan of the product
- One-touch toggling between speed, g-force, and temperature controls (R model only)
- LCD display which projects information in real-time
- View and adjust user parameters from the main screen; no need to navigate through sub-screens



High-Performance Driven by Sophisticated Technology

- Powerful induction motor reaches speeds up to 15,200 RPM in less than 16 seconds
- Maximum g-force of 21,953 RCF
- 10 acceleration/deceleration settings
- 99 memory sets for commonly-used speed, time, and temperature settings (R Model Only)
- R models has refrigeration capabilities from 40°C to -20°C
 - Cools down from 23°C to 4°C in less than 10 minutes
 - Pre-cool feature quickly lowers the temperature of rotor and chamber before a run

Outline Dimensions





Safety Features that Prevent Injury

- Motorized lid-locking system prevents centrifuge from opening during operation
- Rotor imbalance sensing system stops the motor should the rotors become imbalanced, protecting the user from spinning rotors

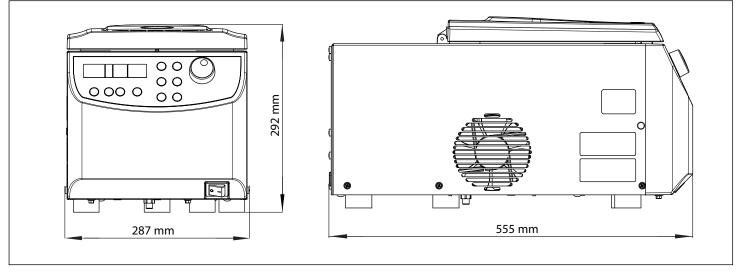
Flexibility for Varied Centrifugation Needs

- Maximum capacity of 44 \times 1.5/2 mL and 12 \times 5 mL tubes
- Only centrifuge in its class compatible with 6 rotors (7 rotors on 5515 model), including a PCR strip tube rotor
- The most economical centrifuge on the market to include a unique 5 mL tube rotor
- The signature snap-on rotor and lid locking system allows for quick installation of rotors with just one press of a button





Outline Dimensions



Frontier 5515R

Frontier 5515 & 5515R High-Speed Microliter Centrifuges

| Model | FC55 | 15R | FC5 | 515 |
|---|---|----------------------|---------------------------------|---|
| Speed Range | 200 rpm - 15200 | rpm; 10 rpm/set | 200 rpm - 15200 rpm; 10 rpm/set | |
| Maximum RCF | 21953 × g; | 10 × g/set | 21953 × g; 10 × g/set | |
| Maximum Capacity (Rotor) | 44 × 1.5/2.0m | ոL; 12 × 5mL | 44 × 1.5/2.0r | nL; 12 × 5mL |
| Temperature Range | -20° to 40° | °C,1°C/set | Air | cool |
| Running Time | 10 sec to 99 hr 99 min | 59 sec or continuous | 10 sec to 99 hr 99 mir | 1 59 sec or continuous |
| Noise Level (varies by rotor) | ≤ 57 + 2 dB(A) | | ≤ 60 + 2 dB(A) | |
| AC Power | 230 V/50-60 Hz | 120 V/50-60 Hz | 230 V/50-60 Hz | 120 V/50-60 Hz |
| Fluctation | ± 10% | ± 10% | ± 10% | ± 10% |
| Current Consumption | 2.4 A | 5.1 A | 1.3 A | 2.3 A |
| Power Consumption | 500 W | 560 W | 270 W | 280 W |
| ECM | EN/IEC 61326-1 Class B emissions, Basic immunity FCC Class B emissions | | | missions, Basic immunity 3 emissions |
| Dimensions ($W \times D \times H$) | 287 × 561 × 292 mm | | 287 × 393 × 292 mm | |
| Net Weight (without rotor) | 77 lb/35 kg | | 38 lb/17 kg | |
| Shipping Dimensions ($W \times D \times H$) | 400 × 660 × 520 mm | | 400 × 545 × 410 mm | |
| Shipping Weight (without rotor) | 44 | kg | 20 kg | |

Compliance

Product Safety: EN 61010-1:2010, EN 61010-2-020:2006

Electromagnetic Compatibility: EN 61326-1:2006, FCC Part 15 Class B

Frontier[™]5515&5515R Rotors and Accessories



Rotors and Adapters that Expand the Versatility of the Frontier FC5515 Series

A variety of rotors and tube adapters can be used in conjunction with the Frontier FC5515 Series, providing centrifugation for samples of various sizes

| | | H | Ĩ | i, |
|---|-------------------------------------|---------------------|--------------|-------------|
| Item | Angle Rotor, $24 \times 1.5/2.0$ mL | 0.5 mL Tube Adapter | 0.4/0.2 mL T | ube Adapter |
| Item Number | 30130870 | 30130885 | 3013 | 0884 |
| Compatible Tubes | 1.5 mL and 2.0 mL | 0.5 mL | 0.4 mL | 0.2 mL |
| Maximum Number of Tubes | 24 | 24 | 24 | 24 |
| Max. RPM | 15200 rpm | 15200 rpm | 1520 |) rpm |
| Max. RCF | 21953 × g | 19112 × g | 21178 × g | 17562 × g |
| Radius | 85 mm | 74 mm | 82 mm | 68 mm |
| Туре | Angle Rotor ∠45 | | | |
| Lid/Lid Material/Rotor Material | Snap-on/PEI ² /Aluminium | | _ | |
| Lowest refrigerated temperature in FC5515R ¹ | | +5 °C | | |

Frontier[™] 5515 & 5515R Rotors and Adapters

| | | -li | Ī | |
|---|---|---------------------|-----------|----------------|
| ltem | Angle Rotor, 24 × 1.5/2.0 mL, Biocontainment | 0.5 mL Tube Adapter | 0.4/0.2 m | L Tube Adapter |
| Item Number | 30130871 | 30130885 | 30 | 130884 |
| Compatible Tubes | 1.5 mL and 2.0 mL | 0.5 mL | 0.4 mL | 0.2 mL |
| Maximum Number of Tubes | 24 | 24 | 24 | 24 |
| Max. RPM | 15200 rpm | 15200 rpm | 15 | 200 rpm |
| Max. RCF | 21953 × g | 19112 × g | 21178 × g | 17562 × g |
| Radius | 85 mm | 74 mm | 82 mm | 68 mm |
| Туре | Angle Rotor ∠45 | | | |
| Lid/Lid Material/Rotor Material | Aerosol Tight/Aluminium/Aluminium | | _ | |
| Lowest refrigerated temperature in FC5515R ¹ | | +5°C | | |

| | | H. | | Ļ |
|---|---|---------------------|--------------|-------------|
| ltem | Angle Rotor, 30 × 1.5/2.0 mL, Biocontainment | 0.5 mL Tube Adapter | 0.4/0.2 mL T | ube Adapter |
| Item Number | 30130872 | 30130885 | 3013 | 0884 |
| Compatible Tubes | 1.5 mL and 2.0 mL | 0.5 mL | 0.4 mL | 0.2 mL |
| Maximum Number of Tubes | 30 | 30 | 30 | 30 |
| Max. RPM | 13500 rpm | 13500 rpm | 1350 | 0 rpm |
| Max. RCF | 19150 × g | 17113 × g | 18539 × g | 15687 × g |
| Radius | 94 mm | 84 mm | 91 mm | 77 mm |
| Туре | Angle Rotor ∠45 | | _ | |
| Lid/Lid Material/Rotor Material | Aerosol Tight/PC ³ /Aluminium | | _ | |
| Lowest refrigerated temperature in FC5515R ¹ | | +6 °C | | |

| | . | ll. | h | Î. |
|---|------------------------------------|--------------------------|--------------------------|--------------------------|
| ltem | Angle Rotor, 44 × 1.5/2.0 mL | 0.5 mL Tube Adapter | 0.4/0.2 mL T | ube Adapter |
| Item Number | 30130879 | 30130885 | 3013 | 30884 |
| Compatible Tubes | 1.5 mL and 2.0 mL | 0.5 mL | 0.4 mL | 0.2 mL |
| Maximum Number of Tubes | 44 | 44 | 44 | 44 |
| Max. RPM | 13500 rpm | 13500 rpm | 1350 | 0 rpm |
| Max. RCF | 17113 × g / 17317 × g | 14872 × g / 15687 × g | 16705 × g / 16909 × g | 13446 × g / 14872 × g |
| Radius | 84mm/85mm | 73mm/77mm | 82mm/83mm | 66mm/73mm |
| Туре | Angle Rotor ∠32/55 | | | , |
| Lid/Lid Material/Rotor Material | Snap-on/PP ⁴ /Aluminium | | _ | |
| Lowest refrigerated temperature in FC5515R ¹ | +6 °C | | | |

| | | | 111 | jiii |
|---|---|-------------------------------|-----------------------------|-----------------------------|
| ltem | Angle rotor, 12 × 5 mL, biocontainment | 1.5 mL/2.0 mL Tube Adapter | 1.8 mL Cryo Tube Adapter | 1.0 mL Cryo Tube Adapter |
| Item Number | 30130873 | 30130886 | 30130888 | 30130887 |
| Compatible Tubes | 5.0 mL | 1.5 mL/2.0 mL | 1.8 mL | 1.0 mL |
| Maximum Number of Tubes | 12 | 12 | 12 | 12 |
| Max. RPM | 14500 rpm | 14500 rpm | 14500 rpm | 14500 rpm |
| Max. RCF | 19978 × g | 16687 × g | 17627 × g | 16217 × g |
| Radius | 85 mm | 71 mm | 61 mm | 69 mm |
| Туре | Angle Rotor ∠45 | | — | |
| Lid/Lid Material/Rotor Material | Aerosol Tight/Aluminium/Aluminium | _ | | |
| Lowest refrigerated temperature in FC5515R ¹ | +4 °C | | | |

Frontier 5515 & 5515R High-speed Microliter Centrifuges

| ltem | Angle rotor, 4×8 -Place PCR Stripes |
|---------------------------------|--|
| Item Number | 30130874 |
| Compatible Tubes | 0.2 mL PCR 8-strips |
| Maximum Number of Tubes | 4 x 8-place strips |
| Max. RPM | 15000 rpm |
| Max. RCF | 15342 × g |
| Radius | 61 mm |
| Туре | Angle Rotor ∠45 |
| Lid/Lid Material/Rotor Material | Screw/PC ³ /PP ⁴ |

| | 0 |
|---------------------------------|---|
| ltem | Hematocrit rotor, $24 \times Capillaries$ |
| Item Number | 30130881 |
| Compatible Tubes | Capillaries |
| Maximum Number of Tubes | 24 |
| Max. RPM | 12000 rpm |
| Max. RCF | 14970 × g |
| Radius | 93 mm |
| Туре | Angle Rotor ∠90 |
| Lid/Lid Material/Rotor Material | Snap-on/Aluminium/Aluminium |

Notes:

in FC5515R¹

 At room temperature of 23 °C. This is the lowest attainable temperature at which the pre-cooled, refrigerated centrifuge spins at maximum speed with a full load. Lower temperatures can be attained by reducing the speed, number of samples or room temperature.

+5°C

2. PEI: Polyetherimide

Lowest refrigerated temperature

3. PC: Polycarbonate

4. PP: Polypropylene

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The management system governing the manufacture of this product is ISO 9001:2015 certified.

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