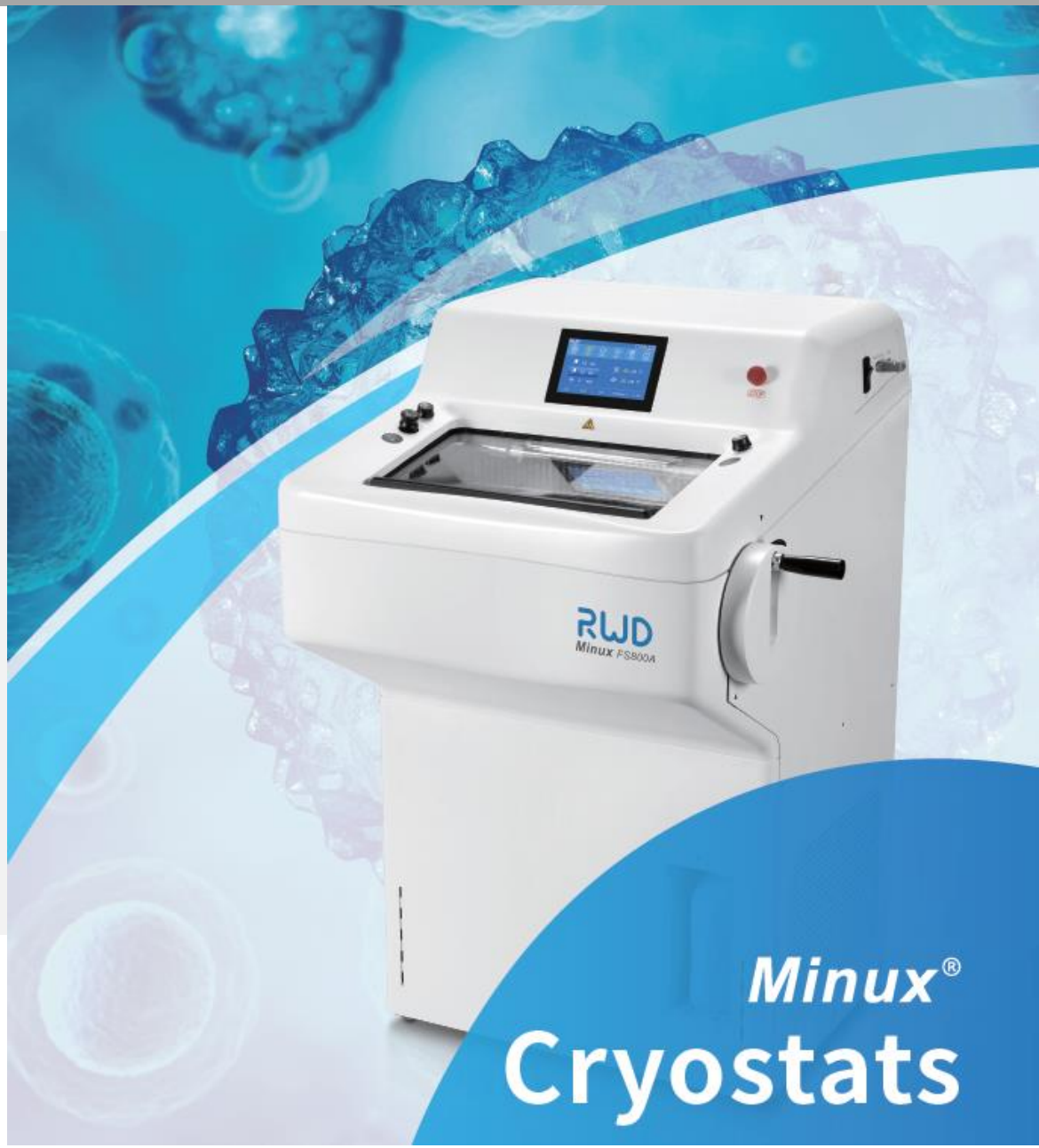
Introduction of Cryostats FS800(A)

01 Usage and functions

02 Features of FS800

03 RWD FS800 VS. Leica CM1950



RWD
www.rwdstco.com

5 models of Cryostats

Minux Cryostats	Model	UV Disinfection	Vacuum System	Specimen cooling	Auto-sectioning
Semi-auto FS800	UV	√			
	Specimen	√		√	
	Vacuum	√	√	√	
Fully-auto FS800A	Auto	√		√	√
	Max	√	√	√	√

01 Usage and functions

Vacuum Adjustment
(Only in Vacuum and Max type)

Control Stick
(4 directions and rotate)

Feeding adjustment
(Single feeding)

3 2 1

4 **USB Port** (export record and update software)
5 **Foot pedal port**(Only in FS800A)
6 **Switch on/off**
7 **Emergency Stop button** (Only in FS800A)
8 **Parameter adjustment knob**
9 **Start/Stop automatic section**(Only in FS800A)

10

Hand wheel lock at 6 and 12 O'clock
900mm from ground
(ergonomic design)

11 **Waste collection container**

12 **5 levels adjustable footrest** (optional)

01 Usage and functions

No.	Parts Name	Function
1	Feed button	Click to step forward with the currently set thickness. This button is not available when auto section (Only FS800A support) or when the instrument is in lock screen or sleep state
2	Joystick	Up and down moving: feed/ retract Left and right moving: section/ trimming mode Rotate the rod： adjust the thickness of the current trim/section parameter（Note: rotation is only valid for the main interface and the parameter interface of section/trim.）
3	Suction knob	Start/stop cleaning/vacuum and adjust the intensity of vacuum
4	USB port	For firmware upgrade/service interface. The corresponding data can be exported through the U disk, or firmware upgrade can be realized by it
5	Foot switch（Only FS800A support）	The Dummy plug must be inserted if the foot pedal is not connected
6	Power switch	Startup & Shutdown
7	Emergency stop button（Only FS800A support）	Emergency stop auto section
8	Parameters knob	Turn left and right to view all the settable values of the currently selected parameter.(Note: when for FS800A,with at the main interface or the parameter interface of section/trim, turn the parameter knobs left and right could adjust the speed of section)
9	START/STOP button（Only FS800A support）	Start/stop button for automatic sectioning. Automatic sectioning can be started or stopped at the main interface or the parameter interface of section/trim, double-click to start or single-click to stop. (Note: The button is invalid when the handwheel lock is locked or the instrument is in an emergency stop state.
10	Handwheel	Manual section in non-automatic mode
11	One place to place waste liquid bottles	Place waste liquid bottles

RWD 01 Specifications

Parameters	Specifications
Width/depth/height	835mm×1000mm×1215mm
Working height (blade)	1025mm
Weight (host + specimen fixed system + blade carrier)	200kg
Display screen	7” 1024*600
Section	Section thickness range 0.50~100μm
Trimming	Trimming thickness range 1~800μm
Retraction	Retraction range 0~250μm， default 40μm
Automatic tool alignment	Yes
Horizontal feed travel	28mm
vertical section travel	70mm
Electric sectioning speed	0.5~450mm/s
Specimen location	X axis (horizontal)/Y axis (vertical)8°， with a visual window for observing
Adjustable angle value of blade carrier	0~10°
Minimum section thickness	0.5μm
Maximum specimen size supported	ϕ55 (large size specimen disc)

02 Features of FS800

Advanced temperature control system

Small temperature fluctuation range, more precise temperature control. It helps cut out high-quality slices.

Compressor standby.

Visual pointer

Sample adjustment angle can be displayed directly.It facilitates the precise adjustment of the sample to reach the target position.

High Quality Sectioning

High precision stepper motor

High precision sectioning with stepper motor sample feed.

Specimen cooling system

Specimen cooling system （optional） maintains the ideal object temperature for specific specimens through various methods include compressor,refrigerant,electronic refrigeration

Anti-roll function

- Anti-roll plate prevents slices from curling
- The optional vacuum sectioning aid achieves time-saving section preparation and reduces section curling

02 Features of FS800

UVC disinfection

- For an extra measure of safety,the inside of the instrument features an ozone-free UVC disinfection system.
- UVC disinfection at any time and temperature.

Remove Section Waste

- Section waste is easily removed by using the optional Section Waste Removal System.
- To protect the laboratory environment from contamination,a multi-filter system removes particulates and cleans the air from the removal system. HEPA filter

Ergonomic design

- Ergonomic exterior cabinet design with rounded edges and comfortable working height.
- For individual user comfort,the hight adjustable foot rest are available as optional accessories.

Safe and Ergonomic

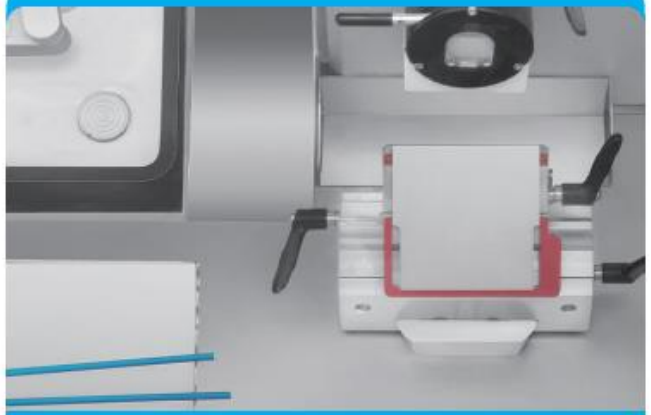
RWD 02 Features of FS800

Quick operation

- Touch screen design, intuitive and easy to operate.
- Supplemented with joystick and buttons to control，multiple operation ways to fulfill user’ s different needs.

Auto section (Only in FS800A)

- For extra ease of use and consistent sectioning of all specimen types, an optional auto section is available.



Spacious cabinet

- The bright cryocabinet is spacious enough to allow efficient handling of multiple specimens.
- Automatic defrost or manual defrost for good cooling efficiency.

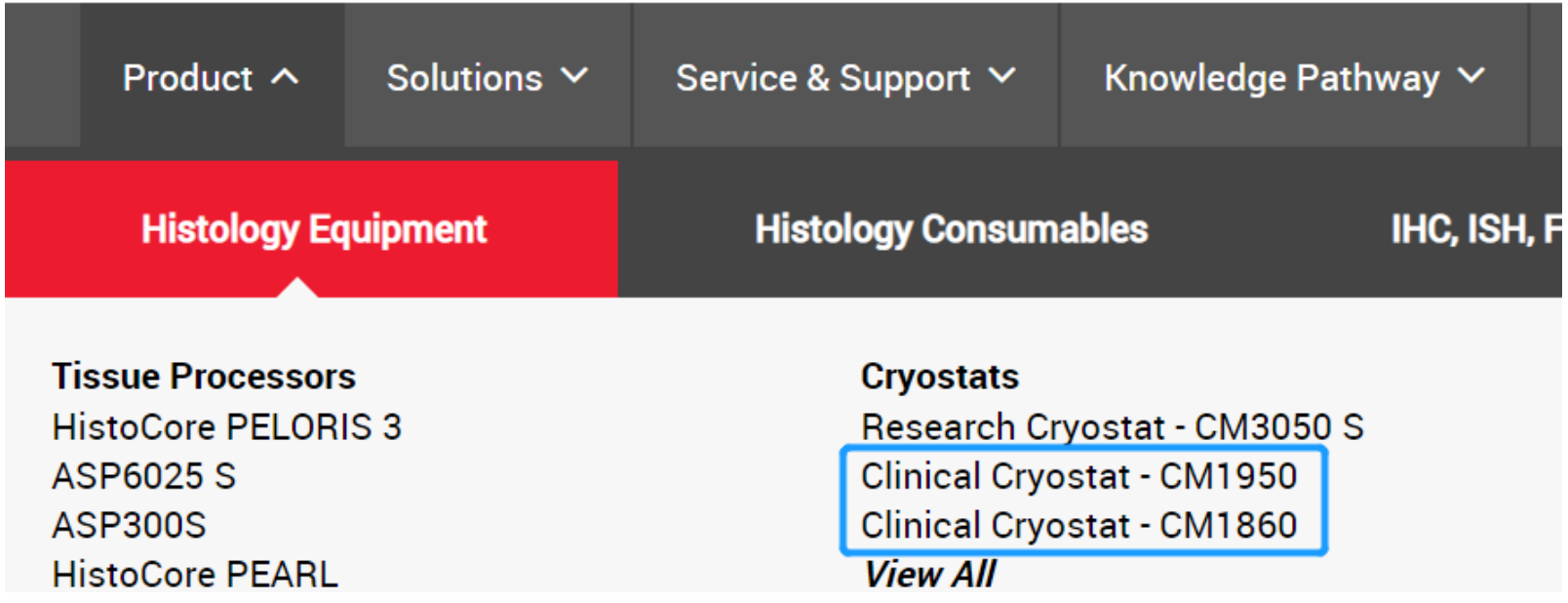
Efficient and convenient

03 RWD FS800 Specimen VS. Leica CM1950 OUV

03 RWD FS800 Specimen VS. Leica CM1950 OUV

RWD Cryostats	Model	UV Disinfection	Vacuum System	Specimen cooling	Auto-sectioning	VS. Leica
Semi-auto FS800	UV	√				CM1860 UV
	Specimen	√		√		CM1950 OUV
	Vacuum	√	√	√		CM1950 OUVV
Fully-auto FS800A	Auto	√		√	√	CM1950 OUVM
	Max	√	√	√	√	CM1950 OUVVM

Leica BIOSYSTEMS



RWD VS. Leica

03 RWD FS800 Specimen VS. Leica CM1950 OUV

Specification	RWD FS800 Specimen	Leica CM1950 (OUV)
Operation	7 inch touch screen + button operation	LED display + button operation
Cryobar	15	15
Cryo+	2	2
Sample holder Cryogen	Yes	Yes
Temperature	Chamber 0~-35℃, Cryo+ - 50℃ Sample holder-10℃~-50℃	Chamber 0~-35±5℃ Cryobar -42℃ Sample holder -10~-50℃
Defrost	automatic / manual	automatic / manual
Sample orientation	8°X/Y	8°X/Y
Vertical stroke	70mm	59mm±0.5mm
Specimen feed	28mm	25mm+1mm
Horizontal feed speed	0-1800μm/s	600/900 μm/s
Specimen retraction	0-250um adjustable	20μm

03 RWD FS800 Specimen VS. Leica CM1950 OUV

Specification	RWD FS800 Specimen	Leica CM1950 OUV
Section thickness range	**0.5 - 100 µm** 0.5 - 5. µm in 0.5 µm increments 5- 20µm in 1µm increments 20 - 30 µm in 2µm increments 30- 60 µm in 5µm increments 60- 100µm in 10µm increments	**1-100 µm** 1.0 ~5.0µm, in 0.5µm increments 5.0 ~20.0µm, in 1µm increments 20.0 ~60.0µm, in 5µm increments 60~100µm, in 10µm increments
Trimming section thickness range	**1 - 800 µm** 1- 10µm in 1µm increments 10- 20µm in 2µm increments 20- 50µm in 5µm increments 50- 100µm in 10µm increments 100- 800µm in 50µm increments	**1-600 µm** 1 ~10µm, in 1µm increments 10~20µm, in 2µm increments 20~50µm, in 5µm increments 50 ~100µm, in 10µm increments 100~600µm, in 50µm increments
Anti-roll design	Glass anti-roll plate	Glass anti-roll plate
Blades	Low/high profile blades	Low/high profile blades

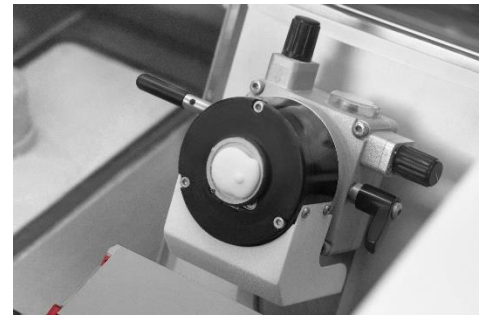
03 RWD FS800 Specimen VS. Leica CM1950 OUV

Comparison	RWD FS800	Leica CM1950	Thermo Fisher Cryostar NX50
Touch screen	√	×	√
Visual Identification marker	√	×	×
Horizontal feed speed	0-1800μm/s	600/900μm/s	3000μm/s or 1000μm/s back 3000μm/s
Trimming thickness range	1 - 800 μm	1-600 μm	5 – 500 μm
Section thickness range	0.5 - 100 μm	1 - 100 μm	0.5 - 100 μm
Specimen retraction	0-250 μm adjustable	20 μm	20 μm

Stylish and convenient

More precise control

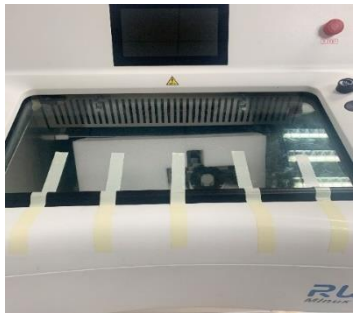
Wider thickness range

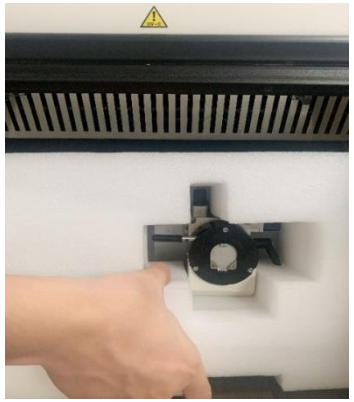


Configuration

Configuration	Name	Qty	Detailed description
Standard	Host	1	Host of FS800A or FS800
Standard	Power cable	1	Ac power supply cable. National standard, European standard, British standard, American standard
Standard	Footswitch	1	Only for model FS800A.Pedal to control the start/stop and emergency stop of the motor
Standard	Blade carrier “E”	1	For blade mounting, specimen distance and clearance angle adjustment. Support with the anti-roll plate assembly, and blade guard. Support with Leica “CE” blade carrier.
Standard	• Attle tray	1	For the collection of section attle
Standard	Anti-roll plate assembly	1	Containing 50 m, 100 m glass bracket
Standard	Anti-roll plate assembly glass	1	
Standard	Fixture with precise position	1	Used for fixing the quick clamping system and able to precisely adjust and indicate the X/Y angular position of the specimen
Standard	Specimen disc	1	Circular 20/30 (standard) /40/55mm, with direction indication (such as lack of Angle), with anti-freeze hand design, easily identify the specimen
Standard	Freeze shelf	1	For place up to 15 position holder
Standard	Slide	1	The carrier of section
Standard	Fixed heat extraction block	1	Installed in the left of the instrument chamber, contains support frame and heat extraction block
Standard	OCT freezing embedding agent	1	Sakura
Standard	Front storage chamber	1	Installed in the front end of the cryostat for refrigerating preparation tools, detachable
Standard	Tool set	1	Screw tools, brush, blade tools, safety gloves, etc
Standard	Footrest	1	Height-adjustable footrest with five adjustment options.
Optional	Vacuum suction kit	1	Including hose, suction nozzle, etc
Optional	Filter bag	1	Filter attle
Optional	Blade	1	For sectioning
Optional	UV Lamp	1	For disinfection

Package details





RWD FS800 main advantages

1-*Patented Visual point identification, accurate sample positioning system---RWD Unique design
2-* The label sample holder can be quickly replaced, which is convenient for processing a lot of various samples --RWD Unique design
3-*7" touch screen with extremely friendly operation interface---Future trend design
4-*Using Joystick rocker, it is extremely convenient for rough sample feeding and trimming/slice switching and slice thickness selection
5-*Using the latest generation of low-temperature SterilAir UV disinfection system, You could work at -
20℃. Many room temperature UV are not capable of disinfecting at low temperatures.
6*The temperature of the chamber body and the sample head can be controlled separately, and a unique temperature stability control strategy of the chamber body is adopted.
7-*The moving sample head adopts a low-pressure cooling system, which avoids the failure caused by long-term fatigue of the high-pressure copper pipe system.
8-*Designed unique defrost waste liquid management system. You could set the alarm when the bottle is not there or the bottle is full --- RWD unique design
9. Lock screen (to prevent accidental touch screen operation), Compressor standby, hibernation function (energy saving); Many other competitive products don't have this solution, which in my opinion is necessary
10. Setting of refrigeration function (because cryostats takes a while to reach the temperature suitable for slicing, some laboratories use cryostats only at the scheduled time; Turning on may take 1 to
6 hours for fully refrigeration .RWD FS800 can be set in advance, for example, start cooling at 6 am on Wednesday and stop cooling at 5 pm
11. RWD use the German Danfoss pressure reducing valve & Danfoss Compressor, which is the top in the world. In other products, You could find for example Honeywell, which is much more unreliable.

RWD Q&A

1. Is the chamber built without hard-to-reach places?--It at the right position to reach, very ergonomic design.
2. Whether the cryostat has its own lighting in the chamber?—Yes, has the light system inside the chamber.
3. Whether the steel in the cryostat chamber is seamlessly welded?-- Not welding. But use sealant to achieve the sealing purpose.
4. Is it possible to lock the drive wheel in two positions?—Yes, at 6 o'clock & 12 o'clock
5. How fast the cryostat is cooling it's chamber after turning on?--- Usually within 5 hours
6. Is there a quick-freeze shelf -35 ° C, at -30 ° C chamber temperature for min. 10 coasters with preparations?-- There are 15 sample freezing points and 2 sample quick cooling points
7. Is there an automatic hot gas defrost and at least 1 automatic defrost cycle per day?-- With automatic defrost function (can be set by day or week)
8. Is there a manual defrost function for the compartment and quick freeze shelf? --Both manual & Automatic defrost available, freezing table and sample head can all be manually defrosted
9. Does the device have a sensor warning the user about the ongoing defrosting process?-- The software interface shows the status of defrosting, the progress bar and the remaining defrosting time will be displayed
10. Is it possible to move the sample step by step every 20 µm--Yes, 20µm increments can be set.
11. Is there a visual indicator of reaching end or start of head travel?-- When reaching the limit position, there will be a reminder on the interface
12. Is it possible to lock all functions of the cryostat with one button (protection against accidental change of program parameters)?—Yes, there is a lock screen function on the interface to prevent accidental operation.
13. How heavy exactly is cryostat? (client want it to be max 135 kg)--Around 200kgs.
14. What are dimensions of cryostat?-- 835mm×1000mm×1215mm
15. what is Specimen cooling? Is this fast freezing? ---
Besides the cabinet, with the specimen cooling system you can set the temperature of the specimen holder from -10℃ to -50℃
16. what high it is hand wheel?—The hand wheel is 900mm from the ground, which is very ergonomic design for operators.

You may also need...

RWD incubator D180-P

RWD C100 Automated Cell Counter

RWD High-Speed Microcentrifuge-M1324R

RWD (Semi)Automated Paraffin Microtome S700 & S700A

RWD Cryostats FS800 & FS800A

FS800 operation

High Quality Sectioning

Safe and Ergonomic

Efficient and convenient

Cost-effective

Operation for reference.
English version software is available.
Music: Solitude Musician: Rook1e

11/6/2020