

# Thermo Scientific Revco Ultra-Low Temperature Freezer

## -86°C Freezer

### Selection Guide



#### 1. Select the Optimal Capacity and Design

		Revco UxF					Revco ExF			
		UxF300	UxF400	UxF500	UxF600	UxF700	ExF240	ExF320	ExF400	ExF600
Capacity	cu. ft. liters	14.9 421	19.4 548	24.1 682	28.8 815	33.5 949	13 368	17.3 490	23 651	28 793
	2" Box Capacity	boxes	300	400	500	600	700	240	320	400
Vial Capacity	2mL vials	30,000	40,000	50,000	60,000	70,000	24,000	32,000	40,000	60,000
Footprint	sq. ft.	7.05	8.46	9.92	11.38	12.85	7.61	9.00	11.02	12.64
	sq. meters	0.65	0.79	0.92	1.06	1.19	0.71	0.84	1.02	1.17
Energy*	KW/day	17	19	19	20	22	17	18	19.3	21
Vial to Footprint	vials/ft <sup>2</sup>	4,255	4,728	5,040	5,272	5,447	3,154	3,600	3,630	4,747
	vials/ m <sup>2</sup>	46,154	50,633	54,348	56,604	58,824	33,803	38,095	39,216	51,282
Vials to Energy	watts/100 2ml vials (box)	2.36	1.93	1.54	1.39	1.31	2.95	2.47	1.98	1.46

#### 2. Choose advanced technologies

Performance	Revco UxF	Revco ExF
Display	Touch Screen LCD	Push Button LED
On-board datalogging	Standard	Not Available
Setpoint Security	Standard	Not Available
Operating Modes	Two Mode: High Performance or Energy Savings	One Mode: Standard Operation
Security		
Key Lock	Standard	Standard with unique key option
Pad Lock Compatible	Standard	Standard
Key Card Access	Optional	Not Available
Setpoint Security	Standard	Not Available
Data Management		
Monitoring Outputs	RS-485, 4-20mA, Dry Contacts - Standard	Dry Contacts – Standard , Optional PT100 Probe
Data Outputs	Log file through USB	Not Available

\* Based on internal performance data. Data on file. May 2011.

#### -10°C to -40°C Upright and Chest Freezers

Choose our DxF upright freezers or CxF chest freezers for applications requiring storage between -10°C and -40°C. Select from 13, 17, or 23 cu. ft. (368, 490, 651L) uprights or 3, 12, 17 or 20 cu. ft. (85, 360, 481, 566L) chest freezers. Models are available with optional chart recorders and backup systems.

#### -86°C Chest Freezers

Do you require a -86°C chest freezer configuration? Select from our 3, 12, 17 and 20 cu. ft. (85, 360, 481, 566L) cabinets to meet a wide variety of storage needs. Models are available with optional chart recorders and back-up systems.

## Thermo Scientific Revco ExF Series -86°C Freezers



# ExF

**Eye-level, easy-to-use microprocessor control panel**

**Five interior compartment doors** to reduce cold air loss, improve temperature recovery after door closings

**Stainless steel interior** in four sizes: 13, 17, 23 and 28 cu.ft. (368, 490, 651, 793L) to accommodate your specific lab space and capacity requirements

## Thermo Scientific Revco DxF Series -40°C Freezers



# DxF

**Knee-level, easy-to-use microprocessor control panel.**

**Five interior compartment doors** to reduce cold air loss, improve temperature recovery after door closings

**Galvaneel interior** in three sizes: 13, 17, and 23 cu.ft. (368, 490, 651L) to accommodate your specific lab space and capacity requirements

**Both freezers are designed with these outstanding features:**

**Heavy gauge, cold-rolled steel exterior construction** with a powder coat paint finish that resists chipping and rust

**5" (127mm) foamed-in-place, polyurethane insulation**

**Optional CO<sub>2</sub> or LN<sub>2</sub> safety back-up system** for additional protection in the event of a power or mechanical failure

**Optional, built-in chart recorder** or data logger for continuous monitoring

**Sturdy, solid, stainless steel shelving** to support a full product load

**Vacuum relief port** permits easy access after door openings

**Ergonomic, lockable door handle**

**Power Management System** with low voltage surge protection and buck/boost



Easy-to-remove **air filter**

**Two 1" (25mm) access ports**



**Centralized information center**, including microprocessor control and monitoring system, ensures that all controls and displays are easy to reach and read. Eye level on our -86°C freezers or knee level on the -40°C freezers.



# Thermo Scientific Revco ExF and DxF Series

## Thermo Scientific Revco ExF Series (-50°C to -86°C)

Model No.	Capacity cu. ft. (liters)	2 in. Box Qty.	Electrical	Amps/Breaker (Plug)	Max. Shelf Weight lbs. (kg)	Interior Dimensions H x W x D in. (cm)	Exterior Dimensions H x W x D in. (cm)	Shipping Weight lbs. (kg)
ExF24086A	13.0 (368)	240	115V / 60 Hz	16/20 (NEMA 5-20)	125 (57)	51.5 x 23.0 x 19.3 (130.8 x 58.4 x 49.0)	77.9 x 33.3 x 32.9 (197.9 x 84.6 x 83.6)	711 (323)
ExF24086D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
ExF24086V			230V / 50 Hz	12/16 (European)				
ExF32086A	17.3 (490)	320	115V / 60 Hz	16/20 (NEMA 5-20)	125 (57)	51.5 x 23.0 x 25.3 (130.8 x 58.4 x 64.3)	77.9 x 33.3 x 38.9 (197.9 x 84.6 x 98.8)	830 (376)
ExF32086D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
ExF32086V			230V / 50 Hz	12/16 (European)				
ExF40086A	23.0 (651)	400	115V / 60 Hz	16/20 (NEMA 5-20)	125 (57)	51.5 x 30.6 x 25.3 (130.8 x 77.7 x 64.3)	77.9 x 40.8 x 38.9 (197.9 x 103.6 x 98.8)	879 (399)
ExF40086D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
ExF40086V			230V / 50 Hz	12/16 (European)				
ExF60086D	28.0 (793)	600	208-230V / 60 Hz	12/15 (NEMA 6-15)	125 (57)	51.5 x 36.6 x 27.0 (130.8 x 93.0 x 68.6)	77.9 x 46.8 x 38.9 (197.9 x 118.9 x 98.8)	1090 (494)
ExF60086V			230V / 50 Hz	12/15 (European)				

## Thermo Scientific Revco DxF Series (-10°C to -40°C)

Model No.	Capacity cu. ft. (liters)	2 in. Box Qty.	Electrical	Amps/Breaker (Plug)	Max. Shelf Weight lbs. (kg)	Interior Dimensions H x W x D in. (cm)	Exterior Dimensions H x W x D in. (cm)	Shipping Weight lbs. (kg)
DxF24086A	13.0 (368)	240	115V / 60 Hz	16/20 (NEMA 5-20)	125 (57)	51.5 x 23.0 x 19.3 (130.8 x 58.4 x 49.0)	77.9 x 33.3 x 32.9 (197.9 x 84.6 x 83.6)	711 (323)
DxF24086D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
DxF24086V			230V / 50 Hz	12/16 (European)				
DxF32086A	17.3 (490)	320	115V / 60 Hz	16/20 (NEMA 5-20)	125 (57)	51.5 x 23.0 x 25.3 (130.8 x 58.4 x 64.3)	77.9 x 33.3 x 38.9 (197.9 x 84.6 x 98.8)	830 (376)
DxF32086D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
DxF32086V			230V / 50 Hz	12/16 (European)				
DxF40086A	23.0 (653)	400	115V / 60 Hz	16/20 (NEMA 5-20)	125 (57)	51.5 x 30.6 x 25.3 (130.8 x 77.7 x 64.3)	77.9 x 40.8 x 38.9 (197.9 x 103.6 x 98.8)	940 (426)
DxF40086D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
DxF40086V			230V / 50 Hz	12/16 (European)				

## Monitoring and Remote Alarms

Description	Voltage	Model No.
<b>Remote Alarm with Audible Signal:</b> Extend the freezer's on-board alarms systems to remote locations in the facility.	120V / 60Hz	<b>400011</b>
<b>Remote Alarm with Audible and Visual Signal:</b> Extend the freezer's on-board alarms systems to remote locations in the facility. Come with audible alarm silence switch and alarm ring-back feature.	120V / 60Hz	<b>400040</b>
	220V / 50Hz	<b>400041</b>
<b>Sensaphone® Telephone Dialing System:</b> Monitors up to four channels; Dials up to four numbers (not CE). Dedicated phone line is required.	120V / 60Hz	<b>400047</b>
	220V / 50Hz	<b>400182</b>
<b>Sensaphone Telephone Dialing System:</b> Monitors up to eight channels; Dials up to eight numbers (not CE). Dedicated phone line is required.	120V / 60Hz	<b>400134</b>
	220V / 50Hz	<b>400183</b>
<b>Temperature / Power Monitor:</b> External digital and audible/visual alarms monitor the temperature and power supply of the freezer. Includes temperature probe.	120V / 60Hz	<b>400048</b>
	220V / 50Hz	<b>400049</b>



Remote Alarm with Audible Signal



Remote Alarm with Audible and Visual Signal



Sensaphone Telephone Dialing System



Temperature / Power Monitor

## Options (Field installed must be installed by a qualified professional)

Description		Model No.
<b>LN<sub>2</sub> Backup System</b> Maintains temperature down to -80°C with liquid nitrogen.	Factory Installed	1950535
	Field Installed	1950536
<b>CO<sub>2</sub> Backup System</b> Maintains temperature down to -70°C with CO <sub>2</sub>	Factory Installed	1950533
	Field Installed	1950534
<b>Ink Chart Recorder 6" (15.2cm)</b> , seven day inkless recorder, to -150°C. Includes one red felt tip pen and box of chart paper (qty. 50)	Factory Installed	201241
	Field Installed	201240
<b>Inkless Chart Recorder 6" (15.2cm)</b> , seven day inkless recorder, to -150°C. Includes box of chart paper (qty. 50)	Factory Installed	201249
	Field Installed	201248
<b>Unique Key Lock</b>	Factory Installed	195915
<b>PT100 Sensor</b> Optional PT100 sensor for connection to building automation systems	Factory Installed	290199

## Accessories

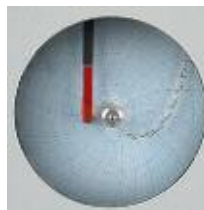
Description	Model No.
<b>Replacement Air Filter</b> . Pack of five filters	195890
<b>Ink Chart Paper</b> (pack of 50)	17020
<b>Inkless Chart Paper</b> (pack of 50)	180000
<b>Replacement Back-Up Battery</b>	400159
<b>Red Felt Tip Chart Pen</b>	245231
<b>Blue Felt Tip Chart Pen</b>	245232
<b>Cryo Gloves</b> Medium	4425
<b>Cryo Gloves</b> Large	4426
<b>LN<sub>2</sub> Transfer Hose</b> Flexible 6' metal hose. 0.5" diameter, 45° flare with swivel ends	4000401
<b>Wall Clamp</b> CO <sub>2</sub> cylinder holder for securing tank to the wall in accordance with OSHA guidelines	950316
<b>High-Pressure Liquid CO<sub>2</sub> Hose</b> Kink-resistant, stainless steel lined, double-braided sheath. 316 stainless steel NPT F fitting. Max. working pressure 25,000 psig. 6' long	991505



Factory-Installed Back-Up Systems



Cryo Gloves



Factory-Installed Chart Recorder



Unique Key Lock



Chart Pens

## Water-Cooled Condenser Option

The water-cooled condenser option is available on our -86°C upright and chest freezers. Your work environment stays cooler because 50% less heat is emitted to your surroundings (i.e. less BTU rejection). A water regulating valve automatically controls the water flow needed to maintain the compressor discharge pressure. Cooler compressor temperatures enhance compressor stability and reliability. Like our standard freezers, those with the water-cooled condenser options are also UL listed to Canadian and United States requirements and bear the CE mark.

Model No.	For Use With
195964	ExF240
195965	ExF320, ExF400, ExF600

The following specifications apply to tower and city water sources:\*

### Water Pressure and Temperature

Maximum Pressure	150 psig
Maximum Temperature	29.4°C

### Connections

Inlet	0.5" compression
Outlet	0.5" compression

### Water Flow Rate Required (per minute)

Tower Water	3.0 gal. (11.4L)
City Water	1.0 gal. (3.8L)

### Drain Required?

Tower Water	No (return line)
City Water	Yes

Installation requires a qualified technician and should include proper adjustment of the regulating valve which controls the discharge pressure.

\* Actual requirements may vary due to specific water pressure conditions.

## Alternate Cord and Plug Options

Model. No.	Plug Description
430266	115V/20A Twist Lock Plug (NEMA L5-20P)
430267	230V/15A Twist Lock Plug (NEMA L6-15P)