Thermo Scientific Revco ExF and DxF Series

ExF
-86°C Freezers

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

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

- **Choose from painted galveneel or 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

DxF
-40°C Freezers

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

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

- **Galveneel 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_2 or LN_2 safety back-up system for additional protection in the event of a power or mechanical failure
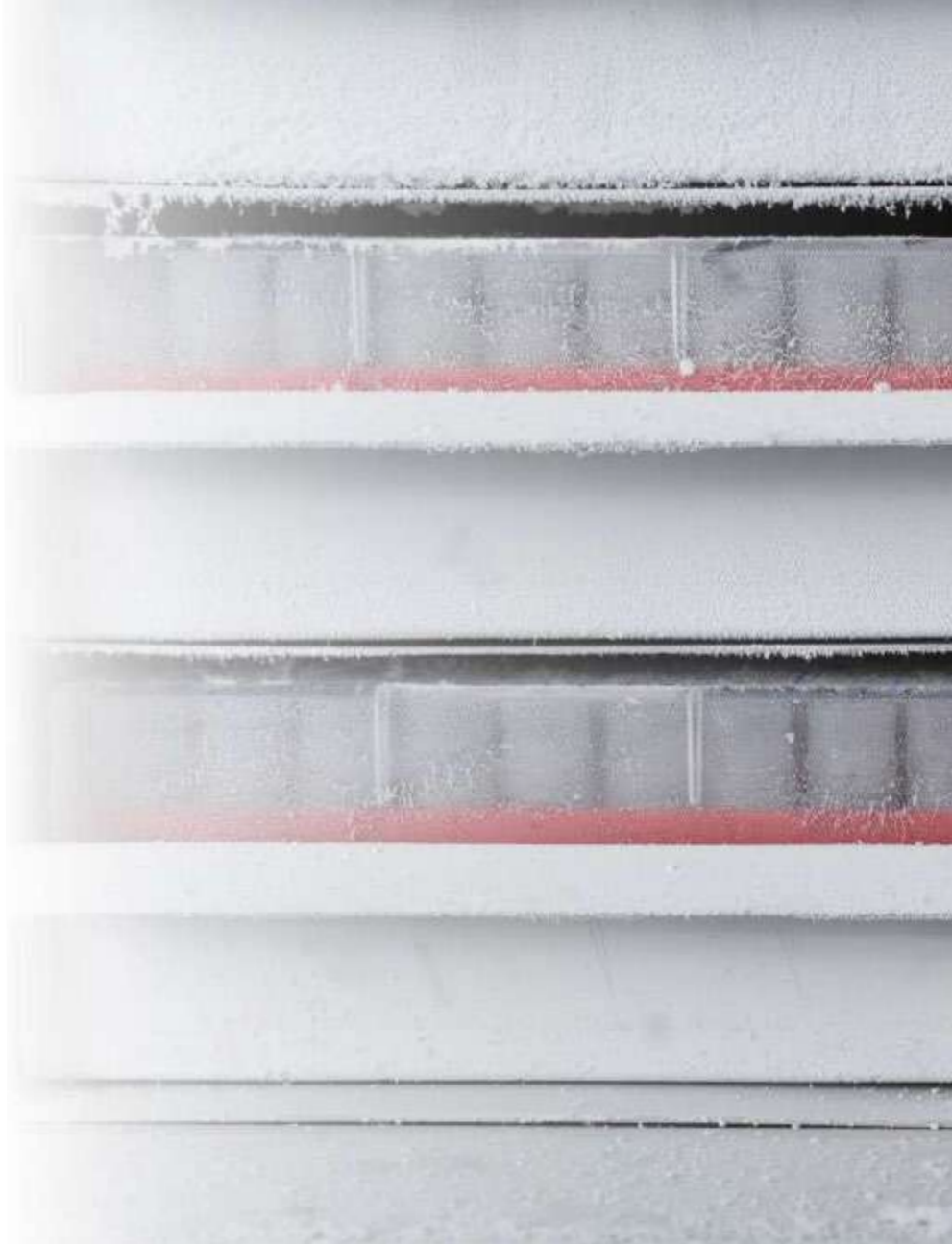
Optional, built-in chart recorder or data logger for continuous monitoring

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

Vacuum relief port permits easy access after door openings

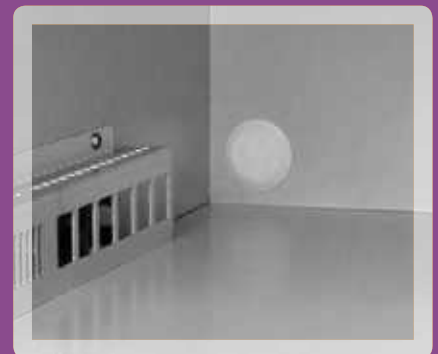**Ergonomic, lockable door handle**

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

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.

Easy-to-remove air filter

Two 1" (25mm) access ports

Thermo Scientific Revco ExF and DxF Series

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

Model No.		Capacity		Electrical	Amps/Breaker	Max. Shelf Weight	Interior Dimensions	Exterior Dimensions	Shipping Weight
Painted Interior	Stainless Steel Interior	cu. ft. (liters)	2" Cryobox		(Plug)	lbs. (kg)	H x W x D in. (cm)	H x W x D in. (cm)	lbs. (kg)
ExF24086A	ExF24086SSA	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	ExF24086SSD			208-230V / 60 Hz	12/15 (NEMA 6-15)				
ExF24086V	ExF24086SSV			230V / 50 Hz	12/16 (European)				
ExF32086A	ExF32086SSA	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	ExF32086SSD			208-230V / 60 Hz	12/15 (NEMA 6-15)				
ExF32086V	ExF32086SSV			230V / 50 Hz	12/16 (European)				
ExF40086A	ExF40086SSA	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	ExF40086SSD			208-230V / 60 Hz	12/15 (NEMA 6-15)				
ExF40086V	ExF40086SSV			230V / 50 Hz	12/16 (European)				
ExF60086D	ExF60086SSD	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	ExF60086SSV			230V / 50 Hz	12/15 (European)				

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

Model No.	Capacity		Electrical	Amps/Breaker	Max. Shelf Weight	Interior Dimensions	Exterior Dimensions	Shipping Weight
Painted Interior	cu. ft. (liters)	2" Cryobox		(Plug)	lbs. (kg)	H x W x D in. (cm)	H x W x D in. (cm)	lbs. (kg)
DxF24040A	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)
DxF24040D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
DxF24040V			230V / 50 Hz	12/16 (European)				
DxF32040A	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)
DxF32040D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
DxF32040V			230V / 50 Hz	12/16 (European)				
DxF40040A	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)
DxF40040D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
DxF40040V			230V / 50 Hz	12/16 (European)				

Monitoring and Remote Alarms

Description	Voltage	Model No.
Remote Alarm with Audible Signal: Extend the freezer's on-board alarms systems to remote locations in the facility.	120V / 60Hz	**5612-1A**
	230V / 50Hz	**5612-3V**
Sensaphone™ Telephone Dialing System: Monitors up to four channels; Dials up to four numbers (not CE). Dedicated phone line is required.	120V / 60Hz	**400047**
	220V / 50Hz	**400182**
Sensaphone Telephone Dialing System: Monitors up to eight channels; Dials up to eight numbers (not CE). Dedicated phone line is required.	120V / 60Hz	**400134**
	220V / 50Hz	**400183**
Temperature / Power Monitor: External digital and audible/visual alarms monitor the temperature and power supply of the freezer. Includes temperature probe.	120V / 60Hz	**400048**
	220V / 50Hz	**400049**

Sensaphone Telephone Dialing System

Temperature / Power Monitor

Visit **thermoscientific.com/smart-vue** for wireless monitoring options.

ExF/DxF SERIES

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

Description		Model No.
LN$_2$ Backup System Maintains temperature down to -80°C with liquid nitrogen.	Factory Installed	1950535
	Field Installed	1950536
CO$_2$ Backup System Maintains temperature down to -70°C with CO$_2$	Factory Installed	1950533
	Field Installed	1950534
Ink Chart Recorder 6" (15.2cm), seven day ink recorder, to -150°C. Includes one red felt tip pen and box of chart paper (qty. 50)	Factory Installed	201241
	Field Installed	201240
Inkless Chart Recorder 6" (15.2cm), seven day inkless recorder, to -150°C. Includes box of chart paper (qty. 50)	Factory Installed	201249
	Field Installed	201248
Unique Key Lock	Factory Installed	195915
PT100 Sensor Optional PT100 sensor for connection to building automation systems	Factory Installed	290199
	Field Installed	290211

Accessories

Description	Model No.
Replacement Air Filter. Pack of five filters	195890
Ink Chart Paper (pack of 50)	17020
Inkless Chart Paper (pack of 50)	180000
Replacement Back-Up Battery	400159
Red Felt Tip Chart Pen	245231
Blue Felt Tip Chart Pen	245232
Cryo Gloves Medium	4425
Cryo Gloves Large	4426
LN$_2$ Transfer Hose Flexible 6' metal hose. 0.5: diameter, 45° flare with swivel ends	4000401
Wall Clamp CO$_2$ cylinder holder for securing tank to the wall in accordance with OSHA guidelines	950316
High-Pressure Liquid CO$_2$ Hose Kink-resistant, stainless steel lined, double-braided sheath. 316 stainless steel NPT F fitting. Max. working pressure 25,000 psig. 6' long	991505
Shelf Kit for 240 box capacity freezer (one shelf and clips)	224195
Shelf Kit for 320 box capacity freezer (one shelf and clips	224196
Shelf Kit for 400 box capacity freezer (one shelf and clips	224197
Shelf Kit for 600 box capacity freezer (one shelf and clips	224198
Seismic restraint kit for 13 cu. ft. (368L)	TF-ULT13
Seismic restraint kit for 17.3 cu. ft. (490L)	TF-ULT17
Seismic restraint kit for 23 cu. ft. (651L)	TF-ULT23
Seismic restraint kit for 28 cu. ft. (600L)	TF-ULT28

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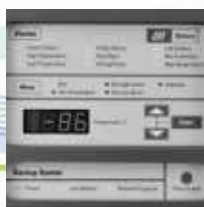
* Actual requirements may vary due to specific water pressure conditions.

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)

Unique Key Lock

**Factory-Installed
Back-Up Systems**

Cryo Gloves

**Factory-Installed
Chart Recorder**

Ultra-Low Temperature Upright Freezer Racks
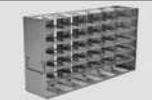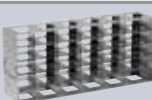
Rack	Dimensions H x W x D cm	Storage	13CF 368L	17.3CF 490L	23CF 951L	28CF 793L
2" Box Racks						
398332 Sliding Drawer Rack	5.5 x 9.4 x 16.6 (14 x 23.9 x 42.2)	Boxes Per Rack	12			
		Racks Per Shelf	4			
		Racks Per Freezer	20			
		Boxes Per Freezer	240			
398331 Sliding Drawer Rack	5.5 x 9.4 x 22.0 (14 x 23.9 x 55.9)	Boxes Per Rack		16	16	
		Racks Per Shelf		4	5	
		Racks Per Freezer		20	25	
		Boxes Per Freezer		320	400	
1950728 Sliding Drawer Rack	5.5 x 9.4 x 26.3 (14 x 23.9 x 66.8)	Boxes Per Rack				20
		Racks Per Shelf				6
		Racks Per Freezer				30
		Boxes Per Freezer				600
398324 Adjustable Side Access Rack	5.4 x 9.4 x 16.5 (13.7 x 23.9 x 41.9)	Boxes Per Rack	12			
		Racks Per Shelf	4			
		Racks Per Freezer	20			
		Boxes Per Freezer	240			
398326 Adjustable Side Access Rack	5.4 x 9.4 x 22.1 (13.7 x 23.9 x 62.5)	Boxes Per Rack		16	16	
		Racks Per Shelf		4	5	
		Racks Per Freezer		20	25	
		Boxes Per Freezer		320	400	
3" Box Racks						
920099 Sliding Drawer Rack	5.5 x 9.5 x 17.4 (14 x 24 x 44.2)	Boxes Per Rack	9			
		Racks Per Shelf	4			
		Racks Per Freezer	20			
		Boxes Per Freezer	180			
398330 Sliding Drawer Rack	5.5 x 9.5 x 22 (14 x 24 x 55.9)	Boxes Per Rack		12	12	
		Racks Per Shelf		4	5	
		Racks Per Freezer		20	25	
		Boxes Per Freezer		240	300	
1950729 Sliding Drawer Rack	5.5 x 9.5 x 26.3 (14 x 24 x 66.8)	Boxes Per Rack				15
		Racks Per Shelf				6
		Racks Per Freezer				30
		Boxes Per Freezer				450
398325 Side Access Rack	5.4 x 9.4 x 16.1 (13.7 x 23.9 x 41.9)	Boxes Per Rack	9			
		Racks Per Shelf	4			
		Racks Per Freezer	20			
		Boxes Per Freezer	180			
398327 Side Access Rack	5.4 x 9.4 x 22.1 (13.7 x 23.9 x 56.1)	Boxes Per Rack		12	12	
		Racks Per Shelf		4	5	
		Racks Per Freezer		20	25	
		Boxes Per Freezer		240	300	

Shelf Kits Box inventory kits including sliding drawer racks and 2" boxes with 100 cell dividers

Model No.	Freezer	Racks Included	Boxes Included
RSK13SD5	13 (368.1)	4	48
RSK17SD5	17.3 (489.9)	4	64
RSK23SD5	23 (651.3)	5	80
RSK28CFSD5	28.8 (815.1)	6	120

Ultra-Low Temperature Upright Freezer Racks

	Rack	Dimensions H x W x D cm	Storage	13CF 368L	17.3CF 490L	23CF 951L	28CF 793L
Microplate Racks							
	1950637 Sliding Drawer Rack	5.5 x 9.5 x 16.6 (14 x 24 x 42.2)	Boxes Per Rack	16			
			Racks Per Shelf	4			
			Racks Per Freezer	20			
			Boxes Per Freezer	320			
	1950638 Sliding Drawer Rack	5.5 x 9.5 x 22.0 (14 x 24 x 55.9)	Boxes Per Rack		24	24	
			Racks Per Shelf		4	5	
			Racks Per Freezer		20	25	
			Boxes Per Freezer		480	600	
	1950730 Sliding Drawer Rack	5.5 x 9.5 x 26.3 (14 x 24 x 66.8)	Boxes Per Rack				28
			Racks Per Shelf				6
			Racks Per Freezer				30
			Boxes Per Freezer				840
	398334 Side Access Standard Plate Rack	5.3 x 9.4 x 14.7 (13.5 x 23.9 x 37.3)	Boxes Per Rack	44			
			Racks Per Shelf	4			
			Racks Per Freezer	20			
			Boxes Per Freezer	880			
	398333 Side Access Standard Plate Rack	5.3 x 9.4 x 22.0 (13.5 x 23.9 x 55.9)	Boxes Per Rack		66	66	66
			Racks Per Shelf		4	5	6
			Racks Per Freezer		20	25	30
			Boxes Per Freezer		1320	1650	1980
	398335 Side Access Deepwell Plate Rack	5.3 x 9.4 x 22.0 (13.5 x 23.9 x 55.9)	Boxes Per Rack		30	30	30
			Racks Per Shelf		4	5	6
			Racks Per Freezer		20	25	30
			Boxes Per Freezer		600	750	900
Flexible Side Access Microplate Racks							
	398321 Microplate/ Deepwell Rack with Locking Rods	5.5 x 9.4 x 18.4 (14 x 23.9 x 46.7)	Plates w/lids	70			
			Plates w/o lids	85			
			Deepwell Plates	25			
			Racks per Shelf	4			
			Racks Per Freezer	20			
	398323 Microplate/ Deepwell Rack with Locking Rods	5.5 x 9.4 x 22.0 (14 x 23.9 x 55.9)	Plates w/lids		84	84	
			Plates w/o lids		96	96	
			Deepwell Plates		30	30	
			Racks per Shelf		4	5	
			Racks Per Freezer		20	25	

Fiberboard Cryo Boxes

	2" (5.1cm) Fiberboard Cryo Boxes 5" x 5" (12.7 cm x 12.7 cm) water repellent cardboard	Model No.	Quantity	Dividers
		5954	12	none
		820002	1	81
		820109	1	100

	3" (7.6cm) Fiberboard Cryo Boxes 5" x 5" (12.7 cm x 12.7 cm) water repellent cardboard	Model No.	Quantity	Dividers
		5956	12	none
		820003	1	81

Fiberboard Grid Dividers

Model No.	Dimensions	Quantity	Holds
5958	10 x 10, 0.49" cell	12	12mm vials (100)
820100	10 x 10, 0.49" cell	1	12mm vials (100)
6212	9 x 9, 0.54" cell	12	13mm vials (81)
820081	9 x 9, 0.54" cell	1	13mm vials (81)
5960	8 x 8, 0.61" cell	12	14mm vials (64)
820064	8 x 8, 0.61" cell	1	14mm vials (64)
5959	7 x 7, 0.7" cell	12	16mm vials (49)
820049	7 x 7, 0.7" cell	1	16mm vials (49)
820025	5 x 5, 0.98" cell	1	25 vials
820016	4 x 4, 1.22" cell	1	16 vials