

# daily dependability

## Thermo Scientific Forma 900 and Forma 7000 Series

Our Forma 900 and Forma 7000 Series upright freezers are designed for daily sample protection and dependability. Choose our 900 Series for applications requiring  $-50^{\circ}\text{C}$  to  $-86^{\circ}\text{C}$  or our 7000 Series when your storage requirements call for  $-10^{\circ}\text{C}$  to  $-40^{\circ}\text{C}$ .



### Energy-efficient, double door option:

Available within our 900 Series is a unique double door option. Store frequently used samples in the top chamber while long-term storage remain undisturbed in the bottom.

### Rugged construction for everyday use

- Heavy gauge, cold-rolled steel cabinets with a powder coat paint finish for a uniform exterior that resists chipping and rust.
- 5" (12.7cm) foamed-in-place, polyurethane insulation.
- State-of-the-art, refrigeration system improves temperature control, increases reserve capacity, for more stable temperature sample.
- Two 1" (2.5cm) access ports enable use of inexpensive probes.
- Stainless steel interior (900 Series) or glavenel interior (7000 Series) with sturdy stainless steel shelving.
- Vacuum relief port permits easy access after door openings.
- Easy-to-remove washable filter provides protection from dust on the condenser, increasing refrigeration performance.
- Single-hand operation with an easy-to-use, padlock-compatible, ergonomic door handle with integrated key lock.
- Simplified installation with our new easy-roll 2" (5cm) locking casters.

### Secure inner doors

- Four inner doors reduce cold air loss and improve temperature recovery after door openings.

### Centralized information center

- Microprocessor control and monitoring system ensure that all controls and displays are easy to reach and read.
- Power management system with low voltage surge protection and buck/boost.
- Optional choice of  $\text{CO}_2$  or  $\text{LN}_2$  safety back-up systems for additional sample protection in the event of a power or mechanical failure.

## Forma 900 Series -86°C freezer



**Forma 900 Series -86°C freezers** Available in four sizes: 13, 17, 23 and 28 cu ft (368, 490, 651, 793L) to accommodate your specific lab space and capacity requirements.

Centralized information system ensures that all controls and displays are easy to reach and read.\*

\*Pictured with optional chart recorder (make small footnote type)

## Forma 7000 Series -40°C freezer



**Forma 7000 Series -40°C freezers** Available in three sizes 13, 17 and 23 cu ft (368, 490, 651L) to accommodate your specific lab space requirements. Features knee level, easy-to-use microprocessor control panel.

# Thermo Scientific Forma 900 and Forma 7000 Series specifications and ordering information

## Thermo Scientific Forma 900 Series Upright Freezers (Temperature Range: -50°C to -86°C)

Model No.	Capacity cu. ft. (liters)	Cryobox Capacity 2 in.	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)
903	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)	696 (316)
909			208-230V / 60 Hz	12/16 (NEMA 6-15)				
902			230V / 50 Hz	12/16 (European)				
904	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 98.9)	763 (346)
910			208-230V / 60 Hz	12/16 (NEMA 6-15)				
905			230V / 50 Hz	12/16 (European)				
956	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 98.9)	900 (408)
957			208-230V / 60 Hz	12/16 (NEMA 6-15)				
906			230V / 50 Hz	12/16 (European)				
908	28.0 (793)	600	208-230V / 60 Hz	16/20 (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 98.9)	1070 (485)
907			230V / 50 Hz	12/16 (European)				

## Thermo Scientific Forma 900 Series Double-Door Upright Freezers (Temperature Range: -50°C to -86°C)

Model No.	Capacity cu. ft. (liters)	Cryobox Capacity 2 in.	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)
992	13.0 (368)	216	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)	696 (316)
986			208-230V / 60 Hz	12/16 (NEMA 6-15)				
991			230V / 50 Hz	12/16 (European)				
993	17.3 (490)	288	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 98.9)	763 (346)
988			208-230V / 60 Hz	12/16 (NEMA 6-15)				
994			230V / 50 Hz	12/16 (European)				
990	23.0 (651)	360	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 98.9)	900 (408)
989			208-230V / 60 Hz	12/16 (NEMA 6-15)				
995			230V / 50 Hz	12/16 (European)				

## Thermo Scientific Forma 7000 Series Upright Freezers (Temperature Range: -10°C to -40°C)

Model No.	Capacity cu. ft. (liters)	Cryobox Capacity 2 in.	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)
7240A	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)	696 (316)
7240D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
7240V			230V / 50 Hz	12/16 (European)				
7320A	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 98.9)	763 (346)
7320D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
7320V			230V / 50 Hz	12/16 (European)				
7400A	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 98.9)	900 (408)
7400D			208-230V / 60 Hz	12/15 (NEMA 6-15)				
7400V			230V / 50 Hz	12/16 (European)				

## 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	1950447
	Field Installed	1950448
<b>CO<sub>2</sub> Backup System</b> Maintains temperature down to -70°C with CO <sub>2</sub>	Factory Installed	1950445
	Field Installed	1950446
<b>Ink Chart Recorder 6" (150mm)</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</b> 6" (150mm), 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)	18000
<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 Medium</b>	4425
<b>Cryo Gloves Large</b>	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 NPTF fitting. Max. working pressure 25,000 psig. 6' long	991505

## Water-Cooled Condenser Option

Model No.	For Use With
195964	13 cu. ft./368L
195965	17.3, 23, 28 cu. ft./490, 651, 793L

The water-cooled condenser option is available on our -86°C 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.

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.

## Monitoring and Remote Alarms

Description	Voltage	Model No.
<b>Remote Alarm with Audible Signal</b> Extend the freezers on-board alarms systems to remote locations in the facility.	120V / 60 Hz	400011
<b>Remote Alarm with Audible and Visual Signal</b> Extend the freezers on-board alarms systems to remote locations in the facility. Come with audible alarm silence switch and alarm ringback feature	120V / 60 Hz	400040
	230V / 50 Hz	400041
<b>Sensaphone® Telephone Dialing System</b> Monitors up to four channels; Dials up to four numbers (not CE). Dedicated phone line is required	120V / 60 Hz	400047
	220V / 50Hz	400182
<b>Sensaphone Telephone Dialing System</b> Monitors up to eight channels; Dials up to eight numbers (not CE). Dedicated phone line is required	120V / 60 Hz	400134
	220V / 50Hz	400183
<b>Temperature / Power Monitor</b> External Digital and audible / visual alarms monitor temperature and power supply of the freezer. Includes temperature probe	120V / 60 Hz	400048
	220V / 50Hz	400049



Remote Alarm with Audible Signal



Remote Alarm with Audible / Visual Signal



Sensaphone® Telephone Dialing System



Temperature / Power Monitor

## 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)

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