



## CryoMed Controlled-Rate Freezer

Repeatable freezing performance for your  
discovery and production needs

General Purpose

# Dependable sample protection

In order to maintain cellular viability during the freezing process, certain cells – such as protist, mammalian, and plant cells – require precise control of the freezing rate in order to minimize the detrimental effects of undercooling and the heat liberated during the phase change process from water to ice. The Thermo Scientific™ CryoMed™ Controlled-Rate Freezers (CRFs) are designed with reliability, protection, and data traceability in mind for your sample preparation and GMP production needs.

For customers in research, cell and gene therapy, vaccine production, and biobanking, the CryoMed CRF provides precise, repeatable freezing results that protect the sample from intracellular freezing. The CryoMed CRF provides enhanced data traceability via a touchscreen user interface and offers customizable freezing profiles while supporting 21 CFR part 11 and GMP needs.



# CryoMed Controlled-Rate Freezer

## User-friendly operation with enhanced data traceability

- Intuitive touchscreen display allows for easy set-up, operation, and review of a freezing run
- Six pre-set freezing profiles and space for up to 14 user-defined, “custom” freeze profiles
- Integrated touchscreen UI logs usage and events to support 21 CFR part 11 requirements
- User security: 3 levels of user accessibility
- USB data export of .pdf file run logs support 21 CFR part 11
- “Run last” feature allows the same profile to be run consecutively with the touch of a button
- PC interface software provides remote operation capabilities, run review, and custom profile creation

## Real-time run monitoring for sample protection

- Chamber and sample temperatures are monitored by Type T thermocouples, eliminating lag time and providing “real time” responsiveness
- Standard alarms to alert users of thermocouple failures, heater malfunction, high/low temperature limits, temperature tracking, power failure, and completion of run
- Remote alarm contacts
- **Optional:** thermal printer

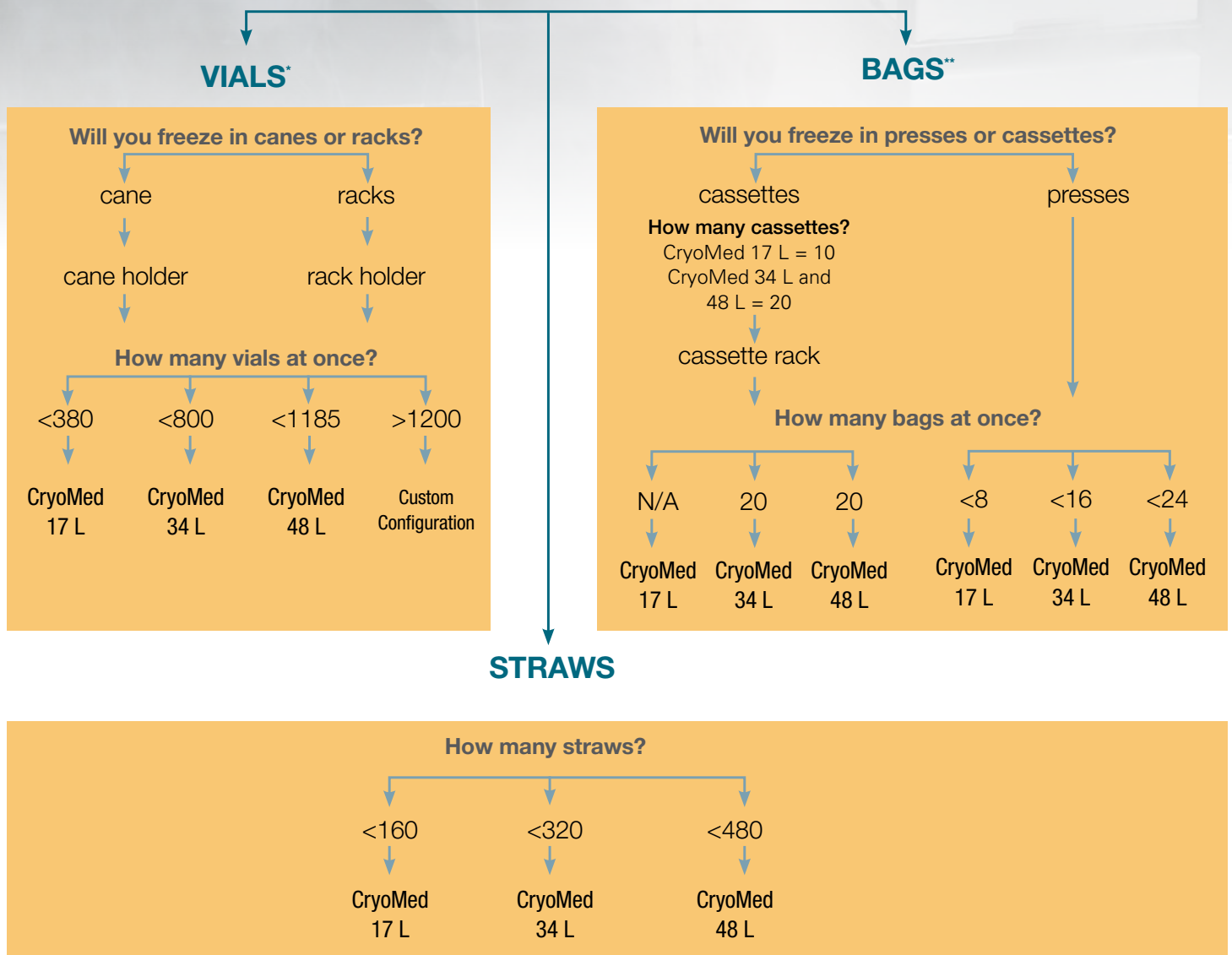
## Reliable temperature performance for high-throughput usage

- Dual solenoid valves are designed to balance LN<sub>2</sub> injection volume for precise temperature control and accelerated freezing
- Preventative maintenance indicator for LN<sub>2</sub> solenoid replacement limits downtime
- Consistent temperature control and uniformity achieved via an air-handling system and liquid nitrogen injection ring
- Environmentally friendly insulating foam
- Type 304 stainless steel with exterior powder-coat finish
- Compatible with VHP cleaning techniques

**Warranty varies by region. Check with your local representative for more information.**



# What is your method of sample preparation?



\*Assumes 1.2/2.0 mL vials








\*\*Assumes 250 mL bag

# Specifications and ordering information










## CryoMed Controlled-Rate Freezers

Electrical	Plug type	Chamber volume	Printer/ no printer	Temp. Range	Exterior dimensions WxHxD (in./cm)	Interior dimensions WxHxD (in./cm)	Product weight (lbs/kg)	LN <sub>2</sub> and utility	Cat. No.
120 V/60 Hz	NEMA 5-15P	17 L (0.6 cu. ft.)	No thermal printer	+50°C to -180°C	37.3 x 21.7 x 24.3 (94.7 x 55.1 x 61)	7 x 12 x 13 (17.8 x 30.5 x 33)	154 lbs. (69.8 kg)	All models require 22 psi (1.5 bar) low pressure supply tank and are supplied with one 6-foot braided stainless steel hose with .5" x 45 degree flare connectors on each end	TSCM17XA
220-230 V 50/60 Hz	CEE 7/7								TSCM17XV
100 V 50/60 Hz	NEMA 5-15P								TSCM17XL
120 V/60 Hz	NEMA 5-15P	34 L (1.2 cu. ft.)			TSCM34XA				
220-230 V 50/60 Hz	CEE 7/7				TSCM34XV				
100 V 50/60 Hz	NEMA 5-15P				TSCM34XL				
120 V/60 Hz	NEMA 5-15P	48.1 L (1.7 cu. ft.)			TSCM48XA				
220-230 V 50/60 Hz	CEE 7/7				TSCM48XV				
100 V 50/60 Hz	NEMA 5-15P				TSCM48XL				
120 V/60 Hz	NEMA 5-15P	17 L (0.6 cu. ft.)	Built-in thermal printer	+50°C to -180°C	37.3 x 21.7 x 24.3 (94.7 x 55.1 x 61)	7 x 12 x 13 (17.8 x 30.5 x 33)	155 lbs. (70.3 kg)	TSCM17PA	
220-230 V 50/60 Hz	CEE 7/7							TSCM17PV	
100 V 50/60 Hz	NEMA 5-15P							TSCM17PL	
120 V/60 Hz	NEMA 5-15P	34 L (1.2 cu. ft.)			TSCM34PA				
220-230 V 50/60 Hz	CEE 7/7				TSCM34PV				
100 V 50/60 Hz	NEMA 5-15P				TSCM34PL				
120 V/60 Hz	NEMA 5-15P	48.1 L (1.7 cu. ft.)			TSCM48PA				
220-230 V 50/60 Hz	CEE 7/7				TSCM48PV				
100 V 50/60 Hz	NEMA 5-15P				TSCM48PL				

**CryoMed Freezing Presses**

Image	Description	Dimensions WxD (in./cm)	Storage	CryoMed 0.6 cu. ft.	CryoMed 1.2 cu. ft.	CryoMed 1.7 cu. ft.	Cat. No.
	Bag press for 250 mL bag (Fenwal™ 4R5461 or OriGen CryoSure™ 250)	5.9 x 9 (15 x 22.9)	Presses per chamber	4	8	12	4000314
			Bags per press	2	2	2	
			Total # - bags per chamber	8	16	24	
	Bag press for 200 mL bag (Gambro™ DF-200 or CryoMacs™ 50 and 250)	8 x 8.5 (20.3 x 21.6)	Presses per chamber	N/A	4	8	4000316
			Bags per press	N/A	2	2	
			Total # - bags per chamber	N/A	8	16	
	Bag press for Delmed™ 2030-2	8.8 x 12 (22.4 x 30.5)	Presses per chamber	N/A	4	8	4000317
			Bags per press	N/A	4	4	
			Total # - bags per chamber	N/A	16	32	
	Bag press for 250 mL bag (Fenwal 4R5461 or OriGen CryoSure 250)	9 x 12 (22.9 x 30.5)	Presses per chamber	N/A	4	8	4000318
			Bags per press	N/A	4	4	
			Total # - bags per chamber	N/A	16	32	
	Bag press for 200 mL bag (Gambro DF-200 or equivalent)	9 x 12 (22.9 x 30.5)	Presses per chamber	N/A	4	8	4000320
			Bags per press	N/A	4	4	
			Total # - bags per chamber	N/A	16	32	
	Bag press for 700 mL bag (Gambro DF-700 or equivalent)	8 x 12 (20.3 x 30.5)	Presses per chamber	N/A	4	8	4000321
			Bags per press	N/A	2	2	
			Total # - bags per chamber	N/A	8	16	
	Bag press for 500 mL bag (Fenwal 4R5462 or CryoMacs 500 and 750 and OriGen CryoSure 500)	6 x 10.3 (15.2 x 26.2)	Presses per chamber	4	6	12	4000555
			Bags per press	2	2	2	
			Total # - bags per chamber	8	12	24	

## CryoMed Freezing Racks and Rack Holders

Image	Description	Dimensions HxWxD (in./cm)	Storage	CryoMed 17 L	CryoMed 34 L	CryoMed 48 L	Cat. No.
	Straw rack for .25/.5mL straws - holds 40 straws	11.3 x 3 x 5.25 (28.7 x 7.6 x 13.3)	Racks per chamber	4	8	12	4000294
			Straws per rack	40	40	40	
			Total # straws per chamber	160	320	480	
	Cane freezing rack - large	11 x 12 x 12 (28 x 30.5 x 30.5)	Racks per chamber	N/A	1	1 lrg & 1 sm	4000303
			Canes per rack	N/A	162	162 & 77	
			Vials (2 mL) per cane	N/A	5	5	
			Total # vials per chamber	N/A	810	1,195	
	Cane freezing rack - small	11 x 6 x 12 (28 x 15.2 x 30.5)	Racks per chamber	1	N/A	1 lrg & 1 sm	4000700
			Canes per rack	77	N/A	162 & 77	
			Vials (2 mL) per cane	5	N/A	5	
			Total # vials per chamber	385	N/A	1195	
	1.2/2 mL freezing rack - small (order qty 5 each when ordering with 4000702 rack holder)	1.1 x 6 x 12 (2.8 x 15.2 x 30.5)	Racks per chamber	5	N/A	5 lrg & 5 sm	4000701
			Vials per rack	76	N/A	161 & 76	
			Total # vials per chamber	380	N/A	1,185	
	Small rack holder for 4000701 racks	9.8 x 6.2 x 12.4 (24.9 x 15.7 x 31.5)	Rack holders per chamber	1	N/A	1 lrg & 1 sm	4000702
			Racks per rack holder	5	N/A	5 & 5	
			Total # racks per chamber	5	N/A	10	
	1.2/2 mL freezing rack - large (order qty 5 each when ordering with 4000704 rack holder)	1.1 x 12 x 12 (2.8 x 30.5 x 30.5)	Racks per chamber	N/A	5	5 lrg & 5 sm	4000703
			Vials per rack	N/A	161	161 & 76	
			Total # vials per chamber	N/A	805	1,185	
	Large rack holder for 4000703 racks	9.8 x 12.2 x 12.4 (24.9 x 31 x 31.5)	Rack holders per chamber	N/A	1	1 lrg & 1 sm	4000704
			Racks per rack holder	N/A	5	5 & 5	
			Total # racks per chamber	N/A	5	10	
	4 or 5 mL freezing rack- small (order qty 3 each when ordering with 4000706 rack holder)	2.6 x 6 x 12 (6.6 x 15.2 x 30.5)	Racks per chamber	3	N/A	3 lrg & 1 sm	4000705
			Vials per rack	76	N/A	161 & 76	
			Total # vials per chamber	228	N/A	711	
	Small rackholder for 4000705 racks	8.1 x 6.2 x 12.4 (20.6 x 15.7 x 31.5)	Rack holders per chamber	1	N/A	1 lrg & 1 sm	4000706
			Racks per rack holder	3	N/A	3 & 3	
			Total # racks per chamber	3	N/A	6	
	4 or 5 mL freezing rack - large (order qty 3 each when ordering with 4000708 rack holder)	8.1 x 12.2 x 12.4 (20.6 x 31 x 31.5)	Racks per chamber	N/A	3	3 lrg & 3 sm	4000707
			Vials per rack	N/A	161	161 & 76	
			Total # vials per chamber	N/A	483	711	
	Large rack holder for 4000707 racks	8.1 x 12.2 x 12.4 (20.6 x 31 x 31.5)	Rack holders per chamber	N/A	1	1 lrg & 1 sm	4000708
			Racks per rack holder	N/A	3	3 & 3	
			Total # racks per chamber	N/A	3	6	
	Two level skin rack (holds skin packets measuring 5 x 7 in.)	10.5 x 6.2 x 12.6 (26.7 x 15.7 x 32)	Rack holders per chamber	1	2	3	4000310
			Skin packets per rack	48	48	48	
			Total # skin packets per chamber	48	96	144	
	One level skin rack (holds skin packets measuring 5 x 7 in.)	5.2 x 6.2 x 12.6 (13.2 x 15.7 x 32)	Rack holders per chamber	2	4	6	4000312
			Skin packets per rack	24	24	24	
			Total # skin packets per chamber	48	96	96	
	Cord blood freezing rack for 50mL cannisters (4000610)	11 x 4 x 5 (28 x 10.2 x 12.7)	Rack holders per chamber	3	6	9	4000340
			Canisters per rack	10	10	10	
			Total # canisters per chamber	30	60	90	
	Adjustable freezing rack for canisters	11.6 x 5.5 to 7.5 x 8.2 (29.5 x 14 to 19 x 20.8)	Rack holders per chamber	N/A	2	2	185089
			Canisters per rack	N/A	10	10	
			Total # canisters per chamber	N/A	20	20	

**CryoMed Sample Sensors**

Description	Cat. No.		
	CryoMed 0.6 cu. ft.	CryoMed 1.2 cu. ft.	CryoMed 1.7 cu. ft.
Thermocouple sensor for 1.2/2 mL vials		4000385	
Thermocouple sensor for 4/5 mL vials		4000386	
Thermocouple sensor ribbon type for bags		4000393	
Thermocouple sensor .02 sheath for straws		4000384	

**CryoMed Canisters for Freezing Racks**

Bag Type/Size	Description	Dimensions LxWxD (in./cm)	Cat. No.
Pall MEDSEP™ 25 mL, OriGen CS 25, or equivalent	Swing arm canister for 25 mL bag	3.6 x 3.9 x 0.4 (9.14 x 9.4 x 1)	1950831
Fenwal 4R9951, OriGen CS 50, or equivalent	Swing arm canister for 50 mL bag	3.7 x 6.3 x 0.5 (9.4 x 16 x 1.3)	4000610
Gambro DF-200 or CryoMacs 50 and 250	Swing arm canister for 200 mL bag	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)	4000356
Gambro DF-700, OriGen CS 1000, or CryoMacs 750 and 1000	Swing arm canister for 700 mL bag	6.5 x 12.1 x 0.8 (16.5 x 30.7 x 2)	4000357
Fenwal 4R5461, OriGen CS 25, CryoMacs 50 and 250	Sliding canister for 250 mL bag	5.5 x 7.6 x 0.4 (14 x 19.3 x 1)	4000335
Fenwal 4R5462, OriGen CS 500, or equivalent	Sliding canister for 500 mL bag	5.6 x 9.2 x 0.4 (14.2 x 23.4 x 1)	4000336
Gambro DF-200 or equivalent	Sliding canister for 200 mL bag	6.4 x 7.8 x 0.8 (16.3 x 19.1 x 2)	4000332
Gambro DF-700, OriGen CS 1000, or CryoMacs 750 and 1000	Sliding canister for 700 mL bag	6.5 x 11.8 x 0.8 (16.5 x 30 x 2)	4000333

**CryoMed Printer Paper**

Description	Cat. No.
Thermal printer paper (5 rolls per pack)	4000566

**CryoMed Documents**

Description	Cat. No.
Certification of Compliance (Unit Specific)	260049
Temperature Mapping	260045
Certificate of Conformance	260043

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