

Temperature Control Monitor Sarns™ TCM II

A space-saving, multi-function patient cooling/heating system



Why choose the TCM II ?

The powerful Sarns™ TCM II provides the precise temperature control you need to monitor patients on cardiopulmonary bypass.

Its sensitive, microprocessor-driven system lets you cool, rewarm or maintain temperatures at exact levels with the push of a button.

The compact water supply system allows you to simultaneously deliver water to oxygenators and cardioplegia heat exchangers and to thermal blankets.



Remote control and display module (optional)

Patient management aided by faster cooling and rewarming

Compared to devices using refrigerated cold water, the TCM II achieves faster, more reliable cooling through the use of melting ice, which maintains a stable, cold temperature as it conducts heat away.

The TCM II's heating system reflects the current standard of technology. Its powerful heaters and high-efficiency mixing manifold allow you to bring up temperatures quickly.

Enhanced safety with sophisticated temperature control and monitoring

Control is at your fingertips, using either the main display or the optional remote module.

A simplified display panel gives you accurate digital temperature data to protect your patients.

On either panel you can select temperatures ranging from 0 - 42°C to bring your patients rapidly and precisely to the temperature needed.

For protection of pediatric patients, a maximum water-to-venous blood temperature gradient can be set to operate during rewarming.



Temperature Control Monitor
Sarns™ TCM II

The classic Sarns™ features you rely on

Ease-of-use and convenience thanks to remote display module and built-in icemaker

The TCM II's heating system reflects the current standard of technology. Its powerful heaters and high-efficiency mixing manifold allow you to achieve desired temperatures quickly.

Features

Built-in icemaker saves bringing ice into the operating room from a separate source.

Sarns™ optional remote control and display module for temperature management at your fingertips while the main unit is situated in a convenient, remote location.

Temperature displays in digital readouts for up to nine temperature probes; readouts for up to 9 temperature probes by using 3 temperature modules; alarm can be set for 3 probes (one probe per module) located at crucial temperature sites.

Precise temperature controls maintained by a microprocessor which allows oxygenator water temperature selection from 0 - 42°C in one-degree increments.

Independent cardioplegia control offers three pump speeds for variable cooling rates and a separate reservoir accommodates drop-in heat exchangers.

Pressure-regulated blanket ports with water-supply maintain the same temperature as water going to the oxygenator heat exchanger.

Cost-effectiveness through multi-functional design

The TCM II combines several money-saving features in one unit. It minimizes temperature control costs because there is:

- **No need** for two separate temperature control devices for oxygenator and cardioplegia requirements
- **No need** to purchase independent icemakers
- **No need** for additional temperature monitors
- **No need** for a thermal blanket water supply

TCM II's reliable components cut down on repairs and service calls.



Temperature Control Monitor Sarns™ TCM II

Product Specifications

Component	Specifications
Catalog no.	4416
Voltage	210/250VAC (220/240V nominal)
Frequency	50 Hz
Amperage	12 A
Current leakage	500 µA maximum
Ground resistance	0.1 Ohm maximum

Dimensions	Main Unit
Height	34.4" (87,4cm)
Width	20.0" (50,8cm)
Depth	31.5" (80,0cm)
Weight	282 lbs (127,9 kg) with the tanks empty 356 lbs (161,5 kg) with the tanks full

	Large Tank	Small Tank
Length	18.5" (47,0 cm)	9.5" (24,1 cm)
Width	8.7" (22,1 cm)	5.5" (14,0 cm)
Depth	21.5" (54,6 cm)	9.3" (23,6 cm)
Capacity: Water	9 gal (34 L)	1.2 gal (4,5 L)
Capacity: Crushed ice	40 lbs (18,1 kg)	7.5 lbs (3,4 kg)

	Temperature Display Unit	Temperature Probe Modules
Length	8.75" (22,2 cm)	9.0" (22,9 cm)
Width	5.5" (14,0 cm)	5.75" (14,6 cm)
Depth	2.5" (6,4 cm)	2.5" (6,4 cm)

Water Outlet Temperature	
Oxygenator heat exchanger and blanket	0 - 42°C
Cardioplegia	Ice water only
Heaters	2 each - 1000 watt, 220V units

Maximum Flow Performance (1/8 hp pump)	
Oxygenator heat exchanger* outlet port	5.5 gal/min (21,0 L/min) at zero head 13.5 psi (698 mmHg) maximum pressure
Blanket supply* outlet port	0.8 gal/min (3,0 L/min) at zero head 11.8 psi (610 mmHg) maximum pressure
Cardioplegia water supply port	2.1 gal/min (7,9 L/min) 7.5 psi (388 mmHg) maximum pressure

* Note: performance will be different with both a heat exchanger and a blanket being supplied with water at the same time.

Component	Specifications
Ice Supply	If the large tank is filled to the maximum level with 25°C water, the icemaker can provide a maximum of 50 lbs (22,7 kg) in 8 hours. If the large tank is filled to the maximum level with 3°C water, the icemaker can provide a maximum of 33.5 lbs (15,1 kg) in 3 hours.

Temperature Probe Module Operating Range	0 - 50°C
Remote Temperature Sensing and Display Accuracy	± 0.3°C
Venous Differential Mode	6°C gradient = rewarm water temperature is held to a maximum of 6°C more than the incoming venous blood temperature. 10°C gradient = rewarm water temperature is held to a maximum of 10°C more than the incoming venous blood temperature.

Ordering Information

Description	Catalog No.	Units/Case
220V/240V, with cardioplegia supply	4416	1
Remote control module with temperature displays	15746	1
Additional temperature probe module	15745	1

Accessories for Cooling and Heating Devices

Water fittings		
Quick-connect water fitting for use with oxygenation systems, straight, two required	131086*	1
Quick-connect water fitting for use with oxygenation systems, right angle, two required	131078*	1
Quick-connect water fitting for use with myocardial protection systems (cardioplegia delivery)	9493	2

* Former catalog no. 78-8067-5267-7, ** Former catalog no. 78-8067-5266-9



TERUMO EUROPE NV
Researchpark Zone 2, Haasrode
Interleuvenlaan 40
B-3001 Leuven
Belgium
32 16 38 12 11 phone
32 16 40 02 49 fax

TERUMO DEUTSCHLAND
GMBH
Hauptstraße 87
D-65760 Eschborn
Germany
49 6196 8023 0 phone
49 6196 8023 300 fax

TERUMO EUROPE BNL
Sales Division
Interleuvenlaan 40
B-3001 Leuven
Belgium
32 16 39 25 80 phone
32 16 39 25 99 fax

LABORATOIRES TERUMO FRANCE S.A.
1. Parc Ariane, Bâtiment Uranus
Rue Hélène Boucher
F-78284 Guyancourt Cedex
France
33 1 30 96 13 00 phone
33 1 30 43 60 85 fax

TERUMO ITALIA SRL
Via Simone Martini 143/145
I-00142 Roma RM
Italy
39 06 51 96 14 20 phone
39 06 50 30 40 7 fax

TERUMO EUROPE NV
Cardiovascular Division
Hauptstraße 87
D-65760 Eschborn
Germany
49 6196 8023 500 phone
49 6196 8023 555 fax

TERUMO EUROPE
ESPAÑA SL
Edificio Torre La Garena
Avda. Juan Carlos 1ª Planta 7ª
E-28806 Alcalá de Henares
(Madrid), Spain
34 902 10 12 98 phone
34 902 10 13 58 fax

TERUMO SWEDEN AB
Nya Varvet - Byggnad 90
SE-426 71
Västra Frölunda
Sweden
46 31 74 85 88 0 phone
46 31 74 85 89 0 fax

TERUMO UK LTD
Tamesis 1, The Causeway
Egham, Surrey
TW 20 9AW
UK
44 17 84 476 200 phone
44 17 84 476 201 fax

TERUMO EUROPE NV
Moscow Representative Office
4, Ivana Franko
121 108 Moscow
Russia
7 495 234 3303 phone
7 495 234 3303 fax