

BAKER

BIO SCIENCE SOLUTIONS

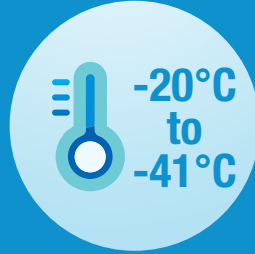
THE BENCHMARK FOR LIFE SCIENCE EXCELLENCE

Biomedical Freezers ❄️ DFR Range



Dometic Medical Systems

Baker BioScience Solutions has partnered with Dometic Medical Systems, a globally recognized specialist in applied refrigeration technology, to offer a collection of biomedical refrigeration solutions for the life science industry.



Technology for Life

 **Dometic**
MEDICAL SYSTEMS

Technology for Life

Dometic devotes extensive expertise in the area of applied refrigeration technology in order to ensure optimal quality and safety conditions for cold storage. These conditions are essential for proper, legally compliant, refrigeration equipment that is designed for vital and temperature-

sensitive, life-preserving preparations. Dometic's efforts in this field have formed the concept "Technology for life", which provides the basis for the continual advancement of all product ranges under the "Medical Systems" division.

DFR 250 G



DFR 410 G



DFR 490 G



DFR 750 G



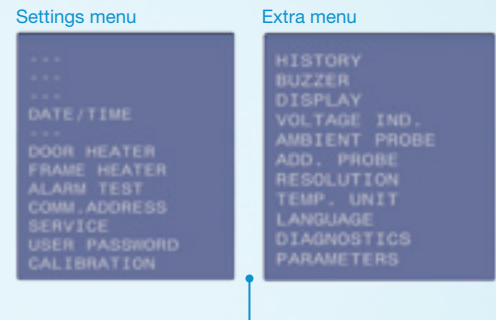
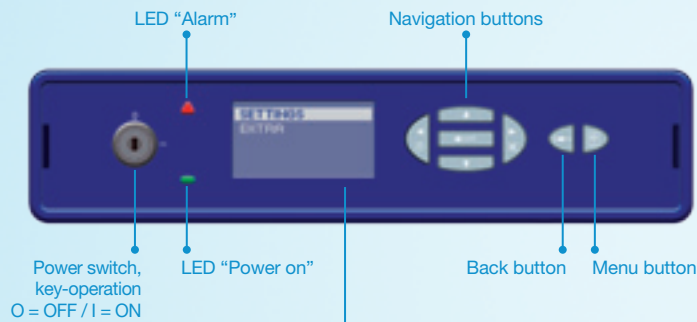
All DFR models comply with the Dometic **GOLD** Safety Standard

- Safety door lock with 2 keys
- Key-operated power switch (power ON/OFF) with 2 keys
- Power indicator light
- Digital temperature indicator (display: 0.1 digits)
- Controlled fan cooling system for constant temperature and even temperature distribution across the entire refrigeration chamber; automatic switch-off when front door opens
- Self-contained alarm system with integrated battery that takes over the alarm function and temperature value measurements in case of power failure for at least 48 hours
- Acoustic and visual alarm signal in case of temperature alarm and power failure
- The alarm history on the Gold electronic stores all the relevant values experienced under temperature alarm, e.g. average temperature and the duration of the alarm
- Remote transmission alarm signal (via potential-free contact) in case of temperature alarm (change-over contact)
- Control via a self-diagnostic system
- Door opening alarm (visual / acoustic)
- RS485 interface for the monitoring of all operating and control functions (hardware and software settings)
- Stainless steel interior
- Smooth castors for optimum flexibility of movement
- "GMP Clean Room Classification" for free standing installation in clean rooms of GMP Class A / ISO 5 (ISO EN 14644-1)
- Additional remote transmission alarm signal (via potential-free contact) in case of power failure (change-over contact)
- DMN – Dometic Monitoring Network, universal software for collection, long-term recording and monitoring of temperature and system data

Operation and Control Panel

Dometic's new and innovative microprocessor provides for a **password protected settings menu**, which helps to ensure optimum protection over stored preparations.

The menu structure of the **modern and user-friendly graphic display** offers a simple and intuitive navigation.



DMN – Dometic Monitoring Network

Universal software for collection, long-term recording and monitoring of temperature and system data.

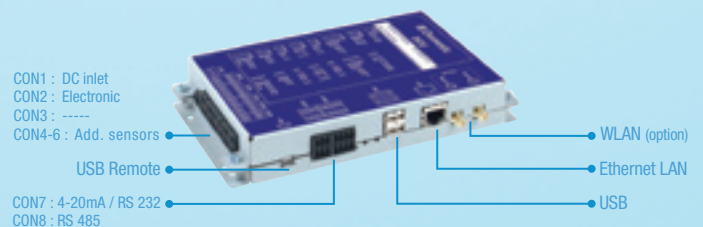
- Complete activity list (password protected).
- **Integrated** event and **activity history** of all Dometic equipment components.
- **Graphical visualization** of all temperature curves.
- Connection to existing or third-party appliances via network technology (LAN, WLAN, WAN).
- Simultaneous **data monitoring** and **recording**.
- Possibility for specific and individually **configurable alarm forwardings**.
- Simple and intuitive utilization.
- Reduced costs, while increasing accuracy, over a traditional circular chart recorder and its spare parts.
- Increased productivity, as regular changes of recorder paper, ink and battery is not necessary.
- One central database for all connected appliances.



DCU – Dometic Communication Unit

Hardware module that processes and logs all operating conditions and passes them through to a central database via local network, on which devices can be connected.

- Interface connection of Dometic equipment to existing network.
- The DCU offers **direct connection** to the Ethernet, even wireless, to the serial BUS RS 485, as well as to the central building control system (4 ... 20 mA).
- Possibility of connection of actors (4 ... 20 mA out).
- Digital IN/OUT (customer-specific use of these connections is programmable).
- The **integrated USB port** allows the user to write stored data to an external memory stick.
- Recording and storage of relevant data of the appliance.
- The DCU eliminates the need for a circular chart or paper temperature recorder.
- All data is recorded and saved in the data base of the DMN and is available for analysis at any time.
- Possibility for connection of multiple temperature sensors (up to 4 PT1000 & 2 PT100).
- One integrative system for collecting temperature and historical data from both equipment and other ambients.
- Many different connection facilities allow flexible upgrades for individual projects.



Technical Data/DFR Model Specific

MODEL	DFR 250 G	DFR 410 G	DFR 490 G	DFR 750 G
Gross Capacity	8.7 cubic feet/246 liters	14.4 cubic feet/408 liters	17.3 cubic feet/489 liters	26.1 cubic feet/738 liters
Net Capacity	5.9 cubic feet/167 liters	11.3 cubic feet/319 liters	13.9 cubic feet/395 liters	21.9 cubic feet/620 liters
Exterior Dimensions (H x W x D)	51.4" x 33.5" x 30.9"	68.3" x 33.5" x 30.9"	76.8" x 33.5" x 30.9"	78.3" x 35.8" x 38.8"
Interior Dimensions (H x W x D)	25.8" x 26.8" x 21.7"	42.7" x 26.8" x 21.7"	51.2" x 26.8" x 21.7"	53.2" x 28.7" x 29.9"
Net Weight	328.5 lbs	390.2 lbs	407.9 lbs	445.3 lbs
Power	500W	500W	500W	600W
Energy Consumption	6.10 kWh/24h	7.40 kWh/24h	7.80 kWh/24h	7.10 kWh/24h
Heat Emission	430 Kcal/h	430 Kcal/h	430 Kcal/h	515 Kcal/h
Compressor Run Time	43%	55%	57%	50%
Noise Level	64 dB (A)	64 dB (A)	64 dB (A)	< 62 dB (A)
Refrigerant Type	Isceon 89	Isceon 89	Isceon 89	R507
Door Insulation (polyurethane)	3.9"	3.9"	3.9"	3.3"
Casing Insulation (polyurethane)	3.3" - 3.7"	3.3" - 3.7"	3.3" - 3.7"	3.5"
Separate Interior Doors	2	4	5	5
Standard Interior Configuration	1 Drawer / 1 Wire Shelf	2 Drawers / 2 Wire Shelves	3 Drawers / 2 Wire Shelves	3 Drawers / 2 Wire Shelves

General Technical Data/All DFR Models

Set temperature (preset)	-41°C
Set temperature (setting range) can be adjusted in steps of 0.1 °C	-20°C to -41°C
Temperature cold alarm limit (preset)	-45°C
Temperature warm alarm limit (preset)	-32°C
Control sensor	PT1000 2-WIRE 1/3DIN CL.B
Precision (from -80°C to +180 °C)	± 0.2°C
Display sensor	PT1000 2-WIRE 1/3DIN CL.B
Precision (from -80°C to +180 °C) in reference body with reference fluid 100 ml DOW coming 200-5CST (Silicon Oil)	± 0.2°C
Voltage	110-120 V - 60Hz (15A)
Accu data / function time of the control panel when power failure	12V -7 AH / 48 hours
Climate class (ambient temperature range)	N (+16°C to +32°C)
Relative humidity at ambient temperature	≤ 70% at 32°C
Defrosting technique	automatic (hot gas)
Hold over time	210 min (from -40°C to -18°C)
Safety class	I
EMC directive	2004 / 108 / EEC
Low voltage directive	2006 / 95 / EEC
GMP - clean room classification	A / ISO 5
Material inner body	Stainless steel (V2A - 1.4301)
Material outer casing & door	Galvanized sheet steel (ST02Z-AZ150)
Material (Drawers)	Stainless steel (V2A - 1.4301)
Material (Wire Shelves)	Wire DIN172-2, PA11 coated
Material (N-Rack)	Polycarbonat, transparent
Color outer casing	White (similar to RAL9010)
Color contrasts	Blue (similar to RAL5002)
ATEX category III, zone 2, interior	conform

To order or request information contact:

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