

General features



Intended use	Refrigerator intended to store blood, fluids or body tissues for transfusion, administration or introduction into the body.
Temperature range	Adjustable +2°C / +6°C
Factory setpoint Increment	+4°C 0.1°C
Ambient working class Climatic class	From +16°C to +32°C N-ST
Nominal capacity	500 lt (17,6 cu ft)
Gross capacity Net capacity	527 lt (18,6 cu ft) 527 lt (18,6 cu ft)
Blood bags capacity (450 ml)	273 (with 7 drawers)
External dimensions (WxDxH)	72x76x208 cm
Internal dimensions (WxDxH)	60x58x150 cm
Net weight without any internal fittings	133 kg



Package dimensions Weight	Cardboard on pallet 76x81x220 cm weight 190,4 kg Wooden crate on pallet 84 x 85 x 220 cm weight 202,4 kg
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Structure	Monocoque type body, made of plasticized, non-toxic white steel interior/exterior, coated with a special antibacterial-type film, or in inner 18/10 Aisi 304 stainless steel. Rounded corners and tray-type inner bottom.
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Insulation type	High density (43 kg/m ³) in-walls injected PUF, without any CFC, environmental-friendly, water-foam based.
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Insulation thickness	75 mm rear / 60 mm sides
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Feet	No. 4 unidirectional rollers + No. 2 stabilizing feet
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Door	No. 1 door made of tempered glass, triple thickness, self-closing thanks to the spring hinge and 90°stop position.
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Electric-digital lock with password protection	Digital lock, the door is opened by touching an icon on the display. The function may be password protected. Mechanical release key supplied for emergency opening.
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Lightning	Full LED, all length of inner chamber, automatic switching on at door opening or from the display when the door is closed.
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Energy saving functions	Night & Day function
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Provided drawers:	No. 7 fully extractible drawers made of aluminium, with dividers (WxDxH): cm 15x50x7,5 (nr 3 compartments)
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Refrigeration system

Refrigeration	Professional, ventilated, forced, hermetic compressor type.
Defrost	Automatic, adaptive, including condensate water vaporization
Refrigerant	Natural R290
GWP ODP	3 0

Disclaimer:
Images are purely indicative. The features and the accessories of the products may differ according to model and application.



Controller	TOUCH controller
Type of controller	Electronic controller, FULL TOUCH SCREEN 7" display, resolution 0,1°C, easily readable from the distance, with a real time temperature graph and all operational data always available on the homepage.
Power switch	Integrated in user's interface
Security features	Settable user password
Alarm system	Visual and acoustic for temperature alarms failures such as: • Open door • High temperature • Low temperature • Power failure • Clogged condenser • Any functional failure/faulty parts
DMLP TOUCH Digital Monitor	Visual, acoustic alarm and fully independent recording system, with accuracy 0,1 °C thanks to the PT100 probes used for temperature detection. DMLP will take over alarming function when installed as integrated module on the Ect-f Touch controller board. The module is fed by standard rechargeable batteries (power failure alarm batteries included) to register temperatures and events even in case of power outage.
Temperature, data and event recording	Full recording of 10 years data (temperature and alarms), even in case of power failure, on SD card and 1 year on flash memory, with download from USB port. Latest 32 events displayed on the screen.
Settable temperature limits alarms	Yes
Control sensors	NTC type probes for controller board + PT100 for DMLP monitor board PT100 product temperature simulation probe
Safety thermostat	Included, to prevent freezing and overheating
Connectivity for remote alarms transmission	External contacts (Ethernet+ potential free) terminal board Modbus TCP/IP protocol available for data reading
Data export	USB, SD and RJ45.

Electrical and functional data

Standard power supply	230V / 1ph / 50Hz
Standard plug type	Schuko type "G"
Compressor protection	Overload Protector included
Power absorption/current	kW 0,25 (Amp 1,5)
Inrush current	Amp 4
Noise level	<45 dBA
Heat emission according to EN 12900	W 41
Hold over time at 20°C ambient (air)	5,1 h (from +5C to +15°C)
Energy consumption at 20°C ambient	1 kWh/24h

Compliance

Directives and regulations	Directive 93/42/EEC and following and subsequent modifications and integrations, Class II annex IX, with conformity to the transitional provisions to Regulation (EU) (EU) 2017/745 and (EU) 2023/607 DIN 13277 Conformity Directive 2011/65/EC (ROHS II) Directive 2015/863/ EC (ROHS III) Directive 2012/19/EC (RAEE) Regulation (EU) 517-2014 (F-gas) Regulation (EU) 1907-2006_REACH
Available certificate	MDD CE
Application environment	Non-flammable, non-explosive, non-corrosive, with adequate air exchange

Accessories available on request

GSM module	Plug-in module to notify on mobile phones, via sms, overall monitoring, alarms and failures of the refrigerator
Converter module type 4-20mA	(this accessory excludes the installation of the GSM module)
Wi-Fi module	Plug-in module to connect to, monitor and manage the refrigerator wirelessly
FIOCCHETTI COLD EYES cloud monitoring	Annual monitoring service, Cloud based, featuring the notification of alarms and failures from pc thanks to a dedicated app, including SMS messages and emails, also allowing the full download of recorded data.
FIOCCHETTI LAN SUPERVISOR	Monitoring system allowing the supervision of one or several refrigerators thanks to the access to historical data and to present equipment status. It allows the creation and export of temperature graphs of selected periods or of specific hours. A single license enables the connection of up to 100 refrigerators installed in the same building and connected to the same net (e.g., a hospital).
Solid type door	
Plexiglas front panel for extractible drawer	
Castors kit with brakes	
Internal Socket (no.1)	
35 mm access port with stopper	
Port hole mm 15	
Humidity sensor	
PT100 sensor with free contacts	
Mains voltage stabilizer	
Non-standard plug and cable	
Power 220V/60Hz	
Power 115V/60Hz	
Wooden crate package	

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GAMMA EMOTECA E CONGELATORI PER PLASMA

blood bank range
and plasma freezers

dispositivi medici

La conservazione di sangue ed emoderivati è da sempre sottoposta a severe regolamentazioni: l'accurato controllo e mantenimento della temperatura e la presenza di un sistema di allarme con batteria di back-up sono solo alcuni dei requisiti da soddisfare per il loro stoccaggio in assoluta sicurezza. La sofisticata strumentazione per il controllo della temperatura in dotazione a tutta la gamma Fiocchi assicura condizioni ottimali di conservazione dei prodotti, garantendo la completa affidabilità di emoteca e plasmazfreezer, in conformità alle normative più restrittive di settore, in campo nazionale ed internazionale.

medical devices

Blood and blood-derived products storage is from the time being subject to strict regulations. The accurate control and maintaining of the working temperature and the presence of an alarm system complete with battery back-up, are some of the main requirements to satisfy for their safety storage. The sophisticate instrumentation for the temperature control supplied with all the range grants the optimal storage conditions required and the sure reliability of Fiocchi's blood banks and plasma-freezer, in compliance with all national and international regulatory requirements.

Le **Emoteche** e i **plasma-freezer** Fiocchi sono progettati espressamente per la conservazione di sangue ed emoderivati, nel pieno rispetto delle direttiva Ce 93/42/CE – classe IIa, che identifica questa categoria come Dispositivi Medici, e conformi alle norme DIN 58371 e DIN 58375. Emoteche e plasmazfreezer offrono un'ampiasceltainquantoacapacitàdistoccaggio,allestimentieversioniproposte. Nella dotazione standard della gamma, oltre alla strumentazione ECT-F TOUCH, rientrano di serie:

- + il modulo DMLP Digital Monitor Touch, sistema di back-up per allarmi e sistema di registrazione
- + la morsettiera esterna con 2 contatti puliti per la remotizzazione degli allarmi, porta RS485 ed Ethernet RJ45
- + la serratura elettronica con possibilità di controllare gli accessi
- + la sonda di simulazione temperatura prodotto
- + cassette con divisori oppure ripiani (a seconda dei modelli)
- + piedi o ruote per permettere sempre un'accurata pulizia dell'ambiente circostante

Plasma-Freezer ed Emoteche Fiocchi sono regolarmente iscritti al Repertorio Nazionale dei Dispositivi Medici. Tutti gli organi del Servizio Sanitario Nazionale possono quindi acquistarli con fiducia.

*Fiocchi's blood banks (**Emoteca** range) and **plasma-freezers** have been developed for the storage of blood and blood related products, in full compliance with 93/42/CE - class IIa regulation, which identifies these equipment as medical devices, and with DIN 58371.*

Emoteca range and plasma freezer series are offered with several storage capacities, internal fitting and different versions.

The standard equipment, beside ECT-F Touch controller, include:

- + *the DMLP Digital Monitor Touch module, for the recording of temperatures by means of an independent PT100 probe and back-up batteries*
- + *external terminal board, including two dry contacts to remote alarms, RS485 and RJ45 Ethernet ports*
- + *electric digital key lock with password controlled access list*
- + *product temperature simulation probe*
- + *drawers with dividers or shelves (according to the supplied model)*
- + *feet or castors to allow the cleaning of the floor*

Fiocchi's Plasma freezers and blood banks (Emoteca range) are registered into the Italian national register of medical devices.

EMOTECA

+4°C

Registrazione dati su SD Card.
Data recording on SD card.



Emoteca 100

21 Sacche/bags 450 ml

L **520**
P **635**
H **865**



Emoteca 140

63 Sacche/bags 450 ml

L **520**
P **635**
H **1000**



Emoteca 170

90 Sacche/bags 450 ml

L **600**
P **655**
H **1285**



Emoteca 200

120 Sacche/bags 450 ml

L **600**
P **655**
H **1460**



EMOTECA

+4°C

Elettroserratura per controllo
accessi multiutente.
Electronic lock for multi-users
access control.



Emoteca 250

150 Sacche/bags 450 ml
L **600**
P **655**
H **1635**



Twin 250

Emoteca 400

180 Sacche/bags 450 ml
L **600**
P **655**
H **1955**



Twin 400

Emoteca 700

336 Sacche/bags 450 ml
L **750**
P **840**
H **2100**



Twin 700

EMOTECA

+4°C

Accessori accessories



Emoteca 1500

672 Sacche/bags 450 ml

L 1440
P 820
H 2070

Twin 1500

L 1440
P 825
H 2050



- + **Alzatina** in plexiglass per cassetto
- + **Griglia** in acciaio plastificato atossico, installata su supporti antiribaltamento
- + **Cassetto** supplementare in alluminio
- + **Cestello** in acciaio inox installato su guide antiribaltamento
- + **Rack** in acciaio inox cm.14x50x15H (max n.3 su ogni ripiano)
- + **Ruote** di cui n.2 con freno
- + **Stabilizzatore di tensione di rete**
- + **Sonda umidità** per il monitoraggio e la registrazione dei valori di umidità all'interno del vano
- + **Sonda PT100** (contatti liberi)
- + **Foro passacavi** con tappo mm 35 (di serie sul lato destro)
- + **Foro passaggio sonde** mm 15 (di serie sulla schiena)
- + **Presa** interna 220V
- + **Doppia Presa** interna 220V con interruttore ON/OFF
- + **Certificato di temperatura:** report con min. n.10 sonde per 12 h
- + **Frequenza** 60 Hz
- + **Voltaggio** 115V
- + **Imballo in gabbia**
- + **Modulo Wi-Fi:** accessorio plug-in per connessione, monitoraggio e gestione a distanza del frigorifero
- + **Gsm Communicator:** modulo plug-in per la notifica tramite SMS di funzionalità e guasti dell'unità frigorifera. Ogni controllore ECT-F Touch può essere dotato di un modulo GSM, diventando un'unità indipendente che trasmette e riceve SMS di diverso tipo. SMS di MONITORAGGIO: uno squillo alla SIM del frigorifero genera l'invio automatico di un SMS contenente i dati funzionali. SMS di AVVISO: allarmi o guasti vengono notificati ai numeri registrati. Con le batterie di back-up, in assenza di rete il GSM avverte dello stato di black-out e del ritorno dell'energia elettrica. SMS di COMANDO: si possono inviare messaggi per modificare i parametri del controllore, accensione o spegnimento dell'unità, modifica del setpoint, ecc.

- + **Plexiglas front** for drawers
- + **Wire shelf** in a-toxic plastic coated steel, supported by anti-tilt clips.
- + **Aluminium drawer**, totally extractible
- + **Stainless steel basket** mounted on anti-tilt side slides.
- + **Stainless steel rack**, dimensions cm.14x50x15H
- + **Castors kit**, nr.2 with brakes
- + **Voltage stabilizer**
- + **PT100 probe** (free contacts)
- + **Pass-through port with cap**, diam. mm 35
- + **Pass-through port** mm 15
- + **Internal socket** 220V
- + **Double internal socket** 220V with ON/OFF switch
- + **Temperatures certificate:** test report, minimum nr.10 probes for 12 hours
- + **Frequency** 60 Hz
- + **Voltage** 115V
- + **Wooden crate package**
- + **Wi-Fi Module:** plug-in accessory for monitoring, connection and control at the distance of the equipment
- + **Gsm Communicator:** plug-in module for the notification, via SMS, of the functioning and possible faulty condition of the equipment. Every ECT-F Touch controller can be equipped with a GSM module, thus becoming an independent unit sending and receiving different sort of SMS. Monitoring SMS: calling the SIM card of the refrigerator will generate an SMS containing all functional data. ALERT SMS: failures of faulty conditions are notified to the pre-set numbers. When equipped with back-up batteries, in case of power failure, the GSM will inform of this condition and of power restore, once this will be the case. COMMAND SMS: messages can be sent to modify the controller parameters, the turning on or off of the unit, to change the set-point.



Simulatore di prodotto con sonda PT100
PT100 ballasted probe for temp. product simulation



MODELLO MODEL	100	140	170	200	250 - 250 Twin	400 - 400 Twin	500	700 - 700 Twin	1500 - 1500 Twin
Capacità lt (cu ft) - Capacity lt (cu ft)	126 (4,45)	153 (5,40)	179 (6,33)	221 (7,81)	264 (9,33)	347 (12,26)	527 (21,91)	620 (21,91)	1355 (47,87)
Campo di temperatura - Temperature range	+4°C			+4°C					
N° Sacche di sangue (450ml) - Nr of blood bags (450ml)	21	63	90	120	150	180	273	336	672
N° Cassetti in dotazione - Nr of provided drawers	1	3	3	4	5	6	7	7	14
Dimensioni cassetti (LxPxH) (n. spazi) mm Drawers dimensions (WxDxH) (nr of partitions) mm	100x450x75 (3)	100x450x75 (3)	120x400x75 (3)	120x400x75 (3)	120x400x75 (3)	120x400x75 (3)	154x500x75 (3)	154x600x75 (3)	154x600x75 (3)
Controllore elettronico - Electronic controller	ECT-F TOUCH								
Dimensioni esterne mm (LxPxH) - External Dimensions mm (WxDxH)	520x635x865	520x635x1000	600x655x1285	600x655x1460	600x655x1635	600x655x1955	720x765x2080	750x840x2100	1440x825x2070
Registazione della temperatura - Temperature recording									
Sistema di allarme acustico e visivo - Acoustic and visual alarm system									
Allarme acustico e visivo in black out - Visual and acoustic alarm during power failure									
Sonda simulatore prodotto PT100 - Product temperature PT100 simulation probe									
Elettroserratura per controllo multi-accessi - Electric digital key lock, multi access control									
Contatti esterni (RS485+Ethernet+contatti puliti) External terminal board (RS485/Ethernet/Dry contact)	✓								
Sensori di corrente e tensione - Mains and tension sensors									
Termostato di sicurezza - Safety thermostat									
Contatto pulito per remotizzazione allarmi - Dry contact for alarm remoting									
Test di autodiagnosi preventiva - Preventive self-diagnostic test									
Funzione Night & Day per risparmio energetico - Power saving Night&Day function									
Finitura Esterno/Interno - Outer/inner structure	B+B or B+X			B+B or B+X					
Spessore isolamento (fianchi/schiena) mm - Insulation thickness (sides/back) mm	40			50/70			60/75	75	70
Tipo di porta - Door type	Vetrata - Glass door			Vetrata - Glass door					
Tipo di Refrigerazione - Refrigeration type	Ventilata - Forced air circulation			Ventilata - Forced air circulation					
Tipo di gas refrigerante - Refrigerant gas type	R134A or R290			R290 or R452A				R134A or R290	
Sbrinamento - Defrost	Automatico con evaporizzazione acqua di condensa (Optional per mod.700-1500 versione TWIN) Automatic with condensate water evaporation (Optional for 700 and 1500 TWIN models)								
Piedi/Rullini /Ruote - Feet/Rollers/Castors	Ruote di cui 2 con freno (Ø 50mm) - Castors, 2 with brakes (Ø mm 50)			Rullini (Ø 20mm) - Rollers (Ø 20mm)				Piedi (H=130mm) - Feet (H= 130mm)	
Illuminazione interna - Internal light	Led			Led					
Intercambiabilità ripiani/cassetti - Shelves/drawers interchange system	✓								
Consumo (kWh/24h) - Power consumption (kWh/24h)	0,5	0,6	0,5	0,6	0,6	0,7	1	1	3,5
Potenza assorbita kW - (Amp) - Run absorption kW - (Amp)	0,14 (0,9)	0,14 (0,9)	0,17 (1)	0,17 (1)	0,17 (1)	0,17 (1)	0,25 (1,5)	0,12 (0,7)	0,27 (1,7)
Assorbimento di spunto (A) - Starting current (A)	2,5	2,5	3	3	3	3	4	2,5	6
Rumorosità (<dBA) - Noise level (<dBA)	35	35	40	40	40	40	40	40	40
Calore Emesso EN 12900 (W) - Heat Rejection EN 12900 (W)	45	45	110	110	110	110	150	110	165
Capacità frigorifera (W) - Cooling capacity (W)	160	160	300	300	300	350	450	550	600

B+B= Lamiera plastificata bianca antibatterica interno ed esterno / Pre-coated antibacterial sheet steel, white colour, both inside and outside
B+X= Lamiera plastificata bianca antibatterica esterno e acciaio inox AISI 304 interno / Pre-coated antibacterial sheet steel, white colour, outside and AISI 304 stainless steel inside