



UNIEMOTECA

GENERAL FEATURES FOR ALL ITEMS

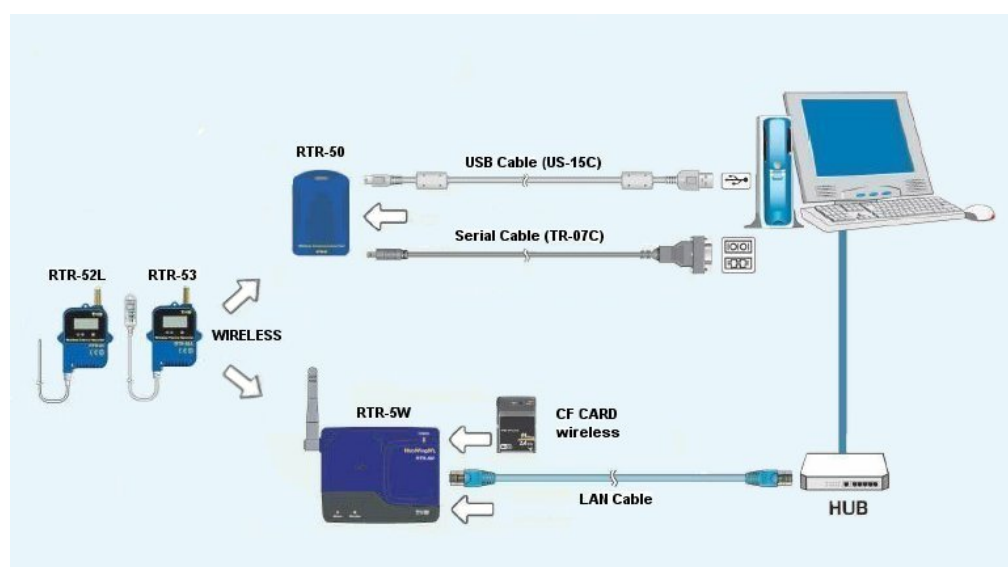


The heart of the high technology product made for Medical Sector is the new **digital HACCP controller (thermostat/thermometer)**, supplied as standard on all lines. This product has been studied on the base of specific technical requirements of UNIFRIGOR. The digital controller shows not only temperature and hour, but it also has sound and visual alarm and it is prearranged to connect a remote alarm by a contact without voltage. Information on alarms are complete, including details on type of alarm (temperature alarm exceeding minimum or maximum limit or black out alarm), date, time and duration of the alarm. Last 20 alarms, which are automatically recorded and stored, are easily accessible by pressing one of the HACCP buttons. Moreover, this list can be also protected by password.

UniWireless

It is the **wireless data recorder** (made in Japan) using an exclusive short wave technology (frequency 433 Mhz, compatible with medical, scientific and industrial environment) suggested by Unifrigor.

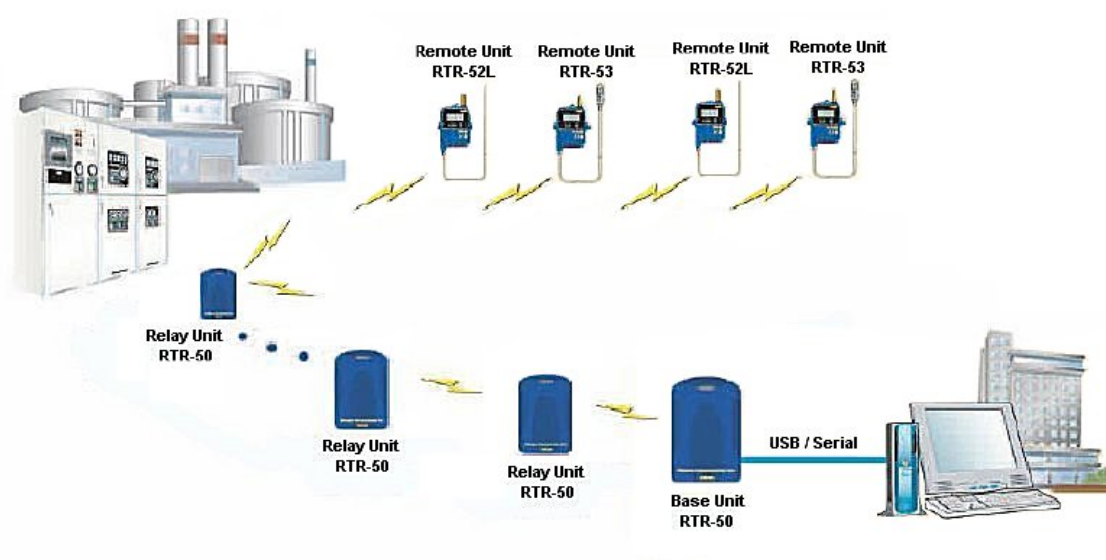
Easy and quick to install, without using any wiring, with a maximum transmission distance up to 150 metres if direct and unobstructed. Totally waterproof, the Uniwireless, represents the ideal solution to monitor at distance the real temperature inside the tank of your refrigerator.



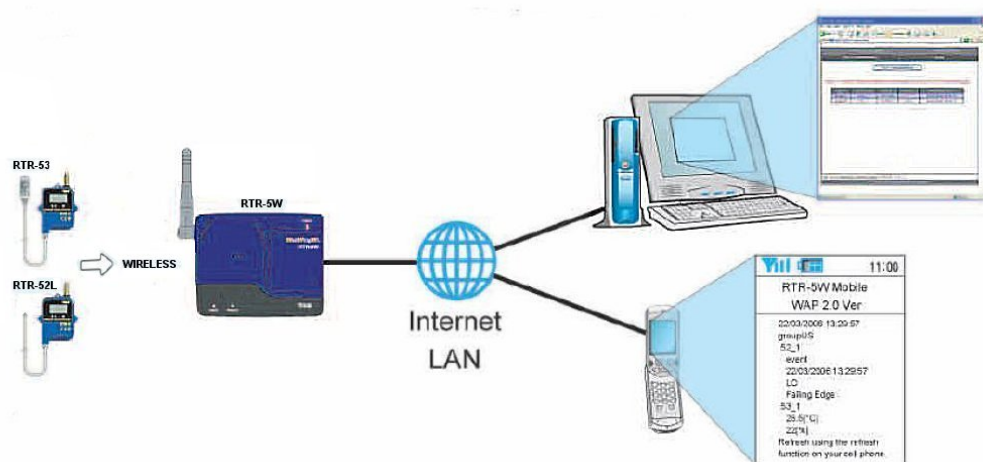
This compact and easy data recorder is available for recording only temperatures (mod. RTR-52L), or for recording temperatures and also humidity (mod. RTR-53).

The communication with the receiver can be either wireless or optical, and in this last case the system is totally similar to a classic **"data logger"** and you need to put in touch the recorder unit with the receiver unit in order to transfer your data.

The receiver can be used also as radio link when you have a distance higher than the maximum transmission range and it is available with USB connection or with ETHERNET connection.

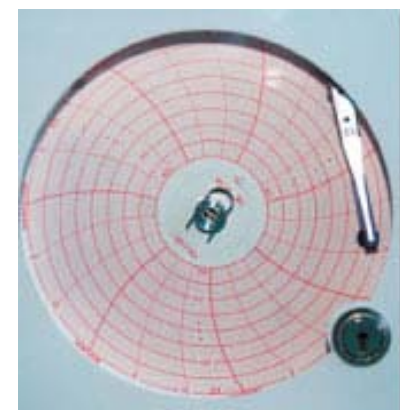


The software can be personalized setting main parameters including also the possibility of sending a warning e-mail and using a receiver with ETHERNET connection, can also send a warning sms on your mobile phone. This device is really important because let you "track and get data, anytime, anywhere" in order to be sure of preservation conditions of the products stored in the refrigerator. Monitoring temperatures and alarms on your PC you can operate in good time to keep safe your product.



This optional, which is more and more used, is the best possible investment for protection of your product, maybe also expensive, that you need to preserve at stable temperature in a refrigerated room.

Weekly graphic recorder has now a more comfortable design, key closing as standard and an easier access to the interior for maintenance and replacement of weekly disc and battery. If you wish this optional, you must order it with the refrigerators, because it is not possible to install it later on.



As optional is available an **infrared printing kit**. It can collect data of any alarm recorded by the thermostat (up to 40 refrigerators) in order to print them directly on every type of printer equipped with infrared rays port (IrDA protocol), without using a PC.

The **Power station** will supply the digital controller in the event of power failure. By this device, it is possible to maintain all the important functions of the digital controller, such as temperature display, alarms and buzzer. The maximum time of autonomy is about 24 hours.

Dimensions 100x355x170 (h) mm.



Cabinet structure (internal and external) is made in Stainless Steel Aisi 304 "Scotch Brite" finishing touch or in white non-toxic skinplate.

Internal lighting supplied as standard.

CFC free coolant not polluting and respecting the environment.

Defrosting process is electronically controlled.

Key closing supplied as standard

Electric installation (230 V / 50 Hz/1), CE compliant, is also provided with protection system based on fuses.

Specials versions with 115V / 60Hz or 220V / 60HZ power supply



UNIEMOTECA LINE FEATURES

Our new line UNIEMOTECA consists of chillers cabinets, specially designed to satisfy transfusion centres and blood banks needs.

These cabinets have been studied and designed to work on a temperature of + 4°C with a maximum variation of the product temperature of +/- 2°C, in accordance to what established by the law in force in Italy



We focused on the security upgrading to satisfactory levels thanks to the adoption of a control system based on the use of 2 digital controllers. Even in this case we use an HACCP digital controller, which is our standard on all medical lines. Furthermore it is provided with all the alarm systems for the security of the product preserved in our blood bank.

SECURITY AND ALARMS

A former digital controller connected to one aerial probe  controls the correct working of the refrigerator, while a latter one connected to the **EMOPROBE**, controls the alarm system. It's a probe equipped with a special system simulating the reactions of the blood in the bags  This is essential to properly check the real temperature of the blood stored in the bags and to guarantee top quality level in the conservation process of blood-components for transfusion use.

Besides the chance of connecting **remote alarms** by two “electrical contacts without voltage”, you can download the data related to the alarms using the infrared rays port and you can also connect the digital controller to a PC by using the relevant interface XWEB, which is available as optional and can control up to 12 cabinets (only Unifrigor cabinets).

We also take care of the security by using **protection password of the parameters list**, which has been planned for both digital controllers to avoid any accidental tampering.

The **alarm “open door”**, available as optional, allows you to be immediately advised in case the door has not been correctly closed, causing, as a consequence, a leak of cold from the inside tank of the refrigerator.

Concerning security and optimal data management of the refrigerator temperatures, it is also available as optional a probe **PT100** that allows the connection to a PC devoid of the special interface XWEB, dedicated only to the digital controllers used on Unifrigor cabinets. This probe is the source of the data subsequently processed by the PC, passing through a data collection card, which is not provided with the probe. Even the PT 100 is equipped with the special system simulating the reactions of the blood in the bags, assuring in this way an extremely accurate survey of the temperature.

The **drawers**, made in stainless steel, studied **to store bags**, are made with bored bottom in order to guarantee both a better internal air circulation and a total uniformity of internal temperature.

They slide on bearing guides and could be equipped with lexan partitions that helps you in storing bags extremely well.



In fact you can choose between two positions, a vertical one and an inclined one, by simply pressing on the partitions joints.

The front panel, is **made in transparent lexan** to let you immediately identify the product stored inside the drawer without opening the door and leaking cold in the inside tank.

It is even available a kit of labels holder as optional.

Thanks to a careful construction of the structure of the cabinet, to an isolation of 40 mm / 60mm thickness depending on the different models, to the glass door with self-closing hinges braked at 90° and magnetic gasket surrounding the four sides of the door, we can always assure the right internal temperature up to an ambient temperature of maximum +32°C. Furthermore the door is made with a double glass “low emission” which allows only light and not heat to pass through it. Both the inside and the outside of the cabinet can be made in white non toxic SKINPLATE, that is to say galvanized plate then plasticized, or in Stainless Steel AISI 304 “Scotch Brite” finishing touch.

The device is supplied as standard with the **service hole** so that additional probes and cables for internal auxiliary services could pass through it.

We supply every model of our Uniemoteca line with **revolving wheels**, since they are very important to easily move the cabinets and clean the room where the refrigerators are placed.



This cabinet has been designed with the valuable cooperation of the transfusion centre of the hospital of Casale Monferrato. They have also made a long run test of this cabinet, for 6 months, stressing it in daily use.

Our cabinet has passed the test brilliantly as confirmed by the report we got from the person in charge of the transfusion centre of the Hospital of Casale Monferrato.

**Relazione sull'attività di sperimentazione del prototipo della strumentazione
UNIEMOTECA ditta UNIFRIGOR
Refrigeratore/emoteca destinato allo stoccaggio ed alla conservazione delle
unità di sangue con range di temperatura 4C° +/- 2.**

A partire dal mese di novembre 2007 e fino al mese di Agosto 2008 è stato utilizzato, in regime di sperimentazione, il prototipo dell'emoteca UNIEMOTECA ditta UNIFRIGOR prodotto destinato alle Strutture Trasfusionali per la conservazione del sangue ed in conformità a quanto previsto dal DM 3-3-2005 ed ai requisiti di accreditamento istituzionale.

In particolare, in tale periodo, si è cercato di riprodurre "sul campo" quelle che sono le normali esigenze di una Struttura Trasfusionale nell'utilizzo dell'emoteca, stressando alcuni aspetti peculiari quali:

- 1) l'apertura e chiusura della porta
- 2) la mobilitazione dei cassettei
- 3) il carico e scarico di cospicuo numero di sacche
- 4) lo spostamento dello strumento in diverse zone del laboratorio
- 5) l'apertura prolungata fino all'attivazione degli allarmi, sia in locale che in remoto

Aspetti qualitativi generali osservati

Il prodotto appare ben costruito e curato sia all'esterno che all'interno.

I cassettei si estraiono facilmente e la disponibilità di accesso alle sacche, anche quelle situate posteriormente, è facilitata dalla corsa delle guide.

I separatori in lexan delle sacche sono correttamente posizionati e inclinati per un corretto posizionamento delle sacche.

La ventilazione appare uniforme e ben convogliata all'interno della struttura garantita anche dalla presenza di cassettei adeguatamente forati

Allarmi: il sistema degli allarmi appare ben progettato ed atto a garantire la migliore conservazione dell'emocomponente. L'introduzione del doppio termostato e della sonda "EMOPROBE" posizionata all'interno di un "pacco test", costituisce l'aspetto innovativo più importante e garantisce la rilevazione ed il settaggio degli allarmi sulla reale temperatura delle unità conservate, rispondendo, in tale modo ed in maniera adeguata, ai requisiti di legge in tema di qualità di conservazione dell'emocomponente e non solo di controllo della temperatura interna del refrigeratore-emoteca.

Problematiche rilevate durante il periodo di prova: considerevole sensibilità al sistema d'allarme se l'emoteca è vuota o sottoutilizzata: i tempi di rientro della temperatura in caso di allarme, si allungano (il pacco test impiega più tempo a rientrare in temperatura - come il sangue d'altronde).

Lo strumento inoltre è stato più volte caricato con un numero diverso e successivamente progressivo di sacche dimostrando l'assenza di problematiche o guasti intervenuti nel periodo.

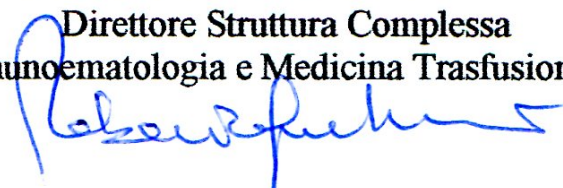
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Giudizio finale: il prototipo utilizzato ha completamente soddisfatto le esigenze della struttura trasfusionale in cui è stato utilizzato. In particolare non si sono rivelati guasti o interruzioni di funzionamento e la conservazione delle unità di sangue risulta meglio monitorata dall'introduzione del dispositivo sonda/pacco test EMOPROBE, che costituisce l'aspetto innovativo più interessante del prodotto da noi sperimentato.

Casale Monferrato, 5 settembre 2008

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Translation of the report we got from the transfusion centre of the Hospital of Casale Monferrato:

Report on testing activities of the prototype UNIEMOTECA, manufacturer Unifrigor Chillers for storage of blood bags at temperature of 4°C +/- 2°C

Starting from the month of November 2007 until August 2008 we have tested the prototype of Uniemoteca made by Unifrigor, ready made for transfusion centres complying to regulations in force DM 3-3-2005.

Particularly, in that period we tested it in normal daily use situations, stressing some specific points:

1. door opening and door closing
2. drawers moving
3. loading and unloading of large quantity of bags
4. moving the cabinet in different parts of the laboratory
5. extended door opening till the moment of alarms activation, either on board alarms or remote alarms

General remarks on quality aspects:

- the product is manufactured with care either externally or internally
- drawers are easy to extract and gives you an easy access to the bags thanks to a complete pull out of their guides
- lexan partitions are well positioned and inclined in order to have the bags right positioned.
- The ventilation is well conveyed and cold inside the tank is uniform also thanks to adoption of perforated drawers.

Alarms:

The alarm system is well designed and able to grant the best possible preservation of blood bags. The use of a double thermostat and of the "EMOPROBE" placed inside of a test package, represents the most important innovative aspect of the cabinet. This system grant that either the temperature measured or the alarms sets are adjusted on real temperature of blood bags stored. It complies completely not only to regulations concerning the control of inside tank temperature, but also to specific regulations concerning blood bags preservation.

Problematical topics pointed out during test period:

If the cabinet is used empty or you have charged too few blood bags, the alarms system become very sensible and takes more time to come back to the fixed temperature range (test package takes more time to come back to the fixed temperature range – as a blood bag really do).

The cabinet have been tested with different and increasing number of blood bags, without showing any problems or spoilt in the period.

Final judgement:

The prototype we have used, satisfied completely the needs of our transfusion centre. Particularly we do not had any spoilt or inefficiencies and we are able to better monitoring preservation of blood bags using the EMOPROBE system which is the most interesting innovation introduced on this cabinet.