



**Manuale di Istruzioni
Instruction manual**

CR165 CR219 CR271



Ver. 1.0



ENG

Isotherm refrigerators are designed to guarantee correct function, even in difficult environmental/marine conditions. They excel in terms of the most important characteristics for the marine environment: reliability and low energy consumption.

Equipped with a hermetic seal cooling system, they guarantee the least possible energy consumption and reduced maintenance.

All models are very easy to install. They can withstand lateral movement of 30°.

To guarantee the most efficient function possible of the Isotherm refrigerator, comply with the following instructions:

- Avoid opening the refrigerator doors if not necessary.
- Ensure good compressor and condenser ventilation.
- Check that the electrical system is in good condition. Inspect batteries and charge levels regularly. Always start the engine up with a separate battery unit. Keep to the instructions concerning the electrical wiring and fuse box, closely.
- Keep the inside of the refrigerator/freezer clean.
- Leave the refrigerator/freezer doors slightly open when the ship is not in use for long periods of time.

Battery sensor

To protect the battery from running down completely, a voltage sensor will turn the compressor off automatically at the following levels:

VOLTAGE	Cut-Out	Cut-In
12V	9.6V	10.9V
24V	21.3V	22.7V

Safety instructions

When connected up to the quay mains electrics, ensure that the current generator is set up with a trip switch.

Warning!

Never leave uncovered wires connected to the electrical supply.

Warning!

Never connect the battery charger to the refrigerator directly. New battery charger contain an explosive gas in addition to the acid.

Warning!

Never cover the ventilation openings of the compressor unit. Do not dispose of coolant in the air.

Installation

Almost all ships have a specific area for refrigerator installation. The Isotherm refrigerator has been designed to comply with normal installation dimensions.

The compressor must remain in a vertical position, but will also work for short periods at an oscillation of 30° or more.

The minimum compulsory requirements for on board installation are as follows:

- 2 cm space above the refrigerator (between the refrigerator and the furniture line);
- To the side, the refrigerator walls can be placed in contact with the furniture.

Recommended installation:

To maximise refrigerator performance and efficiency (optimal function and energy saving), we recommend addition a further 2 cm space on each side, to the minimum requirement of 2 cm above the refrigerator.

It is important not to pierce the sides of the refrigerator where the yellow warning label is placed (Fig.1, Fig.2).



Fig. 1

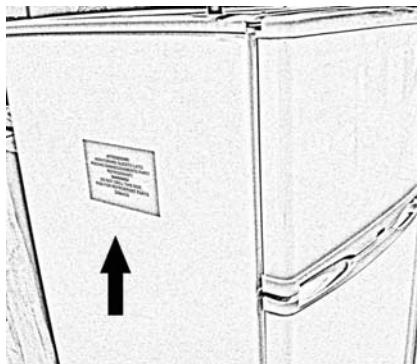


Fig. 2

This is because the evaporator is foamed at the sides of the refrigerator and applying any rod or support risks piercing this, causing refrigerant gas to leak out and irreparably damaging the product. Fix the product at its base and at the top, using the specific rods (supplied) as shown in figures 3 and 4:

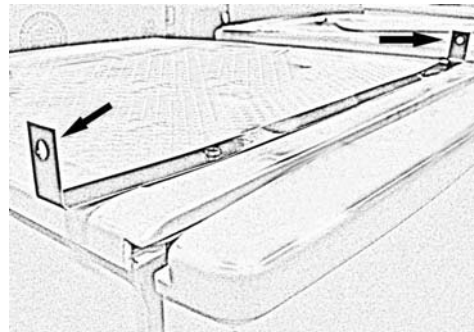


Fig. 3

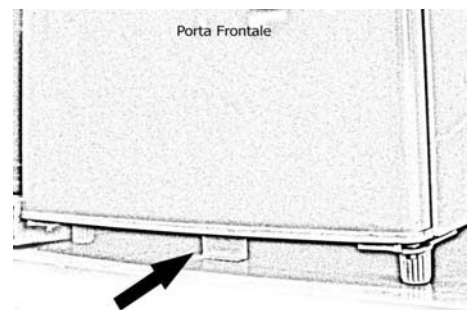


Fig. 4

Important: never remove the support feet.

Ventilation

It is extremely important that the compressor unit is appropriate aired and that the flow of fresh air is always guaranteed.

The natural ventilation from the bottom upwards can be increased with ventilation openings at the level of the refrigerator back.

Electrical wiring and connections

Comply with the following warnings for refrigerator connection:

- Always use appropriate section wires. The following table gives the minimum sections:

Section mm ²	Diameter	Max. wire length 12V mt/ft	Max. wire length 24V mt/ft
2.5	12	2.5/8	5/16
4	10	4/13	8/26
6	10	6/19	12/39

- Always connect the refrigerator directly to the battery or main battery switch. If connected by means of the main boat control panel or other, it may lead to a lowering of voltage that should be considered when calculating wiring section. The system must have a 15A fuse for 12V, or 7.5A for 24V. If a switch is to be used, it must be at least 20A to avoid loss of voltage.
- Connect the red wire (+) to the positive pole and the black wire (-) to the negative pole.
- Never connect the refrigerator directly to the battery charger. This could be connected to the battery pack.

Temperature regulation

The refrigerator is equipped with a thermostat dial and built-in ON/OFF switch.

By rotating the dial to the end of the scale, you will hear a click indicating that the appliance has been turned off.

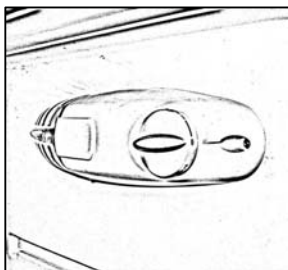


Fig. 5

- 0** = OFF position. The appliance is off
- 1** = ON position, minimum refrigeration
- 7** = ON position, maximum refrigeration

Replacing the bulb

To replace the bulb, set the thermostat to 0 (OFF, light off), apply gentle pressure to the transparent cover lever (Fig. 6), pushing outwards as shown in Fig. 7.

The bulb attachment is type E14, 12V/24V, Max 15W.

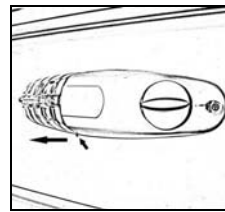


Fig.6

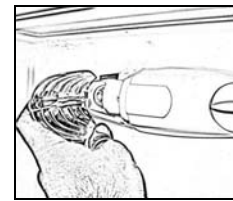


Fig.7

Defrost

Defrosting should be carried out when the layer of ice is 3-4mm thick. Rotate the thermostat to the OFF position (end of scale).

Store foods and liquids in a cool place during defrost.

Do not use a metal spatula to remove the layer of ice.

Do not turn back on until the refrigerator is fully defrosted, dry and clean.

Clean the condensation drainage pipe and check that it is not blocked.

Maintenance

Isotherm refrigerators have a hermetic seal cooling system that requires no maintenance nor topping up of coolant liquid. The refrigerator can be left on board the boat all winter (if the temperature goes below 0, the compressor may not start).

Maintenance, no less than once a year, may merely involve cleaning dust from the condenser. Use a soft brush and no sharp tools. Leave the inside of the refrigerator clean and dry. Clean the condensation drain and check that it is not blocked.

Leave the refrigerator/freezer doors slightly open when the appliance is not in use, to allow for appropriate ventilation within the units. Set the thermostat to 0 (OFF) to avoid any wastage of current caused by the light being on.

Drainage and condensation

The Isotherm refrigerator is supplied with a drainage pipe directly connected to the appliance, Fig. 4.

Unwind the drainage pipe and connect to an appropriate drain, Fig. 5.

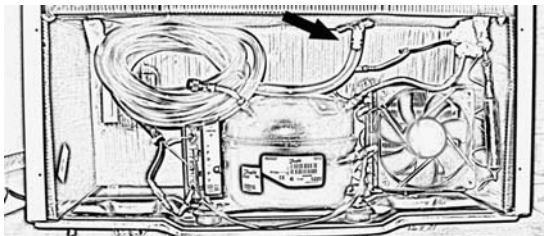
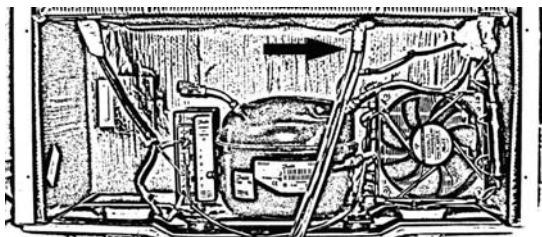


Fig. 4



Collegare al
Drenaggio/Scarico

Fig. 5

Two-door Isotherm refrigerator/freezer

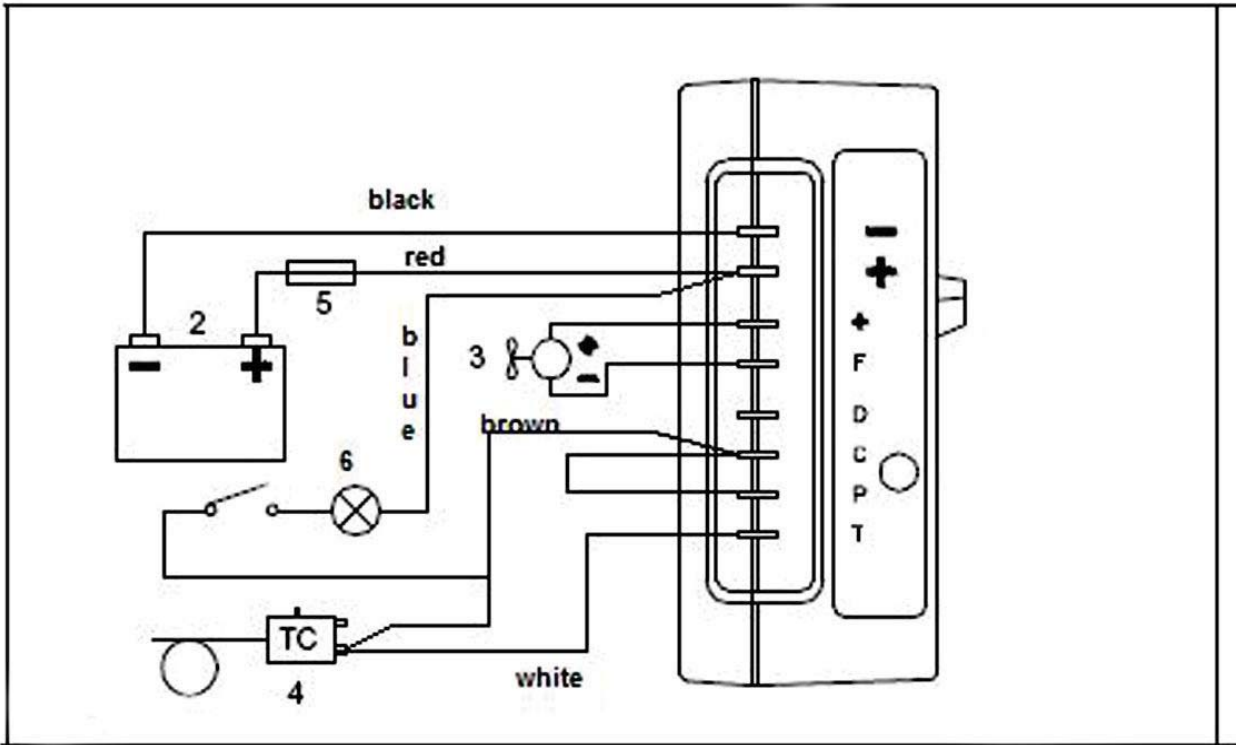
For two-door refrigerator/freezers, priority has been given to energy saving. Consumption is very limited compared to refrigerator volume and capacity.

3. It is quite normal for the refrigerator compartment to take from 6 to 12 hours to reach the temperature selected, particularly if filled with food.
4. If room temperature is very high, better results will be obtained by setting the thermostat to an interim point (pos. 4) rather than selecting a lower temperature.

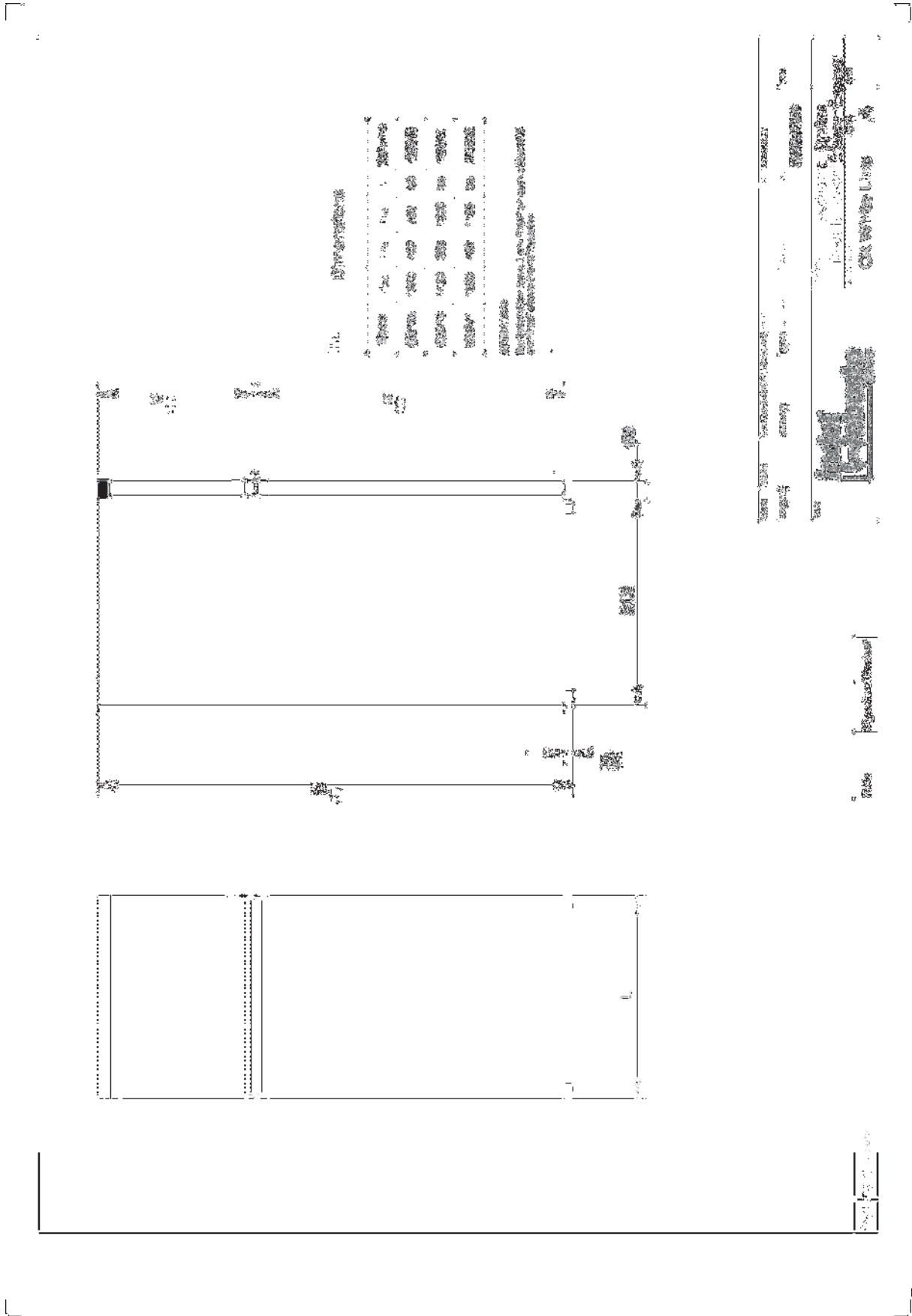
TECHNICAL INFORMATION

Voltage	12/24 Volts
Consumption 12V	6A (compressor operating)
Average consumption 12V	2.3 – 2.5 A
Compressor	Danfoss BD50F
Coolant	R134a, 0.13 Kg
Fuse	12V – 15A / 24V – 7.5A

Connection Control unit DC 12V/24V



Problem	Possible cause	Action to be taken
<p>The refrigerator does not cool down. The compressor does not start.</p>	<p>No electrical supply. Batteries flat. Thermostat damaged. Fuse damaged. Electrical control unit damaged.</p>	<p>Check electrical wiring, wires and connections. Check compressor power. Does the light work? Check the battery recharge system. Check the thermostat, T-C electrical bridge, if the compressor start the thermostat is damaged. If the compressor does not start, replace the electrical control unit.</p>
<p>The compressor only works at intervals of a few seconds.</p>	<p>Insufficient electrical supply. Voltage too low or loss of voltage at start-up. Batteries flat. Fan faulty.</p>	<p>Check connections and electrical wiring, possibility of oxidation. Charge batteries, start up the boat engine or recharge by means of quay connection. Upon start-up the voltage should be $\leq 11V$. Disconnect the fan, if the compressor starts up, the fan is faulty, replace it.</p>
<p>The compressor starts but the refrigerator does not cool down.</p>	<p>Lack of coolant gas. Possible leak from pipes or evaporator. Pipes blocked.</p>	<p>(These operations must only be carried out by authorised technical staff). Use the 'leak searcher' to check for any leaks of coolant gas. Repair any possible leaks. Empty the system and refill with specific coolant gas (R134a).</p>
<p>The compressor works for long periods, but does not cool sufficiently.</p>	<p>Insufficient ventilation of the compressor/condenser system. Fan damaged. Accumulation of ice in the freezer compartment. Door closure insufficient. Condenser blocked by dust.</p>	<p>Increase ventilation of the compressor/condenser system. Replace the fan. Defrost the freezer compartment. Check correct position of door seal. Remove the dust from the condenser.</p>



GB

This appliance is marked according to the European directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE). By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.



The symbol on the product, or on the documents accompanying the product, indicates that this appliance may not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. Disposal must be carried out in accordance with local environmental regulations for waste disposal. For more detailed information about treatment, recovery and recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

I

Questo apparecchio è contrassegnato in conformità alla Direttiva Europea 2002/96/EC, Waste Electrical and Electronic Equipment (WEEE). Assicurandosi che questo prodotto sia smaltito in modo corretto, l'utente



contribuisce a prevenire le potenziali conseguenze negative per l'ambiente e la salute. Il simbolo sul prodotto o sulla documentazione di accompagnamento indica che questo prodotto non deve essere trattato come rifiuto domestico ma deve essere consegnato presso l'idoneo punto di raccolta per il riciclaggio di apparecchiature elettriche ed elettroniche. Disfarsene seguendo le normative locali per lo smaltimento dei rifiuti. Per ulteriori informazioni sul trattamento, recupero e riciclaggio di questo prodotto, contattare l'idoneo ufficio locale, il servizio di raccolta dei rifiuti domestici o il negozio presso il quale il prodotto è stato acquistato.

D

In Übereinstimmung mit den Anforderungen der Europäischen Richtlinie 2002/96/EG über Elektro- und Elektronik-Altgeräte

(WEEE) ist vorliegendes Gerät mit einer Markierung versehen. Sie leisten einen positiven Beitrag für den Schutz der Umwelt und die Gesundheit des Menschen, wenn Sie dieses Gerät einer gesonderten Abfallsammlung zuführen. Im unsortierten Siedlungsmüll könnte ein solches Gerät durch unsachgemäße Entsorgung negative Konsequenzen nach sich ziehen.



Auf dem Produkt oder der beiliegenden Produktdokumentation ist folgendes Symbol einer durchgestrichenen Abfalltonne abgebildet. Es weist darauf hin, dass eine Entsorgung im normalen Haushaltsabfall nicht zulässig ist. Entsorgen Sie dieses Produkt im Recyclinghof mit einer getrennten Sammlung für Elektro- und Elektronikgeräte. Die Entsorgung muss gemäß den örtlichen Bestimmungen zur Abfallbeseitigung erfolgen. Bitte wenden Sie sich an die zuständigen Behörden Ihrer Gemeindeverwaltung, an den lokalen Recyclinghof für Haushaltsmüll oder an den Händler, bei dem Sie dieses Gerät erworben haben, um weitere Informationen über Behandlung, Verwertung und Wiederverwendung dieses Produkts zu erhalten.

F

Cet appareil porte le symbole du recyclage conformément à la Directive Européenne 2002/96/CE concernant les Déchets d'Équipements Électriques et Électroniques (DEEE ou WEEE). En procédant correctement à la mise au rebut de cet appareil, vous contribuerez à empêcher toute conséquence nuisible pour l'environnement et la santé de l'homme.



Le symbole présent sur l'appareil ou sur la documentation qui l'accompagne indique que ce produit ne peut en aucun cas être traité comme déchet ménager. Il doit par conséquent être remis à un centre de collecte des déchets chargé du recyclage des équipements électriques et électroniques. Pour la mise au rebut, respectez les normes relatives à l'élimination des déchets en vigueur dans le pays d'installation. Pour obtenir de plus amples détails au sujet du traitement, de la récupération et du recyclage de cet appareil, veuillez vous adresser au bureau compétent de votre commune, à la société de collecte des déchets ou directement à votre revendeur.

S

Denna produkt är märkt enligt EG-direktiv 2002/96/EEC beträffande elektriskt och elektroniskt avfall (Waste Electrical and Electronic Equipment, WEEE). Genom att säkerställa en korrekt kassering av denna produkt bidrar du till att förhindra potentiella, negativa konsekvenser för vår miljö och vår hälsa, som annars kan bli



följden om produkten inte hanteras på rätt sätt. Symbolen på produkten, eller i medföljande dokumentation, indikerar att denna produkt inte får behandlas som vanligt hushållsavfall. Den skall i stället lämnas in på en lämplig uppsamlingsplats för återvinning av elektrisk och elektronisk utrustning. Produkten måste kasseras enligt lokala miljöbestämmelser för avfallshantering. För mer information om hantering, återvinning och återanvändning av denna produkt, var god kontakta de lokala myndigheterna, ortens sophanteringstjänst eller butiken där produkten inhandlades.

E

Este aparato lleva el marcado CE en conformidad con la Directiva 2002/96/EC del Parlamento Europeo y del Consejo sobre residuos de aparatos eléctricos y electrónicos (RAEE). La correcta eliminación de este



producto evita consecuencias negativas para el medioambiente y la salud. El símbolo en el producto o en los documentos que se incluyen con el producto, indica que no se puede tratar como residuo doméstico. Es necesario entregarlo en un punto de recogida para reciclar aparatos eléctricos y electrónicos. Deséchelo con arreglo a las normas medioambientales para eliminación de residuos. Para obtener información más detallada sobre el tratamiento, recuperación y reciclaje de este producto, póngase en contacto con el ayuntamiento, con el servicio de eliminación de residuos urbanos o la tienda donde adquirió el producto.

NL

Dit apparaat is voorzien van het merkteken volgens de Europese richtlijn 2002/96/EG inzake Afgedankte elektrische en elektronische apparaten (AEEA). Door ervoor te zorgen dat dit product op de juiste manier als afval wordt verwerkt, helpt u mogelijk negatieve consequenties voor het milieu en de menselijke gezondheid te voorkomen die anders zouden kunnen worden veroorzaakt door onjuiste verwerking van dit product als



afval. Het symbool op het product of op de bijbehorende documentatie geeft aan dat dit product niet als huishoudelijk afval mag worden behandeld. In plaats daarvan moet het orden afgegeven bij een verzamelpunt voor recycling van elektrische en elektronische apparaten. Afdanking moet worden itgevoerd in overeenstemming met de plaatselijke milieuvoorschriften voor afvalverwerking. Voor nadere informatie over de ehandeling, terugwinning en recycling van dit product wordt u verzocht contact op te nemen met het stadskantoor in uw woonplaats, uw afvalophaaldienst of de winkel waar u het product heeft aangeschaft.



Zona Artigianale
IT – 61019 – Sant'Agata Feltria (PU) – ITALY
Tel. +39 0541 848030 – Fax. +39 0541 848563
E-MAIL: info@indelwebastomarine.com
WEB: www.indelwebastomarine.com



3400 Gateway Drive, Unit #107
Pompano Beach, FL – 33069
Phone (954) 984-8448 – Fax (954) 979-2533
E-MAIL: info@indelwebastomarineusa.com
WEB: www.indelwebastomarineusa.com