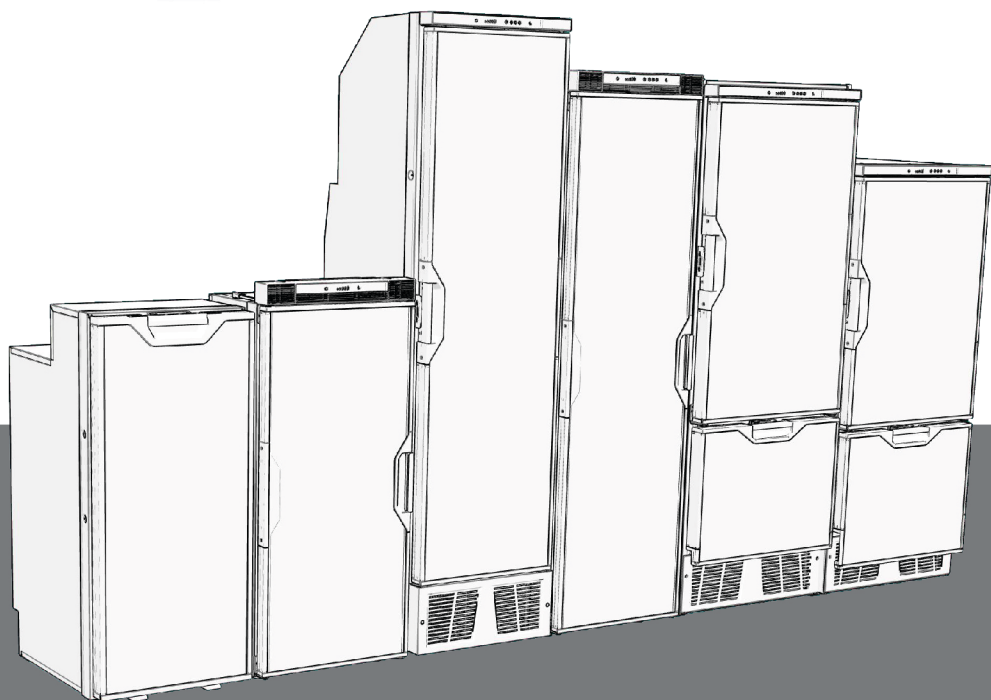


THETFORD



INSTALLATION MANUAL

Refrigerator

T2000 series

EN

Original Installation Manual

Contents

1	Introduction.....	2
2	Safety.....	3
3	Serviceability.....	5
4	Designation codes, drawings and models.....	5
5	Technical specifications.....	7
6	Before installation.....	10
7	Install the refrigerator.....	20
8	After installation.....	24
9	Service & questions.....	26

1. Introduction

General

This is the installation manual for the Thetford T2000 series refrigerator. The manual is meant for qualified installers who will install the refrigerator in a caravan or camper.

Read the information and instructions carefully and follow them strictly to install the refrigerator safely and correctly.

Also read the warnings in the user manual before testing the refrigerator after installation.

This document is version 692277/0624-V05 of the installation manual.

Our policy is one of continuous development and improvement. Specifications and illustrations may change subsequent to publication.

Please visit www.thetford.com for the most recent version.

Symbols

The following symbols may be used in this manual:



Warning. Risk of serious injury and/or damage.



Caution. Risk of moderate injury and/or damage.



Attention. Important information.



Note. Additional information.



Video. Additional instruction video available.

2. Safety

General



Risk of serious injury through burning, explosion, clamping, electrocution, suffocation and poisoning or damage to the product.

- Do not modify this appliance, unless the modification is authorised and carried out by the manufacturer or their agent.
- If the appliance is not installed in accordance with national and European regulations, rules and standards this will void the warranty and may lead to criminal prosecution.
- This appliance should only be installed by a qualified and certified professionals.
- Wear the correct Personal Protective Equipment during the installation. Also follow the applicable safety regulations.
- Never expose the appliance to water or moisture.
- Do not use the drawer as a step or ladder.
- Any error messages coming from the appliance and shown on the master display, should not disturb the driver. For example: lights and/or sounds coming from the master display while driving.

Installation



Risk of serious injury through burning, explosion, clamping, electrocution, suffocation and poisoning or damage to the product.

- Make sure the appliance is transported and handled in the upright position.
- If the appliance has been transported and/or been laid on its side, let it stay upright for at least 2-3 hours before switching on.
- If the appliance needs to be transported on its side, ensure that only the **right** side with the electronics is facing down.
- Use only genuine and approved parts and materials.
- When installing the appliance, ensure cables are not trapped or damaged.
- Route the cables away from the appliance and other heat sources.
- Do not allow cables to hang loose into the lower compartment.
- To avoid a hazard due to instability of the appliance, it must be fixed in accordance with the instructions.

- Never reposition or change the electronic components unless stated otherwise in this manual.
- In order to prevent the risk of fire in the event of uncontrolled leakage of the refrigerant system, make sure that the refrigerant charge per net room volume does not exceed 8 g/m^3 . Net room volume is defined as the gross room volume minus the volume of any product, equipment, or objects located in the living area. The refrigerant charge amount can be found on the serial label.
- Ensure that vent openings are not obstructed (e.g. by opening a door) and are able to vent freely.
- The performance of the cooling system may be affected by adjacent heat sources such as an oven or stove. Protect the cooling system against any heat sources by fitting insulation.
- Make sure no equipment that produces sparks or flames is installed close to the cooling system.



Never open or damage the cooling system at the back or on the inside of the cooling system. The cooling system is pressurised and contains flammable substances.



Electrical



Risk of serious injury through burning, explosion, clamping, electrocution, suffocation and poisoning or damage to the product.

- The electronic connections must be installed in accordance with the latest technical regulations.
- The electrical connections have to comply with EN60335.
- Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance.
- There is no load dump protection circuit present on the CI-bus cooling system electronics. Thetford requires that a load dump circuit (which complies with the relevant regulations) is installed on the CI-bus master if the cooling system is connected to the CI-bus.
- The ground on the CI-bus connector should not be connected. Ensure that the cooling system is using the same power supply ground as the CI-bus master unit. The ground on the CI-bus connector is only needed when using, for example, an external CI-bus service tool.

Commissioning



Do not switch on the appliance without first carrying out the visual and functional checks.

Service



This appliance should only be serviced by a qualified and certified professionals.

3. Serviceability

The installer of Thetford products is responsible for correct installation according to the Thetford installation instructions to ensure the functionality and serviceability of the product.

In terms of serviceability, this means that a dealer or authorised Thetford service partner must be able to remove and re-install the Thetford product within the time that is allowed according to the Thetford time-list, using standard tools and equipment.

This is to claim any warranty during the warranty period after the purchase date.

In case of any queries on this subject, a Thetford local service representative can be contacted for additional support related to the installation of the product.

4. Designation codes, drawings and models

Each product has a specific identification code, the designation code. The designation code can be found on the data badge. See Service & questions for the location of the data badge. The different positions of the code stand for different variations of the refrigerator. In these instructions, the designation will be used as reference.

Table 1: Designation example

T2090	C	- N	191	A	301	R	25	CI
Refrigerator model	Refrigerator version	Market	Type of foamed cabinet	Type of cooling unit	Type of door	Hinge position	Type of control panel	Type of communication

Table 2: Available drawings and models

Model*	2D drawings	3D files	Door panels
T2090C	LE1486	LE1487	LE1494
T2090E	LE1566 / LE1567	LE1568 / LE1569	LE1494
T2095E-NxxxE	LE1554 / LE1560 / LE1557*** / LE1570 (side vent)	LE1556	LE1555

Model*	2D drawings	3D files	Door panels
T2095E-NxxxAB	LE1554 / LE1560 / LE1557*** / LE1570 (side vent)	LE1574	LE1555
T2095E-ZxxxAC	LE1554 / LE1560 / LE1557*** / LE1570 (side vent)	LE1579	LE1555
T2120	LE1599	LE1600	LE1601
T2138	LE1484	LE1485	LE1495
T2152	LE1488 / LE1536**	LE1489 / LE1537**	LE1496
T2156	LE1542	LE1543	LE1548
T2160	LE1482	LE1483 / LE1492	LE1497 / LE1498
T2175	LE1480 / LE1538**	LE1481/LE1491 / LE1539**	LE1497 / LE1498
T2208	LE1589 / LE1575**	LE1589 / LE1590 / LE1576**	LE1577 / LE1578

The 2D drawings and door panels drawings are available upon request, 3D files are only available for the professional builder.

** Not all models are available for the Aftermarket (A-market in Table 1: Designation example)*

***For Australian models (Z-market in Table 1: Designation example), an installation frame is included for a protruding installation.*

****This drawing describes the required removal space after installation.*

5. Technical specifications

Refrigerator specifications

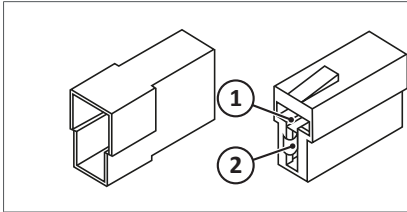
Model	Display	Total volume (L)	Volume frozen food comp. (L)	Energy consumption (kWh/24h)*	Climate class	Climate class night mode
T2090C	Capacitive touchscreen	84	6.1	0.34	ST (16-38°C)	N (16-32°C)
T2090E	Display led push buttons	84	6.1	0.34	ST (16-38°C)	N (16-32°C)
T2095	Display led push buttons	90	7.1	0.36	SN-T (10-43°C)	SN (10-32°C)
T2120	Capacitive touchscreen	119	17.0	0.45	SN-T (10-43°C)	SN (10-32°C)
T2138	Capacitive touchscreen	138	11.6	0.50	SN-T (10-43°C)	SN (10-32°C)
T2152	Capacitive touchscreen	150	17.0	0.47	SN-T (10-43°C)	SN (10-32°C)
T2156	Capacitive touchscreen	142	55.0	0.54	SN-T (10-43°C)	SN (10-32°C)
T2160	Capacitive touchscreen	158	30.5	0.55	SN-T (10-43°C)	SN (10-32°C)
T2175	Capacitive touchscreen	174	33.5	0.56	SN-T (10-43°C)	SN (10-32°C)
T2208	Capacitive touchscreen	218	43.0	0.45	SN-T (10-43°C)	SN (10-32°C)

* Energy consumption measured according to IEC625520-2020.

Electrical specifications

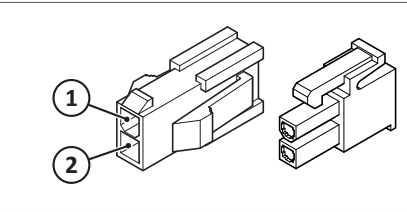
Power input	10.4-16.0V DC (at the refrigerator)
Cable dimensions (Cable thickness vs cable length)	<ul style="list-style-type: none">▪ 2.5mm² = < 2.5m▪ 4mm² = < 4m▪ 6mm² = < 6m
Fuse	15A in power supply system near the power supply source
Battery capacity	Advised: 2 x 95Ah
DC power connectors	Refrigerator: Stocko VV 2041.100-G or equivalent Supply cable counterpart: Stocko VV 2041.200-G or equivalent
CI-bus connectors	Refrigerator: Molex 39012020 Supply cable counterpart: Molex 39012021

Layout of the DC power connectors



1. + (Red)
2. - (White)

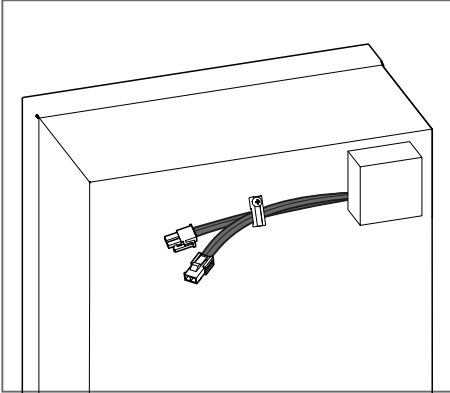
Layout of the CI-bus connectors



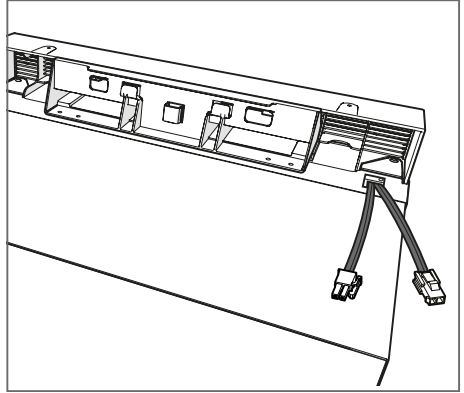
1. Data (White)
2. Mass (White-Blue)

Position of the CI-bus connectors

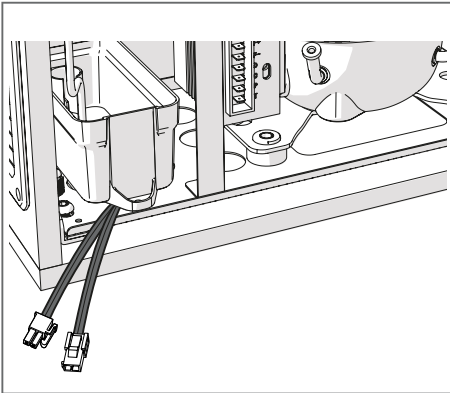
T2090E



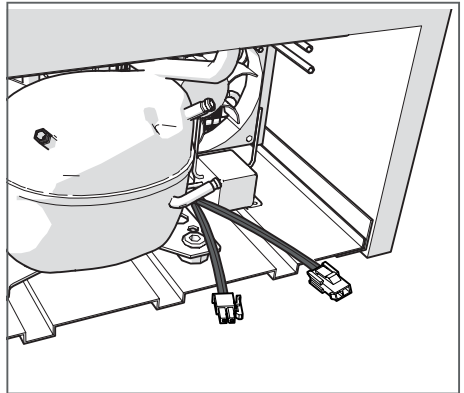
T2090/T2120/T2152/T2156



T2095*



T2138/T2160/T2175/T2208*



**Left or right may vary by model type*

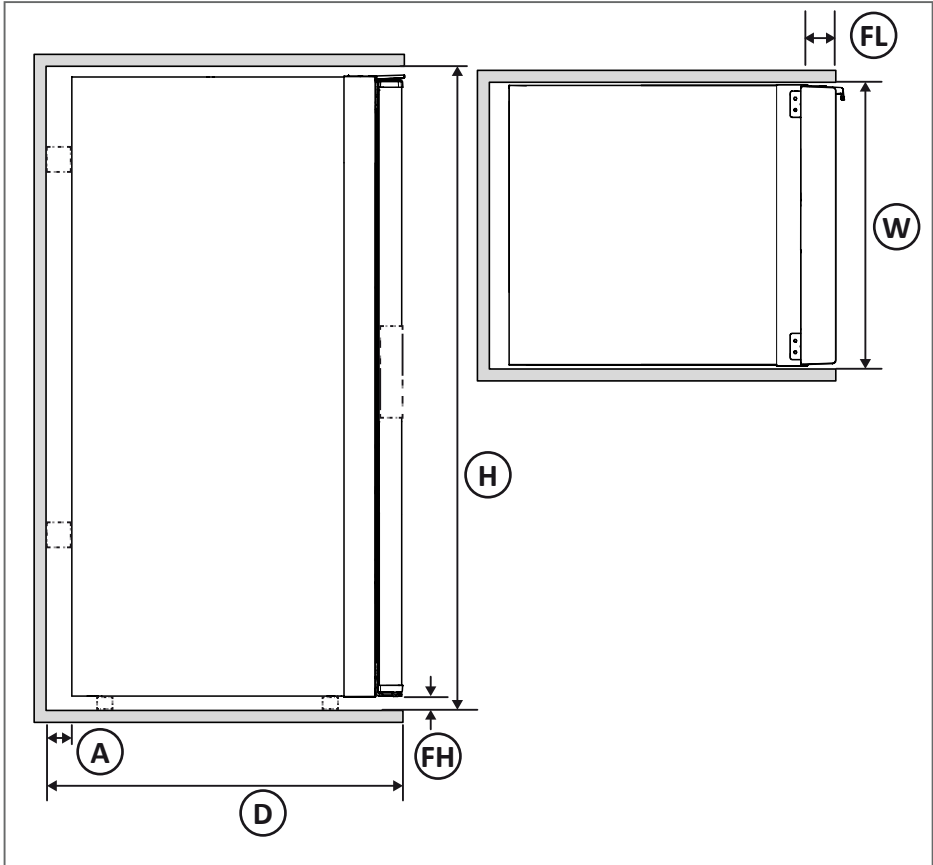
6. Before installation



Read the applicable instructions in chapter *Safety* first.

Installation dimensions

- Use the mounting dimensions as shown below.



Model	H	W	D	FL	FH	A
T2090C	982	420	506	21	20	20
T2090E	931	420	506	21	20	20
T2095	908	400	682	55	8	5

Model	H	W	D	FL	FH	A
T2120	1272	420	569	42	28	40-60
T2138	1602	420	503	55	3	n/a
T2152*	1504	420	569	42	28	40-60
T2156	1504	420	570	43	28	40-60
T2160	1249	527	563	55	3	5
T2175*	1249	527	613	55	3	5
T2208*	1464	527	613	55	3	5

**For Australian models (Z-market in Designation codes, drawings and models), an installation frame is included for a protruding installation.*

Preparations (T2090 only)

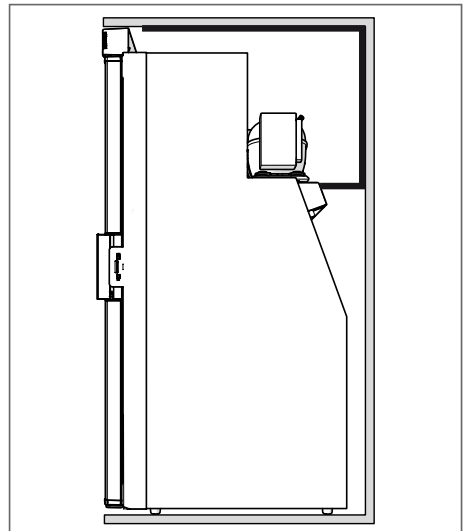
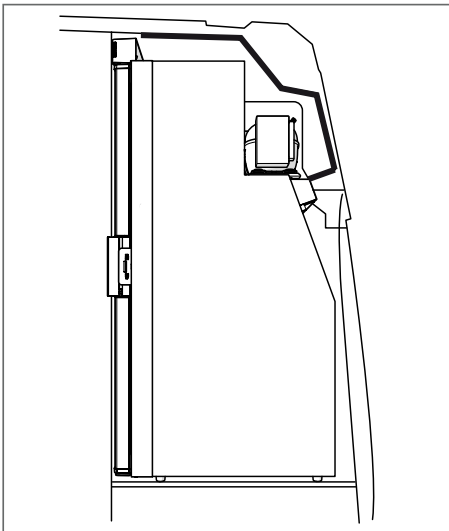
Insulation

Installing insulation material is strongly recommended. It will considerably reduce the emitted noise and protects against heating up from outside the vehicle.

- Install insulation on the back of the chassis.

Top model

Floor model





The insulation material should be left exposed and not covered by panelling to prevent unwanted reflection of noise.

- Ensure that the insulation material is able to handle the temperatures and the mechanical loading expected during normal use.
- Ensure that the insulation material does not diminish the minimal ventilation dimensions of the air ducts. Glued insulation material might detach over time and block the airways. Overheating of the system might be a result.



For the correct type of insulation, it is advised to use a polyurethane noise absorption panel with open cell structure, or similar.

- Make a cut-out in the roof panel, exposing the insulation material.
- Seal any gaps between furniture and chassis to prevent noise emission.

Separate control panel installation

For T2090C: the control panel can be installed on a separate place.

For T2090E: the control panel must be installed on a separate place.

- Prepare a cut-out according to the drawing. See *Designation codes, drawings and models*.



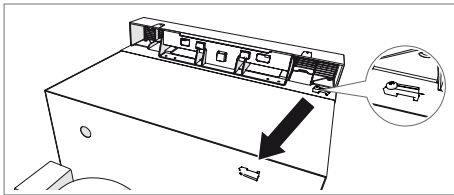
It is not allowed to change the electronics; it is only allowed to reposition the control panel.

- Wires must remain in its position using the strain relief clip. For the T2090C reposition the strain relief to the back of the refrigerator.



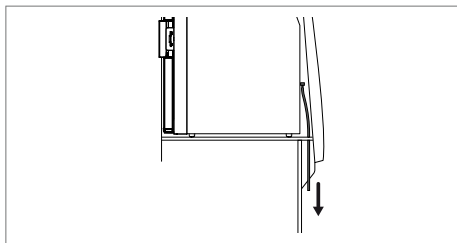
It is the responsibility of the OEM to install the separate control panel according to the electrical standard EN60335.

- Only replace the wires which are directly connected to the control panel.



Drainage tube

For this refrigerator it is possible to directly drain condensation water to the outside of the vehicle.



- Extend the drain tube (external \varnothing 9mm, inner \varnothing 5mm) with a tube.
- Remove the drip tray.
- Remove the drain plug.
- Guide the extended drain tube directly to the outside of the vehicle.

Ventilation

The refrigerator performance depends on good ventilation.

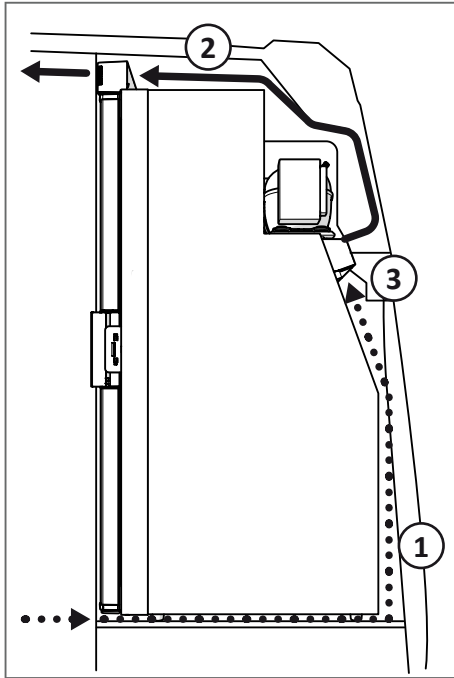
T2090C and T2090E

Ventilation takes place through the front vent openings in the refrigerator. Ambient air enters through the bottom at the front and is forced through the cooling system. Heated air is pushed away via the top vent opening.

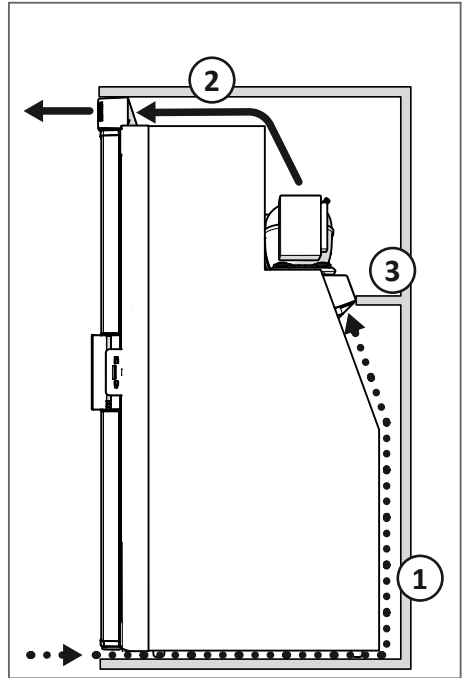


T2090E needs additional side venting with a minimum of 80cm² free air. Ventilation should be above cooling unit system.

T2090C Top model



T2090C Floor model



- Ensure that the minimal distance (1) between the refrigerator and the bottom and the back is 20mm.
- Ensure that the minimal distance (2) between the refrigerator and the back and the top side is 40 - 50mm.
- Ensure the sealing material closes the gap (3) between the air funnel and the chassis beam (T2090 floor model only).

T2095

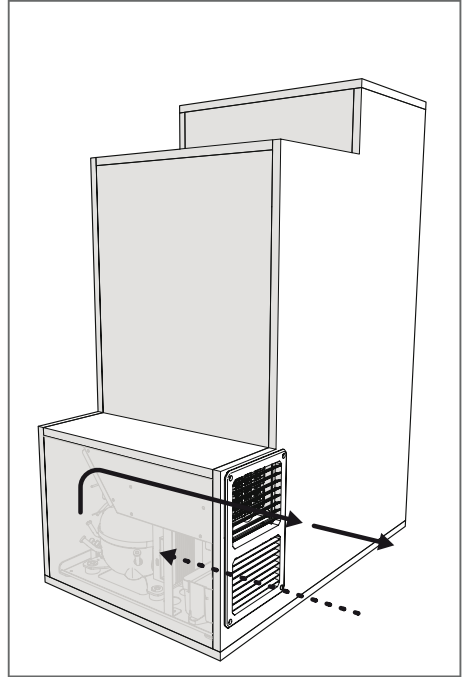
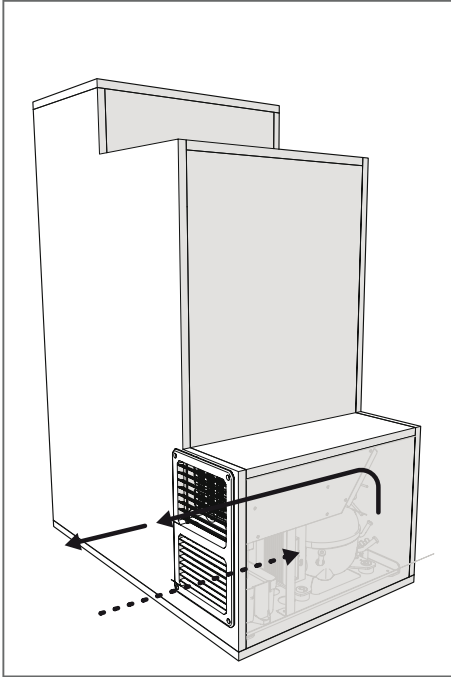
Ventilation takes place via the side vent. See *Designation codes, drawings and models.*



Vent and screws delivered by Thetford.

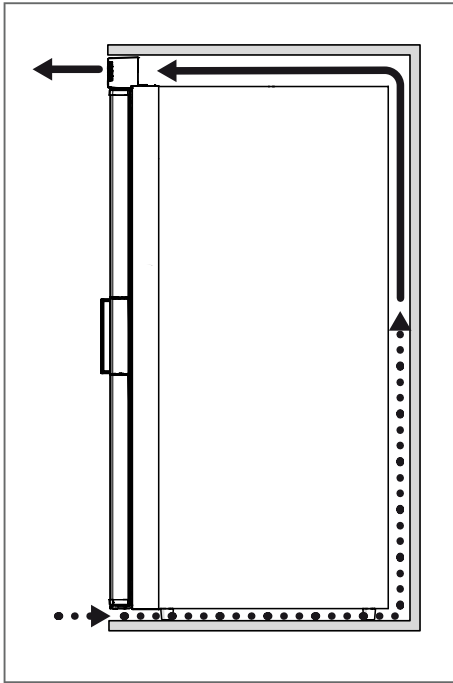
T2095E-NxxxE

T2095E-NxxxAB / T2095E-ZxxxAC



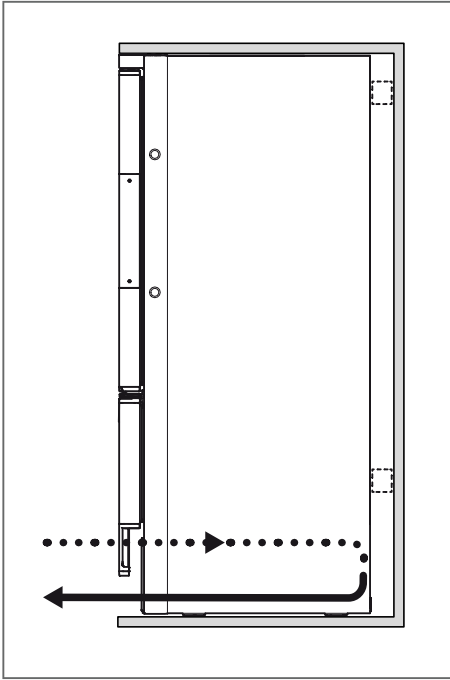
T2120, T2152 and T2156

Ventilation for takes place through the front vent openings in the refrigerator. Ambient air enters through the bottom at the front and is forced through the cooling system. Heated air is pushed away via the top vent opening.



T2138, T2160, T2175 and T2208

Ventilation takes place through the integrated and insulated cooling unit box at the bottom part of the refrigerator.



For T2138: Do not place insulation material of the vehicle directly against the backside of the fridge. This may cause condensation issues.

- For T2160, T2175 and T2208: Do not remove stops at the back of the fridge. Removing this may result in condensation issues.



For models T2160, T2175 and T2208 a filter is in place. It is strongly recommended to clean the filter once a year, or more often if necessary. Always replace the filter to the exact same installation position after maintenance.

Power supply

- Connect the DC power supply according to the sticker on the refrigerator and the values mentioned in *Technical specifications*.

Installing door panel

To match the refrigerator with the interior, a door panel can be installed as shown below.



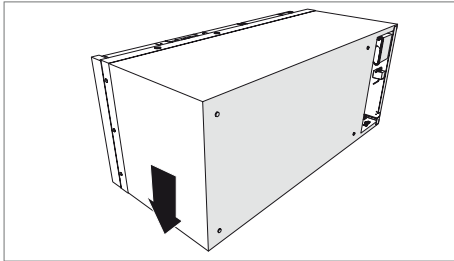
Never lift or handle a refrigerator at the power supply cables.

- Always pay attention to the label on the side of the refrigerator: "This side up allowed during transport and handling".

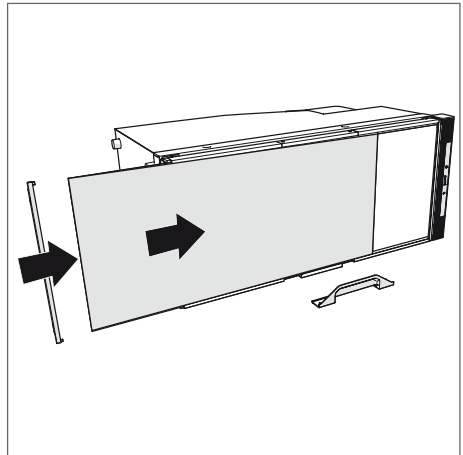
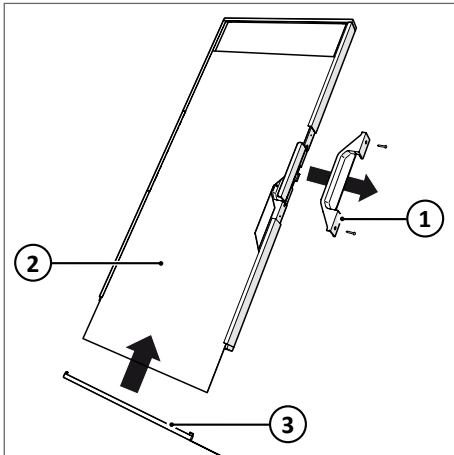


The door panel for the door should be fitted before installing the refrigerator.

- For T2156: To insert rigid door panels in the fresh food door it is recommend to take the door out for easier assembly and to prevent scratches. See *Door conversion (not applicable for T2095)* for tips.
- Place the refrigerator on its side, refer to the handling sticker on the side of the refrigerator ("This side up allowed during handling").



- Remove the door handle cover (1) by removing the 2 screws (not applicable for T2095)
- Slide the panel (2) in the frame of the door
- Click the panel retainer (3) in place.
- Install the door handle cover (1) and put the screws in.



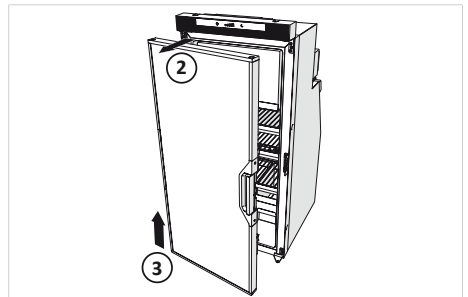
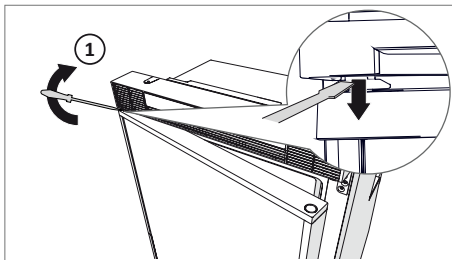
Panel sizes

Model	Door type	Panel size (mm)
T2090	Flat	H 877 x W 399
T2095	Flat	H 876 x W 382
T2120	Flat	H 1162 x W 396
T2138	Flat	H 1366 x W 396
T2152	Flat	H 1394 x W 396
T2156	Flat	H 685 x W 394
T2160	Flat cabinet	H 700 x W 499
	Flat drawer	H 382 x W 499
T2175	Flat cabinet	H 700 x W 499
	Flat drawer	H 382 x W 499
T2208	Flat cabinet	H 859 x W 499
	Flat drawer	H 369 x W 499

See chapter *Designation codes, drawings and models* for detailed drawings.

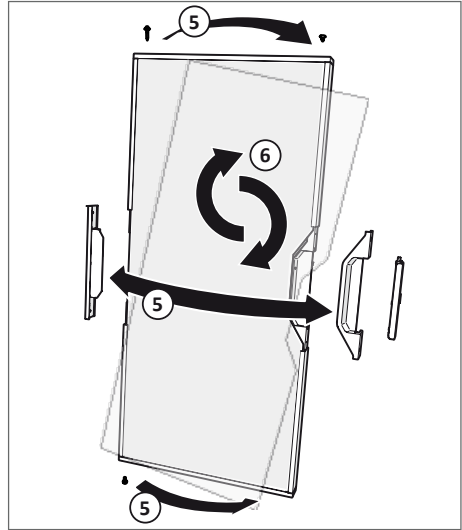
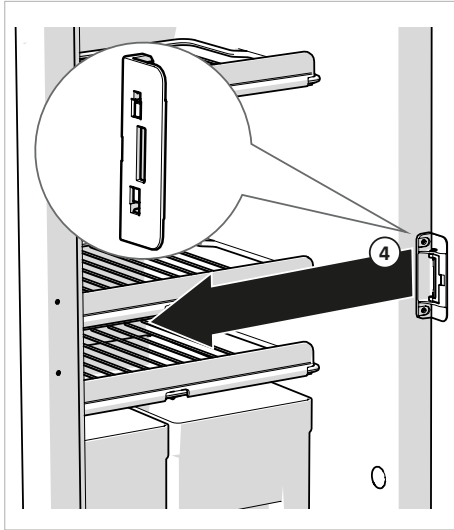
Door conversion (not applicable for T2095)

- Open the door a little and push the hinge pin down with a screwdriver (1).
- Pull the hinge corner to the front (2).
- Lift the door (3) out of the hinges.



- Move the lock (4) on the refrigerator from one side to the other.
- Move the hinges, hinge pin, hinge hole plug, the handle (5) and the travel lock (if equipped) on the door, from one side to the other.

- Turn the door panel 180 degrees (6).



For refrigerators with a travel lock: use the spare hinge which is delivered inside the refrigerator.

7. Install the refrigerator



Read the applicable instructions in chapter Safety first.

Connect electrical supplies

For model T2095:



First mount the furniture before connecting the power supply via the vent.

For models T2090, T2120, T2152 and T2156:



It is advised to have the power supply in the vehicle to be routed via the roof. In this way an over-length of cable is not needed and the power supply cable cannot block the airways.

For models T2138, T2160, T2175 and T2208:



Connect the DC power connector before any furniture is mounted. Make sure that the DC and CI-bus cable are not trapped between the refrigerator and furniture.

Power supply

- Connect the appliance to an onboard 12V battery in the vehicle. This battery should be exclusively intended for powering on-board devices. Connecting to the engine battery is not advised.
- Fit a general main switch that enables all poles disconnection from the 12V power supply source to be able to delete the electrical standby consumption when vehicle is in storage. This to prevent for empty battery.
- Fit a battery discharge protection circuit to prevent damage to the 12V battery when it is at low charge.



For easy maintenance, leave sufficient over-length in the power supply cable so that the refrigerator can be moved at least 10cm forward.

Central control panel

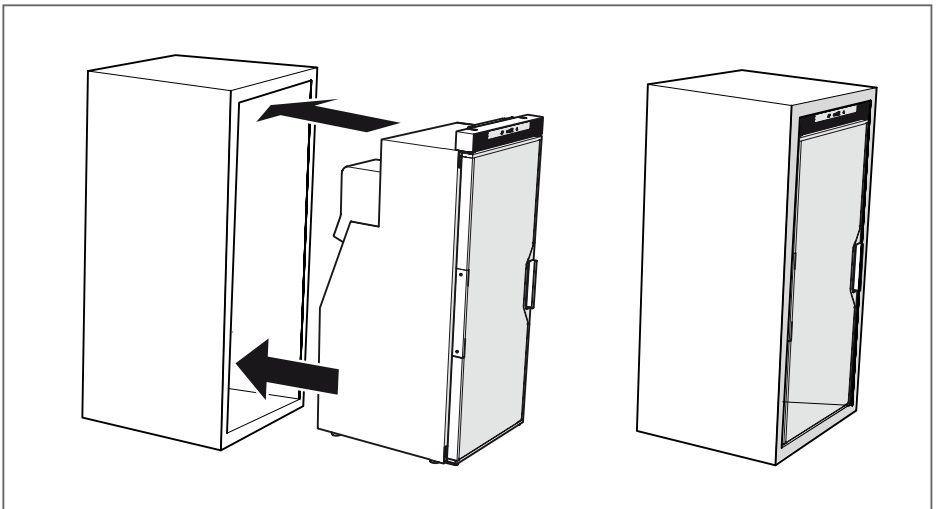
To connect the appliance to the compatible central control board of the vehicle, use the CI-bus protocol (refer to www.civd.de).

For location of the location of the CI-bus cables and connectors on the appliance refer to *Technical specifications*.

- Connect the appliance to the on board control panel using the CI-bus connectors.
- Fit a load dump protection circuit to the CI-bus master.
- Do not connect the ground of the CI-bus connector.
- Connect the ground of the appliance to the same supply as the CI-bus master unit

Installing

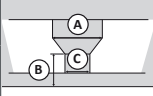
- Slide the refrigerator to the back of the furniture.



The space holders on the back will stop the fridge at correct position.

- Fix the refrigerator in place with the screws, using the pre-drilled positions in the cabinet.

Use a screw suitable for below hole dimensions.

	T2090C	T2090E		T2095	
	side	side	top and floor	side	floor
A	∅ 9mm	∅ 9mm	∅ 10.5 mm	∅ 9mm	M8 10.9 *
B	6mm	6mm	1mm	6mm	
C	∅ 4.0mm	∅ 4.0mm	∅ 5.5mm	∅ 4.0mm	

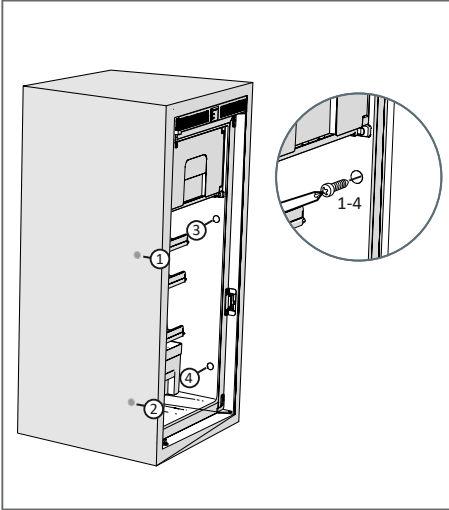
	T2138		T2120 / T2152		T2156	T2160 / T2175 / T2208	
	side	floor	side	floor	side	side	floor
A	∅ 9mm	∅ 6mm	∅ 9mm	∅ 9mm	∅ 9mm	∅ 9mm	∅ 5mm
B	6mm	5mm	6mm	34mm	6mm	6mm	11mm
C	∅ 4.5mm	∅ 6mm	∅ 4.5mm	∅ 4.5mm	∅ 4.5mm	∅ 4.5mm	∅ 5mm

**Bolts via vent. Length of bolt depends on installation.*

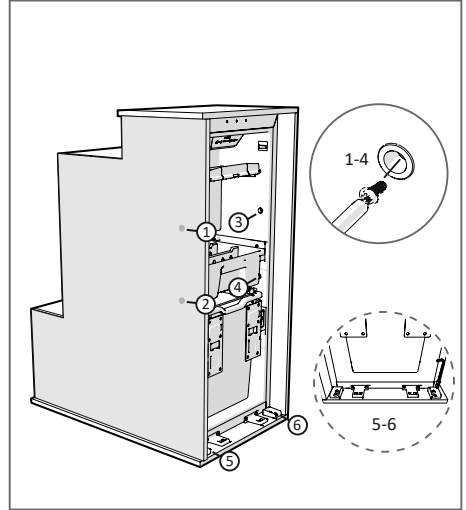
Fixating points

The refrigerator has fixating points both on the left and right side of the cabinet.

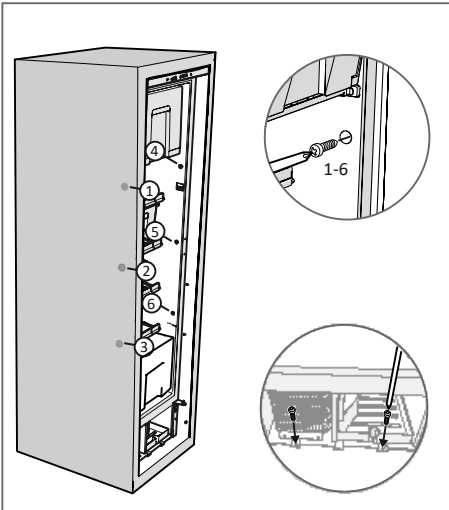
T2090



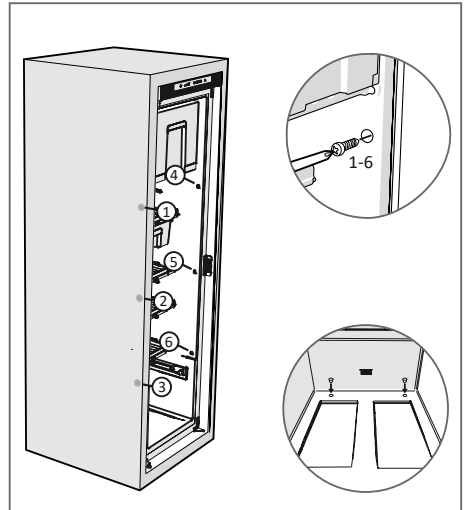
T2095



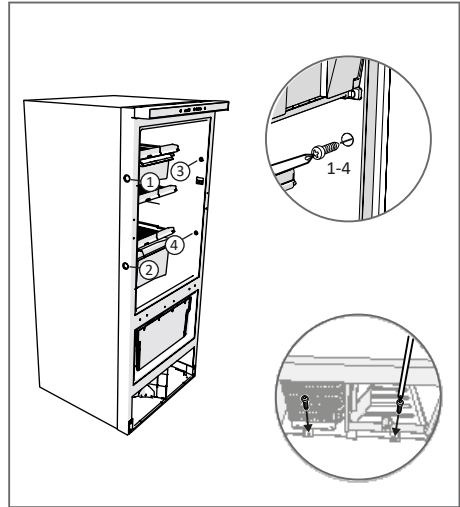
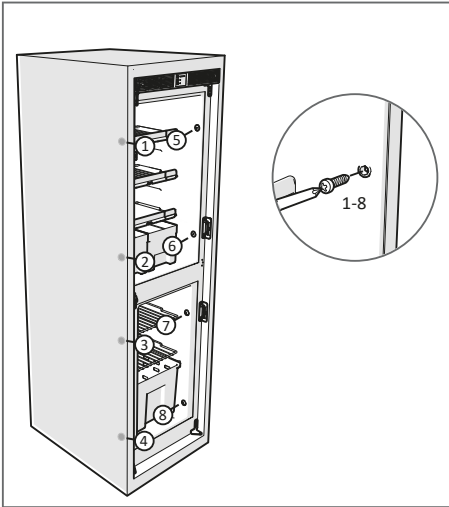
T2138



T2120* / T2152



**T2120 has less height and therefore is equipped with 4 fixing points.*



*T2208 is equipped with 6 fixating points.

- Use the white caps for finishing.



Ensure that the furniture panelling is able to handle the forces created by the connection.

- Do not screw into the refrigerator cabinet.



The refrigerators are prepared for flush build in.

8. After installation



Read the applicable instructions in chapter *Safety* first.

Cut-in/cut-out voltage

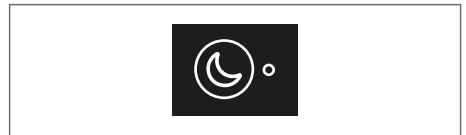
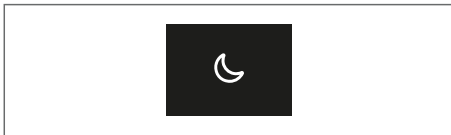
The factory setting for the cut-in/cut-out voltage is 10.4V (cut-out) and 11.7V (cut-in). For trailer applications without on-board battery, this setting can be changed to 11.3V (cut-out) and 12.5V (cut-in).

To change the cut-in/cut-out setting:

- Open the door.
- Unlock the control panel, if applicable, by pressing the fresh food, frozen food or night mode area. Hold it for a few seconds until the control panel blinks twice to be able to adjust the setting.

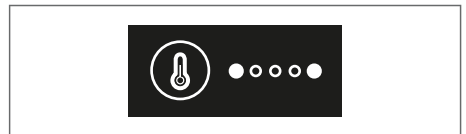
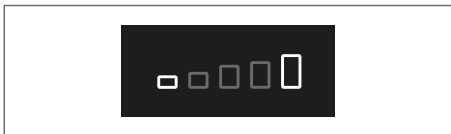


- Open the extra settings mode by pressing the night mode area for 10 seconds. The fresh food lights blink twice.



- Press on the fresh food area for 1 second to adjust the setting.

Icons 1 and 5 on: 10.4V (cut-out) and 11.7V (cut-in) (factory setting).



Icons 2, 3 and 4 on: 11.3V (cut-out) and 12.5V (cut-in).



After a few seconds, the control panel will save the settings and go to the locked stand-by mode.

Visual checks

Check if:

- Drain hose is not pinched or blocked, has free access to the outside and the correct angle to drain.
- Ventilation openings are not blocked.
- Electrical cables are not pinched or damaged.
- Electrical cables are not routed close to heat sources (such as hob, oven or heater) and ignition sources.
- Electrical connectors are seated correctly.

Functional checks

Check if:

- Appliance can be switched on/off.
- Refrigerator cools correctly, this means at 25°C ambient temperature the empty cooling cabinet should reach <5°C in 4 hours.
- Light (if present) in the cooling compartment is working.

9. Service & questions



Read the applicable instructions in chapter *Safety* first.

Service

Before starting any service work, disconnect the appliance from the electrical supply.

Questions

If you have questions about your product, parts, accessories or authorised services visit www.thetford.com.

If you contact an authorised local Service Centre in your country, provide the details of the model and serial number plus the date of purchase.



Warranty

For our warranty clause, please refer to the conditions mentioned on www.thetford.com.

Declaration of Conformity

Thetford hereby declares that this product is in compliance with the essential requirements and other relevant provisions of the applicable Directives and Standards. A copy of the Declaration of Conformity can be found at www.thetford.com

EUROPEAN HEADQUARTERS

Thetford B.V.
P.O. Box 169
4870 AD Etten-Leur
The Netherlands

T +31 76 504 22 00
F +31 76 504 23 00
E info@thetford.eu

UNITED KINGDOM

Thetford Ltd.
Unit 6
Brookfields Way
Manvers, Rotherham
S63 5DL, England
United Kingdom

T +44 844 997 1960
F +44 844 997 1961
E info@thetford.eu

GERMANY

Thetford GmbH
Schallbruch 14
D-42781 Haan
Deutschland

T +49 2129 94250
F +49 2129 942525
E info@thetford.eu

FRANCE

Thetford S.A.R.L.
Parc BUIROPLUS / Bâtiment 6
18, Boulevard de la Paix
CS 80008
95895 Cergy Pontoise Cedex
France

T +33 1 30 37 58 23
F not available
E info@thetford.eu

ITALY

Thetford Italy c/o Tecma s.r.l.
Via Flaminia
Loc. Castel delle Formiche
05030 Otricoli (TR)
Italia

T +39 0744 709071
F +39 0744 719833
E info@thetford.eu

SPAIN AND PORTUGAL

Mercè Grau Solà
Agente para España y Portugal
C/ Castellet, 36 bxs 2a
08800-Vilanova i la Geltrú
Barcelona
España

T +34 938 154 389
F not available
E info@thetford.eu

SCANDINAVIA

Thetford Scandinavia
Bangatan 6
521 43 Falköping
Sverige

T +46 31 336 35 80
F not available
E info@thetford.eu

AUSTRALIA

Thetford Australia Pty. Ltd.
130-132 Freight Drive
Somerton VIC 3062
Australia

T +61 3 9358 0700
F not available
E info@thetford.com.au
www.thetford.com.au

CHINA

Thetford China
Rm. 1207, Coastal Building
(East Block)
Haide 3rd Road, Nanshan District
Shenzhen, 518054
China

T +86 755 8627 1393
F +86 755 8627 1673
E info@thetford.cn
www.thetford.cn