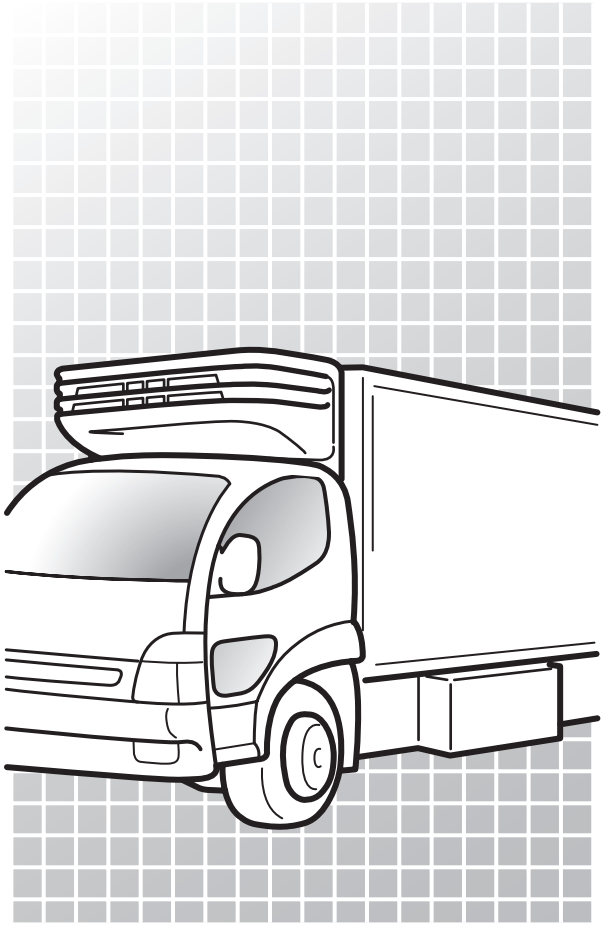
OPERATION MANUAL

MITSUBISHI TRANSPORT REFRIGERATION UNIT

TDJS Series

This operation manual is intended to provide users with a good knowledge to use Mitsubishi Refrigeration Unit safely.
Operate or service the refrigeration unit only after you have read this manual and understand its contents.
Carefully store this manual in a fixed place so that it is immediately available for your reference when you need it.



Original | Instructions

CE

TSJ012A194A
YEAR:2016

Thank you for your purchase of Mitsubishi Transport Refrigeration Unit.

Purpose of use and application

This Refrigeration Unit is intended to carry the cargo (with the exception of volatile, inflammable, hazardous and corrosive matters) on a transportation vehicle, keeping the inside container temperature at a certain degree.
If the Refrigeration Unit is used for any purposes other than this purpose, it may cause accidents or damages.

Important information

For questions or information, contact your nearest dealer.

- Be sure to follow the contents described in this manual in order to protect yourself and other people from potential risks of this refrigeration unit and to prevent it from getting damaged.

- We are not able to foresee all potential risks of this refrigeration unit or dangers due to mishandling by the customers. Therefore, it is necessary to take measures for safety in addition to the items described in this manual or on warning labels.

- For the following works, contact your nearest dealer. If those works were carried out by customer, the refrigeration unit may lose its performance and we may not be able to ensure the safety of the customer.
  (a) Installation, modification, specification change and disposal of the refrigeration unit
  (b) Maintenance of electric appliances
  (c) Abnormal treatments which are not described in this manual

- This product contains fluorinated greenhouse gases.
  • Refrigerant:R404A(GWP(Global Warming Potential)=3922)
  Refer to a label on unit about weight of fluorinated greenhouse gases and CO_2 equivalent. (☞ Refer to pages 4.)

Operation manual

- This operation manual is prepared for people who speaks English. In case that person whose native language is not English handles this refrigeration unit, he or she must be instructed on safety by the customer. Furthermore, the warning labels described in their native language must be prepared and stuck on the proper places.

- This operation manual is copyrighted and all rights are reserved by our company. The drawings and technical information described in this manual may not, in whole or part, be published, copied, translated for the purposes other than above-mentioned and reduced to any electronic medium or machine-readable form without prior written consent with our company.

- This manual also contains the explanation of optional specification.

- The contents of this operation manual may differ from that of the refrigeration unit used by a customer due to specification change.

- The contents described in this operation manual may be changed without a prior notice.

- When transferring or lending the refrigeration unit, attach this operation manual together with the unit so that the operators should be able to have a good knowledge on safety.

- Keep this operation manual in the vehicle so that it is available for your reference when you need it.

- Unless otherwise noted, "right" and "left" directions are given as viewed from the front of the refrigeration unit.

For disposal

Contact your nearest dealer when disposing the refrigeration unit. Observe the applicable laws and regulations in your country to dispose refrigerants and cooling water.

Information on the Models

This operation manual describes how to use the following models.

(1) Standard system for single refrigeration compartment

■ Integral type TDJS35DAE /TDJS50DAE / TDJS70DZAE

■ Integral type TDJS100DAE

This system consists of 2 refrigerant circuits which are independent to each other.

(2) 2-evaporator system for two refrigeration compartments

■ Integral type TDJS35DAE-M / TDJS50DAE-M / TDJS70DZAE-M

(3) Model Information

Unit Model		System	Unit Weight: kg
Refrigeration unit	TDJS35AE-L*	Standard	74
	TDJS50AE-L*		84
	TDJS70AE-L*		107
	TDJS100AE-L*		155
	TDJS35AE-L*M	2-evaporator	72
	TDJS50AE-L*M		81
	TDJS70AE-L*M		102
Evaporator unit	TDS25EX*-E		20
	TDS40EX*-E		25
	TDS50EX*-E		30

* : Indicates electrical system rated voltage difference.

(1= DC12V, 2= DC24V)

Contents

1 Function of Refrigeration Unit

This refrigeration unit has following functions.

(1) Defrosting operation function

This is the function to protect evaporator from frosting during cooling operation and to prevent refrigerating power from decreasing.
There are following 2 methods to start defrosting operation.

1) **Automatic defrosting operation**
   Defrosting starts automatically by the timer setting.
   ☞ Refer to page 28 for defrosting timer setting.

2) **Manual defrosting operation**
   Defrosting starts forcibly by pressing the switch of controller.
   ☞ Refer to page 38 for how to operate.

As the defrosting operation is completed, the refrigeration unit returns to the cooling operation.
Defrosting operation will not start when the evaporator temperature is high even during the cooling operation

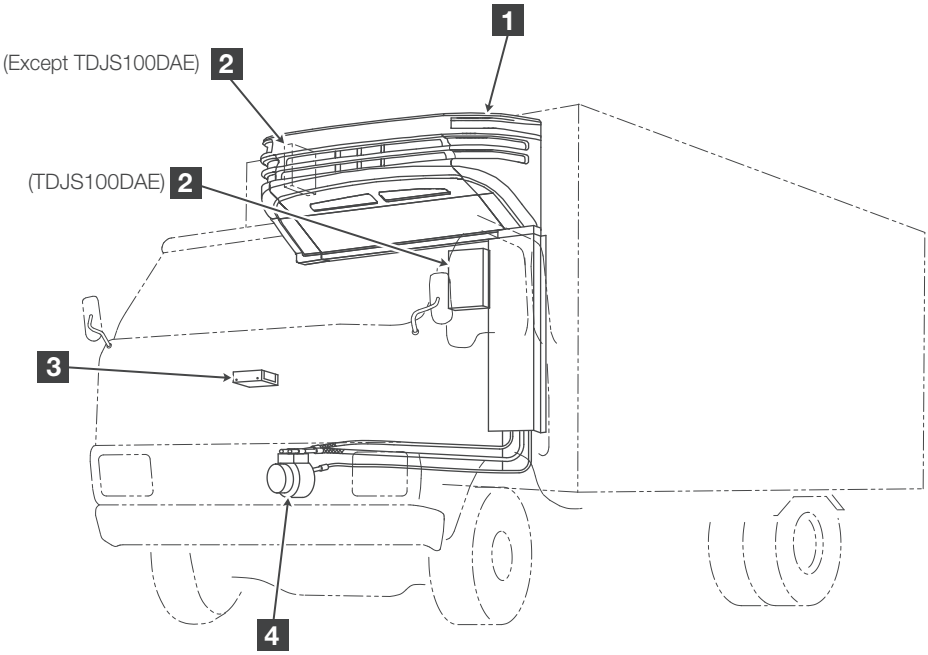
(2) Timer operation function

This is the function to set starting time and stopping time of the operation .
☞ Refer to pages from 39 to 42 for how to set.

2 Name of each part

Arrangement plan for main parts

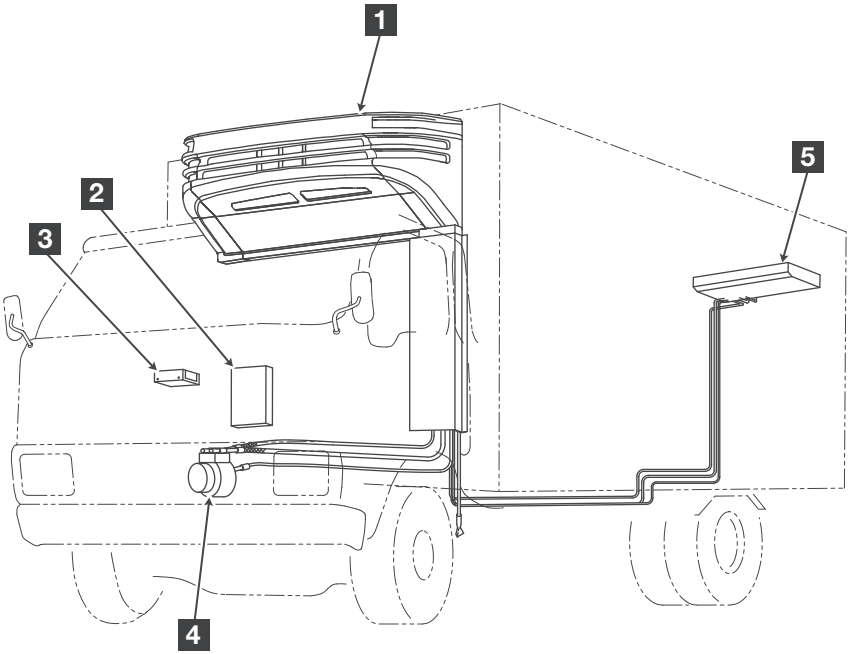
■Single compartment integral type



1	Refrigeration unit	3	Cabin controller
2	Control box	4	Compressor

· Actual locations of above units, etc. should be checked beforehand because they could vary depending on vehicle models, or other.
· TDJS100DAE model is equipped with 2 units of 4.

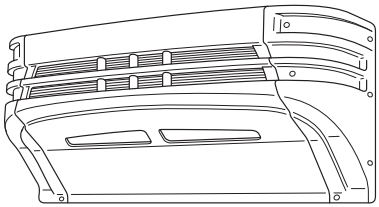
■2-compartment integral type



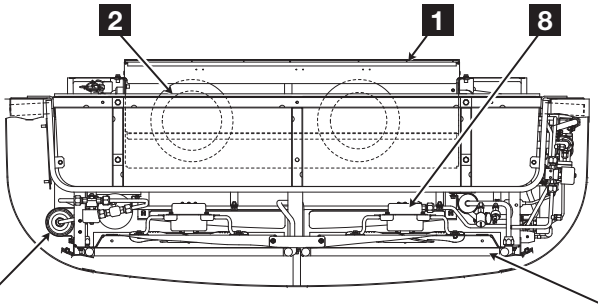
1	Refrigeration unit	4	Compressor
2	Control box	5	Rear evaporator unit
3	Cabin controller		

Actual locations of above units, etc. should be checked beforehand because they could vary depending on vehicle models, or other.

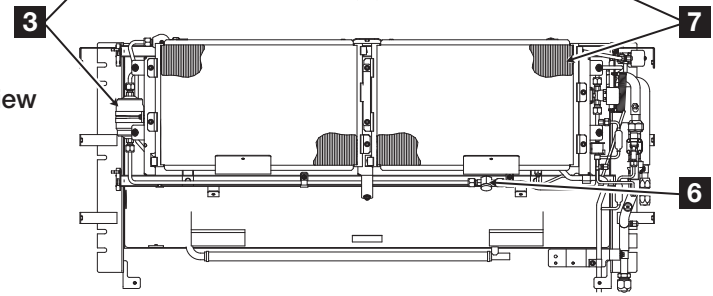
Refrigeration unit (Integral type)



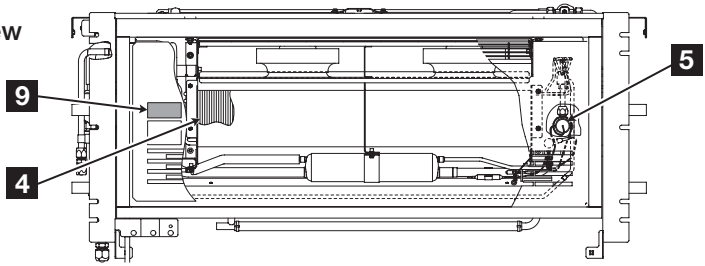
■Top view



■Front view



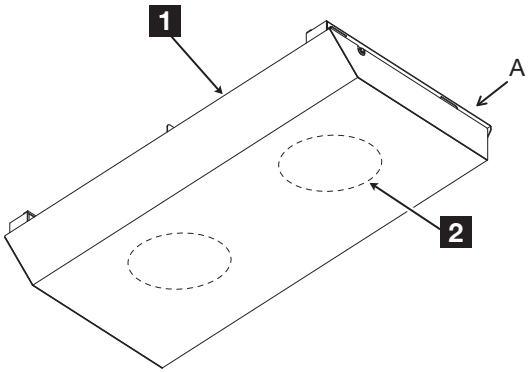
■Rear view

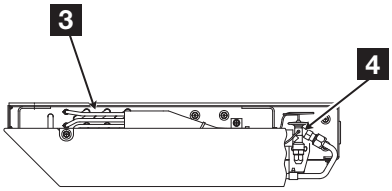


1	Evaporator outlet	6	Sight glass
2	Evaporator fan motor	7	Condenser coil
3	Dryer	8	Condenser fan motor
4	Evaporator coil	9	Label (F-Gas)
5	Expansion valve		

· Form of components and specifications may vary depending on models.

Rear evaporator unit (2-compartment model)





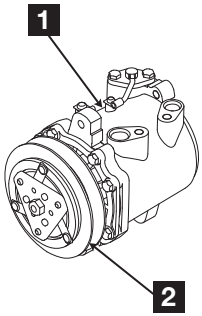
Inside of view "A"

1	Evaporator outlet	3	Evaporator coil
2	Evaporator fan motor	4	Expansion valve

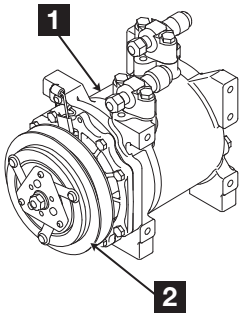
· Form of components and specifications may vary depending on models.

Compressor

■CS55



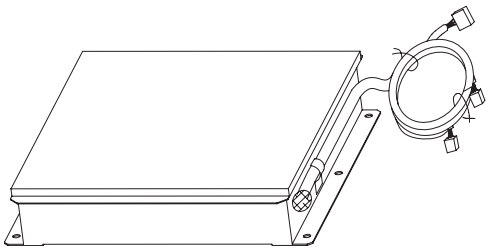
■CSA90, CSA150



1	Compressor	2	Magnet clutch

· Form of components and specifications may vary depending on models.

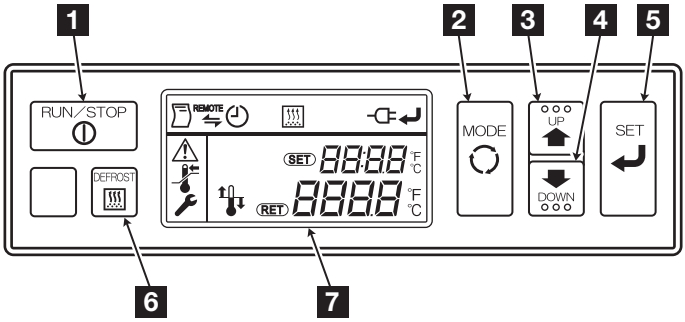
Control box



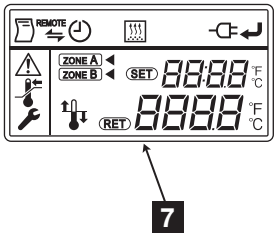
· Form of components and specifications may vary depending on models.

Cabin controller

■Single compartment model

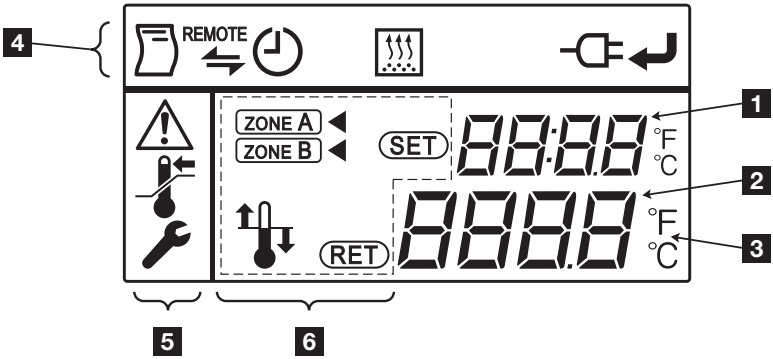


■2-compartment model only



1	RUN/STOP switch	Starts or stops the refrigeration unit.
2	MODE switch	Selects the normal display screen or the setting display screen. Displays the screen while the refrigeration unit is stopped.
3	UP switch	Changes the setting temperature, setting screens and setting values.
4	DOWN switch	Changes the setting temperature, setting screens and setting values.
5	SET switch	Registers the setting.
6	DEFROST switch	Starts the manual defrosting operation.
7	Digital display area	Displays the inside container temperature, setting temperature and operation status.

Digital display area



Explanation of display

1	Upper digital display	Displays the setting temperature during operation.
2	Lower digital display	Displays the inside container temperature during operation.
3	Temperature symbol	°C will light in case of centigrade and °F will light in case of Fahrenheit. (Initial setting is in centigrade.)
4	Function icons	Either one of these icons will light when corresponding function is selected.
	.....	Display for printer. The lamp blinks while data are output to printer.
	REMOTE	Display for external communication status. The lamp lights when the operation control input is turned on for a remote control device, etc.
	.....	Display for timer. The lamp blinks when the display or setting for timer operation is made.
	.....	Display for defrosting The lamp blinks when the display or setting for defrosting operation is made.
	.....	Display for commercial power supply The lamp lights when the unit is connected to the commercial power supply. It blinks if the commercial power supply and the battery power supply are applied simultaneously.
	.....	Display for registration The lamp lights when registration is required.

5	Warning/inspection icon	These lamps light when there are any warning to user.
		Display for warning The lamp lights (backlight blinks) or blinks when any error occurs.
		Display for out of range inside container temperature The lamp lights when the inside container temperature runs out the adequate range.
		Display for need of maintenance The lamp lights when the operation time or number of start/stop cycles reached the amount to request maintenance.
6	Operation status icon	These lamps light depending on the status of operation or setting.
		Display for operation The lamp lights during operation (including during thermostat OFF).
	.....	Display for heating operation The lamp lights during the heating operation.
		Display for cooling operation The lamp lights during the cooling operation.
	SET	The lamp lights when displaying the setting temperature.
	RET	The lamp lights when displaying the inside container temperature.
	2-compartment model only	
	ZONE A	Compartment A operation indicator. The lamp lights when the compartment (or zone) A is operating. ZONE A ◀ lamp lights when the setting items for the compartment A are selected.
	ZONE B	Compartment B operation indicator. The lamp lights when the compartment (or zone) B is operating. ZONE B ◀ lamp lights when the setting items for the compartment B are selected.

Protective devices

This refrigeration unit is provided with the following protective devices to ensure the safety of the operators.

(1) Panel, Fan guard
These devices prevent interference with the rotating section (fan motor) during operation.

People who handle this refrigeration unit are requested to understand the functions of these protective devices completely to use it safely. Do not deactivate these protective devices or do not operate the refrigeration unit in the situation that the devices are inactivated. It is most important for safety ensuring to keep functions of the protective devices in normal status continuously.

3 Precaution for safety

In this section, necessary safety precautions are provided to prevent accidents resulting in injuries or death, property damages and environment pollution. Read and understand contents of the cautions before starting to use this Refrigeration Unit.

Signs on safety

Signs and Symbols on safety in this operation manual and the warning labels call the attention of the people who handle this refrigeration unit.

Signs on safety

Kinds	Description
⚠ DANGER	Indicates high and imminent potentially dangerous situation, which if mis-handle, will result in death, injury, or serious accident such as damage of the refrigeration unit.
⚠ WARNING	Indicates dangerous situation, which if mis-handled, will result in death, serious injury, and serious accident such as damage of the refrigeration unit.
⚠ CAUTION	Indicates potentially dangerous situation, which if mis-handled, will result in minor injury or moderate property damage.

Symbols

Symbols	Description	Symbols	Description
	Never perform.		Always observe the instructions.
	Disconnect power supply plug from socket.		Never touch.
	Repairs and disassembly must be done only by qualified personnel		

Other symbol

Other advice for the refrigeration unit is described with the following symbol.

Kind	Description
NOTE	Useful information for function or performance of equipment

Precautions

General precautions

⚠ DANGER

Do not modify or perform specification change for the refrigeration and vehicle. (This will make refrigeration unit out of warranty.)

- It may cause a serious accident if customer modify the refrigeration unit or change the specification by himself/herself.

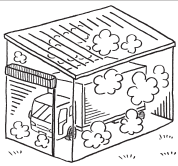
Do not paint on resinic design panel. (This will make refrigeration unit out of warranty.)

- Cracking occurs in design panel, which cause a risk of falling down of panel while the vehicle is running.

⚠ WARNING

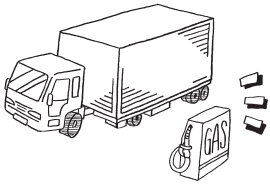
Do not start the engine in poorly ventilated places such as an indoor parking lot.

- Otherwise, it may cause carbon monoxide poisoning due to exhaust gas.



Do not use the refrigeration unit in the atmosphere which could cause explosion at such place like gas station.

- Otherwise, it may cause an explosion or a fire.



When it is necessary to charge or retrieve the refrigerant or refrigerating machine oil, be sure to consult the nearest service center.

- Customer should refrain from attempting to do these on their own. Otherwise, it could result in serious accident.

Make sure that no one left inside the container before closing the door.

- He or she might be frozen to death if the refrigeration unit is operated with someone inside.

⚠ WARNING

Be sure to carry out the periodic inspections.

- Otherwise, it may cause troubles of the refrigeration unit or accidents.

⚠ CAUTION

Do not insert sticks or fingers into cold air outlet or inlet.

- Otherwise, it may cause trouble on the equipment or injury by the fan.

Do not climb up, hang down or put your leg onto the refrigeration unit.

- Otherwise, it may cause damage of the equipment or injury.

Use the refrigeration unit as the equipment for transport refrigeration.

- Otherwise, it may deteriorate quality of the cargo if it is used for any other purpose.

During and after the operation

⚠ CAUTION

Do not touch the refrigerant pipe during operation or immediately after the operation.

- Otherwise it may cause burns, as refrigerant pipe will get hot.

Do not operate the cabin controller while driving the vehicle.

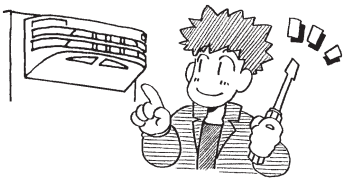
- Otherwise, it could result in serious accident.

Inspection/Cleaning/Repair

⚠ WARNING

Do not disassemble and repair by yourself.

- Otherwise, it may cause damages or an electric shock.



⚠ CAUTION

When refrigerant or refrigerating machine oil has spilled, take care not get it in eyes and avoid accidental contact to skin or inhaling or swallowing.

- Otherwise, it may cause health disorders such as frostbite, loss of eyesight and pneumonia.

Do not wash the refrigeration unit with a steam washer or a high pressure washer.

- Otherwise, it may cause a rupture due to pressure rise in the refrigeration unit or distortions of the condenser fin.

Before starting inspection or maintenance, be sure to stop the refrigeration unit by turning the "RUN/STOP" switch to OFF, disconnecting the battery terminals and the fan motor connectors.

- Otherwise, it may cause injury or an electric shock due to unexpected start.

When inspecting or cleaning the refrigeration unit, apply the parking brake and put chocks under wheels.

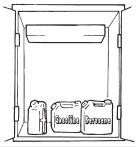
- Otherwise, the vehicle may start to move, causing injury or accident.

Loading

⚠ WARNING

Do not load the volatile or inflammable cargos in the container.

- Otherwise, it may cause an explosion or a fire.



⚠ CAUTION

Cool down or heat up the cargos to the designated temperature in advance with other refrigerating device.

- If the cargos are not kept in the designated temperature, it may deteriorate quality of the cargos due to inside container temperature rise.

Waterproof the cargos if they need to be.

- Water may drip or splash from the evaporator unit.

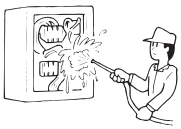
When stacking cargos, secure safety.
When loading fragile cargos, use appropriate protective materials.

- It could damage cargos or cause injury or accident.

Handling of electric equipment and power codes

⚠ WARNING

- **Do not directly splash water on the electric equipment or wash them with water.**



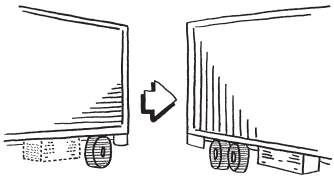
- **Never touch the electric equipment or operate the switches with wet hands.**

- Otherwise, it may cause troubles of electric circuit, or an electric shock.

Reinstallation of the refrigeration unit

⚠ WARNING

User should not attempt to move the refrigeration unit to another vehicle. When it is necessary, consult your nearest dealer.



- The refrigeration unit may fall down and cause a serious accident due to improper installation or insufficient strength if the work is performed by the customer.

Modification of refrigeration unit and specification change

⚠ WARNING

Do not modify the refrigeration unit or change the specification.

- It may cause a serious accident if customer modify the refrigeration unit or change the specification by himself/herself.

Do not use any refrigerant or refrigerating machine oil other than those specified.

- Otherwise, it may cause explosion or fire.

Emergency measures

(1) Refrigerant

- **When refrigerant got in your eye**
  Wash your eye with lots of clean running water for more than 15 minutes immediately. Wash rear side of the eyelid as well. Then, consult a physician as soon as possible.

- **When refrigerant comes in contact with your skin**
  Take off wet clothes, shoes and socks immediately, as it may cause frostbite if you touch the refrigerant. Wash the part well with lots of water. If you still have irritation, consult a physician as soon as possible.

- **When inhaling evaporated gas**
  When someone inhaled high level of gas, move to the place with fresh air immediately holding him/her with a blanket or the like to keep warm. Then consult a physician as soon as possible. When he/she does not breathe or hardly breathe, loosen his/her clothes and practice artificial respiration after securing the air passage. Depending on the circumstance, have him/her inhale oxygen and take him/her to a physician as soon as possible.

- **When swallowing refrigerant**
  Do not throw up by force and consult a physician as soon as possible.

* **Precautions for physician**
Use of Catecholamine system medicine such as adrenaline and so on may cause heart arrhythmia. Therefore it is required to use only for the emergency life-sustaining treatment with special consideration.

(2) Compressor oil

- **When compressor oil got in your eye**
  Wash your eye with lots of clean running water for more than 15 minutes immediately. Wash rear side of the eyelid as well. If you still have irritation, consult a physician as soon as possible.

- **When compressor oil comes in contact with your skin**
  Wash the part with lots of water and soap well and apply conditioning cream on it.

- **When inhaling evaporated gas**
  Move to the place with fresh air immediately holding him/her with a blanket or the like to keep warm. Then consult a physician if it is necessary. When he/she does not breathe or hardly breathe, loosen his/her clothes and practice artificial respiration after securing the air passage. Depending on the circumstance, have him/her inhale oxygen and take him/her to a physician as soon as possible.

- **When swallowing compressor oil**
  Do not throw up the oil by force and consult a physician as soon as possible. When inside the mouth is contaminated, wash it well with water. (When throwing up the oil by force, it easily gets into air passage and causes high fever if it gets into lung. It may cause hardly incurable hemorrhagic pneumonia accordingly.)

Handling of warning labels

(a) Important precautions are stated on the warning labels. Never operate the refrigeration unit unless fully understanding the meanings of the warning labels. When you found some difficulties to understand, contact your nearest dealer.

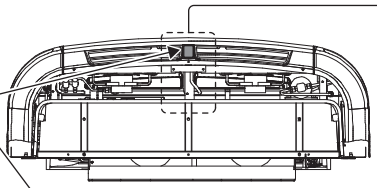
(b) Always keep the labels in good condition to read. Do not peel off, tear off or damage the labels or do not wipe with solvent or paint them.

(c) When the labels become illegible, purchase them from your nearest dealer and change them.

Refrigeration unit

■Top view

TSJ011H023A



TDJS100DAE only

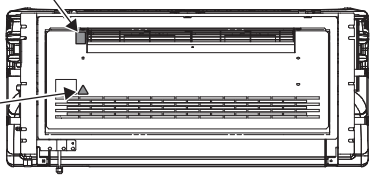
*1

PSA011H011A

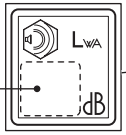
■Back view

*2

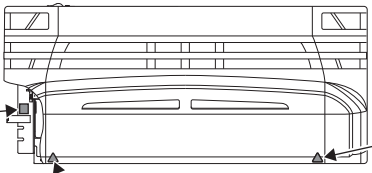
PSA011H011A



■Front view



TSJ011H072AJ, AK, AH, AG



*4

PSA011H011A

Control box

(TDJS100DAE and 2-compartment model only)

TDJS100DAE only

*3

PSA011H011A

PSA011H011

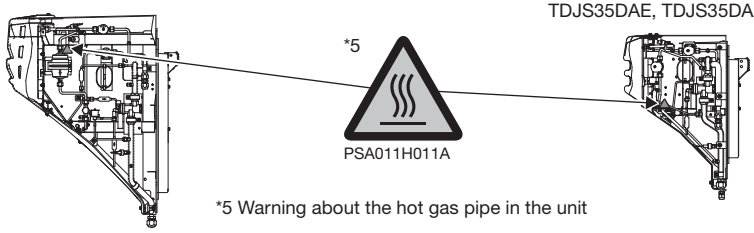
Sound power level (dB)

Label / Model	TSJ011H072 AJ	AK	AH	AG
TDJS35DAE	82	–	–	–
TDJS35DAE-M				
TDJS50DAE	–	81	–	–
TDJS50DAE-M				
TDJS70DZAE	–	–	83	–
TDJS70DZAE-M				
TDJS100DAE	–	–	–	84

*1 Warning about the hot gas pipe in the unit
*2 Warning about high temperature sections on the hot gas pipe and the drain pan
*3 Warning about high temperature sections on the pipe cover of No. 1 circuit and the discharge pipe in the unit
*4 Warning about high temperature sections on the pipe cover and the discharge pipe in the unit (on No. 2 circuit in case of TDJS100DAE)

■Right side view inside

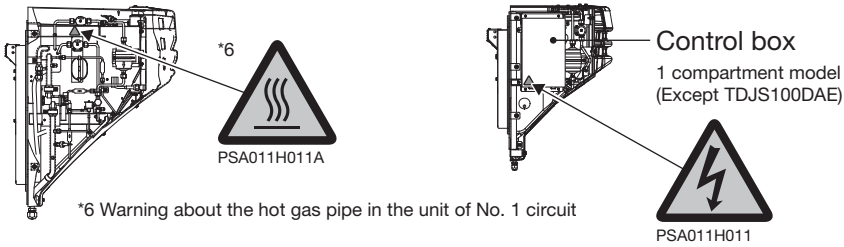
TDJS35DAE, TDJS35DAE-M only



*5 Warning about the hot gas pipe in the unit

■Left side view inside

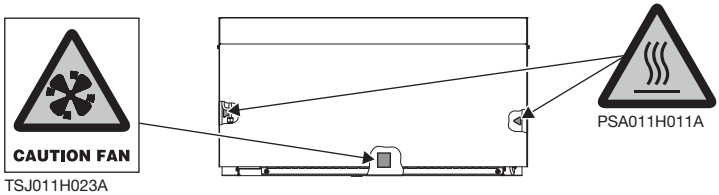
TDJS100DAE only



*6 Warning about the hot gas pipe in the unit of No. 1 circuit

Rear evaporator unit

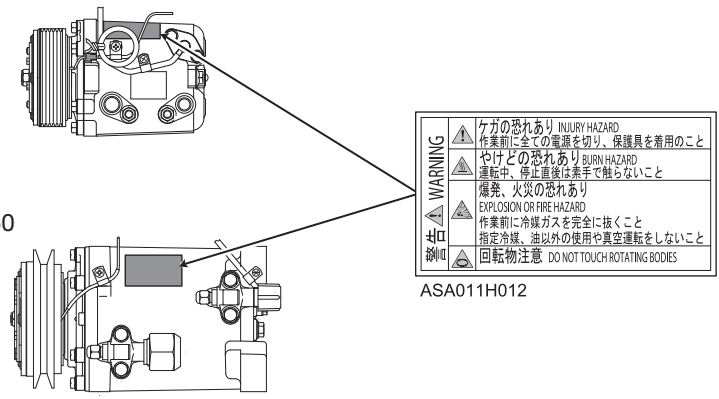
■Bottom view



Compressor

■CS55

■CSA90, CSA150



Prevention of start during inspection work

When several people are working simultaneously for inspection, it is necessary to protect them from getting injured by accidental start of operation.
In such occasion, place a tag stating "WORKING" on the cabin controller.

Clothing and protective equipment

Wear proper clothing and protective equipment to prevent from getting injured.

- Wear the clothing such as long sleeves, long pants, gloves and eye protections.
- Do not wear accessories such as necklaces or a necktie to prevent it from getting rolled in. Fasten the cuffs firmly.

When abnormal conditions are detected

Refer to "9 For emergency" when abnormal conditions are detected. Please contact your nearest dealer when it is too difficult to handle.

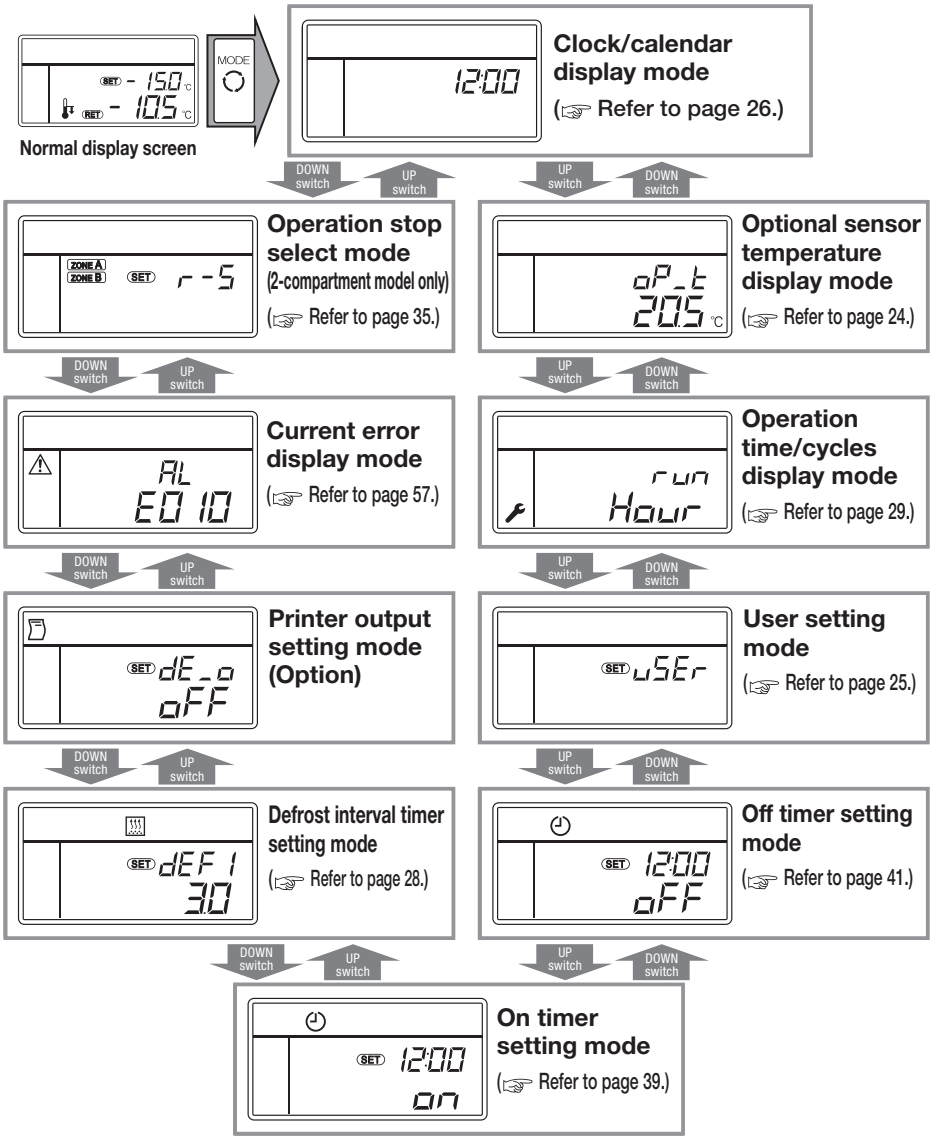
For emergency

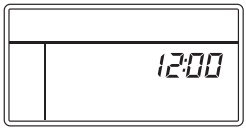
Contact the public agencies such as the police or the fire department immediately when an accident could result in serious injury, death, serious property damage or environmental damage occurred. Contact your nearest dealer to prevent second accident.

4 Initial setting

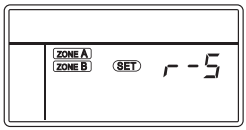
Mode displays and functions

Pressing the [MODE] switch once on the "Normal display screen" while the refrigeration unit is stopped or operating, the display changes to the "Clock/ calendar display mode". Each press on the [UP] or [DOWN] switch changes the display, allowing doing different settings. In the flowing figure, the [DOWN] switch progresses the changes while the [UP] switch reverses the sequence.

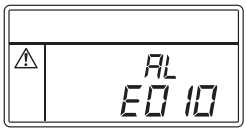




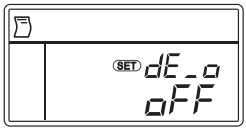
Clock/calendar display mode
Mode to display or set current time and date
(☞ Refer to page 26.)



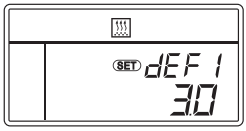
Run/Stop select mode (2-compartment model only)
Mode to select the Run/Stop of operation at compartments A, B
(☞ Refer to page 35.)



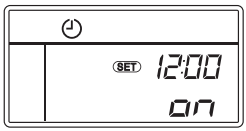
Current error display mode
Error code for the error currently on board is displayed.
(☞ Refer to page 57.)



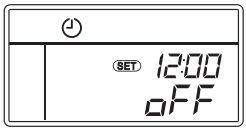
Printer output setting mode
Mode to print temperature history data
An optional printer is necessary to print graphic data.
(Option)



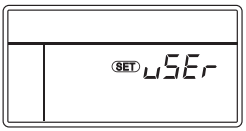
Defrost interval timer setting mode
Mode to display and set the defrost interval timer
The time is displayed in hour. Initial setting before shipment is "3 hours".
(☞ Refer to page 28.)



ON timer setting mode
Mode to set the time to start the operation of the refrigeration unit automatically
(☞ Refer to page 39.)



OFF timer setting mode
Mode to set the time to stop the operation of the refrigeration unit automatically
(☞ Refer to page 41.)



User setting mode
Mode to display and set the functions related to the controller operability and others.
(☞ Refer to page 25.)

Operation time/start-stop cycles display mode
Mode to display the operation time or number of start/stop cycles of each device
(☞ Refer to page 29.)

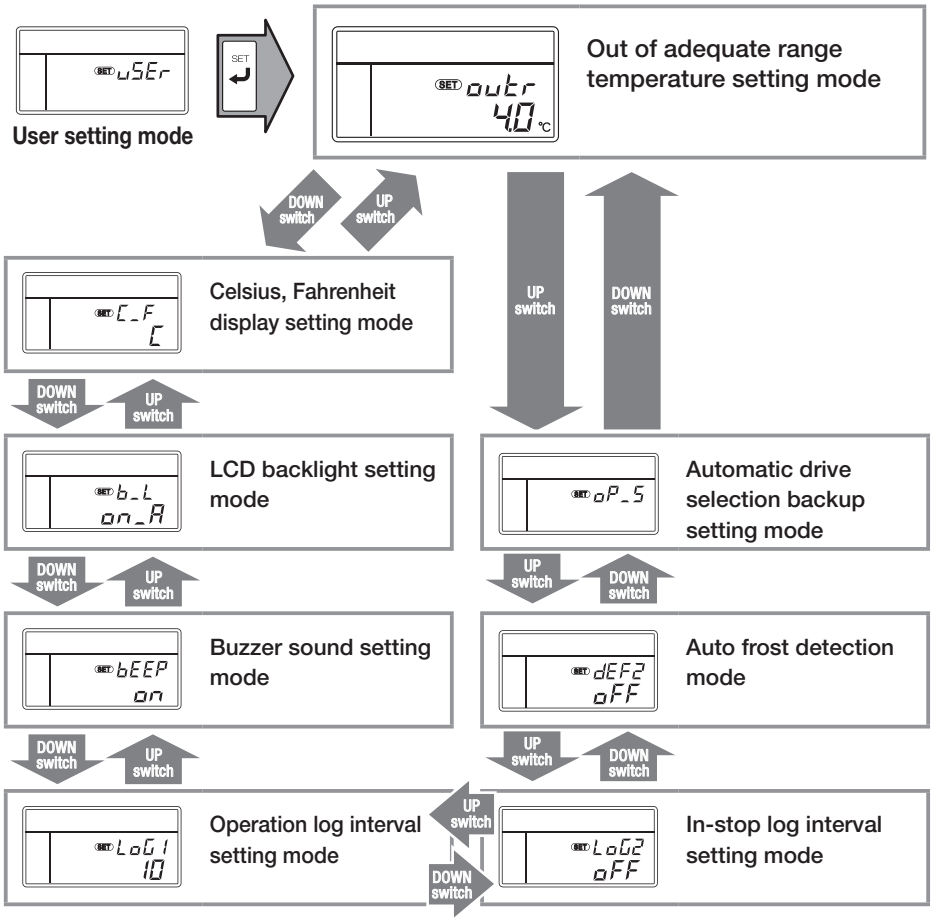
Optional sensor temperature display mode
This is displayed when the optional sensor is installed. In this mode, the temperature detected with the sensor is displayed.
If the optional sensor is not installed, the digital display shows “----”.

Outline of the user setting mode

"User setting mode" display changes in the order as shown in the following figure at each press on the [UP] or [DOWN] switch. The [DOWN] switch progresses the changes while the [UP] switch reverses the sequence.

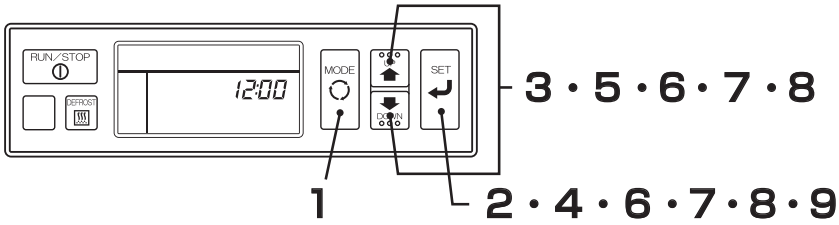
NOTE

- If the [MODE] switch is pressed during the setting change operation, the display changes to the previous screen, and the change is not registered. The same occurs also when the setting change is aborted on the way.



- When it is necessary to change the setting of LCD backlight, buzzer sound or logging interval, consult your nearest dealer.

Setting the clock/calendar

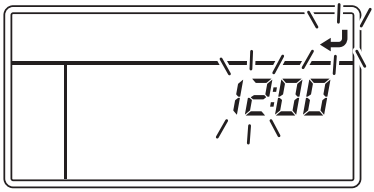


1 **Press the [MODE] switch.**

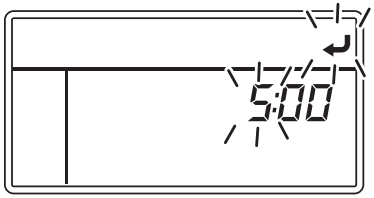
⇒ The display changes to the "Clock/calendar display mode".

2 **Press the [SET] switch.**

⇒ Time (hour) starts to blink on the upper digital display.
Icon ↵ blinks.



3 **Press the [UP] or [DOWN] switch to adjust to the current time (Hour).**

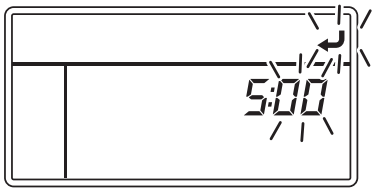


NOTE

- The clock shows the time up to 24 hours.
  Set "19:00" if it is 7 o'clock PM.

4 **Press the [SET] switch.**

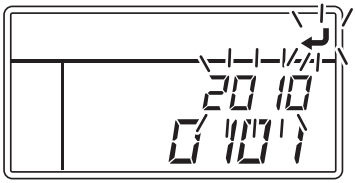
⇒ The time (minute) in the digital display area starts to blink.



5 **Press the [UP] or [DOWN] switch to adjust to the current time (minute).**

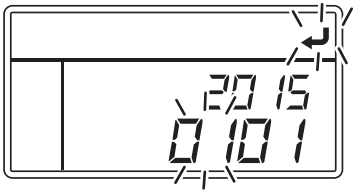
6 **Press the [SET] switch.**

⇒ Calendar (year) blinks on the digital display.
Pressing the [UP] or [DOWN] switch, adjust the calendar to the current year.



7 **Press the [SET] switch.**

⇒ Calendar (month) blinks on the digital display.
Pressing the [UP] or [DOWN] switch, adjust the calendar to the current month.



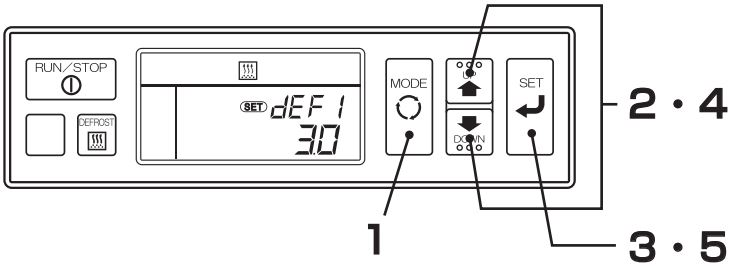
8 **Press the [SET] switch.**

⇒ Calendar (date) blinks on the digital display.
Pressing the [UP] or [DOWN] switch, adjust the calendar to the current date.

9 **Press the [SET] switch.**

⇒ Setting is completed, and the display returns to the "Clock/calendar display mode".

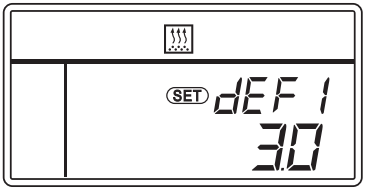
Setting the defrost interval timer



1 **Press the [MODE] switch.**

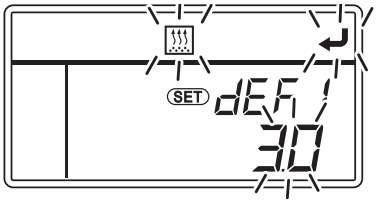
⇒ The display changes to the "Clock/calendar display mode".

2 **Press the [UP] or [DOWN] switch until the display changes to the "Defrost interval timer setting mode". (Right figure)**



3 **Press the [SET] switch.**

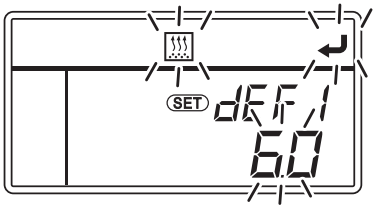
⇒ Time starts to blink on the lower digital display.
Icons and starts to blink.



4 **Press the [UP] or [Down] switch to select the setting time.**

NOTE

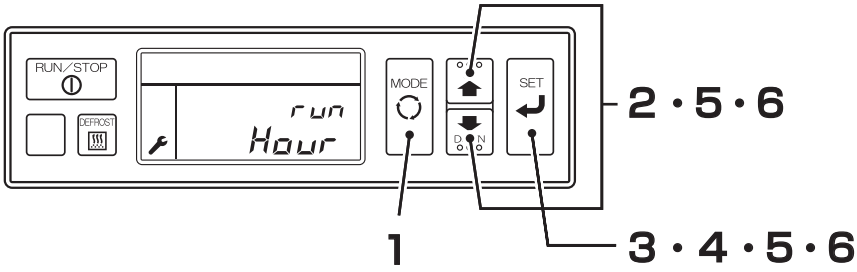
- The defrost interval time can be selected from 12 steps ranging from 0.5H (0.5 hour) at the minimum to 6H (6 hours) at the maximum.



5 **Press the [SET] switch.**

⇒ Setting is completed, and the display returns to the "Defrost interval timer setting mode".

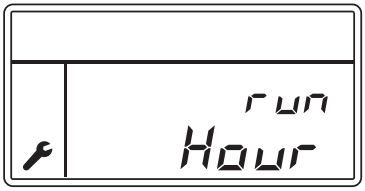
Displaying the operation time/cycles



1 **Press the [MODE] switch.**

⇒ The display changes to the "Clock/calendar display mode".

2 **Press the [UP] or [DOWN] switch until the display changes to the "Operation time/cycles display mode". (Right figure)**

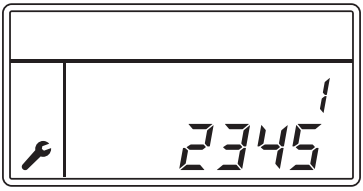


3 **Press the [SET] switch.**

⇒ The digital display changes to the compressor electromagnetic clutch operation time mode.
Icon 🔧 starts to blink if the maintenance request time has been reached.

4 **Hold down the [SET] switch.**
(If you release hand, it returns to the original display.)

⇒ The digital display shows the compressor electromagnetic clutch operation time. The lower digital display is up to 4 digits while the upper digital display shows the number of the fifth digit.



5 Press the [UP] or [DOWN] switch.

⇒ The display changes to each of following modes.
While the [SET] switch is held down, the operation time or start/stop cycles in each mode is displayed.

Order of display	Digital display		Mode	Order of display	Digital display		Mode
	Upper section	Lower section			Upper section	Lower section	
1	Hour	MCL 1	Compressor electromagnetic clutch operation time	9	Cnt	SV6	Economizer solenoid valve SV6 start/stop cycles
2	Cnt	MCL 1	Compressor electromagnetic clutch start/stop cycles	10	Hour	dH-A	Drain hose heater DH-A operation time
3	Hour	MPC 1	Standby compressor operation time	11*	Hour	WP	Warm water pump operation time
4	Cnt	SV 1A	Hot gas solenoid valve SV1A start/stop cycles	12	Hour	EFM 1	Evaporator fan motor 1 operation time
5	Cnt	SV2	Liquid bypass solenoid valve SV2 start/stop cycles	13	Hour	EFM2	Evaporator fan motor 2 operation time
6	Cnt	SV3	Condenser outlet solenoid valve SV3 start/stop cycles	14	Hour	CFM 1	Condenser fan motor 1 operation time
7*	Cnt	SV4A	Warm water solenoid valve SV4A start/stop cycles	15	Hour	CFM2	Condenser fan motor 2 operation time
8	Cnt	SV5A	Liquid line solenoid valve SV5A start/stop cycles				

⇒ Items 16 to 23 are displayed only on the 2-compartment model.

Order of display	Digital display		Mode	Order of display	Digital display		Mode
	Upper section	Lower section			Upper section	Lower section	
16	Cnt	SV 1b	Hot gas solenoid valve SV1B start/stop cycles	20	Hour	EFM3	Evaporator fan motor 3 operation time
17*	Cnt	SV4b	Warm water solenoid valve SV4B start/stop cycles	21	Hour	EFM4	Evaporator fan motor 4 operation time
18	Cnt	SV5b	Liquid line solenoid valve SV5B start/stop cycles	22	Hour	EFM5	Evaporator fan motor 5 operation time
19	Hour	dH-b	Drain hose heater DH-B operation time	23	Hour	EFM6	Evaporator fan motor 6 operation time

⇒ Items 24 and further are displayed only on the model TDJS100DAE.

Order of display	Digital display		Mode	Order of display	Digital display		Mode
	Upper section	Lower section			Upper section	Lower section	
24	Hour	ACL2	Compressor electromagnetic clutch operation time (No. 2 circuit side)	32	Cnt	SV32	Condenser outlet solenoid valve SV32 start/stop cycles
25	Cnt	ACL2	Compressor electromagnetic clutch start/stop cycles (No. 2 circuit side)	33*	Cnt	SV4	Warm water solenoid valve SV4 start/stop cycles (for No.2 circuit)
26	Hour	APC2	Standby compressor operation time (No. 2 circuit side)	34	Cnt	SV51	Liquid line solenoid valve SV51 start/stop cycles
27	Cnt	SV11	Hot gas solenoid valve SV11 start/stop cycles	35	Cnt	SV52	Liquid line solenoid valve SV52 start/stop cycles
28	Cnt	SV12	Hot gas solenoid valve SV12 start/stop cycles	36	Hour	dH	Drain hose heater DH operation time (for No. 2 circuit)
29	Cnt	SV21	Liquid bypass solenoid valve SV21 start/stop cycles	37*	Hour	tFM1	Baffle fan motor 1 operation time
30	Cnt	SV22	Liquid bypass solenoid valve SV22 start/stop cycles	38*	Hour	tFM2	Baffle fan motor 2 operation time
31	Cnt	SV31	Condenser outlet solenoid valve SV31 start/stop cycles	39*	Hour	tFM3	Baffle fan motor 3 operation time

Some of above modes may not be displayed depending on models.

*: These are optional parts for models distributed in Japan only so that the count does not change on the models which are referred to in this manual.

5 Operation

⚠ WARNING

Do not operate the refrigeration unit in the place where there is a risk of combustible gas leakage.

- Otherwise, it may cause a fire.

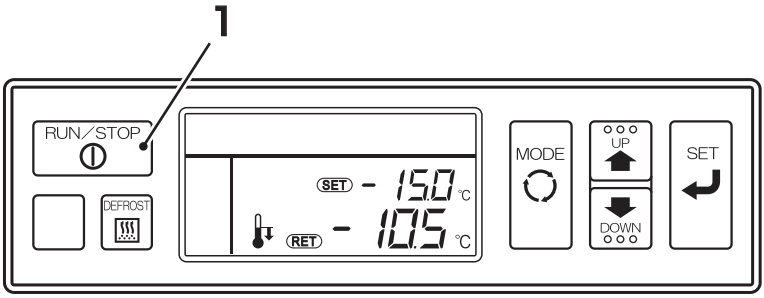
Do not touch the electric devices with wet hands.

- Otherwise, it may cause an electric shock.

When driving the unit with the vehicle's engine in a building, sufficient ventilation must be provided.

- Otherwise, it may cause oxygen deficiency due to exhaust gas.

Operation



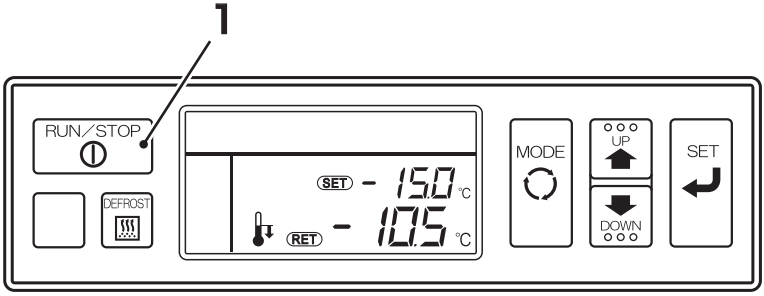
1 **Press the [RUN/STOP] switch.**
(Refrigeration unit is turned "ON".)

⇒ Inside container temperature and setting temperature are displayed on the LCD display.
Commercial power supply icon lights when the unit is driven by the motor.

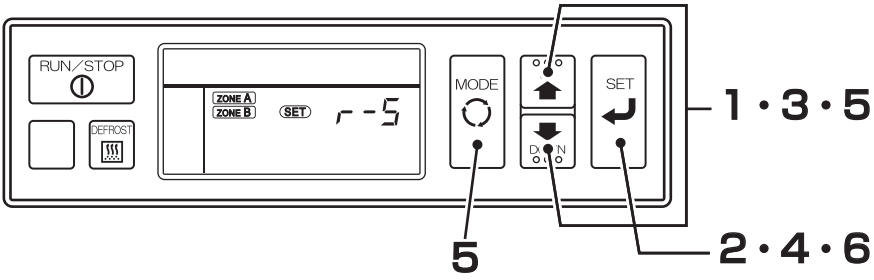
NOTE

- Warning buzzer may be turned off. If you need to change the setting, consult your dealer.

Stopping the operation



1 **Press the [RUN/STOP] switch.**
(Refrigeration unit is turned "OFF".)

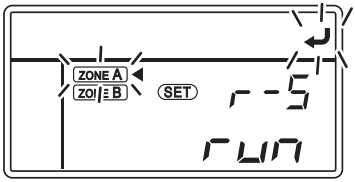


Method to stop operation at each compartment (2-compartment model only)

1 **In the “Clock/Calendar display mode”, hold down the “UP” or “DOWN” switch till the display changes to the “Run/Stop select mode” (above figure).**

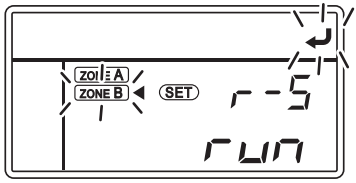
2 **Press the “SET” switch.**

⇒ The display changes to the “Each compartment (or zone) Run/Stop setting mode”.



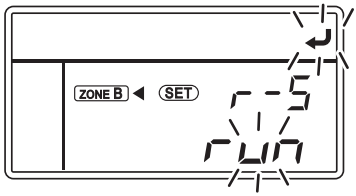
3 **Press the “UP” or “DOWN” switch.**

⇒ Select the compartment to stop operation. The lamp of selected compartment (or zone) starts to blink and the mark ◀ is displayed.



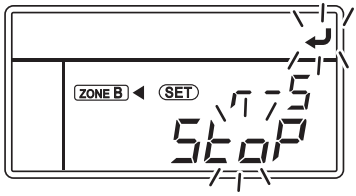
4 **Press the “SET” switch.**

⇒ The compartment to stop operation is finalized.



5 **Press the “UP” or “DOWN” switch.**

⇒ Operation is stopped at the selected compartment.



NOTE

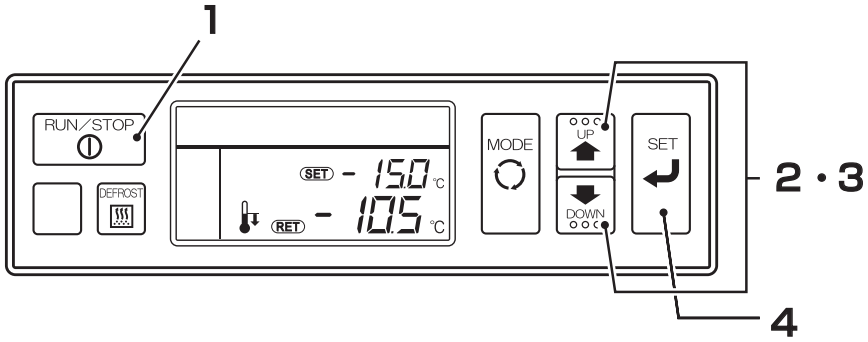
- You cannot stop operation at all compartments.

6 **Press the “SET” switch.**

⇒ Operation stop at the selected compartment is completed, and the display returns to the “Run/Stop select mode”.

Setting temperature

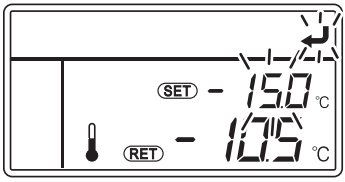
■Single compartment model



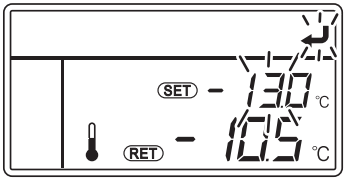
1 **Start to operate the refrigeration unit. (☞ Refer to page 33.)**

2 **Press the [UP] or [DOWN] switch.**

⇒ Current setting temperature on the upper digital display starts to blink.



3 **Press the [UP] or [DOWN] switch to change the temperature.**



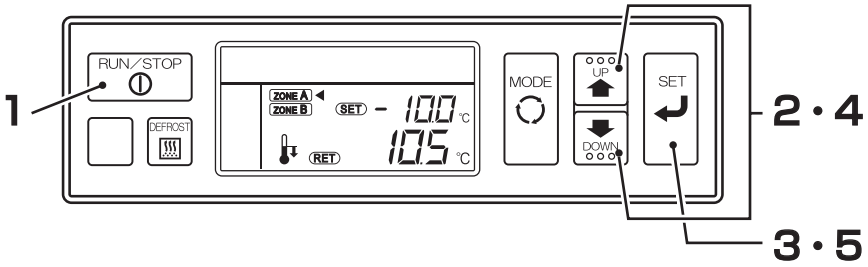
NOTE

- Each press on the [UP] switch increases the value by 0.5 while each press on the [DOWN] switch decreases the value by 0.5. (In case of Fahrenheit by 1) Keeping pressing either switch changes the value continuously.

4 **Press the [SET] switch.**

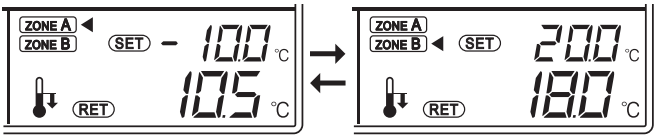
⇒ The setting is completed and the screen returns to the "Normal display screen". (☞ Refer to page 22.)

■2-compartment model



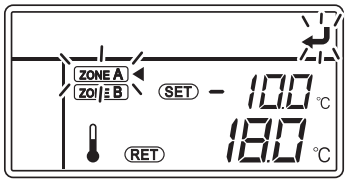
1 **Start to operate the refrigeration unit. (☞ Refer to page 33.)**

⇒ Display changes at every 4-seconds to show the setting temperature/inside compartment temperature at each compartment (or zone).



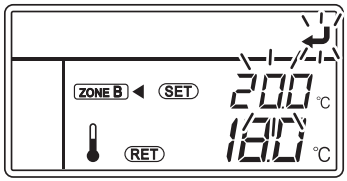
2 **Press the [UP] or [DOWN] switch.**

⇒ Select the compartment to set the temperature.
Lamp of the selected compartment blinks with ◀ mark

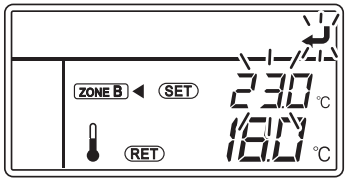


3 **Press the [SET] switch.**

⇒ Current setting temperature on the upper digital display starts to blink.



4 **Press the [UP] or [DOWN] switch to change the temperature.**



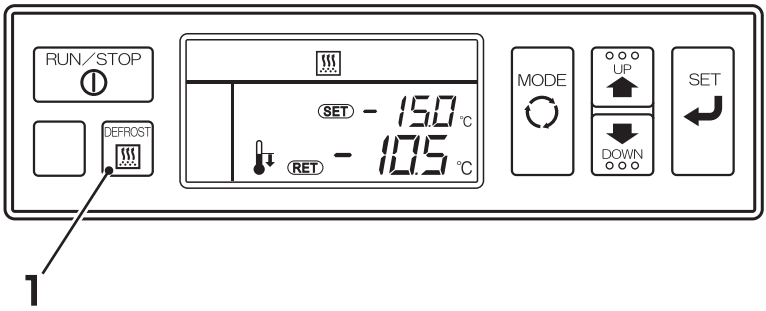
NOTE

- Each press on the [UP] switch increases the value by 0.5 while each press on the [DOWN] switch decreases the value by 0.5. (In case of Fahrenheit by 1)
  Keeping pressing either switch changes the value continuously.

5 **Press the [SET] switch.**

⇒ The setting is completed and the screen returns to the "Normal display screen". (☞ Refer to page 22.) If you need to stop operation at any other compartment, repeat the steps 2 to 5.

Manual defrost operation



Starting

1 **Press the [DEFROST] switch once during the cooling operation.**

⇒ "Defrost operation icon [❄]" lights and the defrost operation starts.

NOTE

- The defrost operation may not start when the inside container temperature is high.

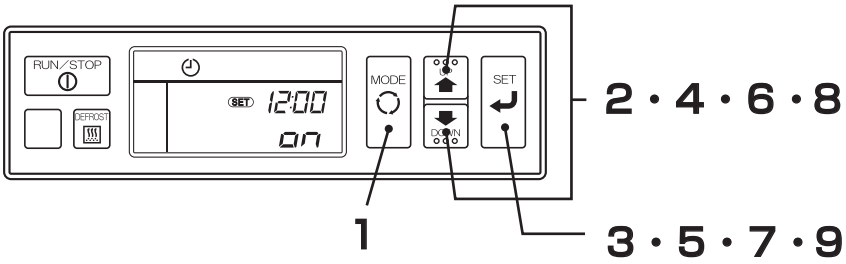
Stopping

As the defrost operation stops, the refrigeration unit returns to the cooling operation.
If it is necessary to interrupt the defrosting operation and to return to the cooling operation, press the [DEFROST] switch again or press the [RUN/STOP] switch once.

NOTE

- Manual defrost operation can be started even during the unit stop by thermostat off.
- Manual defrost operation can not be started during the unit operation stop or the heating operation.

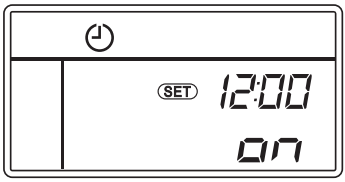
Setting the ON timer



1 **Press the [MODE] switch.**

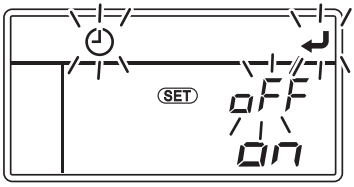
⇒ The display changes to the "Clock/calendar display mode".

2 **Press the [UP] or [DOWN] switch until the display changes to the "ON timer setting mode". (Right figure)**

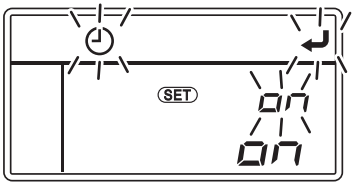


3 **Press the [SET] switch.**

⇒ "on" or "oFF" starts to blink on the upper digital display.
Icons and start to blink.



4 **Press the [UP] or [Down] switch to select "on".**

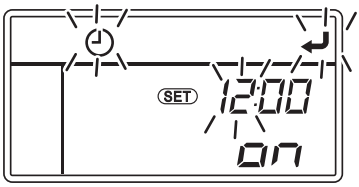


NOTE

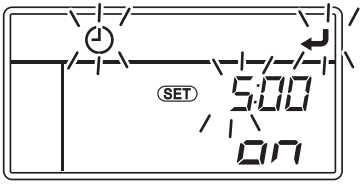
- "on" or "oFF" is displayed alternately by pressing the [UP] and [DOWN] switch.
- When OFF timer setting is not to be set or to be cancelled, select "oFF".

5 **Press the [SET] switch.**

⇒ The setting time (hour) starts to blink.



6 **Press the [UP] or [DOWN] switch to adjust the time to the ON timer setting time (hour).**

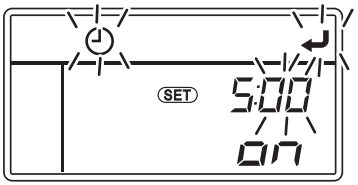


NOTE

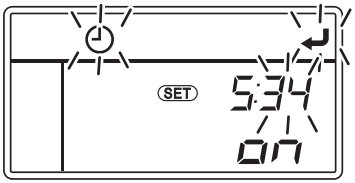
- The clock shows the time up to 24 hours.
  Set "19:00" if it is 7 o'clock PM.

7 **Press the [SET] switch.**

⇒ The setting time (minute) starts to blink.



8 **Press the [UP] or [DOWN] switch to adjust to the ON timer setting time (minute).**



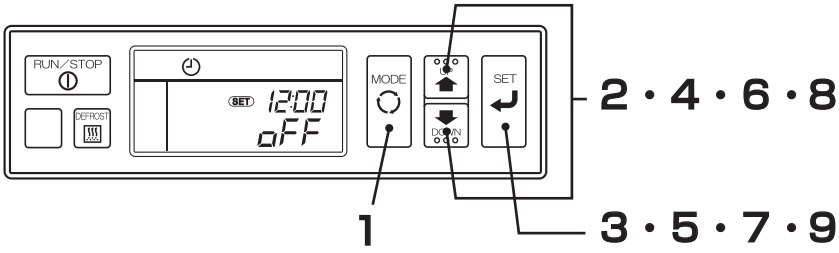
9 **Press the [SET] switch.**

⇒ The setting is completed and the display returns to the "Setting the ON timer".

NOTE

- When performing the timer operation with the motor drive, confirm that the commercial power supply is connected to the refrigeration unit.
- When the ON timer operation is selected, take note that the refrigeration unit starts the operation automatically at the setting time.

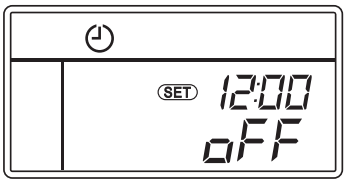
Setting the OFF timer



1 **Press the [MODE] switch.**

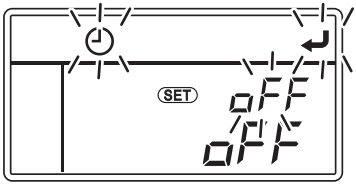
⇒ The display changes to the "Clock/calendar display mode".

2 **Press the [UP] or [DOWN] switch until the display changes to the "OFF timer setting mode". (Right figure)**

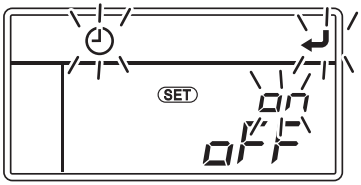


3 **Press the [SET] switch.**

⇒ "on" or "oFF" starts to blink on the upper digital display.
Icons and start to blink.



4 **Press the [UP] or [Down] switch to select "on".**

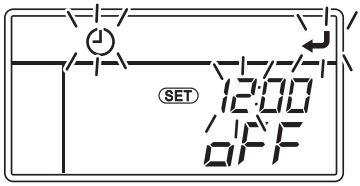


NOTE

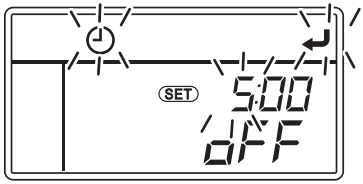
- "on" or "oFF" is displayed alternately by pressing the [UP] and [DOWN] switch.
- When ON timer setting is not to be set or to be cancelled, select "oFF".

5 **Press the [SET] switch.**

⇒ The setting time (hour) starts to blink.



6 **Press the [UP] or [DOWN] switch to adjust the time to the OFF timer setting time (hour).**

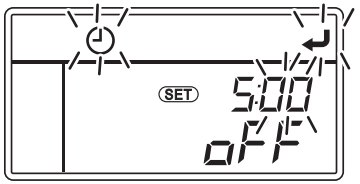


NOTE

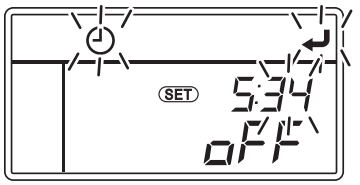
- The clock shows the time up to 24 hours.
  Set "19:00" if it is 7 o'clock PM.

7 **Press the [SET] switch.**

⇒ The setting time (minute) starts to blink.



8 **Press the [UP] or [DOWN] switch to adjust to the OFF timer setting time (minute).**



9 **Press the [SET] switch.**

⇒ The setting is completed and the display returns to the "Setting the OFF timer".

NOTE

- When the OFF timer operation is selected, take note that the refrigeration unit stops the operation automatically at the setting time.

6 Loading

Preparation before loading

⚠ CAUTION

Before loading, cool down or heat up inside of the container to the appropriate setting temperature for the transportation of cargoes. Cargoes must be cooled down or heated up to the designated temperature with other refrigeration device in advance.

- Otherwise, it may cause damages of the cargoes or deterioration of the quality. Or it may cause emergency stop of the refrigeration unit.

1 **Cargoes must be cooled down or heated up to the designated temperature with other refrigeration device in advance.**

2 **Clean inside of the container.**

3 **Perform the inspection of the refrigeration unit and the body*.**
(☞ Refer to page 46.)
*** Check with the body manufacturer for the items to be inspected.**

4 **Set the right temperature for transportation of the cargo and cool down or heat up inside of the container to the setting temperature.**
(☞ Refer to page 36.)

NOTE

- The temperature inside of the closed container may reach 60°C under a blazing sun. Loading in such a container causes damages or deterioration of the quality. Be sure to cool down inside of the container to the setting temperature before loading.
- When it is hardly cooled down, contact your nearest dealer before loading.

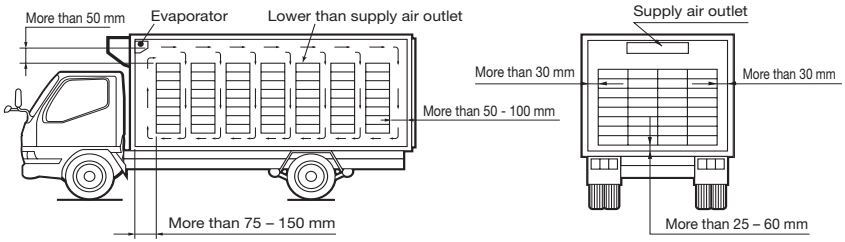
Loading and unloading

Loading procedure

1 **Stop the cooling operation. (☞ Refer to page 34.)**

2 **Load the cargoes in the container.**

Leave a space between the cargo and inner wall of the container as shown in the following figure in order to circulate cool air.



3 **Keep the top layer of the cargo as flat as possible.**

⚠ CAUTION

Waterproof the cargoes if they need to be.

- Water may drip or splash from the evaporator unit.

When stacking cargos, secure safety.
When loading fragile cargos, use appropriate protective materials.

- It could damage cargos or cause injury or accident.

4 **When transporting any cargo to be protected from water damage, cover the cargo placed under the evaporator unit or near its outlet with waterproof sheet.**

5 **After completing loading, start the operation of the refrigeration unit. (☞ Refer to page 33.)**

Unloading

1 **Stop the cooling operation. (☞ Refer to page 34.)**

2 **Unload the cargoes.**

NOTE

- Frost forms and accumulates on the evaporator coil while the refrigeration unit is operated during loading or unloading.
- Since the inside container temperature rises (or falls during cold winter) while the door is kept opened, load or unload as quickly as possible.
- A curtain helps to prevent ambient air from entering or inside air from escaping during loading or unloading.

7 Inspection

Precautions for inspection

Always carry out the following inspections before the operation to prevent any damages of the refrigeration unit before happening.

⚠ WARNING

Do not perform the inspection in the place where the combustible gas leakage may happen.

- Otherwise, if the gas might leak out, it stays around the refrigeration unit and may catch a fire.

Be sure to perform daily and periodic inspections.

- Otherwise, it may cause troubles of the refrigeration unit or accidents.

The area must be well ventilated when performing the inspection indoors.

- Otherwise, it may cause oxygen deficiency due to the exhaust gas.

⚠ CAUTION

Sufficient care must be taken for foothold when working at a higher place on a stepladder.

- If you step off, you may fall down and get injured.

When leakage of the refrigerant is detected, contact your nearest dealer immediately.

- Otherwise, it may cause blindness or frostbite.

Do not start maintenance immediately after stopping operation.

- Refrigerant pipes are dangerously hot. There is risk of burn if touched carelessly.

Before starting inspection, be sure to stop the refrigeration unit turning the "RUN/STOP" switch to OFF and disconnect connections to the battery terminals.

- Otherwise, it may cause injury or an electric shock due to unexpected start.

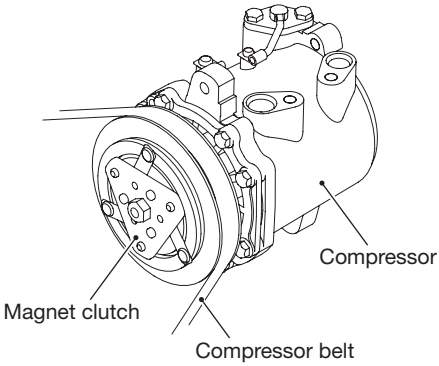
Apply the parking brake and put chocks under wheels during inspection.

- If the vehicle moves, it could cause injury or accident.

Daily inspection

Inspection of moving sections

● Compressor belt



1 **Visually inspect the compressor belt for defects such as scratch, crack or one-sided wear, etc.**

2 **Check the moving sections for interference with other parts.**

NOTE

● When there is any abnormal condition or any slack of the belts, surely contact your nearest dealer.

Inspection of condenser coil

1 **Check the coil for fouling with dust.**

2 **When the coil is fouled, wash it with a soft brush and water.**

NOTE

● Dirty coil could deteriorate the refrigeration capacity or cause malfunction of protective devices, which may disable the operation of refrigeration unit. Clean the coil at regular intervals.

● In case of the nose mount type condenser, you need to work at a higher place. Work with sufficient care or consult the nearest service center.

Periodic inspection

Please ask your nearest dealer to perform periodic inspection to ensure to use the refrigeration unit in the best condition all the time.
Periodic inspection consists of the following items.

1. Inspection at commissioning
2. Monthly inspection
3. Inspection at every 6 months

Check the contents of inspection with the check sheet submitted after the periodic inspection.

Periodic inspection check sheet

Customer								Customer's signature	
Inspection interval				Serial No.	Van maker			Delivery date Inspection date	
			Compressor kit						
			Refrigeration unit						
			Rear evaporator unit						
Every six months	Every one month	Installation trial operation	Vehicle Model Serial No.		Refrigeration unit installation company			Inspection company Inspector	
			Inspection items					Inspection result	Remarks
○		○	Inspection for seal sections of van where refrigeration unit passes through						
○		○	Inspection for appropriate piping clamps						
○		○	Inspection for secure drain hose connections and adequate clamps						
○	○	○	Inspection for belt slack, parallelism (alignment), and damage						
○	○	○	Inspection for contact with other parts (compressor, pulley, belt, piping, wiring)						
○		○	Tightening of installation bolts (refrigeration unit, compressor, compressor head, bracket, magnet clutch, tension pulley, fan motor, fan)						
		○	Inspection for incorrect wiring and for adequate clamps						
○		○	Inspection for electrical wiring terminal looseness, wiring, sheath damage						
○			Relay contact inspection						
○	○		Cleaning of refrigeration unit and drain discharge ports						
○		○	Inspection for refrigerant system gas leaks (oil leaks)						
○		○	Inspection for abnormal noise and abnormal vibration (compressor, magnet clutch, motor, fan, piping)						
○	○	○	Inspection of refrigerant sight glass color and degree of flush						
○		○	Confirmation of compressor and magnet clutch start/stop, and condenser fan start/stop with thermostat						
○	○	○	Cooling inspection (indication of digital display temperature, high/low pressure inspection)						
○		○	Confirmation of defrosting operation						
○		○	Confirmation of high pressure switch operation						
Daily inspection			Operation check						
Seasonal inspection			Cleaning of condenser coil						

Refrigerant and refrigerating machine oil

	Type / Name
Refrigerant	R404A
Compressor oil	Diamond Freeze MA32R

8 Cautions for use

When operating at a low inside container temperature for a long period of time:

If the refrigeration unit is operated for a long period time with the inside container temperature below 10°C, ice will grow on the drain pan, etc. Stop the operation of refrigeration unit once or twice every week and open up the door on the vehicle body to return the inside of container to ordinary temperature and melt grown ice.

⚠ CAUTION

Park the vehicle at a flat place and operate the refrigeration unit.

- Otherwise, the evaporator becomes unable to drain and water overflows in the container, damaging cargoes with water.

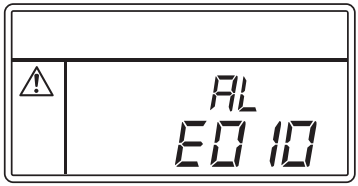
When stopping the refrigeration unit for a long period of time:

To prevent troubles by stopping for prolonged time, operate the refrigeration unit for 15 minutes once every 3 to 4 days.

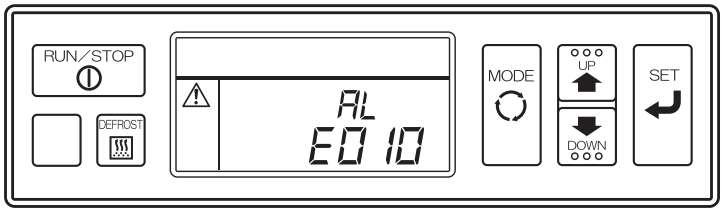
9 For emergency

Alarm display

- When any trouble occurs, the warning icon ⚠ lights (backlight blinks) or blinks.
- Check the alarm code displayed in the digital display area.
  When no alarm codes are displayed in the digital display area, switch the screen to the "Current alarm display" manually in the following procedure, and check the contents.



Switching "Normal display" and "Current alarm display"



Switching from "Normal display screen" to "Current alarm display mode"

Press once each on the [MODE] switch and [UP] switch. (The display returns to the "Normal display screen" 20 seconds later.)

Extending "Current alarm display mode"

Press the [SET] switch on the "Current alarm display mode" screen.

Switching from "Current alarm display mode" to "Normal display screen"

Press the [MODE] switch 2 times on the extended display of "Current alarm display mode".
(The screen changes to "Normal display screen" in 20 seconds in case of 1 press.)

Countermeasures

Refer to "List of alarm codes" for the contents of each alarm code and its countermeasure. (☞ Refer to pages 57 to 58)

⚠ CAUTION

Surely follow the instructions of this operation manual for the countermeasures of the troubles.

- Otherwise, it may cause injury or an electric shock due to unexpected start.

Changing the fuse

⚠ CAUTION

Use the designated fuse.

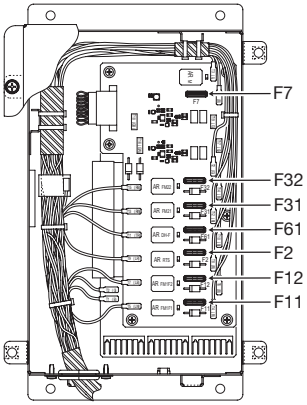
- If any other fuses are used, it may cause a fire or an electric shock.

Stop the operation of refrigeration unit with the “RUN/STOP” switch before replacing fuse. Disconnect connections to battery terminals and unplug the power cable.

- Otherwise, it may cause injury or an electric shock due to unexpected start.

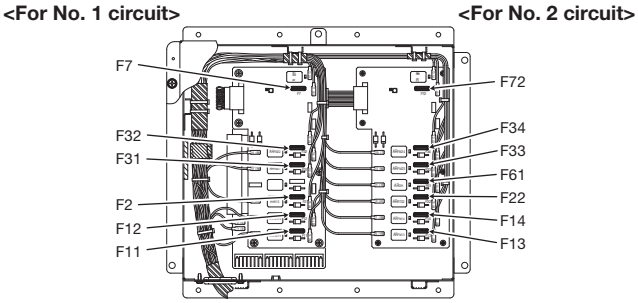
Fuses are mounted in the control box.

■Single compartment model (Except TDJS100DAE)



F2: 10 A (Magnet clutch)
F7: 10 A (Load power supply)
F11, 12: 15 A (Evaporator fan motor)
F31, 32: 15 A (Condenser fan motor)
F61: 15A (Drain hose heater)

■Single compartment model (TDJS100DAE)



<For No. 1 circuit>

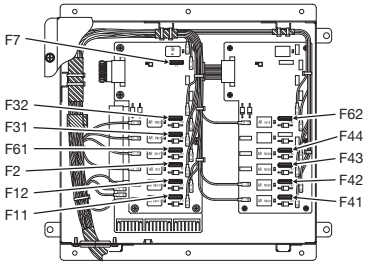
F2: 10 A (Magnet clutch)
F7: 10 A (Load power supply)
F11, 12: 15 A (Evaporator fan motor)
F31, 32: 15 A (Condenser fan motor)

<For No. 2 circuit>

F13, 14 : 15 A (Evaporator fan motor)
F22 : 10 A (Magnet clutch)
F33, 34 : 15 A (Condenser fan motor)
F61 : 15 A (Drain hose heater)
F72 : 10 A (Load power supply)

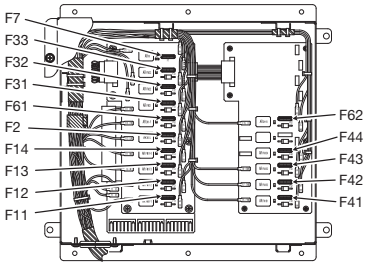
■2-compartment model

<TDJS35/50DAE-M>



F2：10A (Magnet clutch)
F7：10A (Load power supply)
F11, 12：15A (Front room evaporator fan motor)
F31, 32：15A (Condenser fan motor)
F41～44：15A (Rear room evaporator fan motor)
F61：15A (Front room drain hose heater)
F62：15A (Rear room drain hose heater)

<TDJS70DZAE-M>



F2：10A (Magnet clutch)
F7：10A (Load power supply)
F11～14：15A (Front room drain hose heater)
F31～33：15A (Condenser fan motor)
F41～44：15A (Front room evaporator fan motor)
F61：15A (Front room drain hose heater)
F62：15A (Rear room drain hose heater)

When you contact your nearest dealer

When you contact your nearest dealer for the trouble occurred during operation of the refrigeration unit, give them the following information.

- Company name
- Customer's name
- Company telephone number
- Number of the plate
- Type of the refrigeration unit
- Present location of the vehicle
- Destination
- Kind of cargo
- Setting temperature
- Present inside container temperature
- Specific condition of trouble
- Alarm code displayed in the digital display area.

Resuming operation after an emergency stop

If a remark "Unit stops" is written in the same column, start the operation in usual procedure after removing causes of the troubles.

Resuming operation after an emergency stop

- Press the [RUN/STOP] switch on the cabin controller to stop the unit. (Confirm that the LCD display is turned off.)
- Press the [RUN/STOP] switch once more to resume the operation of the unit.

⚠ CAUTION

If the unit stops by the same trouble immediately after the operation is resumed, stop the operation and contact your nearest dealer.

- Otherwise, it may cause serious damages or accidents.

List of alarm codes

Alarm Code	Trouble	Countermeasure	Alarm Lamp	Unit Condition
E003	Magnet clutch fuse has blown.	Magnet clutch fuse F2* is blown. Inspect and replace if necessary the fuse F2* in the control box.	On (*1)	Unit stops.
E006	Load power supply relay fuse has blown.	Load power supply relay fuse F7* is blown. Inspect and replace if necessary the fuse F7* in the control box.	On (*1)	Unit stops.
E010	High-pressure switch has tripped.	High-pressure switch has tripped. (1) Check if the condenser fan is running. If it is not, check the fuse F3*- or for disconnected wires in the control box. (2) Inspect if the condenser coil is fouled with dirt or mud. If it is, wash it with a soft brush and water.	On (*1)	Unit stops.
E013	Discharge gas pressure is abnormally high.	Discharge gas temperature is abnormal. Check for bubbles in the sight glass. If bubbles are observed, ask a service shop for inspection.	On (*1)	Unit stops.
E014	Refrigerant shortage	Refrigerant quantity is insufficient. Ask a service shop for inspection.	On (*1)	Unit stops.
E016	Abnormal low-pressure sensor	Broken wire or short-circuit on the low-pressure sensor. Ask a service shop for inspection.	Blinking	Unit operation continues.
E017	Abnormal high-pressure sensor	Broken wire or short-circuit on the high-pressure sensor. Ask a service shop for inspection.	Blinking	Unit operation continues.
E040	Short-circuit on external output (Abnormal stop output)	Short-circuit on the abnormal stop output circuit. Ask a service shop for inspection. Ask a service shop for inspection.	Blinking	Unit operation continues.
E041	Short-circuit on external output (Operation output)	Short-circuit on the operation output circuit. Ask a service shop for inspection. Ask a service shop for inspection.	Blinking	Unit operation continues.
E042	Short-circuit on external output (Out of range inside container temperature output)	Short-circuit on the out of range inside container temperature output circuit. Ask a service shop for inspection.	Blinking	Unit operation continues.
E050	Abnormal inside container temperature sensor	Lo (*2) Short-circuit or poor connector connection on the inside container temperature sensor. Ask a service shop for inspection.	On, or blinking if setting temperature is lower than -10˚C. (*1)	Unit stops. (Or continuous cooling operation if setting temperature is lower than -10˚C.)
		Hi (*2) Short-circuit on the inside container temperature sensor. Ask a service shop for inspection.		
E057	Abnormal evaporator exit temperature sensor	Broken wire or short-circuit on the evaporator exit temperature sensor. Ask a dealer for inspection.	Blinking	Unit operation continues.
E063	Abnormal discharge gas temperature sensor (Engine side)	Broken wire or short-circuit on the discharge gas temperature sensor at the engine side Ask a dealer for inspection.	Blinking	Unit operation continues.
E067	Abnormal discharge gas temperature sensor (Motor side)	Broken wire or short-circuit on the discharge gas temperature sensor at the motor side Ask a service shop for inspection.	Blinking	Unit operation continues.
E099	Cabin controller communication error	Cabin controller cannot communicate properly. Ask a service shop for inspection.	On	Unit stops.

*: Indicates the smallest digit of fuse No.
*1: Or blinks if either No. 1 or No. 2 circuit is normal on TDJS100DAE.
*2: Alarm code E050 and Lo or Hi are indicated alternately.

- In case of 2-compartment model, which of the parts that controls compartment is faulty is indicated with the A or B compartment operation indicator.
- In case of TDJS100DAE, when the part controlling No. 1 system is faulty, it is indicated with the A compartment operation indicator.

Alarm Code	Trouble	Countermeasure	Alarm Lamp	Unit Condition
E101	Blown evaporator fan motor fuse	Evaporator fan motor fuse F1* is blown. Inspect and replace if necessary the fuse F1* in the control box. In case of 2-compartment model, if the evaporator fan motor fuse at second compartment is abnormal, inspect and replace if necessary the fuse F4* in the control box.	Blinking	Unit operation continues.
E102	Blown condenser fan motor fuse	Condenser fan motor fuse F3* is blown. Inspect and replace if necessary the fuse F3* in the control box.	Blinking	Unit operation continues.
E104	Blown drain hose heater fuse	Drain hose heater fuse F6* is blown. Inspect and replace if necessary the fuse F6* in the control box.	Blinking	Unit operation continues.
E160	Abnormal economizer solenoid valve (TDJS70DZAE only)	Short-circuit on the economizer solenoid valve SV6 circuit. Ask a service shop for inspection.	Blinking	Unit operation continues.
E161	Abnormal liquid line solenoid valve	Short-circuit on the fluid line solenoid valve SV5F circuit. Ask a service shop for inspection.	On (*1)	Unit stops.
E163	Abnormal hot gas solenoid valve	Short-circuit on the hot gas solenoid valve SV1 circuit. Ask a service shop for inspection.	Blinking	Unit operation continues.
E167	Abnormal condenser outlet solenoid valve	Short-circuit on the condenser exit solenoid valve SV3 circuit. Ask a service shop for inspection.	On (*1)	Unit stops.
E168	Abnormal liquid bypass solenoid valve	Short-circuit on the fluid bypass solenoid valve SV2 circuit. Ask a service shop for inspection.	Blinking	Unit operation continues.

*: Indicates the smallest digit of fuse No.
*1: Or blinks if either No. 1 or No. 2 circuit is normal on TDJS100DAE.

- In case of 2-compartment model, which of the parts that controls compartment is faulty is indicated with the A or B compartment operation indicator.
- In case of TDJS100DAE, when the part controlling No. 1 system is faulty, it is indicated with the A compartment operation indicator.

MITSUBISHI HEAVY INDUSTRIES
THERMAL SYSTEMS, LTD.

TRANSPORTATION REFRIGERATION DEPARTMENT
3-1, ASAHI, NISHIBIWAJIMA-CHO, KIYOSU, AICHI, 452-8561, JAPAN
Phone : 052-503-9312