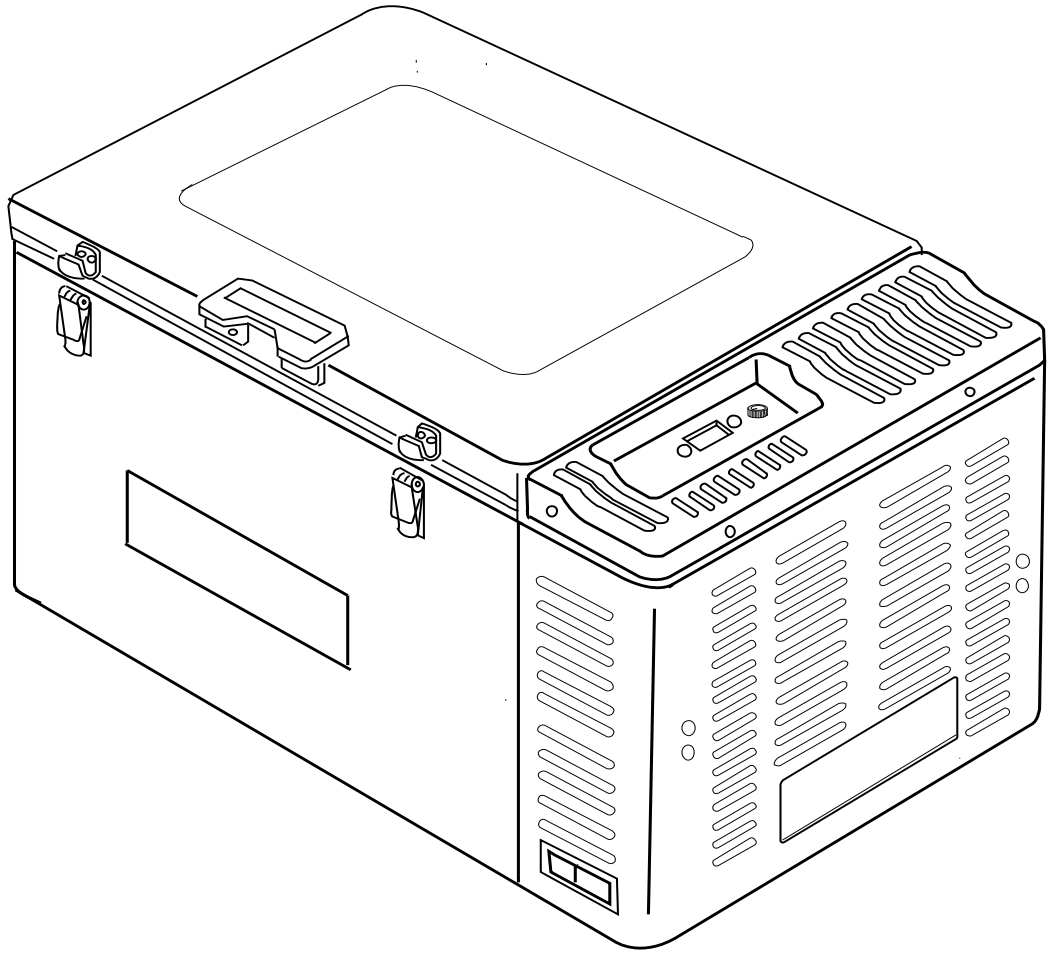
SERVICE MANUAL

MODEL :

MT60F-U1 0642 060 1R21
MT60F-U1-C 0642 060 2R00
MT80F-U1-S 0642 080 1R01



2021.11#0

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1. SPECIFICATIONS

■ Specifications Table

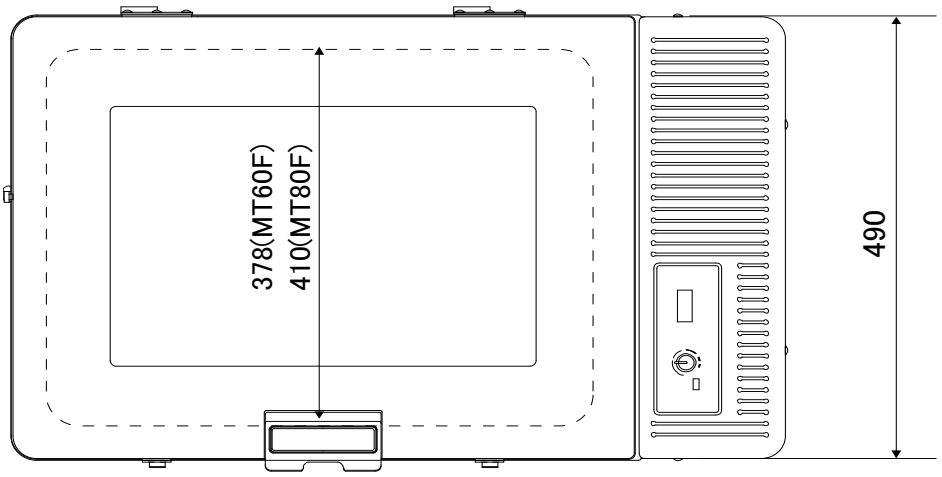
MODEL		MT60F-U1	MT80F-U1-S	MT60F-U1-C
STORAGE VOLUME	liter	60	80	25 (Freezing side) 32 (Refrigerator side)
EXTERNAL DIMENSIONS W×D×H	in	31.6×20.5×17.4	31.6×20.5×22.1	31.6×20.5×17.4
	mm	802×520×441	802×520×561	802×520×441
INTERNAL DIMENSIONS W×D×H	in	20.4×14.9×12.4	20.2×16.1×14.8	8×15×12.5 (FREEZER) 10×15.5×12.5 (FRIDGE)
	mm	517×378×315	514×410×375	205×378×315 (FREEZER) 260×400×315 (FRIDGE)
OUTER ENCLOSURE	DOOR	Cold rollomg steel sheet. (Melamine baking finish)		
	CABINET			
INNER ENCLOSURE	DOOR	ABS resin		
	CABINET			
HEAT INSULATOR	DOOR	Foamed Polyurethane		
	CABINET			
INPUT VOLTAGE	AC	120V		
	DC	12V / 24V		
RATED AMPERAGE	AC	1.2A		
	DC	4.2A / 2.1A		
COMPRESSOR RATING		AC 16 V, 3A 48W		
REFRIGERANT		Dichlorodifluoromethane (HFC-134a)		
AVERAGE INNER TEMPERATURE (at ambient temp 30℃)		7℃±3℃ (with dial notch at '1')		
TEMPERATURE CONTROL DIAL AT '5' OR ABOVE (at ambient temp 30℃)		lees than −18 ℃		＜Refrigerator side＞ must be MAX5℃ MIN- ＜Freezing side＞ lees than −18 ℃
TEMPERATURE CONTROL		Digital temperature control with electronic thermostat		
WEIGHT	LBS.	72	86	73
	Kg	32	39	33

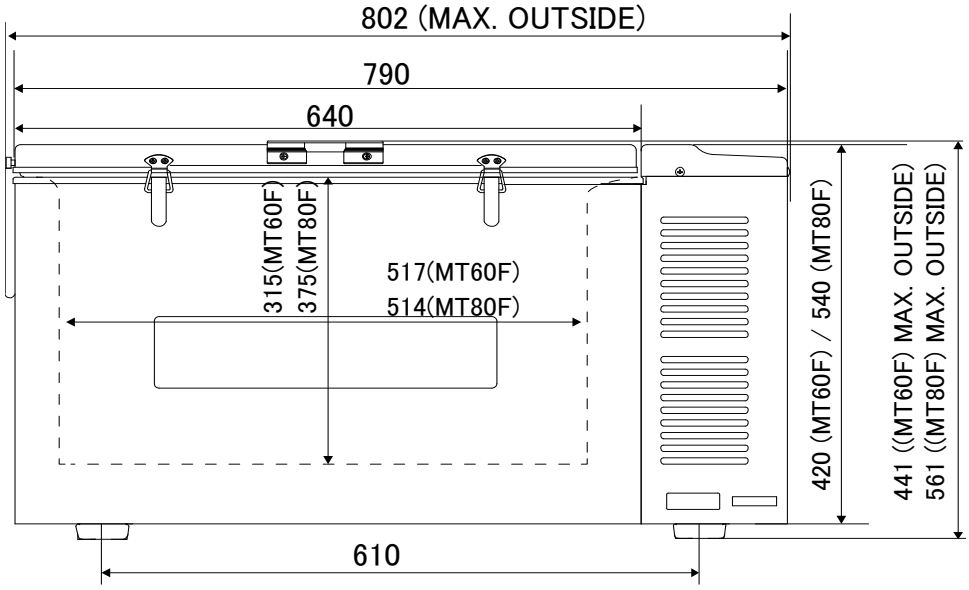
1. SPECIFICATIONS

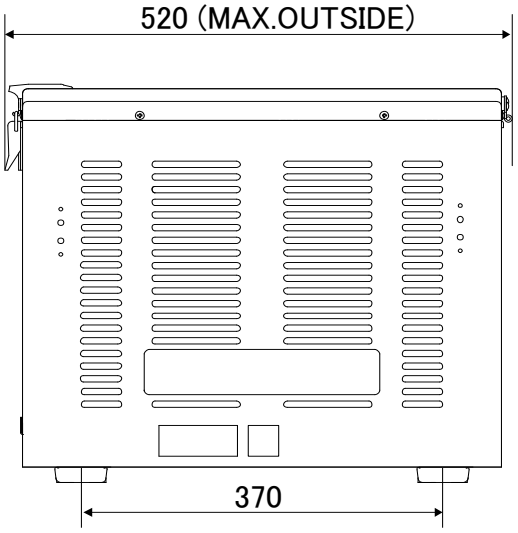
■ Dimensions (MT60F-U1 / MT80F-U1-S)

Unit (mm)

※ Tolerance is omitted





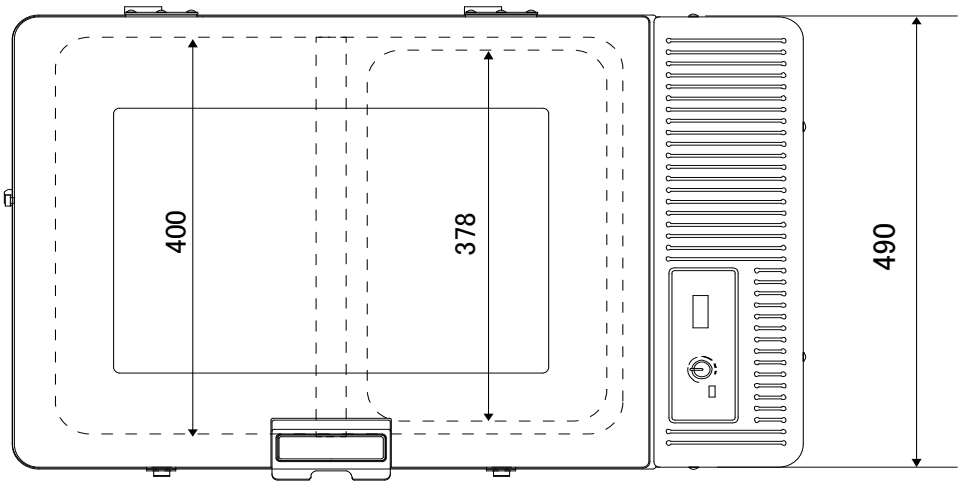


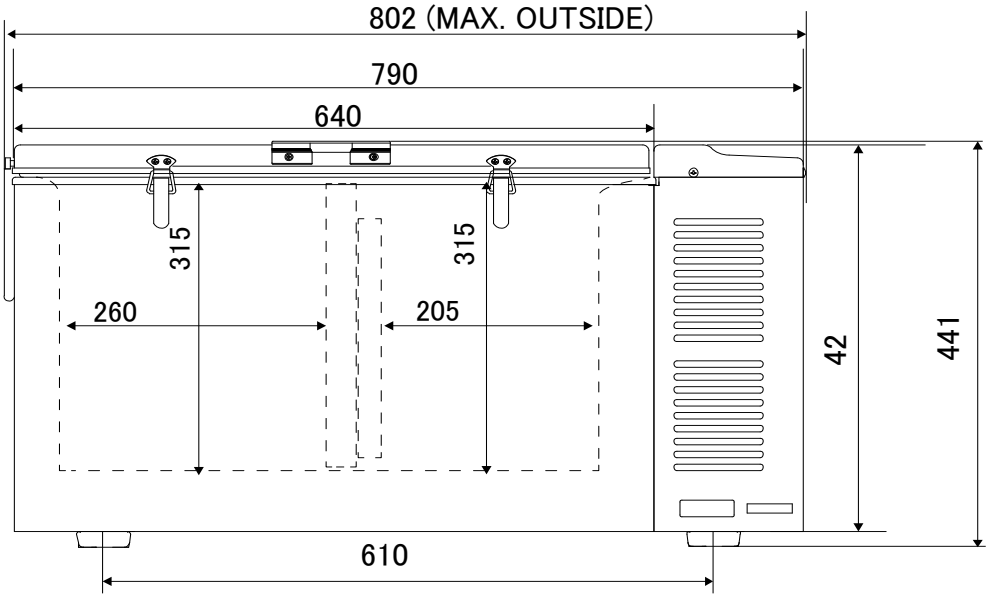
1. SPECIFICATIONS

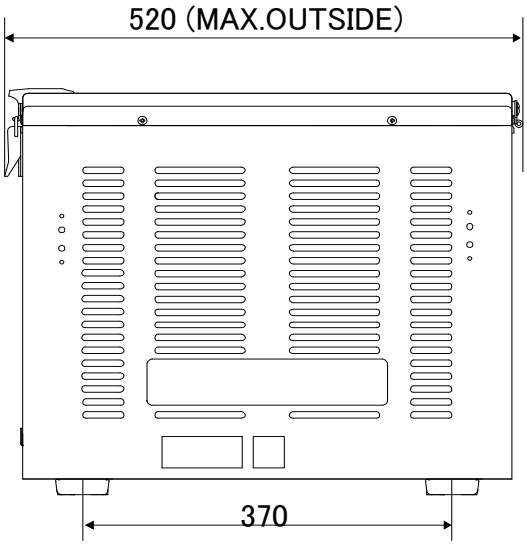
■ Dimensions (MT60F-U1-C)

Unit (mm)

※ Tolerance is omitted

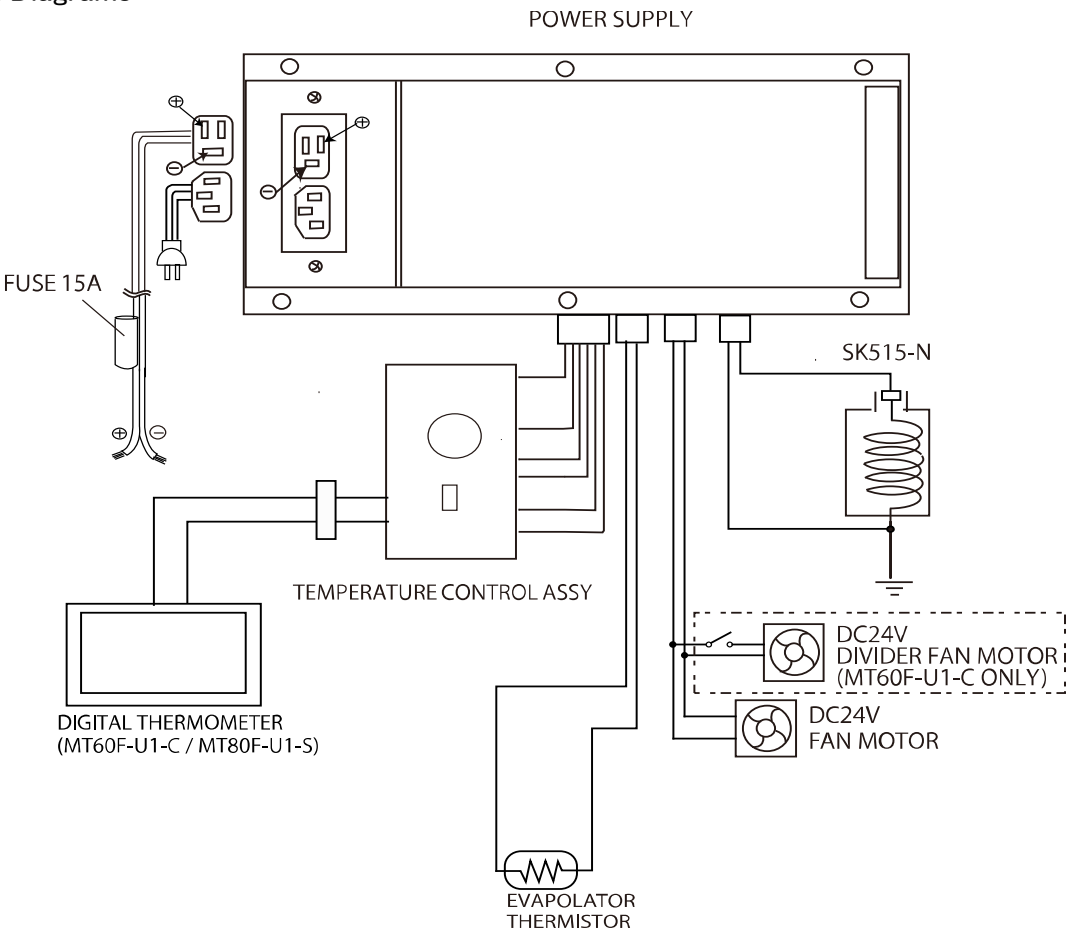




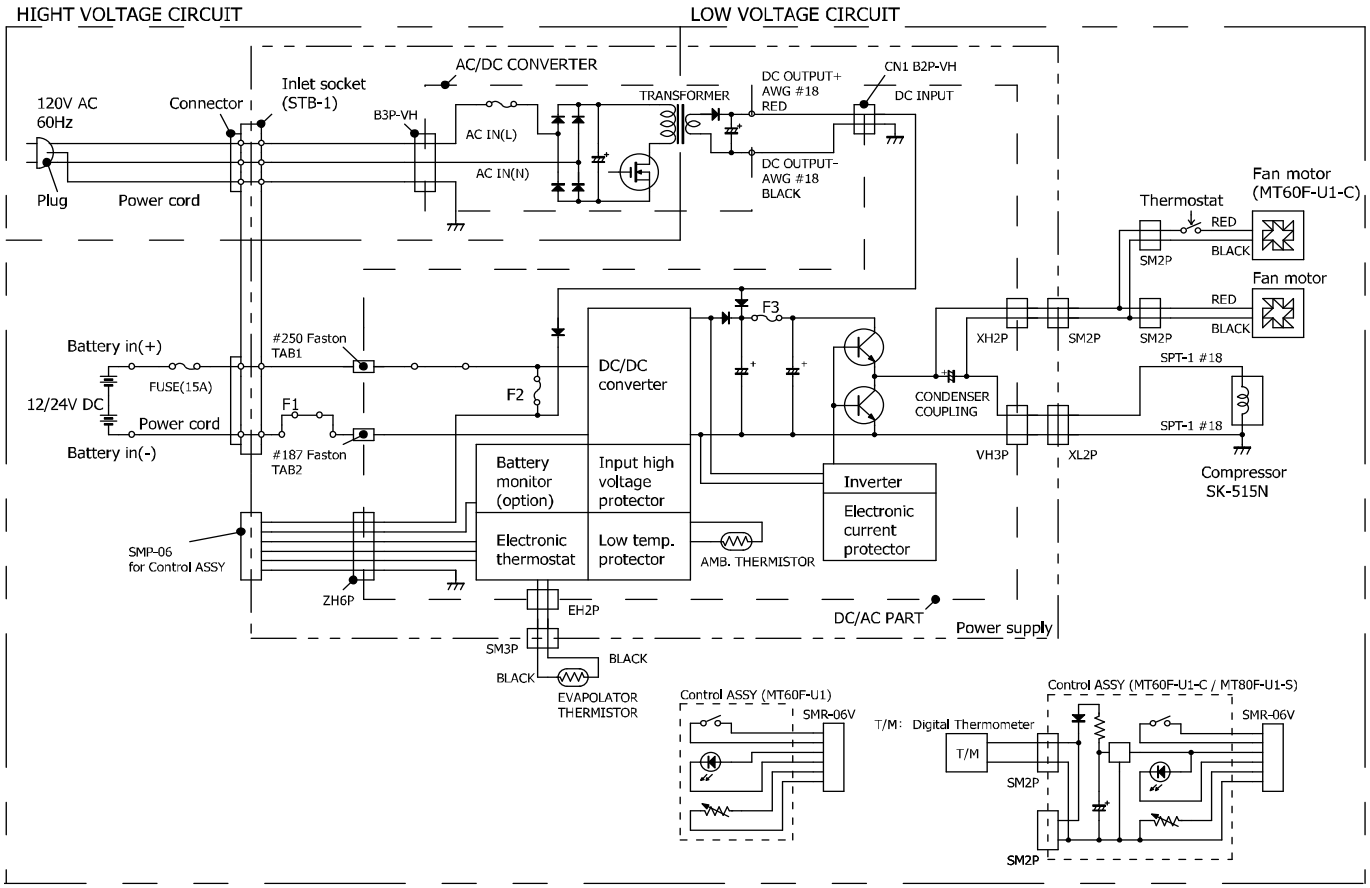


2. WIRING DIAGRAM

● Block Diagrams

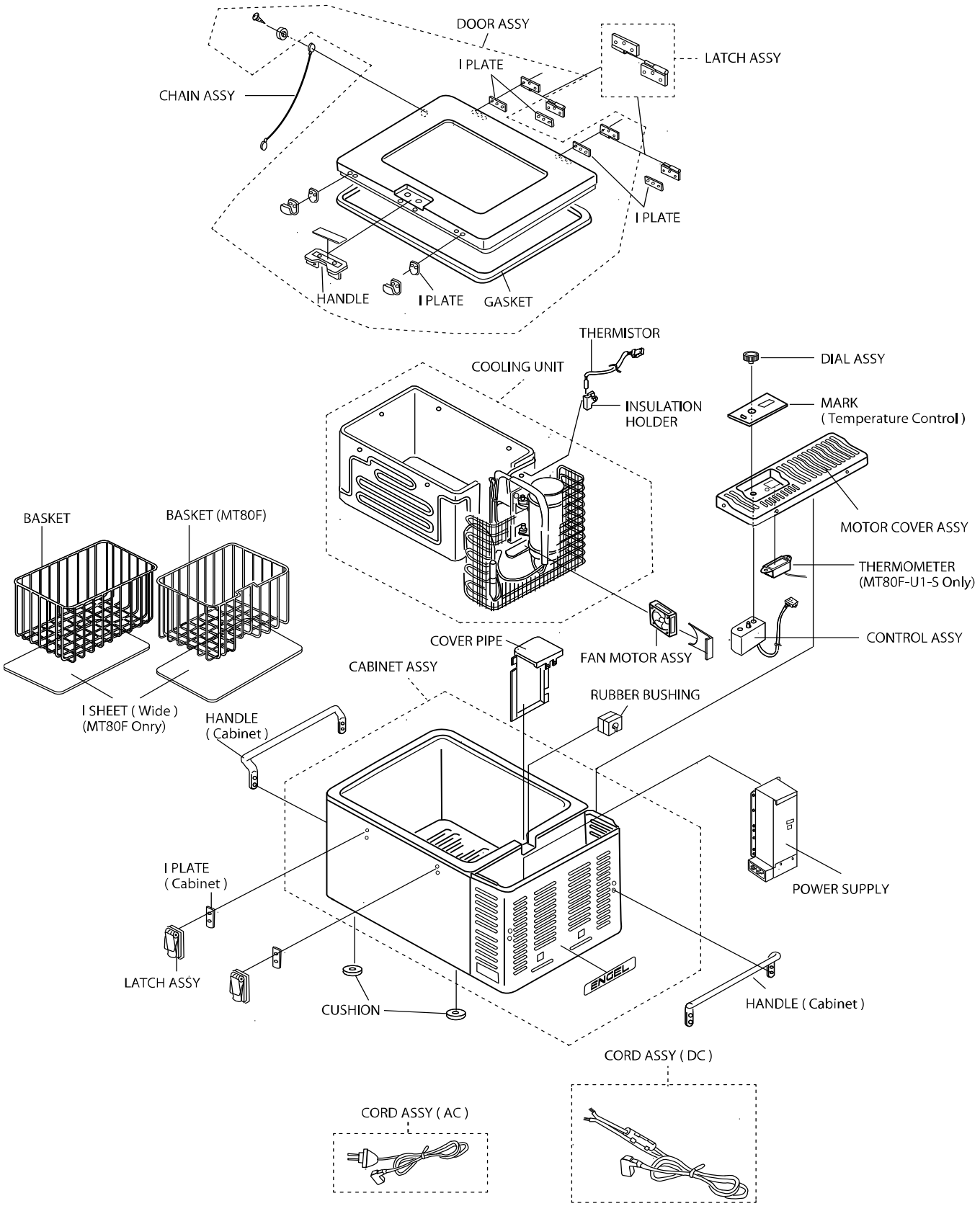


● Wiring Diagrams



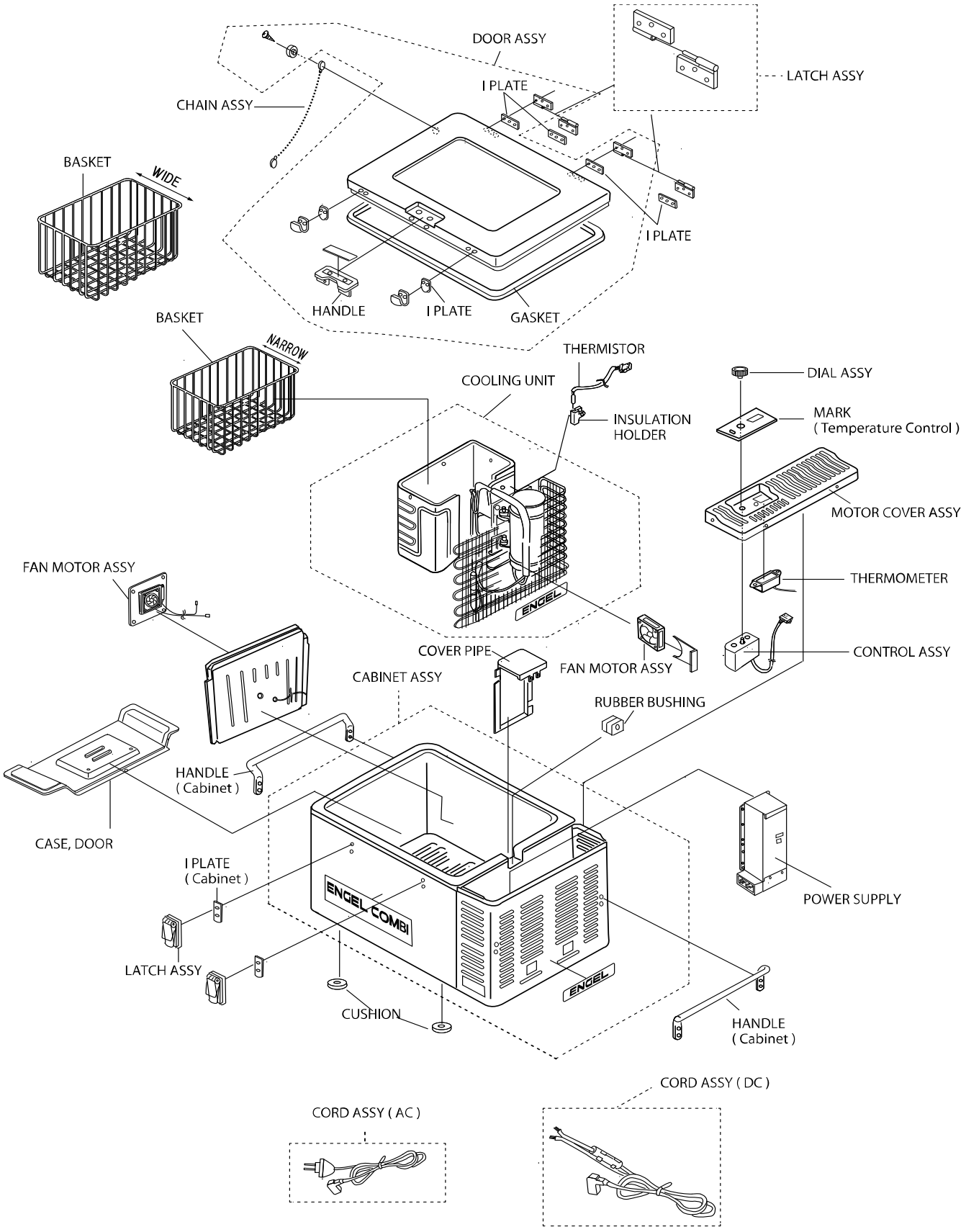
3. PARTS NAME

■ Parts name (MT60F-U1 / MT80F-U1-S)



3. PARTS NAME

■ Parts name (MT60F-U1-C)



4. INSTALLING A REFRIGERATOR

■ How to Install the Refrigerator.

(1) Your shockproof fridge is best installed on a solid surface.

(2) Be sure your fridge is not placed near a gas stove, heater or other heat-generating appliances.

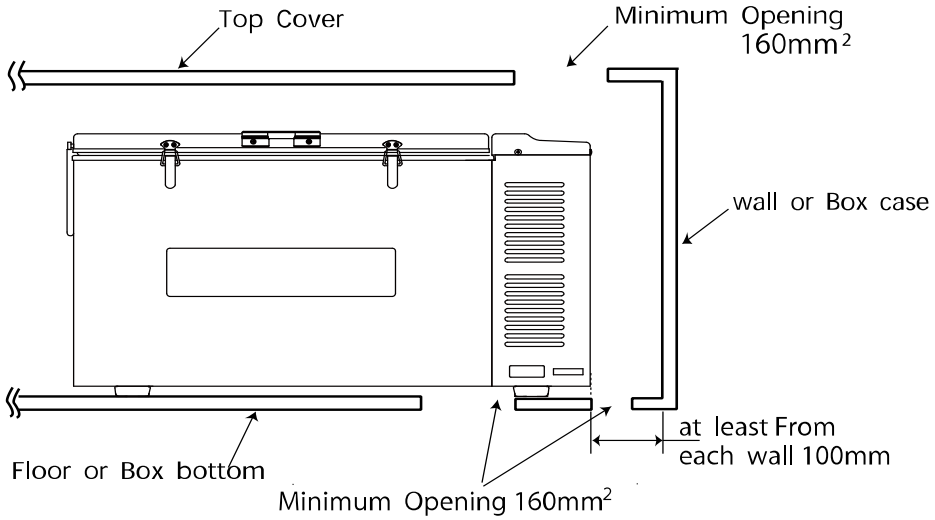
(3) Adequate ventilation and suitable distance from each wall (at least 150mm or more) is necessary for the maximum cooling efficiency and minimum electric current consumption for "free standing use" (see Fig. shown below).

(4) Avoid installing your fridge close to kitchen sink or faucet.

(5) If you use the fridge under the counter or in the fixing box, please note the following air ventilation conditions.

1) Make vent opening both under fridge or bottom and above fridge top cover.

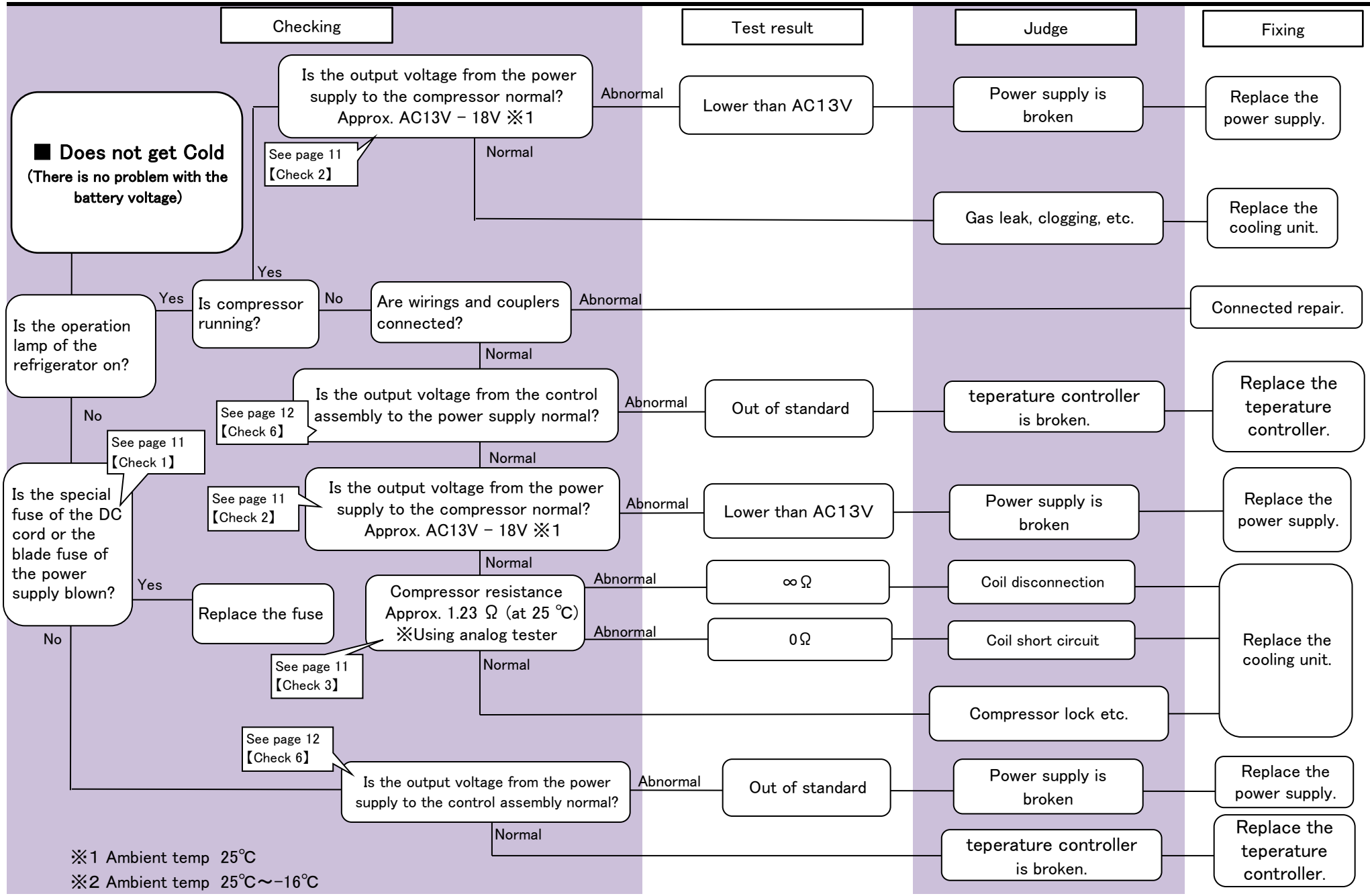
2) Vent opening size must be larger than 160㎠ for each opening
(the more air circulation over the condenser, the more efficiently fridge will operate).



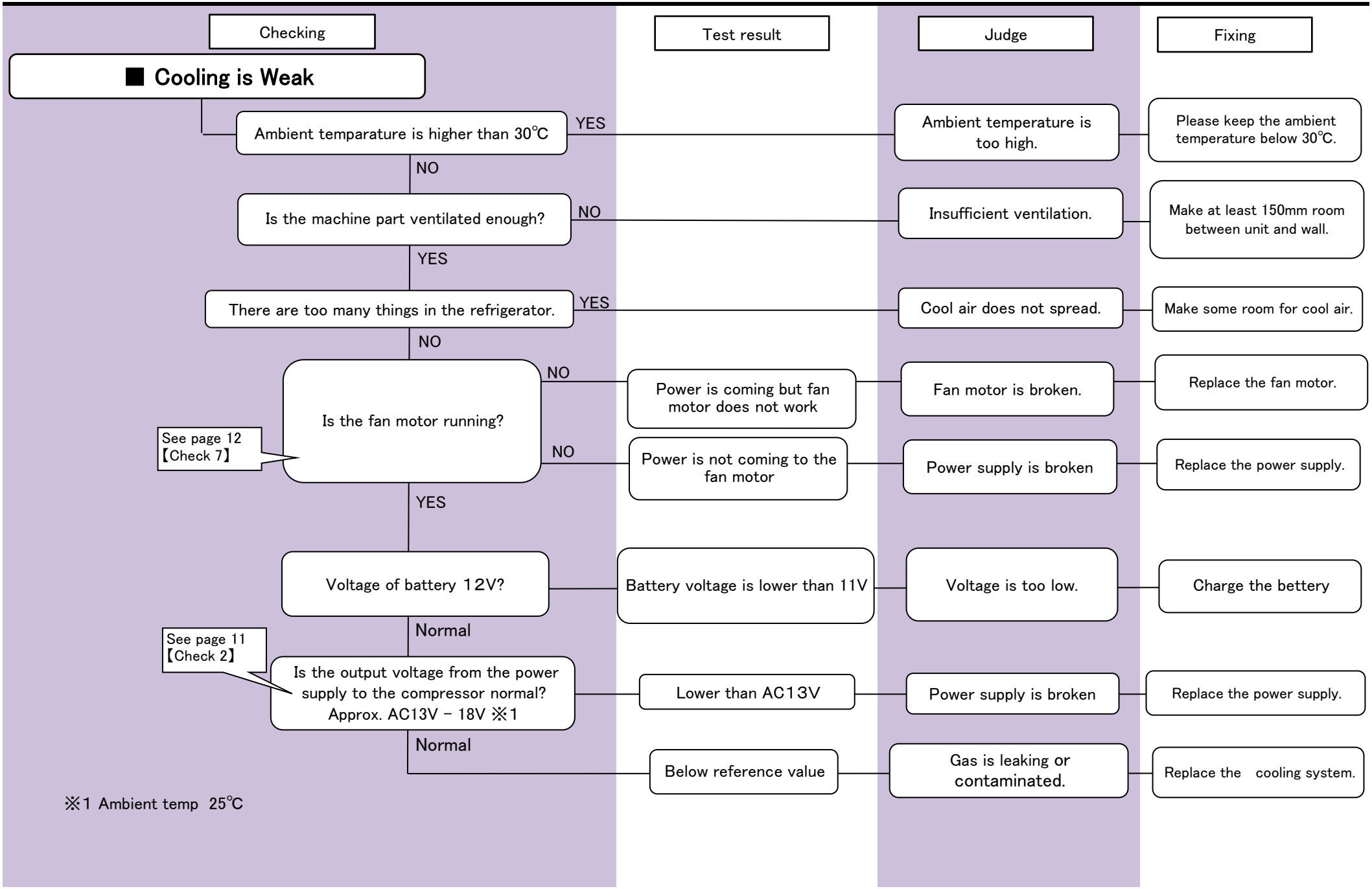
WORK TIPS

Failure to provide the necessary venting will result in poor refrigeration, continuous compressor operation, accelerated battery discharge and sometimes shorten the life of fridge.

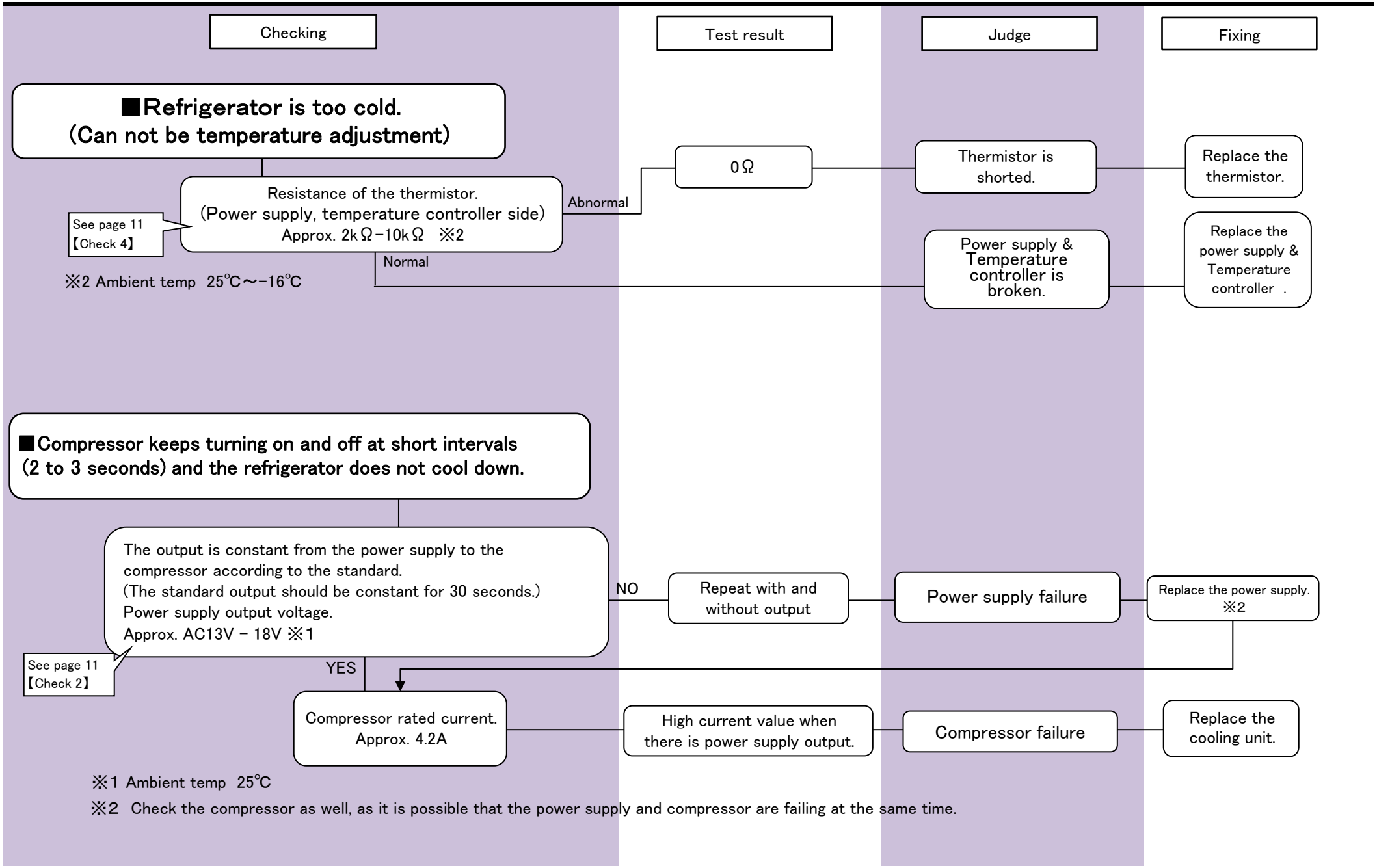
5. TROUBLE SHOOTING



5. TROUBLE SHOOTING



5. TROUBLE SHOOTING



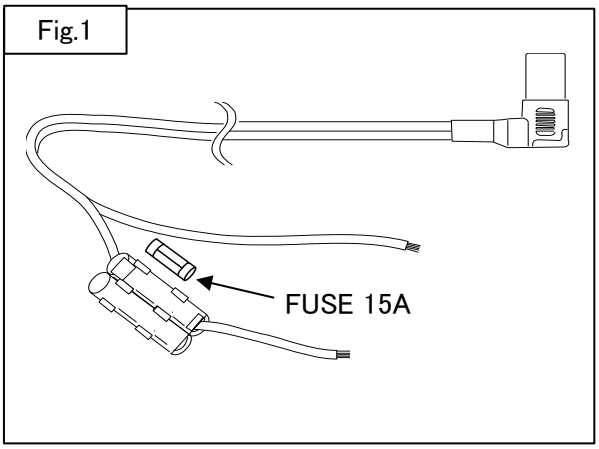
5. CHECKING POINT & METHOD

【Check 1】Fuse (Fig.1)

◇ Check the resistance of fuse by tester.

Test result	Assessment
0Ω	Normal
∞Ω	Broken

Fig.1



【Check 2】Input Voltage of the Compressor (Fig.2)

◇Checking point

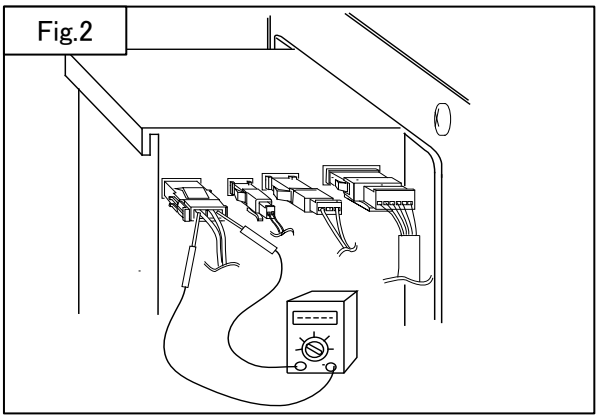
・Check at 2 pin coupler of Inverter (Fig.2)
or at input terminals of the compressor.

(Should be checked when the compressor is connected)

(Ambient temp 25℃)

Test result	Assessment
Approx. AC13～18V	Normal
AC 0 V	Inverter is broken
Approx. AC13V or lower	Compressor is locked

Fig.2



【Check 3】Check the Resistance at the Coil of Compressor (Fig.3)

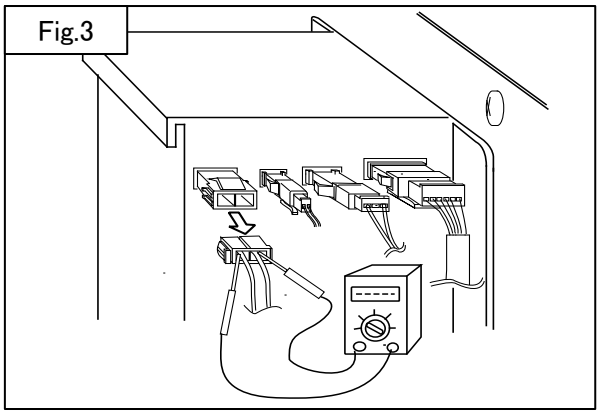
◇Checking point

Remove 2 pin couplers at motor cord, and check.

(Ambient temp 25℃)

Test result	Assessment
Approx. 0.84Ω	Normal
∞Ω	Broken
0Ω	Coil of compressor is short circuit

Fig.3



【Check 4】Resistance of Thermistor (Fig.4)

◇Checking points

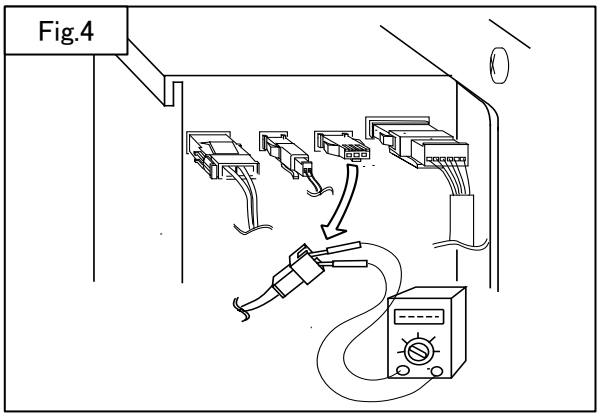
Remove the 3 pin couplers from Inverter, and test.

(Ambient temp 25℃～-16℃)

Test result	Assessment
Approx. 2 kΩ～10 kΩ	Normal
∞Ω	Broken
0Ω	Short Circuit

Note) When short circuit, motor runs continuously.

Fig.4



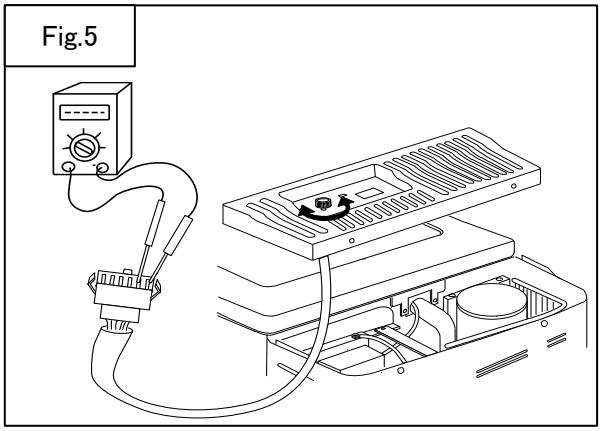
5. CHECKING POINT & METHOD

【Check 5】Resistance of Control Assy (Fig.5)

◇Checking point
Remove 6pin coupler.
Check the resistance at between terminals brown and black.

Test result Dial position OFF ～ 5	Assessment
Approx. 17kΩ～5kΩ	Normal
∞Ω	Broken
0Ω	Short Circuit

Fig.5



【Check 6】Check the temperature controller. (Fig.6)

◇Checking points
Check the voltage at between terminals ORANGE and BLACK.

<Use power AC100-240V> (Ambient temp 25℃)

Test result	Judge
Approx. DC12-14V	Normal
DC 0 V	Temperature controller is broken
12V less than	

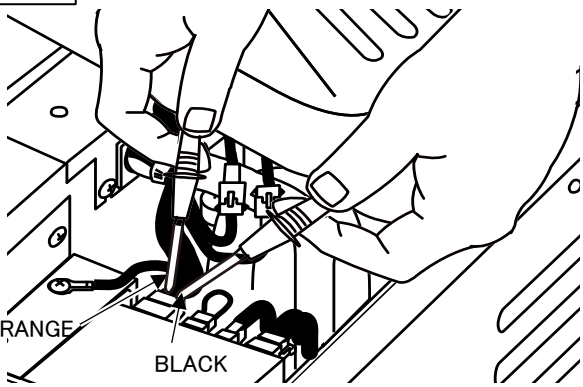
<Use power DC12V> (Ambient temp 25℃)

Test result	Judge
Approx. DC12V	Normal
DC 0 V	Temperature controller is broken
11V less than	

<Use power DC24V> (Ambient temp 25℃)

Test result	Judge
Approx. DC24V	Normal
DC 0 V	Temperature controller is broken
23V less than	

Fig.6 POWER SUPPLY



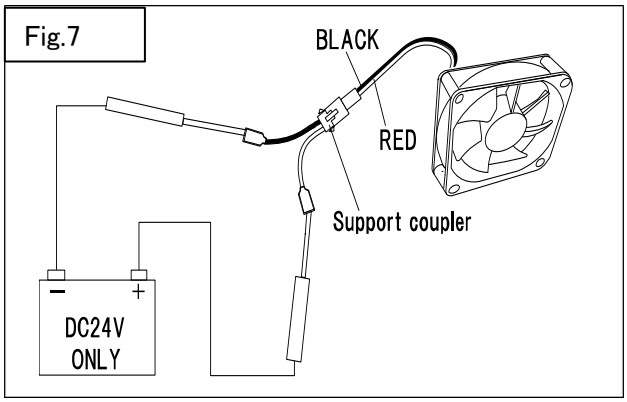
【Check 7】Checking the operation of the fan motor. (Fig.7)

◇Checking point
If want to check the start-up of the fan motor directly, can check by connecting the DC24V directly. (Fig.7)

⚠ CAUTION

- Please be careful not to mistake the polarity of the power supply.
- When connect with DC24V or wrong polarity, fan motor will fail.
- Please use such as support coupler so as not to short-circuit power.

Fig.7



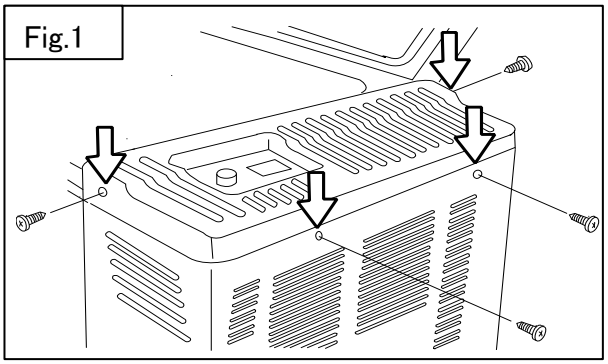
6. PRODCEURES FOR REPLACING

■ How to Replace Cooling Unit

① Remove the motor cover (Fig.1)
＊Take out the basket first

(1) Remove 4 screws which hold Motor Cover.

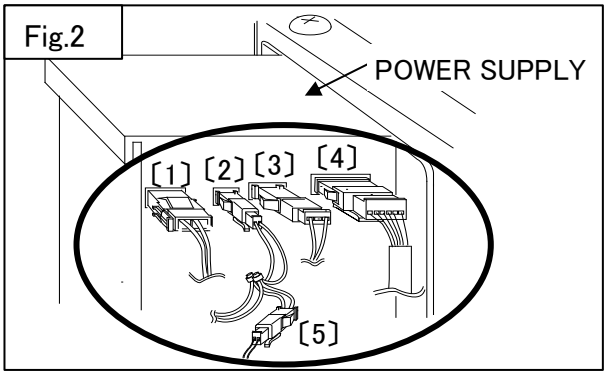
Fig.1



② Pull out all the couplers at power supply. (Fig.2)

(1) Motor input coupler. 〔1〕
(2) Fan motor coupler. 〔2〕
(3) Thermistor coupler. 〔3〕
(4) Control assy coupler. 〔4〕
(5) Fan motor coupler (From refrigerator inside). 〔5〕

Fig.2



② Remove the cover pipe (Fig.3)

(1) Remove 2 fasteners. 〔1〕(MT80F ONLY)

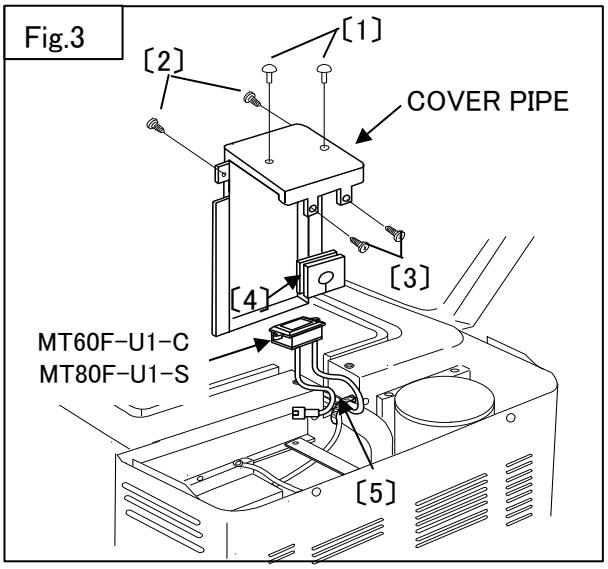
(2) Remove 2 screws. 〔2〕(MT60F ONLY)

(3) Remove 2 screws and take off the pipe cover. 〔3〕

(4) Detach the rubber grommet. 〔4〕

(5) Cut the fasteners. 〔5〕

Fig.3



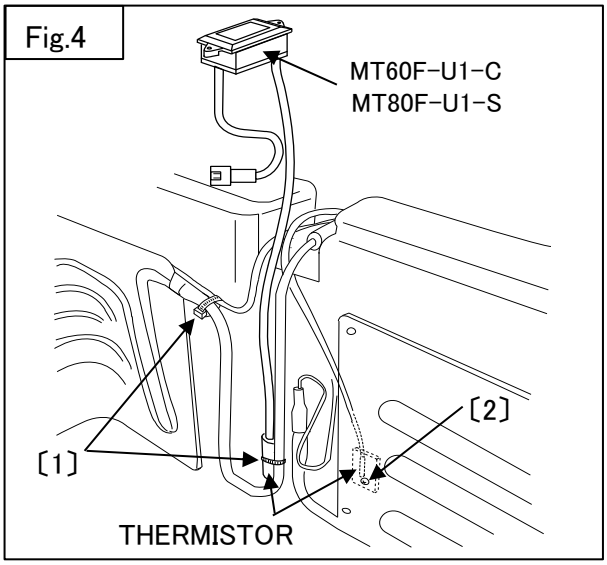
③ Remove the thermistor (Fig.4)

(1) Cut the 2 fasteners. 〔1〕

(2) Remove screw. 〔2〕

(3) Remove the thermistor

Fig.4



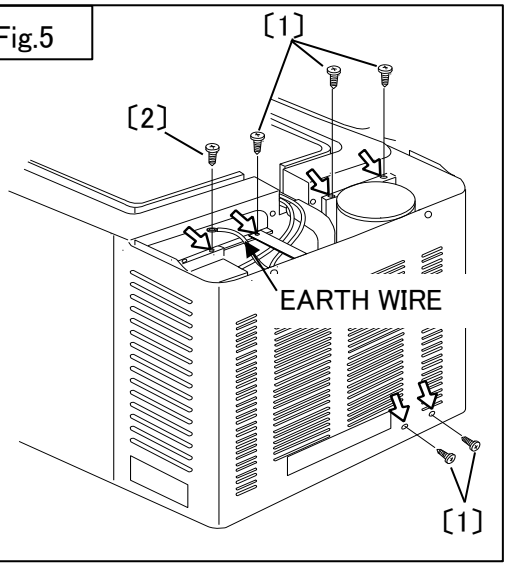
6. PRODCEURES FOR REPLACING

④ Remove screws at the hanger of the compressor. (Fig. 5)

(1) Remove 5 screws. 〔1〕

(1) Remove the earth wire. 〔2〕

Fig.5



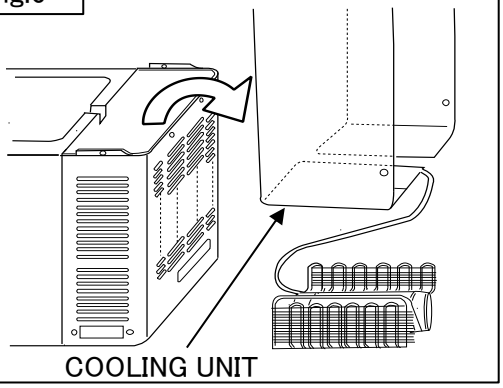
⑤ Remove the cooling unit. (Fig.6), (Fig.7)

(1) Take out cooling unit from the cabinet.

WORK TIPS

Please remove evaporator and capillary tube carefully for not to damage.
In addition, please be careful for not to bend capillary tube.

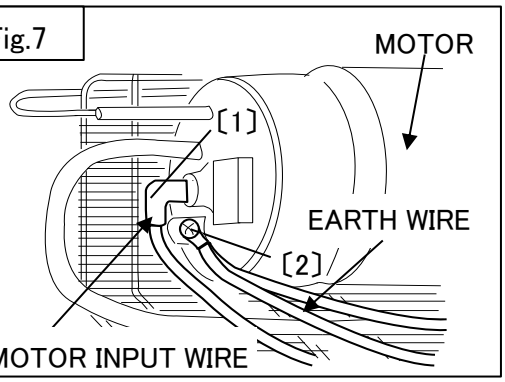
Fig.6



(2) Remove the motor input wire. 〔1〕

(3) Remove the earth screw. 〔2〕

Fig.7



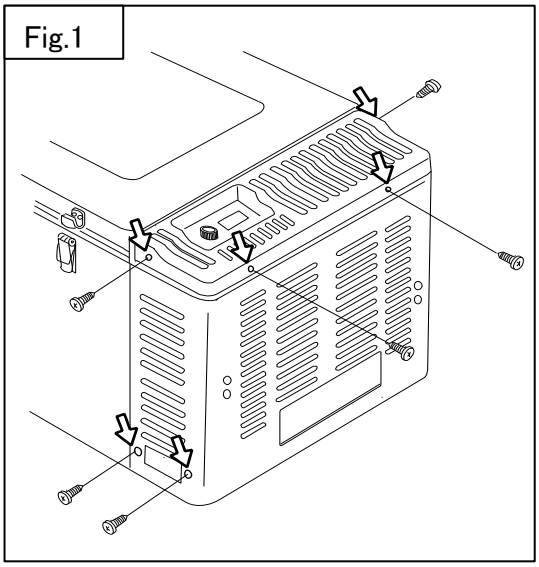
6. PRODCEURES FOR REPLACING

■ How to Replace Power Supply

① Remove motor cover. (Fig.1)

(1) Remove 6 screws.

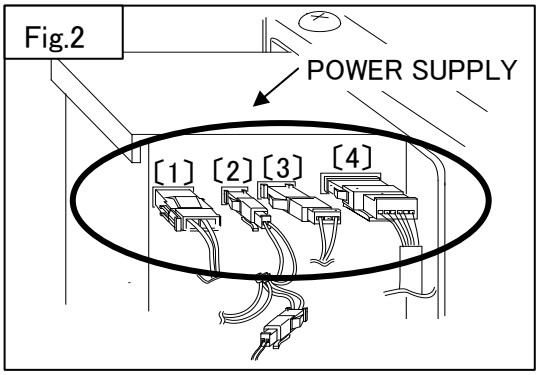
Fig.1



② Pull out all the couplers at power supply. (Fig.2)

(1) Motor input coupler. 〔1〕
(2) Fan motor coupler. 〔2〕
(3) Thermistor coupler. 〔3〕
(4) Control assy coupler. 〔4〕

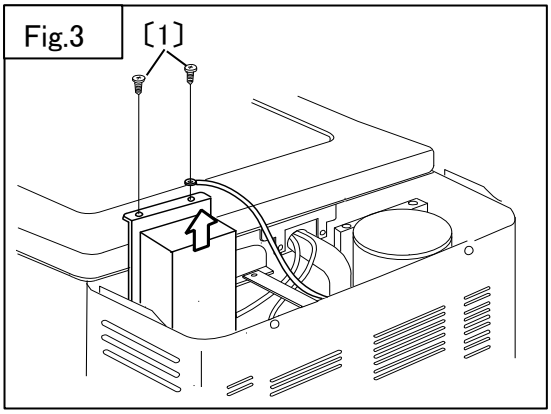
Fig.2



③ Remove the power supply (Fig.3)

(1) Remove 2 screws. 〔1〕

Fig.3

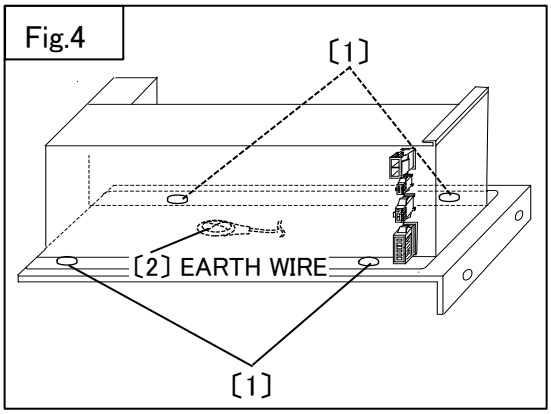


④ Remove power supply from cover. (Fig.4)

(1) Remove 4 screws frome power supply plate.〔1〕

(2) Remove earth wire. 〔2〕

Fig.4



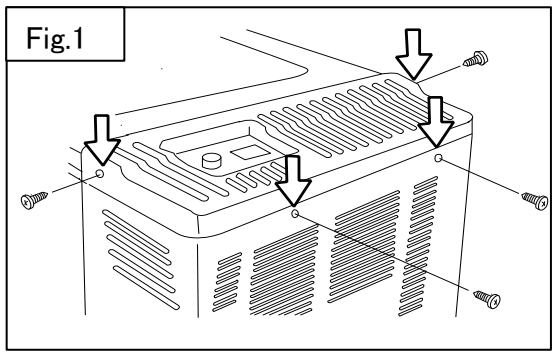
6. PRODCEURES FOR REPLACING

■ How to Replace Control Assy and Degital Thermometer (MT60F-U1-C / MT80F-U1-S)

① Remove the motor cover (Fig.1)

(1) Remove 4 screws which hold Motor Cover.

Fig.1



② Remove the control assy and degital thermometer. (Fig.2)

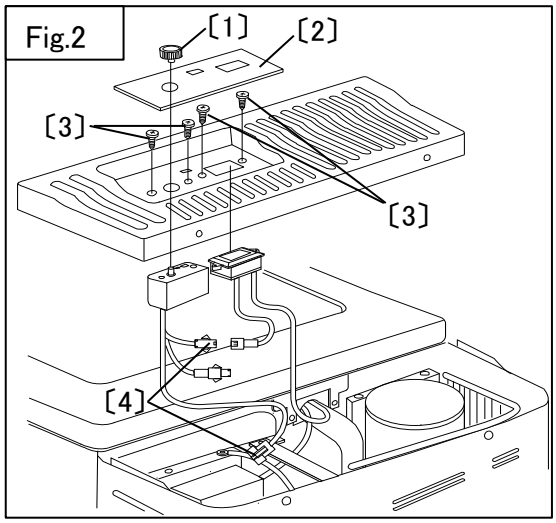
(1) Remove the dial assy. 〔1〕

(2) Take off a mark. 〔2〕

(3) Remove 4 screws. 〔3〕

(4) Remove the coupler connection. 〔4〕

Fig.2



③ Take out cover pipe (Fig.3)

(1) Remove 2 fasteners. 〔1〕(MD80F ONLY)

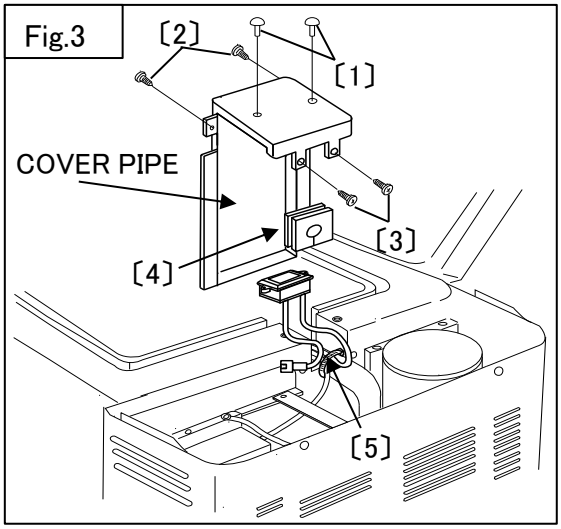
(2) Remove 2 screws. 〔2〕 (MD60F ONLY)

(3) Remove 2 screws and take off the pipe cover. 〔3〕

(4) Detach the rubber grommet. 〔4〕

(5) Cut the fasteners. 〔5〕

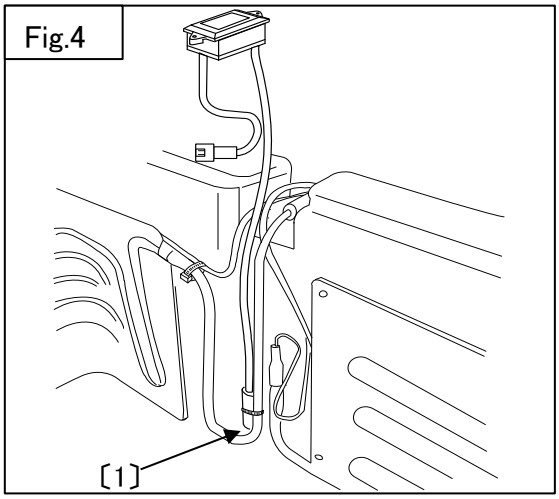
Fig.3



④ Take out thermistor (Fig.4)

(1) Cut the fasteners. 〔1〕

Fig.4



6. PRODCEURES FOR REPLACING

■ How to Replace Fan Motor

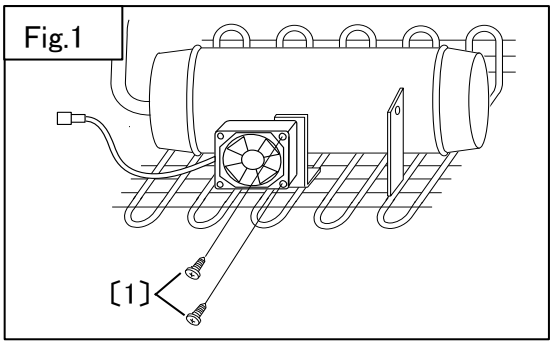
<Compressor side>

① Remove the cooling unit. (See page 13)

② Remove the fan motor. (Fig.1)

(1) Remove 2 screws. 〔1〕

Fig.1



<Refrigerator inside> (MT60F-U1-C)

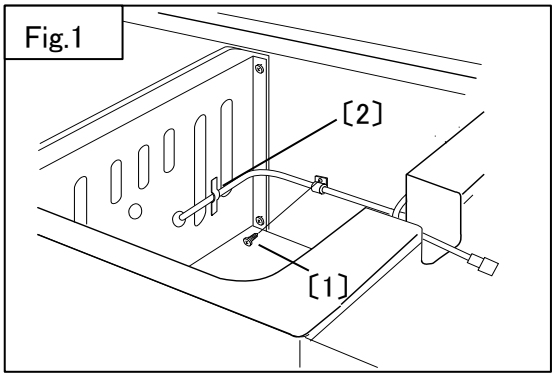
① Remove the cooling unit. (See page 13)

② Remove the fan code. (Fig.1)

(1) Remove the screw from the clamp. 〔1〕

(2) Remove the sponge seal. 〔2〕

Fig.1

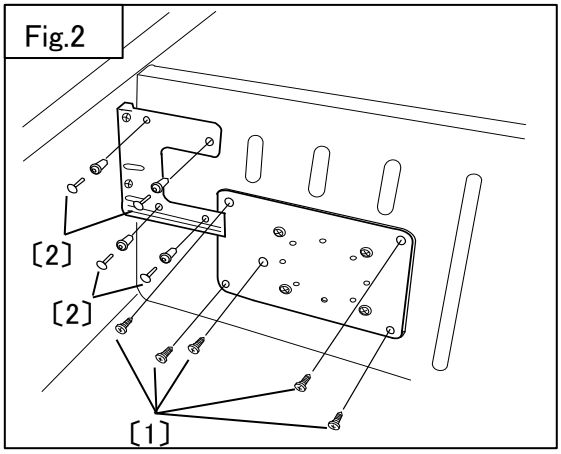


③ Remove the fan cover. (Fig.2)

(1) Remove 5 screws. 〔1〕

(2) Remove 4 fasteners. 〔2〕

Fig.2

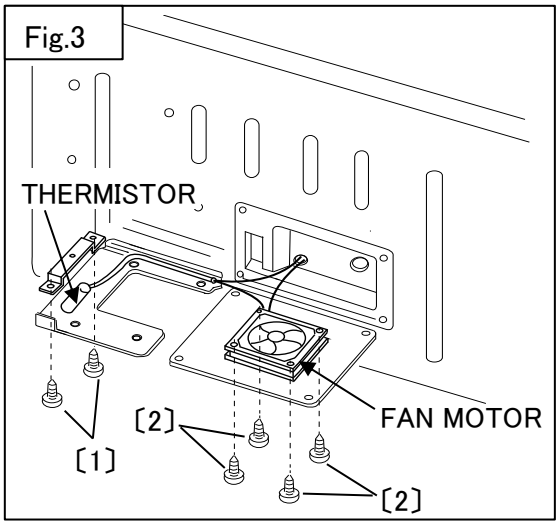


④ Take out fan motor (Fig.3)

(1) Remove 2 screws. 〔1〕

(2) Remove 4 screws. 〔2〕

Fig.3

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