

_	the user, or damage to property.
Th	is air conditioner uses new refrigerant HFC (R410A).
	tion work procedures are the same as conventional refrigerant (R22) models. sful attention to the following points:
 Since the work installation and 	ting pressure is 1.6 times higher than that of conventional refrigerant (R22) models, some of the piping and d service tools are special. (See the table below.)

Θ	Since the working pressure is 1.8 times higher than that of conventional refrigerant (RI22) models, some of the piping and installation and service tools are special. (See the table below.) Especially, when replacing a conventional refrigerant (RI22) model with a new refrigerant R410A model, always replace the conventional printing and filter rules with the R410A piping and filter rules.	П
8	Models that use refrigerent R410A have a different charging port thread diameter to prevent erroneous charging with conventional refrigerent (R22) and for safety. Therefore, check beforehand. [The charging port thread diameter for R410A is 1/2 UNF 20 threads per inch.]	
Ø	Be more careful that foreign matter (oil, water, etc.) does not enter the piping than with refrigerant (R22) models. Also, when	1

Gauge mannoid	It is recommended the cause with seals -0.1 to 5.3 MPs (-76 cmHs to 53 kpl/cm²) for high pressure.					
-0.1 to 3.8 MPs (-76 cmHg to 38 kgflcm*) for low pressure.						
Charge hose	To increase pressure resistance, the hose material and base size were changed.					
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter.					
Gas leakage detector	Special gas leakage detector for HFC retrigerant R410A.					
poper pipes necessary to buse seamless coppor pipes and Bit desirable that the amount excelled oil is less than 40 mg/fres. Do not use copper pipes basing a col- estable oil is less than 40 mg/fres. Do not use copper pipes basing a col- estable oil is less than 40 mg/fres. Do not use copper pipes basing a col- estable oil Table 1 Thicknesses of Annealed Copper Pipes						
the expansion value or cardiary tube may become blocked with con-					es (mm)	
nicaria. Nominal Outer diameter Public Indian						

	diameter (inch)	(mm)		y 1
2, it is necessary to choose adequate materials.	3/8	9.52	0.80	0.80
idenesses of copper pipes used with R41GA are as shown in Table1. Never	5/8	15.00	1.00	1.00
e copper pipes thinner than 0.8 mm (Nominal diameter is 3/6 in.), mm (Nominal diameter is 5/6 is.) even when it is available on the market.				
or authorized service personnel only				

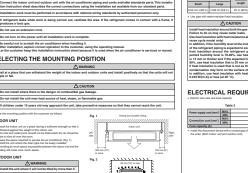


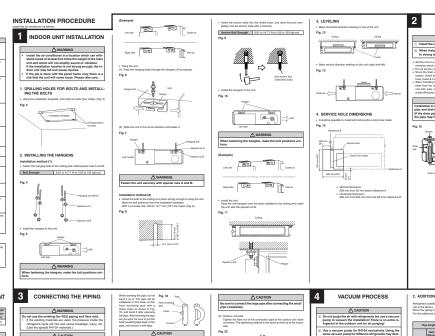


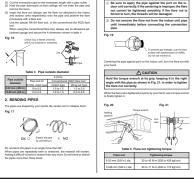
STANDARD PARTS

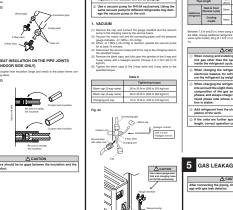
8

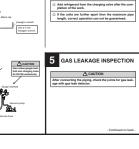
(c)











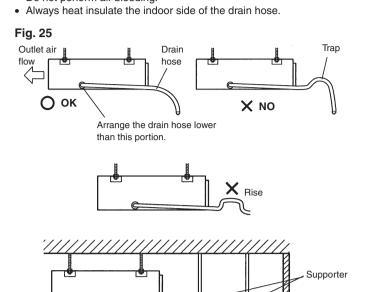
OUTDOOR UNIT

CAUTION Install the drain hose in accordance with the instructions in this installation instruction sheet and keep the area warm enough to prevent condensation. Problems with the pip-

NOTE: INSTALL THE DRAIN HOSE

ing may lead to water leaks.

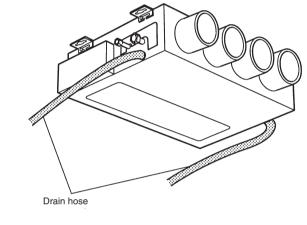
- Install the drain hose with downward gradient (1/50 to 1/100) and so there are no rises or traps in the hose
- Use general hard polyvinyl chloride pipe (VP25) [outside diameter 38 mm] and connect it with adhesive (polyvinyl chloride) so that there is no
- When the hose is long, install supporters.
- Do not perform air bleeding.



- The outside diameter of the drain port is 38 mm. Use a suitable drain
- There is a drain port on both the left and right sides. Select the drain port to match the local conditions.

1.5 to 2 m (5 to 6.5 ft)





TEST RUN

⚠ CAUTION

Supply power to the crankcase heater for at least 12 hours

(2) Press the master control button and the fan control button simultane-

When the error indication "E:EE" is displayed, follow the following items to

2) Press the set temperature buttons Λ/V simultaneously for 5 sec-

Refer to the following tables for the description of each error code.

(3) Press the set temperature buttons Λ/V simultaneously for 5 sec-

Table 8

(indoor unit 🚤 🗕 remote controller

Room temperature sensor open

Power source connection error

Outdoor temperature sensor open

Outdoor high pressure abnormal

Discharge pipe temperature abnormal

Outdoor temperature sensor short-circuited

Discharge pipe temperature sensor short-circuited

Discharge pipe temperature sensor open

Float switch operated

Room temperature sensor short-circuited

Indoor heat exchanger temperature sensor open

Indoor heat exchanger temperature sensor short-

Outdoor heat exchanger temperature sensor open

Outdoor heat exchanger temperature sensor short-

Communication error (indoor unit ___ outdoor unit)

Error contents

Unit number (usually 0)

Ex. Self-diagnosis

____ Error code

perform the self-diagnosis. "E:EE" indicates an error has occurred.

before the start of operation in winter.

ously for 2 seconds or more to start the test run.

(3) Press the start/stop button to stop the test run.

1. REMOTE CONTROLLER DISPLAY

onds or more to start the self-diagnosis.

onds or more to stop the self-diagnosis.

Error code

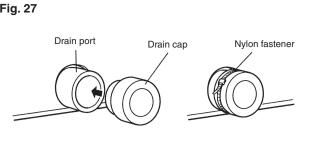
(1) Stop the air conditioner operation.

[SELF-DIAGNOSIS]

1) Stop the air conditioner operation.

• When the unit is shipped from the factory, the drain port is on the left side (control box side). • When using the drain port on the right side of the unit, reinstall the drain

cap to the left side drain port.



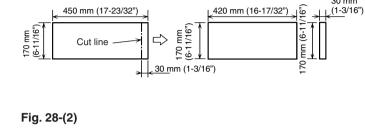
CAUTION Always check that the drain cap is installed to the unused drain port and is fastened with the nylon fastener. If the drain cap is not installed, or is not sufficiently fastened by the nylon fastener, water may drip during the cool-

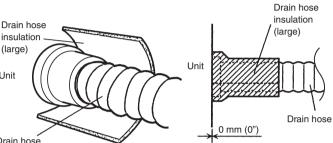
• Cut the drain hose insulation at a position approximately 30 mm from the end with cutters, etc. (Fig. 28-(1)) Stick the large drain hose insulation at the drain hose installation side.

(Fig. 28-(2)) • Stick the small drain hose insulation at the drain cap side. (Fig. 28-(3))

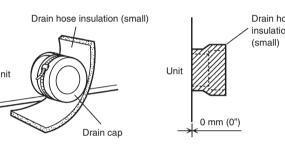
Fig. 28-(1)

ing operation.









Error contents

Model abnormal

2. OUTDOOR UNIT LEDS

tion of each error according to the LEDs.

Quick flash continued

OFF 2 sec.

OFF TITLE

power is not turned off.

Heat & Cool model (reverse cycle) only

Error display

quick flash repeated | Lighting continued

2 quick flash repeated | Lighting continued

B quick flash repeated | Lighting continued

4 guick flash repeated | Lighting continued

quick flash repeated | Lighting continued

S quick flash repeated Lighting continued

7 quick flash repeated | Lighting continued

When the fault is cleared, the LED lamp goes off.

Outdoor signal abnormal

Outdoor EEPROM abnormal

When a malfunction occurs in the outdoor unit, the LEDs on the circuit

board light to indicate the error. Refer to the following table for the descrip-

0.1 sec.

Quick flash continue

8 quick flash repeated | Lighting continued | High pressure abnormal

However, for discharge pipe temperature abnormal and high pressure

abnormal, the LED lamp lights continuously for 24 hours, as long as the

Model abnormal or

connection error

Discharge tempera

exchanger tempera-

Outdoor temperature

Communication signal erro

Discharge temperature

Indoor unit error

abnormal

ture sensor error

ture sensor error

Outdoor heat

EEPROM abnormal

ELECTRICAL WIRING

HOW TO CONNECT WIRING TO THE TERMINALS A. For solid core wiring (or F-cable)

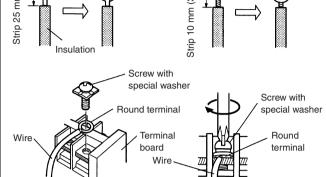
3) Using pliers, bend the solid wire to form a loop suitable for the

- 1) Cut the wire end with a wire cutter or wire-cutting pliers, then strip the insulation to about 25 mm (15/16") of expose the solid wire. Using a screwdriver, remove the terminal screw(s) on the terminal
- terminal screw. 1) Shape the loop wire properly, place it on the terminal board and
- tighten securely with the terminal screw using a screwdriver. B. For strand wiring

Cut the wire end with a wire cutter or wire-cutting pliers, then strip

- the insulation to about 10 mm (3/8") of expose the strand wiring 2) Using a screwdriver, remove the terminal screw(s) on the terminal (3) Using a round terminal fastener or pliers, securely clamp a round
- terminal to each stripped wire end. 1) Position the round terminal wire, and replace and tighten the terminal screw with a screwdriver.

B. Strand wire



HOW TO FIXED CONNECTION CORD AND POWER CORD AT THE CORD CLAMP

tion tube, fasten it with the cord clamp.

After passing the connection cord and power cord through the insula-

as the insulation tube.

with your bare hands.

(2) Rotary switch setting (indoor unit)

The rotary switch is normally set to 0.

(3) DIP switch setting (remote controller)

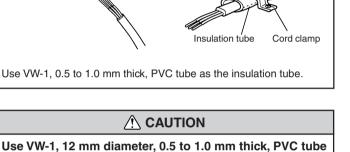
indoor unit circuit board.

controller [

Be sure to turn off the main power.

. GROUP CONTROL SYSTEM

(1) Wiring method (indoor unit to remote controller)



SPECIAL INSTALLATION

METHODS

↑ CAUTION

When setting the rotary switch and DIP switches, do

A number of indoor units can be operated at the same time using a single

Indoor unit No. 0 Indoor unit No. 1 Indoor unit No. 2 Indoor unit No. 3

Set the unit number of each indoor unit using the rotary switch on the

Change DIP switch No. 3 on the remote controller from OFF to ON.

2. DUAL REMOTE CONTROLLERS (OPTIONAL)

(1) Wiring method (indoor unit to remote controller)

Two separate remote controllers can be used to operate the indoor units.

Fig. 46

Remote controller

ON

DIP Switch

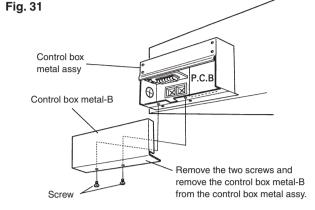
not touch any other parts on the circuit board directly

1. INDOOR UNIT SIDE

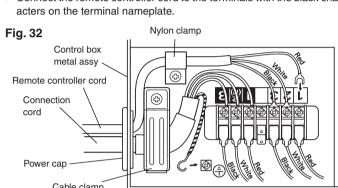
↑ WARNING Before starting work, check that power is not being supplied to the indoor unit and outdoor unit.

- Match the terminal board numbers and connection cord colors with those of the outdoor unit. Erroneous wiring may cause burning of the electric
- Connect the connection cords firmly to the terminal board. Imperfect installation may cause a fire.
- Always fasten the outside covering of the connection cord with the cord clamp. (If the insulator is chafed, electric leakage may occur.)
- ⑤ Always connect the ground wire.

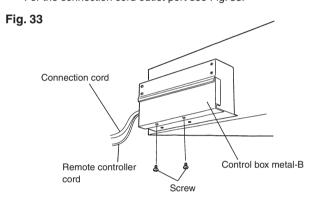
(1) Remove the control box metal-B from the control box metal assy.



- (2) Connection cord and remote controller cord connections. Clamp the connection cord with the cable clamp and the remote controller cord with the nylon clamp. Connect the connection cord to the terminals with the white characters
- on the terminal nameplate Connect the remote controller cord to the terminals with the black char-



(3) Control box metel-B installation Fasten control box metal-B with the two screws. For the connection cord outlet port see Fig. 33.



Set the remote controller DIP switch Nos. 1 and 2 according to the

Master unit

DIP-SW No. 1 DIP-SW No. 2

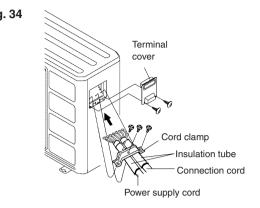
2. OUTDOOR UNIT SIDE

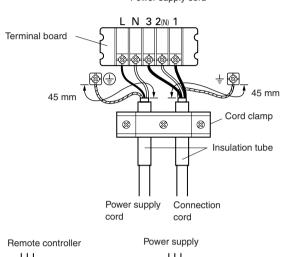
№ WARNING Before starting work, check that power is not being sup-

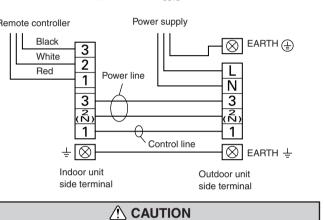
Match the terminal board numbers and connection cord colors with those of the indoor unit side. Erroneous wiring may cause burning of the electric

plied to the indoor unit and outdoor unit.

- Connect the connection cords and the power supply cord firmly to the terminal board. Imperfect installation may cause a fire.
- Always fasten the outside covering of the connection cord and the power supply cord with cord clamps. (If the insulator is chafed, electric leakage may occur.)
- Always connect the ground wire.
- (1) Remove the terminal cover of the outdoor unit, and insert the end of the connection cord and the power supply cord into the terminal board. (2) Fasten the connection cord and the power supply cord with the cord clamps, and install the terminal cover.







When routing the ground wires, leave slack as shown in the illustrations.

STATIC PRESSURE

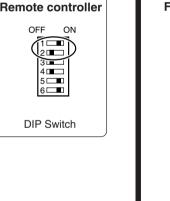
CHARACTERISTIC

Fig. 50 FAN PERFORMANCE AND AIR FLOW

RECOMMENDED RANGE

222 278 333

DIP-SW No. 1 DIP-SW No. 2 **EXTERNAL STATIC PRESSURE** (Voltage: 230 V) OFF OFF



2 (Dual) 3. CANCELING AUTO RESTART

ON

ON

OFF

Table 11

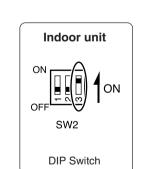
following table.

1 (Normal)

2 (Dual)

- The auto restart function can be canceled.
- (1) DIP switch setting (indoor unit) Change the DIP switch (SW2-3) on the indoor unit circuit board from OFF to ON. The auto restart function will be canceled.

ON



[DIP-SWITCH SETTING] Indoor unit

Table 12

	NO	SW state			Deteil	
	NO.	OFF		ON	Detail	
SW2	1	_	*	_	Remote sensor setting	
DIP-	2	Edge	*	Pulse	Control input setting	
Switch	3	Validity	*	Invalidity	Auto restart setting	

Remote controller

		SW s	tate	B !!		
	NO.	OFF	ON	Detail		
	1		*	Dual remote controller		
	2	*		setting		
DIP-	3	One unit *	Multiple unit	Group control setting		
Switch	4	Heat & Cool model	Cooling only model	Model setting		
	5	Invalidity	Validity *	Auto changeover setting		
	6	Invalidity *	Validity	Memory backup setting		

: Factory setting

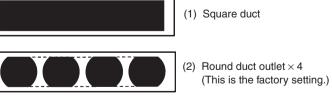
Table 13

AIR FLOW

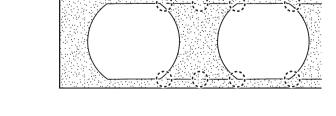
800 1000 1200

OUTLET DUCT CONNECTION

1. DUCT INSTALLATION PATTERN (■ CUT PART)



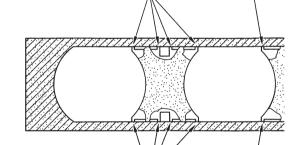
- 2. WHEN USING AS A SQUARE DUCT
- (1) Cut the slit seam () with a cutter.



out at the /////// part.

the indoor unit.

and use shielded cord.



POWER

↑ WARNING

The rated voltage of this product is 230 V A.C. 50 Hz.

the 198 V to 264 V range.

Breaker capacity: 30 A)

tric company standards.

tact the power company.

Before turning on the verify that the voltage is within

Always use a special branch circuit and install a spe-

cial receptacle to supply power to the air conditioner.

Use a special branch circuit breaker and receptacle

The special branch circuit breaker is installed in the

Perform wiring work in accordance with standards so

Install a leakage special branch circuit breaker in ac

The power source capacity must be the sum of the ai

conditioner current and the current of other electrical

appliances. When the current contracted capacity is in-

When the voltage is low and the air conditioner is diffi-

cult to start, contact the power company the voltage

This air conditioner must be connected to a powe

source that has an electrical impedance of 0.159 Ω or

less or has a supply current of 100 A or greater. If the

power supply does not meet the specifications, con-

REMOTE CONTROLLER

SETTING

CAUTION

When installing the remote controller and cord near

source of electromagnetic waves, separate the remote

controller from the source of the electromagnetic waves

Do not touch the remote controller PC board and PC

In order to detect the room temperature

correctly when using the temperature

sensor of the remote controller, do not

install the remote controller in a place

where it will be exposed to direct sun-

light or directly below the air outlet of

board parts directly with your hands.

sufficient, change the contracted capacity.

cordance with the related laws and regulations and elec-

that the air conditioner can be operated safely and posi-

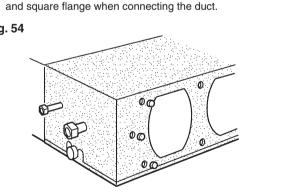
at least 3 mm between the contacts of each pole.

permanent wiring. Always use a circuit that can trip all

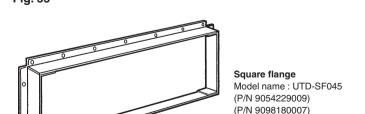
the poles of the wiring and has an isolation distance of

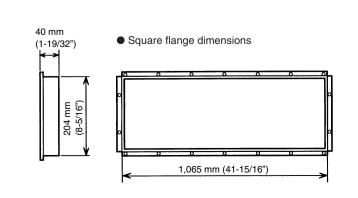
matched to the capacity of the air conditioner. (Fuse/

(3) Cut with nippers and remove the sheet metal. (4) Since there is a slit in the insulation, use radio pliers, tweezers, etc. to stretch tight the screw hole part used when installing the round flange



3. SPECIAL ITEMS When connecting the square duct and round duct, use the optional square flange or round flange and flexible duct.







leted if there is a power failure.

(2) Turn up the insulation around the points to be cut according to the outlet port shape working points so that the insulation dose not stick

Round flange dimensions

Change the DIP switch setting to use batteries. (The DIP switch is not set

ON

L 2 m (78-3/4")

1. INSTALLING THE REMOTE CONTROLLER

move the front case of the remote controller.

the front case hangs down.

(1) Open the operation panel on the front of the remote controller, re-

When installing the remote controller, remove the connector from the

front case. The wires may break if the connector is not removed and

When installing the front case, connect the connector to the front case

Refer to the following information to install the remote controller wires

2. ROUTING THE REMOTE CONTROLLER WIRES

(1) Install the remote controller wires to the terminals on the top of the

(3) If the remote controller wires run through the room, use a tool to cut

away the thin area on the upper center of the front case.

rear case as shown in the following figure.

3. SETTING THE DIP SWITCHES

When using a battery (memory backup)

to use batteries at the factory.)

Change DIP switch No. 6 from OFF to ON.

(2) Fasten the wires with the binder.

(Example

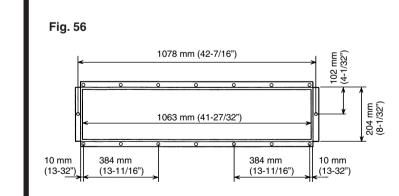
Fig. 38

(2) Install the rear case to the wall, etc. with the two tapping screws.

move the two screws indicated in the following figure, and then re-

Flexible duct Model name : UTD-RD202 (P/N 9074165004) ø200 mm (7-7/8")

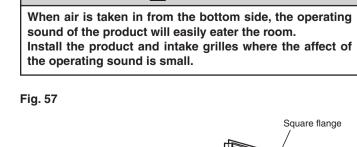
INTAKE PORT REAR COVER DIMENSIONS

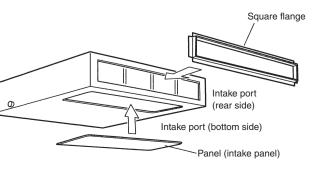


INTAKE PORT

(1) The square flange (rear side) and panel (intake panel) are installed at the factory at the places shown in Fig. 57. (2) When taking in air from the bottom side, reinstall the square flange (rear side) and panel (intake panel).

↑ CAUTION





4. SETTING THE ROOM TEMPERATURE DETEC-TION LOCATION

The detection location of the room temperature can be selected from the following three examples. Choose the detection location that is best for the installation location.

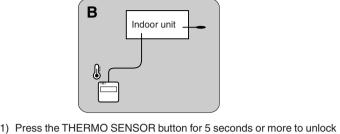
A. Indoor unit setting (factory setting)

The room temperature is detected by the indoor unit temperature sensor.

(1) When the THERMO SENSOR button is pressed, the lock display flashes because the function is locked at the factory.

B. Remote controller setting

The room temperature is detected by the remote controller temperature



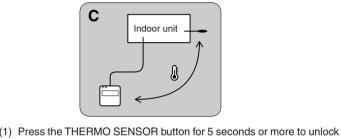
the function. The thermo sensor display flashes and then disappears when the function is unlocked. (2) Press the THERMO SENSOR button. Fig. 40

The thermo sensor display appears. (3) Press the THERMO SENSOR button again for 5 seconds or more to

lock the function. The thermo sensor display flashes and then remains on when the function is locked. (4) Make sure that the function is locked.

C. Indoor unit/remote controller setting (room temperature sensor selection)

The temperature sensor of the indoor unit or the remote controller can be used to detect the room temperature.



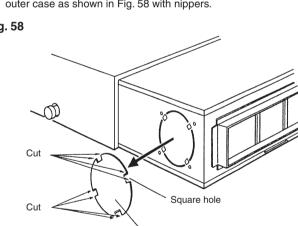
the function. The thermo sensor display flashes and then disappears when the function is unlocked. (2) Press the THERMO SENSOR button to select the temperature sensor of the indoor unit or the remote controller.

NOTES

If the function to change the temperature sensor is used as shown in examples A and B (other than example C), be sure to lock the detection If batteries are not used, all of the settings stored in memory will be delocation. If the function is locked, the lock display will flash when the THERMO SENSOR button is pressed.

FRESH AIR INTAKE

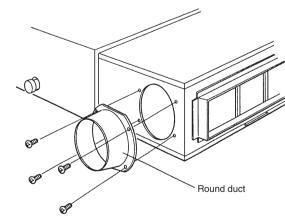
(Processing before use)) When taking in fresh air, cut a slit shaped cabinet in the left side of the outer case as shown in Fig. 58 with nippers.



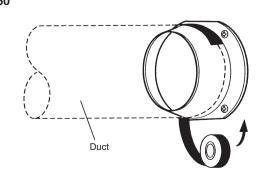
⚠ CAUTION When removing the cabinet (iron plate), be careful not to damage the indoor unit internal parts and sur-rounding area (outer case).

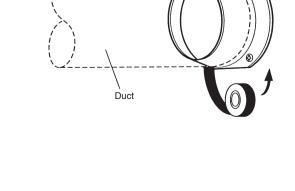
When processing the cabinet (iron plate), be careful not to injure yourself with burrs, etc.

(2) Install the round flange (option parts) to the fresh air intake.



(3) Connect the duct to the round flange. (4) Seal with a band and vinyl tape, etc. so that air dose not leak from the connection.





PART NO. 9357874098