

CONDENSING GAS WATER HEATER WHC56, LWHC56 (Internal)



SBA8198-3

Please read and understand these instructions before commencing installation and leave this manual with the customer for future reference.

Andrews. Built to perform.



Installation Manual

CONDENSING GAS WATER HEATER

WHC56, LWHC56 (Internal)

AGENT :
ANDREWS WATER HEATERS
Innovation House 3 Oaklands
Business Centre Oaklands Park
Wokingham Berkshire RG41 2FD, UK

PRODUCT :
NORITZ CORPORATION
5, Minamifutami, Futami-cho,
Akashi, Hyogo, Japan

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

Potential dangers from accidents during installation and use are divided into the following three categories. Closely observe these warnings, they are critical to your safety.

 **Danger**

Danger of serious injury or even death as well as danger of fire when the product is misused by ignoring this symbol.

 **Warning**

Possibility of serious injury or even death as well as possibility of fire when the product is misused by ignoring this symbol.

 **Caution**

Possibility of bodily injury or damage to property when the product is misused by ignoring this symbol.



Prohibited



Disconnect
Power



Earth



Be sure to do

Requests to Installers

 **Caution**




• In order to use the water heater safely, read this installation manual carefully, and follow the installation instructions.

- Failures and damage caused by erroneous work or work not as instructed in this manual are not covered by the warranty.
- Check that the installation was done properly in accordance with this Installation Manual upon completion.
- After completion of installation, be sure to hand the Operation Manual to the customer upon filling in all of the required items.

- The appliance must be installed in accordance with the Gas Safety (Installation and Use) Regulations and the rules in force in the country of installation.
- The manufacturer's instructions supplied.
- The Gas Safety (Installation and Use) Regulations.
- The appropriate Buildings Regulations either The Building Regulations, The Building Regulations (Scotland), The Building Regulations (Northern Ireland).
- In IE, the installation must be carried out by a competent person and installed in accordance with the current edition of I.S.813 "Domestic Gas Installations", the current Building Regulations and reference should be made to the current ETCI rules for Electrical Installation.

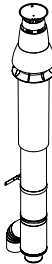
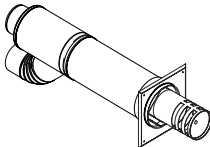

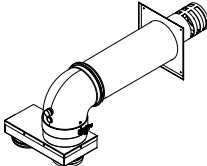


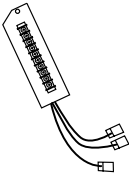
1. Included Accessories

The following accessories are included with the unit. Check for any missing items before starting installation.

Part	Shape	Q'ty	Part	Shape	Q'ty
Owner's Guide		1	Installation Manual (this document)		1
Tapping Screw		5			

2. Optional Accessories

The accessories listed below are not included with the units, but may be necessary for installation.

Part	Shape	Q'ty	Part	Shape	Q'ty
Vertical Flue Terminal (*1)		1	Horizontal Flue Terminal (*1) (Long)		1
Special Adapter (For intake pipe)		1	Horizontal Flue Terminal (*1) (Short)		1
Remote Controller		1	Quick Connect Cord		1
System Controller		1			

(*1) Attach the seal ring included with the Flue Terminal (optional accessories) to the groove of exhaust side of equipment securely following precautions. Otherwise, a leakage of exhaust air is generated and it will cause CO poisoning.

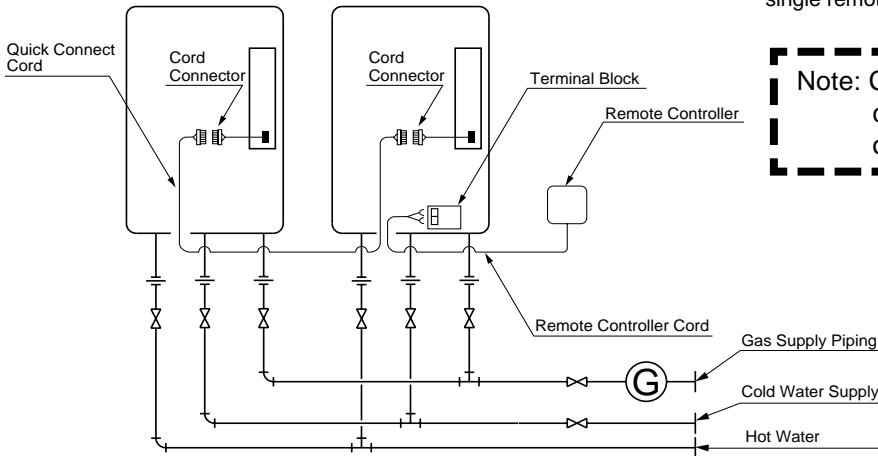
Item	Specification	
Model Name	WHC56	LWHC56
Flue Type	C ₁₃ , C ₃₃	
Category	I _{2H}	I _{3P}
Electrical Consumption	140W	140W
Freeze Preventive Heater	170W	170W
Gas Supply Pressure	G20 20mbar	G31 30/37mbar
Max.Burner Setting Pressure	10.0mbar	12.9mbar
Min.Burner Setting Pressure	2.7mbar	3.0mbar
Max.Water Pressure	10.0bar	10.0bar
Min.Water Pressure	1.0bar	1.0bar
Max.Heat Output (CONDENSING)	55.8kW	55.8kW
Min.Heat Output (CONDENSING)	2.98kW	2.98kW
Max.Heat Input(NET)	54.0kW	54.0kW
Min.Heat Input(NET)	3.20kW	3.20kW
Destination Countries	GB&IE	GB&IE
IP Rate	IPX0	

3. Quick Connect Multi System Installation

- The Quick Connect Multi System allows the installation of two units together utilizing only the Quick Connect Cord.

The Quick Connect Cord is 2m. long. Install the two units 470mm-950mm apart at the center to ensure the cord will be able to reach between the units. (See Typical Plumbing diagram). (If the distance between the two units is too great, not only will the cord not be able to reach, but the water temperature may also become unstable because of the difference in pipe length between the two units.)

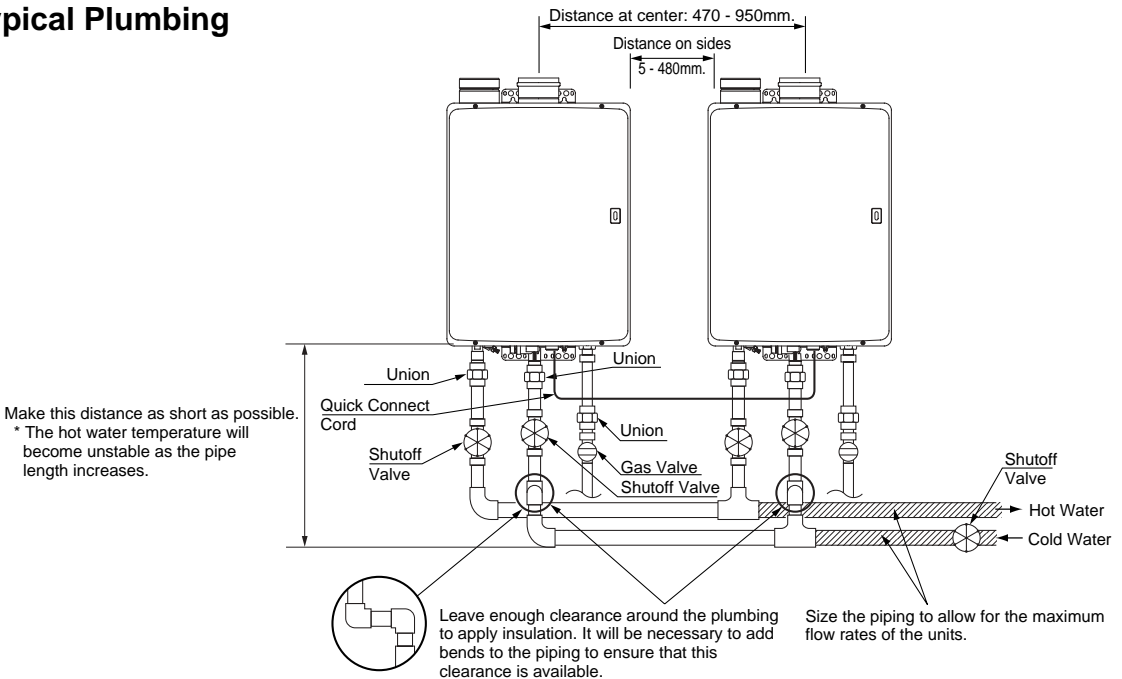
System Diagram



* When connecting 2 devices, use only a single remote controller.

Note: Connect the remote controller to only one of the devices.

Typical Plumbing



- Insulate the hot water piping to prevent heat loss. Insulate and apply heating materials to the cold water supply piping to prevent heat loss and freezing of pipes when exposed to excessively cold temperatures.

4. Before Installation

Warning

Precautions on replacement of equipment

- Replace the intake and exhaust pipe, the flue terminal and the fixing bracket with new one as a general rule. However, the material of intake and exhaust pipe, flue terminal or fixing bracket is equivalent to SUS304 or more, these parts can be reused.
- * Check there is no hole, crack, block on the intake and exhaust pipe and misalignment of connection part and there is no problem before using these parts.
- * Replace the flue terminal with the product specified by our company.

Confirmation of top of adapted flue terminal

- Use the flue terminal specified by our company, which is described in this construction manual. If it is mismatching, it will cause a fire or other accident.

Precautions on accumulation of snow or fallen snow

- If an accumulation of snow is forecasted, undertake the construction of flue terminal so that it is not blocked by surrounding accumulation of snow or fallen snow.

Caution

Check the Gas

- Check that the rating plate indicates the correct type of gas.
If the equipment is used with a gas other than displayed one, it will cause an explosion or a fire.
Check that the gas supply line is sized for 54.0 kW for this unit.

Check the Power

- The power supply required is 230V AC, at 50Hz. Using the incorrect voltage may result in fire or electric shock.

Do Not Use Equipment for Purposes Other Than Those Specified

- Do not use for purposes other than increasing the temperature of the water supply, it will cause an unexpected accident or a failure of equipment.

Check Water Supply Quality

- If the water supply is hard, acidic or otherwise impure, treat the water with approved methods in order to ensure full warranty coverage.

Do not use hot spring water, well water or under ground water.

- The foreign material is attached to the piping in the equipment or the piping become eroded and causes water leakage depending on the quality of water. In this case, the repair will be implemented with charge even within the guarantee period.

Use Extreme Caution if Using With A Solar Pre-Heater

- Using this unit with a solar pre-heater can lead to unpredictable output temperatures and possibly scalding. If absolutely necessary, use mixing valves to ensure output temperatures do not get to scalding levels. Do not use a solar pre-heater with the quick-connect multi-system.

Checkup

- Check the fixing brackets and the flue pipe yearly for damage or wear. Replace if necessary.

5. Choosing Installation Site

The appliance must be installed in a suitably ventilated room, in accordance with the regulations in force.

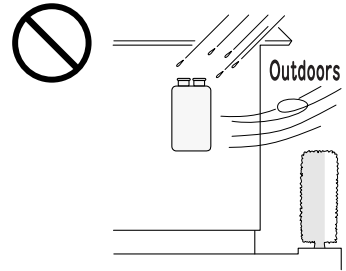
- * Locate the appliance in an area where leakage from the unit or connections will not result in damage to the area adjacent to the appliance or to the lower floors of the structure. When such locations cannot be avoided, it is recommended that a suitable drain pan, adequately drained, be installed under the appliance. The pan must not restrict combustion air flow.

Danger

- Do not install the fence or the obstacle around the flue terminal. It will cause carbon monoxide poisoning.

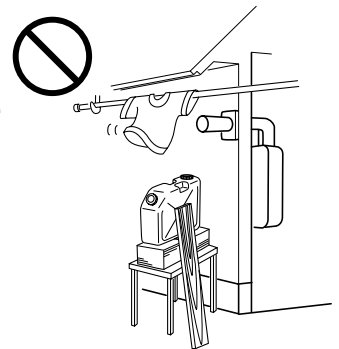
Warning

- The water heater is designed for internal installation only. Never install it outdoors or in a bathroom, it may be damaged or a fire may be caused.



Caution

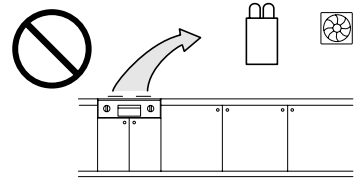
- Consult with the customer concerning the location of installation.
- Avoid places where fires are common, such as those where petrol, benzene and adhesives are handled, or places in which corrosive gases (ammonia, chlorine, sulfur, ethylene compounds, acids) are present.
This may cause incomplete combustion or failures.
- Locate the flue terminal so that there are no obstacles around the termination and so that exhaust can't accumulate. Do not enclose the termination with corrugated metal or other materials.
- Install the water heater in an area that allows for the proper clearances to combustible and noncombustible construction.
- Do not install the water heater in a place where it may be threatened by falling objects, such as under shelves.
- The water heater must be installed in a place where supply and exhaust pipes can be installed as directed.



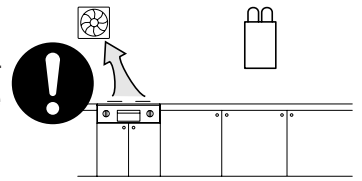
- Do not install the water heater where the exhaust will blow on outer walls or material not resistant to heat. Also consider the surrounding trees and animals.

The heat and moisture from the water heater may cause discoloration of walls and resinous materials, or corrosion of aluminum materials.

As the heatproof temperature of wired sheet glass is approximately half of that of general glass and it is breakable, the glass may break because of exhaust gas if there is wired sheet glass in the exhaust direction of equipment (approximately 1 m or less). Be sure to avoid the installation or change the exhaust direction.

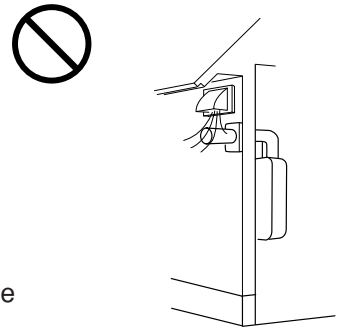


- Avoid installation above gas ranges or stoves.
- Avoid installation between the kitchen fan and stove. If oily fumes or a large amount of steam are present in the installation location, take measures to prevent the fumes and steam from entering in the equipment.



- Avoid installation in places where dust or debris will accumulate. Dust may causing the performance of the fan motor to drop and incomplete combustion to occur as a result.

- Install in a location where the exhaust gas flow will not be affected by fans or range hoods.
- Take care that noise and exhaust gas will not affect neighbors.



- Avoid installation in places where special chemical agents (e.g., hair spray or spray detergent) are used. Ignition failures and malfunction may occur as a result.
- When you install the equipment, check the wall or ceiling around the installation place is safe for fire protection or install the equipment where the free space effective for fire protection can be ensured.

6. Installation Clearances



Before installing, check for the following:

The appliance must be installed in a suitably ventilated room, in accordance with the regulations in force.

Install in accordance with relevant building and mechanical codes, as well as any local, state or national regulations.


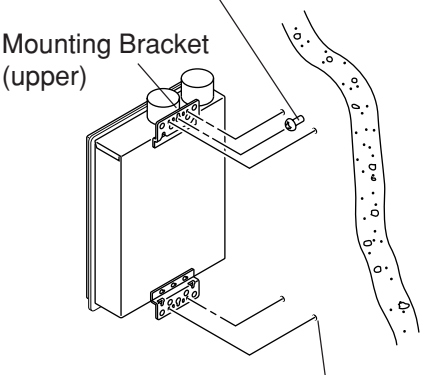
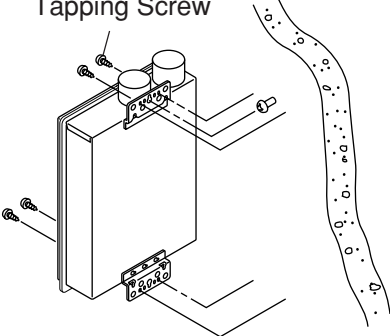
Item	Check	Illustration
Distance from both combustibles and non-combustible materials	<ul style="list-style-type: none"> Maintain the following clearances from both combustible and non-combustible materials. 	<p style="text-align: center;">Illustration</p> <p style="text-align: center;">Distance from the top surface Distance from the side Distance from the back surface</p>
Securing of space for repair/inspection	<ul style="list-style-type: none"> If possible, leave 200mm or more on either side of the unit to facilitate inspection. If possible, leave 600mm or more in front of the unit to facilitate maintenance and service if necessary. 	<p style="text-align: center;">Consult the flue manufacturer for clearances</p>
Outdoor Clearances to Opening into Any Building	<ul style="list-style-type: none"> There must be a clearance of 600mm or more in front of the flue terminal. This restriction will not be applied to an area where an effective shield makes a clearance of 600mm or more in front of the exhaust outlet. 	<p style="text-align: center;">There must be no building opening within this area.</p> <p style="text-align: center;">Flue Terminal</p>

7. Installation

Securing to the wall



- The weight of the device will be applied to the wall. If the strength of the wall is not sufficient, reinforcement must be done to prevent the transfer of vibration.
- Do not drop or apply unnecessary force to the device when installing. Internal parts may be damaged and may become highly dangerous.
- Install the unit on a vertical wall and ensure that it is level.

Item	Check	Illustration
Locating Screw Holes	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">  <p>Caution</p> <ul style="list-style-type: none"> • When installing with bare hands, take caution to not inflict injury. • Be careful not to hit electrical wiring, gas, or water piping while drilling holes. </div> <ol style="list-style-type: none"> 1. Drill a single screw hole, making sure to hit a stud. 2. Insert and tighten the screw and hang the unit by the upper wall mounting bracket. 3. Determine the positions for the remaining four screws (two for the top bracket and two for the bottom), and remove the unit. 	<p style="text-align: center;">Location of Screw Hole</p>  <p style="text-align: center;">Locating Screw Holes</p>
Mounting	<ol style="list-style-type: none"> 4. Drill holes for the remaining four screws. 5. Hang the unit again by the first screw, and then insert and tighten the remaining four screws. 6. Take waterproofing measures so that water does not enter the building from screws mounting the device. 	<p style="text-align: center;">Tapping Screw</p> 
Structure	<ul style="list-style-type: none"> • Make sure the unit is installed securely so that it will not fall or move due to vibrations or earth-quakes. 	

Filling the drain trap unit with water

The drain trap unit can be filled before connecting the vent pipe.

Filling the drain trap unit before vent pipe installation.



DANGER

Prior to initial start up, make sure that you fill the drain trap unit with water. This is to prevent dangerous exhaust gases from entering the building. Failure to fill the drain trap unit could result in severe personal injury or death.

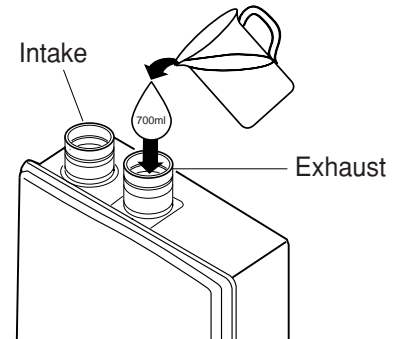
Please follow one of the procedures described below to ensure that the drain trap unit is filled with water.

- 1) Fill the drain trap unit by pouring approx. 700ml of water into the exhaust accessory on the top of the appliance as illustrated below.

Or, if the vent pipe has already been installed:

- 2) After installing the drain pipe, make sure that the area around the appliance is well ventilated; open a window or a door if necessary. Then, operate the unit and verify that condensate is coming out of the drain pipe.

(During normal use of the water heater, condensate will begin to discharge from the drain pipe within 30 minutes of use. However, depending on the season and/or installation site conditions, it may take longer.)



8. Flue Pipe Installation

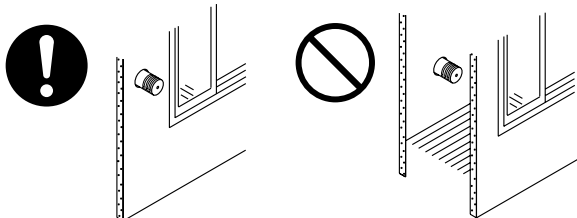
Flue Terminal Installation

- Follow the installation instructions included with the flue terminal and which are reproduced at the end of this manual. This appliance must be the flue through the wall, not vertically to the roof.

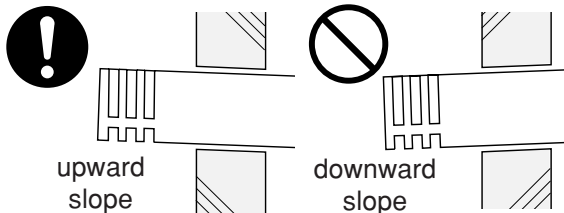
Flue Terminal Installation Precautions

Note the following flue terminal installation requirements

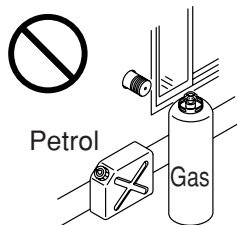
- Do not install the flue terminal indoors



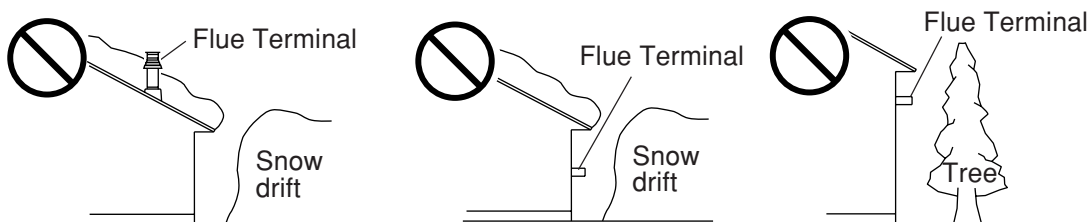
- Install the flue terminal with an upward slope



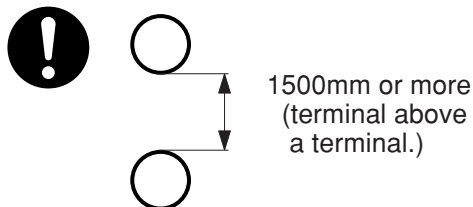
- Avoid storing hazardous objects near the terminal



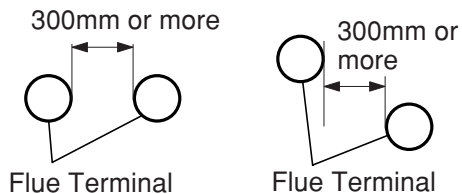
- Avoid installing the terminal where obstacles will block it



- In the case the discharge direction of the exhaust is to the side as shown in the diagram below, do not select the supply/exhaust tube top. Incomplete combustion caused by short cycling of exhaust gas may occur as a result. (except terminal guard.)



- Clearance from the flue terminal. If multiple units are installed, terminals must be separated by 300mm or more in a plain view regardless of the vertical clearance.



Detailed recommendations for the flue installations are given in BS 5440:1:2000. The following notes are for general guidance only.

Note: An adapter is always required on top of the heater.

For the vertical flue set up, offset adapter will be supplied for the air intake.

- a) The flue system must be constructed using only Andrews Water Heaters approved components.
- b) It is important that the position of the terminal allows free passage of air across it at all times.
- c) It is **ESSENTIAL TO ENSURE** that products of combustion discharging from the terminal cannot reenter the building, or any other adjacent building, through ventilators, windows, doors, other sources of natural air infiltration, or forced ventilation / air conditioning.
- d) The minimum acceptable dimensions from the flue terminal to obstructions and ventilation openings are specified in the regulations.
- e) If the flue terminal discharges into a pathway or passageway check that combustion products will not cause nuisance and that the terminal will not obstruct the passageway.

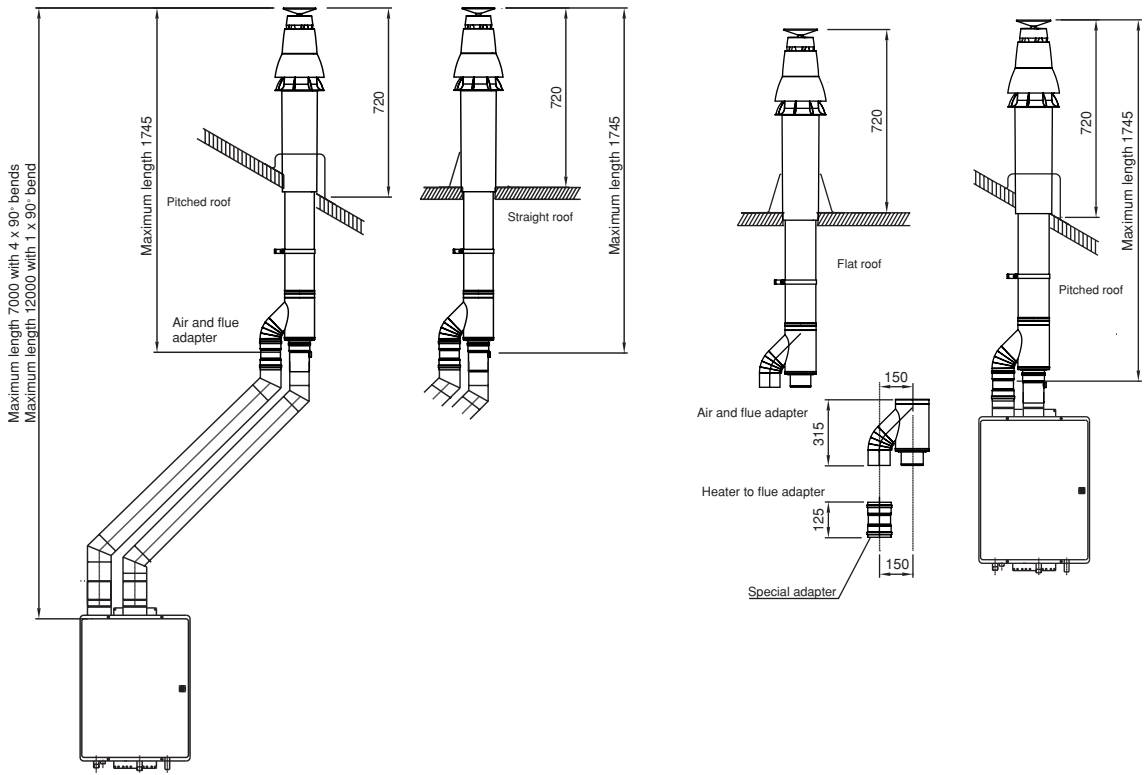
Assembling Air/Flue Pipes

The flue pipes must be assembled with the plain end of pipe or fitting nearest the boiler and the female (socket) end furthest from the boiler. Check that a seal is fitted in every socket.

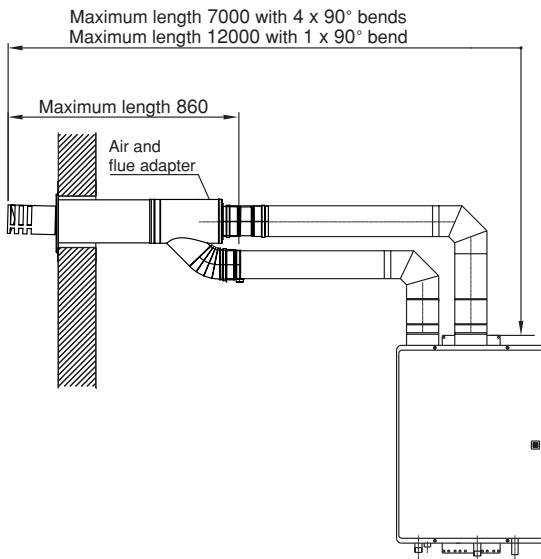
Always adjust length of pipes by cutting and de-burring plain end so that it does not damage or disturb the seal. Remove burrs from inside and outside of pipe and ensure the pipe is clean and free from oil and grease.

- a. Measure and cut the first pair of the flue pipes away from the appliance. Push pipes fully into the sockets on top of the boiler whilst also fitting the flue duct prepared as above.
- b. Measure and cut next pair of the air/flue pipes.
- c. Prepare pipe support brackets as required before engaging pipes with the socket of preceding pipes or bends.
- d. Push pipes together as before taking care not to dislodge seals. When cutting and fitting the flue pipes on extended the flue systems, allow approx. 5 mm clearance at the bottom of each joint.
- e. Repeat above procedure to reach terminal. Ensure that air inlet and the flue gas connections are correctly made and are not inadvertently reversed.
- f. Fix pipe supports to masonry or woodwork so that the flue/air pipes are held securely in position.
- g. Check especially that all joints within any duct or other void are correctly engaged and sealed before fixing the ductwork.

• VERTICAL FLUE TERMINAL

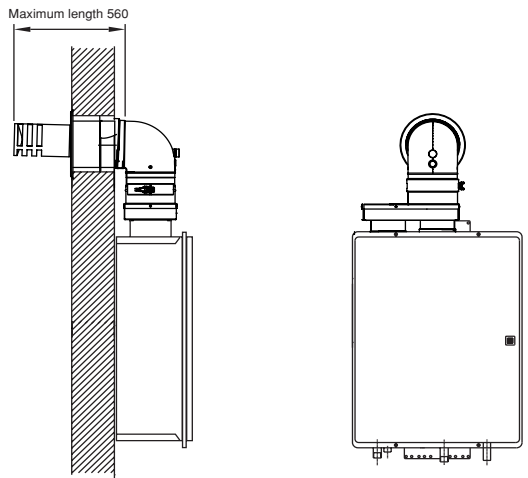


• HORIZONTAL FLUE TERMINAL (LONG)



• HORIZONTAL FLUE TERMINAL (SHORT)

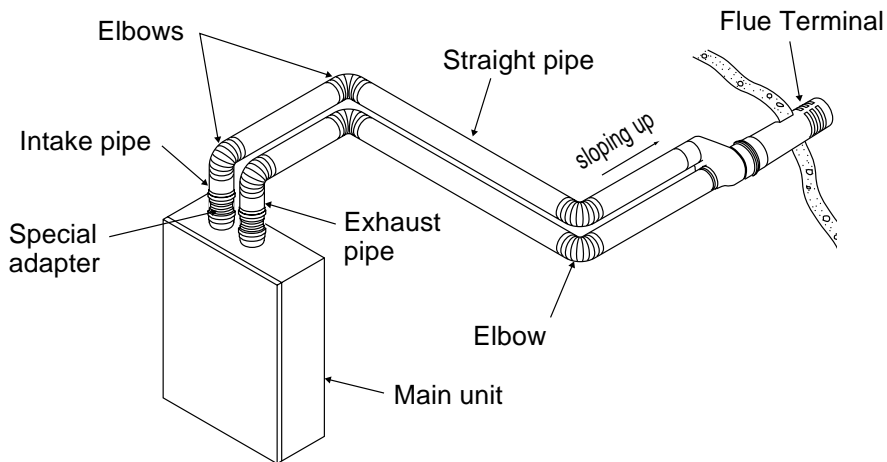
Standard length cut to suit wall thickness



HORIZONTAL FLUE TERMINAL

- Use only the following models of the flue terminals with this unit.
- The M&G Horizontal Flue Terminal can be cut to suit the wall thickness.

Flue system installation example



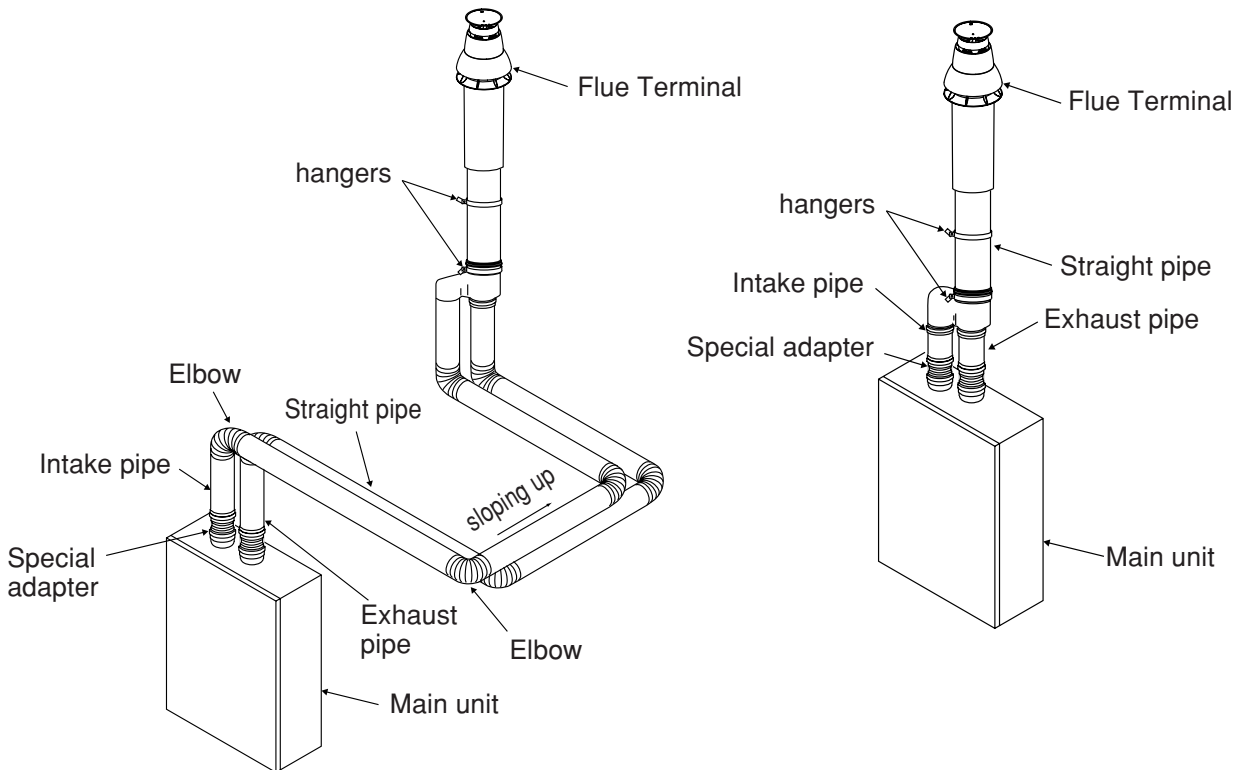
Flue Precautions

- Use 100mm diameter exhaust pipe.
- Maximum flue length
4 elbow (90 degree) +
7m (exhaust pipe) + Flue Terminal
*Maximum flue length : 12m
- Minimum flue length
1 elbow (90 degree) + Flue Terminal
- Exceeding the maximum flue length is dangerous and may result in bad combustion.
- Maximum 90 degree bends not to exceed 4.
- Maximum length must be reduced by 2000mm for each 90° bend used.
- Maximum length must be reduced by 1000mm for each 45° bend used.
- If possible, don't install the flue pipe through any enclosed areas. If necessary, consult ANDREWS WATER HEATER for clearances.
- Install the flue terminal so that all exhaust is directed to and all intake air is taken from outdoors.
- Do not store hazardous or flammable substances near the flue terminal.
- Slope the intake and exhaust pipes at a 1/20 grade up towards the termination.
- Connect the flue pipe firmly so that it will prevent exhaust gases from leaking.
- Steam or condensed water may drip out of the flue terminal. Dispose of this condensed water according to local codes and in order to prevent injury or property damage.
- If this product will be installed in an area where snow is known to accumulate, protect the flue termination from blockage by snow drifts or damage from snow falling off of roofs.
- Support the flue pipe with hangers at intervals.
- Install the flue terminal so that it is easily accessible for maintenance both from the indoors and the outdoors.

VERTICAL FLUE TERMINAL

- Use only the following models of the flue terminals with this unit.
- The M&G Vertical Flue Terminal can be cut to suit the roof.

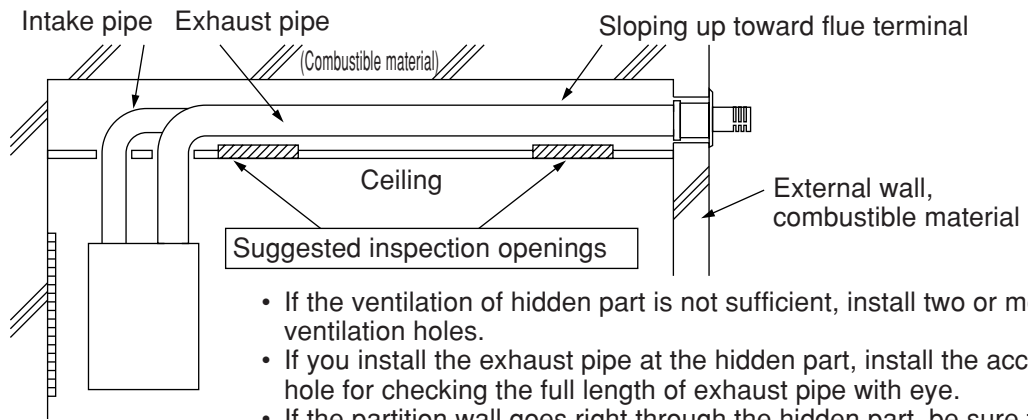
Flue system installation example



Flue Precautions

- Use 100mm diameter exhaust pipe.
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4 elbow (90 degree) +
7m (exhaust pipe) + Flue Terminal
*Maximum flue length : 12m
- Minimum flue length
1 elbow (90 degree) + Flue Terminal
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- Maximum length must be reduced by 1000mm for each 45° bend used.
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- If this product will be installed in an area where snow is known to accumulate, protect the flue termination from blockage by snow drifts or damage from snow falling off of roofs.
- Support the flue pipe with hangers at intervals.
- Install the flue terminal so that it is easily accessible for maintenance both from the indoors and the outdoors.

When the intake/exhaust pipes pass through an enclosed space:



- If the ventilation of hidden part is not sufficient, install two or more ventilation holes.
- If you install the exhaust pipe at the hidden part, install the access hole for checking the full length of exhaust pipe with eye.
- If the partition wall goes right through the hidden part, be sure to install the access hole near the wall.

9. Gas Piping

Follow the instructions from the gas supplier.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 35 mbar.

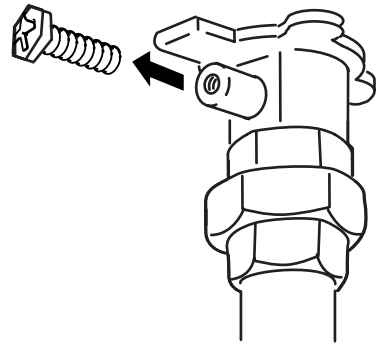
The Appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 35 mbar.

The appliance and its gas connections must be leak tested before placing the appliance in operation.

The inlet gas pressure must be within the range specified. This is for the purposes of input adjustment.

Measuring Gas Pressure

In order to check the gas supply pressure to the unit, a pressure measurement port is provided on the gas inlet. Remove the hex head screw from the pressure measurement port, and connect a manometer using a silicon tube.



10. Water Piping

Ask a qualified plumber to perform the installation of the plumbing. Observe all applicable codes.

This appliance is suitable for potable water. Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and replace any part of the control system and gas control which has been under water.

If the water heater is installed in a closed water supply system, such as one having a backflow preventer in the cold water supply line, means shall be provided to control thermal expansion. Contact ANDREWS WATER HEATERS TECHNICAL DEPARTMENT FOR ADVICE.

Piping and components connected to the water heater shall be suitable for use with potable water.

Toxic chemicals, such as those used for boiler treatment, shall not be introduced into the potable water.

A water heater used to supply potable water may not be connected to any heating system or components previously used with a nonpotable water heating appliance.

When water is required in one part of the system at a higher temperature than in the rest of the system, means such as a mixing valve shall be installed to temper the water to reduce the scalding hazard.

- Flush water through the pipe to clean out metal powder, sand and dirt before connecting it.
- Take appropriate heat insulation measures (e.g., wrapping with heat insulation materials, using electric heaters) according to the climate of the region to prevent the pipe from freezing.
- Use a union coupling or flexible pipe for connecting the pipes to reduce the force applied to the piping.
- Do not use piping with a diameter smaller than the coupling.
- When feed water pressure is too high, insert a depressurizing valve, or take water hammer prevention measures.
- Avoid using joints as much as possible to keep the piping simple.
- Avoid piping in which an air holdup can occur.
- Use approved piping materials.
- If installing the unit on a roof:

If the unit is installed on a roof to supply water to the levels below, make sure that the water pressure supplied to the unit does not drop below 2000 mbar. It may be necessary to install a pump system to ensure that the water pressure is maintained at this level.

Check the pressure before putting the unit into operation.

Failing to supply the proper pressure to the unit may result in noisy operation, shorter lifetime of the unit, and may cause the unit to shut down frequently.

Supply water piping

- Do not use PVC piping.
- Mount a check valve and a shut off valve (near the inlet).
- In order for the client to use the water heater comfortably, 1000 mbar to 5000 mbar of pressure is needed from the water supply.
Be sure to check the water pressure. If the water pressure is low, the water heater cannot perform to its full capability, and may become a source of trouble for the client.

Drain piping

- Expansion water may drop from the pressure prevention device and wet the floor. If necessary, provide drain piping or use a drain hose to remove the water.

Hot water piping

- Do not use lead or PVC piping.
- The longer the piping, the greater the heat loss. Try to make the piping as short as possible.
- Use a mixing valve with a low water resistance. Use shower heads with low pressure loss.
- If necessary, use a pump or other means to ensure that the supply water pressure to the inlet of the heater does not fall below 2000 mbar when the maximum amount of water is being demanded. Also install a pressure meter on the inlet. If this is not done, local boiling will occur inside the water heater causing abnormal sounds and decreasing the durability of the heat exchanger.

11. Electrical Wiring

Consult a qualified electrician for the electrical work.



Do not connect electrical power to the unit until all electrical wiring has been completed.

- i) "A means of disconnection from the supply mains having a contact separation in all poles must be provided to allow for full disconnection".
- ii) Under voltage Cat III conditions should be incorporated in the fixed wiring in accordance with the wiring regulations.
- iii) "If the supply cord is damaged, it must be replaced by the manufacturer or its service agent".

This appliance must be electrically grounded in accordance with Electrical Authority Regulations.

External wiring must be correctly earthed, polarised and in accordance with the relevant standards.

In GB this is BS 6891.

In IE this is the current edition of I.S.813 "Domestic Gas Installations".

The boiler must be connected to a permanent 230 V ac, 50Hz supply.

Connection of the whole electrical system of the boiler, including any heating controls, to the electrical supply must be through one common isolator and must be fused 10 Amp maximum.

Isolation should be by a double pole switched fused spur box, with a minimum gap of 3 mm for both poles. The fused spur box should be readily accessible and preferably adjacent to the appliance. It should be identified as to its use.

Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation.

Verify proper operation after servicing.

Field wiring to be performed at time of appliance installation.



Caution

Do not turn on the power until the electrical wiring is finished.
This may cause electrical shock or damage to the equipment to occur.

- The electrical supply required by the water heater is 230V AC at 50 Hz. As the electric power consumption varies depending on the gas type, check it with the rating plate or higher if using optional accessories. Use an appropriate circuit.
- Do not disconnect the power supply when not in use. When the power is off, the freeze prevention in the water heater will not activate, resulting in possible freezing damage.

- Do not let the power cord contact the gas piping.

Tie the redundant power cord outside the water heater. Putting the redundant length of cord inside the water heater may cause electrical interference and faulty operation.

Ground

- To prevent an electric shock, always plug power lead into an earth powerpoint.

THE APPLIANCE MUST BE EARTHED

Remote Controller

• Applicable Model

		WHC56, LWHC56
Remote controller	Main	RC-7508M

- The remote controller must be installed in accordance with the installation manual enclosed in the package.

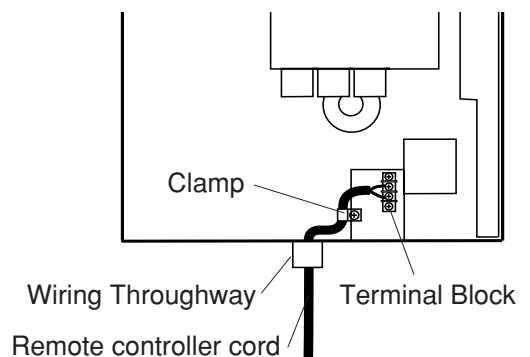
Connecting Remote Controller Cord to Unit

- Keep the remote controller cord away from the freeze prevention heaters in the unit.
- Tie the redundant cord outside the water heater. Do not put the extra length inside the equipment.
- The remote controller cord can be extended up to 100m with Remote controller cord.
- Use a Y type terminal with a resin sleeve. (Without the sleeve, the copper wire may corrode and cause problems).
- Be sure to hand tighten when screwing to the terminal block. Power tools may cause damage to the terminal block.

Remote controller cord

- Use Remote controller cord for any extensions.
- Install according to the National Electrical Code and all applicable local codes.

1. Remove the front cover of the heater (4 screws).
2. Pass the remote controller cord through the wiring throughway and into the unit.
3. Connect the Y terminals at the end of the remote controller cord to the terminal block.
4. Secure the remote controller cord with a clamp.
5. Replace the front cover.



12. Commissioning

The installer should test operate the unit, explain to the customer how to use the unit, and give the owner this manual before leaving the installation

NOTE: The appliance has been factory set and no adjustment is necessary.

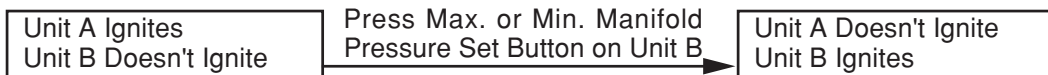
- Preparation ... (1) Ensure all lines are purged / flushed of debris prior to connection to appliance.
(2) Open the shut off valve on the water supply, check that water passes through the valve and close the valve.
(3) Open the gas supply valve, turn on the power supply, and turn on the Operation switch on the remote controller (the Operation lamp turns on) .

- (1) Open a hot water fixture and confirm that the Burner On indicator comes on, and that hot water is being produced. (If necessary, repeat until the air in the gas piping is bled out).
 - * White smoke may be noticed from the exhaust pipe during cold weather. However, this is not a malfunction of the unit.
 - * If an "11" error code appears on the remote controller, turn the unit off and then back on again, and then open a hot water fixture again.
- (2) Change the temperature setting on the remote controller and check that the water temperature changes.

- If the water heater does not operate normally, refer to "Troubleshooting" in the Operation Manual.
- * After the trial operation, clean the filter in the cold water inlet.

<If installed with a quick connect multi-system>

- Turn the system power on with the remote controller.
- Slowly open a hot water fixture and check that the units ignite sequentially. Check to see that the hot water temperature is the same as the temperature displayed on the remote controller. (*1)
- * If inlet water temperature is high, and both units do not ignite at the same time, switch which unit will ignite first by pressing the Max. or Min. Manifold Pressure Set Button on the circuit board and then confirm each unit can ignite. (*2)



- * If an 11 or F11 error code flashes on the remote controller, hit the Power Button on the remote controller off and on 2-3 times.
- * If (*1) and (*2) cannot be done, the Quick Connect Cord may not be properly connected. Check that the cord is properly connected.

Caution

Handling after trial operation

- In Freezing areas: If the unit will not be used immediately, close off all gas and water shutoff valves, drain all of the water out of the unit and the plumbing system to prevent the unit and system from freezing, and bleed the gas out of the gas line. Freezing is not covered by the warranty.

Shutdown Instructions

1. Stop any water demand.
2. Turn off electric power.
3. Turn the gas control manual valve clockwise to the off position.

Should overheating occur, or the gas supply fail to shut off, turn off the gas control manual valve to the appliance.

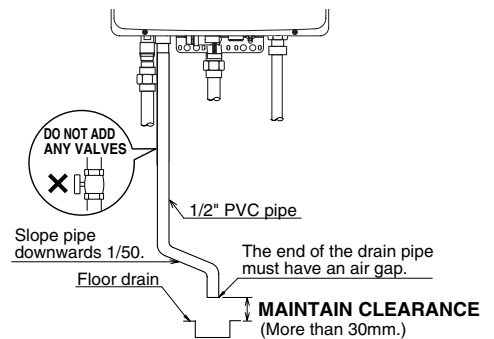
13. Drain Piping

Contact an authorized office of the area when requesting work and be sure to follow sewage laws.

Drain pipe

- This product is a highly-efficient latent heat collection device and drain water is discharged from the drain discharge port during combustion (max discharge: about 100cc/min). Be sure to perform drain piping.
- Use indirect water discharge when connecting the drain pipe from the device to a rainwater pipe. Do not install a trap.
- Use indirect water discharge when connecting the drain pipe from the device to a sewage water pipe or other drainage pipes and be sure to install a trap to prevent foul odors. (Take caution as there may be odor when leaving the device unattended for a long period of time)
- The specified drain pipe size is R1/2". Do not narrow the diameter of the drain pipe in the middle.
- Use plastic pipe, such as PVC, for the drain line. Do not use steel, black iron, or any other material which can corrode when placed into contact with water.
- Keep the drain pipe length to a minimum. Install the pipe with a decline when horizontally pulling the pipe in the middle.
- The end of the drain pipe must be released in to the air. Be sure the pipe is not submerged in water. In addition, take measures to prevent clogging of the pipe.
- After performing piping, check to make sure drain water is properly drained. (In the case of normal hot water use, drainage starts in about 15 minutes. However, the time may vary depending on the season and other conditions.)
- Use tape or packing, etc. to the connection part of the drain pipe.
Some of the seal material may damage the resin.
- Take measures to prevent the condensate drain lines from freezing (insulation, heat tape, electric heaters, etc.).

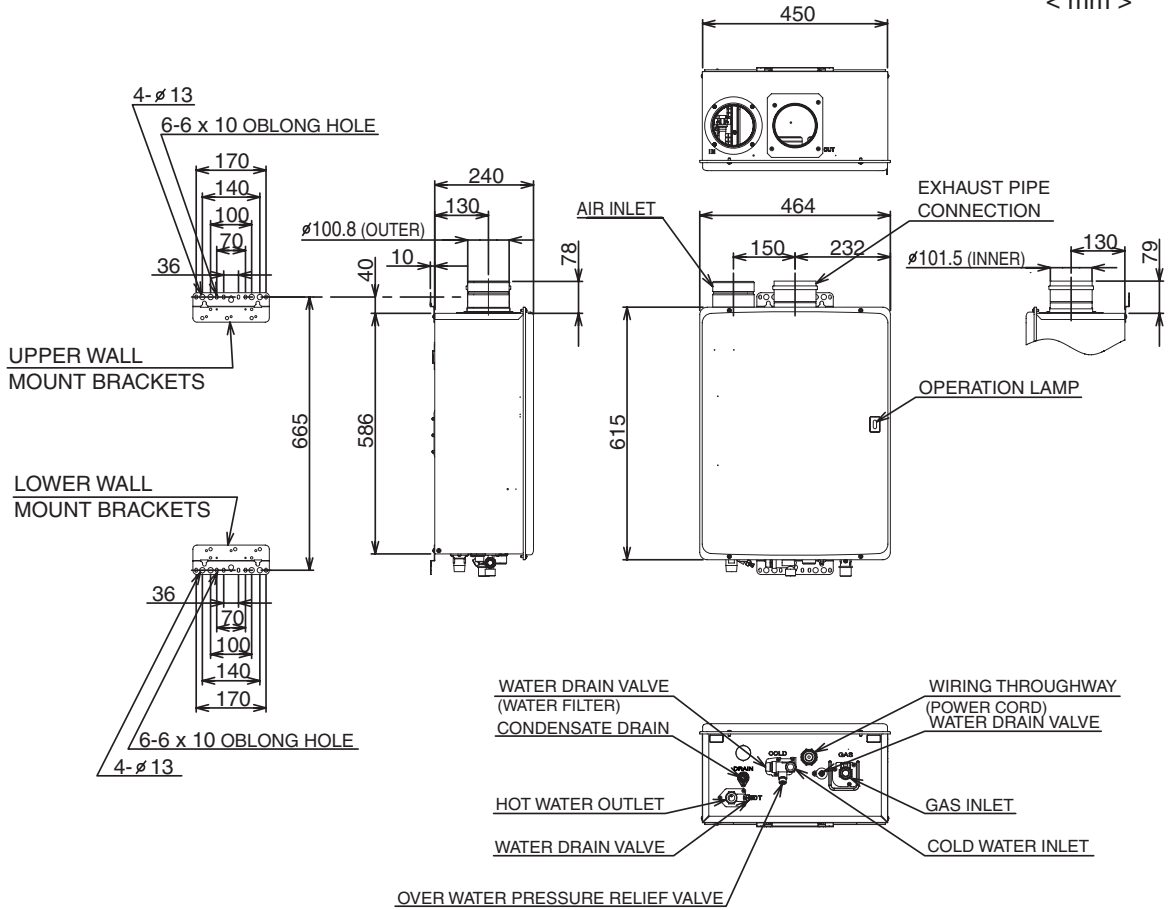
Condensate piping to floor drain



14. Dimensions

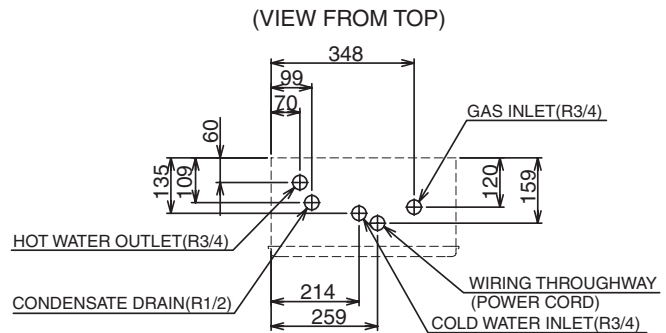
WHC56, LWHC56

< mm >

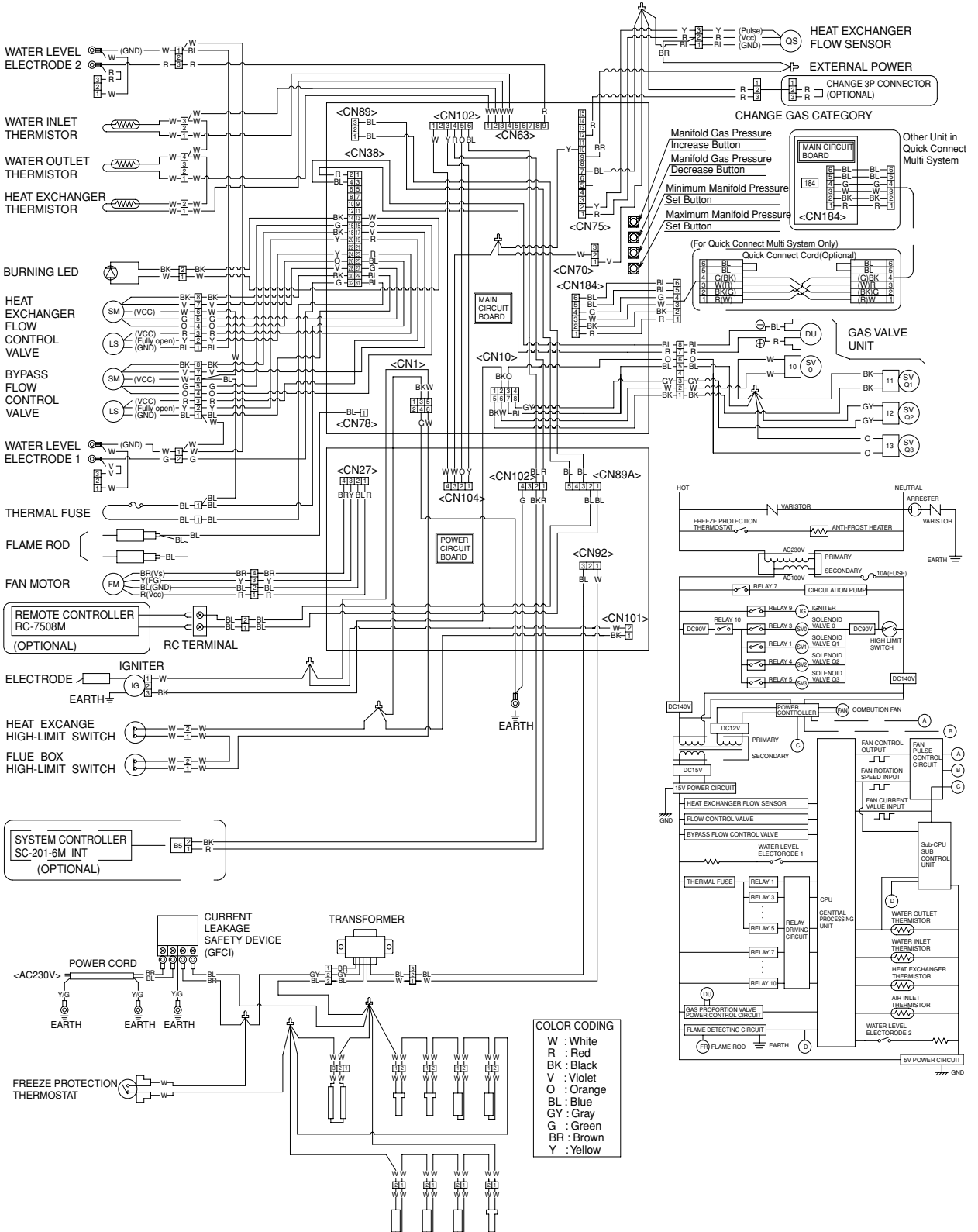


HEIGHT OF EACH FITTING FROM BOTTOM OF CASE

CONDENSATE DRAIN	20
HOT WATER OUTLET	44
COLD WATER INLET	55
GAS INLET	56



Wiring Diagram (WHC56, LWHC56)



15. Remote Controller Installation Manual

For Installers:





Read this installation guide carefully before carrying out installation.

Model Number: RC-7508M

Note

Do not connect power to the water heater before the remote controller has been properly installed.

Included Accessories

Part	Shape	Q'ty	Part	Shape	Q'ty
Remote Controller		1	Cross recessed flat-head screw		2
Cross recessed flat-head wood screw		2	Wall anchor		2

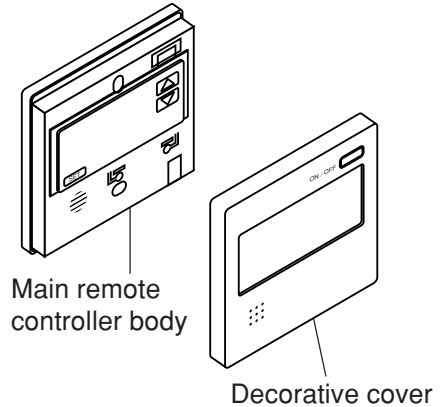
Remote Controller Installation Procedure

(1) Remove the decorative cover.

(The decorative cover is attached very simply.)

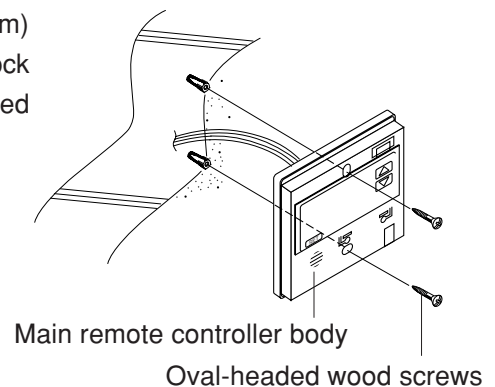
Connect the Y-shaped terminal to the terminal block at the back of the remote controller.

* In the case of exposed wiring (attachment to the wall), first open up the cord intake on the main remote controller body using pliers. (Take care not to damage the board in the process.)



(2) Position the holes (diameter: 6 mm X depth: 25 - 30 mm) to secure the remote controller for the kitchen, and knock in all the wall anchors. Next, secure it using oval-headed wood screws.

* The screws must be tightened manually, and the remote controller secured properly without rattling.



(3) Replace the decorative cover.

16. Servicing

Important Notes

To ensure the continued efficient and safe operation of the boiler it is recommended that it is checked and serviced at regular intervals. The frequency of servicing will depend upon the particular installation and usage, but in general once a year should be enough.

It is the Law that any servicing is carried out by a competent person.

When replacing a part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Andrews Water Heaters.

Before commencing with a service or replacement of parts the boiler should be isolated from the electrical supply and water supply and the gas supply should be turned off at the gas service cock.

All routine servicing requirements can be achieved by the removal of the front panel only. Remove the four screws on the front panel and lift off.

For access inside the appliances screwdriver can be used.

To remove chassis front.

Unless stated otherwise any part removed during servicing should be replaced in the reverse order to removal.

Servicing should always include the removal of any debris from the condensate pipe and siphon.

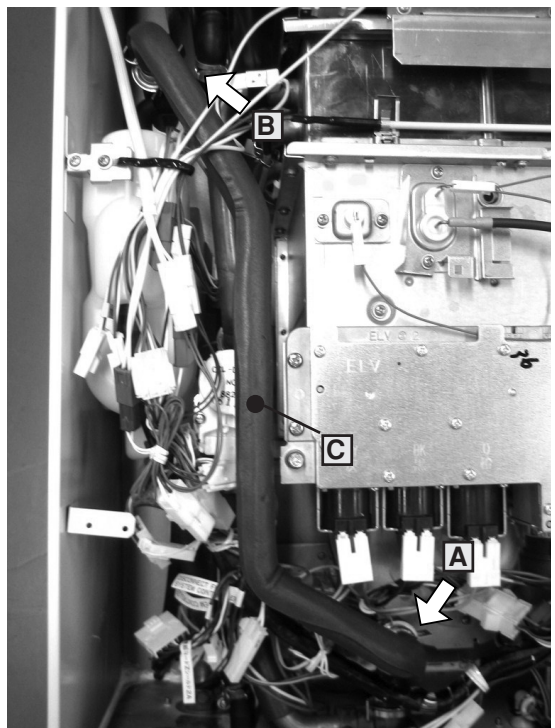
After completing any servicing of gas carrying components, ALWAYS test for gas soundness and carry out a functional test of the controls.

It is not necessary for the burner parts and heat exchanger parts to be cleaned up.

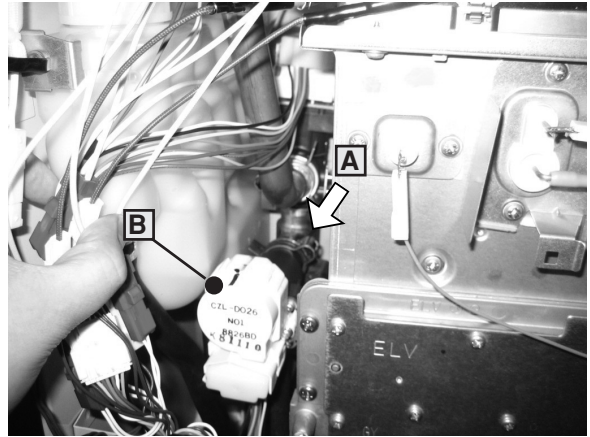
17. Disassembly of each part

1. How to remove transformers

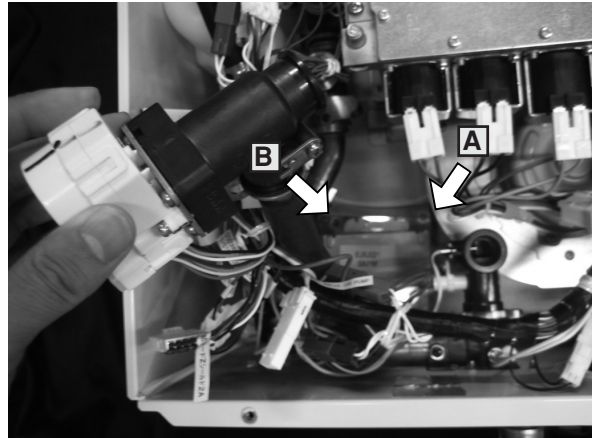
- (1) Remove two quick fasteners (A and B) in the right figure and remove the water inlet pipe (C).



- (2) Remove the quick fastener (A) in the right figure and pull the bypass servo (B).



- (3) Unscrew two fixing screws (A and B) in the right figure and remove the transformers.



2. How to remove the board

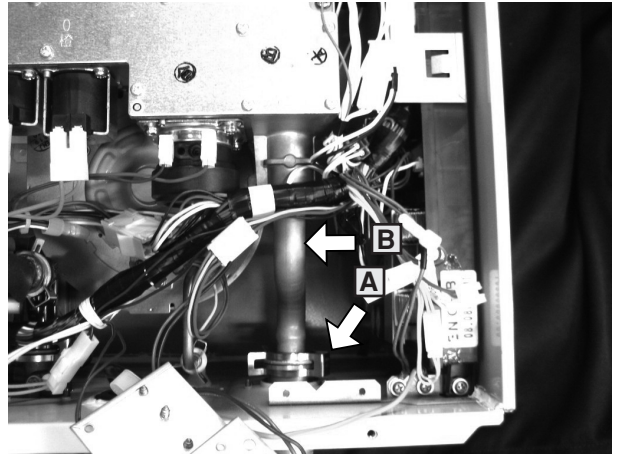
- (1) Unscrew two screws (A and B) that fix the board and the earth screw (C) and remove the board.



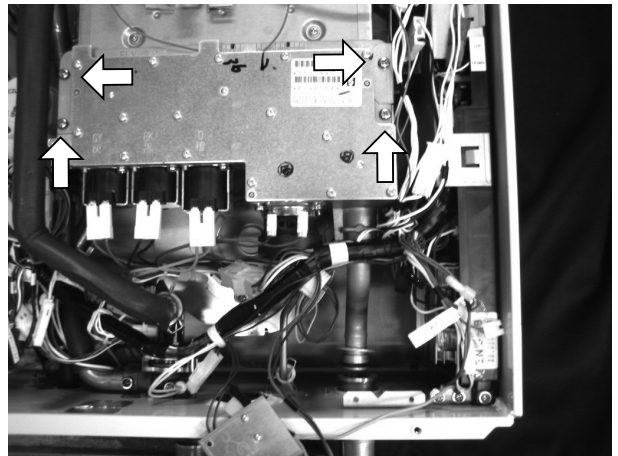
3. How to remove the manifold

- Unscrew two fixing screws of mounting plate for current leakage safety device in advance.

(1) Remove the quick fastener (A) in the right figure and slide the gas pipe (B) upward.

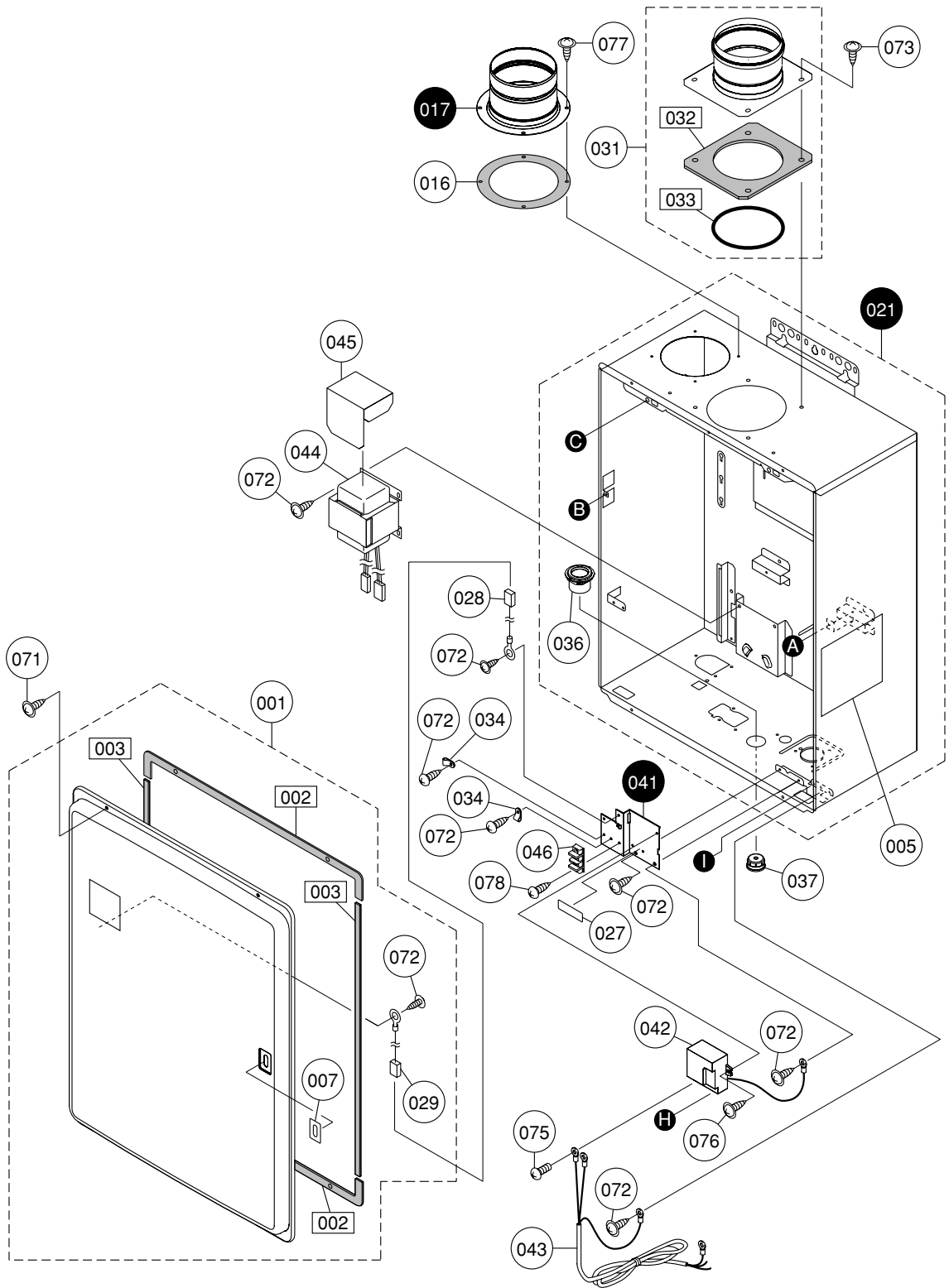


(2) Unscrew four screws that fix the manifold and pull out the manifold SET.



18. Servicing parts lists

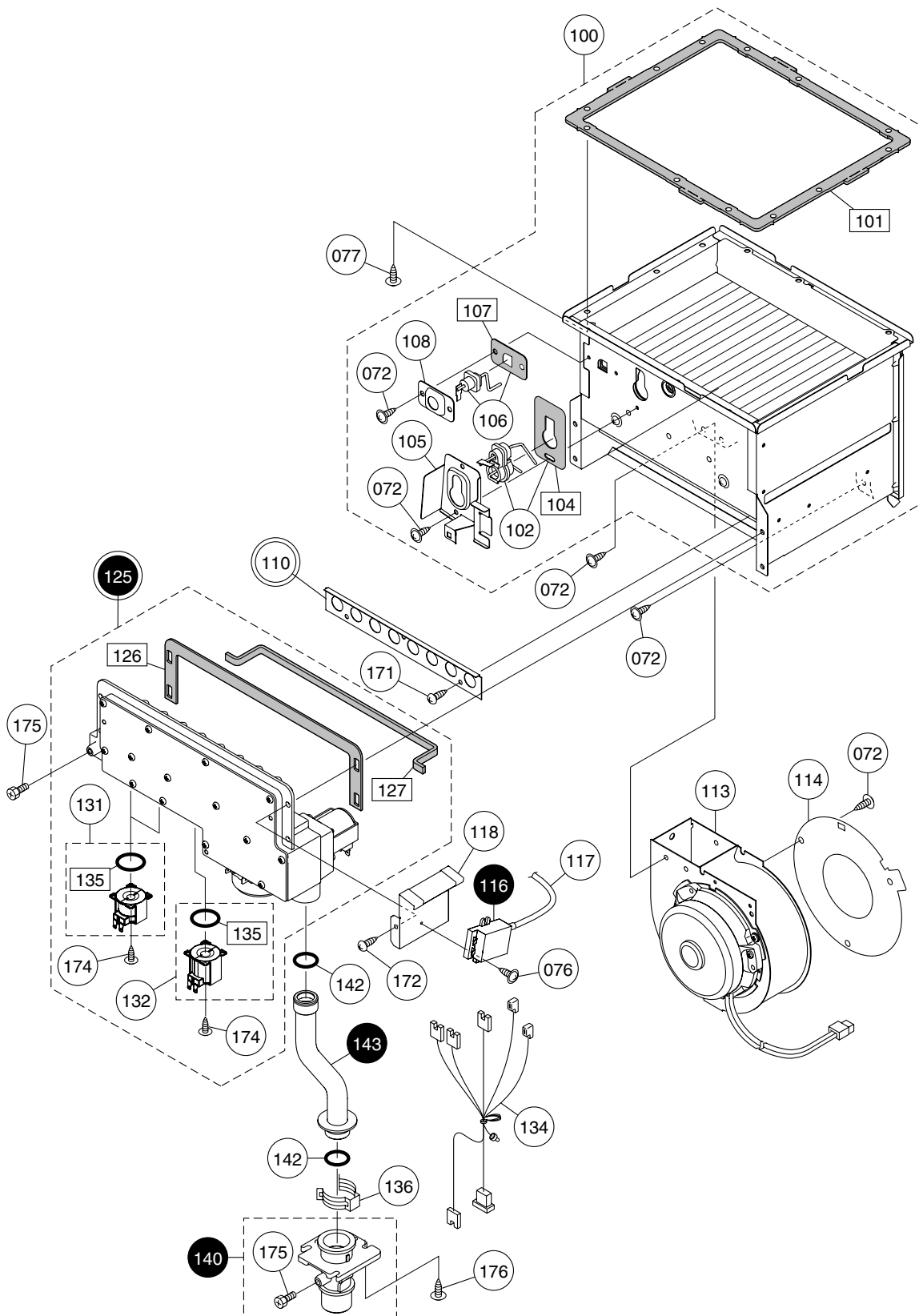
External outfitting LWHC56,WHC56



External outfitting LWHC56,WHC56

Part Nos.	Part Names	Order Nos.	Q'ty/unit
001	GQC3252WZFFAD Front set-AS	SKF7137	1
002	Front packing S AAP	AAPL015	2
003	Front packing L AAP	AAPL017	2
005	Caution label FF AD ELE	ELEK077	1
007	Lamp seal plate DEC	DECK008	1
016	Intake pipe packing EHK	EHKL084	1
017	Intake pipe ELE	ELEF001	1
021	Case set FF EPJ	EPJA001	1
027	Terminal block label ENG	ENGK026	1
028	Connecting cord 1 DEM	DEMJ009	1
029	Connecting cord 2 DMB	DMBJ010	1
031	Exhaust adapter EPJ	EPJF011	1
032	Flange packing ENJ	SKD7467	1
033	O-ring ϕ 100 for AS	SKD7469	1
034	Nylon clamp HP-4N(NK-4N)	7287909	2
036	Wiring coupling 2 EHK	EHKA014	1
037	Grommet ELE	ELEA031	1
041	Mounting plate for terminal block DZT	DZTA006	1
042	Current leakage safety device 240 EJS	EJSJ022	1
043	Power supply cord ELE	ELEJ006	1
044	Transformer EPJ	EPJJ061	1
045	Transformer cover EJS	EJSA021	1
046	Conduit 90-2 CCP	CCPJ028	1
071	Cross recessed truss type3 EVERTIGHT tapping screw with PW 4X12		
072	Cross recessed round-head collar N-tapping screw 4X8		
073	Cross & straight recessed truss type3 S TIGHT tapping screw 4X10		
075	Cross recessed bind machine screw M3.5X6		
076	Cross recessed round-head collar N-tapping screw 4X12		
077	Cross recessed round-head collar N-tapping screw 4X10		
078	Cross recessed round-head N-tapping screw 4X12		

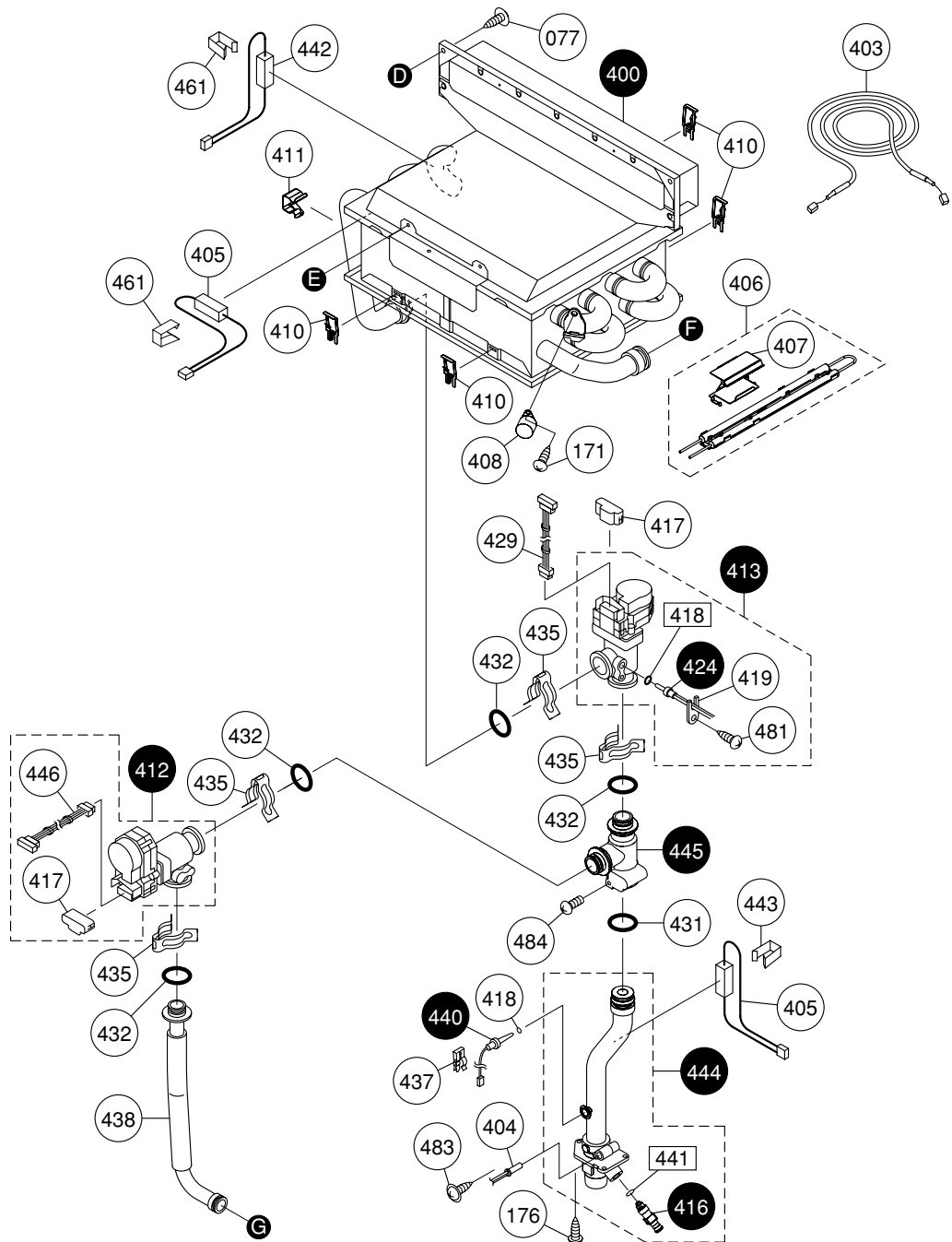
Combustion unit and gas route LWHC56,WHC56



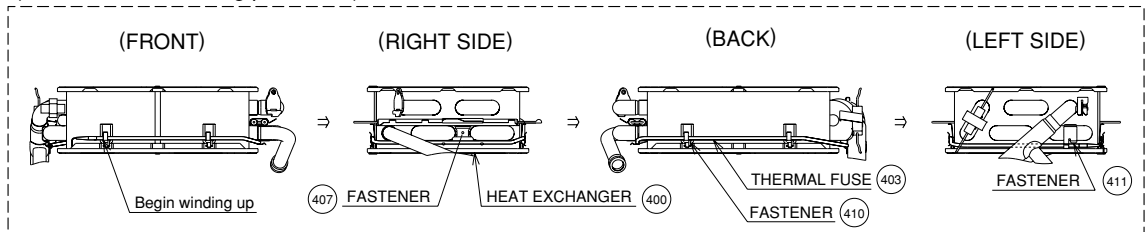
Combustion unit and gas route LWHC56,WHC56

Part Nos.	Part Names	Order Nos.	Q'ty/unit
100	Combustion tube set ELV SET-V	SKC7447	1
101	Suction air joint packing ELV	ELVL001	1
102	Ignition plug ELV & packing EHK SETV	SKC7448	1
104	Plug packing H EHK	EHLK002	1
105	Mounting plate for plug H EGL	EGLC035	1
106	Flame rod ELV & packing DJP SETV	SKC7449	1
107	Sensor packing DJP	DJPL004	1
108	Sensor fixing plate DJP	DJPC012	1
110	Main damper 9-10 ELV	ELVC055	1<2H>
	Main damper 11 ELV	ELVC054	1<3P>
113	Fan motor 110 EPJ(ADSE)SET-AS	SKF7164	1
114	Bell-mouth 110 φ 56 EHK	EHKF423	1
116	Igniter AGV	AGVJ007	1
117	High-voltage cord L370 ALS	ALSJ071	1
118	Mounting plate for igniter EPJ	EPJA021	1
125	Gas mech. manifold 36 ELV SET-AS	SKD7463	1<2H>
	Gas mech. manifold 23 ELV SET-AS	SKD7462	1<3P>
126	Manifold seal packing top ELV	ELVL003	1
127	Manifold seal packing bottom ELV	ELVL007	1
131	Solenoid SO9L EBT SET-V	SBP7501	2
132	Solenoid S16 CRU SET-V	SBB7213	1
134	Gas mech. harness ELV	ELVJ018	1
135	O-ring JASO 2030 type 1	SAA6044	3
136	Quick fastener 16B	6340407	1
140	Gas fitting 20A SET EPJ	EPJE021	1
142	O-ring P18	2110903	2
143	Manifold pipe ENJ	ENJE007	1
171	Cross recessed round-head N-tapping screw 4X8		
172	Cross recessed round-head type3 EVERTIGHT tapping screw 5X16		
174	Cross recessed round-head SPAK machine screw with guide M4X12		
175	Cross recessed hexagon head machine screw M4X8		
176	Cross recessed round-head collar type3 EVERTIGHT tapping screw 4X12		

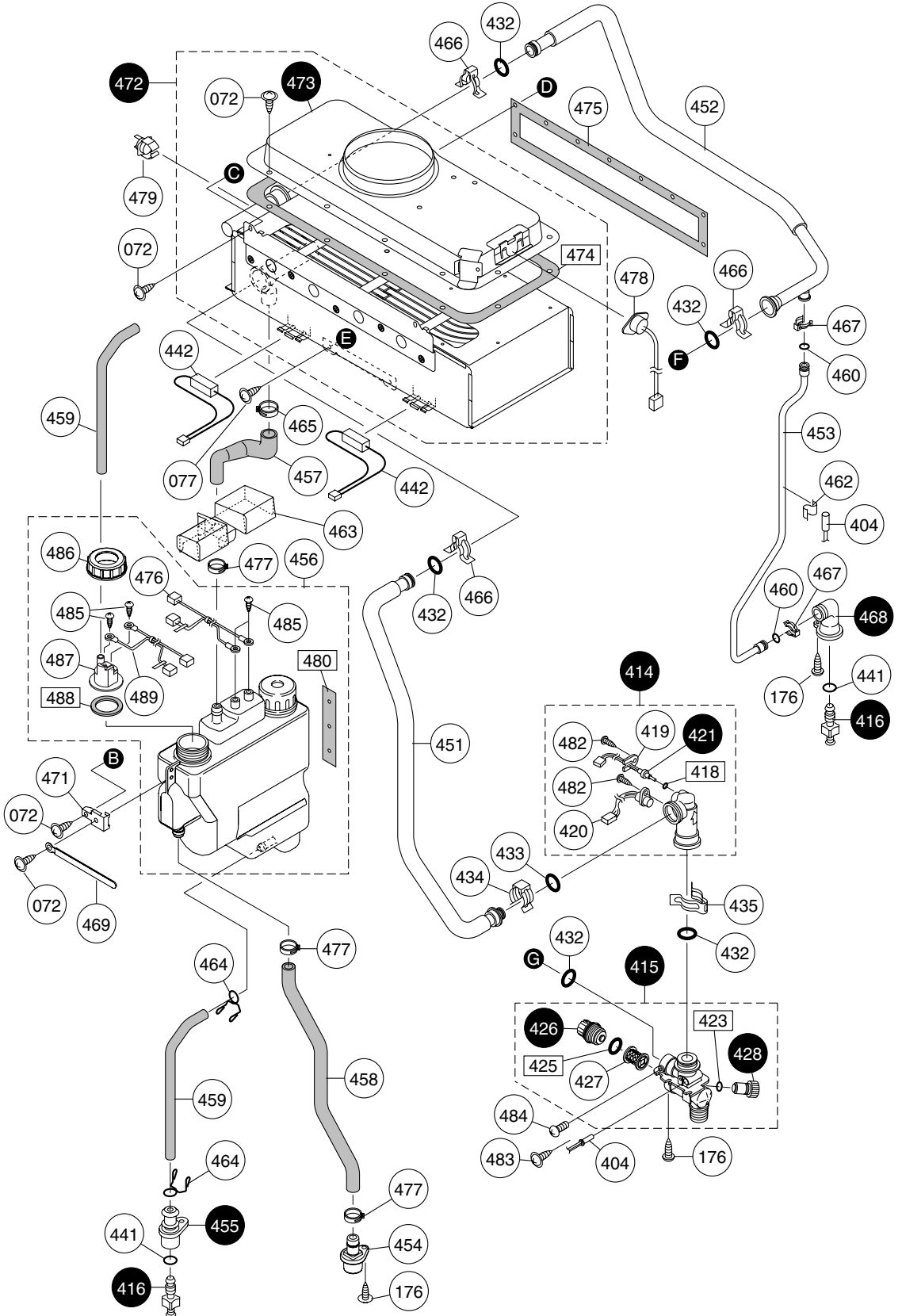
Hot-water feed route LWHC56,WHC56



(Thermal fuse rounding procedure)



Hot-water feed route LWHC56,WHC56



Hot-water feed route LWHC56,WHC56

Part Nos.	Part Names	Order Nos.	Q'ty/unit
400	Heat exchanger & Exhaust box H ENJ SET-AS	SKD7963	1
403	Thermal fuse(ADSE) EPJ SET-V	SKF7165	1
404	Freeze preventive heater 3 DJW	DJWH003	3
405	Dummy heater for 240V DJW	DJWH004	2
406	Freeze preventive heater EPJ SETV	SKF7135	1
407	Heater fastener ELV	ELVH018	1
408	Remaining flame safety device 120 DJP	DJPH002	1
410	Thermal fuse fastener EGL	EGLH002	4
411	Thermal fuse fastener for16 CMN	CMNH003	1
412	Water flow servo set 1 DZT	DZTD010	1
413	Water flow servo set 2 DZT	DZTD011	1
414	Water flow sensor set 3 DUV	DUVD019	1
415	Water inlet fitting 20A set ECA	EACD006	1
416	Drain cock CRU	CRUD003	3
417	Waterproof cover CZL	CZLD041	2
418	O-ring P4C	1323709	3
419	Thermistor holding plate ALS	ALSD088	2
420	Water outlet magnetic sensor BWC	BWCD090	1
421	Water inlet thermistor-300 BWC	BWCD097	1
423	Hot-water resistant O-ring P9	SAD6635	1
424	Heat exchanger thermistor-300 BWC	BWCD098	1
425	O-ring 16DF BRQ	BRQL008	1
426	Water filter cover DTJ	DTJD006	1
427	Water filter (SUS) EGB	EGBD032	1
428	QMF safety valve A(S)	SAA2811	1
429	Conduit 86 DZT	DZTJ008	1
431	O-ring P22C	7573308	1
432	O-ring P16C	3223302	9
433	O-ring P12.5C	3359808	1
434	Quick fastener 12.7	6340202	1
435	Quick fastener 16A	6340300	5
437	Sensor fastener CRU	CRUD055	1
438	Bypass pipe ENJ	ENJD005	1
440	Hot-water thermistor-300 BWC	BWCD096	1
441	Hot-water resistant O-ring P3	SAD6633	3
442	Freeze preventive heater 2 DJW	DJWH002	3
443	Heater fastener 22.2 ELV	ELVL011	1
444	Hot-water feed pipe EPH	EPHD003	1
445	Mixing room ELW	ELWD005	1
446	Servo motor cable conduit (86) DZT	DZTJ009	1
451	Water inlet pipe ENJ	ENJD001	1
452	Heat exchanger connecting pipe ENJ	ENJD007	1
453	Drain pipe ENJ	ENJD009	1
454	Drain coupling EPH	EPHF001	1
455	Draining coupling EMD	EMDF309	1
456	Drain trap unit EPJ SET-V	SKF7142	1
457	Drain hose ENJ	ENJF021	1
458	Drain hose 2 ENJ	ENJF022	1
459	Water drain hose of neutralizer ENJ	ENJF023	2
460	O-ring P6C	3264408	2
461	Heater fastener LL CPL	CPLL002	2
462	Heater fastener DLK	DLKH005	1
463	Neutralizer electrode cover EPJ	EPJA007	1
464	Pin band for φ8 DEG	DEGD004	2

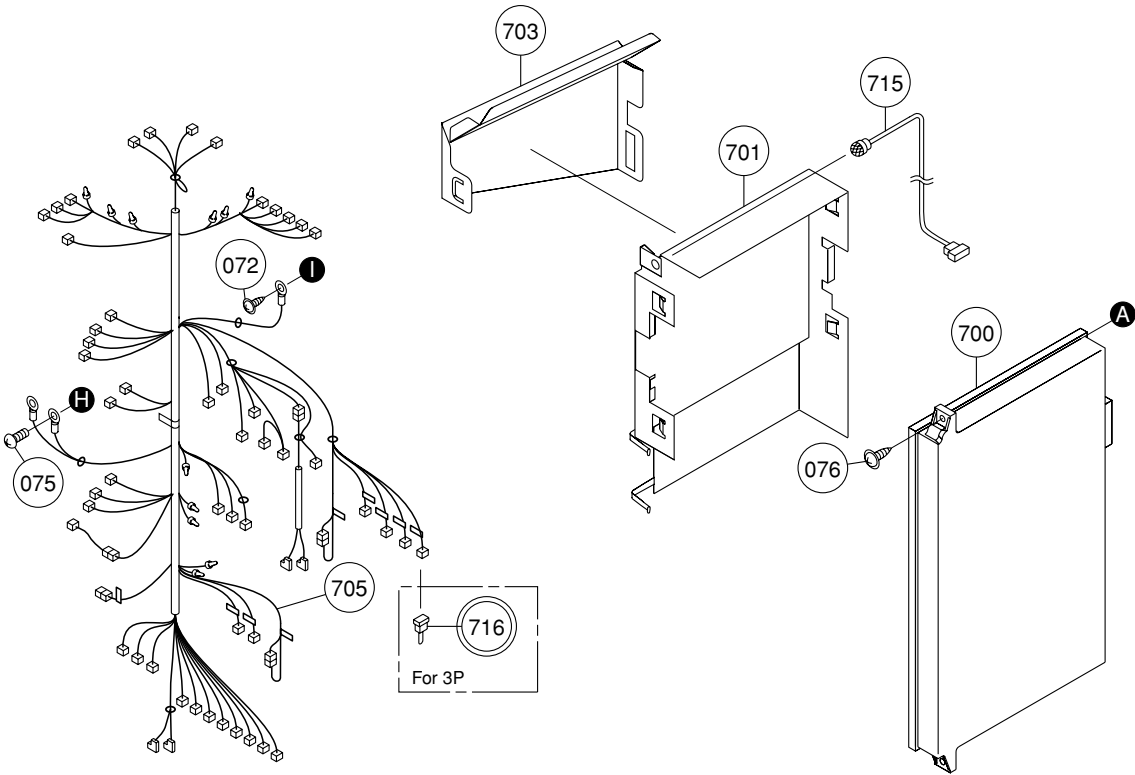
Hot-water feed route LWHC56,WHC56

Part Nos.	Part Names	Order Nos.	Q'ty/unit
465	Hose clamp NO.39	SAD6531	1
466	Quick fastener 16-25	SAD6593	3
467	Quick fastener 6-13	SAD6594	2
468	Drain coupling CBN	CBND018	1
469	Lead clasper 70 HBN	HBNL001	1
471	Mounting plate for neutralizer EHW	EHWA016	1
472	Secondary heat exchanger H set ENJ	ENJB101	1
473	Exhaust box set ENJ	ENJF111	1
474	Exhaust box packing ENJ	ENJF116	1
475	Exhaust joint packing EHW	EHWL003	1
476	Conduit 74 EMU	EMUJ001	1
477	Hose clamp NO.35	SAD6670	3
478	Remaining flame safety device 80 ENJ	ENJH001	1
479	Thermostat BVU	BVUH002	1
480	Neutralizer packing ENJ	ENJL007	1
481	Cross recessed round-head P TIGHT screw 4X10		
482	Cross recessed round-head P TIGHT screw 4X10		
483	Cross & straight recessed round-head collar type3 S TIGHT tapping screw 4X8		
484	Cross recessed round-head machine screw M4X8		
485	Cross recessed truss P TIGHT screw 4X25		
486	Electrode holder cap EPJ	EPJF027	1
487	Electrode holder EPJ	EPJF023	1
488	Neutralizer cover packing EHW	EHWF034	1
489	Water level electrode harness EPJ	EPJJ034	1

Electronic control unit, Remote controller and Attached set

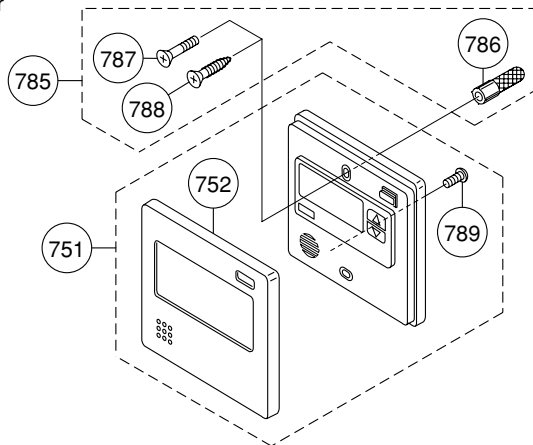
LWHC56, WHC56

Electronic control unit

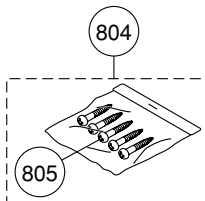


Remote controller

Kitchen remote controller
RC-7508M



Attached set



<Special part>

Special part	Special part no.
Owner's guide	888
Installation manual	889

Electronic control unit,Remote controller and Attached set LWHC56,WHC56

Part Nos.	Part Names	Order Nos.	Q'ty/unit
700	Relay case (ADSE)ENG-B SET-AS	SHB7143	1
701	Relay case cover DEK	DEKA014	1
703	Relay case waterproof cover ELV	ELVA059	1
705	Harness EPJ	EPJJ021	1
715	Lamp cable conduit CRP	CRPJ014	1
716	gas type switch connector DJP	DJPJ011	1<3P>
751	RC-7508M Body AD(SE) QPA	QPAJ013	1
752	M Dressed frame body AD(SE) QPA	QPAA013	1
785	Main remotecontroller screw SET2 (RS)	SHB6889	1
786	Oar plug 6X25		
787	Cross recessed flat-head screw M4X35		
788	Cross recessed flat-head wood screw (All screw) 4.1X20		
789	Cross recessed bind machine screw M3.5X5		
800	GQC3252WZFF-AD packing set V	SKF7138	1
804	Screw SET(W)	SAB2753	1
805	Cross recessed round-head type 1 tapping screw 5X35		
888	Owner's guide GQC3252WZFFAD	SBA8089	1
889	Installation manual GQ-C3252WZFFAD	SBA8198	1

19. Specifications

- Specifications may be changed without prior notice.
- The capacity may differ slightly, depending on the water pressure, water supply, piping conditions, and water temperature.

Item		Specification	
Model Name		WHC56	LWHC56
Type	Installation	Internal, Wall Mounted	
	Air Supply/Exhaust	Power Vented	
Ignition		Direct Ignition	
Minimum Pressure for Maximum flow		2.0 bar	
Minimum Flow Rate		2.5 L/min.	
Dimensions		61.5 cm(Height) x 46.4 cm(Width) x 24 cm(Depth)	
Weight		33 kg	
Water Holding Capacity		1.9 Litre	
Connection Sizes	Water Inlet	R 3/4"	
	Hot Water Outlet	R 3/4"	
	Gas Inlet	R 3/4"	
	Condensate Drain	R 1/2"	
Power Supply	Supply	230V AC (50Hz)	
	Consumption	140W	140W
		Freeze Prevention 170W	
Materials	Casing	Zincified Steel Plate/Polyester Coating	
	Flue Collar	Stainless Steel	
	Primary Heat Exchanger	Copper Sheetting, Copper Tubing	
	Secondary Heat Exchanger	Stainless Steel Sheetting, Stainless Steel Tubing	
Safety Devices		Flame Rod, Thermal Fuse, Pressure Relief Valve, Lightning Protection Device (ZNR), Electric Leakage Prevention Device, Overheat Prevention Device, Freezing Prevention Device, Fan Rotation Detector	
Accessories		Anchoring Screws	

Performance

Item		Maximum Performance	Minimum Performance
Gas Consumption (NET)	I _{2H}	54.0 kW	3.2 kW
	I _{3P}	54.0 kW	3.2 kW
Hot Water Capacity	25°C Rise	32 L/min.	
	58°C Rise	13.8 L/min.	
Capacity Range		2.5 - 42 L/min.	
Temperature Settings		37 - 48, 50, 55, 60, 65, 70, 75, 80°C	

ErP-Information

Technical parameters

Product name			Fastflo WH42	Fastflo WH56	Fastflo LWH42	Fastflo LWH56	Fastflo WHC56	Fastflo LWHC56	Fastflo WHX56	Fastflo LWHX56
Daily electricity consumption	Q_{elec}	kWh	0.297	0.297	0.33	0.33	0.337	0.33	0.271	0.276
Declared load profile			XXL	XXL	XXL	XXL	XXL	XXL	XXL	XXL
Sound power level, indoors	L_{WA}	dB	57	57	57	57	57	57	57	57
Daily fuel consumption	Q^{fuel}	kWh	30.452	30.452	30.332	30.332	27.73	27.46	33.57	33.01
Emissions of nitrogen oxides	NO_x	mg/kWh	70	70	70	70	52	52	60	60
Weekly fuel consumption with smart controls	$Q_{fuel, week, sm}$	kWh	-	-	-	-	-	-	-	-
Weekly electricity consumption with smart controls	$Q_{elec, week, sm}$	kWh	-	-	-	-	-	-	-	-
Weekly fuel consumption without smart controls	$Q_{fuel, week}$	kWh	213	213	212	212	194	194	235	234
Weekly electricity consumption without smart controls	$Q_{elec, week}$	kWh	2	2	2	2	2	2	2	2



Register now to activate your warranty www.andrewswaterheaters.co.uk/register-a-warranty. Please make sure you attach proof of purchase for your warranty to be monitored.

All descriptions and illustrations provided in this document have been carefully prepared but we reserve the right to make changes and improvements in our products which may affect the accuracy of the information contained in this leaflet. All goods are sold subject to our standard Conditions of Sale which are available on request.

Aug 2016

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