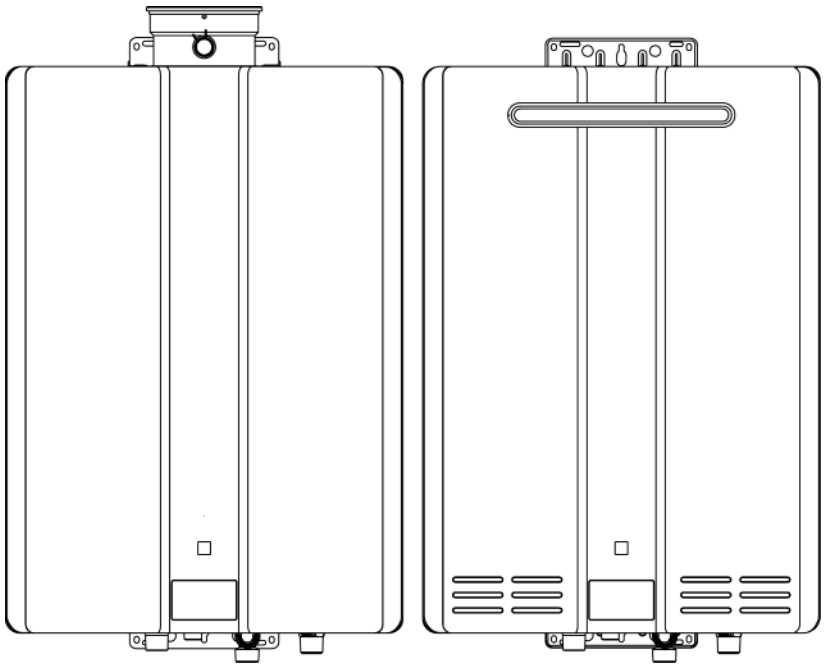
Rinnai

Service Manual

REU-KBM3237FFUDHD-E
HDC 1600i Low NOx

REU-KBM3237WDHD-E
HDC 1600e Low NOx



Continuous Flow Water Heater

SERVICE INSTRUCTIONS

STOP

Do not attempt to Service this appliance if you are not qualified. This can void the warranty.

This manual must be read in its entirety before Servicing the appliance.

If you are unsure of any point contact Rinnai UK

CONTENTS

SERVICE

- All Rinnai products should be Serviced at least once a year.
- The correct service kit should be acquired before commencing the service.
- The service kit will include all gaskets you may need.
- If you do not use the correct service kit and any gaskets or seals are broken in the course of inspection the appliance in question has to be shut down until the damaged gasket or seal is replaced.
- If the appliance continues to operate with damaged gaskets or seals this could affect the performance or correct safe operation of the appliance.
- Servicing is required to maintain the appliances warranty.
- If there are any questions with regards any part of the service please contact the Technical Department at Rinnai UK.

Service Kit Contents

The service kit contains the following items

- Full Electrode Kit
- Water Inlet Filter.

The Part Numbers Required for the appliances associated with this service manual are as follows

Electrode Kit — HDC1600iKBX-Kit A

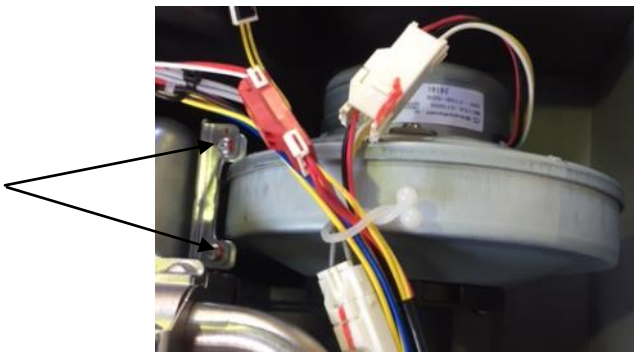
Water Inlet Filter — P50iVR-406

SERVICE

Service Procedure

The service of the HDC1600 Series is fairly straight forward and should take approximately no longer than 30 minutes. Please ensure you have an Electrode kit for this model as this is required at least every 12-24 months depending on the usage. Follow the steps below.

- Isolate the appliance by the plug or fused spur and isolate the gas supply.
- Ensure the appliance is cool enough for the Electrode Kit to be removed. Remove the Spark Electrode, Ionisation Electrode and Thermo Couple and either clean or replace.
- Refit the Electrode Kit
- Unplug the Fan Motor and remove the two screws highlighted below



- Remove the Noise Filter from the fan using the 3 screws.

- Inspect the Fan Motor Impeller and clean with a soft brush if required

SERVICE

Service Procedure

- Reinstate the gas supply and the mains electrical supply
- Fire the appliance up ensuring there is a good flow going through the water heater and ensure the Electrode Kit is not leaking POC's.
- Carry out a visual inspection of the heat exchanger and joints to check for any leaks.
- Shut appliance down and connect a Digital Manometer on to the test point that is highlighted in the diagrams on the page "Setting Gas Pressures".
- Using the correct procedure check the Low and High Fire Gas Pressures, again using the Setting Gas Pressures page and note them down on your report sheet.
- With the appliance in Normal Operation mode you can carry out a Flue Gas Analysis if you wish to do so. Please see the below table for normal operating parameters. If you have concerns over any readings please contact the Rinnai UK Technical Department.

a	CO (ppm)	77
b	CO2 (%)	8.41
c	Flue Gas Temp (°C)	46℃
d	Ratio (%)	0.0107 (CO air free)

- Check the Dip Switches are set correctly using the Dip Switch Setting page.
- Isolate the water supply and check the Water Inlet Filter on the cold connection to the water heater.

The service on the Rinnai Water Heater is now complete however please carry out full checks of the system and flue system to ensure both of these are functioning correctly. If there is a fault on either of these two systems this could affect the correct operation of the appliance.

GAS PRESSURE SETTING

The working gas pressure on the water heater is electronically controlled and factory set. Under normal circumstances it **does not** require adjustment during installation. The pressure should be checked when the unit is installed and each time it is serviced to ensure that it is correct. **Contact Rinnai before attempting to alter the gas pressure if you are unsure of what to do. Incorrect adjustment can void the warranty.**

1. Turn 'OFF' the gas supply.
2. Turn 'OFF' 230V power supply.
3. Remove the front cover from the appliance (4 screws).
4. Check gas type using the dataplate on the side of the casing and confirm the dip switches (Fig. 1) are in the correct position for the type of gas (Nat. or LPG)* you are using (see **page 40**).

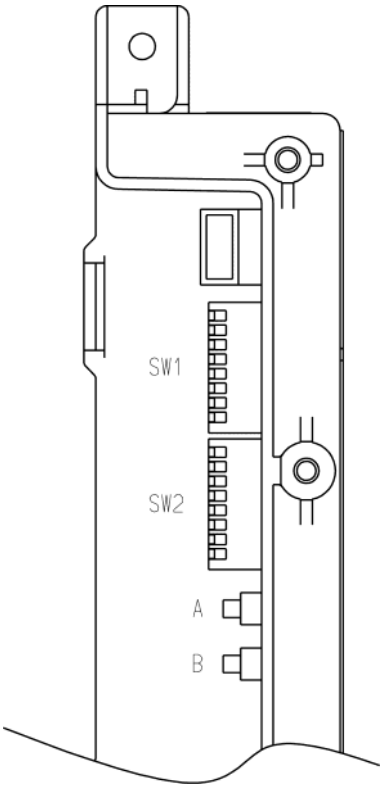


Fig. 1

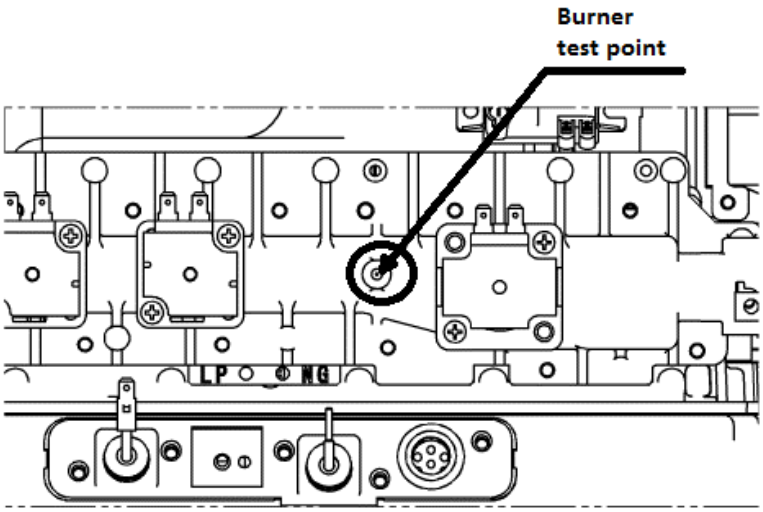


Fig. 2

5. Attach pressure gauge to burner test point (Fig. 2).
6. Turn 'ON' the gas supply.
7. Turn 'ON' 230V power supply.
8. If remote controllers are fitted, turn the unit 'ON' at the controller and select a maximum delivery temperature.
9. Open hot water taps fully to reach max flowrate. **(CAUTION: Ensure building occupants do not have access to hot water outlets during this procedure.)** If there is not enough water flowing, the water heater might shut off or damage due to overheating.

NOTE

*** Simply changing the position of the dip switches will not convert the unit from one gas type to the other. The conversion procedure requires a change of injector manifold.**
Contact Rinnai if you want to convert the appliance to a different gas family.

GAS PRESSURE SETTING

10. Move switch No. 8 of SW1 to 'ON' position (Fig. 3).
11. Push the PCB board switch A for one second (Fig. 4).
12. Calibrate “forced low” combustion using switch A (up) and B (down) as required.

LOW	Gas	Internal		External
		Short flue position	Long flue position	-
NG	G20	1,2	1,3	1,2
LPG	G30 G31	1,3	1,4	1,3
Air / Prop.	G230	1,4	1,5	1,4
(pressures in mbar)				

13. Move switch No. 8 of SW1 to 'OFF' position and then back to ‘ON’ position (Fig. 6).
14. Push the PC board switch B for one second (Fig. 4).
15. Calibrate “forced high” combustion using switch A (up) and B (down) as required.

HIGH	Gas	Internal		External
		Short flue position	Long flue position	-
NG	G20	7,6	8,5	8,1
LPG	G30 G31	9,2	9,7	8,9
Air / Prop.	G230	9,0	9,8	9,2
(pressures in mbar)				

16. Move switch No. 8 of SW1 to 'OFF' position (Fig. 5).
17. Close hot water taps and turn ‘OFF’ the gas supply and 230V power supply.
18. Remove pressure gauge and replace sealing screw. Turn ‘ON’ the gas supply and power.
19. Operate unit and check gas leaks.
20. Replace the front cover of the appliance.

Fig. 3

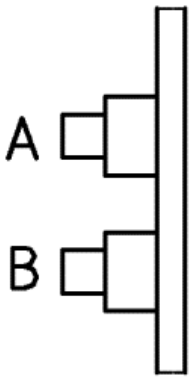


Fig. 4

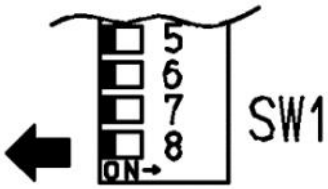


Fig. 5

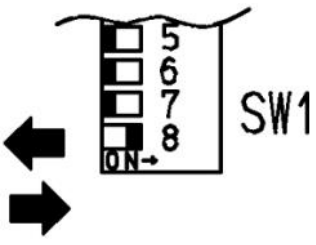
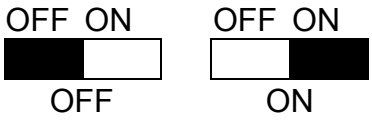


Fig. 6

DIP SWITCH SETTING

LEGEND:
Black Section indicates

position of dip switch.

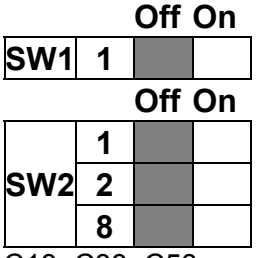


	No.	Switches Explained
SW1	1	Model choiceA-1
	2	Temperature selection
	3	
	4	
	5	
	6	Gas TypeA-1
	7	Gas TypeB-1
	8	Forced Combusiton

	No.	Switches Explained
SW2	1	Model choiceA-2
	2	Model choiceB-1
	3	Recirculation Mode
	4	Interval time to ON of Recirculation Mode
	5	Commercial setting
	6	Gas TypeA-2
	7	Gas TypeB-2
	8	Model choiceB-2

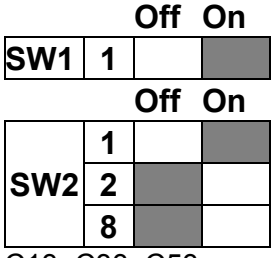
【Model Type】

FF-Long
Common vent1



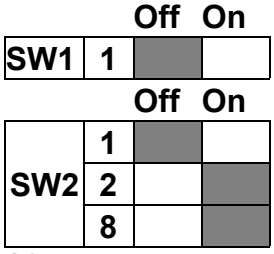
C13, C33, C53, C83P (same area with air intake and exhaust).

FF-Short
(factory setting)



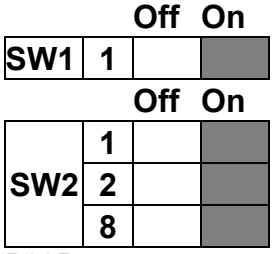
C13, C33, C53.

W
(factory setting)



A3.

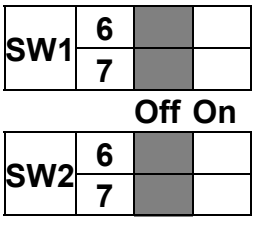
FF-Long
Common vent2(FE)



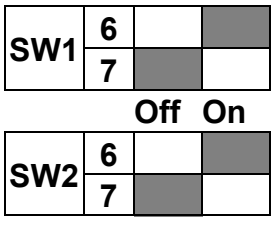
B33P, C83P (different area with air intake and exhaust).

【Gas Type】 Set No.6,7 switches both SW1 and SW 2

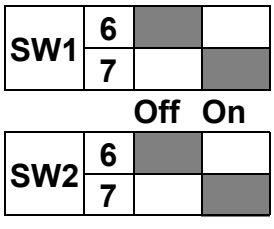
LPG



G20

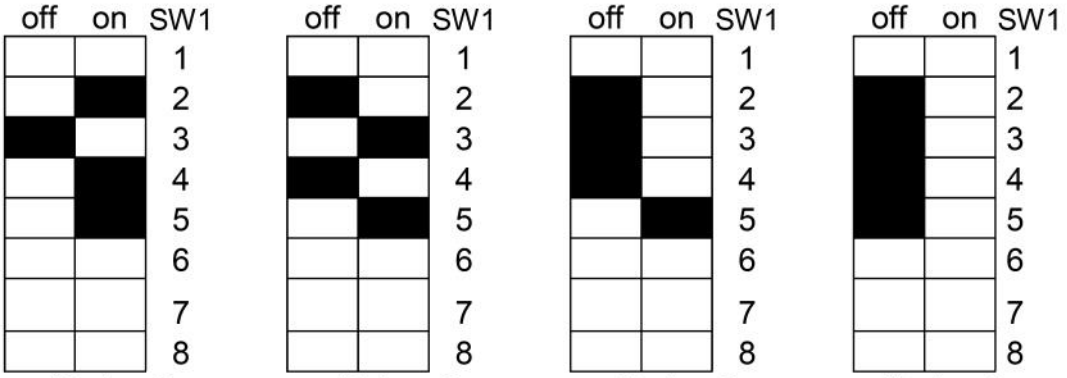


G230



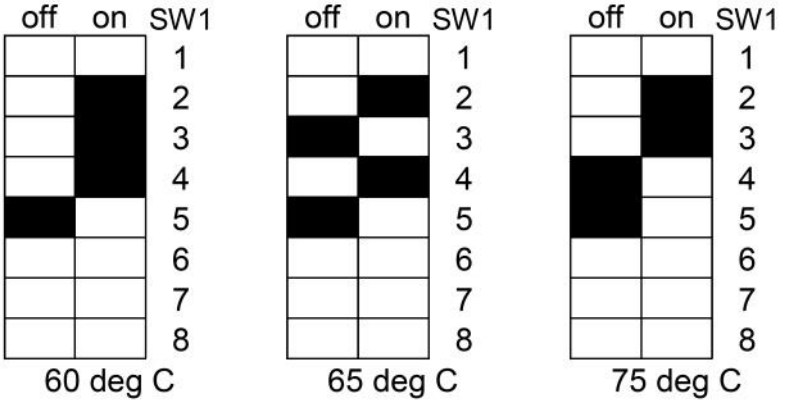
TEMPERATURE SETTING

Temperatures - With or Without Remotes Connected



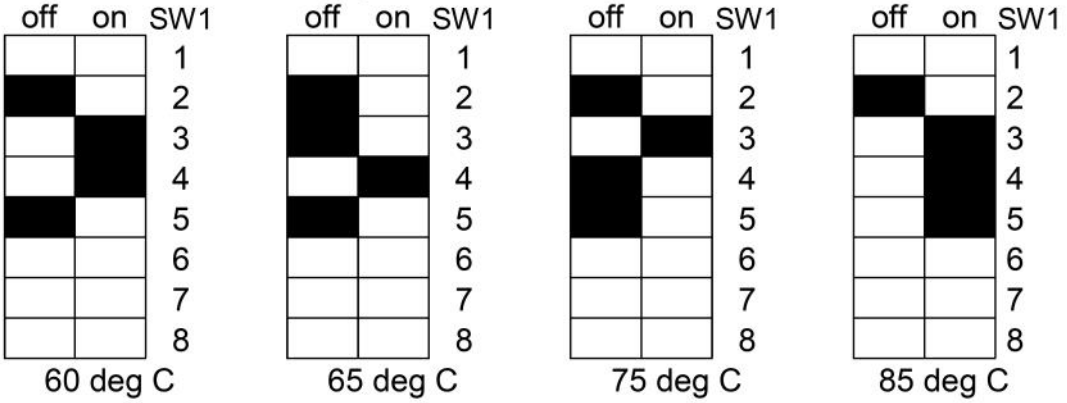
(Infinity factory setting)

Temperatures - Remotes Connected



If the remote is accidentally disconnected the unit would revert to 55°C

Temperatures - Remotes Not Connected



(HD factory setting)

CONTACT

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