

Rinnai

COMMERCIAL HOT WATER



HEAVY DUTY UNITS



HD 26 External Model



HD 26 Internal Model



HD 32 External Model

WHAT IS RINNAI HEAVY DUTY CONTINUOUS FLOW?

The continuous flow is a hot water system that will never run out, providing a constant outlet temperature at all times. Rinnai Heavy Duty (HD) water heaters are a high efficiency gas continuous flow water heater with minimum 5 Star energy rating which ensures minimal gas consumption. All models have full electronic ignition with no pilot light and operating on demand only, consuming no gas when not in use.

WHAT ARE SOME SUITABLE APPLICATIONS?

- Cafés
- Hair Dressing Salons
- Butchers
- Laundromats with domestic style top loader machines
- Child Care Centres
- Small Amenities Blocks
- Factories

WHAT CLEARANCES ARE REQUIRED?

All Rinnai continuous flow HD water heaters are fan assisted. This means reduced clearances are required from doors and windows when compared to natural draft water heaters.

External: For tight locations the sideways flue diverter can be used on the HD 26 External.

Internal: The unique Rinnai twin skin flue used with the internal HD 26 Internal is balanced and classifies the heater as a room sealed appliance. See flueing information on page 11.

WHAT ARE THE FLOWRATES FOR THE INDIVIDUAL UNITS?

The maximum flow rate through a continuous flow water heater is dependent on the outlet temperature.

Cold Water Temperature + Temperature Rise = Outlet Temperature

The maximum flow rate cannot be exceeded and will be limited to that flow rate to ensure that the temperature does not fall below the set point.

Model	Flow @ 20°C rise l/min	Flow @ 25°C rise l/min	Flow @ 35°C rise l/min	Flow @ 50°C rise l/min	Flow @ 60°C rise l/min	Flow @ 75°C rise l/min	Flow @ 85°C rise l/min
REU-V2626WC	30	26	18.6	13.1	10.9	8.7	n/a
REU-V3232WC	37	32	24.1	16.9	14.1	11.2	9.9
REU-2632FFUC	32	26	18.1	12.7	10.6	8.5	n/a

Outlet temperature preset and remains constant, even when flow varies.
Factory preset 65°C standard. Other temperatures available on request to maximum indicated in the table on page 3.
50°C and 42°C preset options are available for ablution areas. State and Territory legislation dependent.
HD 32 External set at 95°C is not to be used with heated incoming water or on recirculating systems.
Water Controllers can be used with the HD range, but can only be used to control heater set at 75°C or less.
Water Controllers are not compatible with Demand Duo systems.

RINNAI HEAVY DUTY SELECTION TABLE.

Model Identification			HD 26 External Model REU-V2626WC	HD 32 External Model REU-V3232WC	HD 26 Internal Model REU-2632FFUC
Star Rating			5.2	5.3	5.0
Installation			External	External	Internal
Gas Consumption MJ/h (Hi / Low)		NG LPG	199/23 199/23	250/21 250/21	195/16 195/16
Gas Pressures Required kPa		NG LPG	1.13 - 2.75 2.75	1.13 - 2.75 2.75	1.13 - 2.75 2.75
Dimensions	mm	Width	350	470	350
		Height	530	600	600
		Depth	194	244	224
Weight			15 kg	29 kg	22 kg
Water Flow	L/min	minimum	2.4	2.4	2.4
Antifrost			Standard		Optional
Flue System	(FF=Forced Flued)		FF external	FF external	FF internal
Default Temp Settings	°C	with remote	40, 42, 50, 55, 60, 65, 75		
	°C	without remote	40, 42, 50, 55, 60, 65, 75, 85	40, 42, 50, 55, 60, 65, 75, 85, (95)	40, 42, 50, 55, 60, 65, 75, 85
Burner System			Low Nox, Multi Stage - Fully Modulating		
Connections		gas supply, cold, hot	R 3/4 - 20A (right), R 3/4 - 20A (centre), R 3/4 - 20A (left)		
Maximum Water Operating Pressure kPa			1000		
Maximum Outlet Temperature			85°C	95°C	85°C
Electrical Consumption (Watts) <small>Normal / Standby / Anti frost protection</small>			65 / 6 / 100	83 / 12 / 100	80 / 7.5 / 100
Ignition System			Direct electronic ignition with automatic flame sensing (230 / 240 V)		
AGA Thermal Efficiency Rating			80.8%	81.1%	81.1%
kW Output			45.6	58.9	44.3
Power Supply	Appliance		AC 240 Volts 50 Hz (10 Amp power point required)		
	Remote Control		DC 12 Volts (Digital)		

Rinnai reserves the right to modify specifications.



MANIFOLD PACKS



Manifold Pack 2 External Warm Water System with UV Sterilisation



Compact installation of 6 x Manifold Pack 6 External

WHAT IS A RINNAI MANIFOLD PACK?

A Rinnai Manifold Pack consists of 2 and 6 Heavy Duty continuous flow water heaters plumbed together to allow higher flow rates than a single unit can provide.

WHAT ARE THE KEY FEATURES?

- Outlet temperature is preset and remains constant, even when the flow varies
- Peak flow rate cannot be exceeded
- No flow = no gas consumption
- No wasteful pilot lights
- Usually used for dead leg type installations, however ringmain pumps can be fitted if required*

*Continuous flow water heaters used on flow and return ringmain systems must have correct pipe and pump selection. For further information, please contact your Rinnai Commercial Representative.

WHAT WILL THE SYSTEM OFFER YOUR APPLICATION?

Energy savings, as there are no tank heat losses, pilot lights and the system only uses gas when in operation.

Endless hot water for applications where there is a peak demand for only a few hours and then either low or no demand for hours, days or weeks at a time.

WHAT TEMPERATURE SETTINGS ARE AVAILABLE?

- All HD units are factory set to 65°C as standard
- Temperatures that can be set include: 40, 42, 50, 55, 60, 65, 75 and 85°C
- The HD 32 External can be set also at 95°C, but only on non recirculating systems

Note: Preset heaters set to 42 or 50°C can replace TMV or tempering valves for ablution areas. Local Legislation dependant.

WHY DO THEY REQUIRE A STAGING SYSTEM?

Staging systems are designed so that only the required number of heaters start to match the desired hot water flow rate.

A Manifoldd Electronic Control System (MECS) is available for 2 to 5 heater manifold systems and uses the water flow valve inside the heater to control its operation. The firing sequence is rotated every tenth shutdown. A single water controller can control the entire manifold outlet temperature.

Staging can also be achieved by using the Rinnai Pressure Activated Manifold (PAM) valve. PAM valves are available for 2 to 6 heater manifold systems.

Note: Rinnai Manifold Packs are not compatible with Smartstart® Water Saver or Deluxe Water Controllers.

HOW DOES THE SYSTEM DELIVER CONSTANT TEMPERATURE?

The heater measures the incoming water flow and the outlet temperature. Any alterations will cause the unit to vary the gas rate to ensure a constant outlet temperature. The set outlet temperature can be altered by an authorised person.

WHAT INFORMATION DO I NEED?

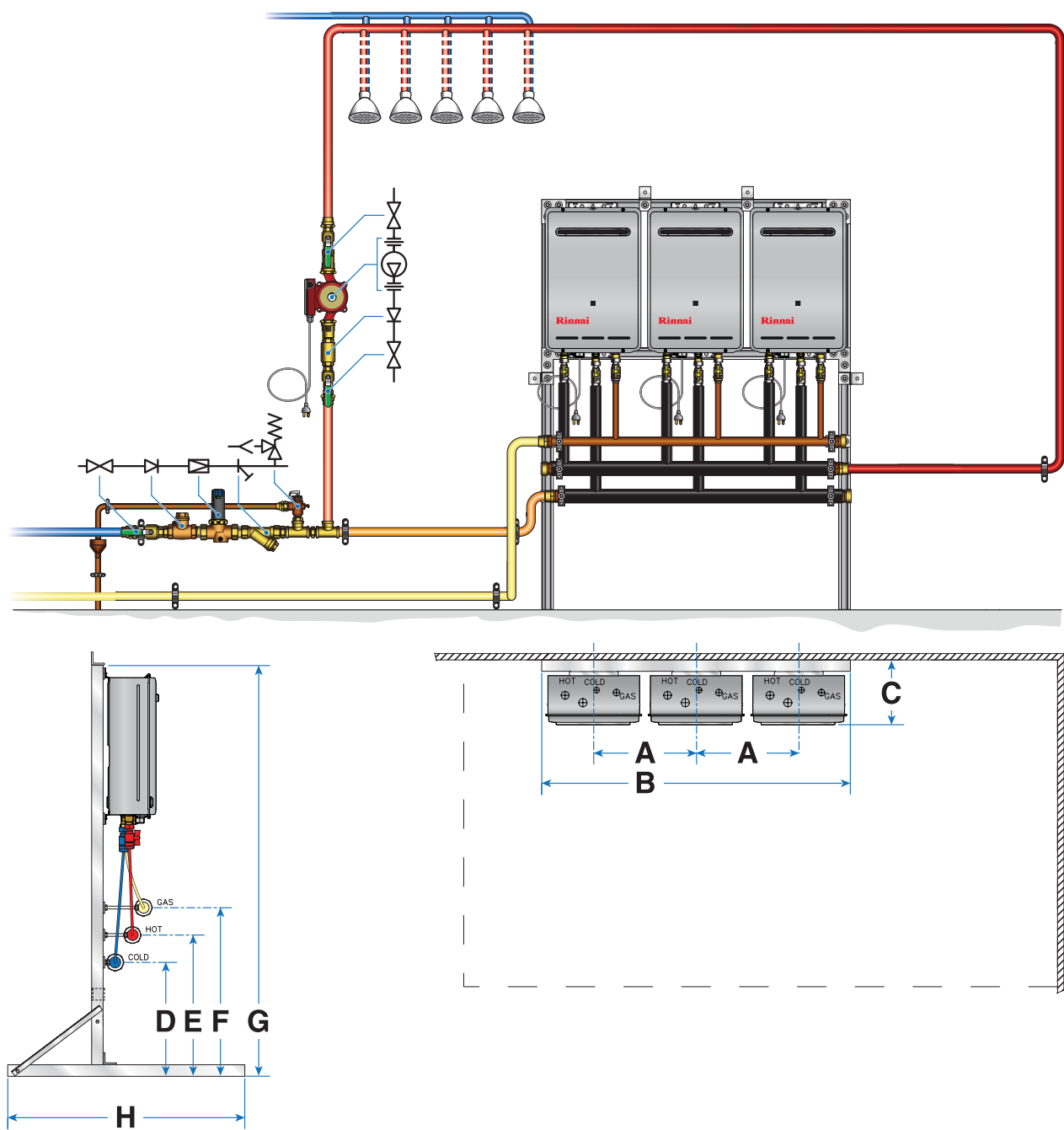
The following information is required to select a manifold pack:

- Inlet water temperature (eg: 15°C average coastal cold water temperature)
- Temperature required at point of use (eg: 40°C for a shower)
Therefore net temperature rise is known (eg: 40-15 = 25°C)
- Simultaneous flow rate required (eg: 5 x 3 star (AAA) 9 l/min showers = 45 l/min)
- Internal or External installation

Model No	No fo Heater	Gas Cons (MJh)	Delta	25	deg C	Delta	35	deg C	Delta	50	deg C
			ltr/sec	ltr/min	ltr/hr	ltr/sec	ltr/min	ltr/hr	ltr/sec	ltr/min	ltr/hr
HD 26	1 x HD 26	199	0.43	26	1560	0.32	19	1160	0.22	13	780
MP2	2 x HD 26	398	0.87	52	3120	0.64	39	2321	0.43	26	1560
MP3	3 x HD 26	597	1.30	78	4680	0.97	58	3481	0.65	39	2340
MP4	4 x HD 26	796	1.73	104	6240	1.29	77	4642	0.87	52	3120
MP5	5 x HD 26	995	2.17	130	7800	1.61	97	5802	1.08	65	3900
MP6	6 x HD 26	1194	2.60	156	9360	1.93	116	6963	1.30	78	4680



TYPICAL RINNAI MANIFOLD PACK INSTALLATION.



Manifold Pack	A	B	Dry Weight	MJ
MP2	375	750	60 kg	400
MP3		1125	90 kg	600
MP4		1500	120 kg	800
MP5		1875	150 kg	1000
MP6		2250	180 kg	1200

HD Model	C	D	E	F	G	H
REU-V2626WC	245	410	510	610	1500	850
REU-V2626FFUC	280	340	440	540		

This is not a formal engineering drawing
Insulation not shown on site pipework
Ablution areas: temper as required
Installation as per local regulations
Details subject to change without notice
Non return and cold expansion valves are only required on circulating systems
Please refer to Rinnai Commercial Representative when designing systems

DEMAND DUO



DD1 200 External
installed in a narrow sideways



DD1 200 Internal
installed in a cupboard

WHAT IS A RINNAI DEMAND DUO SYSTEM?

Rinnai Demand Duo is the combination of between 1 and 6 gas continuous flow water heaters with a storage tank. The storage tank allows a short period of high hot water flow rate, greater than the continuous flow rate of the HD water heater(s).

HOW DOES IT WORK?

Demand Duo is a complete packaged storage hot water system made up of one or more HD water heaters with a manifold system, primary pump(s), thermostat and a stainless steel storage tank.

The thermostat senses the temperature of the water in the tank, and when it drops below the set point, the primary pump is activated. This flow in turn starts the Rinnai continuous flow HD water heater which returns heated water to the tank.

WHAT ARE SOME SUITABLE APPLICATIONS?

- Hotels & Motels
- Apartment Blocks
- Student Accommodation
- Shower Blocks
- Commercial Kitchens
- Commercial Laundries

Installations of this type typically have a predictable hot water volume, usually based on number of people living in a particular building either showering, washing or eating, or industrial machines that require regular peaks of water.

Demand Duo are often used on projects on a flow and return system to distribute the water around the building. It should be noted that flow and return systems continually lose heat through the circulation pipework and this adds running costs to the project.

HOW IS THE SELECTION MADE?

The following information is required to select a Demand Duo system:

- Temperature rise required. Assumed to be 50°C (15 - 65°C)
- Volume of hot water used per event (i.e. people having a shower)
- Number of times this event occurs (i.e. 6 uses of each shower head per hour)
- Internal or external installation (i.e. whether a flue system is required)

Refer to the table on the next page for selection examples.

RINNAI DEMAND DUO SELECTION TABLE.

Model No	No of Burner	Storage Tank (ltr)	1st hr Output (@ 35 deg C Temp rise)	Consecutive hr Output (@ 35 deg C Temp rise)	Gas Rate (MJh)	Location
DD1	1 x HD 26	315	1429	1114	199	Ext or Int
DD2	2 x HD 26	315	2544	2229	398	Ext or Int
DD3	3 x HD 26	315	3658	3343	597	Ext or Int
DD4	4 x HD 26	315	4772	4457	796	Ext or Int
DD5	5 x HD 26	315	5886	5571	995	Ext or Int
DD6	6 x HD 26	315	7001	6686	1194	Ext or Int
2 x DD4	8 x HD 26	2 x 315	9644	8914	1592	Ext or Int
2 x DD6	12 x HD 26	2 x 315	14001	13371	2388	Ext or Int

First Hour Delivery = Tank volume + 760 litres per HD200.
First Hour Calculations Apartments: 1 bedroom 45 litres, 2 bedroom 75 litres, 3 bedroom 105 litres.
 Amenities: 6 x 27 litres hot water per shower per hour.
 Hotel: 1-3 star 22 litres, 4-5 star 35 litres. Allows for showers, meals and laundry.



DEMAND DUO



WHAT ARE THE BENEFITS OF RINNAI DEMAND DUO?

Demand Duo storage hot water systems hold 250 to 315 litres of hot water per system. This is available where high peak flow rates for short periods of time are common.

Recovery is matched by selecting the required number of Rinnai Heavy Duty water heaters.

The heater(s) can also be mounted many metres (remotely) from the tank.

Note: Extended primary pipe runs must be oversized and/or a primary pump upgrade. Please contact your Rinnai Commercial Representative for further information.

Rinnai Demand Duo systems can also be used instead of Manifold Packs for projects where limited gas supply is available.

HOW IS THE RINNAI DEMAND DUO SYSTEM SUPPLIED?

The DD1 system is provided with an integrated HD water heater on the tank.

Larger capacity models – up to 6 units on a single system come complete with pre-assembled manifold. They are of modular construction prefabricated under factory conditions. The lightweight individual pieces are transported and assembled in position on site. To complete the Demand Duo system, all that is required on site is the final pipe work between the manifold, pump and tank.

A standard DD1 has the heater mounted on the tank but can be ordered in parts for applications with a remote mounted burner.

WHAT IS INCLUDED IN THE RINNAI DEMAND DUO PACKAGE?

- Rinnai Heavy Duty water heater(s)
- 32mm foam insulated copper manifold for DD2-6 c/w 20mm union and isolation valves on Hot, Cold & Gas - mounted on rapid rail sub frame
- Stainless Steel Tank 850kPa PTR valve(s) - 32mm connections
- Pre-wired Thermostat, 240V power connection point(s) for pump
- Primary Pump(s)

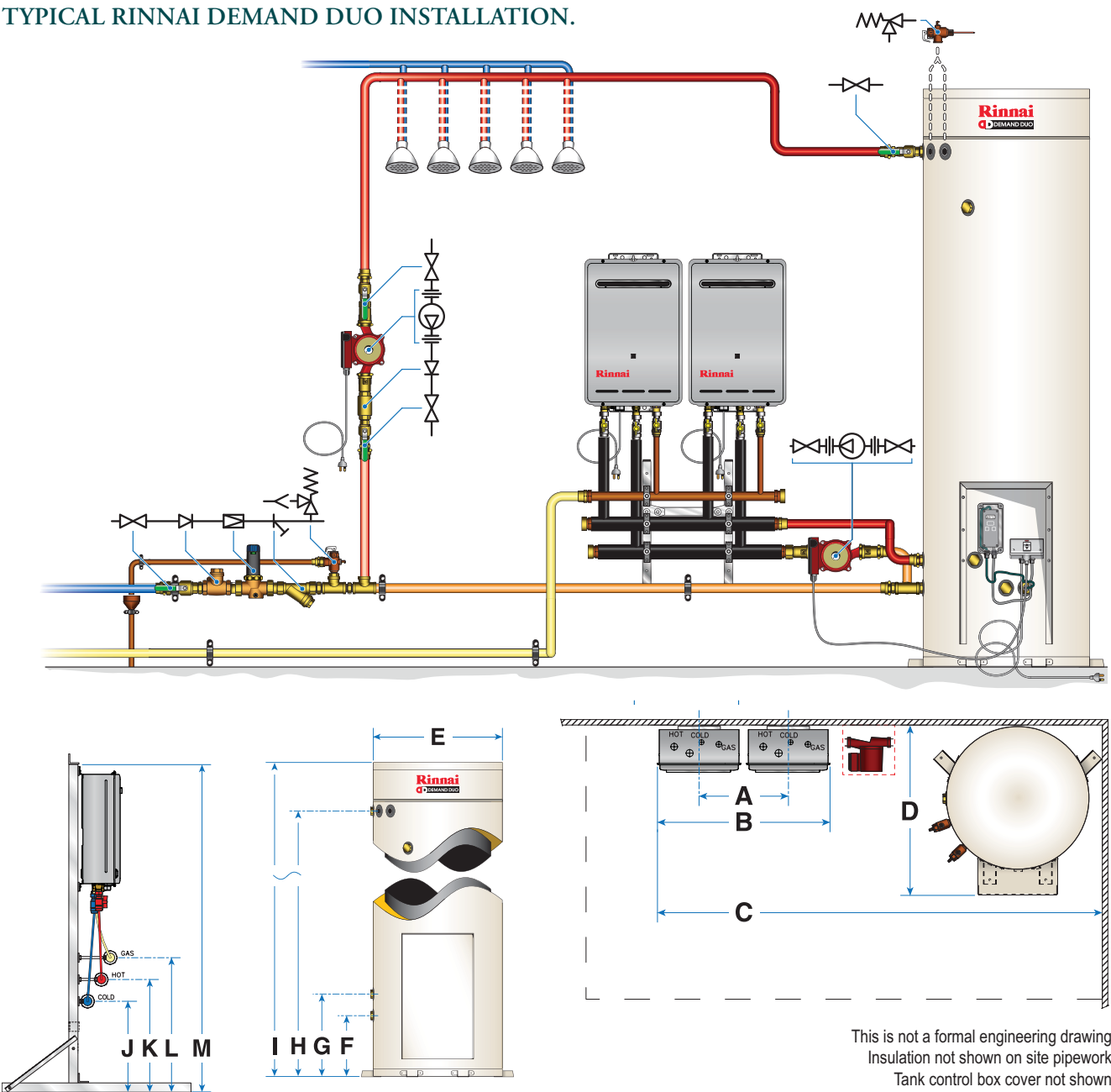
Optional Extras:

- Single and Dual Flow and Return Pumps
- Pump Control Boxes
- Wall Mounting & Freestanding Frames
- Skid Mounted System c/w electrical, tank manifolds for multiple systems & aluminium cladding (as required per project)
- Pre-wired General Power Outlet (GPO) Package



2 x DD5 200 Internal with direct flue through roof

TYPICAL RINNAI DEMAND DUO INSTALLATION.



This is not a formal engineering drawing
Insulation not shown on site pipework
Tank control box cover not shown
Ablution areas: temper as required
Installation as per local regulations
Details subject to change without notice

Model	A	B	C	D	E	Mj Rating (HD200's)	Total System Weight (315 L)
DD1	375	N/A	600	715	600	200	92
DD2		725	1825			400	115
DD3		1100	2200			600	135
DD4		1475	2575			800	155
DD5		1850	2950			1000	175
DD6		2225	3325			1200	190

Tank Model	F	G	H	I	Dry Weight	Wet Weight
315 Liter	285	385	1855	2080	72 kg	385 kg

HD Model	J	K	L	M
REU-V2626WC	410	510	610	1500
REU-V2626FFUC	340	440	540	

INTERNAL FLUEING



The Rinnai Internal flueing for internal water heater is a coaxial design. It is manufactured from an aluminium alloy inner flue pipe to discharge product of combustion and a thermoplastic outer pipe for air supply to the appliance. The water heater is a room sealed appliance.

Note: Each Rinnai heater is flued individually.

As it is fan assisted, the heater can be flued vertically, horizontally or any combination of both, to a maximum of 9 metres and 3 x 90 degree bends.

Horizontal flueing can be used as a direct wall flue or extended from another internal wall.

Vertical flueing is used when the water heater needs to be flued vertically through the roof.

A condensate trap is required when vertical flue exceeds 1.5 metres.

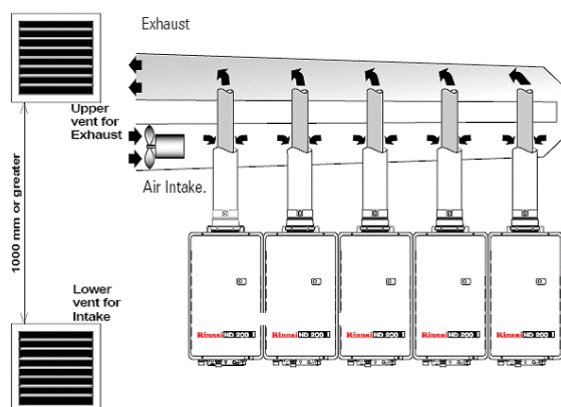
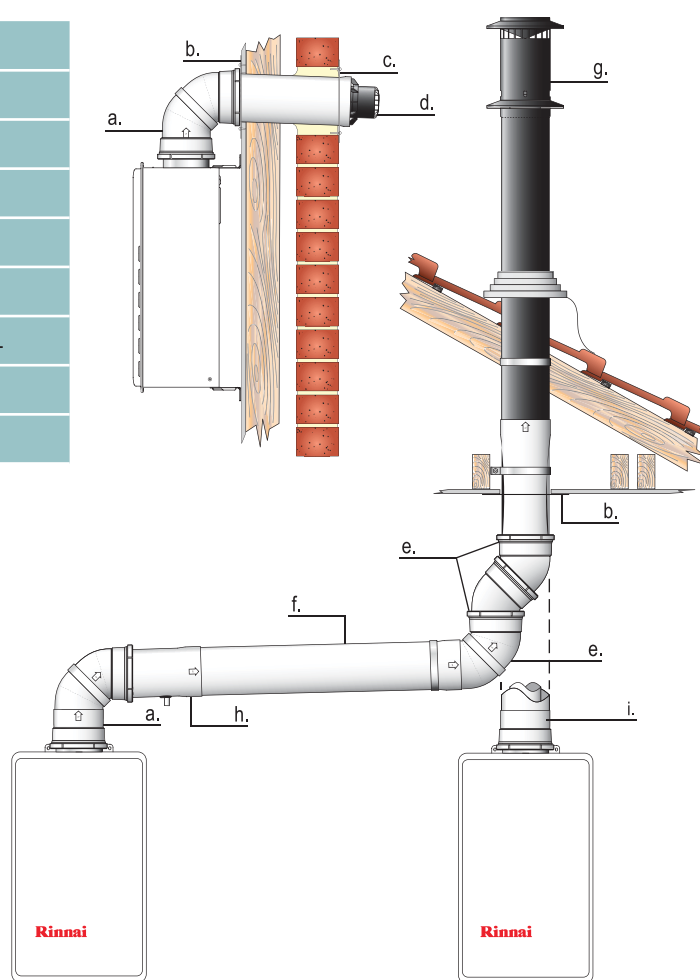
INTERNAL FLUEING ORDER CODES.

a.	Elbow 90° Bend & Adaptor	FFBEND90BA
b.	Ceiling/Wall Ring	FFWSEAL
c.	External Wall Plate	FFWPLATE
d.	Horizontal Flue Terminal	FFWALLTERM
e.	Universal Bend (2 x 45°)	FFBEND
f.	Flue Pipe 1000 mm length*	FFPIPE1000
g.	Vertical Flue Terminal*	FFROOFCOWL
h.	Condensate Trap	FFCONDK
i.	Vertical Adaptor	FFADAPT

*Supplied with pipe clip



DD6 Internal Flued System



RINNAI COMMERCIAL HOT WATER WARRANTY.

	Manifold Pack	Demand Duo	
	HD Range	HD Unit	Storage Tank
			Stainless Steel
Commercial Applications#			
Heat Exchanger	5 Years*	5 Years*	N/A
Cylinder	N/A	N/A	5 Years
All other parts	1 Year	1 Year	1 Year
Free labour	1 Year	1 Year	1 Year
Domestic Applications#			
Heat Exchanger	10 Years*	10 Years*	N/A
Cylinder	N/A	N/A	10 Years
All other parts	2 Years	2 Years	3 Years
Free labour	2 Years	2 Years	1 Year

For full definitions of what is deemed to be a domestic or commercial installation, please refer to our website www.rinnai.com.my

* HD unit preset to 85°C or 95°C ~ 1 Year warranty on Heat Exchanger.

The benefits conferred by this warranty are in addition to all other rights and remedies in respect of the product which you have under the Trade Practices Act and similar State or Territory Laws. Given installation and application is in accordance with the manufacturers specifications and instructions, Rinnai products are warranted by Rinnai for the cost of labour and components in the event of defects arising from faulty materials and/or workmanship in accordance with the Terms in the Table above. For the complete warranty conditions and exclusions refer to www.rinnai.com.my

Faults arising from improper installation, gas supply, water quality exceeding recommended levels, plumbing fittings and other outside influences are not the responsibility of Rinnai Australia and service calls for these issues will be chargeable. For these warranty conditions to apply, water contaminants must be within the limits below.

Note: All terms are effective from date of installation.

Rinnai Australia Pty. Ltd. reserves the right to make modifications and change specifications without notice.

Phone 03-5191 9541 for a free brochure on the products listed below.

- Continuous Flow Hot Water
- Solar Hot Water
- Gas Heater Pump

Rinnai

RINNAI (M) SDN BHD

Lot 2-36 & 2-38, Jalan SU 7, Seksyen 26, Persiaran Tengku Ampuan,
40400 Shah Alam, Selangor Darul Ehsan.

Tel : 03 - 5191 9541 / 5191 7752 Fax : 03 - 5192 4011

email: infinity@rinnai.com.my URL <http://www.rinnai.com.my>