



The new degree of comfort.™

Water | Commercial Gas
Universal Water Heaters

Universal™ is a family of commercial gas water heaters that are designed to fit into tight retrofit applications

Features & Benefits

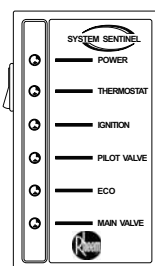
The tighter the commercial retrofit, the more you will appreciate how the Universal's compact size and multiple water connections simplify installations. Choose from 80% thermal efficiency models that range from 98,000-399,900 Btu/h and have maximum temperature setting of 180°F (82.2°C).

Space Saver Design

The short heights and narrow jacket diameters, plus the top, front and rear water inlets/outlets offer the ultimate in installation flexibility.

System Sentinel™ LED Diagnostic System

Our exclusive diagnostic system, with glowing LED lights, verifies system operation sequence by sequence.



Patented Technology

Universal's proprietary steel formulation, patented multi-flue design, combined with two coats of porcelain enamel, results in a superior heat exchanger design.

Stainless Steel Burners

Precision burners, raised port design, are formed from high chromium stainless steel. Each burner assembly slides out like a drawer for quick inspection and maintenance.

AGA/ASME Rated T&P Valve

Factory installed relief valve

Insulation

Sag and moisture proof fiberglass insulation surrounds the storage tank and heavy mineral wool insulation surrounds the combustion chamber.

Hand-hole Cleanout

For easy removal of lime/sediment deposits.

Low Profile Automatic Flue Damper

Low profile damper minimizes overall product height. Heavy duty vent hood supports are designed to withstand the rigors of installation.

Full-port, Full-flow Drain Valve

Factory installed brass drain valve allows for faster draining and servicing.

Direct Spark-to-Pilot Ignition System

Energy saving ignition that ignites pilot only when there is a call for heat.

Altitude Certifications

Up to 5,000 feet for natural gas and 2,000 feet for LP; with high altitude certification kit, up to 8,000 feet.

Patented Anode Rods

Anode design utilizes multiple resistance for a long tank life.

Manual Reset High Limit

ASME models are factory equipped with manual reset high limit to meet the code requirements in many states.

Gas Control System

Thermostat adjusts from 100°F to 180°F (37.8°C to 82.2°C), 24 volt combination gas valve includes main gas pressure regulation, on-off manual valve, 220/24 volt transformer and high limit temperature cut-out.

Efficiency | All models tested according to ANSI test procedures, and meet or exceed the thermal efficiency and standby loss requirements of ASHRAE standard (EPact). Also exceeds energy efficiency codes of all states including California Energy Commission (CEC).

Safety and Construction | Design certified by CSA: For operation at 180 degrees; meets all safety and construction requirement of ANSI Z21.10.3; as an automatic storage or instantaneous water heater; as an automatic circulating tank water heater; and for operation on combustible floors and in alcove installations. Certified for 150 PSI maximum working pressure (160 PSI for ASME models).

Optional Construction | ASME construction is available on designated models. UL Sanitation (NSF5) compliant models are available when equipped with optional seal kit (Part No. AS42690).



Rheem Universal
35 to 100 - Gallon Capacities
132 to 379 - Litre Capacities
98,000 to 399,900 - Btu/h Input
28.7 to 117.2 - kW Input
Top-Front-Rear Inlet/Outlet
Water Connections



(On Selected Models)

(With Optional Leg Kit)



(With Optional Leg Kit)

RECOVERY CAPACITIES Recovery in U.S. Gallons/Hr. (GPH) and Liters/Hr. (LPH) at Various Temperature Rises.

NATURAL, TOWN GAS & L.P

MODEL NUMBER	TANK CAP. GALLONS (LITRES)	INPUT BTU/H (kW)	OUTPUT BTU/H (kW)	UNITS	40°F 22°C	50°F 28°C	60°F 33°C	70°F 39°C	80°F 45°C	90°F 50°C	100°F 56°C	110°F 61°C	120°F 67°C	130°F 72°C	140°F 78°C
G50-98	50 (189)	98,000 (28.7)	78,400 (23.0)	GPH	238	190	158	136	119	106	95	86	79	73	68
				LPH	899	719	600	514	450	400	360	327	300	277	257
G75-125	75 (284)	125,000 (36.6)	100,000 (29.3)	GPH	303	242	202	173	152	135	121	110	101	93	87
				LPH	1147	918	765	655	574	510	459	417	382	353	328
G82-156	80 (310)	156,000 (45.7)	124,800 (36.6)	GPH	378	303	252	216	189	168	151	138	126	116	108
				LPH	1432	1145	954	818	716	636	573	521	477	440	409
G76-180	76 (288)	180,000 (52.7)	144,000 (42.2)	GPH	436	349	291	249	218	194	175	159	145	134	125
				LPH	1652	1321	1101	944	826	734	661	601	551	508	472
G37-200	35 (132)	199,900 (58.6)	159,920 (46.9)	GPH	485	388	323	277	242	215	194	176	162	149	138
				LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G76-200	76 (288)	199,900 (58.6)	159,920 (46.9)	GPH	485	388	323	277	242	215	194	176	162	149	138
				LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G91-200	91 (344)	199,900 (58.6)	159,920 (46.9)	GPH	485	388	323	277	242	215	194	176	162	149	138
				LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G100-200	100 (379)	199,900 (58.6)	159,920 (46.9)	GPH	485	388	323	277	242	215	194	176	162	149	138
				LPH	1834	1468	1223	1048	917	815	734	667	611	564	524
G72-250	72 (273)	250,000 (73.3)	200,000 (58.6)	GPH	606	485	404	346	303	269	242	220	202	186	173
				LPH	2294	1835	1529	1311	1147	1020	918	834	765	706	655
G100-250	100 (379)	250,000 (73.3)	200,000 (58.6)	GPH	606	485	404	346	303	269	242	220	202	186	173
				LPH	2294	1835	1529	1311	1147	1020	918	834	765	706	655
G100-270	100 (379)	270,000 (79.1)	216,000 (63.3)	GPH	655	524	436	374	327	291	262	238	218	201	187
				LPH	2478	1982	1652	1416	1239	1101	991	901	826	762	708
G72-300	72 (273)	300,000 (87.9)	240,000 (70.3)	GPH	727	582	485	416	364	323	291	264	242	224	208
				LPH	2753	2202	1835	1573	1376	1224	1101	1001	918	847	787
G85-300	85 (344)	300,000 (87.9)	240,000 (70.3)	GPH	727	582	485	416	364	323	291	264	242	224	208
				LPH	2753	2202	1835	1573	1376	1224	1101	1001	918	847	787
G100-310	100 (379)	310,000 (90.8)	248,000 (72.7)	GPH	752	601	501	429	376	334	301	273	251	231	215
				LPH	2845	2276	1896	1626	1422	1264	1138	1034	948	875	813
G65-360	65 (246)	360,000 (105.5)	288,000 (84.4)	GPH	873	698	582	499	436	388	349	317	291	269	249
				LPH	3304	2643	2202	1888	1652	1468	1321	1201	1101	1016	944
G65-400	65 (246)	399,900 (117.2)	319,920 (93.7)	GPH	969	776	646	554	485	431	388	353	323	298	277
				LPH	3670	2936	2446	2097	1835	1631	1468	1334	1223	1129	1048
G85-400	85 (322)	399,900 (117.2)	319,920 (93.7)	GPH	969	776	646	554	485	431	388	353	323	298	277
				LPH	3670	2936	2446	2097	1835	1631	1468	1334	1223	1129	1048
G100-400	100 (379)	399,900 (117.2)	319,920 (93.7)	GPH	969	776	646	554	485	431	388	353	323	298	277
				LPH	3670	2936	2446	2097	1835	1631	1468	1334	1223	1129	1048

Recovery ratings are based on 80% thermal efficiencies obtained in a CSA certified laboratory

(A) indicates available ASME model.

* Input is gas gross calorific value. 80% thermal efficiency is based on gas gross calorific value.

DIMENSIONAL INFORMATION All Dimensions Shown in English and Metric.

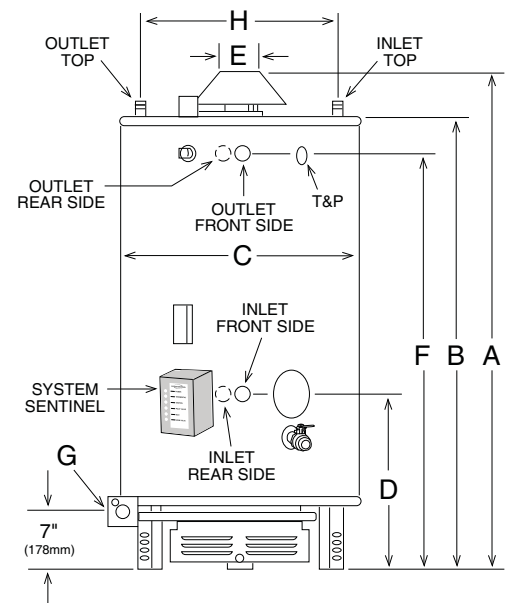
MODEL NUMBER	UNITS	A	B	C	D	E	F	G	H	WATER CONNECTIONS			APPROXIMATE SHIPPING WEIGHT	
										TOP IN/OUT	FRONT SIDE	REAR SIDE	STD.	ASME
G50-98	inches	62-3/4	57-1/8	22-1/2	22-5/8	5	50-1/2	1/2	15	1	1-1/2	1-1/2	270 lbs.	N/A
	mm	1594	1451	667	575	127	1283	13	381	25	38	38	122 kgs.	N/A
G75-125	inches	65-1/2	61	26-1/4	25	5	56	3/4	20	1-1/2	1-1/2	1-1/2	480 lbs.	N/A
	mm	1664	1549	667	635	127	1422	19	508	38	38	38	217 kgs.	N/A
G82-156	inches	68-13/16	64	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	490 lbs.	N/A
	mm	1748	1626	667	635	152	1489	19	508	38	38	38	222 kgs.	N/A
G76-180	inches	68-13/16	64	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	540 lbs.	N/A
	mm	1748	1626	667	635	152	1489	19	508	38	38	38	245 kgs.	N/A
G37-200	inches	49-1/4	43-3/8	26-1/4	25	6	37-5/8	3/4	20	1-1/2	1-1/2	1-1/2	405 lbs.	N/A
	mm	1251	1102	667	635	152	956	19	508	38	38	38	184 kgs.	N/A
G76-200	inches	68-13/16	64	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	540 lbs.	N/A
	mm	1748	1626	667	635	152	1489	19	508	38	38	38	245 kgs.	N/A
G91-200	inches	76-5/16	71-13/16	26-1/4	30-5/8	6	66-3/8	3/4	20	1-1/2	1-1/2	1-1/2	600 lbs.	N/A
	mm	1938	1824	667	778	152	1686	19	508	38	38	38	272 kgs.	N/A
G100-200	inches	73-1/16	66-1/8	30-1/4	23-1/4	6	57-1/2	3/4	23	1-1/2	2	2	780 lbs.	835 lbs.
	mm	1856	1680	768	591	152	1460	19	584	38	51	51	353 kgs.	378 kgs.
G72-250	inches	71-1/16	64-1/2	26-1/4	25	6	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	590 lbs.	630 lbs.
	mm	1805	1638	667	635	152	1489	19	508	38	38	38	267 kgs.	285 kgs.
G100-250	inches	73-1/4	66-1/8	30-1/4	23-1/4	8	57-1/2	3/4	23	1-1/2	2	2	795 lbs.	835 lbs.
	mm	1861	1680	768	591	203	1460	19	584	38	51	51	360 kgs.	378 kgs.
G100-270	inches	73-7/8	66-1/8	30-1/4	23-1/4	8	57-1/2	3/4	23	1-1/2	2	2	805 lbs.	845 lbs.
	mm	1876	1680	768	591	203	1460	19	584	38	51	51	365 kgs.	383 kgs.
G72-300	inches	71	64-1/8	26-1/4	25	8	58-5/8	3/4	20	1-1/2	1-1/2	1-1/2	590 lbs.	630 lbs.
	mm	1803	1629	667	635	203	1489	19	508	38	38	38	267 kgs.	285 kgs.
G85-300	inches	78-7/16	72-5/16	26-1/4	30-5/8	8	66-3/8	3/4	20	1-1/2	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	1992	1837	667	778	203	1686	19	508	38	38	38	290 kgs.	308 kgs.
G100-310	inches	75	68-1/2	30-1/4	32-1/4	7	61-3/4	3/4	23	1-1/2	2	2	770 lbs.	810 lbs.
	mm	1905	1740	768	819	178	1568	19	584	38	51	51	349 kgs.	367 kgs.
G65-360	inches	70-11/16	64-1/2	26-1/4	25	8	58-5/8	3/4	N/A	N/A	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	1795	1638	667	635	203	1489	19	N/A	N/A	38	38	290 kgs.	308 kgs.
G65-400	inches	70-11/16	64-1/2	26-1/4	25	8	58-5/8	3/4	N/A	N/A	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	1795	1638	667	635	203	1489	19	N/A	N/A	38	38	290 kgs.	308 kgs.
G85-400	inches	78-13/16	72-5/16	26-1/4	30-5/8	10	66-3/8	3/4	20	1-1/2	1-1/2	1-1/2	640 lbs.	680 lbs.
	mm	2002	1837	667	778	254	1686	19	508	38	38	38	290 kgs.	308 kgs.
G100-400	inches	76	68-1/2	30-1/4	32-1/4	8	61-3/4	1*	23	1-1/2	2	2	770 lbs.	810 lbs.
	mm	1930	1740	768	819	203	1568	25*	584	38	51	51	349 kgs.	367 kgs.

*3/4" (19mm) for L.P. Models. Increase Height 3-5/8" (92mm) for NSF Models.
 All Models Require a 220V Power Source/0.2 amps.
 (A) Suffix Indicates ASME Tank Construction Available.

CLEARANCES TO COMBUSTIBLES

MODEL NUMBER	UNITS	SIDE	REAR	TOP
G50-98	inches	2	2	12
	mm	51	51	305
G75-125	inches	2	2	12
	mm	51	51	305
G82-156	inches	2	2	12
	mm	51	51	305
G76-180	inches	2	2	12
	mm	51	51	305
G37-200	inches	2	2	12
	mm	51	51	305
G76-200	inches	2	2	12
	mm	51	51	305
G91-200	inches	2	2	12
	mm	51	51	305
G100-200	inches	2	4	12
	mm	51	102	305
G72-250	inches	6	6	12
	mm	152	152	305

MODEL NUMBER	UNITS	SIDE	REAR	TOP
G100-250	inches	2	4	12
	mm	51	102	305
G100-270	inches	2	4	12
	mm	51	102	305
G72-300	inches	6	6	12
	mm	152	152	305
G85-300	inches	6	6	12
	mm	152	152	305
G100-310	inches	6	6	12
	mm	152	152	305
G65-360	inches	6	6	12
	mm	152	152	305
G65-400	inches	6	6	12
	mm	152	152	305
G85-400	inches	6	6	12
	mm	152	152	305
G100-400	inches	6	6	12
	mm	152	152	305



Allow a minimum of 18" (457mm) front clearance for servicing.



The new degree of comfort.™

Venting Configurations

The responsibility for providing a vent of adequate capacity and in good usable condition is that of the installing contractor.

Natural Draft Vertical Venting (Category I)

Natural draft venting uses the natural buoyancy of the heated flue products to create a thermal driving head that expels the exhaust gases from the flue.

The maximum and minimum venting length for Category I appliances shall be determined per the NFGC (U.S.).

The weight of the vent stack or chimney must not rest on heater drafthood. Provide support for vent, or vent connectors to keep weight off draft hood.

The horizontal breaching of a vent must have an upward slope of not less than 2cm per linear meter from the heater to the vent terminal.

Horizontal Through-the-Wall Venting (Category III)

These installations utilize the power venter to vent the combustion products to the outdoors.

Combustion air is taken from inside the room and the vent is installed horizontally through the wall to the outdoors.

Adequate combustion and ventilation air must be supplied to the equipment room in accordance with the NFGC (U.S.).

The total length of the horizontal through-the-wall flue system should be based on power vent specification.

The vent must be installed to prevent flue gas leakage.

The vent must be installed with a slight downward slope of not more than 2cm per meter of horizontal run to the vent terminal.

Contact Rheem Singapore company for detail power venter information.

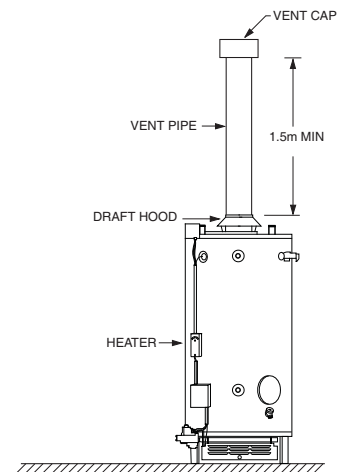


Fig.: Natural Draft Vertical Venting (Category I)

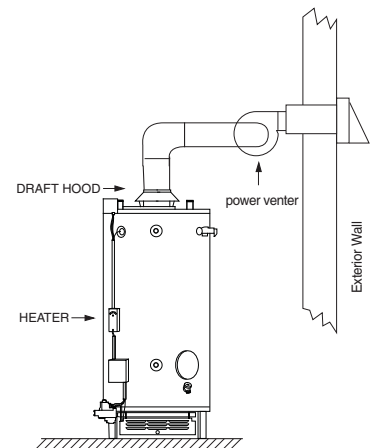


Fig.: Horizontal Through-the-Wall Venting (Category III)

Gas Service

Gas piping must have a sediment trap ahead of the heater gas controls, and a manual shut-off valve located outside the heater jacket. All gas piping should be tested after installation in accordance with local codes.

A minimum of 7" WC(1744Pa) and a maximum of 10.5" WC(2615Pa) upstream pressure under load, and no load conditions must be provided for natural gas or a minimum of 11" WC(2740Pa) and a maximum of 13" WC(3238Pa) for propane.

The inlet gas pressure to the water heater should be 4" w.c. (1.0kPa) for Singapore town gas. Manifold pressure should be adjusted to 2.5" w.c. (0.63 kPa).

Recommended Specifications

Water heater(s) shall be Universal model _____, manufactured by Rheem, having gas input of _____ Btu/h. Water heater(s) shall have a storage capacity of _____ gallons. Water heater(s) shall have the CSA seal of certification and supplied with a factory installed AGA/ASME rated temperature and pressure relief valve. Tank(s) shall be furnished with a tube bundle having a double coating of high temperature porcelain enamel and furnished with magnesium anode rods rigidly supported.

Water heater(s) shall meet or exceed the thermal efficiency and standby loss requirements of ASHRAE. Tanks shall have a working pressure rating of 150 psi, and shall be completely factory assembled, including a pressure regulator properly adjusted for operation on _____ gas with stainless steel burners. Controls will be arranged for safety shutoff in event of pilot failure. Water heater(s) with inputs less than 360,000 Btu/h shall have top, front and rear side inlet/outlet water connections.

Tank Water Supply (Gravity Feed)

If the water heater is supplied with water from a tank supply and a pressure pump system is not installed (gravity feed), then the bottom of the supply tank must be at least 1 m above the highest point of the hot water plumbing system, including the water heater. Care must be taken to avoid air locks. The cold water line to the water heater should be adequately sized and fitted with a full flow gate valve or ball valve.

When ordering ASME construction, place (A) after the model number

Water heater(s) shall be constructed in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section IV Part HLW.

