



Raptor 085HB-270HB & 155CB Submittal

Residential High Efficiency Gas Boilers

RPTR085HB, 110HB, 155HB, 205HB, 270HB, 155CB

RPTR Wall Mount and Floor Standing Heating Boilers

Wholesaler _____

Job Name _____

Mechanical Contractor _____

Model Number _____ Quantity: _____

Gas Type _____

BTU/hr INPUT _____

BTU/hr OUTPUT _____

Venting Application _____

Standard Features

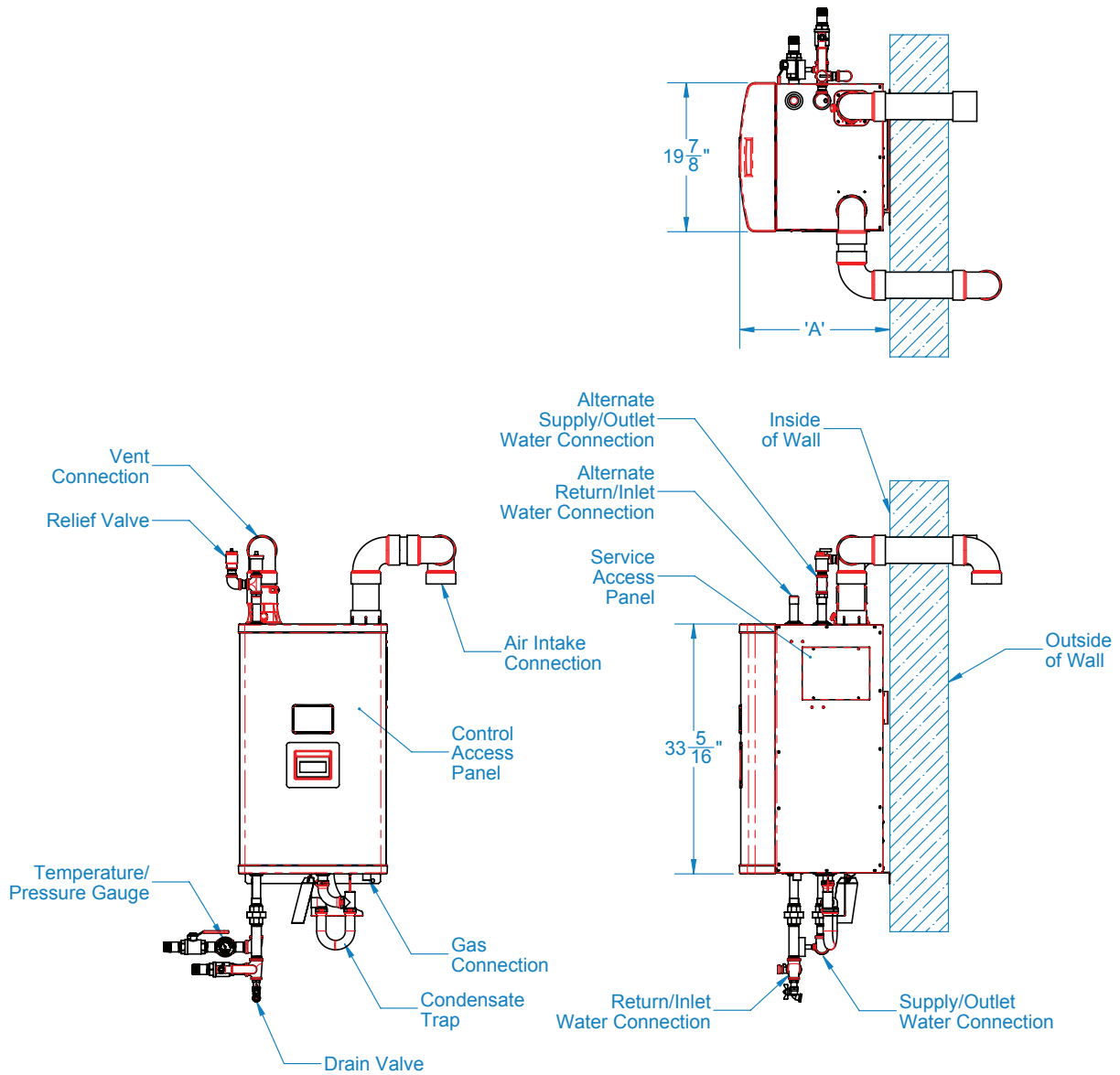
- ASME Constructed Stainless Steel Fire Tube Heat Exchanger
- 30 psi Relief Valve
- 190F Maximum Operating Supply Temperature
- Up to 96.0% AFUE - Energy Star Qualified
- Fully Modulating Burner System with 10:1 Turndown Ratio
- 155CB Combi Features Thermostatic Mixing Valve, Integral Brazed Plate Heat Exchanger and Integral Pump
- Universal Vent Connection Allows For 2" or 3" CPVC/PVC, Single Wall Polypropylene or Stainless Steel. Venting Options for Concentric Vent Terminals.
 - Note: See Installation Manual for a List of Approved Vent Systems, Vent Length Limitations, and Other Installation Requirements.
- Polypropylene Condensate Trap
- Boiler, System & Domestic Hot Water Pump Output Terminals
- Tight Front Clearance to Combustible Material
- Field Convertible to LP Gas with Optional Kit
- Field Adjustable For High Altitude
- Versatile Top and Bottom Supply and Return Connections
- Microprocessor Based Honeywell Sola Control System with Angled LCD Touch Screen Display.
 - User Interface Consisting of:
 - o Self-guided Control Menus
 - o Built-in Self Diagnostics
 - o 3 Available Circulator Outputs (Heat Only Model)
 - o Supply, Return and Auto Reset High Limit Water Sensors
 - o Outdoor Reset Including Outside Sensor
 - o Lead/Lag and Selectable DHW Priority
 - o Warm Weather Shutdown
 - o Easily Connects to Sage Zone Panel
 - o External Limit and Alarm System Terminal Contacts
 - o Built In Sequencer Stages Up to 8 Boilers
 - o Piped and Wired For LWCO Installation (LWCO Optional)
 - o Terminal Contacts for Optional Header Sensor
 - o Password Security
- 12 Year Limited Heat Exchanger Warranty, 5 Year Warranty On Parts



Optional Equipment

- CPVC/PVC Vent Kit
- Sage Zone Panel
- LWCO Kit
- LP Conversion Kit
- Manual Reset High Limit
- Floor Stand Kit
- Service Parts Repair Kit

Special Job Notes:

RPTR085HB, 110HB, 155HB, 205HB, 270HB, 155CB



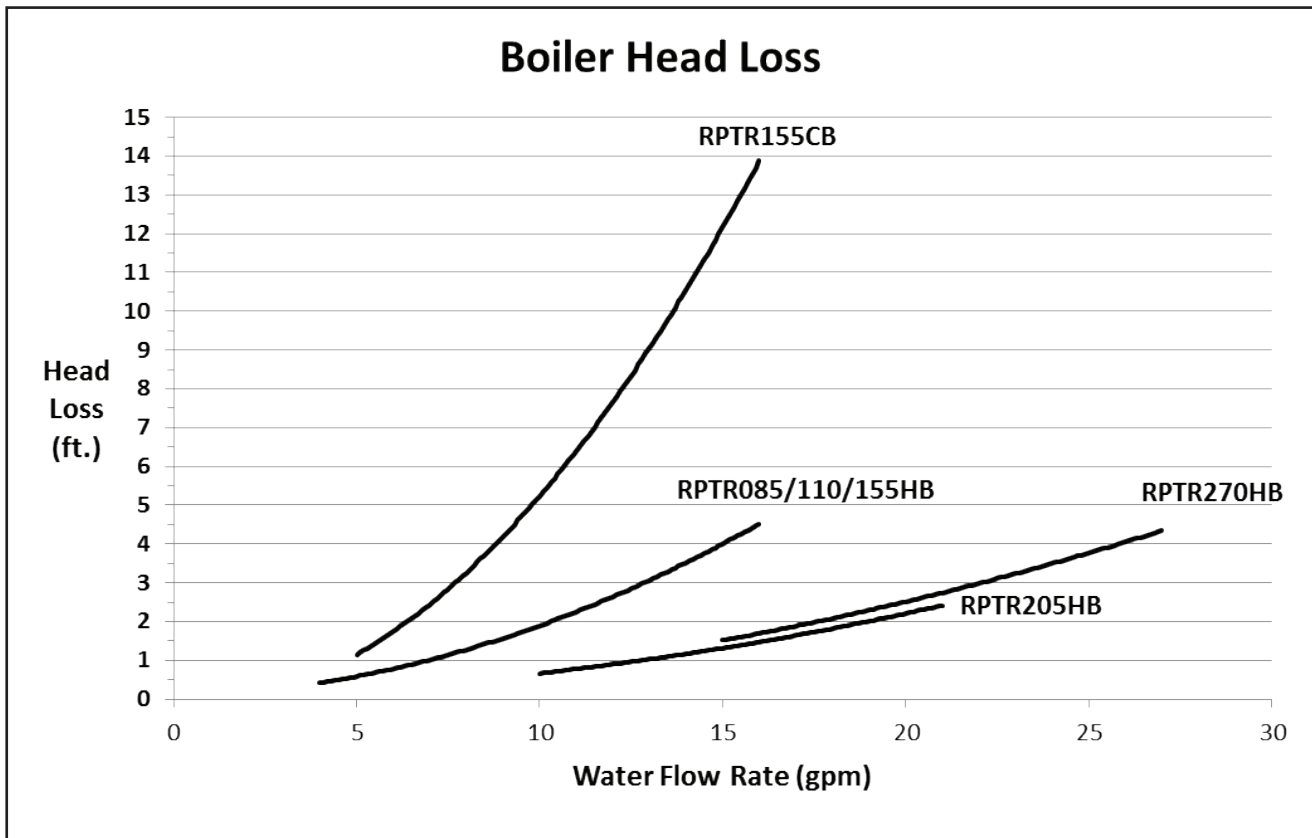
Space Heating Ratings					Dimensions & Additional Specifications									
Model Number	Input (MBH) Min-Max	Heating Capacity, MBH	Net AHRI Water, MBH ¹	  AFUE, %	"A"	Water Volume (gal)	Vent Size	Air Inlet	Min. Vent Length	Max. Vent Length	Water Conn. (Copper)	Gas Conn. (NPT)	Approx. Shipping Weight (lbs)	MAWP (PSI)
RPTR085HB	8.5-85	79	69	96.0	20"	2.6	2"-3"	2"-3"	36"	60ft-2" 135ft-3"	1"	1/2"	110	30
RPTR110HB	11-110	103	90	96.0	20"	2.5	2"-3"	2"-3"	36"	60ft-2" 135ft-3"	1"	1/2"	115	30
RPTR155HB	15.5-155	145	126	95.0	20"	3.0	3"	3"	36"	135ft	1"	1/2"	120	30
RPTR205HB	20.5-205	189	164	95.0	21"	5.1	3"	3"	36"	135ft	1-1/4"	1/2"	135	80
RPTR270HB	27-270	252	219	95.0	21"	4.6	3"	3"	36"	135ft	1-1/4"	1/2"	145	80
RPTR155CB	15.5-155	145	126	95.0	23"	3.0	3"	3"	36"	135ft	1"	1/2"	140	30

Notes:
 1) The Net AHRI Water Ratings shown are based on a piping and pickup allowance of 1.15. The manufacturer should be consulted before selecting a boiler for installations having unusual piping and pickup requirements, such as intermittent system operation, extensive piping systems, etc.

Venting Note: Sizes noted are for two pipe CPVC/PVC & certain specified two pipe polypropylene and certain specified stainless steel vent systems. Concentric vent terminals permitted in most installations. See installation manual for venting option details.

Flow Limitations

Boiler Model	Min. Pipe Size (in.)	$\Delta T = 35^{\circ}F$		$\Delta T = 30^{\circ}F$		$\Delta T = 25^{\circ}F$		$\Delta T = 20^{\circ}F$	
		Min. Flow (GPM)	Boiler Head Loss (ft)	Flow (GPM)	Boiler Head Loss (ft)	Flow (GPM)	Boiler Head Loss (ft)	Max. Flow (GPM)	Boiler Head Loss (ft)
RPTR085HB	1	4.5	0.5	5.3	0.6	6.3	0.9	7.9	1.2
RPTR110HB	1	5.8	0.8	6.8	1.0	8.2	1.3	10.2	2.0
RPTR155HB	1	8.2	1.3	9.6	1.8	11.5	2.5	14.4	3.7
RPTR155CB	1	8.2	3.5	9.6	4.8	11.5	7.1	14.4	11.2
RPTR205HB	1¼	10.9	0.8	12.7	1.0	15.3	1.4	19.1	2.0
RPTR270HB	1¼	14.3	1.4	16.7	1.8	20.1	2.5	25.1	3.8



Recommended Taco Circulators for 60 Equivalent ft. Boiler Loop Piping

Boiler Model	Minimum Pipe Size (in.)	ΔT = 35°F			ΔT = 30°F			ΔT = 25°F			ΔT = 20°F		
		Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model	Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model	Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model	Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model
RPTR85HB	1	4.5	1.5	007/007e	5.3	1.9	007/007e	6.3	2.6	007/007e	7.9	3.9	007
RPTR110HB	1	5.8	2.3	007/007e	6.8	3.0	007/007e	8.2	4.2	007/007e	10.2	6.3	007
RPTR155HB	1	8.2	4.2	007/007e	9.6	5.6	007/007e	11.5	7.8	0010	14.4	11.9	0011
RPTR155CB	1	8.2	6.4	007/007e	9.6	8.7	0010	11.5	12.4	0011	14.4	19.3	0013
RPTR205HB	1¼	10.9	2.0	007/007e	12.7	2.7	007/007e	15.3	3.7	0010	19.1	5.6	0011
RPTR270HB	1¼	14.3	3.5	0010	16.7	4.6	0010	20.1	6.4	0011	25.1	9.7	0013

Recommended Grundfos Circulators for 60 Equivalent ft. Boiler Loop Piping

Boiler Model	Minimum Pipe Size (in.)	ΔT = 35°F			ΔT = 30°F			ΔT = 25°F			ΔT = 20°F		
		Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model	Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model	Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model	Flow (GPM)	Boiler & Piping Head Loss (ft)	Circulator Model
RPTR85HB	1	4.5	1.5	UPS 15-58, Spd. 1	5.3	1.9	UPS 15-58, Spd. 1	6.3	2.6	UPS 15-58, Spd. 1	7.9	3.9	UPS 15-58, Spd. 2
RPTR110HB	1	5.8	2.3	UPS 15-58, Spd. 1	6.8	3.0	UPS 15-58, Spd. 1	8.2	4.2	UPS 15-58, Spd. 2	10.2	6.3	UPS 15-58, Spd. 3
RPTR155HB	1	8.2	4.2	UPS 15-58, Spd. 2	9.6	5.6	UPS 15-58, Spd. 2	11.5	7.8	UPS 15-58, Spd. 3	14.4	11.9	UPS 26-99, Spd. 2
RPTR155CB	1	8.2	6.4	UPS 15-58, Spd. 2	9.6	8.7	UPS 15-58, Spd. 3	11.5	12.4	UPS 26-99, Spd. 2	14.4	19.3	UPS 26-99, Spd. 3
RPTR205HB	1¼	10.9	2.0	UPS 15-58, Spd. 2	12.7	2.7	UPS 15-58, Spd. 2	15.3	3.7	UPS 26-99, Spd. 1	19.1	5.6	UPS 26-99, Spd. 2
RPTR270HB	1¼	14.3	3.5	UPS 26-99, Spd. 1	16.7	4.6	UPS 26-99, Spd. 2	20.1	6.4	UPS 26-99, Spd. 2	25.1	9.7	UPS 26-99, Spd. 3

Altitude Adjustments (Above 2,000 ft. only)

Model No.	Fuel	Approximate Derate per 1,000 ft.		
		2,001-6,000 ft	6,001-7,800 ft	7,801-10,100 ft
85HB	NG	0.0%	0.3%	1.0%
	LP			0.9%
110HB	NG	0.7%	1.0%	1.6%
	LP		2.0%	2.5%
155HB	NG	2.3%	3.0%	3.4%
	LP	1.2%	1.9%	2.2%
205HB	NG	2.9%		
	LP			
270HB	NG	0.0%	1.5%	2.1%
	LP	2.0%	3.0%	3.9%

RPTR155CB COMBI SPECIFICATIONS

RPTR155CB Boiler Input Rate: 155MBH

Compatible Boiler Control: B1020 or higher

Thermostatic Mixing Valve:

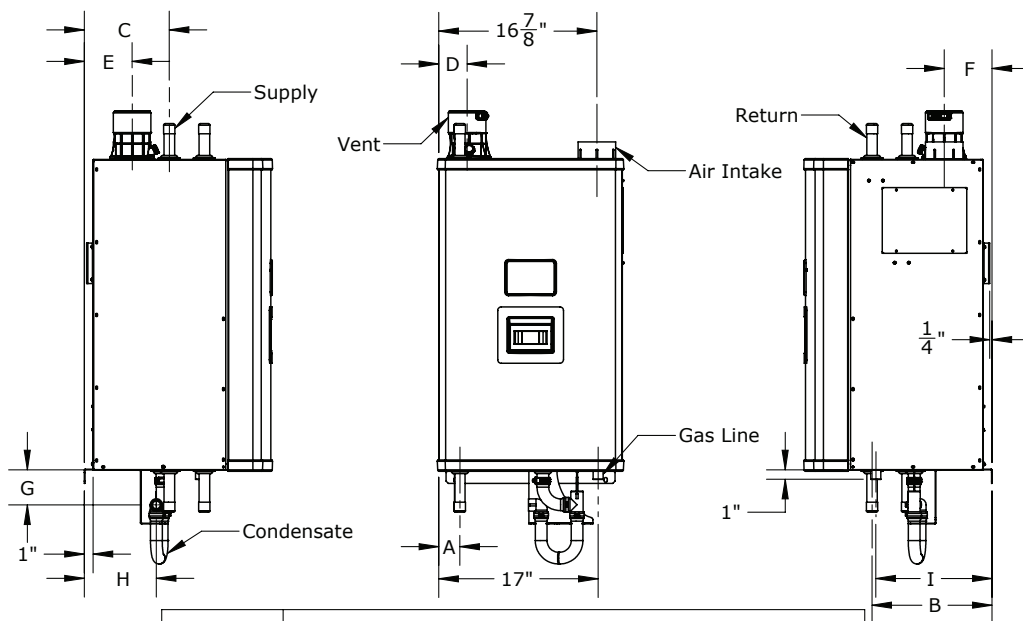
- Adjustable 70°F (21°C) — 145°F (63°C).
- ASSE 1017 Certified

Minimum Flow to Operate: 0.5 gpm (2 l /min)

Lead Content: Components comply with SDWA Section 1417, Jan. 4, 2014 version.

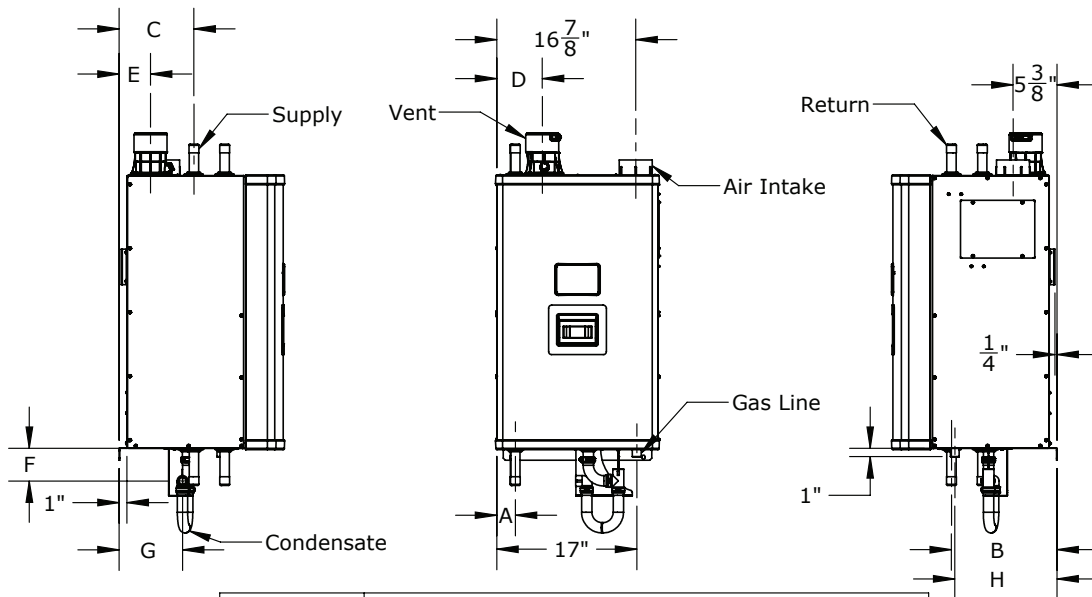
RPTR155CB Performance

- DHW Output @ 70°F (39°C) T.rise: 4.0 gpm (15.1 l /min)
- DHW Output @ 77°F (43°C) T.rise: 3.65 gpm (13.8 l /min)



BOILER SIZE	DIMENSIONS (INCHES)								
	A	B	C	D	E	F	G	H	I
085-110	2 1/4	12 3/4	9	5 1/2	5 1/4	5 1/4	3 1/4	7 5/8	11 3/8
155	2 1/4	12 3/4	9	3 1/4	5 1/8	5 1/8	3 3/4	7 5/8	11 3/8
155 COMBI	2 1/4	12 3/4	9	3 1/4	5 1/8	5 1/8	3 3/4	7 5/8	11 3/8
205-270	1 3/4	12 5/8	8 7/8	3 1/2	5 1/8	5 1/8	3 1/4	8 1/4	12 3/8

NOMINAL DIMENSIONS FOR RAPTOR 10:1 CONNECTION LOCATIONS, SIZES 085-270
MCD (Metal Condensate Dish Version)



BOILER SIZE	DIMENSIONS (INCHES)							
	A	B	C	D	E	F	G	H
085-110	2 1/4	12 3/4	9	5 1/2	5 1/4	3 3/8	7 5/8	11 3/8
155	2 1/4	12 3/4	9	5 3/4	3 3/4	4	7 5/8	11 3/8
155 COMBI	2 1/4	12 3/4	9	5 3/4	3 3/4	4	7 5/8	11 3/8
205-270	1 3/4	12 5/8	8 7/8	4	4 1/8	2 7/8	8 1/4	12 3/8

NOMINAL DIMENSIONS FOR RAPTOR 10:1 CONNECTION LOCATIONS, SIZES 085-270
PCD (Plastic Condensate Dish Version)