



# RCB301AN, RCB399AN

## RINNAI COMMERCIAL BOILER



CERTIFIED TO ANSI Z21.13 — CSA 4.9

### CONDENSING WALL-MOUNTED HEAT-ONLY BOILER

|                   |                                                  |
|-------------------|--------------------------------------------------|
| Appliance Type    | Wall-Mounted, Gas-Fired, Heat-Only (Solo) Boiler |
| Installation Type | Internal (Indoor) Commercial Applications        |
| Model Numbers     | RCB301AN, RCB399AN                               |
| Gas Types         | Natural and Propane                              |
| Certifications    | ANSI Z21.13, CSA 4.9, ASME                       |

|                        |                                                                                                                                                                                                                                                                           |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Included with Purchase | <ul style="list-style-type: none"><li>Boiler</li><li>Wall Mounting Bracket with Screws</li><li>Pressure Relief Valve (75 PSI / 517 kPa)</li><li>Outdoor Temperature Sensor</li><li>Documentation: Installation and Operation Manual, User Manual, Warranty Card</li></ul> |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                      |                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------|
| Optional Accessories | Condensate Neutralizer, Air Inlet Filter, Cascade System Sensor, Boiler Stand, and Gas Conversion Kit |
|----------------------|-------------------------------------------------------------------------------------------------------|

|                 |                                                                                                                                                                                     |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Venting Options | <ul style="list-style-type: none"><li>Direct Vent (Concentric and Twin Pipe)</li><li>Non-Direct Vent (Room Air)</li><li>Vent Materials: PVC, CPVC, PP and Stainless Steel</li></ul> |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Maximum Equivalent Vent Lengths:

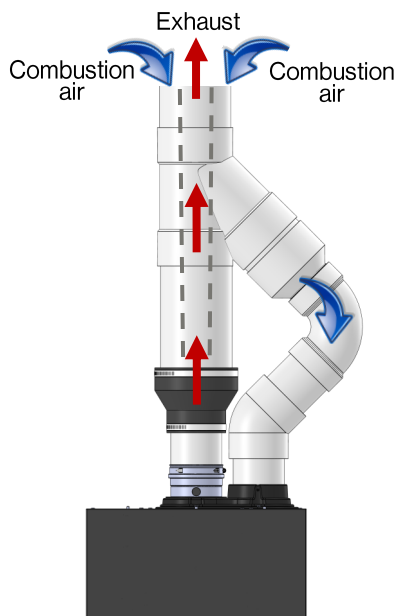
|                          |                             |
|--------------------------|-----------------------------|
| Vent Sizes               | 4 in. (110 mm)              |
| Min-Max Exhaust Vent Run | 10 ft (3 m) - 140 ft (43 m) |
| Min-Max Intake Vent Run  | 0 ft (0 m) - 140 ft (43 m)  |

45° elbow is equivalent to 3 ft (1 m). 90° elbow is equivalent to 6 ft (2 m).

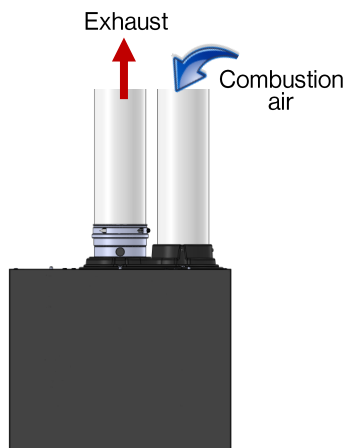
### VENTING OPTIONS

#### Direct Vent

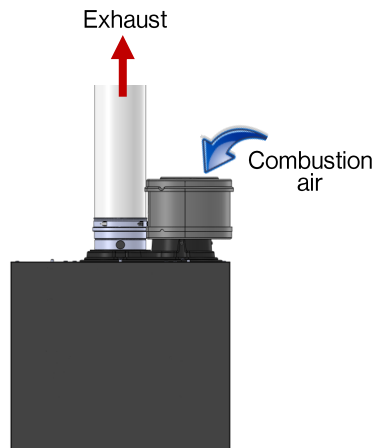
##### Concentric Pipe



##### Twin Pipe

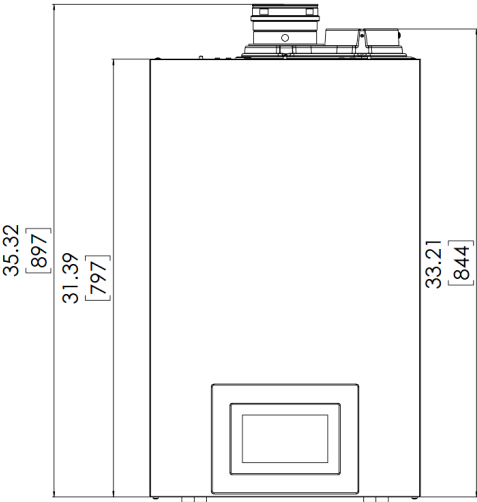


##### Non-Direct Vent (Room Air)

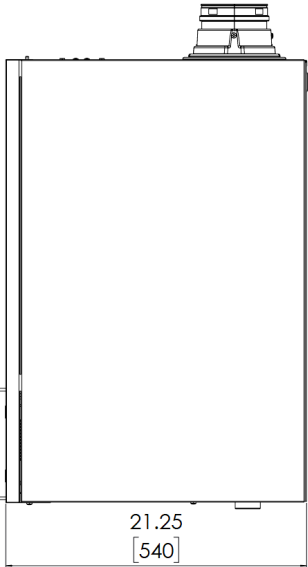


DIMENSIONS

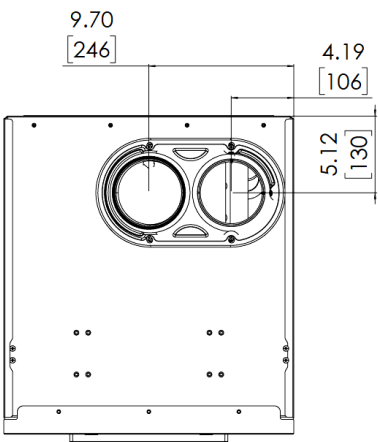
Front View



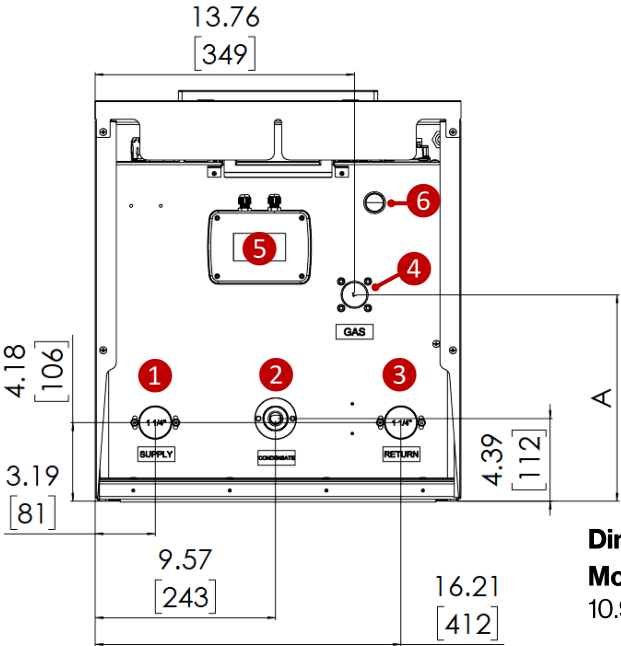
Side View



Top View



Bottom View



|   |                        |
|---|------------------------|
| 1 | Central Heating Supply |
| 2 | Condensate Drain       |
| 3 | Central Heating Return |
| 4 | Gas                    |
| 5 | Wi-Fi Module           |
| 6 | Reset Button           |

**Dimension "A":**  
**Model RCB301AN:** 10.96 [278]  
**Model RCB399AN:** 13.84 [352]

| Connection         | Connection Size | Minimum Pipe Size |
|--------------------|-----------------|-------------------|
| Gas                | 1 in. NPT       | 1 in.             |
| CH In (CH Return)  | 1-1/4 in. NPT   | 1-1/4 in.         |
| CH Out (CH Supply) | 1-1/4 in. NPT   | 1-1/4 in.         |
| Condensate Drain   | 1 in. NPT       | 3/4 in.           |

**Vent Connection:** 4 in. (101.6 mm) nominal PVC/Polypropylene

# TECHNICAL SPECIFICATIONS

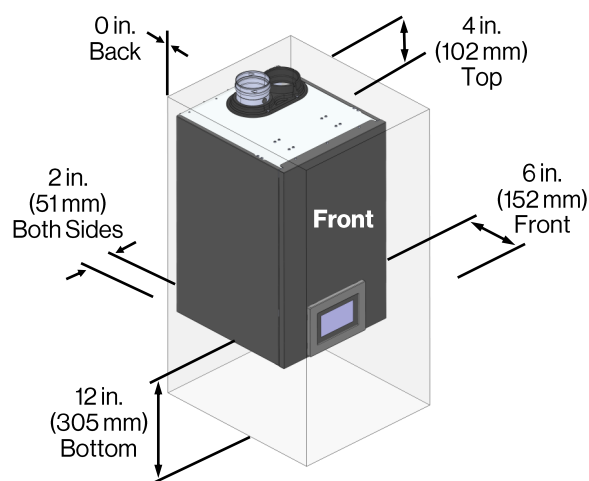
| Model                            |                       | RCB301AN                                                                                                                                                                                                                        | RCB399AN         |
|----------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Appliance Type                   |                       | Condensing Wall-Mounted, Gas-Fired, Heat-Only (Solo) Boiler                                                                                                                                                                     |                  |
| Installation Type                |                       | Internal (Indoor) Commercial Applications                                                                                                                                                                                       |                  |
| Ignition System                  |                       | Direct Electronic Ignition                                                                                                                                                                                                      |                  |
| Gas Types                        |                       | Natural Gas (NG) and Propane (LP)<br>IMPORTANT: Units ship as NG only. LP conversion kits available as accessory (purchased separately).                                                                                        |                  |
| Dimensions - w, h, d             |                       | 19.4 in. x 33.1 in. x 21.3 in. (493 mm x 841 mm x 541 mm)                                                                                                                                                                       |                  |
| Weight (Shipping)                |                       | 194 lb (88 kg)                                                                                                                                                                                                                  | 207 lb (94 kg)   |
| Weight (Appliance)               |                       | 170 lb (77 kg)                                                                                                                                                                                                                  | 183 lb (83 kg)   |
| Heat Exchanger Surface Area      |                       | 24.6 sq ft                                                                                                                                                                                                                      | 30.7 sq ft       |
| Gas Consumption (Btu/h)          | Minimum               | 30,100                                                                                                                                                                                                                          | 39,900           |
|                                  | Maximum               | 301,000                                                                                                                                                                                                                         | 399,000          |
| Temperature Setting              | CH                    | (Minimum - Maximum) 46°F - 180°F (8°C - 82°C)                                                                                                                                                                                   |                  |
|                                  | Indirect Tank (DHW)   | 104°F - 180°F (40°C - 82°C)                                                                                                                                                                                                     |                  |
| Water Content                    |                       | 1.8 gal (6.8 lt)                                                                                                                                                                                                                | 2.2 gal (8.3 lt) |
| Water Pressure                   | CH                    | Minimum: 13 PSI (90 kPa) Maximum: 80 PSI (552 kPa)<br>Recommended: 17-26 PSI (117-180 kPa)                                                                                                                                      |                  |
|                                  | Pressure Relief Valve | 75 PSI (517 kPa) (Pressure Relieve Valve included with system)                                                                                                                                                                  |                  |
| Sound Level                      |                       | 55 dB(A)                                                                                                                                                                                                                        | 56 dB(A)         |
| Electrical Data                  | Normal <sup>1</sup>   | 133 W                                                                                                                                                                                                                           | 210 W            |
|                                  | Standby               | 10 W                                                                                                                                                                                                                            |                  |
|                                  | Max Current           | 6.3 Amps                                                                                                                                                                                                                        |                  |
|                                  | Fuse                  | 2 x 6.3 Amps                                                                                                                                                                                                                    |                  |
| Gas Supply Pressure <sup>2</sup> | Natural Gas           | 3.5 in. - 10.5 in. wc (0.87 - 2.61 kPa)                                                                                                                                                                                         |                  |
|                                  | Propane               | 8.0 in. - 13.5 in. wc (1.99 - 3.36 kPa)                                                                                                                                                                                         |                  |
| Electric Connections             |                       | AC 120 Volts, 60 Hz                                                                                                                                                                                                             |                  |
| Certifications                   |                       | ANSI Z21.13, CSA 4.9, ASME                                                                                                                                                                                                      |                  |
| Canada CRN                       |                       | 2089.9CL                                                                                                                                                                                                                        |                  |
| Warranty                         |                       | <ul style="list-style-type: none"> <li>Heat Exchanger: 10 Years</li> <li>All Other Parts &amp; Components: 1 Year</li> <li>Reasonable Labor: 1 Year</li> </ul> See the "Rinnai Commercial Boiler Warranty" for Complete Details |                  |

<sup>1</sup> Power consumption without any pumps connected.

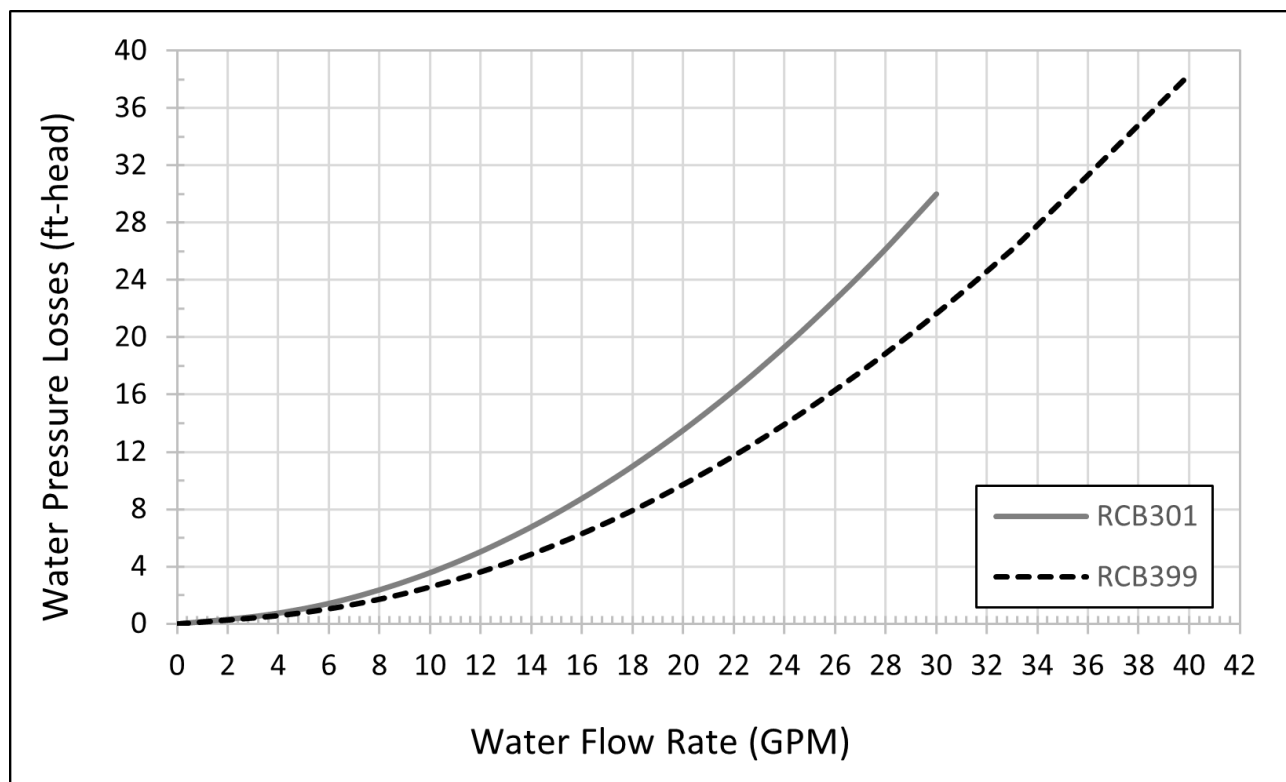
<sup>2</sup> Maximum gas supply pressure must not exceed the value specified by the manufacturer.

## CLEARANCES

| Location               | Clearance                                                                              |
|------------------------|----------------------------------------------------------------------------------------|
| Top                    | 4 in. (102 mm)<br><i>0 in. from vent components</i>                                    |
| Bottom (Ground)        | 12 in. (305 mm)                                                                        |
| Front                  | 6 in. (152 mm)<br><i>Clearance for servicing is 24 in. (610 mm) in front of boiler</i> |
| Back                   | 0 in. (0 mm)                                                                           |
| Sides (Left and Right) | 2 in. (51 mm)<br><i>Clearance for servicing is 12 in. (305 mm) on the sides.</i>       |
| Vent                   | 0 in. (0 mm)                                                                           |



## PRESSURE DROP AND WATER FLOW CURVE WITH HYDRAULIC SEPARATION



The Rinnai Commercial Boiler does not have an included boiler pump. An external boiler pump must be installed and sized to the flow rate and pressure drop through the boiler, system piping, and system components. Larger systems, or systems with large pressure drops, should incorporate a form of hydraulic separation, such as closely spaced tees or a low loss header.