



## Ruud® L-Series Super High-Efficiency Condensing Tankless Gas Water Heaters

### Flexible Installation

- Moveable combustion air intake (left/ right) and ability to flex vent in existing B-vent
- Extra long pipe fittings with notched sides for easy gripping with wrench
- Only 4 moving parts – Fan, Mixing Valve, Gas Valve, and Damper
- Universal shared platform parts – Easily diagnose and service with common parts for all L-Series units

### Key Features

- Innovative single pass Labyrinth Heat Exchanger with Integrated copper waterway ensures maximum heat transfer with minimal heat loss
- Wireless cascading using RF balances workload of each unit for longer life
- Built-in Illuminated Touchscreen Control Panel
- Stands up to extreme hard water applications

### Specifications

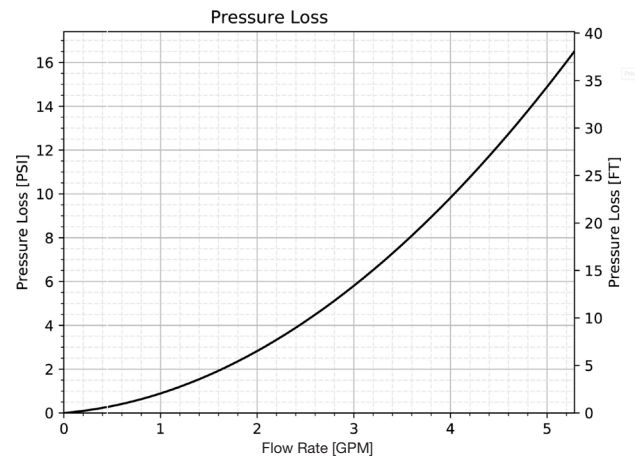
MODEL NO.		CRUTGH-L199i
Input Rate	MAX	199,000 BTU/h
	MIN	28,500 BTU/h
Uniform Energy Factor (UEF)		0.90
Gallons per Minute (GPM)	MAX (35°F)	10.1
	45°F Rise	7.9
	67°F Rise	5.4
Set Point Temperature Range		105°F - 149°F
Installation Type		Indoor only wall-hung
Fuel Type		Compatible with Natural Gas and LP (Ships NG with LP Conversion kit included)
Heat Exchanger Material		Copper tubes in AL block
Water Pressure		40 - 150 PSI
Maximum Altitude		10,100 ft NG / 7,800 ft LP
Minimum Activation Flow		0.5 GPM
Ambient Temperature – Low (°F)		32°
Ambient Temperature – High (°F)		122°
Max relative humidity (non-condensing)		90%
Height		29.8"
Width		17.7"
Depth		10.9"
Weight (empty)		68 lbs.
Power Supply		120V / 60Hz
Venting		2" or 3" PVC, CPVC, Polypropylene
Vent Clearances		0" to combustibles
Safety Devices		Flame Proving module, Flue Gas Temperature Sensor, Protective fuse
Ultra Low NOx		Meets 14 ng/J NOx requirements - SCAQMD Rule 1146.2 compliant
Warranty <sup>1</sup>		15-Year Heat Exchanger, 5-Year Parts, 1-Year Labor - Residential; 5-Year Heat Exchanger, 5-Year Parts - Commercial



**CRUTGH-L199i**  
Indoor Direct Vent  
28,500-199,000 BTU/h  
Natural Gas/LP Convertible



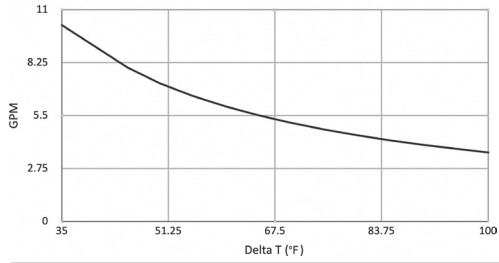
Water heater pressure drop – L-Series CRUTGH-L199i



<sup>1</sup>See Warranty Certificate for complete information



## Water Heater Flow Rate Curves



Model Number	Temperature Rise (°F)									
	35°	45°	50°	60°	65°	70°	80°	90°	100°	
CRUTGH-L199i Water Flow (GPM)	10.2	8.0	7.2	6.0	5.5	5.1	4.5	4.0	3.6	

Above estimates are for sizing purposes only.

## Specifications

VENTING	MAXIMUM EQUIVALENT LENGTH
<b>ULC-636 PVC, CPVC or Polypropylene</b>	(each side)
2"	65' <sup>2</sup>
3"	120'
2" or 3" 90° Long Sweep Vent Elbow	Allow 5 equivalent feet
2" or 3" 90° Short Sweep Vent Elbow	Allow 8 equivalent feet
2" or 3" 45° Vent Elbow	Allow 3 equivalent feet
<b>Polypropylene</b>	
PPs 87-90° Elbow	Allow 8 equivalent feet
<b>Flex PPS</b>	
3" PPs Flex	35' Actual (Equivalent = Actual x 1.4)

<sup>2</sup> Approximate input derate of 10 - 16% at 2" maximum vent length.

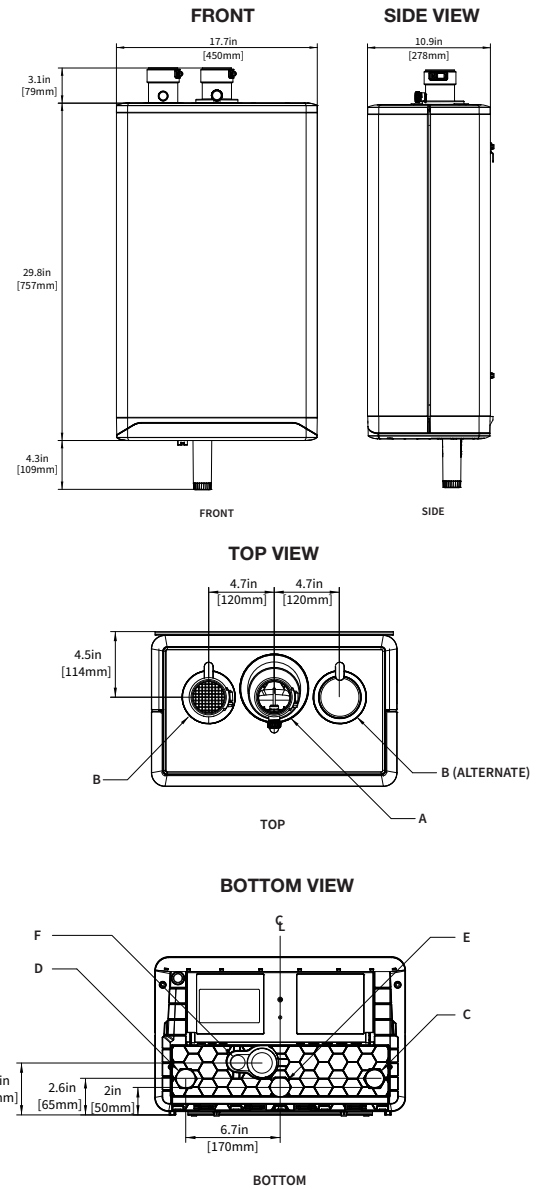
SURFACE	MIN. DISTANCE FROM COMBUSTIBLE SURFACES	RECOMMENDED DISTANCE FOR INSTALLATION AND SERVICE
Front	2"	24"
Rear	0"	0"
Left Side	1.5"	6"
Right Side	4"	6"
Top	2"	24"
Bottom	8"	24"

PIPING CONNECTIONS		DIMENSION
A	Exhaust Outlet	2" Schedule 40 PVC
B	Combustion Air Inlet	2" Schedule 40 PVC
C	Cold Domestic Water Connection	¾" Male NPT
D	Hot Domestic Water Connection	¾" Male NPT
E	Gas Connection	¾" Male NPT
F	Condensate Connection	¾" Hose

## Parts & Accessories

Floor Stand P-267C	Service Parts Kit P-911R	2" PVC Sidewall Vent Kit P-741	3" PVC Sidewall Vent Kit P-742

## Dimensions



In keeping with its policy of continuous progress and product improvement, Ruud reserves the right to make changes without notice.