

Commercial Tankless iN199 | iN199A Submittal Data

Date: Bid Date:

Project Name: Fuel Type: Natural Gas Propane

Project #: Factory Option: Propane Setup

City | State | Zip:

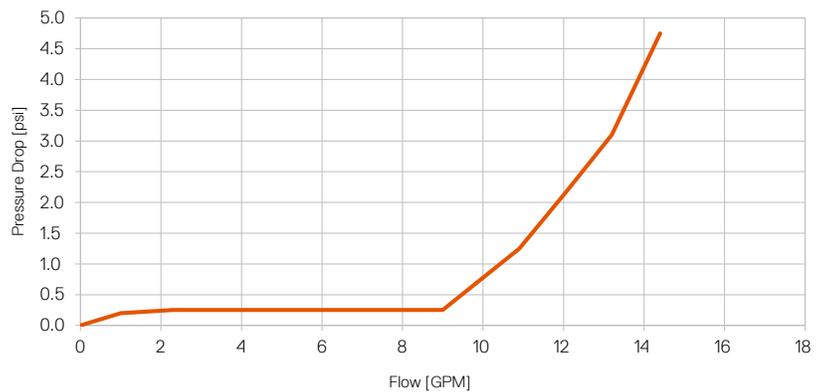
Engineer:

Contractor:

Operational Modes	Temperature Rise (ΔT) °F											
	30	40	50	60	70	80	90	100	110	120	130	140
Flow (GPM)	13.0	9.8	7.8	6.5	5.6	4.9	4.3	3.9	3.5	3.2	3.0	2.8
Flow (GPH)	780	588	468	390	336	294	258	234	210	192	180	168



PRESSURE DROP VS. FLOW RATE



KEY FEATURES

- 1 Weldless 316L Stainless Steel Heat Exchanger with Individual Controls for Masterless Cascading
- ASME-HLW Compliant (iN199A) | Designed & Built in the U.S.
- Factory monitoring via telliCare messaging.
- Turn Down Ratio 7:1 per Unit, Cascade Up to 4 Units for 27:1 Turndown



iN199 | iN199A Short Spec & Accessories

The water heater shall be a direct fired tankless, fully condensing, water-tube design. The power burner shall have full modulation. The minimum firing rate shall not exceed 30,000 BTU/HR. The heat exchanger shall be constructed with 316L stainless steel helical water tube and be fully floating with no welded joints. The water heater control system shall incorporate onboard multi-unit sequencing logic that would allow masterless cascading without the need for a master controller. The heat exchangers shall sequence between each other, operating in parallel to meet the load. Each heat exchanger will default to individual control upon failure of the sequencing chain. Changes to operational parameters on any one of the heat exchangers will automatically adjust all other heat exchangers to the most recent parameter change. The water heater shall utilize a low loss header design that utilizes an internal pump and heat exchanger bypass to reduce pressure drop through the vessel.

Recommended Accessories iN199-iN199A-iN251:

1. Condensate Neutralizer Kit

This condensate is acidic, with a pH level between 3 and 4. Local building codes apply for an in-line neutralizer to be installed (not included) to treat this water.

2. Outdoor Installation Kit

3. iBMS BacNET

Intellihot's iNTouch BMS has three unique features that are not available in any other BMS in the industry.

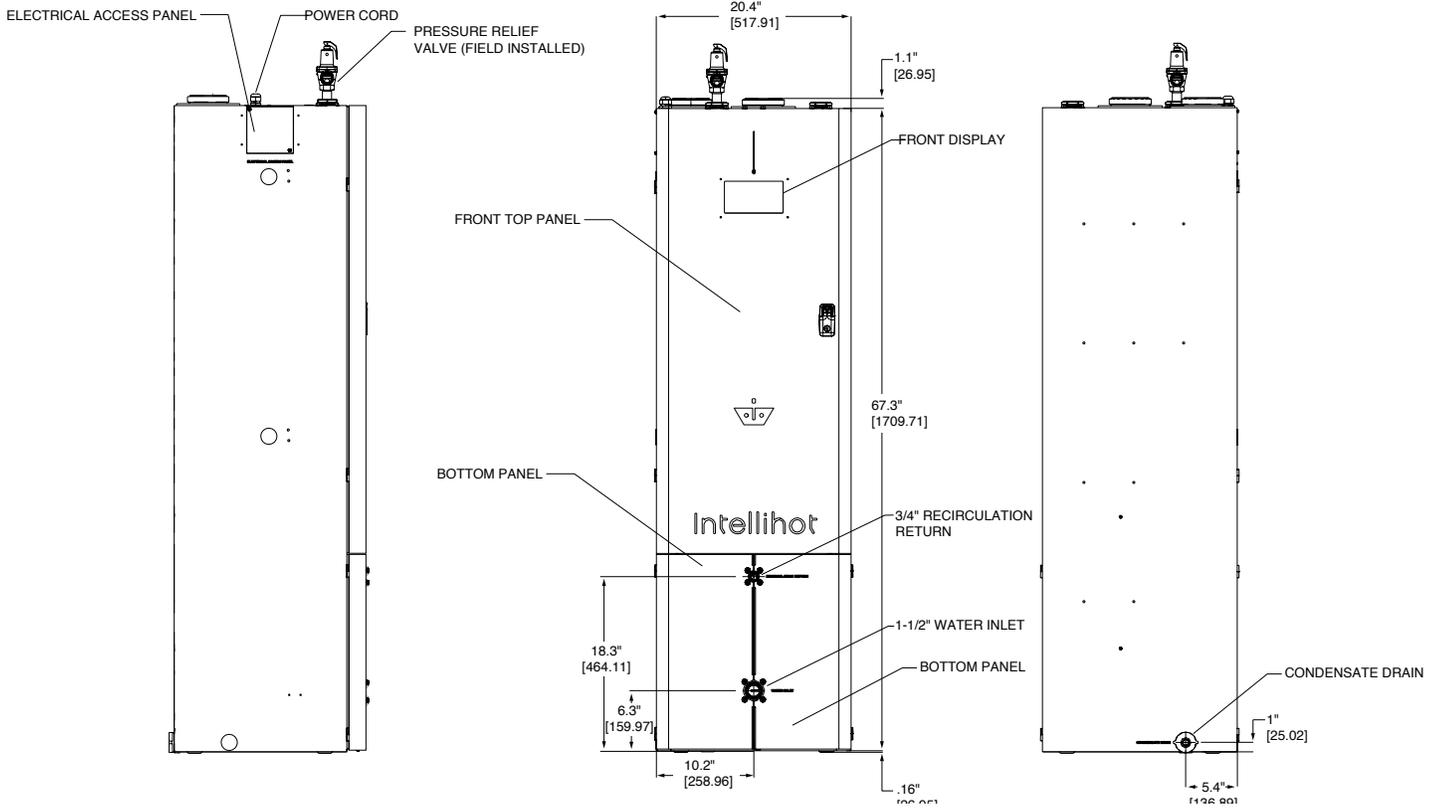
- External Pump Power – Powers building recirculation.
- Remote Setpoint – Allows the temperature to be set remotely via a 0-10 VDC or 4-20mA signal.
- Alarm – Buzzes if it detects anything wrong with any of the components it is connected to, and communicates the appropriate error codes so that the user knows which component needs attention.

iN199 | iN199A Specifications

PARAMETER	MODELS	
	iN199 iN199A	
Type	Indoor, Floor Mounted, On-Demand Water Heater	
Fuel	Preset for NG / LP convertible without additional parts	
Minimum Input (BTU/hr)	30,000	
Maximum Input (BTU/hr)	199,950	
Maximum Output (BTU/hr)	195,951	
Thermal Efficiency	98%	
Turn Down Ratio (TDR)	7:1	
Water Inlet / Outlet Connections	1-1/2" NPT	
Gas Inlet Connection	3/4" NPT	
Condensate Drain Connection	3/4" NPT panel mount	
Maximum Condensate Flow Rate (GPH)	3.6	
Unit Dimensions H X W X D (Inches)	67.5 X 20 X 20 (15 CU. FT)	
Service Clearances	4" on the back, 6" on the top, 21" on the front, and 6" on the sides	
Unit Weight (LBS)	266 LBS	
Shipping Crate Dimensions H X W X D / Weight	85 X 29.5 X 27 (Inches) / 366 (LBS)	
Venting Type	Direct Vent (2 pipe - intake & exhaust), Power Vent (1 pipe - exhaust only, room air)	
Venting Materials (USA)	Sch. 40 PVC, Sch. 80 CPVC, Polypropylene, Stainless Steel	
Venting Materials (Canada)	Type BH Gas Vent Classes: II A (PVC), II B (CPVC), II C (Polypropylene), I (AL 29-4C SS)	
Vent Size (Diameter)	3" Ø	
Max 3" Vent Length - Single Pipe / Power Vent	195 FT*	
Max 3" Vent Length - Two Pipe / Direct Vent	95 FT*	
* Venting Note: From the maximum lengths above, deduct 5 ft. per 90° elbow and 2 ft. per 45° elbow		
Ignition	Electronic Spark Ignition	
Temperature Range	100°F – 190°F	
Temperature Stability	+/- 4°F (During Demand)	
Installation Location Ambient Temperature	40°F – 130°F	
Safety	Flame Rod, Thermal Fuse, Overheat Prevention Device, Fan Speed Monitor, Flue Temperature Monitor, Blocked Vent Detector, Dual Flame Sensing	
Water Pressure Min / Max (PSIG)	30 / 150 30 / 160	
NG/LP - Min. Dynamic Gas Pressure (Full Fire)	NG = 2.5" WC LP= 8" WC (set Gas regulator to 8" WC for NG 11" WC for LP)	
NG/LP - Maximum Static Gas Pressure	14" WC (set Gas regulator to 8" WC for NG 11" WC for LP)	
Gas Regulator Pressure Set To	8" WC for Natural Gas, 11" WC for Propane	
Electrical	120V AC, 60 Hz	
Power Consumption	Max 9 Amps, 10W (Standby)	
Internal Water Volume (gallons)	1	
Features	iN199 iN199A	
Cascading	Masterless, 4 units, Automatic Rotation, Cascadable with iN199 ONLY	
Common Venting	Yes - up to 4 units	
Heat Exchanger	Expandable, Stainless 316L	
Listing	ETL (Z21.10.3 / CSA 4.3) ETL (Z21.10.3 / CSA 4.3), ASME HLW	
Performance GPM / GPH	iN199 iN199A	
Hot Water Capacity (30F Rise)	13.0 / 780	
Hot Water Capacity (40F Rise)	9.8 / 588	
Hot Water Capacity (50F Rise)	7.8 / 468	
Hot Water Capacity (60F Rise)	6.5 / 390	
Hot Water Capacity (70F Rise)	5.6 / 336	
Hot Water Capacity (80F Rise)	4.9 / 294	
Hot Water Capacity (90F Rise)	4.3 / 258	
Hot Water Capacity (100F Rise)	3.9 / 234	
Hot Water Capacity (110F Rise)	3.5 / 210	
Hot Water Capacity (120F Rise)	3.2 / 192	
Hot Water Capacity (130F Rise)	3.0 / 180	
Hot Water Capacity (140F Rise)	2.8 / 168	
Warranty†	iN199	iN199A
Basic Warranty (without StartUp)	Hex – 1 Year, Parts – 1 Year, Labor - None	Hex – 1 Year, Parts – 1 Year, Labor - None
Enhanced Warranty (with StartUp)	Hex – 6 Years, Parts – 2 Years, Labor - None	Hex – 10 Years, Parts – 2 Years, Labor - None
Labor Warranty (with Start Up & telliCare Connection)	Hex – 6 Years, Parts – 2 Years, Labor - 1 Year	Hex – 10 Years, Parts – 2 Years, Labor - 1 Year

† Heat Exchanger assembly (HEX) does not include, gas valve/blower assembly & sidecast. On 10 year| prorated after year 5. On 6 year| prorated after year 3. telliCare Service is free for one year. Start of warranty is: Per startup report or 2 months from date of manufacture. More specific warranty details can be found in 1/0 Manuals section 18.

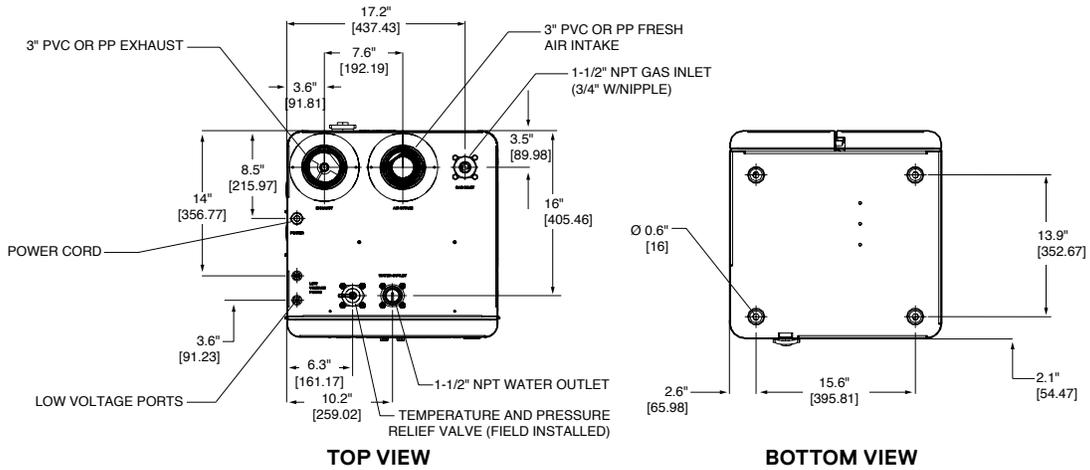
iN199 | iN199A Dimensional Specifications



SIDE VIEW

FRONT VIEW

REAR VIEW



TOP VIEW

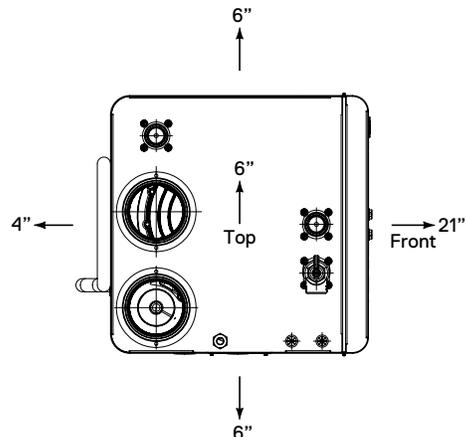
BOTTOM VIEW

Note: All dimensions are in Inches, and equivalent metric values are specified within []

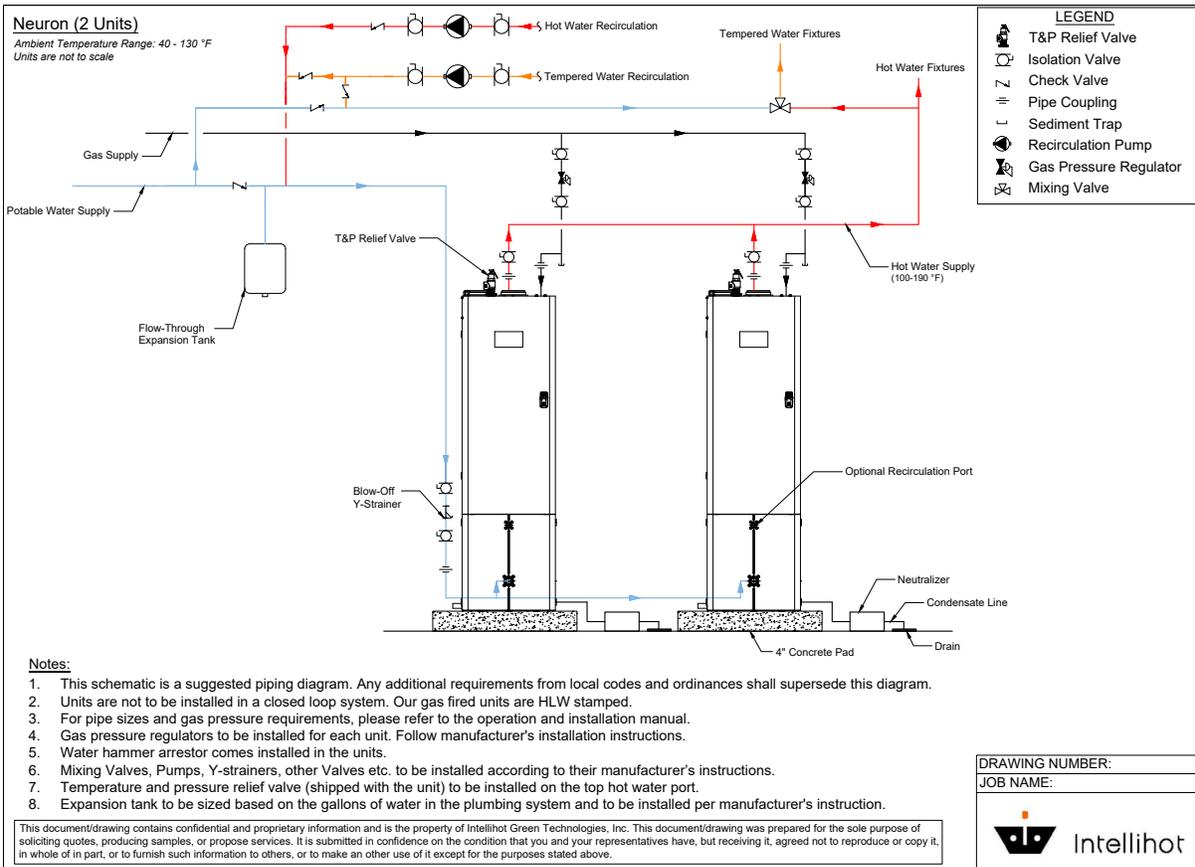
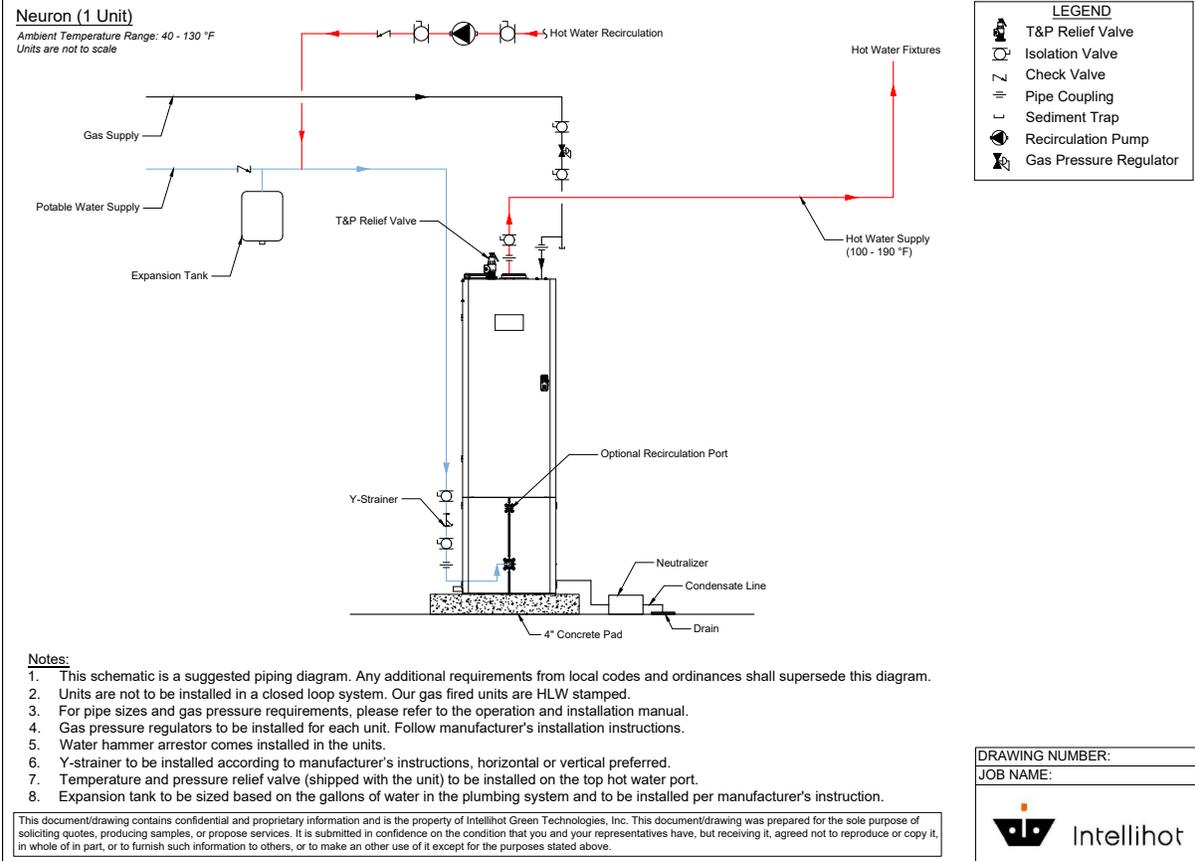
iN199 | iN199A Service Clearances

Location	Required		Recommended Service Clearance ¹
	From Combustibles	From Non-Combustibles	
Top	6" (152 mm)	2" (50.8 mm)	6" (152 mm)
Back	5/8" (15.8 mm)	5/8" (15.8 mm)	4" (10 cm)
Sides	1" (25.4 mm)	1/2" (12.7 mm)	6" (152 mm)
Front	2" (51 mm)	2" (50.8 mm)	21" (53 cm)
Bottom	0" (0 mm)	0" (0 mm)	0" (0 mm)

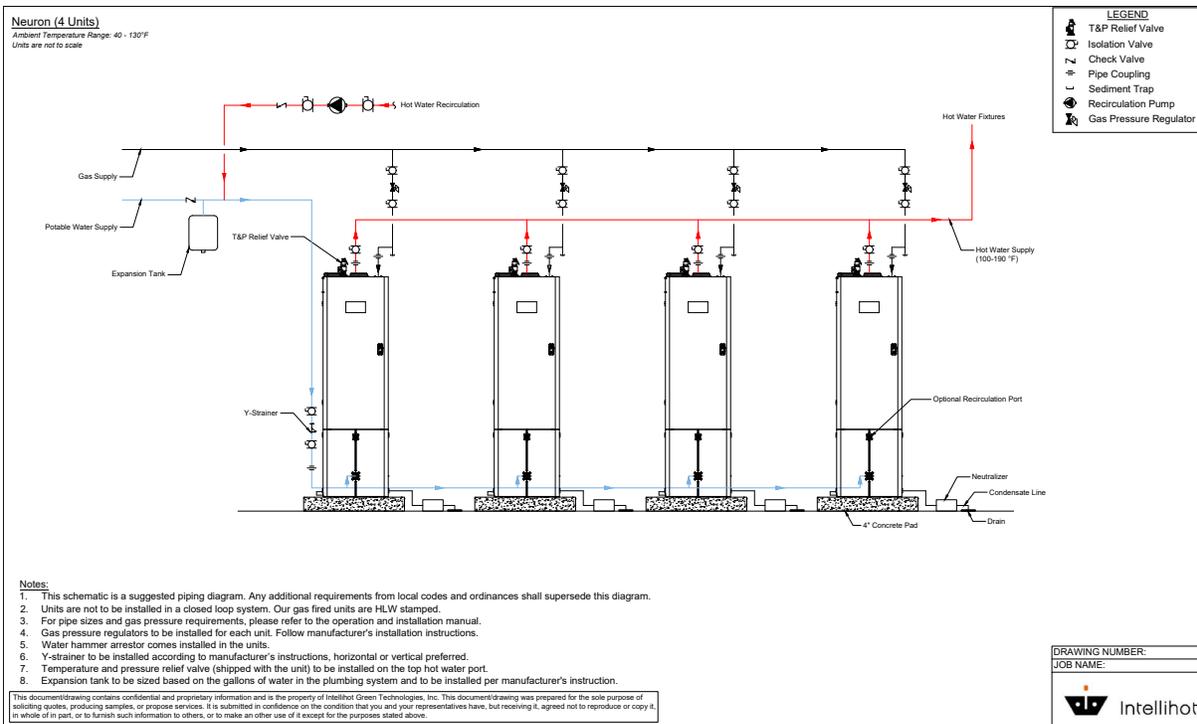
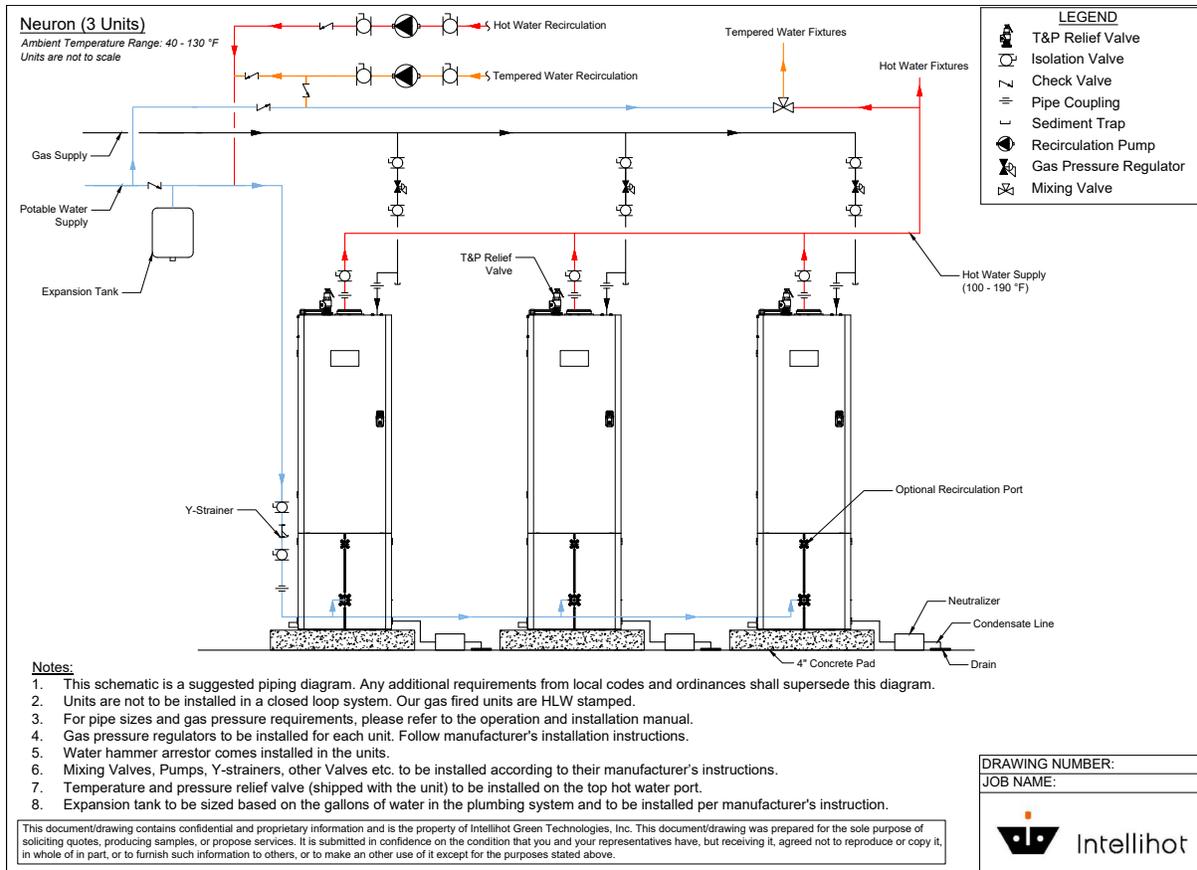
¹ Service clearances are recommended dimensions to allow for normal service of the unit.



iN199 | iN199A Configuration Options



iN199 | iN199A Configuration Options



iN199 | iN199A Venting Guidelines

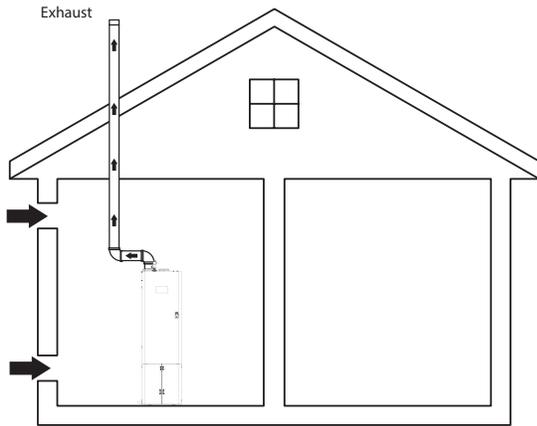
Maximum Pipe Length in Feet							
Number of Units	Venting Type	3" Diameter		4" Diameter		6" Diameter	
		iN199	iN199A	iN199	iN199A	iN199	iN199A
1	1 Pipe	195		250		250	
	2 Pipe	95		125		125	
2	1 Pipe	55		228		250	
	2 Pipe	28		114		125	
3	1 Pipe	-		110		250	
	2 Pipe	-		55		125	
4	1 Pipe	-				250	
	2 Pipe	-				125	

1 Pipe - Only exhaust out pipe is connected and the combustion air intake is from within the room. For example, one iN401 with a 4" diameter, the maximum exhaust pipe length for 1 pipe is 250 feet.

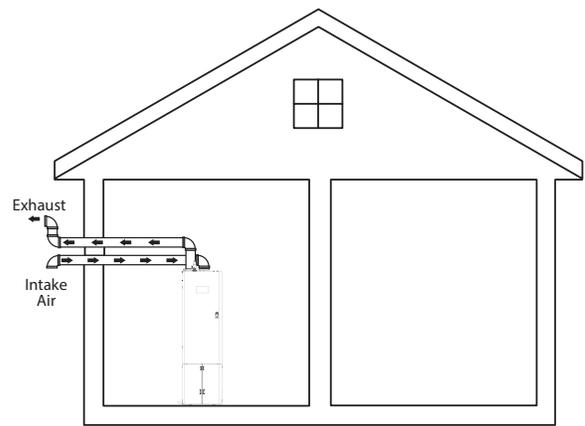
2 Pipes - Both the Combustion air intake and the exhaust pipe are connected. In this case, the table specifies the maximum length per pipe. For example, one iN401 with 4" diameter, 125 feet maximum is allowed for combustion air intake pipe and exhaust out pipe. The 125 feet maximum is per pipe.

Note:

1. Reduce the maximum equivalent length above by 5 feet per 90° elbow used and by 2 feet per 45° elbow used. Do not exceed the above set limits.
2. If multiple units are common vented, then the units must be cascaded. Please refer to the combustion section for how to do combustion with common vented units.
3. SAFETY INSTRUCTIONS: Do not connect any other appliance vents to the water heater inlet or outlet pipes.



1-Pipe



2-Pipe

iN199 | iN199A Electrical Data

Electrical power required for the water heater is 120V AC, 60 Hz. The circuit breaker shall be sized for a power consumption of 15A (FLA). Larger breakers can be used for multiple units. Please ensure correct polarity of wiring before powering up unit.

iN199 | iN199A Cascading Compatibility

Model	Compatible (Max # of Cascaded Units)
iN199 iN199A	Yes (Max. 4 Units)
All Other Models: i200, i250, iQ251, iQ251D, iN401, iN501, iQ751, iQ1001, iQ1501, iQ2001, and iQ3001	Not Supported