

Engineering Submittal - SL G3

Commercial / Large Residential Boilers



Job Name _____

Address _____

Designer / Engineer _____

Wholesaler _____

Contractor _____

Model / Quantity

SL 26-260 G3 / _____ SL 40-399 G3 / _____

SL 40-399 G3 Ti / _____

Date _____



Fuel type Natural gas Propane (factory) Propane (conversion)

Features

- » Base models: ASME approved pressure vessel constructed of high quality 439 Stainless Steel
- SL 40-399 G3 Ti model: ASME approved pressure vessel constructed of high quality 316 Titanium
- » Stainless Steel
- » Heat exchanger performance maximized through a multi-tube, counter-flow fire-tube design
- Vertical combustion chamber and a down firing burner allow free gravity drainage of condensate from
- » the heat exchanger
- » Metal fiber knit burner
- » Direct spark ignition
- » Brushless DC fan
- » Zero governing 24V gas valve
- » A.F.U.E. of 95% on the SL 26-260 G3
- » 399 Models: mechanical water pressure and temperature sensing (built-in Tridicator)
- » 200' equivalent allowance for venting each side
- Patented Moisture Management System ensures long life of components.

Certifications

- Constructed in accord with ANSI Z21.13-2017 CSA 4.9 (latest edition) and the ASME Boiler and Pressure Vessel Code, Section IV and bear the H stamp as per ASME code.
- » Complies with SCAQMD Rule 1146.2 Paragraph (C)(8) for Low NOx (<20ppm)
- SIM certified to CSA STD C22.2 #60730-2-5 and conforming to UL STD 60730-2-5 & ANSI STD Z21.20

SIM (Safety Ignition Module)

- » SIM certified to CSA STD C22.2 #60730-2-5 and conforming to UL STD 60730-2-5 & ANSI STD Z21.20
- Provides ignition, flame proving and safety monitoring, including:
 - » Electronic, probe-type Manual Reset Low Water Cut-Off
 - » High Vent Temperature safety limit
 - » Internal Manual Reset Electronic High limit with verification test

Boiler Control

- » Clear LCD display providing plain English information
- » Modulates boiler water temperature according to outside air temperature
- » BACnet over IP compatible
- » Internal multiple boiler staging and rotation control for management of up to 24 boilers
- » Software upgradable by internet or by USB port
- » Accepts an external 0-10 VDC or 4-20 mA input signal
- » Multiple load control with relays for five pumps
- » Prioritizes up to 4 temperature circuits electrically for maximum fuel efficiencies
- » Zoning feature for control of up to four load pumps for identical temperatures
- » Load combining software for simultaneous running of compatible loads
- » Load configuration save and export to USB
- » Summer shutdown programmable by load
- » Automatic altitude compensation to 12,000 ft
- » Electronic water pressure sensing, for digital display of system pressure
- » Two Interlock connections allowing external devices to effect a boiler safety shut-down
- » Alarm dry contact for connection to external device
- » Error log with detailed conditions capture
- » Diagnostic pages for fan operation, sensors, boiler network and flame current
- » User-defined unoccupied mode and DHW tank temperature (when using sensor)
- » Variable speed output signal
- » Express setup mode for load parameters
- » Thermostat ground terminal for power-stealing thermostat wiring
- » Electronic ΔT fence of 40°F (22°C) to prevent thermal stress to boiler

Warranties

- » Ten (10) year limited warranty on boiler pressure vessel
- Five (5) year limited warranty on burner, controls, and other included equipment

IBC Portal

- » Registering through an Ethernet connection gives remote access to controller functions
- » Technician's View optimized for a browser
- Contractor or end user can receive email alerts for error states

SL 26-260 G3 Dimensions

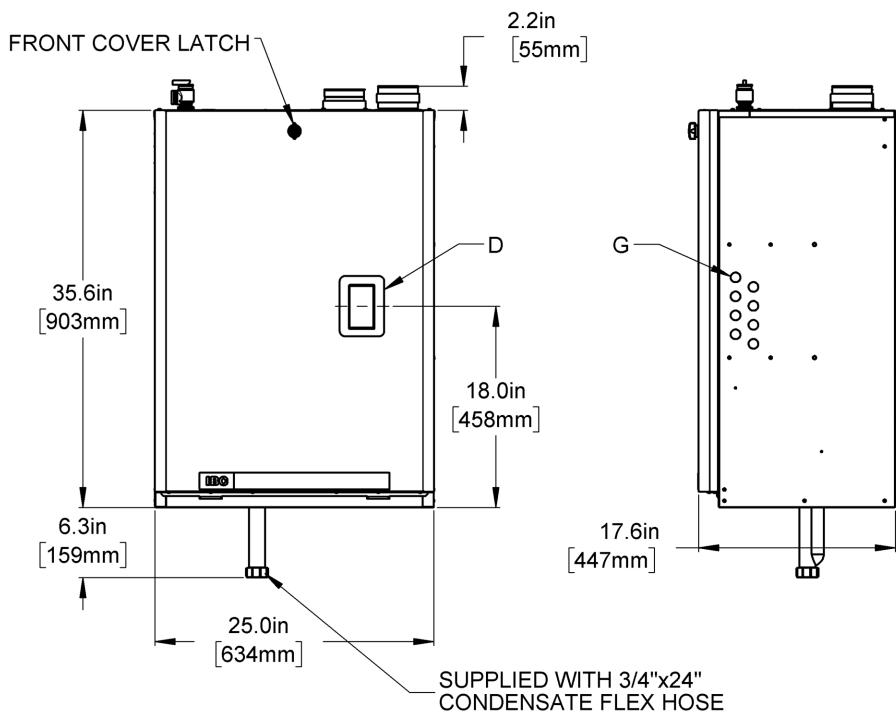


Figure 1 : Front and side view - SL 26-260 G3

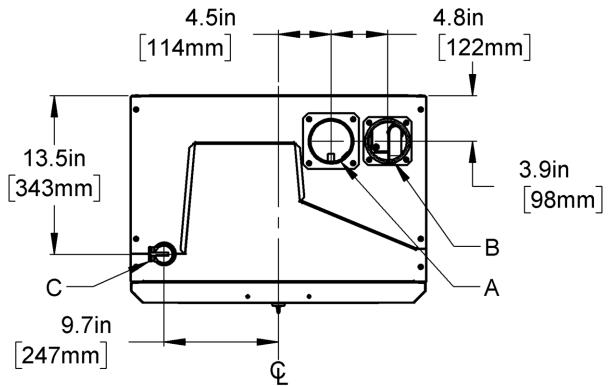


Figure 2 : Top view - SL 26-260 G3

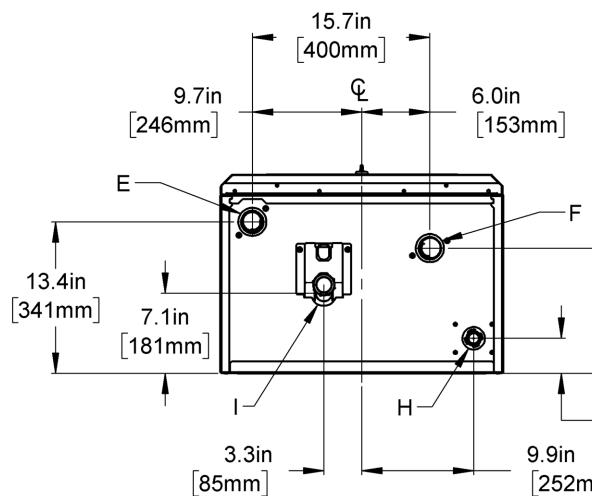


Figure 3 : Bottom view - SL 26-260 G3

SL 40-399 G3 Dimensions

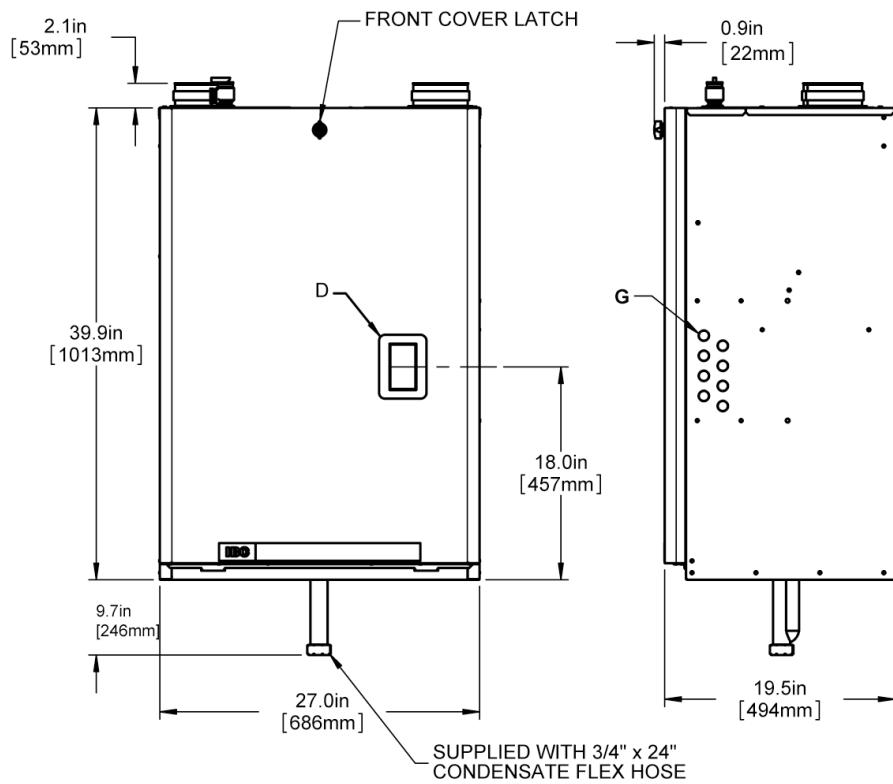


Figure 4 : Front and side view - SL 40-399 G3

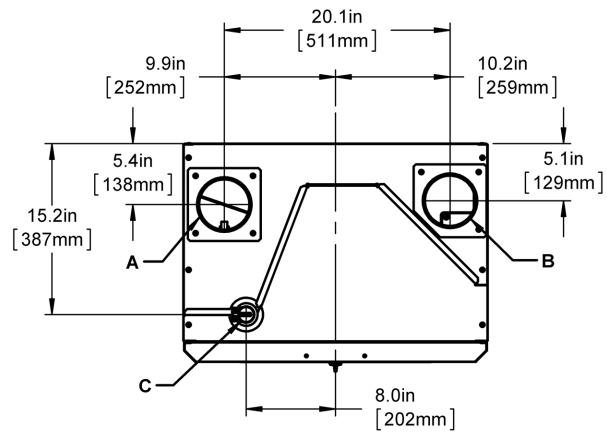


Figure 5 : Top view - SL 40-399 G3

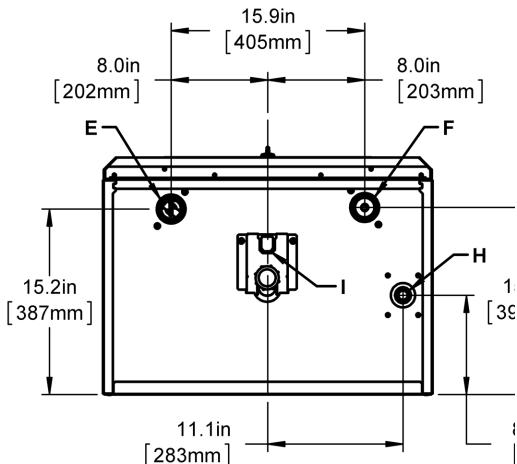


Figure 6 : Bottom view - SL 40-399 G3

Product Specifications

Boiler Specification	SL 26-260 G3	SL 40-399 G3
CSA Input (Natural Gas or Propane)	26 - 260 MBH	40 - 399 MBH
CSA Input (Natural Gas or Propane)	7.6 - 76.2 kW	11.7 - 117 kW
CSA Output	24.9 - 239 MBH	38.4 - 383 MBH
CSA Output	7.31 - 70.0 kW	11.2 - 112 kW
A.F.U.E	95%	-
Combustion Efficiency	-	96%
Thermal Efficiency (ANSI/AHRI-1500)	-	96%
Minimum gas supply pressure (Natural Gas or Propane)	4" w.c.	4" w.c.
Maximum gas supply pressure (Natural Gas or Propane)	14" w.c.	14" w.c.
Minimum Ambient temperature	32°F / 0°C	32°F / 0°C
Maximum Ambient temperature	122°F / 50°C	122°F / 50°C
Max. relative humidity (non-condensing)	90%	90%
Minimum water temp.	34°F / 1°C	34°F / 1°C
Maximum water temp. (electronic hi-limit)	190°F / 88°C	190°F / 88°C
Max. ΔT - supply/return (electronic fence)	40°F	40°F
Max. Water Temperature Lockout Limit	201°F / 94°C	201°F / 94°C
Power use (120Vac/60Hz) @ full fire (less pumps)	127 W	190 W
Weight (empty)	162 lbs / 74 Kg	240 lbs / 110 Kg
Heating Surface Area	22.71 ft ² / 2.11 m ²	36.56 ft ² / 3.40 m ²
Pressure vessel water content	4.64 USG/ 17.6 L	6.66 USG/ 25.2 L
Maximum boiler flow rate	25 USgpm	45 USgpm
Minimum boiler flow rate	6 USgpm	20 USgpm
Maximum operating water pressure*	30 psig / 206 kPa	80psig/ 551 kPa
Minimum water pressure	8 psig / 55 kPa	8 psig / 55 kPa
Approved installation altitude - ASL	0 - 12,000'	0 - 12,000'
Maximum equivalent vent length , each side (vent & air intake) - Natural gas or propane. Air intake options: either direct vent or indoor supply	200' (3")	200' (4")

* Boilers are shipped with a 30 psig pressure relief valve.

Connection Specifications

		SL 26-260 G3	SL 40-399 G3
A	Flue Outlet	3" Schedule 40	4" Schedule 40
B	Combustion Air Inlet	3" Schedule 40	4" Schedule 40
C	Safety Relief Valve and Air Vent		¾" NPT - F
D	LCD Display		2¼" x 4"
E	Water Outlet		1½" NPT-M
F	Water Inlet		1½" NPT-M
G	Knock-outs (8)		½"
H	Gas Inlet		¾" NPT-F
I	Condensate Outlet		¾" Hose

Clearance Distances from Boiler Mounting Sites

	SL 26-260 G3		SL 40-399 G3	
Surface	Minimum distance from combustible surfaces	Recommended distance from installation and service	Minimum distance from combustible surfaces	Recommended distance for installation and service
Front	2"	24"	2"	24"
Rear	0"	0"	0"	0"
Left side	1"	0" (non-combustibles)	1"	0" (non-combustibles)
Right side	1"	4" (for electric connections)	1"	4" (for electric connections)
Top	2"	6" (vent connection)	12"	12" (vent connection)
Bottom	0"	12" (for condensate trap and piping)	12"	12" (for condensate trap and piping)

Boiler Head Loss

BOILER HEAD LOSS SL 26-260 G3					
Flow rate	6 gpm	10 gpm	15 gpm	20 gpm	25 gpm
Head loss @ flow	2 ft.	3.5 ft.	5.5 ft.	8 ft.	13 ft.
BOILER HEAD LOSS SL 40-399 G3					
Flow rate	20 gpm	25 gpm	30 gpm	35 gpm	40 gpm
Head loss @ flow	1.46 ft	2.41 ft	3.59 ft	5.02 ft	6.69 ft
	45 gpm				
					8.60 ft

Propane Conversion Kits:

- » qty: _____ [P-300](#) SL 26-260 G3
- qty: _____ [P-302B](#) SL 40-399 G3, SL 40-399 G3 Ti

Natural Gas Conversion Kits:

- » qty: _____ [P-301](#) SL 26-260 G3
- qty: _____ [P-303B](#) SL 40-399 G3, SL 40-399 G3 Ti

Optional Accessories

- qty: _____ [P-216](#) Secondary Loop Sensor with Stainless Steel Well
- qty: _____ [P-195C](#) Air Vent Kit
- qty: _____ [P-172A](#) Intake Air Filter Kit (SL 26-260 G3: requires 3" pipe and 4x3 MJ coupling to adapt)
- qty: _____ [P-9126](#) Condensate Neutralization Tank
- qty: _____ [P-1268](#) Communication cable (boiler network wiring, 1 required per link)
- qty: _____ [P-9132](#) Flow switch

SL 40-399 G3: Alternative Pressure Relief Valves (boiler ships with 30 psi relief valve, [P-9009](#)):

- » qty: _____ [P-9020](#) 45 psi pressure relief valve
- » qty: _____ [P-9134](#) 50 psi pressure relief valve
- » qty: _____ [P-9021](#) 60 psi pressure relief valve
- » qty: _____ [P-9131](#) 75 psi pressure relief valve
- qty: _____ [P-9133](#) 80 psi pressure relief valve

Racking Options

Multiplex Racking System

- » Includes boiler piping kits and pumps
- » Available in in-line and back-to-back configurations
- » Headers available in 3", 4", 6" (and 8" by special order)
- » Designed for quick on-site assembly with parts easily moved through doorways
- » Headers match commonly available hydraulic separators
- Facilitates seismic restraint of boilers

Racking Only

A seismic-ratable rack for field-piping of single or multiple boilers

Racking Part Number (see below for numbering scheme): _____

Example **M05-L-4"**

M = Multiplex / R = Rack Only

Total number of boiler positions

L = In-Line / B = Back-to-Back (Multiplex only)

Manifold Header size in inches (Multiplex only)