

Model SL 40-399 G3

Modulating Condensing Boiler 439 Stainless Steel version

SUBMITTAL SHEET

STAMPS -

Job Name	
Address	
Designer / Engineer	
Wholesaler	
Mechanical Contractor	
Date Quantity Fuel Type: Natural C	Gas Propane Propane field from factory conversion

SL 40-399 G3, 439 version

- ASME approved pressure vessel constructed of high quality 439 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
- 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 4.9-2017 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 NO_x (<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)

- 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

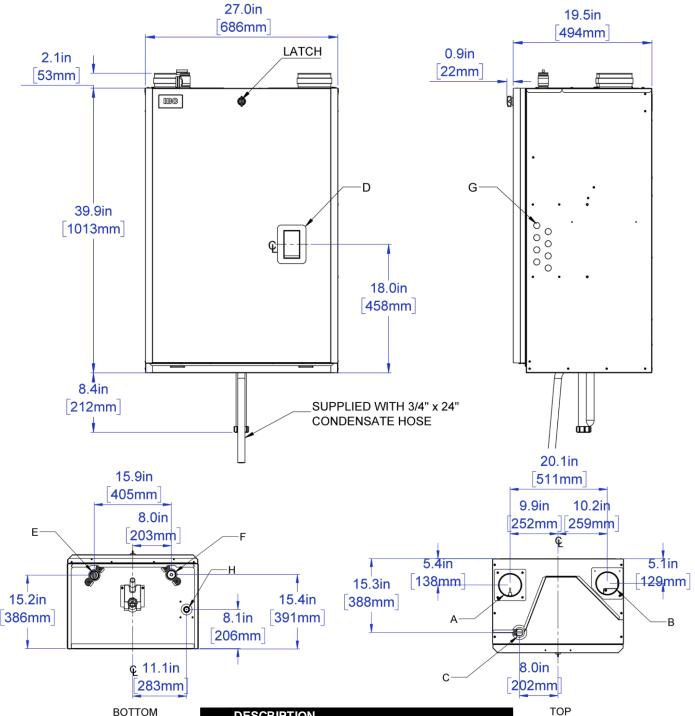
Boiler Control

- Clear LCD display providing plain English information
- Modulates boiler water temperature to outside air temperature
- Internal multiple boiler staging and rotation control for management of up to 24 boilers
- Software upgrade by internet or by USB port
- Accepts an external 0-10 VDC or 4-20 mA input signal
- BACnet over IP compatible (see Options)
- Two Interlock connections allowing external devices to effect a boiler safety shut-down
- Automatic altitude compensation to 12,000 ft.
- Electronic water pressure sensing, for digital display of system pressure
- Alarm dry contact for connection to external device
- 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 pumps under a single load
- Load combining software for simultaneous running of compatible loads
- Load configuration save and export to USB
- Error log with detailed conditions capture
- Diagnostic pages for fan operation, sensors, boiler network and flame current
- Summer shutdown programmable by load
- User-defined unoccupied mode and DHW tank temperature (when using sensor)
- Variable speed output signal for IBC air handler fan
- 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



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BOILER HE	AD L	oss	SL	40 3	899 G	3
Flow rate (gpm)	20	25	30	35	40	45
Head Loss (Ft.)	1	1.5	2	3	4	6

	DESCRIPTION	
Α	Exhaust outlet	4" Schedule 40
В	Combustion air	4" Schedule 40
С	Safety relief valve & air vent	¾" NPT - F
D	Touchscreen display	2¼" X 4"
Е	Water outlet	1½" NPT - M
F	Water inlet	1½" NPT - M
G	Knock-outs (8)	1/2"
Н	Gas inlet	¾" NPT - F
I	Condensate outlet	¾" hose

RECOMMENDED MINI CLEARANCES	MUM
Left side	1"
Right side	4"
Front	24"
Тор	12"
Bottom	12"
Back	0"



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DESIGN AND PERFORMANCE DATA	
Energy input of boiler (NG and LP)	40 to 399 MBH
Energy input or senior (it earlies En	11.7 to 17 kW
Output of boiler (NG and LP)	38.46 to 383 MBH
Output of boiler (NG and EF)	11.2 to 112 kW
Thermal Efficiency	96%
Min gas pressure (NG or Propane) - inch w.c.	4" w.c.
Max gas pressure (NG or Propane) - inch w.c.	14" w.c.
Ambient Temperature – Low / High	32°F (0°C) / 122°F (50°C)
Maximum relative humidity (non-condensing)	90%
Minimum water temperature	34°F (1°C)
Maximum water temperature	190°F (88°C)
Maximum ΔT supply / return (electronic fence)	40°F (22°C)
Maximum water temperature lockout limit	201°F (94°C)
Power use (120Vac/60Hz) @ full fire	190 Watts (less pumps)
Weight (empty)	240 lbs (110 Kg)
Heating Surface Area	36.56 sq. ft. (3.40 m ²)
Pressure vessel water content	6.66 USg (25.2 L)
Maximum boiler flow rate	45 Usgpm (2.8 L/sec)
Minimum boiler flow rate	20 Usgpm (1.3 L/sec)
Maximum operating water pressure*	80 psig (552 kPa)
Minimum water pressure	8 psig (55 kPa)
Manufacturer's approved installation altitude	0-12,000 ft (0-3658 m)
Approved Venting Materials	4" PVC, CPVC, PP, SS
Maximum equivalent venting run each side	200' (61 m)
CRN (as of Aug. 2018)	W0028.2C

Options

☐ Propane Conversion Kit, IBC part P-303B
☐BACnet activation, IBC part 700-002A1
Secondary Loop Sensor with stainless steel well kit, IBC part P-216
\square Air Vent Piping kit, IBC part P-195C, with compression fitting for venting to drain
☐Intake Air Filter kit, IBC part P-172
Condensate Neutralization Tank, IBC part 180-048
Boiler Network Wiring kit (1 required per link), IBC part P-255
Flow Switch, IBC part 180-079
Alternate Pressure Relief Valves *(boiler ships with 30 psi relief)
O 45 psi relief valve, IBC part 180-076
O 50 psi relief valve, IBC part 180-155
O 60 psi relief valve, IBC part 180-077
O 75 psi relief valve, IBC part 180-078
O 80 psi relief valve IRC part 180-002



Multiplex Racking System

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Racking Options

 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	Example M05-L-4"			
Racking-Only	M for Multiplay / P for Pook only			
seismic-ratable rack for field-piping of	M for Multiplex / R for Rack-only			
single or multiple boilers	Total number of boiler positions			
Mar Laboratoria	L = In-Line / B = Back-to-Back (Multiplex only)			
Model number	Manifold Header size in inches (Multiplex only)			

Warranties

- With registration the boiler pressure vessel carries a 10 year limited (commercial) or lifetime (residential) warranty
- Burner, controls, and other included equipment comes complete with a five year warranty

Approved for combustion air taken from adequately ventilated boiler room (see B149.1 / ANSI Z223.1)

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

NOTES

