

# GB312/160 Gas Condensing Boiler

## Engineering Submittal Sheet

GB312/160 Performance Data	
Gas Input (MBH)	588.3
Gross IBR Output (MBH)	544
Input at Minimum Capacity (MBH)	176
Output at Minimum Capacity (MBH)	173
Net IBR Rating (MBH)	473
Thermal Efficiency	92.5%
Combustion Efficiency	92.8%
Boiler Horse Power	16.2

GB312/160 Operational Data	
Number of Heat Exchanger Sections	5
Dry Weight (lbs.)	530
Approx. Water Content (gal.)	5.3
Min Inlet Gas Pressure NG ("WC)	3.5
Max Inlet Gas Pressure NG ("WC)	10.5
Max High Limit Temperature (°F)	200°F
Fireside Pressure Drop (Inch WC)	0.89
Flow Rate at 18°F ΔT (GPM)	60
Flow Rate at 36°F ΔT (GPM)	30
Max Working Pressure (psi)	50
Relief Valve Rating (MBH)	1,418
Relief Valve Pressure Rating (psi)	50
Max Flow Temp Heating/DHW (°F)	172/180
Max equivalent exhaust vent length (ft)	100
Max equivalent combustion air vent length (ft)	100
Venting Category	IV
Approved Venting Materials	CPVC <sup>1, 2</sup> , AL29-4C

<sup>1</sup> The following system is approved for use in U.S.A and may be used with this boiler:

Spears - CVPC pipe to Schedule 80 ASTM D1784

<sup>2</sup> The following system is approved for use in Canada and may be used with this boiler:

IPEX - System 636 CPVC (available in 4" only)

GB312/160 Electrical Specifications	
Electrical Voltage Mains	120V/60Hz
Electrical Voltage Controls	24V
Power Consumption Max Load (A)	1.58
Power Consumption Min Load (A)	0.37
Max Permissible Fuse Rating (A)	10

GB312/160 Clearances		
	Minimum Clearance to Combustibles (Inch)	Wall Clearance Recommended (Inch)
Front	20	28
Rear	22	28
Side	20	28
Flue pipe to wall	6	14

### Additional Information

- Outdoor reset AM10 standard with outdoor sensor
- DHW priority MC10/BC10 standard (DHW sensor not included)
- Modulating premix burner
- Direct-vent sealed combustion
- Direct ignition by hot surface igniter
- Adjustable leveling legs
- 50 psi relief valve

### Options

- CSD-1 kit (high gas pressure switch / low gas pressure switch)
- Condensate neutralization tank (NE-0.1)
- Logamatic 4323 Control
  - Sequencing up to 8 boilers
  - System and zoning control for pumps and valves
  - solar integration
  - plate and frame heat exchanger control
- CM10 two boiler module
- EM10 BMS integration 0-10V input stand alone control
- Low water cutoff
- High temperature manual reset
- DHW sensor

**Note:** Refer to applications manual for specific information on venting, piping, electrical connections and pump sizing

# Buderus

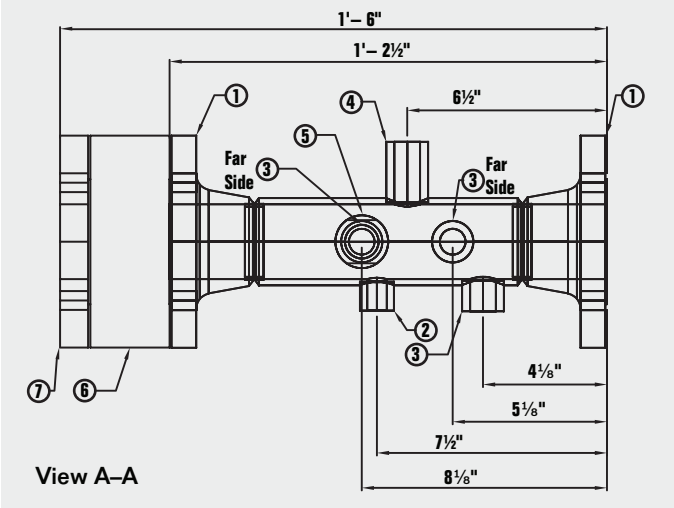
**GB312/160 Piping Connections/Specifications**

ØAA	Flue Connection Diameter	6"
AL	Combustion Air Pipe Diameter	4"
AG	GAS Connection Size	1" NPT
RK/VK	Boiler Return & Supply Connections	2½" NPT
ST	Relief Valve Connection (B-kit)	¾" NPT

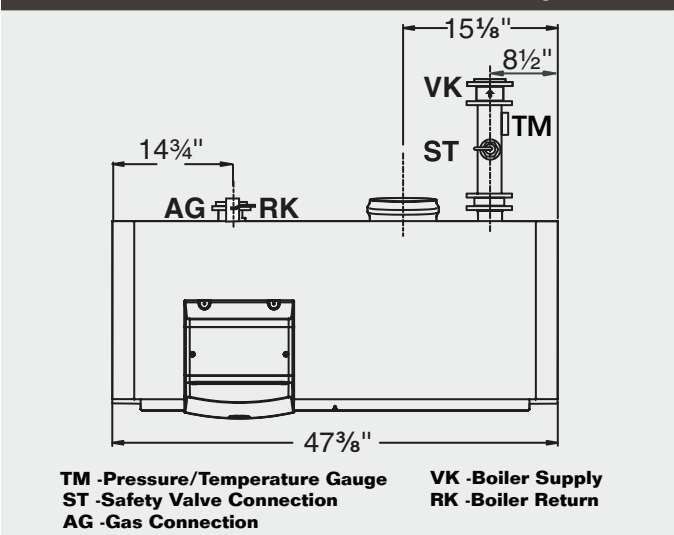
**GB312 B-Kit Assembly with Flow Check Valve**

ITEM	DESCRIPTION	QTY
1	2½" Flange to boiler	2
2	½" Female NPT	1
3	¾" Female NPT	3
4	¾" Female NPT	1
5	1" Female NPT	1
6	2½" - Check Valve	1
7	2½" - Female NPT Mating Flange to system	1

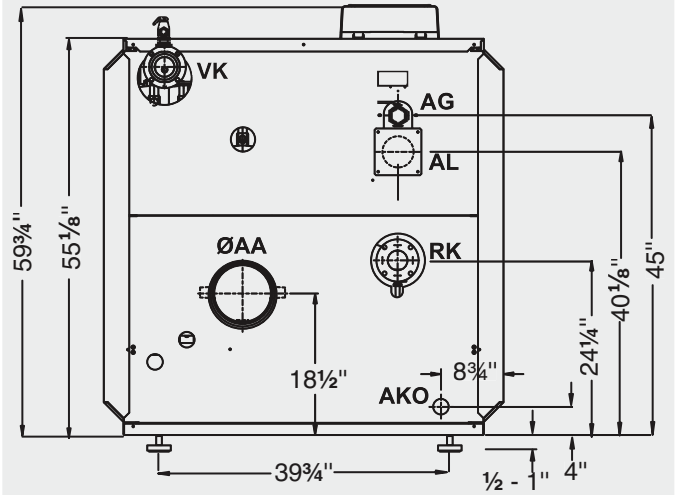
**GB312 B-Kit Assembly with Flow Check Valve**



**GB312/160 Top View**

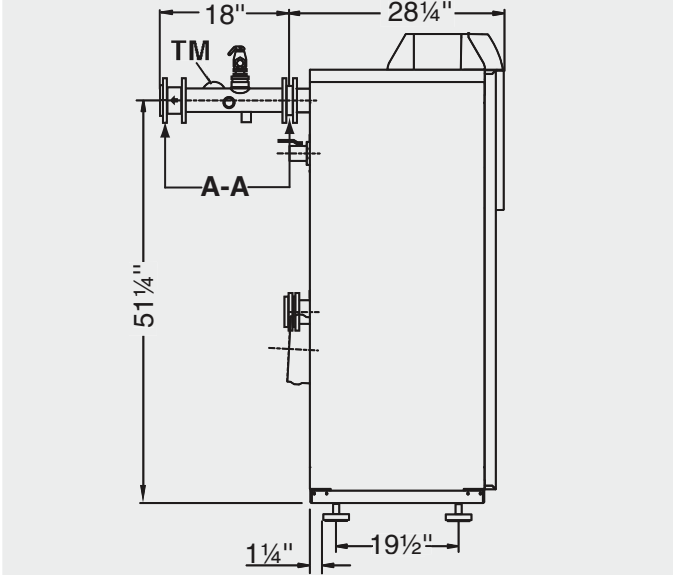


**GB312/160 Rear View**



**VK - Boiler Flow**      **AL - Combustion Air Pipe**  
**ØAA - Flue Connection**      **RK - Boiler Return**  
**AKO - Condensate Drain Knock Out**  
**AG - Gas Connection**

**GB312/160 Side View**



**TM - Pressure/Temperature Gauge**  
**A-A - B-Kit Assembly with Flow Check Valve**

**Buderus**

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