WEIL-McLAIN®

SlimFit™

Commercial Condensing
Gas-fired water boilers

Application Guide
for
Common Venting SlimFit Boilers

Common Venting methods and requirements for SlimFit Boilers (SF1000, SF1500, and SF2000)

The SlimFit boiler can be common vented when the following requirements are met.

- Common venting of the SlimFit boiler can only be done in a Category II vent system. All requirements for the SlimFit boiler to be vented in a Category II configuration must be met as stated in the SlimFit Boiler Manual or all subsequent addendums.
- SlimFit boilers can only be common vented with other SlimFit Boilers.
- The maximum number of SlimFit boilers to be common vented together is eight.
- The Vent system for a Category II SlimFit boiler is considered a Designed / Engineered vent system and should be designed by a professional using accepted engineering practices.
- Vertical Vent only.
- Combustion air from the boiler room. See Direct Exhaust – Combustion Air opening requirements in SlimFit Boiler Manual.
- Must use SlimFit Vent/Air adapter 10" diameter for Category II Vent Connection, see page 3 in this addendum for approved adapters.
- The vent shall consist of a 3 foot piece of 10" diameter straight pipe directly after the SlimFit Vent/Air adapter before any diameter or direction changes in the vent. See Figure 1 on page 3 for example.
- The Vent System should be designed so that the pressure in the vertical vent pipe immediately following the boiler is between the ranges provided in the Table 1, page 2, during all operating conditions i.e., High Fire, Low Fire, etc.
- Flue gas temperature should not exceed 216°F, the boiler will shut down and recycle if it does. The flue gas temperature should typically be within 20°F of the return water temperature of the boiler. If there is the potential for a wide variation in return water temperatures, the lowest possible temperature should be used for any calculations.

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Hazard definitions

The following defined terms are used throughout these Instructions to bring attention to the presence of hazards of various risk levels or to important information concerning the life of the product.

⚠WARNING Indicates presence of hazards that can cause severe personal injury, death or substantial property damage.

NOTICE Indicates special instructions on installation, operation or maintenance that are important but not related to personal injury or property damage.

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- Stack / Vent Flow Rate for each individual boiler model is listed in the table below. This flow rate is based on the unit running at 9.25% CO_2 and the maximum flue gas temperature of 216°F. The values can vary depending on the location of the installation and operating conditions.
- A carbon monoxide detector(s) is required in the boiler room for SlimFit boilers installed in a Category II configuration. The carbon monoxide detector must be wired on the same electrical circuit as the boiler. Check your local codes for any additional requirements of carbon monoxide detectors.

TABLE 1 Rating & Vent Data

Boiler Model	*Input* Btuh	*Stack / Vent flow rate scfm*	*Negative Pressure to be maintained at Vent Connection of the boiler Inches w.c.*	*SlimFit Vent Adapter required for Category II*
SF1000	1,000,000	279	-0.001 to -0.100	10"
SF1500	1,500,000	418	-0.001 to -0.100	10"
SF2000	2,000,000	558	-0.001 to -0.100	10"

⚠WARNING Improper Installation of a Category II vent system resulting in positive pressure in the vent system can result in flue gas spillage and carbon monoxide emissions, causing severe personal injury or death.

NOTICE Weil-McLain recommends the use of a Variable Speed Chimney Fan / Power venter to ensure that the appropriate negative pressure range is kept for Category II venting. The reason this may be needed is due to the higher efficiency of the SlimFit boiler, the exhaust gas temperatures are lower which result in less draft when using a chimney fan/power venter, a flow proving switch should be wired into the LCI circuit on the boiler. See the boiler manual for additional information. The use of this device should be considered in any Engineered Vent system.

NOTICE Weil-McLain recommends the use of a Double Acting Barometric Damper or Modulating Damper to ensure the appropriate negative pressure range is kept for Category II venting. The use of this device should be considered in any Engineered Vent system.

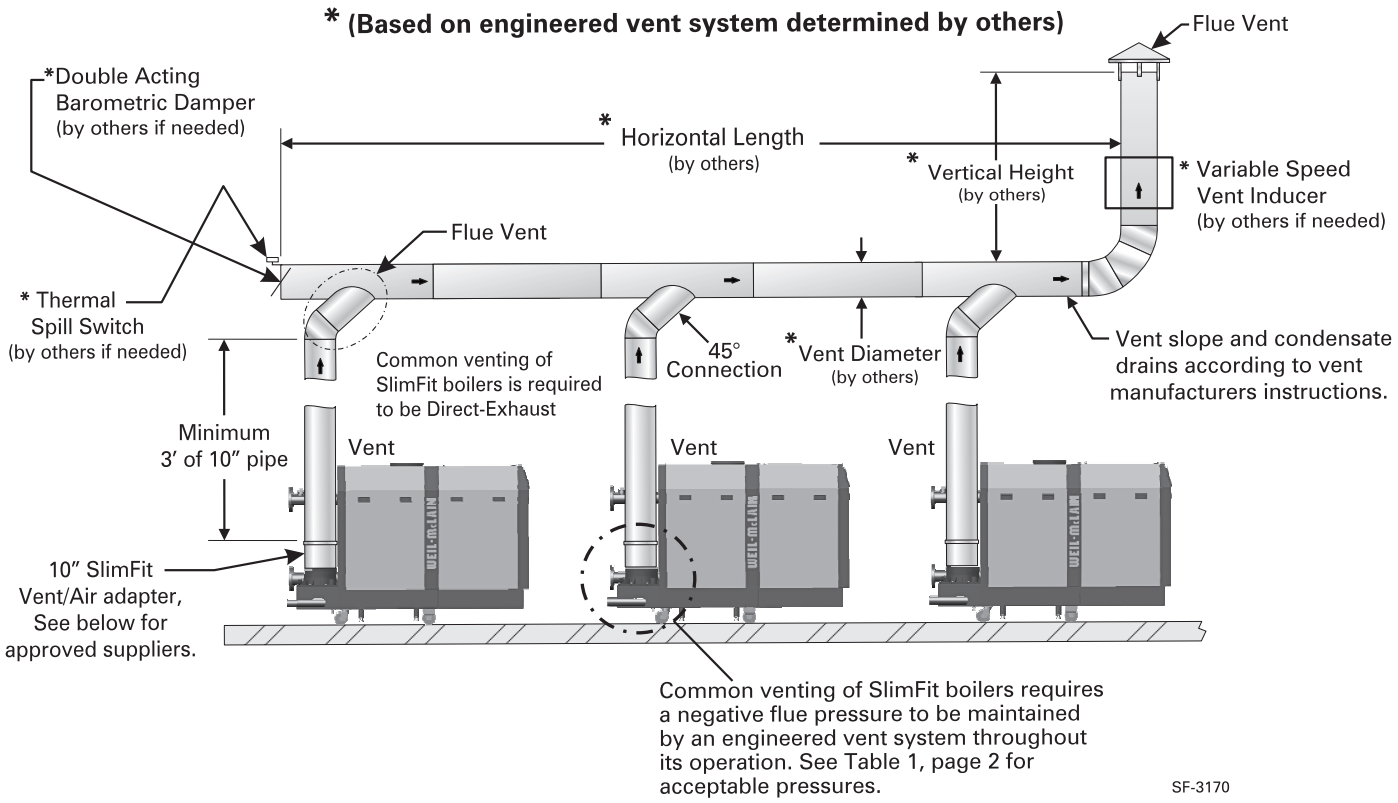
NOTICE When using a damper of any kind, it is recommended to use a thermal spill switch to detect any exhaust flow into the boiler room. Verify the temperature range on the thermal spill switch is adequate for the Flue gas temperature from the SlimFit boiler. The use and set-point of this shall be determined by the system designer.

Code Compliance

⚠WARNING Venting / Combustion air piping – Installations must provide provisions for combustion and ventilation air in accordance with the section "Venting of Equipment", of the National Fuel Gas Code, ANSI Z223.1 / NFPA 54, or "Venting Systems and Air Supply for appliances" of the Natural Gas and Propane Installation Code, CAN/CSA B149.1, or applicable provisions of the local building codes.

The figure below represents a general common venting approach. The Vent system for a Category II SlimFit boiler is considered a Designed / Engineered vent system and should be designed by a professional using accepted engineering practices.

Figure 1 Common vent



Required 10" SlimFit vent adapter supplier list for Category II venting of a Slimfit boiler.

Vent Manufacturer	Vent Type	Adapter Description	Vent Mfr's P/N
DuraVent	FasNSeal AL29-4C	9.85" Adapter to 10" FNS (Exhaust)	810009853
Heatfab/Selkirk	SAF-T Vent EZ SEAL AL29-4C	SlimFit Adapter to 10"	910WMSF
Metal Fab Inc.	CORR/Guard AL29-4C	SlimFit Adapter to 10"	10FCG9WMA
Nova Flex Group	Z-Vent AL29-4C	SlimFit Adapter to 10"	2SVESFA1010

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