

Pre-Installation Application Guide

MFC II Series Boiler Electrical Power Guide

Electrical requirements, required provisions, and wiring guidelines for MFC II Series Multi-Fuel, Condensing Boilers

Applies to MFC II Series Models 4000 to 12000

Other documents for this product include:

OMM-0180 MFC II Series Operation & Maintenance Manual

TAG-0115 MFC II Venting Combustion Guide

TAG-0117 MFC II Gas and Oil Guide

TAG-0118 MFC II Series Boiler Application Guide



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1. GENERAL

The MFC II series of boilers are knockdown boilers that require wiring connections to be done to the burner, as well as from the burner to the required safety devices on the boiler including; aquastats, low water cutouts, etc. This technical guide is intended to help designers provide electrical power wiring (line voltage) to the MFC II Series units utilizing the Weishaupt burner selection.

Control wiring details are provided in other publications, depending upon unit application. This document is intended only as a guide and therefore cannot include all possible alternatives, or unit applications. In order to comply with all codes and authorities having jurisdiction, designers and installers must plan the electrical wiring carefully and execute the installation completely. Emergency shutoffs, fusible fire switches, break glass stations, and other electrical requirements should be considered and installed whenever necessary.

IMPORTANT: This document is intended for informational purposes only and does not replace the official installation manual. Review the full installation and operation manual, including all safety information, before installation.

2. BOILER ELECTRICAL REQUIREMENTS

*Power Requirements (Amperage)													
MFC II	Burner	208/3Ø/60			240/3Ø/60			460/3Ø/60			575/3Ø/60		
		FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP
4000	WM-20	20-32	24-40	44-72	17-28	21-35	29-48	9-14	11-17	22-32	7-12	9-15	18-29
5000	WM-20	20-32	24-40	44-72	17-28	21-35	29-48	9-14	11-17	22-32	7-12	9-15	18-29
6000	WM-20 WM-30	22-35	27-43	50-78	20-30	24-37	33-51	10-15	12-19	23-36	8-16	10-20	20-37
8000	WM-20 WM-30	32-48	40-59	72-106	28-42	35-52	48-72	14-21	17-26	32-48	12-19	15-23	29-43
10000	WM-30	48-59	59-73	106-130	42-52	52-65	72-90	21-26	26-32	48-58	19-23	23-28	43-51
12000	WM-30	59	73	130	49-52	61-65	84-90	26-29	32-36	58-65	23	28	51

All applications of the Weishaupt burner on the MFC II Series boiler require both 3Ø for the burner and includes a step-down transformer as standard to provide 120Vac power to the control portion of the burner. The burners are available in three voltage options:

*Actual Electrical Requirement — Full Load Amp (FLA), Minimum Circuit Ampacity (MCA) and Maximum Overcurrent Protection (MOP) dependent on the configured burner model.

3. PROVISIONS FOR SERVICE

Designers must provide emergency shutoffs and other devices to satisfy electrical codes. You must also provide an electrical shutoff disconnect switch of suitable load carrying characteristics on or near each MFC II Series boiler. No electrical boxes or field components should be mounted to the surface of the boiler. The service disconnect switch should be mounted near the unit, as illustrated in Diagram 1. Wiring conduit, EMT, or other wiring paths should not be secured to the unit, but supported externally. Electricians should be instructed as to where the wiring conduit should be located, such as away from the relief valve discharge, drains, etc. All electrical conduit and hardware should be installed so that it does not interfere with the removal of any covers, inhibit service or maintenance, or prevent access between the unit and walls or another unit. It is recommended to have a flexible connection to the burner as the unit door swings open for servicing of the boiler flue passageways.



Diagram 1: Service Disconnect Switch Typical Location

4. BOILER WIRING

For Weishaupt burners, the power distribution block for field wiring connections (Diagram 2) is located on the X1 terminal strip. Diagram 2 is a sample diagram - see wiring diagram supplied with the burner for wiring instructions. All copper wire must be connected to the power distribution block.

A dedicated protected circuit should be provided from the power source to the boiler. No other electrical devices should be permanently wired to the same circuit. An emergency shutoff switch must be wired in series with power to the unit. Connecting an emergency shutoff switch (E-stop) to the main power terminals of the boiler is the safest way to disable and un-power the unit. Use of a boiler's enable/disable relay is not recommended since it does not cutoff power within the unit, it only disables it.

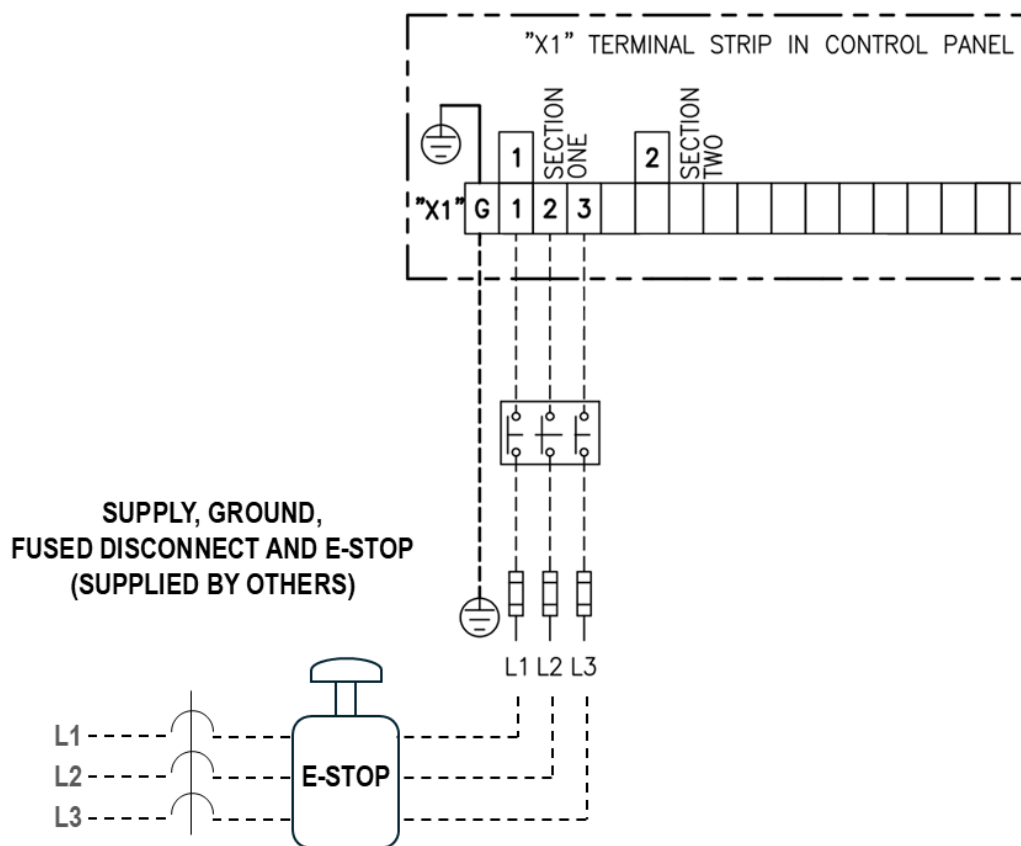


Diagram 2: 208-240, 460, 575VAC/3Ø/60Hz Field Power Connections (Diagram 2 is a sample diagram - see wiring diagram supplied with the burner for wiring instructions)

5. MULTIPLE UNIT WIRING

Whenever multiple units are installed within the same mechanical spaces, electrical code requirements call for a single electrical shutoff for emergency use. It is the responsibility of the electrical designer to comply with local codes and regulations affecting individual installations.



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