



# Ultra *Gas-fired water boiler*

## Ultra Boiler Manual Supplement: Freeze Protection

(Instructions for use of antifreeze in Ultra Boiler systems —  
use only the antifreeze recommended in this supplement  
or manufacturers equivalent)

### STOP! Read before proceeding

#### WARNING

This document must only be used by a qualified heating installer/service technician. Read all instructions, including these instructions and the Boiler Manual, before installing. Perform steps in the order given. Failure to comply could result in severe personal injury, death or substantial property damage.

#### WARNING

Follow these guidelines to prevent possibility of severe personal injury, death or substantial property damage:

- 1 NEVER use automotive or standard glycol antifreeze, even glycol made for hydronic systems. Use only freeze-prevention fluids recommended by Weil-McLain or manufacturers equivalent for application in Ultra Boiler systems.
- 2 Thoroughly flush any system that has used glycol before installing the new Ultra boiler.
- 3 Review the material safety data sheet for the fluid used with the boiler owner and leave a copy for reference. The MSDS contains information on potential hazards and first aid procedures for exposure or ingestion.
- 4 Check antifreeze inhibitor level at least annually. Glycol concentration and inhibitor levels may change over time. Add antifreeze to increase concentration. Drain system and replace fluid mixture if inhibitor level is too low.

#### NOTICE

Weil-McLain provides information for application of the antifreeze products listed in this supplement only for use in Weil-McLain Ultra boilers. Do not apply these products or instructions for other applications.

### General guidelines

#### Follow manufacturers' guidelines

1. Use only the antifreeze recommended by Weil-McLain or manufacturers equivalent.
2. The information below applies to all antifreeze applications. Also follow all requirements specific to the antifreeze used as covered in this supplement and in the antifreeze manufacturer's literature and labeling.

#### Clean the system before filling

1. Always drain and flush the system thoroughly before filling with antifreeze. Sludge, iron oxide deposits and other sediment in the system inhibit flow and can cause rapid breakdown of inhibitors.

#### Add the correct amount of antifreeze

1. Determine the freezing temperature needed (to protect against lowest likely temperature the system water will encounter).
2. Find the antifreeze concentration by volume needed for this temperature from the antifreeze manufacturer's data.
3. Add up the volume (gallons) of all system piping and components, including the expansion tank and boiler.
4. Multiply this volume by the (percent) antifreeze needed to find the number of gallons of glycol to add.

#### DO NOT exceed 50% antifreeze by volume

1. Antifreeze moves more sluggishly than water and can interfere with heat transfer.
2. At antifreeze concentrations higher than 50%, sludge can develop in the boiler, potentially causing damage to the heat exchanger.

#### Antifreeze for Ultra Boiler systems

1. Weil-McLain recommends only the product covered in this supplement or manufacturers equivalent.

## Recommended antifreeze

### General

1. For further information on antifreeze manufacturers or equivalent products, contact:

#### ALPHI-11

**Hydronics Agencies, Ltd.**

15363 117 Ave.  
Edmonton, AB T5M 3X4, Canada  
Phone 780-452-8661  
Fax 780-488-2304  
Web <http://www.hydronicagencies.com>

— or —

**Fernox Mfg Company, Ltd. Britannia Works**

Clavering, Essex CB11 4QZ  
Phone 01799 550811

— or —

#### Aluminum Safe Propylene Glycol

**Chemical Specialities, Inc.**

4800N. Washington St. #E  
Denver, CO 80216  
Phone 303-675-0944  
Fax 303-675-0945  
e-mail: [chemspeciden@aol.com](mailto:chemspeciden@aol.com)

— or —

#### CRYO-TEK - 100/AL

**Hercules Chemical Company, Inc.**

111 South Street,  
Passaic, NJ 07055-9100  
Phone 800-221-9330  
Fax 800-333-3456  
e-mail: [info@herchem.com](mailto:info@herchem.com)  
Web <http://www.herchem.com>

### Checking inhibitor concentration

1. Test the pH of a sample of system water at least annually. The pH of the water mixture must be between 6.5 and 8.5.
2. If pH is outside this range, the inhibitor level may not be sufficient to prevent corrosion. Drain system, flush thoroughly with fresh water, and refill system with clean water.
3. Test glycol concentration at least annually. If concentration is low, add antifreeze or drain system and refill with correct mixture.
4. DO NOT exceed 50% by volume concentrate of antifreeze.