

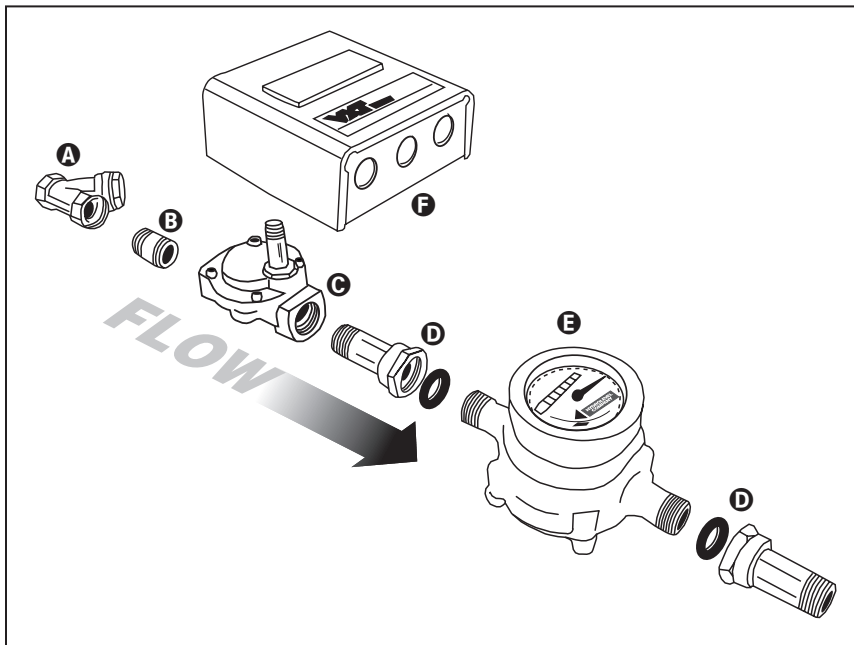


MODEL VXTC

Programmable Water Feeder for Commercial Boilers

120 VAC Operating Voltage

- **Programmable Feed Delay Settings:** Prevents over filling by allowing time for condensate to return to the boiler before initiating a feed cycle.
- **Programmable Feed Amount Settings:** Includes one setting to raise the water level to the boiler control and five additional settings to raise the water level above the boiler control.
- **LED Status Indicator:** Displays mode of operation. Also provides timer for convenient set-up of programmable feed amount setting.
- **Manual Feed Button:** Allows for manual feeds with the touch of a button.
- **Lock-Out Flood Protection:** Locks out after sustained 10 minute feed cycle to prevent flooding.
- **Water Meter:** Heavy duty meter tracks make-up water added to system. (Not included with Model VXTC-WF).



VXTC COMPONENTS

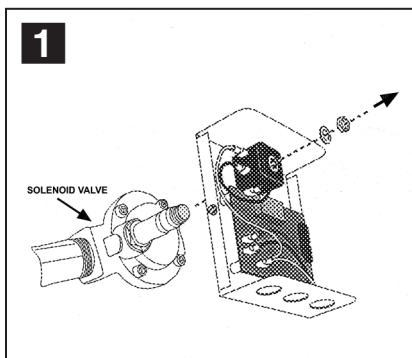
- Ⓐ 3/4" NPT "Y" strainer
- Ⓑ 10 GPM flow restrictor
- Ⓒ 3/4" NPT solenoid valve
- Ⓓ (2) 3/4" NPT brass adapters with connection gaskets
- Ⓔ Heavy-duty water meter
- Ⓕ VXTC controller

Be sure flow arrows on solenoid, meter and strainer are aligned correctly. Use teflon tape between meter and solenoid to prevent leakage.

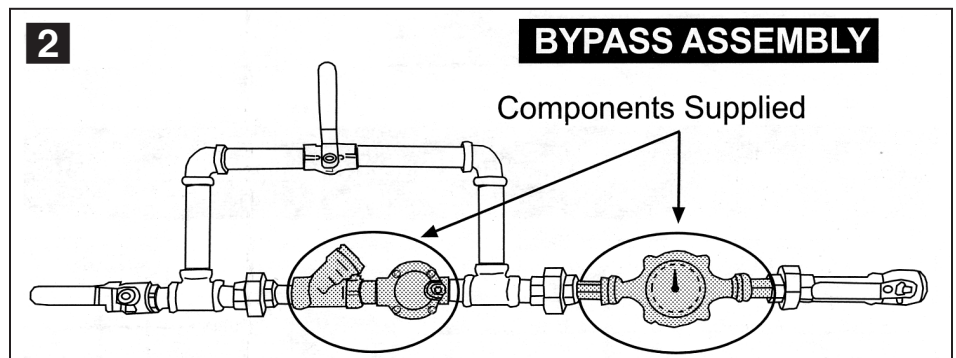
INSTALLATION

⚠ WARNING Electrical shock hazard. To prevent electrical shock, death or equipment damage, disconnect power supply before installing or servicing control. Only qualified personnel may install or service this control in accordance with local codes and ordinances. Read instructions completely before proceeding.

⚠ WARNING Frozen pipes/water damage. Central heating systems are prone to shut down as a result of power or fuel outages, safety related fault conditions or equipment failure. Installation of freeze protection monitoring or other precautions is recommended for unattended dwellings in climates subject to sustain below-freezing temperatures.



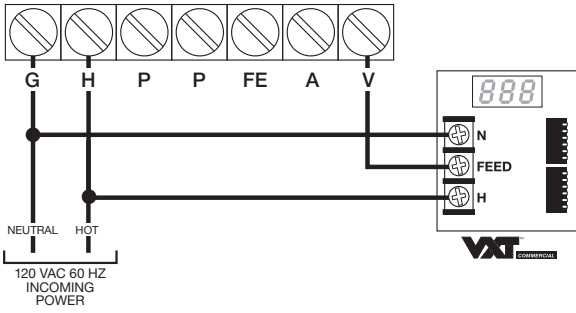
Prior to piping, remove the solenoid valve from the VXTC control housing.



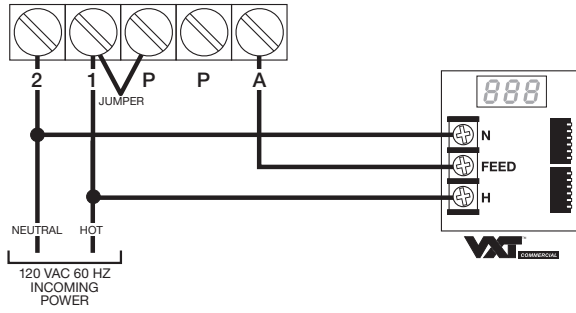
The VXTC is designed for the installation in 3/4" NPT black iron or steel piping. For servicing of the control, the VXTC should be installed with unions and a bypass. The bypass should be constructed so that all water added to the boiler is metered.

WIRING

SAFGARD MODELS 250, 250M, 250WC, 250MWC

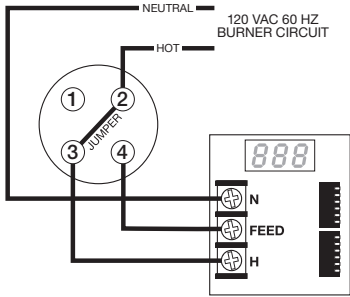


SAFGARD MODELS 450, CG450, CGT450

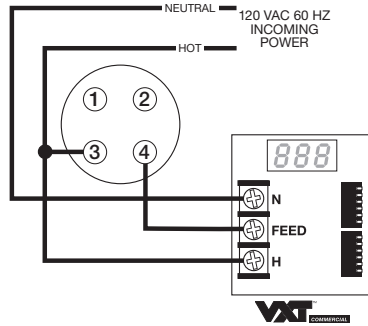


MCDONNELL & MILLER MODELS 67, 67S, 63

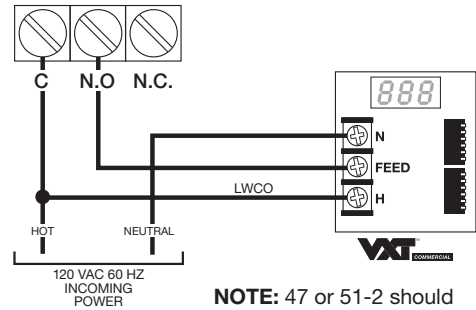
Powered by burner circuit
WITH JUMPER



Powered by separate power source
WITHOUT JUMPER

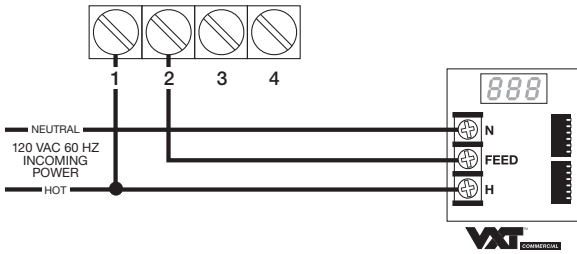


MCDONNELL & MILLER MODELS 47-2, 51-2

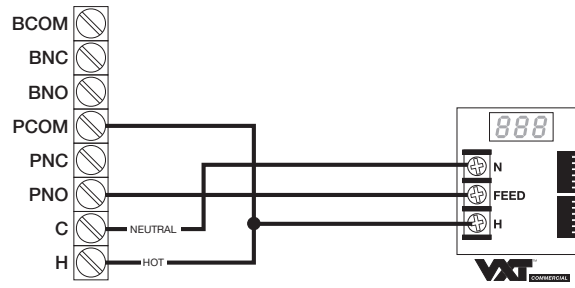


NOTE: 47 or 51-2 should not be connected to water supply and should be used as a signaling device only.

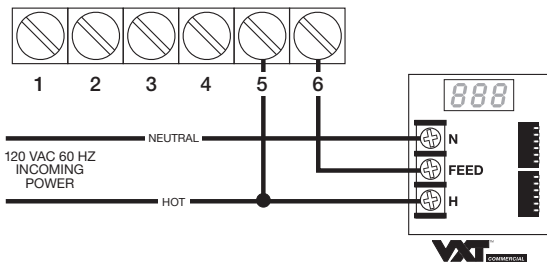
MCDONNELL & MILLER MODELS 150, 157



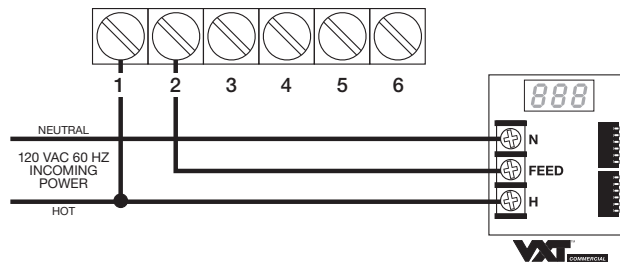
MCDONNELL & MILLER MODELS 150E, 157E



MCDONNELL & MILLER MODELS 159, 159S



VXT USED AS SECONDARY FEED DEVICE
(PUMP BACK-UP)



VXT USED AS PRIMARY FEED DEVICE

POWER THE CONTROL

Once the control is plumbed and wired, power the system. Upon initial power up, the control will go through a 10 second self-diagnostic test cycle. During this period various characters will be displayed on the LED screen and the solenoid will power up for approximately one second. This only takes place upon powering the control.

DIAGNOSTIC SYMBOLS

The Diagnostic LED indicate mode of operation and can be used to troubleshoot programming errors. See figures below for diagnostic symbol interpretations.



NORMAL OPERATING MODE
Feeder is powered and on standby.



TIMER
Counts seconds when FEED button is pressed. Useful for selecting feed setting.



DELAY BEFORE FEED MODE
Allows for condensate to return prior to feed (45 sec. to 10 min.).



ERROR
Improper dipswitch setting. Check that ONE Delay and ONE Feed switch is selected.



FEED MODE
Solenoid valve is open.



LOCKOUT MODE
Feeder has fed 10 minutes and continues to receive a call from the boiler control. Check operation of boiler control. Reset feeder by removing power momentarily.



FEED CALL Illuminated decimal indicates feeder is receiving a call from the boiler control.

SELECT FEED DELAY

The VXTC is equipped with six delay before feed settings. The delay prevents over-feeding the boiler by allowing time for condensate to return to the boiler prior to the initiation of a feed cycle. The VXTC is factory set with a two minute delay. Longer delays should be selected for systems with slow condensate return. A NO DELAY setting is also provided for process steam applications or other systems in which no delay is needed



NO DELAY



45 SECONDS



2 MINUTES
(Factory Setting)



5 MINUTES



8 MINUTES



10 MINUTES

SELECT FEED AMOUNT

The VXTC is equipped with six feed setting. The feeder is factory set in the LWCO position. In this setting, the VXTC will stop feeding as soon as the water level satisfies the boiler control. The remaining five settings raise the water level above the boiler control by continuing the feed cycle for varying times (15 to 120 seconds) after the water satisfies the boiler control. For information on proper feed setting procedure see section on page 4.



LWCO
(Factory Setting)



LWCO +15 SEC.



LWCO +30 SEC.



LWCO +60 SEC.



LWCO +90 SEC.

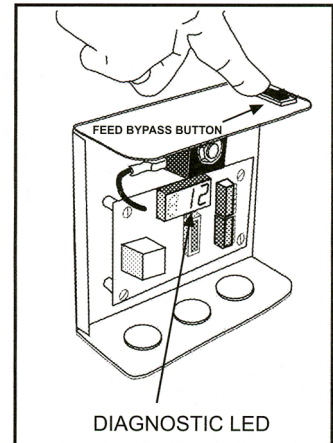


LWCO +120 SEC.

DETERMINING PROPER FEED SETTINGS

To determine the proper feed setting follow these steps:

1. With the feeder in the "LWCO" position, power-up the system and set the thermostat so there is no call for heat. Open the boiler drain and slowly lower the water level until the boiler control calls for a feed. Stop draining the water and allow the VXTC to raise the water level in the boiler. Check the water level following the feed cycle.
2. If the VXTC raised the water level to the normal operating range, the "LWCO" setting should not be changed.
3. If the water level is below the normal operating range, push and hold the FEED button on top of the VXTC until the water level reaches the optimum level. While you are holding the FEED button, the diagnostic LED on the VXTC will function as a stopwatch, continuing the number of seconds the FEED button is pressed. Use the number displayed by the LED to select the proper feed amount setting, rounding up or down as necessary. For example, if the LED reads 28 seconds, select the "LWCO+30" setting.



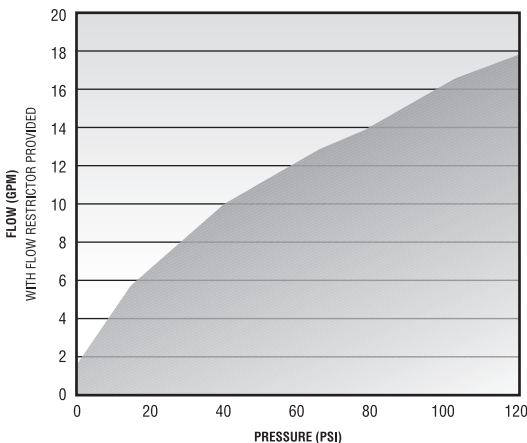
NOTE: Once the feed button returns to the "off" position, the number displayed on the LED will remain illuminated for 10 seconds. The LED will then revert to normal operating display.

OPERATING TEST AND MAINTENANCE

At least once a year, after selecting delay and feed settings, test the VXTC by opening the boiler drain until the boiler control calls for a feed. The feeder should go into either its delay mode (reading dLY on the LED) or will begin to feed immediately depending on the setting. After the feed cycle, check the water level in the boiler. If the VXTC does not raise the water to the desired level, repeat steps 1 through 3 in the section above. The Y strainer should be inspected and cleaned annually.

SPECIFICATIONS

FLOW CURVE



Max Fluid Temperature	100° F
Max Flow Rate	100 GPM @ 40 PSI
Maximum Single Cycle Feed	10 minutes @ 10 gpm = 100 gal.
Electrical	120 VAC – 60 HZ

LIMITED MANUFACTURER'S WARRANTY

We warrant products manufactured by Hydrolevel Company to be free from defects in material and workmanship for a period of two years from the date of manufacture or one year from the date of installation, whichever occurs first. In the event of any claim under this warranty or otherwise with respect to our products which is made within such period, we will, at our option, repair or replace such products or refund the purchase price paid to us by you for such products. In no event shall Hydrolevel

Company be liable for any other loss or damage, whether direct, indirect, incidental or consequential. This warranty is your EXCLUSIVE remedy and shall be IN PLACE OF any other warranty or guarantee, express or implied, including, without limitation, any warranty of MERCHANTABILITY or fitness for a particular purpose. This warranty may not be assigned or transferred and any unauthorized transfer or assignment thereof shall be void and of no force or effect.

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COMPANY**

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