Return to the CattleMaster Page

Instruction Manual for

Ritchie® Fresh Water For Life™

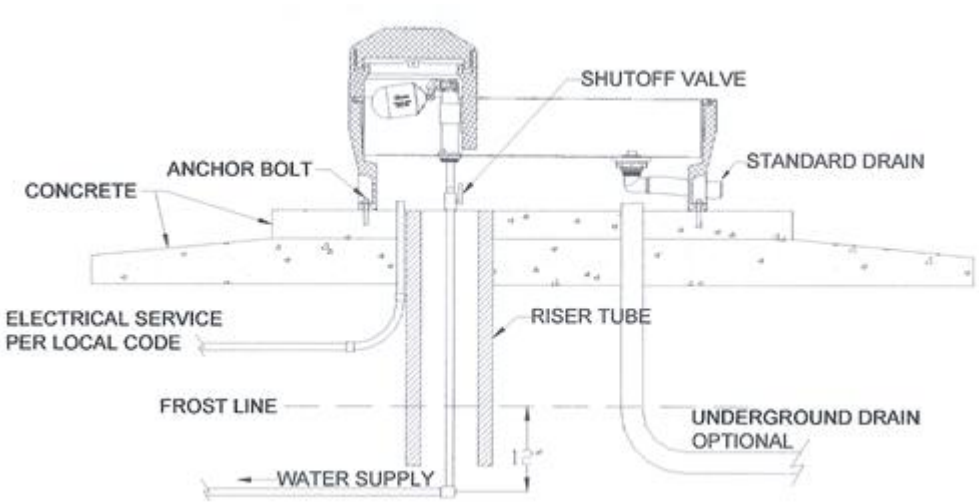
CattleMaster Fountain Series

CM480, CM840, CM1440

(For parts breakdown, trouble shooting, and warranty please click here)

Watch our online installation video.

A. A. Location - Putting the fountain in a location that offers



protection from the wind will enhance the performance of the fountain. Livestock will tend to gather in this protected area, enticing them to drink more. Access panel should be

opposite of prevailing winter wind to give additional protection to the supply line.

B. Water Supply Line - Horizontal underground water line should be sized to account for pressure drop, relating to distance, and placed well below frost line. A one-inch vertical supply pipe is recommended. A shut-off valve should be installed under fountain to allow for easier servicing. For optimum serviceability, a stop and waste valve can be installed below frost level to drain water back when unit is not in use. Vertical supply line must be centered in riser tube to provide an air space between the line and frozen ground outside of tube. Flush water supply line thoroughly before connection to fountain. Water supplies with foreign material such as sand, rust, etc. may require a filter to keep fountain valve working properly.

C. Electric Supply - It is generally most cost effective to run your electrical supply line at the same time you are trenching for your water supply. **Any electrical service must be installed and maintained by a qualified electrician.**

Ritchie Thermal Tube

Part #	Description
18158	1' Top Section
16417	2' Top Section
16612	4' Top Section
16416	2' Extension

D. Riser Tube - Install a riser tube and extend it at least one foot below frost line or down to horizontal underground water line. *For optimum water line protection, use the 12" diameter insulated Ritchie Thermal Tube, part numbers and sizes are shown to the left.* Tube must be kept clear. Do not surround supply line with insulation, wood or any foreign material. Any foreign material in the tube may cause frost to migrate to supply line causing supply line freezing. Learn more about our thermal tubes.

> **NOTE:** The supply line touching the riser tube is the most common cause of the supply line freezing. Do not surround the supply line with insulation, wood, or other foreign material. Any foreign material in the tube may cause frost to migrate to the supply line causing it to freeze.

E. Mounting Platform - A concrete platform must be provided for all fountains. Use a minimum of 4" thick, (6" recommended thickness). A 4" step on top of the platform extending 18" out from each side of the unit protects the unit from manure handling equipment, as well as discouraging animals from defecating in the fountain. The lower section of the pad should then extend far enough for animals to have all four feet on concrete. The concrete step and platform should slope away from the fountain for drainage. A rough broom finish to concrete surface provides better footing for livestock. *See picture above for example.*

F. Preparing the Bottom - Apply the foam weather stripping to the bottom of the unit, along the outside edge of the fountain.

G. Anchoring Fountain - CattleMaster Fountains have mounting pockets molded into the base. Use of Ritchie part #16555, stainless steel anchor bolts (not included), is recommended.

Once you have verified the positioning of the fountain, drill, install, and tighten down anchor bolts. Use the large washers provided to hold unit down. Tighten hold down anchors tight, but do not over tighten as this could damage the plastic feet. Use an all-weather sealant under the outside edge when anchoring to concrete to keep air from leaking under fountain.

Note: Do not drill holes for anchors before location can be verified with unit.

H. Hose Connection – Remove side panels and cover. Remove valve assembly from standpipe. Connect the hose to the valve assembly barb fitting and use a hose clamp to secure. Return the valve assembly to the standpipe. Pull the bottom of the hose to the shut-off valve at the top of the concrete. Leaving enough slack to be able to pull the valve assembly from the standpipe, cut hose to proper length and slip on barb fitting and hose clamp. Hose should not touch insulation or outside surface of fountain. Clamps and fittings are furnished to secure connections.

I. Fenwal Thermostat – The adjustable range of the Fenwal Thermostat is from 0o F (-18o C) to 100o F (38o C). The thermostat is not preset at factory.

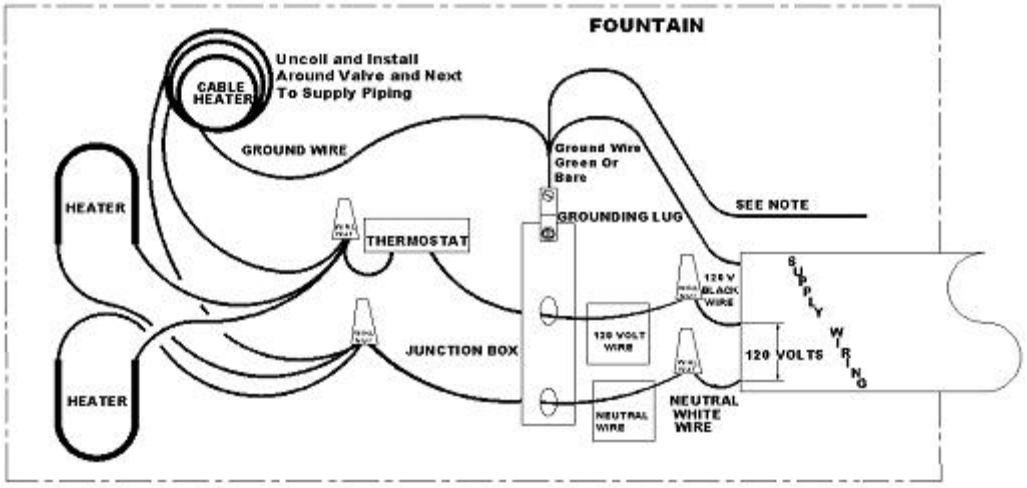
To adjust the thermostat to the desired temperature, first fill the trough to proper water level then check the water temperature with a thermometer. The next morning, check the water temperature again. If the water is warmer than desired, turn the thermostat down (clockwise). If there is ice forming on the surface of the water, turn the thermostat up (counter clockwise). Only slight adjustments should be made to the thermostat at any time. A 1/16 turn on the thermostat will change the water temperature 7o F (4o C). The most economical temperature for the trough is 44o F (7o C). (watch video)

J. Drain Plug – Insert the drain plug firmly into the drain hole in the trough. The plug can be tightened by tightening the eyebolt through the center of the plug.

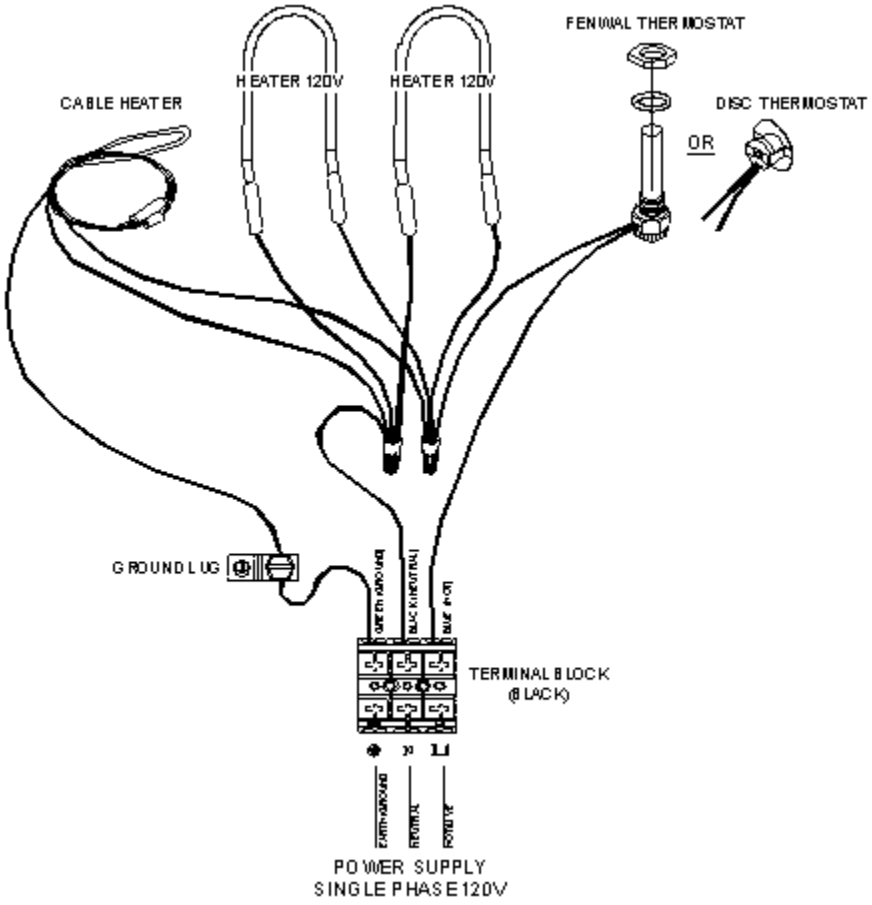
K. Electrical Connection - The electrical installation should be made and maintained by a qualified electrician conforming to National and Local codes. A suitable fuse or circuit breaker with properly sized wire must protect the 3-wire power to the fountain. For wiring connections, see wiring diagram below. Wire nuts may be used for the 120-volt and neutral splices.

WARNING This installation must be made and maintained in strict conformity with National/Local plumbing codes and National/Local electrical codes (CSA in Canada). The applicable provisions of these codes take precedent over instructions in this document. Failure to make and maintain all installations properly may result in loss of livestock, personal injury, or death.

Wiring Diagram for models built prior to 2008

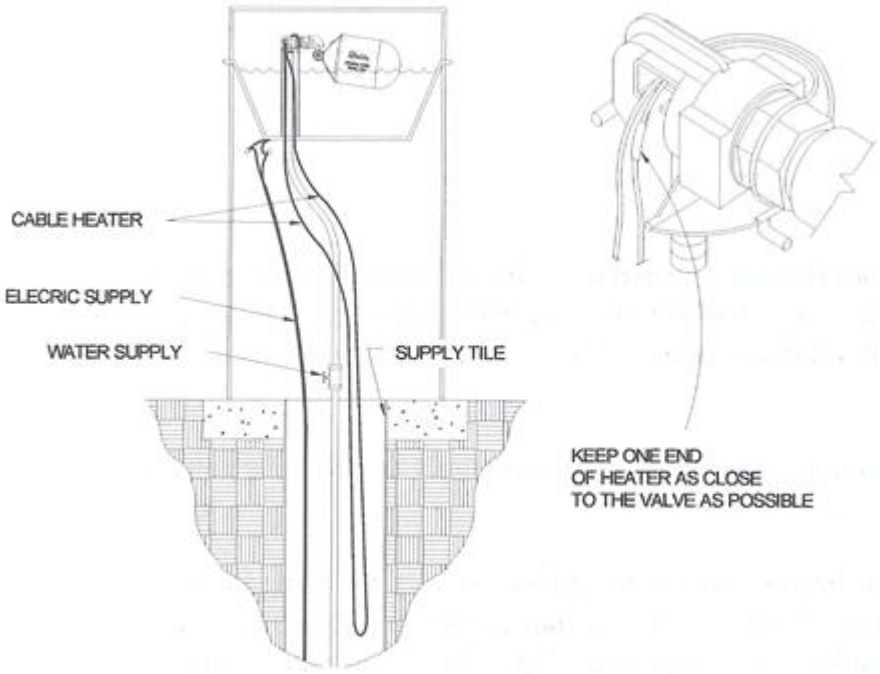


Wiring Diagram for models built since 2008



NOTE: National/Local electrical codes may require livestock waterers installed in feedlots in open feeding area to be grounded by a separate stranded copper grounding conductor or at least no.6 AWG terminating at a point where the branch circuit receives its supply. Check with local inspecting authorities.

L. Float Adjustment – Open water-supply shut-off valve, check for and fix any leaks. Adjust float for a water depth of 2 inches below top of trough or overflow pipe by adjusting the thumbscrew. With the valve functioning properly and the water level set at the proper level, you may install the valve cover. The water seal groove between the frame and valve cover must be filled with liquid to create a protective seal from cold winter air getting to the valve.



M. Cable Heater – Uncoil cable heater and attach the remaining part of the cable heater to the water supply, as far down the riser tube as possible, with the cable twist ties provided. This heater is water tight, but should not be immersed in water.

CAUTION: Installation must not cause any strain on heater wiring connections. Do not cross the cable over itself along the water supply line. Avoid heater damage caused by hot spots due to its leads lying close to each other. Also, do not wrap additional insulation around heater.

N.

Install Side Access Panel – Once all water line connections have been checked for leaks and electrical hook-up is complete, the side access door may be installed. Fill the water seal groove around valve chamber with liquid to seal against air infiltration. Then drop in the cover.

O. Children should be supervised to ensure that they do not play with the appliance – This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instructions concerning use of the appliance by a person responsible for their safety.

P. Cleaning Your Fountain – To clean your watering fountain you will need a good stiff bristled brush. Remove the cover then brush the water seal groove to remove any build-up then brush the tank. Remove the plug that is located at the end

of the trough to drain out the water and debris. You can shut off the water with the shut-off valve located under the unit or by holding the float in the up position. After the water and debris has drained reinstall the plug and let the tank refill. Now is a good time to readjust the float if needed. Reinstall cover and you are done.

Ritchie Valves

Ritchie valves come in four pressure ratings – blue for very high, green for high supply line pressure, red for moderate supply pressure, and white for low-pressure applications. Although different pressure rated valves may be used in a fountain, each fountain will only accommodate one size and configuration of valve. Your individual situations may require a change from the valve supplied with your fountain, see your Ritchie Dealer if this is needed. (To locate a Distributor for your State, visit our Distributor Map)

3/4"	PART	GPM	PRESSURE RANGE
WHITE	16697	33	LOW, 5-40 psi (34-275 kPa)
RED	11101	20	MODERATE, 40-60 psi (275-414 kPA)
GREEN	15377	16.5	HIGH, 60-80 psi (414-552 kPA)
BLUE	18197	5	VERY HIGH, 80-100 psi (552-689 kPA)

Note: Maximum inlet water pressure for each valve is shown above. If water pressure is extremely high, and if the valve does not shut off, a pressure-reducing valve may be needed.

Parts breakdown, Trouble shooting, and Warranty

(All links are in PDF format)

CattleMaster 480 Parts breakdown **CattleMaster 480 Constant Flow** Parts breakdown	**CattleMaster 840** Parts breakdown **CattleMaster 840 Constant Flow** Parts breakdown	**CattleMaster 1440** Parts breakdown **CattleMaster 1440 Constant Flow** Parts breakdown	Trouble Shooting Warranty Anchor Bolt Locations Overall Dimensions

Return to Top

Return to the New CattleMaster Page