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Installation Instructions for



Cattle Fountain Series,

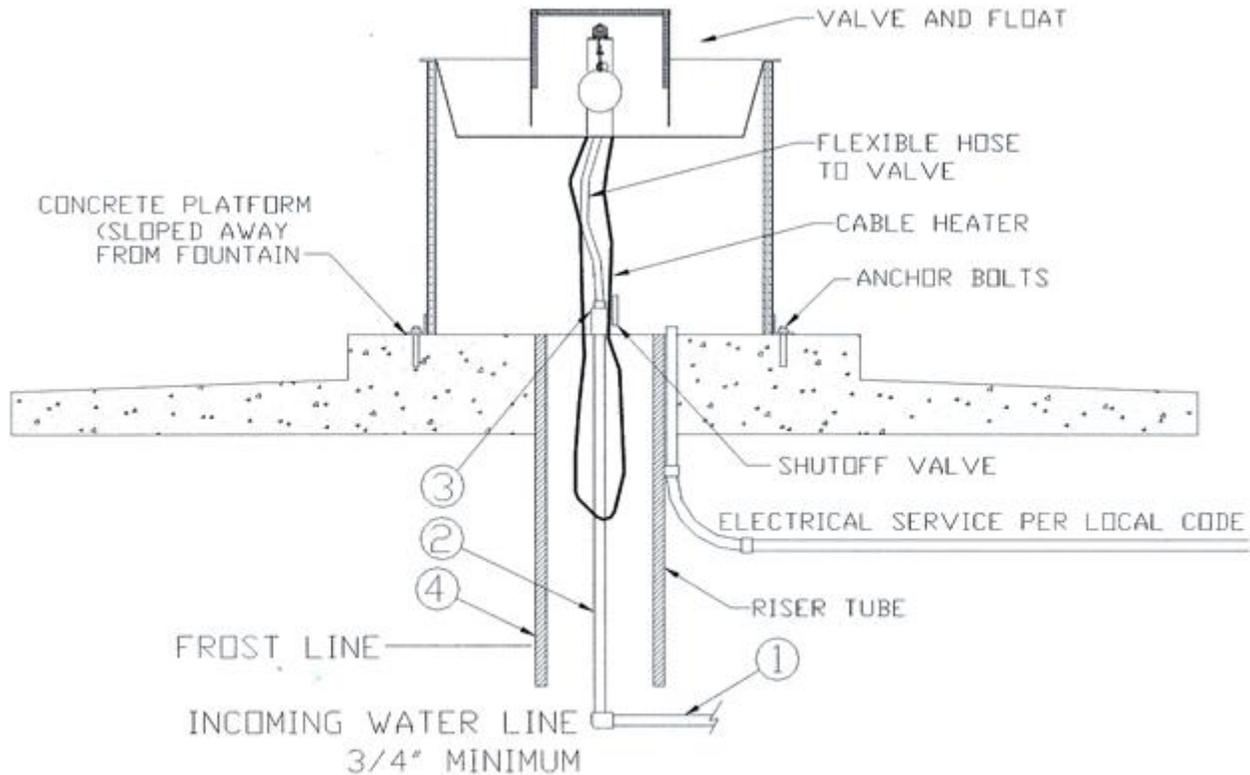
Combination Fountain Series

AC Series

For Parts breakdown, Trouble shooting, Warranty, and Anchor Bolt Locations, please click [here](#)

[Watch our online installation video.](#)

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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.

Water Supply Line - Horizontal underground water line (1) should be sized to account for pressure drop, relating to distance, and placed well below frost line. A one-inch vertical supply pipe (2) is recommended. A shut-off valve (3) 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 (4) 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.

B. Electric Supply – It is usually most cost effective to run your electrical line the same time you are trenching 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

C. 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 opening must be kept clear. [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,

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or other foreign material. Any foreign material in the tube may cause frost to migrate to the supply line causing it to freeze.

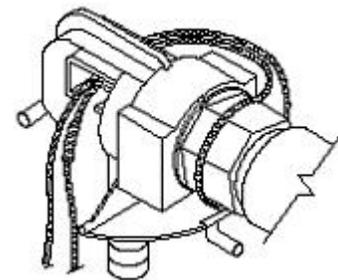
D. Mounting Platform - A concrete platform must be provided for all fountains. Use a minimum of 4" thick, (6" recommended), large enough to accommodate fountain, and additional 4" step (on top of the platform) extending 18" out from each side of the unit. This will protect the unit from manure handling equipment, as well as discouraging animals from defecating in the fountain. Extending the platform provides animals a place to stand while drinking, consider the size of your animals when determining the dimensions of your platform. 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.

E. Hose Connection - Connect hose fitting to shut-off valve at top of concrete. Slip on barb fitting with furnished clamps. Hose should not touch insulation or outside surface of fountain. Place the hose under the fountain as you move the unit in place over the riser tube.

F. Anchoring Fountain - Steel fountains are provided with four hold-downs to anchor your unit securely to the concrete. Screw the hold down angles on to the unit then anchor down the unit. Use of 3/8" x 3-1/2" stainless steel expansion anchor bolts (not included) is recommended for concrete installations. Anchor bolts are available from Ritchie in a two pack, part # 14261. Use an all-weather sealant under the outside edge when anchoring to concrete to keep air from leaking under fountain.

G. Final Water Connection - Connect the top of the supplied hose to the valve, cut hose to proper length and slip onto the barb fitting of the valve assembly. Clamps and fittings are furnished to secure the connection.

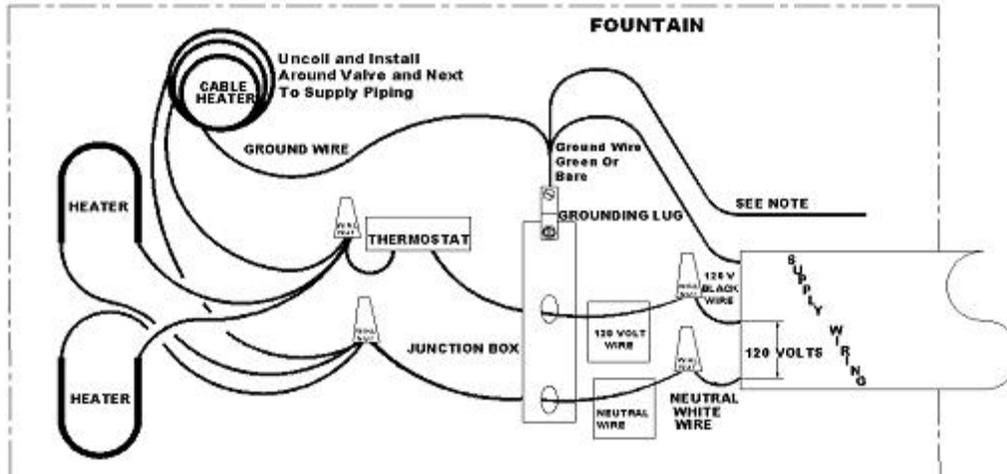
H. Cable Heater - Uncoil cable heater and loop around the valve. Attach the remaining part of the cable heater to the water supply, as far down the riser tube as possible, with the cable twist ties provided. (See drawing on previous page.) This heater is water tight, but should not be immersed in water.



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

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

Wiring Diagram for units prior to 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 inspection authorities.

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

J. Fenwal Thermostat (*Cattle Fountains and Combination*) - The adjustable range is from 0° F (-18° C) to 100° F (38° C). Thermostat is not preset at factory. Fill the trough to proper water level. 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. If there is ice forming on the surface of the water, turn the thermostat up. Only slight adjustments should be made to the thermostat at any time. A 1/16 turn on the thermostat will change the water temp. 7° F (4° C). 44° F (7° C) in the trough represents the most economical operation. Counter clockwise raises the thermostat setting. ([Watch video](#))

K. Disc Thermostat (*AC Series*) – The disc thermostat is mounted in a bracket under the trough, which allows it to be moved relative to the heater. To ease movement of thermostat turn ¼ turn. To lock in position after adjustment turn ¼ turn back. As the thermostat is moved toward the heater, the water temperature in the trough is lowered ([watch video](#)). The best location is determined by checking the trough temperature several times during the heating season.

L. Drain Plug – Insert the drain plug firmly into the drain hole in the center of the trough.

M. 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 or wingnut.

N. Install Side Access Panel and Cover – Once all water connections have been

checked for leaks and electrical hook-up is complete, the side access door may be installed. With the valve functioning properly and the water level set at the proper level, you may install the valve cover.

Ritchie Valves

[Ritchie valves](#) come in two sizes and four pressure ratings – blue for very high pressure, green for high supply line pressure, red for moderate supply pressure, and white for low-pressure applications. Differences in the size of trough also impacts valve choice. Although different pressure rated valves may be used in a fountain, each fountain will only accommodate one size and configuration of valve. If water pressure is over 60 psi, and if the valve does not shut off, a pressure-reducing valve may be needed.

Your individual situations may require a change from the standard valve supplied with your fountain, see your Ritchie Dealer if this is needed. (To locate a Distributor in your State, visit our [Distributor Map](#))

1/2"	Part #	GPM	Pressure Range
White	12574	4.8	Low, 5-40 psi
Red	12575	3.4	Moderate, 40-60 psi
Green	13597	1.45	High, 60-80 psi

3/4"	Part #	GPM	Pressure Range
White	16697	33	Low, 5-40 psi
Red	11101	20	Moderate, 40-60 psi
Green	15377	16.5	High, 60-80 psi
Blue	18197	5	Very High, 80-100 psi

NOTE: Four orifice sizes are available for multi-purpose fountains and two sizes are available for cattle fountain valves. They are color-coded.

Parts Breakdown, Trouble Shooting, Warranty, and Anchor Bolt Locations

(All links are in PDF format)

<p>Cattle Fountains Click here to view units</p>	<p>Combination Fountains Click here to view units</p>	<p>AC Series Click here to view units</p>	<p>Trouble Shooting, Warranty, Anchor Bolt Locations</p>
<p>3E Parts breakdown</p>	<p>3 Combination Parts breakdown</p>	<p>1AC Parts breakdown</p>	<p>Trouble Shooting</p>

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