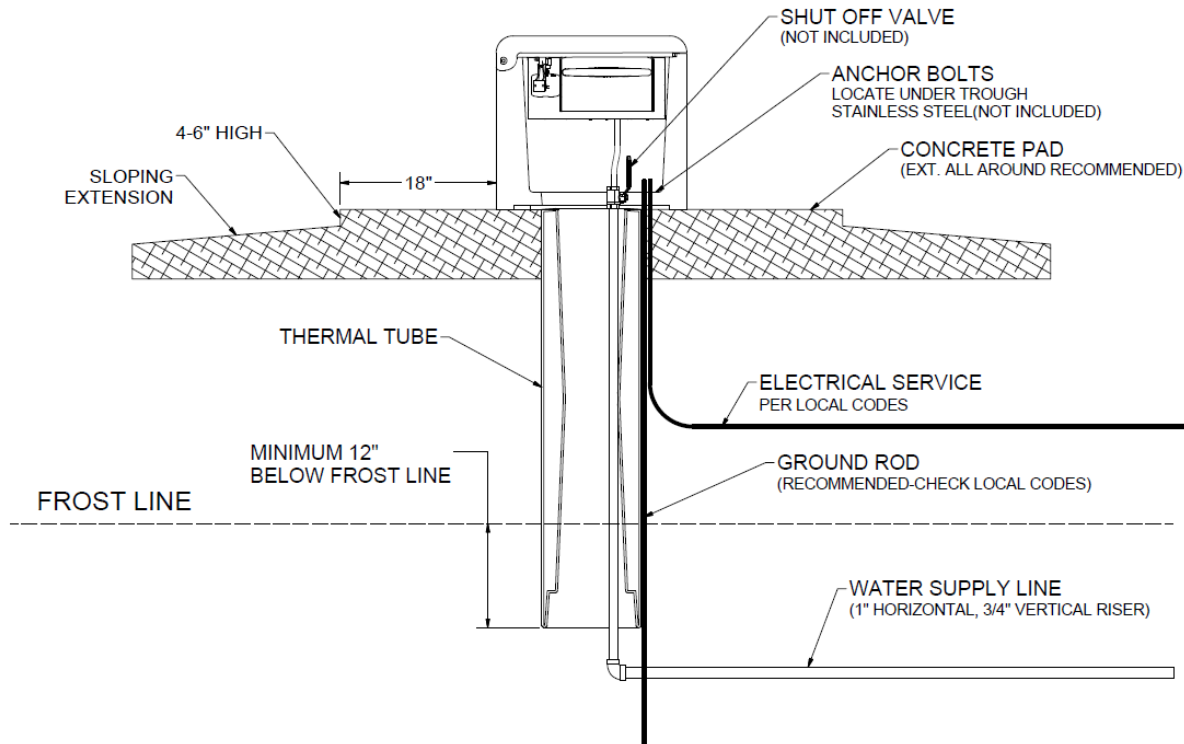


EcoFount Series

Installation Instructions



A. Location - Installing 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 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.

Item No.	Description	Watts	Amps
18430	EcoFount 1 120V	173W	1.4A@120V
18440	EcoFount 2 120V	298W	2.5A@120V

Item No.	Description	Watts	Amps
18431	EcoFount 1 240V	248W	1A@240V
18441	EcoFount 2 240V	448W	1.9A@240V

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 right. Tube opening must be kept clear.

Ritchie Thermal Tube	
Part #	Description
18158	1' Top Section
16612	4' Top Section
16416	2' Extension

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), 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.

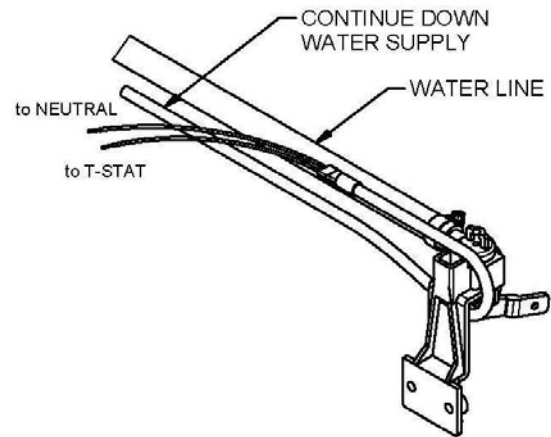
F. Preparing the Bottom - Apply the provided foam weather stripping to the bottom of the unit, around the outside edge of the fountain.

G. Hold-Downs – EcoFount Fountains have mounting locations molded into the base inside the unit. Use of Ritchie stainless steel anchor bolts (not included) is recommended for concrete installations. Anchor bolts are available from Ritchie in packages of two, part #16555. The trough may be removed to allow easier access to the bolt down location.

H. Hose Connection – Remove access panel. Do not remove access panel bolt, removing bolt will allow retainer to fall off back. Loosen bolt until latch can be moved to allow panel to be removed. With panel removed cut hose to proper length and connect to shut off valve. Adapter is provided to make connection to shut-off valve.

I. 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. This heater is watertight but should not be immersed in water. Heater may cross over itself but should not be tightened at those locations.

CAUTION: Installation must not cause any strain on heater wiring connections. Avoid heater damage caused by hot spots due to its leads lying close to each other. Also, do not wrap additional insulation around heater.



J. Electrical Connection - The electrical installation should be made and maintained by a qualified electrician conforming to national and local codes. A means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules. For wiring connections, see wiring diagram. Make connections according to the wiring diagram below.

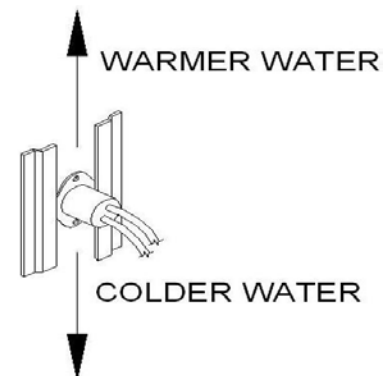
WARNING: ANY ELECTRICAL SERVICE MUST BE INSTALLED AND MAINTAINED BY A QUALIFIED ELECTRICIAN.

WARNING: DISCONNECT POWER IF THE WATER SUPPLY IS TO BE SHUT OFF FOR AN EXTENDED AMOUNT OF TIME. FAILURE TO TURN OFF POWER CAN RESULT IN DAMAGE TO THE WATERING FOUNTAIN.

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. FAILURE TO MAKE AND MAINTAIN ALL INSTALLATIONS PROPERLY MAY RESULT IN LOSS OF LIVESTOCK, PERSONAL INJURY, OR DEATH.

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 authorities.*

K. Disc Thermostat – 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.** The best location is determined by checking the trough temperature several times during the heating season.



L. Float Adjustment – To access the float in the EcoFount the lid will need to be unlocked and then hinged open. Be sure to not lean on lid while it is open as this can damage the watering fountain. Insert the drain plug firmly into the drain hole in the trough. Open water-supply shut-off valve, check for and fix any leaks. Adjust float for a water depth of 1 to 2 inches below the top of the overflow pipe by adjusting the wingnut on the float arm.

M. Install Side Access Panel and Close Lid– Once all water line 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 close and lock down the lid.

N. Seal the Base - After the unit is completely installed, apply a bead of caulking around the base of the fountain to ensure no wind enters through the base of the unit.

NOTE: *Sealing the bottom of the unit from cold air is an important aspect of the unit's thermal performance.*

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. Open the cover then brush the tank to remove any build-up. Remove the overflow plug that is located in 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 overflow plug and let the tank refill. Now is a good time to readjust the float if needed. Close on lock down cover and you are done.

Ritchie Valves

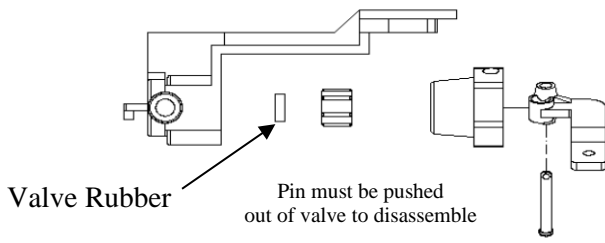
Ritchie valves come in various sizes and pressure ratings as shown below - green for high supply line pressure, red for moderate supply pressure, and white for low-pressure applications. Your individual situations may require a change from the standard valve supplied with your fountain, see your Ritchie Dealer if this is needed.

NOTE: *The red ½" valve is standard on the EcoFount 1, 2*

1/2"	Part #	GPM	Pressure Range
White	12574	4.8	Low, 5-40 psi. (34-275 kPa)
Red	12575	3.4	Moderate, 40-60 psi. (275-414 kPa)
Green	13597	1.45	High, 60-80 psi. (414-552 kPa)

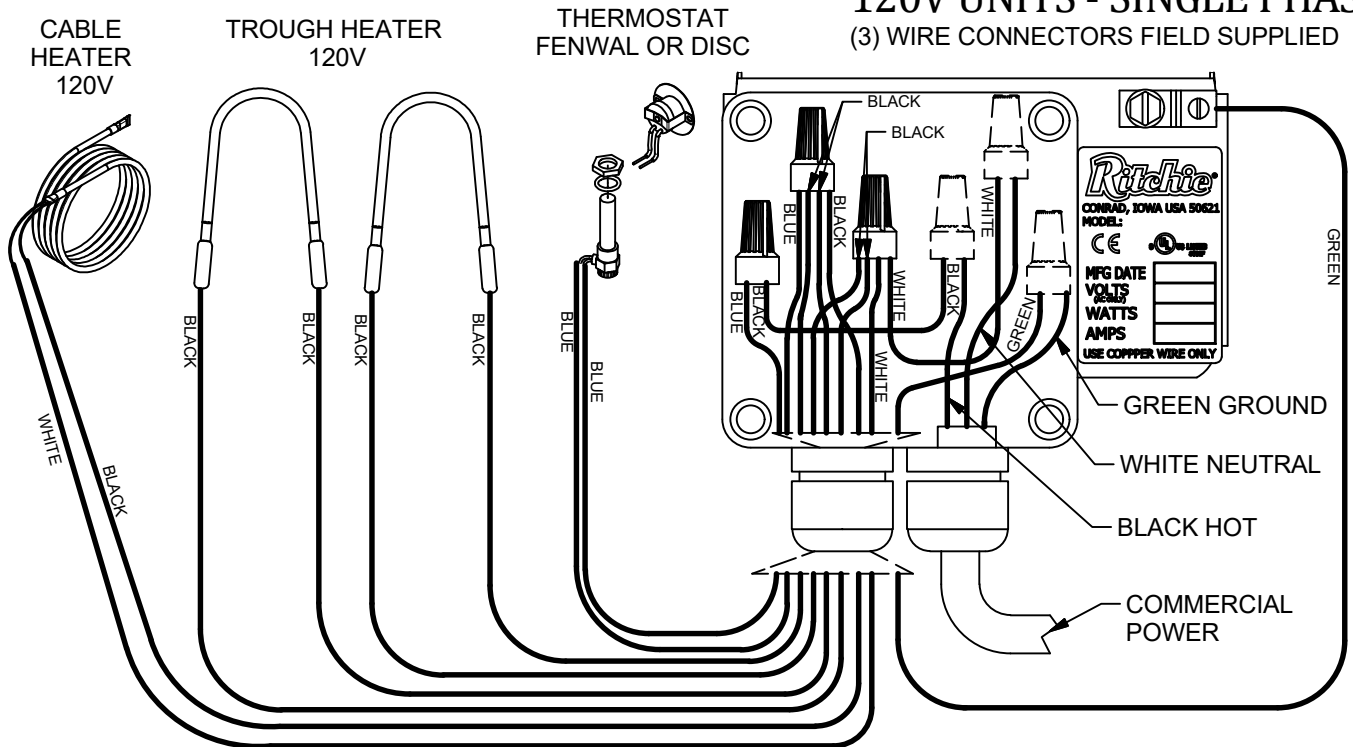
NOTE: *Maximum inlet water pressure for each valve is shown above. If water pressure is extremely high, and if the valve does not shut off, a pressure-reducing valve (Ritchie # 18649) may be needed.*

Trouble Shooting

Problem	Solution
Water in Trough Too Warm	Adjust thermostat to lower temperature (move closer to heater)
	Check to see if thermostat has failed by contacts burning closed
Ice in Trough	Check fuses or circuit breakers
	Check all heating elements to make sure they are working and hot
	Adjust thermostat to higher temperature (move away from heater)
	Check for voltage from thermostat output
	Check voltage to fountain with and without electrical load
	Check that heaters are wired properly
Valve Freezing	Check that cable heater is installed properly and fastened to water supply line and is working when heaters are hot
	Check for missing or damaged insulation
	Check for air gaps for wind penetrations
Supply line Freezing	Check that the cable heater is uncoiled and fastened around valve, to supply line and is working when heaters are hot
	Check that supply piping is centered in riser tube
	Check that riser tube is free of water and mud that may freeze
	Check that flexible hose does not touch side of casing or frame
	Check casing for air leaks
	Check for air gaps between casing and concrete floor
Valve won't stop dripping	Check float adjustment. Check for waterlogged float, or float rubbing on side of valve compartment
	Check for excessive system water pressure
	Disassemble valve and check for sand or scale in valve rubber. Also check valve orifice outlet for wear and damage. A screen or filter may be required with sandy or scaly water
	Turn valve rubber over and re-assemble
1/2" Valve:  <p>The diagram shows a cross-section of a valve assembly. A label 'Valve Rubber' points to a rectangular component inside the valve body. Another label 'Pin must be pushed out of valve to disassemble' points to a small pin located near the valve rubber. The diagram also shows the external piping and the valve handle.</p>	
Low water flow	Check that valve inlet is not plugged or supply hose is not kinked
	Check system pressure from supply hose by installing a tee and a pressure gauge directly in front of the valve to check pressure drop when valve is open. A severe pressure drop indicates a restriction or undersized supply system.
	Check that shutoff valves are fully open

WIRING DIAGRAM FOR HEATED UNITS

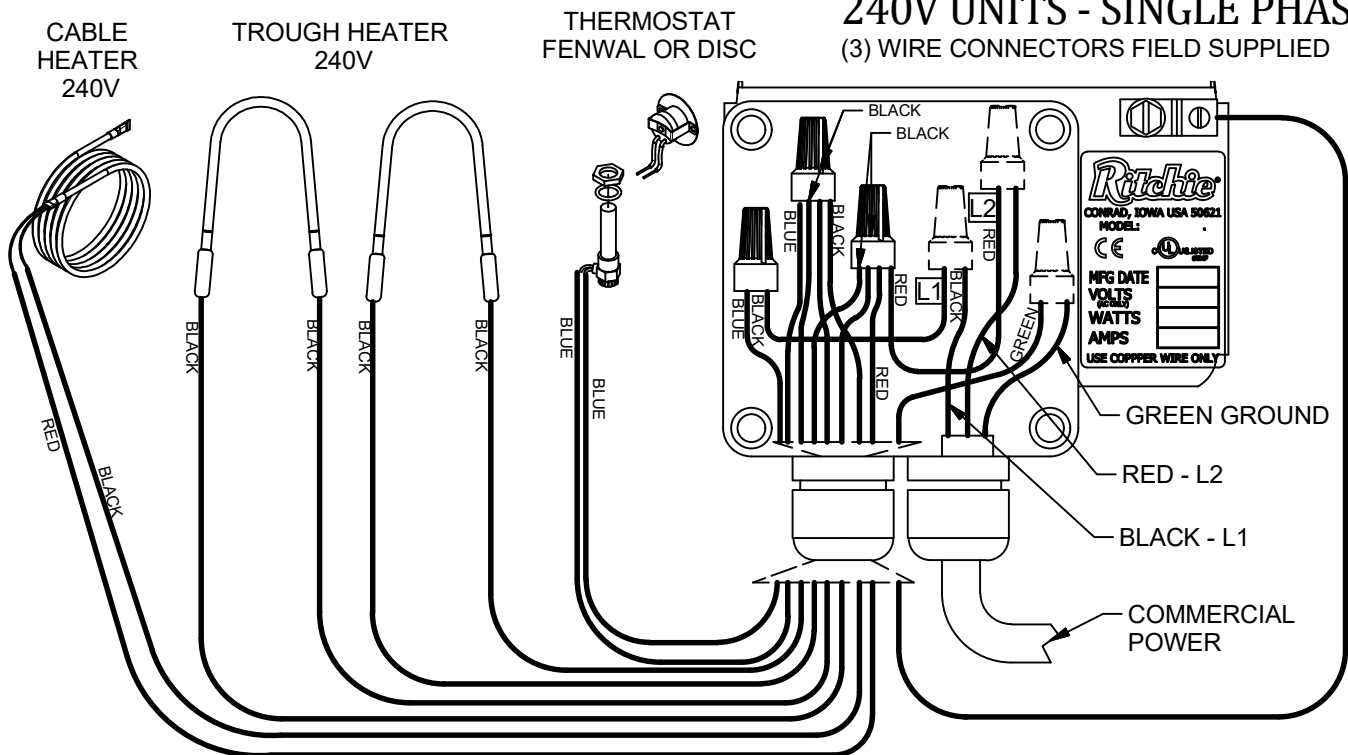
120V UNITS - SINGLE PHASE (3) WIRE CONNECTORS FIELD SUPPLIED



WARNING - CHECK NAMEPLATE FOR CORRECT VOLTAGE. ONLY CONNECT 120VAC TO 120V UNITS. WIRING DIAGRAM SHOWN WITH 2 HEATERS - QUANTITY MAY VARY

NOTE: Power cord may be supplied on select units to simplify installation. Use of a moisture resistant, exterior grade outlet is recommended in these units. Do not use extension cords.

240V UNITS - SINGLE PHASE (3) WIRE CONNECTORS FIELD SUPPLIED

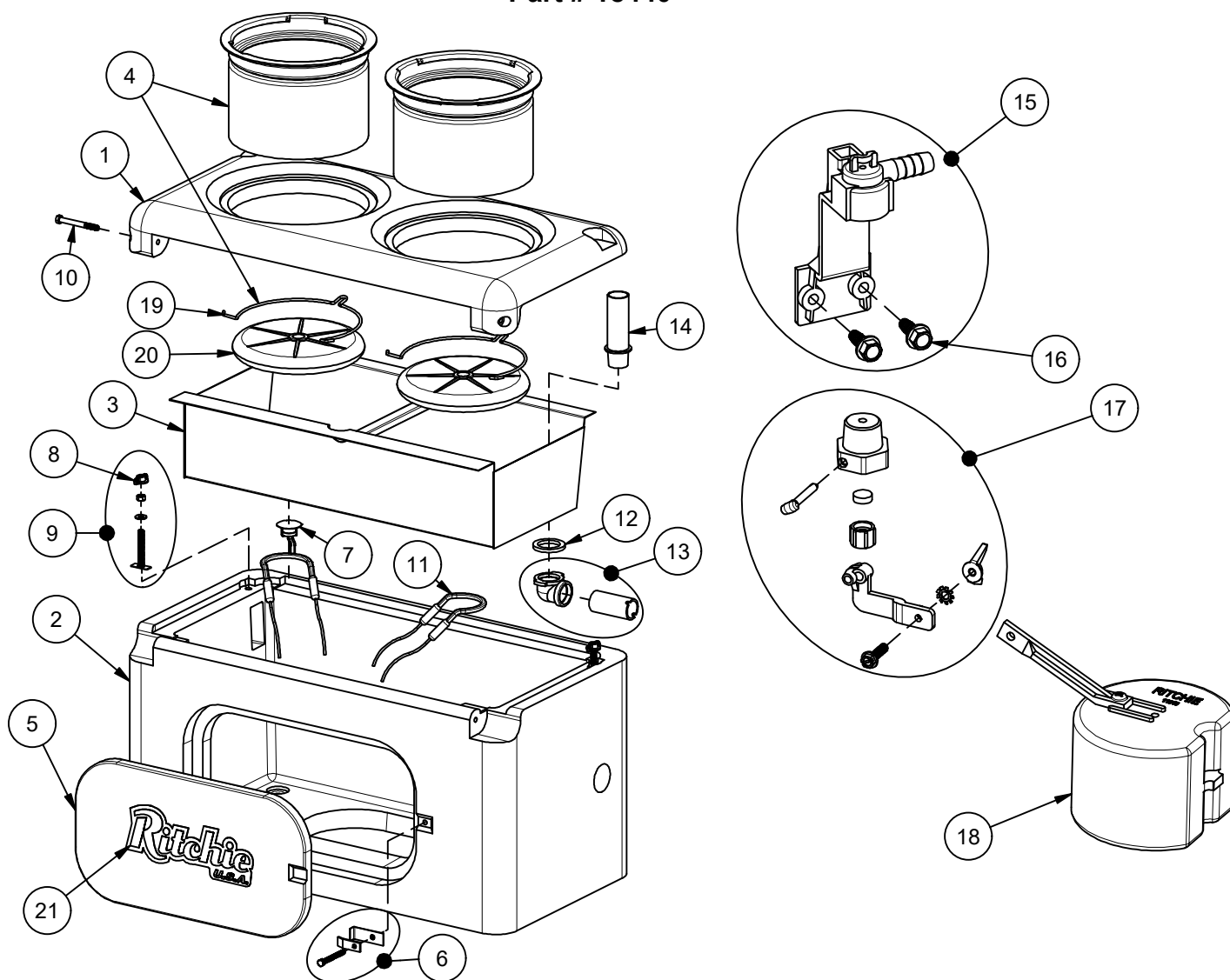


WARNING - CHECK NAMEPLATE FOR CORRECT VOLTAGE. ONLY CONNECT 230-240VAC TO 240V UNITS. WIRING DIAGRAM SHOWN WITH 2 HEATERS - QUANTITY MAY VARY

8/16/2021
Wiring-2021.dwg
TDU - Sheet: 1 of 1

EcoFount 2

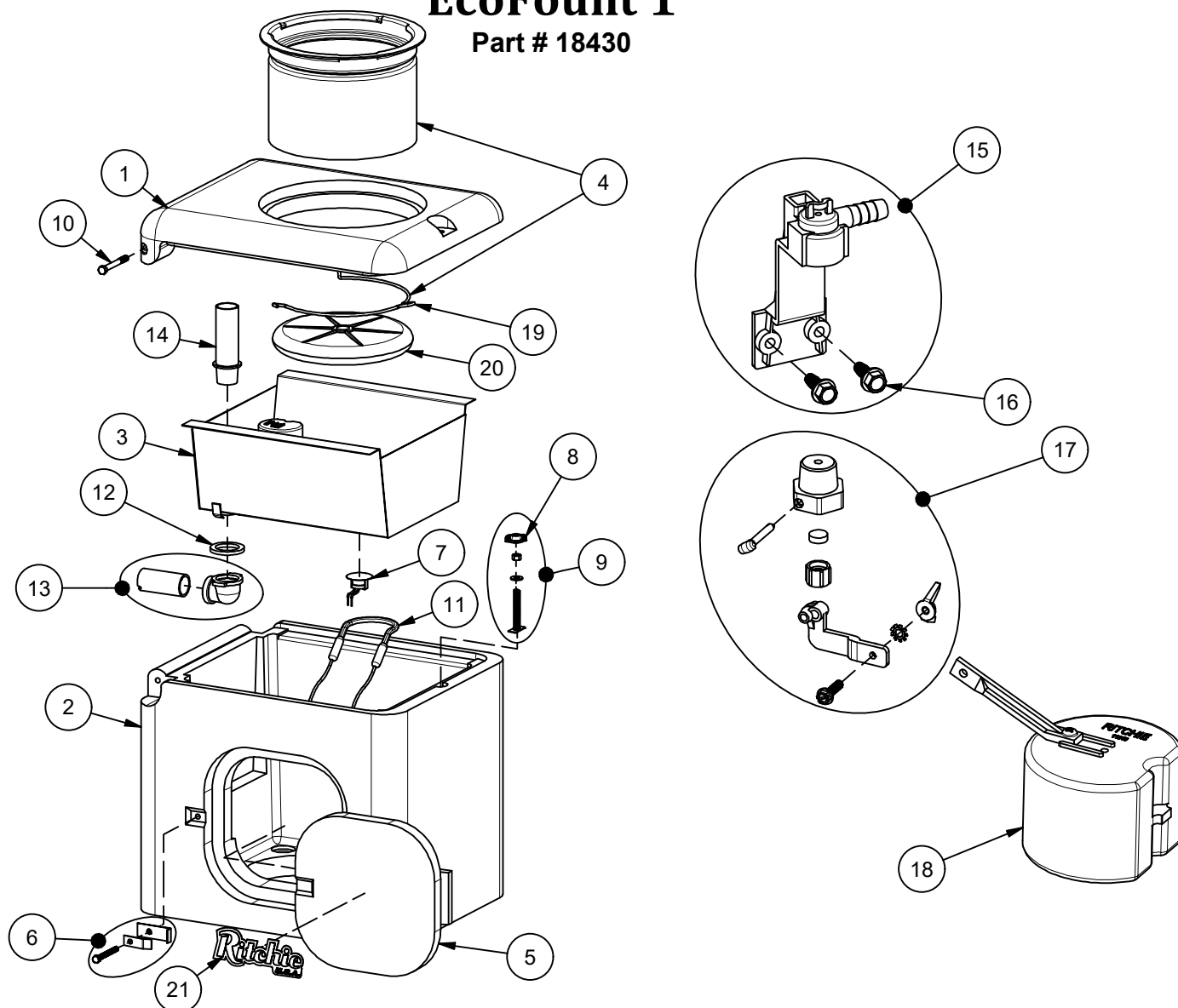
Part # 18440



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18444	EcoFount 2 Top	1	16	15154	Screws Valve Bracket (10/ pkg)	1 pkg
2	18446	EcoFount 2 Casing	1	17	12575	Red Valve 1/2" pkg	1 pkg
3	18438	EcoFount 2 Trough	1 pkg	18	13613	Float with Short Arm pkg	1 pkg
4	18447	EcoFount Drinkwell W/ Ring pkg	2 pkgs	19	17963	Retaining Ring SS	2
5	16562	Access Panel 10" x 20"	1	20	14412	Thermal Cap	2
6	18147	Access Panel Hardware pkg	1 pkg	21	18653	Ritchie Decal 12" (1/pkg)	1 pkg
7	11885	Disc Thermostat pkg	1 pkg	NS	18318	Bolt Down Washer (4/pkg)	1 pkg
8	18451	Wing Nut 3/8" Nylon (4/pkg)	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
9	18448	T-Bolt w/Wingnut 3/8" pkg (2/pkg)	1 pkg	NS	18429	EcoFount Accessory pkg	1 pkg
10	18452	Bolt 3/8"x3" SS (2/pkg)	1 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
11	14150	Heater 120V 125W (1/pkg)	2 pkgs				
12	18075	Drain Washer (6/pkg)	1 pkg		18441	EcoFount 2 240V	
13	18790	Drain Pipe with Elbow	1	NS	16664	Heater 240V 200W (1/pkg)	2 pkgs
14	14647	Drain Plug Overflow	1	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
15	11515	Valve Bracket w/screws pkg	1 pkg				

EcoFount 1

Part # 18430



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18434	EcoFount 1 Top	1	16	15154	Screws Valve Bracket (10/ pkg)	1 pkg
2	18436	EcoFount 1 Casing	1	17	12575	Red Valve 1/2" pkg	1 pkg
3	18437	EcoFount 1 Trough	1 pkg	18	13613	Float with Short Arm pkg	1 pkg
4	18447	EcoFount Drinkwell W/ Ring pkg	1 pkg	19	17963	Retaining Ring SS	1
5	18370	Access Panel 10" x 10"	1	20	14412	Thermal Cap	1
6	18147	Access Panel Hardware pkg	1 pkg	21	18655	Ritchie Decal 7.5" (1/pkg)	1 pkg
7	11885	Disc Thermostat pkg	1 pkg	NS	18318	Bolt Down Washer (4/pkg)	1 pkg
8	18451	Wing Nut 3/8" Nylon (4/pkg)	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
9	18448	T-Bolt w/ Wingnut 3/8" (2/pkg)	1 pkg	NS	18429	EcoFount Accessory pkg	1 pkg
10	18452	Bolt 3/8"x3" SS (2/pkg)	1 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
11	14150	Heater 120V 125W (1/pkg)	1 pkg				
12	18075	Drain Washer (6/pkg)	1 pkg		18431	EcoFount 1 240V	
13	18790	Drain Pipe with Elbow	1	NS	16664	Heater 240V 200W (1/pkg)	1 pkg
14	14647	Drain Plug Overflow	1	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
15	11515	Valve Bracket w/screws pkg	1 pkg				



RITCHIE INDUSTRIES, INC. LIMITED WARRANTY

Ritchie Industries, Inc., hereinafter referred to as Ritchie Industries, gives a LIMITED WARRANTY for the period of time(s) stated herein, subject to certain limitations, on your new watering system against defects in material or workmanship when properly installed, set up, operated, and maintained in accordance with the instructions and recommendations set forth by Ritchie Industries, including in the Installation Instructions. **The warranty excludes labor and shipping charges.**

The warranty is transferable to the next purchaser of the watering system prior to expiration of the warranty period, but any such transfer will not extend the original warranty term. Proof of purchase must be submitted with any warranty claim, and all warranty claims shall be processed through an Authorized Ritchie Dealer or Distributor.

Ritchie Industries' liability for any defects in material or workmanship with respect to accepted goods shall be limited to repairing the goods or replacing them as Ritchie Industries shall elect. Parts used in warranty repairs will be warranted for the balance of the water system's warranty period, with all parts replaced under warranty becoming the property of Ritchie Industries.

The limited warranty periods begin upon delivery of the watering system to the original purchaser. Upon delivery of the goods, purchaser assumes all liability, including but not limited to all personal injury and property damage, resulting from the handling, possession, or use of the goods.

WARRANTY COVERAGE AND LIMITATIONS

Limitations of Warranties and Remedies

Ritchie Industries' watering systems are designed and manufactured to provide years of reliable use when installed and operated consistent with Ritchie Industries' instructions and recommendations. However, the potential for improper installation, modifications and misuse of the goods exists. Therefore, the limited warranty provided shall be as follows:

This limited warranty shall not apply to any appearance items and shall not apply to any product which has been subject to misuse, abuse, abnormal service or handling, negligence, or accident, nor to any product that is installed and/or used contrary to Ritchie Industries' installation instructions and instructions for use. The limited warranty shall also not apply to any product whose exterior has been damaged or otherwise defaced, that has been repaired, altered, or modified by anyone, other than Ritchie Industries, in a way so as in Ritchie Industries' judgment it adversely affects the product's operation, performance, durability, or intended use, nor to any product where removal of parts, modification(s) or use of parts or accessories not manufactured or approved by Ritchie Industries has caused damage.

Coverage and Warranty Periods

Unit Type	Coverage and Warranty Period
Poly Units	Base, top, and ball closures. Ten-year limited warranty: 100% for first five years, then declining 20% per year for remainder of the 10-year period.
Stainless Steel Units	Stainless trough and stainless valve chamber frame. Ten-year limited warranty, plus ten years of corrosion coverage, at 100% for entire 10-year period.
Component Parts	One-year limited warranty on all component parts, such as floats, valves, and heating elements.

Exclusions of Liability

EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, RITCHIE INDUSTRIES MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND, EXPRESSED OR IMPLIED. **THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED FROM THIS LIMITED WARRANTY.** TO THE EXTENT THEY CANNOT BE DISCLAIMED, THE IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE LIFE OF THE EXPRESS WARRANTY. **THIS LIMITED WARRANTY EXCLUDES INCIDENTAL, CONSEQUENTIAL, AND SPECIAL DAMAGES. THIS EXCLUSION OF CONSEQUENTIAL, INCIDENTAL, AND SPECIAL DAMAGES IS INDEPENDENT FROM AND SHALL SURVIVE ANY FINDING THAT THE EXCLUSIVE REMEDY FAILED OF ITS ESSENTIAL PURPOSE.** THE REMEDIES SET FORTH IN THIS LIMITED WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON UNDER THIS WARRANTY. SOME STATES/PROVINCES DO NOT ALLOW FOR THE DISCLAIMERS, LIMITATIONS, AND EXCLUSIONS IDENTIFIED ABOVE AND, AS A RESULT, THEY MAY NOT APPLY TO YOU.

No agent, employee or representative of Ritchie Industries, and no Ritchie Industries Dealer/Distributor, is authorized to bind Ritchie Industries to any representation or warranty regarding the goods except as specifically included in this limited warranty.

Installation Instructions for



Ecofount Series

Congratulations, you have just purchased the finest watering fountain on the market. This unit is built to give you excellent service when properly installed and maintained. Please follow instructions carefully. Read and understand all instructions before installing.

Ritchie Industries, Inc.
800-747-0222
www.ritchiefount.com

