

Installation Instructions for

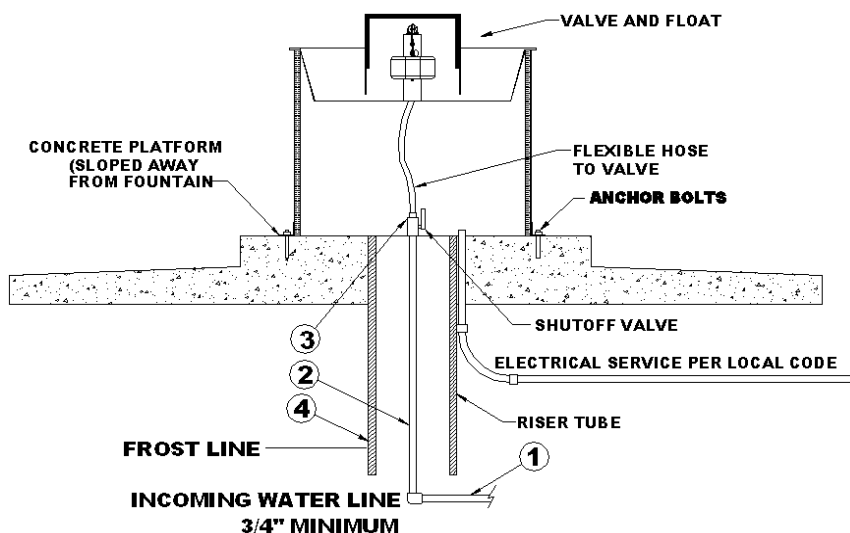


OmniFount

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

OmniFount 1, 2 and 2 SP; OmniFount 3, 5 and 10

Installation Instructions



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 one foot 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 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.**

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. **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.

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

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.

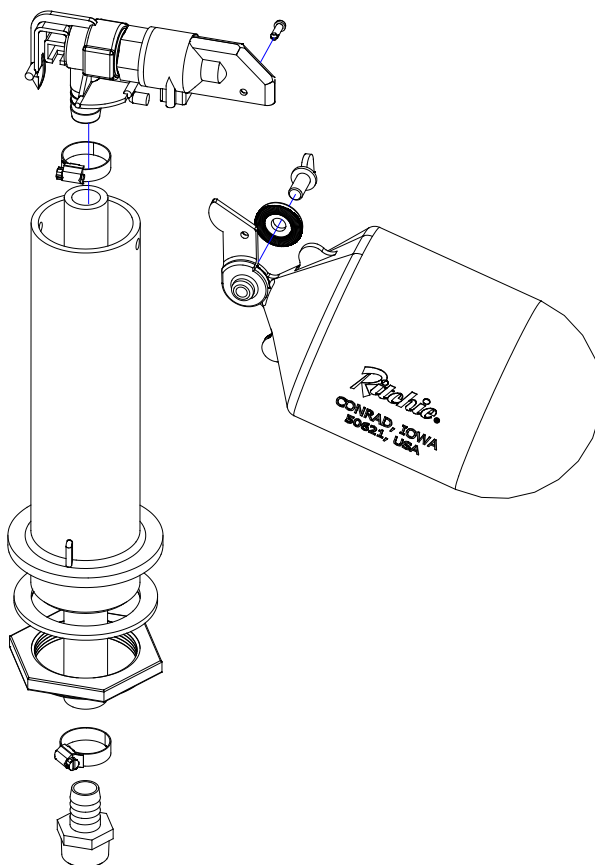
F. Hose Connection - Connect hose fitting to shut-off valve at top of concrete. Slip on barb fitting with furnished clamps. Hose should not touch insulation or outside surface of fountain. Place the hose under the fountain as you move the unit in place over the riser tube.

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

H. Anchoring Fountain – OmniFount 1 is provided with 3 hold-down pockets to anchor the unit securely to the concrete. OmniFount 2, OmniFount 2 SP & OmniFount 3 are provided with four hold-down pockets and the OmniFount 5 & 10 have 6 molded hold-down pockets. The use of 3/8" x 5" stainless steel expansion anchor bolts (not included) is recommended. Anchor bolts are available from Ritchie in a two pack, part #16555. Large diameter fender washers are included and should be used with anchor bolt to prevent damage to the plastic casing. Remove the side access panel to prepare for the remainder of the installation process.

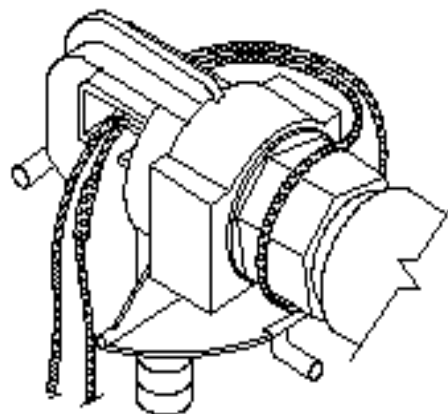
I. Valve Assembly for Omni 3, Omni 5 & Omni 10 – The valve assembly can be put together before proceeding. The following instructions apply to the OmniFount 3, 5 & 10 (Omni 1, 2 & 2 SP are pre-assembled)

1. Install standpipe into hole in trough. Rubber washer is to be on inside of trough. Tighten nut hand tight to allow for adjustment after valve assembly is installed.
2. Feed hose up through standpipe and attach to valve bracket. The hose may be shortened if necessary. Tighten the hose clamp securely to prevent leaks.
3. The lower front peg on valve bracket should be inserted into hole on standpipe first. Compress valve clip to snap in opposite hole on standpipe.
4. Remove pin from valve assembly.
5. Install float assembly on valve assembly using previously removed pin.
6. Rotate standpipe in trough until center of float aligns with center of trough. DO NOT allow float to be too close to cover when installed as this may hamper valve performance.
7. Tighten standpipe nut hand tight plus one-quarter turn. Use no joint compound for this fitting.



J. 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.

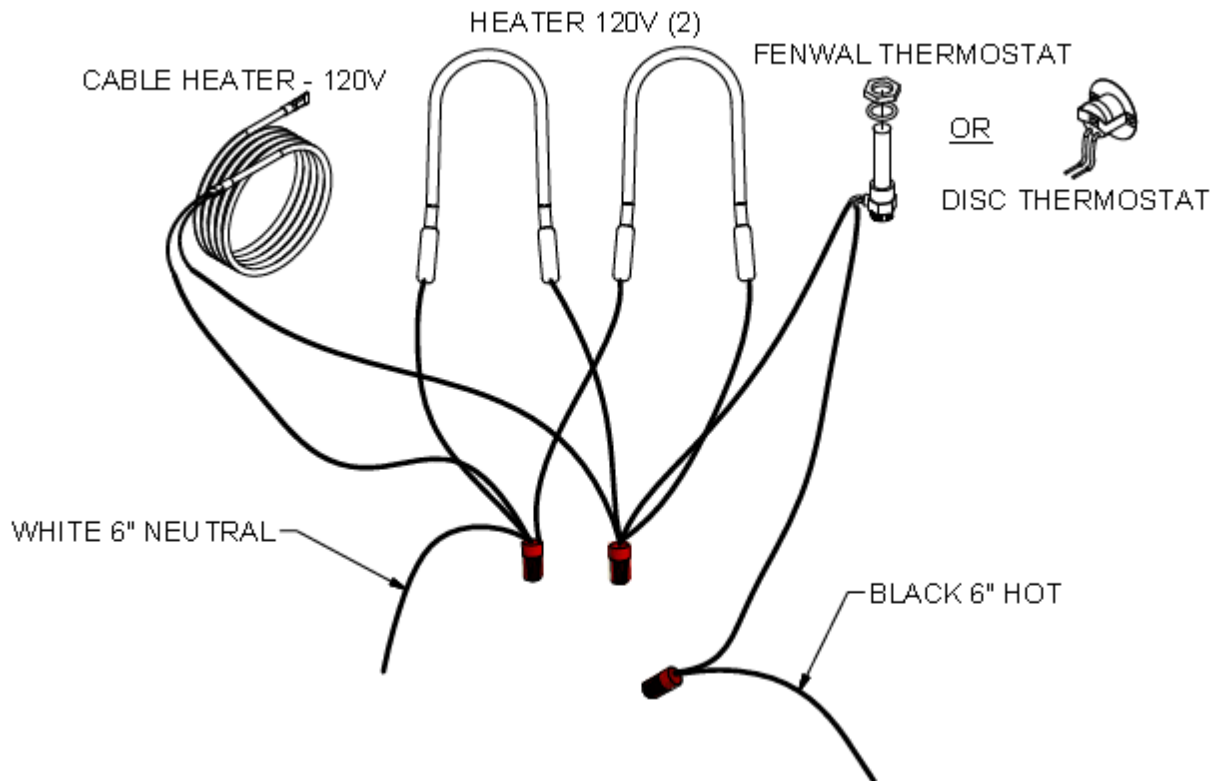
K. Cable Heater – Uncoil cable heater and loop around the valve. Attach the remaining part of the cable heater to the water supply, as far down the riser tube as possible with the cable twist ties provided. This heater is water tight, but should not be immersed in water.



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. Also, do not wrap additional insulation around heater.

L. **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 cord connected units, connection must be made only to a properly grounded circuit protected by a ground-fault circuit-interrupter (GFCI). For wiring connections, see wiring diagram. Make connections according to the wiring diagram below.

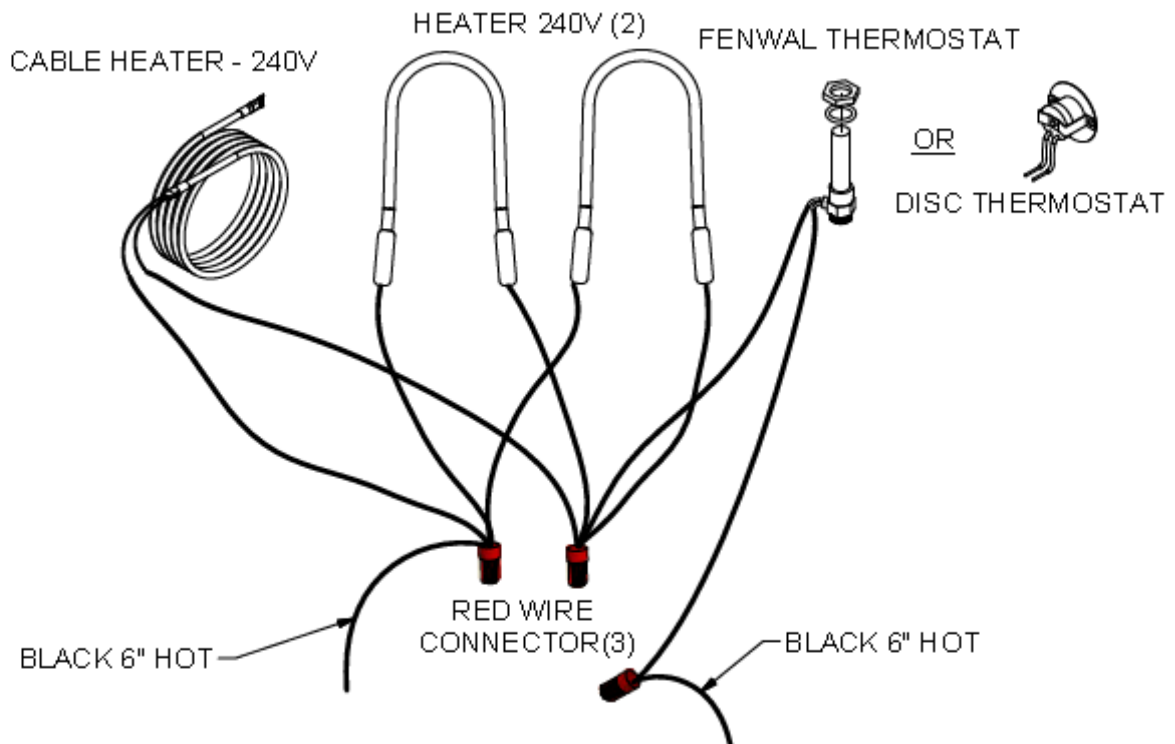
WARNING: DISCONNECT POWER IF THE WATER SUPPLY IS TO BE SHUT OFF FOR AN EXTENDED AMOUNT OF TIME. FAILURE TO TURN OFF POWER CAN RESULT IN DAMAGE TO THE WATERING FOUNTAIN.



WIRING DIAGRAM 120V SINGLE PHASE

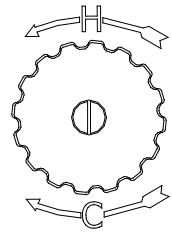
NOTE: National/Local electrical codes may require livestock waterers installed in feedlots in open feeding area to be grounded by a separate stranded copper grounding conductor or at least no.6 AWG terminating at a point where the branch circuit receives its supply. Check with local authorities.

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.

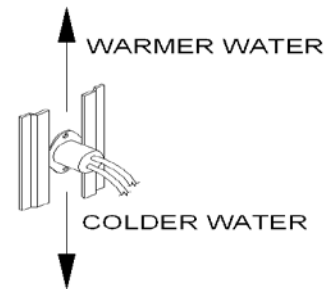


WIRING DIAGRAM 240V SINGLE PHASE

M. **Fenwal Thermostat** – (Omni 3, Omni 5 & Omni 10) 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.



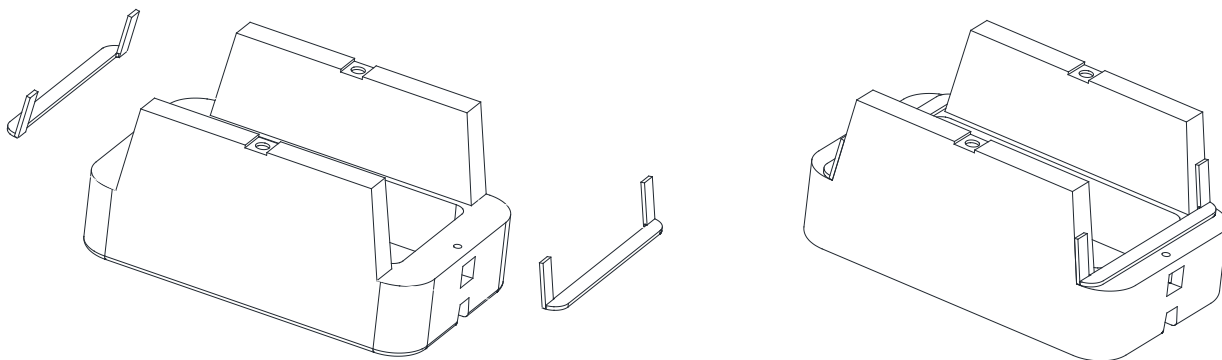
N. **Disc Thermostat** – (Omni 1, Omni 2 and Omni 2 SP) The disc thermostat is mounted in a bracket under the trough, which allows it to be moved relative to the heater. To ease movement of thermostat turn ¼ turn. To lock in position after adjustment turn ¼ turn back. **As the thermostat is moved toward 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.



O. **Final Water Connection for Omni 1, Omni 2 and Omni 2 SP Only** – 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. (This connection was already made in step “H” for the Omni 3 & 5.)

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

Q. **Valve Frame and Cover** – (OmniFount 3 & 5) Before installing the valve chamber frame, the weather seal must be installed on the frame (see picture below). The seal is installed by removing the paper backing from the adhesive side and then starting at the midpoint of the frame leg; attach the seal to the frame. Work your way around the frame with the seal as close to the inside edge as possible and then up the other leg to the halfway point. At this time cut any extra foam seal as needed then repeat for other side. The frame can then be attached to the casing using the screws and nuts provided in parts bag. A washer should be used on the head of the screw as well as under the nut. Tighten securely.



THE FOAM SEAL MUST BE PLACED ON THE OMNI 3 & 5 FRAME AS SHOWN IN THE ABOVE PICTURES BEFORE THE INSTALLATION OF THE COVER AND FRAME. THE FOAM SEAL IS TO PREVENT COLD AIR FROM LEAKING INTO THE VALVE CHAMBER AND CAUSING THE VALVE TO FREEZE.

R. **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 wing-nut. 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.

S. **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.

T. **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.

U. **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 in the valve chamber area under the float 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 two sizes and four pressure ratings - 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. 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 OmniFount 1, 2 & 2 SP and the green ¾” valve is standard on the OmniFount 3, 5 & 10.

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)
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.

Ritchie Limited Warranty

Effective September 2012

Ritchie Industries, Inc. warrants its products to be free of defective materials and workmanship. Defective part(s) will be repaired or replaced at the option of Ritchie Industries. **This warranty specifically excludes all labor and shipping charges.**

This warranty does not apply to any appearance items, to any product whose exterior has been damaged or defaced, to any product that has been improperly installed, to any product subjected to misuse, abnormal service or handling, and to any products altered or repaired with other than original equipment or manufacturer's parts.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

All warranty claims must be processed through an Authorized Ritchie Dealer/Distributor. **Proof of purchase is required. This warranty is not transferable.** The period of warranty begins at original date of purchase as follows:

Poly Units

Base, top and ball closures

10 year limited against manufacturing defect. 100% first five years, then declining 20% per year for the remaining five years.

Stainless Steel Units

Stainless trough and stainless valve chamber frame:

Ten years against manufacturing defect or corrosion. 100% all ten years.

Casing and cover:

10 year limited against manufacturing defect. 100% first year, then declining 10% per year for the remaining nine years.

Component Parts

All component parts, such as floats, valves, heating elements:

One year from the date of purchase against manufacturing defect, 100%.

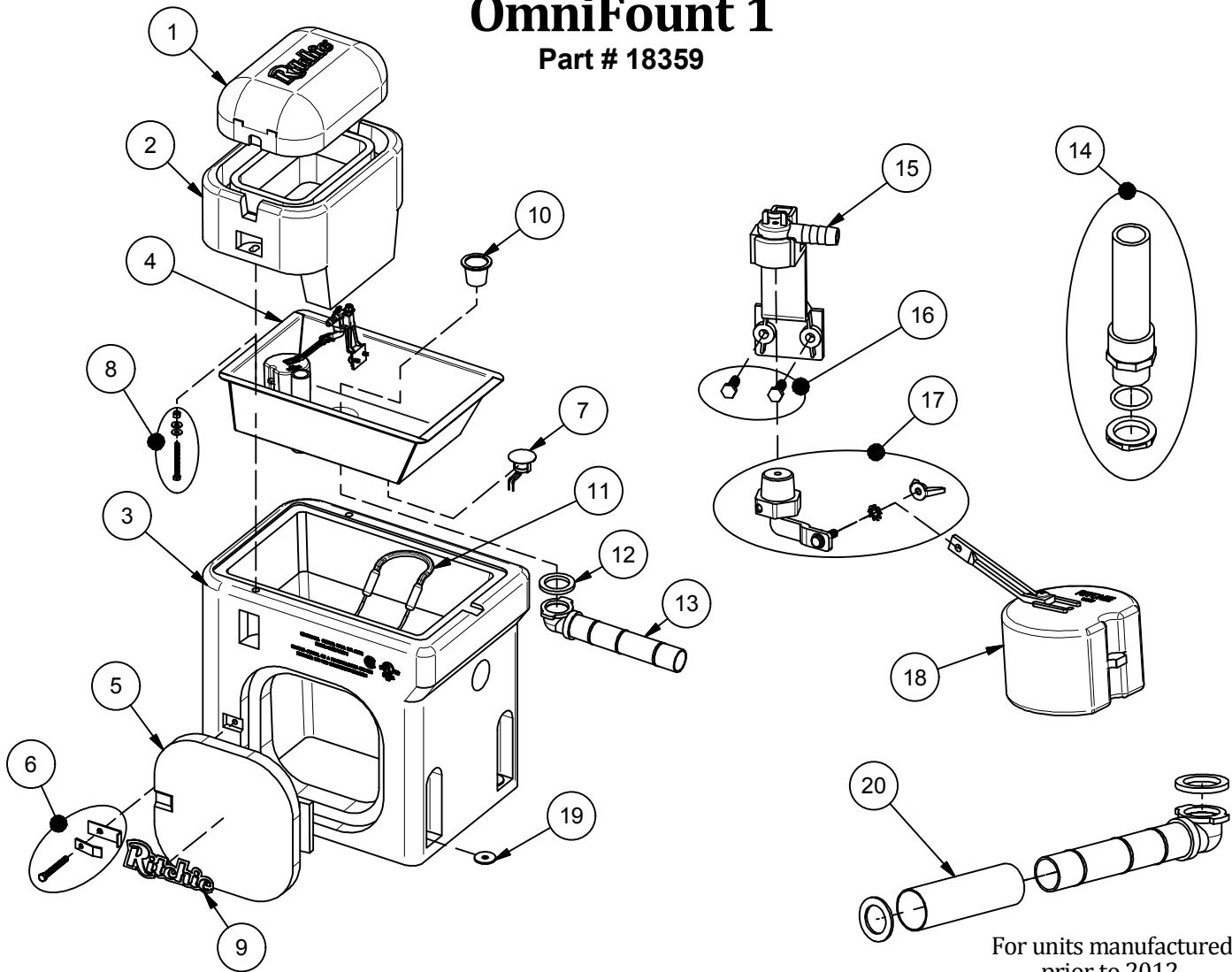
Hydrants

All component parts:

One year from the date of purchase against manufacturing defect, 100%.

OmniFount 1

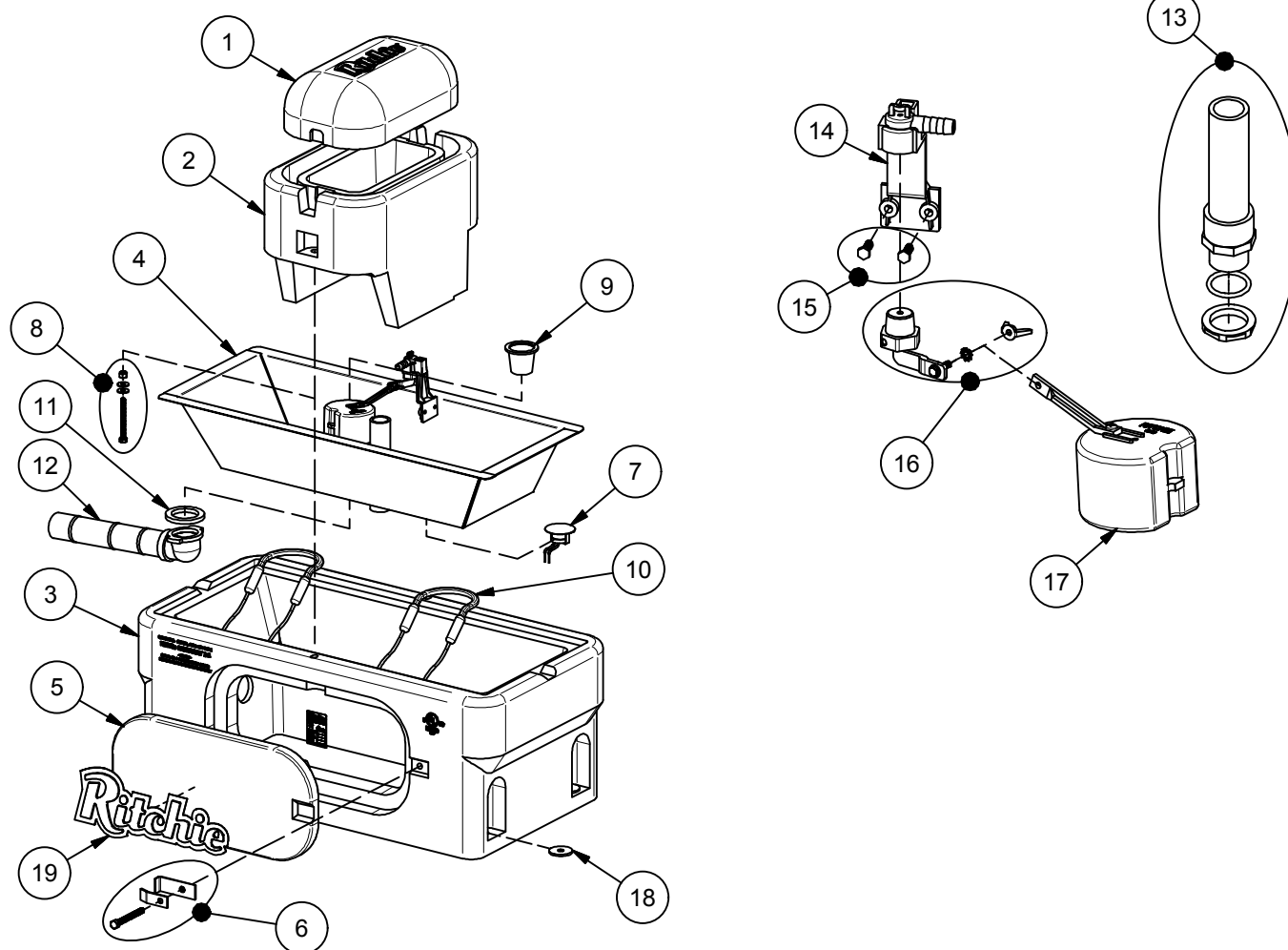
Part # 18359



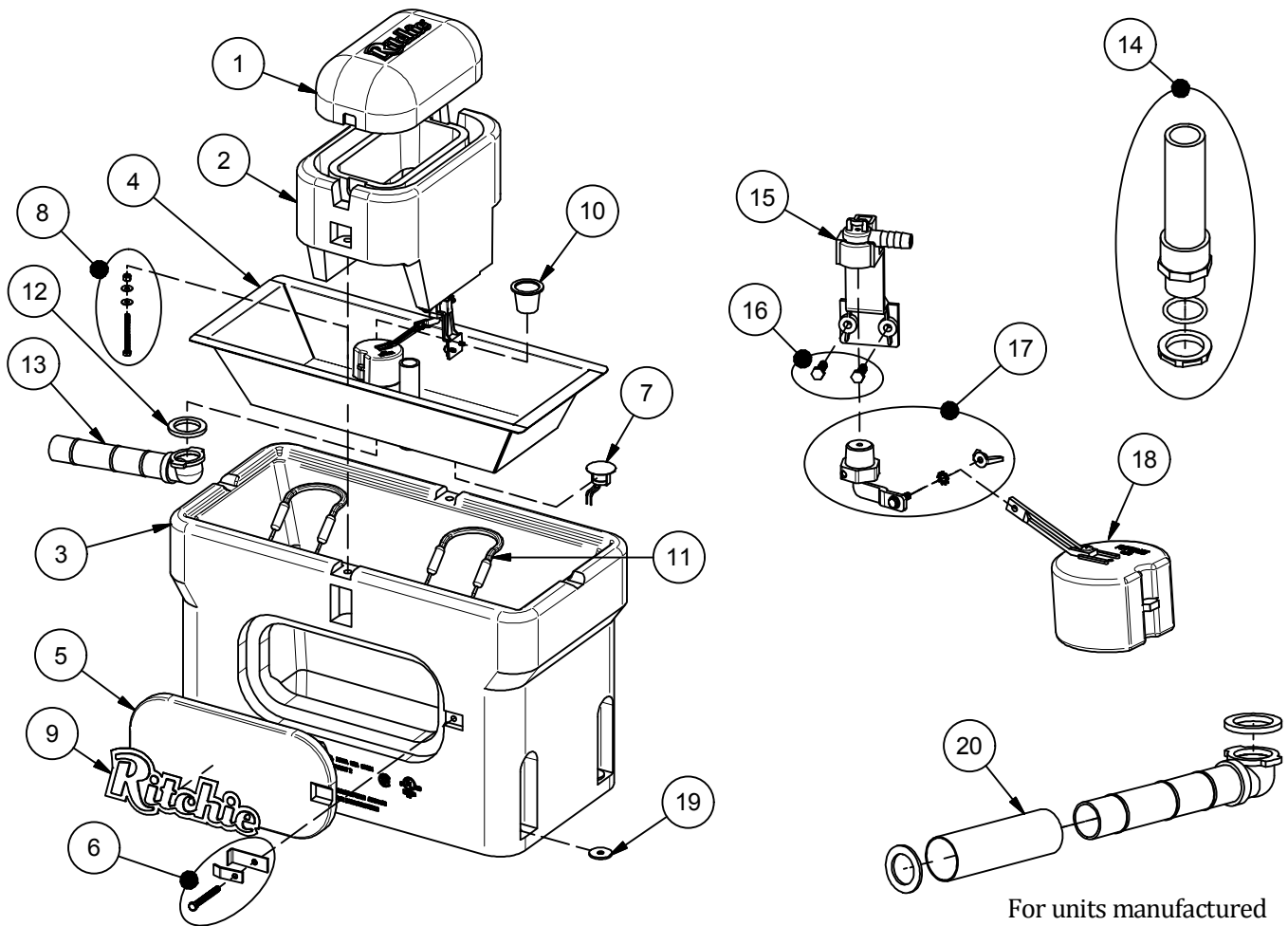
Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18422	Omni 1 Cover	1	15	11515	Valve Bracket 1/2" w/ Scrws pkg	1 pkg
2	18473	Omni 1 Frame pkg	1 pkg	16	18066	Screws Valve Bracket (6/ pkg)	1 pkg
	18474	Omni 1 Cover & Frame pkg	1 pkg	17	12575	Red Valve 1/2" pkg	1 pkg
3	18361	Omni 1 Casing	1	18	13613	Float with Short Arm pkg	1 pkg
4	18368	Omni 1 Trough	1 pkg	19	18318	Bolt Down Washer (4/pkg)	1 pkg
5	18370	Access Panel 10"x10"	1	20	17500	Drain Pipe Guard	1
6	18147	Access Panel Hardware pkg	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
7	11885	Disc Thermostat pkg	1 pkg	NS	16627	Omni 1 Accessory pkg	1 pkg
8	18266	Frame Bolt,nut&wshr SS(3/pkg)	1 pkg	NS	16523	Seal Foam 1/4"x3/4"x25' Roll	1
9	18655	Ritchie Decal 7.5" (1/pkg)	1 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
10	18628	Drain Plug (2/pkg)	1 pkg				
11	14150	Heater 120V 125W (1/pkg)	1 pkg		18362	OMNI 1 240V	
12	18075	Drain Washer (6/pkg)	1 pkg	NS	16664	Heater 240V 200W (1/pkg)	1 pkg
13	11471	Drain Pipe with Elbow	1	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
14	16866	Standpipe pkg	1 pkg				

OmniFount 2 SP

Part # 18680



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18424	Omni 2 Cover	1	14	11515	Valve Bracket 1/2" w/ Scrws pkg	1 pkg
2	18347	Omni 2 Frame pkg	1 pkg	15	18066	Screws Valve Bracket (6/ pkg)	1 pkg
	18348	Omni 2 Cover & Frame pkg	1 pkg	16	12575	Red Valve 1/2" pkg	1 pkg
3	18684	Omni 2 SP Casing	1	17	13613	Float with Short Arm pkg	1 pkg
4	16616	Omni 2 Trough	1 pkg	18	18318	Bolt Down Washer (4/pkg)	1 pkg
5	16621	Access Panel 6"x14"	1	19	18653	Ritchie Decal 12" (1/pkg)	1 pkg
6	18147	Access Panel Hardware pkg	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
7	11885	Disc Thermostat pkg	1 pkg	NS	16627	Omni 2 Accessory pkg	1 pkg
8	18266	Frame Bolt,nut&wshr SS(3/pkg)	1 pkg	NS	16523	Seal Foam 1/4"x3/4"x25' Roll	1
9	18628	Drain Plug (2/pkg)	1 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
10	14150	Heater 120V 125W (1/pkg)	2 pkg				
11	18075	Drain Washer (6/pkg)	1 pkg		18681	OMNI 2 SP 240V	
12	11471	Drain Pipe with Elbow	1	NS	16664	Heater 240V 200W (1/pkg)	2 pkg
13	16866	Standpipe pkg	1 pkg	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg

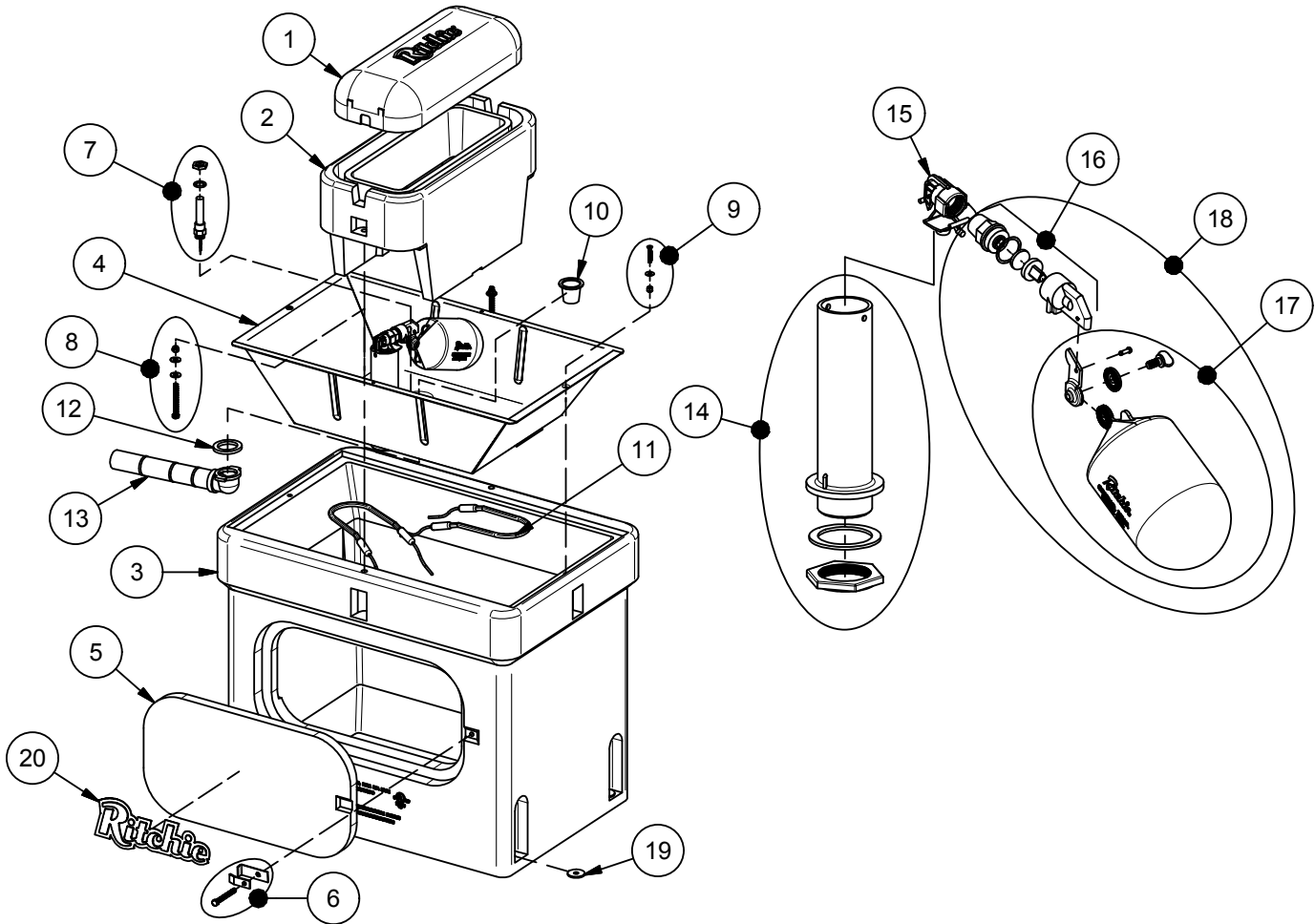
Part # 16619

For units manufactured
prior to 2012.

Item	Part #	Description	Qty		Item	Part #	Description	Qty
1	18424	Omni 2 Cover	1		15	11515	Valve Bracket 1/2" w/ Scrws pkg	1 pkg
2	18347	Omni 2 Frame pkg	1 pkg		16	18066	Screws Valve Bracket (6/ pkg)	1 pkg
	18348	Omni 2 Cover & Frame pkg	1 pkg		17	12575	Red Valve 1/2" pkg	1 pkg
3	16620	Omni 2 Casing	1		18	13613	Float with Short Arm pkg	1 pkg
4	16616	Omni 2 Trough	1 pkg		19	18318	Bolt Down Washer (4/pkg)	1 pkg
5	16621	Access Panel 6"x14"	1		20	17500	Drain Pipe Guard	1
6	18147	Access Panel Hardware pkg	1 pkg		NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
7	11885	Disc Thermostat pkg	1 pkg		NS	16627	Omni 2 Accessory pkg	1 pkg
8	18266	Frame Bolt,nut&wshr SS(3/pkg)	1 pkg		NS	16523	Seal Foam 1/4"x3/4"x25' Roll	1
9	18653	Ritchie Decal 12" (1/pkg)	1 pkg		NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
10	18628	Drain Plug (2/pkg)	1 pkg					
11	14150	Heater 120V 125W (1/pkg)	2 pkg			16844	OMNI 2 240V	
12	18075	Drain Washer (6/pkg)	1 pkg		NS	16664	Heater 240V 200W (1/pkg)	2 pkg
13	11471	Drain Pipe with Elbow	1		NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
14	16866	Standpipe pkg	1 pkg					

OmniFount 3

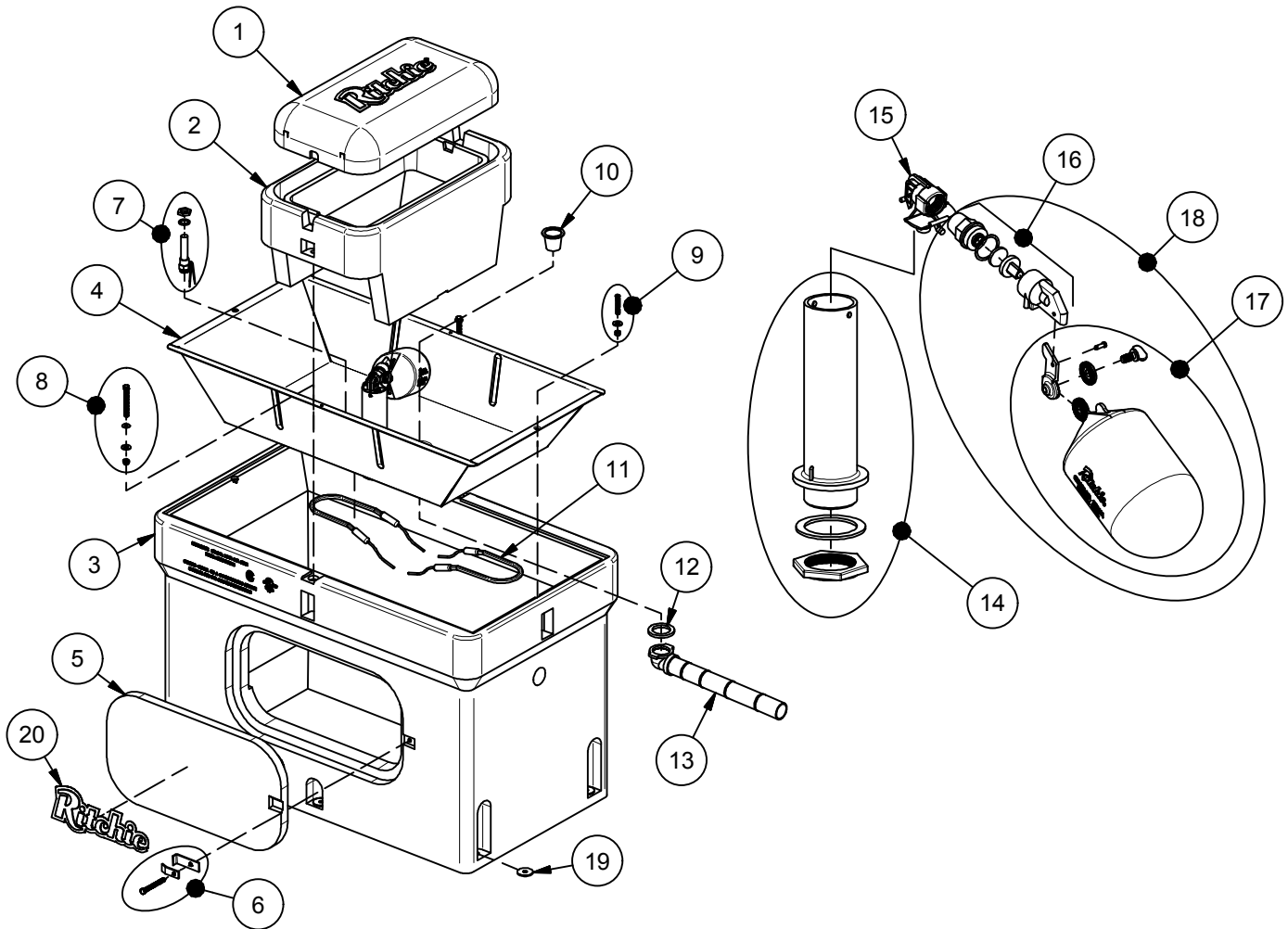
Part # 18270



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18418	Omni 3 Cover	1	15	11514	Valve Bracket 3/4" pkg	1 pkg
2	18345	Omni 3 Frame pkg	1 pkg	16	15377	Green Male Valve 3/4" pkg	1 pkg
	18346	Omni 3 Cover & Frame pkg	1 pkg	17	18314	Float with Hardware pkg	1 pkg
3	18272	Omni 3 Casing	1		18313	Hardware for Float pkg	1 pkg
4	18342	Omni 3 Trough	1 pkg	18	16993	Green Valve & Float pkg	1 pkg
5	16562	Access Panel 10"x20"	1	19	18318	Bolt Down Washer (4/pkg)	2 pkg
6	18147	Access Panel Hardware pkg	1 pkg	20	18653	Ritchie Decal 12" (1/pkg)	1 pkg
7	16534	Fenwal Thermostat SS pkg	1 pkg	NS	12583	Valve Supply Line pkg	1 pkg
	18320	O-Ring Fenwal (6/pkg)	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
	18074	Nut Brass Fenwal (6/pkg)	1 pkg	NS	16554	Omni 3 Accessory pkg	1 pkg
8	18319	Frame Bolt & Wshr SS(2/pkg)	1 pkg	NS	16523	Seal Foam 1/4"x3/4"x25' Roll	1
9	18095	Trough Screw & Nut SS (2/pkg)	1 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
10	18628	Drain Plug (2/pkg)	1 pkg				
11	11419	Heater 120V 250W (1/pkg)	2 pkg		18273	OMNI 3 240V	
12	18075	Drain Washer (6/pkg)	1 pkg	NS	11403	Heater 240V 300W (1/pkg)	2 pkg
13	11472	Drain Pipe with Elbow	1	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
14	16629	Standpipe pkg	1 pkg				

OmniFount 5

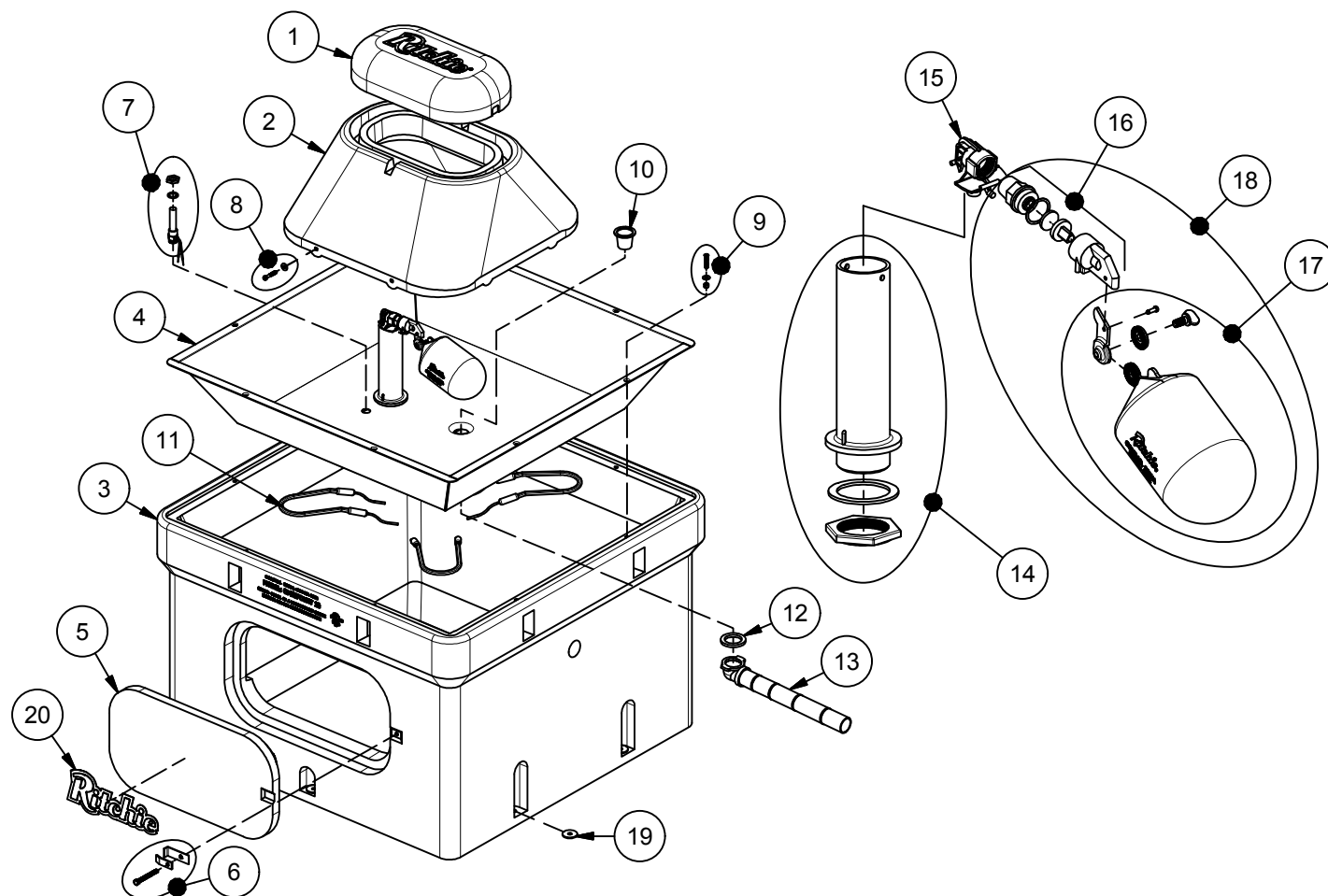
Part # 16533



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18426	Omni 5 Cover	1	15	11514	Valve Bracket 3/4" pkg	1 pkg
2	18343	Omni 5 Frame pkg	1 pkg	16	15377	Green Male Valve 3/4" pkg	1 pkg
	18344	Omni 5 Cover & Frame pkg	1 pkg	17	18314	Float with Hardware pkg	1 pkg
3	16561	Omni 5 Casing	1		18313	Hardware for Float pkg	1 pkg
4	16631	Omni 5 Trough	1 pkg	18	16993	Green Valve & Float pkg	1 pkg
5	16562	Access Panel 10"x20"	1	19	18318	Bolt Down Washer (4/pkg)	2 pkg
6	18147	Access Panel Hardware pkg	1 pkg	20	18653	Ritchie Decal 12" (1/pkg)	1 pkg
7	16534	Fenwal Thermostat SS pkg	1 pkg	NS	12583	Valve Supply Line pkg	1 pkg
	18320	O-Ring Fenwal (6/pkg)	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
	18074	Nut Brass Fenwal (6/pkg)	1 pkg	NS	16554	Omni 5 Accessory pkg	1 pkg
8	18319	Frame Bolt & Wshr SS(2/pkg)	1 pkg	NS	16523	Seal Foam 1/4"x3/4"x25' Roll	1
9	18095	Trough Screw & Nut SS (2/pkg)	1 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
10	18628	Drain Plug (2/pkg)	1 pkg				
11	11419	Heater 120V 250W (1/pkg)	2 pkg		16829	OMNI 5 240V	
12	18075	Drain Washer (6/pkg)	1 pkg	NS	11403	Heater 240V 300W (1/pkg)	2 pkg
13	11473	Drain Pipe with Elbow	1	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
14	16629	Standpipe pkg	1 pkg				

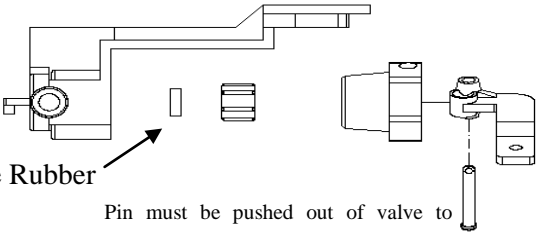
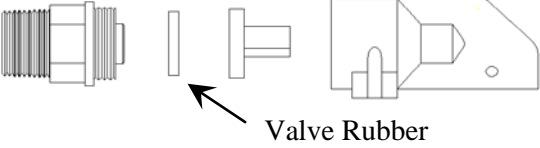
OmniFount 10

Part # 18460



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18462	Omni 10 Cover	1	15	11514	Valve Bracket 3/4" pkg	1 pkg
2	18464	Omni 10 Frame	1	16	15377	Green Male Valve 3/4" pkg	1 pkg
	18472	Omni 10 Cover & Frame pkg	1 pkg	17	18314	Float with Hardware pkg	1 pkg
3	18466	Omni 10 Casing	1		18313	Hardware for Float pkg	1 pkg
4	18469	Omni 10 Trough pkg	1 pkg	18	16993	Green Valve & Float pkg	1 pkg
5	16562	Access Panel 10"x20"	1	19	18318	Bolt Down Washer (4/pkg)	2 pkg
6	18147	Access Panel Hardware pkg	1 pkg	20	18653	Ritchie Decal 12" (1/pkg)	1 pkg
7	16534	Fenwal Thermostat SS pkg	1 pkg	NS	12583	Valve Supply Line pkg	1 pkg
	18320	O-Ring Fenwal (6/pkg)	1 pkg	NS	13830	Cable Htr 120V 48W (1/pkg)	1 pkg
	18074	Nut Brass Fenwal (6/pkg)	1 pkg	NS	16554	Omni 10 Accessory pkg	1 pkg
8	18471	Frame Bolt & Wshr SS(4/pkg)	1 pkg	NS	16523	Seal Foam 1/4"x3/4"x25' Roll	1
9	18095	Trough Screw & Nut SS (2/pkg)	4 pkg	NS	14866	Seal Foam 1/2"x3/4"x10' Roll	1
10	18628	Drain Plug (2/pkg)	1 pkg				
11	11419	Heater 120V 250W (1/pkg)	4 pkg		18461	OMNI 10 240V	
12	18075	Drain Washer (6/pkg)	1 pkg	NS	11403	Heater 240V 300W (1/pkg)	3 pkg
13	11473	Drain Pipe with Elbow	1	NS	16424	Cable Htr 240V 48W (1/pkg)	1 pkg
14	16629	Standpipe pkg	1 pkg				

Trouble Shooting

Problem	Solution
Water in Trough Too Warm	Adjust thermostat to lower temperature
	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
	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
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>1/2" Valve:</p>  <p>Valve Rubber</p> <p>Pin must be pushed out of valve to</p> </div> <div style="text-align: center;"> <p>3/4" Valve:</p>  <p>Valve Rubber</p> </div> </div>	
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