



WARNING: Any electrical service must be installed and maintained by a qualified electrician. Must conform to all national and local codes. Use a properly sized wire for the distance and current draw for your specific unit. Circuit protection may be required and should be sized according to the unit ratings.



WARNING: National/Local electrical codes may require livestock waterers with electric heat, installed in feedlots in open feeding area to be earthed by a separate stranded copper earthing 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.



CAUTION: This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge **if** they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children being supervised not to play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



CAUTION: 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.



CAUTION: For cord connected units, connection must be made only to a properly earthed circuit protected by a Residual Current Device (RCD).



CAUTION: Assure that there is water in the trough before turning on power to the heating system and immersion heater as applicable. Running this unit or immersion heater without water in the trough could cause damage to some components.



CAUTION: When using the immersion heater for supplemental heat, assure that heater will be completely below the water surface.



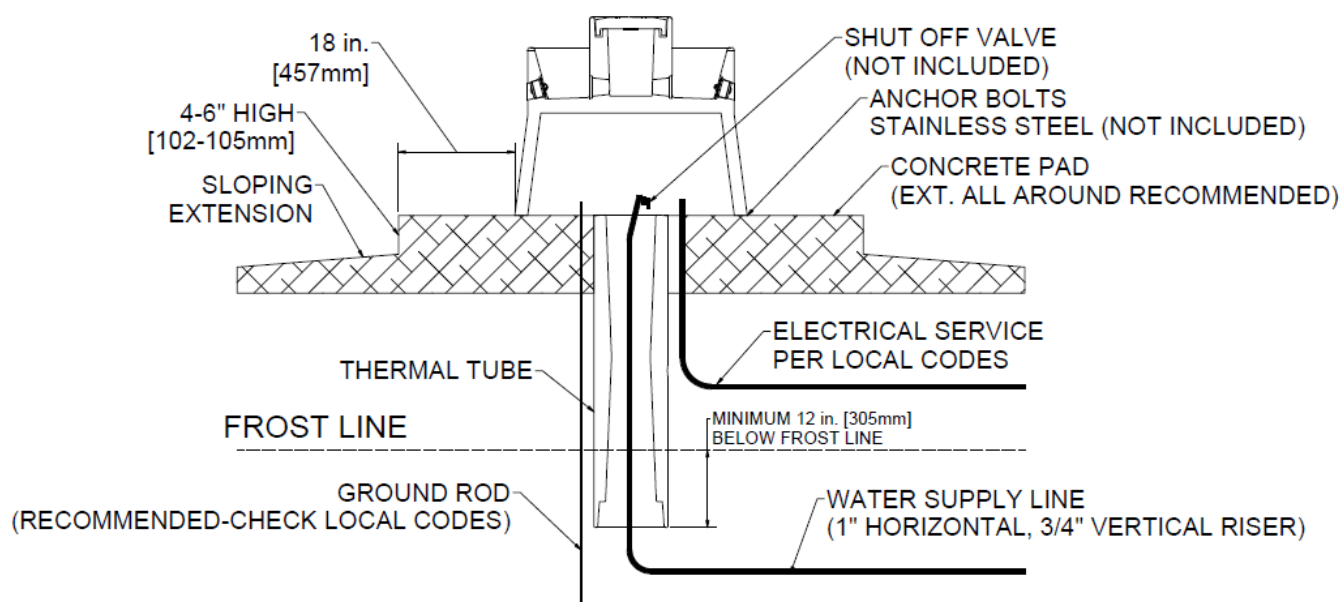
CAUTION: Maximum water supply pressure should not exceed hose rating of 200 psi (13.8 Bar). Use of a pressure reducer may be required for extreme pressures.



CAUTION: Access panel can only be removed by service personnel or similarly qualified person.

NOTE: A means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

WaterMatic 100, 150, 150S Fountain 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. If possible, the side that supply line enters the fountain should be opposite of prevailing winter wind to give additional protection to the supply line.

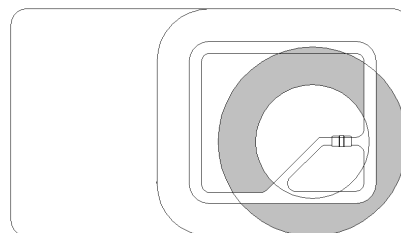
B. Water Supply Line – Horizontal underground water line should be sized to account for pressure drop, relating to distance, and placed one foot below frost line. A one-inch supply pipe is recommended. A shut-off valve should be installed under the fountain to allow for easier servicing. For optimum 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 the riser tube to provide an air space between the line and frozen ground outside of tube. Flush water supply line thoroughly before connecting to fountain. Water supplies with foreign material such as sand, rust, etc. may require a filter to keep fountain valve working properly.

C. Riser Tube – Install a riser tube and extend it at least one-foot [305mm] below frost line or down to horizontal underground water line. For optimum water line protection, use the 12" [305mm] diameter insulated Ritchie Thermal Tube, part numbers and sizes are shown to the right. Tube opening must be kept clear. **The riser tube must NOT extend above the concrete platform. See drawing.**

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.

Top view of
WaterMatic 100 shown
with Riser Tube
underneath



D. Electrical Connection (Optional) – In many areas, supplemental heat is required, it is easiest to run the electrical line at the same time you lay the waterline for your fountain. Electrical connections should be installed under the unit.

E. Mounting Platform – A concrete platform should be provided for all fountains. It should be at least 4” thick and large enough to accommodate fountain. An additional 4-6 in. [102-105mm] high step 18 in. [457mm] out from each side of the unit 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. Slope the platform away from the fountain for drainage. A rough broom finish on the concrete surface provides better footing for animals.

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

G. Hold-Downs - WaterMatic Fountains have mounting pockets molded into the base. Use of Ritchie stainless steel anchor bolts (not included) is recommended for concrete installations. Anchor bolts are available from any Ritchie authorized dealer, in packages of two, part # 16555. Once you have verified the positioning of the fountain, drill, install, and tighten down anchor bolts. Use the large washers provided to hold the unit down. Tighten hold down anchors tight, but do not over tighten as this could damage the plastic feet.

H. 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.

I. 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.*

J. Drain Plug – Install pre-assembled drain plugs from inside of trough. Plugs should be pushed in flush to prevent accidental removal by animals. Wetting the plug can aid proper installation. Tighten the wing nut to secure plug.

K. Float Adjustment – Turn on water supply, check for and correct any leaks. Adjust float for a water depth of one-two inches below top of trough by adjusting the wingnut.

L. Access Covers –Reinstall access panel in the base. Do not over tighten bolt.

M. Water Seal Drain –Install the small drain plug into the drain hole in the water seal trough around the valve chamber seal. This plug may be removed during non-freezing periods to allow water seal to drain.

N. Install Cover - Fill the water seal groove with liquid to seal against air infiltration before assembling. Drop in the valve chamber cover. Note: Serial number or date code is found on underneath side of top red valve cover.

Tip: *You may use vegetable oil to fill the water seal groove or coat the inside of the groove with baking pan coating spray before filling with water to make the cover easier to remove and reinstall during freezing weather. For areas with high evaporation, using vegetable oil may be necessary.*

O. 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 drain 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.

P. Maintenance – Regular maintenance is required for optimal performance. The valve rubber in your valve can be removed and either flipped for a new seal surface or replaced to prevent dripping. Higher pressure will require more frequent replacements. Remove any mineral build up on the valve components to allow for free movement of the valve. Heaters, cable heaters and thermostats should be checked for functionality prior to cold weather. Remove any debris accumulation in the riser tube. Sealant around the base should be checked for cracking and replaced as needed to prevent air permeation.

Installation Variations

Incoming water temperature and pressure will vary and will affect the performance of your fountain. Well water will be between 45°-50°F [7°-10°C] but rural water from a water tower may be substantially cooler. Supplemental heaters and alternate valves are available for these variations.

Supplemental Heat

Immersion Heaters			Self-Regulating Heat Cable		
Part #	Volts	Watts	Part #	Volts	Watts
16311	120	250	16276	120	30
17960	220-240	250	16713	220-240	30

Both the valve chamber and the water supply line should be protected from freezing. To protect the valve chamber, immersion heaters should be placed flat on the bottom of the chamber. Ensure the heater and power cable do not interfere with the motion of the float. Self-regulating heat cables protect the supply line from freezing. Heat cables should wrap around the valve and follow the supply line down into the riser tube. You may use nylon ties to anchor the cable to the supply line. Both immersion heaters and supply line heaters are thermostatically controlled, using power only when needed. Neither heater will get hot enough to melt the plastic of the fountain.

Ritchie Valves

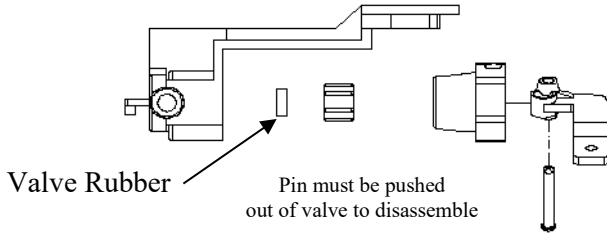
Ritchie valves come in various sizes and pressure ratings as shown below - green for high supply line pressure, red for moderate supply pressure, and white for low-pressure applications. Your individual situation may require a change from the standard valve supplied with your fountain, see your Ritchie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

NOTE: *The red ½" valve is standard on the WaterMatic 100, 150, 150S.*

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]

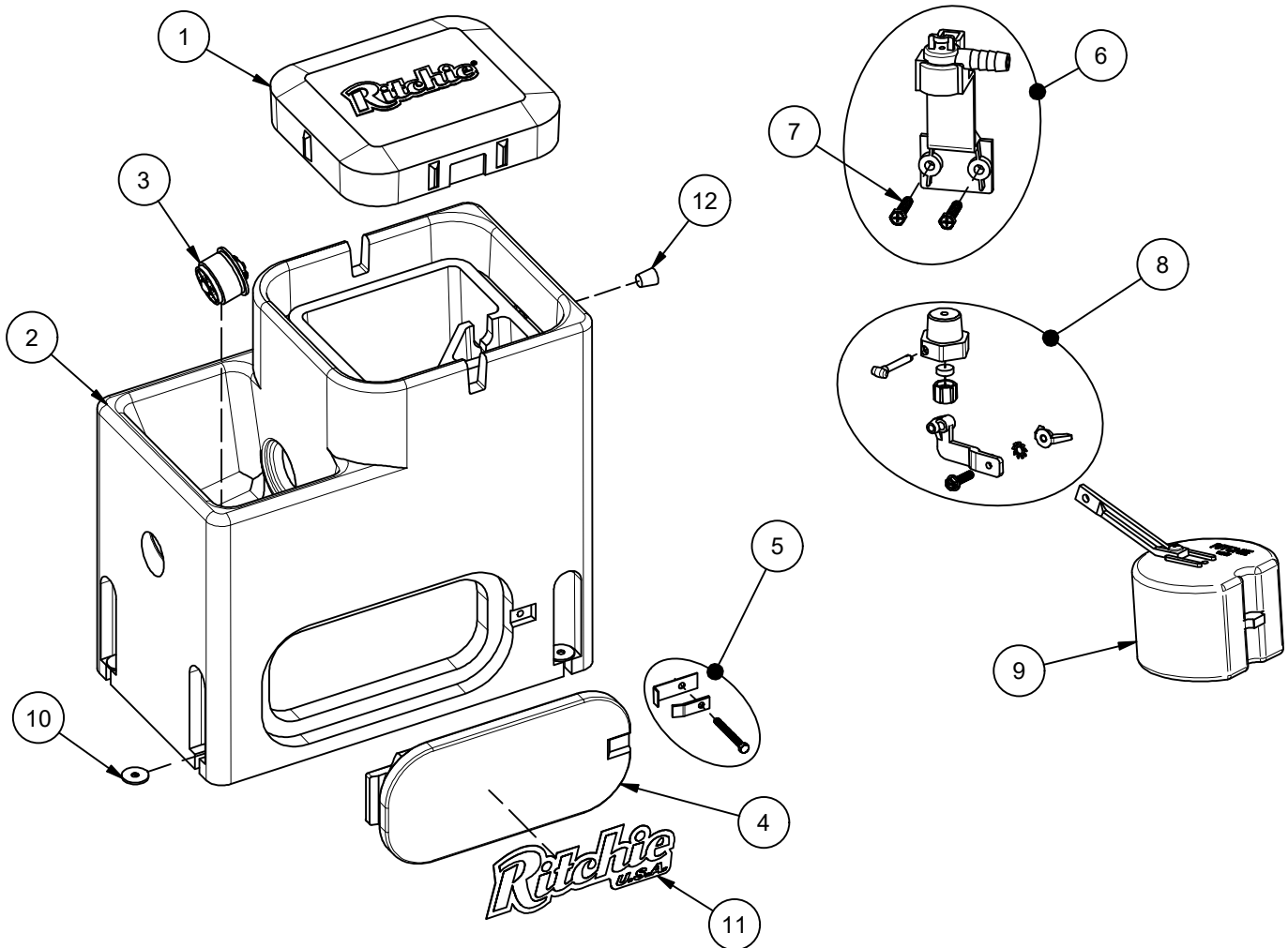
NOTE: *Maximum inlet water pressure for each valve is shown above. If water pressure is extremely high, and if the valve does not shut off, a pressure-reducing valve (Ritchie #18649) may be needed.*

Trouble Shooting

Problem	Solution
Water Freezing in the Valve or Supply Line	Make sure the fountain is sealed from wind between the concrete platform and bottom of unit.
	Make sure water seal groove is filled with liquid.
	Make sure supply line is properly installed: ♦ Riser tube with supply line centered, and air space between riser tube and supply line. Ritchie Thermal Tubes are recommended as they have optimum inside and outside diameter to maximize insulation. ♦ The horizontal supply line is at least 1-foot [305mm] below the frost line.
	If freezing continues, use supplemental heat below freezing temperatures.
Low Water Flow	Check that the valve inlet is not plugged, or supply hose is not kinked.
	Check the system pressure from the supply hose by installing a tee and pressure gauge 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 shut off valves are fully open.
Valve won't stop dripping	Check float adjustment. Ensure float moves freely.
	Take valve apart and check for sand or scale in valve rubber.
	Turn valve rubber over and re-assemble.
	Check for excessive water system pressure and install pressure reducing valve.
1/2" Valve: 	

WaterMatic 100

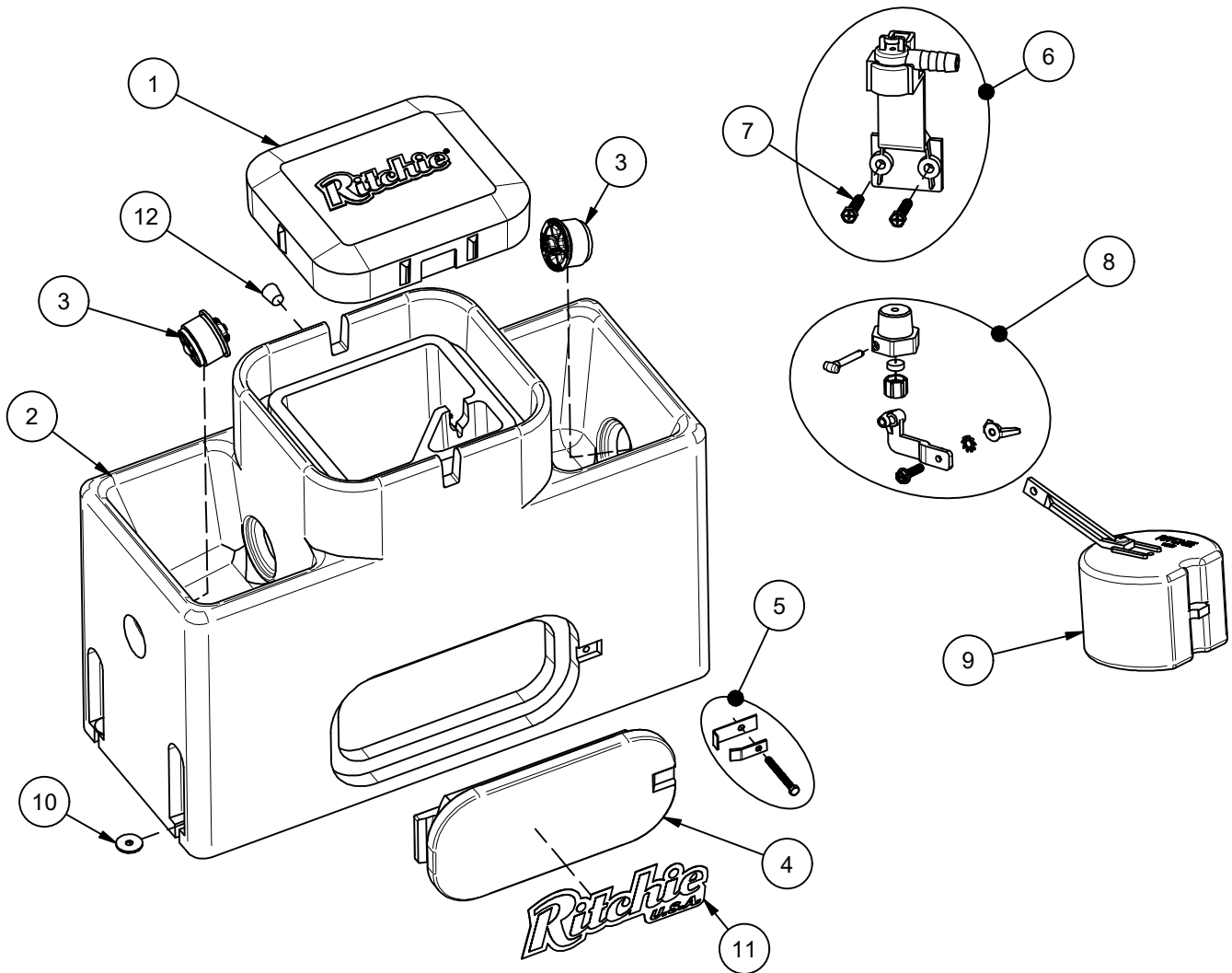
Part # 18165



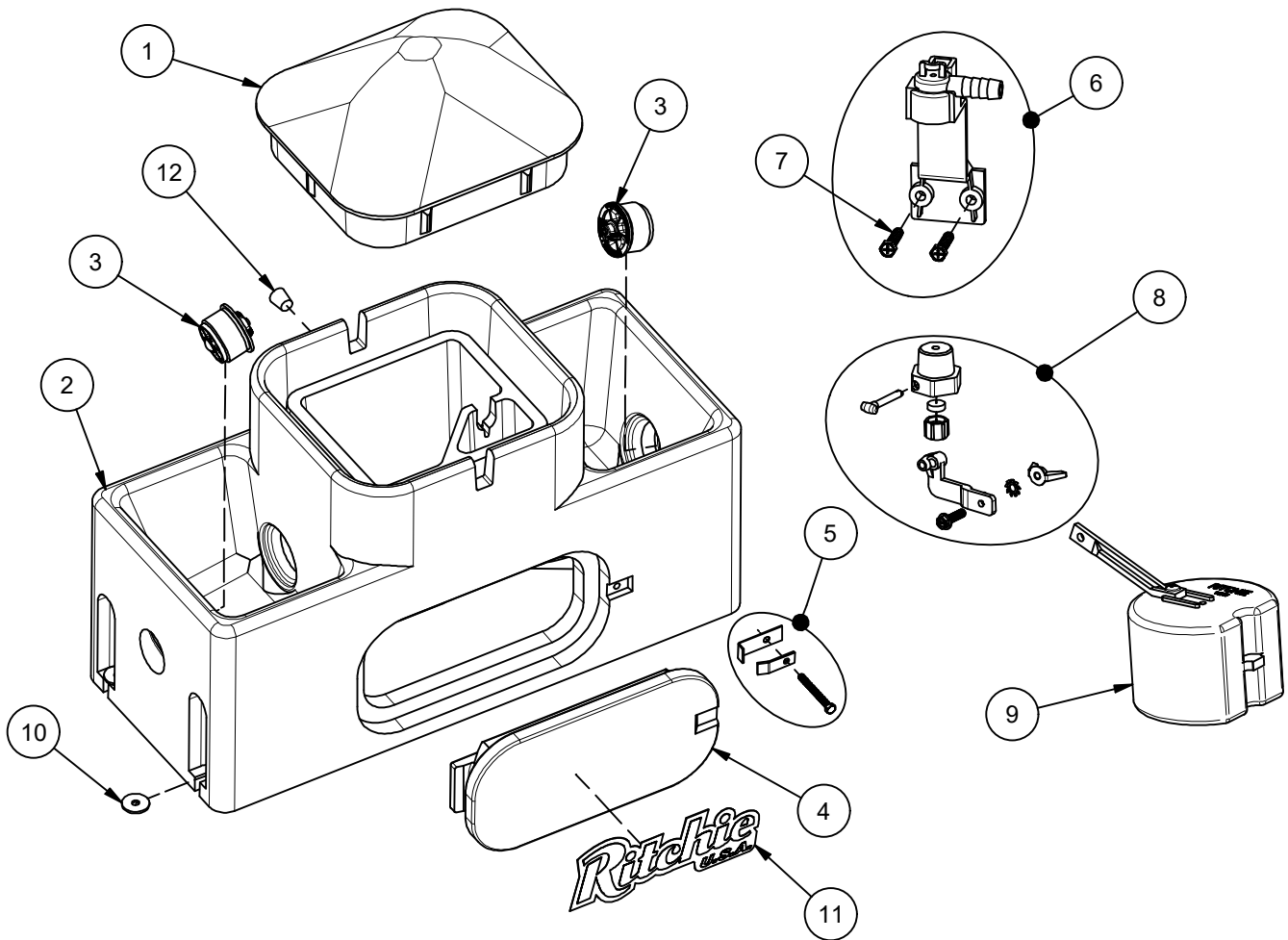
Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18167	WaterMatic 100/150 Cover	1	9	13613	Float with Short Arm pkg	1 pkg
2	18168	WaterMatic 100 Base	1	10	18318	Bolt Down Washer (4/pkg)	1 pkg
3	18470	Drain Plug Ritchie 3"	1 pkg	11	18653	Ritchie Decal 12" (1/pkg)	1 pkg
4	16621	Access Panel 6"x14"	1	12	18633	Plug #3 - Water Channel (2/pkg)	1 pkg
5	18147	Access Panel Hardware pkg	1 pkg	NS	14866	Seal Foam 10' Roll	1
6	11515	Valve Bracket w/ screw pkg	1 pkg	NS	15931	Hose Clamp SS (5/pkg)	1 pkg
7	18709	Screw Valve Mount (4/pkg)	1 pkg	NS	18613	Adapter 1/2" x 3/8" HB	1 pkg
8	12575	Red Valve 1/2" pkg	1 pkg	NS	18187	WMatic Small Accessory pkg	1 pkg

WaterMatic 150

Part # 18166



Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18167	WaterMatic 100/150 Cover	1	9	13613	Float with Short Arm pkg	1 pkg
2	18169	WaterMatic 150 Base	1	10	18318	Bolt Down Washer (4/pkg)	1 pkg
3	18470	Drain Plug Ritchie 3"	2 pkgs	11	18653	Ritchie Decal 12" (1/pkg)	1 pkg
4	16621	Access Panel 6"x14"	1	12	18633	Plug #3 - Water Channel (2/pkg)	1 pkg
5	18147	Access Panel Hardware pkg	1 pkg	NS	14866	Seal Foam 10' Roll	1
6	11515	Valve Bracket w/ screw pkg	1 pkg	NS	15931	Hose Clamp SS (5/pkg)	1 pkg
7	18709	Screw Valve Mount (4/pkg)	1 pkg	NS	18613	Adapter 1/2" x 3/8" HB	1 pkg
8	12575	Red Valve 1/2" pkg	1 pkg	NS	18187	WMatic Small Accessory pkg	1 pkg

Part # 18222

Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	18223	WaterMatic 150S Cover	1	9	13613	Float with Short Arm pkg	1 pkg
2	18224	WaterMatic 150S Base	1	10	18318	Bolt Down Washer (4/pkg)	1 pkg
3	18470	Drain Plug Ritchie 3"	2 pkgs	11	18653	Ritchie Decal 12" (1/pkg)	1 pkg
4	16621	Access Panel 6"x14"	1	12	18633	Plug #3 - Water Channel (2/pkg)	1 pkg
5	18147	Access Panel Hardware pkg	1 pkg	NS	14866	Seal Foam 10' Roll	1
6	11515	Valve Bracket w/ screw pkg	1 pkg	NS	15931	Hose Clamp SS (5/pkg)	1 pkg
7	18709	Screw Valve Mount (4/pkg)	1 pkg	NS	18613	Adapter 1/2" x 3/8" HB	1 pkg
8	12575	Red Valve 1/2" pkg	1 pkg	NS	18187	WMatic Small Accessory 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



WaterMatic 100/150/150S Fountains

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



Alternate formats for this
manual are available at:
www.Ritchiefount.com

