

Installation Instructions for



Thrifty King for Swine 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

Part # 11904
10 September, 2012

Models HG2 and HG4

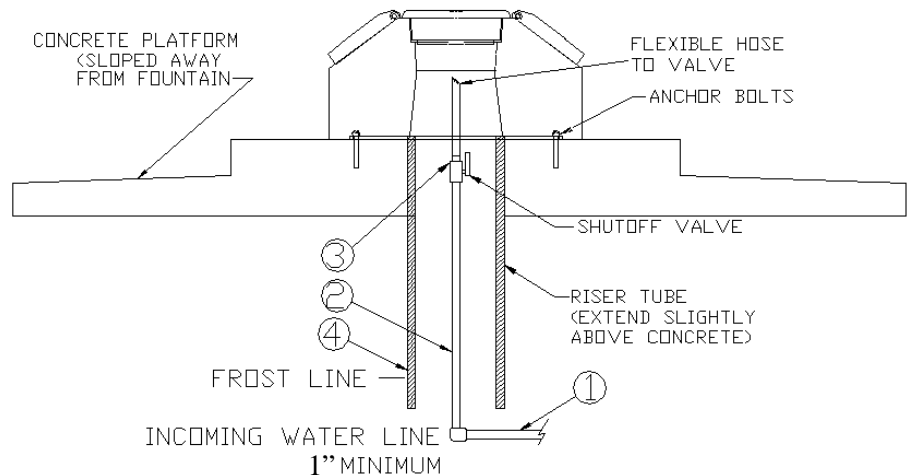
Fountain Installation Instructions

Thrifty King fountains are intended to be energy free, however, a number of factors must be met for this to be the case:

- ◆ There must be at least 10-12 animals that have the Thrifty King fountain as their only source of water.
- ◆ There must be a good seal against wind between the concrete platform and base of the unit.
- ◆ The supply water temperature must be at least 42°F. (This may be an issue for rural or municipal water supplies.)
- ◆ Ritchie Thermal Tubes are recommended.

If these factors are not met, supplemental heat is recommended. Please see Supplemental Heat section of this manual, page 3 for specific recommendations.

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 – The horizontal underground water line (#1) should be sized to account for pressure drop, relating to distance, at least 3/4” (1” recommended) in diameter and 1’ below normal frost depth. A 3/4” (1” recommended) vertical supply pipe (#2) is recommended. A shut-off valve (#3) may be installed under the fountain 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. 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 valve working properly.

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 (#4) around pipe to provide room for plumbing and to accommodate optional shut-off valve. Ensure that the water supply line is centered in the riser tube. Do not add any insulation in the riser tube, as it provides a path for frost. For optimum water line protection, use the insulated Ritchie Thermal Tube. Use whatever combination of Thermal Tubes is required to reach at least 1’ below frost line.

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. Use only the foam hose insulation provided around the supply line. Any foreign material in the tube may cause frost to migrate to the supply line causing it to freeze.

D. **Electrical Connection** (Optional): Although Thrifty King fountains are designed to be electric free, there are circumstances where supplemental heat may be required. If electricity is available, it is a good management decision to run the electrical line for future use in the event your operation changes and no longer meets the requirements for electric free. Any electrical service must be installed and maintained by a qualified electrician.

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” high step 18” 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, around the outside edge of the fountain. Use additional foam weather stripping provided to create a seal between the outside edge of the riser tube and access opening on the bottom of the fountain.

G. **Hold-Downs** - Thrifty King for Swine Fountains are provided with four (4) stainless steel hold down angle brackets to anchor unit securely to concrete. Use of Ritchie stainless steel anchor bolts (not included) is recommended for concrete installations. Anchor bolts are available from Ritchie, part #14261 (package of 2 bolts).

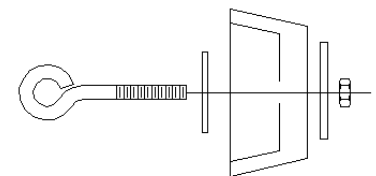
H. **Position Fountain** – Remove the fountain cover. Connect hose to the top of the supply line, or the customer supplied shutoff valve at the top of the concrete. Slide foam rubber hose insulation down over the hose. Place fountain on the concrete pad over the riser tube so the supply hose is centered in riser tube. Bring the supply hose up through the access opening in bottom of fountain – cut the hose to the length required to connect to the valve.

NOTE: Unit should be level to insure proper operation.

I. **Hose Connection** – Slip the end of the hose onto the barb fitting of the valve assembly. Clamps and fittings are furnished to secure the connection. Slide hose insulation toward valve as far as possible, and fasten with nylon tie wrap. The insulation will cover part of the valve when properly positioned.

J. **Drain Plug** –Install pre-assembled drain plugs from outside of trough.

Wetting the plug can aid proper installation. **NOTE:** To drain the unit, grasp eyebolt to pull plug.



K. **Float Adjustment** - Turn on water supply, check for and correct any leaks, and adjust float levels. The water surface should be even with the mounting screws on the valve bracket.

L. Install Cover - Replace the top cover and secure to base. **Do not over tighten bolts.**

M. 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.**

Supplemental Heat

In some cases you may wish to add supplemental heat to the Thrifty King. Immersion heater part #16311 should be placed flat on the bottom of the valve chamber. Ensure that the placement of the heater and its power cable do not interfere with the motion of the float assembly. Supply line heat cable part #16276 should wrap around the valve, and follow the supply line down the riser tube. Use nylon ties to anchor the heat cable to the supply line.

Thrifty King for Swine Product Specifications

	HG 2	HG 4
Drink Height	8	8
Width	20	31.25
Length	31.25	31.25
Shipping Weight	50	70
Operating Capacity	2 Gallons	5.2 gallons
Herd Capacity	80 Hogs	160 Hogs

NOTE: Serial number or date code is found on underneath side of top red valve cover. This information will be needed for warranty.

Ritchie Valves

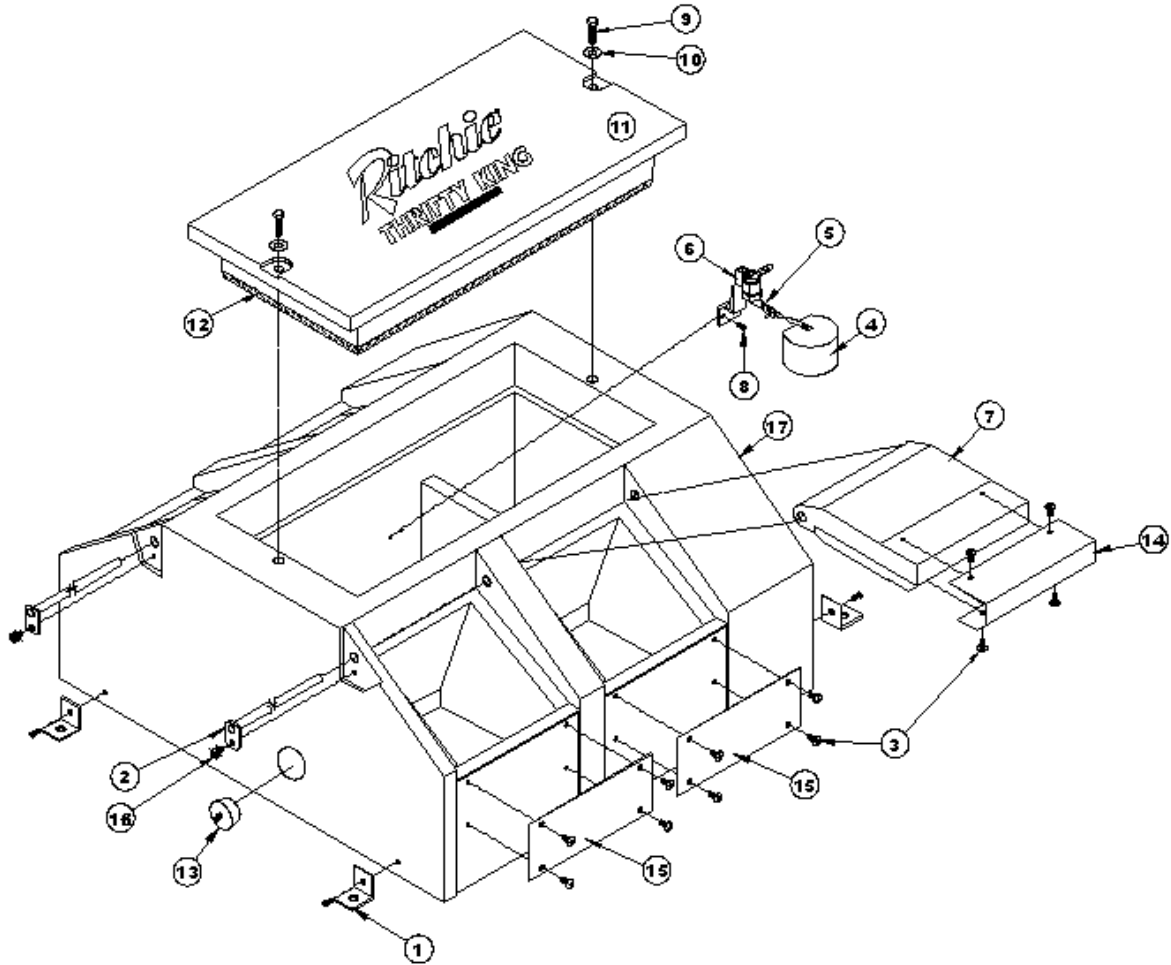
Ritchie valves come in three pressure ratings as shown. The Thrifty King for swine uses the smaller 1/2" valves. A red valve is standard with all Thrifty King for Swine units. This valve accommodates most common operating pressures, and provides more than adequate water flow rates for the number of animals that could be drinking at any one time from these troughs.

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

Your individual situations may require a change from the standard valve supplied with your fountain, see your Ritchie Dealer if this is needed.

Thrifty King for Swine HG4

Part # 16260



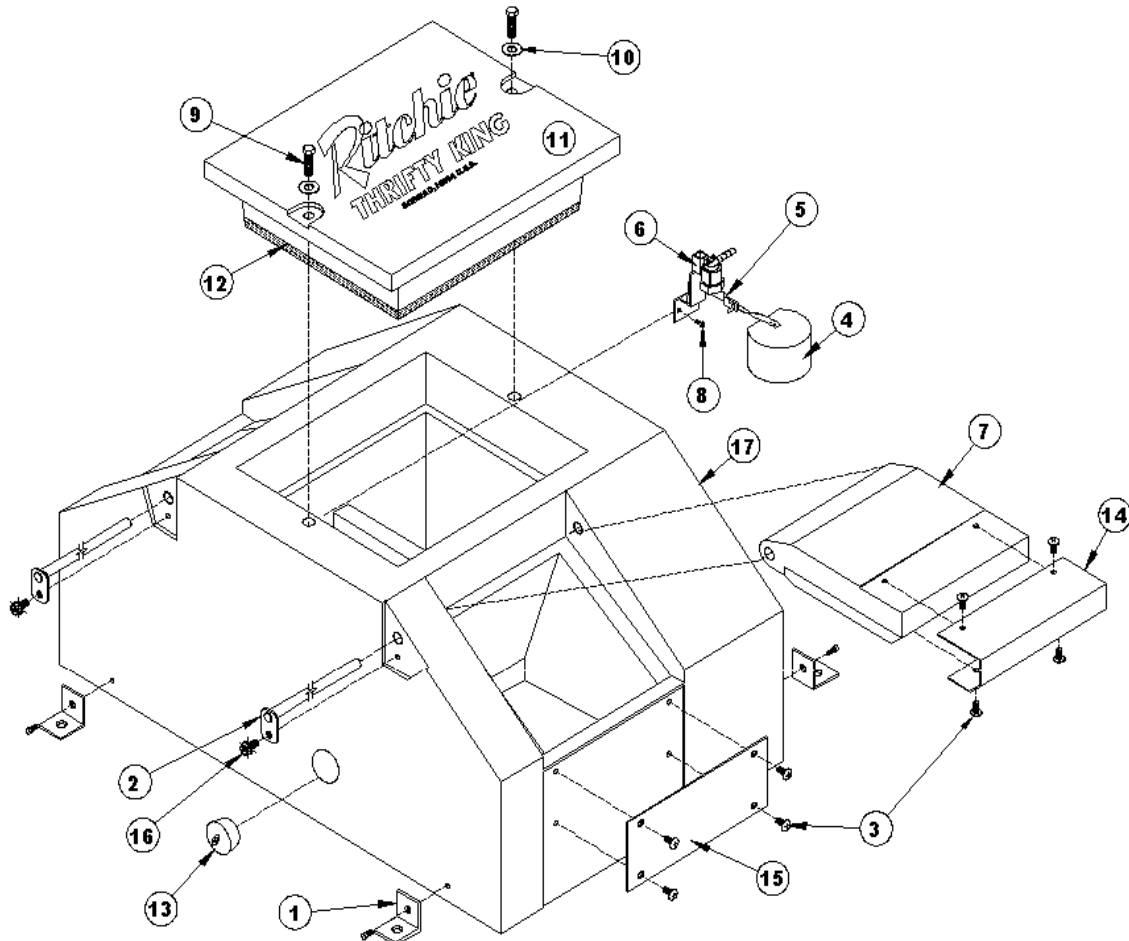
Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	13775	SS Hold Down Angles. (4/Pkg)	1 Pkg.	12	14866	Weather Stripping 10' Roll	2
2	16325	Hinge Rod – TKHG4	2	13	18219	Drain #11 Plug Pkg.	1 Pkg.
3	18071	¼-20 x ½ Truss Head Screw 6/Pkg.	1 Pkg.	14	16264	Guard – Lid TK Hog	4
4	13613	Float W/ Short Arm	1 Pkg.	15	16265	Guard – Base Hog	4
5	12575	½" Red Valve Pkg.	1 Pkg.	16	15155	¼-20 x ½ Hex Head Screw 10/Pkg.	1 Pkg.
6	11515	½" Valve Bracket Pkg.	1 Pkg.	17	16579	Foamed HG4 Base	1
7	16266	Lifting Lid-TKHG W/Guard	4	NS	15930	3/8" Hose Clamp Pkg. SS	1 Pkg.
8	18066	10-24 x ¾ Hex Head Screw SS 6/Pkg.	1 Pkg.	NS	12420	Hose – 3/8" x 25 ft	1
9	18069	3/8-16 x 1-1/4 Bolt SS 6/Pkg.	1 Pkg.	NS	14859	Pipe Insulation TK	1
10	18073	3/8" Flat Washer SS 6/Pkg.	1 Pkg.	NS	16263	Complete Accessory Pkg.	1 Pkg.
11	16268	Access Cover TKHG 4 W/Seal	1	NS	14261	3/8" Anchor Bolt SS-Not Included	2Pkg.

NS = Not Shown

Italicized text = Not Included or optional configuration add-ons

Thrifty King for Swine HG2

Part # 16259

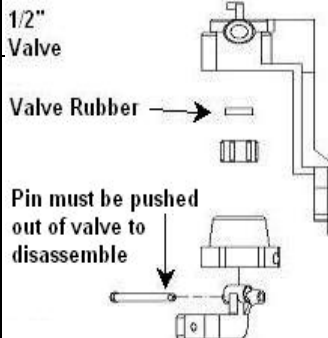


Item	Part #	Description	Qty	Item	Part #	Description	Qty
1	13775	SS Hold Down Angles. (4/Pkg)	1 Pkg.	12	14866	Weather Stripping 10 ft Roll	1
2	16324	Hinge Rod – TKHG2	2	13	18219	Drain #11 Plug Pkg.	1 Pkg.
3	18071	¼-20 x ½ Truss Head Screw 6/Pkg.	1 Pkg.	14	16264	Guard – Lid TK Hog	2
4	13613	Float W/ Short Arm	1 Pkg.	15	16265	Guard – Base TK Hog	2
5	12575	½" Red Valve Pkg.	1 Pkg.	16	15155	¼-20 x ½ Hex Head Screw 10/Pkg.	1 Pkg.
6	11515	½" Valve Bracket Pkg.	1 Pkg.	17	16577	Foamed Base	1
7	16266	Lifting Lid-TKHG W/Guard	2	NS	15930	3/8" Hose Clamp Pkg. SS	1 Pkg.
8	18066	10-24 x ¾ Hex Head Screw SS 6/Pkg.	1 Pkg.	NS	12420	Hose – 3/8" x 25 ft	1
9	18069	3/8"-16 x 1-1/4 Bolt SS 6/Pkg.	1 Pkg.	NS	14859	Pipe Insulation TK	1
10	18073	3/8" Flat Washer SS 6/Pkg.	1 Pkg.	NS	16263	Complete Accessory Pkg.	1 Pkg.
11	16267	Access Cover TKHG2 W/Seal	1	NS	14261	3/8" Anchor Bolt SS-Not Included	2Pkg.

NS = Not Shown

Italicized text = Not Included or optional configuration add-ons

Troubleshooting

Problem	Solution
<p>Water Freezing in the Valve, Supply Line, or Drink Area</p> 	Make sure the fountain is sealed from wind between the concrete platform and bottom of unit
	Make sure there are at least 10 animals drinking from only this fountain. (No other source of water available.)
	Make sure incoming water is at least 42°F
	Make sure supply line is appropriately insulated: <ul style="list-style-type: none"> ◆ Foam rubber insulation around supply line ◆ 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 (see part listing page 3) ◆ Horizontal supply line is at least 1 foot below frost line
	Turn valve rubber over and re-assemble
	If the above conditions cannot be met, use supplemental heat as described on page 3
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 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.

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 may vary from state to state.

All warranty claims must be processed through an Authorized Ritchie Dealer/ Distributor. **Proof of purchase is required.** 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%.