

# INSTRUCTIONS

## REPAIR PARTS LIST AND WARRANTY INFORMATION

# WPO25E, WPO25N MPO25E, MPO25N POLY, ELECTRIC DRINKERS

**READ ALL DIRECTIONS CAREFULLY BEFORE BEGINNING INSTALLATION**

## ⚠ WARNING ⚠



- 1. INSTALLATION MUST BE MADE AND MAINTAINED IN STRICT ACCORDANCE WITH NATIONAL/LOCAL PLUMBING AND NATIONAL/LOCAL ELECTRICAL CODES (CSA IN CANADA). INSTALLATION MUST BE MADE BY A QUALIFIED ELECTRICIAN. THE APPLICABLE PROVISIONS OF THE ABOVE MENTIONED CODES TAKE PRECEDENT. IMPROPER ELECTRICAL INSTALLATION AND MAINTENANCE MAY RESULT IN SERIOUS INJURY OR DEATH FOR PERSONNEL OR ANIMALS.**
- 2. EACH ELECTRICAL UNIT MUST BE WIRED THROUGH A FUSED SWITCH BOX AND FUSED ACCORDING TO AMPS REQUIRED FOR EACH SPECIFIED ELECTRICAL UNIT. SEE EXHIBIT A. CANADIAN ELECTRICAL CODE--PART 1 REQUIRES ANIMAL WATERERS INSTALLED IN FEEDLOTS IN OPEN FEEDING AREAS TO BE GROUNDED BY A SEPARATE STRANDED COPPER GROUNDING CONDUCTOR OF AT LEAST NO. 6 AWG TERMINATING AT A POINT WHERE THE BRANCH CIRCUIT RECEIVES ITS SUPPLY.**
- 3. THIS UNIT MUST BE GROUNDED TO A COPPER GROUND ROD 5/8" (1.6 CM) DIAMETER BURIED AT LEAST 10 FEET (3.1 METERS) IN UNDISTURBED SOIL. SEE EXHIBIT A.**

**REPAIR PARTS LIST** - See Exhibit G on PAGE 6 for location of parts.

Ref. No.	Part No.	Description	Qty	Ref. No.	Part No.	Description	Qty
1	WP0251	Valve Cover, Blue	1	16	OP215	3/4 NPT x 3/4 Hose Barb, PVC	2
1	MP0251	Valve Cover,, Red	1	17	OP223	3/4 MPT Hex Plug	1
2	WP0252	Base, Blue	1	18	OP320	Rubber Stopper, 1 7/8 Inch, w/shoulder	1
2	MP0252	Base, Red	1	19	OP284P	C250 Utility De-Icer	1
3	WP0253	Access Door, Blue	1	20	WT208	Foam Pipe Insulation, 36"	1
3	MP0253	Access Door, Red	1	21	OP93	11" Tywrap	1
	WPO257E	Hardware Bag (Ref. No. 4-22, 30, ISHWPO25)		22	WPO255	Base Seal, 108"	1
4	WPO7017	Valve Attachment Plate, SS	1		WPO253A	Access Door Hardware (Ref. No. 23, 24, 25)	
5	OF514	3/8 x 1/2 Screws, SS	3	23	OF543	Fillister Head Pin, 3/4" x 2.238	1
6	VP124	Valve, 3/4 x 1/4 - Plastic	1	24	VK17	Compression Spring, SS 1"x.35x.04	1
7	VP115	Adjusting Screw	1	25	OF541	1/8 x 1" Roll Pin, SS	1
8	WC726P	Float Arm, Plastic, 3 - 3/8 inch	1		WPO253A	Base Attachment Hardware (Ref. Nos. 26-28)	
9	OP321	Poly Float	1	26	OF351	1/4 Washer, SS	2
10	A19	1 1/2 x 1 1/6 x 1/8 Leather Washer	1	27	OF97	Cotter Key, SS	2
11	B83	Lock Nut	1	28	WN34	Compression Spring, SS .9375x.44x.04	2
12	OP80	3/4 x 3/4 PVC Elbow	1	29	OF545	Cover Lock Pin, 2.8" x .313, SS	2
13	OP216	3/4 FPT x 3/4 Hose Barb, PVC	1	30	WPO257	Heat Tape, 72"	1
14	OP214	1/2-1 Stainless Steel Worm Gear Clamp	2		ISHWPO25	Instruction Sheet	
15	WPM130	3/4 I.D. Nylon Hose, 48 Inch	1				

**(No Heat Models are shipped without OP284P C250 Utility Delcer.)**

### MODEL NUMBER

The MODEL NUMBERS are: WPO25E, WPO25N, MPO25E, MPO25N Drinkers

### WHEN ORDERING PARTS

- (1) Show MODEL NUMBER and NAME: Example - WPO25E Poly Drinker
- (2) Show PART NUMBER and FULL DESCRIPTION of part: Example - OP320 2" Rubber Stopper with tip

### HOW TO ORDER PARTS

Repair parts may be ordered from your dealer.



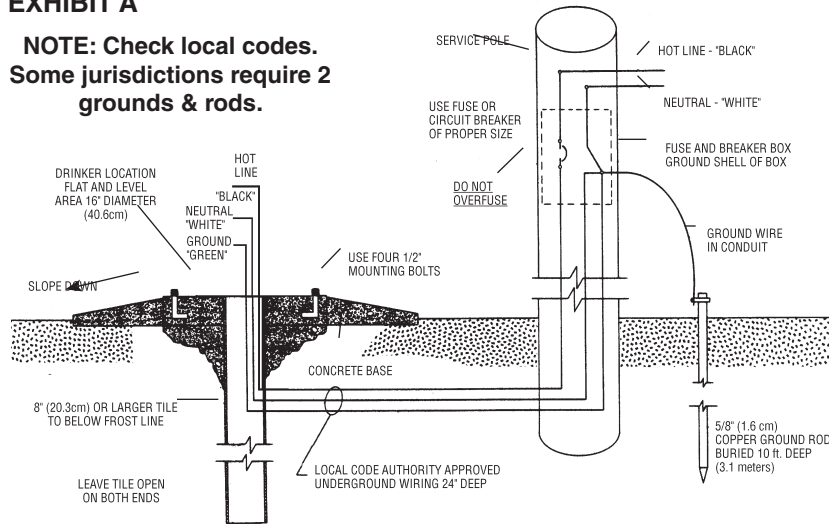
PO BOX 2000 • HOUGHTON, IOWA 52631 • USA

PH: 319-469-4141 FAX: 319-469-4402

WEB: www.hawkeyesteel.com E-MAIL: sales@hawkeyesteel.com

## EXHIBIT A

**NOTE: Check local codes.  
Some jurisdictions require 2  
grounds & rods.**



Wet rated conductors in non-metallic conduit are also acceptable for providing service.

5.2 Waterer installed near or in a building may be served by a branch circuit from the service equipment of the building.

## 6. Supply Circuits

6.1 Waterers installed within or near a building and served by a branch circuit from the service equipment of the building shall be connected as in Exhibit B.

6.1.1 The equipment grounding conductor shall originate at the service equipment of the building.

6.1.2 The equipment grounding conductor shall be connected to the equipment grounding terminal of the waterer and bonded to any intermediate enclosure or device that requires grounding. The equipment grounding conductor shall be isolated from the grounded (neutral) conductor at every point beyond service equipment.

6.2 An individual waterer installed in a lot and served by separate service equipment shall conform to the following: (see Exhibit C)

6.2.1 Overhead conductors shall be firmly attached to support points and conform to 5.1.1 and 5.1.2. Buried conductors shall conform to 5.1.3.

6.2.2 The incoming grounded conductor shall be bonded to the service equipment enclosure and to a grounding electrode conductor at the grounding bar in the service equipment. The grounding electrode conductor shall extend to a grounding electrode (a ground rod or other effective electrode).

6.2.3 An equipment grounding conductor shall originate at this service equipment and shall be installed with the circuit conductors to the waterer.

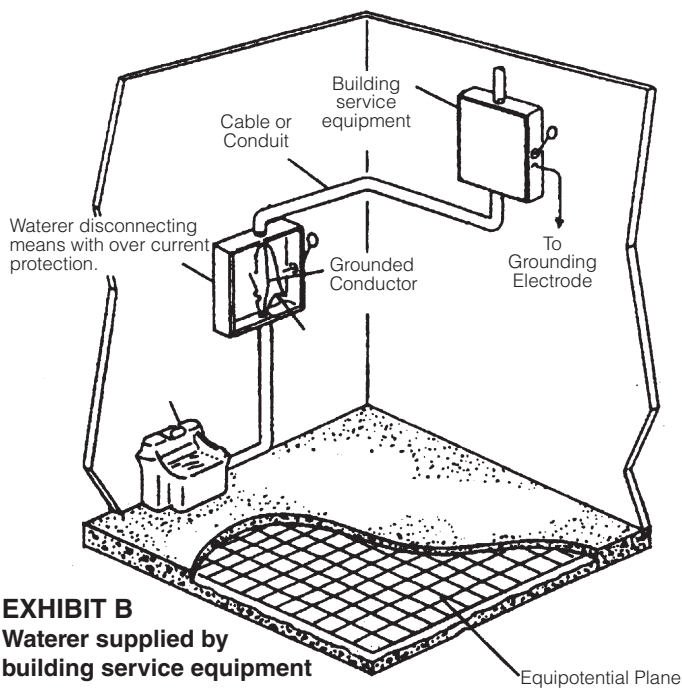
6.2.4 The equipment grounding conductor shall be installed as described in 6.1.2.

## 7. Multiple Installations

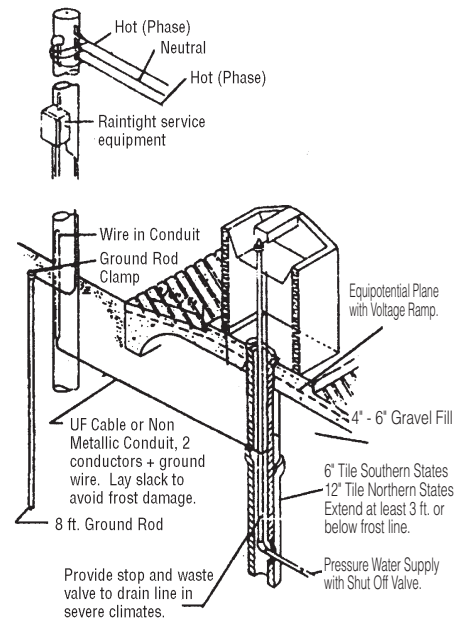
7.1 When more than one waterer is to be served from a central service, the service equipment should be located near the load center.

7.2 Each waterer shall be connected as specified in 6.2.

**NOTE: THE USE OF THE RISER PIPE AS A GROUNDING MEANS IS NOT RECOMMENDED**



**EXHIBIT B**  
Waterer supplied by  
building service equipment



**EXHIBIT C**  
Waterer supplied by its own service equipment

**HEATER OPERATION:**



**WARNING**

**DISCONTINUE ELECTRICAL SERVICE TO ELECTRIC SUPPLY LINE BEFORE REMOVING THE HEATER.**

Farm Innovators Model C250 Utility De-Icer standard specifications are 250 Watts / 120 VAC / 2.0 AMPS. The heat range is about 34° F to 45° F. The de-icers only works when the temperature approaches freezing. It is thermostatically controlled to turn on at freezing and to turn off when the temperature is above freezing.

If unit freezes in the drinker due to the loss of power, allow unit adequate time to melt itself free. Do not chop or cut at unit while plugged in.

Low voltage is a possible cause for failure or poor performance. Measure voltage at receptacle with unit energized. Voltage drop means wattage reduction. Extension cords cause voltage drop and are unsafe.

**IMPORTANT! DO NOT ALLOW DEPOSITS TO BUILD UP ON THE HEATING ELEMENT.** This can cause "hot spots" which is a primary reason of failure and voids the warranty. White vinegar or "Lime Away" can be used to clean the tubular element.

When taking unit out of service, disconnect power supply cord, remove unit from tank, clean element (see above), store indoors.

**FOR LONGER LIFE, REMOVE YOUR HEATER DURING SEASONS WHEN IT IS NOT NEEDED.**

**ALSO, PLEASE NOTE:**

1. Do not energize the heater until the drinker is filled with water.
2. Do not operate the unit out of water (except to test - See 3 below.)
3. Here's how you can check to see if your heater is working--
  - a) Set unit in freezer for one hour or outside for one hour if temperature is below 35 degrees F.
  - b) Connect heater to an electrical source. Hold the heater by the cord set. Within seconds, the element should begin to heat.

Listen for the thermostat to "click" off. Disconnect the unit. The unit is working properly.

**Other Management Tips**

For extra assurances that your supply line will not freeze up during the severest conditions:

1. Make sure you have an airtight and water tight connection between the mounting pad and drinker base.
2. Make sure your riser tile is flush with the top of the platform.

When tank needs to be cleaned, stir up solids so they are in suspension. Remove plug (or push in plug through outside opening). The valve will activate giving a flushing action.

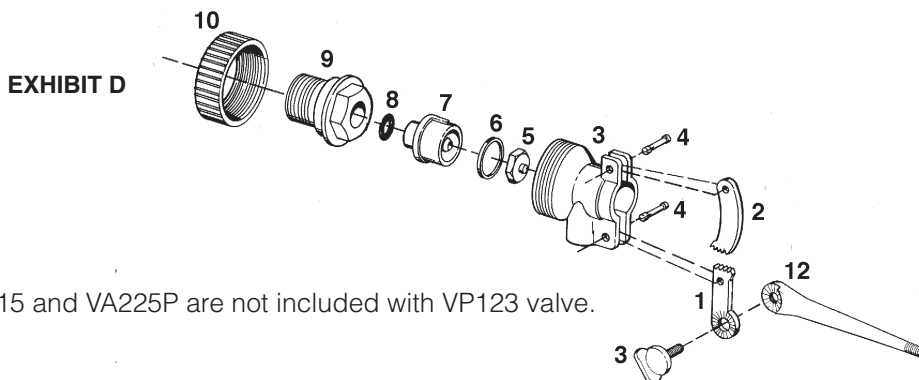
When servicing during cold weather, use artificial inseminator's plastic sleeve to keep hands and clothing dry.

**VP VALVE CAPACITIES**  
Gallons per Minute  
(Liters)

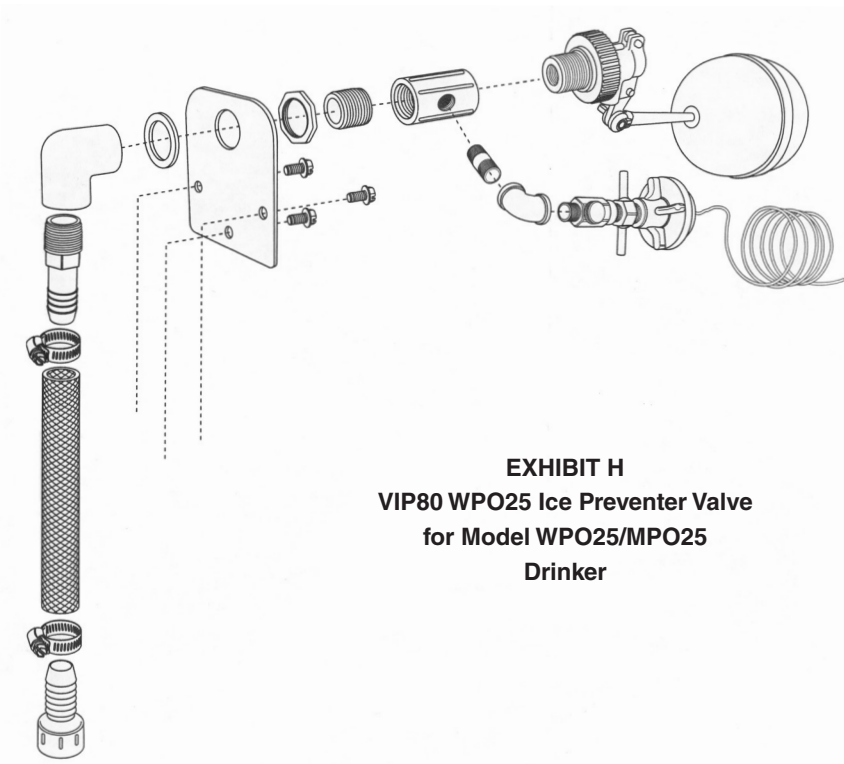
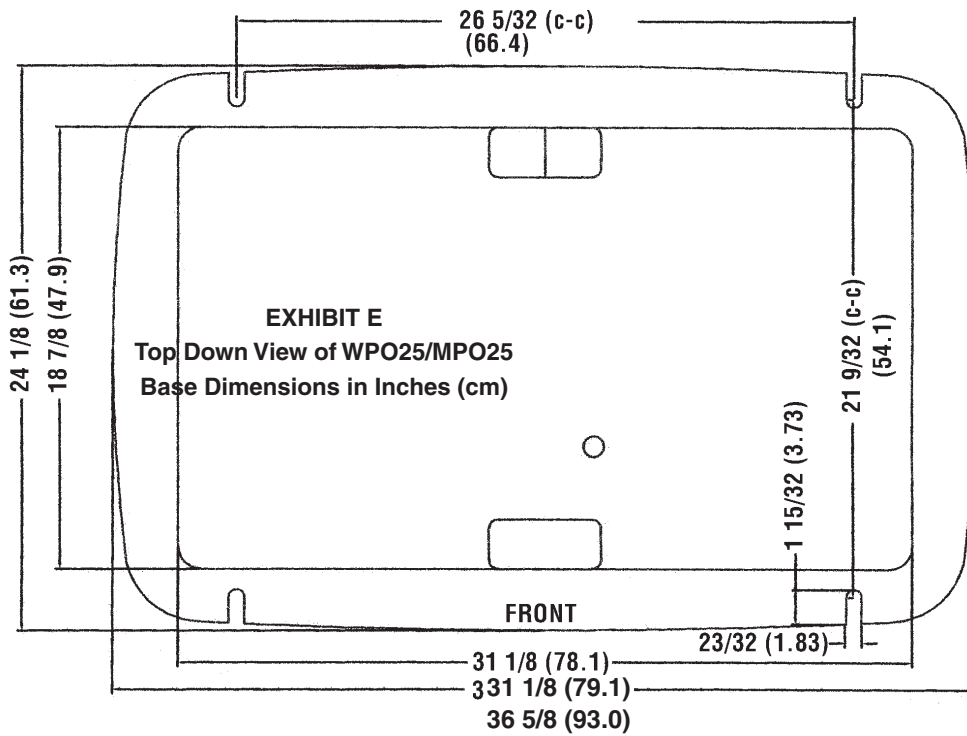
	VP114	VP16	VP17
	5/32" Orifice	1/4" Orifice	3/8" Orifice
PS			
20	2.44 (9.2)	3.70 (14.0)	5.00 (18.9)
40	3.70 (14.0)	6.25 (23.7)	8.33 (31.5)
60	4.55 (17.2)	7.69 (29.1)	9.62 (36.4)
80	5.00 (18.9)	7.94 (30.0)	9.62 (36.4)

Model VP16 1/4 inch orifice comes standard with Model VP124 valve.

Ref. No.	Part No.	Description	Qty.
1	VP19	Power Link	1
2	VP110	Cam Link	1
3	VP11	Valve Body	1
4	VP111	Link Pin	2
5	VP18	Plunger	1
6	VP113	Diaphragm, Rubber	1
7	VP16	Orifice, 1/4	1
8	VP112	O Ring 5/8 x .103 Neoprene	1
9	VP13	Base 3/4 OD x 1/4 ID, Plastic	1
10	VP15	Assembly Nut	1
11	VP115*	Adjust Screw	1
12	WC726P*	Float Arm Plastic	1



\* VP115 and VA225P are not included with VP123 valve.



## INSTALLATION INSTRUCTIONS

**STEP 1:** Get your qualified electrician involved in the planning of your installation. Review Exhibits A, B and C on page 2.

**STEP 2: RISER TILE** - The ideal size of riser depends on the installation, source of water and geography. If you are replacing an existing waterer and have had no supply line freezing problems and have been using no supplemental heat on your supply line, you can probably use your existing tile as long as it is large enough to accommodate the insulated sleeve. (Ref. No. 20). For best protection, we recommend that a new riser tile of at least 8 inches (20.3 cm) diameter be installed. **INSTALLATION MUST BE MADE WITHOUT THE SUPPLY LINE TOUCHING THE RISER TILE AND THERE MUST BE NO DEBRIS OR DIRT IN THE RISER TILE. DO NOT STUFF YOUR RISER TILE WITH INSULATION AS IT CAN BECOME WATER LOGGED RESULTING IN FROST PENETRATION.** If the installation is north of Interstate 90 or if frost heaving is a problem in your area, use a flexible supply line, such as 3/4 inch (1.9 cm) braided vinyl tubing available at most plumbing supply outlets. Also using a flexible supply line will facilitate valve hookup under STEP 5 below. If your water supply line is flexible and you are concerned that the flex may cause it to touch the riser tile, use a deep well submersible cable guard (a nylon plate that slips over the supply line and keeps it centered). Ask for a deep well submersible cable guard at your local plumbing supply outlet. **BE SURE TO USE THE PROVIDED FOAM PIPE INSULATION AROUND YOUR SUPPLY LINE.** Make sure the insulation does not touch the riser tile as well.

Where water is 54°F (12°C) or higher, you will probably not need to use a tile larger than 8 inches (20.3 cm) diameter. If entering water is 50°F (10°C) or colder, we recommend a tile of about 12 inches (30.5 cm) diameter. If incoming water has a temperature of the lower 40's (about 4°C), use a 14 inch (35.6 cm) tile.

**STEP 3: MOUNTING PAD** - Review Exhibit F. Concrete pad should be about 4 inches (10.2 cm) thick. Surface area where drinker sits should be smooth and level to provide a good seal. From the edge of the drinker, pad should slope about one-quarter inch per foot (about 1 cm per 48 cm). The size of the pad is left to the user's discretion but we suggest you pour a pad large enough for livestock to stand on while drinking (about 19 inches (48 cm) beyond the edge of unit on all four sides). A rough broom finish provides better livestock footing. **NOTE:** The area where drinker sits should be smooth. A styrofoam barrier should be provided around the riser tile. Supply line should be at least 3/4 inch (1.9 cm) diameter. However, line should be sized to account for any pressure drop relating to distance. Water lines over 50 feet (15 meters) should be one inch (2.54 cm) or larger. Use of undersized supply line may cause loss of recovery capability.

**STEP 4: VALVE INSTALLATION** - Review Exhibit G.

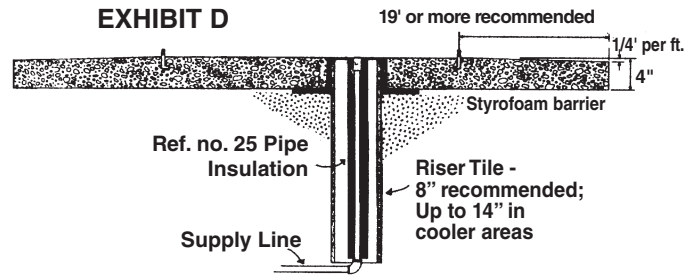
1. Insert Ref. No. 6 VP124 Valve threaded base through the large hole in Ref. No. 4 stainless steel valve attachment plate.
2. Securely attached the valve to the plate using ref. No. 10 leather washer and Ref. No. 11 lock nut. Use a 3/4 inch wrench to tighten if necessary. Note the orientation of the valve to the plate.
3. Apply Teflon tape or a thread compound to the threaded base of the valve and to Ref. No. 12 elbow.
4. Attach the threaded end of Ref. No. 13 hose barb to the elbow.
5. Attach Ref. No. 15 nylon hose to Ref. No. 16 hose barb and secure with Ref. No. 14 clamp.
6. Insert the second hose clamp over the hose. Take the hose and hose barb assembly and insert the open end of the hose into Ref. No. 13 hose barb. Clamp this attachment.
7. Insert the non-valve end of the hose assembly through the 1" x 6" slot that leads from the trough down to the "cabinet" underneath the trough. You will connect your incoming water supply from the ground to Ref. No. 16 hose barb or the connector of your choice as indicated in STEP 5, paragraph no. 4 below.
8. Attach Ref. No. 4 valve attachment plate to the base using the three (Ref. No. 5) 3/8 stainless steel screws. There are three molded-in inserts to attach the plate. **WE HIGHLY RECOMMEND THE USE OF AN ANTI-SEIZE COMPOUND ON THESE THREADS** (Permatex brand or equivalent).

**STEP 5: MOUNTING DRINKER**

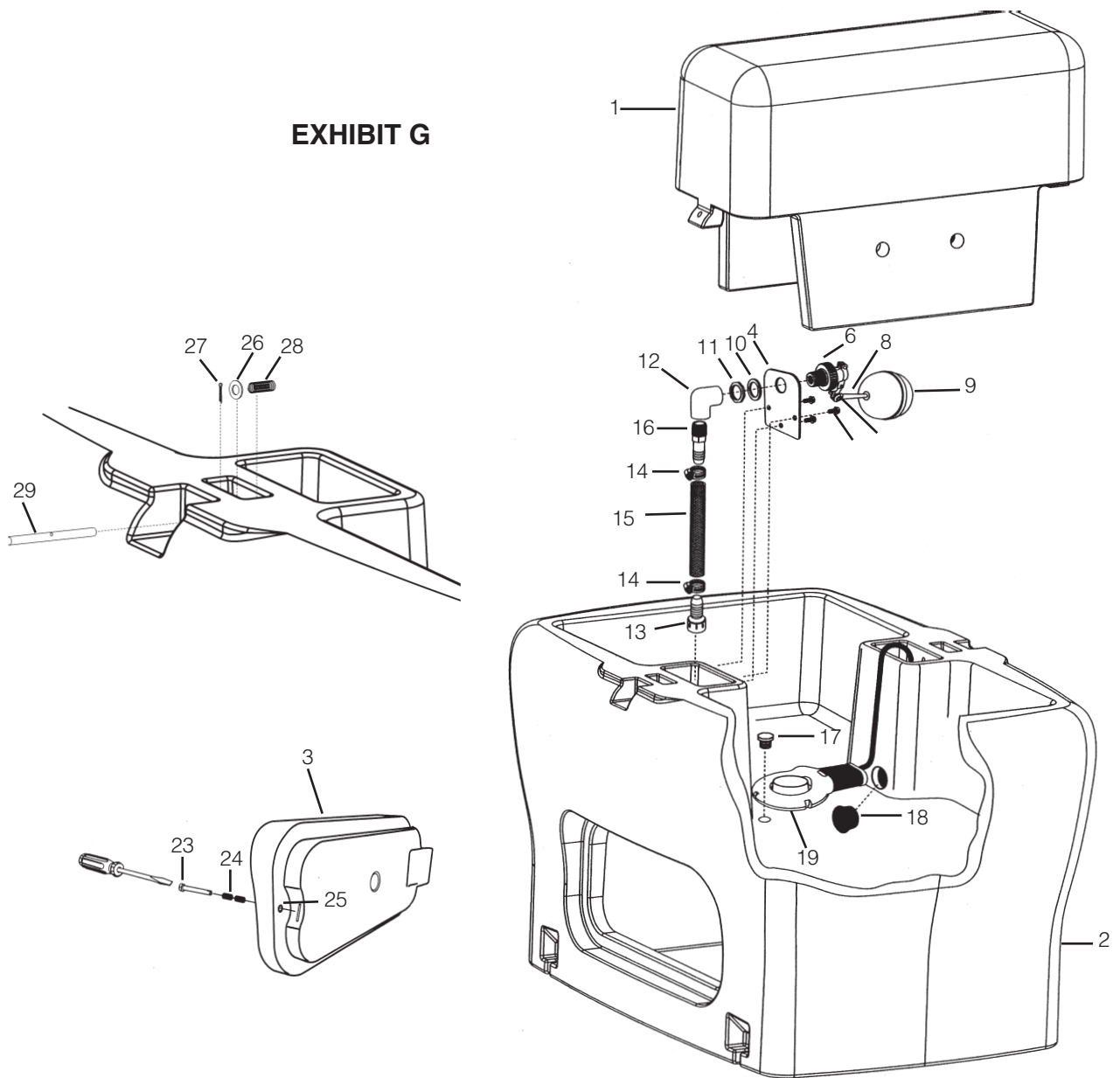
1. Slide Ref. No. 20 pipe insulation over your incoming water supply line making it even with the top of the riser tile. Hold in place at the top with Ref. No. 21 tywrap.
2. Stick Ref. No. 22 base seal to base bottom just inside the anchor slots.
3. Set base over supply tube and position base so that you have a convenient hookup to both your electrical and supply lines.
4. Connect your incoming water supply line to Ref. No. 16 3/4 - inch hose barb or to the connector of your choice. Use Teflon tape or a thread compound on the threads.
5. Position your drinker so that you are comfortable with the position of the drinker relative to the water supply line hookup and to the electrical supply line hookup.
6. Lag drinker to pad. **USE AN ANTI-SEIZE COMPOUND** (Permatex brand or equivalent) on the lag bolt threads and nuts.
7. If you are in the heating season or near the heating season, plug in your heater and also wrap Ref. No. 30 heat tape around your Ref. No. 15 supply line and any supply line coming out of the ground. Your cord of Ref. No. 19 heater is inserted into the slot in the trough. This slot is on side of the drinker opposite to the access door. Electrical hookup to the heater is to a standard grounded, three-prong receptacle.

**NOTE:** When you run electrical supply underneath the drinker, we recommend that you make provision for the easy attachment and use of the heat tape. In many moderate climates, you may well not need the use of the heat tape.

**NOTE:** Ref. No. 17, a 3/4 hex plug is to be removed only if you purchase a continuous flow valve assembly, Model Number VIP80WPO25. See Exhibit H page 4.



## EXHIBIT G



### LIMITED WARRANTY

Our part no. OP284P C250 Utility De-icer (heater) and our DURAPRIDE Valve (including float arm, float and adjust screw) carry an 18 month limited warranty. All other components of Hawkeye Steel Products, Inc. Performance One E-Drinks are covered by a five year limited warranty. Both warranty periods are from the date of purchase. Each drinker must be registered with Hawkeye Steel Products, Inc. on the card which accompanies each drinker. Warranted components should be returned to your dealer for shipment to our factory -- Highway 16 West, P.O. Box 2000, Houghton, IA 52631 USA, Fax 319-469-4402; 800-553-1791. Warranty is limited to the repair or replacement of components. The warranty does not cover removal or reinstallation; cost to transport and retrieve components for repair; damage or loss occurring during transport; damage due to foundation design; damage caused by natural or environmental conditions (acts of God); costs associated with loss of time and/or inconvenience or any other consequential damages; injury; lack of animal performance; loss of profit, life or property; malfunction resulting from misuse, improper installation, lack of maintenance (such as not periodically removing deposits on the deicer), unauthorized alteration, or negligence. All provisions stated on the back of Hawkeye Steel Products, Inc.'s invoice apply and Hawkeye Steel Products, Inc. assumes no consequential damages.