

Does this look familiar?



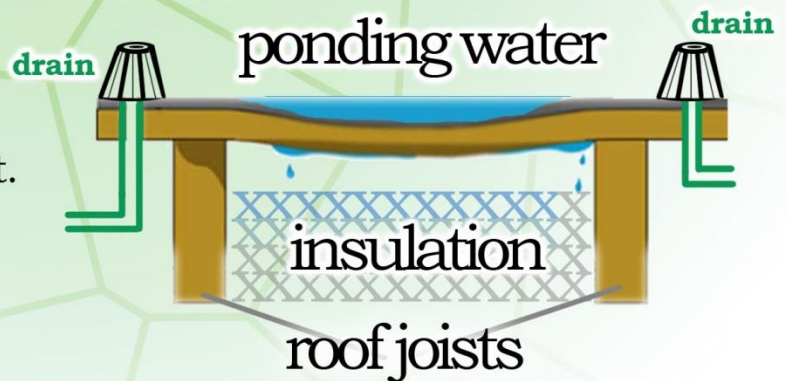
this is why: your building loses **HEAT/AC**
your building traps **MOISTURE**
your building has **ROOF LEAKS**



how?

- Drains cannot be built over roof joists.
- Roof joists will always be a roof's low point.

-Therefore, Drains can never be a roof's lowest point



And the cycle begins:

pond size increase ⇒ roof collapse increase ⇒ pond size increase ⇒ roof collapse increase... NEW ROOF?

turtledrain
the natural drain



How we can help



turtledrain

the natural drain

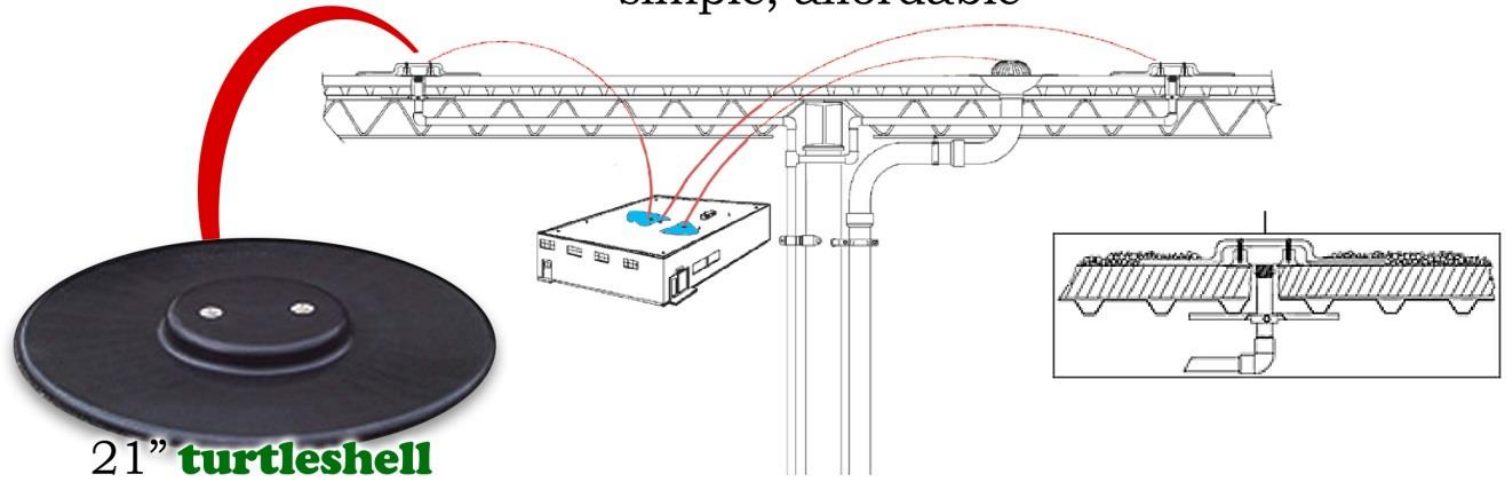
Our Products can add **YEARS** to your existing roof's life.

Consider our products before...
you spend valuable time & money...
repairing your roof | buying a new roof

**a roof goes bad when ponding water can't find the drains...
we go right to the source: **eliminate the ponds.****

BY:

roof penetration
simple, affordable

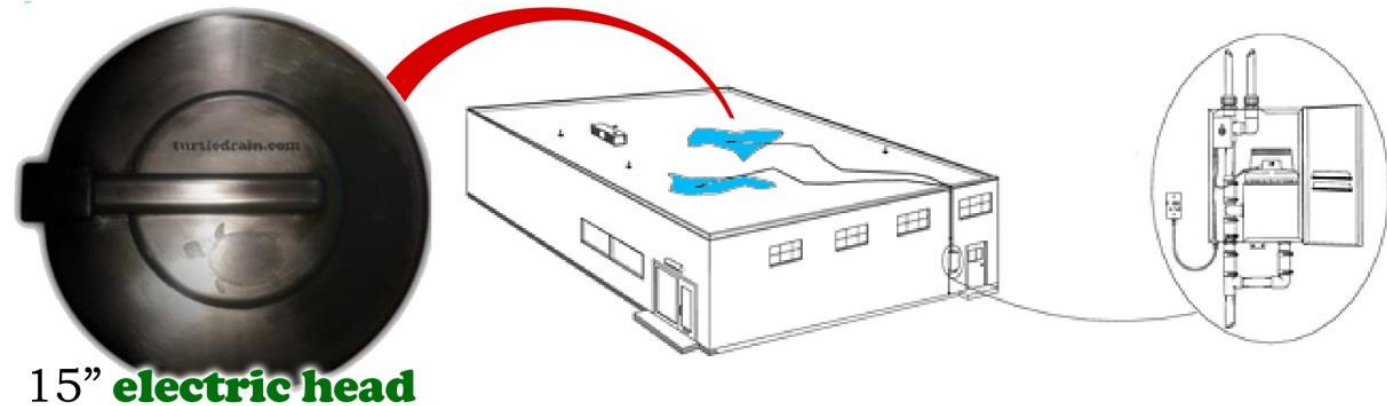


21" **turtleshell**

with a turtleshell roof drain

OR:

non-roof penetration
quick install, avoid inspection



15" **electric head**

with an electric roof drain

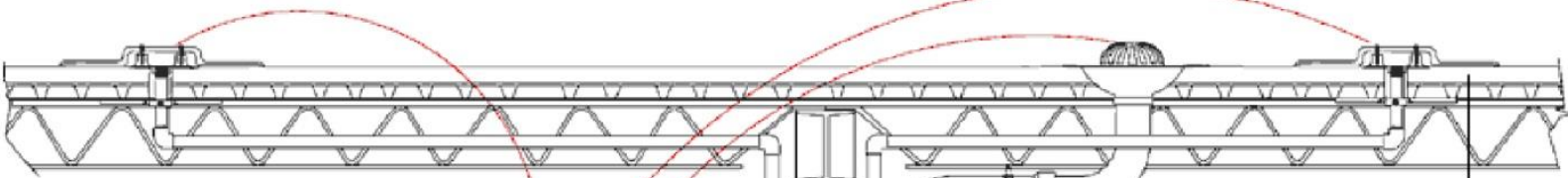
The turtleshell Roof Drain

About the **turtleshell** roof drain

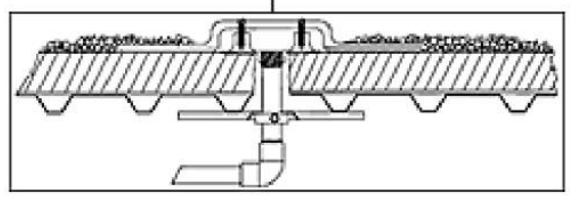
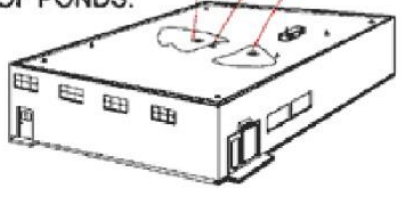
1. Greatly reduces the amount of water that can infiltrate the roofing system.
2. Reduces the amount of roof leaks.
3. Allows old roofing systems to dry out, can renew the insulating qualities they have lost. Will also decrease AC and Heat Loss.
4. Reduces membrane blistering by reducing trapped moisture.
5. Reduces mold buildup on top, within and under the roofing system.
6. Reduces damage caused by the freeze thaw cycles.
7. Will not clog like common drains.
8. Prevents moisture from infiltrating wall systems, causing damage to nailers, masonry, plaster & wallboard.
9. When leaks do occur, they are located faster and repaired with less labor and material.
10. Because there are no ponds to feed a leak after a rain or thaw cycle, damage is greatly reduced.
11. **Turtleshell drains make the minimal pitches or flat roof as viable and reliable as standing seam, domed, shingled and heavily pitches roof systems employing tapered insulation.**
12. **Because the turtleshell needs only a 2" roof penetration it can be installed easily and quickly.**
13. **The turtleshell 1" pipe work, even when full of water, is relatively light and less difficult to install than larger pipe work needed with conventional drains.**

With a turtleshell, you finally have a solution that solves ponding problems that plague flat roofs!

when ponds can't find your drains
our turtledrains will find the ponds



ROOF SYSTEMS HAVE A TENDENCY TO DEFLECT BETWEEN SUPPORTING MEMBERS OVER TIME WHICH LEADS TO THE FORMATION OF ROOF PONDS.



- place directly in the middle of a pond.
- its clog resistant design will ..
- keep the water of your roof
- gve your insulation time to heal
- prevent further pond damages

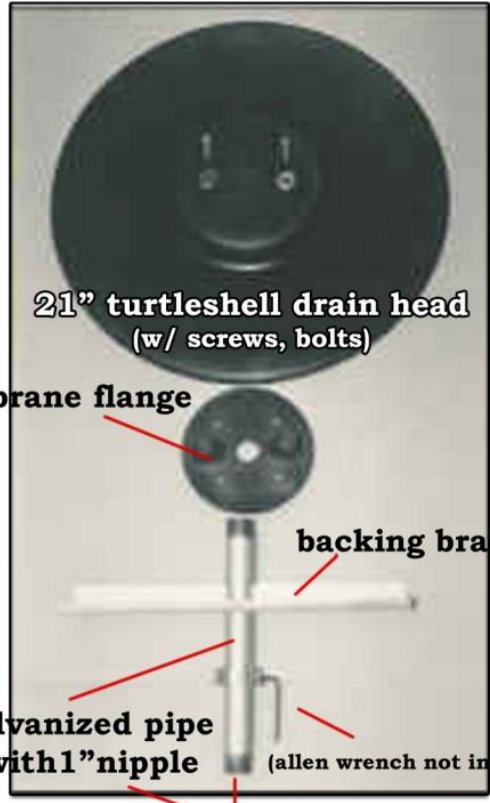
21" turtleshell

a permanent solution for roof ponding



clog-resistant design

What's included:



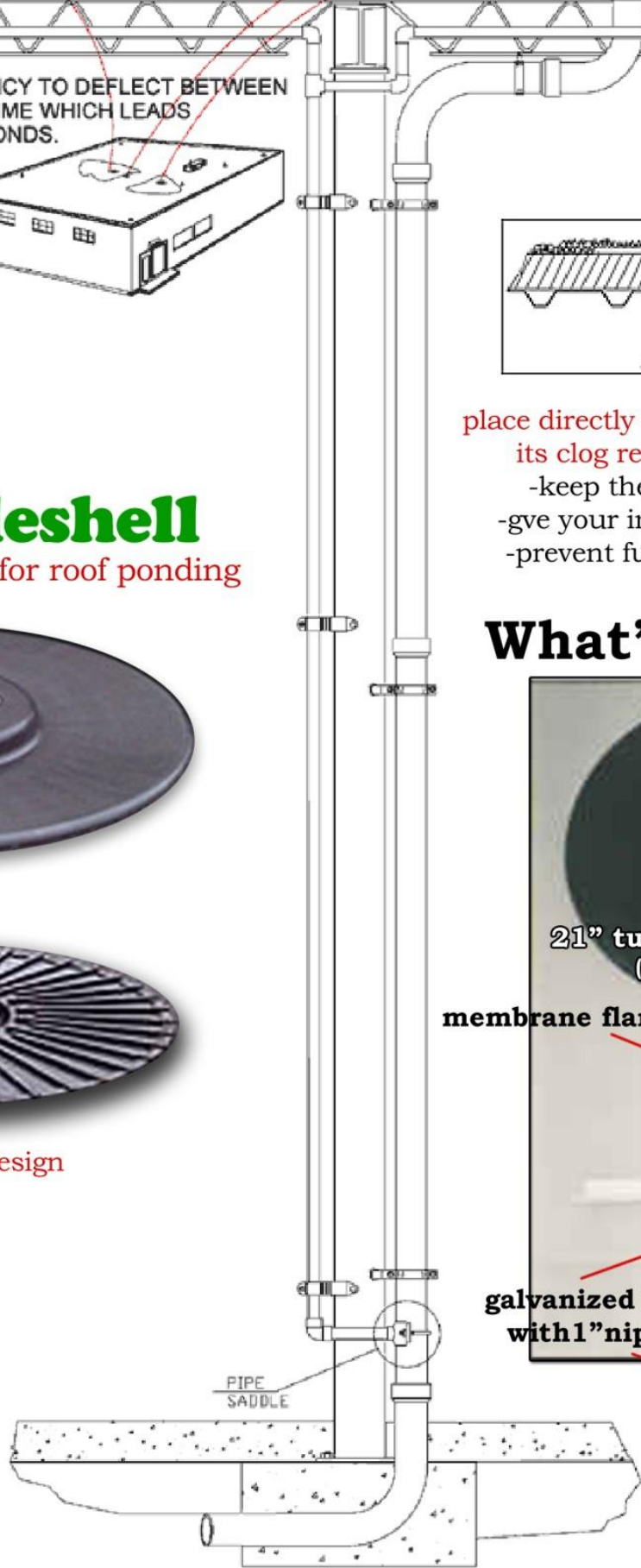
21" turtleshell drain head (w/ screws, bolts)

membrane flange

backing bracket

galvanized pipe with 1" nipple

(allen wrench not included)

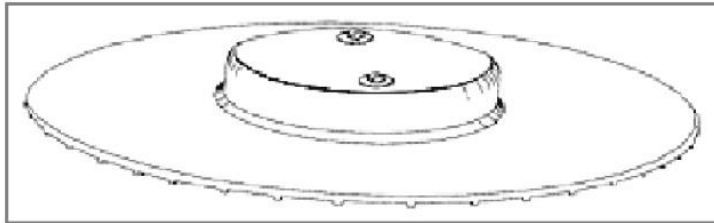


PIPE SADDLE

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the natural drain

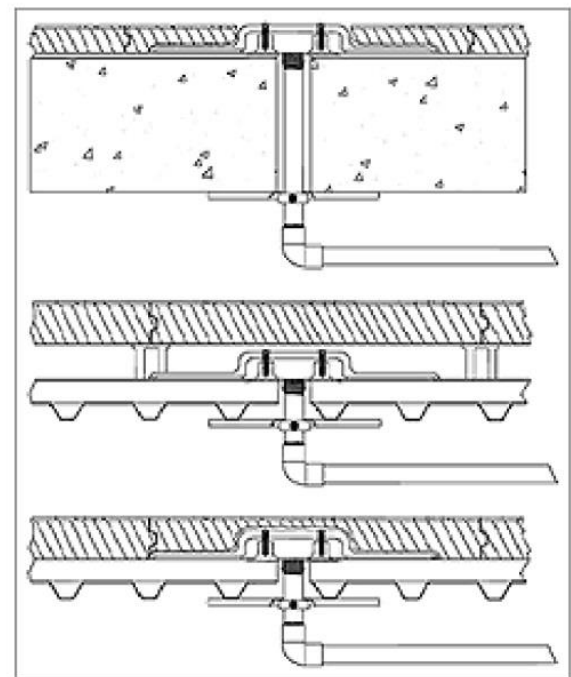
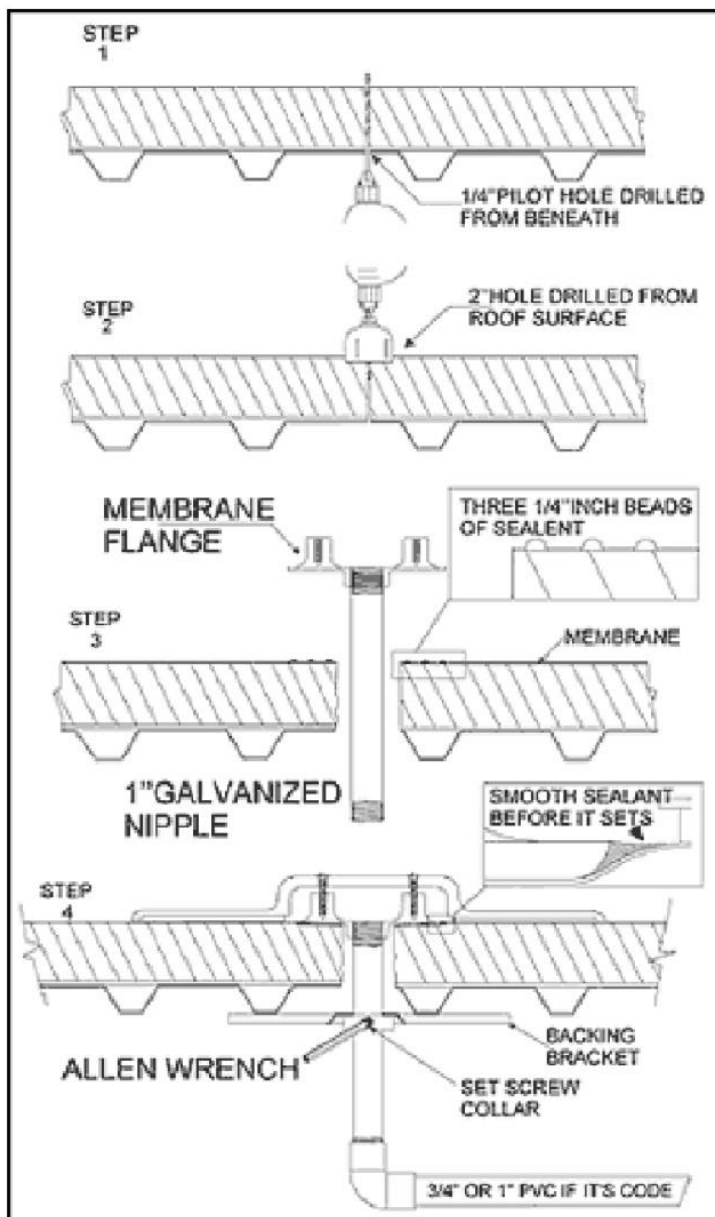
introducing the **turtleshell** roof drain



21" in Diameter Roof Drain



Patented Clog-Resistant Design



turtledrain.com

*****Disclaimer:** The above illustrations and verbal print are not instructions, they are suggestions. Standing Water Solutions, dba Turtledrain, is not responsible for how you handle their products after the point of sale (inferring all forms of producing reception i.e. awards, re-sale, etc.) and therefore, Turtledrain is not responsible for any damages which may incur as a result of product use and methods of installation. These aforementioned "suggestions" have not been approved by any legal body, standards institution, certification body, government unit or private organization. Turtledrain products are sold with the direct intention that, through the counseling of either legal attorney, building inspector, or any other government certified professional, the individual or organization that receives Turtledrain products will undertake the proper precautionary procedures (with the guidance of aforementioned selected attorney, gov't inspector, etc.) during installation, while after installation, individually overseeing that their building meets any structural and safety standards in which they are contractually and legally obligated to uphold, while exercising common sense to arrange immediate counsel if they recognize un-foreseen potential structural problems.

The Electric Roof Drain

Q&A For the **Electric Roof Drain**

Q 1. Can more than two siphon heads be used with one control box?

A. Yes, you can use up to 4 heads with one control box. When doing so you must place the 4 heads in ponds that always have sufficient water so none of them pull in air when system starts.

Q 2. How long of a hose run can be used.

A. 150 ft. is what we suggest as maximum distance on any one hose. There are so many variables from one roof to another, such as parapet walls, expansion joints, pipe and duct work that the installer must determine the path the hose must take and then test when ponds are available. You should prevent going up and over any obstacle more than 2 ft in height.

Q 3. What are the O-Rings, supplied with the unit, for?

A. The normal flat washers used in hose fittings often leak and these must be replaced with the O-Ring type washer. The hose on the roof will have a negative pressure and if air is drawn into the system it can affect its performance. Put a little lubricant on the new washers and they will seal better. Tighten by hand only.

Q 4. Can pipe be used instead of hose?

A. Yes, pipe can be used instead of hose. There are a few shortcomings with pipe. P.V.C. sch. 40 pipe starts to become brittle after several years due to U.V. light. When work on the require the pipes to be moved around a great deal cracking can occur, hence the system will be pulling large amounts of air stopping the system from functioning normally.

Q 5. Why do you recommend ¾" commercial hose?

A. Your normal garden hoses "even the highest priced" are not made to withstand laying on a roof year after year. They also kink easily and some even collapse under negative pressure, which can occur with the Electric Roof Drain System. Commercial hose is made for heavy abuse, it is even difficult to pinch it by hand or collapse it by stepping on it.

Q 6. Why use black hose?

A. Commercial hose is normally black. It just happens that in cold climates when the ponds are frozen the sun will warm the black hose and siphon head sufficiently to allow siphoning off water from under the ice.

Q 7. What happens when there is a power failure?

A. As soon as the power is restored the Electric Roof Drain comes right back online to remove ponds. It is designed to return to its normal function.

Q 8. Where should the Electric Roof Drain be drained?

A. That is a question for your local building department. As far as drain piping from the unit is concerned they must be a minimum of 1 ½" I.D. and be free flowing so that water cannot backup into the control cabinet. The flow cannot be restricted in any way.

Q 9. Why is a "Ground Fault Interrupter Device" required?

A. Any electrical device that is operated in a close proximity to water and easily accessible to most anyone should have G.F.I. protection.

Q 10. Why don't you use larger pipes and hoses, wouldn't that remove the ponds faster?

A. Yes, in isolated cases it would remove water faster. Most ponds are shallow and cover a large area. Trying to remove water fast from these ponds will start to pull in a lot of air and stop the siphoning action. When this happens you end up only removing a small amount of the pond. The system has been designed to remove as much of the pond as possible on the first cycle.

Q 11. Who should install the Electric Roof Drain?

A. The person must have good working knowledge of plumbing and electrical work. Many times maintenance personnel are qualified to install these systems.

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the natural drain

electric roof drain

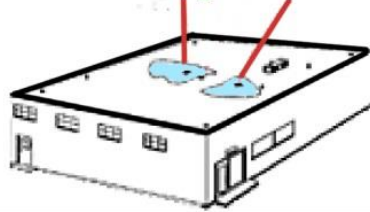
add years to your flat roof

it's not about ponds finding the drain...
it's about you finding the pond.

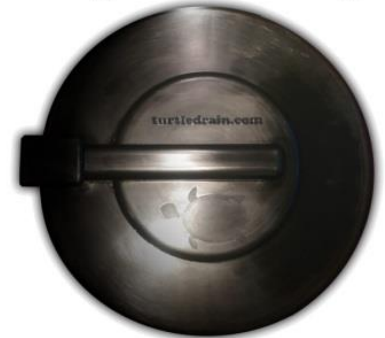
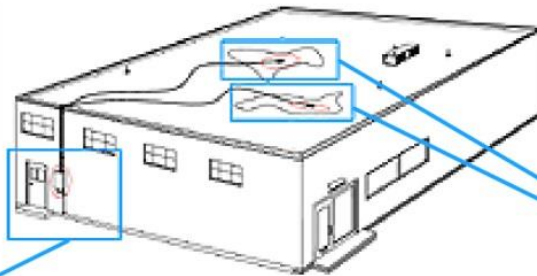
made in the U.S.A.
15" clog-resistant design

NEW!

when flat roofs pond because of rain...

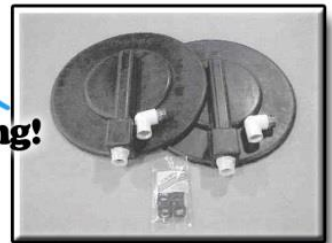


you can always use a turtledrain



compressed EPDM rubber
made to last a lifetime

portable turtledrains



No Roof Penetration
Switches on 3 times a day!

place wherever there is ponding!

- No Roof Penetration
- No Plumbing Rerouting
- Weather-Resistant Boxes
- Easy Installation

Sit Back, Relax
This unit is fully automatic!



electric roof drain

Includes:

- installation guide
- replacement parts
- operation instructions
- electric box unit
- 2 turtledrains
- fittings



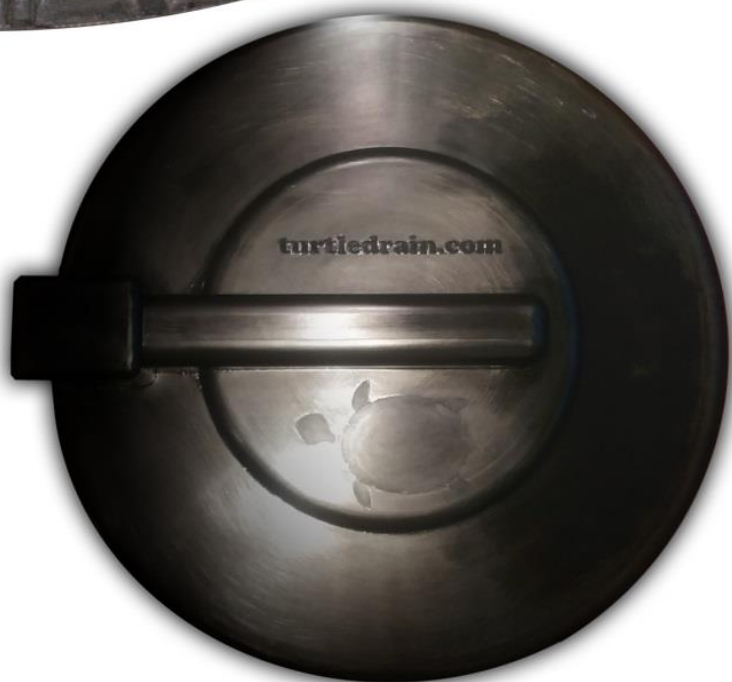
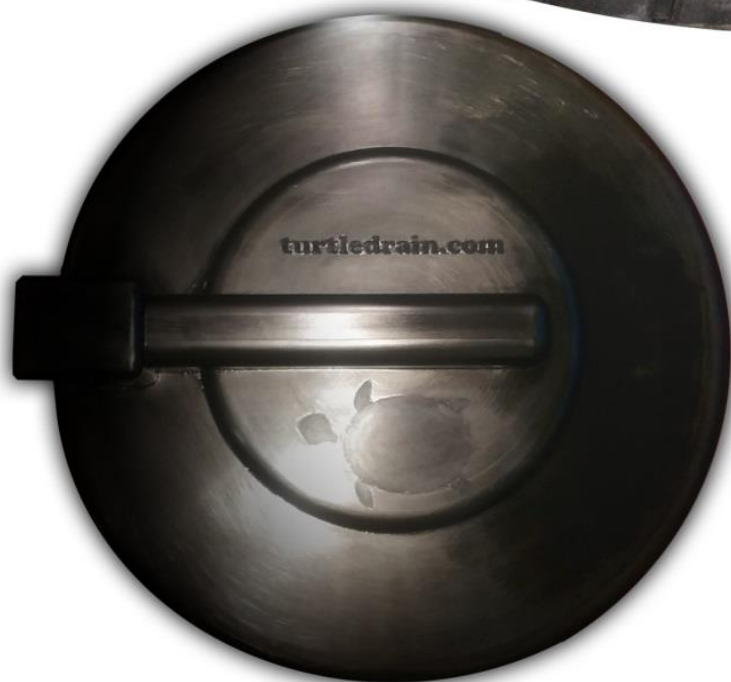
clog-resistant turtledrains



drains water down to 1/8"

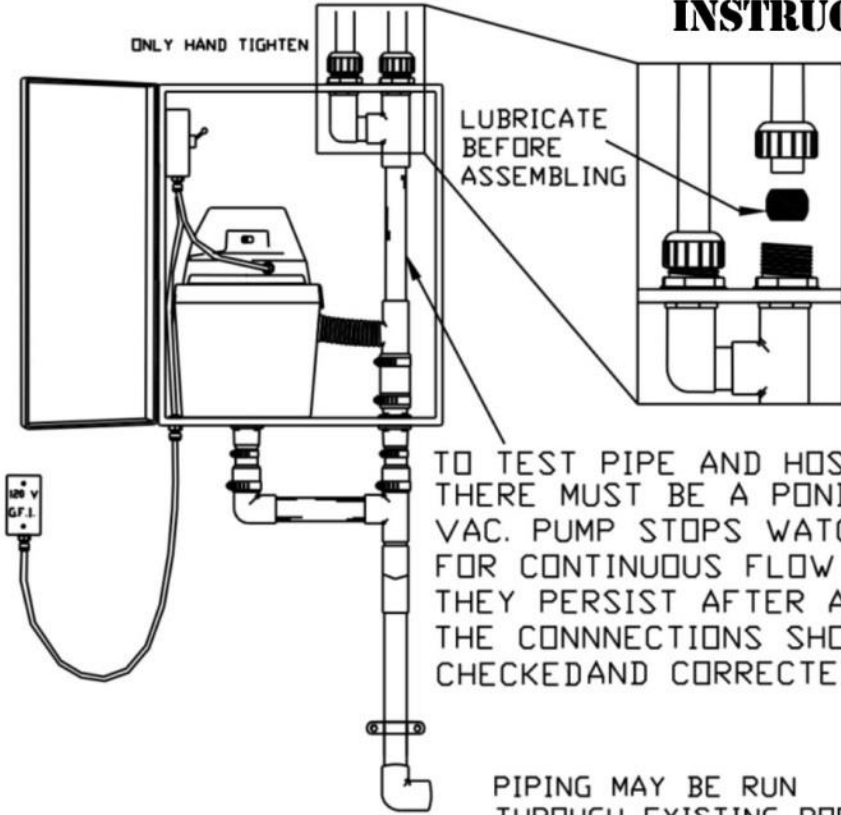
(what's going on underneath)

our patented clog-resistant ribbing



COMPRESSED E.P.D.M MOLDED 15" RUBBER HEADS

INSTRUCTIONS FOR **PERMANENT** FIXTURE



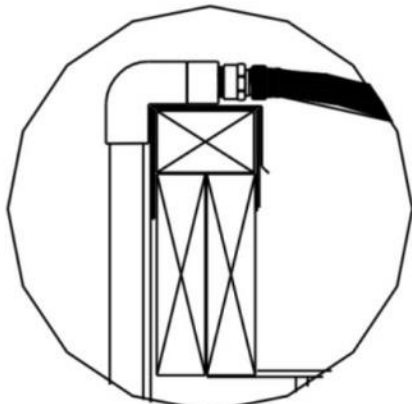
THE STRAIT FORWARD DESIGNING PLUS THE SIMPLICITY OF THE ITS PARTS MAKE IT A EASY PIECE OF EQUIPMENT TO UNDERSTAND AND MAINTAIN. ONLY A SOLID STATE TIMER AND THE FIBERGLASS ENCLOSURE ARE NOT AVAILABLE AT FULL SERVICE HARDWARE STORES OR HOME CENTERS.

TO TEST PIPE AND HOSE CONNECTIONS THERE MUST BE A POND PRESENT. WHEN VAC. PUMP STOPS WATCH SITE GLASS FOR CONTINUOUS FLOW OF BUBBLES, IF THEY PERSIST AFTER A FEW MINUTES THE CONNECTIONS SHOULD BE CHECKED AND CORRECTED.

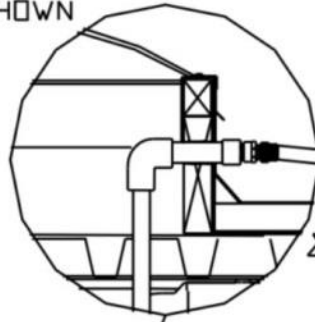
PIPING MAY BE RUN THROUGH EXISTING ROOF PENETRATIONS AS SHOWN BELOW.

WHEN EXCEEDING 14 FEET THE DROPS MUST HAVE SOME MEANS TO ALLOW FOR EXPANTION AND CONTRACTION.

EXPANSION COUPLINGS



USE A GOOD QUALITY COMMERCIAL HOSE 3/4" DIA. IT MUST ALSO NOT BE AFFECTED BY U.V. RADIATION. FOR HOSE CONNECTIONS USE O-RINGS TYPE WASHERS THAT ARE SUPPLIED.



PROVISIONS TO REDUCE THE FLOW SHOULD BE MADE

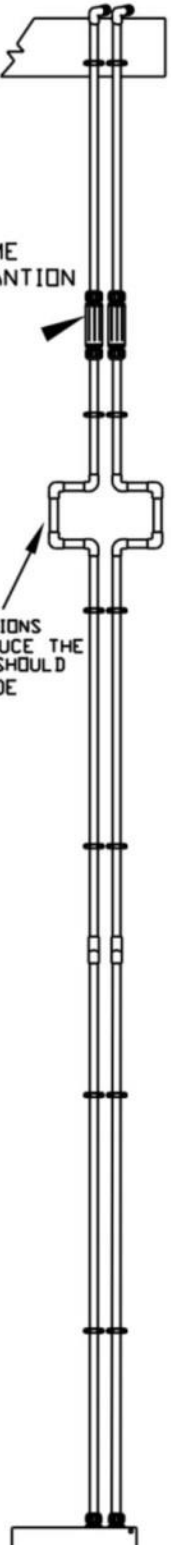
WHEN 4 PICK UP HEADS ARE USED THEY MUST ALL BE IN AREAS THAT ALWAYS PONDER THE UNIT WILL DRAW IN AIR NOT WATER.

MINIMUM OF 8 FT. SHOULD BE MAINTAINED FROM ROOF SURFACE TO TOP OF CABINET.

THE BOX MAY BE MOUNTED INSIDE IF PREFERRED.

EVERY PICK UP HEAD MUST HAVE ITS OWN SIPHON PIPE.

PIPE SADDLES ARE ONE WAY TO CONNECT TO



Electrical Instruction for Permanent AKA Standard Electric Roof Drain

ELECTRICAL FOR STANDARD ELECTRIC ROOF DRAIN



SOLID STATE TIMER
120 VOLT
ON 90 SECONDS
OFF 8 HOURS



120 VOLT ON-OFF TOGGLE



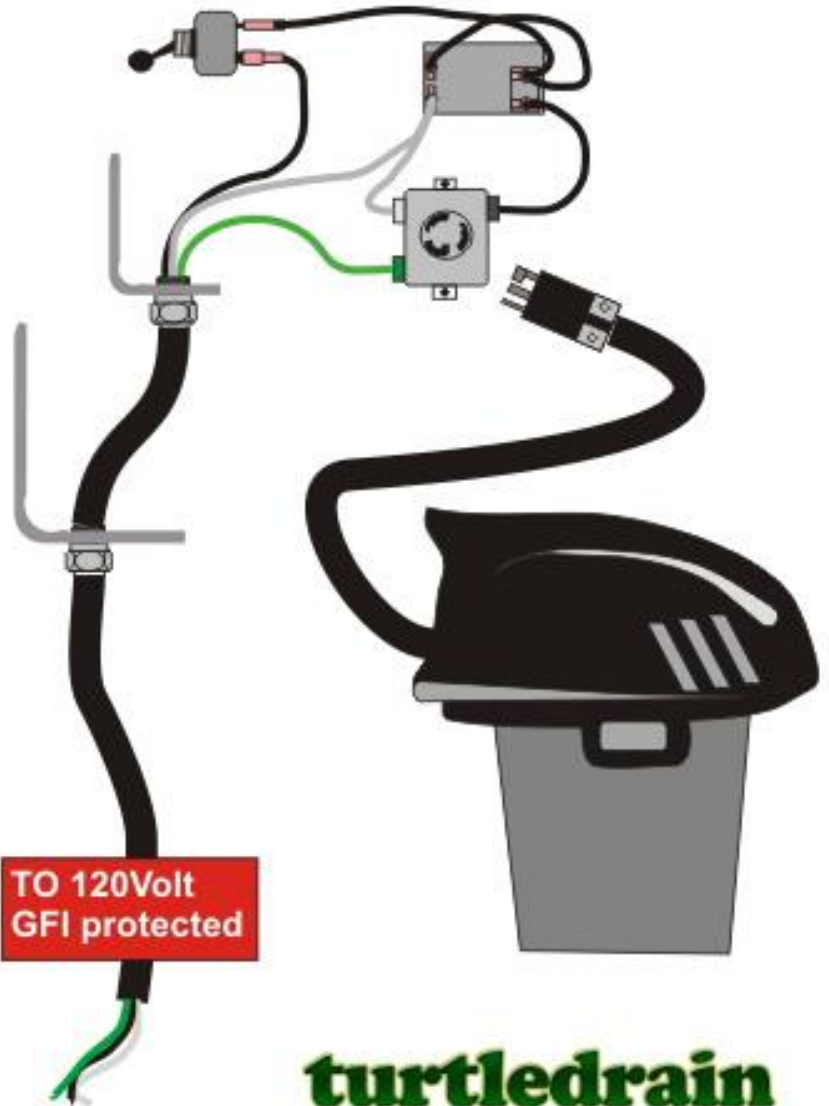
120 VOLT 15 AMP
TWIST-LOCK
RECEPTACLE



120 VOLT 15 AMP
TWIST-LOCK
MALE CORD END

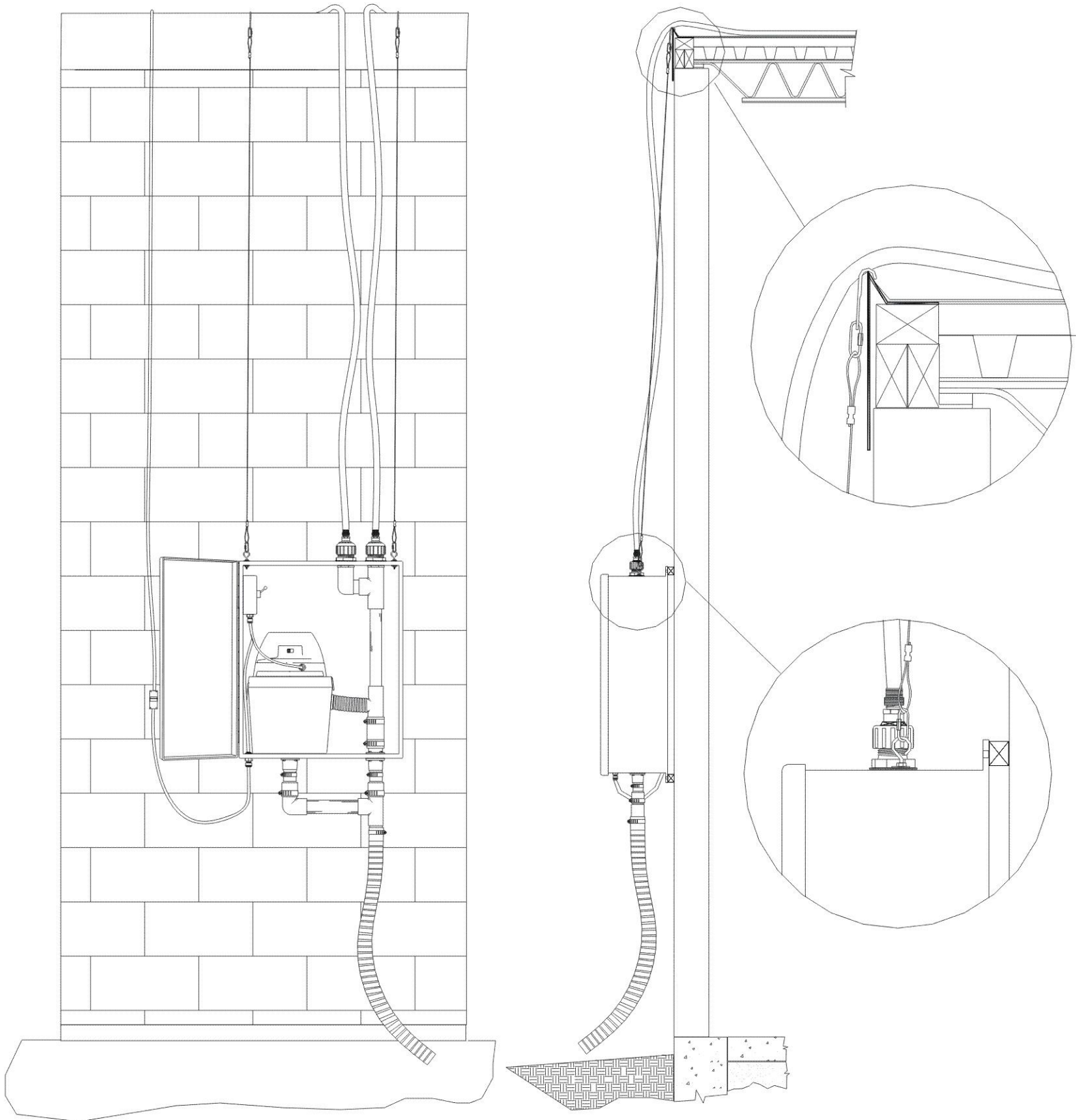


2-1/2" CORD
CONNECTORS



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INSTRUCTIONS FOR **PORTABLE** FIXTURE

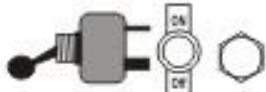


Electrical Instruction for Portable AKA Roofer's Electric Roof Drain

ELECTRICAL FOR ROOFERS ELECTRIC ROOF DRAIN



SOLID STATE TIMER
120 VOLT
ON 90 SECONDS
OFF 8 HOURS



120 VOLT ON-OFF TOGGLE



120 VOLT 15 AMP
TWIST-LOCK
RECEPTACLE



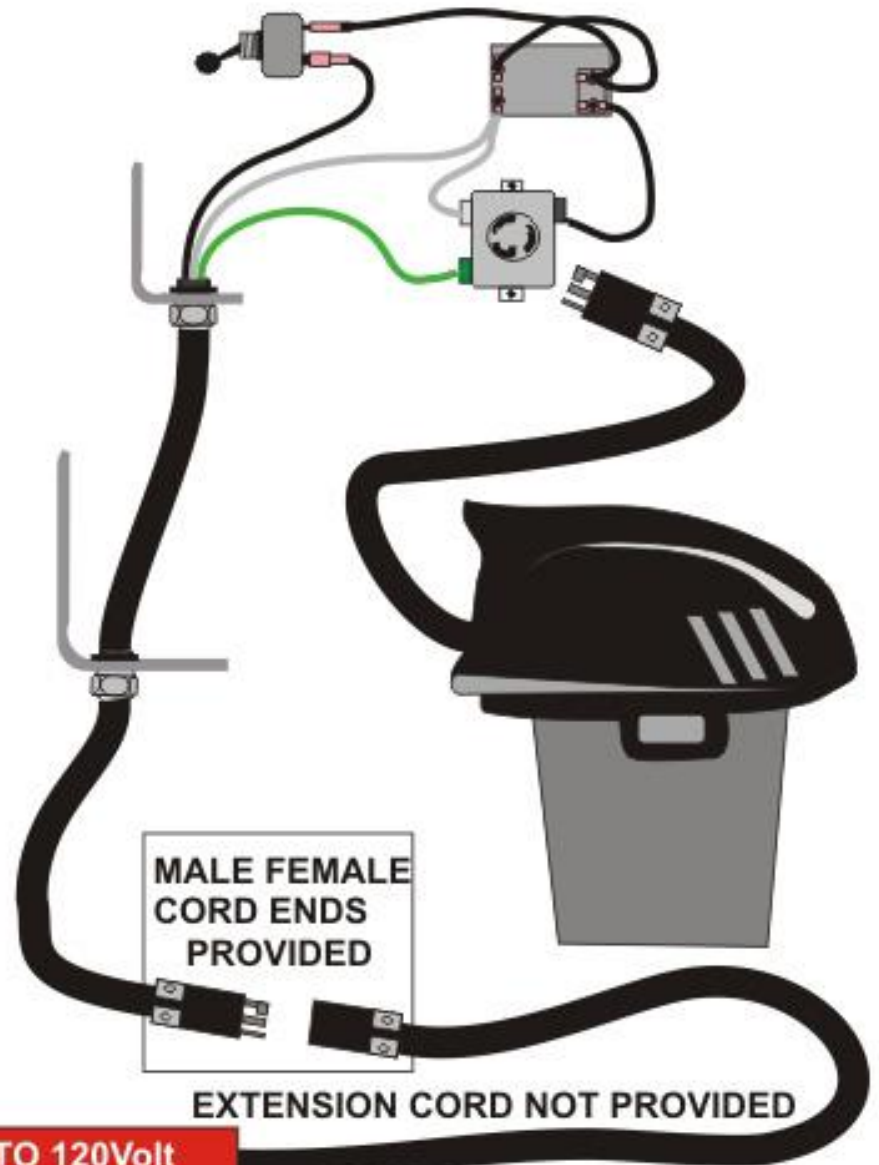
TWO 120 VOLT 15 AMP
TWIST-LOCK
MALE CORD END



ONE 120 VOLT 15 AMP
TWIST-LOCK
FEMALE CORD END



2-1/2" CORD
CONNECTORS



TO 120VOLT
GFI PROTECTED

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the natural drain