

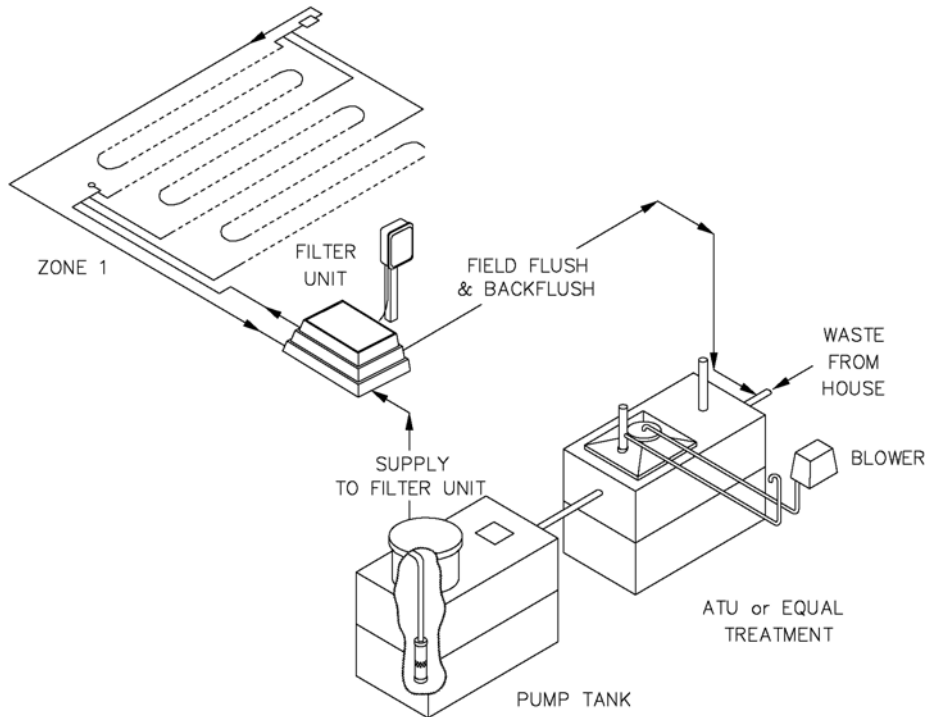
OWNER'S MANUAL

AMERICAN "PERC-RITE"®

"QM" - QUALITY MONITORING

SEMI-AUTOMATIC - 1 ZONE SIMPLEX FOR ENCLOSED VALVE BOX

PATENT NOS. 5,200,065 - 5,984,574 - 6,262,689



OWNER'S NAME _____

HEALTH DEPT. ID NO. _____

LOCATION _____

NAME _____
 STREET NAME _____
 CITY, STATE ZIP _____

Table of Contents

Limited Warranty	2
Safety Precautions and Warnings	2
Owner's Responsibility	2
Overview of American Perc-Rite® Drip	3
Sequence of Operation	3
Filtration units	5
System Parameters of "QM" Drip	6
Startup Log	8

MANUFACTURED BY:
AMERICAN MANUFACTURING COMPANY INC.
 P.O. BOX 97, ELKWOOD, VA 22718
 1-800-345-3132

AMERICAN MANUFACTURING LIMITED WARRANTY

For one year (12 months) after the date of purchase, American Manufacturing Company, Inc. will repair or replace any product or portion thereof that proves to be defective due to materials or workmanship of American Manufacturing. We reserve the right to repair or replace defective materials at our discretion. This warranty does not cover the following conditions:

1. Defects or problems caused by improper installation or maintenance of materials.
2. Abuse, neglect or accidental damage of products.
3. Normal maintenance or upkeep of products.
4. Lightning, war, floods, or other acts beyond our control.
5. Misapplication of our products for their designed purpose, or misapplication according to local, state or national codes when in effect.
6. American Manufacturing Company or it's representatives are not responsible for the labor for the replacement of defective parts.

Defective or warranted materials must be returned to us or a place designated by American Manufacturing. All returns must be accompanied by a return authorization number supplied by American Manufacturing.

American Manufacturing will in no way be responsible for any losses or damages incurred by failure of equipment, parts or service. NOTE: Some states do not allow exclusion of damages so this may not apply to you. There are no other warranties written or implied.

INTRODUCTION

Congratulations! You are now the owner of a state of the art wastewater treatment and recycling system by American Manufacturing Company, Inc. American Manufacturing Company Inc. has been in business since the mid 1980's and we are considered one of the leaders in the Onsite Wastewater industry. With a staff having over 100 years collective experience in providing solutions to new sites and sites in need of repair, we are able to deliver an ecological, economical, easy to install and off-the-shelf **PERC-RITE® DRIP** to owners like yourself.

When and How to use manual

This owner's manual should be read cover to cover initially, and then as needed to answer any questions or assist the owner in fulfilling their maintenance and inspection responsibilities.

When and Where to call for assistance or get additional information

If at any time you have a question about the **PERC-RITE® DRIP** or observe any alarm or unusual condition, you should call your qualified service representative or installing contractor as soon as possible. The owner should record in the back of this manual, the contact name and telephone number of the qualified service representative and installing contractor. If further assistance is needed, call American Manufacturing Company, Inc. at 800-345-3132, or visit us at www.americanonsite.com.

Overview of Manual

The manual is organized to cover safety precautions and warnings, an overview of the **PERC-RITE® DRIP** components, and the owner's responsibility. A startup log and limited warranty are in the back of this manual.

SAFETY PRECAUTIONS & WARNINGS

The owner or operator of the **PERC-RITE® DRIP** should take precautions consistent with operators working with sewage and/or electricity while working with, or around any of the system components.

Electrical Hazards

The **PERC-RITE® DRIP** incorporates a pump, float switches, relays and other electrical components that use 230 volts, 120 volts or 24 volts AC. Improper use of equipment can cause an electrical shock and may lead to serious injury or death.

Sewage Hazards

Proper attention should be given to personal contact and cleanup when working in and around the sewage treatment system and pump tanks and wastewater handling equipment to insure that disease causing bacteria are not transmitted to persons or contact surfaces. The tanks can allow for a toxic buildup of poisonous gasses that can lead to serious injury or death if inhaled.

Heavy Lifting Hazards

The owner and/or operator should exercise proper caution when lifting heavy system components, such as pump tank lids. Improper lifting of heavy components can lead to loss of limb and/or mobility.

OWNER'S RESPONSIBILITY

Preventative Maintenance

The drip field area should receive only the most passive type yard uses. No use is recommended when conditions are wet. Under no conditions are any autos or heavy machinery to be allowed on the site.

In order to prevent erosion, the site should be established and maintained as a healthy lawn, or if wooded, mulched and stabilized. Erosion of the site and the adjacent areas should be controlled and eliminated. Surface waters should be diverted away from all components.

Scheduled Inspections

Within a month of operation the owner should contact the installer to have the system inspected for proper startup. After three months of operation the drip field should be walked and the system inspected. Symptoms to look for on the field walk inspection are patches of wetness. If symptoms are identified, notify your service provider immediately. The drip field should be walked & inspected at least annually.

The treatment tank and pump chambers should be inspected regularly by a trained professional service provider, your American Dealer. The treatment tank should be pumped periodically. The flow meter reading in the hydraulic unit should be recorded with the date on an annual basis.

Alarms - Notifying Service Provider of alarm events

The system controller is equipped with an audiovisual alarm to alarm high water level conditions. The high level alarm may be silenced by pressing the "silence" button on the side of the control. Since a high water level condition can be caused by pump failure, excessive infiltration, or an unusually large water use, the owner should call the service provider to determine the cause of the alarm prior to requesting service.

If at any time there are any indications of failure, such as the flow meter not moving during a dose or wetness in the area of the drip field, notify your service provider immediately.

Monitor & Regulate waste input to treatment tanks

Since all processes in this sewage disposal system use biological activity to treat the wastewater, only typical biodegradable household wastes are to be disposed of in drains leading to the system. Never dispose of pesticides, oil or grease based products, or non-fecal solids (especially feminine hygiene products) into the system. Minimize disposal of high strength over-the-counter type products such as bleach, and do not use colored toilet tissue.

OVERVIEW OF AMERICAN PERC-RITE® DRIP SYSTEM

The "QM" PERC-RITE® DRIP SYSTEM is a fluid handling system for dispersal of secondary treated wastewater effluent in soil systems. The system incorporates pretreatment by an approved aerobic treatment unit (ATU), packed bed filter (sand filter), or other type of treatment facility, followed by flow equalization storage, filtration, time and level control and ultra low rate drip distribution.

The system incorporates a filtration process that will clog if the water quality degrades resulting in a high level alarm, thus the term "Quality Monitor". The primary filter is automatically back flushed at the beginning of each cycle. The backwash filter is manually cleaned when the pretreatment system is serviced.

The drip field supply line conveys the effluent to the drip absorption field that is being dosed where it is discharged below the soil surface through emitters. The drip lines are automatically flushed periodically to prevent clogging.

Pretreatment Unit

The process includes a secondary aerobic treatment unit (ATU) followed by drip dispersal. The ATU provides NSF Standard 40 treatment quality or better. The Pretreatment Unit may be any qualified manufacturers product, as approved by American. The operation of the unit shall conform to the manufacturers recommendations.

Pump Tank and "Cool Guide"™ System

The pump tank is provided with a turbine pump and "Cool Guide"™ installation kit system which provides protection for the pump and filter from settled or floating solids. The Cool Guide allows for storage of settled solids in the bottom of the pump tank and directs flow over the pump motor for cooling.

Top Feed Manifold System and Air Release

The Top Feed Manifold system is comprised of a set of manifolds located at the highest point in the drip zone and provided with air release valves to prevent drain down of upper laterals in the zone to lower laterals in the zone, thus preventing saturation of the lower laterals after the pump shuts off. The system provides for the fastest possible pressurization of the zone and the most efficient method of providing drain down control. In the event of damage to the air release valve, effluent may leak from the system. This condition should be fixed immediately by replacing damaged parts. Air release valves should not be covered with soil or other material and should always be accessible to the service personnel.

Drip Tubing

Drip dispersal is the most efficient means of dispersing water into the soil. The installation of the field distribution lines cause minimum soil disturbance and the effluent discharge rate from each emitter hole is approximately .65 gph per emitter. The system is suited for landscaped or wooded areas near buildings, trailer parks, apartment complexes or residential subdivisions. The dripper lines are automatically scoured (forward flushed) every week. The flushing cycle produces a high velocity cleansing/scouring action by the effluent along the inside walls of the dripper tubing and P.V.C. Manifolds. The tubing emitters are self-cleaning and require no maintenance.

The construction of the drip tubing is unique in that the internal diaphragm and labyrinth provide for an exact amount of effluent to be discharged from each of its emitters, which are spaced at two-foot intervals along the entire length of the drip tubing. Each emitter maintains a constant flow over pressure ranges of 7 to 70 psi. Because the effluent is distributed at an ultra low rate, large quantities of effluent may be economically distributed over large areas during controlled periods of time without saturating the surrounding soil.

Sequence of Operation PERC-RITE® Drip System

The *Perc-Rite*® system control panel is equipped with three or four float switches and controls the timed doses to be discharged. The four float switches, "Redundant Off", "Standard Dose Enable", "Peak Dose Enable" (optional), and "High Level". The water level must be high enough to overcome the "Redundant Off" (Bottom) float in order for the pump to run. When the water level rises high enough to overcome the "Dose Enable" (second) float and the timer is in a dose enable mode the cycle will initiate. The pump will activate and automatically backflush the primary disc filter then dose the lead zone. The pump will continue to run for the length of time as set on the pump run timer to provide a complete dose. The system will remain off until the preprogrammed off timer enters a new cycle enable mode, at which time the control will activate another cycle and dose the new lead zone (as long as "Dose Enable" float is still up). This process will continue until the water level drops below the "Dose Enable" float and the pump run timer has timed out. Each zone will automatically receive a field flush each week to clean the drip tubing.

The control system may be equipped with an optional peak enable circuit to manage peak flows and excess water use event. If the water level rises enough to overcome the "peak enable" (third) float and the peak enable selector switch is on, the system will be cycled at the peak rate. The system will continue to cycle at an increased rate until the peak enable float is deactivated at which time the system will resume the normal dosing cycle.

In the event the water level continues to rise enough to overcome the "High Level" (fourth) float, the audio/visual alarm will be activated until silenced by pressing the Test-Normal-Silence switch to the silence position. The alarm circuit horn must be silenced until the "High Level" float returns to its normal position. *Perc-Rite*® also monitors waster water quality by providing a system, which will cause an alarm with degrading water quality.

PERC-RITE® Filtration System

The filtration unit is mounted in the pump tank riser or in a separate valve box. In both cases, the control valves are preassembled to be wired to a junction box suitable for connection to the control terminal strips. All wiring is connected outside the pump tank in a suitable junction box.

The submersible pump delivers settled effluent through a filter. The filter backflushing schedule is triggered at the beginning of each dose cycle. The backflushing sequence is as follows; The primary filter valve closes, thus blocking the flow of unfiltered effluent to that filter and the flushing valve opens, thereby backflushing the primary filter. The accumulated impurities discharge back into the pretreatment unit. The closing and opening procedure of the filter and back flush valves causes a change of flow within the unit to provide effluent from the back flush filter to backflush the primary filter. The backflush procedure lasts approximately fifteen seconds then the back flushing valve closes. Only after the primary filter has completed its backflushing cycle, will the effluent then be pumped through cleaned disc filter, then through the **flow meter** and finally to the drip field supply line.

For systems where the *Perc-Rite*® filtration system is mounted in the riser, a separate valve box is located near the control panel and will house the flow meter and the field flush valve. These valves in the box should be installed deep enough in the ground to protect the valves and fittings from freezing. If freezing is a concern, a thermostat-controlled heater should be installed.

For systems where the *Perc-Rite*® filtration system is in a separate valve box, the box is located near the control panel and will house the flow meter and all valves. If freezing is a concern, a thermostat-controlled heater should be specified and installed in the valve box.

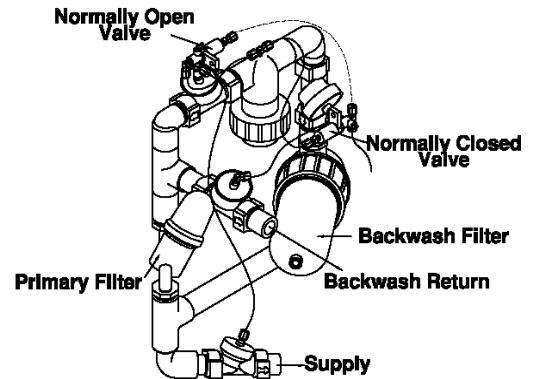
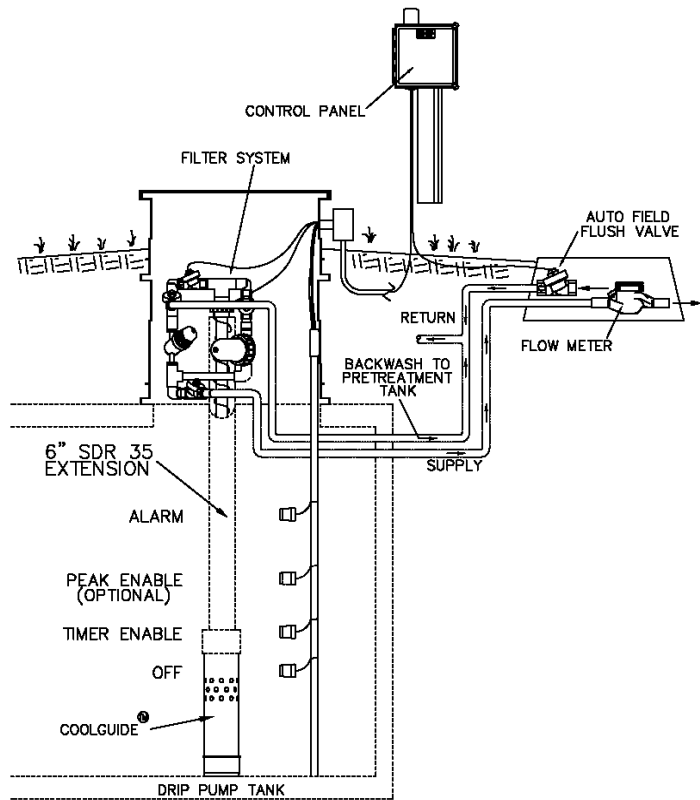
CONTROLLER

The "state of the art" controller is enclosed in an outdoor electrical control box located near and connected to the hydraulic unit. The control panel uses 115 or 230 volt power and the microprocessor has 120V and 24V AC inputs and relay outputs for automatic operation of the *Perc-Rite*® **Drip System**. When in the "Hand" or "Off" position, the manual switches (Hand-Off-Auto) on the door of the control panel completely bypass the microprocessor. The "Hand" position will allow manual operation of the component in the event of a microprocessor failure.

NOTE:

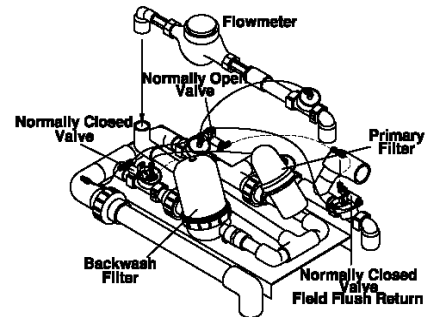
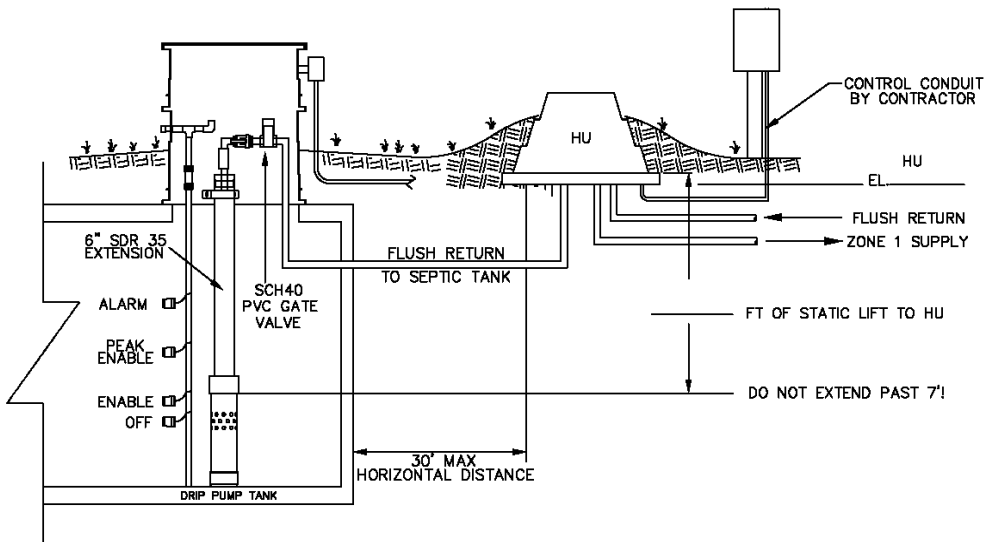
THE HOMEOWNER ASSUMES FULL RESPONSIBILITY FOR CONDITIONS OR MALFUNCTIONS DUE TO MANUAL OPERATION OF THE SYSTEM BY ANYONE OTHER THAN A QUALIFIED SERVICE REPRESENTATIVE. LEAVING THE PUMP CONTROL IN THE "HAND" POSITION WILL FORCE THE PUMP TO RUN CONTINUOUSLY AND MAY RESULT IN PUMP FAILURE.

PERC-RITE[®] INSERT FILTRATION SYSTEM



FILTER SYSTEM

PERC-RITE[®] VALVE BOX FILTRATION SYSTEM



HYDRAULIC UNIT

PERC-RITE® DRIP SYSTEM SIMPLEX CONTROLLER

SIEMENS LOGO! 230RC MICROPROCESSOR -

When the LOGO microprocessor unit is first turned on, the standard rest time and elapsed time screen will show. Press the ESC button until the real time clock shows and is blinking. The time and date should be adjusted if necessary to current conditions (see below). Five screens may be scrolled through and view by pressing the button;

- 1) time and date
- 2) run time and elapsed time,
- 3) Dose count, dose elapsed time meter(ETM),
- 4) Peak count and high level count,
- 5) standard rest time, rest time elapsed.

SETTING CLOCK

Press the escape (“ESC”) button. You should see the menu that has the Set Clock listed. Press the ▼ button so that the prompt (>) is next to the Set Clock menu and hit the “OK” button. Press the ▼ button until you reach the option you wish to change, then change the time and date as necessary. Press OK button until you are back to the menu display. Press (“ESC”) button until you are back to the time clock display.



SETTING CONTROL PARAMETERS

Press the escape (“ESC”) button. You should see the menu that has the Set Parameter listed. Press the ▼ button so that the prompt (>) is next to the Set Parameter menu and hit the “OK” button. Press the ▼ button until you reach the option you wish to change, then change the time and date as necessary. Press OK button until you are back to the menu display. Press (“ESC”) button until you are back to the time clock display.

The parameters of interest for typical systems include run times and rest times. The American Perc-Rite® Drip System has the following parameters, which may be changed;

- B10 Zone Run Timer
 - T= 10:00 Run time setting (Minutes)
 - TA= Elapsed time
- B12 Standard Rest Timer
 - T= 02:40 Rest timer setting (Hours)
 - TA= Elapsed time
- B13 Peak Rest Timer
 - T= 01:30 Rest timer setting (Hours/Minutes)
 - TA= Elapsed Time

System Operational Parameters for Simplex System w/ 1 zone & 1 Disc Filter

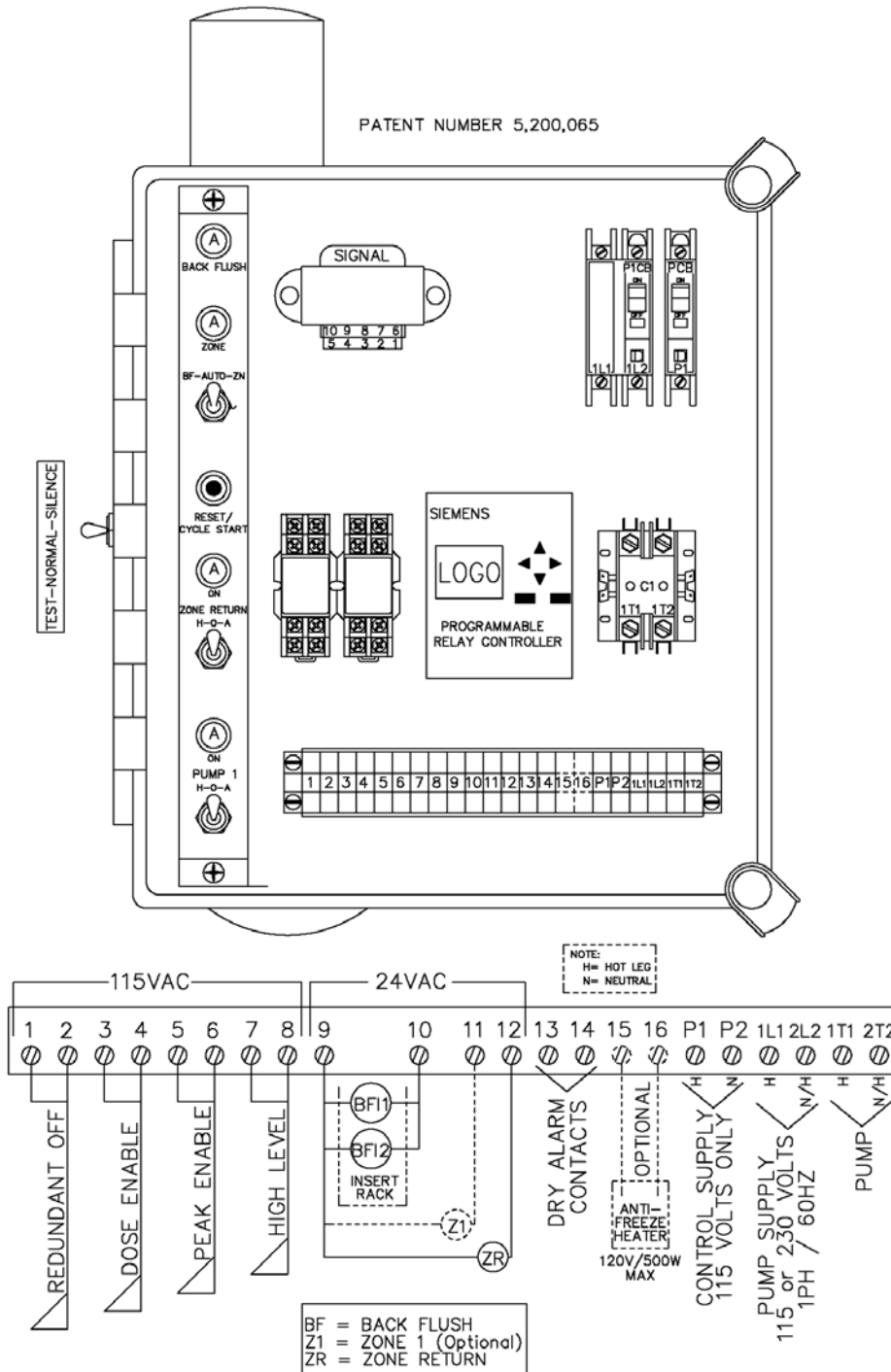
1. System Failure indicated by high level alarm or unusual wetness in the field.
2. Standard Rest time between doses = 180 minutes, 8 doses per day for the zone.
3. Peak Rest time between doses = 108 minutes, 13.3 doses per day for zone.
4. Flow meter on hydraulic unit (record periodically to monitor activity).
5. To remove pump or zone from service place pump control switch to “off”.

NOTE:

THE HOMEOWNER ASSUMES FULL RESPONSIBILITY FOR CONDITIONS OR MALFUNCTIONS DUE TO MANUAL CHANGING OF THE PROGRAM BY ANYONE OTHER THAN A QUALIFIED SERVICE REPRESENTATIVE. MANIPULATING THE CONTROL MAY DELETE NECESSARY FUNCTIONS OR EVEN PART OR ALL OF THE PROGRAM.

System Operation

- Leave switches in "Auto" or "Off" - Never leave switches in "Hand" or "On" position. The Off position will take component out of service.
- To Silence Alarm - On outside of control push "Test-Off-Silence" switch to "Silence" and release.
- Leave power "on" - There May be a strip heater in the hydraulic unit which is powered by the control panel. Power must be left on to protect unit from freezing.
- To start automatic cycle - Push and hold "Reset" button for over 5 seconds until an automatic cycle starts. Then release button.
- Manual Operation - Place "H-O-A" (hand-off-auto) switch to "Hand". This position is like an "on switch" and should operate the individual component regardless of other conditions.



"QM" WASTEWATER DRIP SYSTEM

Name: _____

Date: _____

Owners' Address: _____

American Perc-Rite® Drip Startup Log				USER LOG			
Line No.	As-Built Value	Description	Number of Zones: ____	Date	Date	Date	Date
1		BEDROOMS					
2		GALLONS PER DAY					
3		TEXTURE GROUP					
4		GPD/FT2 DESIGN SOIL LOADING RATE					
5		TOTAL LINEAR FEET TUBING					
6		GPD/LF FT DESIGN TUBING LOADING RATE					
7		METER READING					
8		ZONE 1 LINEAR FEET OF TUBING					
9		ZONE 1 NUMBER OF FIELD FLUSH					
10		ZONE 1 GPM DOSING FLOW RATE					
11		ZONE 1 GPM TOTAL FLUSHING FLOW RATE					
12		ZONE 1 RUN TIME					
13		ZONE 2 LINEAR FEET OF TUBING					
14		ZONE 2 NUMBER OF FIELD FLUSH					
15		ZONE 2 GPM DOSING FLOW RATE					
16		ZONE 2 GPM TOTAL FLUSHING FLOW RATE					
17		ZONE 2 RUN TIME					
18		ZONE 3 LINEAR FEET OF TUBING					
19		ZONE 3 NUMBER OF FIELD FLUSH					
20		ZONE 3 GPM DOSING FLOW RATE					
21		ZONE 3 GPM TOTAL FLUSHING FLOW					
22		ZONE 3 RUN TIME					
23		ZONE 4 LINEAR FEET OF TUBING					
24		ZONE 4 NUMBER OF FIELD FLUSH					
25		ZONE 4 GPM DOSING FLOW RATE					
26		ZONE 4 GPM TOTAL FLUSHING FLOW					
27		ZONE 4 RUN TIME					
28		PEAK ENABLE CYCLE COUNTER					
29		HIGH LEVEL CYCLE COUNTER					
30		CONTRACTOR STARTUP REPRESENTATIVE:					
31		STARTUP DATE:					

CONTRACTORS NAME & PHONE:

Note to Owner: Any changes to pump run timer should be recorded in on this page. Two, three, or four zone systems use a mechanical alternating valve.

AMERICAN MANUFACTURING COMPANY, INC.

P.O. BOX 97, Elkwood, VA 22718-0097, 1-800-345-3132