



Over One Hundred Years of Coin Operated Devices

GENERAL Installation Notes for HM5 / HM6 Meter Housings & Aqua-misers

This is general application information for the installation and service of the HM5 and HM6 Meters & Aqua-Misers. *Please read carefully and completely before beginning!* For those applying the meters to uses other than shower system, ignore the references to the valve and transformer. Each installation is unique and will require careful planning to assure a quality product is properly applied. You know your facility, and you know your customer best. You must determine what will best suit your particular site. A certain amount of ingenuity must be supplied by the installer. These notes are to guide the installer in making a safe and dependable installation. Should you or your installer encounter any difficulty, please feel free to call Monarch at 1-800-462-9460.

METER HOUSING AND WIRING NOTES

The housing should be situated to be convenient for the patron. In all applications, but particularly for outside uses and for shower meters, we recommend a low voltage installation, so the danger of shock hazard is minimized. According to amperage being drawn you may already require the use of contactor or relay. Fitting it with a 24VAC coil would minimize the liability associated with electrical risks which would justify the added expense and complexity of the installation. Other voltages are available but care should be taken in their application. HM6 must be level within 2 degrees in all directions.

Each of the housings weigh 14 pounds or more, so they should be well secured to a substantial wall. Be sure fasteners do not interfere with any internal functions. Electrical conduit entry should be made by a Greenlee type punch at any convenient point on the side, bottom or top (**Note: Local Electrical codes may require special fitting for top entry**). (HM5- Do not enter from the rear where the service door is located. On the HM6 such an entry is permissible). In all housings, the wiring should be of sufficient length to allow the service door/timer assembly to be withdrawn from the housing, but not so long that wires interfere with the unit's function. **NOTE CHANGES IN THE LOCATION OF THE SWITCH IN HM5 METERS AS OF JANUARY 1, 2007!**

**NOTE: HRV and HRD TIMERS HAVE THEIR MAXIMUM RELAY LOAD RATING
PRINTED ON THE FACE OF THE TIMER.**

THIS IS NOT THE OPERATING VOLTAGE!!!!

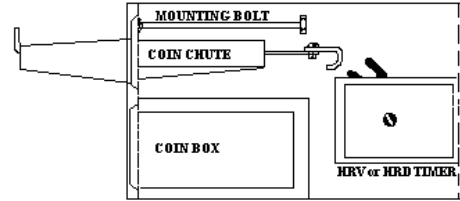
TL2 TIMERS HAVE A MAXIMUM OF 1 AMP FOR LOAD AND ALARM.

The correct voltage for the HRV and the HRD is on the paper label attached to face of the timer against the access door. The timer must be removed from the door to confirm the proper operating voltage.

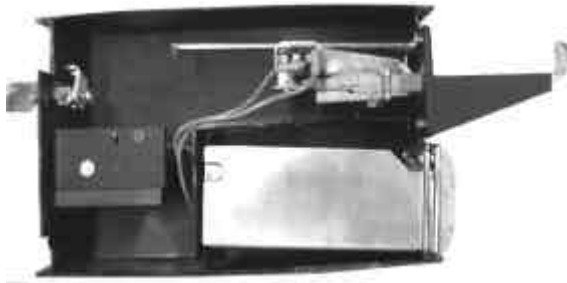
*Timers or Valves destroyed by the application of incorrect
voltage are not covered under warranty.*

ADDITIONAL NOTES ON THE HM5

After the system has been wired, and tested, the timer door assembly should be closed and locked. The power should be off, to avoid any shorts when closing the door. Tuck excess wire to one side, and engage the lower lip of the service door in the bottom of the opening, ***making sure the cam is tilted toward the coin chute***. Be certain the wiring does not interfere with the motion of the coin mechanism or the cam.



HM5 BEFORE 01-01-07



**HM5 AFTER 01-01-07
With 444 Chute & Switch**



**HM5 after 01-01-07
With Vertical Eight Chute & Switch**



**V8 Mechanism
Accepts 1 to 8 Quarters**



**Model 444 Mechanism
To Accept 1 coin or 1 token**

Beginning January of 2007 the design has changed.

To simplify the switch operation, and eliminate some of the maintenance issues, the switch is now mounted directly **on** the coin acceptor. Some care must be taken to make certain the wires do not interfere with the operation of the coin acceptor, and to avoid abrasion on the insulation.

REMOVING THE COIN MECHANISM FROM THE HM5

Turn off Power - Remove the rear access door with timer. Above the chute, in the middle, you will find the hex head of the long mounting bolt. Remove the bolt. From the front, lift the slide up, and then pull it out from the front. If you must exchange chutes, remove the knuckle on the end of the slide and install it on the new slide. To install a coin mechanism, slide it through the opening, and set it firmly down so that the four lugs are fully seated. Re-install the mounting bolt, close the timer door, and re-store power. **Be sure that the switch cam is in the forward position so the knuckle on the end of the chute engages as it reaches its full stroke.**

Vertical Eight Coin mechanism are capable of accepting from one to eight quarters. **DO NOT DISASSEMBLE** to change prices!! Price change instructions are available in the technical notes section of our web site

www.monarchcoin.com

Or you may call 800-462-9460 and we will be happy to mail or fax you instructions.

If you have chosen token operation, you may call Monarch for additional tokens. Tokens are ordered in multiple of 100 and pricing varies according to the particular token used. **A minimum order of 200 is required.**

**Make a record of the key codes for the service door
and your coin box locks.**

Replacement keys are impossible to order without a record of this code. Without the code, you may need to drill the locks, and replace them, an expensive process which can be avoided if you have the codes.

AquaMiser

INSTALLATION INSTRUCTIONS

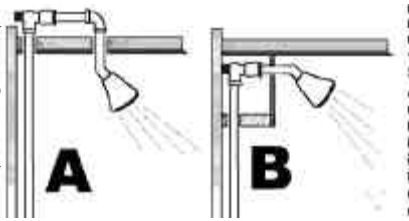
The following is general information for the installation and service of the AquaMiser Systems using the AQ Power Kit. The power kit include the transformer, valve and fittings to make your HM5 or HM6 into a complete coin or token operated shower control system. ***Please read carefully and completely before beginning!*** Each installation is unique and will require careful planning to assure a quality product is properly applied. You know your facility, and you know your customer best. You must determine what will best suit your particular site. A certain amount of ingenuity must be supplied by the installer. These notes are to guide the installer in making a safe and dependable installation. Should you or your installer encounter any difficulty, please feel free to call Monarch at 1-800-462-9460.

TRANSFORMER

A transformer is provided to operate the timer and the valve of each unit. **It should not be too remote from the meter, yet at a 110 VAC power source that is safe and secure from wetting or contact with the customer. It should be secured to the proper electrical box, and preferably in an enclosure. TRANSFORMERS ARE INSTALLED FIRST. THEN WIRING IS RUN TO THE TIMER. DO NOT WIRE THE TIMER DIRECT TO LINE CURRENT!** The black primary lead goes to the "Hot" line, and the white lead to the "Common". Secondary leads need be colored only to facilitate installation. Wiring should be a quality wire as used in heating and air conditioning installations.

VALVE There are two different valves. You chose the right angle valve or the in-line valve when you order.

The right angle valve goes at the top of the riser tube. The valve, and the wiring to it, should be protected from damage by patrons, and ideally would be behind the wall. In many instances, this is not practical. The illustration shows two alternatives for riser tubes which are surface mounted. One alternative is to extend the riser tube into the ceiling, and adding a short nipple and 90° elbow, the gooseneck pipe enters the shower area from the ceiling. A second alternative would be to enclose the valve in a soffit. **Access to the valve for maintenance purposes is essential.** When winterizing, the collar to the compression fitting should be loosened, and the cores from the mixing valves removed to facilitate drainage.



The coil for the solenoid lies horizontally, in line with the shower arm. The inlet of the valve has a screen to eliminate small particles. According to your water quality, this may require periodic cleaning. The valve does not operate if installed backwards.

1) The compression fitting is slid over the end of the riser tube, which is square-cut, and burr free. **DO NOT TIGHTEN YET!** 2) Thread coupling to the compression fitting, firmly but do not over tighten! 3) Thread the coupling to the valve. Do not over tighten. 4) The second coupling is threaded to the output side of the valve. Tighten firmly, do not over tighten! 5) Reducer is threaded into coupling. 6) Shower arm (Gooseneck) is threaded to reducer. Teflon tape is suggested for this joint to assure it seals properly. Teflon tape may

be used on other threaded joints but should not be necessary. Do not put tape at the joint between the compression fitting and the riser tube. Once all other connections are secure, the compression fitting should be tightened on the riser tube. Again, **DO NOT OVER TIGHTEN.** These fittings were selected for their ease of installation, and their ability to seal with minimal tightening.

In-line valves have 3/8" NPT female threads. They may be installed in the risertube at any other point in the plumbing. Again, make sure you leave access for future service needs. Orientation is not an issue, it may be placed at any angle. Just be sure to note the arrow in the side of the casting that indicates the direction of the flow. The valve will not operate if installed backwards. No other fittings are supplied with this valve.



CAUTIONARY NOTES

- 1) The system should be serviced only with the power off. Accidental shorts may damage components.
- 2) ***Damage caused by overloads are not covered under warranty.***
- 3) Protect wires from damage. Wiring should be in conduit, or run inside walls to prevent accidental or deliberate damage. Low voltage connections must be clean to work properly. Make sure all terminals are crimped securely, with a good electrical connection.
- 4) Always test the system before closing in any walls. You *must* provide some access to the rear service door on the HM5 should the unit require service.
- 5) The meter housing is heavy! Make sure it is mounted securely to studs or into concrete walls with lag bolts or molybolts. Do NOT use butterfly anchors in drywall, green board, or cement board walls.
- 6) The coin mechanism may need occasional cleaning. Washing with warm soapy water, scrubbing with an old tooth brush, rinsing and then lubricating *with a silicon lubrication*. WD40 is an excellent product but **WD40 is discouraged here**. It is a blend of oils that becomes sticky and holds dirt.
- 7) **Again, ON METERS BEFORE 01-01-07, MAKE SURE THE CAM LEVER ON THE HM5 IS TURNED TOWARD THE COIN CHUTE WHEN INSTALLING and locking the service door.**
- 8) **MOST IMPORTANT. MONARCH HAS TRIED TO PROVIDE THE HIGHEST QUALITY COMPONENTS, INCLUDING UL / CSA APPROVED ELECTRICAL COMPONENTS. MONARCH CANNOT BE RESPONSIBLE FOR AN INADEQUATE OR LESS THAN SAFE INSTALLATION.**

KNOW YOUR INSTALLER, AND BE CERTAIN THE INSTALLATION HAS BEEN COMPLETED PROPERLY.

WARRANTY

All Monarch products carry a limited one year warranty. This covers the failure of our product due to a fault in the parts, or our assemblies. Monarch cannot and will not accept responsibility for products which have failed due to abuse, misuse, or inappropriate application. Warranty does not extend to exceptional labor or transportation costs.

Replacement components are available. Valves with burnt coils or timers with burnt electronics will not be accepted for exchange. Coin chutes which malfunction due to vandalism or general wear, can generally be reconditioned at a modest charge. Chutes for single coins, and the chutes which accept multiple coins are interchangeable. Should you wish to change from one to the other, please call for current pricing. **BEFORE MAKING ANY RETURNS, PLEASE CALL FOR A RETURN AUTHORIZATION NUMBER.** Return any damaged items via UPS, and be sure to include your name, full street address, and a daytime phone number. You will be advised of any charges which may be due prior to any work being done. Completed repairs will be returned via UPS, with payment by Credit Card.