

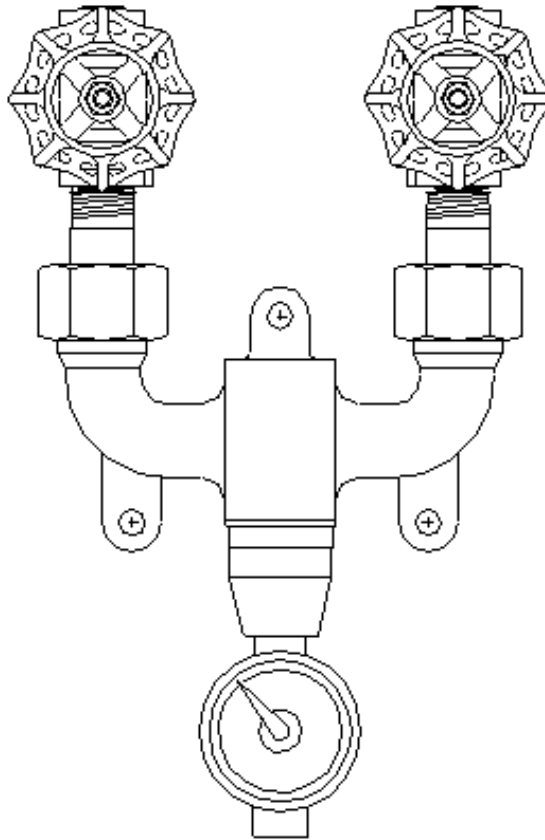
INSTALLATION/OPERATION/MAINTENANCE INSTRUCTIONS FOR  
ARCHON MODEL HCMX HOT/COLD WATER MIXING STATIONS



**ARCHON Industries, Inc.**

# **HCMX**

## **Hot/Cold Water Mixing Station**



### **Installation / Operation / Maintenance Instructions**

## INSTALLATION/OPERATION/MAINTENANCE INSTRUCTIONS FOR ARCHON MODEL HCMX HOT/COLD WATER MIXING STATIONS

This manual has been prepared as an aid and guide for personnel involved in installation or maintenance. All instructions must be read and understood thoroughly before attempting any installation, operation, or maintenance. Failure to follow any instruction can possibly result in a malfunction of the mixing station resulting in physical injury to personnel. Additionally, property damage can occur.

**Important:** Archon does not have control over the manner in which its mixing station is handled, installed, or used, and Archon cannot and does not warrant or guarantee that a mixing station is suitable or compatible with the user's specific application.



**Always wear safety glasses, face shield, wet suit, boots and gloves, when installing, servicing or operating a mixing station.**

### I. INTRODUCTION:

#### A. Features and Specification

Archon mixing stations are designed to produce heated water by mixing of hot and cold water at the point of use for industrial cleaning applications.

The Archon mixing station is a complete, pre-engineered package including:

1. Manually operated valves for hot water and water supply lines.
2. Integral hot and cold water line check valves to prevent back flow.
3. Cast Mixing Body, with wall mounting lug.
4. Discharge temperature gauge.

The following features are available as options:

- \* Stainless steel hose rack.
- \* 25 or 50 Ft. of hose, with swivel connections
- \* Trigger-operated spray gun.

#### B. Design Rating PSIG at Maximum and Minimum Operating Temperatures

Supply Pressure: 125 psig

Supply Temperature: 200° F

Maximum water discharge temperature should be limited to 200° F.

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**DANGER:** Never exceed these design ratings or application data limits. Exceeding these limits can cause serious personal injury and/or property damage.



**DANGER:** Archon HCMX mixing stations are not designed for use with Steam, at any pressure.

### II. INSPECTION AND PERFORMANCE CONFIRMATION:

#### A. Receiving Inspection

Upon receipt of mixing station, check all components carefully for damage incurred in shipping. If damage is evident or suspected, do not attempt installation. Notify carrier immediately and request damage inspection.

#### B. User's Rating Inspection

The user is to confirm that:

1. The mixing station conforms to the description on the user's purchase order.
2. The operating conditions described in the purchase order agree with the actual conditions at the installation site.
3. The actual operating conditions at the installation site are within the application data shown on the Archon Technical Data Bulletin or product proposal referred to above.
4. The materials of construction of the mixing station are compatible with the contained fluid and surrounding atmosphere in the specific application.

**Important:** If the performance data of the mixing station as received does not conform to any of the criteria above, do not proceed with installation. Contact Archon for direction on what to do.

### III. INSTALLATION:

Use only qualified experienced personnel who are familiar with this equipment and thoroughly understand all the instructions in this manual for the installation of this equipment.

Refer to Archon dimension sheets or Archon product proposal to obtain dimensional information for the specific mixing station. Check Figure 1 for the location of the inlet and outlet connections to insure correct hookup.

#### A. Mounting

1. Although the mixing station can be oriented in any position, it is recommended to position the unit with the hot and cold water inlet lines vertically up. In this manner, the thermometer dial will be up-right, and the discharge line will be pointing down.
2. Prior to mounting unit, loosen the union connections below each manual control valve. Do not completely remove the union connections.
3. Mount valves to inlet piping using Teflon tape or equivalent on all male pipe threads.

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4. Mount the mixing station using 3/8" diameter bolts.
5. After mounting to wall, wrench-tighten union connections enough to prevent leaking.

### B. Effect of Related Piping and Precautions

1. The mixing station should be installed with piping and fittings that provide minimum resistance to flow. Pipeline friction losses must always be a consideration when estimating mixing station performance.
2. Do not impose system-piping loads on mixing station. The wall-mount is designed to support only the mixing station and not the supply piping.

## IV. OPERATION

### A. Pre-operational Check

1. Check that all installation instructions have been completed.
2. Check that the manually operated hot water valve is fully closed.
3. Check that the manually operated cold water valve is fully closed.

### B. Operating

1. Turn cold water valve fully on. Keep it on throughout the entire operation process.
2. Depress trigger of spray gun to establish full flow of water.
3. Slowly and partially open the manually operated hot water line valve to first check for leaks. If leaks are evident, close valve, allow line to cool off, tighten connections, and repeat procedure until all leaks are stopped.
4. Slowly open the manually operated hot water valve (no more than 1/2 turn) while depressing the trigger of the spray gun, then adjust the hot water valve slowly until the desired water outlet temperature is obtained.

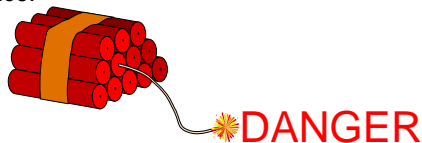
**Important: When adjusting outlet temperature of the mixing station, make certain the discharge spray gun is pointing in a safe direction.**

### C. Shutdown

1. While squeezing the trigger of the spray gun, turn the manually operated hot water valve off in order to remove the line pressure and allow the unit to cool as much as possible before shutdown.
2. Release the trigger of the spray gun and turn the manually operated cold water valve fully off.

## V. MAINTENANCE

Use only qualified experienced personnel who are familiar with this equipment and thoroughly understand all the instructions in this manual for all maintenance.



**DANGER: Do not proceed with any maintenance unless the mixing station has been relieved of all pressure, has been allowed to reach ambient temperature, and has been drained or purged of fluids. Failure to do so can cause serious personal injury to personnel.**

### A. Preventive Maintenance

Create maintenance schedules, safety manuals and inspection details for each mixing station.

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On all installations, regularly check the following items for purposes of maintenance.

1. Mixing station components, for corrosion and to remove debris build-up.
2. Piping and fittings, for corrosion and to remove debris build-up.
3. All connections, to maintain tightness and eliminate leaks.
4. Outlet temperature, to maintain desired setting.
5. Hose and spray gun, for damage or wear.
6. Mounting connections, for tightness.

By evaluating your own operating experience, develop an appropriate maintenance schedule necessary for the specific application. Realistic maintenance schedules can only be determined with full knowledge of the services and application situation involved.

### **B. Maintenance Procedure**

1. Leaks at threaded connection should be corrected by taking the mixing station out of service and remaking the connection using Teflon tape or equivalent on male pipe threads.
2. If a stem packing leak does occur it can be stopped by tightening the stem packing gland (1/8 turn clockwise, at a time) until the leak stops. If the leak persists, the stem packing should be replaced.

### **C. Troubleshooting**

**Problem:**            **Low Flow.**  
                             **Low Outlet Temperature.**  
                             **High Outlet Temperature**

**Cause**

**Cure**

Blockage of water flow path outside unit.

Remove union valve connections to the mixing body and open cold water valve and hot water valve to check flow.

Blockage of water flow path through unit

Remove discharge hose and open cold water valve to check water flow through unit.

If after the hose and nozzle are removed, the flow remains low, remove the outlet bushing to access the mixing stator. Remove the mixing stator. Open the cold water valve to check for flow.

If after the outlet bushing and stator are removed, the flow remains low, remove the both check valves and check that the spring loaded ball checks are free to move in the housing.

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Figure 1

