

# M-144TG Steam and Cold Water Mixing Unit

## Installation, Operating and Maintenance Instructions

Last Updated: March 2015



### Strahman Valves, Inc. USA Headquarters

2801 Baglyos Circle Bethlehem, PA 18020

Phone: (484) 893-5080

Fax: (484) 893-5099

[www.strahmanvalves.com](http://www.strahmanvalves.com)

QMS12.002



ISO 9001  
Management System Registered

## Maintenance of Model

# M-144TG

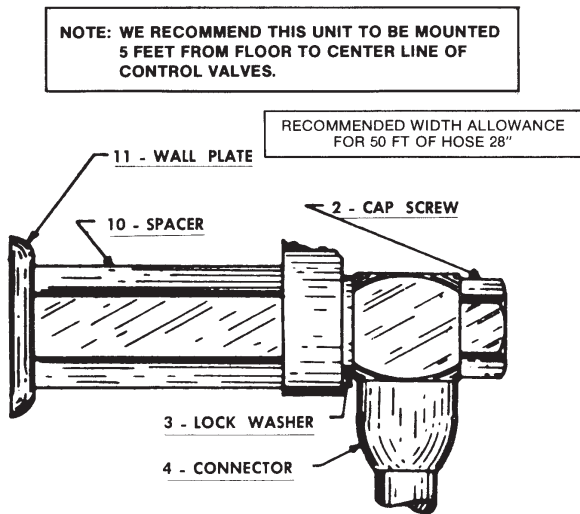
## Steam and Cold Water Mixing Unit

### M-144 SAFETY SERIES FOR STEAM AND COLD WATER

These units produce hot water instantly from a steady supply of steam and cold water. All mixing units-hose stations in the M-144 Safety series are equipped with a dial-type gauge that indicates the wash water's exact temperature. Users can easily regulate the temperature by turning the unit's steam and cold-water valves.

### INSTALLATION INSTRUCTIONS

Strahman Mixing Units are designed for wall mounting and are provided with necessary hexagonal spacers tapped for 3/8" bolts. They can be mounted on any type of wall by means of toggle bolts, expansion bolts or other conventional method, the only requirement being that from 5/8" to 1" of full thread be left projecting from the wall.



1. Before installing the mixer, blow out all pipelines to be sure that no dirt, such as pipe chips, wicking or lead can enter the mixing valve. Valve inlets are marked steam and water. Piping must go to proper inlets.
2. Using the template provided (see attached drawing), layout and install mounting studs in wall.

3. Slide Wall plate (part 11) over stud and tightly thread on hex spacers.
4. Insert short cap screw through center mounting lug of unit, through temperature gage holder, and into the corresponding hex spacer.
5. Complete assembly by inserting the two long cap screws through hose rack connector (part 4), lock washer (part 3) and through mounting lugs on unit. Tighten all cap screws and the unit is ready for the necessary pipe 3/4" NPT. It is important that the lock washer is placed in the proper place as this ensures rigidity of installation.
6. Be sure that tapered copper gaskets are installed in the check valves.

### OPERATING INSTRUCTIONS

Follow your company safety precautions as well as all Federal, State, and Local regulations during mixing unit operation.

#### \*\*\* CRITICAL SAFETY REQUIREMENTS: \*\*\*

1. An approved Strahman nozzle and 50 feet of Strahman 5/8" hose must be used for proper operation. Open piping or hard piping will result in unsafe operation.
2. When the unit is not in use, the steam supply and water supply must be shut off using the supplied Strahman globe valves.
3. This unit should not be disassembled by anyone except a trained Strahman representative. Certain adjustments must be made upon reassembly that are critical to proper operation of the safety mechanism.

#### To turn M-144 Safety on, follow the steps listed below:

1. Fully open the water valve, located on the right side of the unit, by turning it counter clockwise.
2. Squeeze spray nozzle.

- Slowly open the steam valve, located on the left side of the unit, by turning it counter clockwise until you reach the desired water temperature outlet.

Note that the safety mechanism will not allow the mixture temperature to exceed 200 degrees Fahrenheit.

**NOTE:** If you do not get the desired water temperature outlet, turn the water valve handle clockwise until you reach the desired temperature.

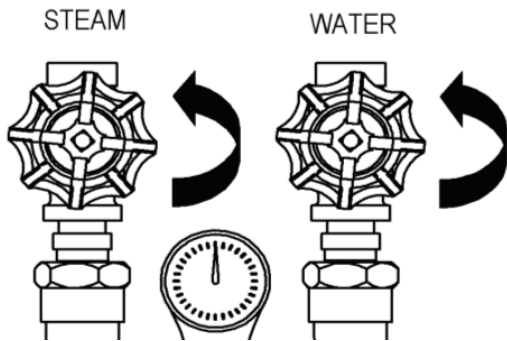


Figure 2: Turn control valves counter clockwise to turn M-144 Safety on.

Whenever the M-144 Safety is not in use, it should be turned off. To turn the unit off, follow the steps listed below:

- Shut off the steam valve completely.
- Shut off the water valve completely.
- Relieve any pressure in the unit by opening the spray nozzle.

**CAUTION:** If unit is not shut down the steam will boil the water in the unit and cause steam to come from nozzle the next time it is used.

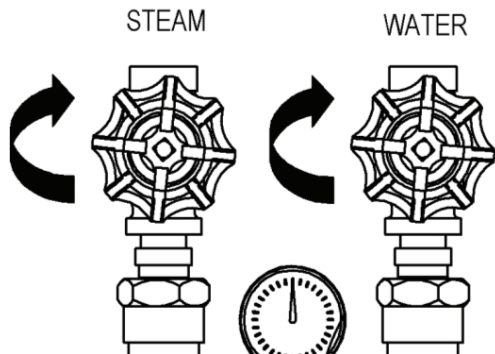


Figure 3: Turn control valves clockwise to turn M-144 Safety off.

For more information, please contact your Strahman representative.

## MAINTENANCE INSTRUCTIONS

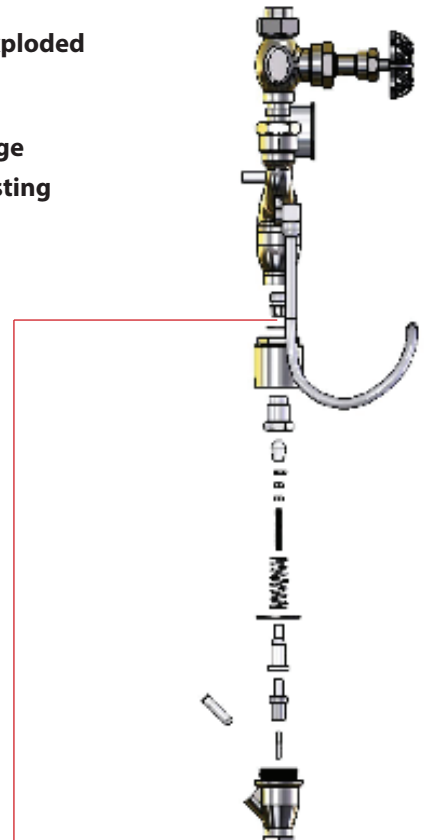
The M-144 Safety Mixing Unit is not user-serviceable. However, certain checks can be made by the user to ensure safe and proper operation of the mixing unit. Always use proper PPE such as gloves, etc. when performing maintenance or inspection of the unit.

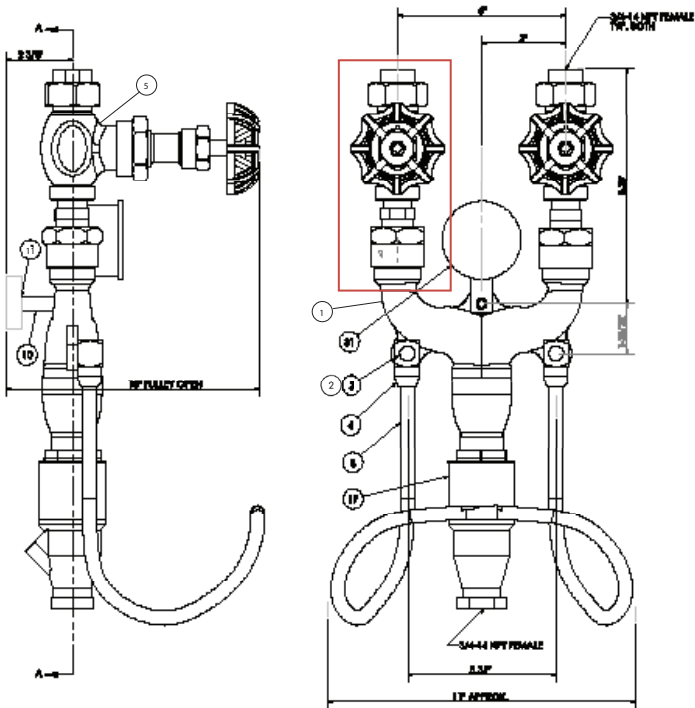
- \* Inspect the unit for leaks at all threaded connections.
- \* Check to be sure an approved Strahman hose and nozzle are being used with the mixing unit—this unit must not be used with open piping.
- \* Check the entire length of the hose, unit end and nozzle end connection, for any damage, such as cracking or abrasion.
- \* Test the safety mechanism by doing the following. Operate the unit as previously described in the “Operating Instructions” section of this manual. Be sure the nozzle is pointed away from the user and from any by-standers. Slowly close the water valve while watching the temperature gauge. The water temperature will rise, but the temperature gauge should not read in the red zone. If steam exits through the nozzle, then immediately open the water valve. Steam exiting through the nozzle indicates that the safety mechanism is damaged, and the unit will need to be replaced—contact your Strahman representative.

**Image (right) shows exploded view and Retrofit Kit.**

**Please see the next page for a complete parts listing for the M-144TG.**

**M-144 Retrofit Kit**  
Please see the next page for Retrofit Kit assembly instructions.





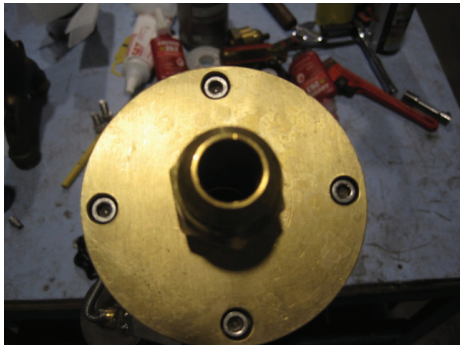
Typical, both valves

PARTS		
PART NO.	DESCRIPTION	MATERIAL
1	MAIN BODY	BRONZE
2	HOSE RACK CAP SCREW	SST
3	HOSE RACK LOCK WASHER	SST
4	HOSE RACK CONNECTOR	BRASS
5	GLOBE VALVE	BRONZE
8	HOSE RACK ASSEMBLY	SST
10	SPACER	SST
11	WALL PLATE	BRASS
12	BALL CHECK UNION NUT	BRASS
13	BALL CHECK VALVE	BRASS/SST
17	THERMOSTAT HOUSING	BRONZE
21	UNION TAIL PIECE	BRONZE
22	INLET UNION NUT	BRONZE
31	TEMPERATURE GAUGE	CHROME
36	BALL CHECK GASKET	COPPER PTFE COATED

## INSTRUCTIONS FOR RETROFIT KIT ASSEMBLY

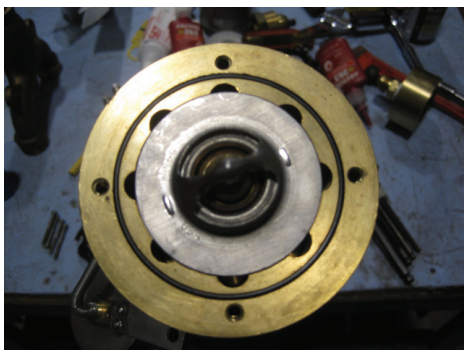
### Disassembly Step 1

Remove 4 socket head screws.



### Disassembly Step 2

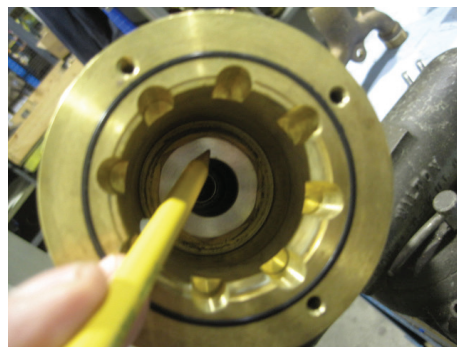
Remove lower thermostat housing and thermostat assembly.



### Disassembly Step 3

Remove hollow bolt and upper thermostat housing.

Do not reuse. A new hollow bolt and thermostat housing is provided.



### Disassembly Step 4

M-144 body should now look like this.





### Assembly Step 1

Thermostat pre-assembly all nuts loose at this time.

Note: Tighten after height adjustment.



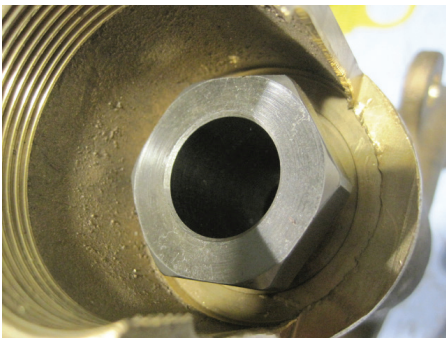
### Assembly Step 2

Height adjustment: Adjust nuts and tighten nuts after verification.



### Assembly Step 3

Thread in new hollow bolt.



### Assembly Step 4

Match marks

Loosen hollow nut (see step3) to re-align if necessary.



### Assembly Step 5

Insert thermostat assembly assembled per assembly steps 1 and 2. Thread upper housing onto lower housing.

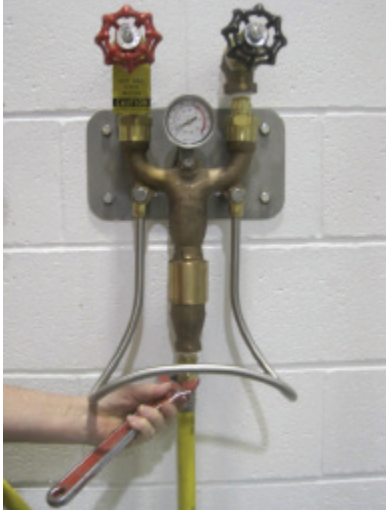


### Assembly Step 6

Thread thermostat assembly onto M-144 body. Install thermostat bulb.



## INSTRUCTIONS TO REPAIR A THERMOSTATIC ASSEMBLY



1. Remove Hose



2. Loosen Lower Thermostat Housing



3. Remove Thermostat bulb



4. Remove Lower Thermostat Housing



5. Set to the side



6. Remove o-ring



7. Thermostat driver



7. Replace Thermostat assembly with bulb and spring



1. Re-install in reverse order

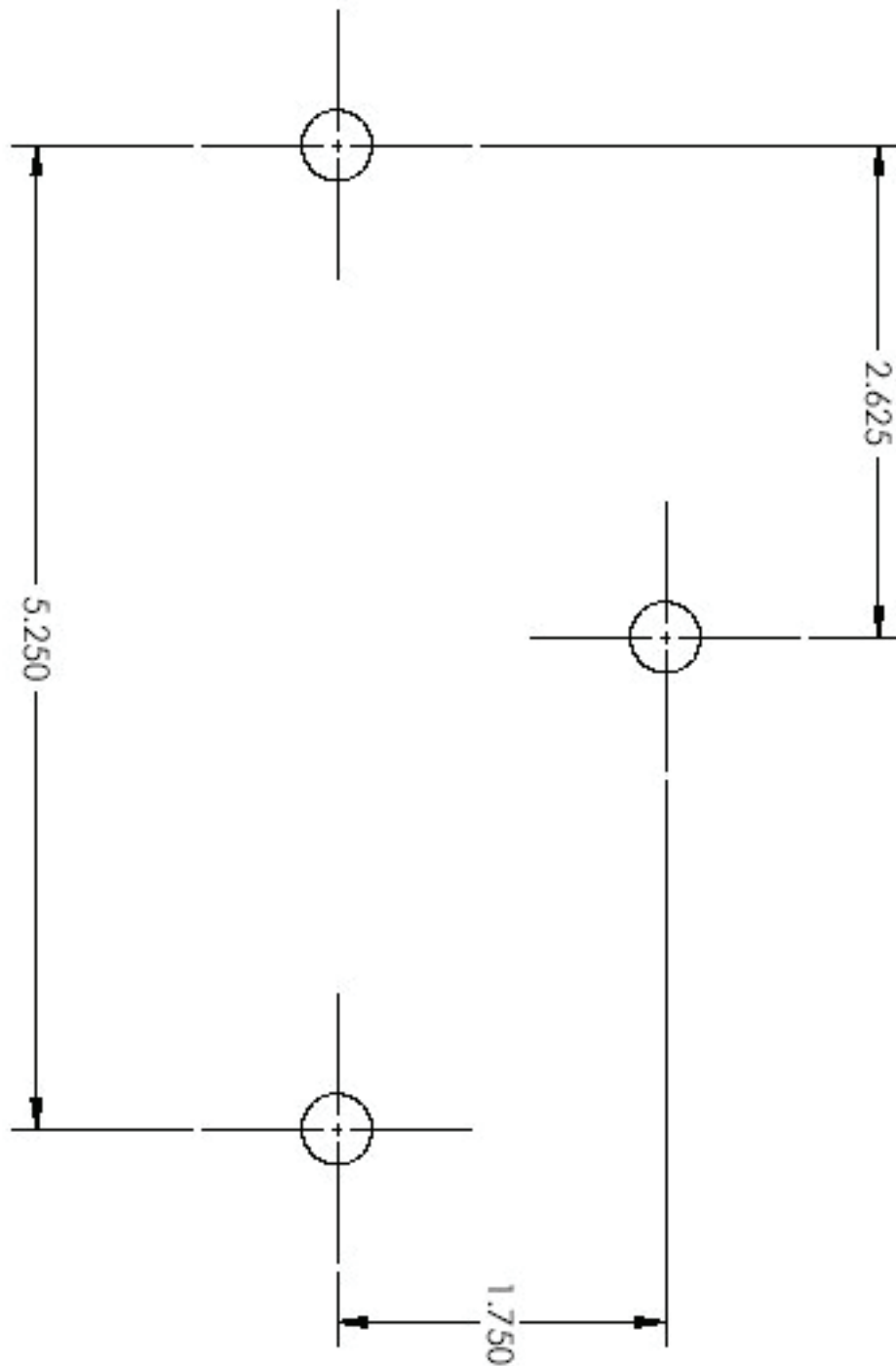
Maintenance of Model

# M-144TG

Steam and Cold Water Mixing Unit

TEMPLATE FOR MOUNTING M-144 SAFETY MIXING UNIT

STUDS MUST STICK OUT 5/8" TO 1" FROM WALL.





## The Strahman Family of Products Includes:

### Wash Down Equipment

Strahman offers a full line of mixing units, hose stations, hoses, nozzles, and wash down accessories. Our wash down line is designed for industrial use and is used in a wide variety of industries including food, beverage, pharmaceutical, chemical and other applications.

### Pre-Rinse Equipment for Commercial Kitchens

Strahman offers pre-rinse spray nozzles, handles, hoses, hose reels and Pivot Pro swivel connectors. Designed for use in restaurants, hotels, supermarkets, and all commercial kitchens, food serving and food preparation applications.

### Sampling Valves

Strahman has a full line of sampling valves that produce live samples without exception. Our sampling valves' unique design prevents failure caused by sediment or clogging.

### Drain Valves

Strahman Drain Valves are designed to prevent clogging. They are ideal for use in liquid and gas service or with slurries, polymers, and high viscosity fluids that tend to solidify at room temperature.



*Last Updated: August, 2014*



#### USA Headquarters

2801 Baglyos Circle ♦ Bethlehem, PA 18020

Phone: (484) 893-5080 ♦ Fax: (484) 893-5099 ♦ Toll Free: (877) STRAHMAN

[www.strahmanvalves.com](http://www.strahmanvalves.com)

#### France

Savoie Hexapole, F-73420 Mery, France

Tel: 33 (0) 4 79 35 78 00

Fax: 33 (0) 4 79 35 78 20

#### Germany

Kirchstrasse 16, D-77855, Achern, Germany

Tel: 49 (0) 7841 6846530

Fax: 49 (0) 7841 6846531

