

Installation and Maintenance Manual

Forbes Marshall Steam Water Mixer

SWM61

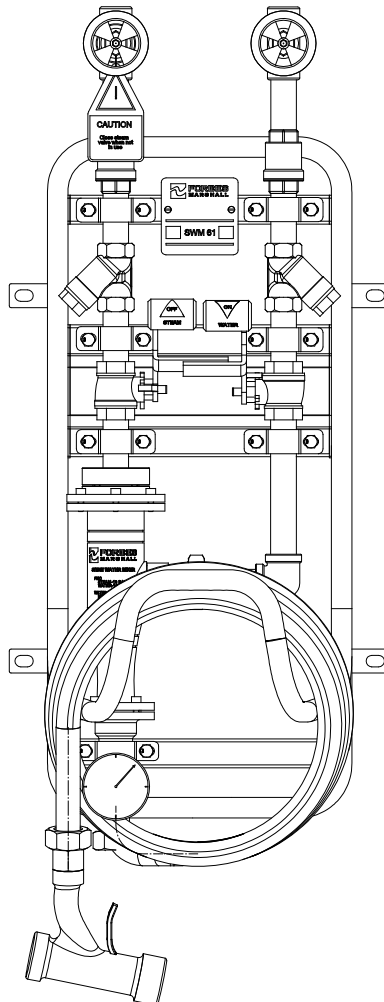


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PLEASE NOTE - Throughout this manual this cautionary symbol is used to describe a potential damage or injury that might occur if the safety considerations are overlooked. This symbol denotes CAUTION, WARNING or DANGER.



1. Preface:

This manual is intended for anyone using, commissioning, servicing, or disposing the below mentioned products safely and efficiently.

Forbes Marshall Steam Water Mixer [SWM61]

Sizes: DN 20 (3/4")

PLEASE NOTE:

Throughout this manual the following cautionary symbol is used to describe a potential damage or injury that might occur if the safety considerations are overlooked.

2. Important Safety Notes:



Read this section carefully before installing/operating/maintaining the product. The precautions listed in this manual are provided for personnel and equipment safety.

Furthermore, Forbes Marshall accepts no responsibility for accidents or damage occurring as a result of failure to observe these precautions. Note that the product is designed to perform for non-contaminated fluids only. A contamination in the form of chemical, foreign particle etc. can lead to problem with product performance and life of the product.

If these products in compliance with the operating instructions are, properly installed, commissioned, maintained and installed by qualified personnel (refer Section 2.7) the safety operations of these products can be guaranteed. General instructions for proper use of tools and safety of equipments, pipeline and plant construction must also be complied with.

DO's	DONT's
Wear protective clothing, heavy duty insulated gloves, boots & safety glasses.	Do not leave SWM61 station unattended without releasing pressure
Hold the spray gun firmly before pulling the trigger.	Do not use mechanical means to hold trigger in open position
To anticipate high recoil force by spary gun adopt a proper body stance.	Avoid body contact with non-insulated parts of spray gun.
Always shutt off steam & water supplies before attempting service or maintenace.	Do not put hand or fingers in front of spary gun.
Exercise care & caution when spraying	Do not operate the equipment if there are any leaks from spray gun, fittings or hoses.

2.1 Intended use:

Check if the product is suitable for intended use/application by referring to the installation and maintenance instructions, nameplates and technical information sheets.

i) The product is suitable for use as defined in the technical information sheet. In case the need arises to use the product on any other fluid please contact Forbes Marshall for assistance.

ii) Check for the suitability in conformance to the limiting conditions specified in technical information sheet of the product.

iii) The correct installation and direction of fluid flow has to be determined.

iv) Forbes Marshall products are not intended to resist external stresses, hence necessary precautions to be taken to minimize the same.

2.2 Accessibility and Lighting:

Safe accessibility and working conditions are to be ensured prior to working on the product.

2.3 Hazardous environment and media:

The product has to be protected from hazardous environment and check to ensure that no hazardous liquids or gases pass through the product.

2.4 Depressurizing of systems and normalizing of temperature

Ensure isolation and safety venting of any pressure to the atmospheric pressure. Even if the pressure gauge indicates zero, do not make an assumption that the system has been depressurized.

To avoid danger of burns allow temperature to normalize after isolation.

2.5 Tools and consumables

Ensure you have appropriate tools and / or consumables available before starting the work. Use of original Forbes Marshall replacement parts is recommended.

2.6 Protective clothing:

Consider for the requirement of any protective clothing for you/ or others in the vicinity for protection against hazards of temperature (high or low), chemicals, radiation, dangers to eyes and face, noise and falling objects

2.7 Permits to work:

All work to be carried out under supervision of a competent person. Training should be imparted to operating personnel on correct usage of product as per Installation and Maintenance instruction. "Permit to work" to be complied with (wherever applicable), in case of absence of this system a responsible person should have complete information and knowledge on what work is going on and where required, arrange to have an assistant with his primary goal and responsibility being safety. "Warning Notices" should be posted wherever necessary.

2.8 Handling:

There is a risk of injury if heavy products are handled manually. Analyze the risk and use appropriate handling method by taking into consideration the task, individual, the working environment and the load.

2.9 Freezing:

Provision should be made to protect systems which are not self-draining, against frost damage (in environment where they may be exposed to temperatures below freezing point) to be made.

2.10 Product Disposal:

It is necessary to dispose this product only in accordance with local regulations at the authorized, qualified collecting point specified for equipment's and its parts—Please refer the part details mentioned in the material table of this manual. Please follow all waste disposal guidelines (Management & Handling) as published by local governing authorities in India & abroad

2.11 Returning products:

Customers and Stockist are reminded that, when returning products to Forbes Marshall they must provide information on any hazards and the precautions to be taken due to contamination residues or mechanical damage which may present a health, safety or environmental risk.

This information must be provided in writing including Health and Safety data sheets relating to any substances identified as hazardous or potentially hazardous.

3. Warning:

3.1 Safety:

This product must only be installed and commissioned by qualified personnel.

SWM61 includes a safety device called a thermal element located at the outlet. This thermal element is designed to throttle steam flow once the set temperature is exceeded and will completely shut down when the outlet temperature reaches around 90 – 95 °C to limit the discharge of elevated water temperature or steam in the event of a system fault. In order to safeguard this element ; manually close the water inlet & check the (discharge) outlet for steam leak. Ensure that there is no steam leakage. Always operate SWM61 as instructed on the caution tag sent out with the equipment, particularly regarding protective clothing.

3.1.1 Qualified Personnel :

Qualified personnel are persons who are experienced in the installation, commissioning and operation of this product and who are suitably qualified to perform their duties,

e.g. Have received training or instruction in the maintenance and use of appropriate safety equipment according to current safety standards.

Have received training in first-aid.

3.1.2 Safety Test Procedure :

A safety check undertaken by qualified personnel must be carried out each time the unit is used.

The safety test and subsequent maintenance procedure ensures that live steam cannot be discharged from the spray gun, which would happen in the event of e.g. a seized diffuser.

Due to the possible presence of steam, please ensure due care and attention is observed when undertaking this task. Wear protective clothing, especially heavy-duty insulated gloves, boots, aprons and safety glasses.

Operate the unit as instructed in section 7 of this manual. Before pulling the trigger, hold the spray gun firmly in both hands and adopt a body position which will prevent loss of balance due to recoil from the hose spray gun.

Turn off the cold water with the isolation valve on the Steam Water Mixer, allowing only steam to enter the mixer. There should be no flow observed at the spray gun after a few seconds as the wax element will shut off the steam inlet. If steam flow is detected during the test the unit must be taken out of service immediately. Please refer to section 8 on maintenance. Following any maintenance to the mixer, the above test must be repeated.

3.1.3 Danger of Injury :

If you intend to use Forbes Marshall products for new or not tested fluids or for applications not described in our Technical Information Sheet please contact Forbes Marshall or our local sales engineer for written advice prior to attempting such use. In addition to the safety procedure mentioned above, all hose and spray gun assemblies are to be inspected for visual damage or wear. If damage occurs, the hose and/or spray gun assemblies must be immediately replaced for safe working prior to operation. Constant vigilance should also be applied to the mixer and its fittings and the spray spray gun.

3.2 Use:

3.2.1. Design

The Forbes Marshall Steam Water mixing station is designed to provide hot water economically by blending steam and cold water quickly to the required user temperature by adjusting the globe valves.

3.2.2 Operation :

The mixer employs a thermal element to modulate the steam valve. If cold water supply stops, the thermal element will close the steam valve.

3.2.3 Maintenance:

Over time, scale may seize the diffuser. The mixer must be maintained and cleaned regularly to prevent scale build up and ensure safe mixer operation. Refer to section 8 for maintenance and cleaning instructions.

4. Brief Product Information:

4.1 Description:

The Forbes Marshall Steam Water Mixer is ideally suited for application where hot water is required for cleaning purposes. Each SWM61 is supplied with isolation valves, check valves, main steam and water mixing station with temperature cut-off element, high quality flexible hose pipe, hot water spray gun and stainless steel rack. The Steam Water Mixer is designed to provide hot water instantly, economically and safely at desired set temperatures with steady flow rates of steam and water.

4.2 Size and Pipe Connections:

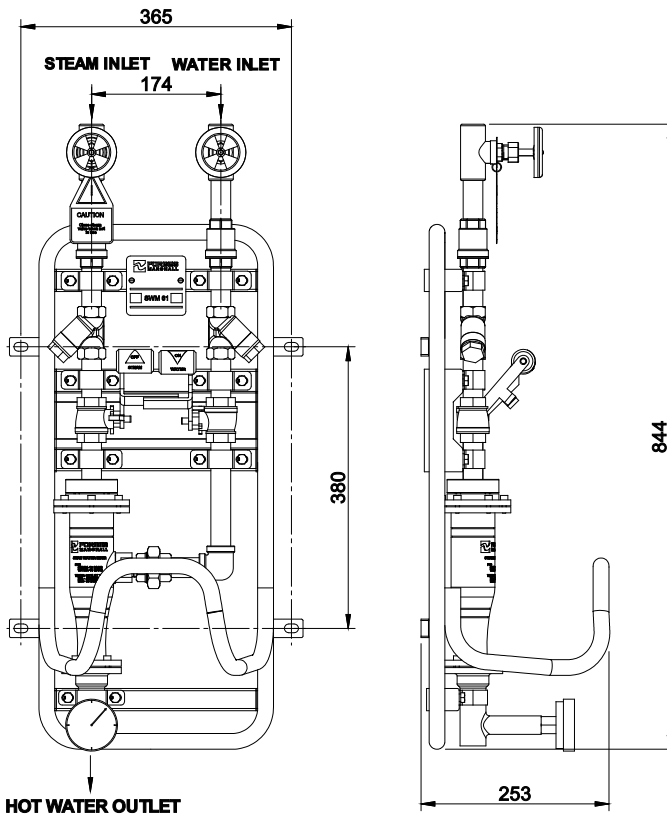
Steam & Water Inlet Connection	¾" NPT
Hose Pipe - 5mtr/10mtr/20mtr	¾" BSPT (Male) x ¾" BSPT (Female) Swivel Nut.
Spray Gun Connection	1/2" BSP (female)

4.3 Limiting Conditions:

Maximum Steam Pressure	10 bar g
Maximum Water Pressure	10 bar g
Maximum Steam Temperature	180 °C
Pressure & Temp. Limits of Hose Pipe	10 bar g & 150 °C

Recommended Inlet Water TDS – 150 ppm (max.)

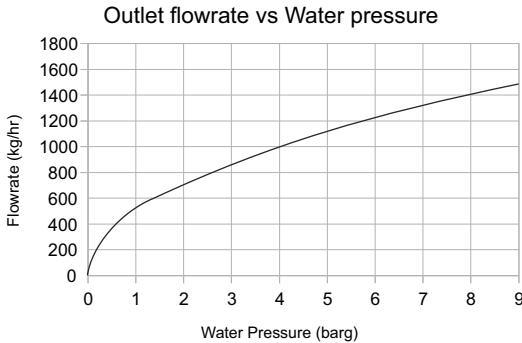
4.4 Approximate Dimension (mm) & Weight (kg) (Refer figure 1):



Weight with hose & gun ~ 30 kg

Fig. - 1

4.5 Capacity Chart :



Note: In the above chart, steam pressure is always 1 bar higher than the corresponding water pressure.

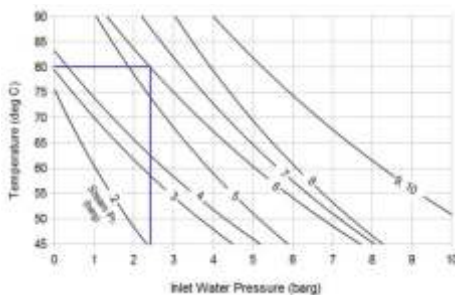
A minimum water supply pressure of 3 bar g is required to give a reasonable hot water spray velocity at the outlet of spray gun.

Steam Pressure should always be greater than the Water Pressure by minimum 1 bar.

Above readings were taken keeping both steam and water control valves in fully open condition.

Above readings were taken at inlet water temperature of 25 °C and would slightly vary with variation in inlet water temperature.

4.6 Water Outlet Temperature Chart:

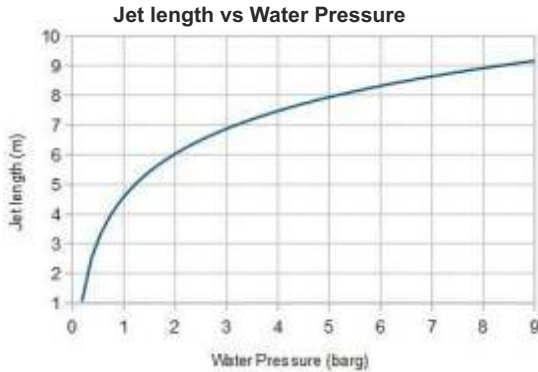


4.7 How to read the chart:

This chart will help in deciding the minimum inlet water pressure for a required hot water temperature.

If, for example, the required hot water temperature is 80°C and available steam pressure is 6 bar g, locate 80 °C on the Y-axis. Draw a horizontal line from that point till it meets the 6 bar g steam pressure curve in the chart and move vertically down. The corresponding value on the X-axis represents the inlet water pressure, which in this case is around 2.5 bar g

4.8 Outlet Water Jet Length Chart:



Note: In the above chart, steam pressure is always 1 bar higher than the corresponding water pressure.

Materials (Refer figure-2):

SR.NO.	DESCRIPTION	MATERIAL	QTY
1	PANEL	SS PIPING WITH MS PALTE	1
2	20 NB STRAINER	CF8	2
3	20 NB NRV	CF8	2
4	20 NB GLOBE VALVE	CF8	2
5	20 NB BALL VALVE	CF8	2
6	SWM ASSEMBLY	SS	1
7	20 NB UNION	CF8	1
8	20 NB ELBOW	CF8	1
9	80mm PIPE	SS316	7
10	162mm PIPE	SS316	1
11	50.2mm PIPE	SS316	1
12	U-CLAMP	MS WITH BLUE ZINC PLATING	6
13	HOTWATER OUTLET CLAMP	MS WITH BLUE ZINC PLATING	1
14	TEMPERATURE GAUGE	STAINLESS STEEL	1
15	3/4" NPT(M) TO 3/4" BSPT(M) ADAPTER	SS304	1
16	3/4" BSPT(F) TO 1/2" BSP(M) ADAPTER	SS304	1
17	HOSE PIPE- 5mtr/10mtr/15mtr/20mtr	SS BRAIDED RUBBER HOSE	1
18	SPRAY GUN	BRASS	1
19	NAME PLATE	SS304	1
20	CAUTION TAG	MS	1
21	M4X0.7, BOLT & NUT	SS304	2
22	M 8 HEX BOLT & NUT	MS WITH Al-Zn COATING	14

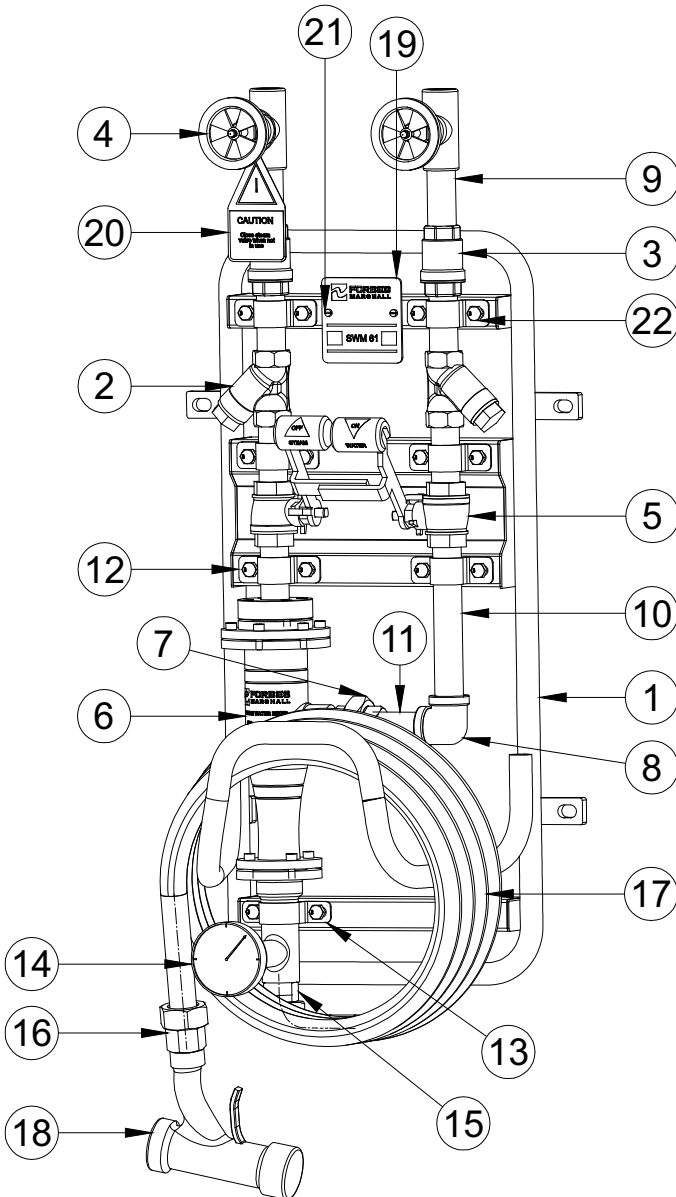


Fig.-2

5. Product Working Principle:

Forbes Marshall Steam Water Mixer delivers water at the required temperature quickly, quietly and on demand. Steam and cold water enter into the mixing chamber. Mixing occurs as the two vortices collide, thoroughly mixing and heating the water through a diffuser with minimal noise and vibration.

An additional benefit of this design is what you don't hear: the banging, popping and crackling noises associated with cavitation that are prevalent in ordinary mixing stations. This smooth quiet operation increases safety and reduces stress on the operator.

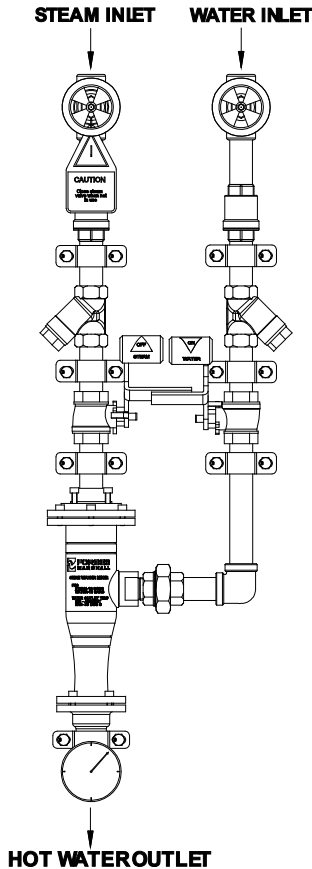


Fig.-3

6. Installation Guidelines:



6.1 General : The SWM61 unit should be carefully unpacked and the contents checked against the packing list. The installation should be completed so as to comply with all local and/or national laws pertaining to this type of appliance. Laws in some areas prohibit the use of this equipment directly off the main water supply line.

6.2 Mounting:

The factory recommends mounting the unit vertically using the supplied wall-mount panel. If other mounting hardware is used both the water and steam lines should be rigidly supported. The unit should be mounted so ample room is available for adjusting the isolation valves and for servicing the mixing chamber.

6.3 Piping:

Pipe work should be assembled with a suitable thread sealing medium.

Steam supply pipe work should be sized according to standard practice. It is recommended to install a steam trap to prevent excessive condensate backup and ensure faster start up.

Cold water supply pipe work should take into account pressure, pipe length and acceptable pressure drop. For outdoor applications or where the unit is susceptible to freezing, precautions should be taken such as heat tracing or draining after each use.

***Note:** It is recommended that the supply lines contain shut-off valves that isolate the unit to facilitate maintenance.

6.4 Hose and spray gun:

Hose fittings should be assembled with a suitable thread sealing medium. Using appropriate wrenches, disconnect the dead swivel from the hose, and screw the swivel into the outlet of the Steam Water Mixer unit and then reassemble the hose onto the swivel. The hose may then be coiled onto the hose rack for storage. Attach the spray gun to the swivel at the other end of the hose. All hose and spray gun thread connections should be tightened appropriately.

7. Start-up and Commissioning:

7.1 Start-up Procedures

Follow the safety test procedure in section 3. If the unit passes this test it is ready for normal operation. Do not point the spray gun at your body or anybody else, and hold with protective gloves. Before pulling the trigger hold the spray gun firmly in both hands and adopt a body position which will prevent loss of balance due to recoil from the spray gun. Open water line ball valve by pulling downward. Then open the steam line ball valve by pulling handle downward.

7.2 Setting Temperature:

After verifying proper over temperature shutdown (refer Safety Test Procedures under section 3), the unit can be adjusted to the desired operating temperature. The temperature can be adjusted as follows:

- a) Turn both isolation valve handles fully clockwise (off).
- b) Open both interlocked ball valves by pulling handles downward.
- c) Pull the trigger on the spray gun, and start to turn the water isolation valve handle counterclockwise until the desired flow is achieved.
- d) Slowly turn the steam isolation valve handle counterclockwise until the desired temperature is reached or it is fully opened.
- e) To increase temperature, slowly turn the water isolation valve handle clockwise until the desired temperature is reached.

7.3 Important Safety Shutdown Procedure:

The SWM61 unit should never be left unattended with the ball valves in the open position.

Proper shutdown procedure is as follows:

- a) While pulling the trigger, push the steam ball valve handle upward, leaving the water ball valve handle in a downward position.
- b) Allow unit to run on water only for a short time to allow the unit to cool (approximately 30 seconds).
- c) Push the water handle upwards to shut the water off until flow stops.

8. Maintenance Guidelines:

8.1 Safety:

8.1.1 Components:

The mixing unit must always be operated with a thermal cut off element properly assembled to the body. Serious bodily harm or injury can occur in the event that the Steam Water Mixer is used without the thermal element properly installed. Replacement thermal elements can be purchased from Forbes Marshall. Forbes Marshall will not accept any consequential liability for the operation of SWM61 if these precautions are not observed. Before and after operation of the Steam Water Mixer, the hose and spray spray gun should be inspected for any sign of wear or damage. The Steam Water Mixer should form part of a regular maintenance program, appropriate to the operating conditions and environment.

An additional interlock mechanism has been provided to the SWM61 Assembly to ensure user safety. This mechanism ensures that the user does not allow only steam to enter into the SWM61 unit without switching ON the water line, else steam directly comes out from the spray gun and may

prove fatal. The mechanism has been designed such that when user opens the steam line isolation valve, he/she will automatically switch ON the water isolation valve ensuring simultaneously entry of steam and water into the system.

8.1.2 Pressure:

Before attempting any maintenance of any component of the Steam Water Mixer, consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain any component, e.g. mixing unit, hose etc. It is highly recommended that a lock out-tag out procedure be implemented for this process. Discharge contents of hose and station by pulling spray gun trigger and eliminate pressure until water flow stops. Do not assume that the system is depressurized even when a pressure gauge indicates zero.

8.1.3 Temperature:

For personal protection, wear protective clothing, especially heavy-duty insulated gloves, boots, aprons, and safety glasses. To prevent burn hazards it is recommended to insulate all components of the steam supply side of the SWM61.

8.1.4 Disposal:

This product is recyclable. No ecological hazard is anticipated with disposal of this product provided due care is taken.

8.2 Importance of Cleaning:

Over time, any steam water mixing unit may foul or seize due to the buildup of mineral deposits. The time between seizures depend on the level of mineral deposits in your water and the frequency of use. The mixing unit assembly has been designed to resist mineral buildup through the scouring effect of its unique Vortex design. It has also been designed for easy maintenance and cleaning when the effects of mineral deposits limit the unit's ability to operate at peak performance. To service the mixing unit and keep it in peak operating condition, assign this product to your Preventative Maintenance program and perform the cleaning procedure as outlined in section 8.4.

8.3 Tool Kit:

Parts		Torque (Nm)
M6 Allen Bolts	5mm Allen Key	10-15
Seat	19 mm (A/F)	50-55
Element Holder	25 mm (A/F)	50-55
*Thermal Element	Grip Plier	0.5-1
Water Inlet	30 mm (A/F)	25-30
Ball	3 mm Allen Key	2-3

*** Note:** Don't apply excessive clamping pressure to avoid damage of thermal element.

8.4 Cleaning Procedure:

Cleaning should only be carried out by suitably qualified personnel.

8.4.1 Isolate Mixing Chamber:

a) While pulling the spray gun trigger, turn off all steam valves leading to SWM61. Begin with the valve closest to the steam main and ending with the steam ball valve handle on the SWM61 interlocked handles.

b) Allow the unit to run for a short period of time with water so as to cool the mixing unit (approx. 30 seconds).

c) Pull the water ball valve handle to completely close the water flow.

d) Continue holding the trigger to discharge the contents and vent pressure from within the hose and unit till the water flow stops.

e) Once the mixing unit has been isolated from steam and water supplies, perform a lock out tag out procedure to prevent unintentional use of the station during the maintenance procedure.

8.4.2 Diffuser Disassembly (Refer figure-4):

(a) Using a suitable size spanner, unscrew the union and water inlet from the mixing unit.

(b) Unbolt & remove steam inlet

(c) Unbolt & remove the diffuser from the mixer body.

(d) Finally remove the ball & pin from the mixing unit.

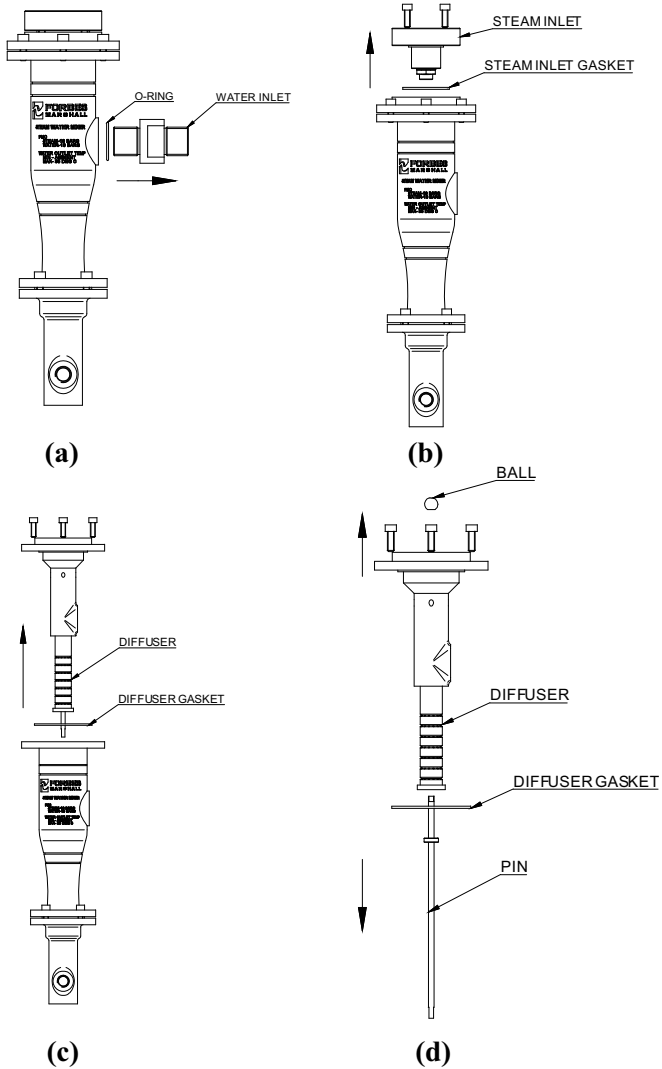


Fig-4

8.4.3 Acid Wash:

Clean the diffuser by soaking it in a weak acid solution. Agitating the acid solution will enhance the cleaning effect. A 5% solution is a safe and effective choice. The amount of soak time depends on the amount of mineral buildup. When cleaned frequently, use a 5% oxalic acid solution. Flush the diffuser to purge any remaining acid. Clean at regular intervals.

Note: Seized diffusers are the result of mineral deposits hard fastened to the internal components of the diffuser. Such mineral buildup cannot be seen and only the cleaning instructions detailed in this section may be used to remove said mineral deposits. Under no circumstances should the diffuser be modified or taken apart for any reason. Forbes Marshall will not accept any consequential liability for the operation of the Steam Water Mixer if this precaution is not observed. If mineral deposits are observed on the exterior surfaces of the diffuser, use a stiff nonmetallic brush to remove any heavy, stubborn or visible mineral buildup, taking care not to damage gaskets. Metal scrapers should not be used as this might cause permanent damage to the components.

8.4.4 Seal Inspection :

Visually inspect the mixer body gaskets. Renew the gaskets if there is any evidence of wear or damage. Replacement gaskets can be purchased from Forbes Marshall. Refer figure 5 for the location of gaskets. All gaskets can be removed by following the Diffuser Disassembly procedure as mentioned in Section 8.4.2. All gaskets should be coated with a lubricator or other EPDM compatible type.

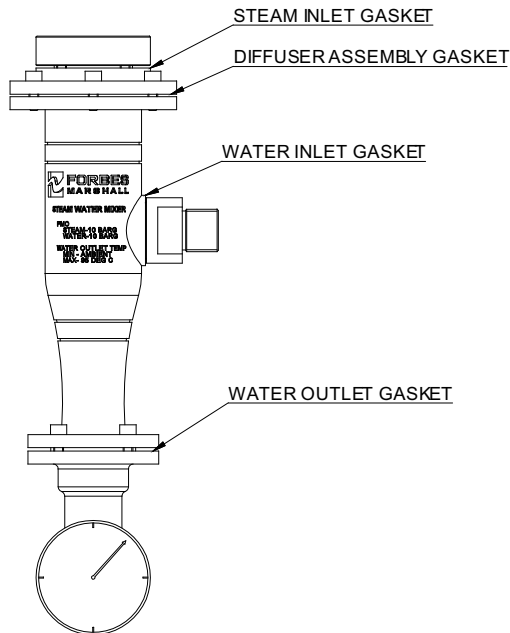


Fig.-5

8.4.5 Diffuser Re-assembly :

Following the Diffuser Disassembly steps mentioned in section 8.4.2 in reverse order, the diffuser can be re-assembled.

8.4.6 Re-Test :

Follow installation and operation instructions. If the valve does not operate properly, decommission the unit and call Forbes Marshall for a replacement diffuser.

8.5 Diffuser Replacement Kit :

Diffuser replacement should only be carried out by suitably qualified persons. The diffuser replacement kit includes diffuser assembly and gaskets. Prior to placing the replacement diffuser in the mixing body, perform the following functions:

- a) Follow instructions for isolating the mixing chamber as specified in Section 8.4.1.
- b) Follow instructions for disassembly of the diffuser from the mixing chamber as specified in Section 8.4.2
- c) Ensure that the steam inlet gasket, diffuser assembly gasket & water inlet gasket are present on the new diffuser.
- d) Remove the gaskets. Take care not to scratch the machined surface of the gasket groove. Install the new gaskets.
- e) Follow instructions for reassembly of the diffuser to the mixing valve body as specified in Section 8.4.5.
- f) Follow operation instructions as described.
- g) If the mixer does not operate properly, decommission the unit and call Forbes Marshall for technical assistance.

8.6 Thermal Shut- Off Element Replacement Procedure (Refer figure-6):

In case the thermal shut-off element gets damaged and steam starts coming from the spray gun, replace the element. The replacement should be taken from Forbes Marshall.

The below mentioned steps should be followed for element replacement:

- (a) Unbolt & remove the hot water outlet of mixing unit.
- (b) Remove the thermal shut-off element from element holder.
- (c) Apply teflon tape & Install new thermal shut-off element.
- (d) Replace the outlet gasket & refit the hot water outlet

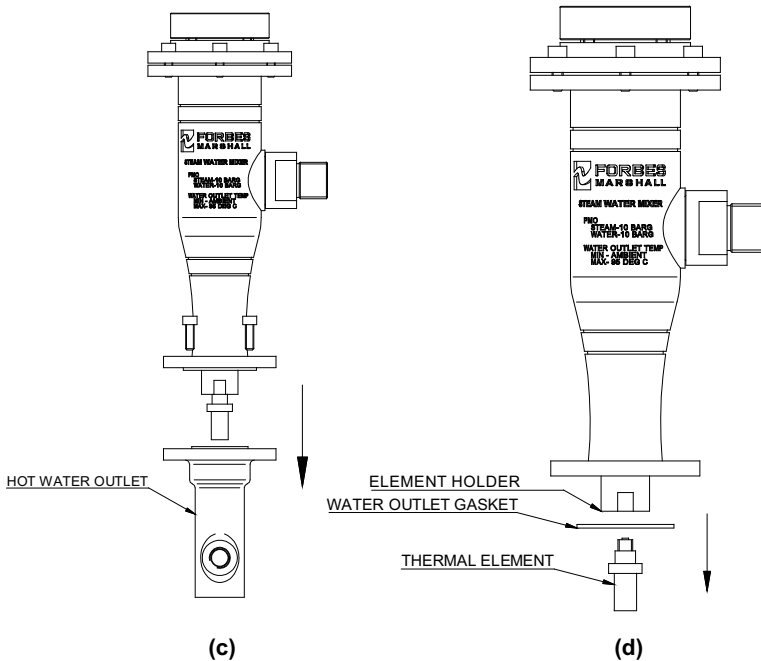


Fig 6

8.7 Hose & Spray Gun:

Prior to replacing or servicing hose, spray gun and or hose couplings, follow instructions in section 8.4.1 for isolating the mixing chamber and all other safety precautions as specified in this manual. The hose should be inspected before use for evidence of wear

8.7.1 Hose :

If there are cracks, abrasions or cuts in the outer cover and the reinforcement layer can be seen, the hose must be replaced immediately. In any case, hoses should be replaced after 12 months of service. This is due to the natural degradation of rubber under hot water working conditions.

8.7.2 Spray Gun:

The same policy should be followed for the spray gun. A leaking spray gun should be repaired or replaced immediately.

9. Troubleshooting:

The same policy should be followed for the spray gun. A leaking spray gun should be repaired or replaced immediately.

Failure Mode	Possible Cause	Remedy
Leakage at Diffuser Assembly	Damaged Gaskets	Follow isolation procedure as specified in section 8.4.1. Replace gaskets of diffuser assembly as specified in section 8.4.4 Reinstall diffuser assembly as specified in section 8.4.5. Follow Installation and Operation procedures.
Spray Gun Delivers Cold Water Only	Choked Diffuser	Make sure steam supply valves are open and normal steam pressure is available. If still hot water is not available at the outlet, follow isolation procedure as specified in section 8.4.1. Perform Diffuser Test & Inspection Procedure. If mineral buildup is observed, follow cleaning procedure in section 8.4.3 Repeat Diffuser Test & Inspection procedure. Follow Installation and Operation procedures.
Steam Escapes from Spray Gun	Damaged Thermal Shut-Off Element	Make sure cold water supply is on and normal water pressure is available. If steam still comes from the outlet, follow isolation procedure as specified in section 8.4.1. Perform the cleaning procedure as specified in section 8.4. Next follow Diffuser Test & Inspection Procedure. If the valve still does not operate properly, decommission the unit and call Forbes Marshall for a replacement thermal shut-off element. When the replacement is received, follow instructions for Element Replacement as mentioned in Section 8.6.
Hose and/or Spray Gun leakage	Loose or Damaged hose and/or Spray Gun	Immediately decommission Steam Water Mixer and tighten the hose and Spray Gun. If leakage still prevails, replace hose and/or spray gun with properly rated factory replacement components. Contact Forbes Marshall sales engineer for replacement components.
Fittings on Steam and Water Mixer are leaking	Loose fittings	Decommission Steam and Water Mixer and repair leaks at fittings. Contact Forbes Marshall sales engineer for advice prior to attempting repair.

10. Available Spares :

The spare parts available are given in the following table

Spare Part	Spare Code
Diffuser Assembly	SPARE-SWM61-MDKIT
Gaskets & O-Ring	SPARE-SWM61-GOKIT
Spring, Pin, Ball, Seat, Gaskets & O-Ring	SPARE-SWM61-MKIT
Element Holder	SPARE-SWM61-EHKIT
Spray Gun	SPARE-SWM61-SGKIT
Wax Element	SPARE-SWM61-WEKIT
Hose - 5mtr	SPARE-SWM61-HPKIT-05M
Hose - 10mtr	SPARE-SWM61-HPKIT-10M
Hose - 15mtr	SPARE-SWM61-HPKIT-15M
Hose - 20mtr	SPARE-SWM61-HPKIT-20M

How to Order:

Example: 1 No. Forbes Marshall Steam Water Mixer, SWM61 ¾" NPT connection, 10mtr. hose pipe.

Note: Always specify available steam and water pressure, required flow rate of hot water and desired set temperature of hot water & hose length while ordering this product.

How to Order Spares:

Always order spare parts by using the description given in the table above & Spares code

eg. Gaskets & O-Ring, SPARE-SWM61-GOKIT

11. Warranty Period:

As per the ordering information and agreements in the contract.



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Forbes Marshall Arca

Codel International

Krohne Marshall

Forbes Vyncke

Forbes Marshall Steam Systems

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