

# Steam Quality Monitor



## Steam Quality Monitor Steam QM-3

Until now, measuring steam quality has largely been a manual process, which is time consuming and presents inherent safety and accuracy risks. Steam QM-3\* is an intelligent solution that allows pharmaceutical manufacturers, hospitals and other facilities concerned with steam quality to easily and efficiently measure the quality of steam used for sterile applications.

### Product Features

Steam QM-3 is an automatic system quality monitor which determines and communicates steam moisture content, the amount of superheat present and the concentration of non-condensable gases in steam.

The Steam QM-3 Features the following:

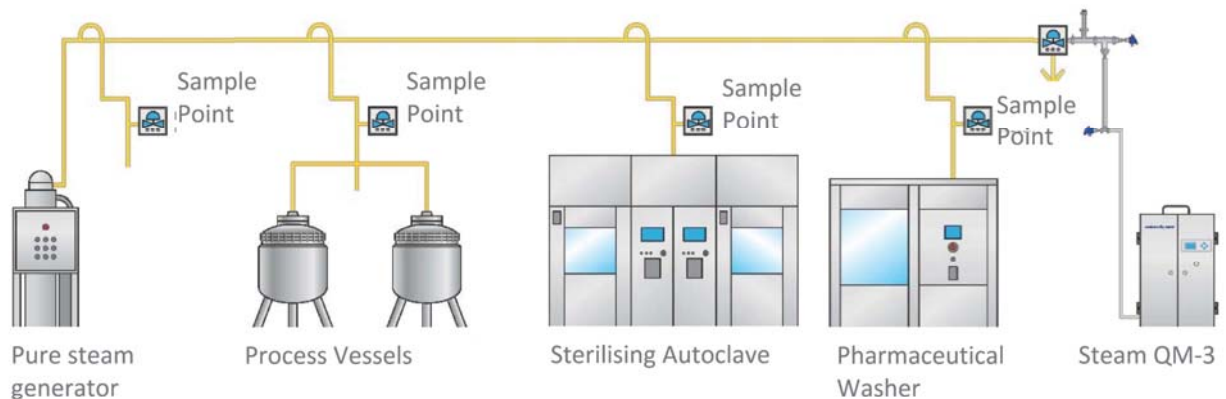
- Simple "plug and Play" installation
- Simultaneous steam dryness, superheat and non-condensables (NCGs) monitoring
- Safe alternative to the traditional Manual method of sampling steam
- RS485 connection for data logging using regulation compliant device; results may be remotely monitored via MODBUS



### EN285

The European Standard EN285 specifies requirements and the relevant tests for large steam sterilisers, primarily used in health care, for the sterilisation of medical devices and their accessories contained in one or more sterilisation modules. EN285 requires: steam dryness for sterilisation of metal loads >0.95 and > 0.9 for non-metal loads; maximum superheat of steam after expansion to atmospheric pressure is 25°C (77°F); the maximum limit for non-condensable gas volume must not exceed 3.5% of the volume of liquid condensed from steam.

Steam QM-3 Sensing Range	
Dryness fraction	0.85-1.0
Amount of Superheat Present	0-50°C (0-122° F)
NCG Content	0-15%



### Applications

- Pharmaceutical industry: autoclaves/sterilisation
- Hospitals

\*Patent Pending

# SteriTech

#### Stilmas Equipment

- Pre-treatment
- Purified Water
- Multi Effect Still
- Vapour Compression Still
- Pure Steam Generators
- PS & WFI Combinations
- Storage & Distribution Systems

#### Fedegari Equipment

- Saturated Steam Sterilisers
- Counterpressure Sterilisers
- UltraWashers
- Dry Heat Sterilisation
- Pathogen Sterilisers
- Combined Units
- Laboratory Sterilisers

#### Fedegari non-thermal equipment

- Low Temperature Surface Decontamination Stations
- Laminar Flow Carts
- Isolators and Cleanroom Contamination Controls

#### Olsa Equipment

- Solids: Filtering, mixing and drying
- Semi-Solids: Mixing and turnkey plants
- Liquids: Preparation vessels, fermenters and bio reactors

#### Bano Equipment

- Stainless Steel Cleanroom Furniture
- Specialist Cleanroom Equipment

#### SteriTech Limited

- Complete Turn-Key Projects

# Steam Quality Monitor

## Manual versus Automatic

Until now steam quality measurement has been a time-intensive, unreliable and potentially unsafe process. Steam QM-3 is not only more reliable and safer than manual testing, the unit is portable, so it can be easily transported to multiple points on your steam line.

When you compare Steam QM-3 to manual testing methods the choice is clear:

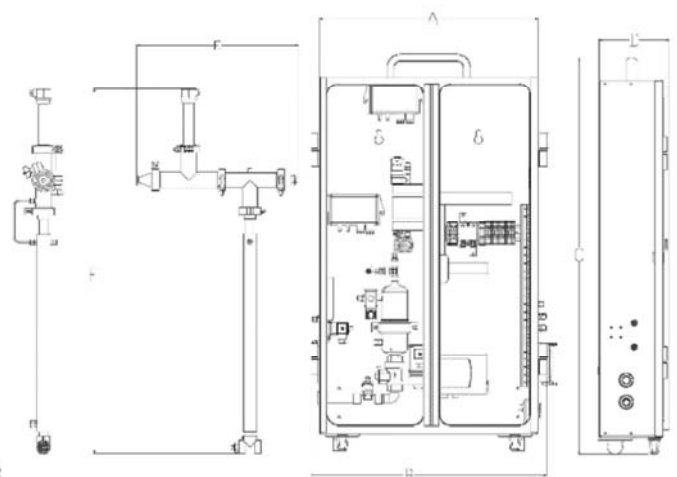
Manual Method	Automatic Method	
<b>Description</b>		
<ul style="list-style-type: none"> <li>A sample of clean steam is condensed and the enthalpy allows measurement of steam dryness and NCG content</li> <li>Temperature measurement before condensation identifies an excess of superheat temperature</li> </ul>	<ul style="list-style-type: none"> <li>Reducing steam pressure to atmosphere allows measurement of steam dryness</li> <li>Steam temperature and pressure measurement detect superheat</li> <li>Volume of non-condensable gases are compared to condensate</li> </ul>	
<b>Disadvantages</b>		
<ul style="list-style-type: none"> <li>Time consuming: typically manual steam quality measurement requires two people, and can take up to three hours per measurement point. This does not include additional time required to complete necessary reports</li> <li>Trending: it is impossible to monitor a trends over a period of time</li> <li>Unsafe: there are inherent safety risks involved in sampling live steam and condensate in water receiver</li> <li>Unreliable: measurement results depend on the skill of the technician conducting the test</li> </ul>	<b>Advantages</b>	
	<ul style="list-style-type: none"> <li>Quick and Easy: Steam QM-3 is simple to install</li> <li>Trending: continuous measurements provide trending data over time</li> <li>Safe: because steam QM-3 is installed while the steam valve is closed, it is much safer than manual measurement records</li> <li>Reliable: Steam QM-3 is both reliable and accurate within +/- 1% of steam dryness</li> </ul>	

## Installation Qualification/Operation Qualification

Installation qualification/operation qualification (IQ/OQ) procedures available to comply with government and international standards that recommend document verification that your equipment is installed and functioning according to the manufacturer's specifications.

Steam QM-3 Specifications	
Steam operating pressure range	0.5-4 barg (7-60 psig)
Voltage	110/230 VAC
Cooling Water	15l/h @10°C (4 gph @ 50°F)

Steam QM-3 Dimensions & Weight		
	in	mm
A – Cabinet Width	22	550
B – Width	24	600
C – Cabinet Height	40	1000
D - Depth	7.5	190
E – Width	21	540
F – Height	37	945
Cabinet Weight	42lb	19kg
Total Weight	55lb	25kg



## SteriTech Customer Support

- Feasibility studies, process and selection guidance
- Full project management from order to PQ Start-up, commissioning and validation from local engineers
- Preventative maintenance, calibration and routine validation
- Local spares and technical support.

A full lifetime support.

# SteriTech

### SteriTech Services

SteriTech, like our suppliers are solely dedicated to the regulated pharmaceutical sector. This enables us to fully understand not only the quality of performance required, but the documented evidence of all activities.

### Project Management

A dedicated Project Manager follows each sale through to OQ handover. Liaison with customers, suppliers and field operations team to ensure effective project delivery.

### Project Sitework

From our local highly trained team offering

- Installation Assistance
- Start-up & Commissioning
- SAT, IQ/OQ
- Calibration
- Thermal Mapping
- Cycle & Process Development

### After-Sales

Full life-time local support for equipment including

- Full Training Packages
- Technical & Process support
- Spare parts supply
- Preventative Maintenance
- Calibration
- Routine Validation
- Upgrades and revampings