STEAM QUALITY MONITOR

STEAM QM®-3

Steam Quality Monitor – Steam QM®-3

The sterilization process, the quality of the sterile product and the serviceability and longevity of the sterilizer and its associated equipment are greatly influenced by the quality of steam supplied to a sterilizer. Sterilization is a process whose efficacy cannot be verified retrospectively by inspection or testing of the product before use. For this reason, sterilization processes must be validated, the performance of the process routinely monitored, and the equipment maintained.

EN 285

This European standard specifies requirements and the relevant tests for large steam sterilizers, primarily used for the sterilization of medical devices and their accessories but has been adopted by most pharmaceutical industries.

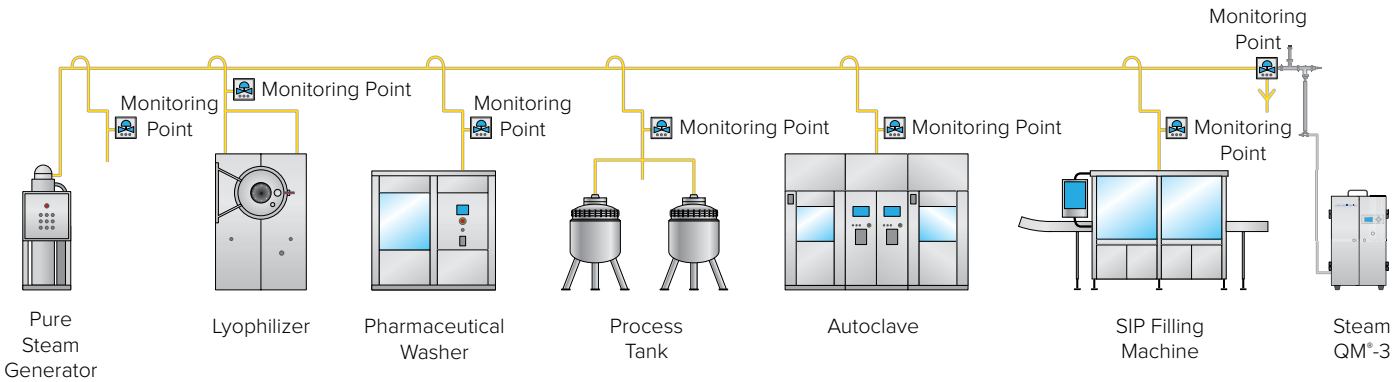
- The sterilizer shall be designed to operate with saturated steam containing up to 3.5 ml non-condensable gases collected from 100 ml condensate.
- The sterilizer shall be designed to operate with saturated steam with a dryness value not less than 0.95, where the dryness value denotes the mass of the gas fraction in the mass of saturated steam.
- When the supplied steam is expanded to atmospheric pressure the superheat shall not exceed 25K.

The patented Steam Quality Monitor QM®-3 is an alternative procedure to the one described in EN285 that has been shown to give equivalent results to the method specified in this European Standard in order to demonstrate that the level of non-condensable gases contained in the steam will not prevent the attainment of sterilization conditions in any part of the sterilizer load and to avoid excess moisture carried in suspension that can cause damp loads, while too little cannot prevent the steam from becoming superheated during expansion into the sterilizer chamber.

Sensing Range	
Dryness Fraction	85 - 100%
Amount of Superheat Present	0 - 50° C 0 - 90° F
NCG Content	0 - 15%

Product Features

- 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.



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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 also 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:

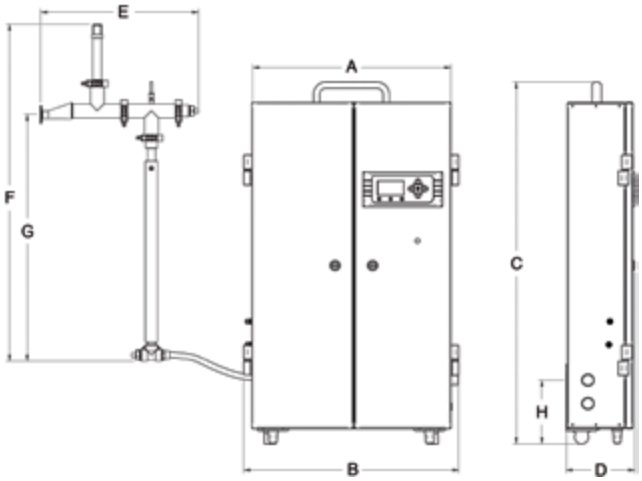
Manual Method	Automatic Method
Description	
• A sample of clean steam is condensed, and the enthalpy allows measurement of steam dryness, and NCG content. • Temperature measurement before condensation identifies an excess of superheat temperature.	• Reducing steam pressure to atmosphere allows measurement of steam dryness. • Steam temperature and pressure measurements detect superheat. • Volume of non-condensable gases are compared to condensate.
Disadvantages	**Advantages**
• 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. • Trending: It is impossible to monitor a trend over a period of time. • Unsafe: There are inherent safety risks involved in sampling live steam and condensate in a water receiver. • Unreliable: Measurement results depend on the skill of the technician conducting the test.	• Quick and Easy: Steam QM®-3 is simple to install. • Trending: Continuous measurements provide trending data over time. • Safe: Because Steam QM®-3 is installed while the steam valve is closed, it is much safer than manual measurement methods. • Reliable: Steam QM®-3 is both reliable and accurate within +/- 1% of steam dryness.

Installation Qualification/Operational Qualification

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

Specifications	
Steam Operating Pressure Range	0.5-4 barg 7-60 psig
Voltage	110/230 VAC
Cooling Water	15 l/h @ 10 °C (4 gph @ 50 °F)

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	17	430
F – Height	37	945
G - Height from inlet tee to bottom	26	660
H - Height from cabinet steam inlet to bottom	7.5	190
Cabinet Weight	42 lb	19 kg
Total Weight	55 lb	25 kg



Steam QM®-3 Package Includes:

Insulation Covers • Wall Mount • All Necessary Accessories

Optional Feature:

Data Logger

More Information:

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