

QTGA: QCM Thermogravimetric Gas Analysis



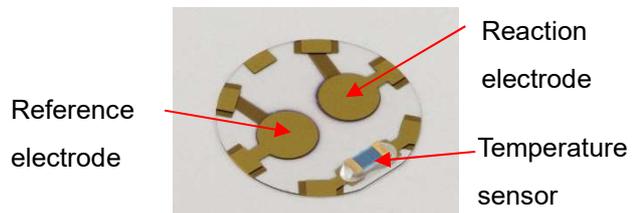
**Twin-QCM Sensing Unit (4ch)**  
Type: PSA-QS-1001



**Twin-QCM Sensing Unit (1ch)** ※  
Type: PSA-QS-1002



**Twin-CQCM Sensor Module**  
Type: PSA-QM-1001



**Quartz crystal sensor**  
Type: PSA-SG-1002T



### ■ Main Applications

- ASTM E 1559 method compliance
- Quantitative evaluation of outgas generated from materials and equipment

※ working with both  
CQCM & TQCM

### ■ Features

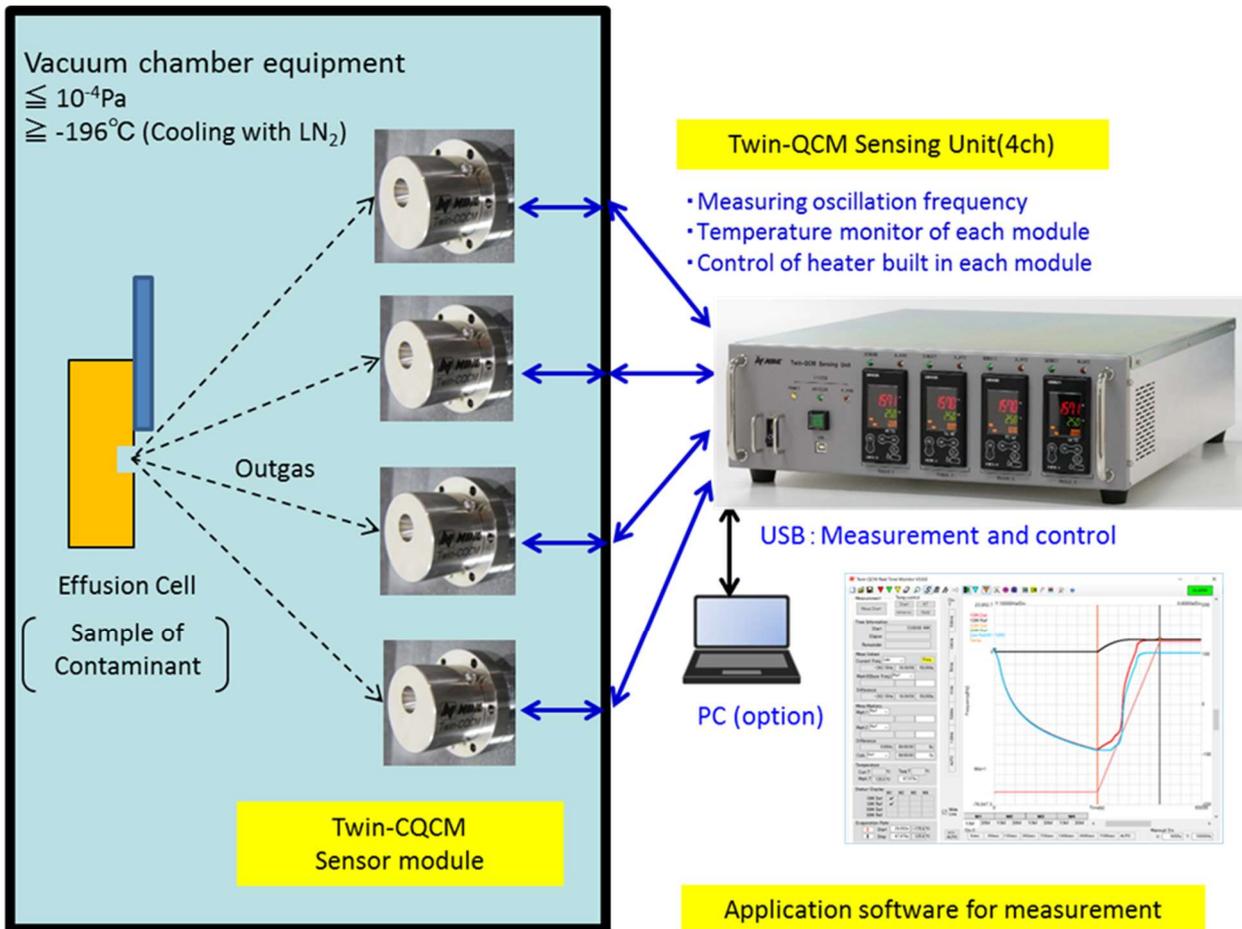
- Wide temperature range measurement supported from -196 ° C to + 125 ° C.
- Simultaneous real-time measurement with fundamental wave (wide frequency dynamic range) and 3<sup>rd</sup> overtone wave (high sensitivity)
- High-precision difference measurement with two electrodes formed on one crystal piece(Twin-TQCM)
- High-precision temperature monitor with a platinum sensor mounted on a crystal piece

### ■ Specifications

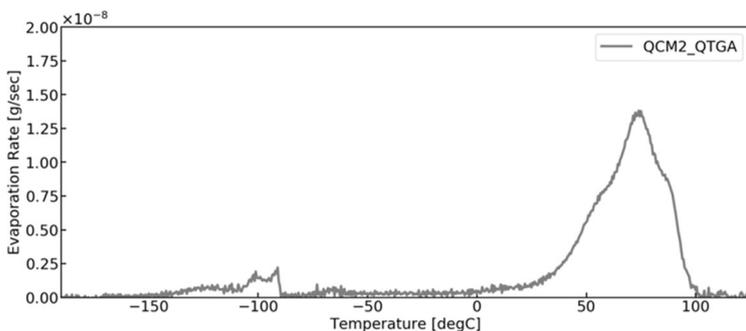
Twin-QCM Sensing Unit	PSA-QS-1001	PSA-QS-1002	Twin-CQCM Sensor Module	PSA-QM-1001
Number of simultaneous measurement modules	1~4	1	Output frequency	10.278MHz(Fundamental) 30.833MHz(3ot)
Module control distance	Max20m		Mass sensitivity	2.39x10 <sup>8</sup> (Hz/g) cm <sup>2</sup> (Fundamental) 7.17x10 <sup>8</sup> (Hz/g)cm <sup>2</sup> (3ot)
Frequency detection accuracy	≤1ppm		Frequency sensitivity	0.53ng/Hz (Fundamental) 0.18ng/Hz (3ot)
Frequency measurement resolution	0.01Hz		Senor lectrode area	0.1257 cm <sup>2</sup> (per electrode)
Temperature detection accuracy	≤±0.4°C		Temperature sensor	Platinum resistance Pt1000 Class F0.3
Indication temp. range	-199°C~+150°C		Operating temperature range	-196 ~ +125°C
Temperature measurement resolution	0.1°C		Differential frequency temperature characteristic	≤±10ppm +25°Cstandard(-80°C ~ +80°C)
Measurement interval	≥1s(Max60s)		External Dimensions	Φ35.0x23.3(H)mm(Excluding protrusions)
Operating temperature range	+10~40°C		Weight	≤100g
Power supply voltage*	AC100V~AC240V (50/60Hz)		Heating Power	≤6W
Power consumption	≤120VA	≤100VA	Oscillation circuit powe	≤0.5W
External Dimensions	437(W) x 132(H) x 499(D) mm (Excluding protrusions)		Measurement viewing angle	20° (Half Angle)
Weight	≤10kg			

\* The power supply voltage may be limited depending on the country or region of use.

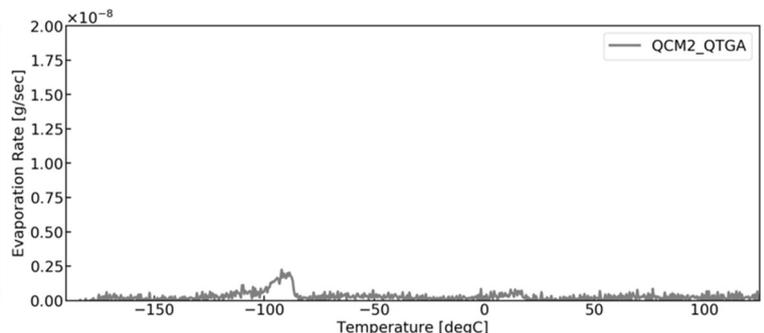
■ Measurement system example (Systems examples of compatible with ASTM E 1559 compliant tests)



■ Measurement of curing temperature and residual outgas of conductive adhesive



Hardening condition: at 200°C for 60 min.



Hardening condition: at 300°C for 60 min.

Residual outgas is removed by raising the hardening at 200°C for 60 minutes to 300°C  
 ⇒ Effective for verification of hardening conditions