

Q-FOG Tester Training

Kobe Qu – Sr. Technical & Marketing Manager

Tommy Hu – Repair Adviser

Andrew Sun – Repair Adviser

Hua Ji – International Repair Manager

Q-Lab Corporation

[点击查看课程资料和视频回放](#)



Q-FOG Principles of Operation

Q-FOG testers

Q-FOG cyclic corrosion testers deliver heat, humidity, and electrolyte solution to specimens to perform traditional salt spray, Prohesion, and nearly all cyclic automotive tests

Q-FOG循环盐雾箱可以执行传统的持续盐雾, 干湿交替, 和几乎所有的汽车循环腐蚀测试



Q-FOG models



Q-FOG SSP
Continuous salt spray
and Prohesion



Q-FOG CCT
SSP capability plus
full humidity

Q-FOG CRH
CCT capability plus
full Relative Humidity control

FOG Function

- Salt or other solution type is pumped to an atomizing nozzle

盐溶液通过蠕动泵输送到喷嘴

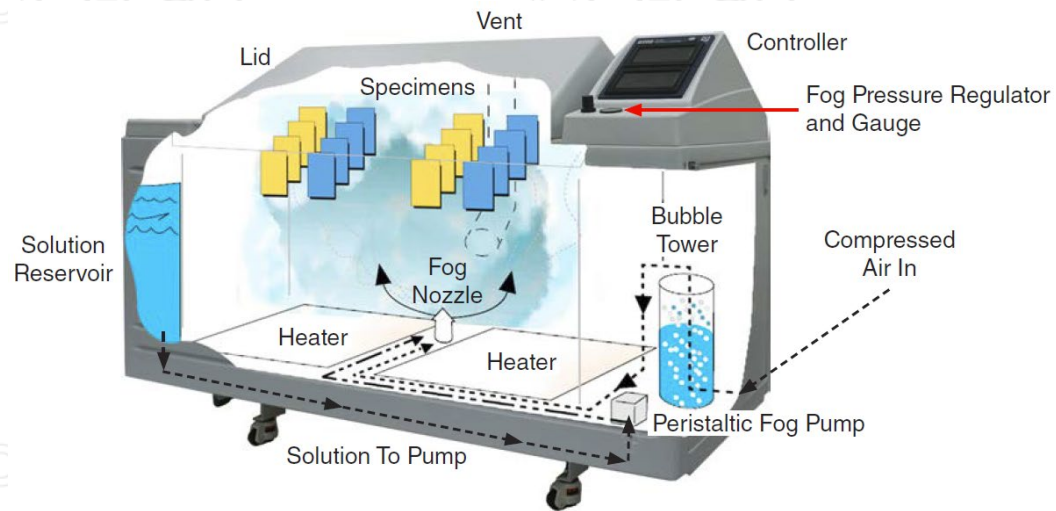
- Compressed air combines with solution at nozzle to create a fine mist

压缩空气在喷嘴处和溶液混合形成细雾

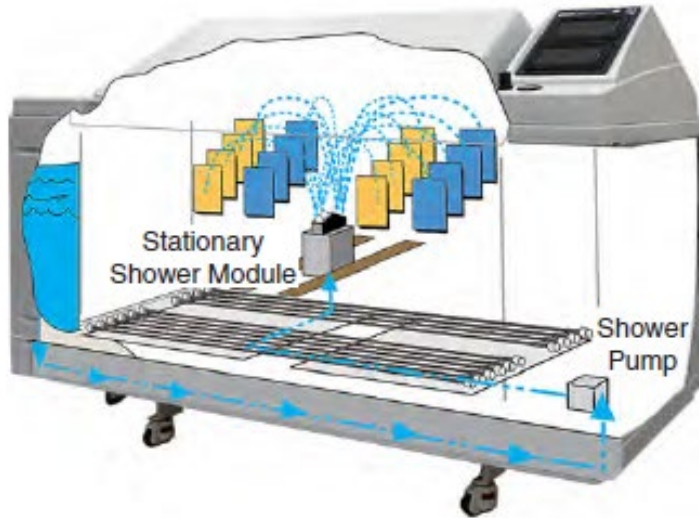
- Compressed air is usually humidified through the saturation/bubble tower

压缩空气通常经过鼓泡塔润湿

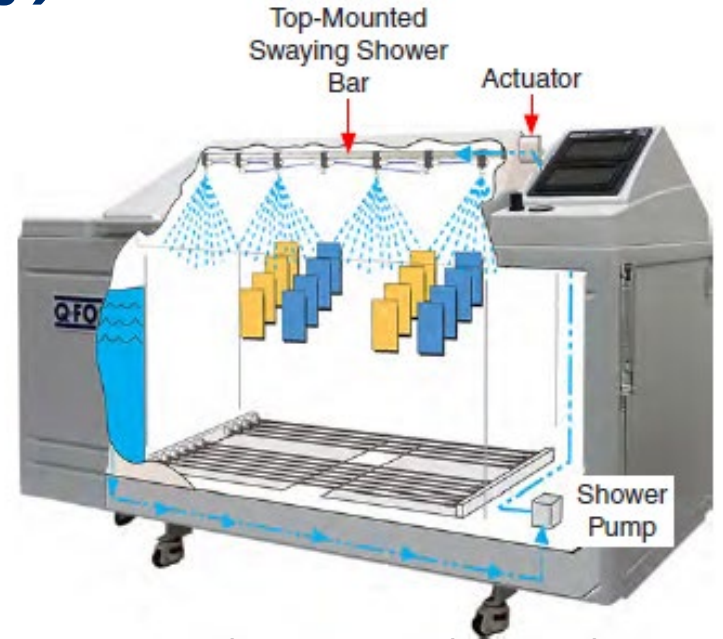
- Chamber lid diffuses spray
箱盖保证盐雾弥散开来



Shower Function (CRH Only)



Stationary shower module

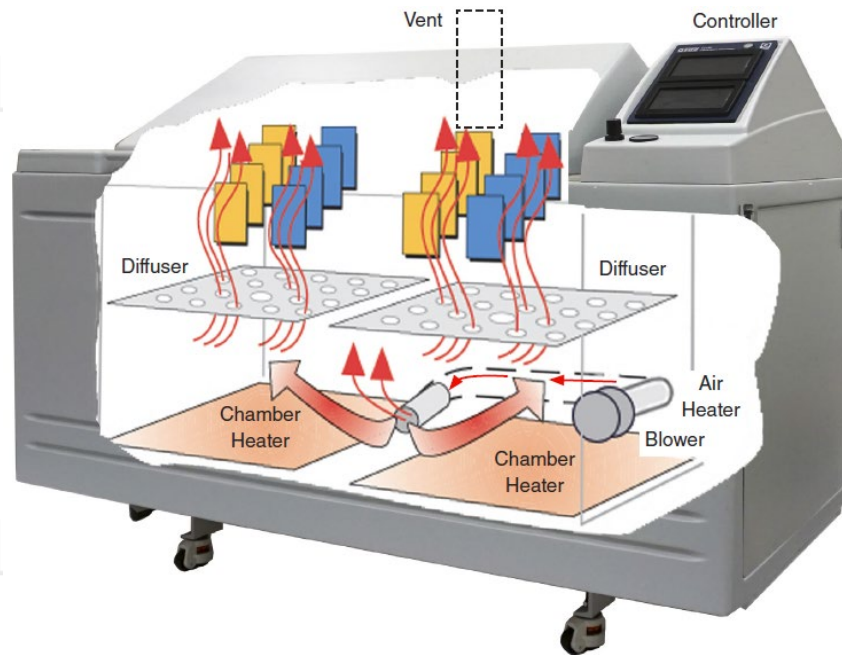


Top-Mounted swaying shower bar (TSSB)

Faster application of salt solution

DRY Function (SSP, CCT)

- Room air blown into the chamber, circulated over samples, and sent out of an exhaust
实验室空气被鼓进箱体，吹干样品，然后排出箱体
- Air can be heated for higher temperatures and faster drying
空气加热到比较大的温度，快速烘干
- Q-FOG CRH model uses a low-RH step instead of Dry
Q-FOG CRH型号使用低湿度设置代替“干燥”功能



HUMID Function (CCT)

- Humidity added by boiling water

通过锅炉增加潮湿

- Temperature controlled by increasing the heating duration in the boiler

锅炉工作产生热量来控制温度

- Humidity level is NOT controlled, but will be >95% after a short transition period

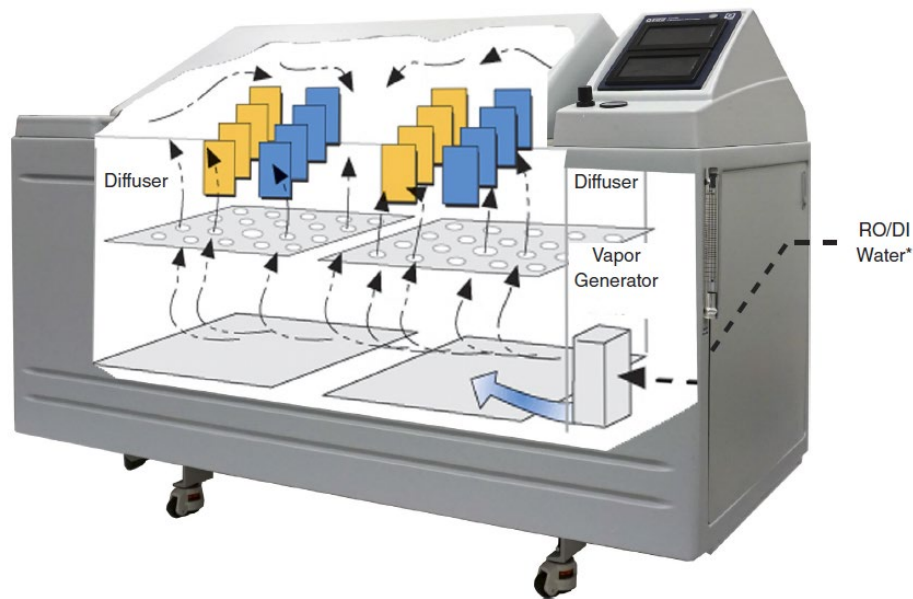
湿度不受控制，通常达到95%以上

- Some test methods substitute water immersion for saturated humidity

加热器埋于水中来增加湿度

- Q-FOG CRH model uses a high-RH step instead of Humid

Q-FOG CRH型号使用高湿度设置代替“潮湿”功能



DWELL Function (SSP, CCT)

- Designed to allow slow drying of specimens

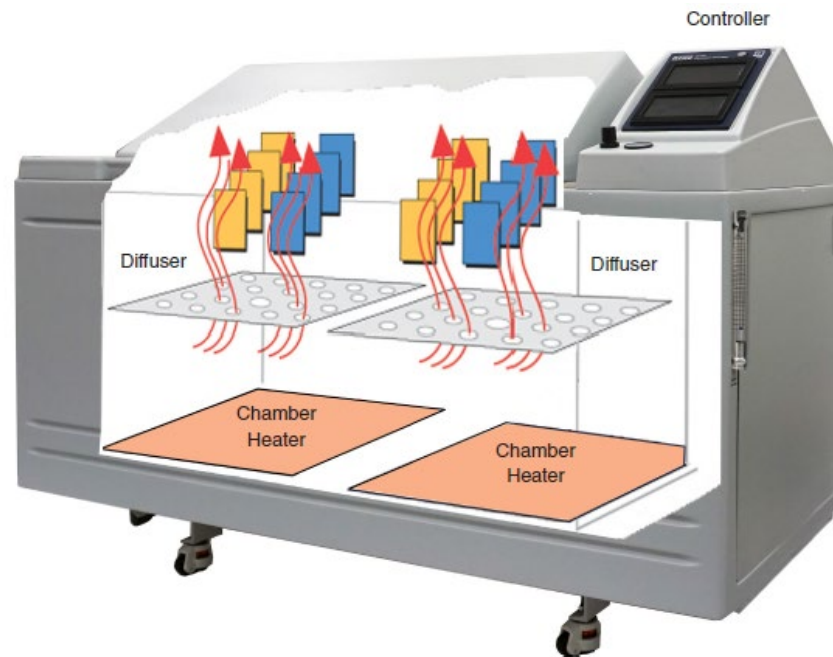
缓慢干燥样品

- No air flow

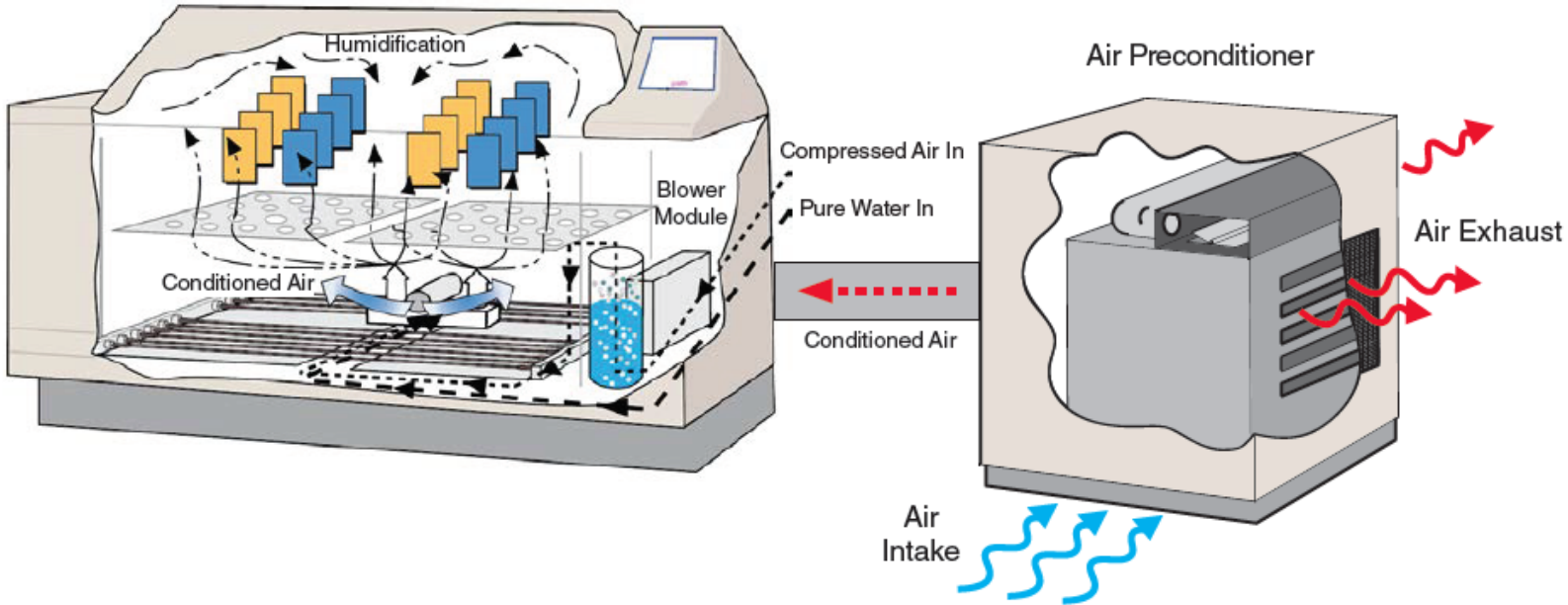
没有气流

- Temperature can be ambient or higher

温度设定比室温高

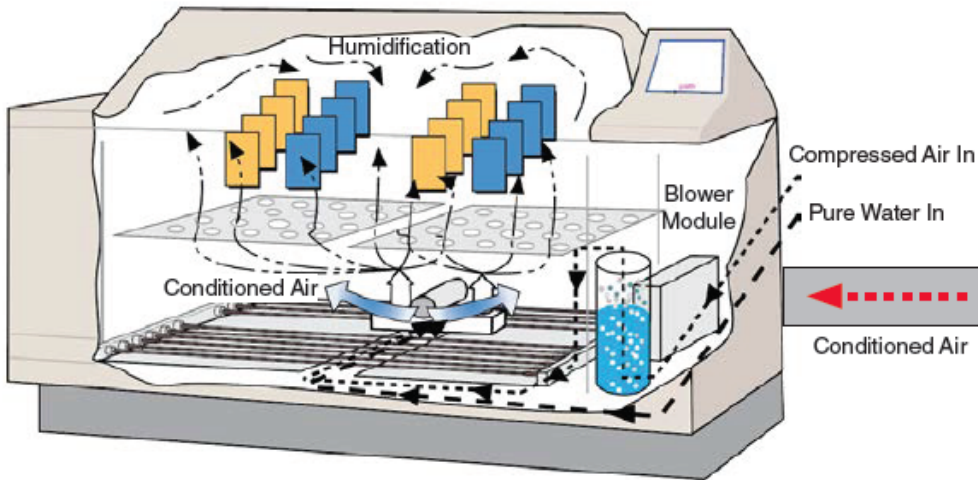


RH Function (CRH Only)



Replaces DRY, HUMID and DWELL steps of CCT tester

RH Function (CRH Only)



- Dry air supplied by Air Preconditioner
空调产生干燥空气
- Humid air supplied by two fog nozzles fed by DI water and compressed air
两个喷嘴进行增湿，使用压缩空气和纯水
- Measured by Wet Bulb/Dry Bulb
湿度通过干湿球湿度计读取
- Air Control Module controls mixing
鼓风机混合气体
- Time to reach setpoint controlled by operator
 - Auto, Linear, and Less Than ramp types
有三种步骤转换控制模式：自动，线性，少于某段时间

Replaces DRY, HUMID and DWELL steps of CCT tester

Purge Chamber

Automatic Purge: 1 hour post-test

自动吹扫：1个小时

- When End of Test Shutdown is reached
OR

当实验结束了

- When operator presses STOP

当按下停止键



Specimen Mounting



Panels (SSP, CCT)

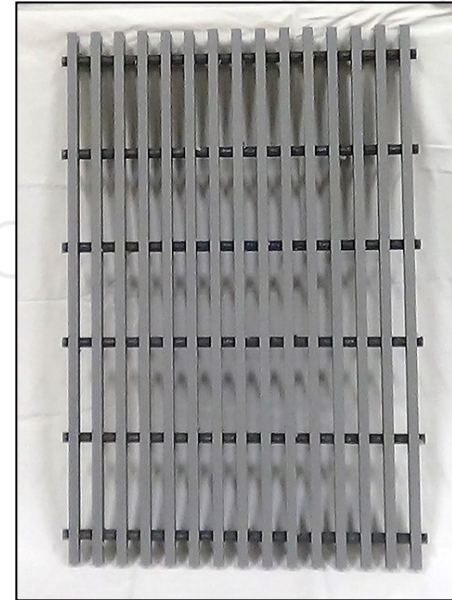


Panels (CRH)

Specimen Mounting



Hanging Rods

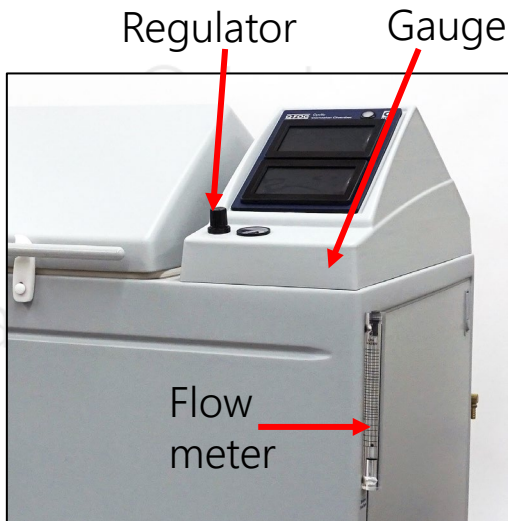


Grates

Fog Adjustments



Solution Pump Speed
30-40%



Fog Spray Air pressure
12-16 psi



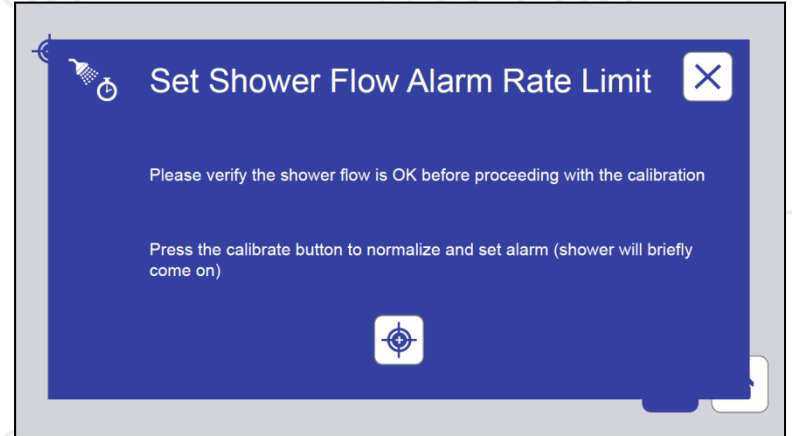
Fog Nozzle
adjustment

Shower Adjustments



Shower Pressure

Set to 30-80 psi (see tech manual)



Shower Settings

Set alarm rate in Calibrate menu
Set shower on/off times in Machine Configuration

Calibration Schedule

- Temperature Sensors 温度
 - Calibrate Chamber Temp Sensor every 6 months
 - Calibrate wet/dry bulb sensors in CRH at same time
- Collections 沉降
 - Measured every 3 months to annually (more if running ASTM B117/ISO 9227)
 - External collections available
- Solution Flow Meter 流量计
 - Not calibrated; Only for indicating if solution is flowing

Maintenance

Every 1000 Hours

- Replace Solution Pump Tubing 泵管更换
- Drain and Refill Bubble Tower 鼓泡塔清洗
- Clean Solution Filter and Water Inlet Filter 滤芯清洗
- Remove Salt Buildup on Chamber Heaters 加热器除盐
- Drain and Refill Vapor Generator (CCT) 加湿器维护
- Replace Wet Bulb Wick (CRH) and check water quality 湿袜更换和水质检查
- Clean or Replace Purge Air Blower (SSP/CCT) & Preconditioner Air Filters (CRH) 空滤更换
- Check Compressed Air Water Separator/Filter System 油水分离器检查
- Check Fog Spray Nozzle Pattern, clean if necessary 喷嘴清洗检查

Thank you for your attention!

Questions?

Send your inquiry to:
kqu@q-lab.com



Q-Lab中国微信公众账号: 耐候腐蚀设备及测试专家

- ✓ 技术研讨会、网络研讨会信息
- ✓ 老化及腐蚀技术文章、最新测试标准解读等
- ✓ 相关技术问题，也可通过平台留言，我们会在24小时内和您联系

扫一扫，关注我们

