

Application Note

GQ-CE8900 Revision A, 31 March 2022

Important Notes for Testing and Calibration

HF, HCL, HCN Gas Detector

1. Testing and Calibration of HF, HCL Gas Detector

HF and HCL gas have a strong adsorption effect. In the process of testing or calibration, HF and HCL gas will be easily adsorbed on the inner surface of pressure gauge, gas tube, calibration cup and other test equipment. Especially when the test gas concentration is low, the adsorption effect is more obvious, it will interfere the testing and calibration result. To obtain accurate test results, following methods are recommended for testing and calibration:

1.1 Use specific equipment for HF and HCL gas detector calibration and testing, do not mix with equipment that used for other gas calibration or testing. Minimize the length of the gas path, gas path is preferred to be within one meter. Calibration tube, calibration cup shall be made of Teflon, gas regulator shall be made of stainless steel.

1.2 Before calibration, flush the calibration tube with standard gas for more than 5 minutes (flow rate 500~1000ml/min). The lower the standard gas concentration, the longer the flushing time is required. After flushing is completed, use the PH test paper to test gas output from the calibration tube. If the PH test paper turns red, it indicates that the adsorption of the gas path to the standard gas has been greatly reduced, and calibration can start.

2. Testing and Calibration of HCN Gas Detector

HCN gas is a highly toxic substance, manufacturer uses low concentration gas for calibration. The detection electrode of HCN sensor adopts special catalyst, and calibration with sulphur-containing and phosphorus-containing gases (H2S, SO2, PH3, etc.) will destroy the sensor. Therefore, sulphur-containing and phosphorus-containing gases shall not be used for cross calibration, and it is recommended to buy low concentration HCN gas for calibration.