

# Monitoring of Ammonia in Refrigeration Plants



## Measuring Task

The most important applications in monitoring of ammonia in refrigeration plants base on the two measuring ranges to 1000 ppm and 10.000 to 30.000 ppm ammonia. Monitoring of ammonia concentrations is a superior task on the field of gas detection. The measuring technique which is available and also economically justifiable is sensitive against different influences, which cannot be avoided during practical operation of refrigeration and similar plants.

Excellent, if you could rely on ExTox as an experienced partner. We analyse your operation conditions and based on this we supply you with measuring technique which meets your requirements.

## Gas Transmitters

Our three transmitters Sens NH3-1000-EC, Sens NH3-1000-HL and ExSens NH3-3-WT cover all applications in the range of ammonia refrigeration plants. Our Sens NH3-1000-EC is equipped with an electrochemical cell as sensor element, which is suitable for measurements in concentration ranges up to 1000 ppm ammonia. Its most important feature is the monitoring of leakages at temperatures near the freezing point, whereas the climatic conditions might be subject to heavy fluctuations. Our type Sens NH3-T-1000-EC is especially designed for application at temperatures below the freezing point. Another type with a measuring range up to 100 ppm (Sens NH3-100-EC) lends itself for the monitoring of MAK values.

Our Sens NH3-1000-HL, which is used for leakage monitoring at lower temperatures, uses a semiconductor sensor with a very long lifetime. Additionally this sensor is characterised by the fact that it supplies a clear measuring signal even at higher concentrations. For this reason it can be used for measurements of lower concentrations and it can assume at the same time triggering of alarms in the second measuring range mentioned above at higher concentrations.

Our ExSens NH3-3-WT as third transmitter is based on the measuring principle of catalytic combustion, which is well known as very reliable measuring technique on the field of explosion protection. It covers the measuring range up to 30.000 ppm and it is used for measuring tasks in blow-out pipes and for explosion protection in the engine room.

## Ammonia in Water or Sole

Our programme is completed by the transmitter NH3-20-IS which is at a very low level able to recognize ammonia being permeated in water or sole. In comparison to the usual pH-measurement which is also offered by ExTox as pH-14-IS sensitivity of the transmitter NH3-20-IS with a measuring range of 0 to 20 ppm is much higher, so that thanks to early recognition of leakages damages of the refrigeration plants can definitely be avoided.