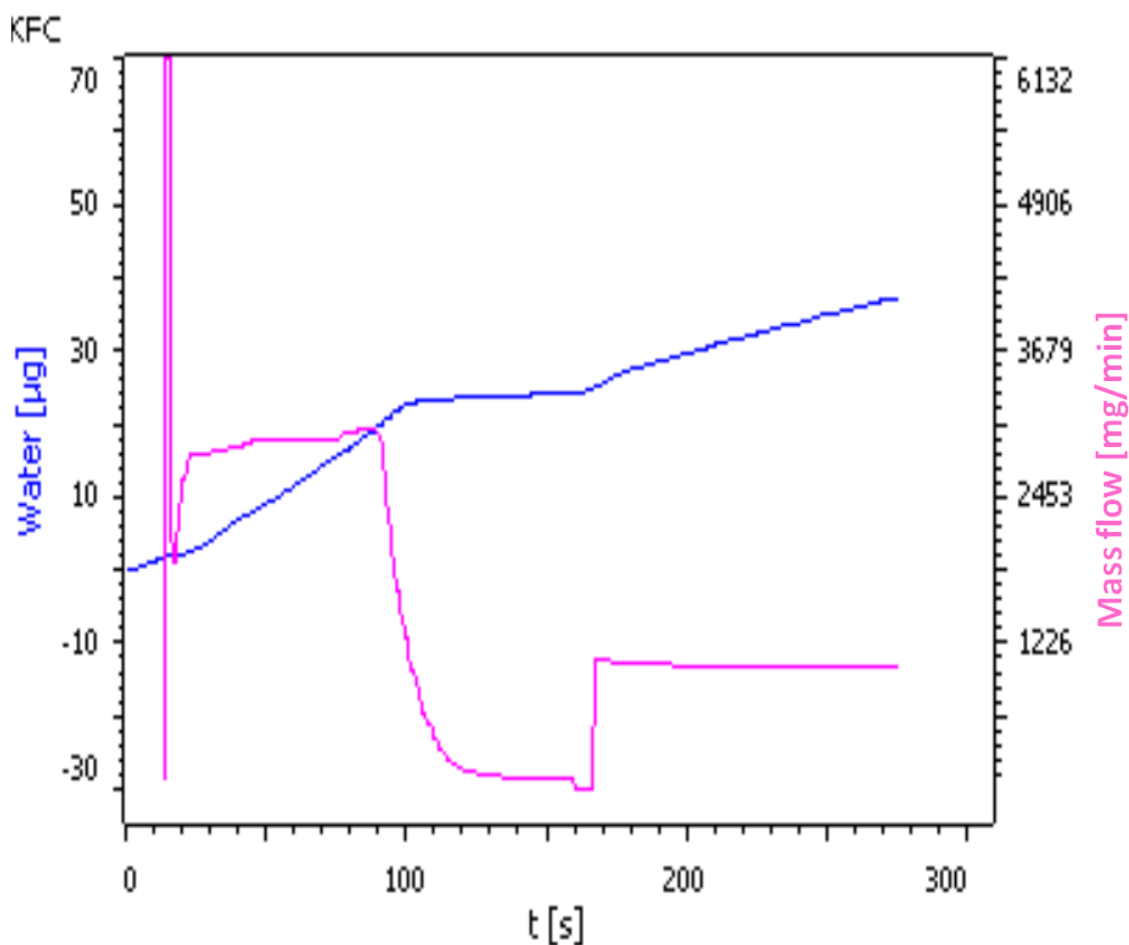


Determination of water in a refrigerant



This Application Note describes the automated determination of the water content in a mixture of chlorodifluoromethane (CHF_2Cl , R-22) and 1-chloro-1,1-difluoroethane ($\text{C}_2\text{H}_3\text{F}_2\text{Cl}$, Freon 142b) using the 875 KF Gas Analyzer.

Method description

Sample

Refrigerant (refrigerant is a mixture of CHF₂Cl and C₂H₃F₂Cl, 2.5 kg sample cylinder)

Sample preparation

The sample cylinder is connected to the 875 KF Gas Analyzer with the appropriate connectors. It is installed upside down to sample the liquid phase of the sample cylinder.

Configuration

875 KF Gas Analyzer	2.875.9020
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Reagents

HYDRANAL®-Coulomat AG-Oven	Fluka 34739
HYDRANAL®-Coulomat CG	Fluka 34840
Nitrogen (>99.999, <4 ppm H ₂ O)	

Analysis

System preparation

To prepare the system, it is first flushed with sample followed by drying with nitrogen. As the water content of the sample might be very low, it is important to have a low start drift.

Method

To measure the sample the method "Sample_measurement.mmet" is used. The method is preinstalled on every Gas Analyzer system.

Sample determination

For all measurements, a minimum sample amount of 3500 mg is used.

Results

Sample	Mean / [ppm]	RSD / [%]
Refrigerant	4.1 (n = 6)	6.83