

# Coulometric Determination of Halogens

## test method

The Koehler Halogen Analyzer consists of a manual or automatic sample feed, a two-stage furnace, unit and a microcoulometric titration device. A combination of a quick-heating and programmable IR furnace and a constant-temperature reduction furnace ensure the complete, residue-free combustion of the samples in the oxygen flow. The combustion gases then enter the coulometric detection unit for analysis. Control of the overall system and measurement data evaluation is by means of user-friendly software.

## coulometric titration units

All of the Coulometric Titration Units from Koehler offer:

- Microcoulometric determination with a 3 electrode system.
- Heated gas outlet line.
- Potentiometric end point determination impedance converter mounted directly on the combination electrode, no interference during transmission of the measurement signal.

Both a closed and open titration stand configuration are available. The closed titration stand allows safe placement of the electrolysis cell, extraction and scouring of the waste gas, and tempered titration cell. The open stand allows the titration cell and gas line to be seen by the user at all times and provides a direct view of the detection unit.

## features

- The unique furnace unit of the Koehler Halogen Analyzer consists of a programmable IR furnace with extremely fast heating and cooling rates and coolant-free cooling by means of heat pipes as well as a downstream reduction furnace with a constant temperature.
- The sliding cover of the furnace chamber makes this easily observable and accessible: the condition of the combustion tube can be assessed at any time without dismantling.
- The heated gas outlet line prevents water condensation. This prevents halogen entrainment and guarantees exact series of measurements. A safety valve protects the furnace against sulphuric acid. Easy dismantling and cleaning.
- A closed detection unit offers the discerning user the possibility of tempering and greater safety at work
- Results can be transmitted to LIMS systems.
- Quickly ready for use and low maintenance costs. .

## applications

The Koehler Halogen Analyzer is the ideal solution for numerous applications including Halogen analysis in:

- Inorganic materials – Al<sub>2</sub>O<sub>3</sub>, cement, metal oxides, cellulose, etc.
- Organic solvents and oils
- Environmental Samples: AOX/EOX/POX



## specifications

Injection Volume:

AOX: up to 200mL aqueous sample

EOX: 10µL - 500µL injection volume

TX: solids max. 1g depending on material

Measurement Range: 0.1 – 300 µg Cl abs.

Precision: < 1% relative

Measurement Time: 5 – 10min depending on halogen content

Titration Current: 2 – 450 µA

Gases: Oxygen 99.95%

Argon 99.95% for EOX

Consumption each approx. 10 – 12 L/hr

Infrared Furnace

Maximum Temperature: 1000°C

Up to 5 independently programmable

temperature gradient and duration intervals

Resistance Furnace

Temperature Range: 20 to 1000°C

Electrical Requirements: 230V 50Hz 20A

Software Requirements: Windows XP, Vista, 7.0

## automatic sample changer

- Turntable for up to 52 containers with membrane filters.
- Automatic transfer of the samples into the combustion boat.



## ordering information

catalog no. description

KD4929 Halogen Analyzer System, 230V 50Hz