



C/0-10/0403



HALOGENS ANALYSER

CHLORINE, BROMINE and IODINE



MIPO 5 Microcoulometer

ASTM D4929-99 / ISO 9562 / NF
EN 1485

(picture without associated computer and cell cap opened)

TOTAL CHLORINE TITRATION

From traces (< 2 ppm) to combined elemental chlorine (> 80 %) in :

- solids
- liquids (including volatile liquids)
- gases

WATER QUALITY MONITORING

Measurement of AOX - Pox - Eox to **ISO 9562**

- Adsorption on charcoal :
- in agitator / filter bath
 - in column

APPLICATIONS

Wastes, coal, coke, tar, spent solvents, fuel oil, water, cements, plants, motor spirit (gasoline), oil, hydraulic fluids, and so on.

ERALY

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Detailed literature and / or quotation on request

Catalogue quotation: of / /

EQUIPMENT

MINERALIZATION PART WITH :

a furnace (F2) regulated to 1000°C which receives a mineralization quartz tube with :

- . a programmable temperature pyrolysis chamber (F1) for controlled decomposition of the specimen in inert atmosphere (He)
- . an internal burner acting as blowpipe to ensure combustion in oxygen of gases produced by the pyrolysis
- . a 1000°C post-combustion chamber under oxygen atmosphere, for completing oxidation, which allows an up to 0.5 g specimen mineralization

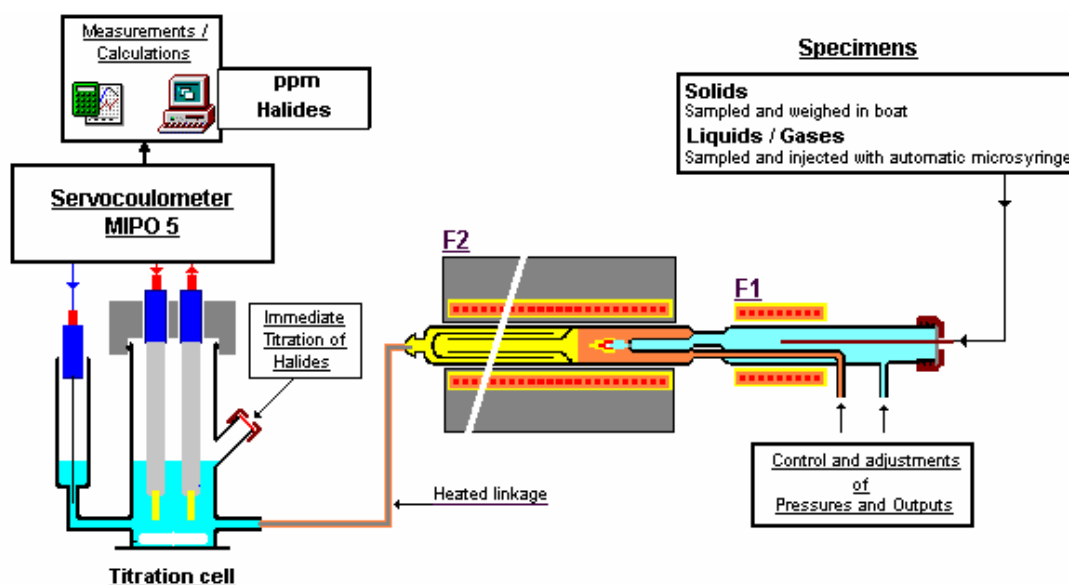
TITRATION PART :

The combustion products are conveyed into a titration unit (in a single cell) where the halogens are trapped under halides form. The actual measurement is done by the conventional silver process. A microcoulometer process provides the measuring substance (Ag^+), using a «soluble anode» of pure silver. The titration reaction is monitored by a null-point potentiometer using a pair of silver/mercury sulphate electrodes.

«ACCESSORIES» PART :

- syringe-pusher for automatic injection of liquid specimens at controlled speed,
- complete computer with colour printer
- Options : complementary equipment for AOX adsorption by agitation.

Multianalyser : Sulfur by coulometry



TECHNICAL CHARACTERISTICS

- Absolute method : no calibration nor titrated solution needed
- Field of application : all chlorine, bromine and iodine compounds
- Range of measurement : from less than 5 ppm to more than 50 % in solids and liquids, without modifying the equipment.
- Speed : analysis takes from 3 to 15 minutes depending of content and / or substances tested.
- Specimen size : from a few hundred µg to several hundred mg, depending of content and / or substances tested.
- Precision : better than 0.5 % above 1000 ppm, approximately 10 % for 5 ppm.
- Safety :
 - . minimal handling of reagents
 - . drying / flushing equipment, automatically controlled by apparatus, **replaces H_2SO_4 absorber**
- Quality assessment : auto calibration can be combined with certified measurement
- Reagents : very high quality purified charcoal with very low chlorine content for AOX adsorption
- AOX sensitivity :
 - . at least equal to requirements of Standard ($1 \mu G Cl^- \pm 10 \%$)
 - . sensitivity can be increased by factor 5 or 10 by using larger sample