Surface Carbon Analyzer SurfaceC-800

General Information

Determination of surface carbon is a special requirement for quality control in the metal producing and metal working industry. ELTRA's SurfaceC-800 analyzer is designed for the precise determination of surface carbon in numerous kinds of solid samples from trace level up to 1000 µg/cm^2.

The SurfaceC-800 is equipped with a resistance furnace with quartz tube for sample oxidation and can provide temperatures up to 1000 °C. The temperature of the SurfaceC-800 can be set up in steps of 1 °C. As common carrier gas in the SurfaceC-800 oxygen is used.

The detection system of ELTRA's SurfaceC-800 is very sensitive, reliable and guarantees a long lifetime. It can be customized according to the user's requirements. It is possible to combine two infrared cells independently to allow for highly precise measurement of surface carbon from trace level up to large amounts.

Application Examples

aluminum, ceramics, metals, surface carbon on steel

Product Advantages

- surface carbon determination with minimal sample preparation
- large sized samples can be measured (up to 32 x 145 mm)
- rapid, precise, accurate and reliable element determination
- wide range of materials can be analyzed
- resistance furnace temperature can be set up to 1000 °C in steps of 1 °C
- customized infrared cells provide wide, dynamic measuring range
- optional gold IR path for analysis of halogen or acid containing samples
- calibration with standard materials or gas dose
- special sample sluice for reduction of atmospheric blank
- powerful software (multilingual, customized display, export of results)
- single and multipoint calibration
- electronic gas flow control
- low maintenance
- robust design allows usage in production control and laboratory

Features

Measured elements	carbon
Samples	inorganic
Furnace alignment	horizontal
Sample carrier	quartz boats
Field of application	ceramics, steel / metallurgy
Furnace	resistance furnace with quartz tube, adjustable up to 1000 °C
Maximum sample size	32 x 145 mm
Detection method	solid state infrared absorption

Surface Carbon Analyzer SurfaceC-800

Number of IR cells	1 - 2
Material of IR path	aluminum (optional gold)
Typical analysis time	60 - 90 s
Chemicals required	magnesium perchlorate, sodium hydroxide
Gas required	oxygen 99.5 % pure (2 - 4 bar / 30 - 60 psi)
Power requirements	230 V, 50/60 Hz, max. 10 A, 2300 W
Dimensions (W x H x D)	55 x 80 x 60 cm
Weight	~ 65 kg
Required equipment	balance (resolution 0.0001g), monitor, PC
Optional accessories	voltage stabilizer 5 KVA

Function Principle

Operation of the SurfaceC-800 is simple and convenient. The temperature of the SurfaceC-800 is set up to defined temperature up to 1000 °C. After entering the sample surface size in the PC, the sample is placed in a quartz boat. In the following the analysis can be started and the sample boat is pushed from the open end of the combustion tube into the hot zone of the furnace.

The combustion gas is led through a copper oxide catalyst and the formed CO2 is determined by the infrared cells. All data processing, control of the combustion process and calculating of the result is done by an external PC. The CO2 determination only takes about 60 up to 90 seconds.

incl. order data

ELTRA SurfaceC-800

(Please order PC, monitor, balance and consumables (starter-kit, anhydrone, sodium hydroxide, copper oxide) separately)

88100-4031	SurfaceC-800 1xC 0.1 - 100 µg/cm²
88100-4032	SurfaceC-800 2xC 0.1 - 100 µg/cm² | 1 - 1,000 µg/cm²
88100-4045	SurfaceC-800 1xC 10 - 1,000 µg/cm²

PC, Monitor, Balance

71015	Computer with dual core processor, 300 GB HDD, 4 GB RAM, Windows operating system, DVD-ROM, keyboard, mouse
71016	Monitor, TFT
88600-0002	Balance (resolution 0.0001 g)
71002	Printer

Surface Carbon Analyzer SurfaceC-800

Accessories

72070	Oxygen regulator
71090	Voltage Stabilizer 5 KVA

Consumables

Required consumables

88500-0011	Starter-kit (3 quartz boats, 50 g glass wool)
90200	Anhydrone (magnesium perchlorate), 454 g
90210	Sodium hydroxide, 500 g
90290	Copper oxide, 100 g

Optional consumables

46160	Quartz boat, 1 piece
90332	Glass wool, 50 g
92610	Tube of high vacuum grease

Spare and Wear Parts

46156	Combustion tube for SurfaceC-800
46157	Boat holder
46160	Combustion boat