

CS-2000

Carbon / Sulfur Determinator

≡ Specifications

INDUCTION FURNACE OPERATION	RESISTANCE FURNACE OPERATION
MEASURING RANGES	
Low carbon Up to 0.1% C at 500mg sample resp. up to 0.5mg C1)	Low carbon Up to 1.25mg C resp. up to 0.25% C at 500mg sample1)
High carbon Up to 5% C at 500mg sample resp. up to 25mg C1) Indicating range up to 100% C2)	High carbon Up to 100mg C resp. up to 20% C at 500mg sample1) Indicating range up to 100% C2)
Low sulfur 0.3% S at 500mg sample resp. up to 1.5mg S1)	Low sulfur Up to 10mg S resp. up to 2% S at 500mg sample1)
High sulfur 30% S at 150mg sample resp. up to 45mg S1) Indicating range up to 100% S2)	High sulfur Up to 100mg S resp. up to 20% S at 500mg sample1) Indicating range up to 100% S2)
SENSITIVITY	
Carbon 0.1 ppm C at 500mg sample resp. 0.05µg C1)	Carbon 5µg C resp. 10 ppm C at 500mg sample1)
Sulfur 0.1 ppm S at 500mg sample resp. 0,05µg S1)	Sulfur 1µg S resp. 2 ppm S at 500mg sample1)
ACCURACY	
Low carbon 1) 3) ±1ppm C3) at 1g sample resp. ±1 µg C or ±0.5% of carbon present	Low carbon 1) ±10µg C3) resp. ±20ppm C at 500mg sample or ±1% of C present
High carbon 1) ±100ppm C3) at 500mg sample resp. ±50µg C or ±0.5% of C present	High carbon 1) ±150µg C resp. ±300ppm C at 500mg sample or ±1% of C present
Low sulfur 1) 3) ±1ppm S at 1g sample resp. ±1µg S or ±0.5% of sulfur present	Low sulfur 1) ±2µg S resp. ±4ppm S at 500mg sample or ±1% sulfur present
High sulfur 1) ±0.1% S at 150mg sample resp. ±150µg S or ±0.5% of sulfur present	High sulfur 1) ±1mg S resp. ±0.2% S at 500mg sample or ±1% sulfur present
GENERAL SPECIFICATIONS	
Normal sample weight 0.5g to 1g for steel and cast iron	Normal sample weight 400mg for coal
Normal analysis time	Normal analysis time

40 to 50 seconds	60 to 120 seconds
Induction furnace 19.5 MHz 2.2 kVA max with automatic furnace dust cleaning	Furnace temperature Up to 1550 C adjustable with ° ± 1°C
Detection method Solid state infrared absorption for carbon and sulfur	
Chemicals CO ₂ trap - sodium hydroxide / H ₂ O - trap magnesium perchlorate / Catalyst - copper oxide	
Gas required Oxygen 99.5% pure, 2 to 4 bar (30 to 60 psi), 3 l/min and compressed air 4 to 6 bar (60 to 90 psi)	
Interfaces Computer - serial 6)	
Power requirements Analyzer ⁵⁾ : 230 V AC ±10% 50/60 Hz max 15 Amps 3450 Watts Resistance furnace : 230 V/AC ±10% 50/60 Hz. Maximum heat up current 20A	
Dimensions	Width Height Depth
Analyzer ⁵⁾ :	55 cm (21") 80 cm (31.5") 60 cm (23.5")
Resistance furnace:	33 cm (13") 52 cm (20.5") 60 cm (23.5") ⁴⁾
TIC-Module:	33 cm (13") 52 cm (20.5") 60 cm (23.5")
Weigths	
Analyzer ⁵⁾	Resistance furnace TIC-Module
approx. 110 kg	approx. 36 kg approx. 28 kg
ACCESSORIES	
Balance: 0.0001g to 60 g ± 0.0001 g	
Computer: PC with HDD, 3.5" drive, CD-ROM, TFT flat screen and keyboard	
Color printer with automatic cut sheet feed, other options on request	

- 1) Other ranges on request. 2) Possible by reducing the sample weight. 3) With preheated crucibles and oxygen purification furnace.
4) Allow 15 cm (6") access area behind the furnace. 5) The analyzer includes the induction furnace. 6) Balance (serial - RS232) and printer (USB, parallel) are connected to the PC.