

FP-528 Nitrogen/Protein

Foods, Feeds, Forages, Fertilizers, Milled Products



Used specifically for low-sample throughput laboratories, the FP-528 Nitrogen/Protein Determinator is a cost-effective alternative to Kjeldahl digestion methods.

How it Works

An encapsulated sample is placed into the loading head of the FP-528, where it is sealed and purged of any atmospheric gases that have entered during sampling loading. The sample is then dropped into a hot furnace and flushed with pure oxygen for very rapid combustion.

By-products of combustion— CO_2 , H_2O , NO_x , and N_2 —pass through the furnace filter and thermoelectric cooler for subsequent collection in a ballast apparatus. These collected gases in the ballast are mixed, and a small aliquot dose is then used for further conversion of the gases. The remaining aliquot that has been reduced is measured by the thermal conductivity cell for Nitrogen.

The system is controlled by an external PC using Windows®-based operating software.

Sample Holder
Holds up to 250 mg sample



Collection System
Patented 4.5 liter ballast collects all evolved gases
Ensures complete homogenization prior to determination



Combustion Tube
Combustion of samples in an oxygen-rich environment



LECO®
Delivering the Right Results

Specifications

Instrument Range @ 250 mg

3 cc Aliquot Loop: 160 ppm or 0.016% to 100%
or 0.04 to 300 mg absolute
Nitrogen

Precision @ 250 mg

3 cc Aliquot Loop: 80 ppm or 0.5% RSD,
whichever is greater

Readability

0.001%

Calibration

Standard Sample; Linear

Analysis Time

3 minutes nominal

Sample Size

Up to 250 mg

Detection Method

Thermal Conductivity

Chemical Reagents

Anhydrous Magnesium
Perchlorate, Calcium Oxide,
Sodium Hydroxide on an inert
base, Copper Sticks, N Catalyst
Reagent, Copper Turnings,
Alumina Pellets, Magnesium
Oxide

Gas Required

Carrier Gas: 99.99% Helium or Argon
40 ± 4 psi (2.76 bars)
Combustion Gas: 99.99% Oxygen
40 ± 4 psi (2.76 bars)
Pneumatic Gas: Compressed Air, source
must be oil and water free.
40 ± 4 psi (2.76 bars)

Gas Flow Rates

Carrier Gas: Analysis: 200 mL/min (measure),
30 mL/min (reference)
Conservation: 30 mL/min
(measure), 30 mL/min
(reference)
Combustion Gas: 1.3 to 6 L/min
(user programmable oxygen
profile)

Regulators

Helium: 0 to 125 psi, CGA 580,
15/16-14 Female R.H.
Oxygen: 0 to 125 psi, CGA 540,
7/8-14 Male R.H.
Air: 0 to 125 psi, CGA 346,
13/16-14 Male R.H.

Furnace Range

Up to 975° Celsius

Weight

Determinator: 150 lb. (68 kg)

Physical Dimensions

Determinator: 28 in. H x 21 in. W x 23 in. D
(71 cm x 53 cm x 58 cm)

Electrical Power Requirements

Determinator: 230 V~ (±10%), 50/60 Hz,
10 A

Part Numbers

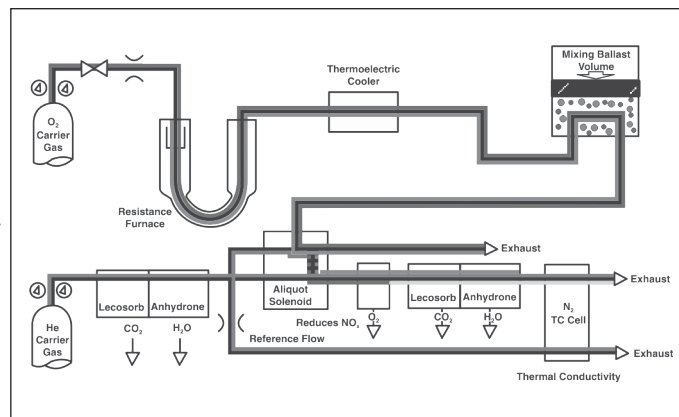
FP528C Nitrogen/Protein Determinator with PC
and Windows-based operating software

Optional Accessories

621-434-110 Printer
751-300-160 4-Place Balance

V~ denotes VAC.

Simplified Flow Diagram



Expanded features including automation, multiple elements, external PC control, expanded sample size ranges, Windows®-based operating software that supports compliance to 21 CFR Part 11, and SmartLine® Remote Diagnostics are available on the TruSpec® Series. For more information, request form no. 209-150.

Specifications and part numbers may change. Consult LECO for latest information.

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