

Pilot Baking Furnace

RDC-167

Granular Binder Electrodes Lining R&D

General Description

Performing raw material or electrode evaluations under laboratory conditions is necessary in terms of time consumption and cost. For this purpose, the RDC-167 apparatus can be used for the calcination or baking of different materials under well-controlled laboratory conditions.

In the case of green coke, a shaft kiln calcination can be simulated, or a specific calcination degree can be achieved for a semi-calcined coke. This furnace can also be used for the baking of green electrodes, or electrodes produced at the pilot scale (see RDC-161 and RDC-160). Depending on the application, typical calcination and baking curves with given heat-up rates are already programmed, the goal being to reach typical calcination or baking degrees. Custom-made heating curves can also be implemented for research projects, like simulating the impact of the final baking temperature on the electrode quality in well-controlled conditions, or creating calibration curves for comparison to the real production (for instance for evaluating the temperature distribution of a baking furnace).

70 kg of green coke or 100 cores with a 50 mm diameter, or six pilot electrodes with 146 mm diameter can be loaded in one batch. The electrode samples or the green coke bucket is surrounded by packing material to prevent any air oxidation. When a smaller quantity of material shall be baked or calcined, the RDC-164 Furnace BF12 could be an option instead of the RDC-167 Pilot Baking Furnace.



Technical Information

Function	Calcination of green coke or baking of electrodes
Maximum Temperature	1100°C
Sample	Electrodes or green coke
Process Time	~ 70 hours
Installation	Floor standing under fume hood
Dimensions (LxWxH)	252 x 172 x 338 cm
Weight	~ 2500 kg
Electrical Property	400 V 3/N/PE, 50 Hz 24 kW, 60 A
Database Connection	No

Additional Recommended Equipment

Pilot Press (RDC-160)
Bench Scale Anode Production (RDC-161)
Pilot Core Drilling Machine (RDC-179)
Test equipment for analysis
Weighing scale with an accuracy of 1 g