

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 optimizations. For this purpose, the RDC-164 apparatus can be used for the calcination or baking of different materials under well-controlled laboratory conditions.

In the case of green coke, a vertical 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 bench scale (see RDC-161). 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 temperature. Custom-made heating curves can also be implemented for research projects, such as simulating the impact of the final baking temperature on the electrode quality in well-controlled conditions or creating calibration curves for comparison with the real production (for instance, for evaluating the temperature distribution of a baking furnace).

Approximately 4 kg of green coke or ten electrode cores with a 50 mm diameter can be loaded in one batch. The electrode samples or the green coke bucket are surrounded by packing material to prevent any air oxidation. The equipment is supplied with a tar incinerator unit for fume treatment purposes.

When a greater quantity of material is needed, the RDC-167 furnace is an option instead of the RDC-164 furnace.



Technical Information

Function	Calcination of green coke or baking of electrodes
Maximum Temperature	1100°C
Sample	Bench scale electrodes or green coke
Process Time	~ 70 hours
Installation	Floor standing under fume hood
Dimensions (LxWxH)	130 x 80 x 196 cm
Weight	380 kg
Electrical Property	400 V 3/N/PE, 50 Hz 8 kW, 20 A
Fluid Property	Air : 3000 l/h, 3-7 bar
Database Connection	No

Additional Recommended Equipment

Test equipment for analysis
Bench Scale Anode Production (RDC-161)
Weighing scale with an accuracy of 1 g