

Bench Scale Anode Production

RDC - 161

R&D
Carbon

Granular Binder R&D

General Description

The evaluation of critical process parameters and raw materials such as calcined petroleum coke, binders, recycled materials, and additives on bench scale is essential to conduct research and development projects for continuous improvement in anode manufacturing. The production of anodes at the bench scale under controlled conditions is a fast, reliable, and cost effective approach to assess the quality of raw materials and optimize process parameters, avoiding the expensive exercise of full-scale trials.

Key components of the RDC - 161 setup include:

- Preheating oven: used to bring the dry aggregate to a target temperature before mixing.
- Eirich mixer: an intensive impeller mixer equipped with temperature control to ensure consistent, homogeneous paste production.
- Forming Press: designed for shaping green bench scale anodes with a standardized 50 mm diameter and approximately 100 mm length.

Depending on the application, additional equipment is potentially needed to prepare the dry aggregate, bake the green electrodes, and test their properties.



Technical Information

Function	Production of Bench Scale Electrodes
Maximum Temperature	180°C
Sample	Electrode paste up to 8 kg
Installation	Floor standing under fume hood
Dimensions (LxWxH)	Furnace : 125 x 82 x 180 cm Mixer : 162 x 82 x 210 cm Press : 122 x 82 x 220 cm
Weight	Furnace : 260 kg Mixer : 510 kg Press : 50 kg
Electrical Property	Furnace : 400 V 3/N/PE, 50 Hz 3.4 kW, 8.5 A Mixer : 400 V 3/N/PE, 50 Hz 7.1 kW, 18 A Press : 400 V 3/N/PE, 50 Hz 1.5 kW, 4 A
Database Connection	No

Additional Recommended Equipment

Baking Furnace (RDC-164 or RDC-167)
Test equipment for analysis
Weighing scale with an accuracy of 0.1 g