

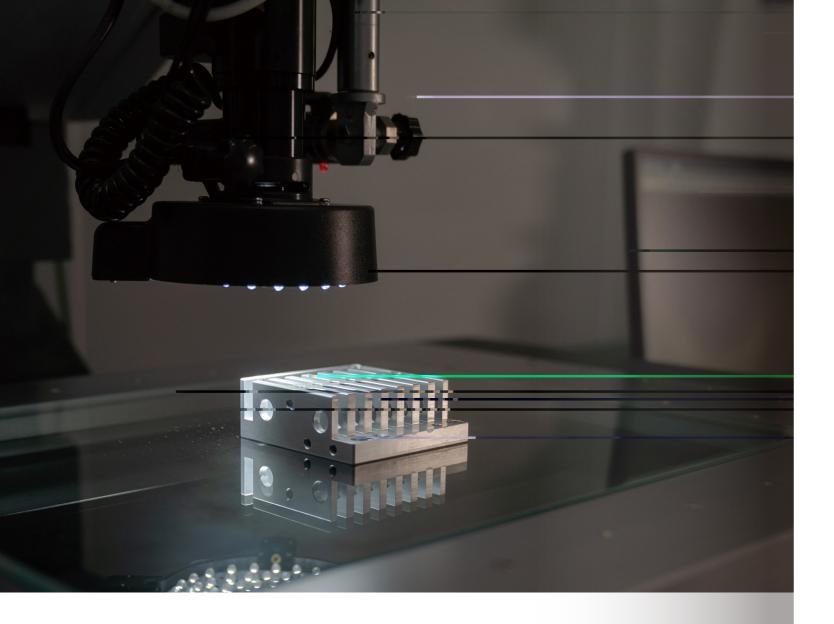
KATOP

Jiangsu KATOP Automation Co., Ltd.

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Test Center Profile

collaborates with upstream and downstream enterprises to build a testing center using various innovative technologies. Serving as a testing platform for experimental testing sites, new processes, and new material, the testing center is equipped with multiple types of verification equipment and various experimental scenes for different working conditions (conventional atmospheric environment, glovebox operating environment, dust-free and clean workshop), providing you with services such as dry electrode powder processing, electrode forming verification, new coating verification, and slurry testing.

Among them, we have conducted thousands of experiments in new energy fields such as hydrogen energy, photovoltaic, and fuel cells, providing you with more assistance until production is successful.

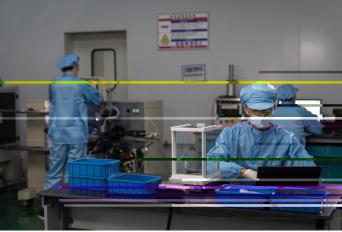
Typical services proposed by customers and research partners, such as:

- Provide experimental verification for a variety of innovative process routes
- Assist customers to complete on-site verification based on the raw materials and requirements provided by customers
- Provide certain processing service of diaphragms and electrodes, which can be used as samples for end users
- Provide slurry and electrodes performance testing services
- Provide customized solutions of intelligent equipment for new processes and new materials
- Collaborate with a number of well-known material factories to provide new material verification services











Product Overview

• The equipment suspends the powder materials in the reaction vessel through air blast, which can fully mix the materials, or achieve the effect of coating or granulation by atomizing the coating solvent

Product Features

- Adopt unique rotating disc with blades. One equipment can be used for mixing, granulation, coating and other processes
- Affected by the rotating compaction of the blades and rotors in the fluidized bed, and affected by the flow drying of hot air at the periphery, it can granulate and coat the powder with strong adhesion and agglutination that is difficult to be processed by other equipment

Product Parameters

Processing capacity	1L
Air volume	MAX:2m³/min
Temperature	80°C
Motor speed	MAX:800r/min
Air consumption	15m³/H
Electric heater	1.3KW 220V



Product Overview

• Double steel belts are used as carriers to continuously transport fiberized materials, and thick film forming is achieved with dry process through high-temperature preheating and differential rolling.

Product Features

- It is convenient to increase the production speed and eliminate the problem of web breakage caused by the influence of tension during the forming process of the film
- The feeding state is not limited. Powder, granular and lump materials can all be fed and rolled

Product Parameters

Mechanical speed	MAX :≤30m/min
Production rate	≤15m/min
Effective film width	500mm
Strip width	600mm
Press roll width	700mm
Strip temperature	Ordinary temperature $\sim 200^\circ$ C
Thickness accuracy	±2μm
Film forming thickness	70~2000μm



Product Overview

• The equipment is used for dry process electrode film forming with powder and thinning. It supports speed adjustment and provides a variety of film forming and thinning routes (same speed, differential speed, transfer)

Product Features

- With a small footprint, the equipment placement can be planned according to the size of the site
- It is easy to operate and materials can be fed in two directions to form a film
- The three rollers are driven independently, and the gap is independently adjustable

Product Parameters

Mechanical speed	MAX:1.5m/min
Roller diameter	120mm
Roller width	360mm
Effective roll width	300mm
Operating temperature	≤200°C
Calendering thickness accuracy	±15µm



Product Overview

• It is used to realize the film formation and thinning of dry electrode powder

Product Features

- The equipment is sophisticated, and the equipment placement is not limited by the venue
- The operation is convenient and meets the operational needs of the glove box
- The double rollers are driven independently to realize the flexible operation of the equipment

Product Parameters

Mechanical speed	MAX:1.5m/min
Roller diameter	96mm
Roller width	300mm
Effective roll width	120mm
Operating temperature	≤200°C
Rolling pressure	1T on one side, 2T in total,Display accuracy 0.1%
Calendering thickness accuracy	±10μm



Product Overview

- The equipment is used for fuel cell process validation and slurry formula parameter adjustment
- The equipment is of high operation accuracy. The speed fluctuation of X-axis is 5 %, and the positioning accuracy of Z-axis is 5 μ m
- \bullet $\,$ Good coating and operation stability, operating speed is kept within 0.5% at low speed
- Low power consumption, 3kW compatible with different slurries

Product Features

- Slurry saving, easy operation and high safety
- Compact structure design and small floor area

Product Parameters

Coating speed	MAX:0.6m/min
Coating speed accuracy	5‰
Coating wet film thickness range	30~100µm
Deviation of coating dry film thickness	± 10% (platinum load Pt)
Coating method	Slot die extrusion coating
Mechanical operation speed	MAX:12m/min



Product Overview

- The equipment is used for CCM film coating of fuel cell
- Equipped with online dimension, alignment and defect detection, platinum load detection, combined mode intermittent control solution

Product Features

- Adopt extrusion direct coating method to improve coating efficiency and slurry utilization
- Can realize zebra coating, intermittent coating and continuous coating
- It can be used from low to high viscosity slurry

Product Parameters

Coating speed	MAX:5m/min (Cathode) MAX 3m/min (Anode)
Coating width	MAX:300mm
Coating dimension accuracy	±lmm
Applicable substrate thickness	5-100um (including back film)
Deviation of platinum loading of dry coating	±5%
Maximum dryer temperature	MAX:130°C
Temperature control accuracy of single section of dryer	±3°C

CONTACT KATOP

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