



No.2219

Experimental gate roll coater

Intensified demand for diversification and quality upgrading of printing papers requires printing modes to change more versatilely, with higher printing speed and higher printing quality. In recent years, coated papers for printing have been diversified in kinds, widely ranging from high-gloss papers to slightly coated papers. Equipped with the function of a practical roll coater, this coater offers the possibility to examine coater troubles in the laboratory by setting the various conditions that affect coating results.

Coating amount: 0.5 to 10g/m²

Viscosity: max. 3000mPa·s (cps)

Concentration: max. 65%

Coating speed: 0 to 350m/min.

Effective coating width: 220mm

Specimen width: 260mm

Coating length: 550, 1500mm (by cam change)

Power source: three-phase 200/220VAC 50/60Hz 20A

Air source: 0.5MPa

Outer dimensions: main unit 1800 x 1350 x 1950mm weight 980kg
control box 965 x 570 x 1185mm weight 141kg

< Uses and performance >

- 1) This gate roll coater, featuring high concentration coating, is used as a size press and able to apply a large amount of coating.
- 2) The coater can check the impregnation of coat liquid in the paper sheet to make it stay on the surface, thereby making papers of high printability. This machine is also used as a primer coater.
- 3) The size press involves problems such as spattering of coat liquid when the specimen carrier plate enters between the rollers. However, with the gate roll coater, it is possible to implement beautiful coating, because of a liquid dam formed between the low speed fountain roll and the metering roll.
- 4) When used as a sheet coater, this machine can make coating at a speed of 350m/min or more, so the user can investigate the behaviors of colors and coating.
- 5) There are two kinds of coating liquids, pigment-based and non-pigment-based. Coating volumes and concentrations are as follows:
Coating amount: pigment 0.8 to 10g/m², non-pigment 0.4 to 2.5g/m²
Coating concentration: pigment 20 to 65%, non-pigment 5 to 20%
- 6) Using the unwinding and winding unit (optional), it is possible to examine the aptitude of paints and papers at high speeds.

Rolling speed: 50 to 350m/min., speed shifting with inverter, synchronized with coater for speed shifting

Paper cylinder inner diameter: 70 to 100mm

Paper cylinder outer diameter: 100mm (minimum)

Maximum winding diameter: 500mm

Paper width: 250mm

Tension: 0.4kg/cm (maximum), total tension 10kg

Winding brake: water-cooled electromagnetic powder brake

Winding clutch: water-cooled electromagnetic powder clutch

Tension regulation in winding and unwinding:

current regulation of brake and clutch (manual)

Power source: three-phase 200/220VAC 50/60Hz 25 A

Machine dimensions: 3800 x 1300 x 2300mm