KRK KUMAGAI RIKI KOGYO

Universal Printability Tester

Model No. 2258-I

The recent trend is that printing quality is upgraded and use of offset print is diversified. To respond to the requirements in printability with various kinds of paper and ink, a new evaluation method is keenly required from the industry. With conventional printability testers that are distributed widely, there is a problem that it is impossible to control the humidification degree in offset print testing. However, with this machine, the user can try laboratory offset printing by setting various conditions such as simulation of a humidifier, print pressure, printing speed, ink feeding procedure, printing time delay.

The machine features excellent abilities of quantification and reproducibility that allow the user to know properties of various kinds of paper ranging from middle quality paper and newspaper to wood free coated paper. It is useful for study ink transfer, lint, ink drying, trapping and reverse trapping, mottling, etc. The system is composed of two printing units, one offset attachment (humidifier), and one ink mixer to ink the four discs. Each of the two print units is given the capability to adjust printing pressure and set printing speed almost steplessly. It is also possible to set time delay from the first print unit to the second unit, useful for various tests on wet-on-wet basis. Using this time delay, it is possible to perform set-off test to investigate the transfer of first unit prints onto the back of white paper rolled on the second unit. The inking system of this machine has a temperature-setting range of 15°C to 60°C by circulation of hot water, with the inking rollers divided in four sections to form a uniform film on the printing disc. As for picking test, there are two types available: one is a constant speed test and the other is an accelerated speed-printing test from 0 to 3 meters/second. Accelerated printing can be made linearly independently from printing pressure. In the offset printing process, it is possible that the ink is transferred from the printing disc to the rubber blanket for printing on the paper rolled on the disc. There is also an adjuster to uniformly apply pressure over the printing width, even under the changing printing pressure, increased or decreased.

Experiments Available

I. Picking print at accelerated printing
2. Constant speed printing (single color)
3. Constant speed printing (overlapped printing)
4. Offset printing (humidification), single color printing
5. Offset printing (humidification), two color printing
6. Set-off test (in four stages)

Characteristics Evaluated

1. Transferring aptitude of ink
2. Absorption and striking-through of ink
3. Drying of ink
4. Picking strength (humidification)
5. Lint
6. Trapping
7. Reverse trapping
8. Mottling
9. Ink amount-print gloss relationship

Specifications

Print Area:	40mm wide x 200mm long
Printing Pressure:	200 to 1600N (strain gauge measures printing pressure)
Printing Speeds:	0.5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10m/sec.
Printing Mode:	constant speed printing, accelerated printing I, 2, 3m /sec.
Print Interval:	0.01 to 999sec
Temperature:	15°C to 60°C regulation range
Set-off System:	with timing relay
Optional:	constant temperature water tank
Power Source:	three-phase 200/220VAC 50/60Hz 20A
Outer Dimensions:	1650 x 780 x 1480mm
Instrument Weight:	670kg
Reference:	1985 TAPPI Coating Conference Proceedings