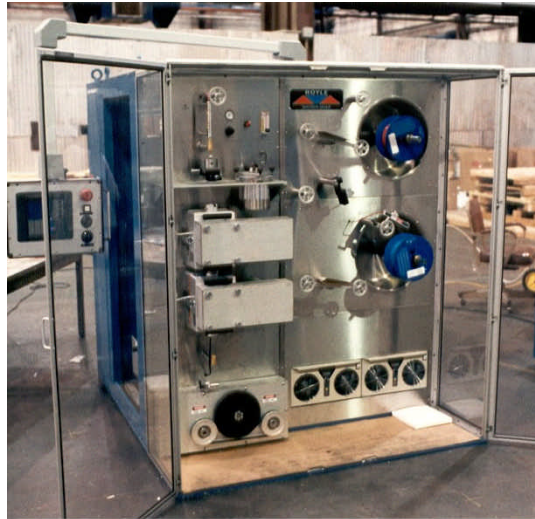




Royle Systems Group

UV Color Machine



The high speed UV color machine is a versatile system that can be used to color, upcoat, or rewind optical fibers. The self-contained unit is ergonomically designed to permit easy fiber string-up and subjects the fiber to a minimum number of bends. The compact design features a dancer controlled traversing shaft type payoff, an integral static and dust removal system, (2) 600 watt/in. curing lamps with variable power supplies, a precision driven capstan, and a dancer controlled traversing shaft type takeup. The robust mechanical structure is essential for high speed operation and has been designed to completely separate the electronic and mechanical components. The color machine is designed to minimize floor space and setup time. All operator functions are controlled in the PLC including increase/ decrease of lamp output power levels through line acceleration and deceleration. An integral exhaust blower system provides cooling to the UV lamps and is automated through the PLC.

Specifications:

| | |
|---------------------------------|-----------------------|
| Structural Speed: | 1800 m/min |
| Fiber Diameter Range: | 200 - 500 μ m |
| Coloring Material: | UV curable inks |
| Maximum Reel Flange Diameter: | 260 mm |
| Maximum Reel Width: | 175 mm |
| Maximum Reel Weight: | 10 kg |
| Tension Range: | 20 - 100 g |
| Overall Dimensions (L x W x H): | 1.7 M x 2.0 M x 2.0 M |

Features:

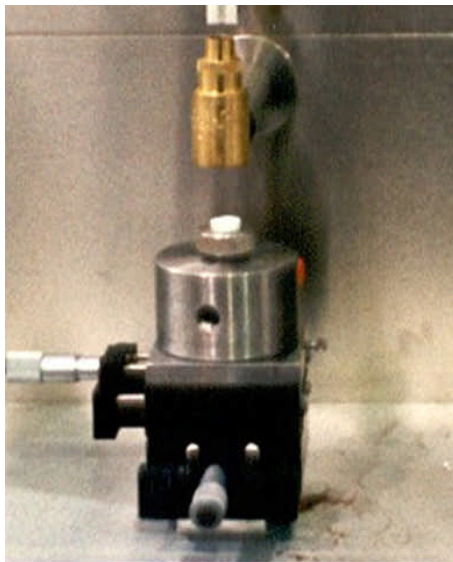
- Driven traversing payoff and takeup
- Quick change color system
- Variable power UV curing system featuring two 600 watts/in lamps
- Industrial Touchscreen Operator Interface Terminal (OIT)

Driven traversing payoff and takeup



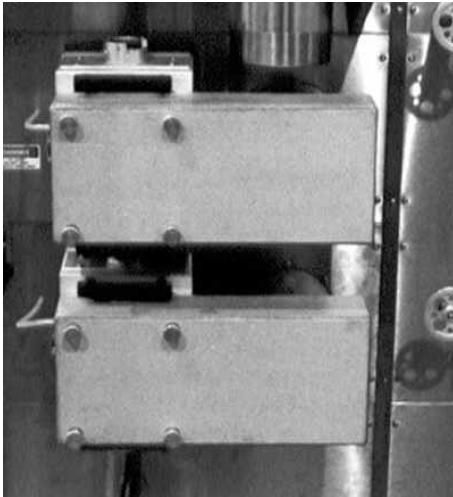
The traversing payoff/takeup is a cantilever design with a traversing reel carriage that assures accurate unwinding/winding of fiber from the spool. The unit utilizes two precision servo drive/motor systems; one to control the traverse functions and the other to control the rotational speed of the reel. A unique non-contact optical device senses the position of the fiber and adjusts the traverse position accordingly.

Quick Change Color System



Uncolored fiber passes through the coater assembly where ink/coating material is fed from the pressure regulated container through the delivery tubing into the application chamber. The ink/coating container is mounted on the side of the machine with quick disconnects on all air/ink lines to facilitate quick ink changes. The entire die assembly is mounted on an X-Y Table so that adjustments can be performed to reach an optimum concentricity between the coating and the fiber.

Variable power UV curing system featuring two 600 watts/in lamps



The system is self-contained including the cooling blower for the UV Curing System and features (2) 600w/in curing lamps, (2) Irradiators with non-mercury bulbs and reflectors and (2) variable power supplies with internal control voltage transformers. The curing lamps have a variable output of UV intensity from 4% to 100%. The power level is an integrated function of the process speed which is controlled by the PLC dependent upon the process (color or upcoat).

Industrial Touchscreen Operator Interface Terminal (OIT)



The process speed is adjustable with the touchscreen OIT which is mounted on a swing arm for easy operator access. The OIT has adjustable operating parameters that include process speed, ink tank air pressure, payoff and takeup tension, takeup pitch and inner/outer reel limits.