

Endeavour – Lab Colour Proofer

Endeavour[™] is the world's first digital dyeing process. It utilises advanced digital manufacturing technology to deliver a breakthrough in the cost structure, supply chain capability and environmental impact of fabric colouration. The production process is supported by ColourHit[™], a laboratory colour proofing machine, which can be used for production colour matching and Endeavour[™] process demonstration studies.

The colour match determined by the ColourHit[™] laboratory colour proofer can be used to identify the process settings to deliver a perfect colour match using the full-scale Endeavour[™] machine. The ColourHit[™] lab colour proofer replicates the dyeing process in the full-scale commercial Endeavour production equipment to deliver "right-first time" colour matching capability. The system can also be used to produce customer demonstration samples and utilises our intelligent ColourHit[™] technology to automate colour management.



The ColourHit[™] system can be used with any commercially available colourant technology and is compatible with a wide range of substrate types.



Endeavour[™] digital dyeing technology:

Endeavour[™] utilises an advanced digital colourant application and fixation technology to deliver single pass roll-to-roll solid colours to fabrics. The Endeavour[™] digital dye applicator applies liquid colourants to fabrics using a unique non-contact high-energy jetting of nanodroplets, delivering exceptionally homogeneous distribution and penetration. The colourants are fixed to achieve high levels of colour fastness using a proprietary digitally controlled process.



Colourant chemistry:

The Endeavour[™] process is designed to be compatible with all colourant chemistries used in traditional dyeing. The system is an open platform and any approved commercial colourant chemistry can be used in the system. The system can be used with disperse, pigment, reactive, acid dyes, vat dyes and a range of speciality colourants to enable digital dyeing with a wide range of substrate types.



Colour matching using ColourHit[™] technology:

The system utilises advanced digital technology for colour matching. The technology is capable of precision colour matching and shade control. We have developed the ColourHit[™] technique for rapid digital colour matching using a proprietary software platform that utilises a database of colour matches. The lab-scale ColourHit[™] colour sampling system can be used to perform colour matches that can be translated to run conditions for Endeavour[™] production machines.

Technical Specification:

Throughput	~ 50 samples/hr
Sample size	0.12 m x 0.2 m
Minimum fluid volume	100 mL
Substrate basis weight	50 – 500 gsm
Substrate	Polyester, cotton, polycotton, nylon
Changeover time	<15 minutes
Dimensions	1 m x 0.5 m x 1.5 m
Power requirements	110 - 240V 50/60 Hz electrical supply

