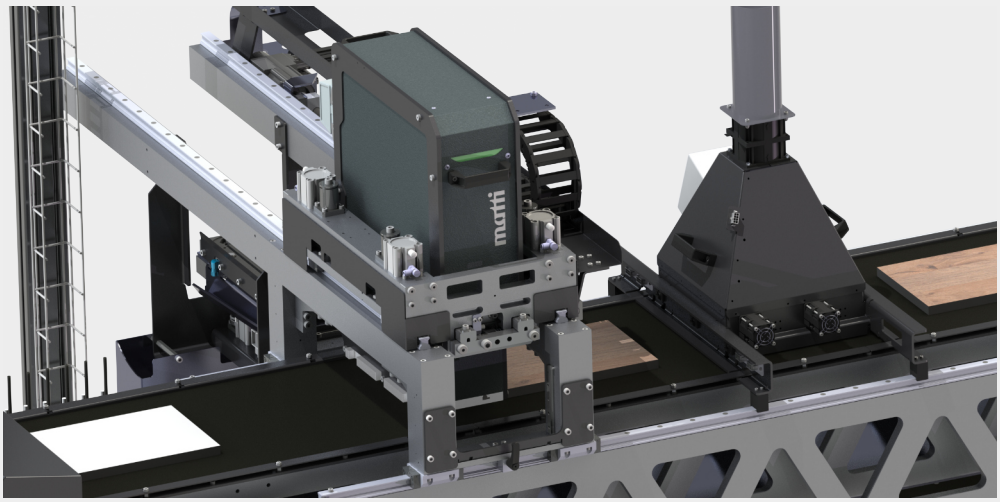
Inkjet Test Stand

matti Group



Solution for flexible ink development and process parameter optimisation

The Matti Inkjet Test stand is designed to accommodate different inkjet printheads, provide a print width of 220mm and allows for different drying modules. All components can be easily rearranged to allow process parameter optimisation.

Explore and produce

Your challenge(s)

Your focus lies either on ink development or inkjet production and you are looking for a flexible inkjet test stand that allows you to:

- Easily work with different ink iterations and characterise their behaviour in a production-like environment
- Optimise different ink iterations in terms of variability of process parameters, i.e. test different colour sequences, test different spacings between colours, experiment with different dryer systems and have access to a plethora of settings that influence the jetting behaviour and ink interaction on the substrate
- Simulate a small scale production environment to test new products before bringing them into a real production environment
- Produce individualised customer samples of custom products

Our concept

The Matti Inkjet Test Stand is a complete inkjet printing system that integrates up to 5 printbars, intermediate dryers and an end dryer. The system is built around a novel conveyor that can transport different substrate types such as paper, flexible films, foils and many more. The conveyor achieves a high in-track resolution through the use of multiple linear encoders located at each printbar and referencing to the conveyor.

Printbars and intermediate dryer modules can be freely spaced or sequenced along the available conveyor length of roughly 6.5 meters. This allows to simulate different degrees of freedom regarding your process parameters and makes finding the parameters that work best for your production environment as easy as possible.

Expandable

To be able to develop the best possible performing inkjet solution, many criteria need to be considered:

- **Inkjet printhead:** The substrate used will define many technical aspects of the ink that may be used to achieve the desired print results. Then, based on the ink and the required print quality, the inkjet printhead will be selected. Therefore, the Matti inkjet test stand provides the possibility to easily work with different inkjet printheads.

- **Drying:** Depending on the ink and substrate requirements, different drying techniques may be used. The system can be equipped with impingement jet dryers utilising air-knives, (N)IR dryers or UV curing devices.

- **Pre-treatment:** Many applications require a pre-treatment of the substrate with a primer fluid. The Matti primer units can easily be combined with the inkjet test stand.

Small scale production

Not only can this system be used in a pure lab environment but it can be very easily deployed in a small scale test production to gain experience with new production principles. The conveyor runs at a maximum speed of 75 meters per minute, allowing for pre-production quantities of printed goods.

Other options

A wider version of the Inkjet Test Stand can be custom built.

The system may be expanded to accommodate more colours, e.g. CMKY+OV or it can be configured to use aqueous and UV inks via two sets of inkjet writing systems.

Using two sets of writing systems may be used in a way that a narrow, e.g. one jetting module, wide writing system is used for testing, while a wide writing system, e.g. 4 jetting modules, is used for pre-production.

When using substrates that leave residues on the sticky belt an option to continuously clean and dry the belt may be implemented.

Technical specifications

Conveyor:

- Length: 6’500mm
- Width: 350mm
- Speed: 0-75 meters per minute
- Encoder resolution: better than 10 microns
- Surface: possibilty to apply filler and tack layer for different substrates

Inkjet writing system:

- Inkjet printheads: DoD
  different types possible
- Ex-printbar: Ink Station with slots for up to 4 20 liter ink containers, separate cleaner and waste fluids
- In-printbar: Recirculating ink supply with configurable flow rate
- Ink types: Aqueous, UV, Hybrid
- Cleaning / Capping / Purging: fully automatic

Dryers:

- Intermediate dryers: Impingement air dryers with ambient air temperature, optional heating. UV LED curing
- Optional end dryers: IR, NIR, UV (LED / Hg)

Digital Front End:

- DFE type: Matti DFE providing access to all parameters of the test stand, e.g. Speed, different print modes, etc.
- Input files: PDF

Optional pre-treatment:

- Type: roller based coater unit
- Dryer: possibility for dedicated IR / UV dryer
- Maintenance: fully automatic, via 3 containers containing primer fluid, wash fluid and waste fluid

Others:

- Environment: 25-30°C, 40-60% rel. humidity, non condensing
- Electrical supply: 400V (3LNPE), 63A max.
- Size: 7’100x1’450x2’200mm (LxWxH)

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About the Matti Group

The Matti Group researches, develops, produces and sells machines and turnkey solutions for the high speed digital inkjet printing market.
Thanks to the knowledge gathered through the integration of more than 1000 digital systems, we play a leading role in this business area. Our strength is the combined know-how and many years of experience in the fields of inkjet printing presses, finishing lines, drying techniques, inkjet related services and most common digital printing technologies.

Our main office is located in Sulgen, Switzerland, where we develop, manufacture, test and offer customer support. Our clients are mainly original equipment manufactureres (OEM's) supplying and servicing the demands of data centres, print and publishing, security printing, direct mail / letter-shops, government bureaus, banking / insurance institutions and innovative printing companies. Matti's expertise also reaches into label, decor, corrugated and flexible market segments where we design inkjet label presses, both UV and aqueous, according to our customers needs. We ensure quality through technical expertise and reliability and our communication approach is open, friendly and fair.

The Matti Groups is ISO 9001:2015 and TUV certified and manufactures according to the UL standard.

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