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## The Image of Automation



**Catena+ with ThermoFlexX imager**



**Catena +**

# Modular - Builds Into a Fully Automatic Plate Processing Line

With a ThermoFlexX imager Catena+ provides the Holy Grail of fully automated, touch-free flexo plate making! Plate maker's Overall Operating Effectiveness is instantly boosted by more available operating hours. Unattended hours with the possibility to make far more plates per shift, combined with reduced plate waste through mis-handling substantially reduce cost-of-ownership. Printer's OOE benefits considerably from plates made with highest possible quality and consistency. High quality, consistent plates reduce make-ready waste by being quick to register and give good ink transfer without over-impression. Presses can run faster with less stops needed for plate cleaning.

## Enclosed Operation

The Catena+ comprises of Catena-E LED exposure unit, Catena-WDLS washer, dryer and light-finisher with Catena-R rotating plates between the exposure and wash-out units. Each part of the system is enclosed creating its own controlled environment. Particularly the wash-out section is sealed. Even when opening the doors a minimum of solvent smell will be perceived as the solvent section is completely confined.

## Modules Overview

### + Latest Technology LED Fast Exposures

**Catena-E** is a high performance exposure frame utilising latest technology UVA LEDs for both main and back exposures. Main exposure is performed by 24 specially designed LED modules traversing above the plate. Back exposure is simultaneous using a full coverage LED arrangement for greater control and faster processing speeds. Only back exposure LEDs below the plate are energized thus saving energy for smaller plate exposures. An automatically operated lid protects the plate from environmental issues during operation. Water cooling with chilled air channeling maintain a stable environment inside for absolutely consistent exposures. The placement of LEDs gives a high concentration of intensity at the plate surface. Oxygen effects are eliminated hence Catena-E produces Flat-Top-Dot output for a perfect combination with, for example, Flint nyloflex® plates and Woodpecker fine surface micro structures. Catena-E offers secure but open operation with users able to adjust their own parameters to optimize exposures to their own requirements.

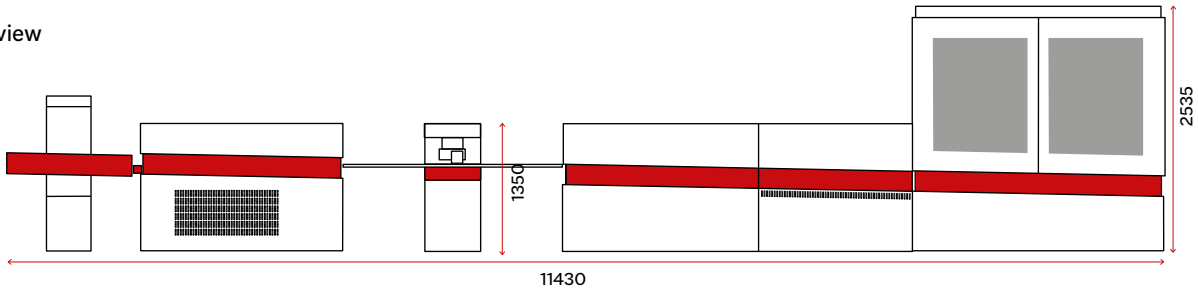


## + Cleanest Finished Plates with Minimum Maintenance

**Catena-WDLS** Wash-out/Processor section features a separate pre-wash enclosure designed to remove the LAMs carbon mask layer and contain it for easy maintenance and zero plate contamination in the remaining wash cycle. At the end of the main wash-out section, brushes behind the plate provide a back-wash so that in the unlikely event that any carbon or other residue remains during the main wash it is fully removed. This saves an extra cleaning step later in the process.



Side view



Top view

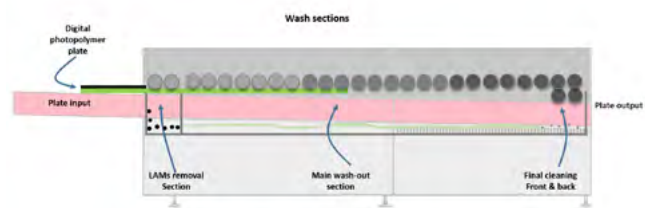
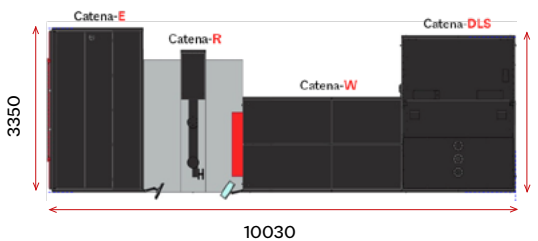
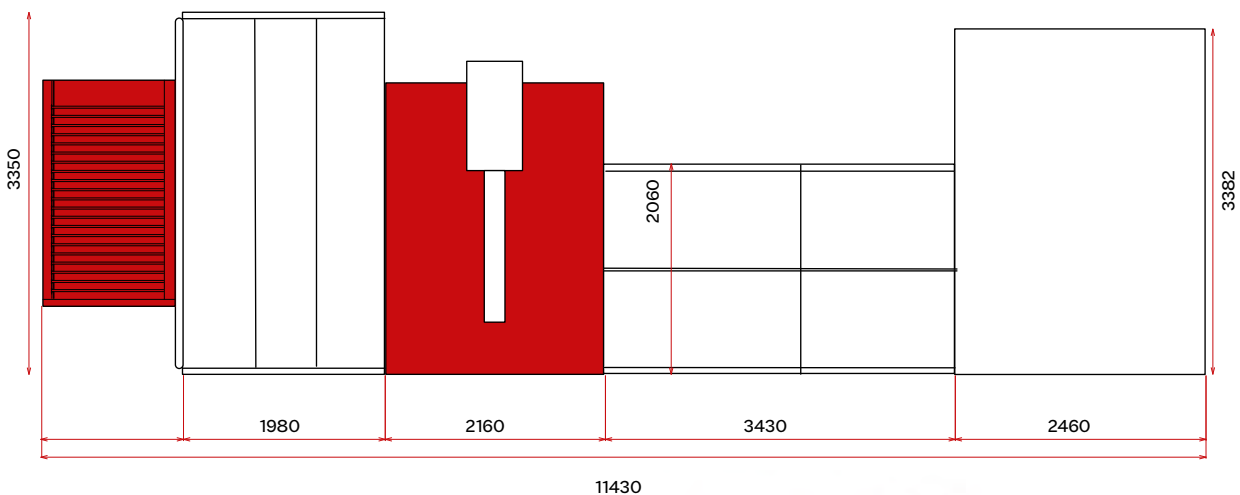


Plate punching is not required. No need for manual transportation of the pin-bars. The pin-bars (and plate) are propelled with a leadscrew system. This sits in its own closed section and is free from solvent contact. Three pin-bars ensure continuous availability. A cleverly designed plate punch and pin-bar system takes the plate from the rotator ensuring it is parallel then transports it flawlessly through the washing process and returns for the next plate. The pin-bar is returned without travelling through the dryer, saving a great deal of maintenance as any polymer residue isn't baked on.

**Catena-WDLS Dryer, Light-finisher and Stacker Section** comprises of 7 stacking positions, 10 dryer units and a UVA+UVC light-finishing section. Valuable extra plates can be finished without operator supervision, for example after a shift finishes.

### + Robotised Plate Movement

After washing, plate control is taken over by the DLS section. Robotised movement manoeuvres the plate through drying and light-finishing. As well as storage positions for finished plates, the stacker can act as a 'rest' position to ensure that plates are properly cooled after drying before being light-finished for optimum print quality and consistency.

### + Individually Controlled Dryer Sections

Independent heaters, sensor control and ventilation for all 10 dryer sections. This ensures exact temperature and timings for all plates. Only required sections need to be active for economic operation if only a few drawers are required.

### + Precision Light Finishing

UVA and UVC lamps are monitored and controlled to ensure ultimate consistency from plate to plate. Sensors test intensity between each plate and monitor to ensure consistency and timely tube replacement. A record of lamp performance can be available for every plate for ultimate QC tracking.

Robotised movement loads and unloads plates from the dryer sections into the light-finisher, with a rest in the stacker to cool before post-exposures. Finished plates are automatically unloaded from the light-finisher into the stacker after exposures, ready for collection.

### + Add Catena+ to a ThermoFlexX imager and Simply Remove The Coversheet!

The operator has only to remove the protective cover sheet once the plate is placed on the imager's FlexTray (the input table/trolley for ThermoFlexX 80 and 60 imagers). Plates are then processed perfectly with no further operator intervention whatsoever. The plates travel through LED Exposure, processing/wash-out, drying and light finishing. Finished plates are stored for collection.

This full automation of plate making ensures a continuous plate flow with highest productivity levels, optimum consistency, minimum plate waste (through handling damage) and valuable 'extra' plates finished unsupervised after work hours.

### + OPEN. Optimize Capacity

The bridge between the ThermoFlexX imager and Catena-E exposure is easily moved aside to allow the loading of plates imaged on any system, for example another ThermoFlexX or another imager.

Furthermore, imaged and exposed plates can also easily be loaded at the wash-out input stage. This allows plates to be brought in from other systems and provides alternate routes in the event of problems.

### + **ThermoFlexX GUI & Smart Comms**

All ThermoFlexX equipment utilises leading brand PC's, monitors and the latest Windows OS aimed specifically at high-end system development. ThermoFlexX Graphic User Interface is displayed via a Full HD touch-screen making operation extremely fast and simple. Key information is clearly presented to the operator for ease-of-operation without errors.

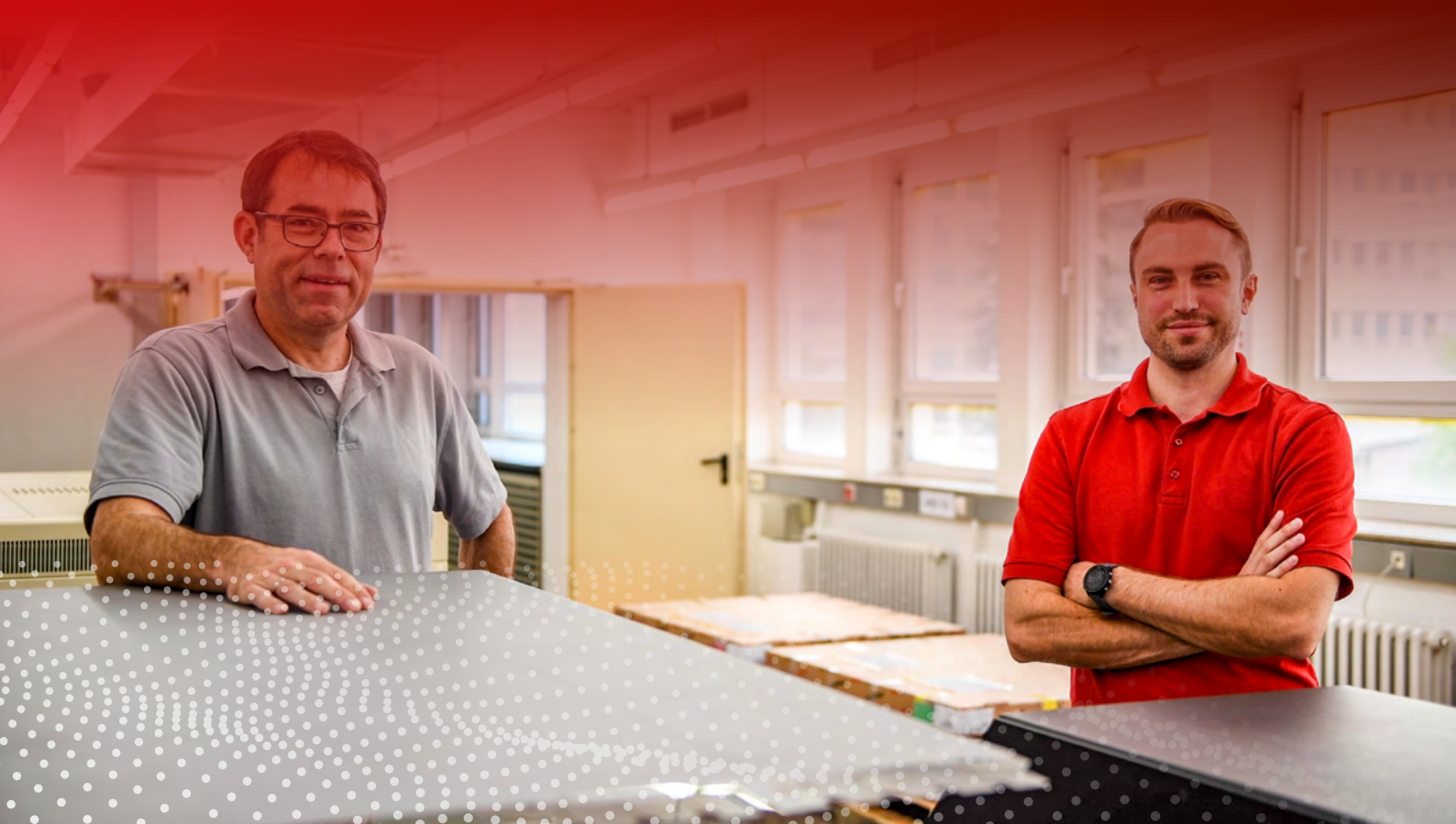


### + **ThermoFlexX ProServX**

Provides a cloud-based, constant monitoring service of all key components throughout the range. A brand-new level of proactive maintenance with on-line support is available. The need for physical service-interventions is minimised. All critical information such as motor current, controllers, operating conditions and working temperatures are monitored. This information can be stored and made available for total plate QC records.

### + **Plate Passport**

Traceability of prevailing operating conditions at all stages for every plate can be automatically collected to provide a comprehensive certificate of conformity.



## Technical Data

## Catena+

Maximum plate size (W x L) (mm/inch)	1270 mm x 2032 mm / 50" x 80"
Minimum plate size (W x L) (mm/inch)	400 mm x 400 mm / 16" x 16"
Electrical connection	<b>Catena-E</b> 400 V, 50/60 Hz, (3 Ph/N/PE), 32 A <b>Catena-WDLS (+R)</b> 400 V, 50/60 Hz, (3 Ph/N/PE), 32 A
Extraction	<b>Catena-E</b> 1 x 160 mm main 100m <sup>3</sup> /h 1 x 160 mm cooler 1 600m <sup>3</sup> /h 1 x 160 mm cooler 2 600m <sup>3</sup> /h <b>Catena-WDLS</b> 1 x 160 mm LF 900m <sup>3</sup> /h 1 x 160 mm dryers 55m <sup>3</sup> /h 1 x 160 mm wash cooler 600m <sup>3</sup> /h
Compressed Air	<b>Catena-WDLS</b> 6 BAR Average 50l/min Peak 250l/min (10 seconds)
Maximum Plate thickness (mm/inch)	7 mm / 0.276"
Minimum Plate thickness (mm/inch)	0.76 mm / 0.03"
Weight	<b>Catena-E</b> 2715 kg / 4795 lbs <b>Catena-R</b> 470 kg / 1036 lbs <b>Catena-WDLS</b> 5255 kg / 11585lbs
Dimensions (max) (W x D x H) (mm/inch)	10030x3550x2500mm/395x140x98"
Packed Dimensions and Weights (W x D x H) (mm/inch)	<b>Catena-E</b> 3732 mm x 2118 mm x 2060 mm, 2500 kg / 147" x 83" x 81", 5512 lbs <b>Catena-R</b> 3268 mm x 1004 mm x 1800 mm, 700kg / 129" x 40" x 71", 1543 lbs <b>Catena-WDLS</b> Washer Part 1 1985 mm x 1170 mm x 450 mm, 302kg / 78" x 46" x 18", 666 lbs Washer Part 2 3770 mm x 2228 mm x 1900 mm, 3060kg / 148" x 88" x 75", 6746 lbs Dryer 2748 mm x 2171 mm x 2560 mm, 2610kg / 108" x 85" x 101", 5754 lbs Stacker 2748 mm x 1683 mm x 2560 mm, 1230 kg / 108" x 66" x 101", 2712 lbs

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Our objective was to increase our system uptime and plate output efficiency. Catena equipment has helped us achieve this.

- Stefaan Herman,  
Head of Benelux, Miller Graphics



Where **printing**  
meets **packaging.**



Where **expertise**  
meets **freedom.**

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