



E_{by} **DEK**

www.e-by-dek.com

E by DEK
More reliability & efficiency for future-proof printing

05/2017 Edition

E by DEK

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Overview of technical data

Maximum values

Machine Alignment Capability	@ $\pm 12.5\mu\text{m}$
System Alignment Capability	> 2.0 C_{mk} @ $\pm 25\mu\text{m}$, (± 6 Sigma)
Core Cycle Time	8 secs + process
Operating System	Windows Embedded Standard 7
Squeegee Pressure Mechanism	Software controlled, motorised with closed loop feedback $\pm 1\text{kg}$
Under Stencil Cleaning	300/400/520mm Interchangeable Under Stencil Cleaner (IUSC), fully programmable with wet/dry/vacuum wipe

Machine colours for E by DEK



E by DEK

Machine description

E - Quality

High-quality components, sophisticated construction, and modular design: The E by DEK is the result of over 40 years of experience in machine design and printing technology. Your benefit: stable and reliable printing processes even for fine-pitch applications.

E - Performance

Machine cycle times of eight seconds plus printing, fast setup changeovers, repeatable accuracy. The E by DEK delivers top scores in all categories. But we wanted more. With the Application Packs you can optimize your E by DEK for your particular requirements and keep your production extremely flexible. You can add these to your E by DEK at any time for maximum investment protection, flexibility, performance and profitability.

E - Flexibility

E by DEK stands for high-tech with ease of use in all major national languages, including Chinese. From the software to the adjustments for a wide range of stencil sizes – everything can be done quickly and reliably. The E by DEK becomes even better when it interacts with the E by SIPLACE: The shared E-line monitor provides your operators with a central overview of the entire E-line.

The E by DEK Application Packs

The E by DEK is a strong all-around solution with a modular design. Will you have to comply with changing requirements in the future? Instead of having to invest in new printing machines, the E by DEK makes this easy thanks to its application packs. This is flexibility at its best! They can be added at any time. This is what makes the E by DEK extremely flexible.

E by DEK

Machine standard configuration

Standard Configuration	Specification
Machine Alignment Capability	@ $\pm 12.5\mu\text{m}$
System Alignment Capability	> 2.0 C_{mk} @ $\pm 25\mu\text{m}$, (± 6 Sigma)*
Core Cycle Time	11 secs + process
Product Changeover	< 2 minutes
New Product Setup	< 10 minutes
Printer Construction	One piece optimised welded frame
Operating System	Windows Embedded Standard 7
Operator Interface	Fixed mounted colour TFT display, keyboard and trackball
Squeegee Pressure Mechanism	Software controlled, motorised with closed loop feedback $\pm 1\text{kg}$
Stencil Positioning	Manual with stencil depth adjuster**
Under Stencil Cleaning	300/400/520mm Interchangeable Under Stencil Cleaner (IUSC), fully programmable with wet/dry/vacuum wipe
Machine Interface	Upline and downline SMEMA included
Connectivity	RJ-45LAN (networking) and USB2 interface available
Temperature & Humidity Sensor	Monitoring of the process environment

* System Alignment Capability is certified by a 3rd party software QC Calc and undertaken by applying board loading/unloading, board clamping, camera/rising table movement and print process.

Accuracy and Repeatability qualifications are certified by CeTaQ and AVS to deliver highly confident wet print process.

** This is incompatible with the optional AWSM.

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Machine standard configuration

Transport System	Specification
Width Adjustment	Programmable motorized rear rail
Transport Direction	Left to right Right to left Left to left Right to right
Substrate Handling Size (minimum)	50mm (X) x 40.5mm (Y)
Substrate Handling Size (maximum)	510mm (X) x 508.5mm (Y)
Substrate Thickness	0.2mm to 6mm
Substrate Weight (maximum)	1kg
Substrate Warpage	Up to 7mm including substrate thickness
Substrate Fixture	Over the top clamps
Substrate Handling Features	Board clamp regulator
Substrate Underside Clearance	Programmable 3mm to 42mm

Process Parameter	Specification
Print Pressure	0kg to 20kg
Print Speed	2mm/sec to 300mm/sec
Print Gap	-2mm to 6mm
Substrate Separation	Speed: 0.1mm/sec to 20mm/sec Distance: 0mm to 3mm

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Machine standard configuration

Vision	Specification
Camera	DEK HawkEye 750 digital camera with 2-way LED illumination
Fiducials	3
Fiducial Types	Synthetic fiducial library or unique pattern recognition
Fiducial Size	0.1mm to 3mm
Fiducial Locations	Anywhere on substrate
Camera Lighting	Software controlled programmable LED lighting

Standard C Chase	Specification
Stencil Frame Size (maximum)	736mm x 736mm (29" x 29")
Stencil Frame Thickness	25mm to 38mm (1" to 1.5")
Image Position	Front Centre Custom

Operating Environment	Specification
Temperature	10° to 35°C (50° to 95°F)
Humidity	30% to 70% relative humidity (non-condensing)

Services	Specification
Voltage	115 Volts to 230 Volts \pm 10%. Single phase 50/60 Hz
Maximum Current at 115V	8 Amps
Maximum Current at 230V	4 Amps
Over Current Protection	An external circuit breaker \leq 25 Amps is required to be fitted in line with the machine supply
Air Supply	To ISO 8573.1 Standard Quality Class 2.3.3 Pressure 5 bar to 8 bar

Machine standard configuration

Shipping Information	Specification
Approximate Weight	810kg boxed (dependent upon configured options selected with machine) 654kg unboxed (dependent upon configured options selected with machine)
Approximate Dimensions	1342mm x 1624mm x 1472mm High

Certification	Specification
CE	98/37/EC 89/336/EEC 73/23/EEC Subsequent amendments

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Machine productivity options

Process	Specification
Print Method	Paste Roll Height Monitor Stinger
Stencil Positioning	Semi auto loading incorporating squeegee drip tray Semi auto loading without squeegee drip tray
Stencil Frame and Thickness	Frame variants – Fully adjustable to accommodate frame sizes in the range of 381mm to 736mm by 38mm frame thickness

Handling & Cleaner Options	Specification
Cycle Time Upgrade	11 seconds to 8 seconds
Substrate Handling Size (maximum)	620mm (X) x 508.5mm (Y) – Long Board Option
Under Stencil Cleaning	Blue long board Cleaner (600mm)

Software & Communications	Specification
Substrate Handling	Flexible boards Selective print pass through Dual speed motor (DSM)
Statistical Process Control	On board, reported via operator interface (QC-CALC)

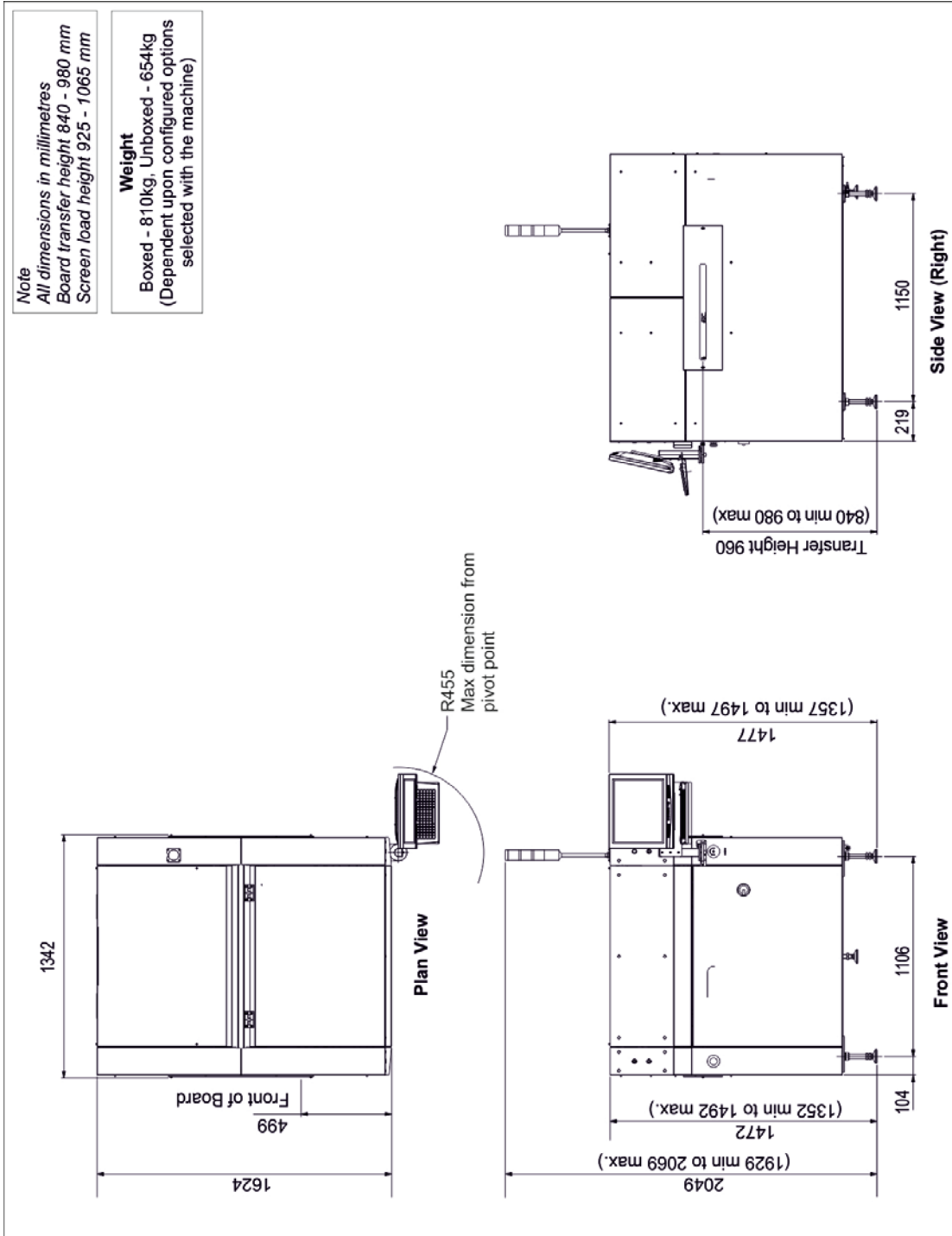
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Machine productivity options

Transport	Specification
Substrate Support	Vacuum tooling capability Vacuum cups Vacuum sense Grid-Lok® tooling
Substrate Transport	Single piece conveyor with flat belts (heavy boards) up to 6kg Remote board stop (for use with heavy board option)
Substrate Fixture	Snuggers (edge clamping) Foil-less clamps
Vision & Verification	Specification
HawkEye®	Paste on pad verification
Data Capture	Specification
Product Data Capture	Verification & Traceability (only with E by SIPLACE)

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Machine footprint



Notes

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Order no. A10011-ASM-T52-EN/Part No. 225176 Issue 5
Printed by ASM Assembly Systems Singapore Pte Ltd

The information in this brochure is merely a general description and lists performance features that will not necessarily be present as described in the specific application, or that may be modified if the product is further developed. The desired performance features are only binding if expressly agreed when the contract is concluded.

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