

Technical Specifications

Galaxy



Machine Standard Configuration

Standard Configuration	Specification
Machine Alignment Capability	>2 Cpk @ +/- 12.5µm, 6 Sigma #
Process Alignment Capability	>2 Cpk @ +/- 12.5µm, 6 Sigma #
Core Cycle Time	7 secs (4 secs with RTC option)
Maximum Print Area	510mm* (X) x 508.5mm (Y)
Printer Construction	One piece optimised welded frame
ISCAN™ Machine Control	Motion control using CAN BUS network
Operating System	Windows XP
Operator Interface	Colour TFT touch screen display, keyboard and trackball with DEK Instinctiv™ software
Camera	HawkEye® 1700 digital camera, using IEEE 1394 interface. Multi channel. LED lighting. FOV 11.3mm x 8.7mm. Inspection window 75mm ²
HawkEye® 1700 Functionality	Enabled
Camera Positioning	High accuracy linear motors and encoders with 1 micron resolution
Squeegee Pressure Mechanism	Software controlled, motorised, with closed loop feedback
Adjustable Stencil Mount (ASM)	Frame variants – Fully adjustable to accommodate frame sizes in the range of 305mm to 736mm (12" ** to 29") by 38mm height. Image position: centre, front, custom
Stencil Positioning	Automatic loading incorporating squeegee drip tray
Stencil Alignment	Motorised via actuators X, Y, and Theta
Under Stencil Cleaning	Cyclone high speed cleaner, fully programmable with wet/dry/vacuum wipe with external solvent tank
Vacuum Assist for USC	On board vacuum unit 35 litres/sec airflow
Squeegee	Clamped double training edge squeegee (1 set included)
Tooling Deviation Monitor	Verification of tooling setup via squeegee pressure feedback
Statistical Process Control	On board, reported via operator interface (QC-CALC)
Machine Interface	Upline and downline FMI included
Connectivity	RJ-45LAN (networking) and USB2 interface available
Time To Go (TTG) Capability	Consumable warnings via level gauges for fabric, solvent, paste
Tri Colour Beacon	Programmable with audible alarm
Temperature/Humidity Sensor	Monitoring of the process environment
Documentation	Hard copy manuals comprising: Operator, Installation, Electrical Drawings. On board technical manuals and tutorials supporting operator functions. DVD containing manuals and tutorials.

DEK's machine accuracy and repeatability qualification is certified by 3rd party and undertaken using production environment process variables. Print Speeds, Print Pressures, Rising Table and Camera Movements are included in the process capability figure.

* For print area up to 600mm long please contact the Product Manager

** Minimum screen width limited to 381mm (15") with 300mm USC and 250mm board clamps

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Transport System	Specification
Type	Single piece with 3mm round transport belts, front rail fixed
ESD Compatibility	Black transport belts and guides with surface resistivity of greater than 10^6 ohms but less than 10^0 ohms
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)	620mm (X) * x 508.5mm (Y) #
Substrate Thickness	0.2mm to 6mm
Substrate Weight (maximum)	1kg
Substrate Warp	Up to 7mm including substrate thickness
Substrate Fixture	Patented over the top clamps
Substrate Handling Features	Soft rail lift / land Board clamp regulator
Substrate Underside Clearance	Programmable 3mm to 42mm

* Refer to the Long Board Printing Capability Specification for Under Stencil Cleaner and Fabric sizes
375mm x 254mm when RTC is fitted

Process Parameters	Specification
Print Pressure	0kg to 20kg
Print Speed	2mm/sec to 300mm/sec
Print Gap	0mm to 6mm
Substrate Separation	Speed: 0.1mm/sec to 20mm/sec Distance: 0mm to 20mm
Print Modes	ProFlow® Print / Print Print / Flood Flood / Print Adhesive
Paste Knead	Programmable: number; period; on demand

Vision	Specification
Vision System	Cognex
Fiducial Recognition	Automatic fiducial teach and find incorporating 0.1mm fiducial capture
Fiducials	2 or 3
Fiducial Types	Synthetic fiducial library or unique pattern recognition
Fiducial Size	0.1mm to 3mm
Fiducial Locations	Anywhere on substrate
Fiducial Error Recovery	Auto lighting adjustment Auto fiducial search
Camera Lighting	Software controlled programmable LED lighting

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

Services	Specification
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Voltage	100 Volts to 240 Volts +/- 10%. Single phase 50/60Hz
Maximum Current at 115V	20 Amps with vacuum pump 6 Amps without vacuum pump
Maximum Current at 230V	10 Amps with vacuum pump 3 Amps without vacuum pump
Over Current Protection	An external circuit breaker ≤ 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 General usage 5 litres/minute at 5 bar to 8 bar Maximum usage 226 litres/minute at 6 bar

Shipping Information	Specification
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Approximate Weight	840kg boxed (dependent upon configured options selected with machine) 680kg unboxed (dependent upon configured options selected with machine)
Approximate Dimensions	2060mm x 1500mm x 1570mm (81.1" x 59" x 61.8")

Certification	Specification
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CE	98/37/EC 89/336/EEC 73/23/EEC Subsequent amendments
ETL	UL6101A-1 1 st Edition 2002 CAN/CSA – C22.2 No. 1010.1-92
Acoustic Noise Level	Less than 70dB 2003/1/EC

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Machine Productivity Options

Process	Specification
Print Method	Paste Dispenser Paste roll height monitor ProFlow® ATx ProFlow® Tx
Printing Environment Control	Static – Air Ioniser Temperature – Temperature Control Module (TCM)
Stencil Frame	VectorGuard® Universal screen frame adaptor

Software & Communications	Specification
Substrate Handling	Flexible boards Selective print pass through Singulation Virtual Panel Tooling (VPT)
Software & Communications	Off Line Editor (OLE) GEM on TCP/IP Remote Event Monitoring (REM)

Transport	Specification
Substrate Support	Vacuum tooling capability Vacuum tooling sensor Vacuum cups Grid-Lok® Tooling
Substrate Transport	Single piece conveyor with flat belts (heavy boards) High Throughput Conveyor (HTC) with round belts Rapid Transport Conveyors (RTC) Remote board stop (for use with heavy board option)
Substrate Fixture	Over Top Snuggers (OTS) Snuggers (edge clamping) Foil-less clamps

Vision	Specification
HawkEye® 2Di Inspection	HawkEye® Bridging Basic stencil and board Advanced stencil and board

Other	Specification
Product Data Capture	Verification & Traceability ProDEK closed loop

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Machine Footprint without HTC

CAUTION - OVER CURRENT PROTECTION
Magnetic/thermal over current protectors protect the machines internal wiring and components from over heating/fire during fault conditions. DEK require additional machine supply protection with the fitment of an external circuit breaker and conforming to national/federal regulations, table below refers.

Voltage	Value of circuit breaker (without Internal Vac Unit)	Value of circuit breaker (with Internal Vac Unit)
115V	10 Amp	25 Amp
230V	4/6 Amp	13/16 Amp

Note:
Board transfer height 840 to 980 mm
Screen load height 925 to 1065 mm

Services Required
Voltage: 110V to 240V +1-10%
Single Phase 50/60Hz
Current (without Vacuum Filtration Unit):
115V - 6 Amps
230V - 3 Amps
Current (with Vacuum Filtration Unit):
115V - 20 Amps
230V - 10 Amps
Air Supply: Air to ISO 8573, 1 standard quality class 2,3,3
Pressure 5 to 8 bar at 5 Litre/min
Operating Envelope:
Temperature 10 to 35° C (50° to 90° F)
Humidity 20% to 70% Relative Humidity (non condensing)
Weight: 840kg - Boxed
680kg - Unboxed

Plan View

Front View

Side View (Right)

Galaxy Footprint without HTC

Machine Footprint with HTC

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Note:
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Services Required

Voltage: 110V to 240V +/-10%
Single Phase 50/60Hz

Current (without Vacuum Filtration Unit):
115V - 6 Amps
230V - 3 Amps

Current (with Vacuum Filtration Unit):
115V - 20 Amps
230V - 10 Amps

Air Supply:
Air to ISO 8573.1 standard quality class 2,3:3
Pressure 5 to 8 bar at 5 Litre/min

Operating Envelope:
Temperature 10° to 35° C (50° to 90° F)
Humidity 20% to 70% Relative Humidity (non condensing)

Weight: 840kg - Boxed
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Plan View

Front View

Side View (Right)

Galaxy Footprint with HTC



DEK Disclaimer

In line with DEK Policy of continual improvement, this specification is periodically up-issued to reflect the latest machine enhancements and it is provided with an issue state, which is displayed at the bottom of each hard copy page.

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- This information is provided in good faith; it is believed to be accurate and sufficient for the intended purpose
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