

Machine Standard Configuration

Standard Configuration	Specification
Machine Alignment Capability	>2 Cpk @ +/- 12.5µm, 6 Sigma #
Process Alignment Capability	>2 Cpk @ +/- 25µm, 6 Sigma #
Core Cycle Time	8 secs
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 XPe
Operator Interface	Colour TFT touch screen display, keyboard and trackball with DEK Instinctiv™ software. Machine mountable on either left or right hand side.
Camera	HawkEye® 750 digital camera, using IEEE 1394 interface. Multi channel. LED lighting. FOV 11.3mm x 8.7mm. Inspection window 26mm ²
Camera Positioning	Rotary motors and encoders with 4 micron resolution
Squeegee Pressure Mechanism	Software controlled, motorised with closed loop feedback
Stencil Positioning	Semi automatic loading incorporating squeegee drip tray
Stencil Alignment	Motorised via actuators X, Y, and Theta
Under Stencil Cleaning	Blue Under Stencil cleaner, fully programmable with wet/dry/vacuum wipe with external solvent tank
Vacuum Assist for Under Stencil Cleaning	On board vacuum unit 25 litres/sec airflow
Squeegee	Clamped double training edge squeegee (1 set included)
Machine Interface	Upline and downline FMI included
Connectivity	RJ-45LAN (networking) and USB2 interface available
Tri Colour Beacon	Programmable with audible alarm
Documentation	Hard copy manuals comprising: Operator, Installation, Electrical Drawings. On board technical manuals and tutorials supporting operator functions. CD 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

Technical Specifications

Gemini



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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
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	Patented over the top clamps
Substrate Handling Features	Soft rail lift / land Board clamp regulator
Substrate Underside Clearance	Programmable 3mm to 42mm

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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Chase	Specification
Screen Frame Size	736mm x 736mm (29" x 29") only
Screen 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	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 \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 General usage 5 litres/minute at 5 bar to 8 bar Maximum usage 226 litres/minute at 6 bar

Shipping Information	Specification
Approximate Weight	1724kg boxed (dependent upon configured options selected with machine) 1424kg unboxed (dependent upon configured options selected with machine)
Approximate Dimensions	1590mm x 2800mm x 1375mm (62.6" x 110.2" x 54.1")

Certification	Specification
CE	98/37/EC 89/336/EEC 73/23/EEC Subsequent amendments
Acoustic Noise Level	Less than 70dB 2003/1/EC

Machine Productivity Options

Process	Specification
Print Method	Paste Dispenser Paste roll height monitor ProActiv *
Under Stencil Cleaning	Cyclone high speed cleaner, fully programmable with wet/dry/vacuum wipe with external solvent tank
Vacuum Assist for Under Stencil Cleaning	On board vacuum unit 35 litres/second airflow
Stencil Positioning	Automatic loading incorporating squeegee drip tray
Temperature / Humidity Sensor	Monitoring of the process environment

* Need to remove drip tray when using ProActiv

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

Handling & Cleaner Options	Specification
Substrate Handling Size (maximum)	620mm (X) x 508.5mm (Y) – Long Board Option
Under Stencil Cleaning	Blue large board cleaner (580mm)

Software & Communications	Specification
Substrate Handling	Flexible boards Selective print pass through Singulation
Software & Communications	GEM on TCP/IP
Statistical Process Control	On board, reported via operator interface (QC-CALC)
Time To Go (TTG) Capability	Consumable warnings via level gauges for fabric, solvent, paste

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Machine Productivity Options

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) Remote board stop (for use with heavy board option)
Substrate Fixture	Snuggers (edge clamping) Foil-less clamps

Vision	Specification
HawkEye® 750 Functionality	Enabled
HawkEye® 1700 Functionality	Enabled (camera included)
HawkEye®	HawkEye® Bridging
2Di Inspection	Basic stencil and board Advanced stencil and board

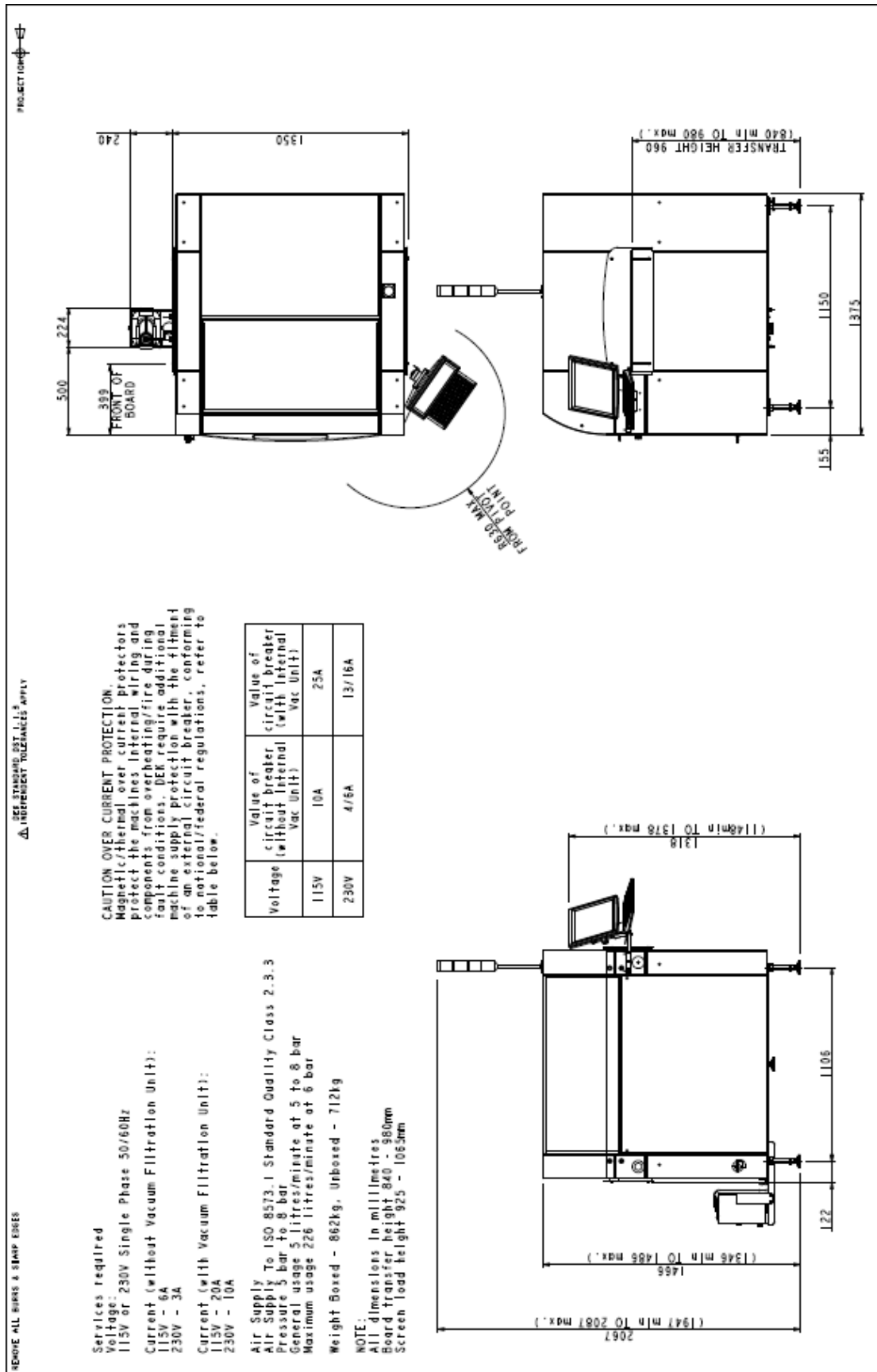
Data Capture	Specification
Product Data Capture	Verification & Traceability ProDEK closed loop

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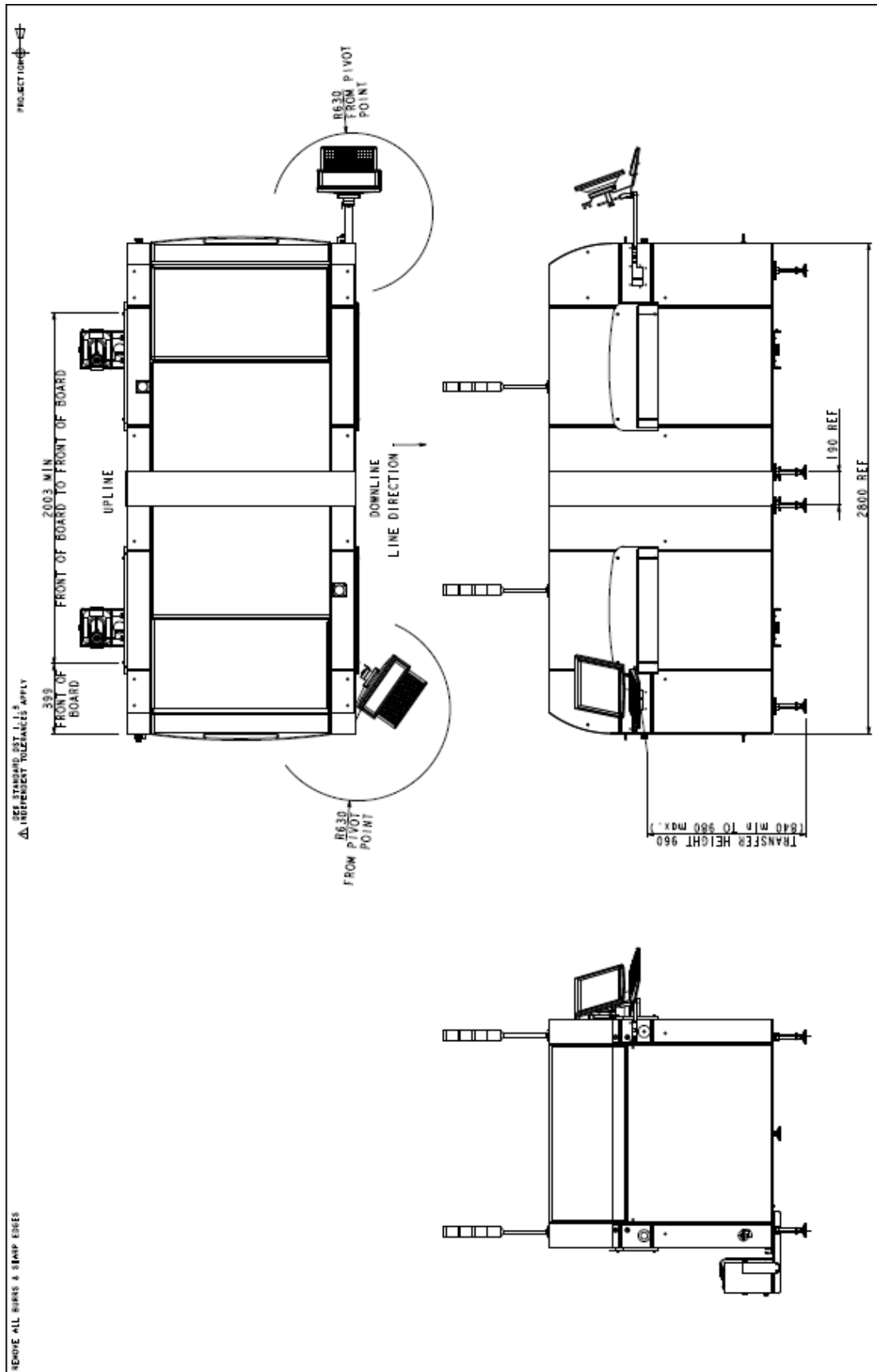
Machine Footprint



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Machine Footprint





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