

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	12 secs (11 secs with HTC option)
Maximum Print Area	510mm * (X) x 508.5mm (Y)
Printer Construction	One piece optimized 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. Machine mountable on either left or right hand side.
Camera	Green digital camera, using IEEE 1394 interface. Multi channel. LED lighting. FOV 5mm x 8.5mm
Camera Positioning	Rotary motors and encoders with 4 micron resolution
Squeegee Pressure Mechanism	Software controlled, motorized
Stencil Positioning	Manual with screen depth adjuster
Stencil Alignment	Motorised via actuators X, Y and Theta
Squeegee	Clamped double training edge squeegee (1 set included)
Tooling	Magnetic tooling pins 19mm diameter x 15 4mm diameter x 15
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, and 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



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 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



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 3mm
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

Horizon 03iX

TECHNICAL SPECIFICATION



Chase	Specification
Screen Frame Size (maximum)	736mm x 736mm x 38mm (29" x 29" x 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 ≤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 at 5 litres/minute



Shipping Information	Specification
Approximate Weight	810kg boxed (dependent upon configured options selected with machine) 660kg unboxed (dependent upon configured options selected with machine)
Approximate Dimensions	2060mm x 1500mm x 1570mm (81.1" x 59" x 61.8")



Certification	Specification
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



Machine Productivity Options

Process	Specification
Print Method	Paste dispenser Paste roll height monitor ProFlow™ ProFlow™ low volume head
Printing Environment Control	Static – Air Ioniser Temperature – Temperature Control Module (TCM)
Screen Frame	Vector Guard Universal screen frame adaptor 650mm 600mm 550mm 584mm
Adjustable Screen Mount (ASM)	Screen frame variants – Fully adjustable to accommodate screens in the range of 305mm to 736mm (12" ** to 29") by 38mm height. Image position: centre, front, custom
Under Stencil Cleaning	Blue under stencil cleaner, fully programmable with wet/dry/vacuum wipe with external solvent tank 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/second airflow On board vacuum unit 25 litres/second airflow On board venturi vacuum unit
Stencil Positioning	Automatic loading incorporating squeegee drip tray Semi automatic loading incorporating squeegee drip tray Semi automatic loading
Squeegee Pressure Mechanism	Closed loop feedback with tooling deviation monitor
Temperature/Humidity Sensor	Monitoring of the process environment

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

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)
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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Transport	Specification
Substrate Handling Size (maximum)	620mm (X) * x 508.5mm (Y)
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 Remote board stop (for use with heavy board option)
Substrate Fixture	Snuggers (edge clamping) Foil-less clamps
Cycle Time Upgrade	12 secs to 10 seconds (9 secs with HTC option) 10 secs to 8 seconds (7 secs with HTC option)

* Refer to the Long Board Printing Capability Specification for Under Stencil Cleaner and Fabric sizes

Vision	Specification
HawkEye™ 750 Functionality	Enabled (camera included)
HawkEye™ 1700 Functionality	Enabled (camera included)
Inspection	Basic stencil and board Advanced stencil and board

Other	Specification
Product Data Capture	Remote bar code reader Hand held bar code reader
Tooling Deviation Monitor	Verification of tooling set up via squeegee pressure feedback

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TECHNICAL SPECIFICATION

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 +/-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: 810kg - Boxed
660kg - Unboxed

Plan View

Front View

Side View (Right)

R630
Max dimension from pivot point

Horizon 03iX Footprint without HTC

Horizon 03iX

TECHNICAL SPECIFICATION

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