

DEK NeoHorizon 01iX

Contents

Overview of technical data	4
Maximum values	4
DEK NeoHorizon 01iX	5
Machine description	5
Machine standard configuration	6
Standard Configuration	6
Transport System	7
Process Parameter	7
Vision	8
Chase	8
Operating Environment	8
Services	8
Shipping Information	9
Certification	9
Machine productivity options	10
Process	10
Handling & Cleaner Options	10
Software & Communications	10
Transport	11
Vision & Verification	11
Data Capture	11
Machine footprint with HTC	12
Machine footprint with HTC Back to Back	13
Machine footprint without HTC	14
Machine footprint without HTC Back to Back	15
Notes	16
Notes	17

Overview of technical data

Maximum values

Machine Alignment Capability	> 2.0 C _{mk} @ +/- 12.5µm, (±6 Sigma)
System Alignment Capability	> 2.0 C _{mk} @ +/- 15µm, (±6 Sigma)
Wet Print Capability	> 2.0 C _{pk} @ +/- 20µm, (±6 Sigma)
Core Cycle Time	6.5 secs
Operating System	Windows 7 Standard embedded
Squeegee Pressure Mechanism	Software controlled, motorised with closed loop feedback
Under Stencil Cleaning	Cyclone high speed cleaner, fully programmable with wet/dry/vacuum wipe with external solvent tank.

Machine colours for DEK NeoHorizon 01iX



DEK NeoHorizon 01iX

Machine description

DEK NeoHorizon iX platform – More reliability and efficiency for future-proof printing

The DEK NeoHorizon iX shines with more than new design. It's modular interior is much improved and highly reliable. Whether in high-mix contract manufacturing or high-volume applications with high throughput requirements – the DEK NeoHorizon iX is the right printing platform.

Benchmark for accuracy

The DEK NeoHorizon iX platform is based on an exceptionally stable frame design. With its torsional rigidity and high intrinsic resonance frequency, the machine's frame provides the foundation for longevity and long-lasting accuracy. With its advanced controllers and bus systems, the DEK NeoHorizon 01iX achieves a system alignment capability of $\pm 15\mu\text{m}$ @ 2 Cmk (6 Sigma).

The frame provides lots of space and the bus system a wide range of interfaces for basic components like precision drives, digital

camera modules and high precision guides and slides, as well as for many productivity-enhancing options: the DEK Productivity Tools.

State-of-the-art software: DEK Instinctiv

With its touchscreen, keyboard and trackball operation, graphical interfaces, multiple languages and integrated video-based help, the DEK Instinctiv software supports the easy, quick and error-free operation of the NeoHorizon iX printer.

With ISCAN (Intelligent Scalable Area Network), the new configuration can be scanned with just a few clicks and additional performance is available. And thanks to its interfaces, the DEK NeoHorizon can fine-tune its printing process based on data imported from modern SPI systems.

The right configuration for every job

High-speed production, high-mix runs of small lots, pin-in-paste, ultra-fine apertures for super-small components, stepped stencils, PCBs

with unusual substrates, many different paste types – no matter what the production requirements are and what processes are being used: the DEK NeoHorizon iX platform always accommodates the right configuration for the printing process.

B2B setup: Flexible on two tracks

The DEK NeoHorizon Back-to-Back setup makes for a uniquely flexible dual-track solution. Both units remain separately controllable, can be split up again at any time and use the full-size printing area.

Faster cleaning, more throughput

The DEK NeoHorizon 01iX offers selectable versions of the award-winning DEK Cyclone high-speed under stencil cleaning system: the new DEK Cyclone Duo (wet and vacuum/dry with only a single sweep) or the standard DEK Cyclone high-speed cleaning system.

DEK NeoHorizon 01iX

Machine standard configuration

Standard Configuration	Specification
Machine Alignment Capability	> 2.0 C _{mk} @ +/- 12.5µm, (±6 Sigma)
System Alignment Capability	> 2.0 C _{mk} @ +/- 15µm, (±6 Sigma)
Wet Print Capability	> 2.0 C _{pk} @ +/- 20µm, (±6 Sigma)
Core Cycle Time	6.5 secs*
Maximum Print Area	510mm** (X) x 508.5mm (Y) (for Single Stage Mode)
Printer Construction	One piece optimised welded frame
ISCAN™ Machine Control	Motion control using CAN BUS network
Operating System	Windows 7 Standard embedded
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® 1700 digital camera, using IEEE 1394 interface. Multi-channel. LED lighting. FOV 11.3mm x 8.7mm. Inspection window 75mm ²
Camera Positioning	Rotary motors and encoders with 4 micron resolution
Squeegee Pressure Mechanism	Software controlled, motorised with closed loop feedback
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 Under Stencil Cleaning	On board vacuum unit 35 litres/sec airflow
Squeegee	Clamped double trailing edge squeegee (1 set included)
Tooling Deviation Monitor	Verification of tooling setup via squeegee pressure feedback
Machine Interface	Upline and downline FMI included
Connectivity	RJ-45LAN (networking) and USB2/3 interface available
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.

*Measured using the ASM defined Core Cycle Time test parameters, for details contact the Product Manager

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

DEK NeoHorizon 01iX

Machine standard configuration

Transport System	Specification
Type	3-Stage High Throughput Conveyor with DSM
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 (*only available in Single Stage) Right to right (*only available in Single Stage)
Substrate Handling Size (minimum)	50mm (X) x 40.5mm (Y)
Substrate Handling Size (maximum)	370mm (X) x 508.8mm (Y) (3-Stage Mode) 510mm (X) x 508.5mm (Y) (Single Stage Mode)
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	Soft rail lift/land 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	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

DEK NeoHorizon 01iX

Machine standard configuration

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

Chase	Specification
Screen Frame Size (maximum)	736mm x 736mm (29" x 29")
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 \pm 10%. Single phase 50/60 Hz
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

DEK NeoHorizon 01iX

Machine standard configuration

Shipping Information	Specification
Approximate Weight	862kg boxed (dependent upon configured options selected with machine) 712kg unboxed (dependent upon configured options selected with machine)
Approximate Dimensions	2080mm x 1500mm x 1590mm High (81.9" x 59" x 62.6") Boxed

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

DEK NeoHorizon 01iX

Machine productivity options

Process	Specification
Print Method	Paste Dispenser Paste Roll Height Monitor (aPRHM) ProFlow® ATx Stinger
Printing Environment Control	Contact PM
Recommended Stencil Frame	VectorGuard
Adjustable Width Stencil Mount (AWSM)	Frame variants – Fully adjustable to accommodate frame sizes in the range of 381mm to 736mm (15” to 29”) by 38mm height. Image position: Centre / Front / Custom
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) Cyclone Duo. Specify length (300mm, 400mm, 460mm, 515mm)
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)

DEK NeoHorizon 01iX

Machine productivity options

Transport	Specification
Substrate Support	Vacuum tooling capability Vacuum tooling sensor Vacuum cups Grid-Lok® tooling
Substrate Transport	Single piece conveyor with 3mm round belts Single piece conveyor with flat belts (heavy boards) Remote board stop (for use with heavy board option)
Substrate Fixture	All Purpose Clamping (APC) system* Snuggers (edge clamping) Foil-less clamps

* Can only be used with Modular single stage rail system – for availability contact product manager

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

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

DEK NeoHorizon 01iX

Machine footprint with HTC

Services required
Voltage:
 115V or 230V Single Phase 50/60Hz

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

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

Air 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 to 8 bar
 Maximum usage 226 litres/minute at 6 bar

Weight Boxed - 862kg, Unboxed - 712kg

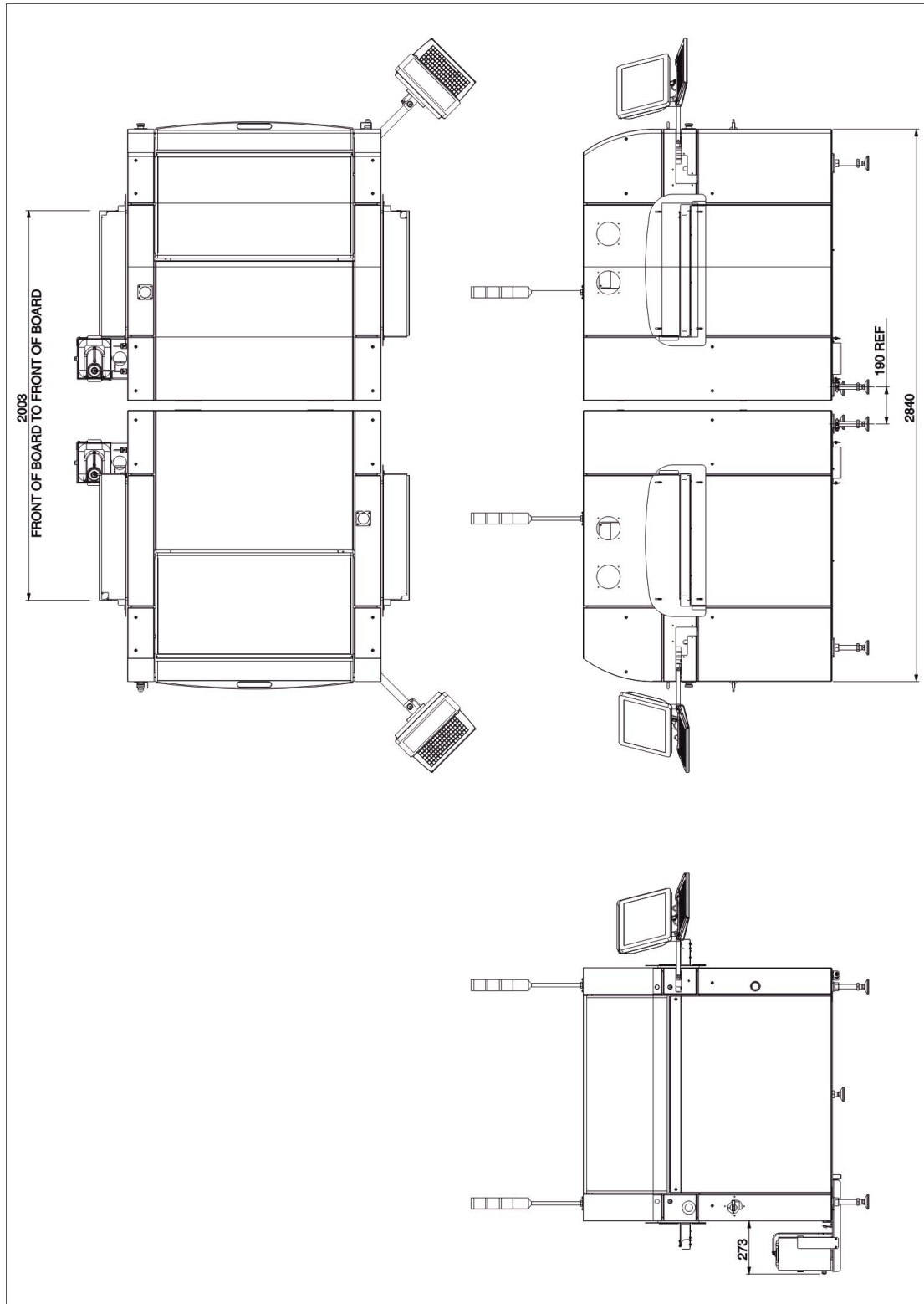
NOTE:
 All dimensions in millimetres
 Board transfer height 895 - 980mm
 Screen load height 980 - 1065mm

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

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

DEK NeoHorizon 01iX

Machine footprint with HTC Back to Back



DEK NeoHorizon 01iX

Machine footprint without HTC

Services required
Voltage:
 115V or 230V Single Phase 50/60Hz

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

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

Air 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 to 8 bar
 Maximum usage 226 litres/minute at 6 bar
 Weight Boxed - 862kg, Unboxed - 712kg

NOTE:
 All dimensions in millimetres
 Board transfer height 895 - 980mm
 Screen load height 980 - 1065mm

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 Magnetic/thermal over current protectors protect the machines internal wiring and components from overheating/fire during fault conditions. ASM require additional machine supply protection with the fitment of an external circuit breaker, conforming to national/federal regulations, refer to table below.

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

FRONT OF BOARD
456

1435

1349

1947 MIN - 2087 MAX

2043

1150

175

1148 MIN - 1378 MAX

1283

1106

121

1346 MIN - 1486 MAX

1467

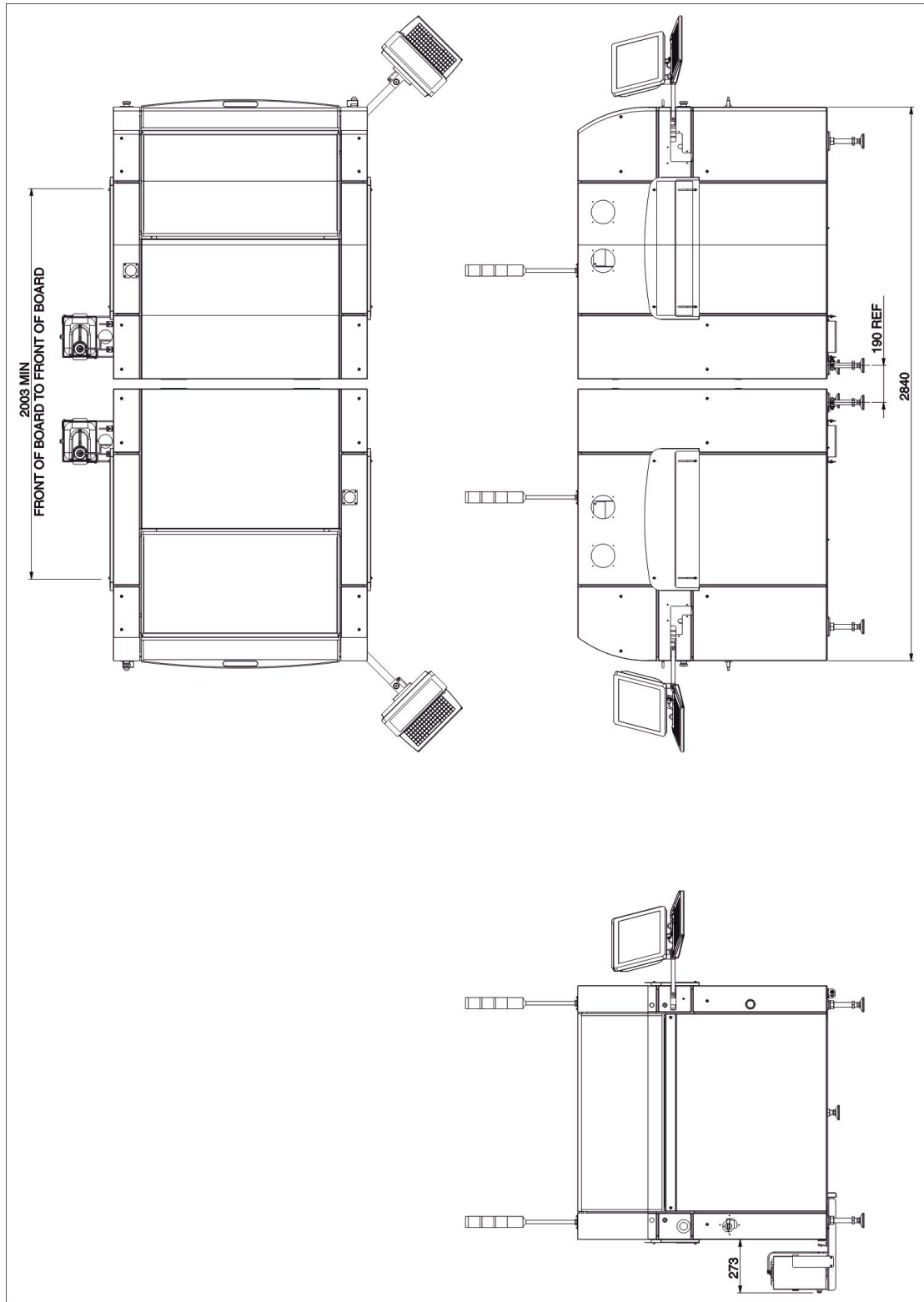
960

TRANSFER HEIGHT

895 MIN - 980 MAX

DEK NeoHorizon 01iX

Machine footprint without HTC Back to Back



Notes

Notes

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In line with ASMAS Group Policy of continual improvement, this specification is periodically up-issued to reflect the latest product enhancements and it is provided with an issue state, which is displayed at the bottom of the rear page.

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