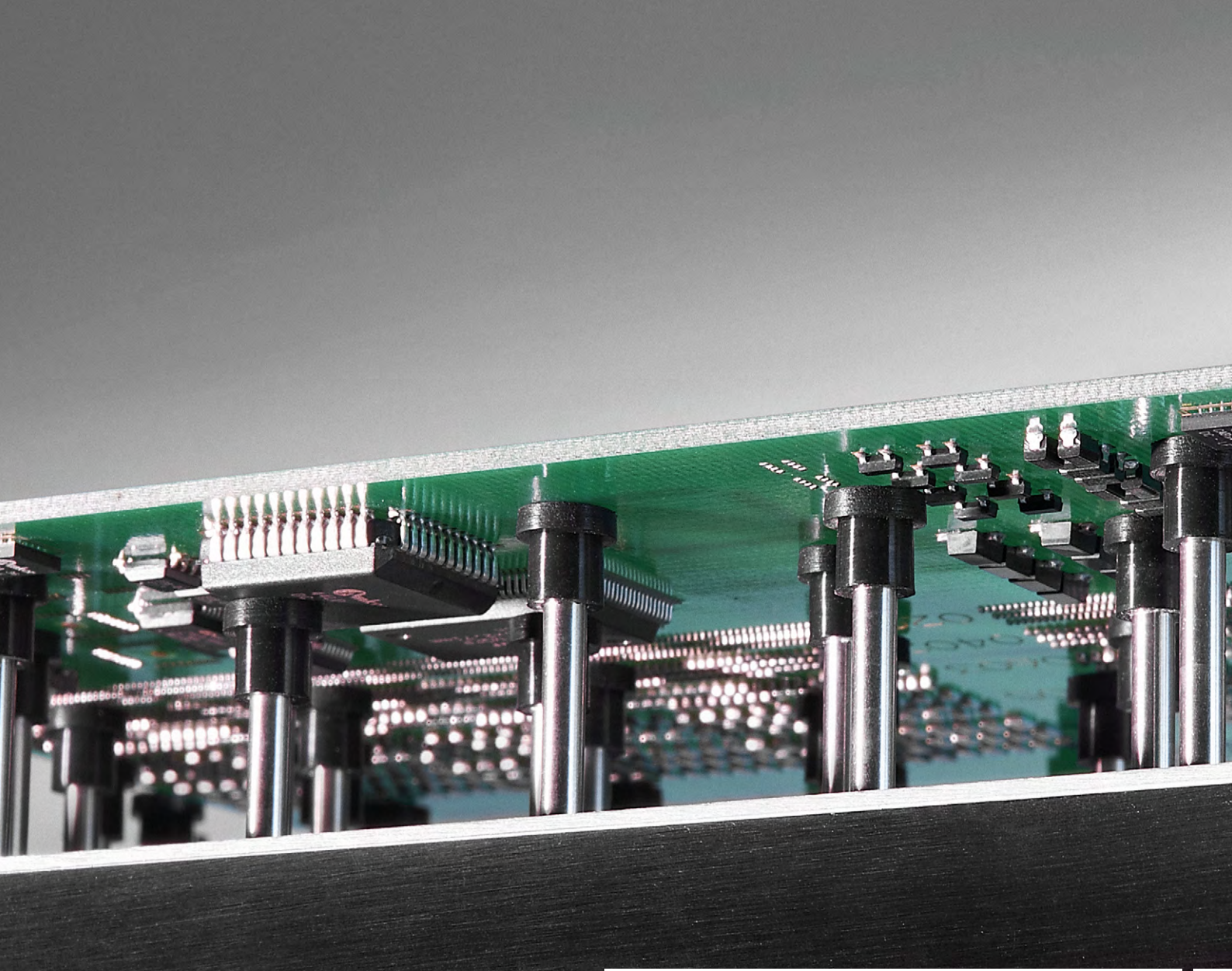
ASMPT enabling the digital world

Substrate support solutions

Highest and profitable yield



PCB support solutions

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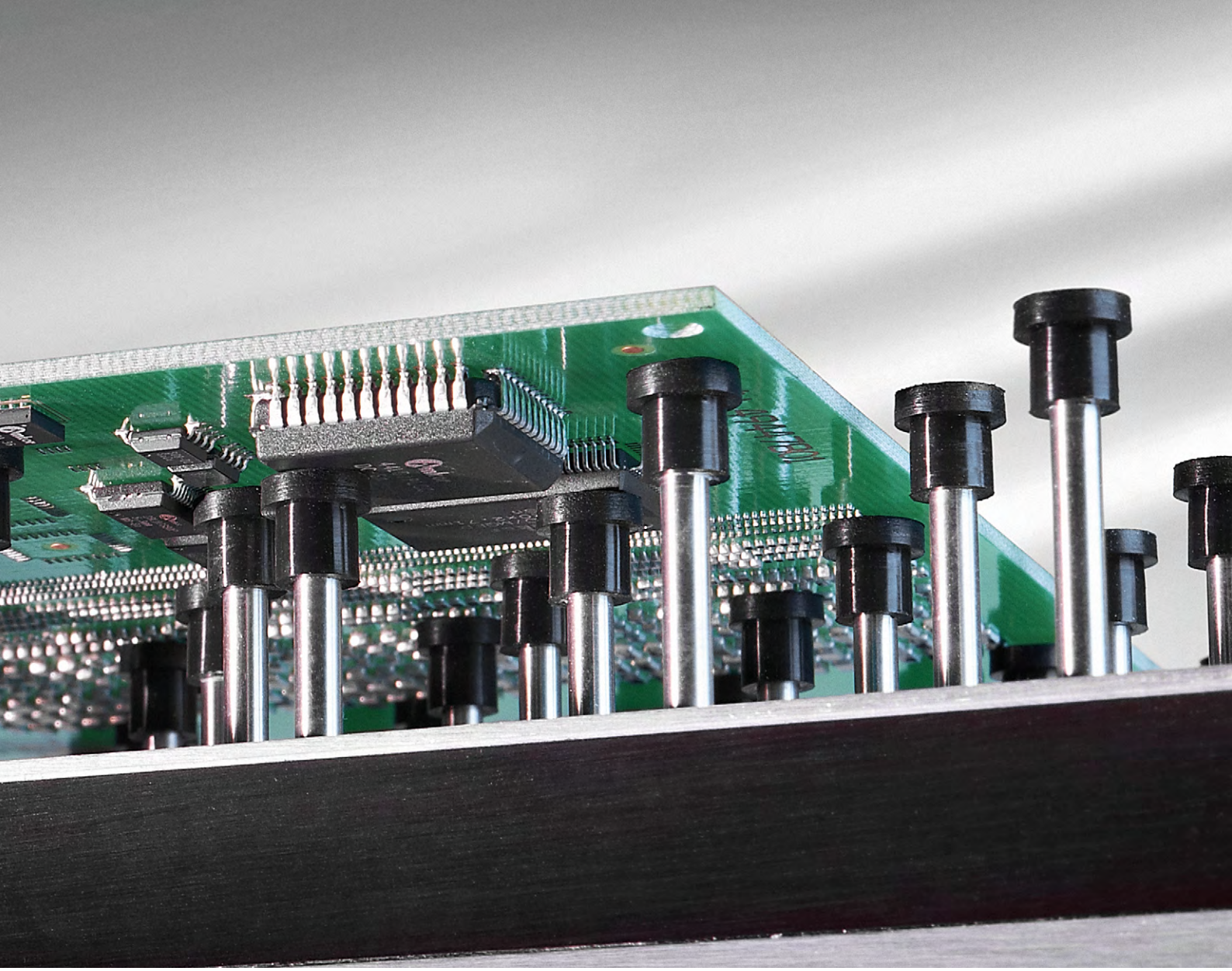


PCB support solutions

Having a solid and even support for the substrate is a key to a high yield and more efficiency in screen and stencil printing. ASMPT offers a broad spectrum of custom-tailored, automatic and modular toolings and carrier systems for virtually any production requirement.

Solutions for supporting previously singulated substrates ensure maximum efficiency and precision in these innovative and increasingly popular printing processes for particularly demanding applications. ASMPT supplies a choice of different tooling versions with mechanical and optical alignment.

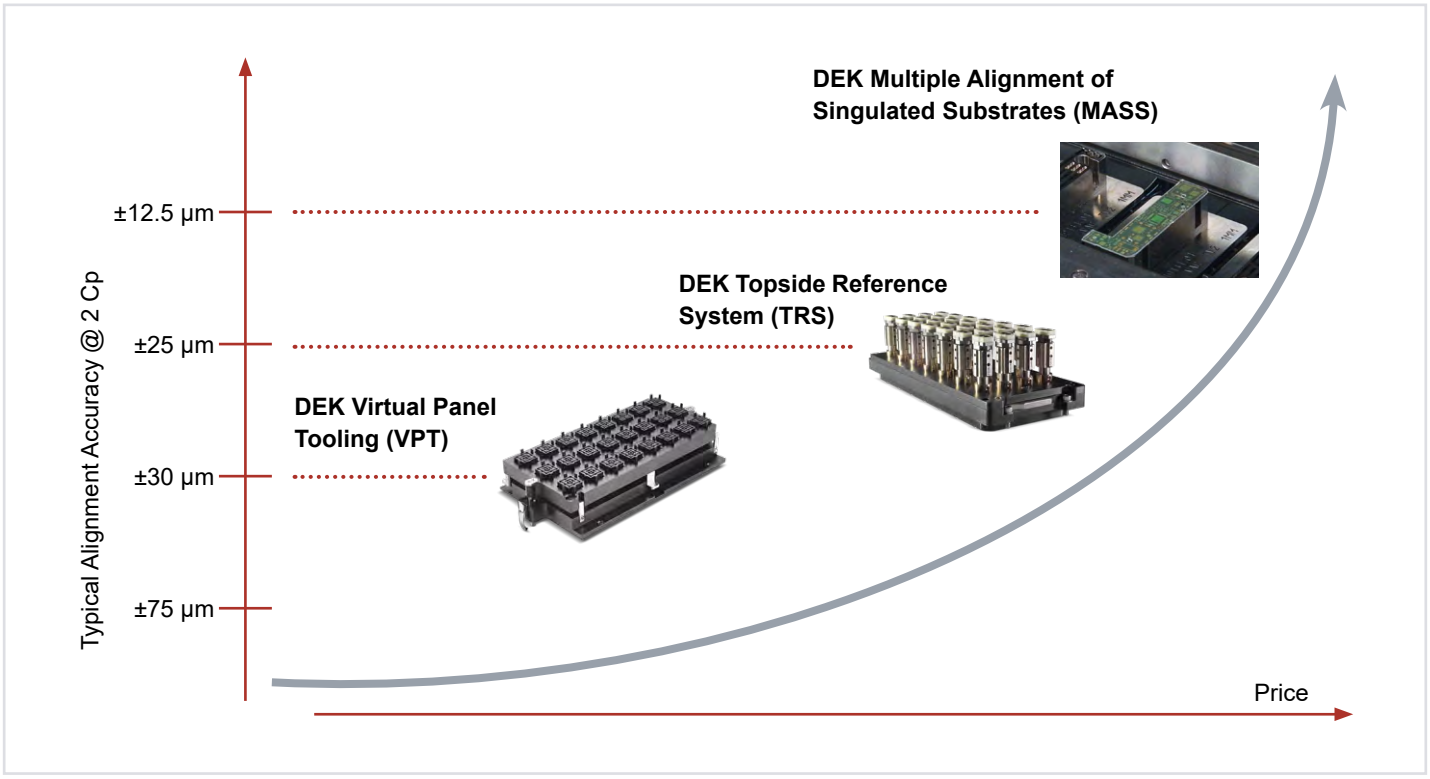
For classic panel printing applications, ASMPT offers a broad spectrum of support solutions ranging from application-specific tooling and carrier system to DEK Flex Support and highly flexible DEK Grid-Lok™ solutions whose support pins adapt automatically to any requirements and topology.

Functions and benefits of SMT toolings:

- Improved performance
- More efficiency
- Reduced costs
- More capabilities
- Technological leadership

Singulated Substrates Support

Singulated Substrates Support allows you to operate innovative process chains where only substrates that have been singulated and tested as good are printed to maximize your yield and productivity.



The growing complexity and density of applications increases the proportion of faulty substrates. Moving substrates marked as faulty through the process hurts your yield and productivity – even if they are not printed and populated with components.

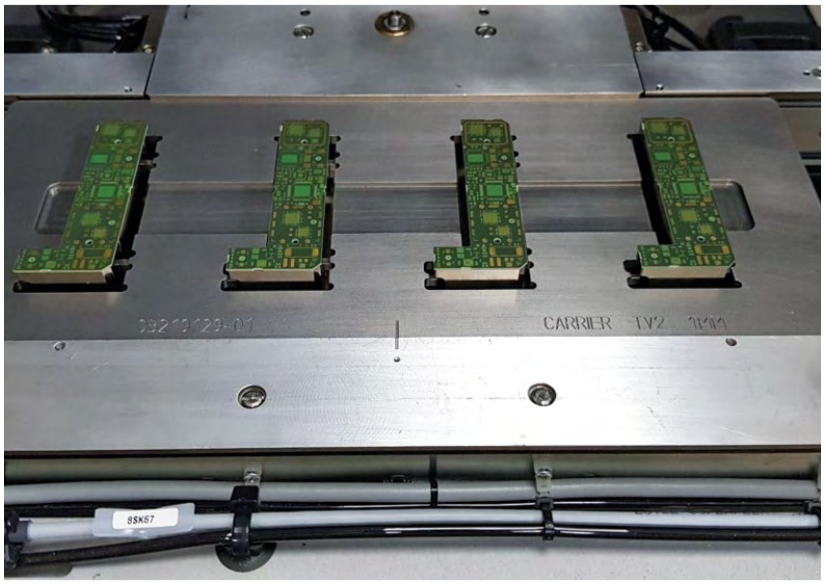
Singulated Substrates Support solutions provide a remedy. They allow you to transport, align and efficiently populate up to 72 singulated substrates in accordance with the respective degree of accuracy required.

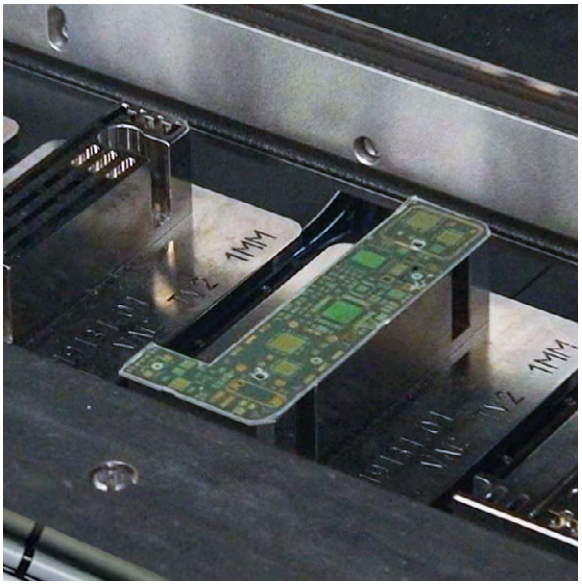
Benefits:

- Combined printing of singulated substrates
- More printing and line productivity
- Available for different DEK printers
- Accuracy levels up to 12.5 µm @ 2 Cp
- Precise printing processes
- Less mechanical stress on the circuit board (due to upstream substrate separation)

DEK Multiple Alignment of Singulated Substrates (MASS)

Multiple substrates are optically aligned at the same time – a technological breakthrough for efficient and high-precision printing processes with singulated substrates.





With DEK MASS, which sets new standards for printing processes with singulated substrates, ASMPT offers a perfect solution for particularly demanding applications such as smartphone panels, etc.

The printer's vision system detects the fiducials on each substrate before aligning it individually with an accuracy of up to 12.5 µm @ 2 Cp via movable, application-specific tooling towers (X, Y, theta) and vacuum-holding it in place for the printing process. The alignment after the measurement happens simultaneously for all substrates while they are raised from the carrier. This minimizes cycle times and guarantees maximum efficiency.

DEK MASS is produced as an application-specific tooling. DEK NeoHorizon printing platforms with the new table design can be retrofitted with DEK MASS at any time.

Features and benefits:

- Scalable design
- Maximum precision thanks to optical alignment (up to 12.5 µm @ 2 Cp)
- Simultaneous alignment via movable tooling towers guarantees short cycle times
- Vacuum fixation
- Surround plate for pressure optimization
- Maximum efficiency for demanding applications
- Technological leadership
- Retrofittable

DEK Topside Reference System (TRS)

The DEK Topside Reference System (TRS) for up to 72 singulated substrates adapts to tolerances in the substrate thickness and achieves more accuracy with its “active surround” technology.

DEK Topside Referencing System (TRS) is advanced tooling engineered to handle and align singulated substrates from a carrier to enable mass imaging. Leveraging the concepts of the award-winning Virtual Panel Tooling technology, DEK TRS moves singulated device processing to the next level.

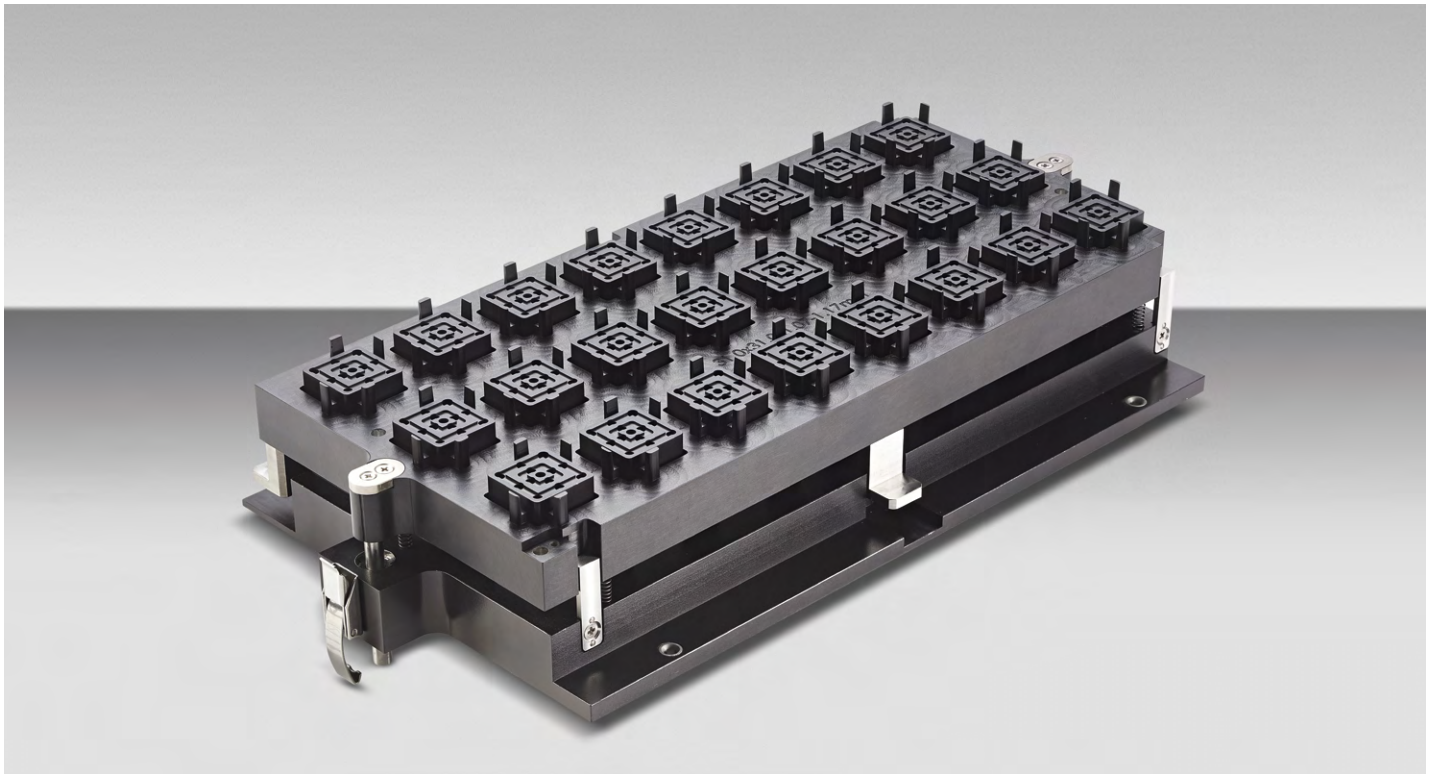
Specifically designed to address assembly complexities as flip chip manufacture moves to smaller pin pitch, thin-core and coreless technologies, DEK TRS provides edge alignment of multiple substrates into a virtual panel to facilitate multi-part printing with a single stroke. DEK TRS has proven its success with processor, SMT, ceramic and sensor applications, though its relevance for mass imaging of challenging products is unlimited.

Features and benefits:

- Enables imaging of singulated substrates in a single print stroke for increased throughput
- Compatible with various carrier types: J-boats, JEDEC tray, Flat Boat and custom carriers
- Effectiveness confirmed on challenging components such as LGA, BGA, 01005 passives and 0.25 mm - 0.3 mm BGA pad size, 0.5 mm pad pitch
- Fast cycle time, typically less than 30 seconds
- Reliable alignment of substrates that have different thicknesses or are warped thanks to the topside reference plate and the Z-Lock mechanism
- Active surround plate for more accuracy

DEK Virtual Panel Tooling (VPT)

DEK Virtual Panel Tooling provides an efficient way to boost throughput for singulated substrates by printing multiple parts with a single print stroke.



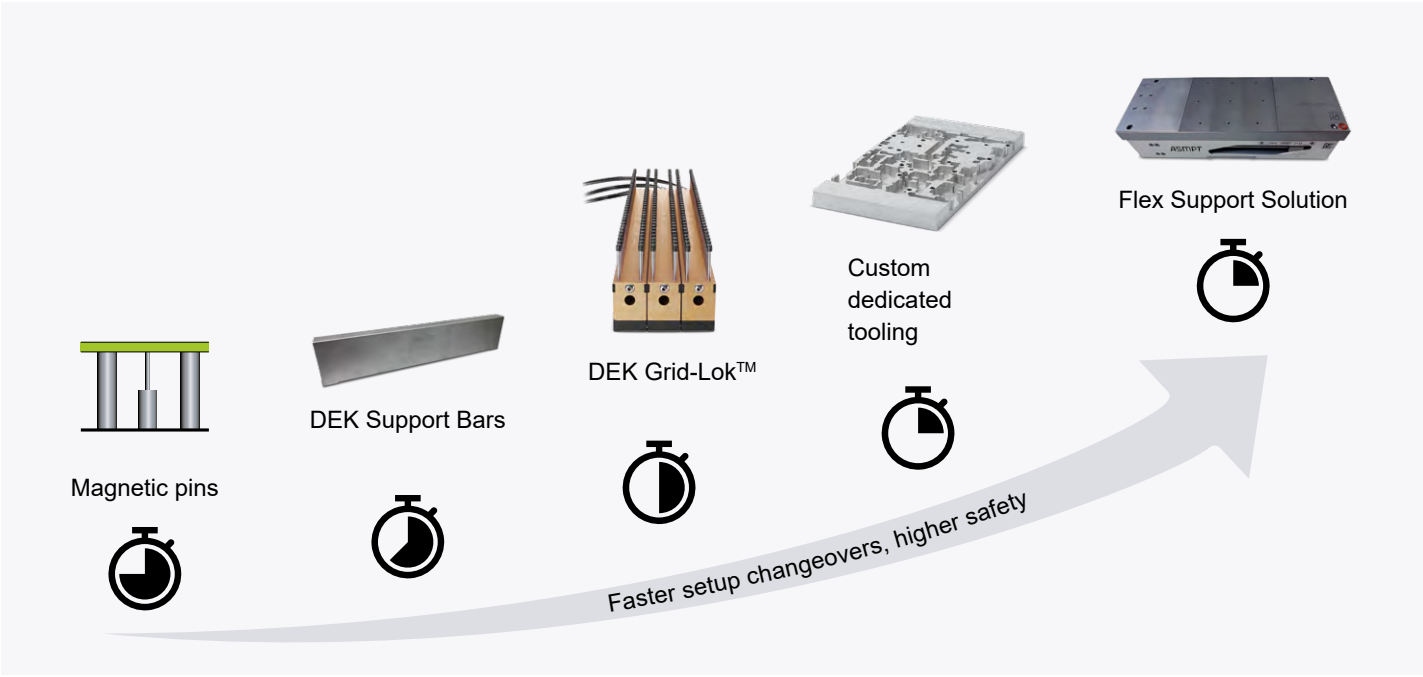
DEK Virtual Panel Tooling (VPT) allows the printer to process multiple individual substrates in a single print cycle. The substrates are presented to the printer in a carrier and are then lifted out, mechanically centered (aligned) and placed into a surrounding plate to create a “virtual panel” prior to coming in contact with the stencil and then mass imaged.

In combination with a DEK printer, DEK VPT offers a high-throughput, low-cost alternative to dispensing for many flip-chip packaging processes and other advanced applications, including sensors, PCBs and thermal interface materials (TIMs).

Features and benefits:

- Parallel processing of singulated substrates for more throughput – eliminates delays caused by the sequential printing/dispensing of individual substrates
- Scalable design for the simultaneous printing to 2 to 72 singulated substrates
- Highly efficient mechanical alignment
- Surround plate for pressure optimization
- Retrofittable on existing DEK printer platforms

PSP Standard Support



Flexibility, short setup times and traceability – we offer the optimal support solution for all requirements.

Flex Support Solution

A support solution that quickly pays off. Our modular support solution delivers maximum flexibility and the fastest setup changeovers.

Flex Support is the innovative support solution that gives you maximum flexibility. The secret is its modular design. The Flex Support Base Tower System gets adapted to the respective printer platform, including printers from manufacturers other than DEK. The system stays in the printer and keeps it open to all applications you want to support.

The second component are the Flex Support plates we manufacture on demand for your specific application. The advantage: You can mount each plate flexibly and quickly – without any tools – on any printer equipped with the Flex Support base tower system and start printing with minimal setup time. Even your warehouse will be happy because only the support plates must be stored and made available.

Flex Support Base Tower System

This component is adapted to the respective printing platform and remains in the printer. That way, the printer is always ready to support a wide range of applications.

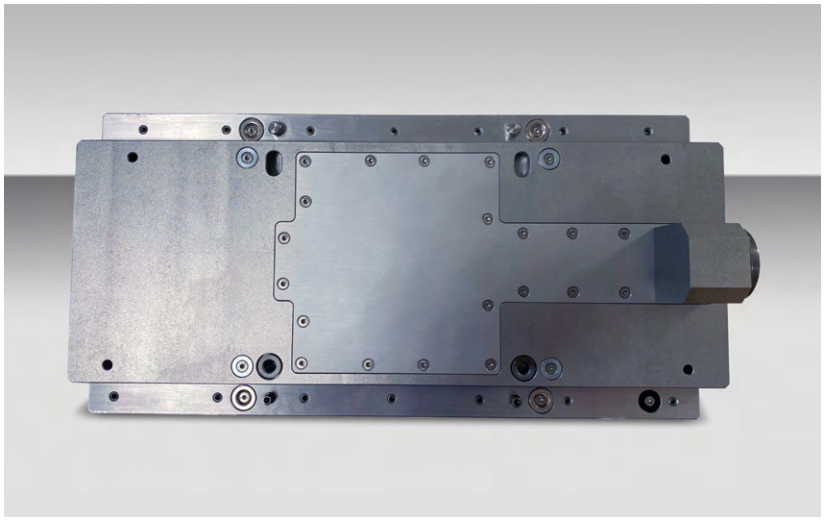
Functions and benefits:

- Easily adjustable in size (80 to 300 mm)
- Stays in the printer, i.e. one system for all applications
- Available for DEK Horizon, DEK NeoHorizon, and DEK TQ
- Also available for printing platforms from other manufacturers
- Play-and-play fastening without screws

FLEX SUPPORT TOWER OVERVIEW	
Part number	**Description**
SAP	
03176910-01	Flex Support Tower – DEK
03177829-02	Flex Support Tower – DEK TQ platform
03177491-02	Flex Support Schnaidt Tower – DEK
03176911-01	Flex Support Tower – EKRA
	Other Tower on request

FEATURES SPECIFICATIONS	
Material Spec	EN AW7075
Surface	Hard Anodised
Tower Height	58.7 mm +0/-0.02 mm
Tool plate Thickness	22.3 mm +0/- 0.02 mm
PCB Bottom Ref. Height	81 mm
Applicable PCB Size min (L/W)	100 mm/100 mm
Applicable PCB Size max (L/W)	550 mm/450 mm
Applicable PCB thickness	0.8 mm to 10 mm
Vacuum Option	Yes
Weight tower	2.3 kg

SPARES LIST FOR FLEX TOWER	
Part number	**Description**
SAP	
03181710-01	Flex Tower DEK - PI
03181711-01	Flex Tower EKRA - PI
03181712-01	Flex Tower Yamaha - PI
03181713-01	Flex Tower MPM MN667 - PI
03181714-01	Flex Tower MPM - PI
03181715-01	Flex Light Tower Panasonic - PI
03181716-01	Flex Tower - Rear pin
03181717-01	Flex Tower - Front flattened pin D6
03181718-01	Flex Tower - Front pin - D6
03181719-01	Flex Tower - Knob set



Flex Support Plates

Support plates suitable for the Support Flex Base Tower Systems – optionally manufactured for specific applications. Plates can be installed quickly without tools.

Functions and benefits:

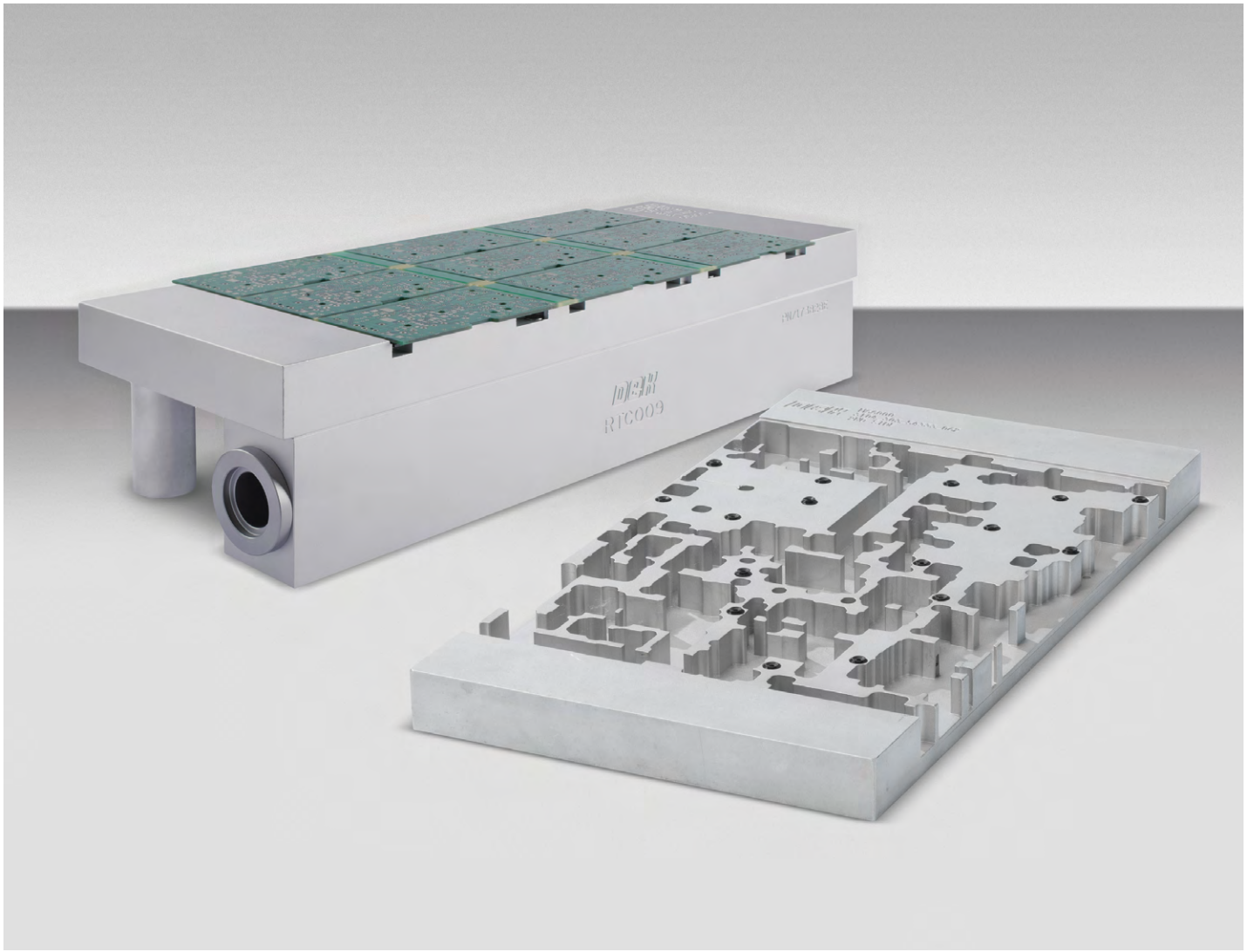
- Four models:
  - 1st/2nd pass (support for unpopulated or previously populated PCBs)
  - With or without vacuum
- Anodized surfaces for easy cleaning
- Low weight for easy handling and storage
- Delivery
  - Measurement protocol for each support plate
  - Application-specific support plates as per the customer's specifications

FLEX SUPPORT PLATE OVERVIEW	
Part number SAP	**Description**
03176914-01	1st Pass Plate (22.3 mm)
03176916-01	1st Pass Vacuum Plate (22.3 mm)
03176915-01	2nd Pass Plate (22.3 mm)
03176917-01	2nd Pass Vacuum Plate (22.3 mm)

FLEX SUPPORT PLATE COMPATIBILITY							
	DEK Micron* Series	DEK TQ Series	EKRA (Serio/X5)	YAMAHA	MPM (Edison)	MPM (Accela/ Momentum)	Panasonic (SPG/Sp series)
1st Standard non-vac 22.3 mm	✓	✓	✓	✓	✓	–	–
2nd Standard non-vac 22.3 mm	✓	✓	✓	✓	✓	–	–
1st Vacuum 22.3 mm	✓	–	✓	✓	✓	–	–
2nd Vacuum 22.3 mm	✓	–	✓	✓	✓	–	–

*DEK Micron = Printer portfolio ranging from DEK Horizon to DEK NeoHorizon

Custom dedicated tooling



Custom dedicated tooling solutions are designed for optimal substrate support and the best quality print. Because any movement or incorrect positioning of the substrate during processing can result in defects, ASMPT employs proven design concepts and solid manufacturing methods to safeguard against these issues. An additional benefit: the side support of the squeegee, that will improve not only the lifetime of the stencil significantly, but also the print quality.

From support for standard PCBs to flexible boards and ultra-fine-pitch board geometries to singulated products, ASMPT offers a variety of dedicated tooling solutions. In addition to DEK printers, dedicated tooling is compatible with most commercialized screen printing platforms, placement machines, inspection equipment and test systems.

Benefits:

- Process safety and control
- Increased stencil life
- Reduced cleaning schedule
- Increased squeegee speed
- Avoid or reduce short circuits
- Avoid or reduce paste residue
- Minimized line downtime
- Improved print quality

FEATURES SPECIFICATIONS	
Data format	Gerber, HPGL, IGES, DXF, STEP, STL
Finish option	Standard tool finish – sand blasted, natural (other by request)
Stencil support	ProFlow, squeegee, jetting, other*
Vacuum option	Requires a vacuum option to be fitted to the target machine
Aluminium plate (standard size)	Up to 550 × 270 × 50 mm
Surface flatness	<0.05 mm
Aluminium plate (maximum size)	Up to 550 × 450 × 150 mm
Surface flatness	<0.1 mm
Dedicated Tower (Support bar or H-tower)	55.6 mm +0 mm / -0.025 mm
Compatible with ASMPT printer	Tooling solutions available for the complete range of DEK printers
Tooling solutions for Non ASMPT printers	MPM, EKRA etc (please contact us with your machine type)

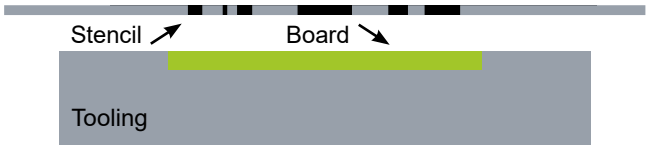
Tooling Type

1st pass – for a blank PCB with no components fitted typically means a flat support surface on the tool. 2nd pass – for a PCB with components fitted to one side. This means the support surface will have pockets to avoid the components on the PCB.

Depending on the process required, it is often more cost-effective to design a 2nd pass-capable tooling block that can also be used for the 1st pass requirement.

Vacuum capability can be added to either tooling design for the most effective support surface.

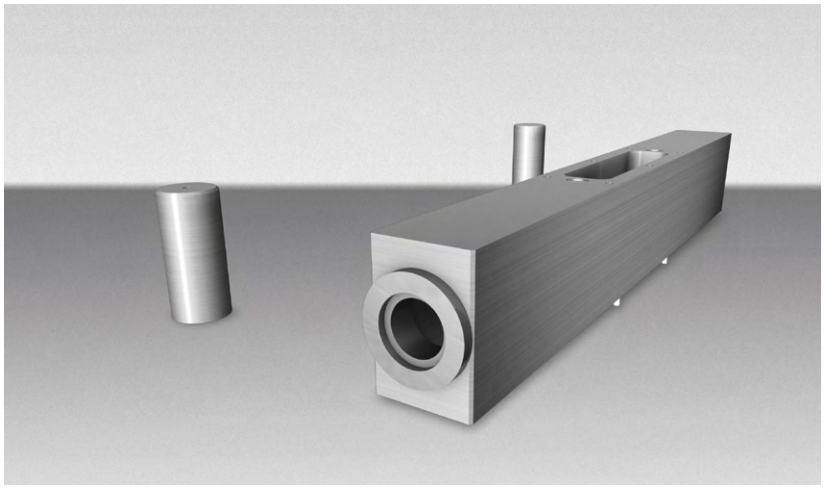
TOWER OVERVIEW	
Part number SAP	**Description**
03175938-01	Dedicated narrow tower with vacuum for DEK TQ printer (incl. 2 support pins)
03154262-01	Dedicated narrow tower with vacuum (incl. 2 support pins)
03154264-01	Dedicated narrow tower without vacuum (incl. 2 support pins)
03154263-01	Dedicated narrow tower dual lane (incl. 2 support pins)
03154261-01	Dedicated H-tower (incl. 2 support pins)
03154265-01	Dedicated narrow tower without vacuum 0.6 mm holes (incl. 2 support pins)
03154266-01	Dedicated flat leg support (2 pcs)
03154268-01	DEK Classic Support Plates (25.4 mm) - 1st pass non-vacuum
03154270-01	DEK Classic Support Plates (25.4 mm) - 1st pass with vacuum
03154269-01	DEK Classic Support Plates (25.4 mm) - 2nd pass non-vacuum
03154271-01	DEK Classic Support Plates (25.4 mm) - 2nd pass with vacuum



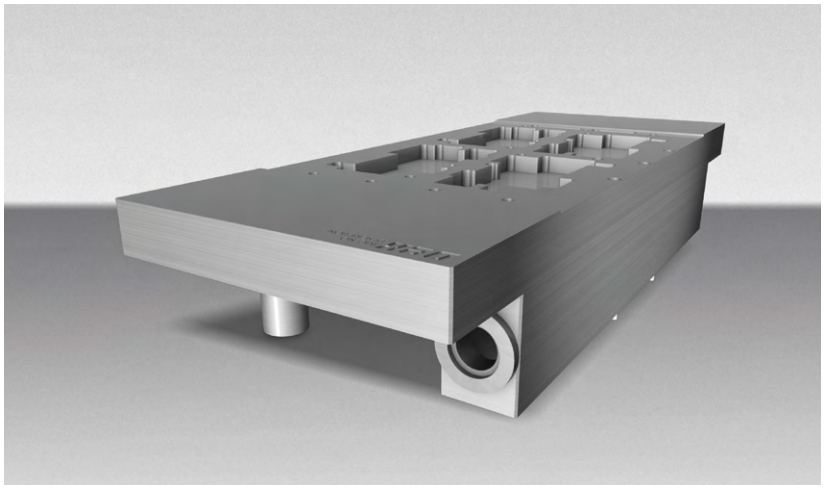
1st pass tooling support (flat plate)

2nd pass tooling support with routed component pockets

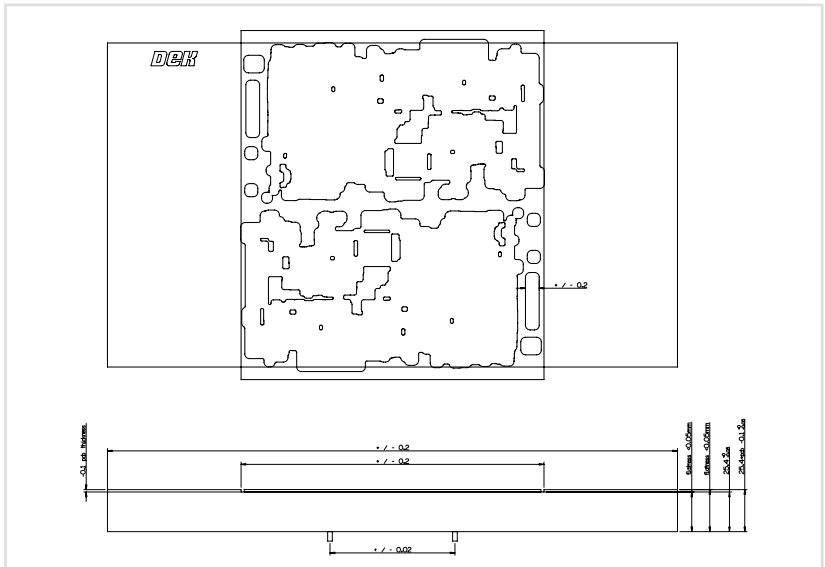
Single routed tooling plate to support side 1 and 2
(1st and 2nd pass tooling plate)



'Narrow Tower' for DEK printers



'Narrow Tower' with tooling plate



Support tower

Customers can use an existing stock tooling plate or specify a new tooling plate to be supplied with the tool.

For DEK printers, the current standard machine mounting hardware is called the "Narrow Tower". This is supplied with two additional pillars that are fitted to the rear side of the tooling plate.

A single tower can be used with many tooling plates, if required. The tower has alignment pins that interface with the rising table to ensure a repeatable and accurate fitting to the target machine.

Vacuum

Standard vacuum capability is added to the tooling plate in the form of pockets, holes or channels which are then routed through to the support tower.

Vacuum cups and O-ring seals, flat gaskets and custom seals are available and can be applied to the design as an option when required.

Tooling tolerances

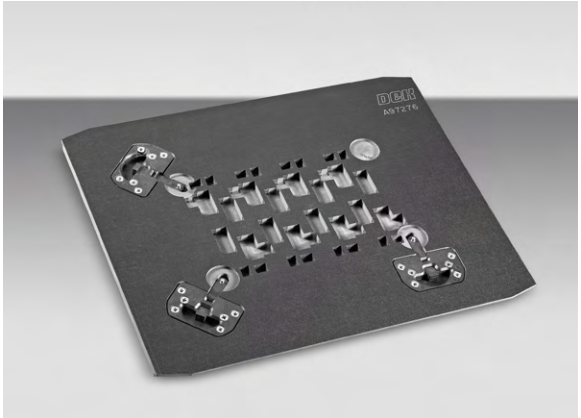
For standard tooling products, manufacturing and inspection is carried out in accordance with the tolerances as shown in the image on the left.

Advantages

- Process safety and control
- Increase stencil lifetime
- Reduced cleaning schedule – improved PPH
- Increased squeegee speed
- Avoid / reduce short circuits
- Avoid / reduce paste residue
- Minimize line downtime
- Improved print quality

DEK PCB pallet solution

Electronics miniaturization driven by mobile electronics, wearables, high-density connectors and LED strips require printing onto flexible PCBs, small boards and odd-shaped substrates. These applications need fixed pallets for robust transport through the SMT process.

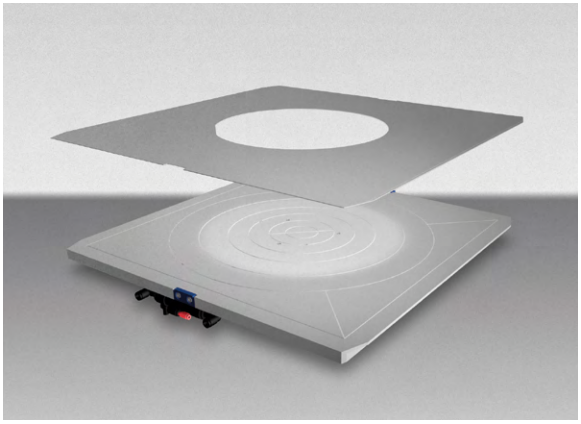


DEK PCB pallets

Transport pallets, flex pallets, and singulation pallets

Pallets facilitate the transport and printing of challenging substrates which may be too small, flexible or odd-shaped for standard printing processes. ASMPT can custom design and manufacture pallets in varying quantities, depending on specific requirements.

Pallets are typically made of Durastone to withstand high oven temperatures. Other materials are available on request.



DEK Wafer pallet

Universal wafer pallet: a lightweight (approx. 4 kg) wafer pallet that uses vacuum grooves to secure and hold the wafer.

Precision wafer pallet: a heavy pallet option that requires an additional machine transport rail upgrade. This pallet has a high flatness specification and utilizes a porus material to support the wafer and maintain vacuum.

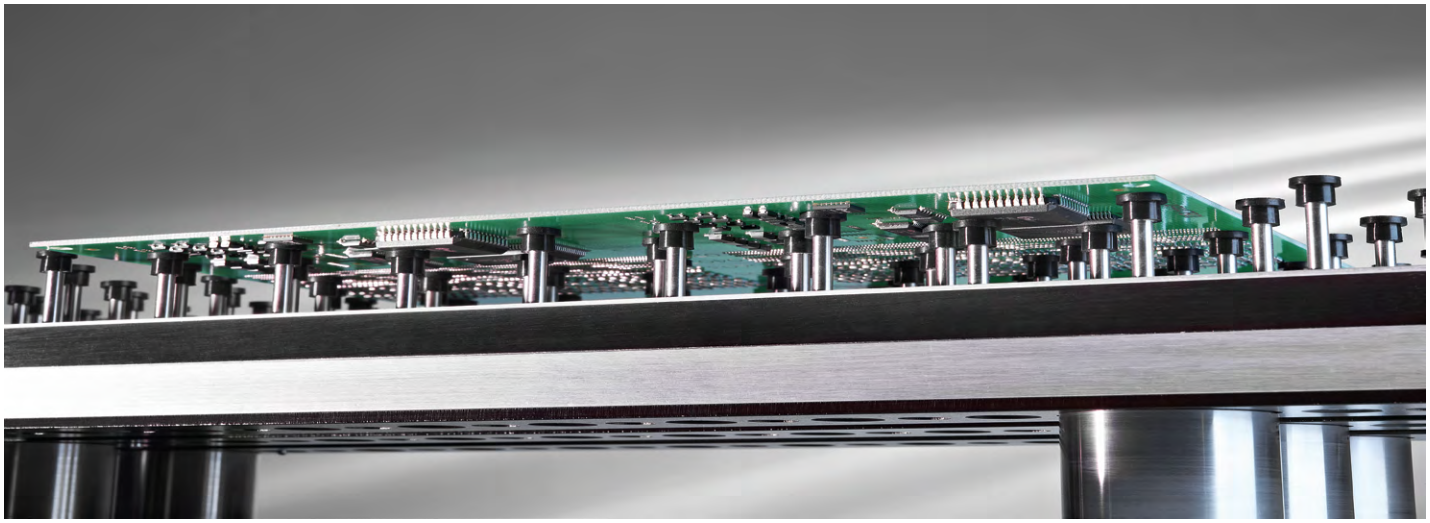
Both the standard and precision pallets utilize a wafer shim to contain the wafer. Wafer sizes of 100 mm to 300 mm with thicknesses of 150 µm and above can be accommodated. Both systems are fitted with wafer ejector pins to release the wafer from the pallet, allowing a wafer handler to process the wafer before and after the print.

Key benefits:

- Consistent flatness, stable printing, process control
- Pallet size: 400 mm × 400 mm
- Wafer diameters: 4/5/6/8/12 inches (100 mm to 300 mm)
- Wafer thickness: 150 µm to 600 µm
- The wafer is vacuum-secured during transport; automatic and manual operation
- Custom solutions available
- Data formats: Gerber, DXF, DWG
- Material: Durastone, aluminum and sintered stainless steel.

DEK Grid-Lok™ premium automatic substrate PCB support for SMT processes

Unique, patented automatic pin array technology facilitates fast product changeover and unmatched substrate support.



Recognizing the need for a flexible alternative to dedicated and more costly substrate support, ASMPT developed the multi-award winning, patented DEK Grid-Lok™ system which remains the industry's premier automatic tooling solution.

Designed to accommodate assemblies of all types – from basic SMT to high-density, highly miniaturized products – DEK Grid-Lok™ is the best total process substrate support technology on the market.

Key benefits:

- High versatility
- Unparalleled flexibility
- Minimal operator intervention
- Reduced or zero changeover time
- No risk of component damage

System requirements:

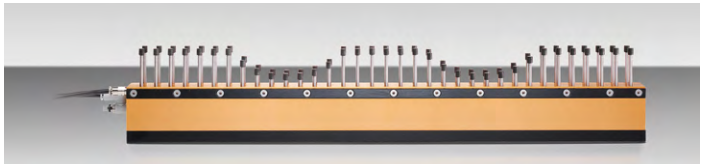
- Air pressure: 80-102 PSI (0.55-0.7 Mpa)
- Air quality: 2.3.3 where 2 (dirt) = 1 micron, 3 (water) = -20° C pressure dew point and 3 (oil) = 1 mg/m3
- 120-240 AC supply to provide 24 VDC to power control box

System components:

- Control box to provide module(s) – machine interface
- Hand controller to set operating mode
- Up to 6 DEK Grid-Lok™ modules
- Field installation kit
- Manifold used to support up to 6 modules
- Machine-specific fitting tools
- Machine-specific interface (sensor or pneumatic input to start the pin raise and clamp cycle)
- All interconnecting hardware

DEK Grid-Lok™ Gold

DEK Grid-Lok™ Gold provides robust, adaptable board support for screen printing and testing processes.



Module specifications:

Depending on the specific machine application, the modules have the following specifications:

- Available tooling heights 39 mm to 98 mm
- Available module lengths: 305 mm, 457 mm
- Component clearance: 13 mm to 40 mm
- Pin count
  - Module width: 32 mm
  - 305 mm – 46 pins configured in 2 rows on a 12.7 mm × 20.7 mm pitch
  - 457 mm – 70 pins configured in 2 rows on a 12.7 mm × 20.7 mm pitch
  - Pin setting force – 5 grams per pin
  - Pin cap – electrically conductive silicone rubber compound

Stencil printers:

- ASMPT
- Ekra
- Ersa
- Juki GKG
- MPM Speedline
- Panasonic
- Speedprint
- Yamaha

DEK Grid-Lok™ GOLD KITS

Part number		Controller/ description	Manifold(s) included	Included in all kits
SAP	DEK			
03140727	KIT_111	111_CTL – single table system	1 each, 006_MAN, manifold for 6 modules	INC_FIK - Field Installation Kit, 002_CON – Handheld controller/holder (only for single table system), 6 each twin leashes per manifold, all necessary fittings, tubes and air pipes for kit installation
03136308	KIT_211	211_CTL – dual table system	2 each, 006_MAN, manifolds for 12 modules	

Note: 077_SBA – optical sensor which is not included in the kit, may be required if the host machine doesn't have pneumatic activated board clamps. Please consult your local ASMPT representative for more information.

DEK Grid-Lok™ GOLD AUTOMATIC MODULES

Height (mm)	Part numbers				Equipment
	GOLD, HD, 12 inch modules		Gold, HD, 18 inch modules		
	SAP	DEK	SAP	DEK	
39	03132658	GHD3912	03130467	GHD3918	MPM Momentum, Accela, Accuflex
41	03132059	GHD4112	03131865	GHD4118	Panasonic SP18, 60, 70, 80, SPG
59	03148495	GHD5912	03148496	GHD5918	Speedprint
65	03132660	GHD6512	03148498	GHD6518	Juki GKG
67	03140916	GHD6712	03140833	GHD6718	Yamaha YSP
81	03130368	GHD8112	03128499	GHD8118	ASMPT
87	03130475	GHD8712	03130371	GHD8718	Ekra
98	03136187	GHD9812	03140858	GHD9818	Ersa

DEK Grid-Lok™ Silver

DEK Grid-Lok™ Silver is ideal for placement processes, where substrate support requires robustness and protection against vibration.

Module specifications:

Depending on the specific machine application, the modules have the following specifications:

- Available tooling heights: 53 mm to 135 mm
- Module length: 355 mm and 254 mm (for few heights)
- Module width: 32 mm
- Pin count: 27 pins configured in 2 rows, on a 25 mm × 20 mm pitch
- Component clearance: 16.5 mm
- Pin cap – electrically conductive silicone rubber compound

System requirements:

- Air pressure: 80-102 PSI (0.55-0.7 MPa)
- Air quality: 2.3.3 where 2 (dirt) = 1 micron, 3 (water) = -20° C pressure dew point and 3 (oil) = 1 mg/m3
- 120-240 AC supply to provide 24 VDC to power control box

DEK Grid-Lok™ SILVER AUTOMATIC KITS				
Part number		**Controller/ description**	**Manifold(s) included**	**Included in all kits**
SAP	**DEK**			
03140727	KIT_111	111_CTL – Single Table System	1 each, 006_MAN, manifold for 6 modules	INC_FIK - Field Installation Kit, 002_CON – Handheld controller/holder (only for single table system), 6 each twin leashes per manifold, all necessary fittings, tubes and air pipes for kit installation
03136308	KIT_211	211_CTL – Dual Table System	2 each, 006_MAN, manifolds for 12 modules	

Note: 077_SBA – optical sensor which is not included in the kit, may be required if the host machine doesn't have pneumatic activated board clamps. Please consult your local ASMPT representative for more information.

Placement systems:

- ASMPT
- Assembleon
- Fuji
- I-pulse
- Juki
- Panasonic
- Samsung
- Universal
- Yamaha

DEK Grid-Lok™ SILVER AUTOMATIC MODULES						
Height (mm)	**Controller**	**Part number**				**Equipment**
		Silver, MD, 10 inch modules		**Silver, MD, 14 inch modules**		
		SAP	**DEK**	**SAP**	**DEK**	
53	single	03132669	GMD5310A	03131866	GMD5314A	Fuji NXT M3, M6 single
53	dual	03132669	GMD5310A	03131866	GMD5314A	Fuji NXT M3, M6 dual
57	single	N/A	N/A	03148514	GMD5714A	UIC
57	dual	N/A	N/A	03148514	GMD5714A	UIC
65	single	N/A	N/A	03148517	GMD6514A	Juki, GKG
67	single	N/A	N/A	03132674	GMD6714A	Yamaha YSP
70	single	N/A	N/A	03148501	GMD7014A	Panasonic NPM, I-Pulse
76	single	N/A	N/A	03132681	GMD7614A	Yamaha YS12
76	dual	03148520	GMD7610AM*	N/A	N/A	Yamaha YS24
77	single	N/A	N/A	03136228	GMD7714A	ASMPT (SIPLACE F, C, S)
81	single	N/A	N/A	03136229	GMD8114A	ASMPT (DEK)
87	single	N/A	N/A	03148521	GMD8714A	Ekra
97	single	N/A	N/A	03136230	GMD9714A	ASMPT (SIPLACE D, SIPLACE SX), Juki
97	dual	N/A	N/A	03136230	GMD9714A	ASMPT (SIPLACE X), Juki FX-3
97	quad	N/A	N/A	03136230	GMD9714A	ASMPT (SIPLACE X), SIPLACE HS
98	single	N/A	N/A	03148522	GMD9814A	Ersa
132	single	N/A	N/A	03141189	GMD1324A	Samsung SM421
134	single	N/A	N/A	03141190	GMD1344A	Samsung SM481, 482
134	dual	N/A	N/A	03141190	GMD1344A	Samsung SM471

* Hybrid modules

DEK Grid-Lok™ SILVER MANUAL MODULES					
Height (mm)	**Part number**				**Equipment**
	Silver, MD, 10 inch modules		**Silver, MD, 14 inch modules**		
	SAP	**DEK**	**SAP**	**DEK**	
53	03130374	GMD5310M	03128587	GMD5314M	Fuji NXT M3, M6
57	N/A	N/A	03132672	GMD5714M	UIC
65	N/A	N/A	03148518	GMD6514M	Juki GKG
67	N/A	N/A	03132676	GMD6714M	Yamaha YSP
70	N/A	N/A	03138817	GMD7014M	Panasonic NPM, I-Pulse
76	03132680	GMD7610M	03132683	GMD7614M	Yamaha YS12, YS24
77	N/A	N/A	03132685	GMD7714M	ASMPT (SIPLACE F, C, S)
81	N/A	N/A	03128560	GMD8114M	ASMPT (DEK)
87	N/A	N/A	03128591	GMD8714M	Ekra
97	N/A	N/A	03128624	GMD9714M	SIPLACE D, SX, Juki
98	N/A	N/A	03148523	GMD9814M	Ersa, Takaya off line
132	N/A	N/A	03132667	GMD1324M	Samsung SM421
134	N/A	N/A	03141332	GMD1344M	Samsung SM481, 482, 471

DEK Grid-Lok™ spare parts

DEK Grid-Lok™ SPARE PARTS		
Part number		**Description**
SAP	**DEK**	
03128574	025_TIP	ESD rubber top caps for GSX old modules (25 pcs)
03128754	100_TIP	ESD rubber top caps for GSX old modules (100 pcs)
03128569	025_UTP	ESD rubber top caps for GHD gold modules (25 pcs)
03128778	100_UTP	ESD rubber top caps for GHD gold modules (100 pcs)
03128582	025_TMP	ESD rubber top caps for GMD silver modules (25 pcs)
03130302	100_TMP	ESD rubber top caps for GMD silver modules (100 pcs)
03128792	025_TSP	ESD rubber top caps for GHD 39mm MPM gold modules (25 pcs)
03130303	100_TSP	ESD rubber top caps for GHD 39mm MPM gold modules (100 pcs)
03128623	018_PRK	Pin repair kit old GSX 81mm DEK modules (25 pcs)
03128779	881_PRK	Pin repair kit gold GHD 81mm DEK modules (25 pcs)
03128713	887_PRK	Pin repair kit gold GHD 87mm Ekra modules (25 pcs)
03142684	009_PRK	Pin repair kit old GSX 75mm Panasonic modules (10 pcs)
03128733	818_PRK	Pin repair kit gold GHD 39mm MPM modules (10 pcs)
03132652	062_PRK	Pin repair kit gold GHD 62mm Takaya modules (25 pcs)
03177322	065_PRK	Pin repair kit gold GHD 65mm (25 pcs)
03132651	053_PRK	Pin repair kit silver GMD modules (10 pcs)
03128695	006_MAN	Manifold (pneumatic connector) with 6 outputs
03128699	006_SMF	Quick silver connect fitting female for manifold (6 pcs)
03130459	006_RMF	Quick red connect fitting female for manifold (6 pcs)
03136066	006_AFT	90 deg fitting 1/4″ tube
03130301	006_FLO	Air flow controller fitting for the manifold
03130460	018_FLO	Air flow controller fitting for GHD gold and GMD silver modules (5 pcs)
03130300	005_LEA	Twin tubing leashes for all modules (5 pcs)
03148504	041_BLA	Board lifters set 41mm (Panasonic SP)
03132653	067_BLA	Board lifters set 67mm (Yamaha YSP)
03128724	087_BLA	Board lifters set 87mm (Ekra)
03128500	077_SBA	Optical sensor with magnetic Base
03130304	111_CTL	Single Table DEK Grid-Lok™ controller
03132655	211_CTL	Double Table DEK Grid-Lok™ controller
03128656	002_CON	DEK Grid-Lok™ hand held remote control
03130298	001_DCP	24 volt power supply
03139626	005_SFT	Straight fitting 5/32″ tube x 10-32 thread for all modules
03144459	005_AFT	90 deg fitting 5/32″ tube x 10-32 thread for old GSX modules
03132654	111_VAL	Valve for control box 111_CTL
03148506	111_PSI	Pressure sensor for 111_CTL
03148505	111_PCB	Programmed circuit board for 111_CTL
03148507	211_PCB	Programmed circuit board for 211_CTL
03128723	518_MAG	Adhesive magnetic tape (5 pcs)
03132650	010_PIP	Pin in paste jig 10″ Silver module (jig to keep selected pins down)
03131335	012_PIP	Pin in paste jig 12″ gold module (jig to keep selected pins down)
03143235	014_PIP	Pin in paste jig 14″ silver module (jig to keep selected pins down)
03131852	018_PIP	Pin in paste jig 18″ gold module (jig to keep selected pins down)
03148494	553_PST	Plastic piston for the silver modules (5 pcs)
03148487	018_ORS	Orange rubber piston stoppers for the gold modules (50 pcs)
03178218		Connecting pin to the piston for DEK Grid-Lok™ Silver manual modules (5 pcs)
03178219		Conical springs for DEK Grid-Lok™ Silver manual modules (20 pcs)

DEK Support bars

Our support bars are an extremely flexible and easy-to-handle support option.

DEK support bars serve as a quick and universal support solution for PCBs to be printed on one side only and other substrates. The operator places the DEK support bar manually on the printing table between the conveyors. That way, a wide range of PCBs and substrates can be printed after a short setup time.

Features and benefits:

- Cost-effective solution for PCBs to be printed on one side only
- Average setup time
- Placement by the operator

Module specifications:

- Length: 400 mm
- Wide: 25 mm
- Height: 81 mm
- Weight: ~2kg

DEK SUPPORT BARS		
Part number		**Description**
SAP	**DEK**	
		On request: TGL DED BAR 250 × 25 × 81 Support
03180985-01		TLG DED BAR 380 × 25 × 81 Support TQ
03177469-01		TLG DED BAR 400 × 40 × 81 Support

ASMPT

ASMPT Americas
Phone: +888 768 4357 (press 2)
Email: smtparts.us@asmpt.com

ASMPT Europe
Phone: +40 722 692 108
Email: asmpt-psp.eu@asmpt.com

ASMPT Asia
Phone: +65 6877 3900
Email: spares.sg@asmpt.com

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