

GAS-Depanelling Technology



SAR-1300-Uni



Intelligence in Motion  
– fast and precise

# **G A S** – Depanelling System SAR-1300-Uni

## Flexible Cutting With Milling Bit Or Milling Disc

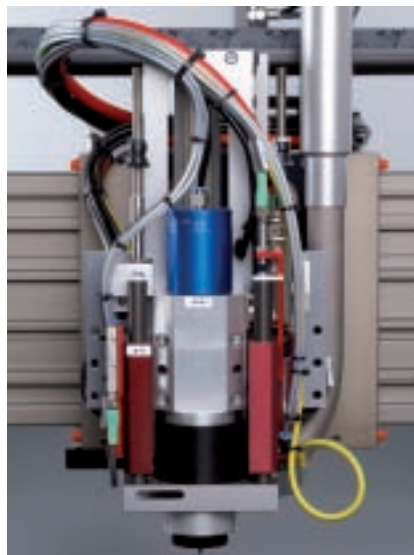
### The Universal Retrofit Combination For Manual Loading / Unloading With Single Or Dual Shuttle System

**At the end of the production process, PCBs of electronic modules are separated by disconnecting the bond bridges to the multi panel. On modern production lines, the bond bridges are cut by milling. Here short bonds are frequently cut using milling bits, while longer connections are separated using milling discs. Unlike conventional cutting processes, such as using a wheel cutter, milling is a low-stress cutting method.**

The new SAR-1300-Uni depanelling system from GAS has evolved from the proven SAR-1000 stand-alone depanelling system. Ongoing advancements in PCB technology mean manufacturers of electronic modules continually face new challenges, which in turn place more demands on depanelling technology. The design of the SAR-1300-Uni incorporates a variety of suggestions and requirements put forward by GAS customers. Outstanding features on the SAR-1300-Uni include the option of fitting the machine with both a milling bit and milling disc module, and a modular configuration that allows the machine to be adapted to future requirements cost-effectively at any time.

The GAS SAR-1300-Uni stand-alone router offers the following benefits:

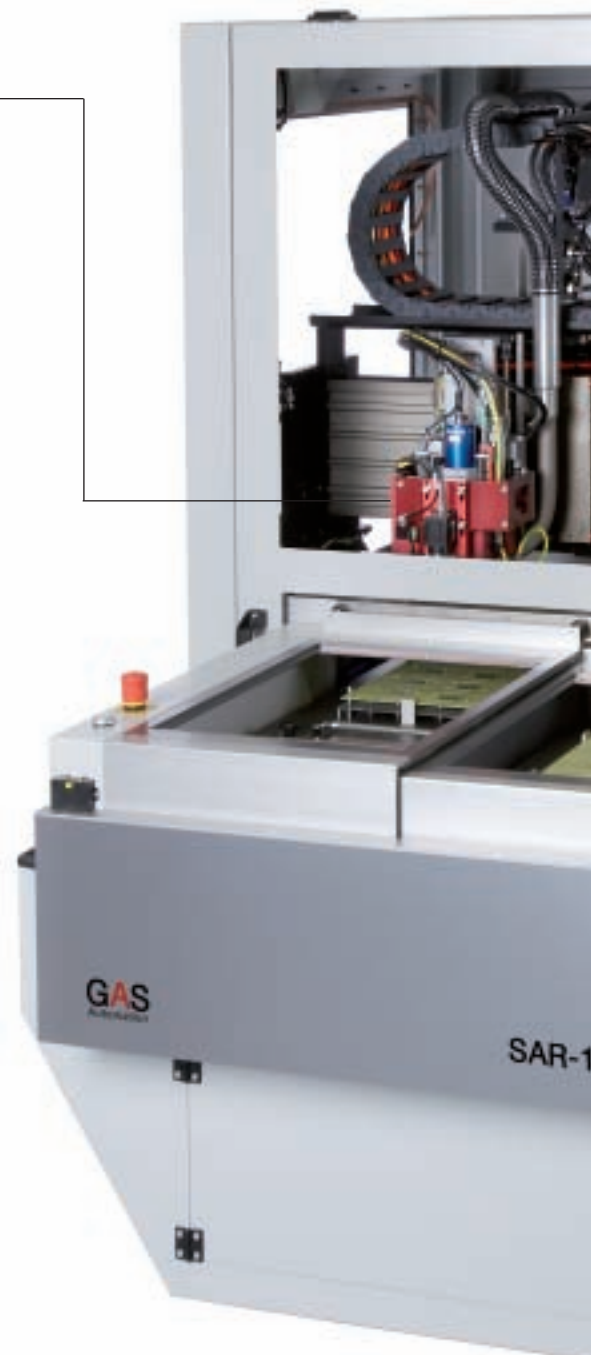
- Choose between equipment with a single milling head (milling bit or disc module) or both types of milling head. The second milling head can be retrofitted at any time.
- Possible to feed in panels with one or two shuttle axes depending on the required output. The second shuttle can be retrofitted at any time.
- Shortest cycle times due to minimal weight / time lags
- Maximum milling accuracy thanks to high-precision linear motor axes and state-of-the-art control technology
- Maximum availability due to use of high-quality components and simple system structure



*With the milling bit module, the highly dynamic linear motor drive combined with the special milling brush holder facilitates free-form contour machining, minimal cutting times, and secure positioning of components during the cutting process. Continuous hold-down irrespective of whether the bit is in the vertical position means additional hold-down is not usually necessary.*

- Ergonomic operator height even for high multi panels
- Cost-effective due to simple structure and targeted initial investment with wide range of expansion options
- Fast delivery time thanks to use of common parts – identical mechanical and electrical platform irrespective of the cutting process

**GAS Depanelling Technology – Made in Germany!**





*With the milling disc module, long straight crosscuts can be executed in optimum cycle times.*



*When featuring both a milling bit and milling disc module, the depanelling system is ideally equipped for all cutting tasks.*



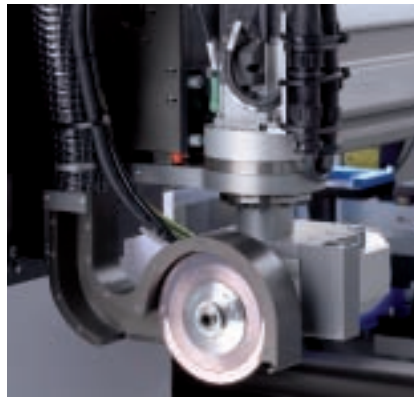
*Two shuttle systems help maximize output by avoiding time lags.*

# **G A S** – Depanelling System SAR-1300-Uni Basic System With Optional Retrofit Accessories

**In its simplest configuration the base machine includes the following components:**

- Rigid, low-vibration lower frame with metal sheeting
- Protective cover with lift gate at the front and a swing door on each of the sides
- Cell control cabinet attached to the rear with integrated control and feedback control technology, plus associated power electronics
- Linear motor single shuttle system with mounting plate for customized worktables
- Manually operated slide cover for loading and unloading space
- Linear motor XZ milling system which can be fitted with a choice of milling bit module and milling brush holder or a milling disc module featuring a programmable rotary axis
- Beckhoff IPC cell controller with Windows XP operating system, path controller, plus DIN 66025 programming for milling steps
- Pneumatic components
- Operator panel with rotating keyboard/15" touch screen and 3-way light bar
- Machine capability certificate

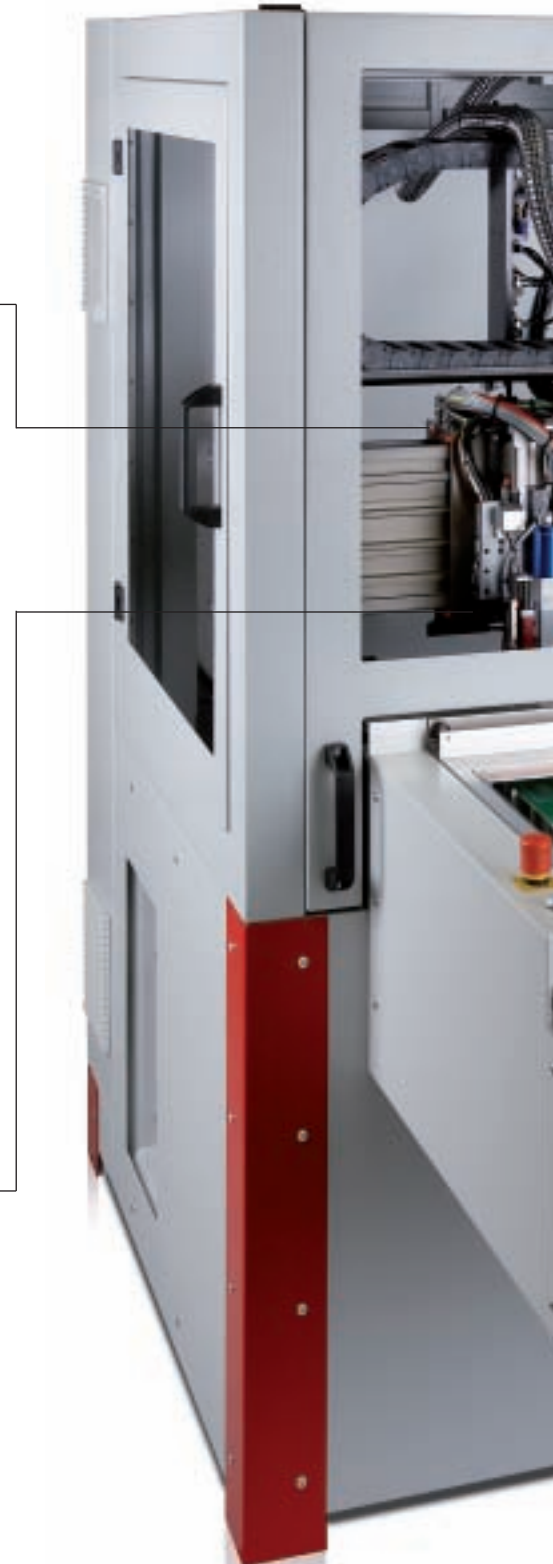
**The base machine can be adapted to specific customer requirements thanks to a range of expansion options, such as a second shuttle system, second milling head or vision system.**



*The machine can be fitted with a choice of one or two milling heads. The second milling head can be retrofitted at any time. In the high-end configuration, it is possible to switch between the two milling heads at any time when machining a multi panel – with no idle time. This capability offers users maximum flexibility and means they are ready to meet every demand in depanelling technology.*



*As optional expansion of the base system, the milling bit module is available with vision system as well as with scanner.*





*The depanelling system SAR-1300-Uni is largely operated via touch screen. Function keys are used to select and activate the respective actuators.*



*A linear motor shuttle system feeds in multi panels and removes the separated components and trimming waste.*



*The machine can be equipped with one or two shuttle systems for panel infeed and passing back separated components and trimming waste. Customized worktables can be affixed to the shuttle mounting plate quickly and accurately. The second shuttle system can be retrofitted at any time. When equipped with a dual shuttle system, the machine offers maximum output by avoiding time lags.*

# **G A S** – Depanelling System SAR-1300-Uni

Flexible Cutting With Milling Bit Or Milling Disc  
Possibilities Of Equipment:



Depanelling System SAR-1300-B-1  
Milling bit module  
1 shuttle system

Depanelling System SAR-1300-D-1  
Milling disc module  
1 shuttle system



Depanelling system SAR-1300-B-2  
Milling bit module  
2 shuttle systems

Depanelling system SAR-1300-D-2  
Milling disc module  
2 shuttle systems



Depanelling system SAR-1300-BD-1  
Milling bit and milling disc module  
1 shuttle system

Depanelling system SAR-1300-BD-2  
Milling bit and milling disc module  
2 shuttle systems

For possible options, e.g. vision system, please refer to the technical data sheets.

# G A S – Depanelling System SAR-1300-B

## With Milling Bit Module

### Technical Data

#### Machine dimensions

- Width 1325 mm
- Width operator panel 565 mm
- Length 1300 mm
- Projection of shuttle 730 mm
- Height 1870 mm
- Upward projection of light bar 350 mm
- Operator height 900 mm
- Weight appr. 1500 kg

#### Speed

- X, Y: linear motor axes 2000 mm/s
- Z: linear motor axis 1000 mm/s

#### Accuracy

- Repeat accuracy  $\pm 0.02$  mm
- Positioning accuracy  $\pm 0.02$  mm
- Milling accuracy  $\pm 0.10$  mm with vision system  
 $\pm 0.15$  mm without vision system

#### Work space and PCB characteristics

- Max. work space X, Y 430 mm x 350 mm
- Max panel size X, Y 430 mm x 350 mm
- PCB thickness 0.5 to 3.2 mm
- Max. component height Top side: 20 mm
- Max. total height of worktable with PCB 70 mm

#### Availability and CE standard

- Technical availability  $\geq 98$  %
- Machine capability study
- CE type

#### Panel infeed

- Change cycle with dual shuttle system  $< 1$  sec.
- Size per worktable 555 x 380 x 12 mm

#### System control

- IPC control unit with DIN 66025-programming, continuous path control
- Windows XP operating system
- 15" TFT swivel-mounted touch screen

#### Power supply

- Voltage 400 V / 50 Hz / 16 A
- Compressed air 0,6 mPa (6 bar), oil-free, filtered and dry
- Ambient temperature  $+ 18^{\circ}$  C to  $+ 35^{\circ}$  C
- Relative air humidity 15 % – 80 %

### Possible options for the SAR-1300-B:

- Expansion to dual shuttle system
- Additional milling disc module (version SAR-1300-BD)
- Automatic slide cover in loading and unloading space
- External dust exhaust
- Manual dust exhaust
- Automatic monitoring of milling brush
- Remote servicing
- Ionization
- Vision system for recognition of PCB position and code reading
- Automatic tool exchange with 6 stations per shuttle
- Toolkit including broken tool detection and bit control for different levels
- Monitoring of bit diameter
- Quick milling brush changer
- Manual scanner
- Automatic scanner
- Waste cart
- Panes with ESD protective finish
- Special finish
- Second frequency inverter for second milling head to enable switching with no idle time
- WT coding
- Customized worktables
- Detection of good or bad parts (customized)
- Standard data interface for traceability functions (XML format, interface by Kratzer)
- CAD-CAM system for generating milling programs

# GAS – Depanelling System SAR-1300-D With Milling Disc Module

## Technical Data

### Machine dimensions

- Width 1325 mm
- Width operator panel 565 mm
- Length 1300 mm
- Projection of shuttle 730 mm
- Height 1870 mm
- Upward projection of light bar 350 mm
- Operator height 900 mm
- Weight appr. 1500 kg

### Speed

- X, Y: linear motor axes 2000 mm/s
- Z: linear motor axis 1000 mm/s

### Accuracy

- Repeat accuracy  $\pm 0.02$  mm
- Positioning accuracy  $\pm 0.02$  mm
- Milling accuracy  $\pm 0.15$  mm

### Work space and PCB characteristics

- Max. work space X, Y 430 mm x 350 mm
- Max panel size X, Y 430 mm x 350 mm
- PCB thickness 0.5 to 3.2 mm
- Max. component height Top side: 12 mm
- Max. total height of worktable with PCB 70 mm

### Availability and CE standard

- Technical availability  $\geq 98$  %
- Machine capability study
- CE type

### Panel infeed

- Change cycle with dual shuttle system  $< 1$  sec.
- Size per worktable 555 x 380 x 12 mm

### System control

- IPC control unit with DIN 66025-programming, continuous path control
- Windows XP operating system
- 15" TFT swivel-mounted touch screen

### Power supply

- Voltage 400 V / 50 Hz / 16 A
- Compressed air 0,6 mPa (6 bar), oil-free, filtered and dry
- Ambient temperature  $+18^{\circ}$  C to  $+35^{\circ}$  C
- Relative air humidity 15 % – 80 %

## Possible options for the SAR-1300-D:

- Expansion to dual shuttle system
- Additional milling bit module (version SAR-1300-BD)
- Automatic slide cover in loading and unloading space
- External dust exhaust
- Manual dust exhaust
- Automatic monitoring of milling brush
- Remote servicing
- Ionization
- Manual scanner
- Automatic scanner
- Waste cart
- WT coding
- Customized worktables
- Detection of good or bad parts (customized)
- Standard data interface for traceability functions (XML format, interface by Kratzer)
- Panes with ESD protective finish
- Special finish
- Second frequency inverter for second milling head to enable switching with no idle time

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