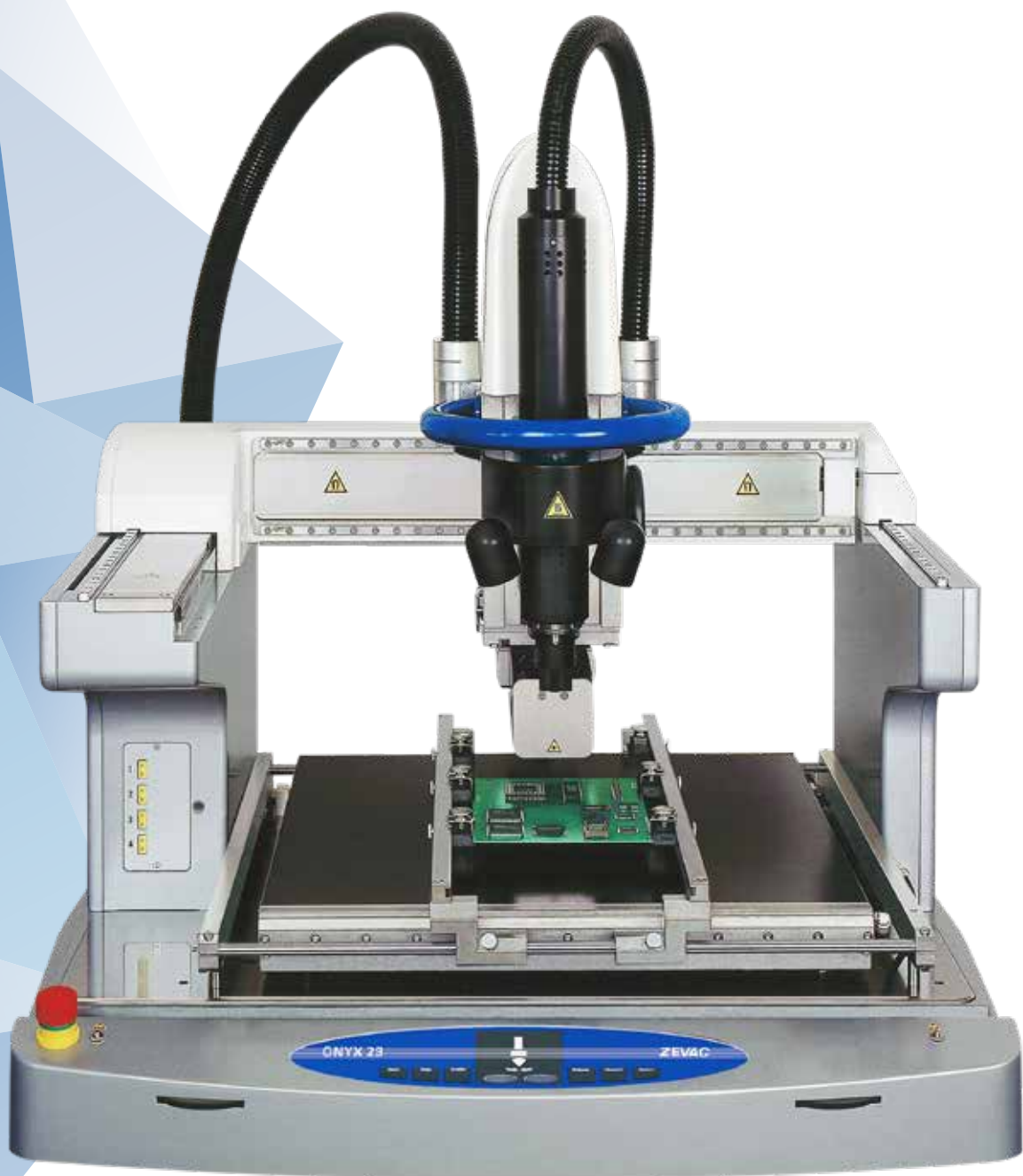


# ZEVAC

## ONYX 29

Automated repair of circuit boards



## ONYX 29

The ONYX 29 combines operating comfort, precision and process automation. Due to the integrated vision-system the precise orientation of components is guaranteed. The multifunctional hot gas heater head can be used for serial processes due to the highly integrated automation features to solder components, to remove components, to site clean (contactless removal of residual solder) and optional as a dispenser for dispensing applications. In addition many unique options for several additional processes are available.

### MAIN FEATURES

- **2000 watt multi-functional hot gas heater head:** Solder components, remove components, site clean (contactless removal of rest solder) and optional as a dispenser for dispensing applications, customer specific application upon request
- **All seven axes are motorized,** closed loop motion control
- **Manual motion via integrated hand wheels** for quick and precise positioning of the hot gas head
- **Automatic and overall process control**
- **Up to eight thermocouple ports** to control process temperature
- **Large board handling for boards up to 500 x 500 mm**
- **Board carrier handles irregular-shaped assemblies** without special fixtures
- **Different bottom pre-heaters with a performance of up to 6000 watt** with integrated board cooling
- **Automatic closed loop force control of the Z-axis** for automatic picking, fluxing, placing and removing processes to protect sensitive parts
- **Closed loop gas flow control** from 8 to 80l/min
- **The MFOV system allows viewing components with dimensions up to 75 x 75 mm** and enables an excellent adjustment of the image contrast
- **Automatic contactless site cleaning** for removal of residual solder with a motorized X/Y/Z-System



### AUTOMATED REPAIR OF CIRCUIT BOARDS

Thanks to the high placement accuracy of  $<10 \mu\text{m}$ , the integrated force measurement and the control via seven motorized axes reproducible results and highest quality are guaranteed for serial repair and many other applications. Because of the open construction of the ONXX 29 the length of the edited printed circuit boards is not limited.

The open architecture of the ONYX 29 and the variety of closed loop controlled parameters of the application software VisualMachines™ allow simple lab applications as well as high complex production processes repetitive and extremely precise.

## APPLICATION RANGE

### Repairs

Misaligned devices can accurately be repositioned and defective components can reliably be replaced.

### Prototyping

The components of small and large printed circuit boards can be assembled and soldered with the ONYX 29 automatically and efficient. It allows already used expensive components to be re-used.

### Post-assembly

Components that are missing at assembly time can be placed and soldered later, or individual components which cannot be handled by the available production machines can be retrofitted with the ONYX 29.

### Assembly

When printed circuited boards with only a few components need to be assembled, then the ONYX 29 often can provide an efficient solution.

### Components

ZEVAC's standard gas nozzles from the proven DRS selective soldering machines can be used on the ONYX 29 without any modification. With the ONYX 29 all electronic SMD components and all customer specific components can be handled easily.



### MULTIFUNCTIONAL HEATER HEAD

#### Multiple applications

The same heater head can be used for the following applications:

- Hot air or nitrogen soldering for all SMT components (incl. lead free)
- Non-contact site solder removal
- An optional tool can be mounted to remove all rest solder from the PCB automatically
- An optional dispenser unit can be mounted for dispense applications
- Customer specific applications on demand

### PRE-HEATER AND BOARD SUPPORT

#### Uniform pre-heating / easy access

The new 4 zones preheater (4x1500W) can easily be adapted to any size of boards.

Very uniform heating, mechanical supports and a spring loaded board holder guarantee minimal warpage of the boards.

- 1 Pre-heater with 4 zones (1500W each)
- 2 Board holder

### FORCE SENSOR SYSTEM

All movements from the solder head to the board are controlled by a closed loop force sensor system.

### VISION

#### New MFOV (multiple field of view) Vision system

With the new fully motorized MFOV Vision system the whole range of SMT components (from 0201 capacitors to very large BGA's up to 70 mm) can be placed with superior accuracy. Built in LED illumination to the top side (component) and to the bottom side (board layout) assures an optimal contrast for the built in camera system used for the positioning operation.

- 1 MFOV Vision system
- 2 Adjustable Vision LED illumination

## TECHNICAL DATA

Product designation	ONYX 29
Max. board size (W x D)	500 x 500 mm (longer on demand)
Robot working area	400 x 400 mm
Board thickness range	up to 6 mm
Max. component height	20 mm bottom side (30 mm optional) 30 mm top side (70 mm optional)
Vision system object size	0.2 x 0.2 mm - 70 x 70 mm
Component and board illumination	Adjustable LED lights
Top heater power	2000 W
Hot gas flow range	20 - 80 l/min (Closed loop controlled flow)
Pre-heater system	4 independent zones of 1500 W each heated size: 490 x 490 mm
Hot gas flow range	4-6 bar
Temperature range	20°C - 475°C
Hot gas	Air or nitrogen
Cooling gas	Heater element by-pass pneumatic system
Controller	Computer controlled, Windows, VisualMachines™
Power requirements	3x400 / 230VAC 3PNE 50HZ 16A
Dimensions (W x D x H)	823 x 821 x 951 mm
Weight	140kg

## DIMENSIONS

