

SEMI-AUTOMATED SOLDERING AND DESOLDERING MACHINE ONYX 29

MACHINES

4.102



APPLICATION: SMT

ZEVAC LINE: ONYX

The complete product line
documentation is composed
of the following data sheets:

MACHINES 4.101- 4.105

ACCESSORIES 2.201, 2.202

OPTIONS 4.301



- 7 automated axis
- force measurement

WIDE APPLICATION RANGE

SELECTIVE SOLDERING AND DESOLDERING OF SMD COMPONENTS. THE HIGH PERFORMANCE UNIT ONYX 29 GUARANTEES HIGH RELIABILITY AND EASE OF OPERATION. IT IS EQUIPPED WITH A SPECIAL VISION SYSTEM FOR ACCURATE ALIGNMENT OF ALL SMD'S AND FINE PITCH COMPONENTS AND IS IDEAL FOR:

Repairs

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

Prototyping

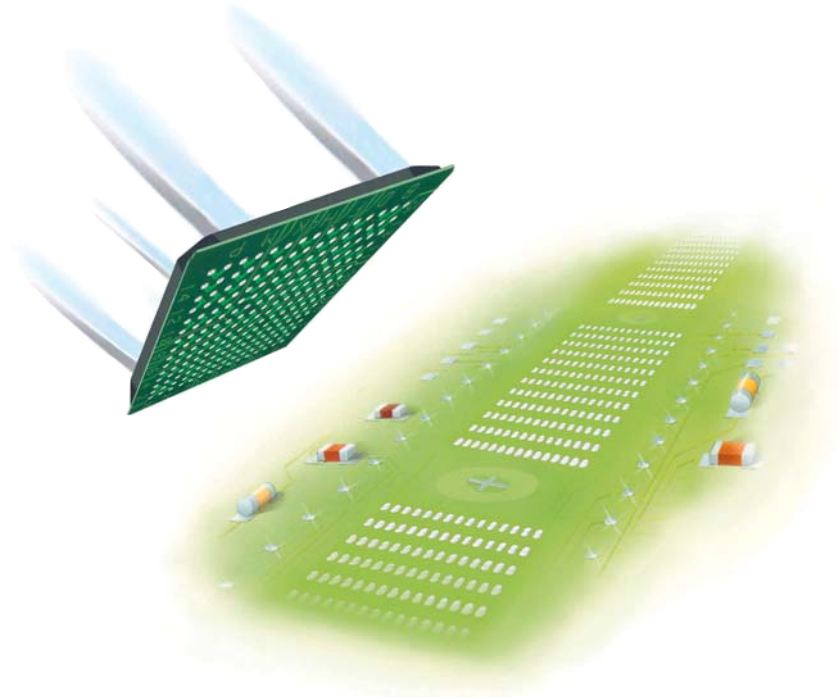
The ONYX 29 simultaneously assembles and solders prototypes. It allows expensive components to be desoldered and re-used.

Post-assembly

Components that are missing at assembly time can be placed and soldered later. Individual devices which cannot be handled by available production resources can be retrofitted.

Assembly

The ONYX 29 is the most accurate tool for assembly, from the simplest to the most densely populated boards.



MARKET REQUIREMENTS

COMPONENT POSITIONING AND SOLDERING REQUIREMENTS HAVE BECOME MORE CRITICAL WITH THE INTRODUCTION OF MORE COMPLEX AND EXPENSIVE DEVICES AS WELL AS MORE INTEGRATED CIRCUIT BOARDS. RAPIDLY INCREASING SOPHISTICATION IN SMT HAS GENERATED AN URGENT NEED FOR A TRULY PROFESSIONAL SOLUTION. THE ONYX 29 MACHINE MEETS ALL THESE REQUIREMENTS IN A PRECISE MANNER.

AUTOMATED PROCESS CONTROL

Processes for picking up the component, fluxing, soldering or desoldering (thermoprofiles) processes are performed automatically.

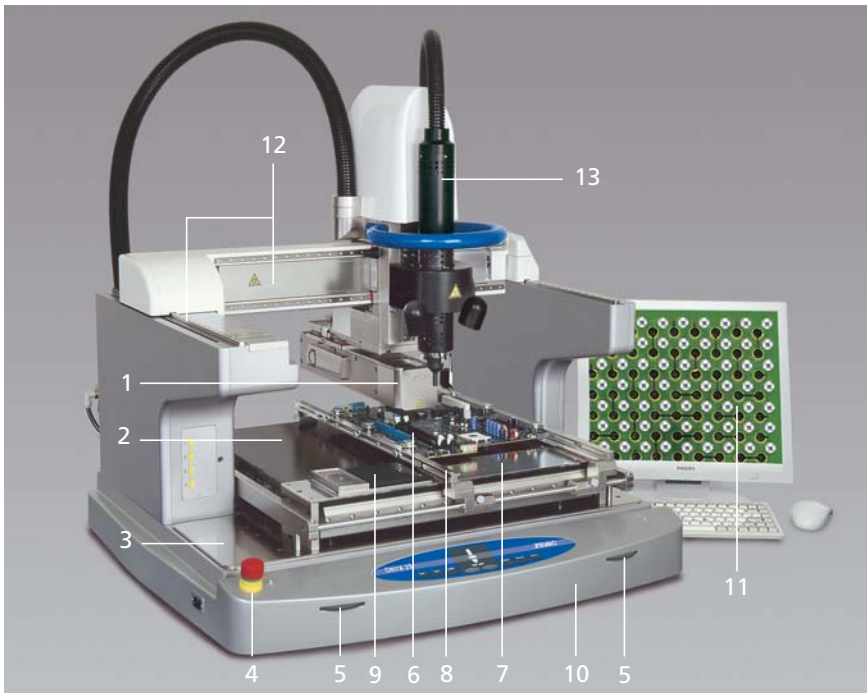
Components



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 SMT components, such as

- Chips, down to 0201
- Flip Chip
- μ BGA, CSP, BGA
- LGA, MLF
- CCGA, TCP
- QFP and Fine Pitch
- Connectors and Sockets
- HF shieldings
- Customer specific components can be handled easily.



ONYX 29:

Reproducible values through 7 motorized axes

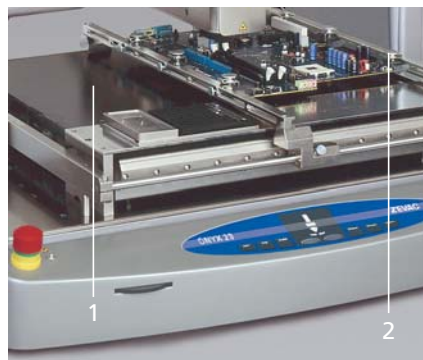
- 1 MFOV Vision system
- 2 4-zones preheater 6000 W
- 3 base plate with force sensors
- 4 emergency button
- 5 XY fine adjustments
- 6 printed circuit board
- 7 component pick up place
- 8 Board holder
- 9 waffle tray holder
- 10 solid cast machine base
- 11 computer monitor
- 12 linear motors in X and Y
- 13 top heater head 2000 W



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



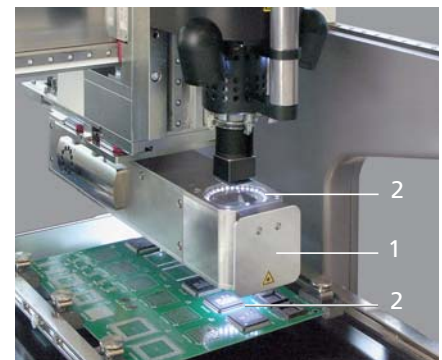
PREHEATER AND BOARD SUPPORT
Uniform preheating / easy access

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 preheater 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.

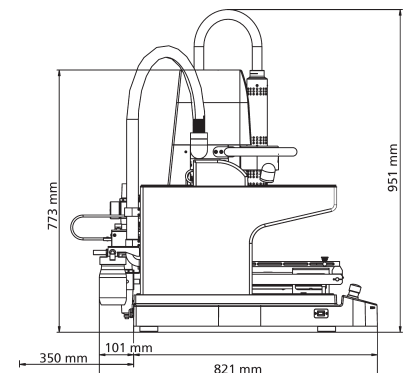
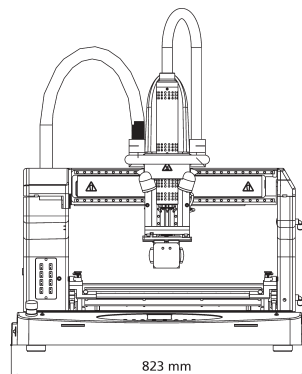


VISION
New MFOV (multiple field of view) Vision system

With the new fully motorized MFOV Vision system the whole range of SMT components (from 0201 capacitors to very large BGA's up to 70mm) 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 6mm
	Max. component height	20 mm bottom side (30 mm optional) 30 mm top side (70mm 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)
	Preheater system	4 independent zones of 1500W each heated size: 490 x 490 mm
	Input pressure	4-6 bar
	Temperature range	20 - 475°C
	Hot gas	air or nitrogen
	Cooling gas	heater element by-pass pneumatic system (closed loop controlled flow)
	Controller	computer controlled, Windows XP VisualMachines™ GUI
	Power requirements	3x400 / 230VAC 3PNE 50HZ 16A
	Dimensions (W x D x H)	823 x 821 x 951 mm
Weight	140 kg	
Technical data subject to change		

Certificates**Dimensions****Accessories**

Hot gas nozzles

Data sheet 2.201 + 2.202

Options

Options:

- Non contact site solder removal system
- Non contact temperature sensor
- Dispenser
- Direct view camera system
- Component pick up holder
- Board cooling system

Data sheet 4.301

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