

BL500-COS

Chip on Submount Die Bonder



ficonteC
micro assembly machines

BL500-COS Chip on Submount Die Bonder

This ficonTEC machine is focused on fully automated bonding processes in the micron and even submicron range. The ficonTEC BL500-COS offers a cost-effective solution and production capabilities for bonding chips on submounts (COS) or to different types of substrates such as Silicon Photonic devices.

High Precision Die Bonding

ficonTEC's BL500-COS performs to the highest accuracy of $\pm 0.5 \mu\text{m}$ depending on the alignment mechanism and component quality.

The bonding is done using laser soldering technology which allows the bonding of multiple chips to one substrate without influencing adjacent bond pads. Components feeding can be done from GelPaks, Waffle Paks and optional from BlueTape.



Soldering

Laser Soldering

- Fast soldering process for chip
- Fiber coupled light delivery
- Laser Class 1 operation

Powerful Machine and Process Software

- Remote service and control via internet
- Freely programmable machine processes
- User friendly user interface
- Line based process programming
- Recipe based management of process parameters
- Algorithms for active assembly
- SQL data base based storage of process parameters and component data
- Flexible data import and export
- Component tracking
- Same software on all ficonTEC machines for consistent look and feel of machine programming and operation



Machine, BL500-COS

ficonTEC

Pick & Place

- Linear motor driven robot head
- Easy tool exchange for different component sizes
- Auto calibration after tool exchange
- Component flipping capability (optional)

Bond Head

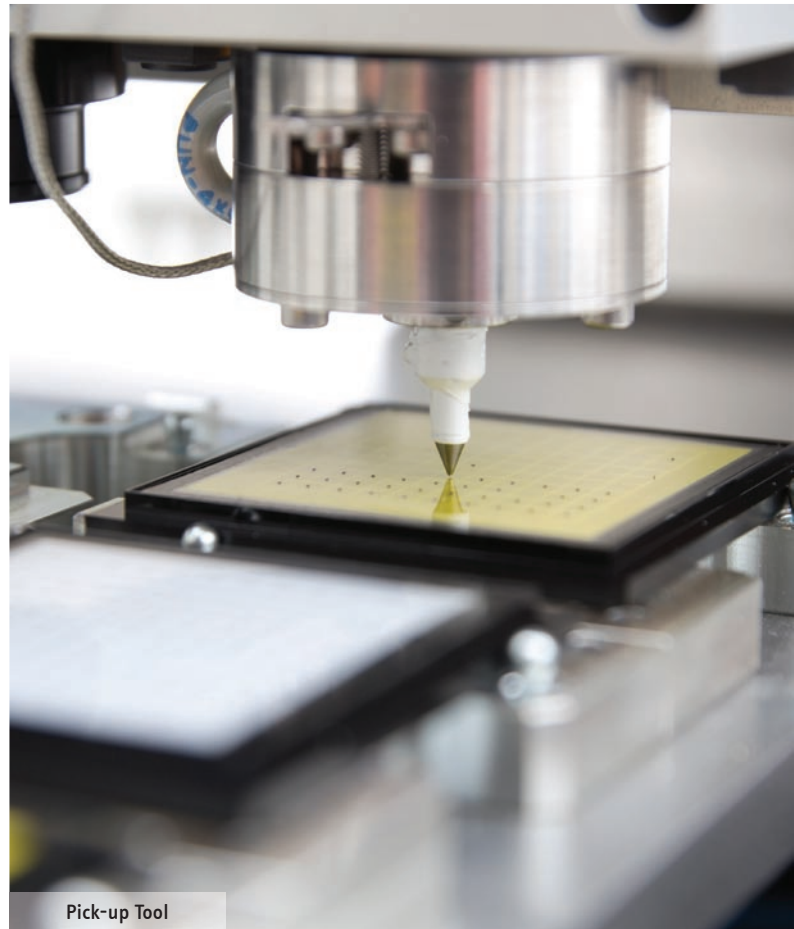
- Easy to change tool shaft
- Super ridged design to prevent movement during bond process
- Precise bond force control 0 g .. 250 g (optional 0 g - 2000 g)
- Constant force mode (position controlled)
- Constant position mode (force controlled)
- Allows force logging during bond process in milisecond steps

Key Features

- Chip on submount compatibility
- Selective soldering capability
- Electronically adjustable bond force
- Process parameter tracking
- Switch between products in minutes
- Forming Gas supply
- Optical characterization Recognition (OCR) on heatsinks for serial number tracking
- Powerful modular operating software concept
- Operator initiated remote service
- Data based operating parameter acquisition
- Component traceability

Facts

- Selective laser soldering system
- Post bond measurement capability due to integrated metrology function
- Laser Class 1 system
- Fully automatic
- Cycle time down to 20 sec per device
- Up to 8 hours of operation without operator intervention
- Customization for different device types possible



Pick-up Tool

BL500-COS Specifications

Features	X, Y, Z Axis	Phi-Z Axis
Travel	500, 200, 100 mm	< 90°
Resolution	0.1 µm	< 2"
Speed	1, 1, 0.2 m/s	20°/s
Component Feeding	<ul style="list-style-type: none"> • 12 x 2" GelPaks or Waffle Trays optional 4 x 4" • 8" BlueTape table with die ejector as an option • Customized trays 	
Component Alignment	<ul style="list-style-type: none"> • Camera based with referencing process • (+/- 1 µm capability) • Based on optical distance sensor • (+/- 0.5 µm capability) 	
Housing and Control	<ul style="list-style-type: none"> • Steel base • Cover with sliding doors • Control System with PC, Displays, Keyboard & Trackball • Motion Control System for linear and rotary motion system 	

What we do

ficonTEC designs and produces automated production equipment for the assembling or testing of components.

We are the market leader in the field of equipment for the assembly or test of micro-optics or opto-electronics such as laser diode manufacture, medical technology, security and military engineering, as well as telecommunications.



Contact us

EUROPE

ficonTEC Service GmbH, Rehland 8, 28832 Achim, Germany
 Phone: +49 4202 51160-0, Fax: +49 4202 51160-090
 Mail: info@ficontec.com

USA

ficonTEC (USA) Corporation, 25 Calle Canela, San Clemente, CA 92673, USA
 Phone: +1 949 388-5800, Fax: +1 949 388-1489
 Mail: usa@ficontec.com

ASIA

ficonTEC Trading (Shanghai) Limited Company
 Rm. 303, Floor 3, No. 150 Liulin Road, Huangpu District 200021, Shanghai, PRC
 Phone: +86-21-5273 0985, Fax: +86-21-5273 0985
 Mail: china@ficontec.com

www.ficontec.com



ISO 9001 Certification

ficonTEC Service GmbH is licensed to ISO 9001:2008 certification, by DNV GL/Hamburg, Germany.