

DIE BONDER & COMPONENT PLACER

T-5300

For over 40 years now, Tresky has been synonymous for perfect micro-assembly equipment in the world of R&D and small-scale production. Customers know and love Tresky because the equipment is so easy to learn and use: you can be productive from day one. Manufactured with Swiss precision and dedication to engineering, the machines can remain in use for many years, and they can be adapted and expanded for a large variety of new and evolving applications, keeping the investment always at the cutting edge of technology.

Tresky's **T-5300** adds a motorized, programmable Z-axis to the repertoire of the universal **T-5100**, making it extra useful for repetitive processes in small-scale production, where operator influence must be minimized. The **T-5300** really shines in applications with highest precision requirements, such as flip-chip or laserdiode placement. The **T-5300-W** is equipped with Tresky's electronic die ejector system for pick-up from wafer. An optional high-resolution beam splitter unit allows sub-micron placement accuracy.

Pick from Waffle/Gel Pack

Sub-Micron Alignment Accuracy

Flip-Chip

Pre-Sinter Bonding

Eutectic Die Bonding

Epoxy Dispensing/Stamping

Pick from Wafer

Ultrasonic

UV Curing

Digital Precision XY

MICRO ASSEMBLY

T-5000 SERIES

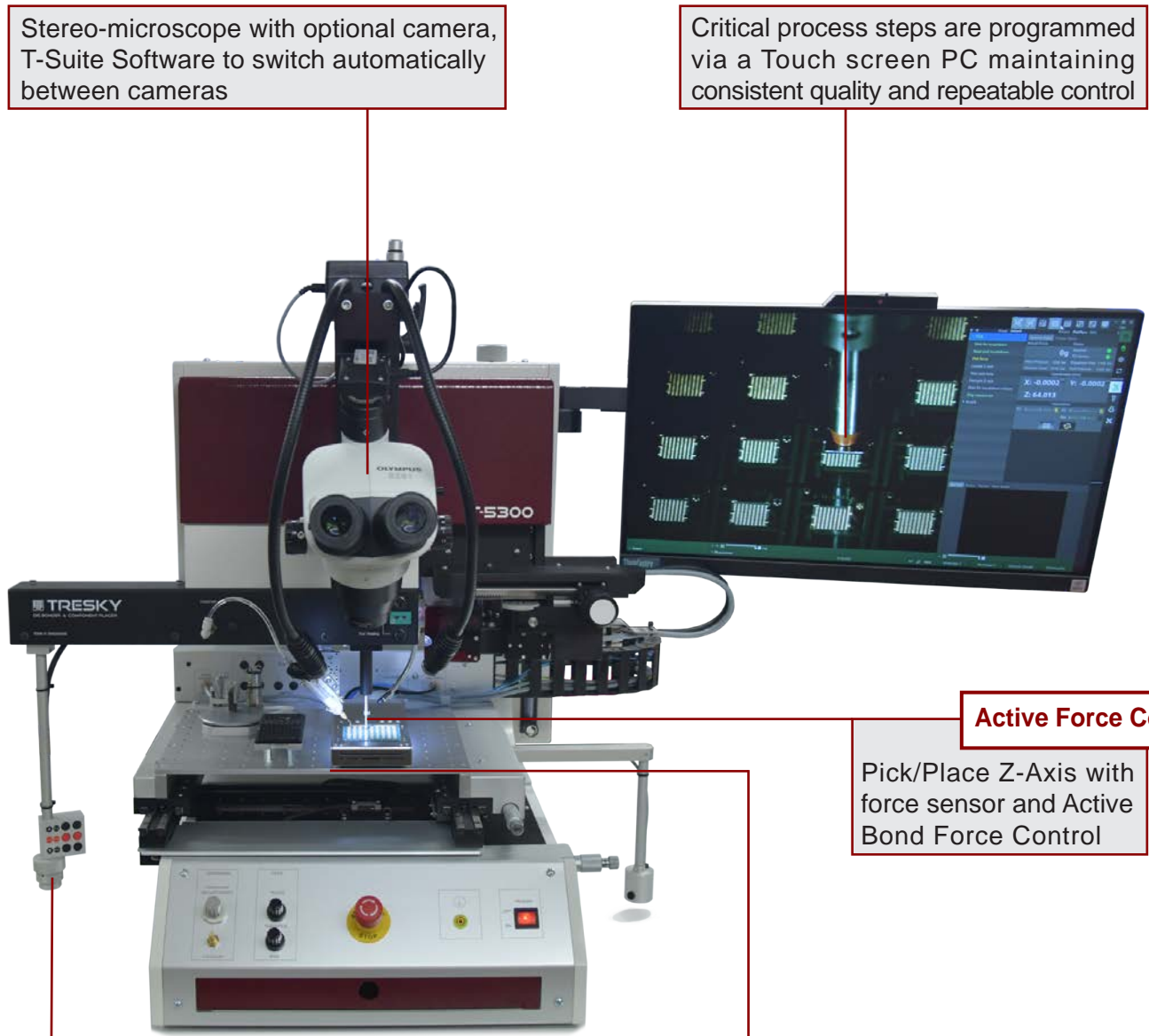


TRESKY

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Operating a Tresky die bonder/placer is intuitive. A few minutes' training is sufficient to start working with the machine. The accuracy and repeatability of placing parts is superb thanks to a number of well-thought out features like a true, linear Z-Axis, Active Force Control, XY Fine Control and high-resolution optics that allow flip-chip placing down to sub-micron accuracy.

The extremely rigid machine base is compact and fits on a lab desk. It can be expanded with many different modules to cover an enormous range of applications. The **T-5300-W** version features up to a 200mm wafer table which sits below the main table with Tresky's electronic die ejection system.



Stereo-microscope with optional camera, T-Suite Software to switch automatically between cameras

Critical process steps are programmed via a Touch screen PC maintaining consistent quality and repeatable control

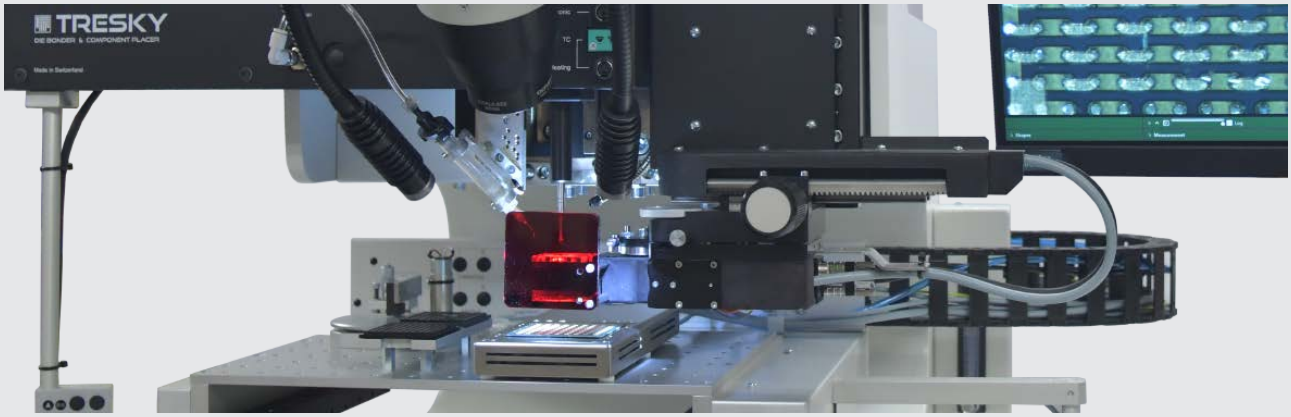
Active Force Control

Pick/Place Z-Axis with force sensor and Active Bond Force Control

True Vertical Technology™

Motorized Z-spindle drive for programmed or quick manual moves with 120 mm travel and True Vertical Technology™. Mini-keypad for up/down motion to defined positions. Manual tool rotation 360° with 3:1 and 18:1 stepdown gear

XY-table with parallel linear guides and active arrest for rapid and exact manual positioning with release/clamp button; micrometer screws for precise adjustment in X and Y
Optional: XY linear encoders for precise position measurement



FLIP-CHIP MPA 5000

High-resolution placement unit with beam splitter and high-resolution camera, LED lighting for upward / downward and Coax looking or superimposed inspection, for ultra-precise Multi Point Alignment (range 50x50mm) at sub-micron resolution. Additional alignment features such as edge detection for top Chip alignment.

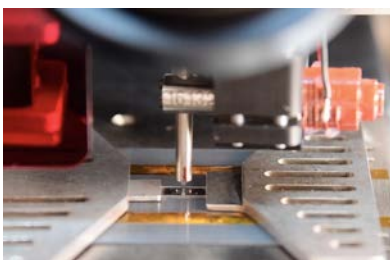
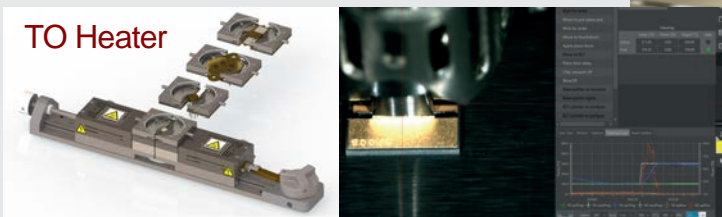


Many different holders for various substrate and package types, waffle/gel packs (2", 4") and trays

T-5300-W

Wafer XY table drawer with proprietary, electronic, Tresky die-ejection system for extremely gentle die ejection from wafer ring or frame

Substrate holders, heatable up to 450°C with internal, high-speed temperature controllers, optional versions with tool heating and flooding with cold or heated forming gas



Optional:
Scrubbing motion or
Ultrasonic bonding action



Optional:
Stamping unit for adhesive
 application by specialized
 stamping tools



Optional:
 2nd spindle for **preform**
 pickup can be added

TYPICAL AND CUSTOMIZED APPLICATIONS

- Die sorting from wafer into waffle packs or gel packs
- Die attach with adhesive (stamped or dispensed)
- 3D packaging of MEMS, MOEMS, VCSEL, Photonics, ...
- High-precision placement with visual adjustment by beam-splitter unit for look-up inspection of edges, corners or patterns, e.g. for laser bars
- Flip-Chip with ultrasonic die attach
- Flip-Chip with adhesives or anisotropic foils
- Pre-Sinter bonding
- Sensor assembly
- UV curing of die attach
- Eutectic bonding of AuSi, Copper Pillar and others
- Ultrasonic bonding on a curved surface

TECHNICAL DATA

XY- Movement (placement stage):	220mm x 220mm	(manual)
Z- Movement:	120mm	(automatic with Z-Measurement resolution $\pm 0.001\text{mm}$)
Spindle Rotation:	360°	(unlimited)
Bond Force:	20g - 4000g	(other force ranges available 10g - 10000g)
Max. PC Board-/ Substrate Size:	400mm x 280mm	
Placement accuracy:	$\pm 10\mu\text{m}$; $< \pm 1\mu\text{m}$ optional	(process and option depending)
Optical Resolution (Flip-Chip Optic 1x option):	1.25 μm	
Optical Resolution (Flip-Chip Optic 2x option):	0.625 μm	
Dimensions (with All in one PC):	1155mm x 790mm x 728mm	
Weight:	95kg	(+30kg option depending)
Voltage:	110V / 220V	

TRESKY

SOLUTIONS FOR MICROELECTRONICS ASSEMBLY

Dr. Tresky AG offers manual and semi-manual Die Bonding solutions for small and medium sized electronics assembly facilities, laboratories and R&D.

As a solutions provider, we support specific applications with our highly accurate and innovative systems. Starting from manual to semi automatic, from adhesives to tools, exactly as per our customer's need. This is made possible by our extensive experience and modular setup which allows adapting various basic systems with an huge selction of options for new processes.

With almost 2000 devices installed across the world, often with special & customized equipment, we diligently work to fulfill complex process requirements. Supported by a fast, flexible and professional team ready to be tested, we look forward to your challenge!

Note: All specifications are subject to change without notice

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