

# INTERNATIONAL DIRECTORY OF WAFER-BONDING EQUIPMENT AND SERVICES

Notes: This listing is limited by the amount of space available. For complete product information, please contact the vendors' websites. Issue advertisers are listed in **boldface** type. CM=Consult Manufacturer.

WAFER-BONDING EQUIPMENT			
<b>Company Name</b> <b>Address</b> ☎ Phone 🏠 Year Founded	<b>Model(s)</b> Ⓞ Introduced ☐ Level of Automation A=Automated SA=Semi-Automated M=Manual	✖ <b>Wafer-to-Wafer Alignment Methods</b> WF=Wafer Flats (Y or N) with accuracy in $\mu\text{m}$ ; OA=(Y or N) with accuracy in $\mu\text{m}$ ; O=Other (specify); BPR=Bonding Chamber(s) Pressure Ranges; BPT=Bonding T pressure and $^{\circ}\text{C}$ ; RTPB=Room Temperature Bonding (Y or N); WPP=Wafer Pre-cleaning/Conditioning Plasma (Y or N), or O=Other ➤ <b>Principal Applications</b> W=Wafers, size ranges in mm; FB=Aligned Fusion Bonding; AN=Anodic Bonding; AB=Adhesive Bonding; DS=Direct Silicon Bonding; MM=Metal-to-Metal Bonding; TC=Thermocompression Bonding; SW=Silicon Wafers, ICs; CW=Compound Semiconductor Wafers; MW=Wafers, MEMS Devices; P=Production; R&D=Research & Development; O=Other (specify)	<b>[web site]</b> ✖ Customer Contact ☎ Phone
Applied Microengineering Ltd. 173 Curie Ave. Didcot Oxfordshire OX11 0QG United Kingdom ☎ +44.1235.833934 🏠 1992	AWB-04 Platform Ⓞ 2000 ☐ SA, M	✖ WF with accuracy of 50 $\mu\text{m}$ ; OA with accuracy of $\pm 2.5\mu\text{m}$ ; BPR=2Bar to 2 x 10 <sup>-6</sup> mBar; BPT=5kN and 560 $^{\circ}\text{C}$ max.; RTB=Y; WPP=N, O=Awaiting patent; PTC=Y, dependent on bond type ➤ FB, AN, AB, DS, MM, TC, SW, CW, MW, P, R&D, O=Bonding process development	[aml.co.uk] ✖ Rob Santilli rob@aml.co.uk ☎ +44.1235.833934
<b>EV Group (EVG)</b> <b>E. Thallner GmbH</b> <b>DI Erich Thallner Strasse 1</b> <b>A-4780 Schaefering, Austria</b> ☎ +43.7712.5311.0 🏠 1980	EVG501, EVG520IS, EVG540, EVG560, EVG Gemini, EVG810LT, EVG850SOI, More (CM) Ⓞ 1985-2005 ☐ A, SA, M	✖ WF with accuracy of $\pm 15\mu\text{m}$ ; OA with accuracy of $<5\mu\text{m}$ ; O=In situ aligned bonding with accuracy of 0.5 $\mu\text{m}$ ; BPR=3Bar; BPT=1e-5mBar and 650 $^{\circ}\text{C}$ ; RTPB=Y; WPP=Y; PTC=CM ➤ W pieces to 300mm, FB, AN, AB, DS, MM, TC, SW, CW, MW, P, R&D, O=Spin On Glass (SOG), chip to wafer bonding, SOI, temporary bonding, transparent packaging for displays, image sensors	[evgroup.com] ✖ Steven Dwyer, VP and GM, North America s.dwyer@evgroup.com ☎ 408.727.9600
SÜSS MicroTec AG Schleissheimer Str. 90 D-85748 Garching, Munich Germany ☎ +49.9.89.32770.0 🏠 1949	CM Ⓞ 1995 ☐ A, SA, M	✖ WF=CM; OA=CM; BPR=CM; BPT=CM; RTPB=CM; WPP=Y; PTC=Y ➤ W up to 300mm, FB, AN, AB, DS, MM, TC, SW, CW, MW, P, R&D	[suss.com] ✖ Dr. Amir R. Mirza, International Product Manager—Wafer Bonders amir.mirza@suss.com ☎ 802.244.5181
WAFER-BONDING SERVICES			
<b>Company Name</b> <b>Address</b> ☎ Phone 🏠 Year Founded	✓ <b>Principal Services</b> W=Wafers size or range in mm; FB=Aligned Fusion Bonding; AN=Anodic Bonding; AB= Adhesive Bonding; DS=Direct Silicon Bonding; MM=Metal-to-Metal Bonding; TC=Thermocompression Bonding; SWSilicon Wafers, ICs; CW=Compound Semiconductor Wafers; MW=Wafers, MEMS devices; P=Production; R&D=Research & Development; OOther (specify)	<b>[web site]</b> ✖ Customer Contact ☎ Phone	
Applied Microengineering Ltd. 173 Curie Ave. Didcot Oxfordshire OX11 0QG United Kingdom ☎ +44.1235.833934 🏠 1992	✓ W=50 to 200mm; FB; AN; AB; DS; MM; TC; SW; CW; MW; P; R&D; O=Bonding process development, pre- and post-wafer bonding services (wafer cleaning and activation for low temperature bonding, characterization and metrology), surface roughness, profiling, wafer structuring (channels, holes and conducting vias), wafer processing (deposition and electroplating), wafer preparation (thinning and surface finish via CMP, inspection of bonded assemblies via IR or	[aml.co.uk] ✖ Rob Santilli rob@aml.co.uk ☎ +44.1235.833934	
DALSA Semiconductor 18 Airport Blvd. Bromont, Quebec, Canada J2L 1S7 ☎ 450.534.2321 🏠 2002	✓ W=100 to 150mm; FB; AB; DS; MM; TC; SW; CW; MW; P; R&D; O=HV-CMOS to 650V, third party sub-0.25 $\mu\text{m}$ CMOS, CSWLP, 3D interconnects	[dalsasemi.com] ✖ Luc Ouellet, PE Director, Technology Development luc.ouellet@dalsasemi.com ☎ 450.534.2321 ext. 1333	
Innovative Micro Technology Inc. 75 Robin Hill Rd. Santa Barbara, CA 93117 ☎ 805.681.2853 🏠 2000	✓ W up to 150mm; FB; AN; AB; TC; MW; P; R&D; O=Eutectic, glass frit	[imtmems.com] ✖ Theodore Chi, Marketing Manager ted@imtmems.com ☎ 805.681.2853	
Integrated Sensing Systems (ISSYS) 391 Airport Industrial Dr. Ypsilanti, MI 48198 ☎ 734.547.9896 🏠 1995	✓ W=100-150mm; FB; AN; DS; MW; P; R&D; O=glass frit	[mems-issys.com] ✖ Sonbol Massoud-Ansari, VP—Foundry Services sonbol@mems-issys.com ☎ 734.547.9896 ext. 104	
Sillex Microsystems Bruttovägen 1, SE-175 26 Järfälla, Sweden ☎ +46.0.8.580.249.12 🏠 2000	✓ W=150mm; FB; AN; AB; DS; TC; MW; P; R&D	[sillexmicrosystems.com] ✖ Tomas Bauer, Area Sales Manager, Europe & Asia tomas.bauer@sillexmicrosystems.com	
Ziptronix Inc. 800 Perimeter Park Dr.—Ste. B Morrisville, NC 27560 ☎ 919.459.2400 🏠 2000	✓ W to 300mm plus discrete die; FB; SW; CW; MW; P; R&D; O=CM for proprietary ZIROC bonding process	[ziptronix.com] ✖ Phil Nyborg, CEO and President p.nyborg@ziptronix.com	

<b>Company Name</b> <b>Address</b> ☎ Phone ☒ Fax 🏠 Year Founded	<b>Model</b> ⌚ Introduced ❖ Bonding Area (X, Y in mm) <b>Package Leadframe Capabilities</b> Ⓛ Length in mm Ⓜ Width in mm Ⓣ Thickness in mm	✖ <b>Bond Pitch Capability</b> in $\mu\text{m}@$ 3 sigma Ⓜ <b>Weight</b> in kg Ⓜ <b>Type and Method</b> Ⓟ <b>Bond Placement</b> repeatability in $\mu\text{m}@$ 3 sigma Ⓐ <b>Accuracy</b> in $\mu\text{m}@$ 3 sigma	Ⓟ <b>Footprint</b> (W x D in mm) Ⓜ <b>Material Handling</b> ⌚ <b>Conversion Time</b> in minutes for same leadframe type	<b>Looping Capability</b> Ⓜ <b>Maximum Wire Length</b> in mm Ⓛ <b>Minimum Loop Length</b> in $\mu\text{m}$ ✖ <b>Applications</b> 1. Devices; 2. Hybrids; 3. ICs; 4. Laser diodes; 5. MCMs/Other modules; 6. MEMS/MOEMS; 7. Opto/Nano 8. Smart cards	[web site] ✖ <b>Contact</b> ☎ Phone ☒ Fax 🌐 <b>Additional Offices</b>
<b>F&amp;K Delvotec</b> <b>Bondtechnik GmbH</b> Daimlerstr, 5-7 85521 Ottobrunn, Germany ☎ +49.89.62.9950 ☒ +49.89.62.995100 🏠 1993	6400G5 fine wire wedge bonder ⌚ July 2005 ❖ 250 x 150 Ⓛ 250 Ⓜ 150 Ⓣ 50	✖ 50 Ⓜ 650 Ⓜ Ultrasonic Wedge Ⓟ ±5 Ⓐ ±6	Ⓟ 620 x 1200 Ⓜ Manual, automatic ⌚ 3 minutes	Ⓜ >30 Ⓛ <300 msecS for 2mm loop ✖ 2, 3, 4, 5, 6, 7	[fkdelvotec.com] ✖ <b>Desmond Bradley,</b> <b>Sales &amp; Marketing Mgr.</b> desmond.bradley@de.fkdelvotec.com 🌐 <b>USA: F&amp;K Delvotec Inc.</b> 27182 Burbank Foothill Ranch, CA 92610 ✖ <b>Rick Bailey, General Mgr.</b> rick.bailey@fkdelvotec.com
	6400G5DA deep access fine wire wedge bonder ⌚ July 2005 ❖ 250 x 150 Ⓛ 250 Ⓜ 150 Ⓣ 50	✖ 50 Ⓜ 650 Ⓜ Ultrasonic Wedge Ⓟ ±5 Ⓐ ±6	Ⓟ 620 x 1200 Ⓜ Manual, automatic ⌚ 3 minutes	Ⓜ >30 Ⓛ <450 msecS for 2mm loop ✖ 2, 3, 4, 5, 6, 7	