

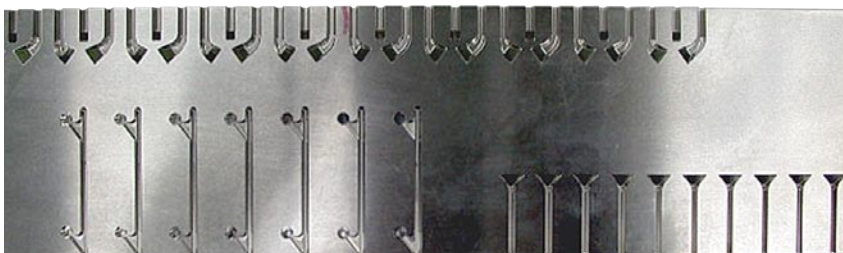
Ultra-high precision manufacture is second nature to the Apic Yamada Corporation of Japan as it is a major supplier to the electronics and optical industries worldwide. Located in the Nagano prefecture – known as the 'Switzerland' of Japan because of the area's focus



Mr. Tadashi Kondo, Vice-President – "We are proud of our craftsmanship."

on precision industry – the company, established in 1950, produces mould dies and leadframes for a wide range of semiconductor devices.

Since first starting making mould dies in Japan in 1969, they began lead-frame production in 1971 and further expanded their specialist capability into the production of moulding equipment in 1972 which became fully-automated in 1981.



Throughout its 50+ year history, this important Japanese Corporation has pursued ever greater technological sophistication and expansion – from the manufacture of leadframes, vital semiconductor component parts, and the development of semiconductor assem-

bly and processing equipment, through to the creation of automated systems for semiconductor production.

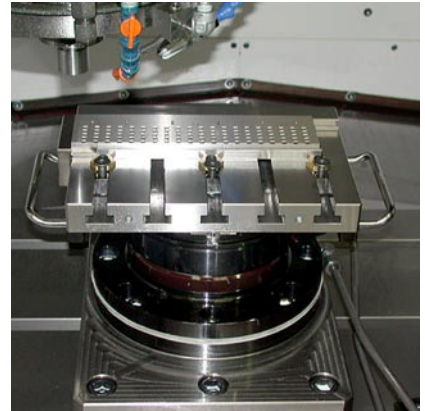
This vertical integration includes their leading semiconductor resin-sealing equipment which now accounts for a third of their sales and the dies they produce for use on this equipment are required to be of the very highest precision. The increasing complexity of semiconductor design and its miniaturisation has fuelled Apic Yamada's requirement for the highest degree of repeatable accuracy from their production processes.

"This has become increasingly important for us as the challenges from our customers - from prototyping to full production – have become even greater," explained Vice-President, Mr. Tadashi Kondo. "We are proud of our craftsmanship and the skill of our workforce and, with the help of System 3R tooling, we are able to produce high-quality dies that cannot be made by other firms in Japan."

Macro tooling was first installed when they moved from manual die-sink EDM operation to more automated equipment. "We are grateful for the recommendation of System 3R that we received from the machine supplier, which gave us the repeatable accuracy that we were looking for," said Supervisor, Mr. Takashi Katayama. "It proved so suc-

cessful that we also use Macro on our ultra-precision and surface grinders."

As with all global suppliers there is a constant need to look at costs and competitiveness and the next stage of palletisation was a logical move for the Company. This programme was led by Mr. Yoshio Watanabe, Production Engineering Manager, who had the confidence in System 3R when shown



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initial prototypes of the Vibration-Damped pallets to put them to the test.

They proved so successful that Apic Yamada were one of the first customers worldwide for MacroMagnum VDP pallets. "As a result of using VDP, tool life has doubled compared with conventional vices, surface roughness has been improved and machining time has been halved," said Mr. Katayama.

Once again, System 3R has shown the effectiveness of the 'One System Partner' approach to enhanced productivity and, like Apic Yamada, is contributing to more efficient manufacturing environments around the world.