



CTS Engineering Ltd.

Company Reg. No. 3686734
V.A.T. Reg.No. 723 5075 50



SPM Design & Build
Software Design
Process Development
Panel Design & Build
Machine Refurbishment
Machine Upgrade
Test Equipment Design & Build



www.ctsautomation.com

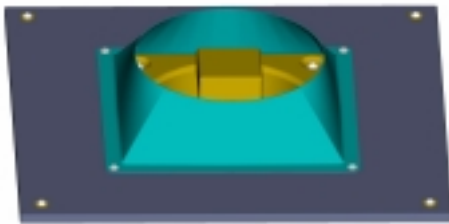
Tel. 01626 833905

Fax. 01626 834661

E-Mail: enquiries@ctsautomation.com

CTS Engineering Ltd.
Units 9, 10 & 14
Daneheath Business Park
Wentworth Road
Heathfield
Newton Abbot
TQ12 6TL

Pro Engineer 2001



The design team is now using the latest CAD solid modelling software: Pro-Engineer 2001.

Pro-Engineer is one of the market leader in parametric solid modelling.

With Pro-Engineer, it is now possible to build “intelligent” models.

As well as part modelling, assembly modelling and detailing, it is possible to perform structural, thermal and fluid dynamic analysis using the latest in finite element analysis software: Mechanica.

Once the 3D solid model is completed, it is possible to use it for rapid prototyping purposes (i.e. stereolithography), CNC machining and then the same model can be used with a co-ordinate measuring machine in order to check the part dimensionally.

It is also possible to work in “reverse engineering”. A part or prototype is manufactured in a solid material (i.e. foam, clay, wood...). Then, it can be digitised in 3 dimensions. The solid model can then be modified and dimensioned using Pro-Engineer.



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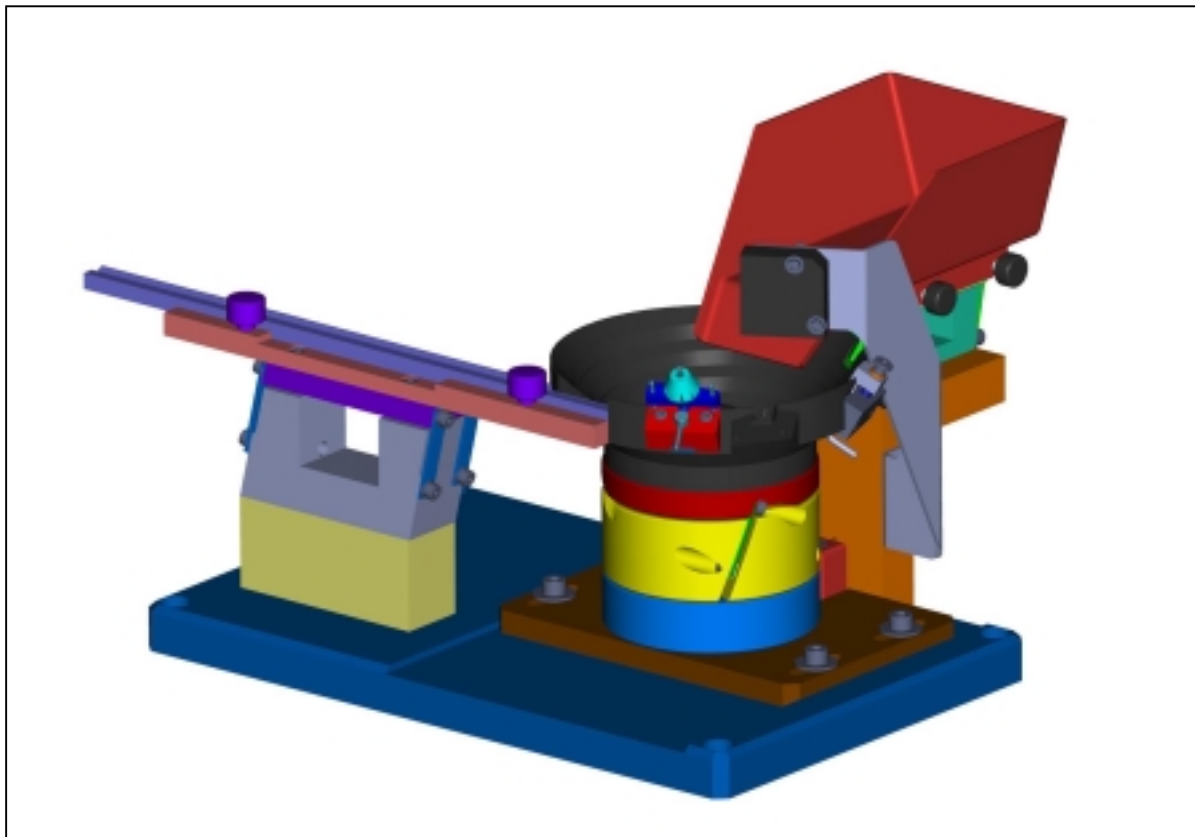
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Bowl Feeders



- Link to Integral Bulk and Linear Feeders
- Stainless Steel Construction Available
- Solid Modelling of Prototypes Before Manufacture
- PLC Control with HMI, Network Download of Production Data Available
- Component Size Range from 0402 Semiconductor Applications to 50mm
- Bowl Machined in One Piece From a Solid Billet

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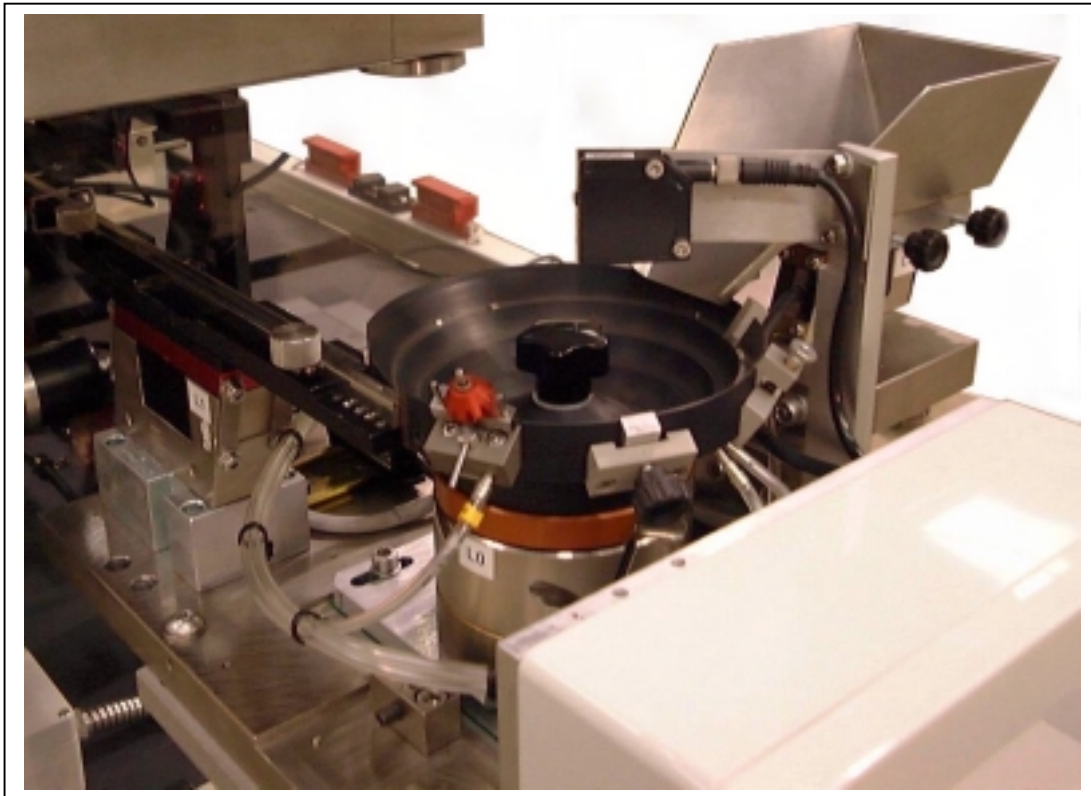
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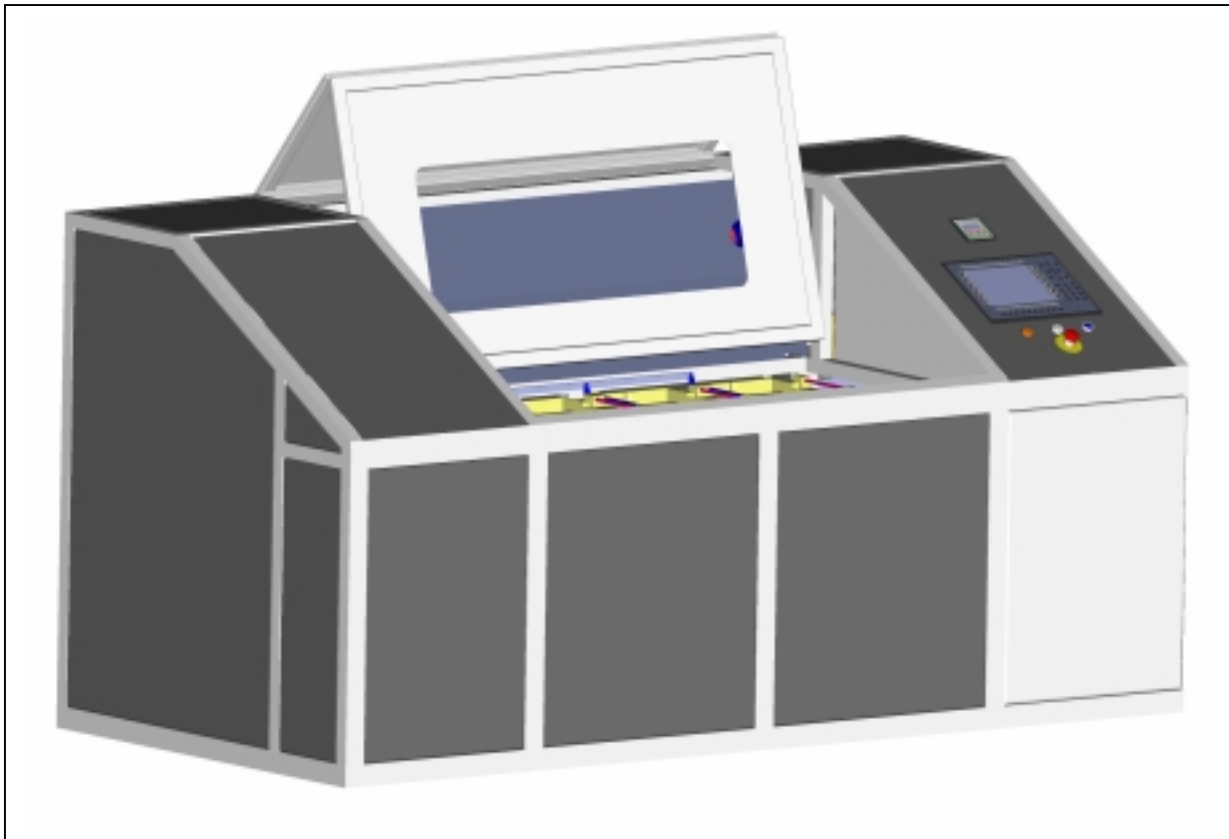
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High DC Voltage/Current Electro-Plating Bath



- Process modelled and optimised before design started
- Fully automated temperature, conductivity and flow control
- Batch data bar-coded input
- Correct Voltage/Current profile recalled from CPU
- High flow across work area for consistent product coating
- Forming controlled between 0-200 Volts, 0-800 Amps
- 30 Systems linked on SCADA system
- Modem link for remote interrogation by CTS Engineers

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Robots



- Experience of integrating different makes of robot
- Linking robots with control and vision systems
- Mechanical experience of designing specialist Grippers/Actuators
- Design of appropriate guarding and interlocking circuits
- Demonstration of 6 Axis Robot available on request
- Robot Speed 3m/s, Repeatability 40 microns

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Non-contact measurement



- Vision system integrated with Bowl/Linear feed and controlling PLC
- Tailored lighting (Front, Back, Coloured) for optimum performance
- Components sorted for oversize and pass
- Record of pass/fail data
- Extruded aluminium framework design

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Laser Wafer Thickness Measurement Rig



- Product moves in controlled path beneath fixed laser to measure thickness at set locations
- PC Controlled X-Y Table
- Laser distance measurement resolution to 1 μm
- Interlocked guard to stop laser exposure to operator
- Touch screen PC and LCD measurement display

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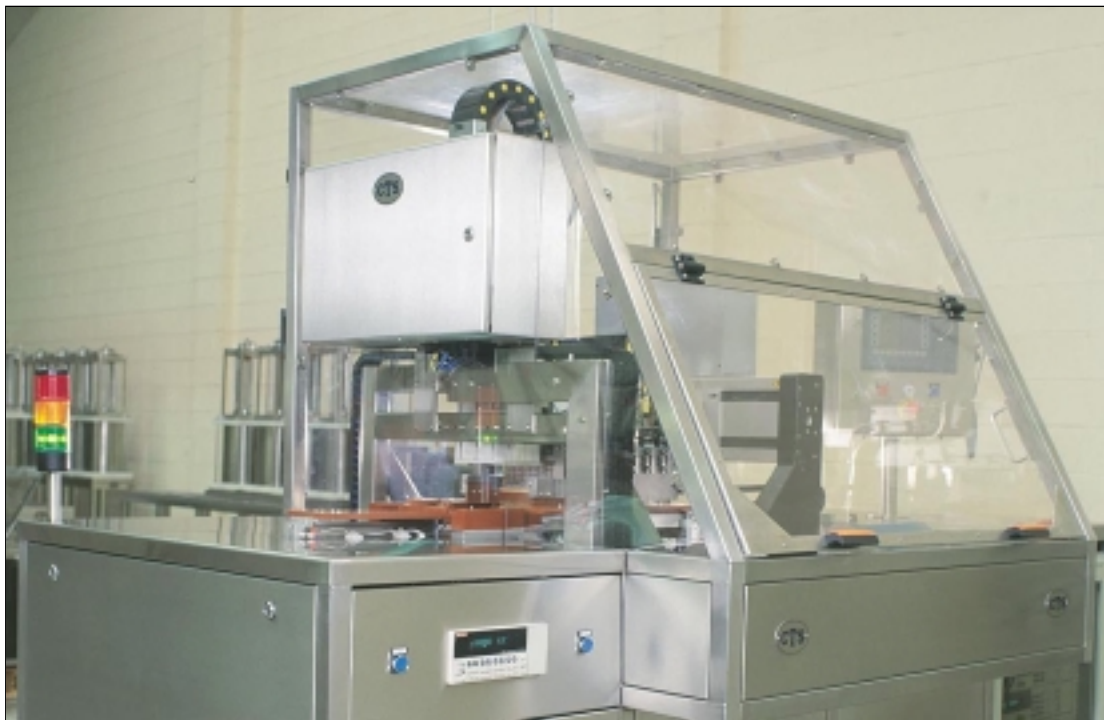
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Component Tester



- Fully Automatic Tester
- Communications with multiple test meters and bridges
- Use of RS232, Ethernet and IEEE488 Protocols, Analogue and Digital I/O
- Full traceability of data with download to network
- Limits file automatically uploaded from product barcode
- 180,000 measurements per hour

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Electro-Plating Bath



- Fully Stainless steel and PTFE construction for aggressive chemical environments
- Interlocked lid to protect operator from large Volts/Current
- Interlocked lid to protect operator from large DC Volts/Current
- Insulation between double skinned heated tank for energy conservation
- Automatic temperature control

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Indexing Conveyor Tunnel Oven



- Single oven chamber temperature controlled throughout (0-300°C)
- Fully stainless construction for aggressive environments
- Fully automatic PLC control of doors, conveyor and temperature,
- Oven chamber extracted to stop fume build-up
- Chamber length 2000mm

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Multi-Stage Indexing Conveyor Tunnel Oven



- Three oven chambers with individual temperature control (0-300°C)
- Three chambers give multi-stage heating
- Fully stainless construction for aggressive environments
- Fully automatic PLC control of doors, conveyor and temperature
- Download of oven data to E-mail
- Construction in two parts for transportation
- Oven length 6750mm

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Rinse Bath



- Fully stainless steel and PTFE construction for aggressive chemical environments
- Adapted from standard bath for spare parts/maintenance continuity
- Installation between double skinned heated tank for energy conservation
- Automatic temperature control
- Conductivity measurement and polishing filters for “clean” rinse
- De-min water supply

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