

60kV Electron Beam Welders

Commonly used for the manufacture of small components including battery cans, medical components, aneroid capsules, latches, bellows, relays and electronic parts including transducers. The low heat input means that sensitive internal electronics packages may be sealed in the device without harm. Applications in the automotive industry include airbag inflators, gearbox components, transmission parts and turbocharger shaft wheel assemblies.



Small Components



Sensors



Automotive Parts

Standard 60kV Machines



Series 2000



CW604 (18)



CW6015 (24/30)

The major components are described below and can be used to configure the desired system specification

Standard Chamber Sizes							
Internal dimensions	12"	14"	18"	24"	24/30"	30/44"	44"
Length [mm] "X"	300	350	450	610	750	1000	1400
Width [mm] "Y"	300	350	450	610	610	750	1000
Height [mm] "Z"	300	350	450	610	610	750	1100
Volume [litres]	27	43	91	227	279	563	1540

Note: These dimensions are approximate and intended for guidance

Other chamber sizes are available on request

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Electron Beam Columns

The standard 60 kV beam column is designed for beam powers up to 6 kW and a heavy-duty column for beam powers up to 15 kW. A range of directly heated tungsten filaments are provided depending on the power, weld profile and duty cycle.

Standard features

- Turbomolecular pumping system
- Isolation valve maintains vacuum
- Down beam illumination
- Viewing prism (pneumatically operated)
- Beam focus and deflection system (static and dynamic deflection in X & Y +3 σ)
- Low cost tungsten filament that is quick and easy to change
- Cathode replacement does not affect mechanical alignment of the column
- Filament jig ensures accurate and repeatable filament change in less than 10 minutes

Viewing System

CCTV & conventional optical systems can be provided with a splitter box that enables both to be used but not simultaneously.



Heavy duty 60 kV up to 15 kW



Filament Jig

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Switch Mode Power Supplies

- Oil free high voltage system (60 kV at 4 kW)
- The control system consists of two analogue loops, kV and mA
- IGBT technology operating at 20 kHz frequency
- High stability output with low ripple
- Low stored energy with automatic shutdown in the event of over voltage
- Standard power supplies for 4, 6, 8, 12 & 15 kW



Tooling

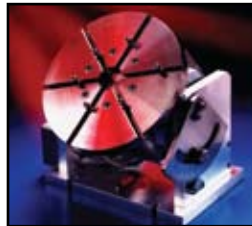
A comprehensive range of manipulators, tooling and fixtures is available including:



XY Tables



Rotary Manipulator



Rotary Tilt



Carousel Tooling

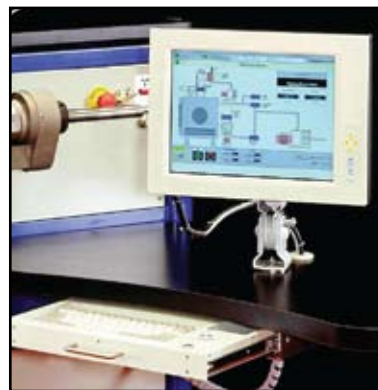


Indexing Unit

Control options – PLC and PC based control systems are fully integrated with either rack mounted touch screen or keyboard based Human Machine Interface (HMI). All machines can be run in automatic or supervisor mode and the dynamic change function is used for initial set-up of the machine in manual mode



The PLC based HMI provides a fully integrated system that can store up to 200 weld recipes and can be set for fully automatic operation



The PC based HMI has the additional capacity to store actual weld data and a Data Logger is available as an option