

winbrogrou.com

In addition to our UK headquarters and USA facilities, Winbro Group Technologies has a number of partner companies strategically located to provide local sales and service support.

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Tooling for high speed drilling of single and simultaneous multiple holes in turbine components

HIGH SPEED EDM Tooling

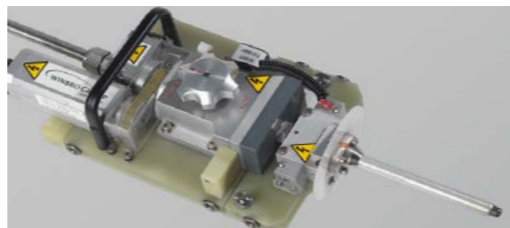


HS EDM TOOLING

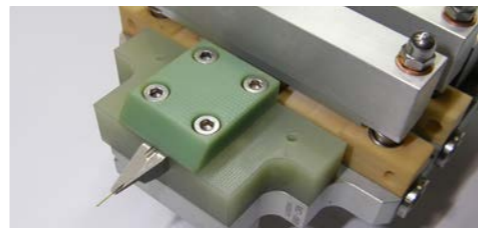
HS EDM TOOLING



Winbro Group Technology engineers have been creating innovative EDM tooling technologies for over 30 years. Our current range of tools support the manufacture of the latest cooling hole requirements in aero and industrial gas turbine components. Winbro tools are designed for de-ionised water systems, providing high speed EDM drilling without the use of dielectric oils.



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Production Ready Solutions

Winbro Group Technologies provides full design and development support to create production ready tooling solutions direct from solid models or drawings. Irrespective of whether the finished product already exists or the project is at the concept stage, Winbro engineers will find the solution.

Product Life Management

All Winbro tooling is designed and manufactured for use with our range of HSD machines, compatible with full tool changer capability. Our dedicated tooling facility provides new tooling, together with a complete repair and refurbishment service. Winbro is committed to through life support of the entire product range and we carry a significant stock of tooling spares and consumables, allowing a quick and efficient response to production requirements. Spares kits are provided for quick and easy change of wear parts.

Custom Yet Standard

Although tools can be and frequently are, made to particular customer requirements, the designs are always based upon standard modules, to provide a production engineered solution that retains flexibility for conversion to future requirements, reducing overall cost.

Electrode Guides

Whatever the access issue - curved guides, ceramic guides, multi-hole nose guides – Winbro will find a solution.

Automatic Electrode Changing

Most single electrode rotating tools can be supplied with an Automatic Electrode Changer (AEC). This is a cartridge on the tool which the operator loads with 12 electrodes. On long machining cycles, the machine will automatically change the electrode 12 times without operator intervention.

Measurement, Vision and Inspection

Winbro tool types include Renishaw probe tool for component inspection, Keyence laser scanning tool and Camera based vision system tool.

Description

HSD (SPR) Single Point Rotary Tool
A well established, versatile tool for multi-axis CNC drilling of shallow or deep holes.

HSD (XSPR) Single Point Rotary Tool
Our new variant, low maintenance, higher power tool, for multi-axis CNC drilling holes.

GT (XSPR) Single Point Rotary Tool
Our highest power tool, for multi-axis CNC drilling of both large and small holes.

HSD SPR or XSPR or GT XSPR
With Automatic Electrode Changer

HSD (SPS) Single Point Static Tool
Electrodes for shaped holes and slots

HSD Multi-hole Tool
Turbine blade and vane drilling – high rate production compared to single holes.
Up to 45 Electrodes (specialist nose guides for your application)
Note: Hole number and size can be configured to meet a variety of applications outside of these tolerances.

GT Multi-hole Tool
The high power tool for rapid multi-hole drilling
Up to 25 Electrodes

HSD Multi-hole Hook Tools
For difficult access between aerofoils on turbine vanes
Quantity as required

Inspection Tools
Renishaw probe, Keyence Laser, Camera

Electrodes

0.25 – 3.00mm Diameter - Up to 700mm Long
(0.010 – 0.120" Diameter - Up to 28" Long)

0.25 – 6.27mm Diameter - Up to 700mm Long
(0.010 – 0.227" Diameter - Up to 28" Long)

0.25 – 6.27mm Diameter - Up to 900mm Long
(0.010 – 0.227" Diameter - Up to 36" Long)

0.25 – 2.90mm Diameter - Up to 457mm Long
(0.010 – 0.100" Diameter - Up to 18" Long)

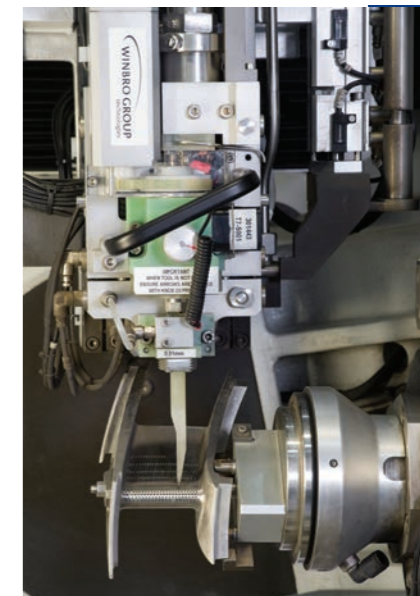
0.25 – 3.00mm Diameter - Up to 700mm Long
(0.010 – 0.120" Diameter - Up to 28" Long)

0.25 – 0.53 mm Diameter - Up to 700mm Long
(0.010 – 0.021" Diameter - Up to 28" Long)
Up to 45 Electrodes (specialist nose guides for your application)
Note: Hole number and size can be configured to meet a variety of applications outside of these tolerances.

0.5 – 2.5mm Diameter - Up to 600mm Long
(0.020 – 0.100" Diameter - Up to 24" Long)
Up to 25 Electrodes

0.25 – 1.00 mm Diameter Typical
(0.010- 0.040")
Quantity as required

Renishaw probe, Keyence Laser, Camera



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1. GT XSPR Tool with long guide quill
2. SPS Tool for shaped electrodes
3. Renishaw probe
4. Drilling a nozzle guide vane with a custom guide quill for access
5. Multitool showing Erowa locations and electrical contacts.