RAINFORD PRECISION

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Machining *NEWS*

KERN Micro Pro

5 axis machining centre

High Accuracy within a **Compact Footprint**

1.51 m width × 3.1 m length

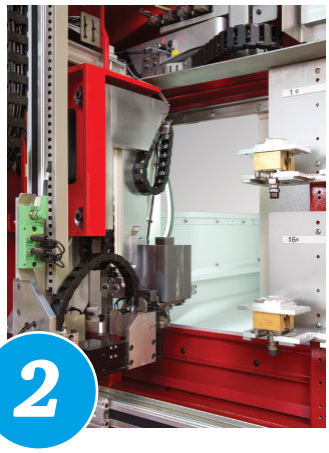
The ***NEW*** **KERN Micro Pro** 5 axis machining centre not only has a very compact footprint of 1.51 m × 3.11 m, it accommodates workpieces as large as 350 mm diameter by 200 mm high with a maximum weight of 50 Kg for machining.

KERN machines are used predominately by customers wanting **higher accuracy** on their components and **greater consistency** when hitting their target dimensions.

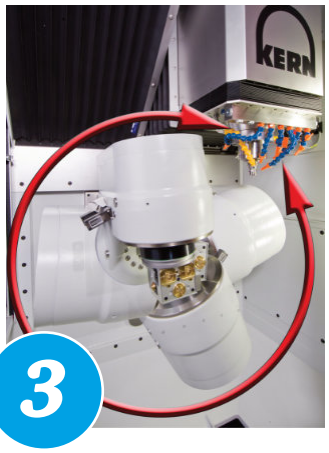
The ***extra value*** these machines provide is achieved largely by the great attention given to design details and the care taken during manufacture, for example ensuring heat does not affect accuracy during the operation of the machine.

FEATURES to help you achieve your goals

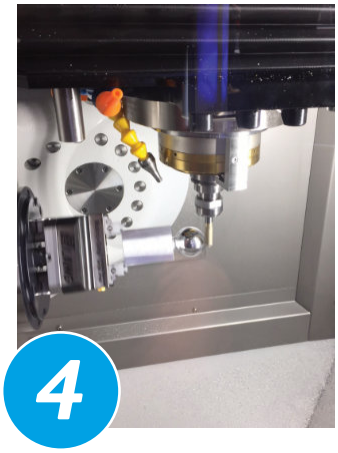
Effective Tool Changeovers
The unique tool magazine with 90 tool positions located along the side of the machine, enables the operator to quickly change pallets holding 9 tools in one operation. A complete change of 90 tools will only take one to two minutes.



Simple Automation (option)
For customers with small component sizes and small batch sizes the 30 position integral magazine will be very attractive, this unit fits under the tool magazine pallets and can change workpieces up to 70 × 70 × 150 mm high.



2 axis table with 280° swivel
The 2-axis table has a swivelling range of ±110° (with an option of −170° to +110° giving a total 280°). The extra capability is very useful to remove swarf from pockets prior to machining with small diameter cutters.



C Axis rotation 200 rpm
The rotary axis can be rotated at up to 200 rpm giving the capability to produce some small features using milling cutters to turn.

Impressive KERN Micro Pro 5 axis machining example

To demonstrate just how accurate 5 axis machining can be, KERN manufactured a test piece with 16 flats, milled on a 50 mm square brass block. Each flat was produced with the tilt axis in a different position and swivelled. The spindle was positioned using different combinations of axis movement to machine the flats. For one row of flats the machine table was rotated through −45, −60 and −70 degrees in the B axis and 90 and 144.74 degrees in the C axis *(see rainfordprecision.com/**videos**)*.

The results show all the surfaces produced in the row have only deviated by +/-0.0005 mm and all 16 surfaces are flat to within 0.0023 mm, ***impressive accurate machining***.

Surface Measurements

Y-Axis \ X-Axis (Row No.)	1	2	3	4
1	0.0006	-0.0012	0.0004	0.0007
2	0.0007	0.0004	-0.0005	0.001
3	0.0011	-0.0006	0.0003	0.0002
4	0.0003	0.0007	0.0009	0.0006

Axis Position	B	C	B	C	B	C	B	C
1	0	0	-75	0	-35	0	-48.64	-41.77
2	-75	90	-65	0	-25	0	-60	-45
3	-45	90	-55	0	-15	0	-60	-90
4	-60	144.74	-45	0	-5	0	0	0

Visitors are welcome, see the machines in action!
As well as being a machine manufacturer, KERN are also a high precision sub-contract machining company. This allows them to demonstrate their machines in use, producing components using high levels of automation.

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Find out more, visit our website
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