

Machine series

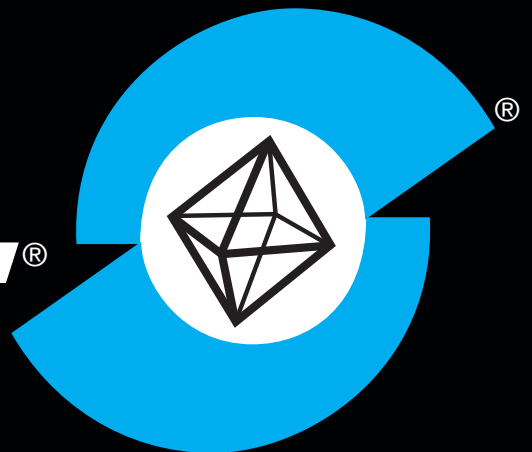
Dia-2100-CNC 2003 Edition

Universal Automatic Sharpening Machine



***LACH
DIAMANT***[®]

established 1922



Leader in Diamond Grinding Technology



LACH DIAMANT

Dia-2100-CNC

The Universal Automatic for Service and Manufacturing

The »Dia-2100-CNC« was developed as an universal sharpening machine in order to assure the sharpening of all diamond tools on the market for the wood and plastic industry.

LACH-DIAMANT, like no other manufacturer, can point out to three decades of experience, since 1973, in the development and manufacturing of polycrystalline diamond tools (PCD).

The »Dia-2100-CNC« can easily be operated without special programming knowledge. Ideal for the diamond tool newcomer, for sharpening service or for production.

LACH-DIAMANT placed special emphasis on manufacturing high precision, long service life components and machine rigidity for 24-hour operation. In addition, LACH-DIAMANT developed simple operating instructions.

The »Dia-2100-CNC« 2003 Edition is equipped with the improved spark generator »EDGplus®«. Surface qualities of $R_a = 0,2 \mu\text{m}$ and better, are obtained with copper wheels or the (simpler to operate and less expensive) electrographite wheel.

With the installed 3-D measuring system the dependability of the total concept is complete. From the initial to the final inspection, the diamond tool is monitored in the machine during the sharpening process and, if desired, the report can be printed out with the supplied printer (see illustration above).



Dia-2100-CNC

For all diamond tools and from the universal individual to multiple and series manufacturing

DIAMANT[®]

CNC Edition 2003

Sharpening Machine Manufacturing of Diamond Tools



The new »Dia-2100-CNC« 2003 Edition can be equipped with either single or multiple tools and is also suited for sharpening operation.

The »Dia-2100-CNC« is universally designed so that it is capable of all types operations regardless if they involve shear angled jointers, bits or router bits, profile tools, grooving tools, scoring tools, hoggers or saws (for examples see the right notebook).

All programmes include simple operator instructions.

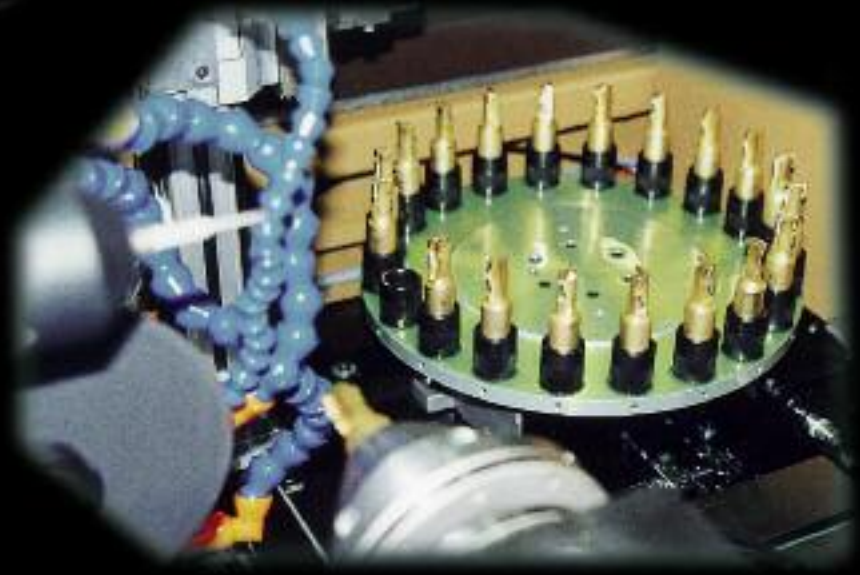
Multiple manufacturing in one spindle clamping (example: hoggers illustration above) or saws up to Ø 600 mm, scoring tools and shear angled jointing cutters – easy processing – possible with special programmes already included in the price.

Series manufacturing and service of diamond routerbits by means of handling system »ecomat« (see illustration below). This is available as an option and can be installed later.

... and all of this dependable and precise – just the proven LACH-DIAMANT machine quality.

CNC

**d saws –
individual manufacturing
manufacturing**



»Dia-2100-CNC« 2003 Edition

Sharpening of all PCD diamond tools for wood and plastic processing

Examples



Diamond router bits – shear angle



Diamond jointer tools – shear angle



Diamond saws – all tooth shapes



Multiple manufacturing of diamond tools in one clamping, for example circumferential saws



Diamond profile tools

... even with all of this you have not utilized all applications possible with the »Dia-2100-CNC« 2003 Edition. LACH-DIAMANT will tell you the advantages of the »Dia-2100-CNC« 2003 Edition also for series manufacturing, for example of PCD blanks.

Since 1973, **LACH-DIAMANT** has been manufacturing polycrystalline diamond tools for the economic processing of wood, all wood-like materials, plastics and non-ferrous metals, such as aluminium.



LACH-DIAMANT, founded in 1922 as a diamond grinding company for the grinding of natural diamonds (brilliants) is considered today, 83 years after the founding, to be the world-wide pioneer in the diamond tool industry.



The spark erosion machines, developed since 1979 by **LACH-DIAMANT** attest to their superior manufacturing technology and know-how.



For questions concerning your PCD Diamond Processing, we are happy to share our experience with you.

Machine series

Dia-2100-CNC 2003 Edition

Technical data

Axes

X-axis	420 mm
Y-axis	420 mm
Z-axis	240 mm
C-axis	360°
B-axis	± 20° manual
E-axis	360° manual
F-axis	80 mm
Position accuracy of CNC-axes	0,001 mm
Repeating accuracy CNC-axis	0,001 mm
Working Table	510 x 595 mm (6 T-slots)
Max. Electrode Width	120 mm
Max. Dia-tool/-saw-Ø	800 mm
Shear Angle	up to 45°
Tool Arbor	ISO 40/SK 40
Electrode retainer (holder)	HSK 50/32 HSK 50/10 for very tight tooth spacing

Computer

IBM compatible industrial computer	
Multi-Axes processor, max. 8 axes	
Pentium	min. 400 MHz
Hard drive	20 GB
RAM (expandable to max. 256 MB)	128 MB
Color monitor	SVGA
Floppy drive	3 1/2"
Service modem	56 Kbps
Printer	
Option: LAN Network card	

Measuring

3-D Measuring System

Dimensions

Machine	2500 x 1700 x 2000 mm*
Control	600 x 600 x 1700 mm
Weight	2800 kg
Work space requirement	2000 x 3000 x 2500 mm

Venting

Capacity	600 m³/h
Filter class	stationary filter class "S"

Safety Systems

double	
Fire warning system	stops the erosion process immediatey at danger
Fire extinguishing system CO ₂	Fill quantity 6 kg

Electric Data

Input Voltage	6 kW 230/400 V – 50 Hz
Fuse	400 V/16 A

Color

Sand RAL 1011, Brown RAL 8014

The »Dia-2100-CNC« with »EDGplus®« – operating mode EDG* – is an universal automatic sharpening machine for all PCD-diamond tools. (*EDG = Electrical Discharge Grinding)

The special generator »EDGplus®« 2003 design, with optional graphite, copper or »EDGplus®« wheel electrodes, removes material through erosion.

In the newly modified design, the operator at the monitor can specify the desired material removal or surface quality from one type of diamond to another.

Through the newly developed software it is possible to store customer-specific surface qualities for each tool and to reproduce these specifications. This is especially interesting for service-sharpening operations

The »Dia-2100-CNC« is used as an universal automatic machine for the manufacturing of new tools as well as for service sharpening. The operation of the optimized menu does not require any special previous experience or knowledge.

Multiple manufacturing: diamond boring tools or saws/hoggers on one spindle are possible.

Series manufacturing: With the option of the handling system »ecomat« the series production of diamond router bits is possible.

Further robotic handling systems are available as options – assembly line production.

LACH-DIAMANT reserves the right for product improvements and technical changes!



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