

»Dia-2100-classic«

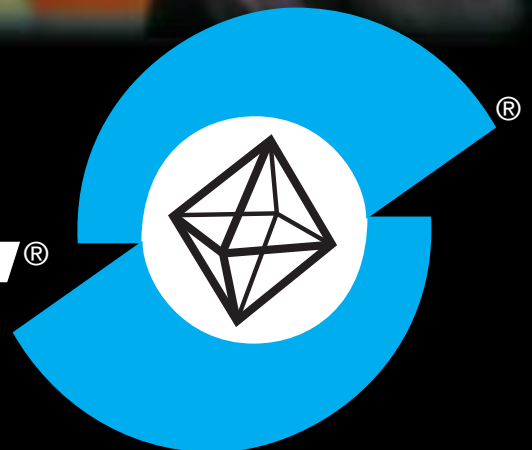
Edition 2005

Universal Automatic Sharpening Machine

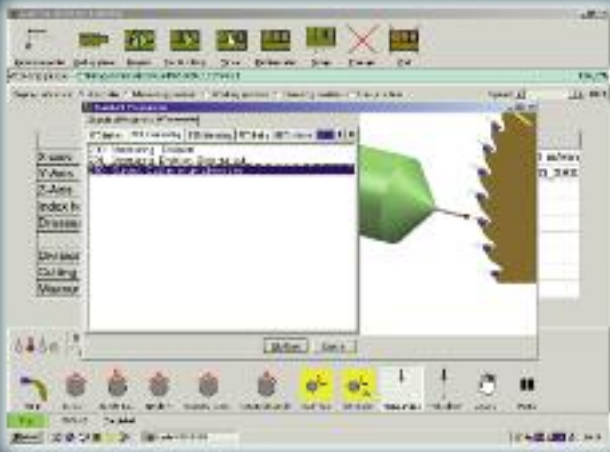


**LACH
DIAMANT**[®]

established 1922



Leader in Diamond Grinding Technology



The »Dia-2100-classic« Edition 2005 was developed as an universal automatic sharpening machine for production and service.

The »Dia-2100-classic« Edition 2005 fulfills all requirements for the sharpening of diamond tools for wood, plastics, circuit boards and laminate flooring presently on the market.

LACH DIAMANT, like no other manufacturer, can look back at more than 30 years of experience (since 1973) in the development and manufacturing of polycrystalline diamond tools (PCD).

The »Dia-2100-classic« Edition 2005 can be easily operated without special programming knowledge, suited also for newcomers in the service / sharpening business as well as for production.

The »Dia-2100-classic« Edition 2005 has an active menu guide at the monitor based on Microsoft Windows®, supported by graphic depictions and video presentations. With this, an assured operating sequence, starting with the set-up of the machine, selection and measuring of the specific tools, sharpening process and final control is given.

In addition, the »Dia-2100-classic« Edition 2005 can be connected to the newly developed »dia-ToolNet« which allows the measured tools and



LACH DIA »Dia-2100

**The Universal Automatic
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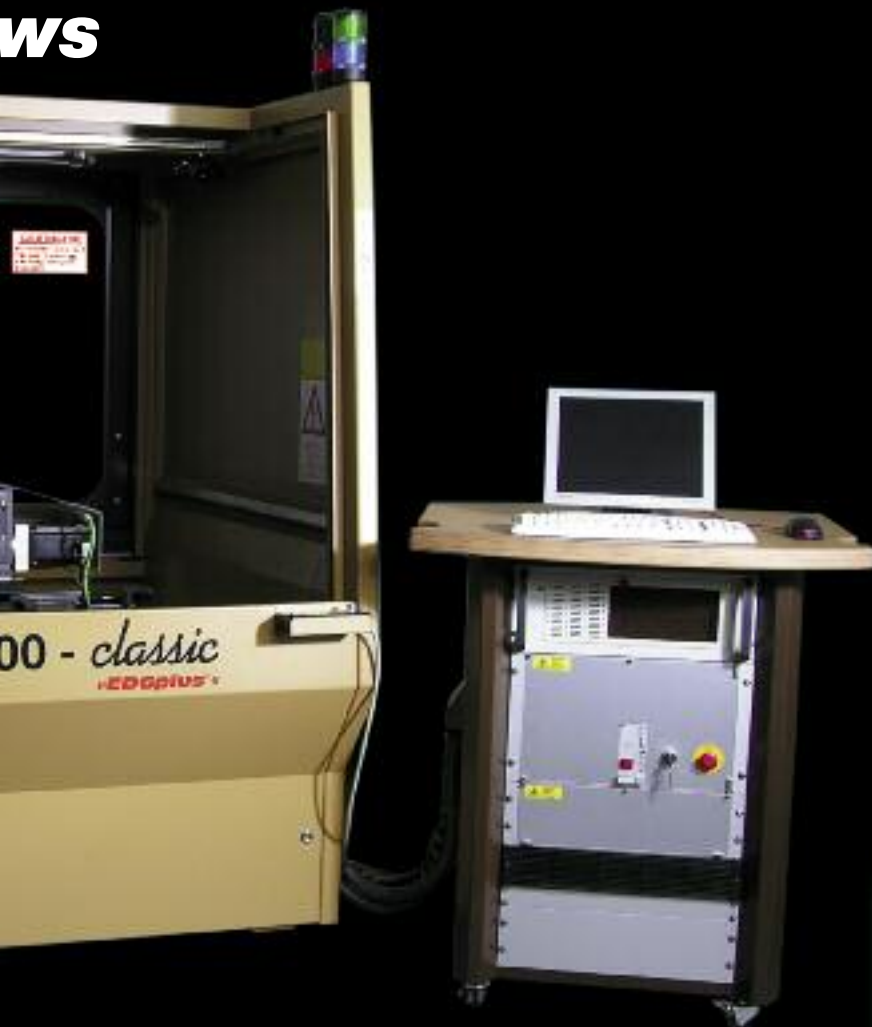


**... also a result
of successful
EDG Spark Erosion
PCD Diamond**

amant[®] *o-classic*«

Edition 2005

Automatic Sharpening Service and Diamond Tools and Saws



**It of 25 years
building of
ion Machines for
d Processing**



their stored data to be externally recalled from the »dia-ToolNet« station.

The »Dia-2100-classic« Edition 2005 has been equipped with the further developed spark generator EDGplus. Surface qualities, depending on PCD quality, of $R_a = 0.2 \mu$ and better, are obtained with copper or the easier to handle and less expensive electro-graphite discs.

The »Dia-2100-classic« Edition 2005 can be equipped with either single or multiple tools and is also suited for sharpening operation.

The »Dia-2100-classic« Edition 2005 is universally designed so that it is capable of all types of operations regardless if they involve shear angled jointers, bits or router bits, profile tools, grooving tools, scoring tools, hoggers or saws (for example see the right notebook).

The programmes included in delivery allow multiple manufacturing in one spindle set-up, such as hogging heads (picture above) or saws up to $\varnothing 800$ mm, scoring (also for circuit board processing PCB), sheer angled jointing cutters, etc.

The handling system »ecomat« (picture below) for series production and service of diamond routers is offered as an option for subsequent installation.



»Dia-2100-classic«

Edition 2005

Sharpening of PCD Diamond Tools – Examples



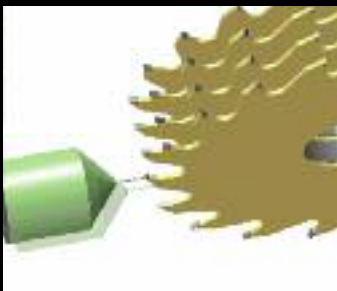
Diamond routerbits – shear angle



Diamond jointing cutters – shear angle



Diamond saws – different tooth shapes



Multiple manufacturing, example diamond saws, in one clamping



Sharpening of diamond scoring tools for laminates for printed circuit boards (PCB)



Diamond profile tools

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.

»Dia-2100-classic«

Edition 2005

Technical Data

Axes

X-Axis	420 mm
Y-Axis	420 mm
Z-Axis	240 mm
C-Axis	360°
B-Axis	± 22°
E-Axis	360°
F-Axis	80 mm
Positioning accuracy CNC-Axes	0,001 mm
Repeatability CNC-Axes	0,001 mm
Work table	510 x 595 mm
Width of electrode	up to 100 mm
Dia tools/saws-ø	up to 800 mm
Shear angle	up to 45°
Tool arbor	ISO 40/SK 40
Electrode arbor	HSK 50/32 HSK 50/10

Control

Industrial-PC with multi-axes processor, max. 8 axes	
Operating system	Windows® 2000
Monitor	15" LCD TFT Monitor

Network Connection

Ethernet Twisted Pair
»Dia-ToolNet« compatible
for direct connection to the »Dia-ToolNet« station

Measuring

3-D-Measuring system

Dimensions

Machine	2500 x 1500 x 2150 mm
Control	900 x 900 x 1030 mm
Weight	2500 kg
Work space requirement	5000 x 3000 x 2500 mm

Ventilation

Air capacity	600m ³ /h
Filter class	Stationary filter class "S"

Safety Systems

double safety by two self-sustaining systems
Fire warning system stops the eroding process immediately in an emergency
Fire extinguishing system CO₂ Fill quantity 6 kg

Connection data

Input voltage	6 kW 230/400 V – 50 Hz
Fuse	400 V/16 A
Connection for compressed air	8 bar

Color

Sand RAL 1011, Brown RAL 8014

The »Dia-2100-classic« with »EDGplus®«-operating mode EDG* - is an universal automatic sharpening machine for service and production for all PCD diamond tools (*EDG = Electrical Discharge Grinding). Erosion takes place with the newly developed digital generator »EDGplus®« model 2005, with either graphite or copper disk electrodes.

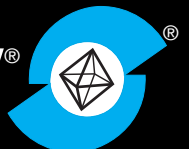
This generator can store and reproduce customer-specific surface qualities for each tool. In addition, it is possible to optimize tool-specific removal rate and efficiency. With this, **LACH-DIAMANT** was able to improve significantly the up-to-now conventional processing steps such as roughing, finishing and fine finishing.

The »Dia-2100-classic« Edition 2005 can be operated with complete tool sets in multiple manufacturing operation in one spindle set-up.

For the continuous sharpening of diamond router bits, the handling system »ecomat« is available for integration into the working area (later installation possible).

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

LACH DIAMANT®



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