



The 5-axis cutting robot Brilliant 3D has 2 additional axes (D, E-axis). This allows the specimen to be positioned and cut automatically in a single operation in nearly any position to the cutting wheel.

The device has all the features of the proven Brilliant 275 universal wet abrasive cut-off machine and meets the



#### OPERATION

**Touch-Screen display** for the ATM-Software control is easy to read thanks to smart phone technology and even easier to operate. Compact program sequences are easy to compile and therefore enable automated program sequences. Update and backed-up possible via USB.

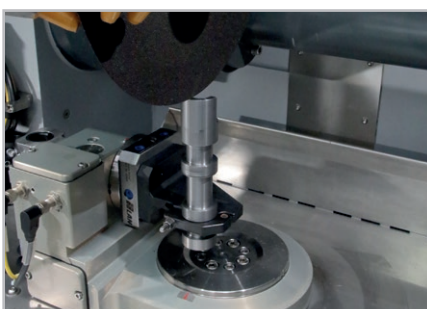
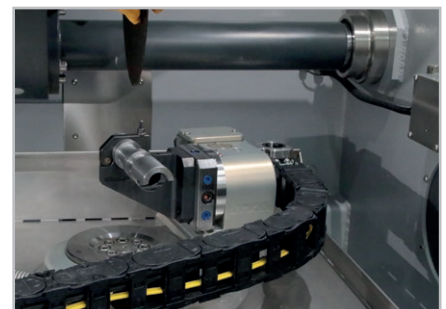
#### MULTI-POSITION PROCESS MPP

With the "Multi-Position-Process" (MPP) you can place multiple specimens on the table and cut them in one sequence. The teach-in function enables a simple and user-friendly setting of various cutting positions.

## BRILLANT 3D

highest demands on space available and cutting operations.

The cuts can be precisely positioned without reclamping, so complicated instructions for cutting as well as the number of clamping tools and cutting failures are minimized. Full automation makes the entire process effectively and efficiently.



#### REMOTE MAINTENANCE

Using your existing broadband Internet connection, ATM provides an online fault diagnosis and operator support.

#### CUT OPTIMIZATION

In addition to the type of cut, variable pulse-cut feed can also be selected. Rhythmic **pulsed feed** ensures regular cooling and removal of cutting debris from the sample.



## BASIC MODULE

## BRILLANT 3D



## Order No.: M1832001

- » automatic table (X-axis) - note equipment variation
- » automatic cutting wheel movement (Y-axis)
- » automatic touchdetection
- » equipment: automatic cross feed (Z-axis) - note equipment variation
- » highly dynamic drive up to 80 mm/sec.
- » parallel setting of wheel guard during vertical cutting sequences increases cutting capacity
- » economical cutting feed by control of the cutting speed and soft start control
- » variable pulse-cut feed
- » variable speed
- » incl. cutting wheel arbour with wear ring
- » optimal chamber illumination
- » manual control of X-/Y-/Z-axis via an industrial joystick
- » automatic central lubrication (6 bar compressed air required)
- » Touch-Screen display and ATM-Software control
- » optical menu navigation for drawing up precise program sequences with position steps and cutting modes (horizontal, vertical, diagonal, step and segment cut)
- » storage of programs with password; update and backup via USB
- » remote service/support is available via controller
- » large sliding and side door for optimal access to cutting chamber; with safety lock when machine is running
- » Easy-nut – for easy change of cutting wheel
- » sliding door with large window made of scratchproof safety glass
- » options: laser alignment aid, centrifugal separator
- » robust aluminium construction, powder-coated



## EQUIPMENT

## POWER SUPPLY



## Equipment 1

400 V/50 Hz (3Ph/N/PE)

Order No.: A1832000

## Equipment 2

480 V/60 Hz (3Ph/PE)

Order No.: A1832002

## TABLE DRIVE



- » all axis integrated in machine control
- » innovative operation with teach-in programming
- » made of stainless steel

## Equipment 1

## Table with X/Z/E-axis

Order No.: A1832012

Travel X-axis 420 mm

Travel Z-Achse 200 mm

Precision 0.1 mm

Swivel range E-axis 200°

## Equipment 2

## Table with X/Z/E/D-axis

Order No.: A1832013

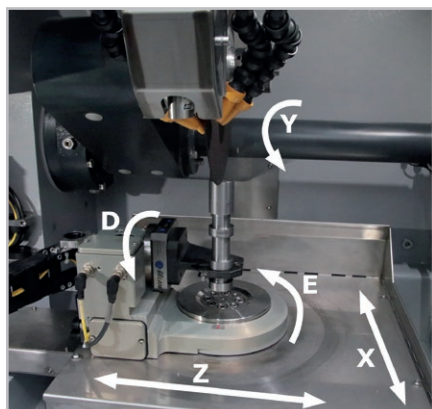
Travel X-axis 420 mm

Travel Z-axis 200 mm

Precision. 0.1 mm

Swivel range E-axis 200°

Swivel range D-axis 360°



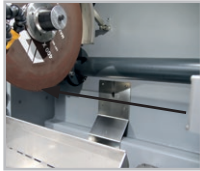
## EQUIPMENT

## WHEEL GUARD



Equipment 1  
**Cut-off wheel Ø 432 mm/17"**  
 Order No.: A1832001

Equipment 2  
**Cut-off wheel Ø 508 mm/20"**  
 Order No.: A1832010



## AUTOMATIC WHEEL MEASUREMENT - LASER



Order No.: A1832014

- » determination of cut-off wheel diameter before each cutting process with a laser
- » automatic control of cutting speed and cutting depth

## COOLING AND FILTER SYSTEMS



Equipment 1  
**Recirculation cooling unit**

400 V/50 Hz (3Ph/PE)

Order No.: A1832005

480 V/60 Hz (3Ph/PE)

Order No.: A1832006

Tank ~	200 ltr.
Pump ~	100 ltr./min
WxHxD	810x608x1008 mm

- » integrated, mobile
- » multi chamber filtration  
(see consumables)



Equipment 2  
**Belt filter system 285**

400 V/50 Hz (3Ph/PE)

Order No.: A6501000

480 V/60 Hz (3Ph/PE)

Order No.: A6501002

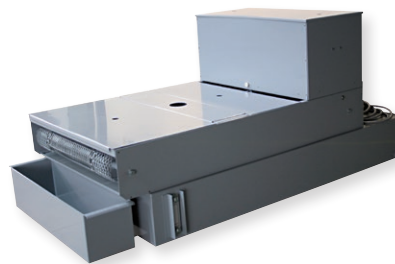
Tank	285 ltr.
Filter capacity	100 ltr./min (referring emulsion)
Pump	100 ltr./min
Filter area	0.85 m <sup>2</sup>
Filter fleece width	710 mm
WxHxD	929x790x1745 mm
Weight ~	120 kg

- » incl. filter roll

**Connection set 275**

Order No.: Z6501000

- » for belt filter system please order connection set



## CENTRIFUGAL SEPARATOR

## OPTION



- » to remove coolant mist
- » increases quality of illumination
- » suction output 425 or 500 m<sup>3</sup>/h depends on power supply

400 V/50 Hz (3Ph/PE)

Order No.: A1832007

480 V/60 Hz (3Ph/PE)

Order No.: A1832009



## LASER ALIGNMENT AID



Order No.: A1832004

- » laser line to visualize the cutting line
- » laser class 1 DIN EN 60825-1



## SPECIFICATIONS

Cut-off wheel	Ø 508 mm/20"
Max. sample size	Ø 190 mm
Arbour size	Ø 32 + 40 mm
Vertical movement	280 mm

X-axis automat. (horiz. movement)	420 mm
Y-axis automat. (vertical cut)	280 mm
Z-axis automat. (parallel cut) (Option)	200 mm
D-axis automat. (option)	360°
E-axis automat.	200°

Precision	0.1 mm / 0.1°
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Table WxD	550 x 500 mm (with Z-axis)
T-slot	12 mm

Motor cut-off wheel	15 kW, S1-mode
Connected load	30 kVA
Variable speed	1000-2400 rpm
Power supply	1 400 V 50 Hz (3/N/PE)
	2 480 V 60 Hz (3/PE)

WxHxD ~	1350 x 1820 x 1240 mm
Weight ~	1000 kg (depends on equipment)

