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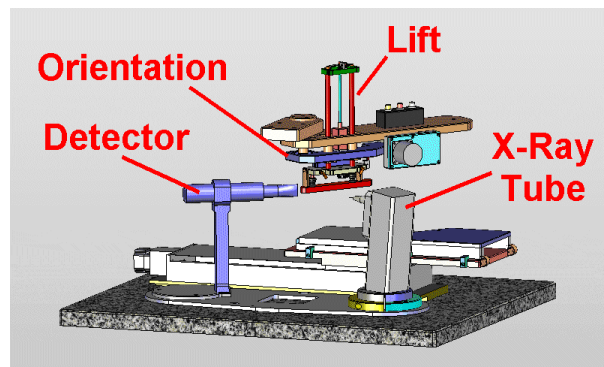


Automated X-Ray Adjusting Machine for Lumbered AT-Quartz Bars (QBE20)

Slicing of quartz bars is most effective when a high number of bars can be processed in one single step. Our new **Quartz Bar Adjustment Machine (QBE20)** is special custom designed for building stacks of up to 6x5 lumbered quartz bars. Bars are filled into the magazine and are then automatically transported, measured, X-ray adjusted and then pressed against and fixated into a stack. UV-light is used to cure the adhesive glue.

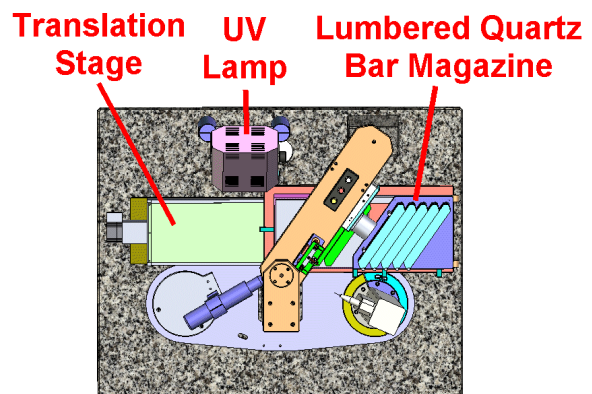
X-ray measurement of end face orientation

Heart of the machine is the X-ray system consisting of tube, detector and computer for control and evaluation. The quartz bar orientation can be fine-tuned by means of a high-precision angular adjustment unit integrated with the lift system. The lift system can exert force for pressing the quartz bar down so as to trigger glue curing, while UV-light is used in addition.



Assembly of up to 5x6 Stacks of Lumbered Quartz Bars

The linear translation stage carries the bar magazine and the glueing table. Bars are initially placed in the magazine and are then automatically processed one by one and layer by layer. Bars are assembled into the target stack, which is bonded and cured once for every bar and once for every layer using a high-power UV-lamp. The stack geometry can be selected by the user. Also the curing times can be adjusted as needed.

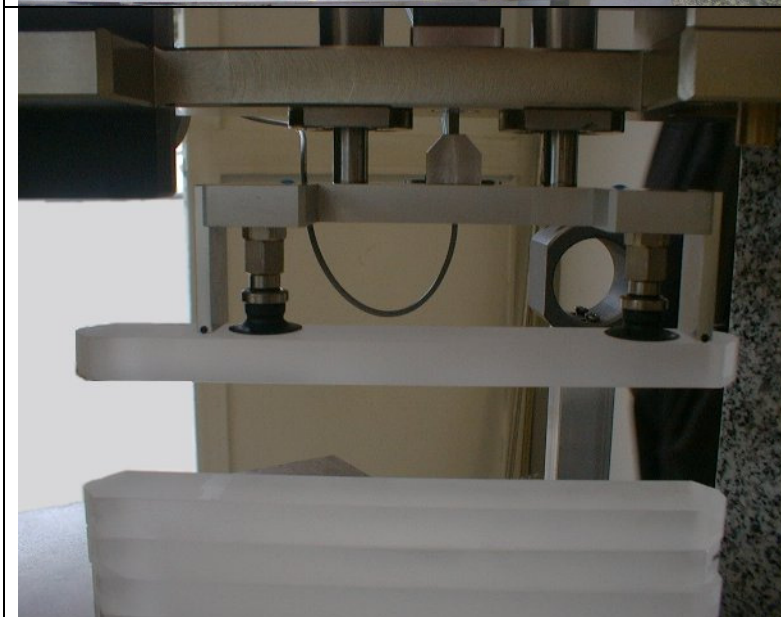




To the left, the UV-lamp can be seen. In the center the linear translation stage with glueing table and bar magazine can be found. The detector is situated at the right side. On top of the two granite stands the lift and adjustment unit is mounted.



In this photo the bar magazine and the first layer of the assembled stack can be seen.

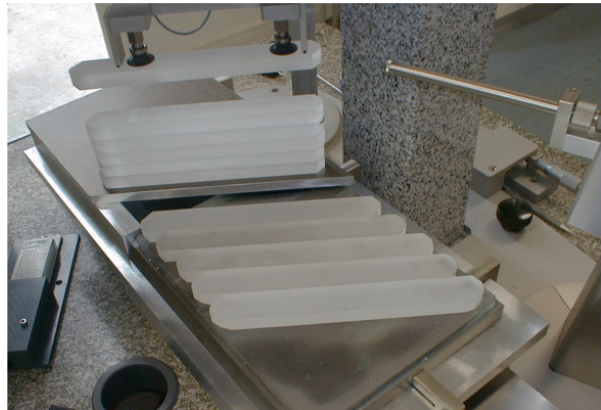


Detail photo of the lift and adjustment unit. Bars are handled using two suction cups. Bars rest against two distance guides. The lift can be lowered and the bar pressed onto the adhesive glue.

Machine description

Machine Features

- Max. quartz stack size 5x6
- Measurement principle Theta-Scan
- Measurement duration 20 sec
- Typical processing time per bar (mainly depends on time for adhesive glue curing) ca. 2 minutes
- Typical angular adjustment precision 10 arc sec



Machine Specifications

- Radiation full-protection housing
- X-ray generator max. 1.2 kW
- X-ray tube, Cu anode max. 1.5 kW
- Modern control computer and screen
- UV-lamp, Hg max. 70 W
- Dimensions 1050 x 850 x 1550 mm
- Weight 135 kg
- Power supply 230 V / 50 Hz
- Max. power consumption 2.5 kW

External Supplies

- Vacuum or pressurized air
- Cooling water



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- More than 40 years X-ray experience –
- World-wide service and technical support –
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