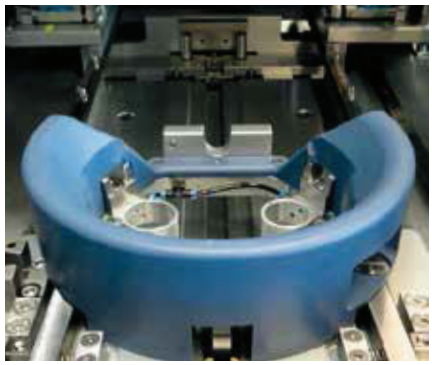
Measuring- & milling machine for airbags & steering wheels

Measuring & milling machine for airbags

In this measuring- and milling machine for airbags the generator carrier of fully functional airbags are finished with a diamond milling cutter at 2 application points (glass fiber reinforced polyamide) for fitting in a steering wheel.
After inserting the airbag in the fixture and identifying the type barcode, a motion system drives the airbag automatically in linear direction to the adjustment position. Thereby, a measuring sensor unit automatically determines the position data of the airbag in 3 dimensions (axes). After the barcode identification and the position data are correct, a spindle driven slide moves the milling head bottom up in x direction and z direction to the defined points of processing. The generator carriers are milled circular (360°), smooth and under low-vibration conditions.

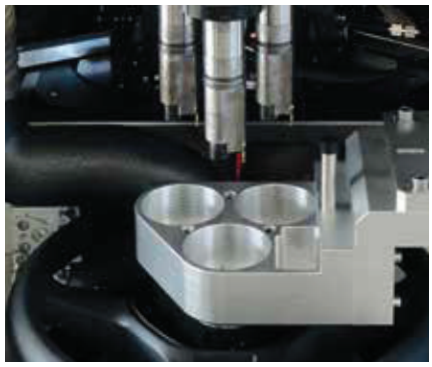


Airbag fixture (airbag unit)

Measuring & milling machine for steering wheels

The measuring- and milling unit for steering wheels is used to process airbag fixtures of different types of steering wheels.
After inserting the steering wheel in the fixture and identifying the type barcode, a moveable measuring sensor device determines automatically position data of the steering wheel in 3 dimensions (axes).
After the barcode identification and the position data are correct, the measuring device moves out of the processing spot. A spindle driven slide moves 3 purpose-made milling heads into the heart of the steering wheel, in order to process the outer contours and surfaces of 3 airbag fixtures in the steering wheel.

In both machines, the airbags and steering wheels are mounted solidly on a hexa-pod unit. If there is a difference between measured position data and reference from a data base, the hexapod unit automatically moves the airbag and the steering wheel to the correct position. In each milling machine a suction removes chips.



Steering wheel unit in milling position

Dimensions in mm (WxHxD)

2855 x 1030 x 1700 steering wheel unit excl. suction

2310 x 988 x 1505 airbag unit excl. suction

Voltage

400 V 3 AC, 32 A, 50/60 Hz

Weight

2800 kg steering wheel unit

1950 kg airbag unit

Cycle time

30 s
for input, measuring, machining, output

Sensors

Opto-electronical sensors

Inductive proximity switch

Pneumatics

1 Festo valve cluster

6 bar constantly

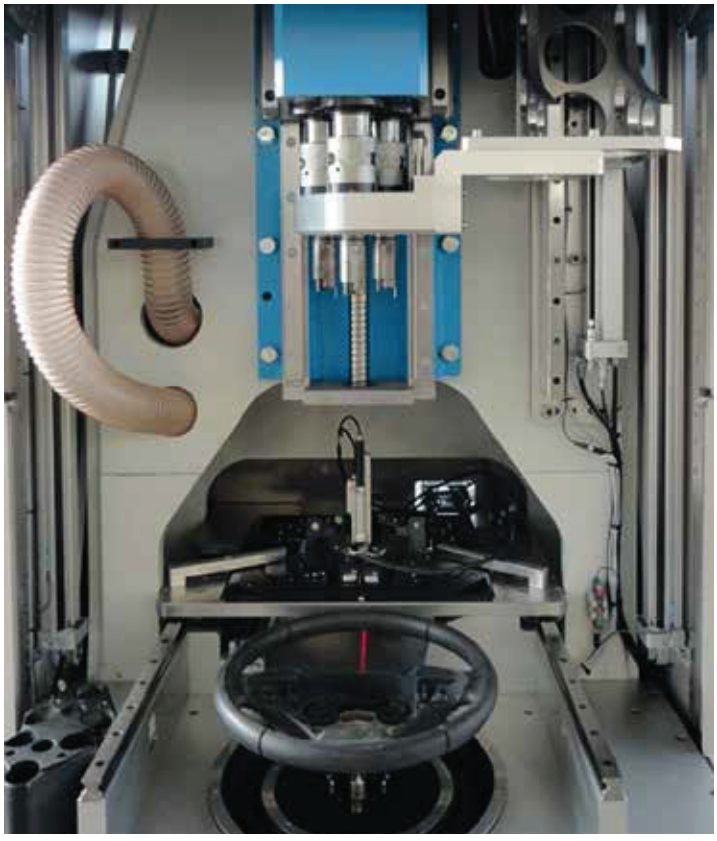
Minmal increment hexapod

0.5 µm X-axis, Y-axis

1.0 µm Z-axis

Cutting speed

1500 rpm



Steering wheel unit (top down) cutting head, moveable measuring system, steering wheel, fixture on top of a hexapod system

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