gereedschapmakerij

www.gmi-bv.nl

Building a precise future

GMI Gereedschapmakerij is een bedrijf dat gespecialiseerd is in het ontwerpen, produceren en onderhouden van precisie onderdelen en gereedschappen. Het bedrijf is gevestigd in Tilburg en biedt op maat gemaakte oplossingen voor klanten in diverse sectoren, waaronder de luchtvaart, medische en automobiel industrie maar ook zeker voor de semiconductor industrie en de hightech machinebouw.

GMI Gereedschapmakerij heeft expertise op het gebied van CNC-frezen, draaien, slijpen en elektro-erosie(EDM). Wij maken gebruik van geavanceerde technologieën en software om te zorgen voor een nauwkeurige, flexibele en efficiënte productie van onderdelen en gereedschappen.

More information:

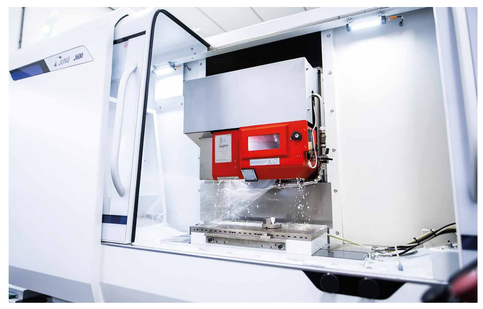
PRECISION GRINDING

gereedschapmakerij

Author: Jan Langerwerf

Principle

Grinding is applied to get accurate dimensions and smooth surfaces. Products can be flat, round or profiled in this way.



Surface grinding; During surface grinding, a surface of the product is machined. You can grind with the circumference of the grinding stone, the cutting surface cuts straight over the product. You can also grind with the side of the disc.
Profile grinding; The grinding stone is provided with a negative shape of a profile to be produced. This profile is then hereby into the product.
Cylindrical grinding; Hereby the product rotates against the rotating grinding stone. This can be done on the outside of a round product or in the inside of a hole.
Coordinate grinding; this is the grinding of complex contours, profiles or the precise position grinding of conical and cylindrical holes. Coordinate grinding machines are used when workpieces needs to be machined with the highest precision. This is done when it has to be even more accurate than can be done on CNC milling machines.

Advantages

- High accuracy range.
- Low Ra value.
- Machining harder materials possible.
- Complex profiles possible.

Disadvantages

- Cut Speed lower.
- Limited 3d shapes

Production constraints and limits

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- Accuracy in 0.001mm range.
- Flatness / 0.002 mm / 175x75 mm.
- Perpendicular / 0.001 mm.
- Roughness tolerance until 0.1 Ra.

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- Cut Speed lower

Examples

Cost

- The price of grinding machines is very high and good professionals are hard to find.
- Chip rate is very low.
- Grinding is a final operation, the entire product must already be made.

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