

Fixed mandrel honing tool technology

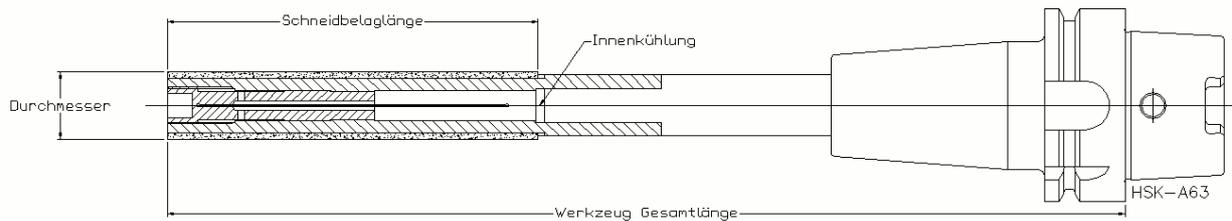
FD honing tool technology (FD=fixed diameter) permits reaming honing in standard machining centres, lathe/milling centres and conventional honing machines. The machining is done identically to reaming in a double pass. Fixed diameter honing tools are set with a fixed dimension to the finish diameter, machining the bore with a single in and out movement of the cutting area of the tool. The advantages of fixed mandrel honing are:

- very consistent surfaces over the complete lifetime of the tools
- simple process; the movements of the FD honing tool correspond to that of a reaming tool
- long tool life, low wear

Depending on the tool design and surface requirements, even larger honing allowances are possible with several consecutive operations.

Fixed mandrel tools guarantee a very good correction of roundness and bore size and are especially suited for heavily stepped bores, e.g., in hydraulic control blocks. This type of tool is specially designed by us in various shapes for the respective application.

The use of post process measuring devices with an interface to evaluation systems and feedback into the controls of the processing machine enables automatic process control. The tools move to a feed pin inside the machining area and are adjusted by turning the tool with the help of an angle control C-axis.



| Projects with fixed mandrel honing tool technology | | | |
|----------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------|-------------------------------------------------------|
| 3-step honing process: Ream honing of cylinder bores | Part: Diameter: Material: | Compressor 22.00 - 32.00 mm GG25 | Machine manufacturer: Machine: Holding fixture: |
| | | | ELHA Custom machine Weldon E |
| 3-step honing process: Ream honing of hydraulic control blocks | Part: Diameter: Material: | Control block 25.00mm GJL-300 | Machine manufacturer: Machine: Holding fixture: |
| | | | Hüller-Hille NBH650 HSK-A100 |
| 1-step honing process: Ream honing of hydraulic control blocks | Part: Diameter: Material: | Control block 10.00mm GJL-250 | Machine manufacturer: Machine: Holding fixture: |
| | | | DMG DMU 80 SZ12x25 |
| 1-step honing process: Ream honing of hydraulic control blocks | Part: Diameter: Material: | Control block 25.00mm 11SMn30+C | Machine manufacturer: Machine: Holding fixture: |
| | | | Deckel MC60H SZ20x50 |
| 1-step honing process: Ream honing of hydraulic control blocks | Part: Diameter: Material: | Control block 25.00mm GG25 | Machine manufacturer: Machine: Holding fixture: |
| | | | MAKINO A51NX SZ20x50 |
| 1-step honing process: Ream honing of cast blocks | Part: Diameter: Material: | Cast block 6.00mm GG25 | Machine manufacturer: Machine: Holding fixture: |
| | | | SW BA342 HSK-A63 |
| 1-step honing process: Ream honing of chucks | Part: Diameter: Material: | Chucks 7.00 - 20 mm GG25 | Machine manufacturer: Machine: Holding fixture: |
| | | | INDEX G200 VDI25 |
| 3-step honing process: Ream honing of hydraulic control blocks | Part: Diameter: Material: | Control block 25.00mm GG25 | Machine manufacturer: Machine: Holding fixture: |
| | | | Deckel-Maho S225x50 |
| 1-step honing process: Ream honing of turbocharger bearing housings | Part: Diameter: Material: | Bearing housings 22.215mm GJL-250 | Machine manufacturer: Machine: Holding fixture: |
| | | | Gildemeister CTX 400 S225x50 |
| 1-step honing process: Ream honing of small and big eye in 2-stroke connecting rods | Part: Diameter: Material: | 2-stroke connecting 14/19mm 16MnCr6 | Machine manufacturer: Machine: Holding fixture: |
| | | | Hermle C40u dynamic HKS-A63 |

DIAHON
Werkzeuge GmbH & Co. KG
Robert-Bosch-Straße 1/1
D - 70794 Filderstadt

tel. +49 7158 91580 10
fax. +49 7158 91580 20

email mail@diahon.de
web www.diahon.de

