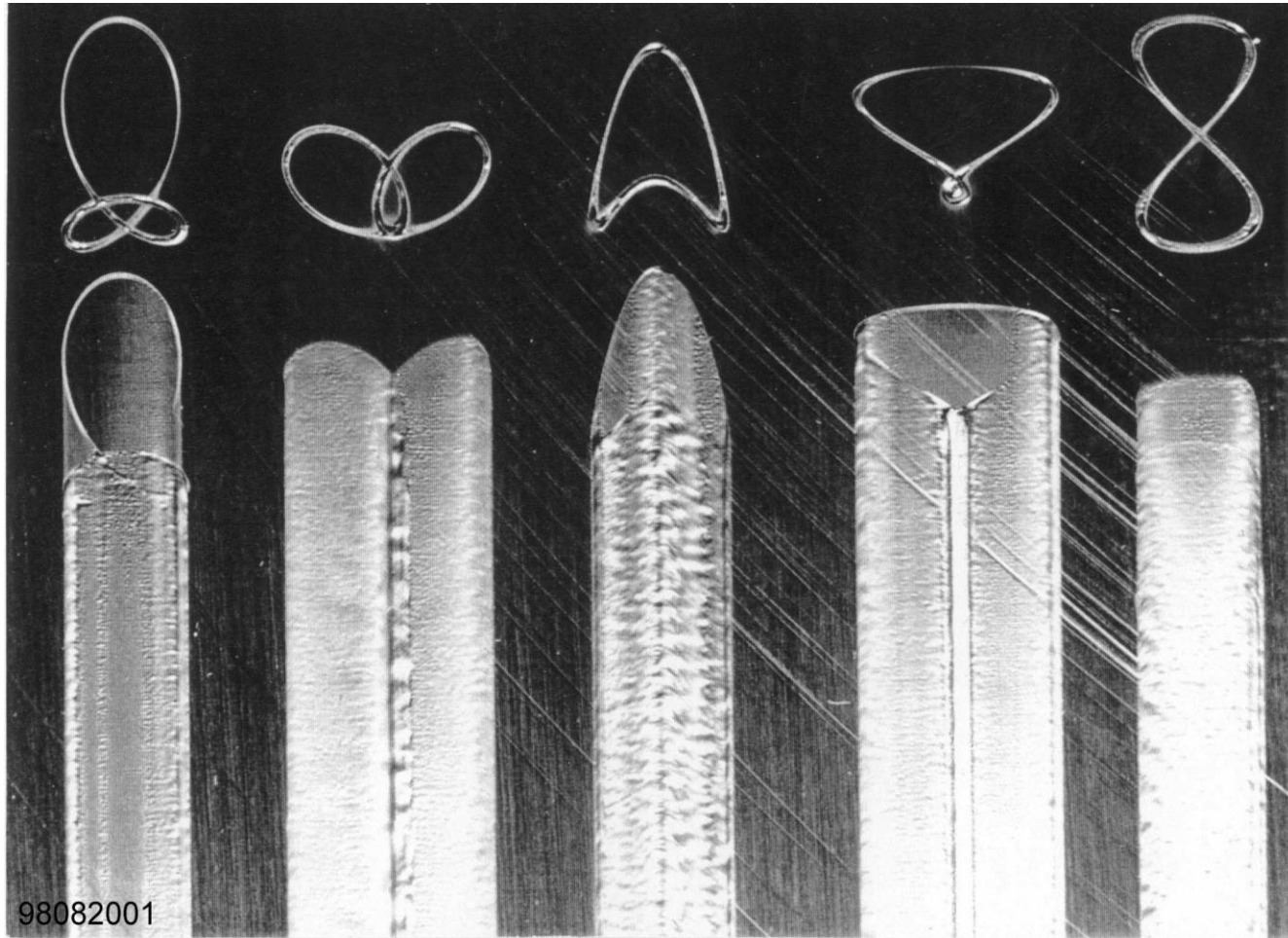


Electron beam welding systems

- wide range of parameter: 60 - 175 kV and up to 60 kW
- multi purpose machines with „unlimited“ big chambers
- production systems with adjusted vacuum plant and very short cycle time and work piece specific tooling
- electro-magnetic beam deflection resp./ or -oscillation
- electro-magnetic beam splitting possible
- simple fusion to all metallurgical materials
- use of back-scattered electrons for seam location and imaging
- application in high vacuum, fine vacuum or atmosphere
- all process parameters controlled electrically and by CNC
- high efficiency of EB-machines
- low cost operation conditions
- complete x-ray radiation protection



Oscillation patterns of EB systems



98082001

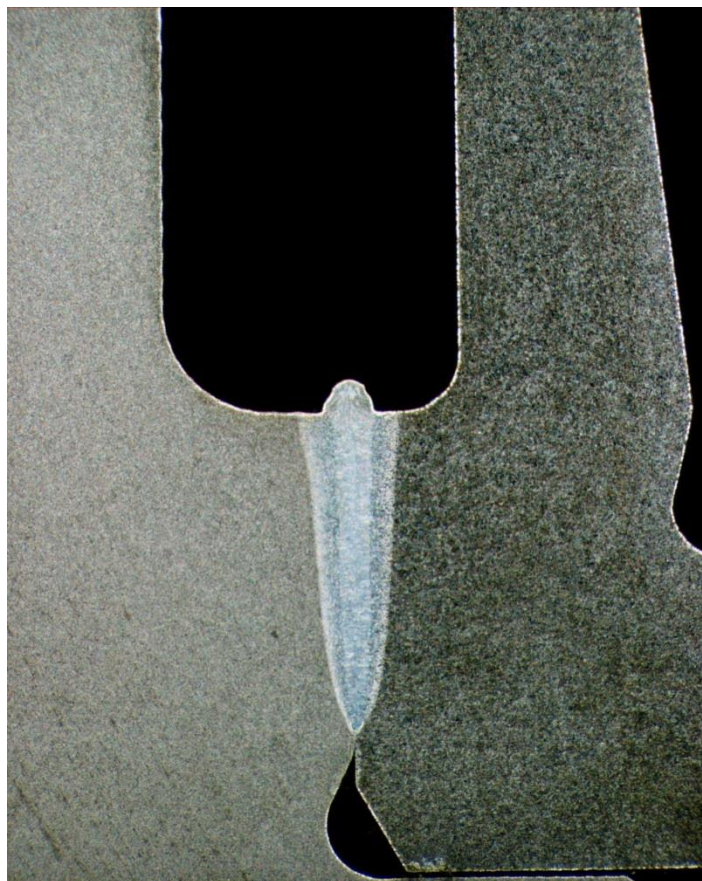


THE INNOVATORS OF THE ELECTRON BEAM

EB welded parts for manual gear box



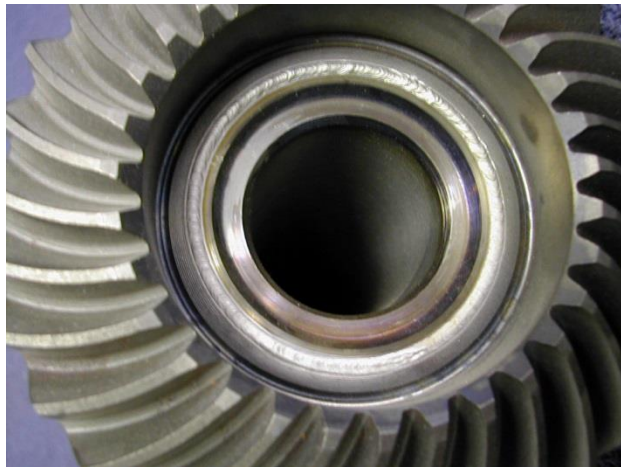
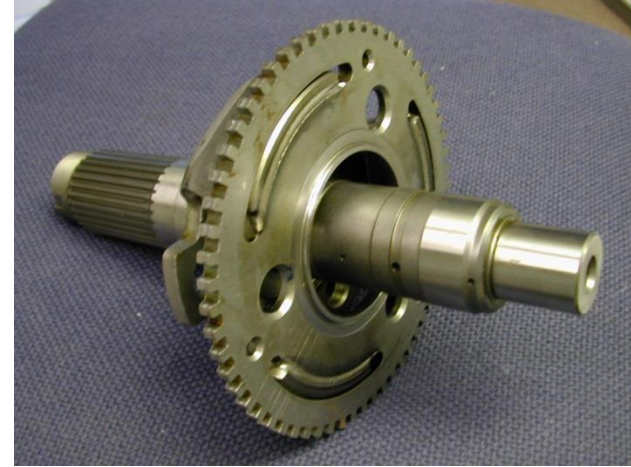
Cross-section of an EB weld



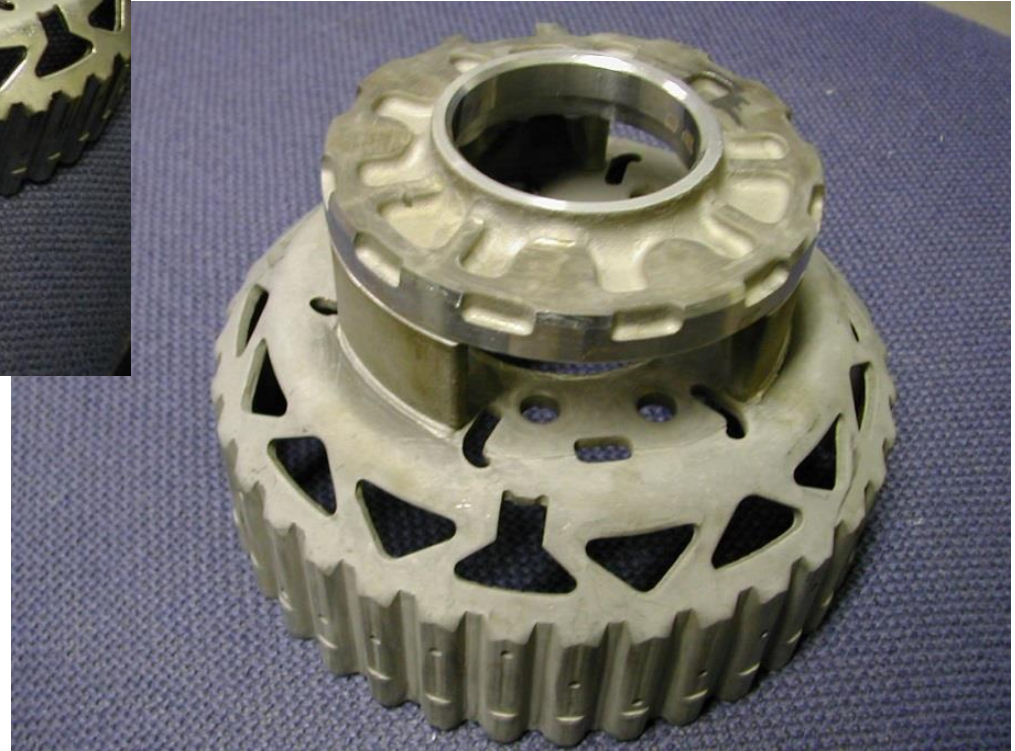
Welding depth: 5.5 mm



EB weld gears - samples



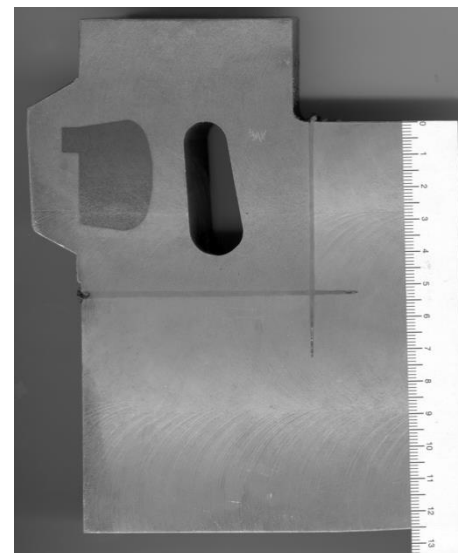
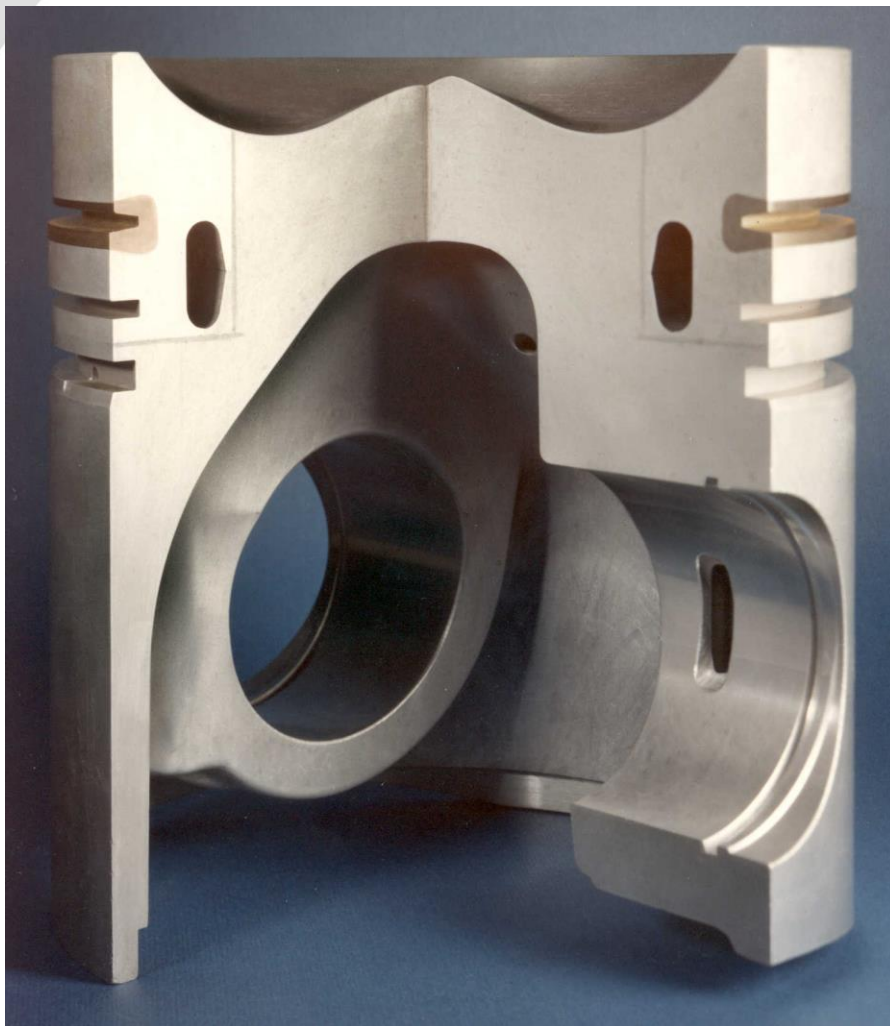
EB welded parts for automatic gear box



EB welded truck gear component



EB welded piston made from alumium alloy



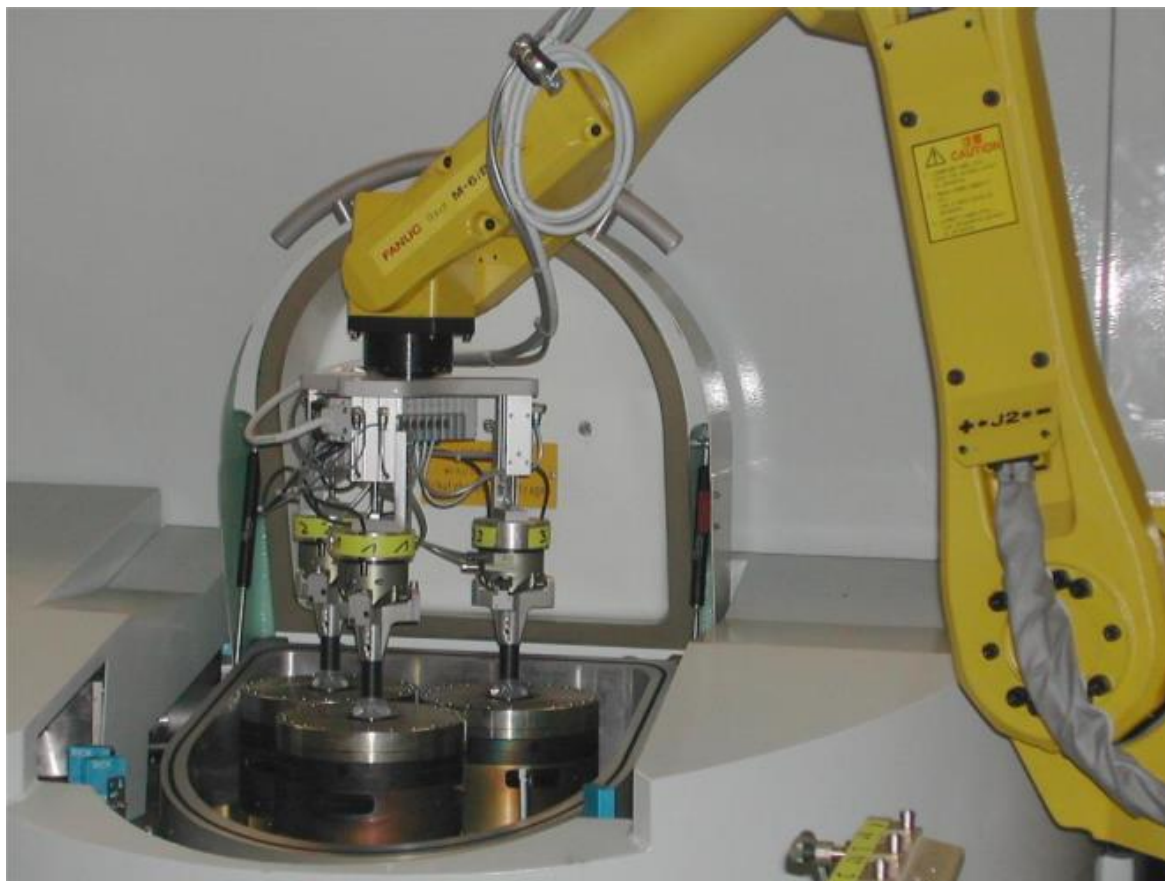
Welding depth: 70 mm



EB welding of turbochargers (wheel and shaft)



Automated loading process of turbochargers



THE INNOVATORS OF THE ELECTRON BEAM

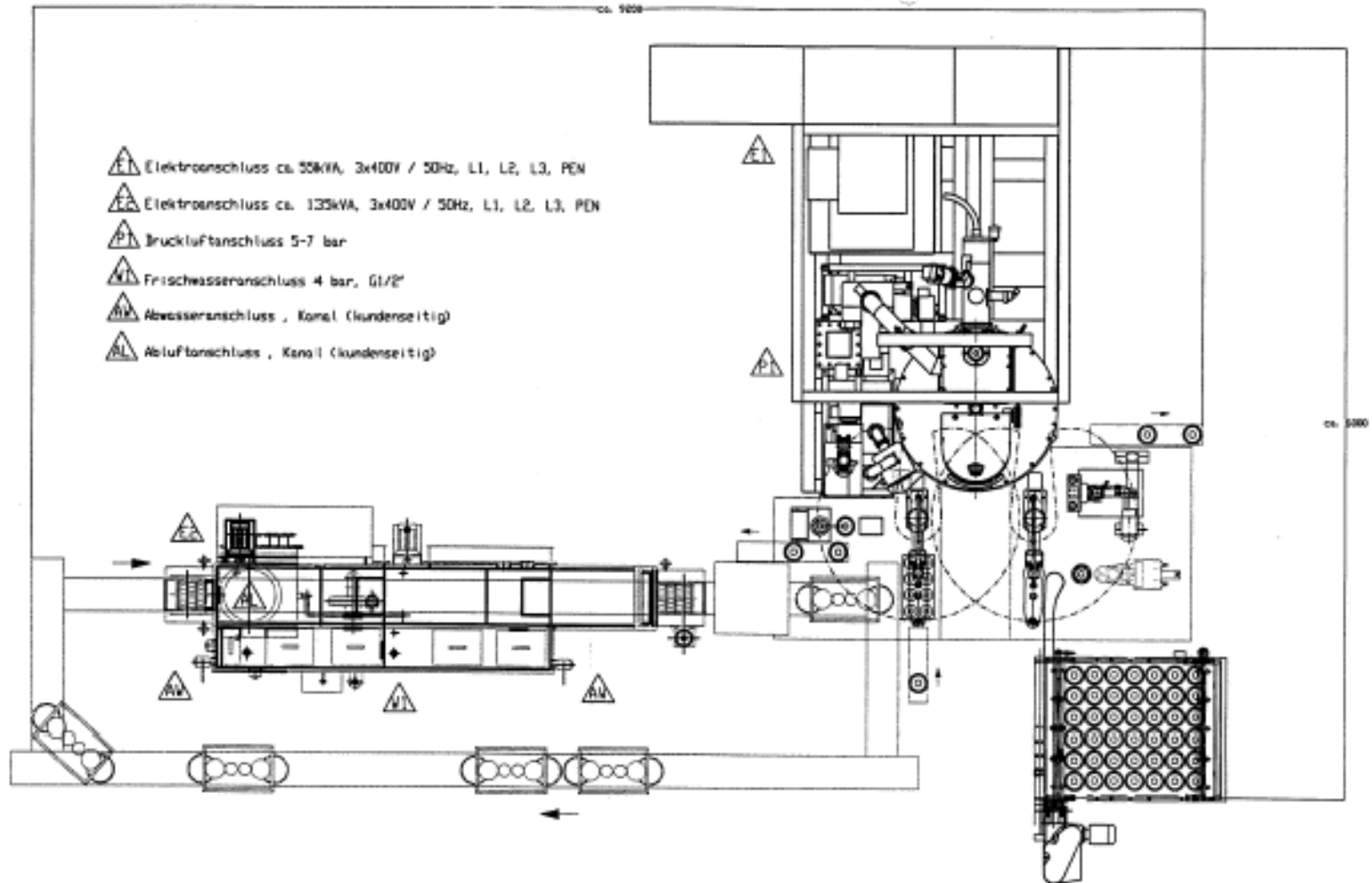
EB machine and automation of the production



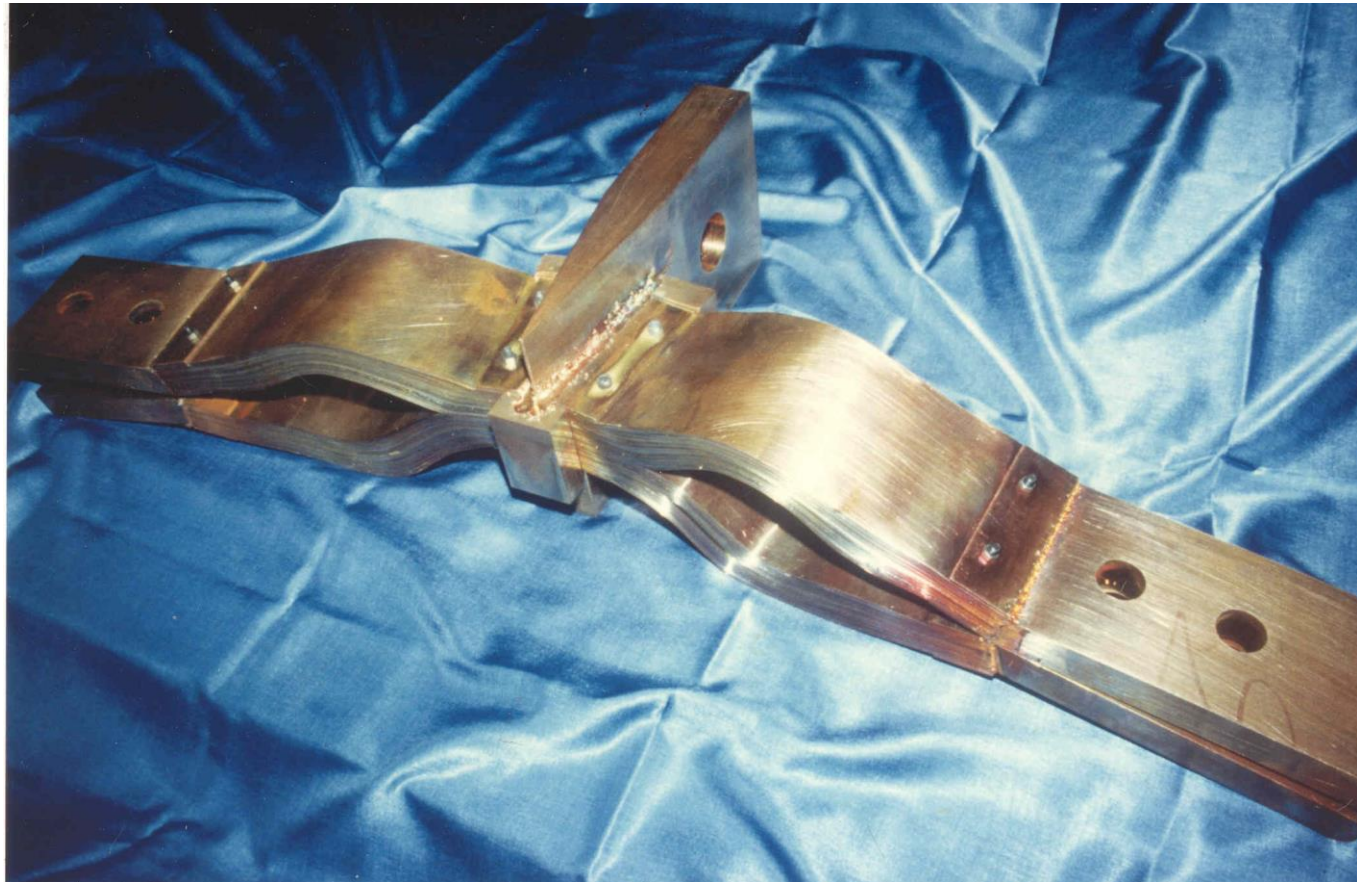
- fully automated operation of the EB-Welder
- automatic loading and unloading with handling systems
- production line process flow:
 - separation and feeding
 - cleaning (washing, rinsing, drying)
 - assembling resp. pressing
 - pre-heating
 - demagnetising
 - brush
 - quality inspection (ultrasonic, optical, mechanical)
 - stocker
- integrated safety technology for the complete line/cell



EB welding line for gear box parts



EB welded connector high current switch



material: copper



Cross-section of a steam turbine ring

