

## **Overhaul with New CNC of forging machine GFM SHK-10**

### **1. SCOPE OF DELIVERY**

- Pos. 1.1** Engineering work in order to mantle a new control system, including mechanic and hydraulic adaption as well as documentation.
- Pos. 1.2** New control system Siemens SIMATIC based on TIA (Totally Integrated Automation) with CPU 317-2dp.  
This control system is specially developed and optimized for such kind of a machine tool. Program input is done interactively via LCD-screen monitor on the control panel. All forging programs and settings are stored on the integrated memory.  
The program input is done directly on the control panel with a touch-pad (HMI Touch-panel TP1500 15.4) or a memory stick
- This new Siemens control replaces the existing control as well as the control panel with following advantages:
- quick and easy program change to the intended blank type
  - graphical user interface
  - simple input of basic dimensions
  - measuring resolution of 0,01 mm (for forging diameter)
  - diagnostic system with clear text display
  - acceleration and deceleration control
  - integrated PLC control system (Profibus) and free programmable control
  - control panel based on LCD-screen system to maintain machine settings
  - display of alarms and messages
- The Siemens control consists of:  
System unit with an integrated power supply including system software pre-tested and pre-mounted.
- Pos. 1.3** Set of parts in order to exchange the existing servo valves, pressure sensors, proportional valves, mounting plates and installation material.
- Pos. 1.4** Set of mechanical parts for position feedback consisting of:
- measuring system for measuring chuck head position
  - adaption parts for the measuring system of hammer adjustment
  - Exchange of hydraulic cylinders for counter-holder and mandrel for Temposonic measuring system.

## TECHNICAL SPECIFICATIONS

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- Pos. 1.5** Complete new control cabinet including motor control based on electric diagram SHK-10 consisting of:
- transformer
  - battery back up
  - cables, plugs and wiring material
  - contactors
  - soft start
  - main switch, etc.

### MECHANICAL OVERHAUL

**The mechanical overhaul consists of the following:**

- Group 01** Gear box
- exchange of all bearings and sealing including the main motor
- Group 02** Forging box
- Revision or Exchange of 4pc. Eccentric shafts and pressure plates as well as bearings, bushings and sealings
- Group 08** Chuckhead
- Exchange of all bearings, bushings, sealings and vario drive
- Group 14** Counterholder
- Exchange of all bearings and sealings
- Group 22** Cooling water
- Exchange of heat exchanger for hydraulic and lubrication
- Group 5+33** Lubrication and hydraulic
- Exchange of hydraulic and lubrication pump coupling
  - Exchange of all sealing's for all hydraulic cylinders

### EXTERNAL OVERHAUL

**The external overhaul consists of the following:**

- Group 01** Machine
- Painted as new condition: removing old painting – two layers of protection and three layers of color painting.