FAST-NG

Technical Data Sheet

ALFING MASCHINENFABRIK ALFING KESSLER GMBH

Type	Multi-inductor hardening machine
Number of hardening stations	2
Number of inductors	Max. 9
No. of inductors for end sections	Max. 4
Positioning of inductors (pitch adjustment of inductors)	Manual or pneumatic for 2 different pitches
Lowering/raising of inductors	NC drive
Lowering speed of inductors	Max. 100 mm/s
Raising speed of inductors	Min. 150 mm/s
Weight offset of inductors	Pneumatic
Adjustment of spindle units	Manual or NC drive
Rotary drive of component	NC drive
Rotation speed	30-90 rpm
Length compensation	Spring system
Standard MF output	6 × 60 kW to 6 × 100 kW
Control system	Siemens 840D-SL Siemens S7-15xx PLC
NC servo technology	Siemens Sinamics S120/CU320
HMI	Siemens IPC427E/OP15-Black Siemens IPC477E
Manual controller	Siemens MPP483/MCP483/KP8
Process monitoring	Inverter central supply unit with monitoring in PLC or EME2020
Monitoring of quenching medium	Volume control with pump drive Flow monitoring with PLC or EME2020
Safety technology	Pilz safety relay or Siemens – Safety Integrated ET200SP/Profisafe
Spray protection enclosure	With safety door
Steam extraction	Integrated, centralised or decentralised, optionally with air filter
Condensate recovery	Integrated
Dimensions (L × W × H)	7,100 × 2,500 × 4,100 mm
Total height	4,100 mm
Total weight	Approx. 25 t

Options

- Tempering via residual heat
- Process monitoring and data capture (EME)
- Connection to automatic part handling systems
- Washing machine with control via HM
- Water-to-water or water-to-air chiller
- Total indicated runout (TIR): integrated or separate
- Inductor recognition
- Inductor database
- Interfaces for data transfer
- Hardening units for end sections
- Automatic pitch setting of inductors
- Automatic setting of clamping units
- Detection system (e.g. for DMC)
- Marking system (e.g. needle embosser)
- Monitoring of quenching water quantity via EME
- Maintenance reminder in machine control system
- Monitoring of hardening result (lab equipment)

Component handling

Loading	From the left
Unloading	From the right
Direction of material flow	Both directions possible (with mirrored machine layout)
Loading height	1,410 mm
Loading/unloading	e.g. gantry loader, indust. robot Optionally manual
Manual loading (option)	Feed-in prism Loading area secured via safety door and light barrier or 2 light barriers
Manual unloading (option)	Feed-out prism Unloading area secured via safety door and light barrier or 2 light barriers

Applications

Crankshafts	All types
Max. length	Max. 700 mm
Max. swing diameter	Max. 180 mm
Max. weight	Max. 35 kg
No. of pin bearings	Variable
No. of main bearings	Variable
Cycle time	Min. 35 s
Machining orientation	Horizontal
Clamping technique	Three-jaw chuck/tailstock centre
Inductor design, main/pin bearing	Half shell inductor
Inductor design, end sections	Half shell or ring inductor