

HWG INDUCTOHEAT
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INDUCTOHEAT
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INDUCTOHEAT

InductoScan[®]-flex

The evolution of flexible modular induction hardening systems

INDUCTOTHERM GROUP

Leading Manufacturers of melting, Thermal Processing & Production Systems for the Metals & Materials Industry Worldwide

InductoScan®-flex

Modular Hardening Equipment



The Concept

Our universal hardening machine features a flexible, modular set-up for the hardening of a wide variety of workpieces. It incorporates a primary machine, to which various interchangeable processing modules can be fitted quickly, simply, and precisely, depending on the application.

Features:

- MF 50/100/150kW 10 or 30kHz
- HF 45/90/135 kW 50 – 200kHz
- Clamping length up to 35 in (900 mm)
- Hardening length up to 31 in (800 mm)
- 3 programmable inductor axes on basic machine
- Modular adaptable processing modules with plug-and-play technology
- Menu-guided A/B or Siemens control
- Precise energy control
- Inverter status control and automatic matching for simple, quick change of inductors

Design Advantages

The individual automation processing modules are similar in regard to design and mounting. Each module has an independent “quick connect” electrical point, an advantage for additional future modules .

The Modules

The following processing modules are available:

- Module to process parts centers (single/dual spindles)
- Indexing table module with rotating part locators
- Indexing table module with fixed part locators
- Horizontal continuous tractor feed module (1-track and 2-track)
- Horizontal pusher type module (1-track and 2-track)
- Drive disk module
- Further modules for special applications

Automatic Inverter Matching Assistance:

The operator can initiate the “Inverter status” menu via the controls. Deviations from the optimum operating parameters are displayed and are automatically matched to the inverter and the inductor coil. The system monitors electrical parameters for optimum matching set-up of the transformer taps. With a user guidance screen, the operator is also given further information on modification of the coupling distance and coil inductance. This saves time and improves re-tooling efficiency.

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Technical Specifications

Power Ratings	50 / 100 / 150 kW 45 / 90 / 135 kW	10 or 30 kHz 50 – 200 kHz
Workpiece rotation	45 – 450 rpm	
Cooling system	Customer-specific parameters monitored and displayed via controls	
Controls	CNC or PLC controls for programming of the complete hardening process with following functions: <ul style="list-style-type: none"> • Automatic inverter matching assistance • Automatic module detection • Positions • Scan rate up to a max. of 10 in/sec (250 mm/sec) • Heat on/off • Power in percent • Quench on/off • Heat, dwell and quench times • Functions such as program sentence interlink and further functions on request. Main components: A/B or Siemens, swiveling operator panel.	

Workpiece data
 Length: Max. 35 in (900 mm) Weight: Approx. 1100 lbs (500 kg/center)
 Hardening length, depending on application: Approx. 31 in (800 mm)

Load / unload
 Manual, Interfacing with pick and place or robot possible

Machine Dimensions
 Length: 142 in (3625 mm) Height: 84 in (2150 mm). Installation
 Width: 78 in (2000 mm) with operating panel 91 in (2320 mm)

Machine weight
 Approx. 5520 lbs (2500 kg)

Connected load	Output	Power Input	Plant water requirements*
480V, 50/60 Hz 3 phase	45 kW	88 kVA	30 gpm (115 lpm)
	50 kW	87 kVA	30 gpm (115 lpm)
	90 kW	161 kVA	60 gpm (230 lpm)
	100 kW	159 kVA	60 gpm (230 lpm)
	135 kW	200 kVA	80 gpm (310 lpm)
	150 kW	221 kVA	100 gpm (380 lpm)

* At 90°F. (32°C) inlet.
 Actual requirement corresponding to temperature and duty cycle.

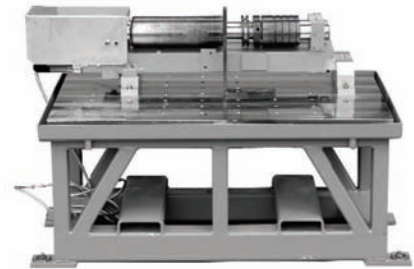
Safety Features
 Protective enclosure with door interlocks, temperature switch on all critical cooling water paths; flow monitor for inverter, inductors and quench.

- Options**
- Process data monitoring / collection
 - Modules for part handling
 - Inductor quick-change connection
 - Inductor ground detection

Specifications are subject to change without notice.



Indexing table module



Drive disk module



Inverter matching assistance