



HM503T

TRANSFORMER

SEMI-AUTOMATIC UNIT

HM503T is a semi-automatic, three-channel heat treatment units for preheating and annealing metal workpieces. Because of the design it's light and easy to use. Stainless steel casing gives long lifetime. Maintenance work is minimized because of use of thyristors in power output control. As request the unit can be delivered with contactor controlled version.



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HM503T TRANSFORMER

PROGRAMMING ALTERNATIVES

HM503T has three conventional controllers for temperature regulation. The controllers operate with or without a thermocouple. Temperature is registered on a separate temperature recorder. The signal lights for HM503T will indicate any disturbances in the electrical network and/or the heating resistors. Locating the disturbance is easy and therefore problems can be solved fast.

SIGNAL LIGHT SYSTEM

HM503T has a signal light system, which assists the user to know the operating status of the device and heating elements.

Three white lights indicate the status of the electrical network phases.

A large green light indicates that the unit is connected to the electrical network.

Red lights indicate the condition of the heating resistors.

PROGRAM REGULATORS

HM503T has three processor regulators, which are used for adjusting heat treatment parameters.

When using a thermocouple, the regulator shows the temperature and the following parameters can be adjusted:

- Heating rate [$^{\circ}\text{C}/\text{h}$]
- Holding temperature [$^{\circ}\text{C}$]

Temperature is recorded by a separate temperature recorder.

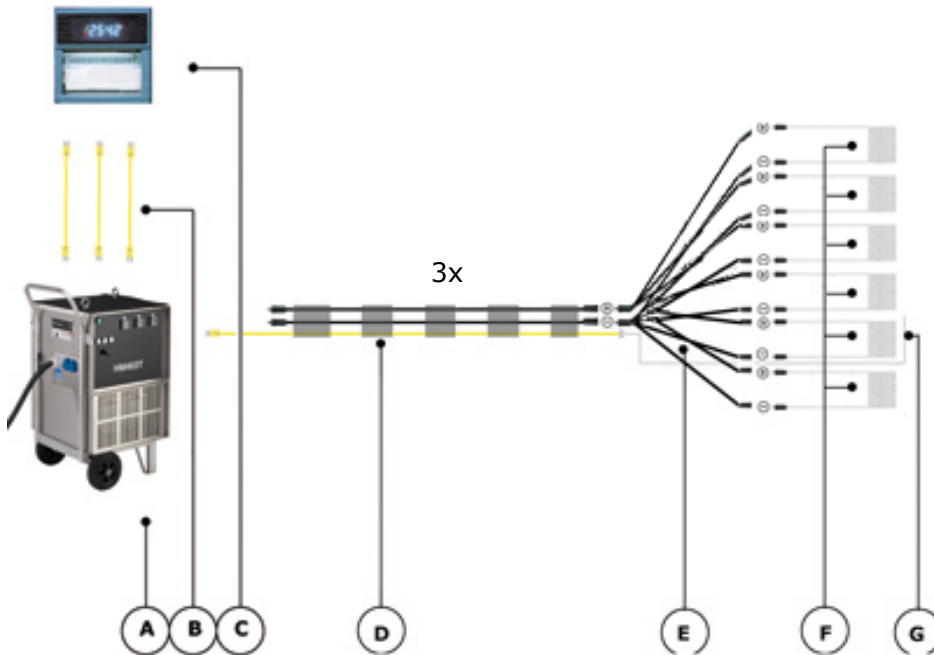
If the thermocouple is not in use, the percentage system is applied, whereby the heating power is regulated in a percentage ratio and the temperature is measured with an external measuring device.

HM503T Back



BASIC EQUIPMENT HM503T

Basic equipment combination includes items mentioned in table below



Secondary cables are marked with channel number to avoid wrong connections.

Cables are also marked with heating unit's serial number, so they are following the machine everywhere.

If a temperature chart is required mechanical or Heatmasters' full digital recorder is connected to heat unit

HM503T EQUIPMENT

Qty	Code	Product
A	1	1005501 HM503T preheating unit
D	3	1101012 Secondary cable st-50-12,5 - L = 12,5m - power cables Ø50mm ² - compensating cable cables binded together with shrink plastic and marked with channel numbers.
E	6	1102011 Splitter-6-16-2,0 - L = 2,0m, Ø16mm ² - 6-way - Connectors Dinse or camlock
F	18	200xxxx Heating elements
B	3	1200506 Compensating cable-13,5 Between heating unit and recorder L = 13,5m
C	1	2200526 JUMO logoprint 500 Temperature recorder
T/C	1600804	Thermocouple wire

ACCESSORIES USED WITH HM403T UNIT

Following optional accessories are available for HM503T heat treatment equipment:

Code	Product
1100510	HM503/506 Primary extension set-15 L = 15m, including connectors
1101010	Secondary cable extension set-50-12,5 - L = 12,5m - power cables Ø50mm ² - compensating cable L = 13,0 m - connectors Cables binded together with shrink plastic and marked with channel number
1101014	Secondary cable extension set-50-25,0 - L = 25,0m - (+/-) power cables Ø50mm ² - compensating cable L = 26,0 m - connectors Cables binded together with shrink plastic and marked with channel number
3002017	Timer for HM403T heating unit
2200526	JUMO logoprint 500 Temperature recorder - six channels - multipen writer
2200527	TG-35 Protection case for temperature recorder

HM503T TECHNICAL DATA

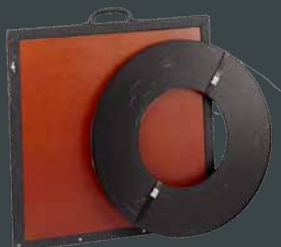
Connection voltage	400V/3-phase/50Hz
Heating power	50 kVA;ED 100%
Fuse	80A
Secondary voltage	70V
Main switch	With ground fault (circuit) interrupter
Heating channels	3 x 240A
Additional outputs	2 x 230V, 10A
Heating elements	18 heating elements can be connected. Six elements per channel
Temperature range	20 ... 1050 °C
Control system	Three process controllers
Alarm system	Signal lights
Dimensions	
Length, mm	600
Width, mm	600
Height, mm	1020
Weight, kg	190



**HM190 T/C attachment unit
including leather case**



Thermocouple wire



Steel band and the case

TOOLS NEEDED IN THE HEAT TREATMENT WORK

Following tools and consumables are necessary in most heat treatment operations with HM503T and other heat treatment units:

Code	Product
1500510	HM190 T/C attachment unit including leather case
1600804	T/C wire-K-0,8-871, Thermocouple wire, k-type, Ø0,8mm, heat resistance up to 870 °C, 1 coil = 300m
1600805	T/C wire-K-0,8-1427, Thermocouple wire, k-type, Ø0,8mm, heat resistance up to 1200 °C, 1 coil = 300m
1700502	Band tensioner
1700504	Band clip sealer
1700506	Steel band 0,5x16mm
1700507	Case for steel band
1700508	Band clip (2000 pc/pack)
1801506	Class fiber cloth, in preheating works
1800505	Mineral wool PV100-VM50, in post weld heat



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