ROLLMOD

GAS TIGHT ROLLER HEARTH

A new modular design for a roller hearth furnace, used for the following processes:

annealing, sintering, soldering, hardening, in particular individual hardening of rings and disks made of metal, ceramics and glass

THE NEW FURNACE FOR HEAT TREATMENT IN THE PRODUCTION LINE

1 THE ROLLMOD® CONCEPT

In order to achieve fast and even heating, parts should be arranged in the furnace in one layer, to be exposed to furnace radiation from all sides.

- **Small pitch roller hearth**

  A roller hearth with small diameter rolls enables loading of even small parts directly on the roller hearth. Avoiding the need for heavy trays or racks is minimizing heat losses and eliminating the need for manual loading and bringing back the trays. The design and ceramic rolls allows for a gas tight furnace operation at temperatures up to 1250°C.

- **Modular design**

  Due to its interchangeable modules, the ROLLMOD® concept offers an easy to maintain, precise and economical system. For service, the complete module can be removed, including insulation, rollers, support and drive.

- **Adjustable Conveyor Speed**

  The rolls are chain driven by stepper motors with one motor for every module, thereby being able to discharge the parts horizontal at accelerated speed for quenching. A photoelectric sensor can detect even the smallest parts for fast discharge.

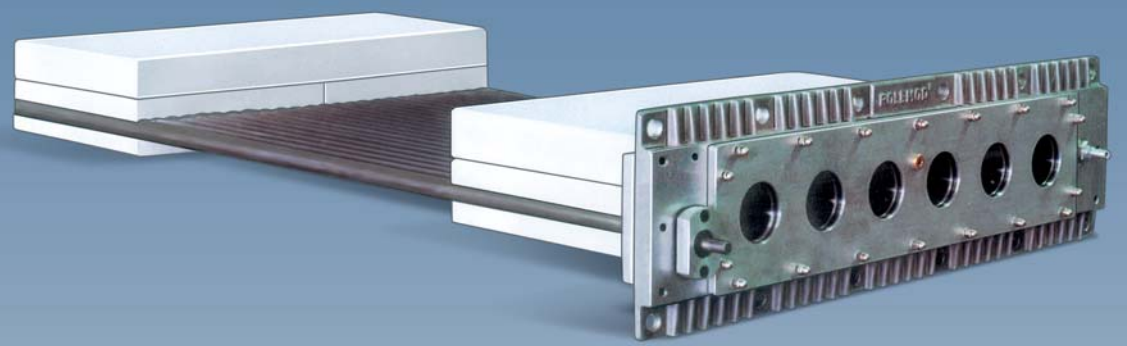
- **Perfect system integration**

  Unless conventional heat treating furnaces, the ROLLMOD® concept allows for integrating the heat treat process into the production line. The ROLLMOD® roller hearth is perfectly suited for integration with automatic feeding devices and with all kinds of quenching systems.

2 THE MODULES

The roller hearth module assembly consists of:

- **Rollers**
- **Energy Saving Insulation**
- **Roller Drives**
- **Assembly Flange**
- **Drive Motor**

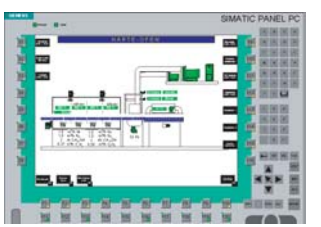


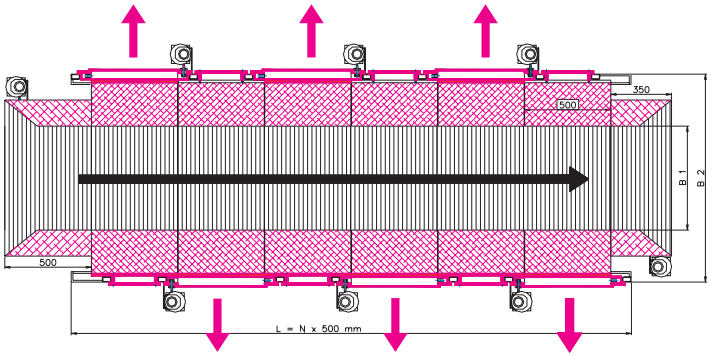
3 HEATING

Heating of a furnace with a ROLLMOD® roller hearth can be accomplished by gas fired radiant tubes which are located above and below the rolls or by electric heating elements.

4 PROCESS CONTROL

The use of digital stepper motors is particularly suitable for to date control systems. Together with precise athmosphere and temperature control, very reliable and reproducible thermal processes are possible.





STANDARD DESIGN

Standard module T 20:	Standard module T 25:
RollerØ = 17 mm, B1 = 500 mm, B2 = 1100 mm	RollerØ = 21 mm, B1 = 600 mm, B2 = 1200 mm
Roller material: Ceramic	Roller material: Ceramic
Max. Temp for max. 40% Hydrogen: 950°C	Max. Temp for max. 40% Hydrogen: 950°C
Insulation thickness: 250 mm	Insulation thickness: 250 mm

CONVINCING ADVANTAGES

- Patented Design
- Easy to be integrated into the production line
- Exact transport by stepper motors
- Gas tight design
- Extremly easy to maintain
- Module assembly can be changed in minimum time
- Minimum maintenance of roller drive
- Compact design
- Fast run module at in- and output of the furnace

TECHNICAL DATA

Conveyor speed adjustable rom 2 mm/s to 250 mm/s

Max. load: 300 kg/m²

Furnace lenght L: 2 - 7 m

Effective height max. 80 mm

Possible modifications

Maximum temperature approx. 1250°C

Roller material: heat resistant steel, silica glas

Effective width B1: 500 - 700 mm

Assembly frame B2 up to 1400 mm

Insulation thickness: 100 - 300 mm

Special design which deviates from the technical data listed above is possible

The furnace length will be in increments of about 500 mm due to interchangable modules from both sides of the furnace.

The upper and the lower furnace sections are mounted to the assembly frame,the insulation thickness depends on maximum furnace temperature.

Please contact the home office for additional information not shown in ROLLMOD® brochure.
If you have any further questions do not hesitate to contact us.

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