

**Aichelin**

industrial furnace solutions

# Rotary Hearth Furnaces

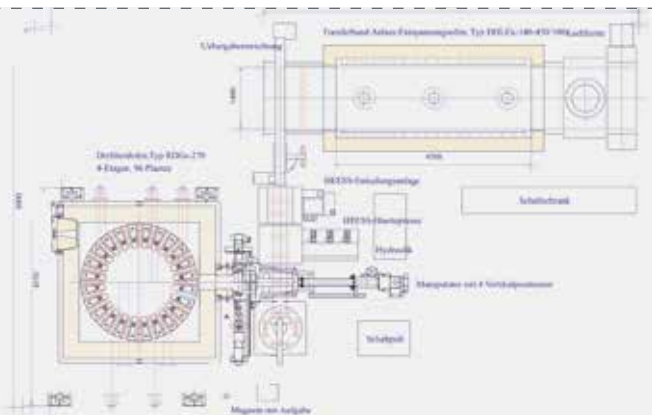
for Heat Treatment of Automotive and Gear Parts



Reliability at Work

**AICHELIN**

# Rotary Hearth Furnace with or without protective gas atmosphere



Reproducible quality and economic use of the required equipment are prime facts in heat treatment.

AICHELIN rotary-hearth furnaces in electric or gas-heated design are a product of long lasting experience and secure long-term profitability of our customers' investments. As one of the results we became market leaders with these plants.

Automatic carbonitriding furnace for sliding sleeves muffs consisting of: charging-magazine, furnace charging and discharging unit, rotary hearth furnace with 4 racks, hardening press, cleaning system, belttempering furnace with cooling line.

## DESIGN FEATURES

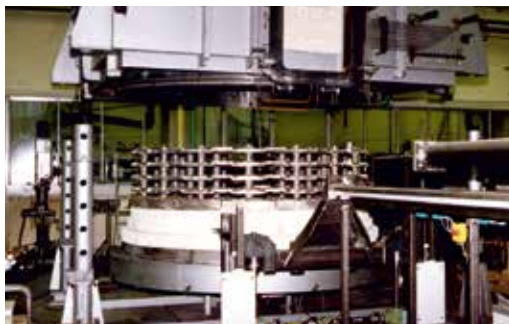
AICHELIN-rotary hearth furnaces are characterised particularly by the following features:

- Hearth in single- or multi-stage version
- Hearth drive with infinitely adjustable speed (forwards and backwards)
- Indexed or continuous rotation
- Rotary motion in the pilgrim step
- Design easy to service

A prominent design feature of this furnace is the charging process. Charging can be performed manually, semi- or fully automatically. The entire heat treating line can be configured to run in a fully automatic – manless – production mode.



Rotary hearth furnace gas heated.



Final assembling multi-stage rotary hearth furnace.



## THE BIG PLUS

AICHELIN-plants offer reproducible high quality, economy and efficiency. Through our long term partnerships with our customers all over the world, proven and advanced designs have been developed with unmatched long lifetime and service simplicity.

Moreover, continuous development and the background of a large manufacturer give you further safety.



Carburizing and rotary hardening of shafts.

## APPLICATION

The main applications of rotary hearth furnaces are the following heat treatment processes: gas carburizing, carbonitriding as well as hardening and tempering, mainly in combination with a subsequent press-hardening process. Rotary hearth furnaces are also used for preheating before forging and for annealing. In reference to structural components rotary hearth furnaces are used in piecewise heat treatment of eg. gear parts, bearings, clutch parts, cam and hollow shafts etc. The possibility of single removal makes the rotary hearth furnaces particularly suitable for joint use with a quenching press or a hot forming machine.



Rotary hardening of carburized TDI-camshafts with subsequent washing and tempering.

## ATMOSPHERES

The atmosphere process is controlled in exact accordance with the heat treatment process. Appropriate processes are:

- Endogas with enrich gases
- Nitrogen / methanol and enrich gases

All protective gas-furnaces are equipped with a nitrogen safety device.



## ADVANTAGES FOR THE USER

AICHELIN-Rotary Hearth Furnaces offer you the following advantages:

- High temperature uniformity inside the furnace chamber
- Charging and discharging through the same furnace door
- Individual quenching of parts which are sensible to distortion
- Heat treatment of parts that often differ in size and shape
- Differing effective case hardening depth in gas carburizing as well as carbonitriding
- Process drive with simple and safety operation
- Charge carriers serve as energy storage when handling thin walled parts

## TECHNICAL DATA

Typengröße	hearth diameter [cm]
RDE / G (s) 130	130
RDE / G (s) 170	170
RDE / G (s) 230	230
RDE / G (s) 270	270
RDE / G (s) 350	350
Special sizes available on request	Description of types: G = gas heated E = electrically heated (s) = for operation with protective gas atmosphere

Working temperatures for Hardening - and Carburizing-/Carbonitriding-Furnaces 820 to 950°C

Maximum heating capacity (gross) from 25°C to 860°C:  
50 kg/hr to 1000 kg/hr