aichelin
industrial furnace solutions

可控气氛井式炉热处理生产线

Pit Furnace Plants

适用于大尺寸零部件热处理

For Heat Treatment of Large Size Parts

Reliability at Work

爱协林热处理系统（北京）有限公司

AICHELIN Heat Treatment Systems (Beijing) Co., LTd.

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Pit Furnace Plants

生产线概述 INTRODUCTION

此生产线在总结多年生产和多方面应用经验上，以符合经济性、适用性和冶金质量方面的更高技术标准，在过去十年中已向国内外市场售出数百台套。其广泛应用于轴承、风电、矿山、工程机械等领域。

With AICHELIN accumulating of more than 10 years of experience in pit furnace manufacture, a high technical standard in economics, applicability and metallurgical quality are well conformed. Hundreds of sets have been widely used in bearings, wind power, mining, construction machinery and other fields.

- 生产线一般由井式炉、淬火油槽、淬火盐槽、盐回收装置、油烟净化装置、冷却装置、清洗机、回火炉、PC机、碳势和温度控制系统等组成。生产线控制系统将当前信息化与工业化结合，除满足基本模块如：自动生成控制工艺、自动记录工艺过程参数，实现产品跟踪追溯等外，其拓展模块增加了能耗统计分析、移动上位机监控系统，与车间MES系统实现接口等功能。

  The production line in general consists of pit furnace, oil quenching tank, salt quenching tank, salt recycle, fume purification device, cooling device, washing machine, tempering furnace, PC, carbon potential & temperature controlling system, etc. The control system can integrates the current informatization and industrialization. In addition to have basic modules such as automatic generation of control processes, automatic recording of process parameters, and realization of product tracking and traceability, its expansion modules add energy consumption statistic and analysis, mobile host computer monitoring system, realize the interface with the workshop MES system, etc.

- 爱协林大型井式炉在循环风机、导风筒、导风板设计上充分运用现代热流场力学数值模拟技术，结构合理，保证炉气均匀，大大提高炉温均匀性和碳势均匀性。尤其是可提供有马弗罐和无马弗罐结构型式。

  AICHELIN's large-scale pit furnace fully uses modern numerical simulation technology of heat flow field mechanics in the design of circulating fan, air guide tube and air guide plate. With reasonable structure and uniform of atmosphere, it greatly improves furnace temperature uniformity and carbon potential uniformity. Muffle and muffle-free constructions are available.

- 采用爱协林创新技术-具有自脱碳功能的管状加热系统和拼装式导风筒。无需马弗罐和炉底密封油槽，实现炉内工件无热屏障加热和快速冷却。节能效果十分显著。

  Adopt AICHELIN's innovative technology - a tubular heating system with self-decarbonization function and an assembled air deflector. There is no need for muffle tank and bottom sealing oil sump to achieve heat-free heating and rapid cooling of workpieces in the furnace. The energy saving effect is quite significant.

- 淬火油槽配有油烟收集净化装置，安全防火，并符合环保排放要求。

  The oil quench tank is equipped with a fume collection and purification device, which is safe and fireproof and meets the requirements of environment protection emission.

适用的主要热处理工艺 MAIN PROCESSES

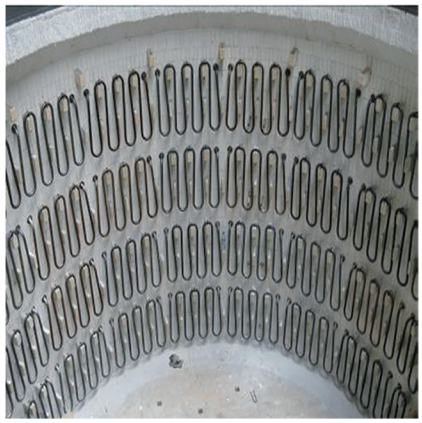
- 渗碳 Carburizing
- 碳氮共渗 Carbonitriding
- 气体渗氮 Nitriding
- 氮碳共渗 Nitrocarburizing
- 淬火 Hardening/Quenching
- 回火 Tempering
- 保护气氛退火 Annealing
- 可选淬火介质：淬火油、硝盐、水基淬火液
  Optional quenching medium: quenching oil, nitrate, water - based quenching liquid

技术规格与型号 TECHNICAL SPECIFICATION AND TYPES

规格型号 Type	有效直径 Eff. Diameter (mm)	有效深度 Eff. Depth (mm)	加热功率 Heat power (kW)	最大装炉量 Max. gross charge (kg)	工作温度 Work temp. (℃)
VBEs 500/250	φ5000	2500	1200	50,000	200-950
VBEs 400/200	φ4000	2000	920	35,000	200-950
VBEs 350/350	φ3500	3500	620	40,000	200-950
VBEs 300/350	φ3000	3500	810	45,000	200-950
VBEs 300/250	φ3000	2500	750	25,000	200-950
VBEs 250/300	φ2500	3000	630	20,000	200-950
VBEs 160/550	φ1600	5500	560	15,000	200-950

其他特殊型号可根据客户要求定制 Special Size Customized

▲ 可控气氛井式渗碳炉热处理生产线 Atmosphere Pit Carburizing Furnace Line



▲ （爱协林自主研发技术）具有自脱碳功能的管状加热系统
Tubular Heating System with Self Decarburizing Function

国际品牌，百年企业 ABOUT AICHELIN

150⁺年金属材料热处理经验，与客户一起成长的爱协林，是一家有生命力的企业。

With 150⁺ years of experience in heat treatment of metal materials, AICHELIN, which grows with customers, shows surprising vigor and vitality.

爱协林（AICHELIN），创立于1868年，总部位于奥地利维也纳附近。是一家专注于热处理技术与工艺发展创新，经过150⁺年金属材料热处理经验积累，已成为当下国际知名热处理装备制造供应商。旗下的10家子公司遍布于欧洲、亚洲及美洲，聚焦全球3大业务单元：工业炉热处理技术、烧嘴技术及全球服务，匠心为全球客户打造高品质产品，共享爱协林全球先进技术及供应链资源。

作为爱协林集团在华子公司：爱协林热处理系统（北京）有限公司于2005年成立。在前身爱协林工业炉工程（北京）有限公司（成立于1993年）基础上，全面主导工业炉在中国的研发制造、安装调试及售后服务等，并逐步形成定制化研发制造独特风格，已为国内外客户提供低能耗、清洁化、智能化的柔性热处理装备1800⁺台套，这些设备广泛应用于汽车、齿轮、轴承、机械、铁路、航空、航天、船舶、石油等行业。

AICHELIN, founded in 1868, with headquarter near Vienna, Austria. It is a company focusing on the development and innovation of heat treatment technology and processes. After 150⁺ years of experience in heat treatment of metal materials, it has become an internationally renowned heat treatment system equipment supplier. There are 10 subsidiaries located in Europe, Asia, and America, covering 3 major global business units: industrial furnace solutions, combustion technology and global services. AICHELIN dedicated to providing high-quality products to global customers and sharing its global advanced technologies and supply chain resources.

As a subsidiary of AICHELIN Group in China: AICHELIN Heat Treatment Systems (Beijing) Co., Ltd. was established in 2005. Based on its predecessor, AICHELIN Industrial Furnace Engineering Beijing Co., Ltd. (founded in 1993), it has fully dominated the R&D, manufacturing, installation, commissioning, and after-sales service of industrial furnaces in China and has gradually formed a unique style of customized R&D and manufacturing. 1800⁺ set(s) of low-energy, clean and intelligent flexible heat treatment equipment are provided to local and abroad customers. They are widely used in automotive, gears, bearings, machinery, railroad, aviation, aerospace, shipping, petroleum and other industries.

AICHELIN Ges.m.b.H
Fabriksgasse 3
A-2340 Mödling, Austria
Phone: +43(2236)23 646-0
Telefax: +43(2236)22 229
E-mail: marketing@aichelin.com
www.aichelin.com

爱协林热处理系统（北京）有限公司
地址：北京市昌平区北七家镇未来科学城南区未来中心G座8层
传真：010-5081 5997
总机：010-5081 5998
销售热线：010-5081 5959
邮箱：China.Sales@aichelin.com

www.aichelin.com.cn