

真空炉系列生产线

Vacuum Furnace Plants



Reliability at Work

爱协林热处理系统（北京）有限公司
AICHELIN Heat Treatment Systems (Beijing) Co., LTD.

VGH 系列 真空 高压 气 淬 炉

VGH Series Gas Quench Vacuum Furnace

应用概述 APPLICATION

此炉型适用于真空加热、高压气淬、真空退火和回火等热处理工艺。

The furnace is designed for vacuum heating, gas quench, annealing and tempering, etc.

主要特点 FEATURES

- 炉体：双层水冷炉壳 + 活页式水冷炉门 + 气动前门错齿锁圈
Vessel: water cooled double wall + hinged front door + pneumatic front door locking rim.
- 炉胆：石墨加热元件 + 石墨软毡 / 钼隔热屏 + 钼加热元件
Hot zone: graphite heating elements + graphite soft felt / Molybdenum radiation screens + Molybdenum heating elements.
- 气淬：变频控制大功率气淬风机 + 上下交替 / 四周喷嘴气淬气流 + 大面积翅片管换热器
Gas quench: VFD high power ventilator + upward and downward alternative gas flow / circumferentially distributed nozzles + large finned heat exchanger.
- 控制：基于MODBUS现场总线和工业以太网的触摸屏及上位机双人机界面 + 西门子 PLC + 欧陆控温仪 + 真空计
Control system: touch screen and IPC double HMI based on MODBUS and industrial Ethernet Siemens PLC + Eurotherm temperature controller + vacuum gauge



规格型号 MODEL AND SPECIFICATIONS

规格型号 Model	VGH 100	VGH 300	VGH 400	VGH 1000
装炉量 Loading Capacity, kg	200	500	800	1200
有效区长度 Length of Loading Zone, mm	600	900	1200	1200
有效区宽度 Width of Loading Zone, mm	400	600	600	900
有效区高度 Height of Loading Zone, mm	400	600	600	900
加热功率 Heating Power, kW	70	180	220	270
最高温度 Max. Temperature	1320 °C			
炉温均匀性 Uniformity of Temperature	±5 °C / ±3 °C			
极限真空度 Ultimate Vacuum	≤ 6x10 ⁻¹ Pa / 8x10 ⁻⁴ Pa			
压升率 Pressure Rising Rate	≤ 0.4 Pa/h			
气淬压力 Gas Quench Pressure	< 10 bar / 12 bar			
可按客户需求订制 Customized Furnace				



图片：立式真空气淬炉

VOD 系列卧式真空油淬炉

VOD Series Oil Quench Vacuum Furnace

应用概述 APPLICATION

此炉型适用于真空加热、油淬 / 气冷、真空退火和回火等热处理工艺。

The furnace is designed for vacuum heating, oil quench / gas cooling, annealing and tempering, etc.

主要特点 FEATURES

- 炉体：双层水冷炉壳 + 活页式水冷前后炉门 + 气动升降中炉门 + 气动前门错齿锁圈

Vessel: water cooled double wall + hinged front and rear door + pneumatic lifted inner door + pneumatic front door locking rim.

- 炉胆：石墨加热元件 + 石墨软毡 / 钼隔热屏 + 钼加热元件

Hot zone: graphite heating elements + graphite soft felt / Molybdenum radiation screens + Molybdenum heating elements

- 机构：变频控制伸缩叉和淬火架 + Winkel导轨和滚轮

Mechanism: VFD telescopic fork and quench elevator + Winkel wheels and rails.

- 油淬：侧凸式淬火油槽 + 顶装式变频控制的大范围油搅拌

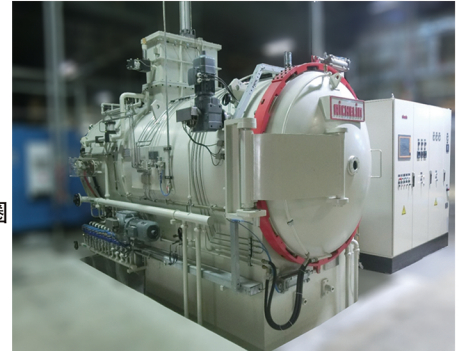
Oil quench: side extended oil tank + top mounted large scale oil agitation with VFD agitator

- 气冷：变频控制风机 + 翅片管换热器

Gas cooling: VFD ventilator + finned heat exchanger

- 控制：基于MODBUS现场总线和工业以太网的触摸屏及上位机双人机界面 + 西门子PLC + 欧陆控温仪 + 真空计；监测和保护高度集成

Control system: touch screen and IPC double HMI based on MODBUS and industrial Ethernet Siemens PLC + Eurotherm temperature controller + vacuum gauge; Monitoring and protection are highly integrated.



规格型号 MODEL AND SPECIFICATIONS

规格型号 Model	VOD 100	VOD 300	VOD 400	VOD 1000
装炉量 Loading Capacity, kg	200	500	800	1200
有效区长度 Length of Loading Zone, mm	600	900	1200	1200
有效区宽度 Width of Loading Zone, mm	400	600	600	900
有效区高度 Height of Loading Zone, mm	400	600	600	900
加热功率 Heating Power, kW	70	180	220	270
油槽容积 Volume of Oil Tank, m ³	3	7	12	16
最高温度 Max. Temperature	1320 °C			
炉温均匀性 Uniformity of Temperature	±5 °C / ±3 °C			
极限真空度 Ultimate Vacuum	≤ 6x10 ⁻¹ Pa / 8x10 ⁻⁴ Pa			
压升率 Pressure Rising Rate	≤ 0.4 Pa/h			
气淬压力 Gas Quench Pressure	< 2 bar			
可按客户需求订制 Customized Furnace				

VO/WB 系列立式真空油/水淬炉

VO/WB Series Oil Quench / Water Quench Vacuum Furnace

应用概述 APPLICATION

此炉型适用于真空加热、油淬/水淬等热处理工艺。

The furnace is designed for vacuum heating, oil quench / water quench, etc.

主要特点 FEATURES

- **炉体:** 双层水冷炉壳 + 活页式水冷装料炉门 + 气动升降料车 + 气动工件转移机构
Vessel: water cooled double wall + hinged loading door with water cooling + pneumatic lifted transfer car + pneumatic parts transfer mechanism
- **炉胆:** 石墨加热元件 + 石墨软毡 / 钼隔热屏 + 钼加热元件
Hot zone: graphite heating elements + graphite soft felt / Molybdenum radiation screens + Molybdenum heating elements
- **机构:** 气动工件转移机构 + 气动淬火装置
Mechanism: pneumatic parts transfer mechanism + pneumatic quenching device
- **淬火:** 淬水槽 + 顶装式变频控制的大范围油搅拌装置
Oil quench: quenching tank + top mounted large scale oil agitation with VFD agitator
- **控制:** 基于MODBUS现场总线和工业以太网的触摸屏及上位机双人机界面 + 西门子PLC + 欧陆控温仪 + 真空计; 监测和保护高度集成
Control system: touch screen and IPC double HMI based on MODBUS and industrial Ethernet Siemens PLC + Eurotherm temperature controller + vacuum gauge; Monitoring and protection are highly integrated.



规格型号 MODEL AND SPECIFICATIONS

规格型号 Model	VO/WB 100	VO/WB 300	VO/WB 400	VO/WB 1000
装炉量 Loading Capacity, kg	200	500	800	1200
有效区长度 Length of Loading Zone, mm	600	900	1200	1200
有效区宽度 Width of Loading Zone, mm	400	600	600	900
有效区高度 Height of Loading Zone, mm	400	600	600	900
加热功率 Heating Power, kW	70	180	220	270
油槽容积 Volume of Oil Tank, m ³	3	7	12	16
最高温度 Max. Temperature	1320 °C			
炉温均匀性 Uniformity of Temperature	±5 °C / ±3 °C			
转移时间 Transfer Time	≤ 6S			
极限真空度 Ultimate Vacuum	≤ 6x10 ⁻¹ Pa / 8x10 ⁻⁴ Pa			
压升率 Pressure Rising Rate	≤ 0.4 Pa/h			
气淬压力 Gas Quench Pressure	< 2 bar			

可按客户需求订制 Customized Furnace

VAD 系列卧式真空退火炉

VAD Series Horizontal Vacuum Annealing Furnace

应用概述 APPLICATION

此炉型适用于真空加热、钎焊、真空退火和回火等热处理工艺。

The furnace is designed for vacuum heating, brazing, annealing and tempering, etc.

主要特点 FEATURES

- 炉体：双层水冷炉壳 + 活页式水冷前后炉门 + 气动升降中炉门 + 气动前门错齿锁圈
Vessel: water cooled double wall + hinged front and rear door + pneumatic lifted inner door + pneumatic front door locking rim.
- 炉胆：钼隔热屏 + 钼加热元件
Hot zone: Molybdenum radiation screens + Molybdenum heating elements
- 冷却：变频控制风机 + 翅片管换热器
Cooling: VFD ventilator + finned heat exchanger
- 控制：基于MODBUS现场总线和工业以太网的触摸屏及上位机双人机界面 + 西门子PLC + 欧陆控温仪 + 真空计；监测和保护高度集成
Control system: touch screen and IPC double HMI based on MODBUS and industrial Ethernet Siemens PLC + Eurotherm temperature controller + vacuum gauge; Monitoring and protection are highly integrated.



规格型号 MODEL AND SPECIFICATIONS

规格型号 Model	VAD 100	VAD 300	VAD 400	VAD 1000
装炉量 Loading Capacity, kg	200	500	800	1200
有效区长度 Length of Loading Zone, mm	600	900	1200	1200
有效区宽度 Width of Loading Zone, mm	400	600	600	900
有效区高度 Height of Loading Zone, mm	400	600	600	900
加热功率 Heating Power, kW	70	180	220	270
最高温度 Max. Temperature	1250 °C			
炉温均匀性 Uniformity of Temperature	±5 °C / ±3 °C			
极限真空度 Ultimate Vacuum	≤ 8x10 ⁻⁴ Pa			
压升率 Pressure Rising Rate	≤ 0.4 Pa/h			
气淬压力 Gas Quench Pressure	< 2 bar			
可按客户需求订制 Customized Furnace				

VCD 系列卧式真空渗碳油淬炉

VCD Series Oil Quench Carburizing Vacuum Furnace

应用概述 APPLICATION

此炉型适用于真空加热+渗碳油淬/气冷/真空退火和回火等热处理工艺。

The furnace is designed for vacuum heating + oil quench carburizing, gas cooling, vacuum annealing and tempering, etc. heat treatment processes.

主要特点 FEATURES

- 炉体：双层水冷炉壳 + 活页式水冷前后炉门 + 气动升降中炉门 + 气动前门错齿锁圈
Vessel: water cooled double wall + hinged front and rear door + pneumatic lifted inner door + pneumatic front door locking rim.
- 炉胆：石墨加热元件 + 石墨硬毡
Hot zone: graphite heating elements + graphite hard felt
- 机构：变频控制伸缩叉和淬火架 + Winkel导轨和滚轮
Mechanism: VFD telescopic fork and elevator + Winkel wheels and rails.
- 油淬：侧凸式淬火油槽 + 顶装式变频控制的大范围油搅拌
Oil quench: side extended oil tank + top mounted large scale oil agitation with VFD agitator
- 气冷：变频控制风机 + 翅片管换热器
Gas cooling: VFD ventilator + finned heat exchanger
- 渗碳：使用AICHELIN特有渗碳模拟软件精确计算渗碳过程和控制渗碳层深
Carburizing: AICHELIN's carburizing simulation software can precisely calculate the carburizing process and control the depth of the carburizing layer
- 控制：基于MODBUS现场总线和工业以太网的触摸屏及上位机双人机界面 + 西门子PLC + 欧陆控温仪 + 真空计；监测和保护高度集成
Control system: touch screen and IPC double HMI based on MODBUS and industrial Ethernet Siemens PLC + Eurotherm temperature controller + vacuum gauge; Monitoring and protection are highly integrated.



规格型号 MODEL AND SPECIFICATIONS

规格型号 Model	VCD 100	VCD 300	VCD 400	VCD 1000
装炉量 Loading Capacity, kg	200	500	800	1200
有效区长度 Length of Loading Zone, mm	600	900	1200	1200
有效区宽度 Width of Loading Zone, mm	400	600	600	900
有效区高度 Height of Loading Zone, mm	400	600	600	900
加热功率 Heating Power, kW	70	180	220	270
油槽容积 Volume of Oil Tank, m ³	3	7	12	16
最高温度 Max. Temperature	1320 °C			
最高渗碳温度 Max. Carburizing Temperature	1050 °C			
炉温均匀性 Uniformity of Temperature	± 5 °C / ± 3 °C			
极限真空度 Ultimate Vacuum	≤ 6x10 ⁻¹ Pa			
压升率 Pressure Rising Rate	≤ 0.4 Pa/h			
气冷压力 Gas Cooling Pressure	< 2 bar			

可按客户需求订制 Customized Furnace

VTD 系列卧式真空回火炉

VTD Series Horizontal Vacuum Tempering Furnace

应用概述 APPLICATION

此炉型适用于真空加热、回火、退火、钎焊等热处理工艺。

The furnace is designed for vacuum heating, tempering, annealing and brazing etc.

主要特点 FEATURES

- **炉体：**双层水冷炉壳 + 活页式水冷前后炉门 + 气动升降中炉门 + 气动前门错齿锁圈
Vessel: water cooled double wall + hinged front and rear door + pneumatic lifted inner door + pneumatic front door locking rim.
- **炉胆：**不锈钢隔热屏 + 镍铬加热元件 / 钼隔热屏 + 钼加热元件
Hot zone: Stainless radiation screens + Nickel - Chromium / Molybdenum radiation screens + Molybdenum heating elements
- **冷却：**变频控制风机 + 翅片管换热器
Cooling: VFD ventilator + finned heat exchanger
- **控制：**基于MODBUS现场总线和工业以太网的触摸屏及上位机双人机界面 + 西门子PLC + 欧陆控温仪 + 真空计；监测和保护高度集成。
Control system: touch screen and IPC double HMI based on MODBUS and industrial Ethernet Siemens PLC + Eurotherm temperature controller + vacuum gauge; Monitoring and protection are highly integrated.

规格型号 MODEL AND SPECIFICATIONS

规格型号 Model	VTD 100	VTD 300	VTD 400	VTD 1000
装炉量 Loading Capacity, kg	200	500	800	1200
有效区长度 Length of Loading Zone, mm	600	900	1200	1200
有效区宽度 Width of Loading Zone, mm	400	600	600	900
有效区高度 Height of Loading Zone, mm	400	600	600	900
加热功率 Heating Power, kW	70	180	220	270
最高温度 Max. Temperature	750 / 1250 °C			
炉温均匀性 Uniformity of Temperature	±5 °C / ±3 °C			
极限真空度 Ultimate Vacuum	≤ 6x10 ⁻¹ Pa / 8x10 ⁻⁴ Pa			
压升率 Pressure Rising Rate	≤ 0.4 Pa/h			
气淬压力 Gas Quench Pressure	< 2 bar			
可按客户需求订制 Customized Furnace				

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.



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