



山东太升炉业有限公司

Shandong Taisheng Furnace Industry Co., Ltd.

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**加热设备及技术工艺
一站式服务**

***Heating equipment and technology process
One-stop service***

COMPANY PROFILE

公司简介



山东太升炉业有限公司，是一家集专业研发，生产制造，国内外销售于一体的热处理炉及各种加热设备生产企业。

公司主要生产各种加热设备，包括：网带炉，辊底炉，井式炉，台车炉，步进炉、铝合金立式淬火炉、光亮退火炉、箱式炉、烘干固化炉等多种炉型，产品广泛应用于金属、机械部件的熔炼、铸造、冲压、烧结、淬火、回火、渗碳和其他领域的热处理以及化工行业的防腐、烘干固化，催化剂再生等领域，涵括标准件行业、五金零件行业、热处理加工行业、航空航天、汽车、摩托车机自行车行业、工矿企业事业、石油化工行业、医疗卫生行业以及实验室的应用等等。

公司拥有完整的研发、生产和售后服务团队，由于公司产品技术力量雄厚所研发的产品能耗低、效率高、自动化程度高而且营业额一直处于上升状态，公司荣获“国家级高新技术企业”和“专精特新企业”荣誉称号。公司生产的各种加热设备赢得了客户的广泛好评。我们把创新作为公司的奠基石，根据客户的不同需求，及时的为他们提供完善的设计、生产、工艺及售前售后服务，竭诚为我们的合作伙伴创造卓越的产品和经济效益和生产效率。我们的产品不仅在国内具有较大的市场价值和良好的声誉，并且已经出口到世界其他国家，为世界工业服务。我们正在努力进一步推动我们的信誉，优质的产品和良好的服务。我们期待若与您享受互惠互利和光明的未来。

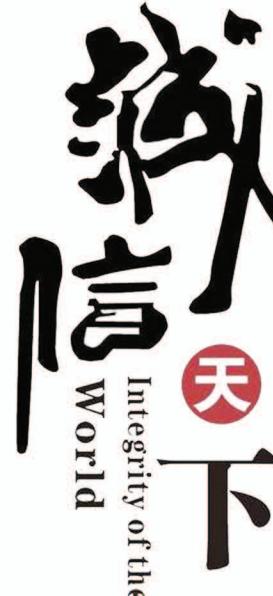
Shandong Taisheng Furnace Co., Ltd. is a professional r & D, production and manufacturing, domestic and foreign sales in one of the heat treatment furnace and a variety of heating equipment manufacturers.

The company mainly produces all kinds of heating equipment, including: Mesh Belt Furnace, roller hearth furnace, well furnace, trolley furnace, walking furnace, aluminum alloy vertical quenching furnace, bright annealing furnace, box furnace, drying curing furnace and other furnace types, products are widely used in metal, mechanical parts of the melting, casting, stamping, sintering, quenching, tempering, carburizing and other fields of heat treatment and chemical industry corrosion, drying curing, areas such as catalyst regeneration, including standard parts industry, hardware parts industry, heat treatment industry, aerospace, automotive, motorcycle bicycle industry, mining enterprises, petrochemical industry, medical and health industries and laboratory applications, etc. .

The company has a complete r & D, production and after-sales service team, because of the strong technical force of the company's products developed products low energy consumption, high efficiency, high degree of automation and turnover has been in the state of increase, the company has won the honorary titles of "National high-tech enterprise" and "Specialized new enterprise". The company produces a variety of heating equipment to win the wide acclaim of customers. We regard innovation as the cornerstone of the company, according to the different needs of customers, timely to provide them with sound design, production, technology and pre-sales and after-sales service, dedicated to our partners to create excellent products and economic efficiency and production efficiency. Our products not only have great market value and good reputation at home, but also have been exported to other countries in the world to serve the world industry. We are working hard to further promote our reputation, quality products and good service. We look forward to enjoying a mutually beneficial and bright future with you.



营业执照、9000认证等资质证书



连续式网带炉--保护气氛热处理生产线

Continuous Mesh Belt Furnace--protection atmosphere heat treatment production line.



描述 : Description:

该生产线为连续式作业炉，可完成自动送料，前清洗，渗碳（淬火），后清洗，回火等工序。适用于标准件行业（板手、螺丝批、钳、套筒、千斤顶等）；汽车、摩托车、自行车行业；五金零件行业（夹、刀、钉、鞋铁芯、指甲钳、链条、锁头钩等）；轻纺机械行业的薄层渗碳，碳氮共渗，调质等连续热处理。

该设备可分为马弗网带炉和托辊网带炉，可选配电加热或者燃气加热。

It is a continuous furnace, which can complete the process of automatic feed, front cleaning, carburizing (quenching), post cleaning, and tempering, being appropriate for the standard parts industry(wrench, screw driver, pliers, sleeve, lifting jack, etc.); Automobile, motorcycle and bicycle industry; Hardware industry(clips, knife, nail, shoe core, nail clipper, chain, locks hook, et c.), and the continuous heat treatment on sheet carburizing, carbonitriding, hardening and tempering of textile machinery industry.

There include the Muffle Belt type and Roller Belt Type. Powered supply is optional with Electric or Gas.

结构特点 : Machine Features:

- 输送网带由耐热合金丝制造，在步进式传动机构作用下，由炉底板承托导向运动，保证网带在高温下处于松弛状态，提高网带的寿命及运动平稳性。
- 马弗罐为耐热钢冲压成型后焊接而成的密封罐体，罐口设有气帘管，罐后有落料口和网带回通道。网带回通道设有水冷却段和水封道，保证炉子密封性好，耗气量小。
- 网带速度可通过变频器无级调节。
- 落料通道有油帘机构、抽烟机构、油搅拌机构及换热装置，能确保热处理工艺的实现。
- Conveyor mesh belt made from heat-resistant alloy wire, under the effect of step type transmission mechanism, the furnace bottom retains orientation movement, guarantees the mesh belt is in a state of relaxation at high temperature, improving the life of the net belt and running smoothness.
- The pot is a sealed tank welded after the forming of heat-resistant steel, with the air curtain tube in the irrigation port, the back of the tank, and the net back to the mouth. The water-cooling section and water seal are provided to ensure that the furnace is well-sealed and has little gas consumption.
- The network speed can be adjusted by a frequency converter.
- The feeding channel has oil curtain mechanism, smoking mechanism, oil stirring mechanism and heat transfer device to ensure the realization of heat treatment process.

连续式托辊炉热处理生产线

Continuous Mesh Belt Furnace--protection atmosphere heat treatment production line.



描述 : Description:

连续式辊棒炉生产线通常由辊棒式上料台、辊棒式预热炉、辊棒式加热炉、淬火槽、辊棒式回火炉、风冷却料台组成，是一种适用于大批量连续生产，自动化程度较高的热处理设备。

可选配电加热或者燃气加热。

Qingdao TAIYI custom designs and manufactures roller hearth furnaces for a variety of applications, particularly those requiring heavy loads and high-volume capacity, and long parts. TAIYI's emphasis on superior control of temperature and atmosphere management provides uniform and consistent results for these high-production furnace systems.

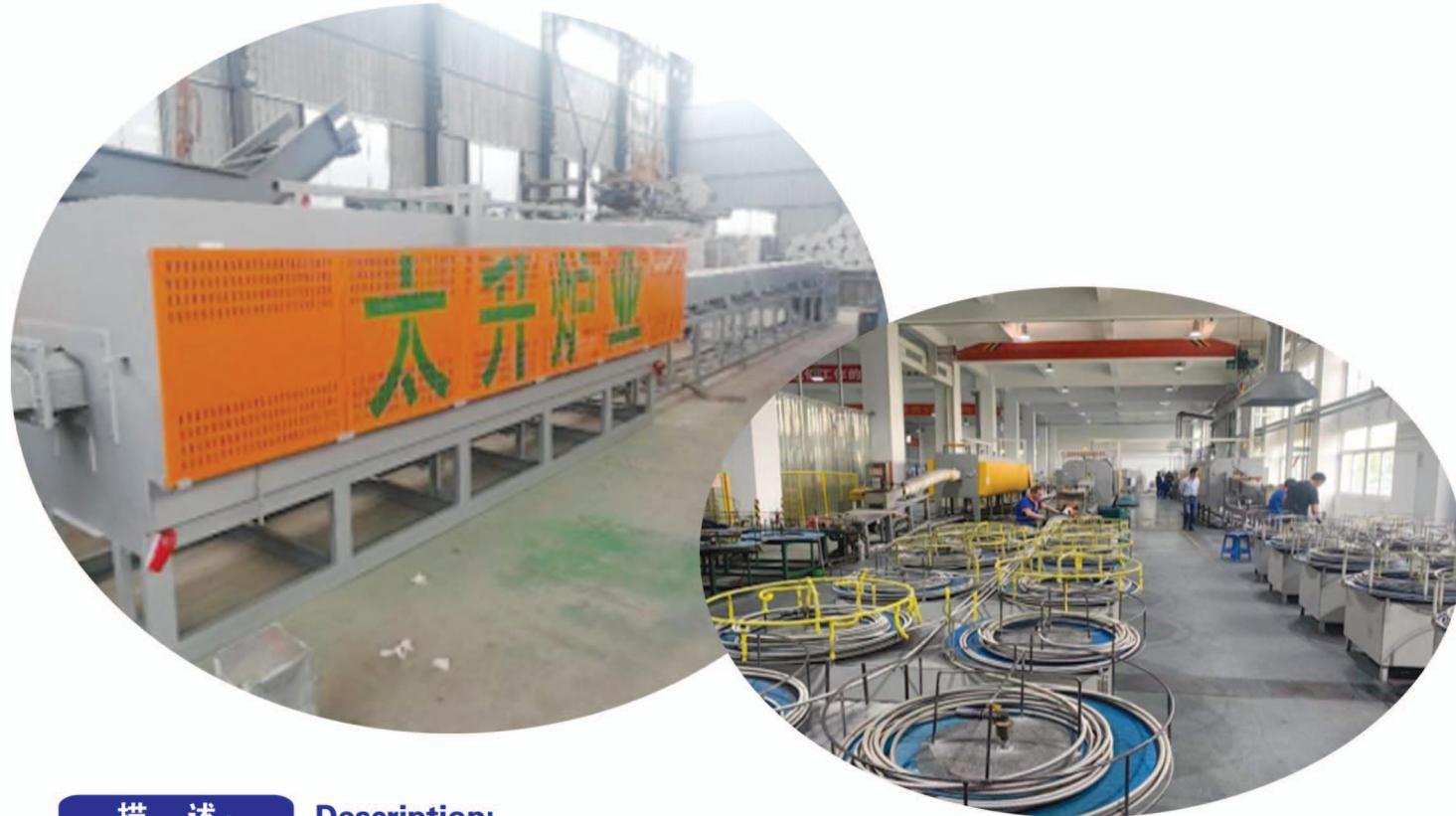
Roller hearth furnaces are applied for a variety of common heat treatments, such as annealing, normalizing, stress relief, hardening, and tempering, as well as reheating and brazing, but are particularly suitable for multi-step processes with multiple in-line process chambers with isolation doors and purge chambers.

Powered supply is optional with Electric or Gas.

结构特点 : Machine Features:

- 工件在加热过程中连续移动与辊道没有固定的接触点，因此加热均匀，无碰伤、变形小等优点。
- 由于辊棒始终在炉内，热能消耗相对较少，炉子热效率高。
- 根据客户要求辊底炉设计为可控气氛炉，进行光亮处理，渗碳处理等。
- 辊底炉密封性能好，炉温均匀性高，能达到 $\pm 5^{\circ}\text{C}$ 。
- 辊底炉生产线可控自动化程度高，实现微机程序操作和可控气氛的自动控制。
- The workpiece has no fixed contact point with the roller table during continuous movement during the heating process, so the heating is uniform, and there is no bump and small deformation.
- Since the rollers are always in the furnace, the heat energy consumption is relatively small, and the thermal efficiency of the furnace is high.
- According to customer requirements, the roller hearth furnace is designed as a controllable atmosphere furnace for bright treatment, carburizing treatment, etc.
- The roller hearth furnace has good sealing performance and high oven temperature uniformity, which can reach $\pm 5^{\circ}\text{C}$.
- The roller hearth furnace production line has a high degree of controllable automation, which realizes the automatic control of microcomputer program operation and controllable atmosphere.

连续式不锈钢光亮退火炉 Continuous Bright Annealing Furnace



描述 : Description:

该设备主要由加热区和冷却区组成，主要用来加工不锈钢盆，不锈钢管子，不锈钢钢带，不锈钢刀片以及各种不锈钢工具。

该设备配备有氨分解炉，可以分解液氨产生还原性气氛，使不锈钢产品在还原气氛的保护下完全绽放出光亮的效果，节省后续抛光的劳动力。可选配电加热或者燃气加热。

The equipment is mainly composed of a heating zone and cooling zone, which is mainly used to process stainless steel sinks, stainless steel pipes, stainless steel strips, stainless steel blades, and various stainless steel tools.

The equipment is equipped with an ammonia decomposition furnace, which can decompose liquid ammonia to produce a reducing atmosphere (H₂ and N₂) , so that the stainless steel product is completely bright under the protection of the reducing atmosphere, saving the labor of polishing.

Powered supply is optional with Electric or Gas.

结构特点 : Machine Features:

1. 采用水冷却，全过程不会接触导致氧化的空气。
2. 缓慢的冷却过程也是在全封闭空间中进行，确保在冷却过程中保障光亮退火的效果。
3. 配有多余气氛燃烧系统，确保多余的H₂可以在炉内完全燃烧，带有燃烧废气排放系统，确保操作的安全性。
4. 设备全自动运行，只需工人上料和下料，不锈钢产品出炉即为成品，无需抛光工艺，节省劳动力。

1. Using water cooling, the whole process will not contact the air that causes oxidation.

2. The slow cooling process is also carried out in a fully enclosed space to ensure the bright annealing effect during the cooling process.

3. Equipped with excess atmosphere combustion system to ensure that excess H₂ can be completely burned in the furnace, with combustion exhaust gas emission system to ensure the safety of operation.

4. The equipment runs fully automatically, only need workers to load and unload, stainless steel products are finished products when they are baked, no polishing process is required, saving labor.

台车式加热炉 Trolley Furnace / Bogie Hearth Furnace / Car Bottom Furnace



描述 : Description:

本系列台车炉由炉体和电控两部分组成。炉体部分主要包括炉壳、炉衬、加热元件、炉门及台车。炉壳由钢板与型钢焊接而成，炉衬采用节能型超轻质耐火砖、硅酸铝纤维与优质保温材料组成复合炉衬。加热元件用高合金电阻丝绕制螺旋状放置于炉衬和台车搁砖上；台车可以来回移动，便于装卸料，其与炉壳间采用新颖自动密封，改善了密封性能；炉门的升降与台车的进出均采用电动减速机构带动，炉底板为耐热铸钢件，并可选配台车倾斜卸料机构。

可选配电加热或者燃气加热。

The Trolley Furnace is composed of two parts: furnace body and control cabinet. The furnace body mainly includes the furnace shell, furnace insulation, heating element, furnace door, and trolley. The furnace shell is welded from steel plate and section steel, and the insulation is composed of energy-saving ultra-lightweight refractory bricks, aluminum silicate fiber, and high-quality insulation materials. The heating element is wound with a high-alloy resistance wire in a spiral shape and placed on the furnace lining and trolley tiles; The trolley is moveable, which is convenient for loading and unloading, and the sealing system is adopted between the trolley and the furnace shell, which improves the sealing performance; The lifting of the furnace door and the entry and exit of the trolley are driven by an electric reduction mechanism, and the bogie heat panel is a heat-resistant steel casting, and there is one additional option is the trolley tilting function, could work with fast quenching with this function.

Powered supply is optional with Electric or Gas.



结构特点 : Machine Features:

1. 安装车间不需要挖地坑，安装在水平面上即可运行。
2. 主要用于高铬、高锰钢铸件、球墨铸铁、轧辊、钢球、45钢、不锈钢等工件的正火，淬火、退火、或者回火。台车的承重可以定制化制作，特别适合大吨位工件的热处理。
3. 配备有过热保护器，过热报警装置会自动切断温度控制系统，保护炉体和热处理的工件。
4. 设备全自动运行，仅需要一人即可全程操作，节省劳动力。

1. No need for the pit foundation when installation, works well on the normal concrete ground.

2. It is mainly used for normalizing, quenching, annealing, or tempering of workpieces such as high chromium, high manganese steel castings, ductile iron, rolls, steel balls, stainless steel, etc. Particularly suitable for large tonnage heavy workpieces.

3. Heating from five sides (four sides and bogie) provides for an optimum temperature uniformity

4. Over-temperature alarm with adjustable cutoff temperature as temperature limiter to protect the furnace and heated products.

井式炉 Pit Furnace / Top Loading Furnace



描述 : Description:

井式炉，在热处理中发挥了重要作用。与其他热处理炉的设计和配置相比，它们可以执行最广泛的热处理工艺。

井式炉用于以下多种应用：回火、铝溶液处理、氮化、蒸汽处理、退火、硬化、渗碳和真空热处理。井式炉可以为用户提供400°C至1600°C的温度范围。它们配有适用于多种应用的炉罐，可以内部冷却产品，并特别适合热处理长工件或者重的工件。

出光亮的效果，节省后续抛光的劳动力。可选配电加热或者燃气加热。

Top-loading furnaces, commonly referred to as pit furnaces, have played a major role in the heating treating plant. They performed the widest range of thermal processes compared to other heat-treating furnace designs and configurations.

Most commercial and captive heat-treaters use a pit-type furnace for one or more of these applications: tempering, aluminum-solution treating, nitriding, steam treating, annealing, hardening, carburizing, and vacuum heat-treating. Pit furnaces can provide the user with temperature ranges from 400°C to 1600°C. They are fitted with retorts for several applications, can cool products in place, and provide the best design for long parts or heavy loads. They also use the least amount of valuable floor space, which is a key consideration today.

Powered supply is optional with Electric or Gas.

结构特点 : Machine Features:

1. 应用范围广泛，可以用来渗碳，氮化，碳氮共渗，硬化，回火，退火，蒸汽发蓝，发黑，时效处理，真空热处理等。

2. 特别适合加长的工件和大吨位工件的热处理。

3. 相比较其他炉型，占用地面上空间小。

4. 有较好的密封效果，非常适合用于气氛保护的热处理工艺。

1. Wide range of applications, can be used for carburizing, nitriding, carbonitriding, hardening, tempering, annealing, steam blue, steam black, solution treatment, vacuum heat treatment, etc.

2. Pit furnaces are suited to heating long tubes, shafts and rods by holding them in a vertical position

3. The pit furnace is favored when working with the atmosphere protection process.

4. With a perfect sealing system, lower power consumption, and fast cycle time.

叉车式加热炉 Trolley Furnace / Bogie Hearth Furnace / Car Bottom Furnace



用途 : Description:

叉车炉主要由箱式加热炉、快装卸叉车、淬火槽、冷却水系统组成。快速装卸叉车机构将工件和托盘顺利装入炉内，箱式加热炉将工件加热到氧化程度较低的工艺温度，装卸叉车机构可在炉膛卸料时快速将高温工从炉中铲出，迅速落入水中进行淬火热处理。

可选配电加热或者燃气加热。

The forklift furnace is mainly composed of a box-type heating furnace, a fast-loading and unloading forklift, a solid quenching tank, and a cooling water system. The fast loading and unloading forklift mechanism load the workpieces and trays into the furnace smoothly, the box-type heating furnace heats the workpieces to the process temperature in a less oxidized state, and the loading and unloading forklift mechanism can quickly put the high-temperature workpieces together with the basket when the furnace is discharged. Shovel out of the furnace and quickly drop into the water for quenching heat treatment.

Powered supply is optional with Electric or Gas.

设备特征 : Machine Features:

1. 迅速冷却功能使工件减少氧化。

2. 操作安全，从开门到冷却无需人工接触。

3. 配备有过热保护器，过热报警装置会自动切断温度控制系统，保护炉体和热处理的工件。

4. 设备全自动运行，仅需要一人即可全程操作，节省劳动力。

1. Designed for the rapid quenching treatment of workpieces.

2. Safely transfer the load in the shortest time from opening the door to the total immersion of the load into the quench.

3. Equipped with an overheating protector, the overheating alarm device will automatically cut off the temperature control system to protect the furnace body and heat-treated workpiece.

4. In conjunction with the PID intelligent temperature program control system, which can automatically indicate, control, and record the temperature of the furnace.

铝合金固溶时效炉 Pit Furnace / Top Loading Furnace



描述: Description:

该设备主要用于铝合金工件的固溶淬火和人工时效热处理以及铝合金的退火热处理。将铝合金铸件或者铝合金轮毂装入炉体中，通过控制加热速度升到某一相应温度，经过一定保温时间并以快速度冷却，改变其合金的组织，其主要目的是提高合金的力学性能，增强耐腐蚀性能，改善加工型，能获得尺寸的稳定性。快速固溶处理，保温时间结束后，工件的淬火速度可以达到10秒以内。

The equipment is mainly used for solution hardening and artificial aging heat treatment of aluminum alloy workpieces and the annealing heat treatment of aluminum alloys. The aluminum alloy casting or aluminum alloy wheel is loaded into the furnace body, by controlling the heating speed to rise to the correct temperature, after holding time and rapid cooling, the alloy structure will be changed. The main purpose is to improve the mechanical properties of the alloy, enhance corrosion

气氛保护箱式加热炉 Box Furnace/Chamber Furnace



用途: Description:

箱式炉一般用于小型钢件淬火、退火、回火等热处理，箱式高温炉还可用作金属、陶瓷的烧结、溶解、分析等高温加热用。

该设备操作简单，维护方便。升温快，空载损耗小，炉温均匀性好

The Box Furnace is generally used for heat treatment such as quenching, annealing and tempering of small steel parts, and can also be used for high-temperature heating such as sintering, dissolution, and analysis of metals and ceramics.

The equipment is simple to operate and easy to maintain. fast heating up, and very mini-loss when heated with an empty oven, the temperature is easy to control to make sure the temperature uniformity is even.

步进炉 Pit Furnace / Top Loading Furnace



描述: Description:

步进式加热炉也是一种连续式加热炉，它是靠专用的步进机构，按照一定的轨迹（通常是矩形轨迹）运动，使炉内的钢料一步一步地前进，故被称之为步进式加热炉

步进式加热炉节能效果好。钢料在炉内可前进也可后退，在检修和改换钢种时，利用步进机构可以将坯料全部出空和退空，减轻了出空炉子的劳动强度，减少了钢料在炉内的氧化。还可以根据轧制产量的大小，控制炉子装料量，炉内的加热时间不变。

The Walking Beam Furnace has a system of beams, made of refractory or tubular, which are placed over a mechanical frames system and hydraulically powered, allows to the furnace to make the move of the products, the resulting move is like a “walking”, step by step, from the charging to the discharging.

Walking Beam Furnaces are the most compact solution for billet re-heating featuring high productivity and the best temperature uniformity. They achieve top performances while strongly limiting pollutant emissions.

Powered supply is optional with Electric or Gas.

设备特征: Machine Features:

1. 步进送料的结构，使产品各面受热均匀，热透效果好。
2. 钢坯不在炉底上滑动，钢坯下面不会有划痕，加热质量好。
3. 轧机有故障或者停轧时，能将钢坯退出炉外，以免钢坯长期停留在炉内造成氧化和脱碳。
4. 加热均匀和淬火均匀，使热处理工件变形小。

1. The walking beam furnace allows the product to be heated from all sides, with very effective heating and soaking of billets.
 2. The billet does not slide on the bottom of the furnace, there will be no scratches under the billet, and the heating quality is good.
 3. When in maintenance or stopped, the billet can be withdrawn from the furnace to avoid oxidation and decarburization caused by the billet staying in the furnace for a long time.
 4. Low fuel consumption with the heat recovery system, With great temperature uniformity on reheating.

低温烘箱、非晶芯退火炉 Amorphous Core Annealing Furnace



描述: Description:

非晶芯退火炉专业用于非晶铁芯、纳米金退火，由箱体、加热系统、保温系统、鼓风系统、电气控制系统等组成。由于非晶材料的特殊性，在退火过程中需要有氮气保护和磁化工艺。

非晶芯热处理是制备非晶磁芯的重要工艺。通过合理的热处理方法，可以提高材料的性能和稳定性，可以更好的应用于电力电子，通信，工业等领域。

低温烘箱主要用于管道防腐、碳纤维固化，烘干、固化

The Amorphous core annealing furnace is specially used for the amorphous iron core and nanogold annealing, which is composed of an oven body, heating system, heat preservation system, blower system, electrical control system, etc. Due to the particularity of amorphous materials, nitrogen protection and magnetization processes are required during annealing.

Amorphous core heat treatment is an important process for the preparation of amorphous cores. The performance and stability of materials can be improved through reasonable heat treatment methods and can be better used in power electronics, communications, industry and other fields.

化工产品烘干再生炉 Chemical product drying and recycling furnace



本产品广泛应用于颗粒状化工产品的烘干、固化、煅烧以及催化剂的再生等功能，加热方式有电加热和燃气加热等形式，根据化工产品的形状等物理和化学性能参数设计炉型、加热方式及通风方式。

This product is widely used in the drying, curing, calcination and catalyst regeneration of granular chemical products, heating methods include electric heating and gas heating and other forms, according to the shape of chemical products and other physical and chemical performance parameters to design furnace type, heating mode and ventilation mode.

设备特征： Machine Features:

- 1、网带分段传送，适用于不同工艺段的温度、氮气、反应气氛等的需求
- 2、各个温区独立隔断，保证不同温度的控制要求
- 3、大功率变频风机保证炉压、风量和风力的穿透性
- 4、加热方式独立控制，节约能耗，每区多点控温
- 5、各个阀门都用电动执行器模拟量控制

1、The mesh belt is transported in stages, which is suitable for the needs of temperature, nitrogen, reaction atmosphere, etc. in different process sections

2、Each temperature zone is independently isolated to ensure the control of different temperatures, and high-power inverter fans are required to ensure the penetration of furnace pressure, air volume and wind power

3、The heating mode is independently controlled, saving energy consumption, and multi-point temperature control in each zone

4、The individual valves are analogue-controlled with electric actuators

燃气锻造炉 forging furnace



用 途： Description:

- 1、蓄热式锻造加热炉蓄热室换热量大,换热时间短,空气预热的温度高,烟气的余热回收高,烟气排放温度低。
- 2、炉温均匀稳定：蓄热式锻造炉空气、天然气预热温度高，促进了燃烧过程中碳氢化合物的裂解、交替燃烧，炉内高、低温区交替出现，火焰长度方向上温差相互抵消，这使得炉气的温度分布均匀，炉内温差小，从而提高了加热质量。
- 3、烟气污染小：蓄热式燃烧技术减少了燃料消耗量，减少了氮氧化物等污染物的排放。
- 4、PLC智能控制：蓄热式天然气锻造炉PLC智能控制系统，可灵活控制空燃比，准确控制炉温。

1、The heat storage chamber of the regenerative forging furnace has a large heat exchange, a short heat exchange time, a high air preheating temperature, high waste heat recovery of flue gas, and a low flue gas emission temperature.

2、Uniform and stable furnace temperature: the preheating temperature of air and natural gas in the regenerative forging furnace is high, which promotes the cracking and alternating combustion of hydrocarbons during the combustion process, and the high and low temperature zones in the furnace appear alternately, and the temperature difference in the direction of flame length cancels each other, which makes the temperature distribution of the furnace gas uniform, and the temperature difference in the furnace is small, thereby improving the heating quality.

3、Low flue gas pollution: Regenerative combustion technology reduces fuel consumption and reduces the emission of pollutants such as nitrogen oxides.

4、PLC intelligent control: PLC intelligent control system of regenerative natural gas forging furnace, which can flexibly control the air-fuel ratio and accurately control the furnace temperature.