

## VYQ2-ST Double Chamber Vacuum Oil Quenching Carburizing Furnace



### The Main Purpose

- The VYQ2-ST Double-Chamber Vacuum Carburizing Furnace is engineered for precision heat treatment processes including oil quenching and bright quenching of tool steel, mold steel, bearing steel, spring steel, and stainless steel. It is extensively used in industries such as aerospace, automotive manufacturing, mold production, and mechanical manufacturing, offering high-precision and high-performance thermal treatment solutions tailored to the demanding requirements of these sectors.

### Technical Characteristics

- State-of-the-Art Dual Chamber Configuration:** This furnace boasts a revolutionary dual chamber design, segregating carburizing and quenching operations. This not only streamlines the workflow but significantly boosts throughput, ensuring that your production lines move faster without compromising on quality.
- Advanced Low-Pressure Acetylene Carburizing:** Leveraging cutting-edge low-pressure acetylene carburizing technology, it guarantees a superior, uniform carburization layer. This precise control over the carburization process enhances the durability and performance of treated materials, setting a new industry standard.
- Fully Automated Control via Industrial Computer System:** Equipped with a highly sophisticated industrial computer system, it automates the entire carburizing and quenching process. This digital prowess minimizes human error, ensuring consistent quality and operational efficiency.
- Multiple Quenching Modalities for Diverse Needs:** Tailor your thermal treatment process with either oil or gas quenching options. This flexibility allows for optimal customization to the specific material properties and desired outcomes, offering a tailored approach to each project.
- Optimized with High-Purity Nitrogen Diffusion:** The use of high-purity nitrogen as a diffusion medium optimizes the thermal treatment effect, significantly enhancing the mechanical properties of the workpieces. This ensures that each piece exits the furnace meeting the highest standards of strength and integrity.
- Eco-Friendly Operation Minimizing Environmental Impact:** Our commitment to sustainability is evident in our process that produces no carbon black or tar. This eco-friendly approach not only adheres to green manufacturing principles but also contributes to significant energy savings.

### Main Advantages

- Unmatched Efficiency for High-Volume Production:** The unique dual chamber design effectively doubles your operational capacity, reducing wait times and increasing your output, making it an asset for high-demand scenarios.
- Peak Carburizing Performance:** Our low-pressure acetylene technology ensures that each component is uniformly carburized to perfection, significantly enhancing its wear resistance and life span<sup>®</sup> a critical advantage in competitive markets.
- Precision at Your Fingertips:** With our automated control system, precision is not just a goal; it's a guarantee. This system ensures that each cycle is consistent, reducing variability and increasing your product's reliability.
- Adaptable to Your Needs:** The versatility of quenching options allows for precise customization to material requirements, ensuring that each component receives the ideal thermal treatment, thus maximizing its performance and longevity.
- Superior Mechanical Properties Through Advanced Diffusion:** The high-purity nitrogen diffusion process enhances key mechanical properties of the treated parts, ensuring they meet the rigorous demands of modern engineering applications.
- Sustainable Solutions for Modern Manufacturing:** Our process is not only efficient but environmentally friendly, offering a sustainable solution that reduces operational costs and supports your company's green initiatives.

### Additional Configuration

- Intuitive Touch Screen Interface:** Simplify your operations with our user-friendly touch screen interface. This modern control panel streamlines process adjustments, making it accessible to operators of all skill levels.
- Customizable Cooling Media Options:** With the flexibility to choose between oil and gas quenching mediums, you can tailor the cooling process to best fit the thermal treatment requirements of your specific materials, enhancing the outcome's precision.
- Real-Time Remote Monitoring for Enhanced Control:** Stay connected with your operations through our remote monitoring system. This feature allows for immediate adjustments and troubleshooting, ensuring maximum uptime and productivity.
- Bespoke Heat Treatment Programs Tailored to Your Specifications:** Our engineers are ready to develop customized heat treatment programs designed around your unique requirements, ensuring that each component is treated to achieve optimal results, thereby enhancing the value and performance of your products.

### Furnace Size

Model	mm Valid Zone	(æ) Maximum Temp	(Kw) Heating Power	(Pa) Ultimate Vacuum	(Bar) Gas Cooling Pressure
VYQ2-40ST	450x300x300	1320	40	4x10 <sup>-1</sup>	2
VYQ2-65ST	600x400x400	1320	80	4x10 <sup>-1</sup>	2
VYQ2-80ST	700x500x500	1320	120	4x10 <sup>-1</sup>	2
VYQ2-150ST	900x700x600	1320	150	4x10 <sup>-1</sup>	2
VQ2-100ST	700x500x500	1320	180	4x10 <sup>-1</sup>	6/10/12
VQ2-150ST	900x700x600	1320	240	4x10 <sup>-1</sup>	6/10/12
VQ2-220ST	1200x800x700	1320	300	4x10 <sup>-1</sup>	6/10/12

- Chamber size and temperature according to customer need;
- Control System: Computer control, touch screen control, micro-computer control.