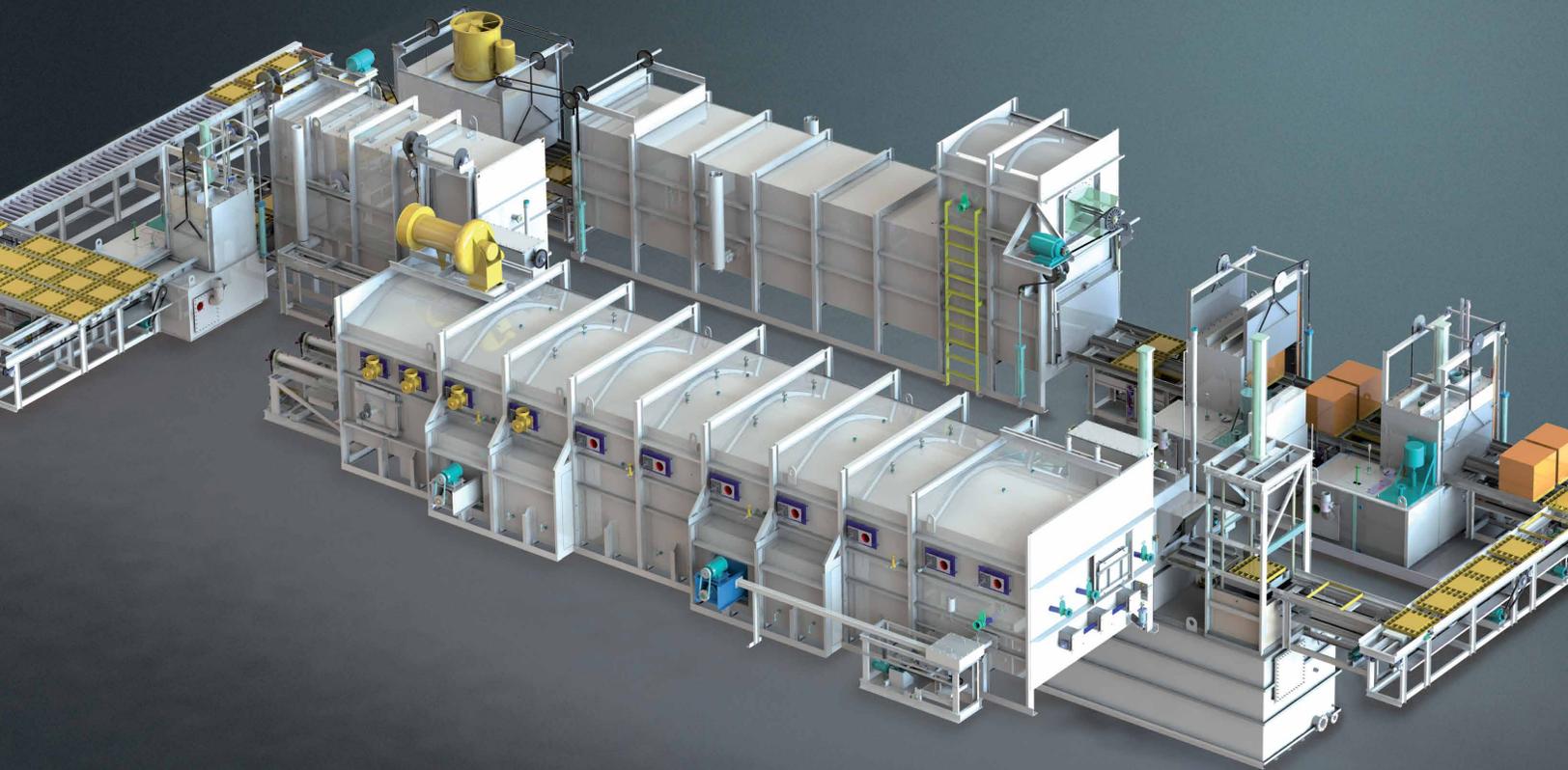


# Pusher Furnaces

High Volume Thermal Treatment System



# Pusher Furnaces

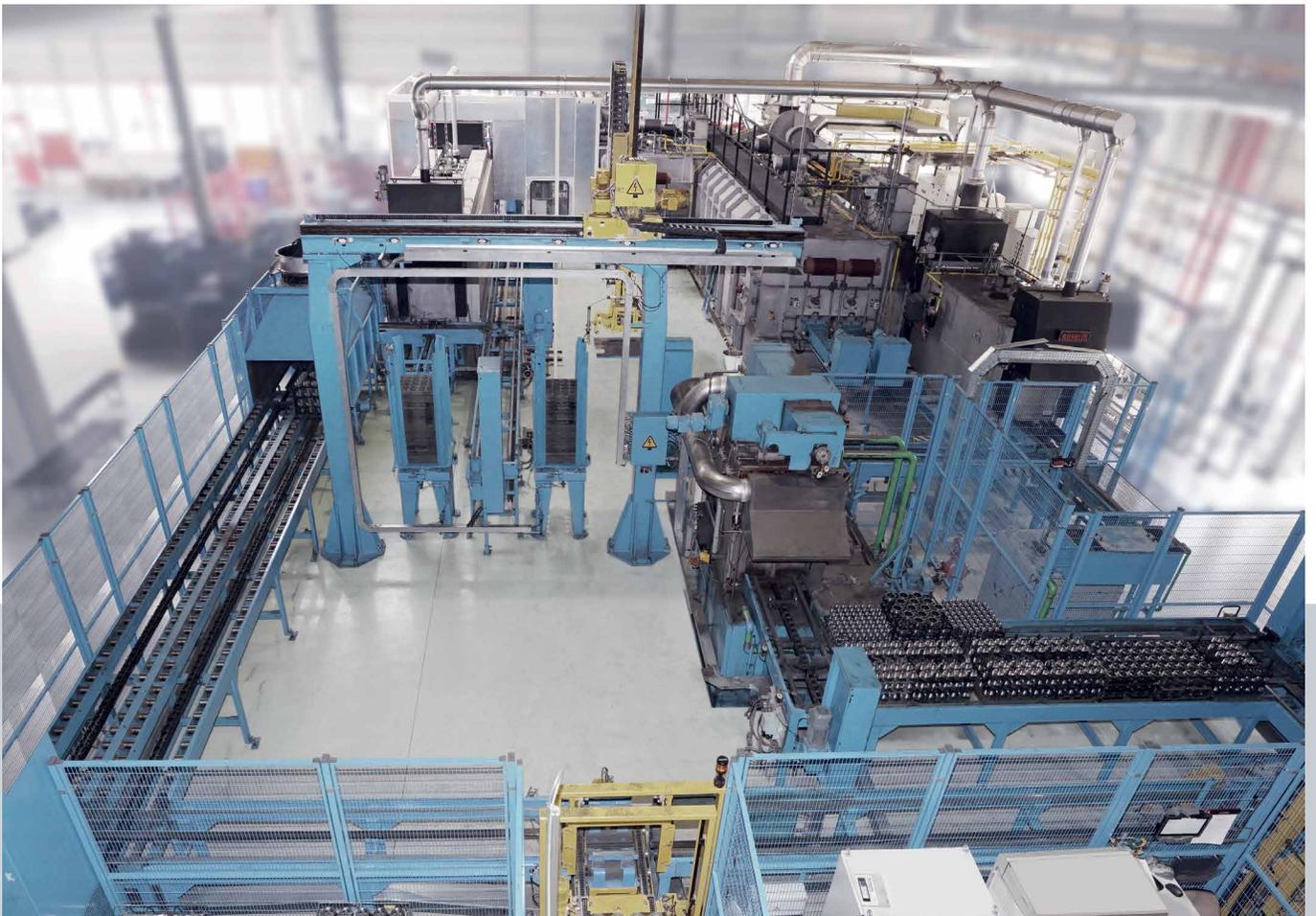
Flexible, High Production Design Offers Reliability, Repeatability and Exceptionally Precise Control

**INNOVATIVE FEATURES MAKE THE AFC-HOLCROFT DIFFERENCE** AFC-Holcroft is the acknowledged leader in pusher furnace technology. Every AFC-Holcroft pusher furnace incorporates many unique and innovative features pioneered by us, and can only be found on AFC-Holcroft equipment. Our pusher furnace design features are often imitated, but never duplicated.

AFC-Holcroft pusher furnace designs range from single to six row designs for high production volumes. Depending on the amount of process control desired, furnace chambers may be combined into a single unit or separated into a multi-chamber design to provide for independent and isolated chambers for maximum control over temperature and atmosphere.

Multiple quench systems can be provided on a single pusher furnace for increased processing flexibility. For example:

- Hot or cold oil quench.
- Austemper/Marquench - molten salt quench.
- Intensive water quench.
- Water, polymer, or caustic quench.
- High pressure gas quench.



AFC-Holcroft designed pusher furnace systems are recognized in the industry for ease of maintenance and up-time reliability. The many outstanding design and construction features of AFC- Holcroft furnaces add up to an exceptionally high degree of operating efficiency, coupled with precise control over the entire heat treat process. As a result, you'll benefit from a consistently high standard of quality at maximum production rates and economy. AFC-Holcroft pusher furnaces are custom-designed to meet your precise needs using our proven standard building- block components and modular concepts.

### Floor plan arrangements

With AFC-Holcroft's modular design concepts, floor plan arrangements can be made as simple as straight-through, in-line single-row units to multi-row units with side entrance and exit designs to fit your available floor space.

### Tray hearth skid rails

- Pioneer in the use of silicon carbide and high- alumina skid rail materials.
- Segmented rail design allows for easy, localized replacement.
- Alloy rail systems available for specific applications.

### Entrance/exit vestibule

- Industry-proven AFC-Holcroft exclusive "Alligator" outer door systems provide reliable operation and automatic resealing in the event of a pressure buildup.
- Our bottom-load design reduces atmosphere gas consumption and minimizes furnace atmosphere disruption.

### Captive chain tray transfer mechanism

- Horizontal or vertical arrangements available.
- Chain retracts into a sealed housing to prevent overheating and extend service life.
- Reduces floor space requirements alongside the furnace.

### Main pusher mechanism

- Exclusive AFC-Holcroft design features a recirculating ball nut and screw enclosed in a tubular assembly.
- Highly efficient unit designed specifically for heavy loads.

- The smooth motion of our ball-screw design is far superior to hydraulic cylinder pusher systems.
- Automatically retracts in the event of a jam or overload.

### Tray positioner

Exclusive AFC-Holcroft design automatically adjusts the main pusher stroke to compensate for thermal expansion and permanent tray growth.

### Atmosphere circulation systems

- Roof and single-flow sidewall fan systems.
- AFC-Holcroft's patented dual-flow sidewall fan systems.
- Available with air, water, or oil cooling.

### Heating systems

- Single-ended and U-type radiant tube systems mounted horizontally or vertically are compatible with either fossil fuel burners or electric elements.

Large-diameter radiant tubes increase physical strength and permit lower heat dissipation rates for longer service life.

- Piloted or spark ignited burner systems available.
- Internal and external recuperators can be added to reduce fuel consumption by as much as 30%.

### Quench circulators

- Agitation systems available for oil, water, polymer, or molten salt.
- Standard propeller-type systems are provided for medium density loads.
- Our exclusive submerged pump-style agitator is unrivaled for dense load quenching.

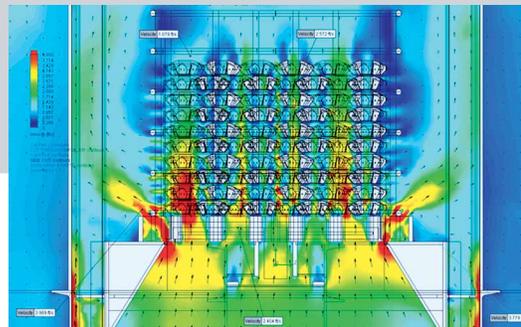
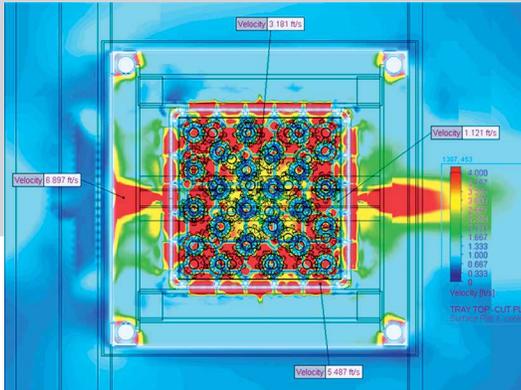
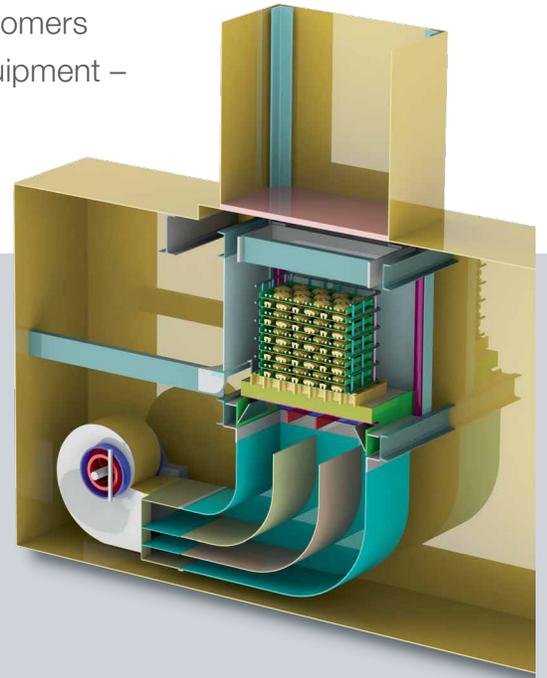


Main pusher mechanism designed specifically for heavy loads

**ADVANCED ENGINEERING TOOLS**, including Computational Fluid Dynamics (CFD) modeling, allow AFC-Holcroft to assist customers by analyzing problems, optimizing fixturing designs and equipment – thereby maximizing return on their investment.

Advanced technologies including the use of widely accepted tools and software to aid in creating optimal designs

CFD analysis can improve design efficiency, reduce costs and enable tighter process tolerances



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