



FLUIDTHERM

SHAKER HEARTH FURNACES



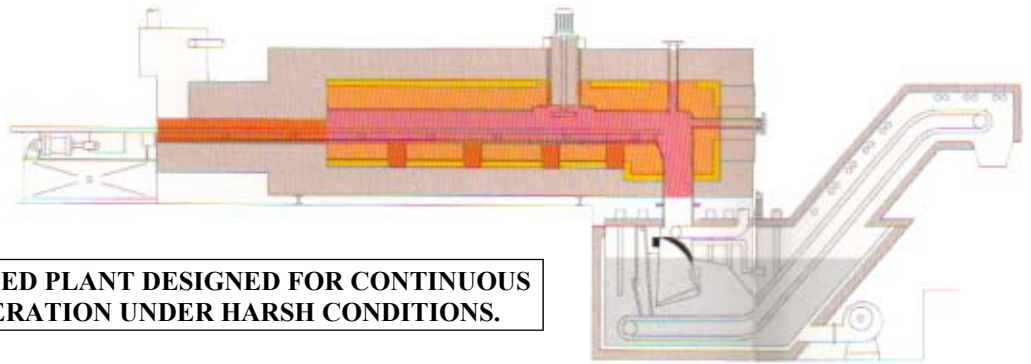
FOR

- MARTENSITIC HARDENING
- BAINITIC HARDENING (AUSTEMPERING)

OF

MASS PRODUCED PARTS LIKE FASTENERS, BEARINGS, CHAINS, AUTO PARTS, HAND TOOLS, CHAINS, LOCK PARTS, SPRINGS, CIRCLIPS, KNIVES & BLADES, SURGICAL TOOLS, CUTLERY, PEN & HAIR CLIPS, WATCH PARTS, NEEDLES, PRECISION PARTS, ETC.

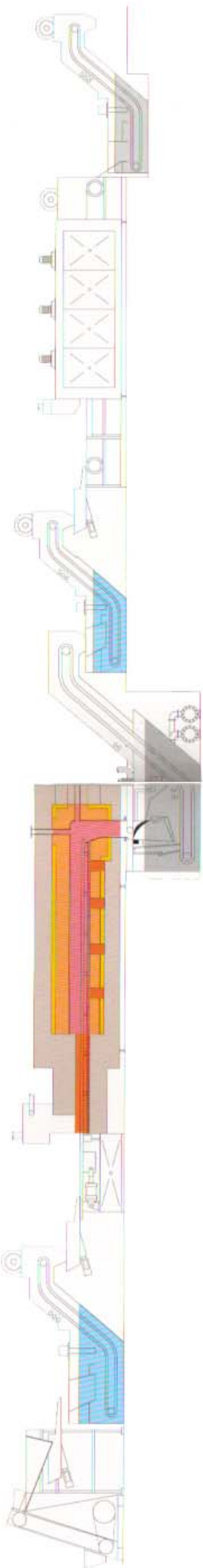




RUGGED PLANT DESIGNED FOR CONTINUOUS OPERATION UNDER HARSH CONDITIONS.

EQUIPMENT FEATURES AND OPTIONS

- **Auto loading and “soft” products handling** systems (several types) designed to prevent component damage with optional **in line weighing** system with closed loop control. Pick and place specials also available.
- **Pre-wash and Post quench wash:** Compact 3 stage (immersion, spray and dry) or multi-zone conveyor plants. **In line centrifuges** allow lubricant and quenchant recovery and reduce washing intensity, pollution & costs. **Salt recovery** system in wash plants for salt quenched components.
- **Vibratory metering spreaders** to convert batch input (e.g. dump loading, centrifuging) to continuous uniform furnace hearth loading and to control gaps between different types of products.
- The narrow **tunnel entry** vestibule allows extra time for preheating, reduces gas consumption and increases gas velocity which helps drive lubricant and water vapour out of the hot zone.
- **Rugged shell and insulation** with low mass energy efficient materials and refractory bricks.
- All furnaces are equipped with thick **alloy muffles** that isolate atmosphere gas from the heaters and refractory, ensure purity of process atmosphere and allow quick start up and shut down.
- **Reuse of spend reactive atmosphere** to preheat components, heat the wash medium on for quench salt recovery.
- **Electrically heated with side extraction elements** that can be changed when the furnace is in operation or gas fired with **recuperative burners**.
- Atmosphere **circulation fans** in large furnaces.
- Closed loop **carbon potential control**, oxyprobe or infrared with remote connectivity.
- Quenchant **anti-splash cascade** in chute and jet agitation at strategic locations.
- **Quenching in oil, water or polymer.** Special tanks with track heaters for **salt quenching**. Equipped with heating / cooling devices and auto temperature control. In line replaceable filters and vapour extraction system. Variable rate jet agitation with anti-splash cascade in the quench chute. Plants available with multiple quenches and rapid changeover without furnace purging.
- **Continuous tempering furnaces** designed for **high efficiency convective heat transfer and temperature uniformity**, electric or fuel fired, up to 650°C, suitable for air or protective atmosphere. Engineered for **rapid response** when changing process temperature. Equipped with forced air after cooling.
- Post tempering **corrosion resisting** soluble oil or black oxidizing conveyORIZED baths or oil spray centrifuges.
- **Endogas, exogas or PSA nitrogen plants.** **Special inbuilt reactors** for generation of endogas and dissociation of ammonia or methanol. Also nitrogen-methanol mixing and dosing systems.
- Simple manual **process control** to software driven plant supervisory, control and documentation systems with bar code tracking.





Plants with basket quench tanks also available either in straight line or carousel designs (for small furnaces). Components fall into perforated baskets which are replaced by empty baskets when full. Loaded baskets are moved by hoist or hand to a companion wash tank which is similarly constructed.



At DIMEX we don't stop short at supplying state of the art furnaces and accessories with an industry standard warranty. We also provide total solutions and process guarantees. We operate a versatile heat treatment process prototyping laboratory where metallurgists undertake client support activities like sample processing for choice of process and plant, optimization of process parameters, testing client supplied parts, custom process designing, failure analysis and generally helping clients with their heat treatment needs before and long after a sale.

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