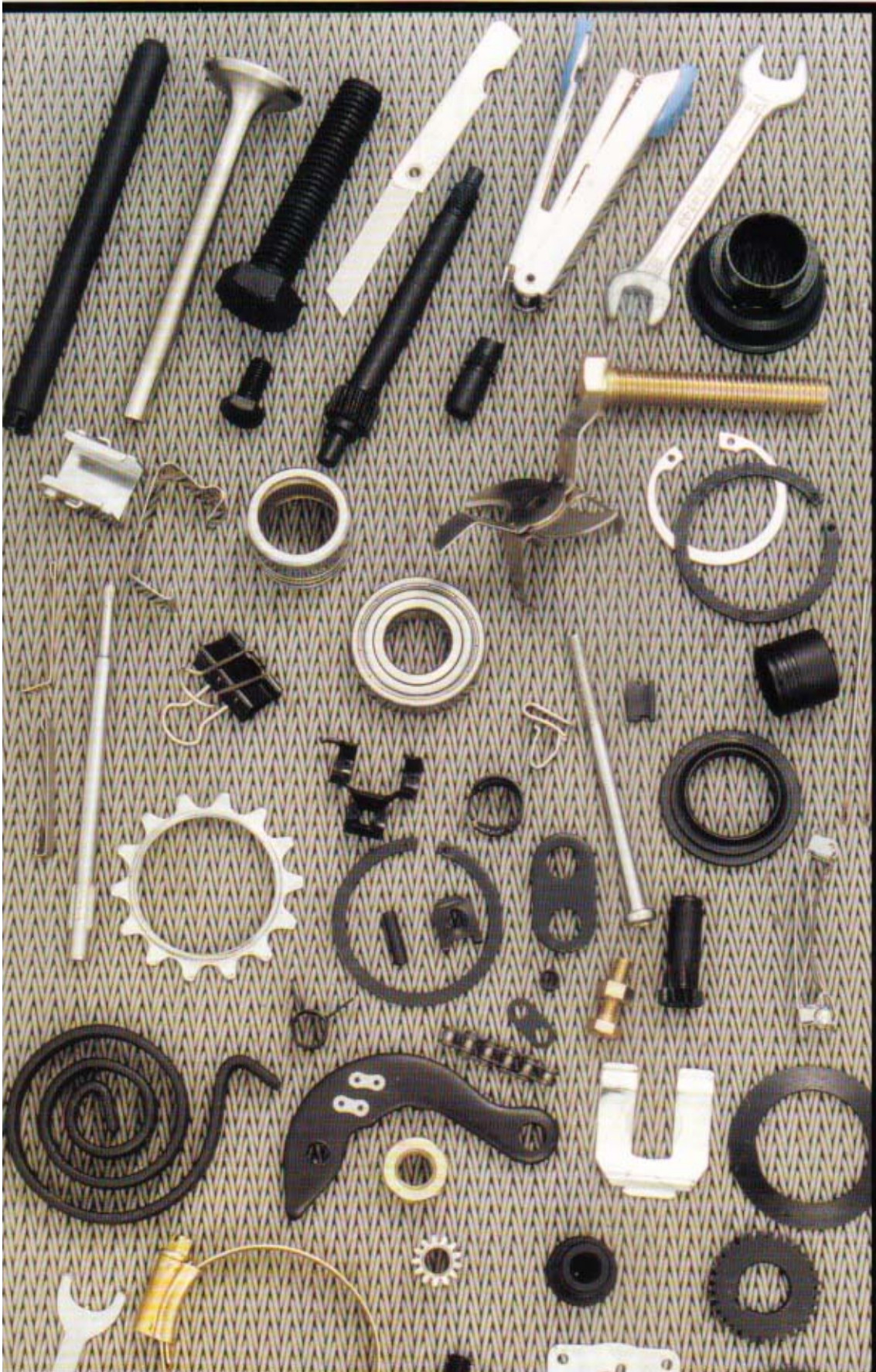




FLUIDTHERM

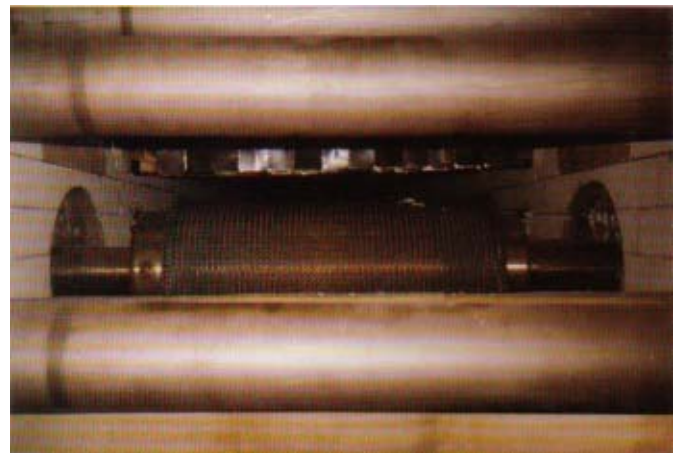
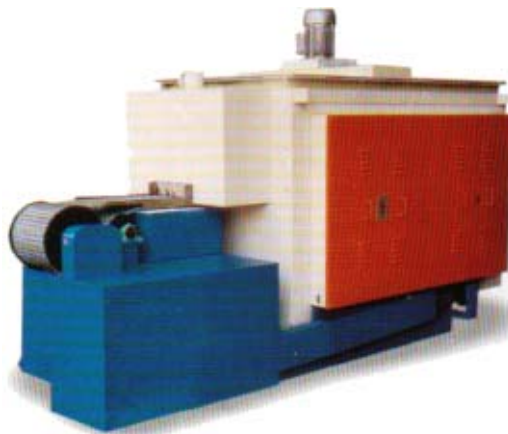
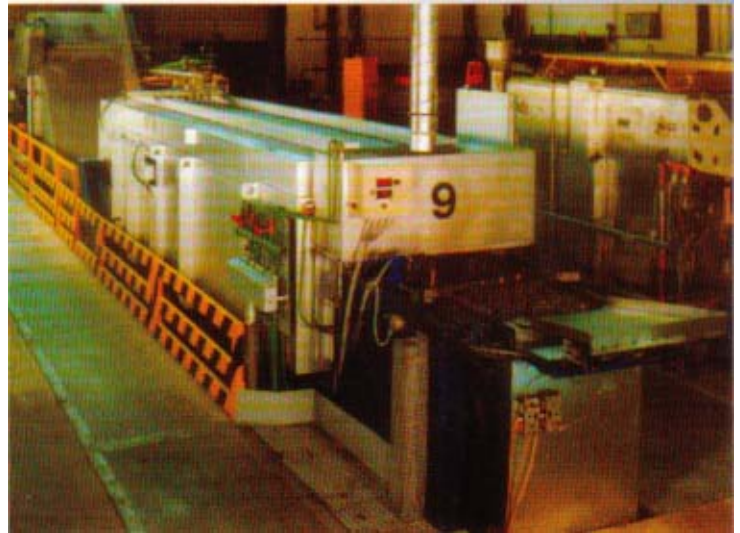


**CONTINUOUS
MESH BELT
FURNACES
FOR
HEAT
TREATMENT
OF
MASS
PRODUCED
COMPONENTS**

CONTINUOUS HARDENING LINES

10 Kg/Hr up to 3000 Kg/Hr heavy duty models

**FOR
HARDENING &
TEMPERING
CARBURIZING
CARBONITRIDING
SOLUTIONIZING
AUSTEMPERING
OF
FASTENERS
BEARINGS
CHAINS AUTOPARTS
BICYCLE PARTS
LOCK PARTS
SPRINGS
CIRCLIPS
CUTLERY
HARD TOOLS
KNIVES & BLADES
NEEDLES
SURGICAL TOOLS
APPLICANCE PARTS
PRESSED PARTS
PEN & HAIR CLIPS
AGRI TOOLS
PRECISION PARTS
& MANY OTHER COMPONENTS**



Consistency of quality is better obtained when components are continuously quenched, a few pieces at a time instead of in a batch at periodic intervals. Of the total tonnage of heat treated components the majority do not require fixturing and can tumble into a quench tank. The ideal plant for all such components in terms of quality, capital cost as well as operating cost is a continuous conveyerized heating and quenching system. Components spend less time at temperature and consume less energy compared to batch furnaces. Continuous quenching, a few components at a time, ensures a high degree of quality consistency in terms of hardness, case depth and physical properties. Such plants with conveyerized auxiliary equipment for loading, washing and tempering can be completely automated.

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 belt loading and to control gaps between different types of products.

Hot belt return design where the cold belt and components entering the furnace are preheated by conductive contact with the returning hot belt.

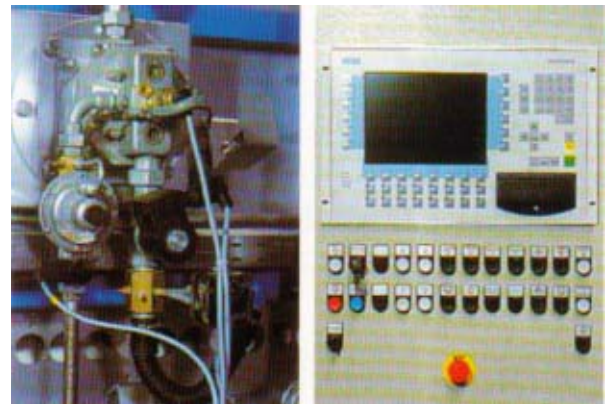
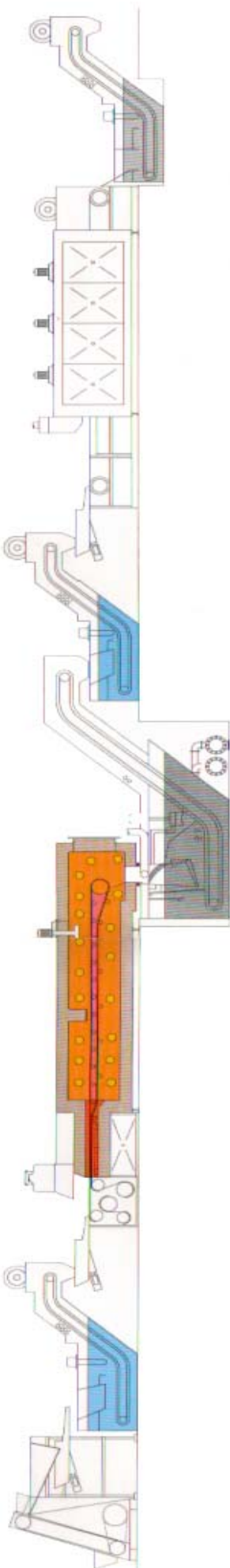
The narrow **tunnel entry** vestibule allows extra time for preheating, reduces gas consumption and increases gas velocity which helps drive lubricant and water vapour out of the hot zone.

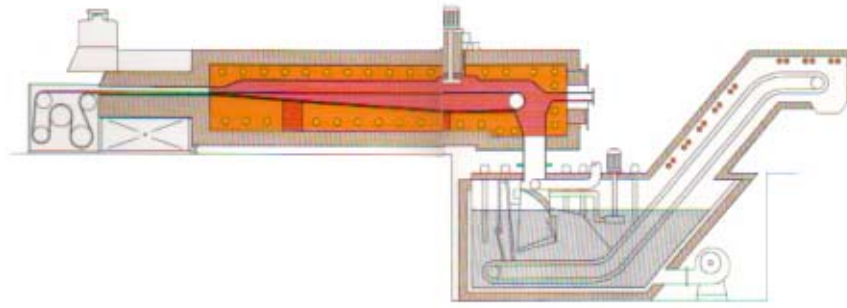
Gas tight shell & insulation with low mass energy efficient materials and refractory bricks.

The **muffle** option offered in small & medium furnaces (up to 300 kg/hr) allows quick start up to shut down and insulates the refractory and heat source from the atmosphere.

Reuse of spend reactive atmosphere to preheat components, heat the wash medium on for quench salt recovery.

Electrically heated or fuel fired by radiant tubes housing electric heaters or recuperative burners. Exposed **side extraction elements** or direct chamber firing burners for furnaces with muffles.





Atmosphere **circulation fans** in medium & large furnaces, with / without muffles.

Alloy belt, optional side raised and / or lateral ridges. Front end **variable speed drive** and **drift compensator**. Alloy return and belt support rollers or low friction skid design in furnaces with muffles.

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. 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.

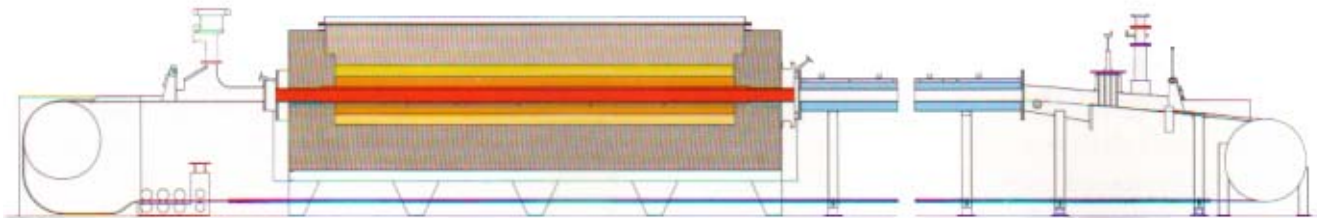
Endogas, exogas or PSA nitrogen plants. **Special inbuilt reactors** for generation of endogas and dissociation of ammonia or methanol. Also nitrogen-ethanol mixing and dosing systems.

Several **process control options** form semiautomatic PLC systems with all required safety interlocks to total auto **SCADA PC / PLC** systems for plant supervision, control and documentation including barcode tracking. The system adjusts plant parameter to maximize production and quality based on geometry, weight and identification.



MESCH BELT FURNACES WITH INDIRECT COOLING

- **HARDENING** of martensitic stainless steel components.
- **ANNEALING** of ferrous, non ferrous & stainless steel components.
- **NORMALIZING** of castings & forgings.
- **CARBURIZING** and annealing of machined steel components.
- **NITROCARBURIZING** of finished machined carbon or alloy steel, stainless steel & iron components.
- **BRAZING** of ferrous, nonferrous & stainless steel assemblies.
- **SINTERING** of ferrous & nonferrous PM parts.
- **STEAMOXIDING** of ferrous wrought & PM parts.



EQUIPMENT FEATURES AND OPTIONS

- Gas tight shell & efficient insulation.
- Metal alloy or ceramic muffle.
- Alloy fans in relevant furnaces.
- Low voltage side extraction heaters.
- Hump back or straight through.
- Multiple temperature control zones.
- Thyristorised and dual plane temperature control.



- Atmosphere zoning.
- Atmosphere gas impingement quenching or cooling.
- Non corrosive closed circuit cooling.
- On line atmosphere monitoring & control.
- Simple manual controls to software driven plant supervisory, control & documentation systems including bar code tracking.



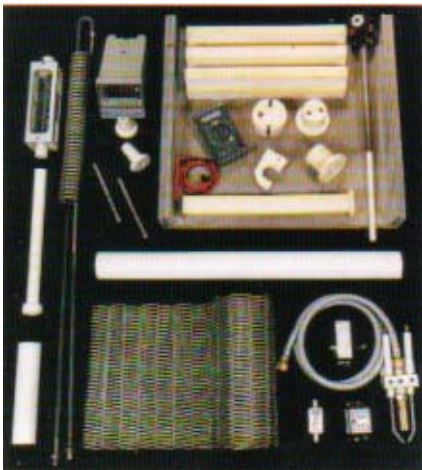
ALSO ATMOSPHERE GENERATORS FOR ENDOGAS, EXOGAS AND DISSOCIATORS FOR AMMONIA AND METHANOL. EITHER BUILT INTO THE FURNACE OR EXTERNAL PLANTS.

WELCOME TO DIMEX INDUSTRIEOFENBAU

We are a professional furnace manufacturing company who design, manufacture and service high tech industrial furnaces. We are manned by experts in furnace building and experienced process metallurgists who work together to provide clients with total solutions.



Detailed order registration procedures and experience ensure smooth and rapid installation of working parts.



Process metallurgists for consultation, optimizing process parameters, custom process prototyping, failure analysis and trouble shooting.



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Quick after sales service by experienced staff and all long lead spares in stock.

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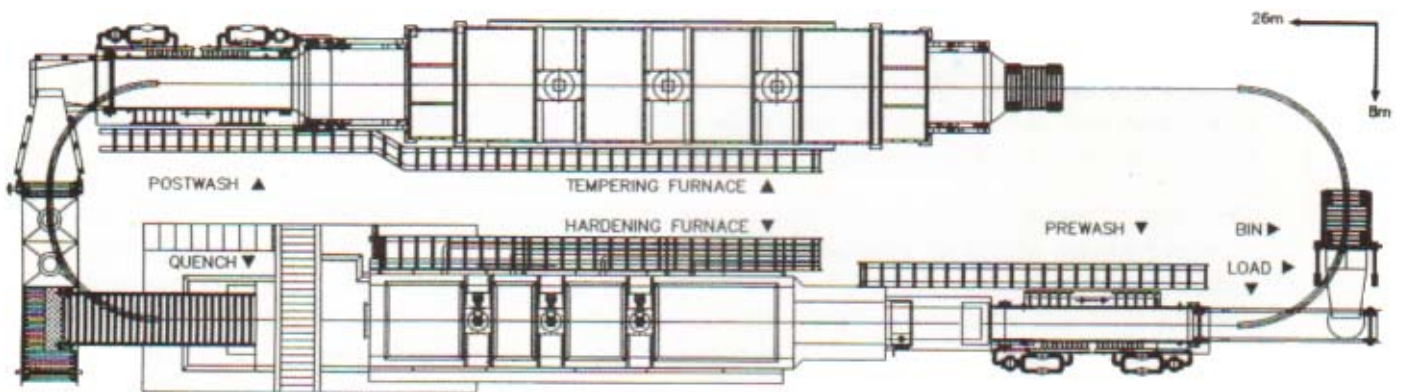
FLUIDTHERM

Product Profile

Continuous Mesh Belt

Hardening & Tempering Plant

Model E.950.60/600.MQ.T300.2X2S.AC.L2



FLUIDTHERM CONTINUOUS HARDENING & TEMPERING PLANT

MODEL E.950.60/600.MQ.T300.2x2S.AC.L2

Capability	Bright hardening, carbonitriding, carburizing and tempering of mass produced components like bearing rings, fasteners chain parts and the like.
Capacity (Kg/hr \pm 10%)	Through hardening (@ 840°C to 860°C): Bearing rings: 350, Chain link plates: 400, Bolts: 430 Case hardening (@ 900°C, TCD): Screws, Chain pins (0.2mm): 290, Bicycle parts (0.3mm): 220
Connected power	360 KW (Electrical heating). Space: 26m x 8m.

SYSTEM CONFIGURATION

- Metered loading. “Soft” product handling over the entire plant.
- Prewash, 2 zone spray & blow dry with oil separation and in-line filtration.
- Hardening furnace, (TMax 950oC) with protective / reactive atmosphere, upturned edge alloy wire mesh belt conveyor (600 mm wide, 6000 mm hot length), waste heat recovering hot belt return and exhaust hood designs, driven alloy roller supports, electric radiant tube (thyristorised) heating and alloy recirculating fans.
- Oil marquenench tank, insulated & heated, with wire mesh slatted conveyor, air heat exchanger, cascade curtain, strategic agitation headers, in-line filtration and a novel component handling system for very low distortion.
- Post wash, 2 zone spray and blow dry with oil separation and in-line filtration.
- Tempering furnace, (Tmax 300oC) with a novel rapid heat up feature, edge upturned alloy wire mesh belt conveyor (1000 mm wide, 7800 mm hot length), alloy belt supports, alloy tubular heaters & high convection circulating turbine fans.
- Controls: The entire plant is controlled by an auto/manual PLC system with a colour touch screen HMI on which all process parameters* are displayed, set and changed (3 level password protection). Atmosphere control with dew point analyzer, oxyprobe sensors deviations and alarm conditions. * (Heating & cooling, conveyor speeds, temperatures, fluids flow rates & levels and all interlocks).
- Options: Gas fired plants. Weigh feeding. Magnetic or ram loaders. Dunk & spray wash. In-line centrifuges. Salt, polymer & brine quenches. Post quench cooling. Enclosed belt or rotary retort tempering furnace. Endogas generator. Methanol dissociator. Conveyorised blackening or rust preventive baths, etc.

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