



ECM
TECHNOLOGIES

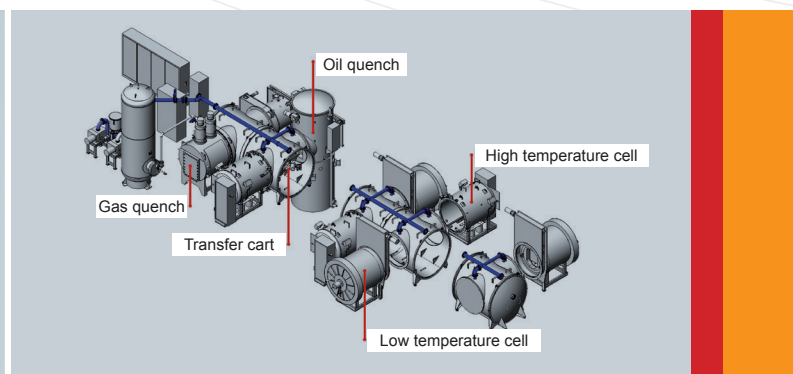
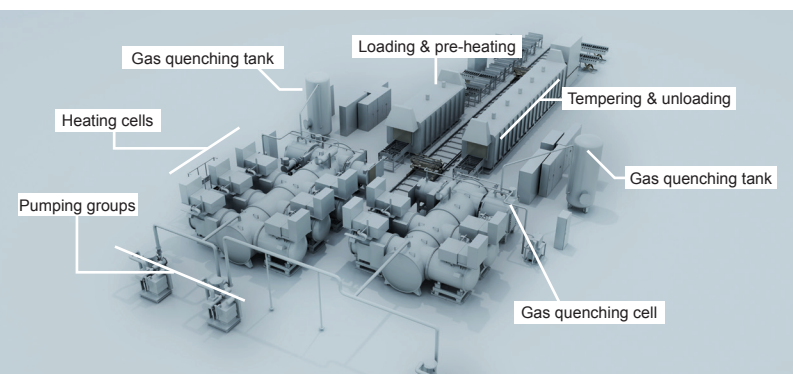
ICBP® FLEX



MULTI CHAMBER FURNACES : MODULAR CONCEPT

ICBP® Flex is the most innovative and popular solution of ECM's range of Low Pressure Carburizing furnaces. The modular and compact design of the ICBP® Flex meets the highest demands in terms of productivity and part quality. The ICBP Flex can assemble oil quenching cells (hot or cold), simple gas or reversible dual stream (up to 20 bar) quenching and heating cells. Their number depends on the required production capacity.

- Convective cells to high temperature tempering are also available.
- A light heat-insulating transfer machine ensures that loads can move from one cell to another.
- Our patents avoid the use of vacuum tight doors between different heating cells.
- An optional version AMS 2750 is available.
- This modularity guarantees the possibility to mix any type of treatment recipe with a continuous workflow.



ADVANTAGES:

Multi chamber furnaces: your system grows with you

The ICBP® range comprises 1 to 14 heating cells, from ICBP® 100 to ICBP® 1400. Adding treatment cells to an existing installation allows the production capacity to be increased very inexpensively with only a few days of downtime.

ADVANTAGES COMPARED TO CONVENTIONAL FURNACE

- **Flexibility:** easy addition of treatment cells on existing installation to increase the productive capacity
- **Improved productivity:** less operating staff & shorter cycles of treatment
- **Personal protection:** cold system, no fire hazard & elimination of scrap
- **Guaranteed performance:** thanks to test platform in ECM plant & integrated metallurgy laboratory
- **Repeatability:** excellent from batch to batch, from part to part

COMPARED TO COMPETITOR'S

- **More compact:** heating cells can be installed face to face
- **More flexible:** both gas quenching and oil quenching possible on the same line
- **Cost saving:**
 - No extra costs for civil engineering
 - No tight doors, less maintenance
 - Less thermal losses and gas consumption, no need of N₂ convection

FEATURES:

DIMENSIONS

Gross load	Width	Height	Length
750 kg	610 mm	750 mm	1000 mm
750 kg	610 mm	900 mm	1000 mm

POSSIBLE PROCESSES *

- Vacuum carburizing
- Vacuum carbonitriding
- Hardening
- High temperature tempering
- Vacuum annealing
- Brazing
- Sintering

* if appropriate options are chosen

QUENCHING

Possibility to have both gas and oil quenching on the same line

- Gas quenching: ■ Helium (H_e) or Nitrogen (N₂)
- Up to 20 bar
 - Single or reverse flow
- Oil quenching: ■ Up to 180°C (hot oil option)

MAIN OPTIONS

- Machine compatible with AMS2750 and neutral atmosphere convection heating
- System for exhaust gas treatment
- Cooling water loop
- Power supply unit
- Quenching gas recovery system (for Helium)
- All peripherals such as washing machine, preheating, tempering, storage and loading/unloading stations, etc...
- Heating cell for deoiling and dewaxing (hot temperature tempering)

