

SECO/WARWICK GROUP
a leading global manufacturer
of heat treatment furnaces and equipment

SECO/WARWICK is a technological leader in innovative heat treatment furnaces. Expertise includes end-to-end solutions in 5 categories: vacuum heat treatment, atmosphere, and aluminum thermal processing, controlled atmosphere brazing of aluminum heat exchangers and vacuum metallurgy. SECO/WARWICK Group with 9 companies located on 3 continents with customers in nearly 70 countries, has its production facilities in Poland and China. In addition, the Group operates a number of service and sales offices in countries such as Germany or Russia. The company provides standard or customized state-of-the-art heat processing equipment and technologies to leading companies in the following industries: automotive, aerospace, electronics, tooling, medical, recycling, energy including nuclear, wind, oil, gas, solar and production of steel, titanium and aluminum.



Low Pressure Carburizing
Triple productivity, lower costs

**MODERN
ALTERNATIVE
TO PIT ATMOSPHERE
FURNACES**

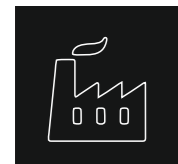
Pit-LPC

Vacuum Pit furnace for carburizing thick layers on large workpieces

Pit-LPC

Modern alternative for atmosphere furnaces – 21st century. Low Pressure Carburizing (LPC) for thick layers.

INDUSTRIES:



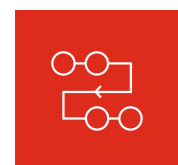
- Automotive ▪ Aerospace ▪ Power
- Bearings ▪ Mining ▪ Tools

FEATURES:



- Effective and efficient carburizing
- Time-saving
- Energy-saving
- Space-saving
- Increased operation safety

TECHNOLOGIES:



- Low Pressure Carburizing (LPC)

Pit-LPC – Alternative for atmosphere carburizing, which achieved the maximum of its possibilities. Pit-LPC means cost reduction, environment-friendly approach and an increase in production - all made possible thanks to performing the carburizing process under vacuum and in higher than typical temperatures. The state-of-the-art solution meets strict ecological standards. While increasing the work safety through elimination of natural gas. High homogeneity of the process has a direct effect on the thickness of the carburized layer and, as a result, on the quality of the workpiece.

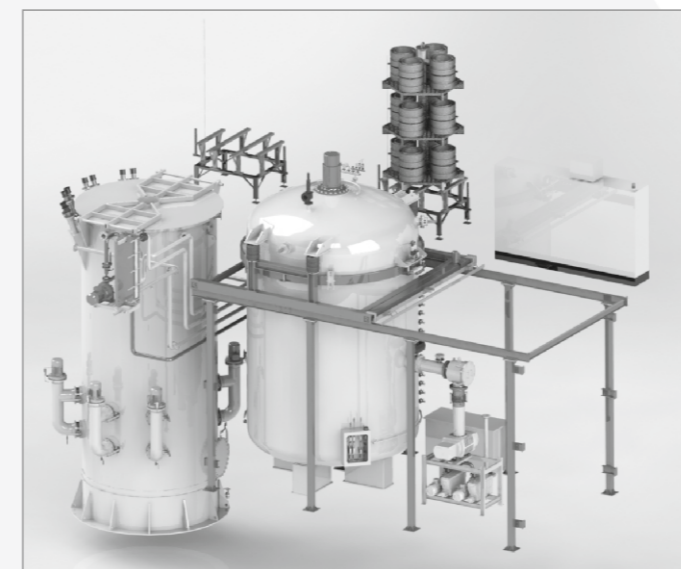
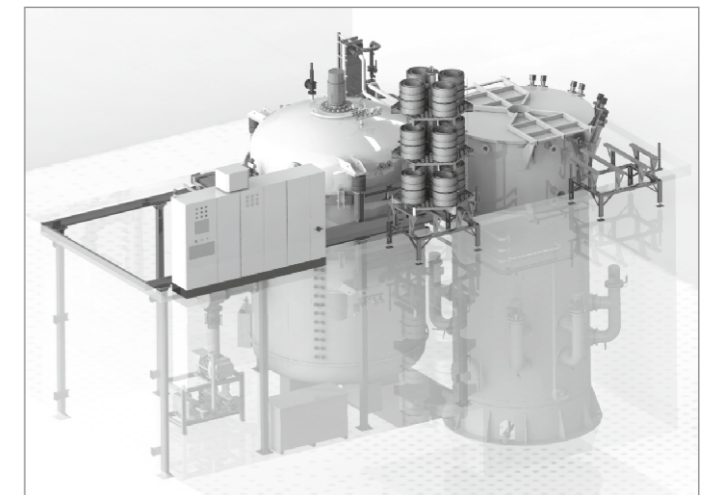
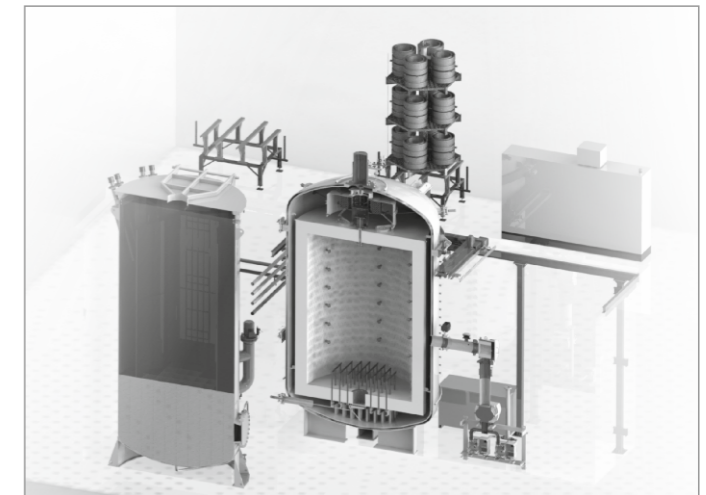
Pit-LPC is:

- Adapted to the client's needs; we adapt the furnace so that it can be easily installed in the old atmosphere furnace bay
- A tool for companies that want to increase their productivity while respecting the highest environmental standards
- Dedicated for: manufacturers carburizing large elements such as gears, bearing races, cutting tools and other elements requiring thick carburized layer
- Addressed to clients who want to reduce their costs through elimination of unnecessary media
- A tool for companies that want to increase their production capacity without purchasing additional equipment
 - / a single Pit-LPC furnace = 3 atmosphere furnaces
 - / or save space by replacing three machines with one.



ADVANTAGES

- The highest quality and uniformity of the process
- Excellent quality of the surface
- No surface oxidation (IGO)
- Reduction of the necessary media to the minimum = savings
- Quick high-temperature process
- Minimum consumption of process gases
- Time savings as there is no need to prepare the process atmosphere
- Quick process initiation that does not require purging nor atmosphere conditioning as in atmosphere furnaces
- Safety: No flammable or explosive atmosphere
- Low heat emission and no pollution (CO & CO₂)
- ECO friendly solution



SEE WHAT OTHERS DO NOT SEE

– WIN THE ADVANTAGE

- Lower your production and maintenance costs
- Save time and increase productivity
- Increase work safety through elimination of flammable and explosive atmosphere
- Be environmentally friendly by shortening the process