

Heating furnaces for specialty alloy aerospace forgings

at Nanshan Aluminium, P.R. of China

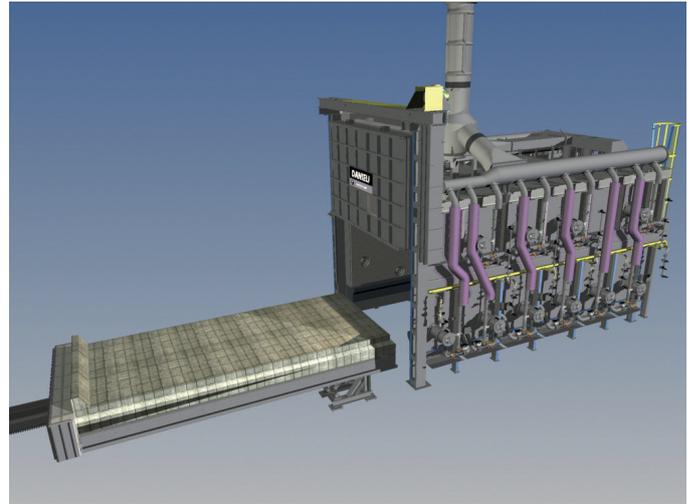


This prestigious order, awarded in the first quarter of this year, and after lengthy negotiations that involved major international competitors, is a significant achievement for the recently established China branch of Danieli Centro Combustion, also considering the client's standing and the strategic importance of the equipment to be supplied.

The Nanshan Group, located in Longkou, Shandong Peninsula, is a large-scale private joint-stock enterprise with subsidiary companies in many major cities worldwide. Nanshan also ranks high on the list of China's top 500 private enterprises.

Danieli Centro Combustion China will supply, on a turnkey basis, a plant consisting of three furnaces for heating and heat-treating of Inconel, titanium, and special alloys during forging operations. The three furnaces are based on Danieli Olivotto Ferrè technology: two will be car bottom-type furnaces, while the third is box-type, and each has been specifically designed to guarantee the highest level of temperature

uniformity required by the material to be heated and treated. The car bottom-type furnaces have overall dimensions of 19,000x6,000x8,700 mm; the box-type furnace has overall dimensions of 7,200x7,000x5,700 mm. All three furnaces feature a heating system with self-recuperative DCC flameless burners. The furnaces are to be installed at Nanshan's new plant at Longkou, and entirely dedicated to the civilian aerospace market, and therefore will be certified according to AMS Standard 2750E (Aerospace Material Specification – Class 3), and Rolls Royce Standard (Rationalized Process Specification 953). The furnaces demonstrate Danieli Olivotto Ferrè's know-how in the specific



area of automotive and aerospace manufacturing, and use the latest Danieli Centro Combustion technology for burners, developed in-house at its Research Laboratory at Savona University's Engineering Campus. The combustion systems of all three furnaces will be equipped with TFB-REK-FL -Treatment Furnace Burner - Recuperative type - Flameless technology.

Working in on-off or modulated mode, and being able to run in visible flame or flameless (on demand) mode, this special burner not only will allow Nanshan Aluminum to reach the highest level of thermal uniformity but also to minimize environmental impact and optimize heating quality. Furnace commissioning is expected before the end of the year ■

Major furnace characteristics

Furnace	Power	Capacity (t)	Max. temperature (°C)	Temperature uniformity (°C)
Car bottom-type	Gas	100	1,340	±7
Box-type	Gas	50	1,340	±7