

# HEAT TREATMENT PROCESS

GXS VACUUM PUMPS BRINGING RELIABLE VACUUM TO IMPROVE PRODUCT QUALITY AND REDUCE UTILITY CONSUMPTION

[edwardsvacuum.com](http://edwardsvacuum.com)

For over 75 years, Brasimet has been a key part of the evolution of the Brazilian industrial market. Founded in 1942, Brasimet was the pioneer in thermal processing and PVD coating in Brazil. Brasimet offer customised solutions for heat treatment and PVD coating, meeting specific standards and with strict quality control for several industrial segments such as aerospace, automotive, power generation, railway, heavy machines, tooling, medical & dental, food & beverage, and mining.

Driven by innovation, quality and high-performance industrial services and thermal treatments, Brasimet serves small, medium and large companies and is one of the largest and most respected companies in the Brazilian metallurgy industry.

With two production facilities in São Paulo and Santa Catarina, Brasimet’s strategy is to cover the Brazilian market with a wide variety of equipment, strict control of processes and fully structured logistics.

Brasimet is involved in the development of a series of components for the aerospace industry utilising in-house heat treatment processes, carried out with rigorous quality standards.



PVD

HEAT TREATMENT



METALLURGY



## KEY FACTS

Customer	<b>Brasimet</b>
Region	<b>Brazil</b>
Sector	<b>Metallurgy</b>

<b>BENEFIT</b>	<b>Savings up to 300 litres of oil worth approximately USD 7.5K per year per pump, process control reliability improvement and investment return in two years just for oil replacement cost.</b>
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## VACUUM SYSTEMS

### 1. CHALLENGE

Brasimet has been using an oil sealed rotary vane vacuum pump in their PVD (Physical Vapour Deposition) system. The previous onsite vacuum system was not able to achieve the required vacuum level of 0.01 mbar in a reliable and repeatable manner, which is crucial for high product quality.

In addition, reducing or eliminating waste oil disposal and utility consumption were other main concerns that Brasimet wanted to improve by using a new dry vacuum solution.

### 2. SOLUTION

Based on the process requirement and specifications, Edwards suggested the GXS250 dry vacuum pump as the best pumping solution for this application.

They were impressed by Edwards' GXS tapered variable pitch screw technology, which enables an extremely smooth and quiet operation at <64 dB(A)), excellent pumping speeds, high reliability, ease of integration, and low cost of ownership, even in the harshest metallurgical applications.

Edwards' application specialists support with thorough knowledge and understanding of the application process, was the key factor for Brasimet to choose Edwards for their pumping solution.

### 3. OUTCOME

Robust and reliable performance of the GXS has provided repeatable and stable vacuum to achieve high level of product quality.

By installing the GXS, Brasimet was able to demonstrate savings on power and utilities consumption coupled with longer service intervals and lower maintenance operation. This resulted in an affordable capital investment.

Low cost of ownership and short-term investment return with saving up to USD 7.5K per year of 300 litres oil usage for each previous onsite oil sealed pump, was fulfilled with the Edwards' solution and the customer will gradually convert all PVD furnaces to dry vacuum systems.



Brasimet airplane component



GXS vacuum pump



**Leandro Macedo da Silva and maintenance supervisor, Brasimet - Jundiai/SP, said,**

We are working with the GXS pump. It's a great pump, robust and very effective. It perfectly meets our need in the heat treatment process and meets all the required standards to manufacture airplane parts. The GXS Solution is economical, does not generate waste and can even work continuously to deliver vacuum efficiently.

