Prices could rise!!

spare parts for high-alloyed steel parts

Fluctuations on international currency markets and jitters in commodity prices are likely to result in significantly higher prices for high-alloyed steel, according to experts. As long as prices are low you should consider purchasing spare parts. Therefore, for example,please consider getting an extra steel muffle or other steel parts as spares.

Do it now!

Since 1980 - 30 th brirthday now!

SARNES Birthday

In 2010 Sarnes Engineers celebrate their 30th birthday. We would like to thank our customers and partners for many years of successful cooperation and interaction. Exciting developments of many systems and new processes was enabled and possible only by these close collaboration. We look forward to continuing the dialogue with you over many years to come.

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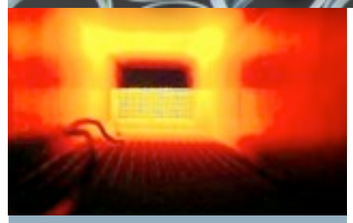
SARNES SINTERNEWS, 12 EDITION SUMMER 2010

High Speed Sintering Furnace



QUALITY AND COSTS

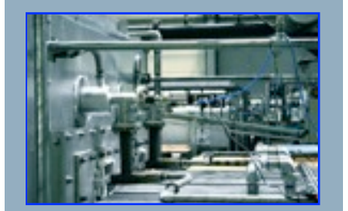
New sintering furnace offers upto 300mm/min belt speed throughput with excellent dewaxing and sintering results.

UPDATING PROCESS CONTROL HARDWARE!

Older Beck/Festo controllers need to be replaced.

FURNACE HEATING

Electro vs natural ga heating - reducing running cost of belt furnaces - cost comparism.



SINTERING OF ALUMINIUM

Contiuous sintering and heat treatment of Al powder parts and carbon PM parts with enhanced debindering zone.

New SARNES sintering furnace with high speed throughput:

high speed sintering at 300mm/m in our new range of furnaces.

In our new range of Sintering furnaces the sequence of dewaxing – sintering – cooling is achieved with a belt speed of 300mm/min. That superior speed represents an up to two fold improvement over our previous furnaces, allowing higher throughput with lower energy consumption and also requiring lower upfront investment.

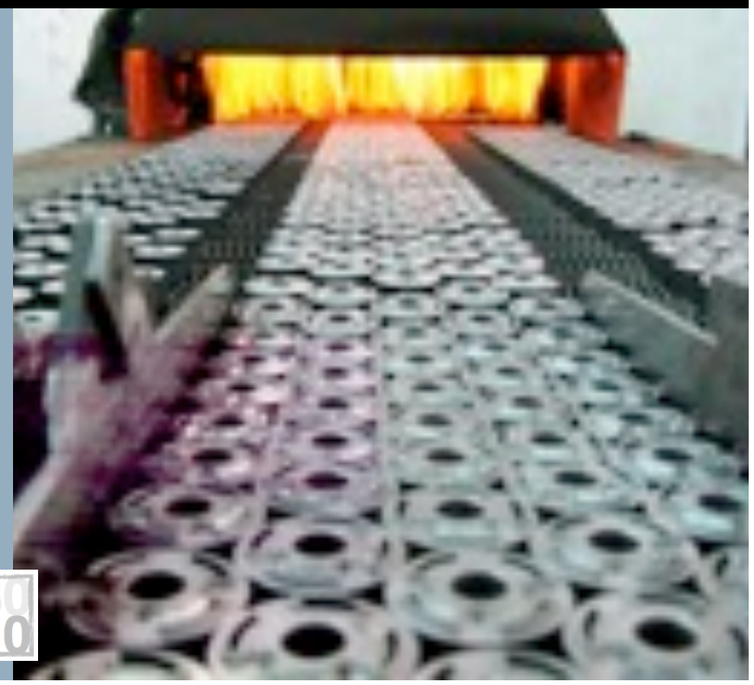
The improved performance is enabled by our improved Stereadzone LED3, optimised heaters and a redesign in furnace geometry. The low energy dewaxing zone LED3 recycles the evaporated organic binders that are released from the PM parts via stoichiometric combustion. The heat generated in that process is used to maintain the furnace temperature.

Accelerated heat transfer is achieved via additional infrared heaters and an optimised furnace atmosphere, the so called “zoneing”. The sintering, zone, which is the section of the furnace where the actual sintering of the PM part occurs, is longer and surrounded by a gas-tight muffle, the height of which is adapted for the maximum height of the PM parts.

An important new feature of our furnaces is the ability to continuously monitor the gas atmosphere within the entire furnace, including the specific atmosphere in the dewaxing zone and also the inert gas atmosphere in the sintering and cooling zones. This allows improved process control resulting in the ability to quickly adapt process conditions for example to variations in the size or composition of PM parts or the density of PM parts on the belt, which guarantees continuous generation of products with high quality.

Process parameters can be monitored either directly by the operator sing the built in touch screen or remotely via a TCP/IP network connection.

OFENBEHEIZUNG
ELEKTRO VS ERDGAS

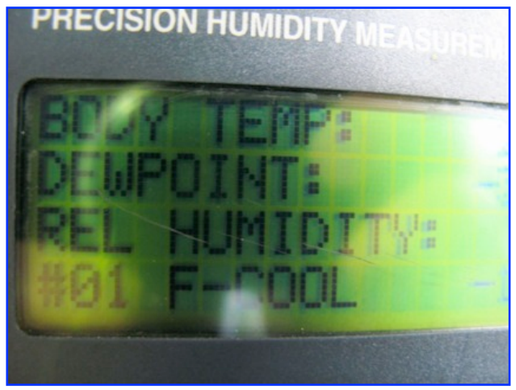


1980
30 2010

Reducing running cost of belt furnaces:
heating with gas vs electric heating

Electric heating is the most common method used in industrial furnaces. An attractive alternative, which is gaining increased attraction in the industry is the application of natural gas burners. Industrial sintering furnaces are normally used 24 hours a day 365 days a year, the electricity consumption can therefore be a major cost factor. As a result replacing electric heaters with gas burners has a quite substantial potential for cost savings, particularly given ever increasing electricity costs.

Please contact us for a detailed cost analysis for your specific application.



Beck/ Festo controllers:
updating process control hardware

Some of our earlier furnaces (pre 2002) employed Beck (later Festo) programmable logic controllers (PLC's). Unfortunately some of those controllers are no longer supported by the original manufacturers and only a limited number of spare parts are available. We therefore recommend upgrading your existing SARNES furnaces to the current SIEMENS S7, which can be implemented optionally with touch panel and with TCP/IP network connection.

LED3 - low energy dewaxing:
dewaxing Zone LED3

Debindering and dewaxing of PM parts entering our furnace is achieved significantly faster then previously possible due to the optimised design of our LED3 dewaxing zone. These processes are performed within a continuously controlled inert gas

atmosphere, the latter adapted to the composition, density, weight and size of the PM parts. For processes at lower temperatures the heat transfer is accelerated by infrared heaters (electrical or gas). The atmosphere is controlled (was angemagert heist weiss ich nicht) via process parameters from a data base, resulting in optimised dewaxing. The evaporated binders and the intert gas (optionally N2 or H2) are removed from the muffle in a direction opposite the transport direction of the PM parts and subsequently burned stoichiometrically and used for furnace heating, resulting in significantly reduced energy consumption of the furnace.

The new LED3 zone is now integrated into all SARNES sintering furnaces. It can also be purchased as a stand-alone module or for retro-fitting of your existing SARNES or any other sintering furnace

Contiuous sintering and heat treatment of Al powder parts.
sintering of aluminium

Successful sintering of Aluminium PM parts in a continuous process with high quality and yield requires the subsequent thermal treatment to be an integral part of the furnace. Precise temperature control, improved heat

transfer, dry inert gas atmosphere and optimised conditions for dewaxing are particularly important for Aluminium PM parts. Process monitoring during the dewaxing step via infrared analysis is currently under investigation in one of our systems