

## Advanced, PLC controlled, Electric and Gas Lehrs

BLDL  
BLMQ



Building a world famous Sanjin  
Brand for future generations

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In order to improve the performance and better meet the needs of users both locally and abroad, Sanjin has developed a range of advanced annealing lehrs. In addition to the usual features expected with conventional annealing lehrs, Sanjin's Advanced Lehrs have the following enhancements.

## Mechanical Design

1. The overall design is based on significantly extending the operational life of the Sanjin Advanced Lehr with respect to a conventional design. In particular with selecting of stainless used in each particular temperature zone.
2. Higher quality insulation reduces heat loss resulting in lower operating costs.
3. In order to improve the reliability of the belt drive system, a high torque, high reliability R series helical gearbox replaces the conventional cycloidal pinwheel gearbox.
4. Improved appearance.

## Control System Design

1. An industrial PLC is at the heart of the control system and results in more stable and reliable control.
2. The system consists of a control cabinet placed on the floor near the Lehr and a PC based Operator Station usually installed in a control room. The control cabinet contains the PLC and associated control equipment and controls the temperature, circulating fans, belt motor etc. The Operator Station has various displays to help monitor and optimize the operation of the Lehr.
3. An important control feature is an intuitive system to set the Lehr temperature curve. This results in a significant improvement in energy efficiency.
4. The PC based Operator Station enables detailed process monitoring and process analysis. It is particularly useful for recording historical job temperature setpoints etc so that subsequent production runs can recall previous set-up information.
5. Since the one Operator Station can be attached to a number of lehrs, the annealing operation can be centralized. This can reduce manning whilst improving the operators working conditions.
6. There are many alarm functions eg over-temperature, belt speed and circulating fan monitoring. This results in a significant improvement in equipment reliability and safety as well as reducing equipment downtime.