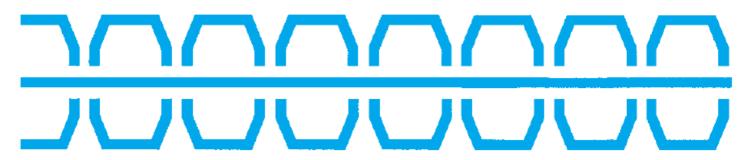






**Vertical systems** 

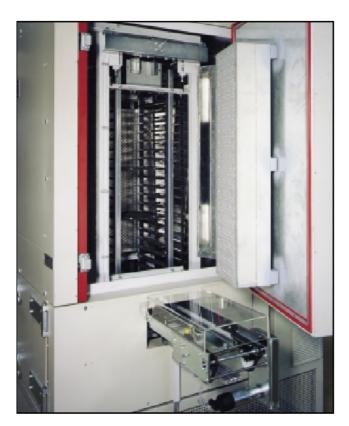


Equipment for the thermal treatment of panels, printed circuit boards, assemblies, chips Heat-up, drying, curing, polymerising

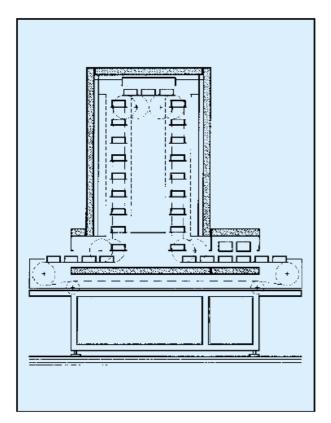
The paternoster system is used for conveying dimensionstable panels as well as for assemblies and chips in a motherboard or on carriers. Loading and unloading by belt-type conveyor, rarely manually. Automation is possible. Standard working widths 250 – 610 mm.



Vertical system with paternoster conveyor



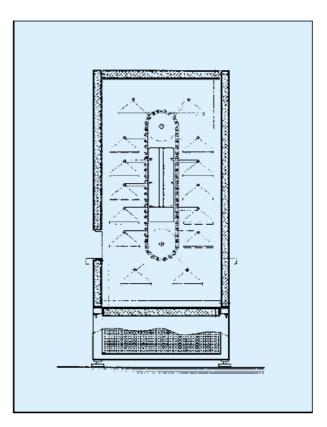
By processing vertically, expenditure for construction is compensated by saving production space. Construction height depends on number of floors; which in return depend on size of processing space, which is the product of throughput and dwelltime. Heat and mass transfer can only be realized by hotair convection, in form of parallel ventilation of the floors. All vertical systems have "A-lock" arrangements. The aforementioned points are valid for all vertical systems.



The tray conveyor which can be integrated into an automatic system, is capable to guide assemblies with low-viscous casting compounds through the system. This system is also used for hot-test and varnish drying of assemblies.

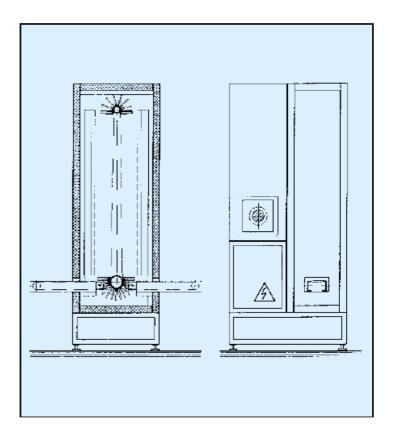
Vertical system with tray conveyor

The vertical system with suspended trays is used offline for varnish drying of assemblies. The tiresome operation of doors is eliminated. Standard working widths: 600, 800, 1000 mm.



Vertical system with suspended trays

This system with large holding space which can be part of an automated line allows processing times as necessary for the long time drying of residual humidity in boards, as well as for the curing of adhesives and casting compounds.



Vertical system with fan conveyor

## **Production programme:**

- Protective coating systems for electronic assemblies
- Thermal treatment systems for electronic products
- Coating technology and systems for the imaging of printed circuits

## **GTL KNÖDEL GMBH**

Postfach 13 10, D-71203 Leonberg Hertichstr. 81, D-71229 Leonberg Tel. +49 (0) 71 52 - 97 45-3 Fax +49 (0) 71 52 - 97 45-50 eMail gtlknoedel@t-online.de www.knoedel-online.de