

# Quality, efficiency and innovations for the glass industry

*Tesoma, a leading manufacturer of complete drying systems, has used continuing growth and determination to develop a small company into a globally active enterprise. Specialized in industrial drying, the German firm designs and manufactures high-quality, efficient drying systems for textile, glass and polygraphic printing. In this article, we take a look at Tesoma's recent development – the Giant 4000 high-performance dryer.*

*Valerie Anne Scott*

Tesoma's Giant 4000 high-performance dryer



# Quality, efficiency and innovations for the glass industry

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The philosophy behind Tesoma's strategies is, says the company, special, but also very simple - high quality, pioneering innovations and personal commitment to the complete satisfaction of its customers.

The Lichtenau-based company is specialized in the varied field of industrial drying, designing and manufacturing high-quality, efficient drying systems for textile, glass and poly-graphic printing.

Tesoma's future-oriented manufacturing, development and administrative plant concentrates on trend-setting solutions, which, the company says, are geared to clients' specific market requirements - individual machines not to be found elsewhere.

## THE IMPORTANCE OF PRESENTATION

Finding the perfect platform for a new product is, says Siegfried Reger, General Manager of Tesoma, an essential part of company presentation. In this particular case, the introduction of the company's new, high-performance *Giant 4000* dryer, at *glasstec 2002* was seen as the ideal answer. According to Reger, trade fairs are important for direct customer contact as well as customer acquisition. Bernd Grille, Sales Manager and Partner at Tesoma, considers trade fairs to be the purest competition possible, even though, he says, they are the most cost-intensive marketing activities for a company.

Under the "pioneer for innovative drying systems for sheet glass printing" banner, in fact, Tesoma was present on two stands at the 2002 edition of *glasstec*, in Dusseldorf, Germany.

Apart from the company's own stand, *Fleischle Siebdruckmaschinen Kfm* presented Tesoma's *Lynx 3100*, which was integrated into one of *Fleischle's* production lines on show at their stand. "This is," said Reger, "part of Tesoma's marketing principle with its collaborators."

## GIANT 4000

According to Grille, *Giant 4000* represents the utmost in the glass industry in terms of quality and capacity. "It came through a one-year trial period brilliantly," said Grille, "proving that it is able to cope with the highest demands in glass finishing."

At present, says Tesoma, *Giant 4000* is the answer for modern drying needs in sheet glass



Control panel

printing. The high-performance dryer is heated electrically and can dry screen-printed or coated sheet glass in thicknesses up to 25 millimetres and widths of up to 2,000-3,500 millimetres.

The machine's innovative operating principle uses the combination of hot air and infrared heating, thus achieving totally uniform air distribution, radiation effect and drying over the entire drying surface.

Tesoma claims that this technology, with its wide range of variations, results in very powerful, energy-conscious drying, which can be adjusted to suit different applications.

### Hot air/infrared Kombimodule

The nozzles of the circulating-air system and infrared radiators are distributed alternately and evenly in the modular hood over the entire active surface, thus enabling air circulation to take place above the glass sheet. In this way, says Tesoma, very large surfaces can be dried evenly without any problems. Other characteristics include:

- infinitely variable circulating air temperature - up to 200°C;
- possibility of long-wave and medium-wave infrared radiators;
- adjustable temperature of the long-wave infrared radiators;
- medium-wave radiators switchable in steps;



- constant replacement of part of the process air enriched with solvents.

#### Combination modules

#### *Cooling modules without active cooling system*

The supply fan draws external cooling air without climatic pre-treatment, driving it into the module hood and its lower chamber. By means of process ventilators, the cooling air flows steadily onto the glass sheet from above and below, in this way passing the glass sheet several times. Air exhaust fans then remove the heated cooling air from the lower chamber to the outside. The process ventilators located above and below the glass sheet cause forced circulation of cooling air around the sheet, thus providing, says Tesoma, more effective cooling.

#### *Cooling modules with active cooling system*

The circulating air fan of the module transports the cooling air through a heat exchanger into the module hood and module lower chamber. Process ventilators distribute the cooling air evenly above and below the glass sheet. The heated cooling air is extracted from the module lower chamber and re-fed into the circuit. The process ventilators cause repeated circulation of the cooling air around the glass sheet, thus improving the cooling effect. The active cooling module can be supplied with a refrigerator or integrated into an existing

cooling unit. If a refrigerator is used, the low temperature of the heat exchanger is adjustable in accordance with the temperature of the circulating air.

#### *UV modules*

The UV module can be equipped with one or two UV lamps, which are situated above the glass sheet at the beginning of the module and are integrated into the module hood. Lamp cooling is located in the module together with a cooling-air module. In this way, says Tesoma, the glass sheet is cooled down directly after its exposure to UV radiation. The module is controlled from a central console for the entire dryer.

#### *Transport systems*

Transport is carried out by means of a roller/belt conveyor. In this series, the glass is transported through the dryer on driven rollers. A Teflon-coated fibreglass band is permanently transported with the glass, forming the separating layer between the glass and the metallic surface of the rollers, thus preventing relative motion and scratches. Tesoma claims that this conveyor system makes it possible to transport very large and heavy sheets, as well as very small parts.

#### **FUTURE OBJECTIVES**

The further optimization of the high standard of its dryer systems is the main objective of Tesoma – totally relying on quality and performance. Acceleration in foreign market expansion is another goal, along with expansion in the number of collaborators. “In this way,” said Grille, “we will be able to consolidate our market position.”

As Reger said, “In the last 10 years we have been able to expand our corporation without interruption, and we intend to continue this course. Our state-of-the-art production and development plant provides the best prerequisites and adequate capacities.” ■

#### **Information Service no. 115**

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