

# AIR-KNIFE DRYER

Over the past 30 years there have been many different designs of panel dryer, ranging from multiple chamois-covered rollers to systems that combine forced air blowing with heated oven sections.

The difficult decision that fabricators face is the evaluation of one compared to another. Most of the designs work reasonably well, yielding panels which appear clean and dry to the naked eye. It is questionable though whether the panel is in fact clear of surface contamination that may have been re-introduced following the final rinsing stages.

While a minor issue in the infancy stages of PWB development surface cleanliness has now become almost sacrosanct. It is considered synonymous with quality and long-term reliability. With this in mind the fabricator needs to consider the possible detrimental effect that roller (squeegee) contact can have on the board. Unless the rollers are continually washed they will gradually become contaminated.

Systems incorporating heated ovens can also prove to be problematic to the board, especially in those instances where tap water is used in the previous rinse stage. Any water that is allowed to dry on the panel can affect SIR and IC test results. Test failure can be caused by the migration of contaminants, even from the extreme edges of the panel, typically at the trailing edge, as it passes through the oven area.

The new Cemco Panel Dryer was developed to overcome all of these issues associated with drying. We believe we have developed the definitive Dryer.

The Cemco Panel Dryer has the capability to thoroughly dry panels from 0.4mm to 6.35mm at speeds up to 4.5 meters per minute, using a highly efficient pair of airknives. Positioned at an angle to the conveyor, they overcome the problems created by airknives conventionally mounted at right angles to the conveyor.

Extremely low resistance to airflow through the airknives, combined with a conveyor configured to firmly support the panel as it passes through the airstream ensures high efficiency in removing water from holes (up to 25:1), panel surfaces and trailing edges. Without the need for PVA or chamois rollers the unit is totally non-contact, contamination free and offers reduced maintenance.



The airknives are quickly detachable for ease of cleaning. The Dryer is made of PVC shell construction. It incorporates an energy efficient side-channel compressor complete with variable speed control to enable performance to be matched precisely to application. There are no internal heaters and therefore reduced operating costs. The air knives are machined from billet aluminium to guarantee product stability, and are coated with a durable hard-anodised finish for long life.

Cost and simplicity were key design criteria in the development of the unit, resulting in a competitively priced, small footprint machine.

- Low noise
- Small footprint
- Non contact
- Ease of maintenance
- Free-standing or in-line
- Low operating costs