●Exploring the Futures of Air with Technology

KYOWA KAKO CO.,LTD.

Business Line: ●Blowers ●Pumps ●Exhaust gas pollution abatement equipment, NOx treatment equipment ●Exhaust systems, and air-conditioning systems (ducts and hoods), and air-conditioning equipment (VD, FD, VHS, VS, HS) ●Deodorizing equipment ●Electric precipitators and air cleaners ●Plastic (PVC, FRP and others) linings and tanks ●Silencers, and silencing boxes, and silencing rooms ●Air dryers ●Encoders ●Plastic magnets ●Analysis services (gas, waste water, dust, noise)

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ISO 9001:2000
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JAB QS Accreditation R024
PERRY JOHNSON REGISTRARS, INC.

UDG-A2000-J-0406

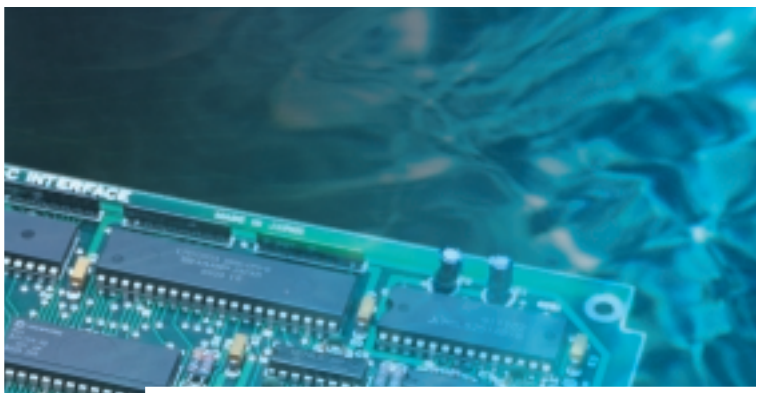
Kyowa Circuit Board Dryer, normal temperature

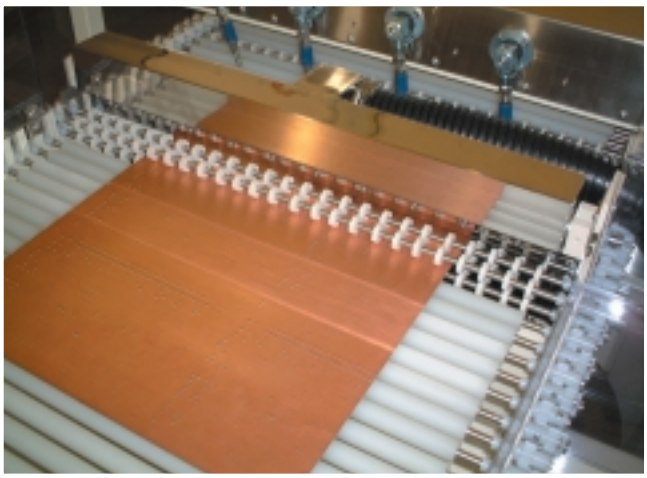
UDG Series

UltraDryGate

LCD Dryer〈Model UDG-αF〉

PCB Dryer〈Model UDG-βF〉





Perfect drying, normal temperatures

No squeezing roller

Instantaneous through-hole drying

Low cost, high performance

Minimum running cost

World's Next-Generation Standard of the Board and Panel Drying Process

Patent Pending

Patent pending in Japan, the U.S., Korea, China, and Taiwan

LCD Dryer

<Model UDG-αF>

Completely dries LCD moving at speeds up to 2 m/min.

Blowing precisely controlled, homogeneous, sharp CDA (super-dry air having a dew-point temperature of -80℃) at the surface of a liquid crystal board dries residual micro-moisture on the board surface and in the peripheral edges of patterns completely in the primary and secondary drying processes.

UDG-αF Features

■ High-speed continuous drying

The UDG provides continuous drying at traveling speeds up to 2 m/min.

■ Low running cost

The low-cost UDG operates with CAD as super-dry air. It offers an additional saving in running cost by means of less power to operate.

■ Space saver

In addition to being small, the UDG requires no heat and no cooling time, taking less space to install.

■ High performance

The UDG results in low cost for a high-performance machine, with a minimaling spare and maintenance parts. The unit recycling system minimizes repair bills.

■ Easy maintenance

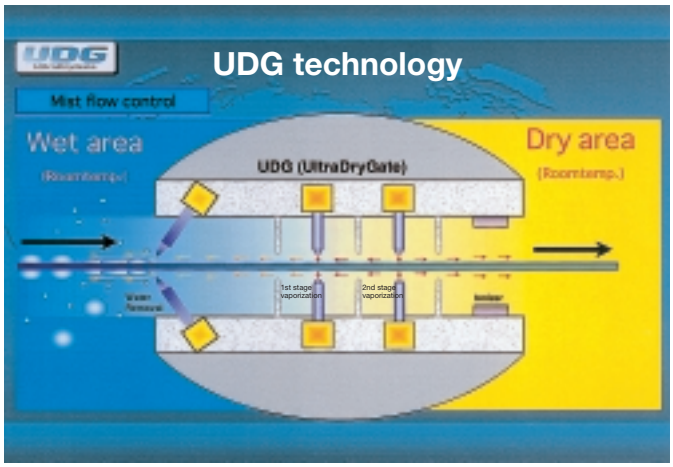
The UDG consists of component units for enhanced reliability, making accessible instantly and easily for troubleshooting or routine inspection.

■ Safety

The heat-free drying processes keep no fire caused by ignition.

■Model UDG-αF Standard Features

Type	αF37	αF160
Glass size	Effective for 370 mm x 470 mm	If effective for 1600 mm width
Dimensions	Approx. 840 mm x 740 mm x 400 mmH	1400 mm max. x 1740 mm x 400 mmH
Glass traveling speed	Max 2m/min	Max 2m/min
Input power requirement	200 to 230 V, 1 kW or less	200 to 230 V, 1 kW or less
CDA	Total 3.5 Nm³/min. (including 1.5 Nm³/min dry area) 0.6 MPa (primary pressure)	Total 10 Nm³/min. (including 4.5 Nm³/min dry area) 0.6 MPa (primary pressure)
Exhaust	Capacity matched to 3.5 Nm³/min	Capacity matched to 10 Nm³/min
Cycle time	40sec.	80sec.
Others	1. These specifications for UDG as an independent unit. 2. If UDG is incorporated into a cleaning machine, the specifications of the host machine will proceed. 3. Detailed specifications are subjects to as agreed.	



Exterior Views

A dew-point temperature of -80℃ refers to that of re-drying when the air cools down to -80℃.

PCB Dryer

<Model UDG-βF>

UDG UltraDryGate

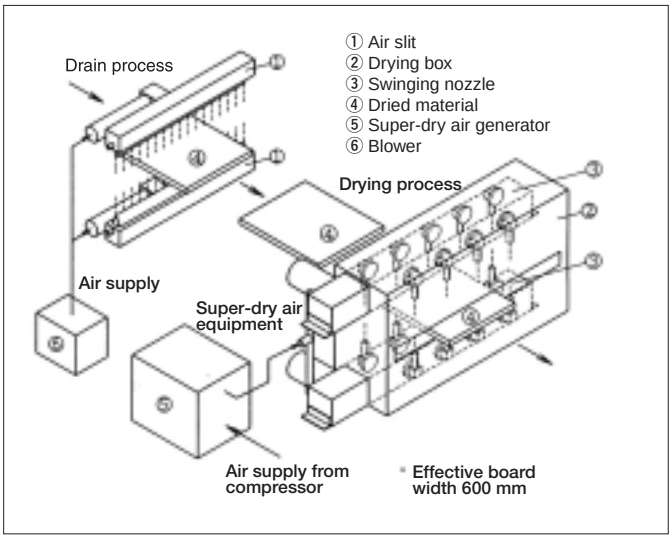
Blowing super-dry air (air having a dew-point temperature of -80℃) at the surface of a PC board at a high speed of 300 m/sec. instantly dries moisture on the surfaces of the PC board and innumerable through holes on it completely.

UDG-βF Features

- The UDG-βF dries the surface of a PC board and innumerable through holes on it instantly by blowing super-dry air at 300 m/sec. through a nozzles.
- Blows with super-dry air having a dew-point temperature of -80℃ drying boards completely.
- Moisture is removed at the molecular level, without recondensation on the product surface. Consequently, there are no oxidation stains resulting from incomplete drying.
- No squeezing roll is used, leaving smears transfered from rollers to the products.
- Quick drying saved drying time, and on extension of product line.
- The heat-free drying process provides safety work.
- Board conditions
  Board thickness: 0.06 to 8 mm
  Through hole diameter: φ0.2 or more
  Board size: 50 x 50 to 1000 x 1000

■Model UDG-βF Standard Features

Type	βF64
Effective line width	700mm
Line speed	Max 2.5m/min
Blower air flow	4.4m³/min
Static pressure	9.81kPa
Compressor air flow	0.49MPa · 500NL/min
Dry air flow	400NL/min
Super-dry air dew-point temperature	Max −80℃
Maximum operating temperature	50℃
Ambient operating temperature	Room temperature
Cycle time	14 sec. min.



Flow Diagram

Exterior Views

A dew-point temperature of -80℃ refers to that of re-drying when the air cools down to -80℃.