

Breeze Reflow Oven

Breeze RO-403/413

The solution for demanding lead free soldering of small to medium series on mesh belt or pin conveyor! The Breeze is available as an oven with a stainless mesh belt or pin conveyor. The mesh belt is ideal for constant changing dimensions or a mix of circuit boards while the pin conveyor is more suitable for double sided boards and for automatic transfer from pick and place machine to other units within the production line. Adjusting the width of the pin conveyor is just a matter of seconds. The combination of several individual adjustable heating zones together with the variable transportation speed enables to attain a wide variety of thermal profiles, easy to reproduce when saved. Offering the two models DIMA offers the ideal solution for lead or lead free soldering of printed circuit board and other electronic assemblies. The oven can also be used to cure SMD glue.



Breeze reflow oven
RO-413 with optional cabinet

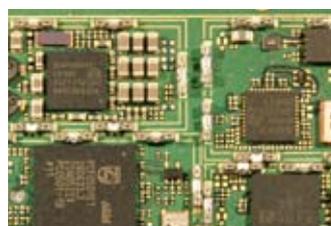
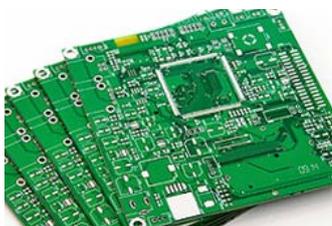
Main Features

- Lead free tested
- 8 independently controlled heating zones
- Integrated cooling zone
- Integrated reflow profiler
- Microprocessor control for 100 different programs
- Mesh belt or pin conveyor
- Pin conveyor ideal for doublesided boards
- DIMASoft® oven manager software (optional)
- Integrated exhaust system
- Air ioniser for ESD safe reflow soldering



Breeze reflow oven
RO-403 table top

Applications



Detailed information

Table top or stand alone

A perfect convection oven as table top model or as stand-alone unit when combined with the optional cabinet



Table top

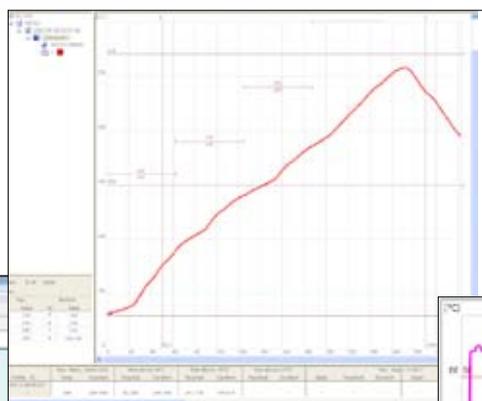
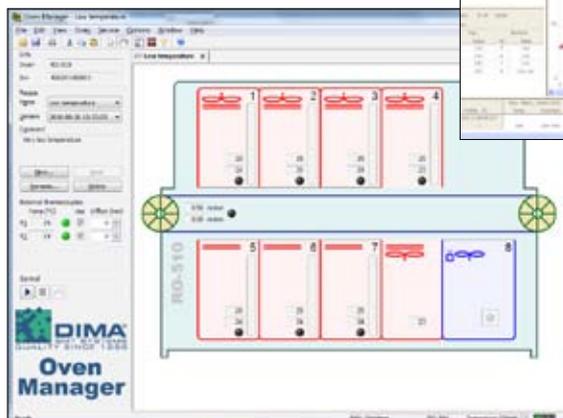


Stand alone with cabinet

User interface

DIMA's Breeze offers a powerful convection heating irrespective of the size and mass of the components. The unlimited variations of temperature profiles is achieved by the tunnel design. To minimise the stress for double sided boards the top and bottom temperature can be set independently. The system's memory stores up to 100 different profiles. The USB port on the reflow oven allows PC interface for entry and storage of additional programs as well as remote control of operating procedure, QC monitoring, and generation of hard copies as needed. The Oven Management software for these functions, compatible with Windows operating systems, is optional.

Graphic views of optional Oven Manager Software



Detailed information



Inline pin conveyor (RO-413)



Stainless steel mesh belt (RO-403)

Hot Air

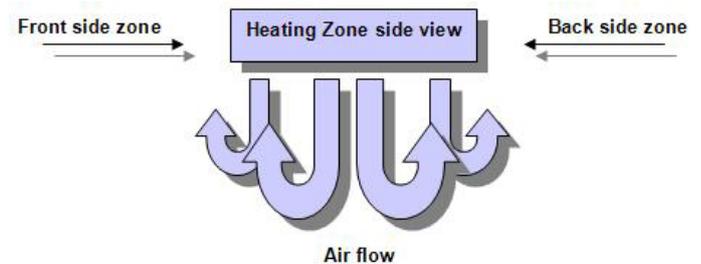
By circulating hot air over a surface of a particular temperature the surface and the inner of that surface will heat up depending on the temperature of the air circulated. Hot air will heat up the surface until it reaches the temperature of the hot air. The surface temperature will never exceed the temperature of the air. A high volume of air moved around will transfer the heat quicker than a low volume of air.

Eight heating zones

The Breeze reflow oven offers full forced hot air heating to maintain consistent edge-to-edge temperatures, regardless of component size or density. Infinite profiling possibilities are achieved in this reflow oven through 8 independently controlled heating zones, with bottom heating also adjustable to prevent overheating of inverted components on double-sided boards. The oven is designed in a way that the air circulates within a zone. Because the zones are not completely separated, two neighboring zones may influence each other.

Temperature control

A dedicated TFT touchscreen permits continuous monitoring of the production run. Two external thermocouple connection for mounting on the board provide real time profiling, shown in convenient graph format and board temperatures through each zone shown in real time. In an ideal profile, preheat temperatures are maintained long enough to permit activation of fluxes, while exposure of the components to higher reflow temperatures is kept to a minimum. These full convection reflow ovens with topside circulating hot air achieve perfect heating profiles despite their modest size.



Up to 100 programs can be stored

The system's memory stores up to 100 different profiles. The USB port allows PC interface for entry and storage of additional programs as well as remote control of operating procedure, QC monitoring, and generation of hard copies as needed with the optional Oven Management software. Other features include an integral exhaust system that removes solder fumes while cooling the system exterior.

Lead free approved

Leading solder paste manufacturers have approved this oven for lead free soldering without any limitations. Naturally these reflow ovens are designed to be compatible with all today's lead free solders.

Air ionised controls static

To eliminate the possibility of damage caused by static, the Breeze includes an air ioniser in the cool down zone as standard equipment.



Light tower (RO-4030)



Monitorstand including keyboard and LCD screen (RO-4050)

Breeze RO-403/413		
Type	Reflow Oven	Reflow Oven
DIMA Article number	RO-403	RO-413
Dimension (L x W x H)	1650 x 900 x 480 mm (without cabinet)	1700 x 900 x 480 (without cabinet)
Conveyor	400 mm wide stainless steel mesh belt	390 mm wide chain with 5 mm pins (3 mm optional)
Product dimension	Max. 400 mm width, Max. 30 mm height (incl. components)	Max. 390 mm width, Max. 20 mm height (incl. components)
Bottom clearance	-	18 mm, starting from 15 mm of the edge of the product.
Transport speed	0.01 - 1.0 m/min	
Controller	Microprocessor controller for heating and cooling zones, with USB port (for optional Oven Manager Software) Speed and temperature profiling controlled via TFT touchscreen or by optional PC	
Heating System	Full convection circulated hot air from the top and support plates at the underside. 8 heating zones, 1 cool down zone	
Profiling	2 external thermocouples included.	
Exhaust	Two integrated exhaust ventilators with total airflow of 150 m ³ /h If the exhaust pipe is longer than 4 m, an additional exhaust ventilator is needed.	
Cooling	Axial ventilator with integrated ionising for ESD safe soldering	
Heating power	8100 Watt	
Software included	Evaluation Oven Manager software	
User Interface	Standard interface via TFT-display with touchscreen on the oven	
Tunnel length	950 mm	
Power requirements	3 phase 380 / 415 V with neutral, optional: 3 phase 220 / 240 V without neutral 8 Amp 8.7Kw, during operation +/- 3 Kw/h	
Weight	190 Kg	195 Kg

Ordering information

RO-403	Breeze hot air reflow oven with mesh belt (lead free capable)
RO-413	Breeze hot air reflow oven chain with 5 mm pins (lead free capable)
RO-4010	PCB Catch Tray (only on RO-403)
RO-4020	Cabinet
RO-4030	Light Tower
RO-4040	Monitorstand including keyboard (excluding LCD screen and computer)
RO-4050	Monitorstand including keyboard and LCD screen (excluding computer)
SWRO-0340	Oven Manager software, for use on external PC and LCD monitor (via USB port)



PCB catch tray for RO-403

For more detailed information, please contact our Sales Representatives. We are very willing to explain you the product application opportunities, all the available system configurations as well as our customized turn-key automation facilities. We are pleased to serve you with the best process technologies and going for the best system fit into your manufacturing processes. Your success is ours too!

Copyright © 2013 by DIMA Group BV, The Netherlands. All rights reserved. Design, features, and specifications are subject to change without notice.

Your Local Representative

www.dimagr.com

DIMA[®]
GROUP

DIMA Group BV
Beukelsdijk 2
5753 PA Deurne
The Netherlands

T: +31 (0)493 352 752
F: +31 (0)493 352 750
E: info@dimagr.com
I: www.dimagr.com