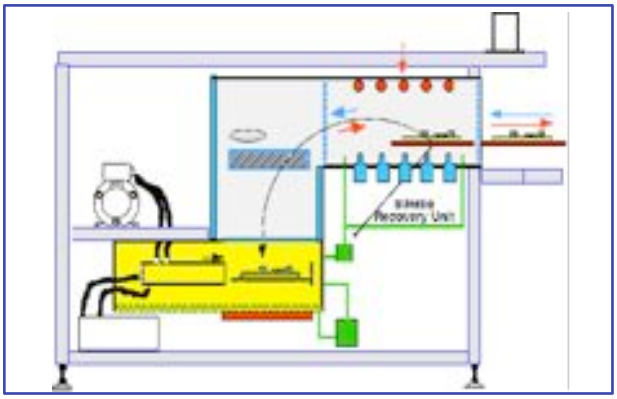
Premium Vacuum Vapour Phase System for highest soldering quality

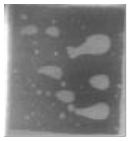
Features

- Reduction of voids, even for large area soldering
- Evacuation of the modules in the Vapour Phase
- During the evacuation (vacuum process) the temperature will be over liquidus at all times
- Maximum process window at minimum temperature (Lead free solder max. temp. 230°C)
- Optional In-line-operation-system (Patented)
- Easy setup with Touch Screen Monitor
- Maintenance free transport unit (Patented)
- Online profile monitoring with the IBL VP-Control
- IR heater unit for extended preheating (Patented)
- Energy management system for lowest energy consumption
- Lowest consumption of liquid



Vacuum process cycle (Patented)

The combination of the vapour phase soldering process with a vacuum chamber significantly increases the reliability of the finished product. The reduction of voids is of major importance on small solder connections (such as µBGA) and on flat soldering connections of power electronics to improve the heat transfer.
The evacuation process starts before, during or after reaching liquidus temperature and it during evacuation. Finally the vacuum process is finished by controlled flush in of ambient air at the end of the cycle.



X-ray of soldering pad without and with vacuum process

Modes of operation

Heat Level Mode (HL-Mode)

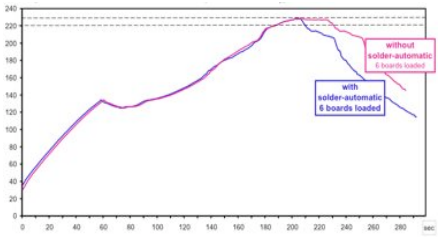
A simple variation of vapour phases soldering, generates different, nearly linear temperature profiles. Energy transfer is controlled by adjustable heating power.

Soft-Vapour-Phase-Mode (SVP-Mode, Patented)

Extremely variable possibility to create reproducible temperature profiles for different requirements.
Soft-Vapour phase stands for slow stepping into the vapour phase and the possibility to stay in different positions. Up and down movements in the vapour phase are freely programmable.

Automatic mode

For the optimization of the solder-process the integrated premium-solder-automatic can be activated in addition in both modes. This automatically controls the adaptation of the solder time or the maximum solder-temperature.



Limitation of the time above liquidus

After the solder temperature is reached a timer will begin. The solder cycle will finish automatically after the adjusted time over liquidus.

Documentation

Production data can be stored using the IBL VP-Control software of IBL.

www.ibl-tech.com *IBL*-Löttechnik GmbH - Leading in Vapour Phase Technology infoline@ibl-tech.com
Messerschmittring 61-63 D-86343 Königsbrunn Tel: +49-(0)8231-95889-0 Fax: +49-(0)8231-95889-30

Standard Equipment / Specification

- Variable high power vacuum process (Patented)
- Two process chambers with automatic internal air-lock
- Automatic carrier in- and output
- SVP mode (freely programmable) for precise setup of temperature profiles (Patented)
- Soft Vapour Temperature Control (SVTC) und Syncro Mode for setting up any temperaturee profile reliably and reproducible
- Observation window into process chamber
- Integrated illumination of the soldering area
- Redundant check of cooling water temperature
- Temperature control of heating surface (Thermocouple)
- Integrated board cooling
- Automatic fluid level indicator
- Automatic liquid agent filtering
- Work piece carrier temperature control and compensation
- Integrated heat exchanger for minimized drag out of fluid
- Variable energy level set-up including program storage
- Maintenance free transportation system (Patented)
- Integrated heat exchanger and fluid recovery system
- Automatic or time controlled soldering process (Patented)

Options

- Barcode scanner
- Serial interface for PC-Adaptation
- Monitoring software VP-Control for convenient documentation and fine adjustment of the soldering process
- IR-Heaters for additional process variability
- Temperature sensors for VP-Control (max. 3 channels)
- Adapter for easy access of thermocouple plugs on WPC
- Rapid cooling system (RCS, Patented)
- Cooling device for closed loop machine cooling
- ReSy system, for repair of QFP's and BGA's (Patented)
- Additional Inline-Handling-System (see picture, Patented)

- Options can be retrofitted during operation -

Vacuum system with Inline-Module

Technical Specifications

	VAC 645	VAC 665
Depth	1,355 mm (2,040 mm)	1,355 mm (2,040 mm)
Width	2,400 mm (3,040 mm)	2,810 (3,450 mm)
Height	1,420 mm	1,420 mm
Weight	1,030 kg (1,290 kg)	1,200 kg (1,450 kg)
Inlet / Outlet Height	950 mm	950 mm
Max. PCB size manual loading: Batch Inline	635 x 440 x 70 mm 635 x 400 x 50 mm	635 x 640 x 70 mm 635 x 400 x 50 mm
Liquid agent filling (min.)	40 kg	60 kg
Water connection	1/2”	1/2”
Heating capacity vapour phase / IR extension	10.4 kW / 8 kW	13 kW / 8 kW
Ø power consumption (with IR)	5.5 kW (5.7 kW)	4.8 kW (5.8 kW)
Connecting Power (with IR) / Main Fuse	400/230 VAC, 12 kW (15kW)/ 32A, Typ “gL” or “C”	400/230 VAC, 14 kW (19kW)/ 32A, Typ “gL” or “C”
External Vacuum module LxWxH; Weight	900x540x860 mm; 75kg	900x540x860 mm; 90kg

- Technical changes reserved -

www.ibl-tech.com **_IBL_-Löttechnik GmbH - Leading in Vapour Phase Technology** infoline@ibl-tech.com
Messerschmittring 61-63 D-86343 Königsbrunn Tel: +49-(0)8231-95889-0 Fax: +49-(0)8231-95889-30