



Full Convection Reflow Soldering Systems



Full Convection Reflow Soldering System SMT Quattro Peak L

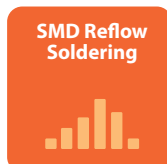


- Lowest Energy Consumption
- Lowest Nitrogen Consumption
- Lowest Maintenance Effort

SMT Highlights:

- Tool-free maintenance of all SMT Systems
- **NEW!** CATalysis - process gas cleaning
- Sustainable energy and nitrogen saving concept
- Proven Vacuum Reflow Technology (since 2009)
- **NEW!** Independent fan control in all zones

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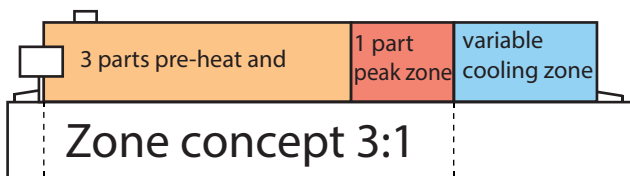




Quality „Made in Germany“

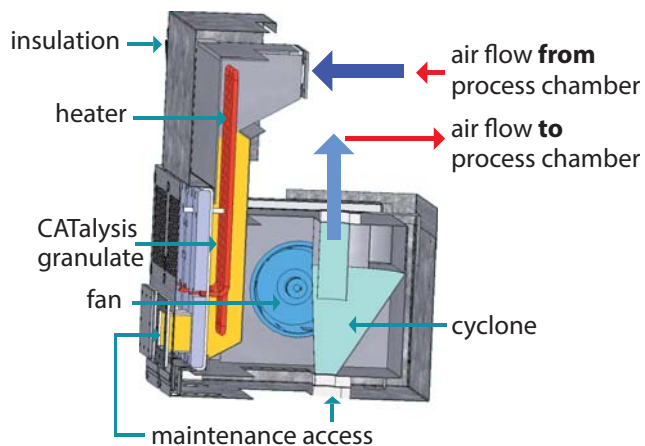
SMT soldering systems are distinguished amongst others by **long life cycle** and **high process stability**. An extremely low power consumption is realized in the SMT system concept due to lower process temperatures, effective insulation, and systems, that require a low exhaust air.

- Flexible machine portfolio from XXS up to Quattro Peak XL Plus
- Minimal consumption of energy and nitrogen
- Reliable conveyor system from single up to multi lane concept



Zone concept

The zone concept of all Quattro Peak systems is optimized to the process. This consists always the same ratio of pre-heating to peak zone (3 parts pre-heating and 1 part peak zone) according to standard profile specification referring to IPC .



Catalysis – Process Gas Cleaning

The new CATalysis – process gas cleaning of SMT works comparable as a catalyst in a car. The cleaning process can take place due to the catalyst at lower temperatures. The effect is a better cleaning performance.

Advantages:

- **decrease of contamination**
- longer maintenance interval
- reduce of maintenance effort
- **more efficient production**

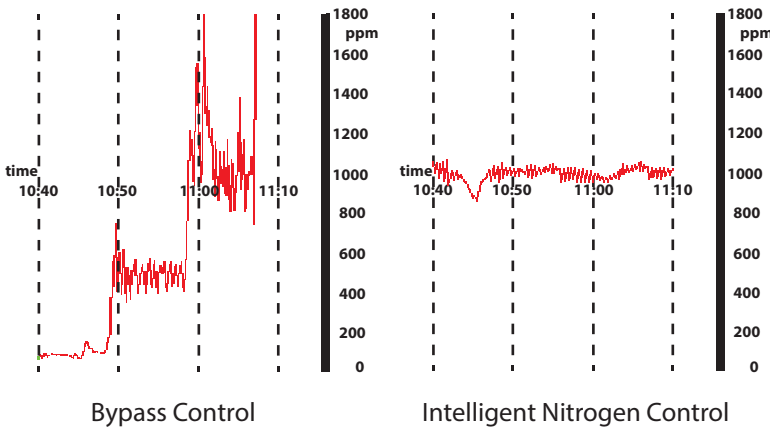
The CATalysis – process gas cleaning can be installed into all SMT reflow soldering systems from the Quattro Peak L series. Depending on the system size, this may be up to 4 CATalysis (up to 5 at vacuum soldering systems).

A **retrofitting** to the new CATalysis – process gas cleaning is **possible at any time** at SMT reflow and vacuum soldering systems.

September 27, 2016, Chicago

... and the winner is SMT





Intelligent Nitrogen Control

Intelligent nitrogen control with optimized control mode **reduces nitrogen consumption** to a minimum. In addition a usable nitrogen parameter is provided for traceability.

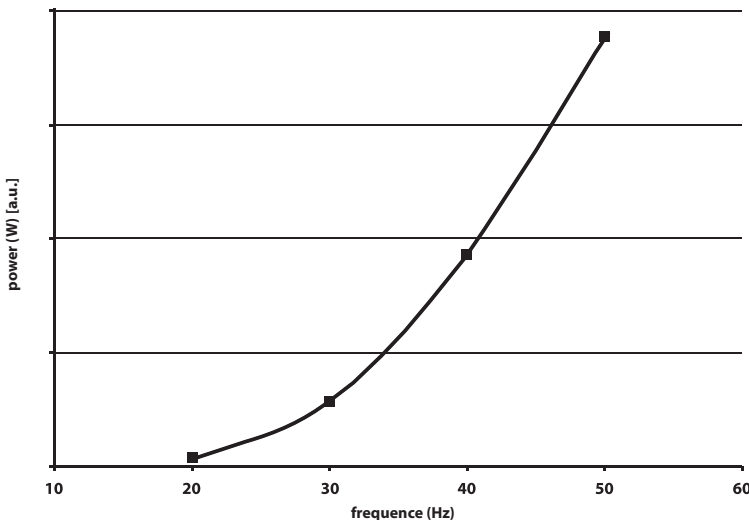
Benefits intelligent nitrogen control:

- Constant residual oxygen values
- **-20% consumption**
- Process stability
- Products are soldered with the same quality

Independent fan control in all zones

More functionality with the new frequency converters

- Active fan monitoring
- Infinitely variable regulation of the fan frequency (4 stages still in our system)
- High **energy saving potential**
- **Monitoring** of the current consumption of the fans
 - Alert if the consumption varies
- Each fan individually adjustable
- Additional setting parameters for an optimum profiling



Example: consumption graphs

Your Benefit

- Gas-tight fan units
 - constant process gas, adjustable via frequency converter
 - encapsulated, **maintenance-free fan motor**, no slight leakiness
 - energy and nitrogen savings



- Efficient maintenance
 - **tool-free maintenance**
 - no pipe system for process gas cleaning

* optional

- **Precise nitrogen control** by integrated lambda sensor technology and real-time continuous measurements of residual oxygen value
 - **less nitrogen consumption**
 - easy calibration (exchange possible by customer)
- CATalysis: Cleaning process can take place due to the catalyst at lower temperatures
 - **better cleaning performance**
- **Lowest operating costs**
 - lowest energy and media consumption
 - lowest consumption of spare and wear parts (e.g. rails, chains, fan motors, heating elements)



Technical Data	QP S Media	QP S	QP M	QP L	QP L Plus	QP XL	QP XL Plus
External dimensions							
Length:	4672 mm	4198 mm	4648 mm	5754 mm	6714 mm	7169 mm	7712mm
Width:	1435 mm	1435 mm	1435 mm	1435 mm	1435 mm	1435 mm	1435 mm
Weight approx.	2300 kg	2000 kg	2200 kg	2500 kg	2800 kg	3000 kg	3200 kg
Number/diameter feet:	10 / 80 mm	10 / 80 mm	12 / 80 mm	14 / 80 mm	14 / 80 mm	16 / 80 mm	16 / 80 mm
Process chamber							
Pre-heat-/Peak zones:	3 / 2	3 / 2	3 / 2	4 / 2	5 / 3	5 / 3	6 / 4
Active convections length:	2061 mm	2061 mm	2511 mm	3143 mm	3630 mm	4091 mm	4628 mm
Cooling zones: ^{1.)} :	2x=1752 mm	1x=1279 mm	1x=1279 mm	2x=1752 mm	3x=2226 mm	3x=2226 mm	3x=2226 mm
Power							
Power consumption steady state condition: ^{2.)}	approx. 9 kW h	approx. 7 kW h	approx. 7 kW h	approx. 8 kW h	approx. 9 kW h	approx. 9 kW h	approx. 11 kW h

2.) Up to 5 cooling zones possible. Each cooling zone: 474 mm

3.) Machine with chain conveyor, 220 mm transport width, fan speed reduction and no other options

Technical Data from QP S Media up to XL Plus

External dimensions		Extraction ^{3.)}	
Height (delivery condition/ with warning light): ^{1.)}	1767 / 2353 mm	Suction pipe:	1 x Ø 200 mm
Inlet height, adjustable by customer: ^{1.)}	950 mm +/- 20 mm	Required exhaust air at pipe inlet:	approx. 600 ... 800 m ³ /h
Process chamber		Temperature of exhaust air at the pipe:	< 50 °C
Bottom side heating in pre-heating zone:	yes	Internal exhaust air resistance of oven:	3 - 8 mbar
Temperature measurement:	NiCr-Ni sensors in hot gas flow	Continuous sound pressure level	< 70 dB(A)
Heat-up time:	approx. 30 min.	Control unit	CDIAS with RT 7
Heat-up time with economy switch:	approx. 60 min.	Nitrogen connection ^{4.)}	
Heat transfer:	100% forced convection	Connection armature:	R 3/8" internal thread
Process temperature (pre-heat/peak zone):	max. 300 °C / 350 °C	Working pressure (at connecting armature):	6 ... 8 bar
Transport chain conveyor		N ₂ -consumption, steady state condition at transport width 220 mm: ^{5.)}	approx. 9 m ³ /h
Usable working width: ^{2.)}	60 ... 510 mm	N ₂ -consumption, full load at transport width 220 mm: ^{6.)}	approx. 15 m ³ /h
Usabel working height with PCB support:	pin level -10 mm	Readiness for the system (1000 ppm, N ₂ < 5 ppm O ₂):	approx. 15 min.
Movement:	left-right	Connecting power supply:	3~N, PE 230 / 400 V, 50 Hz
Fixed rail:	front		
Pass through height (top/bottom):	30/30 mm		
Max. loading per track:	3 kg/m		
Conveyor speed:	0.2 ... 3.0 m/min.		
Cooling water			
Connection thread:	2 x 1/2"		
Quantity of/pressure of cooling water:	> 15 ltr./min / > 2.5 bar		
Temperature of cooling water:	< 15 °C		

1.) Standard height: 950 mm; corresponding to a changed inlet height

2.) Differing at dual or multi lane

3.) Connection of a flexible, heat resisting (at least up to 100 °C) hose (available by SMT) or tube. The waste air exhausting unit with adjustable throttle valve mounted after the suction sleeves has to be installed by the user.

4.) N₂-supply with pressure reducer has to be mounted by the user, recommended supply of nitrogen with oxygen content < 5 ppm.

5.) 1000 ppm with proportional valves and sleeping mode (options); if 500 ppm then approx. 10 m³/h

6.) With PCB (220 x 220 mm), one PCB length distance, 1000 ppm; if 500 ppm then approx. 17 m³/h

The reflow soldering systems are individually configurable. Choose from a variety of lengths from heating zone length, and the cooling zones and at transport system between a single, double or multi lane.

Ask us, we have the **perfect solution** for your application.

Subject to change without notice, October 24, 2016

