

VACUUM REFLOW

TRV - SERIES

World best productivity!! (Realized Lowest Tact Time)
 Doubled Production Tact Time achievable with Twin vacuum system
 (Min 30 sec → Min 15 sec)
 Optimized TWIN VACUUM REFLOW for Mass production line!!!



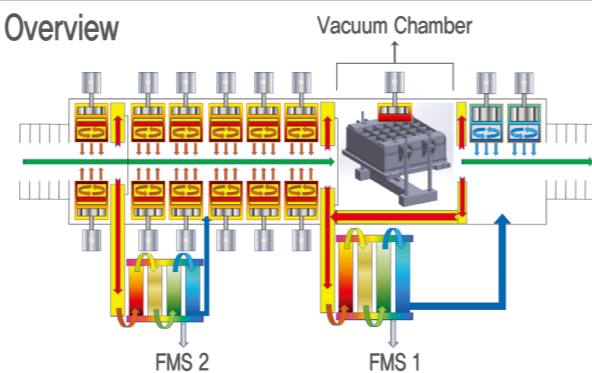
TRV - TWIN

TRV - SINGLE



(ETC Technical cooperation)

Overview



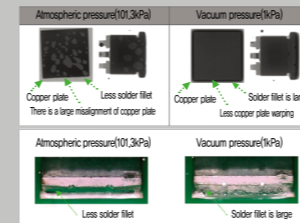
- ▶ Two Vacuum chamber + Two ovens, independent operation
- ▶ Reduction of production line space with compact design
- ▶ Independent system for each lane (temperature setting per lane, production available with one lane when one lane is PM)

01. Effect of vacuum function

Solder	Ni atmosphere	Ni atmosphere + vacuum	Void reduction
Company A SAC305			20.3%~3.2% 16.4%~2.4% 1/6 or less
Company B SAC305			11.8%~1.9% 9.1%~0.8% 1/8 or less
Company B void confirmation			8.8%~0.7% 3.5%~0.6% 1% or less

Combination of heating up heat wind circulation and vacuum reduces occurring Void despite of large space soldering.

02. Effect of reduction of Void

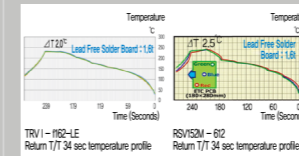


Secure forming fine fillet with thin and event solder thanks to reduction of Void and effect of self alignment from swelling and twisting.

03. PCB transferring system optimized for in-line production

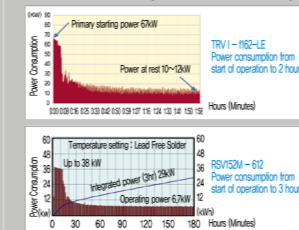


04. Heating performance



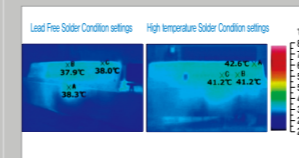
Secure high quality Soldering with even lower number of zone through combination of vacuum chamber and up / down heating circulation, improved for previous temperature profile condition.

05. Ultra low power consumption



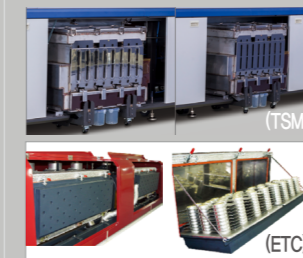
Realize ultra low power consumption through "RO" lightening main body and high insulation and saving of energy, CO₂ and electricity cost.

06. High insulation specification



Combination of the low thermal conductivity, doubling insulation materials, resinification of insulation cover and ultra low power consumption of electricity enables dramatic reduction of energy and CO₂

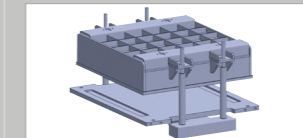
07. Collecting System of Flux (TSM)



TSM : Single Ass'y structure combined for each UNIT enables one touch separation, exchange and re operation; able to extend Flux PM period by applying 2FMS on recent equipment.

ETC : Highly perform on collecting Flux thanks to deploying dust collection UNIT, respectively per preheating, heating and cooling process and easy access on cleaning with cleaning liquid due to separating filter each box.

08. Vacuum Chamber



Effective degree of vacuum with complete close vacuum chamber enables to control and reduce Void effectively.

09. Filter Unit



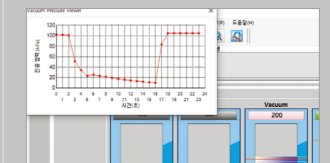
Protect Flux contamination of Vacuum Pump through multi-staged filters and realize simple cleanin.

10. Controlling degree of a vacuum with three stage



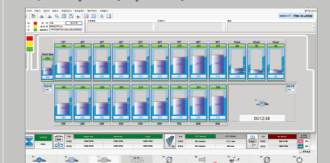
Flexibly handling control of degree of a vacuum with multi stage control according to characteristics of product.

11. MMI realization function of degree of a vacuum graph (Option)



Able to monitor degree of a vacuum with its graph on MMI monitor.

12. RPMS: indicating a number of spinning MMI function for all zone B/M rpm (Option)



Visualize a number of spinning blower motor fans in real time. Alert with alarm if out of setting order caused by an error of its motor.

Specifications

Name of Models	TRV I - f612-WD	TRV I - f612-LE	TRV III - a612WT	TRV III - a612LT
Heating (zone)	6			
Vacuum (zone)	1			
Cooling (zone)	2			
Voltage	3Ø 380V			
Heating temperature	Max 350 °C			
Degree of vacuum	1~10 kPa			
Consumption capacity of nitrogen	300~400 l /min			
Outer length	5,406mm	6,286mm	5,406mm	6,286mm

* Product specification indicated on this page may changeable without notice in advance for product improvement or company's internal situation.

Name of Models	TRV I - f612-WD	TRV I - f612-LE	TRV III - a612WT	TRV III - a612LT
Outer width	1,510mm		2,525mm	2,365mm
Outer height	1,550mm			
Height of passing parts	Upper 30mm / Lower 30mm			
Width of control panel	100~330mm	100~250mm	100~330mm	100~250mm
Length of control panel	100~250mm	100~330mm	100~250mm	100~330mm
Height of remand	900~920mm (STD 900mm)			
Collection of Flux	Standard mounting (2 FMS)			
Option	Roller mounted rail / large size chamber / 3Ø 380V other voltage			