

**ST 325**

**Patented, Adjustable, Spring Loaded Vacuum Pik**

The handpiece is fitted with an adjustable, spring loaded vacuum pik to lift components from the PCB and to hold the component in the nozzle during alignment.

The “give” in the spring loading is set, but the absolute position of the vacuum pik is adjustable over a 1.5" length.

The ST 325 is a digital, self-contained system that is fully programmable and can be used to remove or install surface mount components when individual or multiple operations are to be run. From the front panel, the system can be used in either manual or “timed” modes. Manual mode means that the system generates heated airflow when the cycle button is pressed; when it is pressed a second time the system shuts off. “Timed” modes allow the operator to create up to 20 “Profiles” that consist of time and temperatures parameters to ensure process control and repeatability. Both cycle start and vacuum functions are activated with conveniently located switches on the handpiece.

The ST 325 comes standard with one K-type thermocouple input that can be used to monitor the thermal environment at the work site with optional software. The system also comes with the Lo-Flo pump and the vacuum wand (PV-65) for manipulating components manually. The heavy-duty, durable metal housing ensures years of service and the sloped face of the front panel is a standard feature for ease of use. Other ST systems can be stacked on to the ST 325 to preserve bench space. The capabilities of the ST 325 can be used to remove or install just about any type of standard pitch surface mount component when coupled with the ST 500, ST 525, or ST 550.

When additional programming capability is required, such as 4 zone profile creation, an optional software package is available that can be used with a PC or laptop (1199-0019-P1). The optional software package further allows the ST 325 to control the ST 450 Preheater when bottom side heating of the PCB is required. Once the 4 zone profiles have been created with the software, they can be downloaded to the ST 325 and can be run WITHOUT the PC or laptop being connected!

The system can install standard BGA packages when fitted with the ST 500, ST 525 or ST 550, ST 450 or ST 400, and the optional PC or laptop software. Course pitch area array components are aligned using a proven, reliable template method that is easy to use

**Technical Specifications**

| Specifications        | ST 325                          |
|-----------------------|---------------------------------|
| Part Number           | 8007-0432 ST 325E               |
| Dimensions            | 134mm x 245mm x 254mm           |
| Weight                | 4.5kgs (9.9lbs)                 |
| Input Supply          | 197-253 VAC, 50/60 Hz,          |
| Power Consumption     | 575 Watts max.                  |
| Temperature Control   | Closed loop,                    |
| Temperature Stability | ± 9°C (±15°F) at idle tip temp. |
| Temperature Range     | 149° to 482°C nominal           |
| Airflow Range         | 5-22 slpm                       |


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**Features**

- Multi-level password lock-out prevents unauthorized changes.
- User definable temperature zone.
- Audible countdown timer for end of cycle indication in the Timed and Program modes.
- On-screen display of parameters (temperature, time) during operation.
- Store and recall up to 20 profiles (40 with optional software).
- Quiet-Flo turbine blower offers nearly silent operation.
- Hi-Flo Vacuum Pump for holding component securely.
- Lo-Flo Vacuum Pump for component wand.

**6 Pcs Hot Air Nozzle Set Model SON-PNS0309 for different applications**

| Hot Air Nozzles   | Component type | Dimensions      | Part Number   |
|---|----------------|-----------------|---------------|
|  | SO8            | 5.0mm Diameter  | 4028-1012-P1  |
|   | PLCC28         | 12.5mm x 12.5mm | 4028-2003     |
|   | QFP80, 100     | 17.5mm x 23.0mm | 4028-2501-NB  |
|   | PLCC52         | 20.0mm x 20.0mm | 4028-2006- NB |
|   | QFP132         | 25.5mm x 25.5mm | 4028-2503-NB  |
|   | QFP160         | 31.5mm x 31.5mm | 4028-2504-NB  |





**6 Pcs Hot Air Nozzle Set Model SON-PNS6 for different applications**

| Hot Air Nozzles   | Component type | Dimensions      | Part Number  |
|---|----------------|-----------------|--------------|
|  | PLCC28         | 12.5mm x 12.5mm | 4028-2003    |
|   | TQFP120        | 15.5mm x 15.5mm | 4028-3004    |
|   | PLCC52         | 20.0mm x 20.0mm | 4028-2006-NB |
|   | PLCC68         | 24.0mm x 24.0mm | 4028-2007-NB |
|   | QFP132         | 27.0mm x 27.0mm | 4028-2503-NB |
|   | QFP240         | 33.0mm x 33.0mm | 4028-2506-NB |

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Hot Air Nozzles for ST-325

| Component   | BGA Size (Nominal)                    | Part Number |
|---|---------------------------------------|-------------|
|    | 27mm (1.1") H x 27mm (1.1") W         | 4028-5001   |
|    | 23mm (0.91") H x 23mm (.91") W        | 4028-5002   |
|  | 35mm (1.38") H x 35mm (1.38") W       | 4028-5003   |
|  | 13mm (0.51") H x 13mm (0.51") W       | 4028-5004   |
|   | 15mm (0.59") H x 15mm (0.59") W       | 4028-5005   |
|   | 16.25mm (0.64") H x 17.75mm (0.70") W | 4028-5006   |
|   | 13.45mm (0.53") H x 14.97mm (0.59") W | 4028-5007   |
|   | 10.42mm (0.41") H x 10.42mm (0.41") W | 4028-5008   |
|   | 11.97mm (0.47") H x 13.21mm (0.52") W | 4028-5009   |
|   | 8.64mm (0.34") H x 8.90mm (0.35") W   | 4028-5010   |
|   | 40mm (1.57") H x 40mm (.57") W        | 4028-5012   |
|   | 42.5mm (1.67") H x 42.5mm (1.67") W   | 4028-5013   |
|   | 31mm (1.22") H x 31mm (1.22") W       | 4028-5014   |
|   | 17mm (0.67") H x 17mm (0.67") W       | 4028-5015   |
|   | 21mm (0.83") H x 21mm (0.83") W       | 4028-5016   |
|   | 21mm (0.83") H x 21mm (0.83") W       | 4028-5017   |
|   | 37.5mm (1.48") H x 37.5mm (1.48") W   | 4028-5018   |
|   | 19mm (0.75") H x 19mm (0.75") W       | 4028-5019   |
|   | 32mm (1.26") H x 32mm (1.26") W       | 4028-5020   |
|   | 29mm (1.14") H x 29mm (1.14") W       | 4028-5021   |
|   | 16mm (0.63") H x 16mm (0.63") W       | 4028-5022   |
|   | 22mm (0.87") H x 14mm (0.55") W       | 4028-5023   |
|   | 19.25mm (0.76") H x 19.25mm (0.76") W | 4028-5024   |
|   | 18.5mm (0.73") H x 18.5mm (0.73") W   | 4028-5025   |
|   | 26.4mm (1.04") H x 26.4mm (1.04") W   | 4028-5026   |
|   | 30mm (1.18") H x 30mm (1.18") W       | 4028-5027   |
|   | 25mm (0.98") H x 32.3mm (1.27") W     | 4028-5028   |
|   | 43mm (1.69") H x 43mm (1.69") W       | 4028-5029   |
|   | 44mm (1.73") H x 44mm (1.73") W       | 4028-5030   |
|   | 32.5mm (1.28") H x 32.5mm (1.28") W   | 4028-5031   |
|   | 22mm (0.87") H x 22mm (.87") W        | 4028-5032   |
|   | 33mm (1.29") H x 33mm (1.29") W       | 4028-5033   |
|   | 47.5mm (1.87") H x 47.5mm (1.87") W   | 4028-5034   |
|   | 21mm (0.83") H x 25mm (0.98") W       | 4028-5035   |
|   | 17mm (0.67") H x 17mm (0.67") W       | 4028-5036   |
|   | 21mm (0.83") H x 21mm (0.83") W       | 4028-5037   |
|   | 7.75mm (0.31") H x 5.6mm (0.22") W    | 4028-5501   |
|   | 7.85mm (0.31") H x 6.40mm (0.25") W   | 4028-5502   |
|   | 27mm (1.1") H x 27mm (1.1") W         | 4028-2010   |

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### Hot Air Nozzles for ST-325

| Pattern Nozzles   | Component Type                        | Jet Spacing                           | Jet Length            | Part Number  |
|---|---------------------------------------|---------------------------------------|-----------------------|--------------|
|    | SOIC- 8 (JEDEC)                       | 4.1mm (0.16")                         | 6.1mm (0.24")         | 4028-4001-P1 |
|   | SOIC-14/16 (JEDEC)                    | 4.1mm (0.16")                         | 10.9mm (0.43")        | 4028-4002-P1 |
|   | SOICL-16 (JEDEC)                      | 7.9mm (0.31")                         | 10.9mm (0.43")        | 4028-4003    |
|   | SOICL-20 (JEDEC)                      | 7.9mm (0.31")                         | 13.5mm (0.53")        | 4028-4004    |
|   | SOICL-24 (JEDEC)                      | 7.9mm (0.31")                         | 16mm (0.63")          | 4028-4005    |
|   | SOICL-28 (JEDEC)                      | 7.9mm (0.31")                         | 18.5mm (0.73")        | 4028-4006    |
|   | SOICL-32 (JEDEC)                      | 11.68mm (0.46")                       | 20.83mm (0.82")       | 4028-4007    |
|   | TSOP-48 (Type I)                      | 18.6mm (0.734")                       | 13.5mm (0.53")        | 4028-4505    |
|   | TSOP-32/40/44/50 (Type II)            | 10.4mm (0.41")                        | 21.35mm (0.84")       | 4028-4506    |
| Single Jet Nozzles  | Shape of Jet Tube                     | Nozzle Size (Nominal)                 |                       | Part Number  |
|   | Curved, Round                         | 3.0mm diameter (0.1" diameter)        |                       | 4028-1001-P1 |
|   | Curved, Round                         | 5.0mm diameter (0.2" diameter)        |                       | 4028-1002-P1 |
|   | Curved, Round                         | 8.0mm diameter (0.3" diameter)        |                       | 4028-1003-P1 |
|   | Straight, Round                       | 3.0mm diameter (0.01" diameter)       |                       | 4028-1011-P1 |
|   | Straight, Round                       | 5.0mm diameter (0.2" diameter)        |                       | 4028-1012-P1 |
|   | Straight, Round                       | 8.0mm diameter (0.3" diameter)        |                       | 4028-1013-P1 |
|   | Flat Jet                              | 13.21mm length (0.52)                 |                       | 4028-1021-P1 |
|   | Flat Jet                              | 23.37mm length (0.92)                 |                       | 4028-1022-P1 |
|   | Box Nozzles                           | Component Type                        | Nozzle Size (Nominal) |              |
|  | PLCC                                  | 32.5mm (1.28") H x 46.5mm (1.83") W   |                       | 4028-1501    |
|   | PLCC-18 (Non Baffled)                 | 8.5mm (0.34") H x 12.1mm (0.48") W    |                       | 4028-2001    |
|   | PLCC-20 (Non Baffled)                 | 10.2mm (0.40") H x 10.2mm (0.40") W   |                       | 4028-2002    |
|   | PLCC-28 (Non Baffled)                 | 12.8mm (0.50") H x 12.8mm (0.50") W   |                       | 4028-2003    |
|   | PLCC-32 (Non Baffled)                 | 12.8mm (0.50") H x 15.3mm (0.60") W   |                       | 4028-2004    |
|   | PLCC-44 (Non Baffled)                 | 17.9mm (0.70") H x 17.9mm (0.70") W   |                       | 4028-2005    |
|   | PLCC-52                               | 20.4mm (0.80") H x 20.4mm (0.80") W   |                       | 4028-2006    |
|   | PLCC-68                               | 25.5mm (1.01") H x 25.5mm (1.01") W   |                       | 4028-2007    |
|   | PLCC-84                               | 30.6mm (1.20") H x 30.6mm (1.20") W   |                       | 4028-2008    |
|   | PLCC-100                              | 38.9mm (1.53") H x 38.9mm (1.53") W   |                       | 4028-2009    |
|   | QFP-80/100                            | 18.1mm (0.71") H x 24.1mm (0.95") W   |                       | 4028-2501    |
|   | QFP-64/80 (Non Baffled)               | 17.0mm (0.67") H x 17.0mm (0.67") W   |                       | 4028-2502    |
|   | QFP-132                               | 26.9mm (1.06") H x 26.9mm (1.06") W   |                       | 4028-2503    |
|   | QFP-160                               | 31.9mm (1.26") H x 31.9mm (1.26") W   |                       | 4028-2504    |
|   | QFP-208                               | 31.5mm (1.24") H x 31.5mm (1.24") W   |                       | 4028-2505    |
|   | QFP-240                               | 34.6mm (1.36") H x 34.6mm (1.36") W   |                       | 4028-2506    |
|   | BQFP-100                              | 23.5mm (0.925") H x 23.5mm (0.925") W |                       | 4028-2507    |
|   | BQFP-84                               | 20.9mm (0.8") H x 20.9mm (0.8") W     |                       | 4028-2508    |
|   | BQFP-132                              | 27.1mm (1.07") H x 27.1mm (1.07") W   |                       | 4028-2602    |
|   | TQFP-32 (Non Baffled)                 | 11.5mm (0.453") H x 11.5mm (0.453") W |                       | 4028-3002    |
|   | TQFP-120 (Non Baffled)                | 15.5mm (0.610") H x 15.5mm (0.610") W |                       | 4028-3004    |
| TQFP-48   | 18.6mm (0.734") H x 18.6mm (0.734") W |                                       | 4028-4505             |              |

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