WHY DEHUMIDIFICATION?

Moisture is absorbed by plastics, penetrates by diffusion into plastic packages and in this way accumulates in the component. This generally results in changes to the mechanical properties of the molding compounds, adhesives and other organic materials that are exposed to moisture. In the component, the main changes are to strength of the interfaces to structural elements such as leadframe or chip.

The heating of a component during the solder process then leads to a multilink chain of damage mechanisms:

- Thermomechanical generation/enlargement of a delamination
- Diffusion of the absorbed water vapor from the molding compound into the crack
- Bulging/deformation of the encapsulating molding compound
- Fracturing of the deformed package parts (popcorn)

Thus, the route to reliable mastery of the solder process leads through a precise observation of the moisture content of the components. The penetration of moisture into the package molding compound is generally caused through exposure to the ambient air over the course of a few days. Hence the necessity to dry moisture-sensitive components.

DISTRIBUTION

MOISTURE DISTRIBUTION

U-2000 dry unit
Silent and maintenance-free operating is guaranteed, with automatic recycling and permanent monitoring of the inside environment.

Automatic function
Every door is controlled by a switch. When all doors are closed, the air circulation fan inside the dry unit is turned on to accelerate the dehumidification of the cabinet’s atmosphere.

Digital Panel
A capacitive sensor enables a scrupulous display of the internal humidity. The temperature will be shown by pressing the H/T pushbutton, and a humidity alarm will warn in due time to forestall unwanted conditions.

ESD-safe
All surfaces, including the windows, are ESD-safe. A 1M-Ohm ground wire helps protect your components from harmful results of static discharge.

Reduction of expenses
• Minimum energy consumption
• No need to apply N2

Stainless Steel Shelves
A very tough surface and high bearing capacity up to 100 kg guarantee a long lifetime.
**SD/HSD SERIES**

**Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>External Dimensions (WxHxD cm)</th>
<th>Internal Dimensions (WxHxD cm)</th>
<th>Effective Capacity (l)</th>
<th>Weight (kg)</th>
<th>Loading capacity cabinet (kg)</th>
<th>Shelves/max. load (kg)</th>
<th>Mean Power Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD/HSD-1106</td>
<td>120 x 184 x 67</td>
<td>119 x 156 x 62</td>
<td>1160</td>
<td>160 / 167</td>
<td>200 kg on castors</td>
<td>5 stainless steel / 100</td>
<td>28 W/h / 56 W/h</td>
</tr>
<tr>
<td>SD/HSD-1104</td>
<td>120 x 184 x 67</td>
<td>119 x 156 x 62</td>
<td>1160</td>
<td>155 / 162</td>
<td>200 kg on castors</td>
<td>5 stainless steel / 100</td>
<td>28 W/h / 56 W/h</td>
</tr>
<tr>
<td>SD-702</td>
<td>62 x 184 x 78</td>
<td>11 x 156 x 73</td>
<td>680</td>
<td>60</td>
<td>200 kg on castors</td>
<td>5 stainless steel / 100</td>
<td>28 W/h</td>
</tr>
<tr>
<td>SD-302</td>
<td>50 x 123 x 64</td>
<td>49 x 116 x 59</td>
<td>340</td>
<td>60</td>
<td>50 kg</td>
<td>3 stainless steel / 50</td>
<td>28 W/h</td>
</tr>
<tr>
<td>SD-502</td>
<td>88 x 90 x 74</td>
<td>87 x 83 x 69</td>
<td>510</td>
<td>60</td>
<td>150 kg</td>
<td>3 stainless steel / 50</td>
<td>28 W/h</td>
</tr>
<tr>
<td>SD-252</td>
<td>88 x 90 x 38</td>
<td>87 x 83 x 33</td>
<td>252</td>
<td>60</td>
<td>150 kg</td>
<td>3 stainless steel / 50</td>
<td>28 W/h</td>
</tr>
<tr>
<td>SD-151</td>
<td>50 x 63 x 58</td>
<td>49 x 56 x 53</td>
<td>145</td>
<td>29</td>
<td>150 kg</td>
<td>3 stainless steel / 50</td>
<td>21 W/h</td>
</tr>
</tbody>
</table>

**OPTIONS**

- **SMD Reel Rack**
  - Single: Art.No. 20014100
  - Double: Art.No. 20014001

- **SMD Reel Rack**
  - Art.No. 20014000

- **Shelves**
  - Art.No. 20014000
  - Additional shelves help to increase the usable space inside the dry cabinet.

- **Shelf Dividers**
  - Single: Art.No. 22613051
  - Double: Art.No. 22613050

- **Castors (4 pc)**
  - Art.No. 20017030

- **Adjustable legs (4 pc)**
  - SD-1106/SD-1104/SD-702: Art.No. 20010010
  - SD-502/SD-302/SD-252/SD-151: Art.No. 20010080

- **Trolley**
  - SD-302: Art.No. 20030215
  - SD-151: Art.No. 20015115

- **External alarm light**
  - Art.No. 20016030
  - The alarm light is activated when the internal humidity level exceeds a preset value.

- **Door Alarm**
  - Art.No. 20016010
  - The alarm light is activated in case of the door is opened longer than the preset time.

- **MSL-Jet stamp**
  - Art.No. 20014120
  - Mark your packages with SMD components with their moisture sensitivity level and their start and expiry dates.

**HEATER**

The warmed up ambient air accelerates drying of stored electronic devices. No threat of increased oxidation because the temperature is limited to 40°C. This procedure is conform to the IPC/JEDEC J-STD-033A standards, and even exceeds the results of all known drying processes so far world wide. Available for: SD/HSD-1106, SD/HSD-1104, SD-302.

**MEASUREMENT**

- **Dew point meter for calibration**
  - Art.No. 20000700
  - The sensor provides reliable and high performance dew-point measurements with temperature compensation on-line. The autocalibration procedure detects on-line possible measurement inaccuracies and automatically corrects dry-end drift in the calibration curve.
  - Relative humidity measured range 0 - 100% RH
  - Accuracy 0.2% at 1% RH +/- 0.3% RH

- **Dew point meter for purging**
  - Art.No. 22013000
  - Purge Flow 6 - 100 l/min
  - Purge Time 5 - 90 min
  - Purge Pressure 1 - 12 bar

- **Humidity & Temperature logger**
  - Art.No. 20000650
  - Measuring and logging of relative humidity and temperature by internal memory of as many as 16000 readings (8000 Data sets with date, time, humidity and temperature). Communication over infra red or RS232 connection.
  - Relative humidity measured range 0 - 100% RH
  - Accuracy 0.2% at 1% RH +/- 3% RH

**OVEN**

Designed for Totech dry cabinets the 90° oven is primarily made for occasional "baking" at temperatures from 40° to 90°C. It is placed inside the dry atmosphere of the cabinet. Therefore, when ever necessary, components which have been exposed to air too long and are needed in short term for processing, can be be humidified very quickly. This procedure goes conform to the drying regulations found in the IPC/JEDEC J-STD-033A standard.

**PURGE SYSTEMS**

The Auto-Flow-System has been designed as an accessory for the Drying Cabinet of Totech Europe. The apparatus serves the quick dehumidification of the cabinet atmosphere after opening the door. The drying follows with a rinsing sequence with dried air or nitrogen (N₂) which is automatically effected after closing the door. The simple Flow-System allows a permanent ... with nitrogen.