

1. Introduction

All SMD components with correct value and quantity should be ready for rapid pick and place.
 A PCB with freshly applied solder paste should be processed within one hour.

We present here a set of dispenser to include, transport and pick SMD components R01 to R10, C01 to C10, etc, for a series of about 6 prototypes. The dispenser consists of a round box with 10 compartments and a revolving window plate with frame, access hole and magnifying lens.

2. Handling of the dispenser

2.1. SMD component loading

The window is rotated to the correct position (e.g. R03, see Fig. 1), checked by the lens beside the access hole. The SMD components are shacked onto the comparatively large window surface and will remain inside the frame. By tweezers the SMD's are pushed through the access hole into the compartment below.

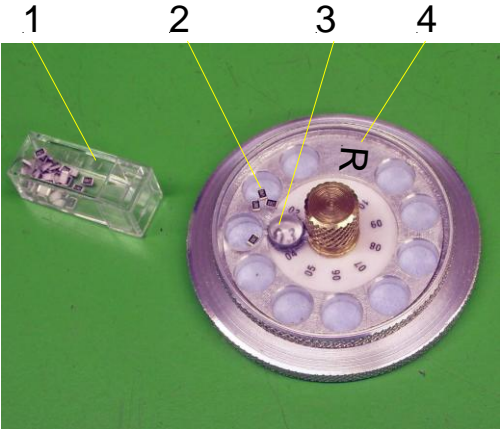
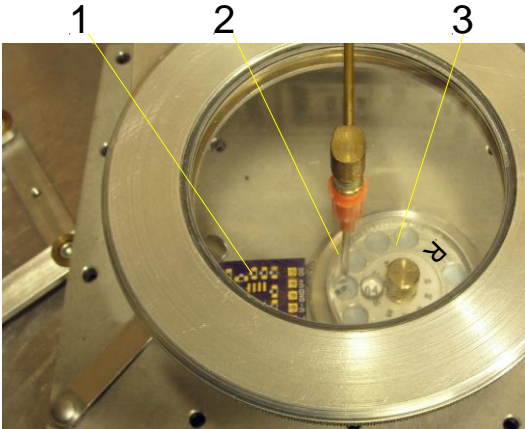
2.2. Transportation of the loaded dispenser

Revolving the window to the zero position will close all compartments. Turning the knob will lock the window. The SMD components are now well protected against dust and vapor.

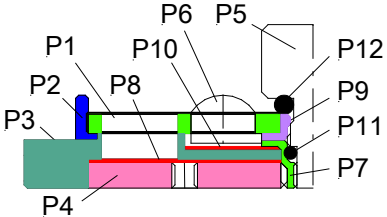
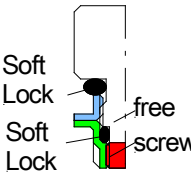
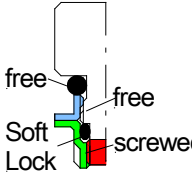
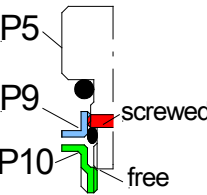
2.3. Pick and place

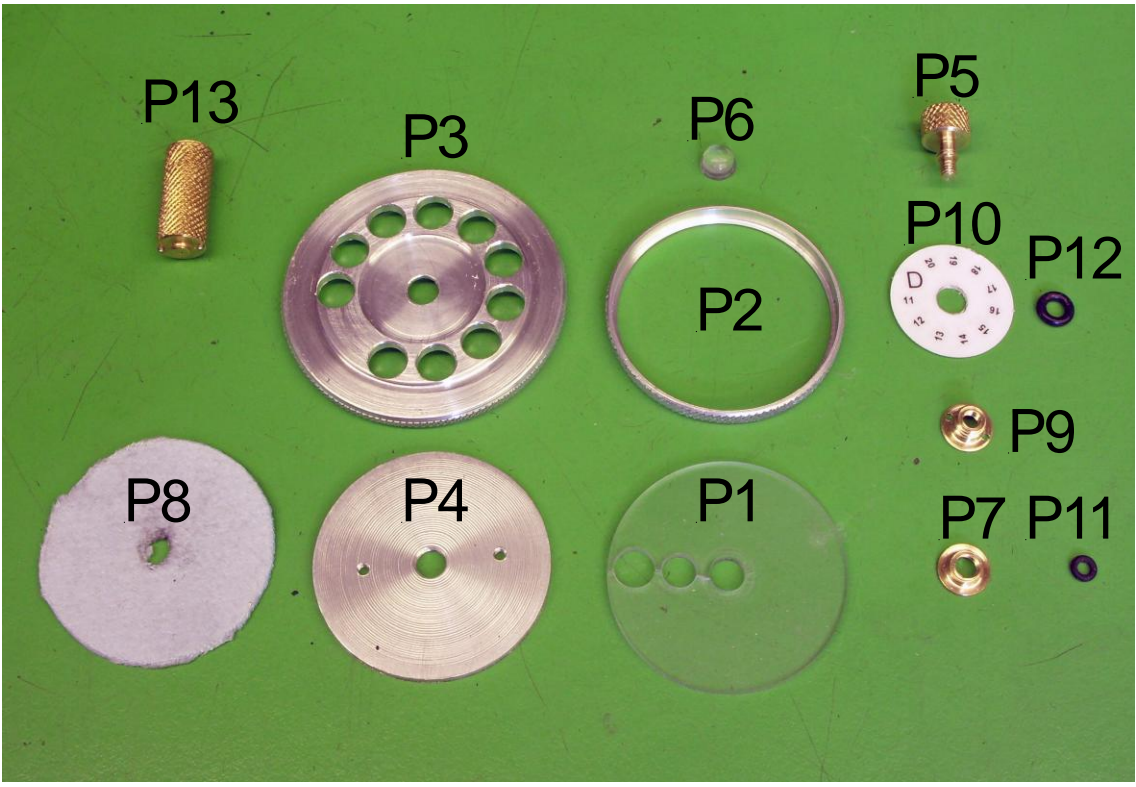
The printed numbers on a PCB are not in a succession, compared to the circuit schematic!

1. Turn the PCB on the mounting table so that you can read the component denominations upright (avoiding a mix up of R6 with R9!)
2. Start with the components at the upper left edge of the PCB, read the denominations (e.g. R3), get the R01-R10 dispenser and open the access hole R03, controlled by the near-by magnifying lens.
3. Pick the SMD component (e.g. R03) by a syringe needle with vacuum trough the open hole and place it on the PCB

	
<p>Fig. 1: Loading the dispenser with SMD resistor.s Shack the components 1 onto the large window 2 and push them into the hole beside lens 3! 4: Label for Resistors R: R01 - R10, R* R11 - R20</p>	<p>Fig.2: Pick and place Pick the SMD component from the dispenser 3 by vacuum with a syringe needle 2 and place it onto the PCB 1</p>

2. Overview and mechanical details

	<p>Fully Locked for transportation</p> 	<p>Window free for rotation</p> 	<p>Knob with Window removed</p> 
<p>Fig. 3: Dispenser side view. The micro fiber tissue P8 keeps the SMD components in the (open) compartment, even when the dispenser suffers a strike! Very practical!</p>	<p>Fig. 4: Locking mechanism. The window (with its access hole) can be rotated if the knob is not fully screwed-in. The knob is softly locked by the O-ring P11 against self-rotation The knob and the window remain together when the window is removed from the box</p>		

	<p>Fig. 5: Component parts of the dispenser P1: Acryl Window; P2: Window holder with frame; P3: Box; P4: Base Plate; P5: Knob; P6: Magnifying lens; P7: Bottom Bush; P8: Micro fiber tissue; P9: Top Bush; P10: Label disk; P11: O-Ring (Knob lock); P12: O-Ring (Window Lock); P13: Special screw driver for P9 mounting.</p>
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3. Drawing of the dispenser parts

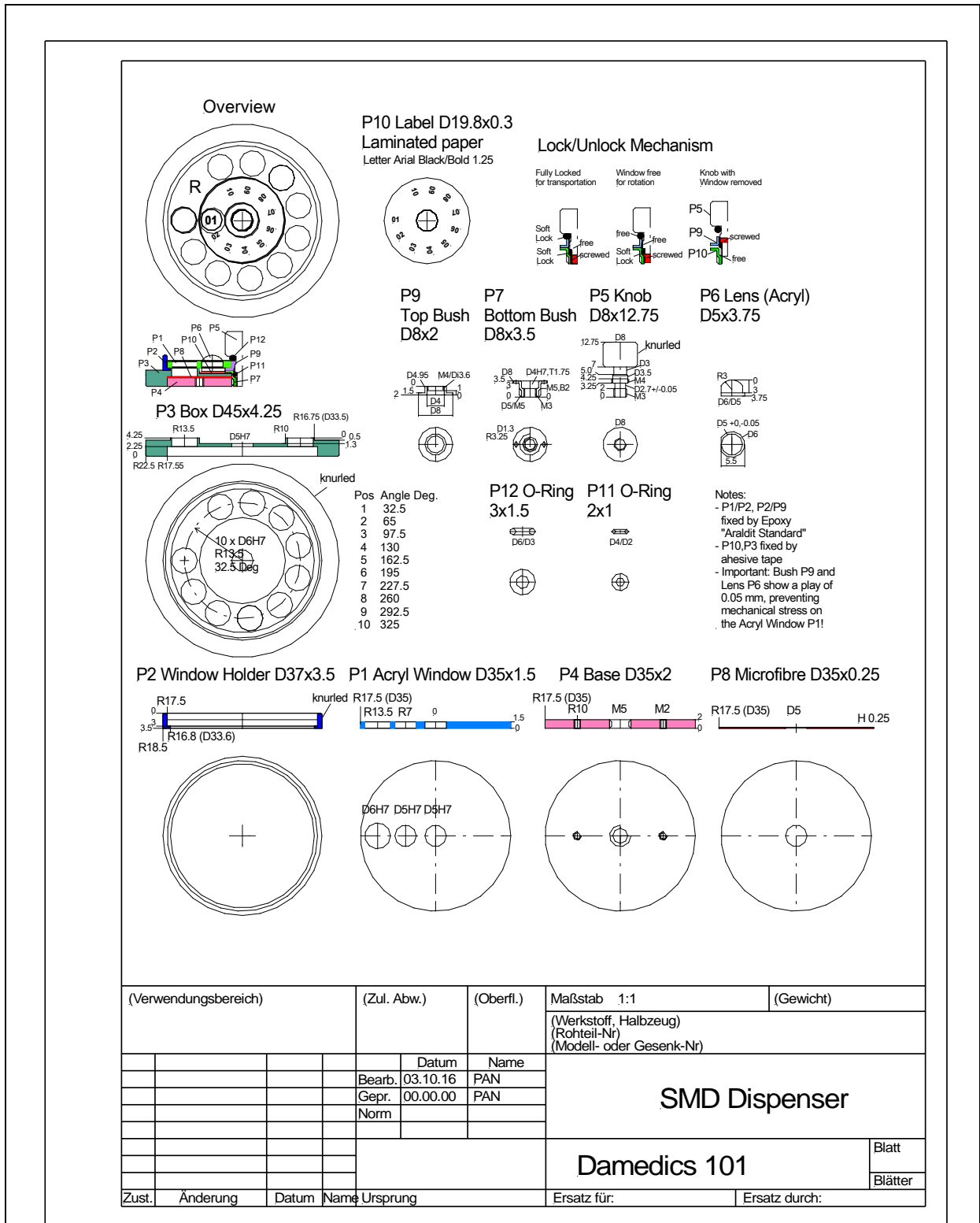


Fig. 6: Drawing of the dispenser parts

There are several exchangeable P10 labels for R01-10, R11-R20, C01-C10, etc