



**Vulkan AG**  
Elektrothermische  
Apparate  
[www.vulkanag.ch](http://www.vulkanag.ch)



## DR-1000 plastic welding tool

### Operating instructions

#### General

- The DR-1000 welding tool can be used on all the currently available thermoplastic plastics, e.g. PVC, PP, PE, PVDF, E-CTFE, FEP and PFA.
- Extremely easy to use for tireless operation. The tool alone weighs 380g, while the tool plus 5m air hose and cable weighs 1200g
- High temperature stability of +/-3°C with changing electrical voltage and air supply (+/-10%)
- Double layer protective insulation on heater
- No absolute risk of burns from unintentional contact with protective tube near the handle (extremely hot by the nozzle exit)
- Welding tool must be used in control.
- The DR-1000 welding tool must be placed on its stand if it is not used.

#### Normal use

Electronically-controlled DR-1000 hot air welding tool with stepless temperature control from +150° to +600°C.

The welding temperature will stay constant (+/- 3°C) once it has been set, regardless of changes in air pressure or air volume, or electrical power fluctuations.

Any such erratic fluctuations are smoothed out automatically by an electronic circuit built into the handle.

#### Using the tool

- Before using the tool, make sure that the compressed air supply is connected before the tool is connected to the mains electricity supply. If the tool is operated without compressed air, the safety switch will react after about 10s and will deactivate the tool.
- Electrical power supply: 230 VAC / 50Hz
- Air supply: minimum of 45 NI/min to maximum of 65NI/min
- Before the tool is connected to the mains electricity, please ensure that an air supply of approx. 60NI/min is available (from a central air supply system with an oil trap or a mobile membrane compressor)
- Please make sure that the hose to the tool is only connected to air supplies containing filtered air. This tool could be damaged by dirt deposits from unfiltered air, which would be detrimental to the quality of the plastic welding operation.
- When the tool is not in use, the nozzle exit must be pointed upwards so that the hot air can escape.
- Be careful when using the hot air tool near to flammable materials or explosive gases.
- After finishing work, disconnect the tool from the electricity supply first, and then allow it to cool down in the flowing air for about 1 minute.
- Do not leave the hot air tool unsupervised while it is in use.
  
- The connector cable must only be connected to a 230 volt AC power supply.
- The air supply must be connected to a pre-filtered air feed.
- Only ¼"G original nozzles may be connected to the nozzle thread.
- Do not leave the hot air tool unsupervised while it is switched on. We recommend that the tool should be placed on the tool stand provided for the purpose.
- Only use the tool in a dry environment.
- Do not inhale the resulting vapours (FEP with breathing protection)
- Follow the relevant safety instructions and safety provisions and make sure that there is enough fresh air when working in containers or closed spaces.
- NB: Do not carry out any work in EX-Zones without a written welding permit.

## Temperature levels

The microcontroller is programmed so that the nominal temperature is set to 250°C at potentiometer setting 1. The maximum nominal temperature setting is limited to 650°.

|                       |           |       |                   |       |
|-----------------------|-----------|-------|-------------------|-------|
| Potentiometer setting | Setting 0 | 150°C | Setting 5         | 420°C |
|                       | Setting 1 | 250°C | Setting 6         | 460°C |
|                       | Setting 2 | 300°C | Setting 7         | 500°C |
|                       | Setting 3 | 340°C | Setting end point | 600°C |
|                       | Setting 4 | 385°C |                   |       |

The DITZLER model DR-1000 electrical hot air welding tool does not need a naked flame to produce hot air (max. 600°C)

## Fault sources

The following faults can occur:

1. The tool is operated without compressed air => the safety sensor becomes warmer than the control sensor and the tool is deactivated.
2. The air pressure falls below 40NI/min => the safety sensor is insufficiently cooled and the tool is deactivated.

The tool will have to be disconnected from the mains electricity supply for 5s before can be used again. It will then operate once more. The risk of flammability is therefore very low. Nevertheless, the usual care must be taken when handling flammable materials.

3. If the power supply cord, leaded through the air tube, is corrupted it must be replaced by staff with relevant technical experience.

## Changing the cartridge

\*The heating cartridge must only be changed by staff with the relevant technical experience. The following Assembly Manual must be followed when changing a heating element:

### Changing the Circuit Board

\*The PC Board must only be changed by staff with the relevant technical experience. The following Assembly Manual must be followed when changing a Circuit Board:

***Assembly and Operating Instructions Temperature - Regulation – Printed Circuit Board***  
***Plastic Welding Equipment DR1000 and DR1900***

**\* The tool must not be connected to the mains electricity supply without a cover because the electronics system is not isolated from the mains.**