

SIMATIC S7-200 forms plastic Parts

Bicycle Helmets at the right Temperature

Flexibility and innovative technology are demanded particularly in low volume production runs. The SIMATIC S7-200 CPU 224 DC provides for a differentiated heating of the plastic panels in the vacuum forming machine "Mini" of the Berlin engineering office Peter A. Berg GmbH.

Plastic parts are not always mass-produced articles. For medical technology or modeling, it all depends on producing small quantities in many variations. The Peter A. Berg GmbH engineering office developed the vacuum forming machine "Mini" for this purpose, with which thermoplastic material in the form of films or panels up to a thickness of 6 mm can be formed. The "Mini" produces bicycle helmets, cover plates and even fittings for artificial hearts.



Infinitely variable

During the production, it has to be ensured that the workpiece is heated uniformly or - if required - at different temperatures for different zones.

The "Mini" provides the appropriate temperature using a total of 42 upper and lower quartz heaters. For controlling the 9 kilowatt heating capacity, the CPU 224 of the SIMATIC S7-200 series has recently been selected. With its quick pulse outputs, it can infinitely regulate the heat by controlling the relative on-time of the quartz heaters via the pulse duration modulation.

Convenient Heating

User-friendliness is provided by the Touch Panel TP 170A, with which the times for heating, initial blowing, vacuum and cooling - adapted to the current material - are set. The flexible tuning of the heating area via the Touch Panel is not a problem either: Individual heater groups and the relative heating power setting of the outer or inner fields can be conveniently input, bringing the material to its optimum temperature for vacuum forming. Another benefit is the significantly reduced machine setup time. The engineering office Berg is very satisfied with the fast and accurate control provided by the CPU 224. The Touch Panel and its user friendliness were also received very well, encouraging Berg to explore other applications. And junior partner Michael Berg is pleased that these beneficial enhancements can be passed on to his customers without added expense. ■