

# Smart heating die ovens



The “Smart Heat” range of die ovens from Marx has been specially constructed for the preheating of extrusion dies. They have three or more individually self-controlled furnace chambers, arranged adjacently. These are heated using the recirculation principle and guarantee a consistent temperature in each furnace chamber.

Retractable drawers allow for a good view and high level of safety when loading and unloading, which can be done outside the heated area. Compared to conventional toploader die ovens, the handling is therefore considerably more simple and user-friendly. Due to the special construction of the drawers, the furnace chambers also do not cool down too rapidly during opening. The operation is managed from a control desk with a touch panel and hardware buttons.



MARX Smart Heat die oven (36 kW).

All process-relevant plant parameters can therefore be seen and altered from the control desk. The die ovens are produced individually based upon client needs and can be adjusted

to suit particular die sizes. More information can be found at Hall 10, Stand E60 at ALUMINIUM 2016 in Düsseldorf soon. [www.smart-container.com](http://www.smart-container.com)

# Die heaters in overhead arrangement



With this method Extrutec provides full automatic heating of extrusion dies from room to desired extrusion temperature with minimal energy consumption while reaching tight temperature tolerances of  $\pm 5^{\circ}\text{C}$ . The cold dies are placed by the operator/ automatic die crane on a handover position. Upon request the dies are picked up by the integrated service shuttle and loaded in the next available pre-heated oven chamber and heated up to desired temperature according to the heat-up recipe chosen. The retrieval of the hot die is done in reverse order either after request of the operator or via signal exchange by the extrusion press to have the required die available in time for the next die change.

*The advantages of the overhead configuration are:*

- Space saving system. Charging and discharging in full automatic mode via onboard service shuttle
- Highly efficient and energy saving solution because of overhead arrangement. The heat stays inside the heating chambers during charging and discharging
- Convective die heating with electrical damper registers arranged symmetrically around the recirculation fan (no radiation is used so no overheating of dies is possible)
- Fast heat input resulting in short heat up cycles



Die heating system installed at Aluminium Laufen in Switzerland.

- Homogenous heat distribution (cross flow) and gentle electrical heating of the dies and therefore tight temperature tolerances and long life cycle of the dies
- Onboard electrical cabinet with operator's panel integrated
- High temperature accuracy
- Highly efficient chamber insulation
- Reliable long living and nearly maintenance free design

Customers can also opt for a protective atmosphere, an optional version with 2 dies and 2 doors per heating chamber, additional onboard storage capacity for various dies, and having a connection to an automatic die crane system, connecting the die heater with the extrusion press as well as with the die stock system.

[www.extrutec-gmbh.de](http://www.extrutec-gmbh.de)