

SECO/WARWICK

INVENTION MEETS RELIABILITY



VIM PROFILERS

Toolkit for creating and editing foundry profiles

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TOOLKIT FOR CREATING AND EDITING FOUNDRY PROFILES

This software kit is used for creating and editing motion and power profiles for automating processes on VIM (Vacuum Induction Melting) type furnaces. VIM Profilers is a set of tools for creating new and editing previously recorded profiles (e.g. casting). The tools help to customize the profile so that it can be used for semi-automatic repetitive processes, reducing the operator's workload, and eliminating the risk of potential human errors.



THE VIM PROFILERS SET INCLUDES:

- / Pour profiler - program for creating profiles for casting material from a crucible [$^{\circ}/s$],
- / Crucible translation profiler - program for creating crucible translation profiles [mm/s],
- / Withdrawal profiler - program for creating elevator descent profiles [mm/min],
- / Melt profiler - program for creating melting power profiles [kW/min],
- / Mold heating profiler - program for creating mold heating profiles [$^{\circ}C/min$].

/ Depending on the furnace equipment components, selected profilers are available.

/ VIM EQ (Equiax) furnaces are equipped with the Melt and Pour profilers in order to implement the power profile for melting and casting from the crucible. To adapt the machine for casting larger amounts of material, it is additionally equipped with a crucible translation drive in the horizontal axis, which requires the additional use of the Crucible translation profiler, which operates in tandem with the Pour profiler, providing the ability to control the rotation and translation of the crucible at the same time.

/ In the case of VIM DS/CS (Directional Solidification

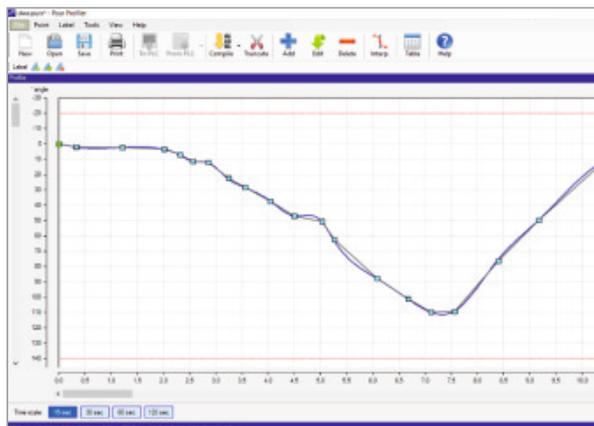
/ Single Cristal) furnaces, in addition to the profiles mentioned above, a Mold heating profiler is used, allowing the user to make adjustments to the heating ramp and the temperature of the mold heater. A highly important profiler for furnaces of this type is the Withdrawal profiler, which controls the exit of the mold from the heater with a selected profile.



EACH OF THE PROGRAMS INCLUDED IN VIM PROFILERS PROVIDES:

- / Ability to create new profiles,
- / Downloading of a recorded profile from the PLC,
- / Saving the profile to a file,
- / Profile editing, import/export to CSV,
- / Integration and operation from the SCADA environment,
- / Manual upload of the profile to a PLC unit.

IMPORTANT: Profiles can be assigned to furnace recipes, so that the operator, by selecting the appropriate recipe, initiates the upload of the assigned profiles to the unit that controls the furnace. This way the operator does not need to select profiles individually each time.



ZYSKUJESZ:

- / powtarzalność procesów,
- / możliwość zrobienia korekcy ruchu poza procesem,
- / wyeliminowanie błędu operatora przy np. odlewaniu stopionego materiału.

SECO/WARWICK is a technological leader in innovative heat treatment furnaces. Expertise includes end-to-end solutions in 5 categories: vacuum heat treatment, atmosphere and aluminum thermal processing, controlled atmosphere brazing of aluminum heat exchangers and vacuum metallurgy.

SECO/WARWICK Group has 9 companies located on three continents with customers in nearly 70 countries. The company provides standard or customized state-of-the-art heat processing equipment and technologies to leading companies in the following industries: automotive, aerospace, electronics, tooling, medical, recycling, energy including nuclear, wind, oil, gas, and solar and production of steel, titanium, and aluminum.