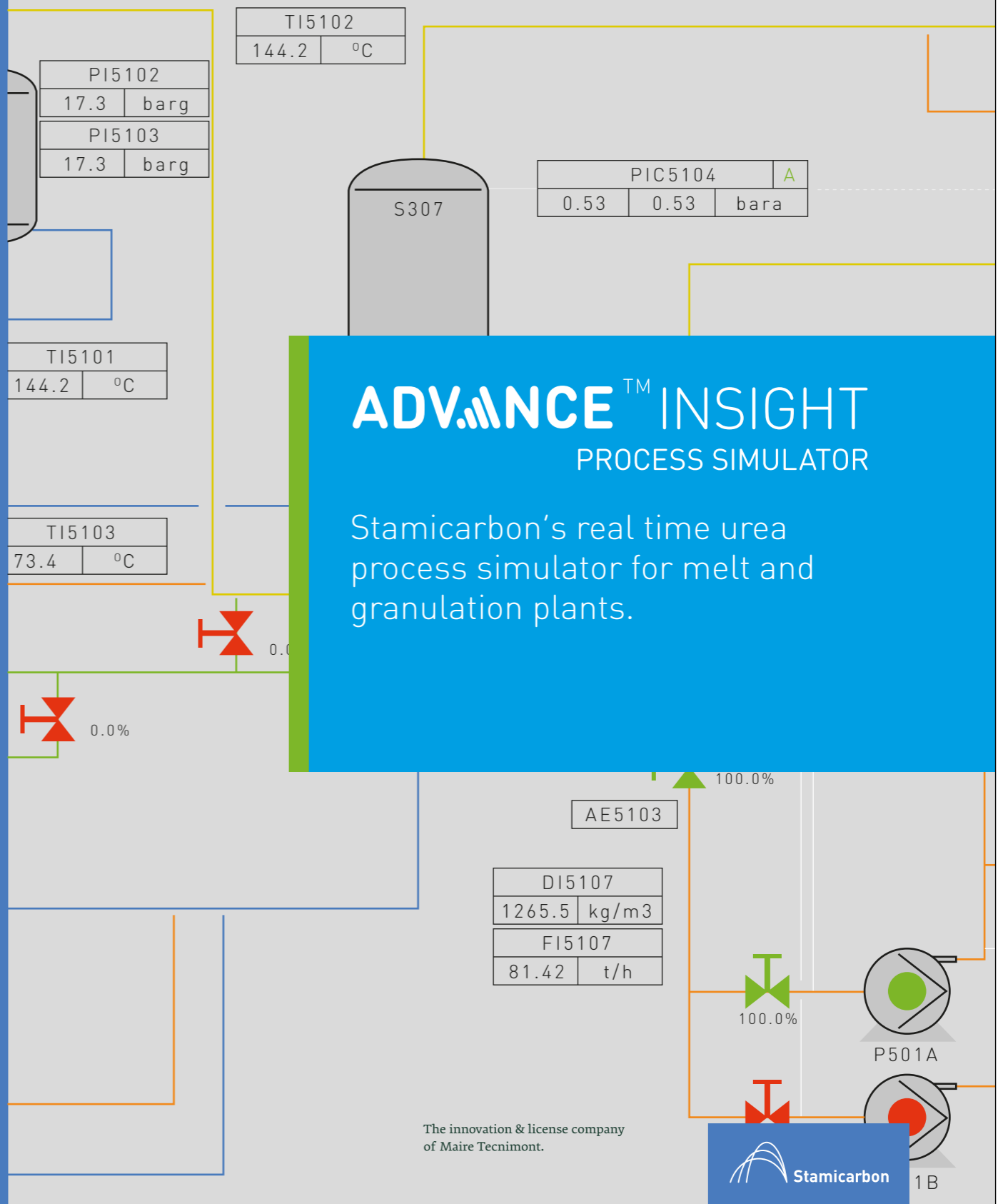


STAMI UREA



# ADVANCE™ INSIGHT

PROCESS SIMULATOR

Stamicarbon's real time urea process simulator for melt and granulation plants.

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The innovation & license company  
 of Maire Tecnimont.



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# ADVANCE™ INSIGHT

## PROCESS SIMULATOR

### The challenge

Changes in market demand, personnel, regulations, energy prices and technology all affect business and plant operation.

Along with the changes come risks and opportunities. Without adaptation to changes, risks are not properly controlled and opportunities are lost. For people to adapt to change they need to learn how to operate in new environments.

Ongoing plant automation and related high on-stream factors, for instance, leave little room for process operators to develop the necessary skills to handle abnormal situations or perform infrequent tasks by on-the-job training.

### Our solution

Stamicarbon offers a real-time dynamic process simulator for urea melt and granulation plants. The process simulator provides the user with a process simulation that behaves like a real plant with the look and feel of a real DCS system with unlimited opportunities for experimenting and learning.

### Stamicarbon's Urea Simulator:

The process simulator makes it possible for the user to experience several operating modes of a urea plant, such as:

- Normal operation
- Cold start-up
- Recovery mode
- Blocking-in and restarting
- Blocking-in and draining
- Switching pumps
- Recovering from pre-defined upset scenarios

Stamicarbon's high-fidelity simulator behaves like a real plant in a wide operating window, due to the use of Stamicarbon's unique thermodynamic and kinetic models.

It creates the possibility to simulate realistic operating scenarios and upset conditions, to teach operators how to optimize plant performance.

### The simulator is equipped with all relevant items e.g.:

- Control valves
- Interlocking system
- Clearly marked [field] manual valves
- Sample points
- Trending system

The process simulator can be configured to exactly represent your urea plant for process equipment, control and the interlocking system, with a corresponding DCS look and feel.

### Advantages of having a process simulator

- Training personnel (operators, engineers and management) in the urea process and its dynamic behaviour
- Training operating personnel (learning by doing with direct feedback) in standard operating procedures e.g.:
  - Normal operation
  - Start-up
  - Blocking-in and restarting
  - Draining
- Preparing operating personnel in dealing with upset conditions
- Training staff in running the plant at maximum capacity whilst dealing with boundary conditions e.g.:
  - Minimize specific steam consumption
  - Minimize ammonia losses
- Testing new/modified operating procedures before implementation as well as control and interlocking functions
- Staff evaluation

Increased know-how gained from using the process simulator will lead to safer and more efficient plant operation.

### Urea Simulator Training

Stamicarbon also provides Urea Simulator Training for urea melt plant operators, engineers and production managers. This training teaches attendees how to deal with standard operating procedures, and how to handle upset conditions. But most importantly this training allows attendees to gain experience in controlling the urea process and understanding its dynamic behavior.

### On-site training

Stamicarbon's urea melt and granulation simulator urea training is also available as tailor-made, on-site training.

**For more information about our urea simulator training courses please contact John Oostveen at [training@stamicarbon.com](mailto:training@stamicarbon.com)**

