

# Presentation of Simodry™

*Process Intelligent Software for energy saving and process optimisation in the concentration and drying industry*

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# Presentation of Simodry™

*Process Intelligent Software for energy saving and process optimisation in the concentration and drying industry*



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## Possibilities with Simodry™

- Energy savings
- Operator training
- Product quality
- Production stability

# Energy savings

- Typically, 10-15 % of industry's heat consumption is used in drying operations
- Energy use in Denmark for manufacturing of milk powders only: 600-650 GWh/year
- An average-size plant uses heat for DKK 4M / yr

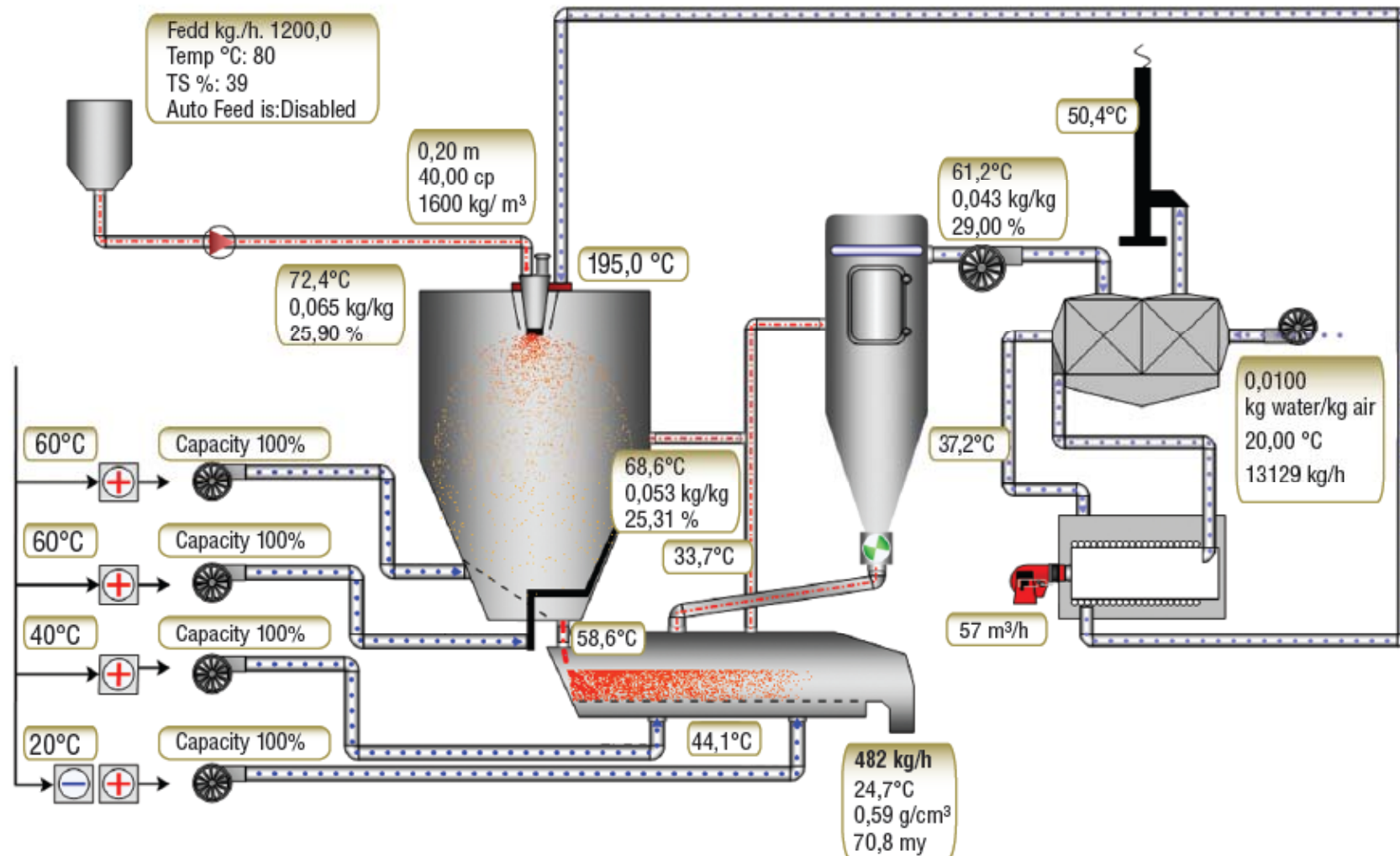


# Energy savings

- Investments in energy-conservation equipment
  - capital demanding
- Plant tuning, operator skill
  - difficult due to plant complexity

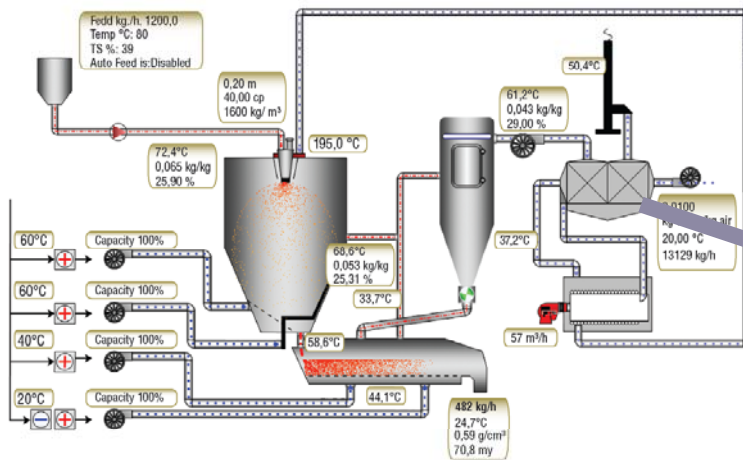
# Energy savings

- Investments in energy-conservation equipment
  - capital demanding
- Plant tuning, operator skill
  - difficult due to plant complexity
  - Make energy visible!



# Simodry™

*Design of plant specific calculation model*



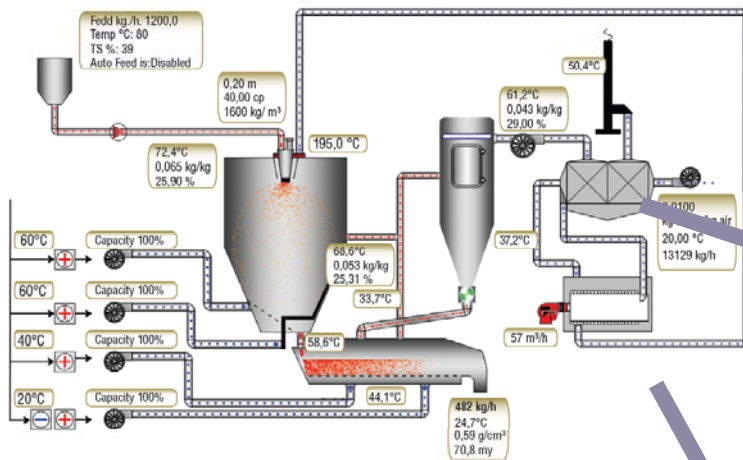
*Simulator will calculate energy expenditure for a given set of operating parameters*

*→ Learning by doing*



# Simodry™

*Design of plant specific calculation model*



*Simulator will calculate energy expenditure for a given set of operating parameters*

*→ Learning by doing*

*Data logger will compare actual and theoretically reachable energy expenditure*

*→ Monitoring development over time*

# Examples of energy savings in drying

- Air temperature optimization  
50-250 000 kWh/yr.
- Feedstock optimization  
100 000 – 700 000 kWh/yr.
- Minimization of idling  
25 000-200 000 kWh/yr.
- Heat recuperator  
500 000 – 2 500 000 kWh/yr.
- Weather compensation  
50 000 – 350 000 kWh/yr.

# Product quality

## Prediction of

- Bulk density
- Protein denaturation
- Product water content
- Particle size



# Production stability

Reduction of plant deposits



# Thank you for listening !

Simoval aps.

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