Key construction features of new endothermic generators

- Automatic adjustment of the gas flow within the 0 - 100% range of maximum capacity can significantly reduce the generator operating costs in comparison with the traditional system as shown in the diagram below:

- No need for excess atmosphere burn off
- Fully automatic dew point control
- Weekend mode allows for energy savings during off hours
- Cooling system utilizes an air or water heat exchanger
- Easy service & maintenance
- Remote service connection as well as notification about events and alarm status via GSM network
- All executive and measurement data is automatically calculated and displayed on the HMI screen
- New insulation materials effectively conserve energy and improve operation
Cost justification for new endothermic generator design

Have you ever thought about the savings that may be generated by switching to an automatically adjustable endothermic generator? Have a look at the G-42EA generator case study below which demonstrates the real savings that can be achieved with an automated system.

Technical task:

- Compare the gas demand in two G-42E generators, one with the automatic adjustment feature (green line), and the second one working with nominal capacity (blue line)
- Both generators worked in a 16-day cycle
- Measure the consumption of natural gas to produce endothermic atmosphere within a 16-day period

![Graph showing gas demand comparison]

<table>
<thead>
<tr>
<th>Generator capacity [Nm³/h]</th>
<th>Technological gas demand [Nm³/h]</th>
<th>Operation time [days]</th>
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<tbody>
<tr>
<td>G-42E</td>
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<td>G-42EA</td>
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</tbody>
</table>

G-42E – no variable capacity → 3 085 m³ of natural gas
G-42EA – variable capacity → 2 084 m³ of natural gas

Test Results:

During the test, the generator with variable regulation saved 1 001 m³ of natural gas. Assuming similar conditions for a time period of 12 months, the potential savings may reach up to...

\[
2 002 \text{ m}^3 \times 12 \text{ months} = 24 024 \text{ m}^3 \text{ of natural gas}
\]

\[
24 024 \text{ m}^3 \times 0.44 \text{ €/m}^3 = 18 490 \text{ EUR of savings per year}
\]