WiC

COMBUSTION OPTIMISATION
FOR WASTE OR BIOMASS TO ENERGY PLANTS

TECHNIKGRUPPE invites you to our exhibition stand and presentation on the **EUROPEAN CONFERENCE Biomass PowerON in Stockholm, 8-9 Oct 2025**

7th EUROPEAN CONFERENCE
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Stockholm, Sweden

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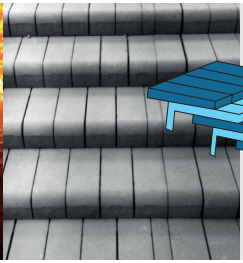
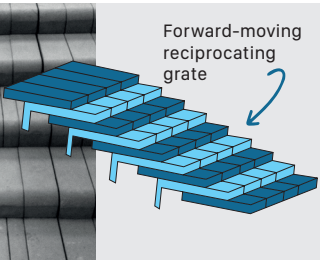
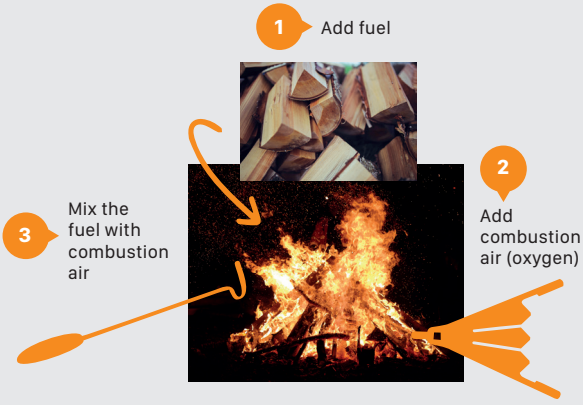




TG is an Austrian engineering company with highly trained employees having international experience and a global reach. Our combustion optimisation system, WiC, is based on a unique technology for implementation on forward-moving reciprocating grates in waste or bio mass-to-energy plants.

The combustion process on forward-moving reciprocating grates is a complex process. However, there are three main actions which have influence on the combustion process:

- Adding fuel into the combustion chamber
- Adding combustion air (oxygen)
- Mixing the fuel with combustion air

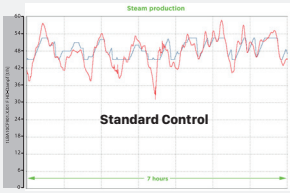


Our unique payment system „NO CURE NO PAY" enables the implementation of combustion optimisations without upfront investment and without risk.

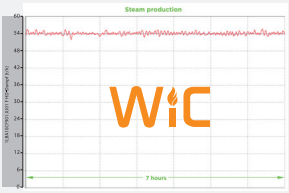
In the area of combustion optimisation, a key task is to stabilise of steam production with the potential to increase it. At the same time, other critical parameters should be stabilised.

The following graphs illustrate real improvements that have a tangible impact on profitability, reliability and availability.

Stabilisation and enhancement of steam production

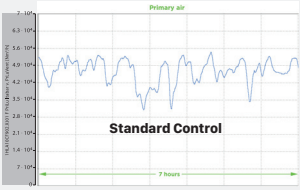


Steam production controlled by Standard Control

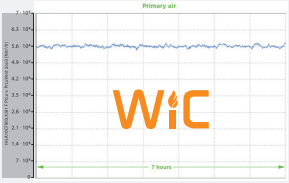


Steam production controlled by WiC

Stabilisation of combustion air flow

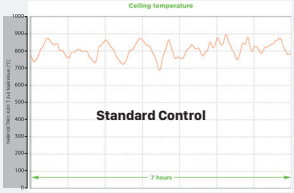


Primary air controlled by Standard Control

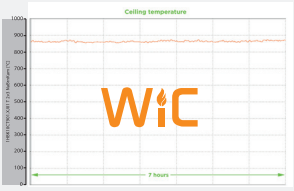


Primary air flow controlled by WiC

Stabilisation of flue gas temperature (ceiling temperature)



Ceiling temperature with Standard Control



Ceiling temperature with WiC

What measures can be taken to influence the combustion process?

The combustion process is controlled by 20 to 30 actuators.



To achieve optimum combustion conditions, it is necessary to fine-tune the actuators at regular intervals. However, given the large number of possible combinations of actuators, this process is highly complex. For example, if we consider a system with 20 actuators, each with 10 positions, the number of possible combinations is staggering.

1 actuator provides 10 combinations
(0-1-2-3-4-5-6-7-8-9)

2 actuators provide 100 combinations
(00-01-02-03- ……..96-97-98-99)

3 actuators provide 1000 combinations
(000-001-002-003……..997-998-999)

20 actuators provide 100 000 000 000 000 000 000 combinations

It is obvious that calculating suitable combinations for the fine adjustment of the actuators is a VERY COMPLEX TASK!

What is the most effective method to determine the appropriate combination for fine adjustment?

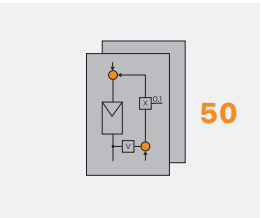
Process data from combustion system

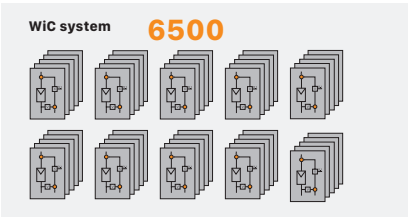
Fingerprint of current combustion status

The current combustion state is reflected by existing measurements of the combustion processes (process data).

These are the vital statistics that indicate the state of combustion. Using the „fingerprint" method, the WiC processors will calculate the appropriate combinations to fine-tune the actuators.

WiC vs traditional controllers



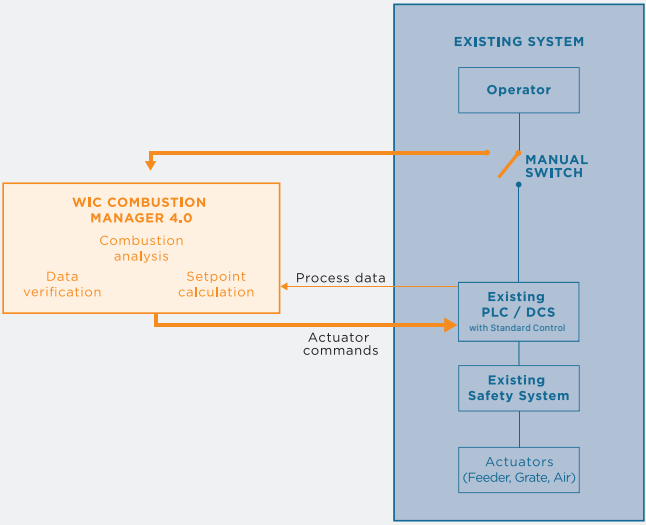


Traditional controllers generally comprise around 50 functional diagrams: **WiC comprises 6500**

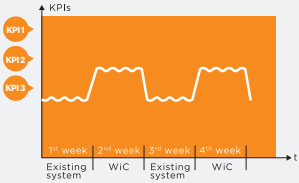
WiC is capable of processing approximately 100 input signals and 20-30 outputs simultaneously.

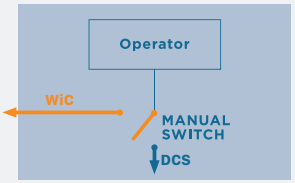
A classic controller is designed for the following configuration: 1 signal input - 1 output.

How do you prove the quality of WiC?

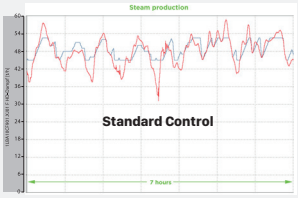


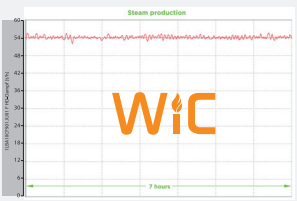
WiC does not replace the existing combustion control systems. WiC is a bypass system that simply reads measured values from existing transmitters and sends setpoints back to the DCS.





If the operator wishes to manually switch back to the "old" system, this can be done at any time. This function makes it possible to compare systems with each other (WiC with DCS) and to test them temporarily.



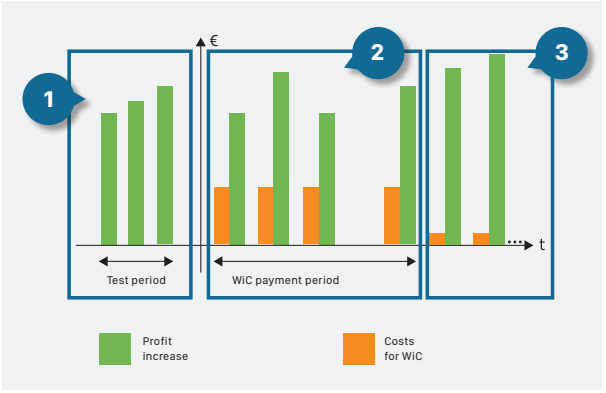


No cure no pay –
Get started with no upfront investment

After TG´s feasibility study, TG can assess the potential and benefits offered by WiC for your particular plant. If the outcome of the feasibility study is positive, TG can offer installation, commissioning and training free of charge.

- **no upfront investment**
- **test installation, commissioning and training free of charge**
- **no technical risk, no commercial risk for the customer**

WiC generates additional profits from the beginning of installation



1. during the test period, WiC already generates additional profit for the customer

2. during the payment period, the monthly fee is less than additional profit (contract can be cancelled at any time)

3. after the payment period, a service contract can be (optionally) agreed

Other payment models available

SEE YOU IN STOCKHOLM

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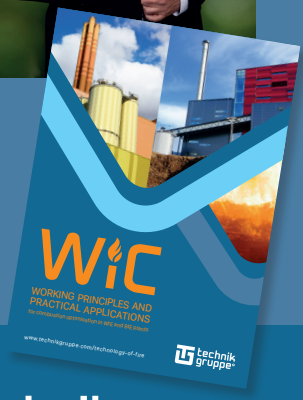
Download our new 24-page brochure



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