Revolution adaptive – fully automated combustion control

Changing fuels - constant heat production

The new Revolution adaptive control recognizes the fuel quality used. This is achieved on the basis of the fuel water content, the heat output generated, the combustion temperature and the current grate fuel load.

By using the Revolution adaptive control, a permanently low residual oxygen content in the flue gas is maintained and the target output is always achieved, even when changing fuel quality. The flue gas recirculation and air distribution are automatically adjusted and the firebed is kept constant. This has a positive effect on efficiency, fuel consumption, emissions and wear.

Advantages at a glance

Less effort for operators

- Automatic adjustment of the nominal output independent of fuel quality
- No manual intervention to adjust grate movement, air distribution and flue gas recirculation

Optimized combustion process

- Constantly low residual oxygen values result in approx. 2.5 % efficiency and reduced fuel consumption
- Reduced flue gas volume at the chimney
- Better part load behaviour due to higher combustion temperature
- Optimum combustion conditions and undisturbed fuel bed resulting in low emissions

Smooth / low-wear system operation

- Optimized flue gas recirculation
- Combustion air supply perfectly adapted to fuel quality
- Ideal grate fuel load and grate feed

Get advice now and conserve resources to the maximum.

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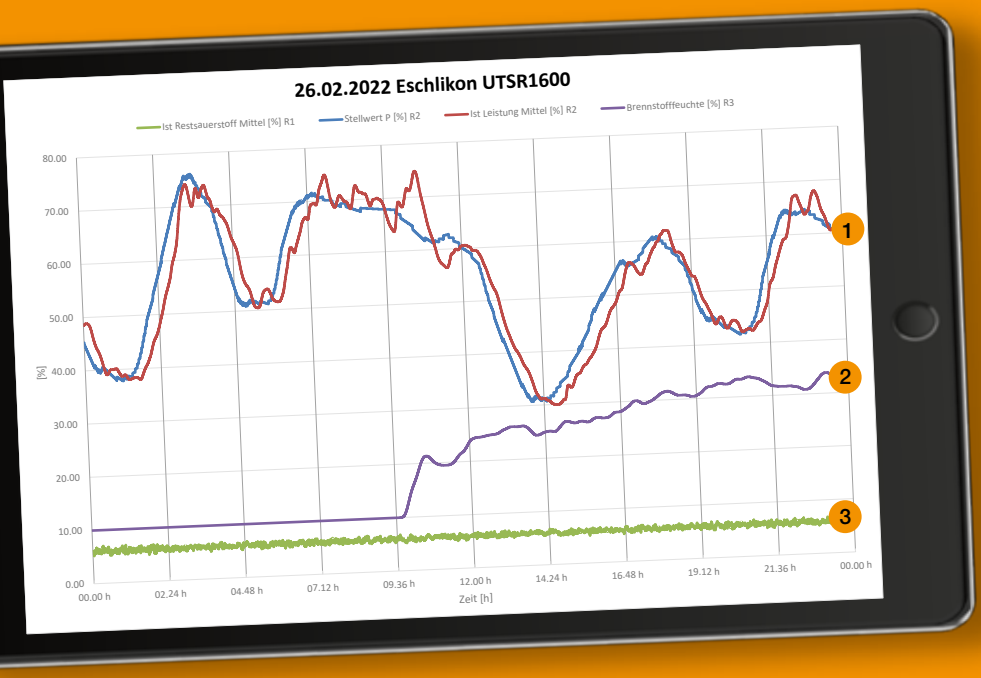
Fuel change evaluations at Eschlikon district heating results – UTSR-1600.42 moving grate biomass boiler



Values reflect fuel change from dry waste wood M 10 to moist forest residue wood M 35.

The Revolution adaptive control system compensates for the change in fuel quality during operation without manual intervention.

1. The desired target output is always achieved and the output is automatically adjusted.
2. Fluctuations in fuel moisture content due to fuel change from waste wood M 10 to forest residue approx. M 35
3. Residual oxygen is regulated to 6 % and maintained

Retrofitting with Revolution adaptive

The Revolution adaptive combustion control is available for the UTSR hot water boilers with an output of 700 kW or more. It is used in combination with the system control of the latest version "PersonalTouch visio".

Required equipment

- "Personal Touch Revolution adaptive" control upgrade
- Measurement system for determining the current fuel water content
- Detection system for grate fuel load (firebed height and length) by means of light barriers
- Heat meter for power measurement
- Firebox camera
- Remote access via the Schmid portal

Example calculation of annual fuel savings through increased efficiency:

For a boiler with 4 200 kW nominal output and 5 000 h full operating hours per year, approx. 205 t / 680 m³ fuel (M 45) are saved. With a fuel price of / € 0.04 per kWh, this results in an annual saving of over CHF / € 21 000.

Additional benefits:

- Reduced ash output and ash disposal cost
- Reduced electricity consumption
- Reduced maintenance cost
- Reduced operating cost

We're here for you.

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