



RENEWABLE ENERGY SOLUTIONS
FOR THE NEXT GENERATIONS



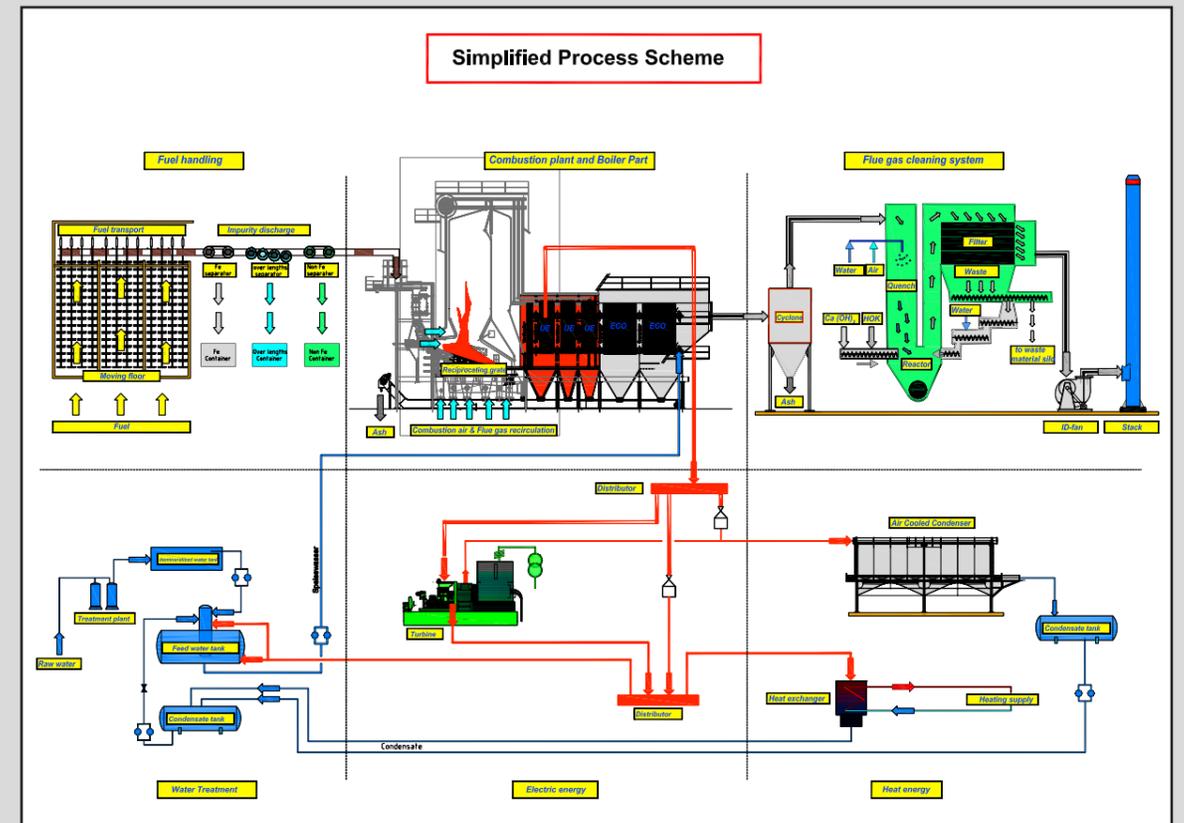
„WASTE
to *Energy*“



■ **RDF boiler solutions**

■ **Grate systems for
waste fuels**





Energy from Waste/RDF

“For a Clean World for next Generations“

Kablitz - the system provider even for “difficult” fuels such as waste, RDF, fluff, etc.

At the present time, owing to the worldwide population growth, more and more waste is accrued.

While a big part of the waste can be recycled, there are still large quantities of materials that no longer accumulate usable residues.

These waste fractions referred to as RDF, SRF or fluff, may for example no longer be dumped in Europe and therefore prove to be good, regionally available fuel with short transport routes.

With its know-how, Kablitz is in position to supply the systems that can generate environment-friendly electric and thermal energy with these fuels.

Energy for All Requirements

Each plant is tailored to customers’ specific requirements.

Our long-standing experience as a general contractor enables us to have the right concept for every application:

Steam turbine power stations for the generation of electricity, process steam and heat in the 1 to 25 MWeI power output range.

RDF-power stations for the generation of electricity, process steam and heat in the 1 to 25 MWeI power output range.

ORC power stations for the generation of electricity and heat in the 1 to 4.2 MWeI power output range.

Heating plants for the generation of process steam and heat upwards of 5 MWth net power output.





Type 415 – Sloping grate with air cooling

The universal grate system for “multiplicity fuels“. Insensitive to foreign matter and provides cost-efficient operation and maintenance.

Ideal for „multiplicity fuels“:

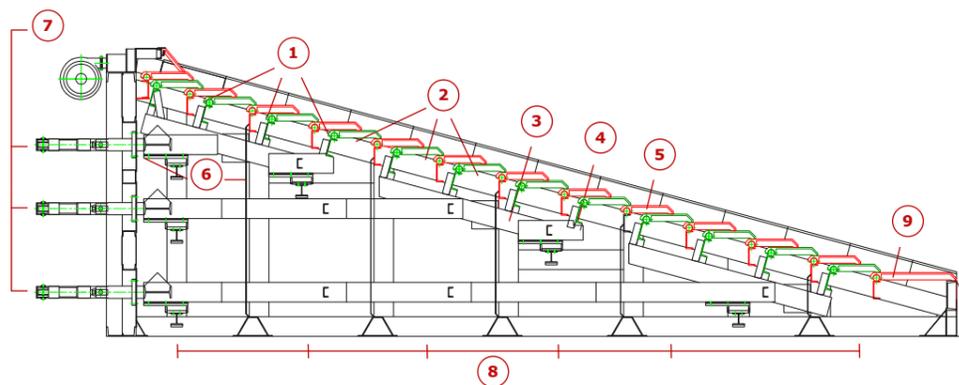
- ✓ Wood chips
- ✓ Bark
- ✓ Waste wood (MDF, OSB, chipboards)
- ✓ Used wood (A I - A IV)
- ✓ Rice husks
- ✓ Olive pits
- ✓ Lignite
- ✓ Milled peat, Block peat
- ✓ Fluff, RDF, Waste (sorted waste)
- ✓ Substitute fuel (EBS, PEF)
- ✓ Brown coal
- ✓ Wood pellets

The Type 415 reciprocating grate is designed like a staircase with fixed and moving grate bar rows. All the grate bars in a row are closely spaced and interlocked, which results in a closed feed motion for the entire grate row. This interlocking holds the grate bars together so that the air slots in between are uniform in size. This is the only way to ensure even distribution of combustion air over the entire grate surface and thus optimum burn-out.

The lateral thermal expansion of the grate layer is accommodated by the movable side plates, which means that the individual grate rows cannot jam.

The grate bars are cooled by air only.

By not using a liquid cooling medium, major savings in terms of investment costs are possible and leaks and damage to a recirculating water cooling system are eliminated.



- 1 Row of moving grate bars
- 2 Row of fixed grate bars
- 3 Moving frame
- 4 Fixed frame
- 5 Grate bar seal
- 6 Grate carriage bearing
- 7 Hydraulic drive cylinders
- 8 Primary air zones
- 9 Dumping grate bar

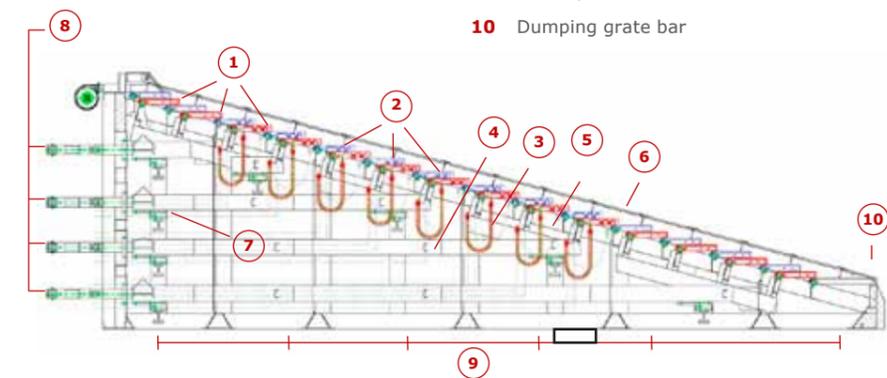
Typ 715 – Inclined grate with water cooling

The Kahlitz allround-grate system for high-caloric fuels:

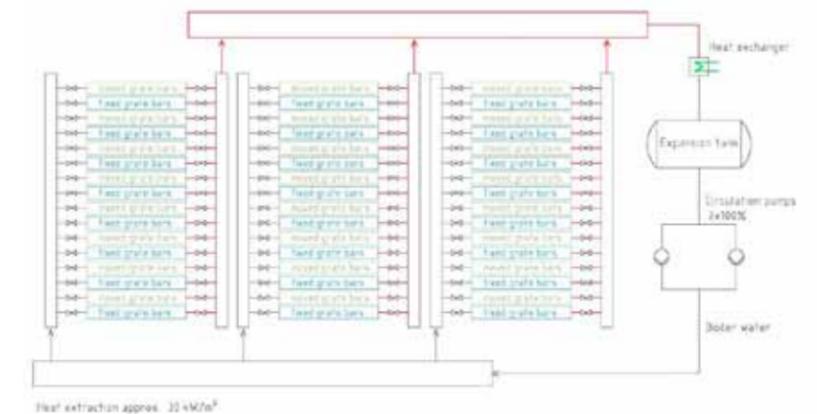
The moving as well as the fixed grate bars are water-cooled. Depending on the heat exchange principle, the customer can select the flow and return water temperatures between 50 and 150 °C. The reciprocating grate Type 715 is built out of fixed and moving grate bar like a staircase. All the grate bars lie close to each other and are interlocked with each other, so that the entire line up can unanimously execute the feed motion. Through the interlock, the grate bars are held together, so that the air gap in between can remain the same. Only so, an even distribution of combustion air via the entire grate surface, with a full burn-out is accessible.

The lateral thermal expansion of grate surface is affiliated via the movable lateral plate, which eliminates the jamming of individual grate lines. The grate bars are cooled via water cooling. The grate system is designed in a way that the water-cooled and air-cooled grate bars are compatible and can be replaced at any time without conversion of the grate frame.

The grate can be partly water-cooled and air-cooled and be built depending on the requirements of the fuels in the future (see illustration).



- 1 Row of moving grate bars
- 2 Row of fixed grate bars
- 3 Water-cooled tubes
- 4 Moving frame
- 5 Fixed frame
- 6 Grate bar seal
- 7 Grate carriage bearing
- 8 Hydraulic drive cylinders
- 9 Primary air zones
- 10 Dumping grate bar



Ideal for „multiplicity fuels“:

- ✓ Wood chips
- ✓ Bark
- ✓ Waste wood (MDF, OSB, chipboards)
- ✓ Used wood (A I - A IV)
- ✓ Rice husks
- ✓ Olive pits
- ✓ Lignite
- ✓ Milled peat, Block peat
- ✓ Fluff, RDF, Waste (sorted waste)
- ✓ Substitute fuel (EBS, PEF)
- ✓ Brown coal
- ✓ Wood pellets



■ Examples for different sorts of waste



Waste to Energy

for a *Clean World for the next Generation*

Our decades of experience in the construction of plants and power stations gives us the in-depth expertise to find a tailor-made solution to suit your requirements, and one from which you will reap long-term benefit.

Whether it be demolition wood, industrial rejects (paper industry, sludges etc.), agricultural wastes (chicken litter, cow manure, plant remains) or sorted domestic waste, Kablitz is a developer of individual solutions for any kind of energy problems.

All around the globe the name Kablitz is well known for environmentally friendly energy production from biomass and waste. Kablitz plants are specialized for multi-fuel combustion and optimized for low emission values (WID compliant), reliability and a good maintainability.

By continually developing and testing new technologies, we offer our customers ground-breaking plant concepts that ensure efficient and reliable operation. In so doing, we act as an experienced partner, continually providing our customers with assistance in all project-related matters.

Environmentally Friendly Energy Generation from Waste

Are you **looking for intelligent technologies** for generating energy from solid fuels?

Do you have questions about thermal utilisation of wood waste and combined heat and power generation?

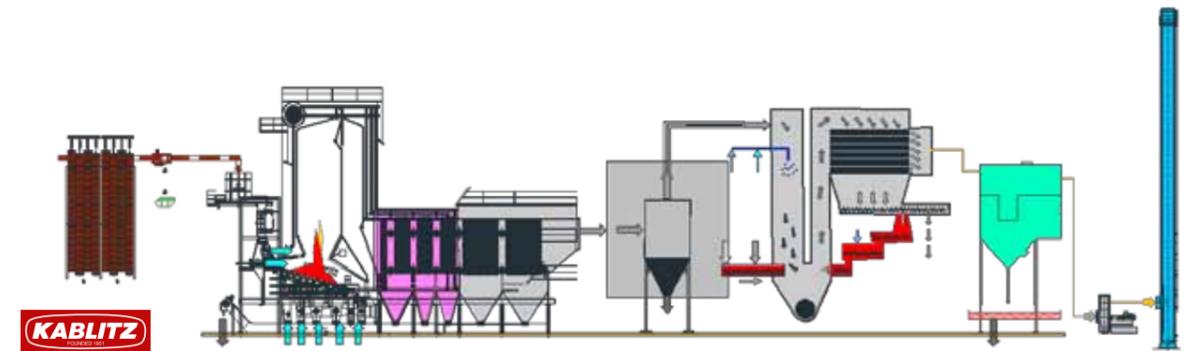
If so, we are the right partner for you: since 1901 efficient and environmentally friendly energy production from biomass and other solid fuels has been our enduring strength.

 sales@kablitz.de

KABLITZ manufactures and supplies

General contractor for:

- Complete Waste to Energy power stations
- Complete solid fuel plants
- Complete boiler systems
 - steam boilers
 - thermal oil boilers
 - smoke tube boilers
- Services
- Overthrust and reciprocating grates
- Cast-iron gilled heat exchangers
- Glass tube heat exchangers
- Customized casting from our own foundry



■ Air-cooled Grate bar produced in-house



■ Water-cooled Grate bar produced in-house



***More than 6,500 Kablitz plants exist throughout the world:
in Europe, Asia, South and North America as well as Australia
and New Zealand.***



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Richard Kablitz GmbH
Plant/Power station construction for Biomass and Waste

Bahnhofstraße 72 - 78 Phone: +49(0)9343 7901-0 E-Mail: info@kablitz.de
D-97922 Lauda-Königshofen Fax: +49(0)9343 7901-996 Internet: www.kablitz.de