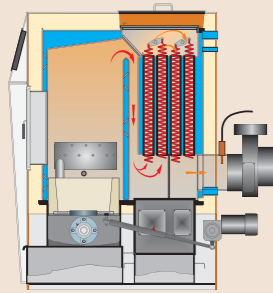


## SCHMID UNDERFEED STOKER BOILERS – THE INTELLIGENT WAY TO HEAT



### Boiler with 4 pass heat exchanger

The rotating grate furnace and heat exchanger are cleaned by a unique, specially developed mechanism. This prevents a loss of efficiency that can be caused by ash build up. It also avoids the need for messy, manual cleaning. The ash falls directly onto an ash tray or can be conveyed into an ash bucket or collector.

The patented burner system enables optimum combustion and efficiency.

### Heating with nature's cycle!

If you heat with wood, you heat with nature's cycle. Unlike fossil fuels such as oil and gas, wood is a carbon-neutral fuel. Using wood instead of fossil fuels helps the environment and using only sustainably sourced wood improves the condition of our forests. A sustainably managed forest is a healthy one.

### Fossil Fuels: Harmful overexploitation!

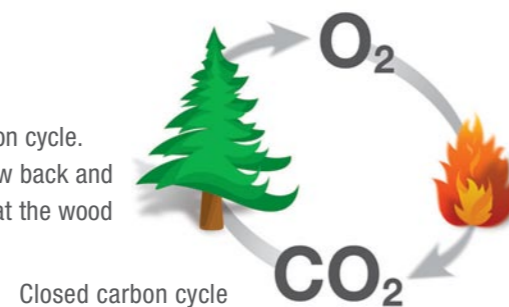
It has taken nature hundreds of millions of years to remove carbon dioxide from the atmosphere and to lock away this carbon in the form of fossil fuels reserves. Mankind is rapidly returning this carbon to the atmosphere by plundering and burning these reserves within little more than 100 years.



The resulting increased concentration of carbon dioxide in the atmosphere has been identified as a major cause of Climate Change.

### Wood: Harmonious cycle

Wood fuel: a natural, closed carbon cycle. Sustainably managed forests grow back and store the same amount of CO<sub>2</sub> that the wood releases when burnt.



## SCHMID WOOD BURNING SYSTEMS – FULL OF ENERGY

**SCHMID**  
WOOD FIRING SYSTEMS

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### The Swiss pioneer of wood firing systems

Schmid AG is a Swiss family-run company that has been involved with wood fuel for 70 years and employs around 200 employees. The headquarters are located in Eschlikon. In addition to numerous branches in Switzerland, Schmid AG is also represented through sales and service points throughout Europe and in Russia and Japan.

Schmid AG has been at the leading edge of developments in wood firing technology for decades. Today, the company is one of the world's leading companies in the industry.

### Imperative Energy Ltd

Imperative Energy is a leading supplier of bioenergy solutions (heat, steam and power) to clients in the commercial, public and industrial sectors through purposely built biomass plant at the client's site. We offer a full turnkey service to our clients covering feasibility, design, fuel supply, equipment supply, finance, installation, operation and maintenance. Imperative Energy Ltd (IEL) offers two primary product/service packages:

#### Imperative Energy Ltd (IEL) offers two primary product/service packages:

- 1. Energy Supply Contract (ESCO):** a long-term energy supply contract under which IEL covers design, fuel supply, equipment supply, finance, installation, operation and maintenance, and the client is invoiced for metered energy use on a monthly basis at a pre-agreed index-linked price.
- 2. System Supply & Install (Equipment / Fuel Only):** clients can choose to cover the capital cost of the biomass system themselves, in which case IEL completes a straightforward Supply & Install. This offer can be linked to a long-term service/maintenance and fuel supply contract of wood chip or wood pellets from IEL.

For more information and technical datasheets visit:

[www.imperativeenergy.com](http://www.imperativeenergy.com)

OR CONTACT OUR REPRESENTATIVE IN YOUR COUNTRY

[www.imperativeenergy.com](http://www.imperativeenergy.com)



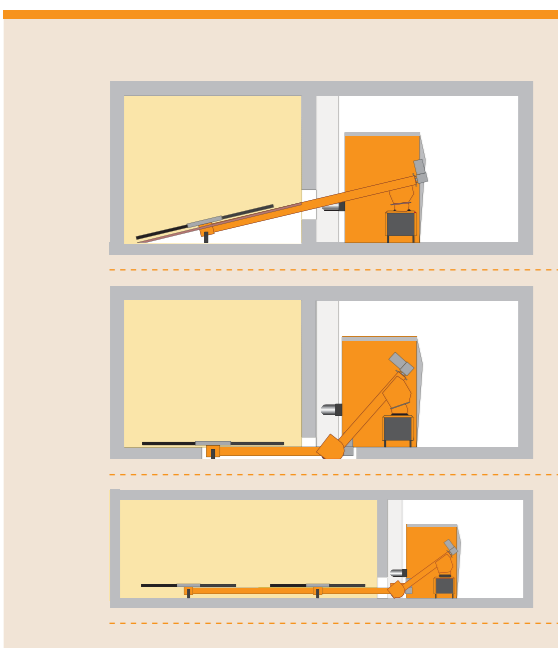
## FULL OF ENERGY – THE LIGNUMAT WOODCHIP/PELLETS



**SCHMID**  
WOOD FIRING SYSTEMS

**Imperative Energy**

## INTELLIGENT HEATING – THE LIGNUMAT CONCEPT



The wood-fired furnace of the LIGNUMAT range is noted for its attention to detail. The boiler is based on the underfeed stoking system, in which the fuel is pushed into the combustion chamber from underneath the flame. It can burn pellets and woodchip up to 50% moisture content.

There are various options for fuel handling and storage, including, but not limited to:

**Rotating arm with rising screw**

**Rotating arm with horizontal screw**

**Double-rotating arm for larger fuel stores**

### End user benefits:

- >> Firebricks with low thermal storage ensure the rapid reaction time of the boiler
- >> Fully automatic cleaning of the furnace and heat exchanger
- >> Automatic ash removal to ash drawer or ash bin/container
- >> Automatic ignition controlled by outside temperature sensor, (where necessary with ignition fans)
- >> If necessary, the boiler can also burn logs without the need for any modification
- >> Maximum efficiency (> 93%), thanks to low exhaust temperature and clean combustion
- >> Optimum combustion at all times, even with different fuels
- >> Long life expectancy, thanks to excellent reliability and product quality

- >> The product is independently tested and meets stringent EU directives as well as the requirements of Holzenergie Schweiz (Swiss quality standard)
- >> Comprehensive safety features including a burnback flap to provide a fire barrier between the boiler and the fuel store

### Of interest to the technician:

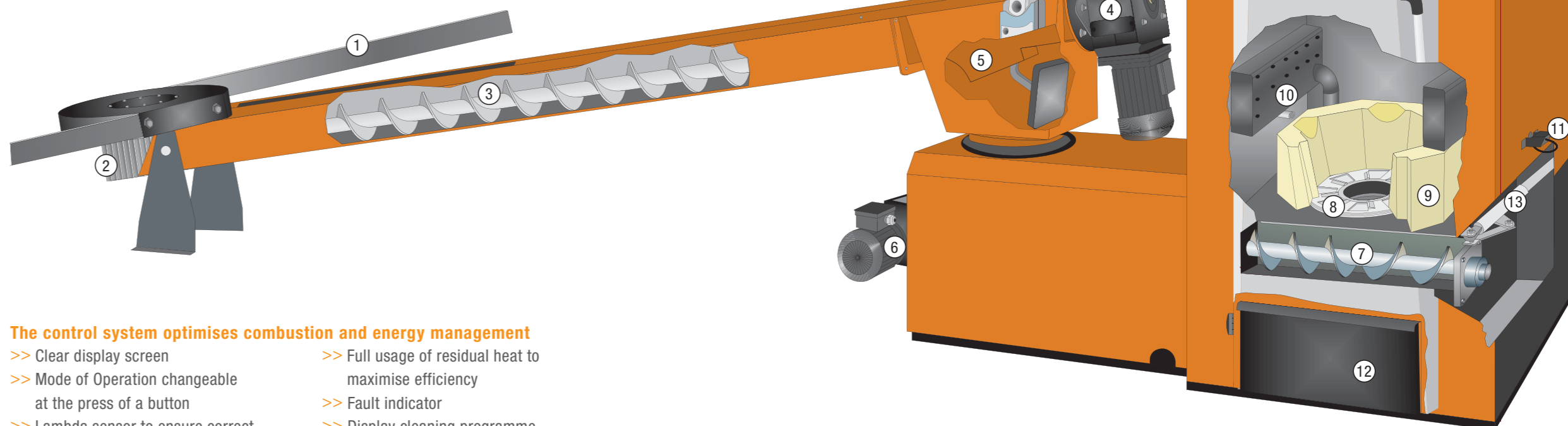
- >> Patented burner system with rotating grate for simple de-ashing
- >> Controlled combustion through visual inspection of the combustion chamber
- >> Vertical heat exchanger
- >> System adjusts to the fuel through the lambda sensor.



## TECHNICAL OVERVIEW

1. Spring arm (to move fuel into the conveyor screw)
2. Mitre gear for spring arm
3. Conveyor screw
4. Drive for conveyor screw
5. Burnback flap with emergency operation
6. Drive unit for stocker screw
7. Stocker screw
8. Rotating grate burner with automatic de-ashing
9. Firebricks
10. Post-combustion zone
11. Visual combustion chamber monitoring
12. Ash drawer
13. De-ashing mechanism
14. Insulated boiler housing
15. Controller

Boiler type	Rated power kW	Operating range kW	Dimensions in mm			Weight in kg
			height	width	depth	
UTSL 30 T	30	9 – 30	1330	630	1050	545
UTSL 40 T	40	12 – 40	1430	630	1050	575
UTSL 49 / 50 T	49	15 – 49	1430	770	1050	645
UTSL 65 T	65	20 – 65	1530	770	1050	690
UTSL 80 T	80	24 – 80	1520	870	1265	850
UTSL 99 / 110 T	110	30 – 100	1620	870	1265	950
UTSL 150 T	150	45 – 150	1810	1050	1465	1400



### The control system optimises combustion and energy management

- >> Clear display screen
- >> Mode of Operation changeable at the press of a button
- >> Lambda sensor to ensure correct combustion
- >> Full usage of residual heat to maximise efficiency
- >> Fault indicator
- >> Display cleaning programme
- >> Wired and ready to use

### Weather-dependent flow temperature adjustment

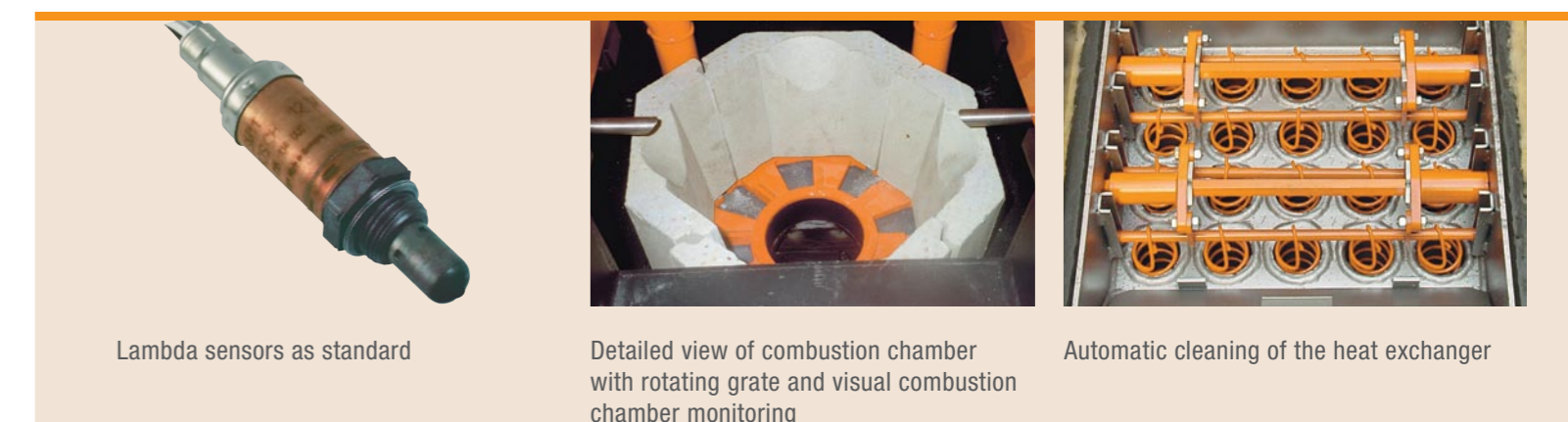
- >> Up to eight different heating groups/circuits can be controlled with individual control modules that are connected to the main panel with a two-core bus-connection. This can be expanded to control further groups

### Boiler control

- >> For an unlimited number of water heaters
- >> Legionella programme to ensure water system cannot harbour legionella bacteria

### Additional information

- >> Buffer storage management for integration of alternative energies (e.g. solar systems)
- >> The entire system can be remote-controlled from the living room or via a modem



Lambda sensors as standard

Detailed view of combustion chamber with rotating grate and visual combustion chamber monitoring

Automatic cleaning of the heat exchanger