



UTSD BIOMASS FIRING

35 - 260 KW





THE FUTURE LIES IN OUR HANDS

It is often the little things that have a big impact. We have the technology and expertise for generating climate-neutral energy from wood to protect the natural basis for the life of our children and following generations.

TRADITION SINCE 1936

Our long-standing experience is the basis for our success. Schmid stands for reliable, durable and robust solutions that make heating with wood efficient, cost effective and convenient.

Our aim is to develop first-class products that meet the needs of our customers with their outstanding reliability and durability. Our products are designed by well trained employees and manufactured from high-quality materials.

State-of-the-art Schmid technology makes heating with wood a useful alternative to other heating systems. As a natural and regenerative fuel, wood is very cost effective and is not exposed to major price fluctuations.

CONTENTS

04-05	FUEL
06-07	UTSD
08-09	ROOM DISCHARGE
10-11	PELLET SUCTION MODULE
12-13	ROOM DISCHARGE SUCTION SYSTEM
14-15	E-CLEAN PARTICLE SEPARATOR
16-17	DE-ASHING
18-19	AC3 CONTROL SYSTEM
20-21	INTELLIGENT DETAILS
22-23	TECHNICAL DATA

FUEL

RENEWABLE RAW MATERIAL

Pellets and wood chips as fuel have many benefits, but in its original form wood is particularly efficient. Thanks to this, a pellet or wood chip heating system enables clean and environmentally friendly operation.

Wood is the raw material for pellets and wood chips which can be locally sourced, thereby saving CO₂ by avoiding the need of excessive transport. At the same time boosting the local economy and creating jobs for the region. Wood is a reliable energy source, which when burnt only releases the same level of CO₂ as absorbed during woods natural growth.

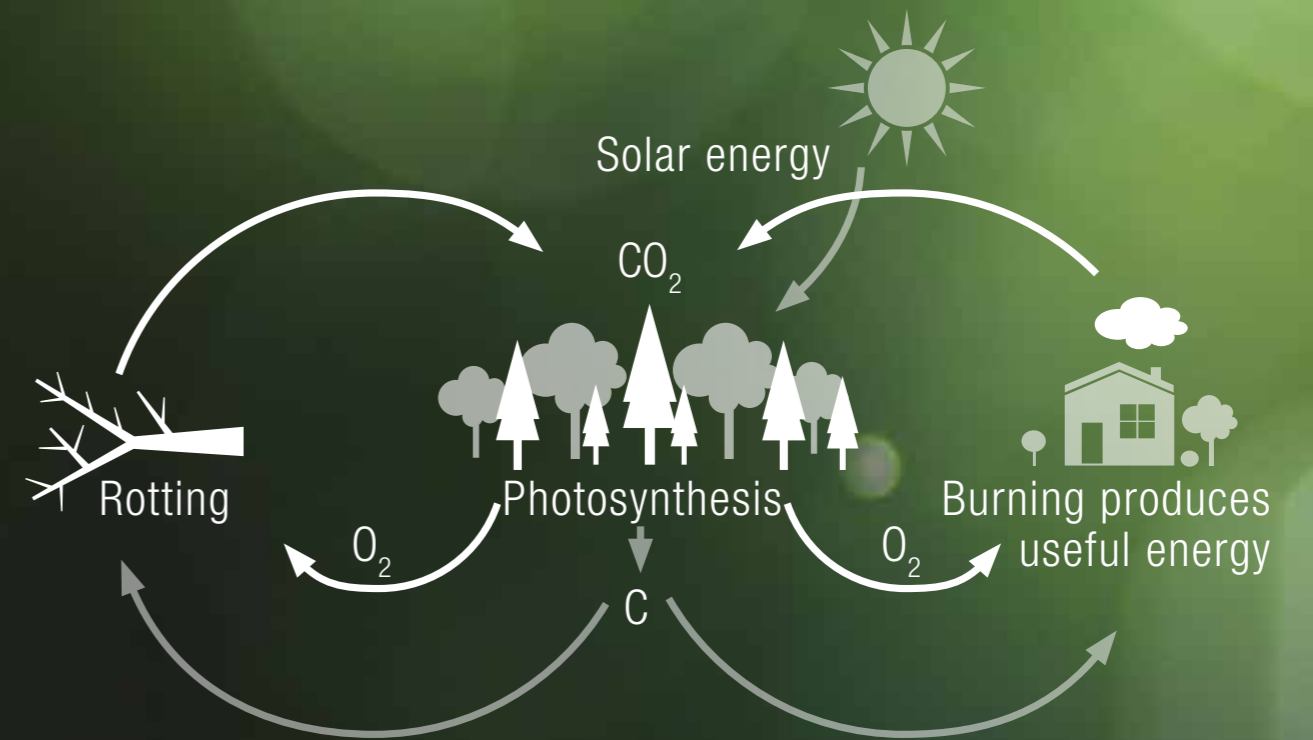
PELLETS AS FUEL

Wood pellets are made from natural wood. The shavings and sawdust arising in the wood industry, available in large amounts as a by-product, are compacted and pelleted. They are an optimal fuel for fully automated wood heating systems, as they can easily be stored and have a high heating value with minimal emissions thanks to their high energy density.

WOOD CHIPS AS FUEL

Wood chips are a native and environmentally-friendly fuel. Supporting regional value added chain, they are abundantly available and – for forest owners or wood processing companies – they represent an effective fuel that pays for itself without emptying your wallet. Wood chips are generally a by-product from conventional wood processing or from forestry maintenance.

- Inexpensive
- Regional
- Environmentally friendly
- Renewable



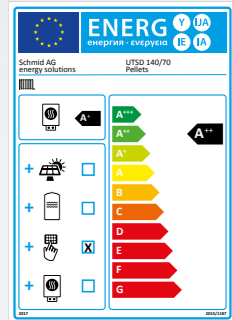
WOOD BECOMES HEAT

Whoever heats with wood, not only heats economically but also helps the environment. Heating with wood protects our climate, as wood is CO₂-neutral when it burns. As a regional, renewable fuel, wood is a reliable alternative to oil and gas.

UTSD

Pellets and wood chips firing from 35 to 260 kW

The UTSD biomass combustion system is developed for burning pellets, wood chips and natural wood residues. The UTSD system series combines a robust design, sophisticated firing technology and reliability with maximum convenience and innovative regulation technology.

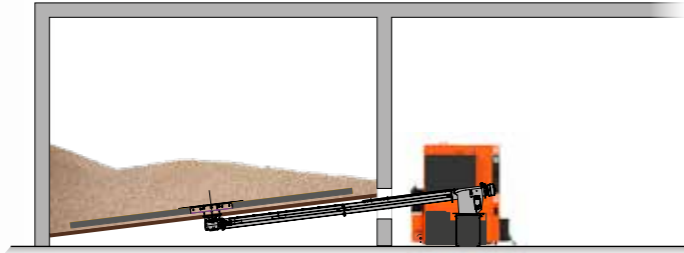


- | | | |
|--|---|---|
| 1. 7" real-glass touch display | 11. Safety heat exchanger | 21. Stoker channel |
| 2. Automatic control 3 | 12. Immersion sleeve thermal run-off protection | 22. Discharge head with certified backfire flap |
| 3. Electrical ignition | 13. Automatic heat exchanger cleaning | 23. Riser screw |
| 4. Fuel level sensor | 14. Combustion chamber sensor | 24. Riser screw transfer box |
| 5. Monitoring grate position | 15. Stoker screw | 25. Closed screw channel |
| 6. Rotary grate | 16. Automatic grate de-ashing | 26. Open screw channel with inlet plate |
| 7. Secondary air injection made of high-quality cast stainless steel | 17. Ash cross screw conveyor | 27. Spring package |
| 8. Moduled brick combustion chamber | 18. Automatic heat exchanger de-ashing | 28. Rotary plate |
| 9. Afterburning area | 19. Ash bin | 29. e-clean particle separator |
| 10. Negative pressure monitoring | 20. Stoker overtemperature sensor | |

ROOM DISCHARGE

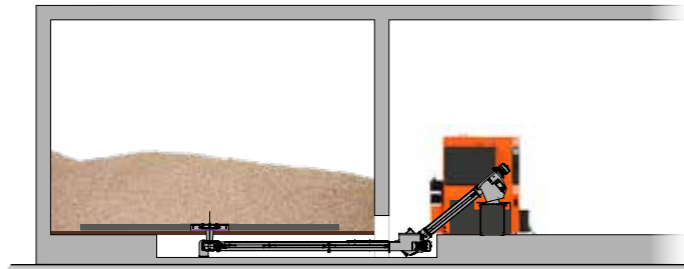
1

Discharge with direct conveyor screw



2

Discharge with rising screw recessed in the ground



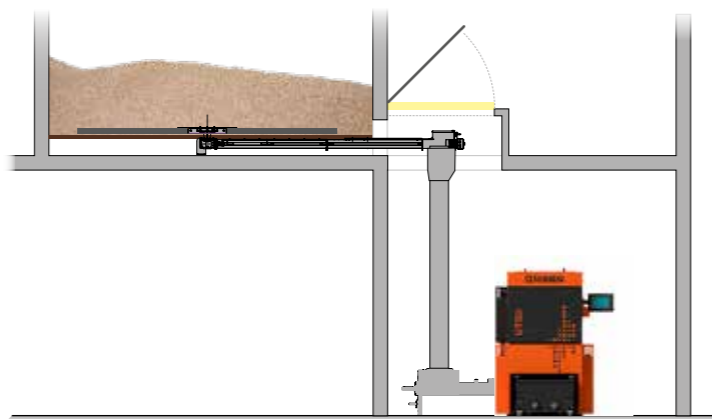
3

Dual system room discharge with rising screw



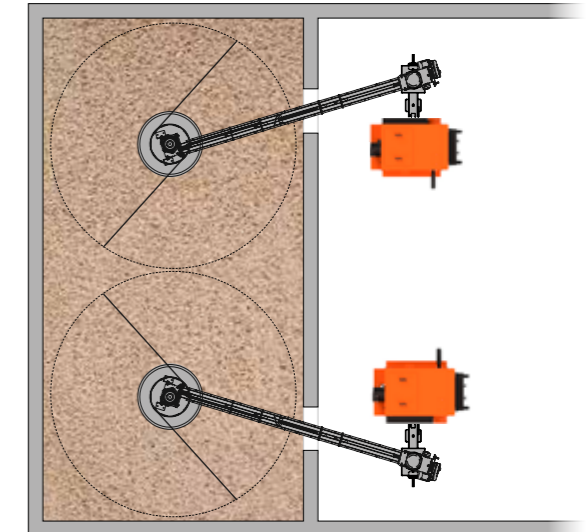
4

Discharge with downpipe



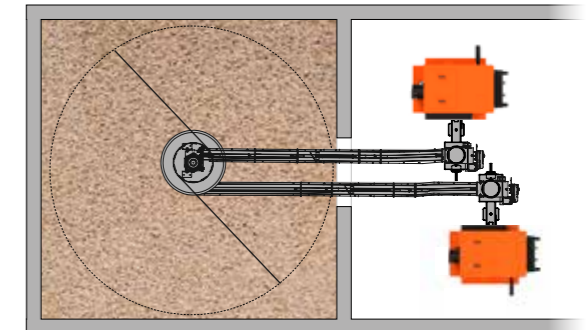
5

Dual system with two separate discharges



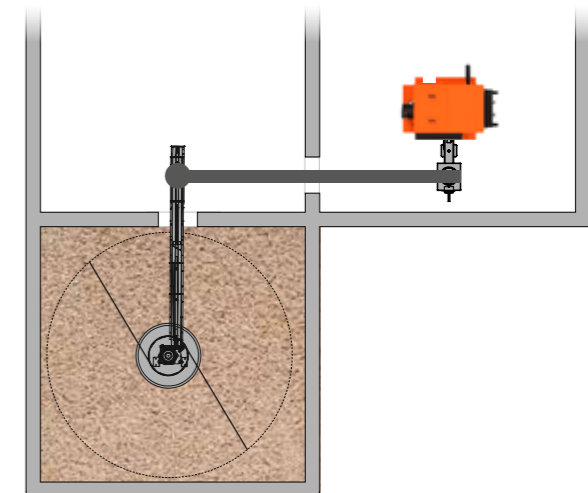
6

Dual system with an agitator and two separate conveyor screws



7

Discharge with spherical transfer



PELLET SUCTION MODULE

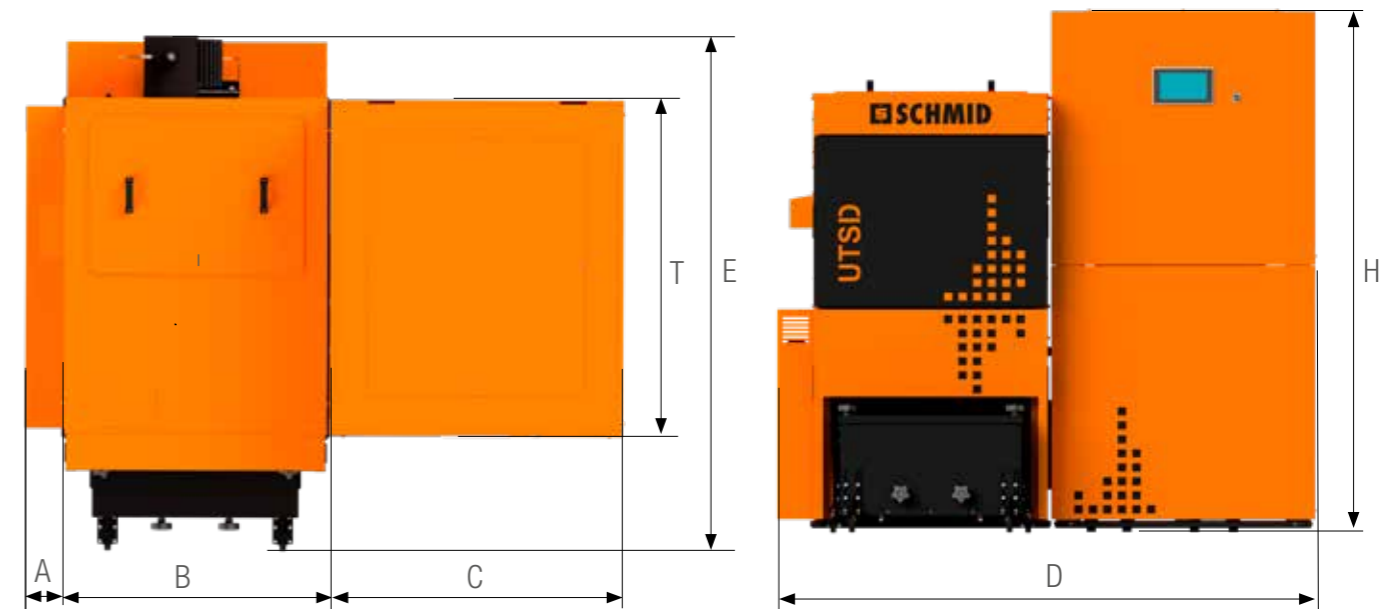
Pellet firing from 35 to 260 kW



1. 7" real-glass touch display
2. Fuel level sensor
3. Transport eyelet
4. Automatic Control 3
5. Storage container
6. Service opening
7. Suction turbine
8. Double rotary valve
9. Stoker engine

FULLY AUTOMATIC SOLUTION FOR PELLET CONVEYING

Discover our suction module for convenient conveying of pellets from all types of silos. This system consists of a special storage container, precise fill level sensor, a double rotary valve and a powerful suction turbine that generates the necessary vacuum to convey the pellets. The system operates fully automatically and is controlled via the existing Automatic Control 3 regulation system.

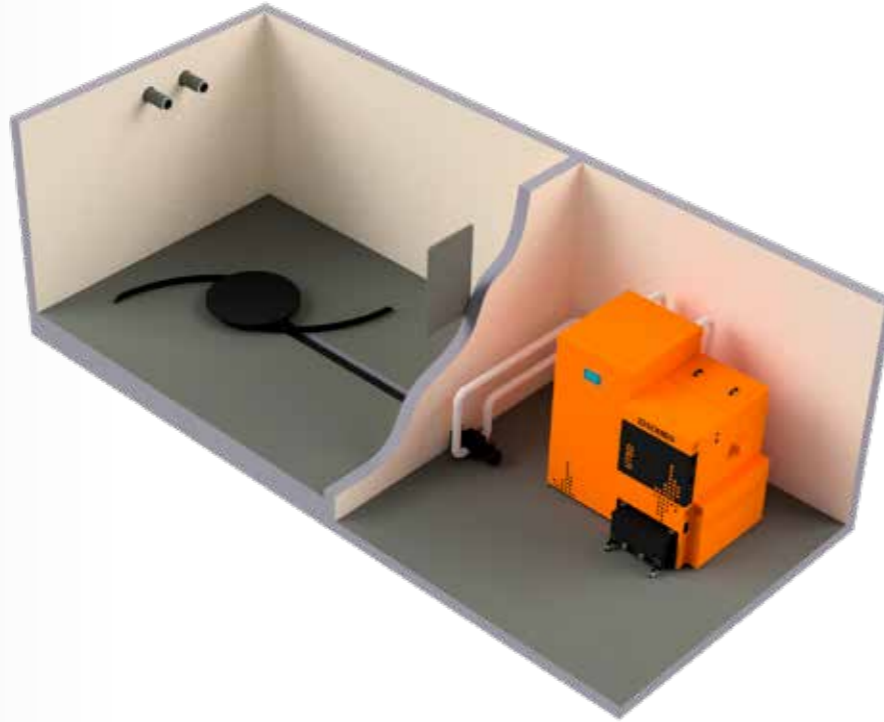


Dimensions UTSD (mm)		UTSD 45	UTSD 80	UTSD 140	UTSD 240
A	Width of service cover	109	109	109	109
B	Width of boiler	675	794	794	1060
C	Width of suction module	871	871	871	871
D	Width of boiler incl. suction module and service cover	1655	1774	1774	2040
E	Depth of boiler incl. flue outlet and ash container	1633	1636	1845	1996
T	Depth of suction module	1040	1040	1040	1040
H	Height of suction module	1775	1775	1775	1775

ROOM DISCHARGE SUCTION SYSTEM

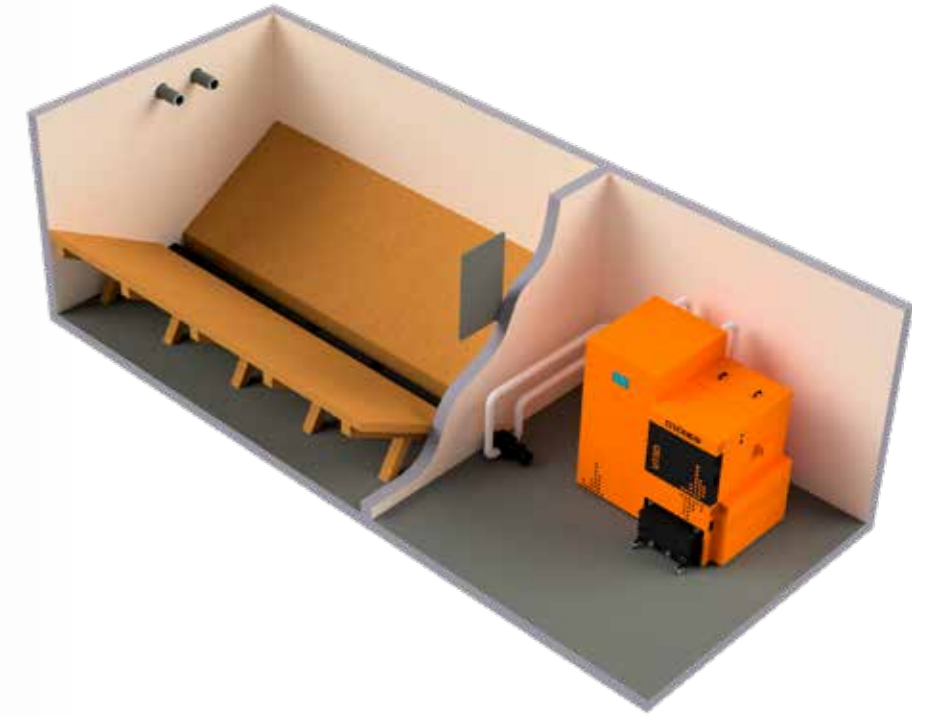
1

Agitator recessed in the ground and a suction point in the adjoining room



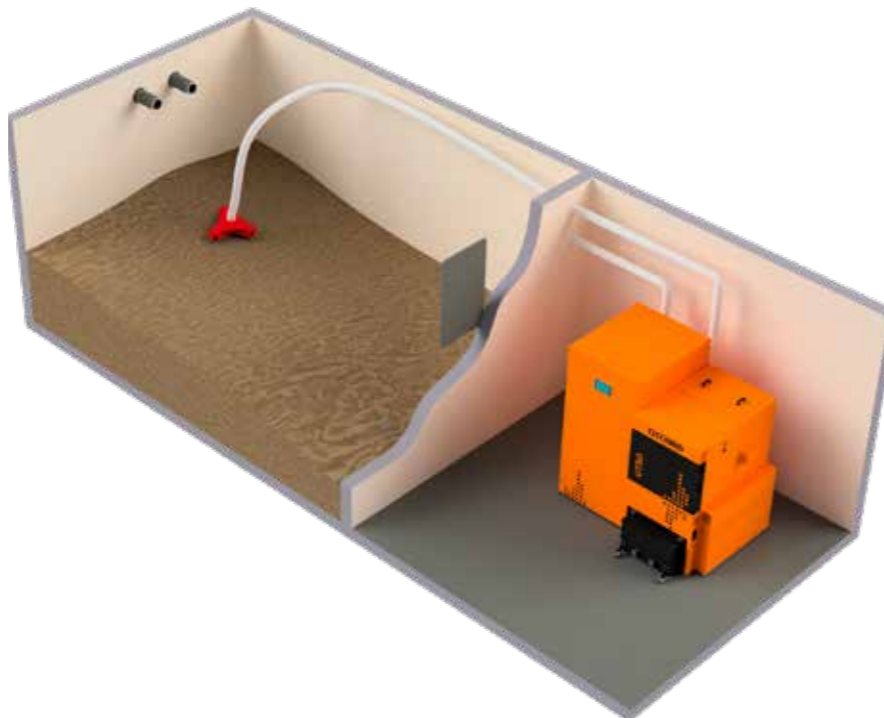
3

Room discharge with V-bottom and one extraction point in the adjoining room



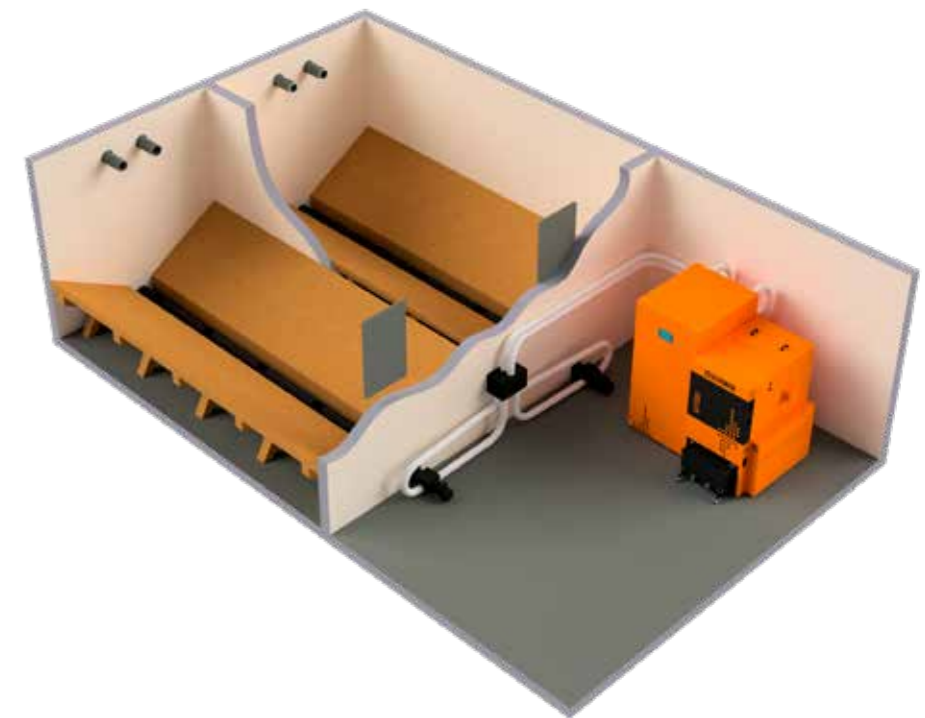
2

Pellet extraction for optimum emptying of the storage room with a "mole E3"



4

Room discharge with W-floor and two extraction points and changeover units in the adjoining room



E-CLEAN

ELECTROSTATIC PARTICLE SEPARATOR



THE ADVANTAGES AT A GLANCE:

- Filter availability more than 90%
- Reduces fine dust to a minimum
- Space and cost savings compared to an external filter
- Automatic cleaning of the insulator and electrode
- Automatic de-ashing
- Easy access for cleaning by the chimney sweep
- Installation directly above the inspection opening
- No high voltage losses or corrosion damage
- Ceramic insulator with an application temperature up to 400 °C
- Perfectly integrated into the boiler design
- Optional, can be retrofitted on site at any time



A FILTER SYSTEM PERFECTLY INTEGRATED IN THE BOILER

The ecological aspect is becoming increasingly important - also in heat production. Schmid AG energy solutions has developed for its UTSD wood chip and pellet boilers an electrostatic particle separator that can be installed directly in the boiler. Stylish, space-saving and effective = e-clean.

PARTICLE SEPARATOR

The e-clean is integrated directly above the boiler heat exchanger. This means that the flue gases are cleaned in the hot area. Compared to the usual separators, this has the advantage that condensate formation can be ruled out and thus no high-voltage losses or corrosion damage occurs. Due to the positioning in the hot area, a filter availability of more than 90% can be permanently guaranteed. The particles are statically charged via the high-voltage electrode and are deposited in the second heat exchanger pass. They pass into the ash conveying system by the automatic boiler cleaning.

SPACE-SAVING WITH PERFECT DESIGN

The e-clean electrostatic separator was specially developed for the UTSD 35-260 kW wood chip and pellet boilers. The construction is mounted directly at the inspection opening of the boiler. In this way, a compact overall system can be supplied. The system only rises by around 25 cm and is perfectly integrated into the boiler design. There is no space for an external filter needed and the purchase costs are considerably lower. The e-clean separator can be ordered immediately when the order is placed, but can also be retrofitted at a later date.



DE-ASHING

1

Standard - centre de-ashing in 60L ash box



2

Front - collective de-ashing in 240L ash container



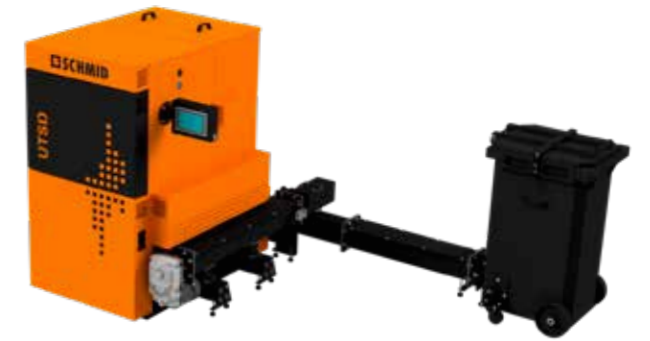
3

Back - collective de-ashing in 240L ash container



4

Collective de-ashing with cross-screw in 240L ash container



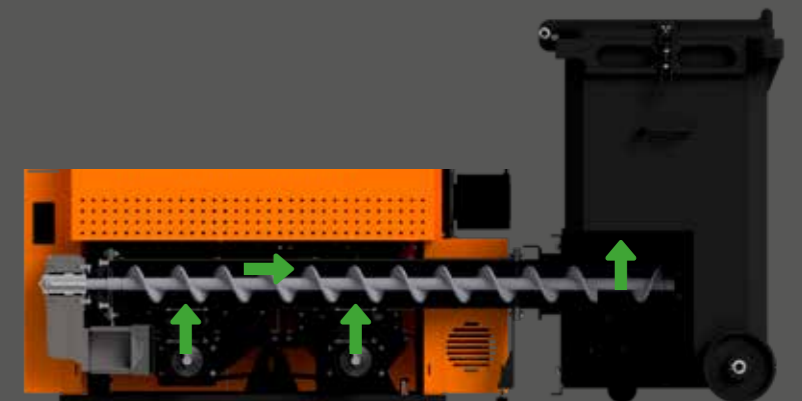
5

Collective de-ashing with riser screw in 800L ash container



6

Ash discharge by a push-up system to ensure tightness between the individual zones.



AC3 CONTROL SYSTEM



Boiler control unit
Home station
Remote access via
smartphone, tablet & PC

Remote access



Home-Screen



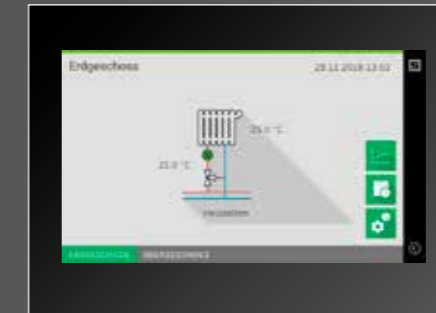
Boiler



Buffer storage



Hot water



Heating circuit



Solar control

AC3 | AUTOMATIC CONTROL 3

Attention was paid to easy and intuitive operation when designing the AC3 control. The control can be integrated seamlessly in the established Schmid controller family LC3, DC3, AM3 and MC3.

AC3 BOILER CONTROL

- Intuitive operation via touchscreen
- All functions are visualised clearly in either textform or displayed using icons
- Provides complete system management for weather-guided heating circuits, water heating, as well as optimised heat accumulator management.
- The demand-based operation of a bivalent boiler is serially integrated
- Various interfaces for a connection to the building management systems e.g. MOD-BUS
- DC3 Cascade control of multiple boilers

BOILER CONTROL UNIT

- Resistant and scratch-proof 7" real-glass touch display
- Centralized system management, simple and convenient

HOME STATION

- Resistant and scratch-proof 5" real-glass touch display
- Complete boiler control from home
- Suitable for flush mounting in a housing

MOTOR MODULES

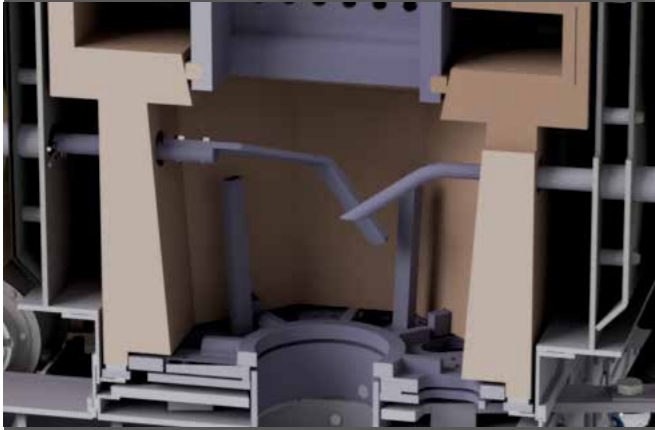
- The motor modules have a integrated current monitoring to ensure maximum operational safety
- The number of motor modules or drives can be freely extended via the extension board AM3.
- Communication via Ethernet

EXTENSION MODULE

- Heating circuits
- Water heater
- Transmission pipeline
- Substations
- Heating networks
- Extendible to any number

REMOTE ACCESS

- Once installed on a smartphone, tablet or PC, the system can be controlled and monitored from anywhere
- Alarming via email and messenger service
- All system informations can be called up



COMBUSTION CHAMBER

The combustion chamber is modular and the individual parts can be removed via the combustion chamber door. The combustion chamber bricks are made of high-quality refractory concrete, which are suitable for a wide variety of fuels. Using the fuel level lever, the fuel volume in the combustion chamber is regulated to a constant level via the material supply. This ensures even grate coverage, which promotes clean and low-emission combustion.



ELECTRIC IGNITION

Electric industrial hot air blowers are available for igniting the fuel in the combustion chamber with a nominal output of up to 260 kW and a maximum fuel moisture content of M 35.



BACKFIRE FLAP

The fire damper closes automatically when the system is switched off or the heating operation is interrupted by the control system. The same applies in the event of a power failure and during the ignition process. A fill level sensor prevents inadmissible conveying of the feeder and stoker screws when the fire damper is not fully open. In addition, this sensor ensures a minimum filling quantity and thus a barrier layer in the stoker channel.



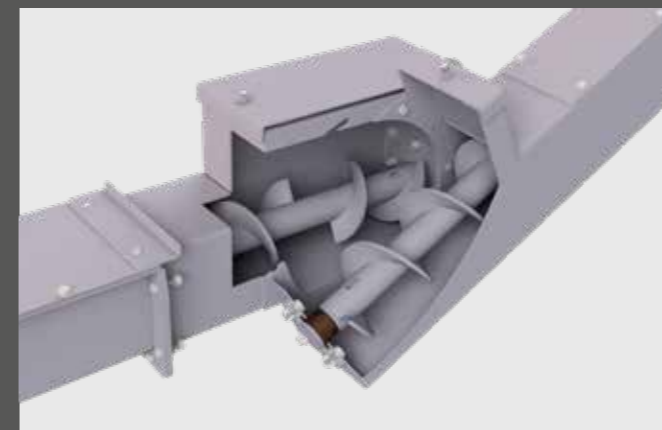
ROTARY VALVE

The large-volume 2-chamber rotary valve ensures maximum burn-back safety. In addition, the airlock forms a reliable seal between the discharge system and the stoker unit. The system with two chambers ensures continuous material transport into the combustion chamber.



HEAT EXCHANGER CLEANING

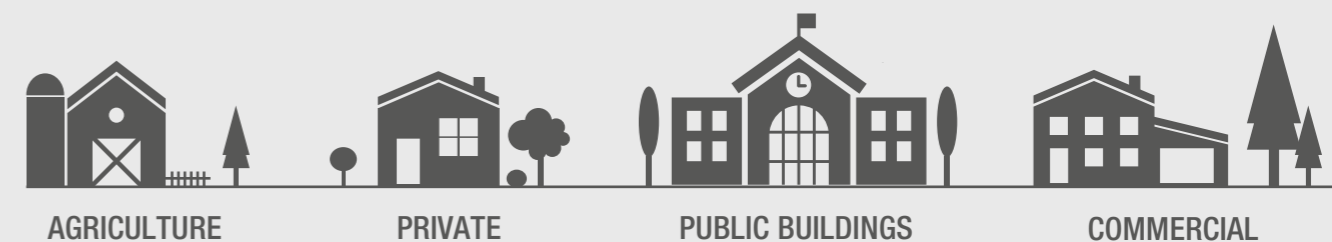
Clean boiler tubes and heat exchanger surfaces are crucial for the service life and efficiency of a system. Consistently high efficiency due to clean heat exchanger surfaces ensures low fuel consumption. All heat exchanger passes are cleaned mechanically by means of cleaning grids and cleaning springs every time the boiler is started.



TRANSFER BOX

A lateral material transfer from the horizontally positioned discharge screw to the rising screw is used to implement a discharge solution with different floor levels (bunker to boiler room) or to optimise the utilisation of the fuel storage volume. This transfer is effected by a screw with a counter helix, which conveys the fuel from one chamber to the next. The rising screw transports the material lying in the second chamber to the higher level directly to the boiler.

INTELLIGENT DETAILS –
FOR EFFICIENT HEATING OF TOMORROW



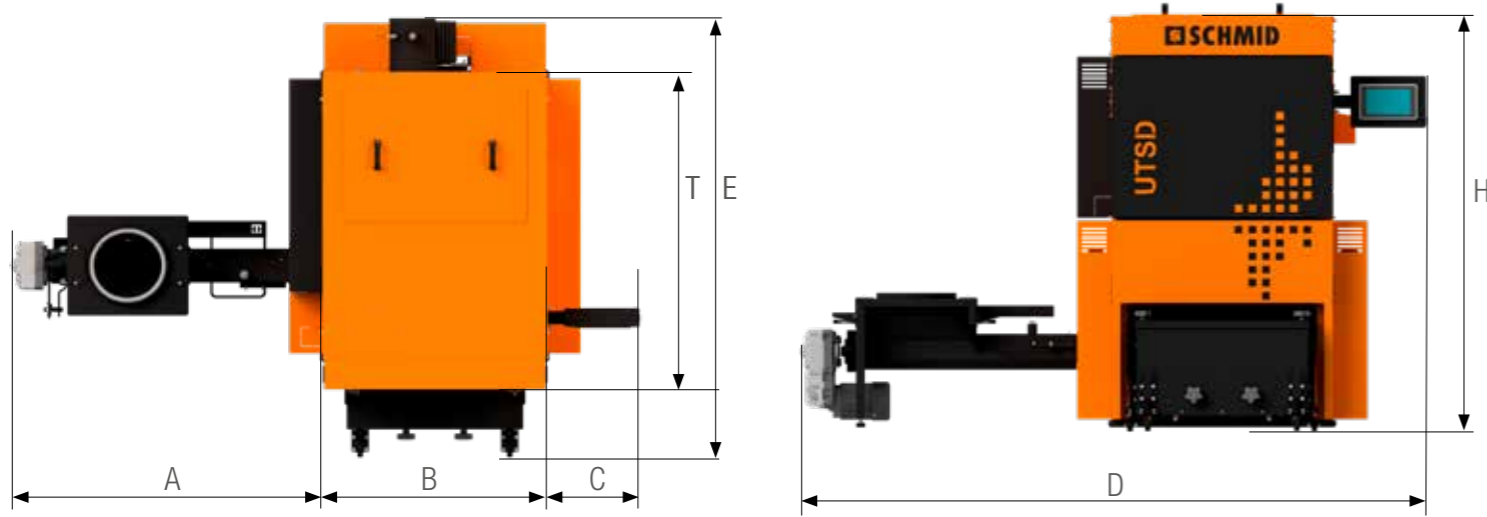
AGRICULTURE

PRIVATE

PUBLIC BUILDINGS

COMMERCIAL

TECHNICAL DATA



Dimensions of UTSD (mm)	UTSD 45	UTSD 80	UTSD 140	UTSD 240
A Width of stoker connection	1135	1076	1076	1036
B Width of boiler	675	794	794	1060
C Width display	318	318	318	318
D Width of boiler including stoker connection with display	2123	2183	2183	2409
E Depth of boiler including flue outlet and ash bin	1633	1636	1845	1996
T Depth of boiler	1056	1056	1221	1484
H Height of boiler	1492	1492	1642	2014

Technical data for UTSD		UTSD 45			UTSD 80						UTSD 140								UTSD 240								
		45/35	45/40	45/45	80/35	80/40	80/45	80/50	80/60	80/70	80/80	140/65	140/70	140/80	140/90	140/100	140/110	140/120	140/140	240/145	240/160	240/180	240/200	240/220	240/240	240/260	
Rated heat output	kW	35	40	45	35	40	45	50	60	70	80																
Electrical connection	V	3 x 400			3 x 400						3 x 400								3 x 400								
Rated current	A	20			20						20								20								
Boiler weight *	kg	876	876	876	965	965	965	985	985	985	985																
Boiler temperature max.	°C	95			95						95								95								
Water content	L	105			115						215								350								
Flue connection diameter	mm	150	150	150	150	150	150	150	160	160	160																
Flow - return flow bushing	Inch	1 ½			1 ½						1 ½								2								
Operating pressure	bar	3			3						3								3								
ETAs >= 81	%	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																
Energy efficiency class >= A+		✓	✓	✓	✓	✓	✓	✓	✓	✓	-																

* excl. stoker and ash bin



Distributors

Schmid AG energy solutions

Untere Brühmatt · CH-4712 Laupersdorf
Tel. +41 (0)62 389 20 50

Schmid SA energy solutions

Rue St. Michel 10 · CH-1510 Moudon
Tel. +41 (0)21 905 95 05

Schmid AG energy solutions

Burgholz 45 · CH-3753 Oey
Tel. +41 (0)33 736 30 70

Schmid AG energy solutions

Zona Industria 8 · CH-6710 Biasca
Tel. +41 (0)71 973 73 80

Schmid GmbH & Co. KG, energy solutions

Kettenerstrasse 25 · D-70794 Filderstadt
Tel. +49 (0)711 70 956-0 · info@schmid-energy.de

Schmid energy solutions GmbH

Hans-Thalhammer-Strasse 4 · AT-8501 Lieboch
Tel. +43 (0)3136 61580 · office@schmid-energy.at

Schmid energy solutions GmbH

Holzriedstrasse 33 · AT-6960 Wolfurt
Tel. +43 (0)574 93089 · info.wolfurt@schmid-energy.com

Schmid France energy solutions

Quartier des Entrepreneurs · Aire de la Thur
Route de Guebwiller · F-68840 Pulversheim
Tel. +33 (0)3 89 28 50 82 · info@schmid-energy.fr

Schmid Polska Sp. z o.o.

Ul. Niska 6 · 82-300 Elblag · Polen

06.24/E – Subject to changes

Schmid AG energy solutions

Hörnlistrasse 12
CH-8360 Eschlikon
Tel. +41 (0)71 973 73 73
www.schmid-energy.ch
info@schmid-energy.ch

SCHMID
energy solutions