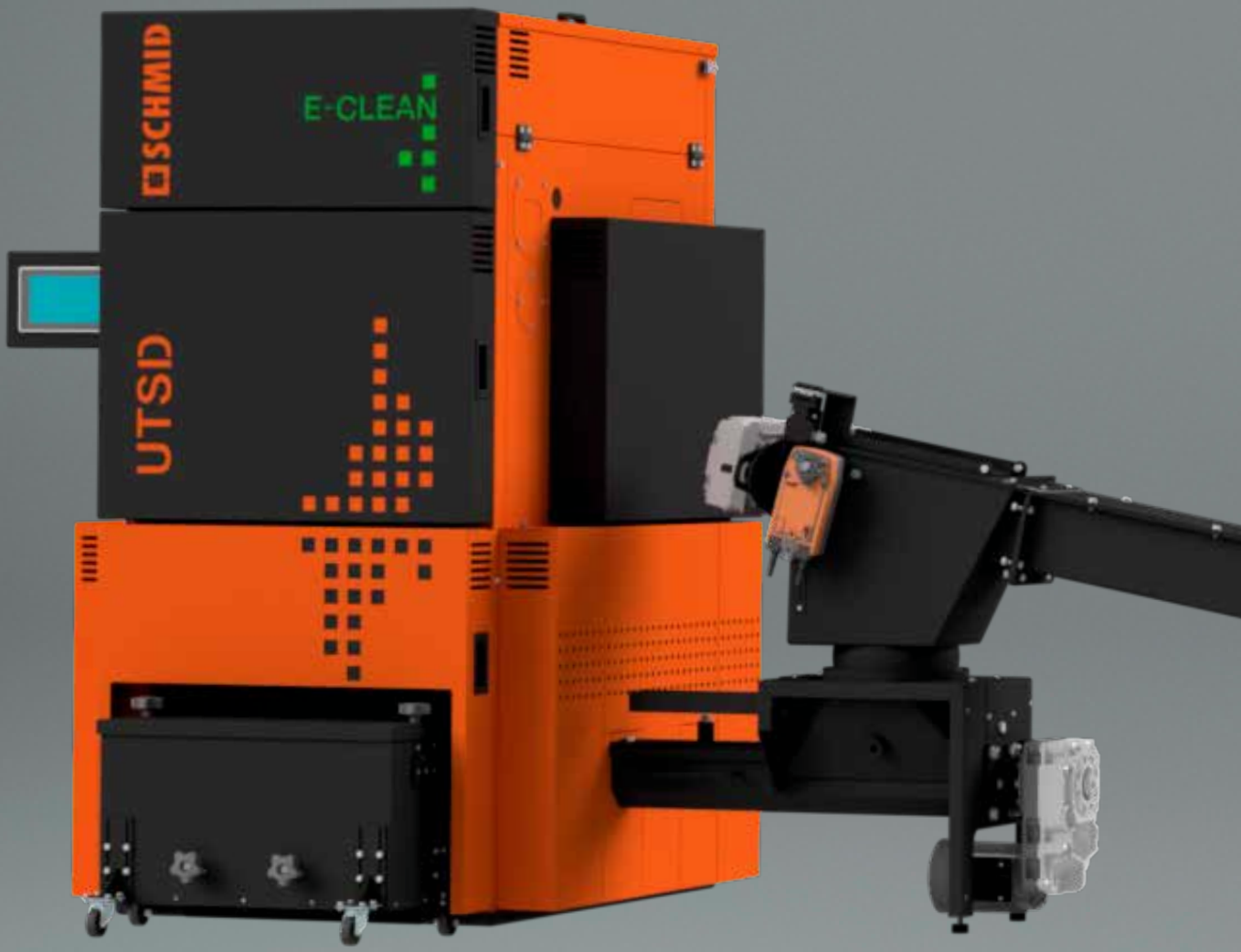
DOMESTIC SYSTEMS

UTSD BIOMASS FIRING



SCHMID
energy solutions

THE FUTURE LIES IN OUR HANDS

It is often the little things that have a big impact. We have the technology and expertise to produce climate-neutral energy from wood, preserving our natural resources for our children and future generations.

TRADITION SINCE 1936

Our long-standing experience is the basis underpinning 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 viable alternative to other heating systems. As a native and regenerative fuel, wood is very cost effective and is not exposed to major price fluctuations.

CONTENT

RENEWABLE RAW MATERIAL

Pellets and wood chips as fuel have many benefits, but in its original form it 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 CO_2 by avoiding the need of excessive transport. At the same time, wood use is 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 CO_2 as absorbed during wood's natural growth.

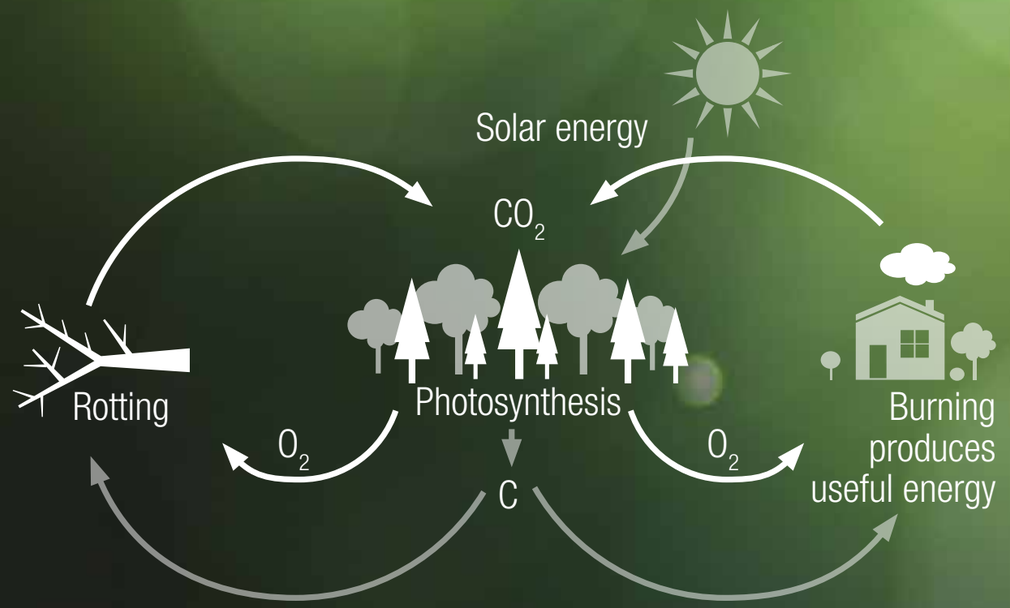
PELLETS AS FUEL

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 a 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 PRODUCES HEAT

Whoever heats with wood, not only heats economically but also helps the environment. Heating with wood protects our climate, as wood is CO_2-neutral when it burns. As a regional, renewable fuel, wood is a reliable alternative to oil and gas.

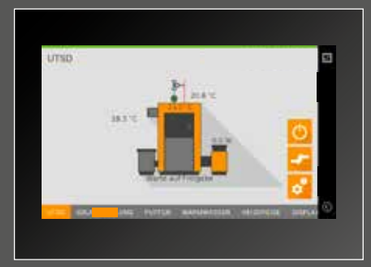
Boiler control unit

Home station

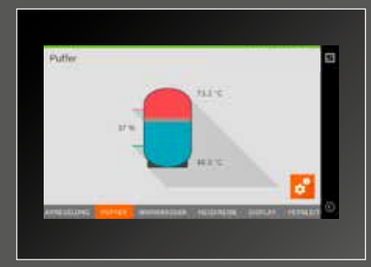
Remote access via smartphone, tablet & PC

Remote access

Home-Screen

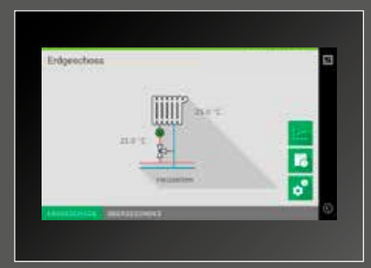


Boiler



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 text form 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
- Cascade control of multiple boilers

BOILER CONTROL UNIT

- Resistant and scratch-proof 7“ real-glass touch display
- Central system management, easy 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 feature integrated current monitoring to ensure maximum operational safety
- The number of motor modules or drives can be freely extended via the extension board.
- Communication via Ethernet

EXTENSION MODULE

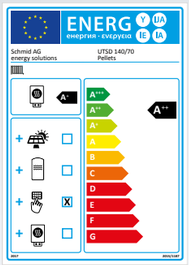
- Heating circuits
- Water heater
- Pipeline
- Substations
- Heating networks
- Extensible to any number

REMOTE ACCESS

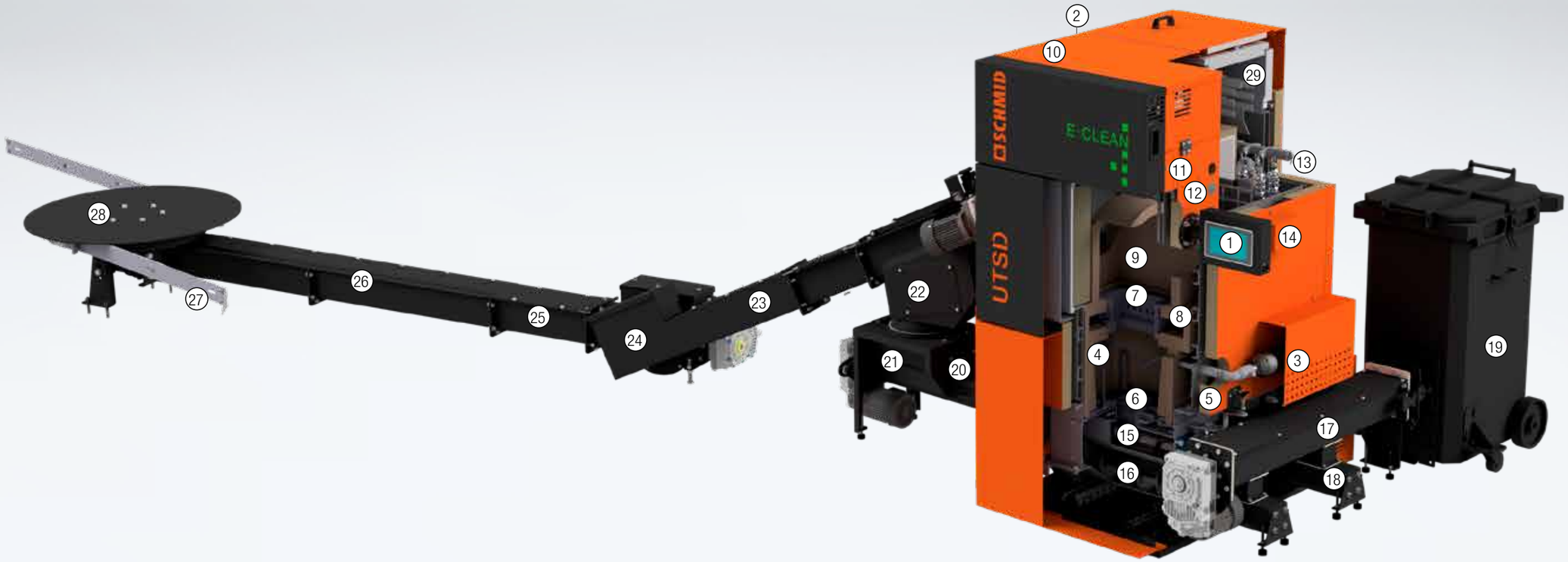
- Once installed on a smartphone, tablet or PC, the system can be controlled and monitored from anywhere
- Alarming via email and messenger service
- All system information can be called up

UTSD

Pellet and wood chip firing from 25 to 260 kW



Energy efficiency class for all boiler sizes that require labeling: at least A+



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

E-CLEAN

ELECTROSTATIC PARTICLE SEPARATOR

THE ADVANTAGES AT A GLANCE:

- Filter availability > 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 boiler 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

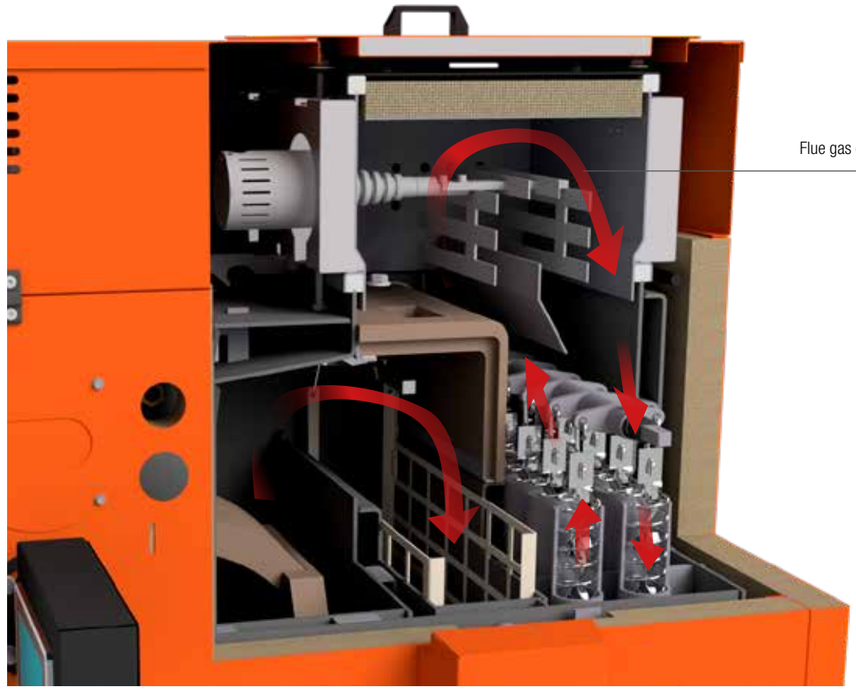
The ecological aspect is becoming increasingly important - also in heat production. Schmid AG energy solutions has developed for its UTSD wood chip and pellet boilers an electrostatic particle separator that can be installed directly in the boiler.
Stylish, space-saving and effective = e-clean.

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 occurrences. Due to the positioning in the hot area, a filter availability of > 90% can be permanently guaranteed. The particles are statically charged via the high-voltage electrodes and are deposited in the second heat exchanger pass. They pass into the ash conveying system by means of automatic boiler cleaning.

SPACE-SAVING WITH PERFECT DESIGN

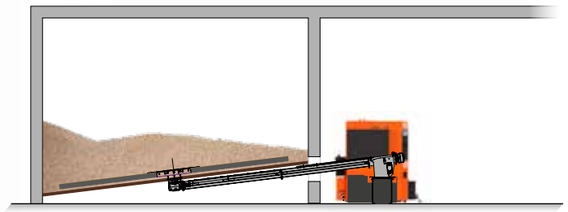
The e-clean electrostatic separator attachment was specially developed for the UTSD 25-260 kW wood chip and pellet boilers. The attachment is mounted directly at the inspection opening of the boiler. In this way, a compact overall system can be supplied. The system only rises by around 25 cm and is perfectly integrated into the boiler design. There is no space for an external filter 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.



ROOM DISCHARGE

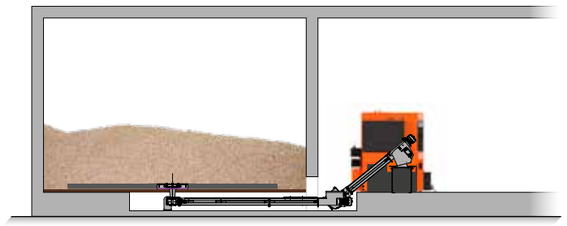
1

Discharge with sloping screw



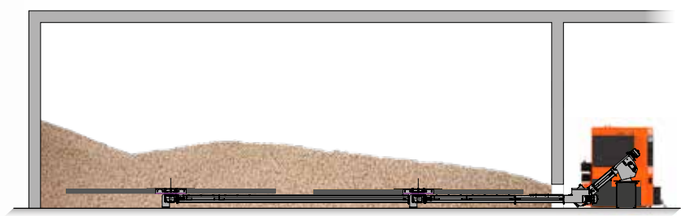
2

Discharge with rising screw recessed in the ground



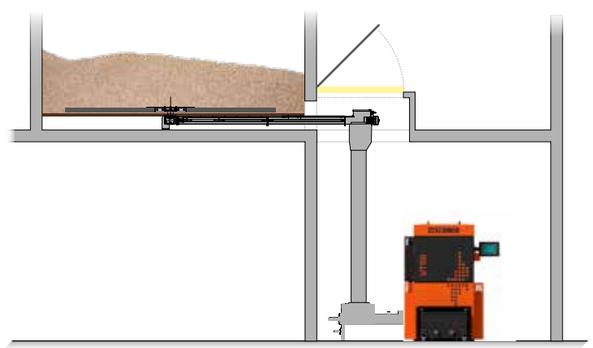
3

Dual system with two discharges



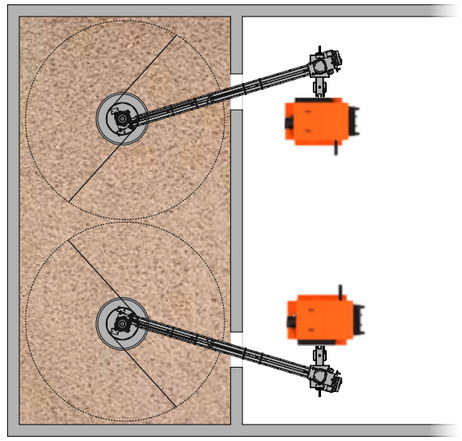
4

Discharge with downpipe



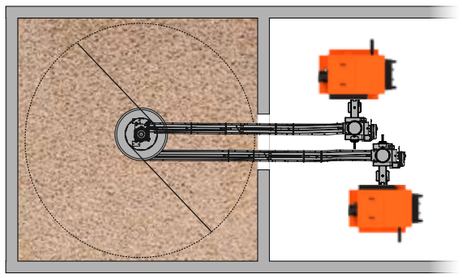
5

Dual system with two discharges



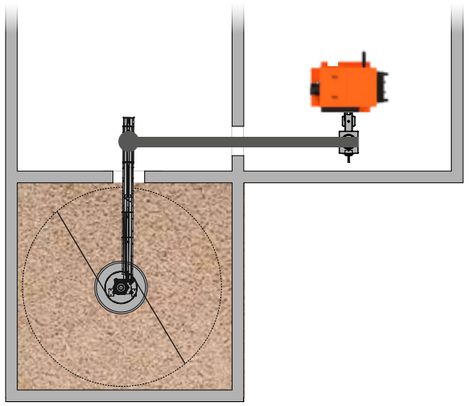
6

Dual system with an agitator and separate ducts



7

Discharge with spherical transfer



ASH REMOVAL VARIANTS

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

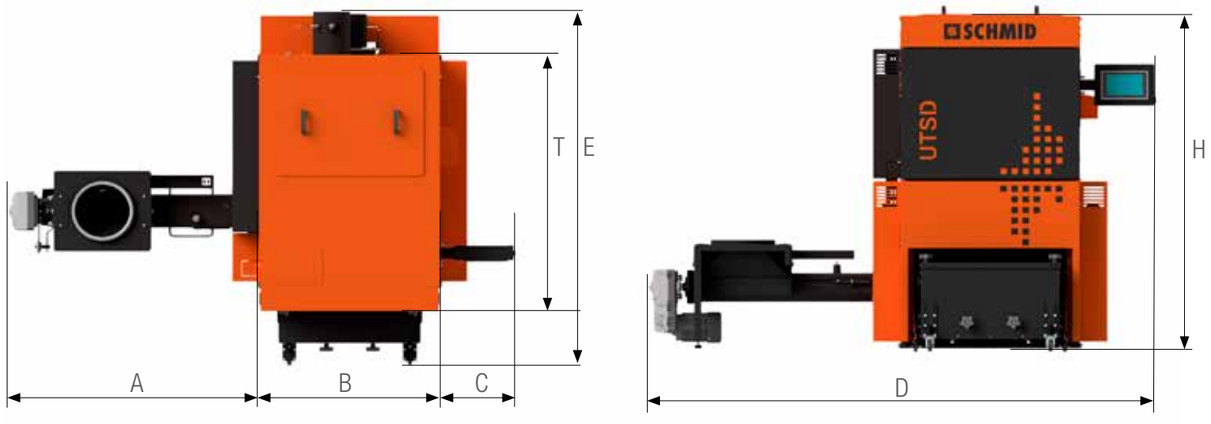
5

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

6

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

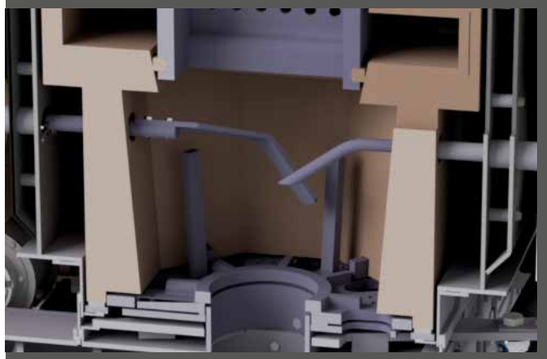
TECHNICAL DATA



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 of display	318	318	318	318
D	Width of boiler including stoker connection with display	2128	2188	2188	2414
E	Depth of boiler including flue outlet and ash container	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							
		45/25	45/30	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	240/120	240/140	240/160	240/180	240/200	240/220	240/240	240/260
Rated heat output	**kW**	25	30	35	40	45	35	40	45	50	60	70	80	65	70	80	90	100	110	120	140	120	140	160	180	200	220	240	260
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	876	876	990	990	990	990	998	998	998	1185	1185	1185	1185	1195	1195	1195	1195	2025	2025	2025	2025	2025	2025	2025	2025
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	150	150	160	160	160	160	160	160	160	200	200	200	200	200	200	200	200	200	200	200	200
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

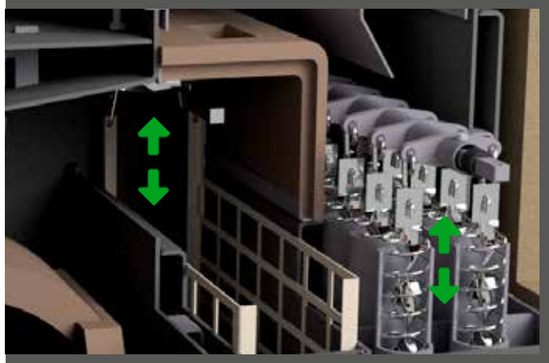


COMBUSTION CHAMBER

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 40.



HEAT EXCHANGER CLEANING

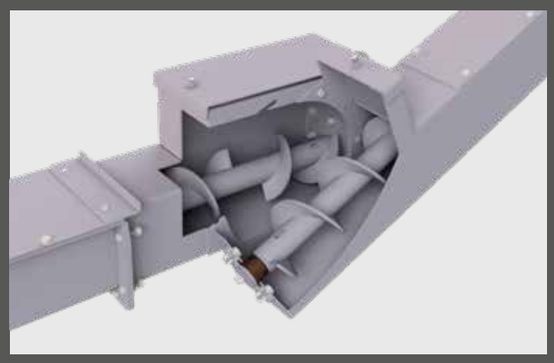
Clean boiler tubes and heat exchanger surfaces are crucial for the service life and efficiency of a system. Consistently high efficiency due to clean heat exchanger surfaces ensures low fuel consumption. All heat exchanger passes are cleaned mechanically by means of cleaning grids and cleaning springs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

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

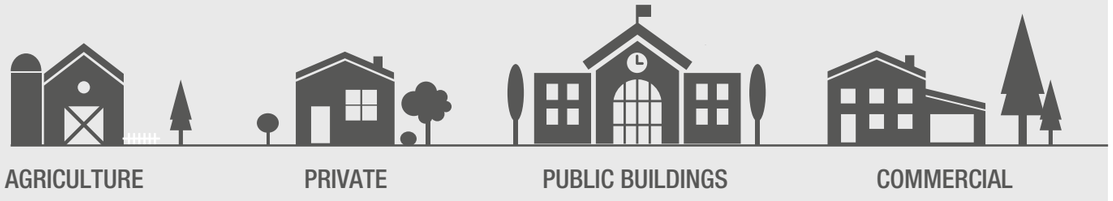
The large-volume 2-chamber rotary valve ensures maximum burn-back safety. In addition, the airlock forms a reliable seal between the discharge system and the stoker unit. The system with two chambers ensures continuous material transport into the combustion chamber.



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



Distributor

SCHMID AG, ENERGY SOLUTIONS
Industriestrasse 17 · CH-4713 Matzendorf ·
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
Schmittenstrasse 22 · CH-4914 Roggwil ·
Tel. +41 (0)62 929 16 48

SCHMID AG, ENERGY SOLUTIONS
Zona Industria 8 · CH-6710 Biasca ·
Tel. +41 (0)71 973 73 80.

SCHMID GMBH & CO. KG, ENERGY SOLUTIONS
Kettemerstrasse 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
Holzriedenstrasse 33 · AT-6960 Wolfurt ·
Tel. +43 (0)5574 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

08.23/D - 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