

SHT TDA Thermodual

Fully automatic dual fuel wood log and pellet boiler



DUAL FUEL BOILERS



Zeroridge Biomass Ed 17A

Model information	kW output	Fuel options and loading options	Page
 <p>SHT TDA 15 Thermodual Automatic fuel switching Fuelling chamber size 130 litres</p>	<p>Nominal heat output</p> <hr/> <p>SHT TDA 15</p>	<p>Wood logs and pellet Split logs up to 330 mm in length</p> <p>EN 14961-5:2011 Log length according to L50 Log thickness according to D15 Water content according to M20 Fuel loading: Front</p>	
<p>SHT TDA 25 Thermodual Automatic fuel switching Fuelling chamber size 130 litres</p>	<p>Nominal heat output</p> <hr/> <p>SHT TDA 25</p>	<p>Wood logs and pellet Split logs up to 330 mm in length</p> <p>EN 14961-5:2011 Log length according to L50 Log thickness according to D15 Water content according to M20 Fuel loading: Front</p>	
 <p>SHT TDA 30 Thermodual Automatic fuel switching Fuelling chamber size 130 litres</p>	<p>Nominal heat output</p> <hr/> <p>SHT TDA 35</p>	<p>Wood logs and pellet Split logs up to 500 mm in length</p> <p>EN 14961-5:2011 Log length according to L50 Log thickness according to D15 Water content according to M20 Fuel loading: Front</p>	
<p>SHT TDA 40 Thermodual Automatic fuel switching Fuelling chamber size 130 litres Nominal heat output models</p>	<p>Nominal heat output</p> <hr/> <p>SHT TDA 40</p>	<p>Wood logs and pellet Split logs up to 500 mm in length</p> <p>EN 14961-5:2011 Log length according to L50 Log thickness according to D15 Water content according to M20 Fuel loading: Front</p>	



Dual fuel burning boilers

Guide to model sizes and applications



TDA Thermodual 15-25
Domestic



TDA Thermodual 30-40
Domestic and/or commercial

Smaller domestic properties and smaller commercial installations

TDA Thermodual 15-25

The TDA Thermodual range of pellet boilers are ideally suited to domestic properties or light commercial. Purpose designed for simple and easy operation both when fueling with wood pellets or removing ash.

TDA Thermodual 15

Suitable for smaller domestic properties
Very well insulated modern house. 2-3 bedrooms or more if of passive type construction.
Older 1-2 bedroom property.

TDA Thermodual 25

Well insulated 4-6 bedroom house. Poor insulated 3-4 bedroom.
Small low energy commercial, larger shop or small warehouse.

Smaller domestic properties and smaller commercial installations

TDA Thermodual 30-40

Commercially constructed pellet boiler for domestic applications
As a guide the Compact 25-50 range of pellet boilers might suit:

TDA Thermodual 30

Well insulated 4-6 bedroom house with larger than average hot water demand and/or swimming pool. Small to medium commercial application.

TDA Thermodual 40

Medium to large country property or large urban house.
Small school or rest home, manufacturing process with heat requirement or space heating.

RHI (Renewable Heat Incentive)



The Domestic RHI is calculated on your properties size and heat requirement, successful applicants will receive "deemed" quarterly payments for seven years, but your boiler has to last for 20 years, replacement is not an option as this would be a new installation and the RHI payments may be withdrawn.



The Non domestic RHI is for a period of twenty years. To make full benefit of the payment structure for both domestic and commercial the boiler you choose must last the 20 year period or more without expensive repairs. Replacement is not an option as this would be a new installation and the RHI payments may be withdrawn.

Dual fuel burning boilers

Overview

Efficient control of your heating system...

The TDA Thermodual is unique in combined firing of wood logs and pellets with The high-grade refractory combustion chamber enables effective residual heat to remain for many hours, reducing the need for the electrical ignition and speeding up the start up phase.

The TDA Thermodual is able to control an entire heating system from its intelligent on-board controller, negating the need for expensive standalone controllers and achieving fuel savings of up to 20%.

Utilising an outdoor temperature sensor, the TDA Thermodual automatically adjusts the temperature in the heating system according to the temperature outside. The colder the temperature outside, the more heat is lost from the building and therefore the more heat is needed to replace that lost. The TDA Thermodual ensures the heat put through radiators or underfloor system matches the heat lost from the building, ensuring the room stays at a comfortable temperature without being too hot or too cold.

What's more, weather compensated controls ensure the system is pro-active to changing temperatures, not reactive like traditional room thermostats. With a traditional room thermostat, the boiler output is altered when the temperature in the building has become too hot or too cold. With weather compensated controls, the outdoor sensor detects the change as soon as it happens, automatically adjusting the system temperature to ensure the inside temperature remains stable.



The Benefits

- Simple to operate and ignite
- Burns logs and clean wood waste
- Correctly sized once or twice per day fuelling
- Located in a boiler room simplifies cleaning and maintenance
- Very high efficiency up to 92% depending on model
- Wood logs can be stored locally to the boiler house
- The boiler house can be located remotely to the property to be heated
- Can be easily linked with an alternative heating source

The Checklist

- Requires a dedicated boiler room capable of fitting the boiler and accumulator
- Requires daily fuelling if burning logs
- Fuelling is undertaken by hand if burning logs
- Requires occasional ash removal

TDA Thermodual 15-25-30-40

General information



DUAL FUEL BOILERS



As a log boiler

The TDA Thermodual is a down firing-split log gasification boiler, utilising a Lambda controller to ensure the boiler is always operating at the highest levels of efficiency. Ignition of the logs is automatic, utilising a ceramic ignition element to start combustion and ensure only a short start-up period until the boiler is at full working temperature. In addition, with this automatic ignition the TDA Thermodual gives flexibility of loading the boiler with logs at any time of day, with the boiler only starting up when the property requires heat.

As a pellet boiler

Utilising the same controller, but with a separate pellet combustion chamber, the TDA Thermodual burns pellets optimally and efficiently, ensuring minimum fuel usage with maximum output. Combined with one of the many bulk storage solutions, the TDA Thermodual can run solely as a pellet boiler for months on end.

As a dual fuel boiler

Unique to the market, the TDA Thermodual will switch automatically from burning wood pellets to wood logs and back again, without the need to change grates, air flaps, or boiler settings. The TDA Thermodual is the ultimate in wood log/pellet dual fuel boilers. Wood logs can be added to the boiler at any time – regardless of whether the boiler is already running in pellet mode.

SHT construction

- Boiler body – heat exchanger: welded construction, tension rod reinforced 4-5 mm thick boiler plate
- Certified in accordance with the pressure equipment directive 97/23/EG boiler class 3 (the highest standard)
- Cladding, pre-assembled powder coated steel
- Integral thermal heat discharge within the heat exchanger
- Separate lighting and warm up door for convenient ignition and cleaning
- Vertical tube heat exchanger, external hand cleaning for ease of use
- Intergrated return temperature control
- Potential free contact for refill signal
- Large control display with easy navigation
- Automatic boiler fan control
- Flow and return temperature sensors
- Accumulator sensor included

SHT safety features

- Heat exchanger thermal discharge
- Flue gas bypass: operational when the loading door is opened this allows clean smoke free refuelling


SHT standards and approvals


- Type tested to EN 303-5
- HETAS approval in progress
- The SHT TDA Thermodual qualifies for the Renewable Heat Incentive emission limits for total particulate matter and oxides of nitrogen 30g/GJ particulate matter and 150g/GJ NO_x







TDA Thermodual 15-25-30-40

Equipment prices and order codes

Boiler pricing		Order code	£ ex VAT	PG	Page
	TDA Thermodual 15	SHT2011	11,170.00	40	
	TDA Thermodual 25	SHT2012	11,170.00		
	TDA Thermodual 30	SHT2013	12,670.00		
	TDA Thermodual 40	SHT2014	12,670.00		

Touch screen option					
	Touch Screen Surcharge with new boiler purchase instead of standard controller	Suffix T to the above part number ie	379.00	40	

Mandatory system and hydraulic components					
	Return temperature kit with energy efficient pump for TDA15/25 Includes cast iron pre-connected assembly for fast installation. Actuator SM 4.6, 2 x ball valves DN 32. Includes insulation. 180 mm, DN 32	PL2028	545.00	41	
	Return temperature kit with energy efficient pump for TDA30/40 Includes cast iron pre-connected assembly for fast installation. Actuator SM 4.6, 2 x ball valves DN 32. Includes insulation. 180 mm, DN 32	PL2035	668.00		
	Accumulator loading valve Y2 option, three-way mixing valve for TDA 15/25 DN 32. ID DN 32. Actuator, 230V	SHT4030	229.00	41	
	Accumulator loading valve Y2 option, three-way mixing valve for TDA 30/40 DN 32. ID DN 32. Actuator, 230V	SHT4037	249.00		
	Boiler safety module Combined pressure gauge, autovent, pressure relief, with two part insulation. DN25, up to 50 kW	PL2001	48.00		
	Thermal safety device DN 20 file pocket and water connections	PL2000	68.00		
	Accumulator temperature gauges Minimum 4 recommended	PL2016	24.00		

TDA 15-25 require a minimum 2000 litres accumulator and 250 litres expansion vessel (Expansion vessel size may vary due to system volume).

The TDA 30-40 when not controlling the distribution of the heat within the property require a minimum accumulator volume of 3000 litres and a 400 litres expansion vessel (Expansion vessel size may vary due to system volume).

When a TDA 30-40 has full control over the distribution of heat the minimum accumulator volume required is reduced to 2500 litres with a 300 litres expansion vessel (Expansion vessel size may vary due to system volume).

When the TDA has full control over the distribution of heat, the controller is able to work the accumulator volume through a larger temperature difference, storing more energy. This is because the TDA controller allows the accumulator temperature to drop to a lower temperature, with the exception of when a hot water charge is required.

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TDA Thermodual operational principles

Automatic wood log and pellet boiler

Combustion chamber for logs with stainless steel lining

The stainless steel lining within the TDA ensures longevity of the fuel chamber whilst the deep fuel chamber allows for larger log lengths to be loaded. TDA 15/25 - 330mm. TDA 30/40 - 500mm.

Speed-controlled induced draft fan

Automatically adjusts the fan speed to ensure optimum combustion conditions.

Gas extraction channel

When the fuel chamber door is opened, an extraction fan runs to evacuate combustion air into the flue instead of the boiler room

Log fuel chamber door

Large log fuel chamber door for easy loading of wood logs into the fuel chamber.

Secondary air motor

Automatically adjusts the secondary air for optimum efficiency throughout the burn cycle.

Secondary combustion chamber

Ensures complete combustion of the wood gases before they enter the heat exchanger.

Ash pan drawer

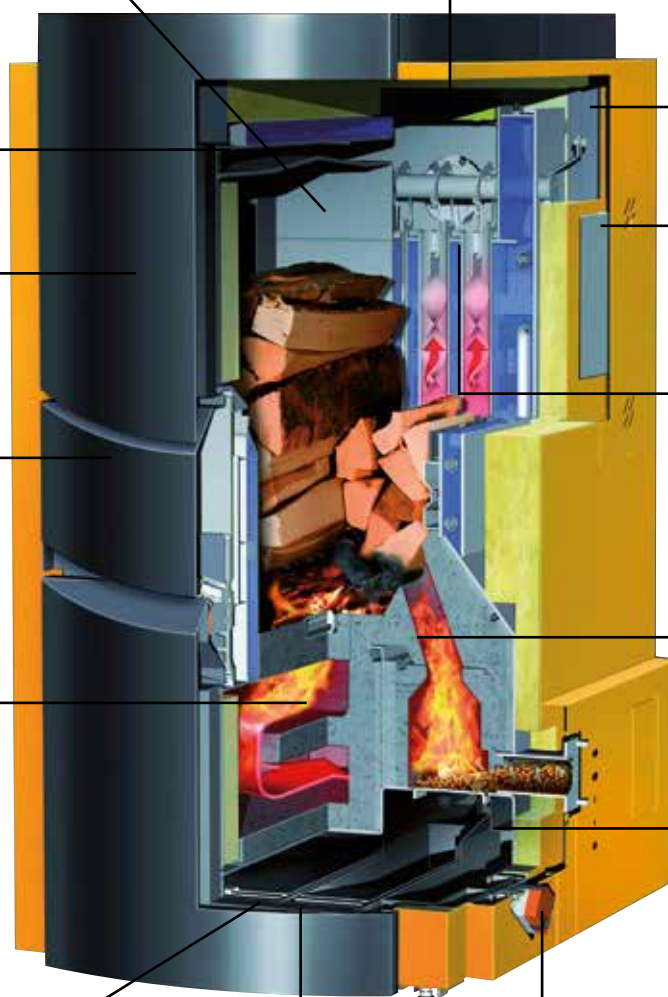
Collects the ash into two separate containers for quick and easy removal.

Cast stainless steel pellet tilting grate

High grade material ensures maximum working life whilst automatic tipping enables months of use without the need to attend to the boiler.

Primary air motor

Automatically adjusts the primary air for optimum efficiency throughout the burn cycle.



Touch screen controller

The SHT touch controller is the very latest in boiler touch screen technology. The purpose designed interface can be ordered as an alternative to the standard button controller. The menu is simple to use and easy to navigate. The home screen gives a clear overview of the current boilers status including boiler, buffer and heating temperatures, and the boilers current status or when it is next likely to run. Simply pressing on the heating circuit button changes the screen where any time or temperature settings can be adjusted. The operating hours screen advises when next service is due or the diagnosis page for a more in depth over view of the combustions conditions.



Automatic heat exchanger cleaning

Fully automatic cleaning (TDA 30/40) of the heat exchangers without the need for manual operation.

Complete control of the system including all stages of combustion and heating system with weather compensation.

Integrated turbulator cleaning

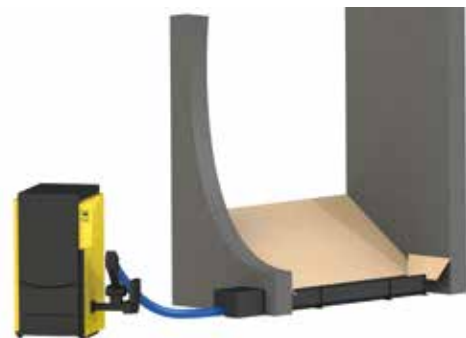
Cleaning turbulators ensure the heat exchangers of the boiler are kept clean for a continuously high degree of efficiency and the lowest fuel consumption.

Refractory combustion chamber
Featuring silicone carbide composite material developed exclusively for the high temperatures needed for complete combustion of the fuel.

Thermal safety discharge (not shown) provides ultimate safety for the boiler system by dissipating excess heat if required.

Low energy igniter

The low energy ceramic igniter ensures a quick and low cost ignition and to the left pellet insertion auger with rotary sluice modulates the exact quantity of pellet required at each stage of combustion.



Vario pellet auger pack



Sack silo pack



Pellet probe triple pack



Visionconvey auger pack

TDA Thermodual 15-25-30-40 kit kits

Equipment prices and order codes



DUAL FUEL BOILERS

PNA Thermocomfort

Order code £ ex VAT



TDA Thermodual 15 wood log/pellet boiler kit with 2,000 litre accumulator	TP1155	14,767.00
TDA Thermodual 25 wood log/pellet boiler kit with 2,000 litre accumulator	TP1156	14,767.00
TDA Thermodual 30 wood log/pellet boiler kit 30/40 with 2,500 litre accumulator	TP1157	17,023.00
TDA Thermodual 40 wood log/pellet boiler kit 30/40 with 2,500 litre accumulator	TP1158	17,023.00

Includes:

Control console, return temperature control kit, boiler safety module, loading valve, pressure switch, draught stabiliser, flue starter kit and stand, bi-metallic temperature gauges, nickel cap valve, expansion vessel and accumulator

The PNA Thermocomfort comes with:

5 year SHT warranty • See page N1 for full details

Also included free of charge

Purpose designed wall mounted record keeping and service equipment centre



Options

The TDA control can be expanded to provide weather compensated heating and domestic hot water production at a fraction of the normal price with the **Heating Weather Compensation and Hot Water Pack**. This increases and decreases the radiator temperatures based on current outdoor temperatures, ensuring comfort levels while saving energy. This provides safe hygienic domestic hot water from a new or existing hot water cylinder.

Heating and hot water pack - weather compensated

Order code £ ex VAT



PNA Thermocomfort weather compensated pump station set

Temperature controlled mixed pump station type T08, unmixed pump station with U35 pump, starter and extension distributors, flow sensor, immersion sensor, intelligent room thermostat

TP2005 667.00

Options

The **Solar Thermal Pack** comes complete and ready to install excluding pipework. The installation is straight forward and offers the benefit of free energy during the summer. Suitable hot water cylinder with thermal solar coil required.

Uniko Solar Thermal Pack

Order code £ ex VAT PG



Uniko Biomass Package - 4.04m² gross area, 2 Uniko flat plate collectors, pump station, 24 litre expansion vessel, connection kit, sensor, mixing thermostat, glycol (20 litres)

ST3001 1,938.00 24

Mounting options



On-roof, parallel



Flat roof, 45



In-roof mounting

TDA Thermodual options

Equipment prices and order codes

Manual fill 170 litre hopper		Order code	£ ex VAT
	Manual fill 170 litre hopper (80kg of pellets)	SHT4102	645.00
Manual fill 200 litre hopper		Order code	£ ex VAT
	Manual fill 200 litre hopper (120kg of pellets)	SHT4101	1,269.00
Manual fill fabric hopper		Order code	£ ex VAT
	Manual fill 500 litre hopper	PS306	997.00
Vario flexible auger pack		Order code	£ ex VAT
	Vario flexible auger starter kit	SHT4108	1,328.00
	Fixed auger extension - 1 m	SHT4110	238.00
	Total		1,566.00
Sack silo pack		Order code	£ ex VAT
	170 litre intermediate hopper	SHT4102	645.00
	Visionconvey air for sack silo	SHT4107	1,025.00
	Pellet hose set 25 m including mounts	SHT4114	214.00
	Euroheat fabric silo 1.95 x 1.95 x 1.8-2.15 - 2.9t	PS201T	2,144.00
	Total		4,028.00
Pellet probe triple pack		Order code	£ ex VAT
	170 litre intermediate hopper	SHT4102	645.00
	Visionconvey air for suction probes	SHT4107	1,025.00
	Manual switching unit with 3 suction probes	SHT4111	502.00
	Pellet hose set 25 m including mounts	SHT4114	214.00
	Total		2,386.00
Visionconvey auger pack		Order code	£ ex VAT
	170 litre intermediate hopper	SHT4102	645.00
	Visionconvey air auger starter kit	SHT4105	1,835.00
	Fixed auger extension - 1 m	SHT4110	238.00
	Pellet hose set 25 m including mounts	SHT4114	214.00
	Total		2,932.00