



Euroheat
Natural Energy Company



SHT Standard
Heat Treatment

TDA Thermodual

Fully automatic wood log and
wood pellet boiler

15 – 38 kW



Innovative heating with wood...





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 their 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 you the 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.



The original dual fuel biomass boiler...



The TDA Thermodual is unique in the principle of the combined firing of wood logs and pellets with two combustion chambers, and two sensor systems in one clever boiler.

The two separate combustion chambers are ideally arranged within the boiler, with the pellet combustion chamber directly beneath the log chamber. This ensures an exceptionally quick switching between fuels, ensuring minimum emissions and maximum efficiency, not just in its warm up phase but throughout its operation.

The two sensor systems, lambda probe and flame temperature sensor, provide the best conditions for detecting and burning each respective fuel. The flame sensor recognises, through variations in combustion temperature, whether there are logs in the fuel chamber or whether to run on wood pellets and start the pellet insertion



auger. The lambda probe continuously monitors the combustion gases, altering the exact dosage and direction of the combustion air to ensure both fuels are burnt with the highest efficiencies possible. With too little air, there is not enough oxygen to complete the combustion of the fuel, whilst too much air cools the fire which results in some of the wood gas not being combusted.

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.



1 Chamber door for wood log

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

2 Gas extraction channel

Avoids any spillage into the room when the fuel chamber door is open by extracting combustion air back into the flue ways.

3 8 mm boiler steel plate

Ensures longevity of the boiler for many years ahead

4 Speed-controlled induced draft fan

Automatically adjusts the fan speed to ensure optimum combustion conditions

5 Combustion chamber for logs with hinged stainless steel lining

Stainless steel lining ensures longevity of the fuel chamber whilst the deep fuel chamber allows for larger log lengths to be loaded (TDA 15/25 - 330 mm, TDA 30/40 - 500 mm)

6 Secondary air motor

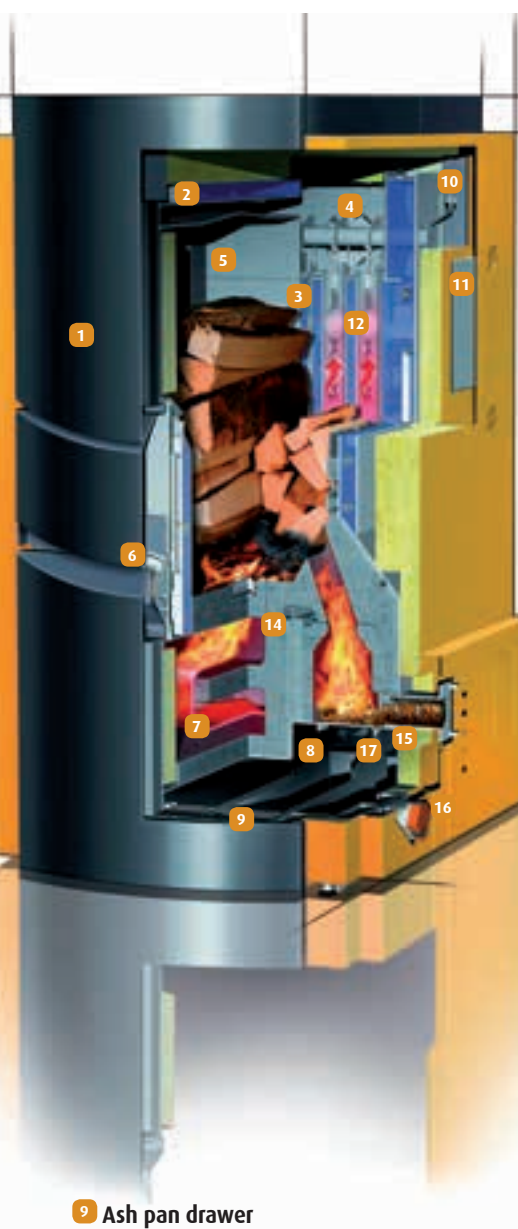
Automatically adjusts the secondary air for optimum efficiency throughout the burn cycle

7 Secondary combustion chamber

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

8 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



9 Ash pan drawer

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

10 Automatic heat exchanger cleaning

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

11 Control board

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

12 Cleaning turbulators

Ensure the heat exchangers of the boiler are kept clean for a continuously high degree of efficiency and the lowest fuel consumption

13 Thermal safety discharge (not shown)

Provides ultimate safety for the boiler system by dissipating excess heat if required

14 Refractory combustion chamber

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

15 Pellet insertion auger with rotary sluice

Modulates the exact quantity of pellet required at each stage of combustion

16 Primary air motor

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

17 Low Energy Igniter

The low energy ceramic ignitor ensures a quick and low cost ignition

Key features of the TDA Thermodual...



Combustion Chamber

Two separate combustion chambers in one unit ensure both fuel types are combusted in optimal conditions and to their highest possible efficiencies.



Speed

The dual sensor system (flame temperature sensor in combination with a Lambda probe) is the basis for a fast and efficient switching between fuels. Within 5 minutes of starting, the boiler can detect logs in the chamber and be fully running on this fuel.



Longevity

Built using high grade 8mm steel by the finest Austrian craftsmen, the TDA Thermodual is perfectly engineered and finished to the highest standards.



Ease of Use

The large fuel loading door (330 x 400mm) ensures the boiler is quick and easy to load with wood logs. Furthermore, with its automatic ignition system as standard, there is no need to use paper or cardboard for lighting.



Flexibility

The TDA Thermodual is available in 4 different sizes, with a multitude of pellet feed systems, ensuring a perfect solution to your heating and lifestyle requirements.



Economy

The refractory concrete combustion chamber (silicon carbide) can re-ignite the boiler with sufficient residual heat (up to 6 hours after a log burn) without the need for the ignition element, reducing fuel usage and wear on the ignitor. In addition, the boiler can be loaded/re-loaded with logs at any time during a combustion cycle, without the boiler needing to stop first.





Efficiency

The unique combustion chamber design (pellet burner ignites logs) allows an exceptionally fast and efficient switching between fuels.



Quiet Periods

During the night, the boiler's tipping grate and heat exchanger cleaning system are not operated, ensuring a warm and undisturbed night's sleep.



Easy Display

A quick glance at the boiler display provides all useful information on the system including current energy in the accumulator, operating status of the boiler, boiler temperature, and outside temperature. When you open the fuel loading door, the display will calculate the optimal refuelling level based on current system load and outside temperature.



Safety

The TDA Thermodual features a comprehensive safety system including rotary sluice, auger temperature sensor, boiler sensor and thermal safety device.



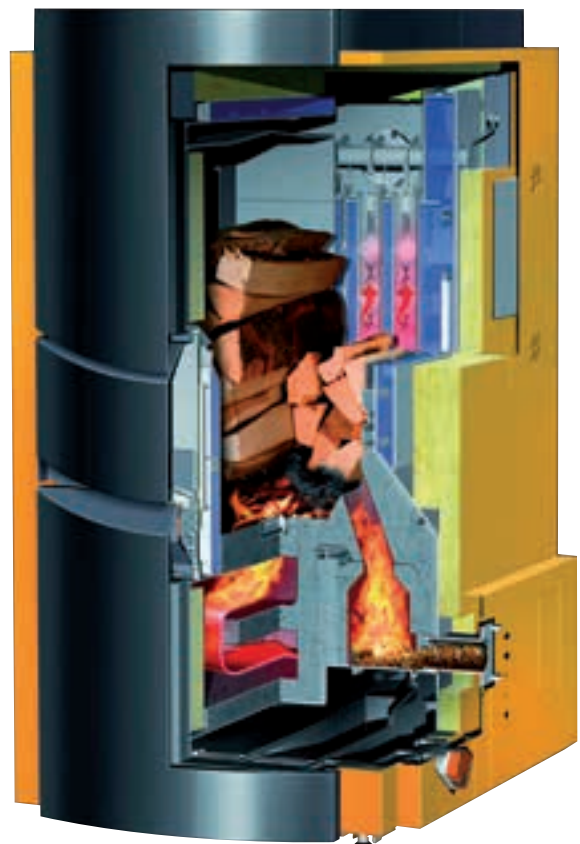
Environmentally friendly

The low energy, 270 watt ignition element ensures an environmentally friendly lighting of the boiler. The low power consumption also means less expenditure, with an average cost of just 1/3 penny per ignition.



Time Saving

Whether loading pellet or wood it is a quick and simple operation. Open the door and put the logs in, that's it. Similarly with pellets, simply open the hopper lid and pour your pellets in.



Pellet storage solutions for every lifestyle...



Manual Hopper

Two manual hoppers are available for the TDA Thermodual, one 170 litre and one 200 litres in capacity. These hoppers are ideal for installations where the boiler is primarily as a log boiler. Either system can be expanded at a later date to utilize the Visionconvey suction system.



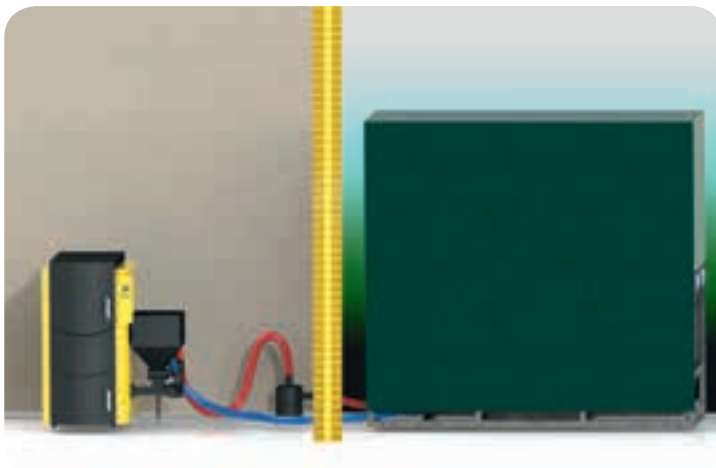
Vario Flexible Auger

The Vario flexible auger system features a clever, centreless auger, enabling the pellet store to be sited adjacent to the boiler. The system can be expanded modularly to provide the desired storage capacity.



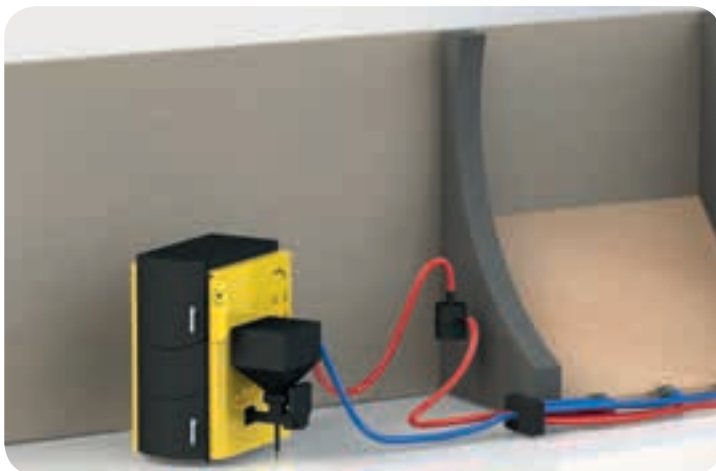
Visionconvey Air Suction System

The Visionconvey air suction system enables the siting of a bulk pellet store up to 20 metres away from the boiler. The system can be expanded modularly to provide the desired storage capacity.



Visionconvey Air Suction System with Pellet Store

The Visionconvey air suction system enables the siting of a bulk pellet store up to 20 metres away from the boiler. The pellet store is available in a number of sizes to suit individual site requirements. It can be installed indoors or outdoors, illustrated here with optional cover.



Suction Probes

Pellets are conveyed by means of vacuum air movement from a remote store to the local store of the boiler. Normally three pellet probes are located in the bottom of a bulk wood pellet fuel store. These probes work independently to each other as they are controlled via a master vacuum switch. The controller uses intelligent decisions to change which probe the pellets are currently being drawn from ensuring equal distribution.



Bulk wood pellet storage with Pellet Mole

The Pellet mole is connected to a vacuum delivery system which sucks pellets from a specially designed store. The mole works on the surface where other systems transfer the pellet from the base.

On demand from the boiler the vacuum system starts. At the same time a small electrical motor on the mole rotates an arm under the mole, moving it around the surface of the pellet store.

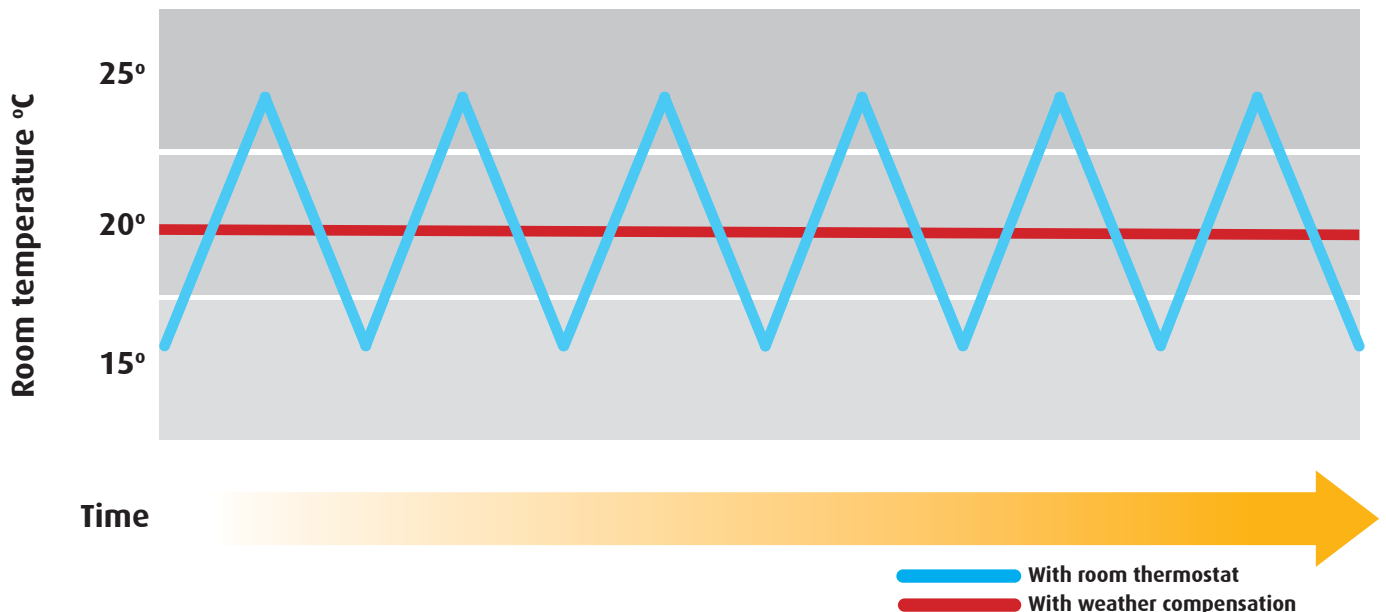
Efficient control of your heating system...

The TDA Thermodual is able to control your 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 your heating system according to the temperature outside. The colder the temperature outside, the more heat is lost from your building and therefore the more heat is needed to replace that lost. The TDA Thermodual ensures the heat put through your radiators or underfloor system matches the heat lost from the building, ensuring your

room stays at a comfortable temperature without being too hot or too cold.

What's more, weather compensated controls ensure your 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.



Weather compensation is particularly useful in our UK climate, where the weather fluctuates significantly from day to day, and where we only need the boilers full output (and maximum system temperature) for a short period of the year.



As well as controlling the heating system, the TDA Thermodual can control your hot water cylinder, ensuring you have a plentiful supply of hot water whenever you require it.



Control from anywhere in the World...

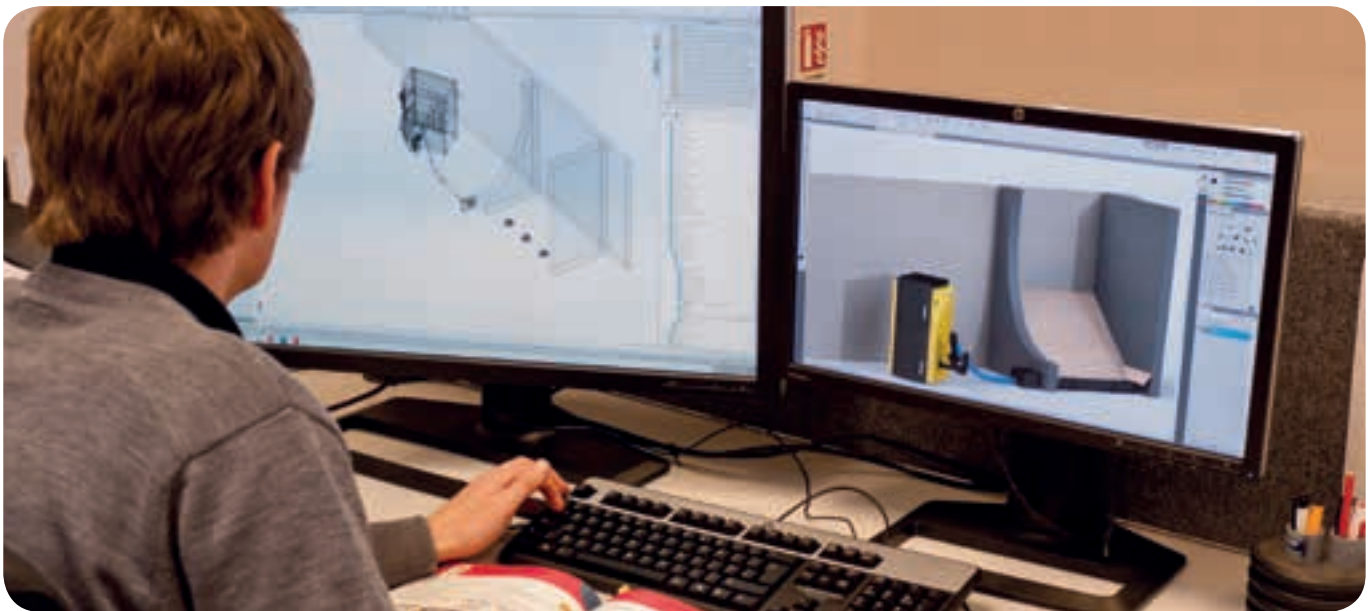
The TDA Thermodual remote monitoring package allows complete control of your system from anywhere in the world via tablet, PC or smartphone. Simply log into your system to see all the information at a glance. You can even alter and change system settings remotely so if your arriving home earlier than expected from your holiday, your house will be nice and toasty for your arrival.

With all the automated comfort and convenience of the TDA Thermodual, we know its easy to forget about your boiler. Not a problem, the TDA Thermodual will simply email you to remind you when it needs you - from telling you to empty the ash container, to booking a service call.

With remote access, one our heating technicians can log in to your system, diagnosing any problems and solving them over the phone with simple step by step instructions, negating the need for one of our engineers to visit site.



Designed to suit your property...



With over twenty years experience, and over a thousand successful biomass installations, we understand that installing a biomass boiler can be a big step. That's why we offer all the technical advice and support you will need - from suitable boiler fuel and boiler size, to fuel storage requirements, and even the best way to dry your logs!

To view biomass boilers first hand, our approved installation partners will take you to one of their previous

installations, or you are always welcome to visit our Biomass Training Centre to get a feel for the biomass subject first hand.

Our biomass design team will work with you throughout the process, producing a detailed 3D design from our specialist software to give an exact layout of your proposed boiler room. This ensures you are happy with the proposal, whilst ensuring all minimum distances, fuel logistics and other important considerations are met.



**Call one of our friendly biomass team
now on 01885 491100 or visit
www.euroheat.co.uk/wheretobuy
to find your nearest Euroheat partner**

Technical spec at a glance...

		TDA 15	TDA 25
Fuel wood pellets		EN Plus (Diameter 6 mm, Ash <0.7%, Moisture <10%, Fines <1%)	
Fuel wood logs	mm	330 Length 20%> Moisture	
Boiler size (h x w x d)	mm	1593 x 932 x 1202	
Boiler weight	kg	c. 750	
Efficiency	%	up to 93.5	
Fuel chamber volume	Ltr	130	
Flue outlet	mm	150	
Flue gas temp.	C	140-160°	
Chimney draught	Pa	5-20	
Boiler volume	Ltr	120	
Pellet ignition		Automatically via ceramic ignitor	
Log ignition		Automatically via pellet flame	
Heat exchanger cleaning		Manual	
Fuel chamber size	Ltr	130	
Minimum accumulator size	Ltr	2000	
Average kW per wood log firing - Softwood	kW	129	
Average kW per wood log firing - Hardwood	kW	152	

		TDA 30	TDA 40
Fuel wood pellets		EN Plus (Diameter 6mm, Ash <0.7%, Moisture <10%, Fines <1%)	
Fuel wood logs	mm	500 Length 20%> Moisture	
Boiler size (h x w x d)	mm	1593 x 893 x 1332	
Boiler weight	kg	c. 790	
Efficiency	%	up to 93.5	
Fuel chamber volume	Ltr	175	
Flue outlet	mm	150	
Flue gas temp.	C	160-180°	
Chimney draught	Pa	5-20	
Boiler volume	Ltr	150	
Pellet ignition		Automatically via ceramic ignitor	
Log ignition		Automatically via pellet flame	
Heat exchanger cleaning		Automatic	
Fuel chamber size	Ltr	175	
Minimum accumulator size	Ltr	2500	
Average kW per wood log firing - Softwood	kW	173	
Average kW per wood log firing - Hardwood	kW	205	

Don't need the logs?...

NEW
Available June 2014



The all new **Thermocomfort PNA**

The Thermocomfort PNA provides a fully automated high output, high efficiency wood pellet boiler with everything you need including:

- Choice of outputs from 15-30kW
- Lambda controlled combustion for maximum efficiency
- Automatic heat exchanger cleaning
- Multiple pellet storage solutions from manual fill hopper to bulk storage solutions
- Patented ash removal system (only requires emptying 1-3 times per year)
- Weather compensated heating control



For those who need heat quickly or have space limitations, the Euroheat Biomass Energy Cabin is the ideal solution. It comes complete ready to use with boiler, accumulator and feed system already installed. Heat with sustainable, natural energy from the Euroheat range of exceptional, eco friendly, wood biomass boilers.



- HDG split log boilers
- HDG wood chip, pellet and split wood systems
- HDG pellet heating systems
- TDA Thermodual wood and pellet boiler
- TDA Thermocomfort pellet boiler
- Buffer tank, accumulators and thermal stores
- System components
- Euroheat Biomass Energy Cabins

Speak to one of our HDG team

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Inspiration and information

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