



## CONNECTION OF THE BOILER VERNER WITH STORAGE RESERVOIR

### SIMPLICITY – RELIABILITY - SUITABILITY

The company VERNER introduces the revolutionary system of the connection of boiler for wood and the storage reservoir . The complete system is controlled by the electronic regulator that can be mounted into all types of the VERNER boilers.

The connection system VERNER has many advantages compared to similar systems:

#### Low purchase costs

The regulator R4-AKU provides complete regulation, thus a superior regulator and a fitting with servo-drive cannot be purchased. The system is simple without expensive switch boards.

#### Minimal demands for operators

The operator doesn't have to set different fittings and valves. After heat up it is enough to stoke up only and if the reservoir is full, the regulator displays that.

On the house sensor the fuel burn out is shown as flashing.

The operator doesn't have to care about the boiler output regulation and to monitor temperatures in the storage reservoir. The regulator analyses and evaluates the house temperature, the water temperature in the boiler, temperatures in the storage reservoirs and even the temperature of flue gas. Based on those readings it regulates the boiler output and output into the heating system.

If the temperature in the storage reservoir reaches the set value, the regulator reduces automatically the boiler output. Thus, the reservoir loading is extended and **the number of shut downs and followed heat ups in the heating season is reduced.**

The regulator has a function of „automatic stable heat“ that provides that the boiler can shut down automatically yet before all fuel is completely burnt out. Thanks to that it is **not necessary to heat up the furnace again even when the operator is late for several hours with stoking up.**

#### Thermal comfort in the building

The regulator enables to pre-adjust the day and night temperature in the heated building and to choose on the regulator clock any 24-hour programme.

#### High level operation efficiency

Due to the fact that the regulator analyses even the combustion gas temperature, the boiler is operated with the high combustion effectiveness and low fuel consumption.

#### Fast output start

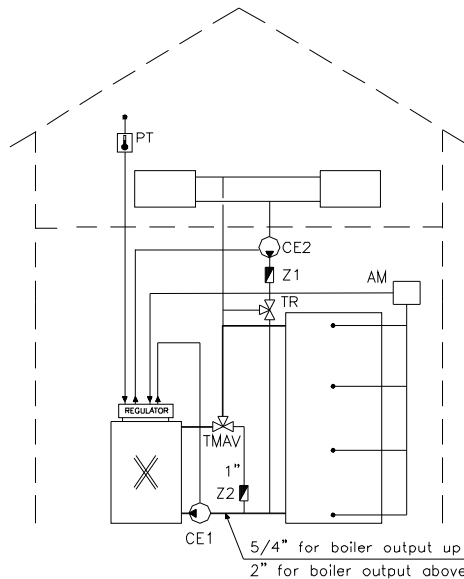
After heating up the boiler transfers full output into the building. Until the temperature in the building reaches the required value, the surplus of the output is stored into the reservoir. There is no demand for any special action of the operator.

#### Extension of the boiler working life

The mixing fitting assures that the reversible water temperature into the boiler is above 70°C. During the operation no severe shut downs occurs. Both significantly reduce the risk of low-temperature corrosion.

#### Multipurpose usage

The system of the VERNER connection can be used in all types of the heating systems. The heating system can be with heaters, floor one or combined.



- AM VERNER storage module with water temperature sensors in the tank
- PT room thermoregulator
- CE1 boiler pump
- CE2 system pump
- TMAV three-way automatic converter VERNER (set on 80°C)
- TR manual three-way converter (for setting of constant water temperature into the system)
- Z1 check valve of the system circuit
- Z2 check valve of the boiler circuit (1")

## Other technical information about the VERNER connection system:

### Service water heating:

1. By the floating boiler that is situated in the storage reservoir.
2. By the combined boiler that is connected on the inlet and outlet pipeline of the storage reservoir.

### Solar collectors connection:

The storage reservoir with a fixed solar exchanger is used for this purpose. An independent solar circuit with an anti-freeze medium is connected to the solar exchanger.

### Storage capacity:

Minimum capacity for the storage action is 100 l per 1 kW of thermal building loss  
 Minimum capacity for the equalizing action is 50 l per 1 kW of thermal building loss

### Storage reservoirs multiconnection:

We recommend in parallel, by the pipeline of the internal diameter 2".

### Output regulation into heating system:

The interconnection of the boiler and storage tank enables to take-off the heat according to the immediate requirement of the heated building from the heating system and also provides to break this consumption anytime. Similarly to electricity or gas. The power consumption into the building is controlled by the switching of the system pump. The water temperature into the heating system is constantly set by the three-way converter (TR) on the value that corresponds to the given heating system. If necessary the different temperature for particular periods of the heating season can be set (f.e. 40 – 60 °C for autumn and spring, and 60 – 80 °C for winter).

### Combination with other regulation systems:

If the heating system has valves with the thermostatic valves, we recommend to use as a system pump so called „intelligent“ pump (keeps the constant pressure difference).

If there is a requirement so the different output consumption was in the particular days of week, it is possible to use for the system pump switching a room thermoregulator (PT) with a week programme.

In case of special systems where the water temperature variation is not desired, the three-way converter (TR) can be supplied with the servo-drive with independent regulator.

### Event of power cut:

In case of power cut the boiler is immediately shut down. The residual boiler output is supplied to the storage reservoir by the gravity circulation. Thus, there is not necessary the additional system of the emergency recooling.



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