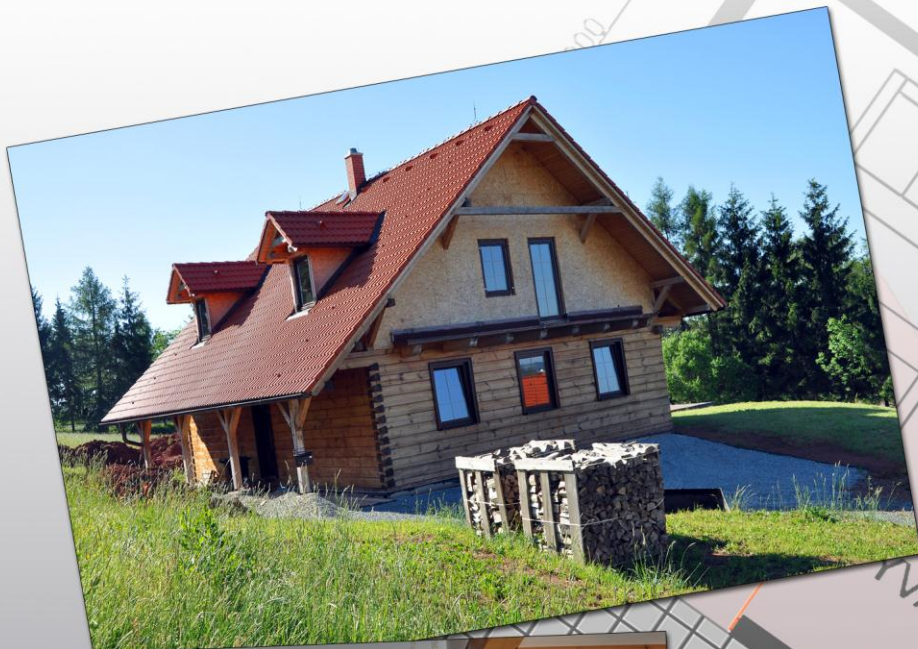


Original projects




VERNER[®]
EXPERT ON HEAT

Project of heating in new building



Regarding heating, here is used the **interior boiler VERNER 13/10 with backside fuel feeding**, which is connected on the gravity circulation system with storage tank with volume of 500l. Thanks to the gravity circulation connection, the boiler does not need an installation of cooling loop. Hot water is going from the storage tank thanks to the pump to the heating system. One part of the whole system is backup supply, which ensures the operation of pump and whole heating system during eventual power cut.

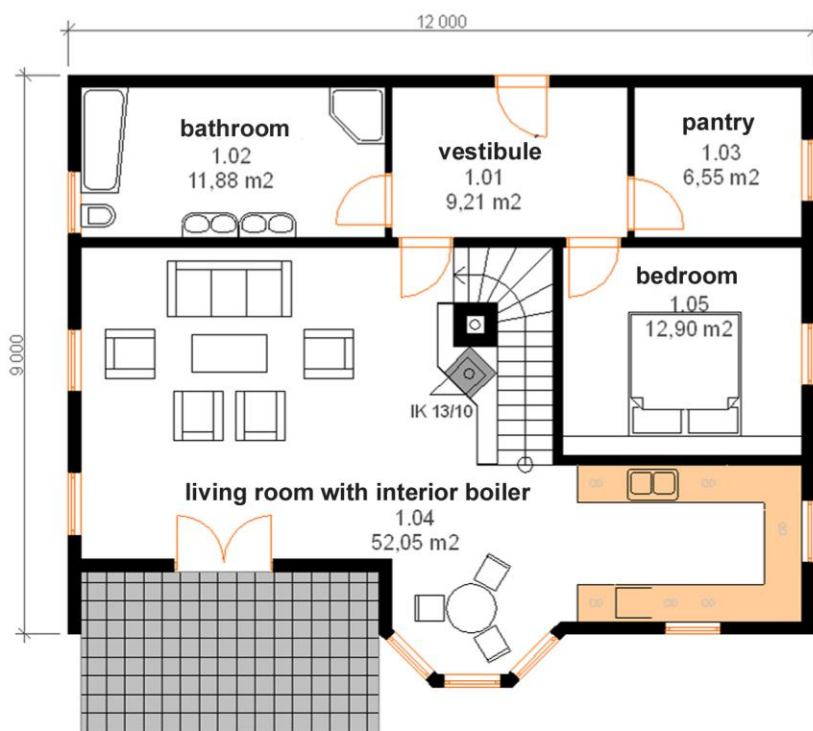
There are installed two electric heating coils in the storage tank with total power 6kW. These heating coils replace the electric boiler. When owner is not at home for a long time, these coils are used for tempering of wooden house and for heating of domestic hot water in the summer. The usage of heating coils increases the comfort of the owner and also allows him to use the lower rate for electricity.

The whole heating system is divided into two heating circuits (ground floor and attic). Each heating circuit has its own room thermostat with weekly program.

Interiors are heated up by heating columns VERNER consisting of system **VERNER SPIRO**. Each heating column can be regulated by thermostatic head. Thanks to the heating columns, the heated space can be solved esthetically without radiators and the magnificent look of timbered interior is not harmed.

Basic object parameters

disposition	5+1
ground floor utility area	98 m ²
attic utility area	90 m ²
total utility area	188 m ²
building heat loss	11 kW



object floor plan (ground floor)



Project of heating in new building

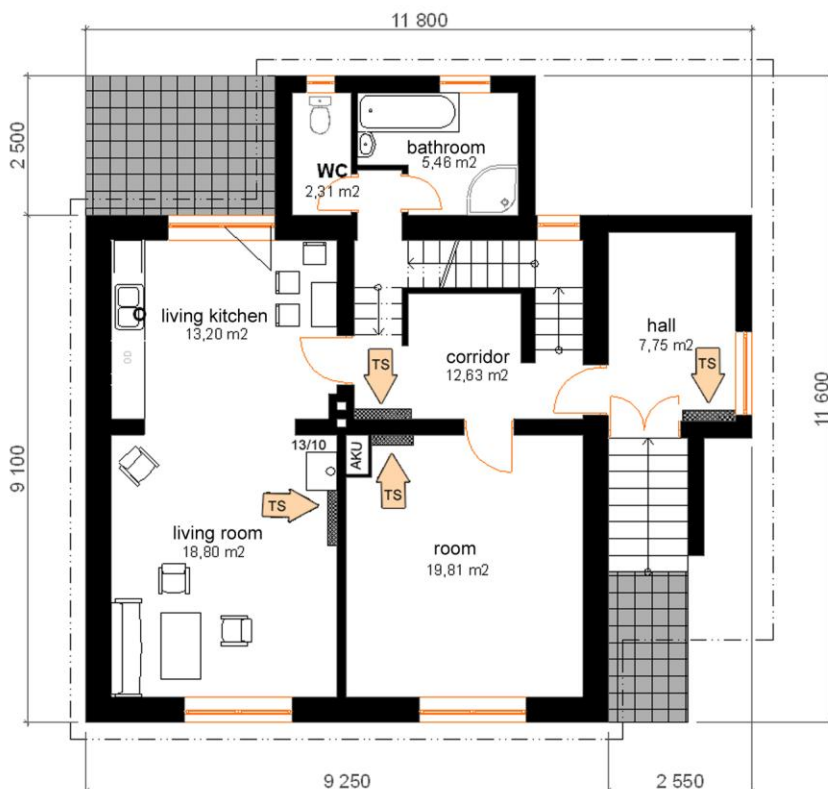


Regarding heating of this family house, here is used the interior boiler VERNER 13/10, which is connected on the gravity circulation system with storage tank with volume of 500l. Thanks to the gravity circulation connection, the boiler does not need an installation of cooling loop.

Hot water is going from the storage tank thanks to the pump to the heating system. One part of the whole system is a backup supply, which ensures the operation of pump and whole heating system during eventual power cut.

There are installed two electric heating coils in the storage tank. These heating coils replace the electric boiler. When owner is not at home for a long time, these coils are used for tempering of house and for heating of domestic hot water in the summer. The usage of heating coils increases the comfort of the owner and also allows to use the lower rate for electricity.

Interiors are heated up by heating columns VERNER consisting of system VERNER SPIRO. Each heating column can be regulated by thermostatic head. Thanks to the heating columns, the heated space can be solved esthetically without disturbing of modern look of the interior.



TS - heating column VERNER
object floor plan (ground floor)

Basic object parameters

disposition	5 + kitchenette
ground floor utility area	78 m ²
attic utility area	89 m ²
total utility area	167 m ²
building heat loss	11 kW



Project of heating in new building

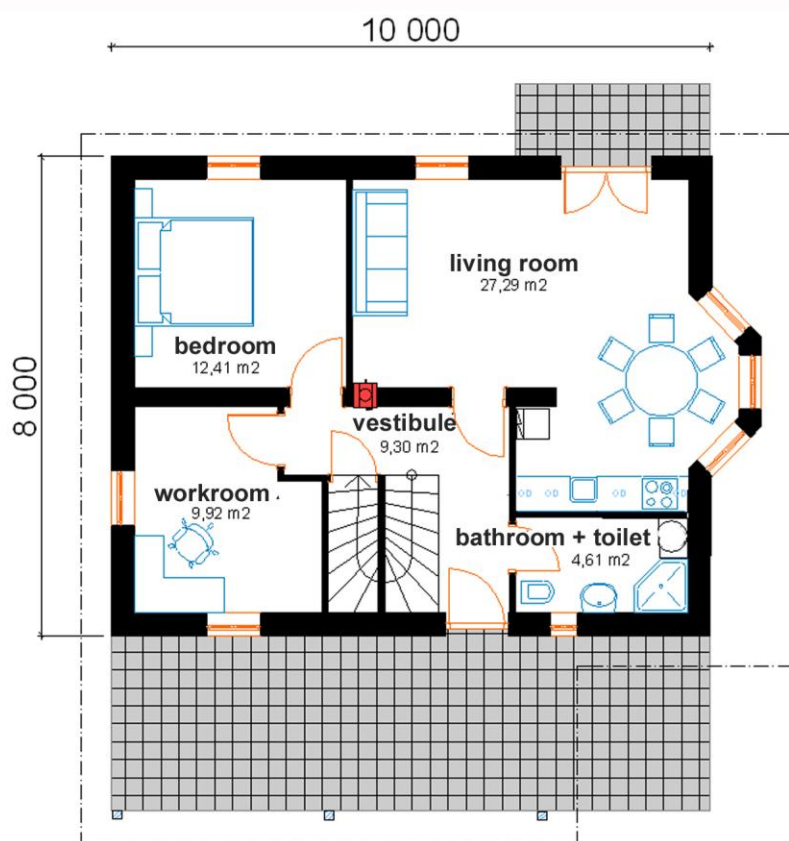


As the main source of heat for this new family house is used the heating pump. As the additional heater in the building is used the **fireplace stove VERNER 6/0 with backside fuel feeding**, which is used for additional heating during big freeze and as the only source of heat during intermediate period (especially spring and autumn).

The big advantage of this stove is possibility of backside fuel feeding. The stove can be operated from the corridor (stoking and removing ash), so the operation is more comfortable and cleaner.

The fireplace stove VERNER 6/0 does not have the exchanger, but thanks to sophisticated location, this stove allows heating up the whole ground floor and tempering of the attic at the same time.

The purpose of this fireplace stove is not only significant savings for heating, but also very popular comfort next to an „open fire“.



object floor plan (ground floor)

Basic object parameters

disposition	5+1
ground floor utility area	98 m ²
attic utility area	90 m ²
total utility area	188 m ²
building heat loss	11 kW



Project of heating source reconstruction



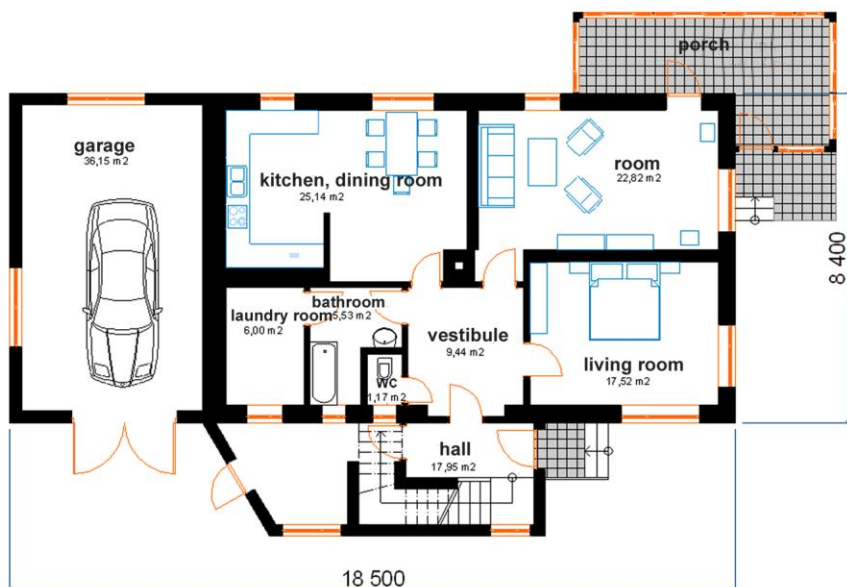
Two-generation family house is heated up with the most modern generation of wood boilers for gasification **VERNER V140 EXTRA** with rated capacity of 14kW.

The VERNER boiler has been connected to the current heating circuit, so the existing heating system has not been changed, only the circulation pump has been installed to the outlet pipes from the boiler. The hot water is heated centrally for the whole object in combined geyser with volume of 200l and electric input 2kW.

The original source of heat was the boiler for burning of brown coal with rated capacity of 25kW. Thanks to the exchange of the boiler, the house owner has achieved the savings in amount of 16 300 CZK per year and he also got the subsidy from programme „Green Savings“ in amount of 50 000 CZK.

Basic object parameters

disposition	2 x 4+1
ground floor utility area	110 m ²
attic utility area	110 m ²
total utility area	220 m ²
building heat loss	14 kW



object floor plan (ground floor)



Project of heating in new building

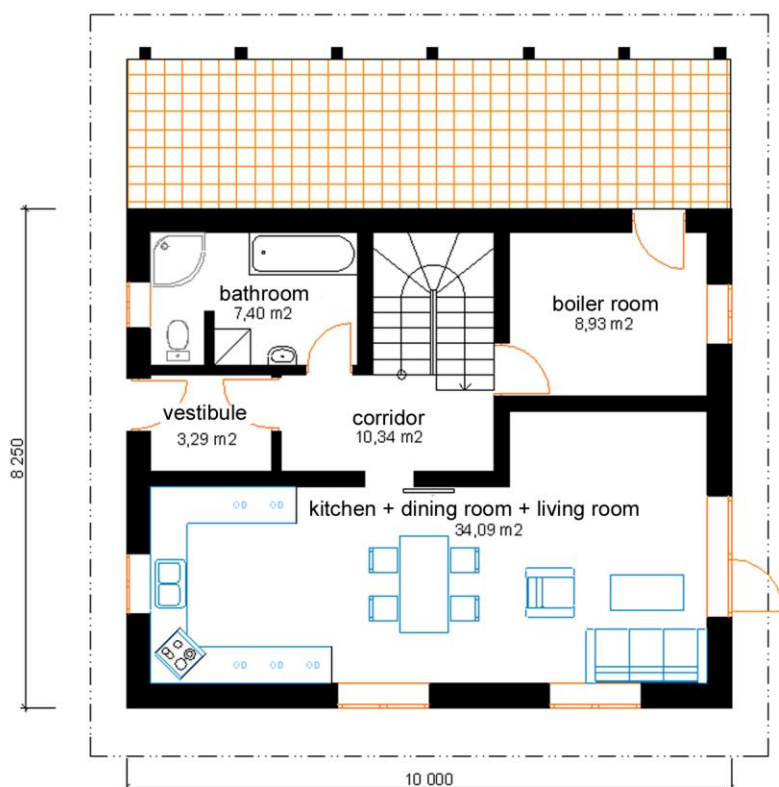


This low-energy house is heated by the most modern generation of gasification boiler for lump wood **VERNER V140 EXTRA** with rated capacity of 14 kW.

The VERNER boiler is connected to the combined storage tank with volume of 750 l, which is also able to heat domestic hot water. Thanks to this variant, the owner of the boiler saves the significant amount of money for heating of domestic hot water.

As heating elements, here are used plate radiators with installed thermostatic heads, which enable very good regulation of the mentioned radiators.

Regarding installation of the boiler and storage tank, here was used the subsidy from the program „Green Savings“ in amount of 80 000 CZK.



object floor plan (ground floor)

Basic object parameters

disposition	4 + kk
ground floor utility area	68,5 m ²
attic utility area	68,5 m ²
total utility area	137 m ²
building heat loss	6,4 kW



Project of heating in new building

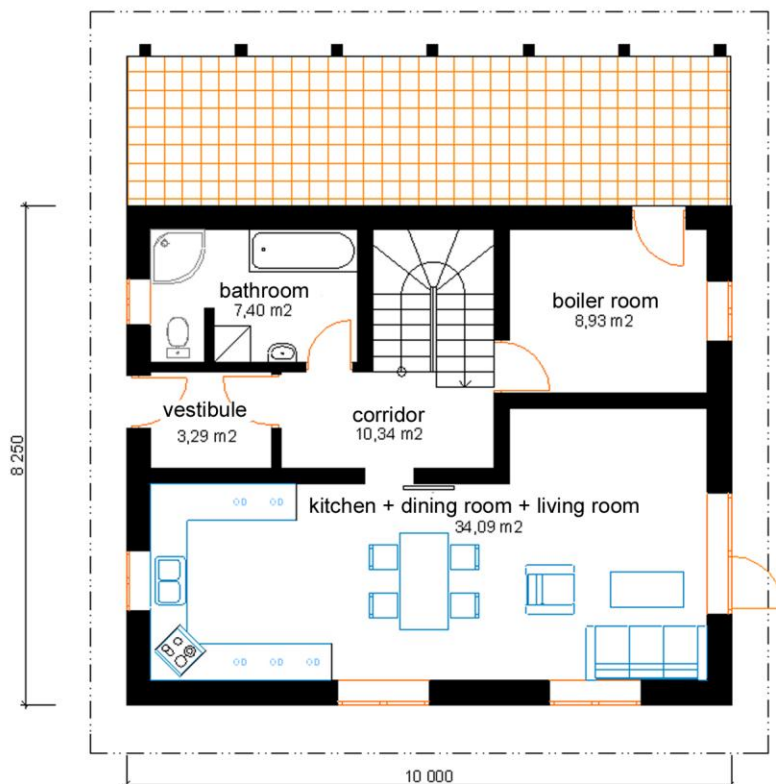


This low-energy house is heated by the most modern generation of gasification boiler for lump wood **VERNER V140 EXTRA** with rated capacity of 14 kW.

The VERNER boiler is connected to the combined storage tank with volume of 750 l, which is also able to heat domestic hot water. Thanks to this variant, the owner of the boiler saves the significant amount of money for heating of domestic hot water.

As heating elements, here are used plate radiators with installed thermostatic heads, which enable very good regulation of the mentioned radiators.

Regarding installation of the boiler and storage tank, here was used the subsidy from the program „Green Savings“ in amount of 80 000 CZK.



object floor plan (ground floor)

Basic object parameters

disposition	4 + kk
ground floor utility area	68,5 m ²
attic utility area	68,5 m ²
total utility area	137 m ²
building heat loss	6,4 kW



Project of heating source reconstruction



The family house is heated up with the most modern generation of wood boilers for gasification **VERNER V210 EXTRA** with rated capacity of 20kW.

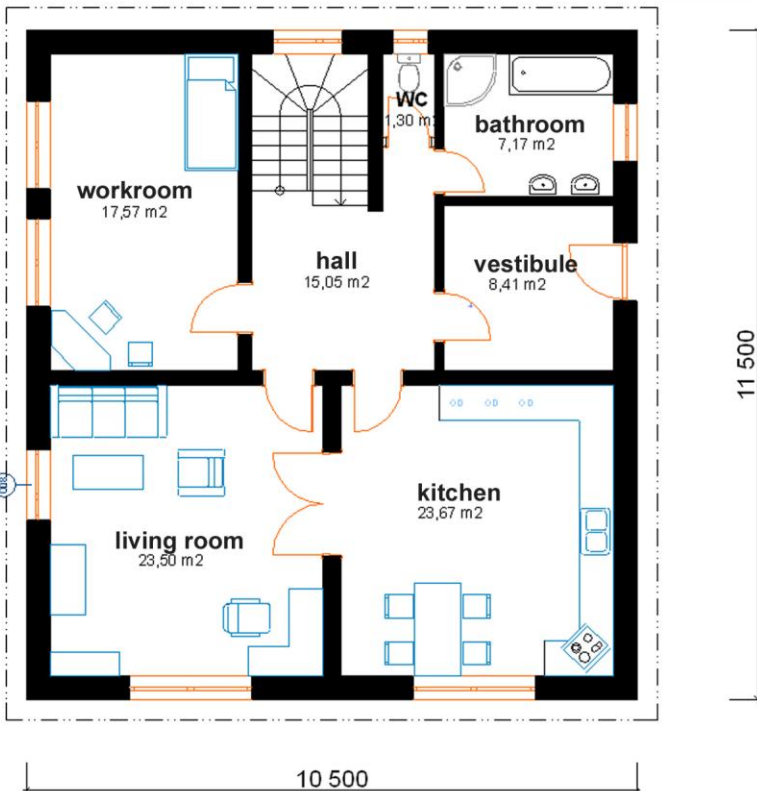
The boiler is connected to 4 heating circuits. The first heating circuit ensures the heating of residential premises, the second heating circuit is used for heating of domestic hot water, the third circuit heats up the water in swimming pool and the fourth circuit ensures the heating of premises, where the swimming pool is situated.

Thanks to the sizeable pool, where the redundant heat is used, the boiler can be connected without storage tank and without backup supply.

The cellar premises are heated only by the residual heat from flue gases outlet and by minimum heat, which is emitted by boiler body.

Basic object parameters

disposition	5 + 1
ground floor utility area	110 m ²
attic utility area	110 m ²
total utility area	220 m ²
building heat loss	16 kW



object floor plan (ground floor)



Project of heating source reconstruction



Regarding heating of this family house, here is used the **automatic boiler for pellets, agropellets and grain VERNER A251G** with rated capacity of 25 kW.

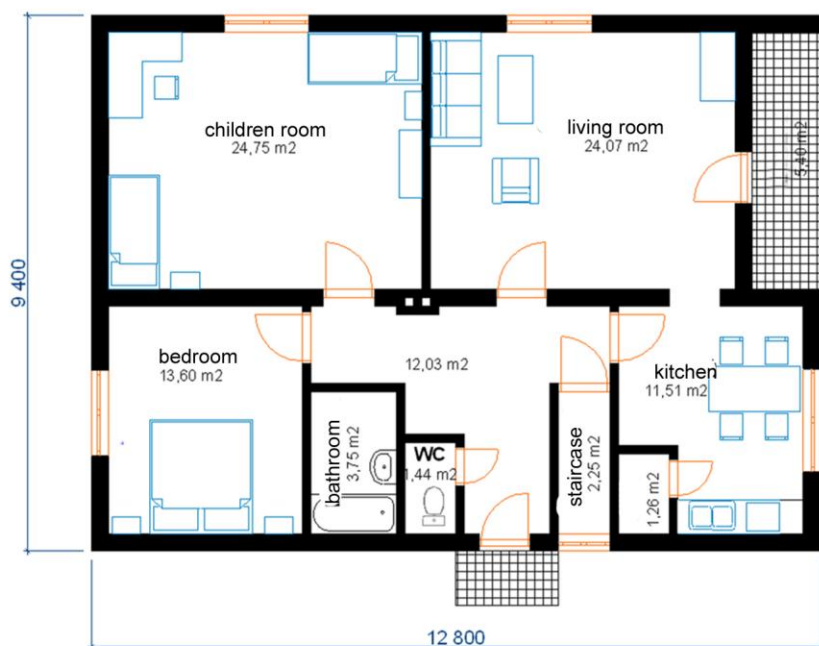
The VERNER boiler is connected to the existing heating circuit, which also ensures the heating of domestic hot water also in the summer months.

The original heat source was a fossil fuel boiler. This boiler was also used for the heating of domestic hot water.

Regarding automatic boiler, there is possibility to burn economically, comfortably and environmentally more fuel types. The owner of the automatic boiler usually use the waste from grain cleaner, which he has for free. So the return of the whole initial investment is very quick.

Basic object parameters

disposition	2 x 3 + 1
ground floor utility area	101 m ²
attic utility area	101 m ²
total utility area	202 m ²
building heat loss	17 kW



object floor plan (ground floor)

Project of heating source reconstruction



Here is used **automatic boiler VERNER A251G** for the heating of object and heating of domestic hot water for the operation of milking house. The rated capacity of the boiler is 25kW.

Previously, the object was heated by electric heaters. The domestic hot water was heated every day thanks to two electric heaters with total volume of 1500 l.

Regarding fuel in this object, they use mainly waste from grain cleaner, which don't have any other usage.

Thanks to the usage of automatic boiler VERNER, the owner of collective farm saves more than 300 000 CZK against former system of heating of object and hot water.

Automatic boilers for pellets, grain and agropellets can be used not only in farming for heating of agricultural halls, workshops, greenhouses etc., but also for heating of common family houses.



Tank, where 1 500 l of domestic hot water is heated every day. Water is used in the milking house.



Fuel used for automatic boiler VERNER.



Project of heating source reconstruction



Regarding comfortable and economic heating and heating of domestic hot water in this family house, here is used the automatic boiler VERNER A251G for pellets, agropellets and corn with power of 25 kW. One part of this installation is also storage tank with volume of 750l with possibility of heating of domestic hot water also in the summer time.

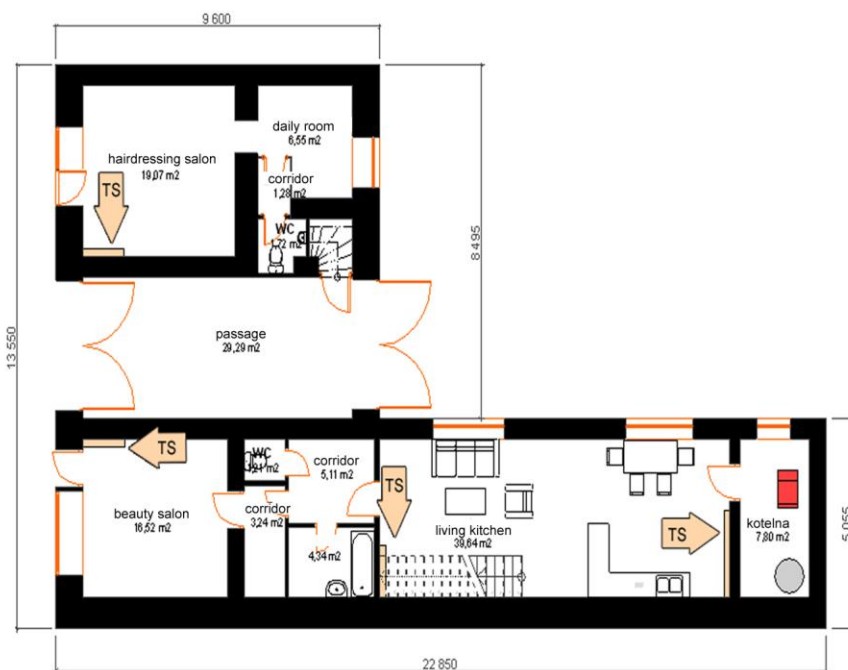
The original source of heat was a boiler for fossil fuels and several electric direct heaters. The heating of domestic hot water was originally ensured by electric heater.

All interior spaces are heated thanks to heating columns VERNER consisting of the system VERNER SPIRO. Individual heating columns can be regulated thanks to thermostatic heads. Using of heating columns enables solving of the space esthetically without disturbing of modern look of the interior in the flat, hairdressing and beauty salon.

Basic object parameters

disposition 2 + kitchenette and 3 + kitchenette
hairdressing salon
beauty salon

ground floor utility area	113 m ²
attic utility area	125 m ²
total utility area	238 m ²
building heat loss	21 kW



TS – heating column VERNER

object floor plan (ground floor)



Project of heating source reconstruction



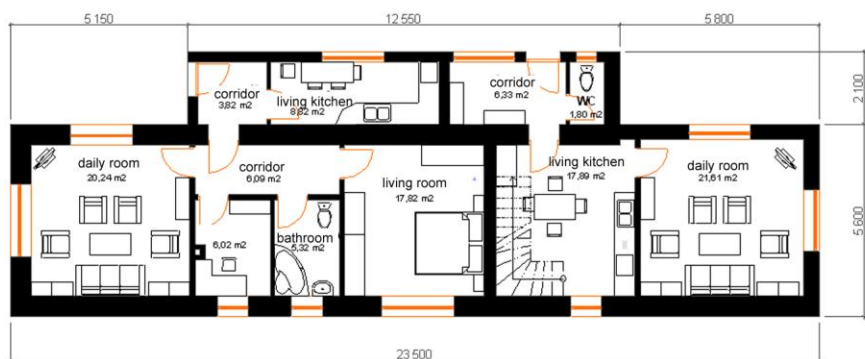
Regarding comfortable and economic heating of the family house, here is used the automatic boiler VERNER A251G for pellets, agropellets and corn with power of 25 kW.

The VERNER boiler was connected to the existing heating circuit. One part of this installation is also combined heater for ensuring of heating of domestic hot water in the summer time. The original source of heat was a boiler for solid fuels with power of 33 kW.

Regarding new boiler VERNER, there is possibility to burn more types of fuel. The owner of this boiler uses mainly waste from grain cleaner, which he has free of charge and thanks to this fact, the return of the whole invested amount is very short.

Basic object parameters

disposition	2 + kitchenette and 3 + kitchenette
ground floor utility area	128 m ²
attic utility area	82 m ²
total utility area	210 m ²
building heat loss	21 kW



object floor plan (ground floor)



Project of heating source reconstruction

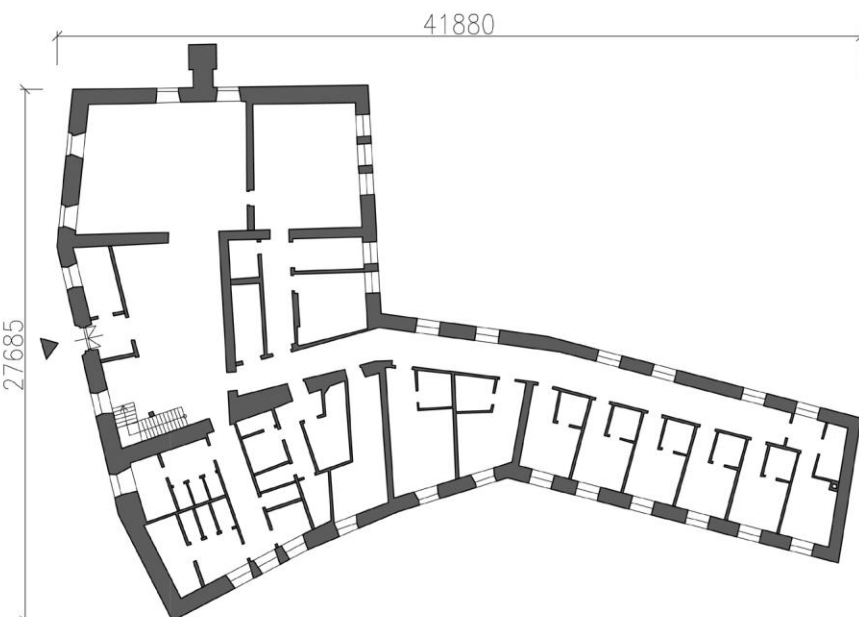


This pension is heated up by the **cascade of automatic boilers VERNER** with total power of 125kW. The boiler room consists of two automatic boilers VERNER A501G and one automatic boiler A251G. All automatic boilers have installed automatic deashing system and system of automatic fuel feeding. The fuel is stored in big-bags and according to necessity, the fuel is transported through the sophisticated equipment to the screw transport tracks.

Whole boiler room is completely automatic and it is simple to operate it. Thanks to the possibility of burning of different fuel types (e.g. agropellets, waste corn) and economic operation of the whole boiler room, the owner of this pension saves a considerable amount against the old heating system and the return of the invested amount is very short.

Basic object parameters

disposition	17 rooms restaurant bar wine shop
1st floor utility area	425 m ²
2nd floor utility area	425 m ²
total utility area	850 m ²
building heat loss	115 kW



object floor plan (1st floor)



Project of heating source reconstruction



Two-storey building of "children's home" is heated by the cascade of automatic boilers VERNER A501 for pellets, agropellets and corn with total rated capacity of 96 kW.

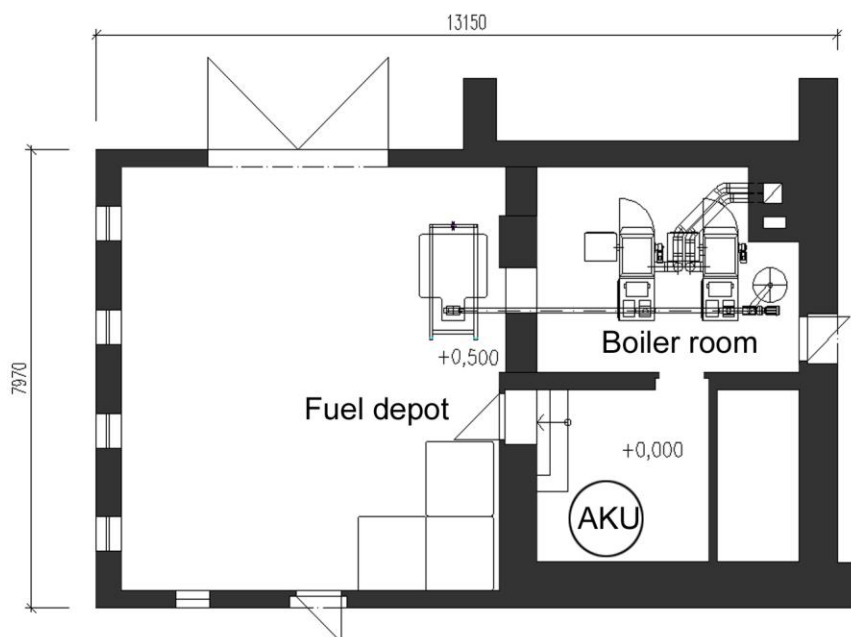
The part of boiler room is also automatic deashing system and transport tracks for fuel transport, so this boiler room is fully automatic. There is also installed a storage tank with volume of 800l, which is operated also as a instantaneous heater of domestic hot water.

Thanks to GSM communication, it is possible to operate the boiler even remotely by mobile phone.

In case of power cut, there is installed a gasoline generator in the boiler room, which ensures the electricity production for the operation of whole boiler room.

The original source of heat was a cast-iron boiler VSB for solid fuels for burning of coke. Regarding original boiler, it burned approx. 30 tons of coke in price of 240 000 CZK, now they will need approx. 40 ton of pellets in price of 120 000 CZK supplied from nearby manufacturer. Against the original source of heat the savings for fuel are 50%, so 120 000 CZK. The whole-day boiler room supervision is also not necessary.

Thanks to change of the old boiler for new automatic boilers VERNER for biomass, the children's home has not only ecologic source of heat, which already does not harm surrounding nature, but it will also significantly saves their budget.



Floor plan of boiler room including fuel depot



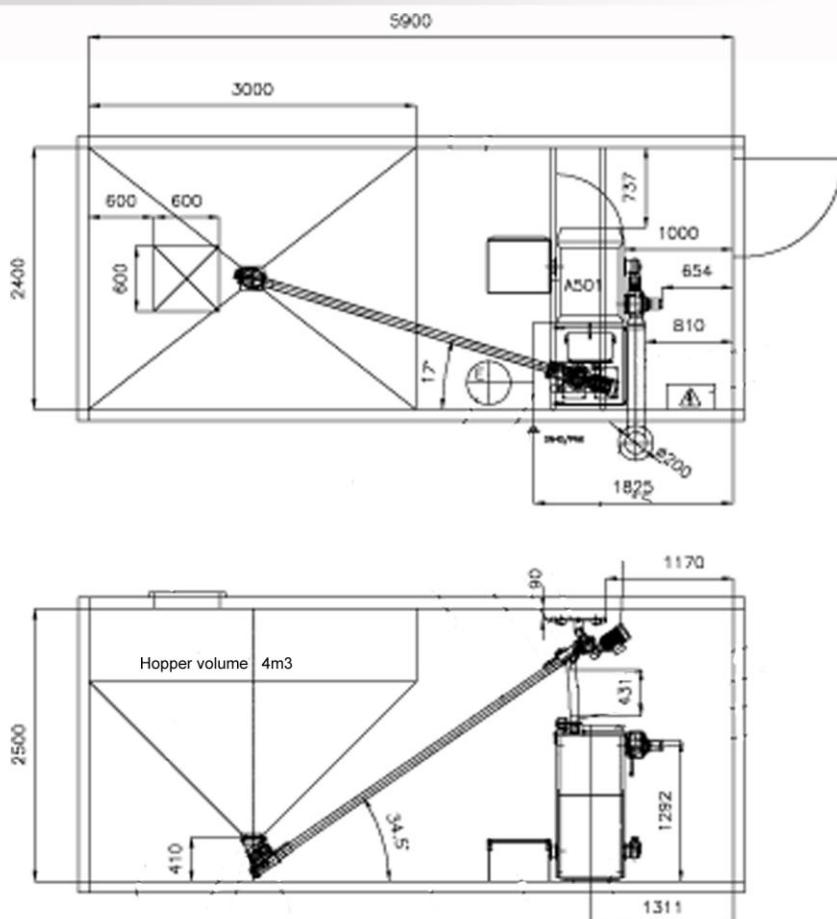
Project of heating source reconstruction



The basis of mobile boiler-rooms are the **automatic boilers VERNER A251G or VERNER A501G**, which excel in automatic, high effective and ecologic operation. There is already installed a very large silo for fuel in the mobile boiler-room, which ensures comfort and unmanned operation. The transport of fuel from the silo to the burning chamber is ensured by the screw transport track. Then the fuel is automatically ignited and intelligent electronic regulator controls the accurate dosing of fuel according to the requested output. The ash from perfectly burned fuel is transported by unique movable grate to the ashtray. The container boiler-room may include also an external automatic deashing system, which significantly higher the operation comfort of the whole boiler-room.

The mobile boiler-rooms VERNER can be seen e.g. in the collective farm Unčovice near Olomouc. But it is good to say, that you can see them here only during summer months, when they heat the grain cleaner. In the remaining months, these the same boiler-rooms are placed in other villages, where they heat e.g. nursery or workshop.

Thanks to the great flexibility of these mobile boiler-rooms and their usage for the whole year, the return of the initial investment is very quick.

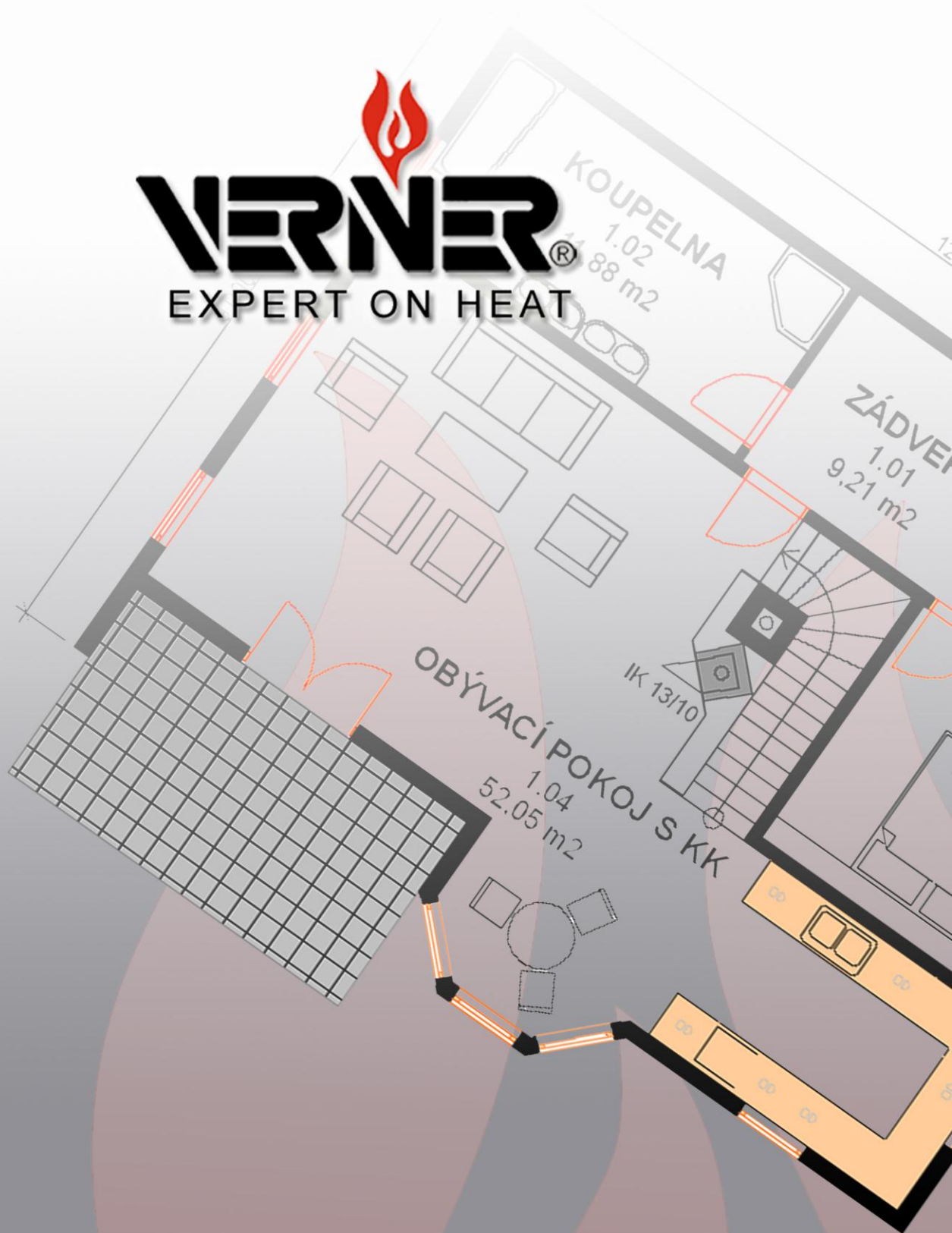


Boiler-room layout





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