

K Ü L N A

MODULAR TIMBER FRAMED HOUSES



GROWING HOUSES  
FOR MODERN HOUSING



# KÛLNA - Modular timber framed house

KULNA is a unique construction system representing the state-of-the-art housing trends. The variability of the system allow you to use KULNA not only for housing, but also for community buildings, offices, kindergartens, buildings for recreation etc.

The main idea of the KÛLNA system is its simplicity. Each KÛLNA is built from one or more so-called modules that are made to exact technological procedures. These modules are consequently transported to the site, where they are assembled to the chosen variant in a very short time. The core of each version is the so-called basic module consisting of a kitchen, technical and sanitary facility. Other parts of the house are then attached to this basic module, that create the bedroom area, other rooms, a workroom, etc. In this way, it is possible to put together different

versions that can be altered even after finishing the construction. The space arrangement is designed so that further modules can be attached at any time in the future, and so the house can grow as its inhabitants need.

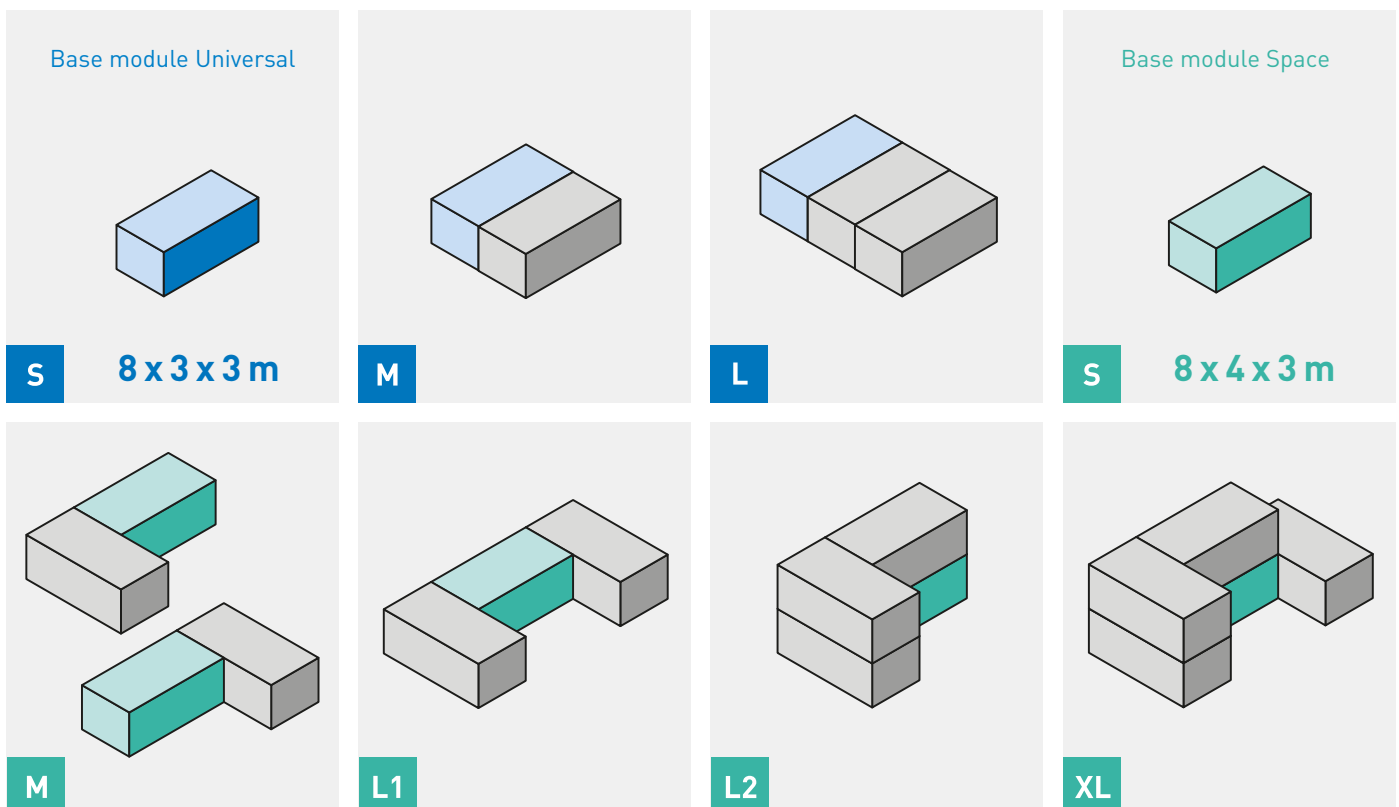
The whole construction of the KÛLNA is designed as a timber framed structure made of the PURLIVE system - Structural Insulated Panels (SIP) used worldwide. The surface of the walls can be finished with plastering, wood paneling or other common materials.

**MOBILITY** – we will deliver KÛLNA to your ready land and, within several hours, we will assemble it to the final state of the selected construction phase and version. In the future it is also possible to move the KÛLNA to a different place.

**VARIABILITY** – The KÛLNA system has many variants to offer. Select the one, which suits best your requirements. Moreover, variability is maintained even after finishing the house – individual sets are compatible to one another.

**AVAILABILITY** – The manufacturing process and the option of taking over the building at different construction phases make the KULNA available for everyone.

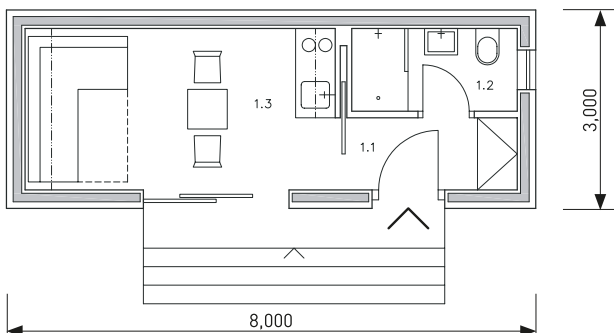
**QUALITY** – Individual modules are manufactured with the maximum precision and accuracy. All used materials ensure energy savings during the lifetime of the house and have certificates for housing purposes. The delivery is under warranty.







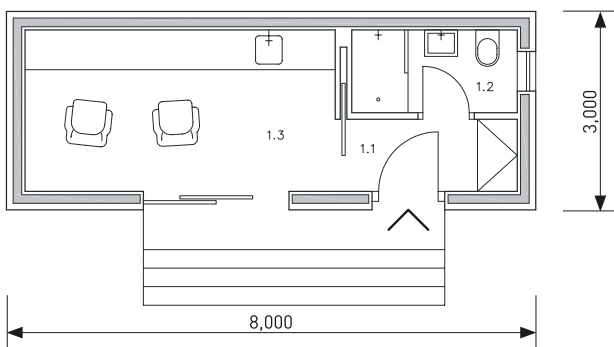
HOUSING VARIANT



Number	Name	m <sup>2</sup>	FLOOR AREA	BUILT UP AREA
1.1	ENTRANCE	3	17,57	24
1.2	BATHROOM	3,13		
1.3	LIVING SPACE	11,44		

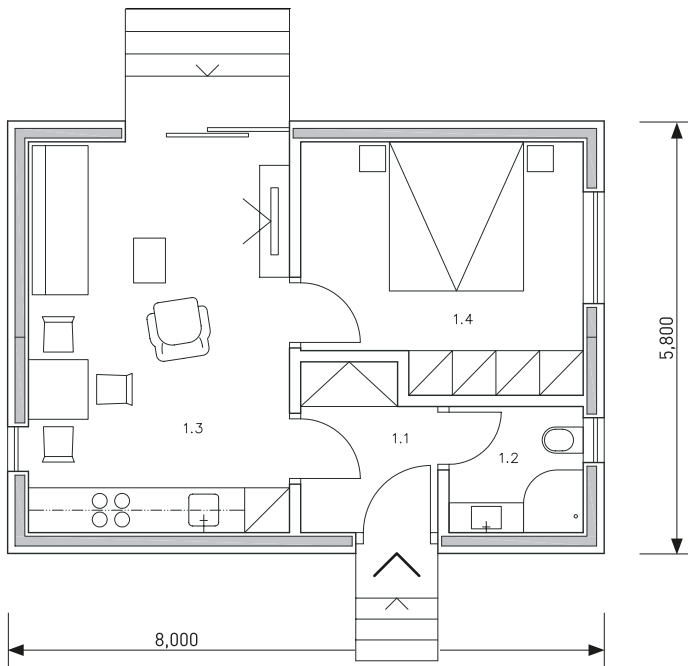


VARIANT HAIRDRESSER'S

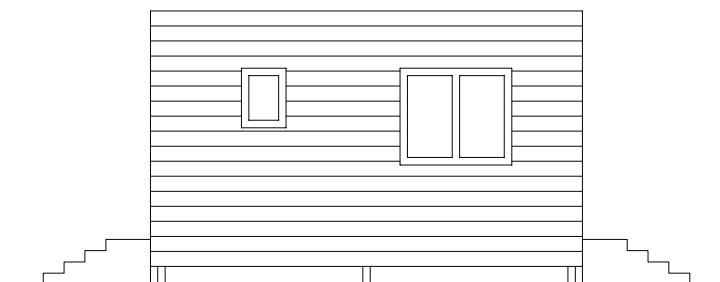
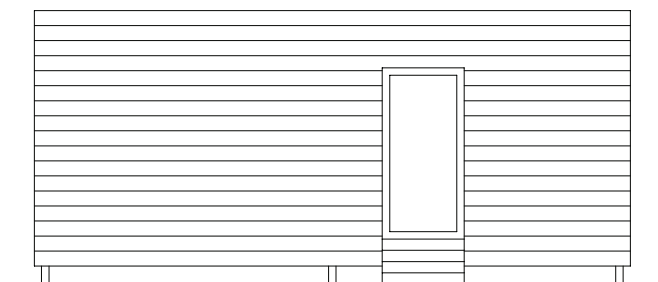


Number	Name	m <sup>2</sup>	FLOOR AREA	BUILT UP AREA
1.1	ENTRANCE	3	17,57	24
1.2	BATHROOM	3,13		
1.3	HAIRDRESSER'S	11,44		





Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,87
1.2	BATHROOM	3,04
1.3	LIVING SPACE	18,34
1.4	BEDROOM	12,02
FLOOR AREA		37,29
BUILT UP AREA		46,4



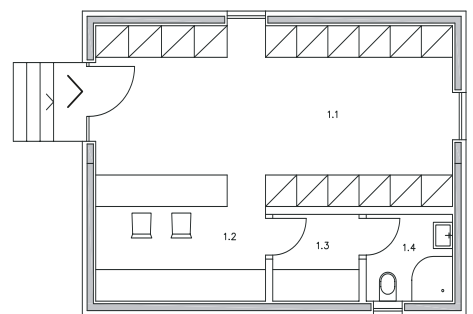
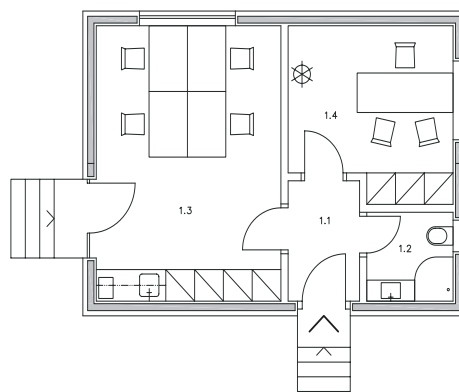
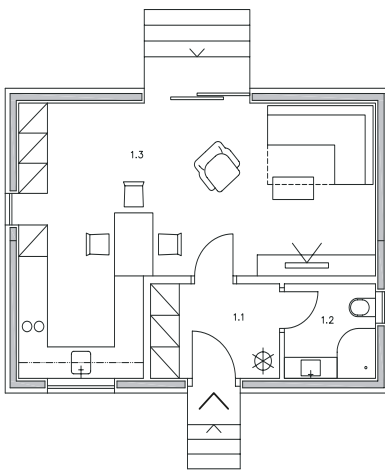




VARIANT STUDIO

VARIANT OFFICE

VARIANT SHOP



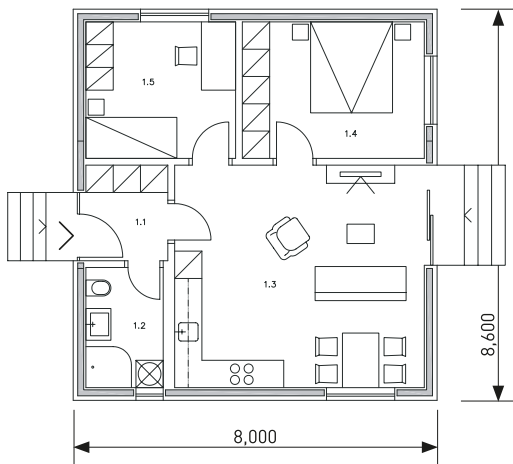
Number	Name	m <sup>2</sup>
1.1	ENTRANCE	4,84
1.2	BATHROOM	3,42
1.3	LIVING SPACE	29,55
FLOOR AREA		37,81
BUILT UP AREA		46,4

Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,41
1.2	BATHROOM	3,04
1.3	OFFICE	20,17
1.4	OFFICE	10,71
FLOOR AREA		37,33
BUILT UP AREA		46,4

Number	Name	m <sup>2</sup>
1.1	SALES AREA	25,59
1.2	CASH REGISTER	6,37
1.3	STOCK	2,97
1.4	BATHROOM	2,97
FLOOR AREA		37,9
BUILT UP AREA		46,4



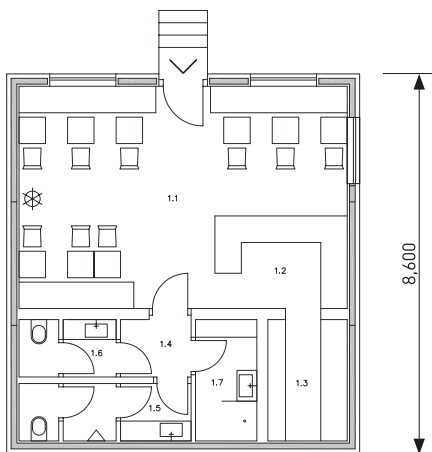
HOUSING VARIANT



Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,78
1.2	BATHROOM	4,5
1.3	LIVING SPACE	26,85
1.4	BEDROOM	12
1.5	BEDROOM	9,87
FLOOR AREA		57
BUILT UP AREA		68,8



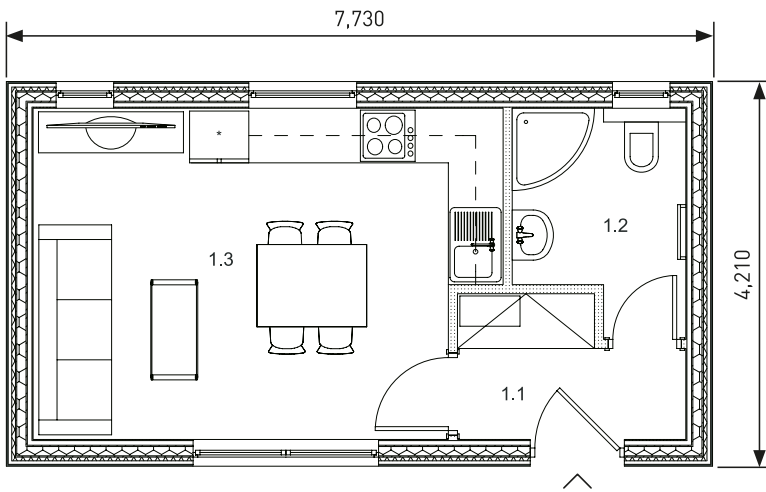
VARIANT CAFE



Number	Name	m <sup>2</sup>
1.1	CAFE	31,2
1.2	BAR	6,3
1.3	HUNDRED	4,95
1.4	CORRIDOR	2,08
1.5	WC MEN	5,07
1.5	WC WOMEN	2,86
1.5	EMPLOYEES	3,82
FLOOR AREA		56,28
BUILT UP AREA		68,8



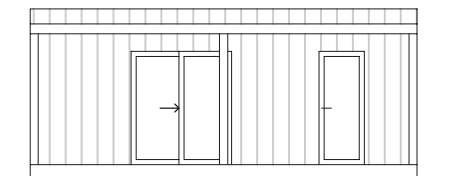




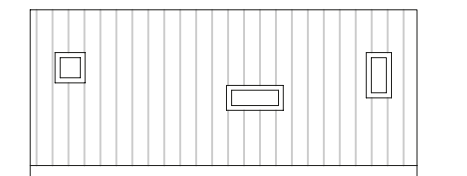
ABOVE GROUND STOREY

Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,39
1.2	BATHROOM	4,21
1.3	LIVING SPACE	17,93
FLOOR AREA		25,53
BUILT UP AREA		32,54

SOUTH VIEW

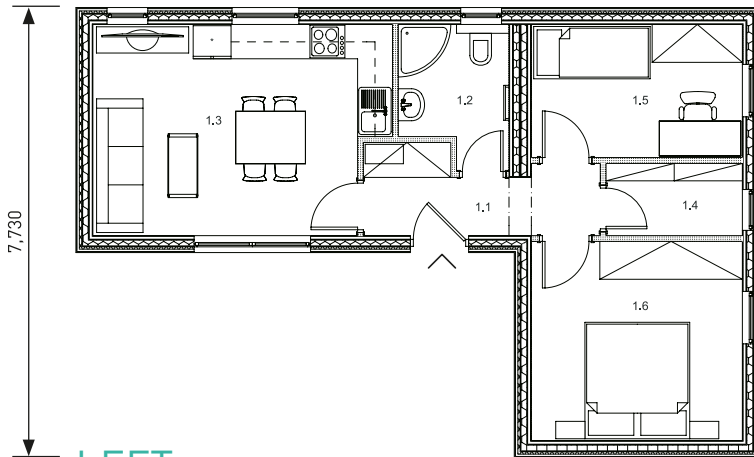


NORTH VIEW

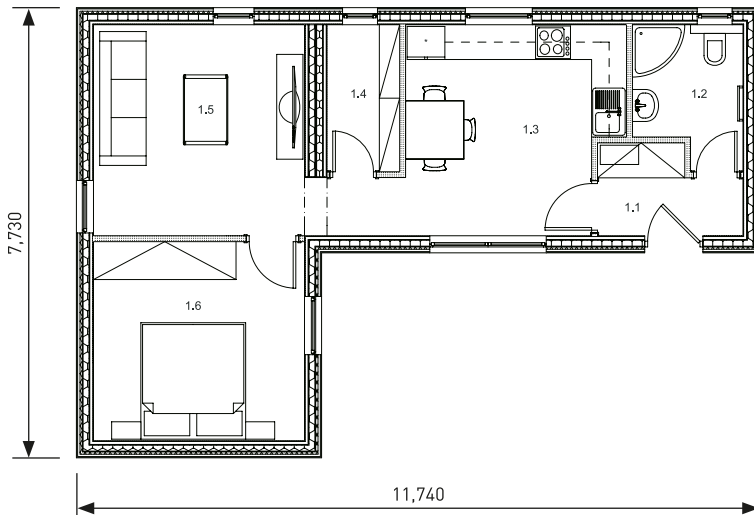




RIGHT VERSION



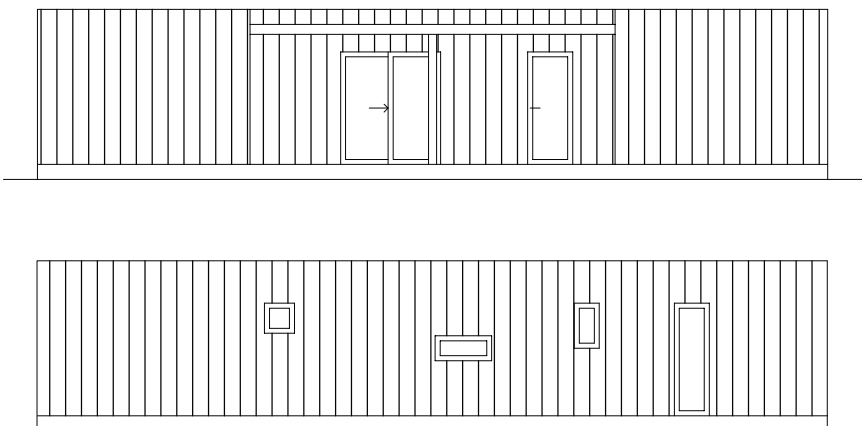
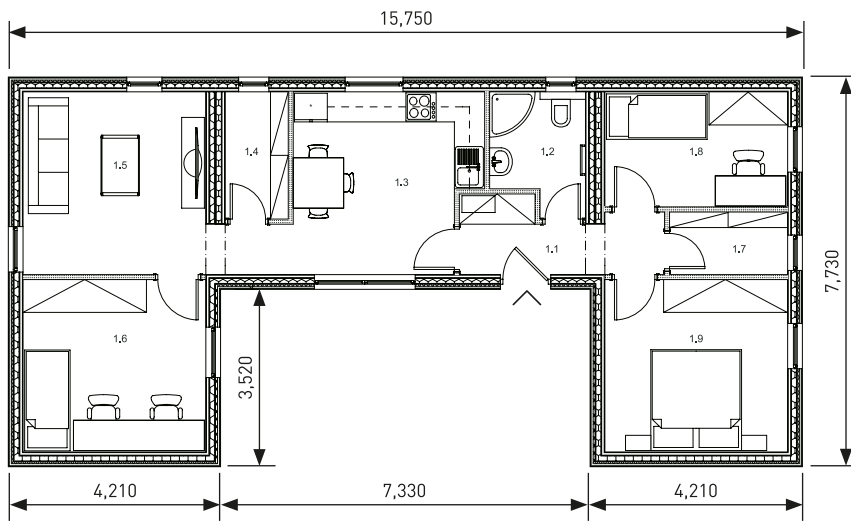
LEFT VERSION



Number	Name	m <sup>2</sup>
1.1	ENTRANCE	5,25
1.2	BATHROOM	4,21
1.3	LIVING ROOM	17,64
1.4	STOCK	2,91
1.5	ROOM	8,29
1.6	BEDROOM	12,40
FLOOR AREA		50,70
BUILT UP AREA		64,24

Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,39
1.2	BATHROOM	4,21
1.3	KITCHEN	14,10
1.4	STOCK	3,16
1.5	LIVING ROOM	13,53
1.6	BEDROOM	12,40
FLOOR AREA		50,79
BUILT UP AREA		64,24

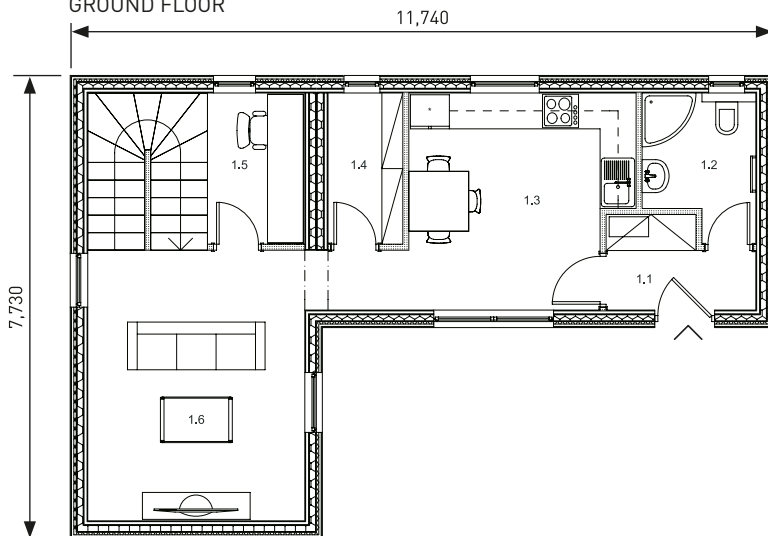




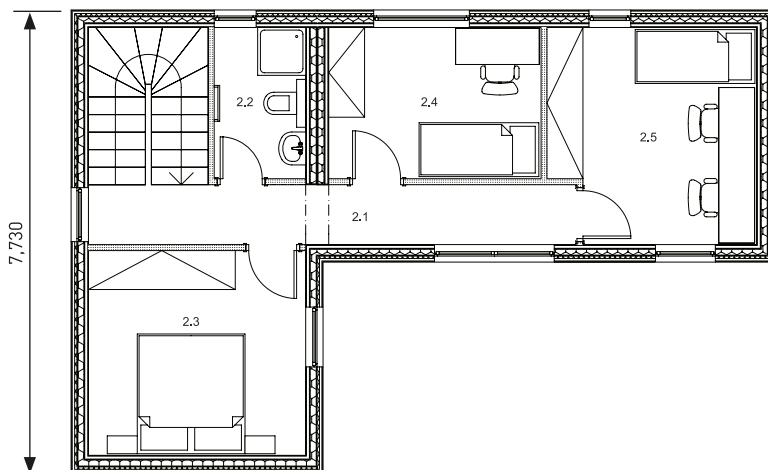
Number	Name	m <sup>2</sup>
1.1	ENTRANCE	5,25
1.2	BATHROOM	4,21
1.3	KITCHEN	14,10
1.4	STOCK	3,16
1.5	LIVING ROOM	13,53
1.6	BEDROOM	12,40
1.7	STOCK	2,91
1.8	ROOM	8,29
1.9	BEDROOM	12,40
FLOOR AREA		76,25
BUILT UP AREA		95,95



GROUND FLOOR



FIRST FLOOR

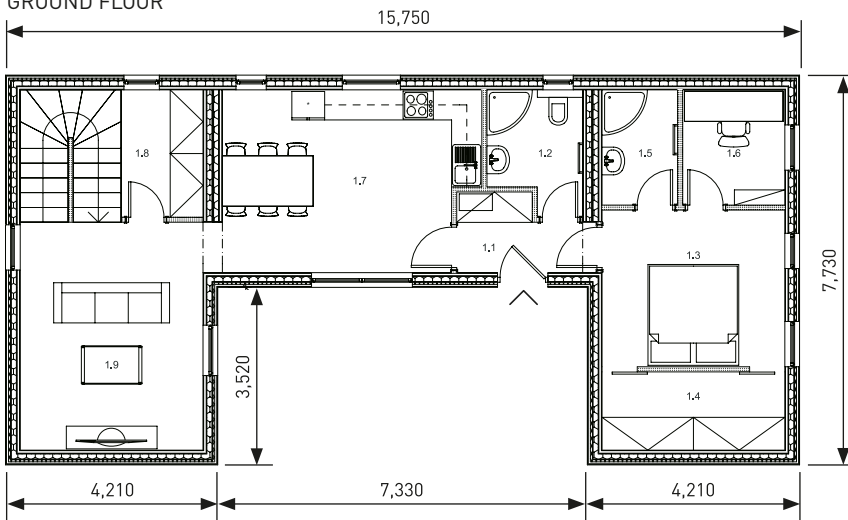


Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,39
1.2	BATHROOM	4,21
1.3	KITCHEN	14,10
1.4	STOCK	3,16
1.5	STUDY	6,51
1.6	LIVING ROOM	16,77
FLOOR AREA		48,14
Number	Name	m <sup>2</sup>
2.1	CORRIDOR	8,16
2.2	BATHROOM	3,85
2.3	BEDROOM	12,40
2.4	ROOM	8,96
2.5	BEDROOM	12,03
FLOOR AREA		45,40
ABOVE GROUND STOREY		
+ 2 <sup>nd</sup> ABOVE GROUND STOREY		93,54
BUILT UP AREA		64,24



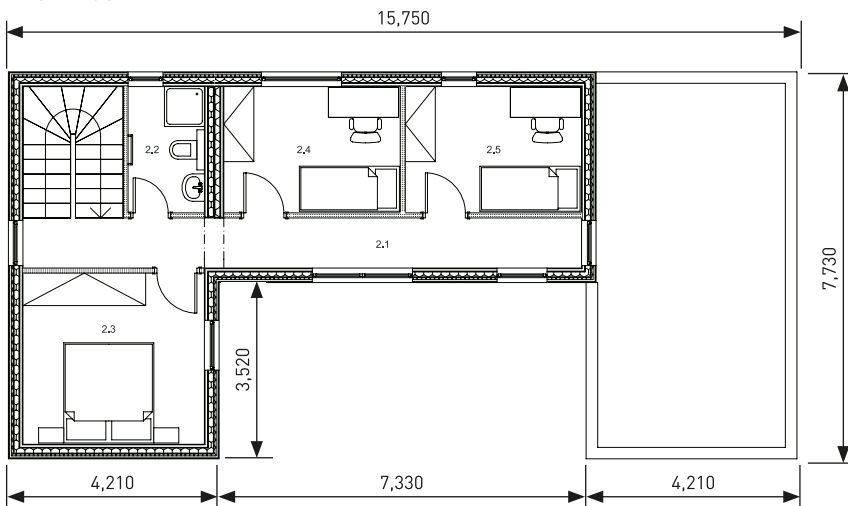


GROUND FLOOR



Number	Name	m <sup>2</sup>
1.1	ENTRANCE	3,68
1.2	WC	4,21
1.3	BEDROOM	12,27
1.4	CHANGING ROOM	5,63
1.5	BATHROOM	3,43
1.6	STUDY	4,63
1.7	KITCHEN	17,64
1.8	STOCK	6,51
1.9	LIVING ROOM	16,77
FLOOR AREA		73,77

FIRST FLOOR



Number	Name	m <sup>2</sup>
2.1	CORRIDOR	11,16
2.2	BATHROOM	3,85
2.3	BEDROOM	12,40
2.4	ROOM	8,91
2.5	ROOM	8,89
FLOOR AREA		45,21
ABOVE GROUND STOREY		
+ 2 <sup>nd</sup> ABOVE GROUND STOREY		118,98
BUILT UP AREA		95,95

# Technical description

## Sub-frame grid

The sub-frame is made of timber KVH gridwork that will form the bearing structure of the whole modular construction. The spaces between the floor gridwork will be filled with thermo-insulating material. The bottom cover of the sub-frame will be made of boards. A vapour seal foil will be laid at the top of the beams that will be glued over and anchored to those beams. The top decking is made from OSB boards.

## PURLIVE system panels

The structure that forms the external walls of the modular house are made of Purlive sandwich panels W100\_15, thickness 130 mm. Thermal insulation of the panel is made from bi-component PUR foam of 100 mm thickness.

The envelope is made from OSB boards on both sides, thickness 15 mm. Individual panels are connected to one another by means of KVH coupling.

## External insulation

External insulation is made by a contact system made from EPS thickness 100 mm with inserted thermal insulation of basalt mineral wool of 40 mm thickness laid into the timber grid and draped over with a diffusion permeable foil that forms the safety hydro insulation of the assembled façade. Diffusion foils are glued over one another. The external part of the façade is formed by flooring from Siberian larch (RHOMBUS), which are anchored to the timber grid using stainless steel screws.

## Ceiling structure

The ceiling structure will be made of timber ceiling KVH beams. Thermo-insulating material will fill the spaces between those beams.

A diffusion foil will be laid at the top of the beams that will be glued over and anchored to those beams.

## Roof

Roof is designed as a flat structure. The pitch of the roof is ensured by means of v-shaped elements. The roof is vented through a ventilation strip. Water is drained from the roof by a spout with an integrated PVC collar of 75 mm diameter, a pot and a pipe located on the external side of the façade. The structure of the attic will be plated with metal.

## Plasterboard structures

Partition wall thickness 100 mm

- Consists of bearing structure made from CW and UW profiles.
- Inserted mineral acoustic insulation.
- Single envelope with plasterboard GKB/GKBi thickness 12.5 mm.
- Surface finish – painting, white colour.

### Plasterboard ceiling

- Plasterboard of CD and UD profiles and GKB/GKBi boards, thickness 12.5 mm.
- Surface finish – painting, white colour.

### Installation skin wall (for wiring)

- Installation skin wall (for wiring) consists of CD and CW profiles. The envelope is made with plasterboard GKB/GKBi, thickness 12.5 mm.
- Surface finish – painting, white colour.

## Vapour seal foil

Vapour seal foils will be installed under the plasterboard skin walls ceilings, and they will be connected to one another.





## Floors

### Floor in the bathroom

- Wear layer – tile flooring
- Adhesive
- Penetration of the underlying floor

### Floor in living spaces

- Wear layer – PVC
- Adhesive

## Tiling

Ceramic tiling, assembled by gluing. Tiling is also around the kitchen furniture.

The height of the tiling is 2 100 mm from the wear layer of the floor.

## Doors

**Entrance door** – single swing door, material - plastic, anthracite/white colour, three-point locking, door paneling from double insulation glass

**Balcony door** – one door leaf fixed, the other one tilt and slide, anthracite/white colour, door paneling from double insulation glass

**Interior doors** – one swing door, envelope from CPL laminate, paper honeycomb inside, fitted in door casing, white colour

## Window sills

Internal window sills – DTD (wood chip), white colour

External window sills – galvanized sheet iron, anthracite colour

## Windows

- Double insulation glazing
- Material - plastic
- White/white or anthracite/white colour
- Microventilation
- Basic design without accessories

## Heating

Heating considered for the modular house is electric convection heating units with 1–2 kW output according to the size of the rooms.

## Sanitary fittings and fixtures

Water distribution system is designed in insulated PPR tubing. Waste water is led out of the modular house and ready to connect to an outside sewer system. Fittings and fixtures are selected in accordance with the layout of the individual type of modular house.

## Electrical equipment

Modular house is fitted with electrical installation (power current cables, junction boxes and tubes for low voltage current and cables), electrical distribution boards, lighting including fixtures, switches and sockets (ABB TIME white/white), fire alarm and inspection are within the scope of delivery. Low voltage current installation, Security alarm and Antenna system installations are based on customer requirements and are not part of a standard delivery.

## Note

The scope of the price quotation is a standard PURLIVE modular house.



# Completion stage



	Shell	Shell, closed	Turnkey construction
Circumferential frame including PUR insulation	●	●	●
Bearing floor structure, including insulation	●	●	●
Main power supply	●	●	●
Main water and waste supply	●	●	●
Bearing roof structure	●	●	●
Roof structure incl. thermal insulation	○	●	●
Roof structure incl. roofing	○	●	●
Opening paneling	○	●	●
Ventilated façade	○	●	●
Rain pipe system	○	●	●
Final interior surfaces (floor, tiling, painting)	○	○	●
Installation skin walls (SDK)	○	○	●
Interior partition walls	○	○	●
Interior doors	○	○	●
Electrical installations (distributor, cables, sockets, light fixtures)	○	○	●
Electric heating units	○	○	●
Water piping (distribution system)	○	○	●
Sanitary installations (WC, shower, washbasin, boiler)	○	○	●

The price does not include: Terrace, construction foundation, transportation, utility connections, interior furnishings [furniture, kitchen], landscaping.

**Construction founding options: ground screws, concrete footings, foundation slab.**



# K Ü L N A

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 **PURLIVE**  
CONSTRUCTION SYSTEMS

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