MOBIPANEL

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THE LATEST GENERATION IN VERTICAL GREEN

MobiPanel is an innovative and sustainable system for living walls on existing buildings and new developments. The latest generation in vertical green from Mobilane, specially developed to make future-proof and sustainable construction even more accessible. This unique modular system, with its interchangeable plant cassettes in two sizes, makes it possible to give a sustainable and vibrant appearance to both flat and curved walls.

FLEXIBILITY IN DESIGN AND CHOICE OF PLANTS

The system has been developed with circularity in mind. All its components can be disassembled, reassembled and recycled. The system is made up of corrosion-resistant profiles that can be installed both horizontally and vertically, depending on the format and layout of the backing wall. The profiles provide the bearing structure for the plant cassettes measuring 40 x 40 cm and the quarter-cassettes (pixels) of 20 x 20 cm. The plant cassettes are fitted with two spacious slots for plants of varying size. This flexibility allows great variation of design and choice of plants.

GREEN APPEARANCE THROUGHOUT THE YEAR

Vertical greenery with a vibrant appearance is really easy to create with MobiPanel. The plant wall stimulates biodiversity, while purifying the air and regulating heat. The automatic irrigation system ensures that the plants receive the correct quantity of water and nutrition throughout the year. This means that the green wall remains a real eyecatcher in the urban environment, offices, parking garages, hospitality sector, etc.

MOBIPANEL MATERIALS
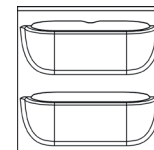
Cassettes, pixels and cover: The cassettes, pixels and cover are made of fire-retardant EPP (B-s2, d0). This material is light, UV-resistant, breathable (for good root growth) and can be fully recycled.

Profiles: The omega profiles are made of high-quality and extremely corrosion-resistant Magnelis steel. The punched-hole pattern is suitable for both vertical and horizontal installation of the profile.This provides space for passing water pipes and electricity cables through with ease. In addition, this allows use on both flat and curved backing walls.

Planting: The plants used in the pre-cultivated cassettes in the MobiPanel system are grown at the Dartplant production site under "On the way to PlanetProof" certification. This independent certification proves that the plants for the MobiPanel facade have been produced more sustainably and are therefore a better choice for nature, climate and animals. The online Mobilane PlantGuide gives an overview of selected plant species that are recommended for planting on the MobiPanel facade.

UNIQUE FEATURES

Suitable for flat and curved walls

Suitable for various wall types including certain types of sandwich panels

Interchangeable plant cassettes in two sizes (40 x 40 cm and 20 x 20 cm)

Economical water consumption

Complies with fire classification B-s2, d0

Reusable and fully recyclable

Equipped with automated irrigation and drainage system

Lightweight and space-saving

Modular system

Easy to install against new and existing facades and walls

BENEFITS

Contributes to greening the living environment

Boosts air quality by absorbing fine dust particles and generating oxygen

Promotes biodiversity

Raises property values

Dampens noise and insulates

Captures rainwater

Provides an immediate green effect

MOBIPANEL

For the outdoor green facade system MobiPanel automatic watering is carried out by means of an irrigation system. Water consumption varies from season to season and depends on the climate and type of planting. Account should be taken of a maximum water consumption of approx 4 litres per m² per day in hot periods. Mobilane can also optionally offer maintenance contract.

BUILDING PLAN

In most cases, the installation can be directly fitted to any back wall by means of the supplied fasteners; as long as the Magnelis omega profiles hang level. The correct distance between them is shown on the supplied building plan specification for the project in question, this must be adhered to. The irrigation system is then connected and activated, after wich the cassettes (with planting) can be placed on the profiles.

DIMENSIONS

- The system is made up of cassettes measuring 40 x 40 cm and pixels of 20 x 20 cm.
- The omega profiles and covers have a standard size of 120 cm for efficient transport. They can be custom-made for large projects.

WEIGHT

- Maximum system weight when fully planted: 40 kg/m².

WALL TYPES

Low weight and intelligent design make MobiPanel suitable for greening most types of existing and new facades and walls. For example, backing walls of concrete, stone, sandwich panels, timber frame, etc.

PLACING AND WATERING

	MobiPanel
Indoor	●
Outdoor	●
Watergift	
Manual	
Tank	
Irrigation system	●

CAPILLARY ACTION

An automated irrigation system provides water and nutrients to the MobiPanel green wall. An irrigation pipe along the top of the wall supplies water to the cassettes and pixels. Each cassette and pixel is fitted with microfibre textile with capillary action to ensure even distribution of water in the cassette. All the plants receive the correct quantity of water and nutrients in this way. Extremely efficient and low water consumption is the result.

CASSETTE

Each plant cassette has two slots providing space for 6 to 8 plants per cassette, depending on the size of the plant pots. The spacious slots provide a great deal of flexibility and plant choice. They also offer the plants more space for the roots to ensure healthy growth. Plenty of space for roots contributes to plant quality; the plants remain healthy even with large variations in temperature.

CASSETTE
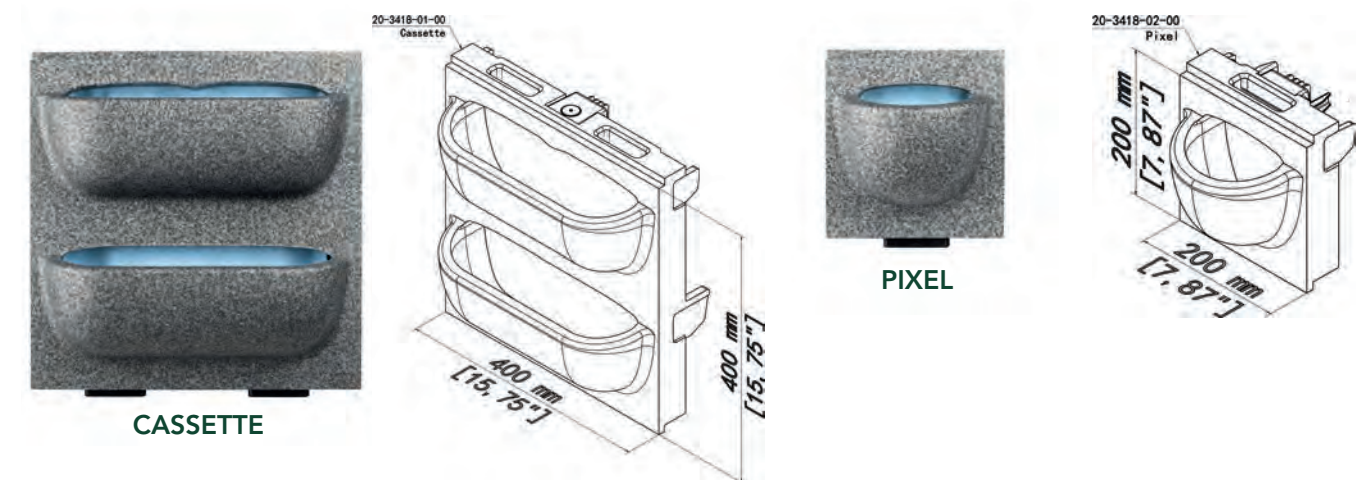
PIXEL

Air chambers behind the capillary matting ensure a good supply of air to the roots. This contributes to optimal plant growth and quality. By using pixels, systems can be tailormade to fit precisely and can be used in all designs, including those with unusual dimensions.

WIND LOAD AND VENTILATION

A static load calculation is available for the MobiPanel system, both for attaching the cassettes to the profiles and for attaching the profiles to the backing wall. A separate calculation is available for carrier sandwich panels. Proper ventilation of the living wall is ensured by the gap of 38 mm between the rear of the cassettes and the wall.
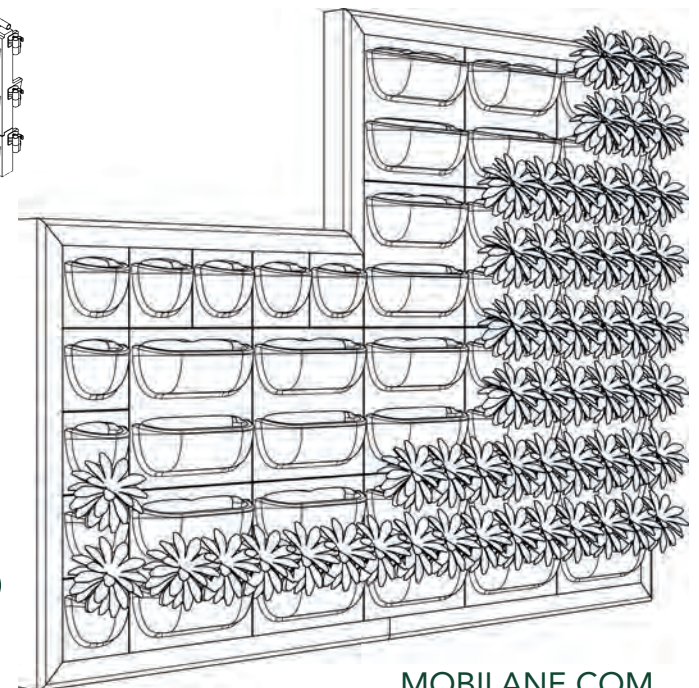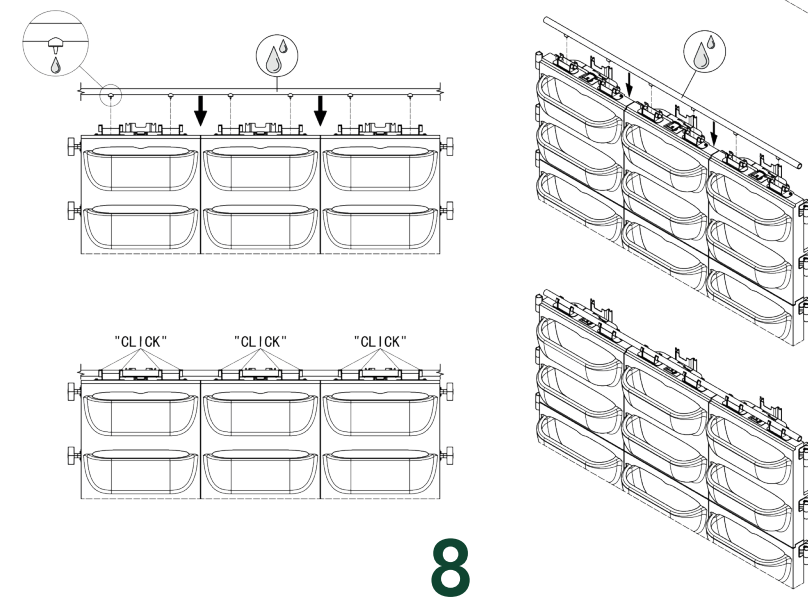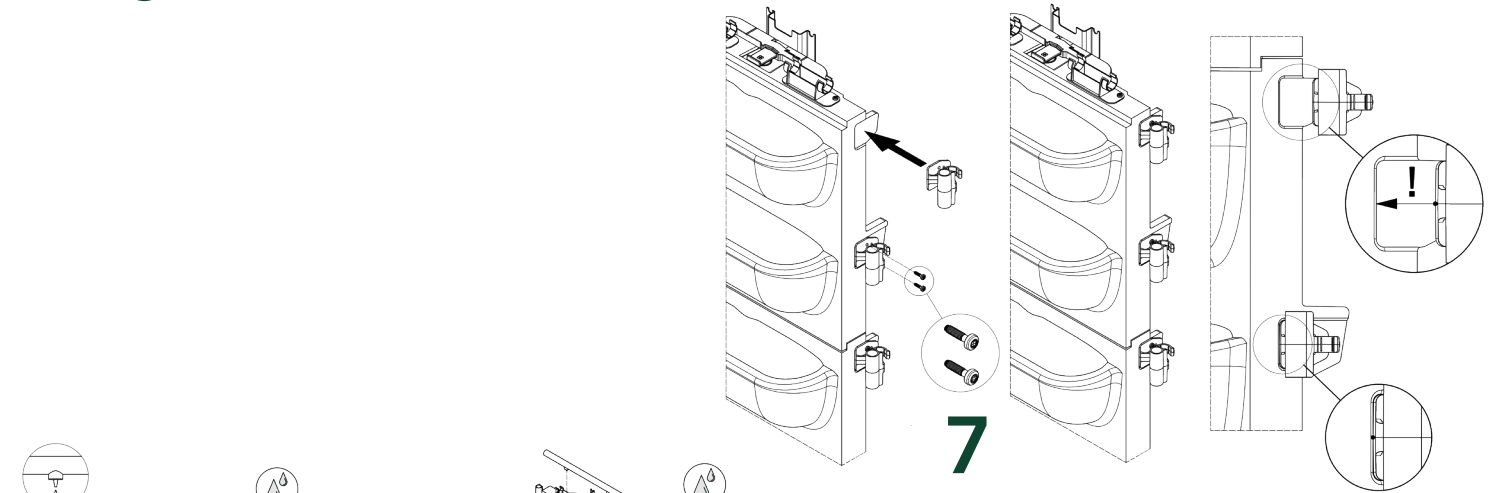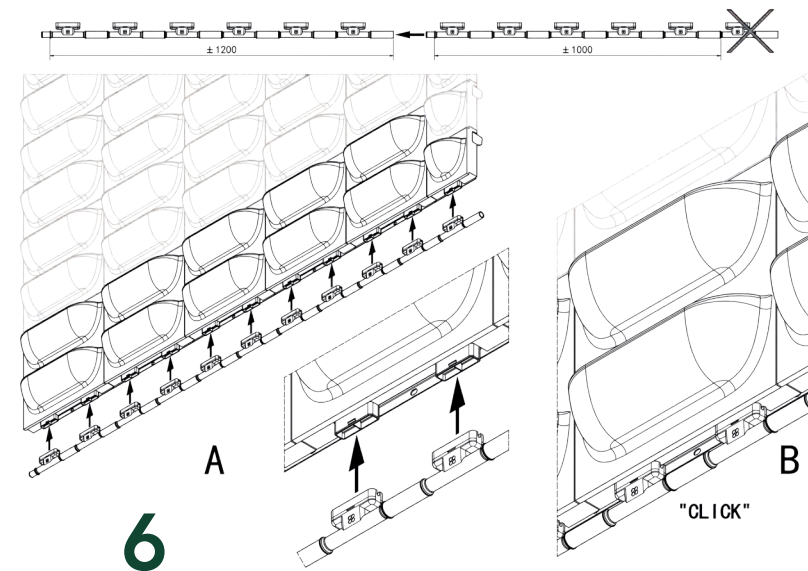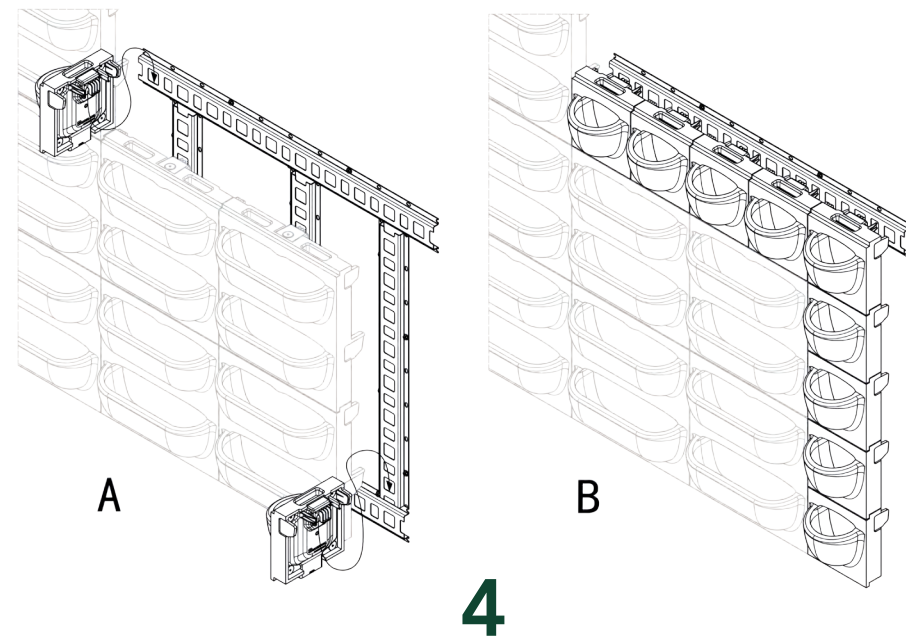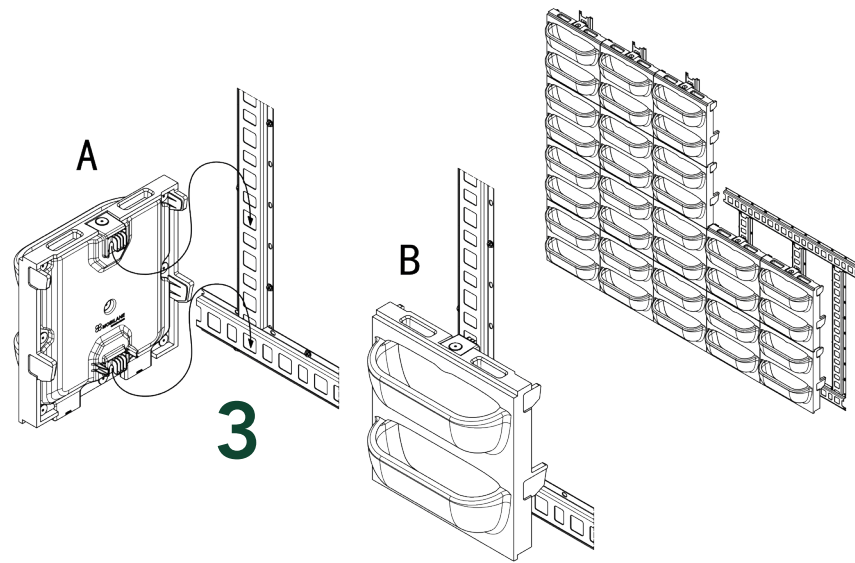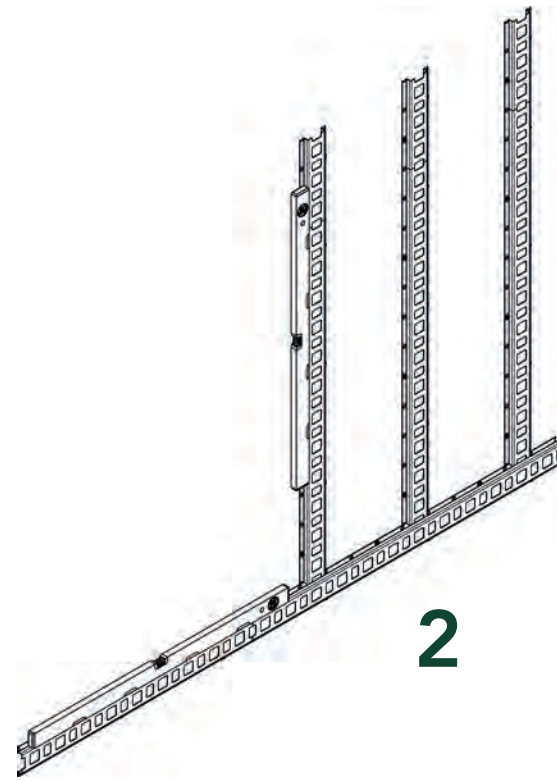
THERMAL INSULATION

Living walls contribute to the thermal insulation of a building. They heat up less in the summer and lose less heat in the winter. In addition, living walls contribute to cooling the urban climate as a result of evapotranspiration from the greenery.

RECOMMENDATION

It is recommendable to involve Mobilane as early as possible in the design and construction process to ensure optimal design for the technical requirements, such as the irrigation system and the piping and cabling.

38 mm

175 mm

INSTALLATION

1

Standard anchorage
- T30
- SXRL 8x60
- SDS 8 mm [5/16"]
- Ø8 mm [5/16"]
- Profile
- 70 mm [2.76"]
- 4 Nm

Optional anchorage
- PZ2
- fischer 5.0x60 CK RVS A2
- Profile
- fischer UX 8x50
- SDS 8 mm [5/16"]
- Ø8 mm [5/16"]
- 2.5 Nm (Dry Wall)

2

3

A

B

4

A

B

5

A

B

6

A

B

"CLICK"

± 1200

± 1000

7

!

8

"CLICK" "CLICK" "CLICK"

9
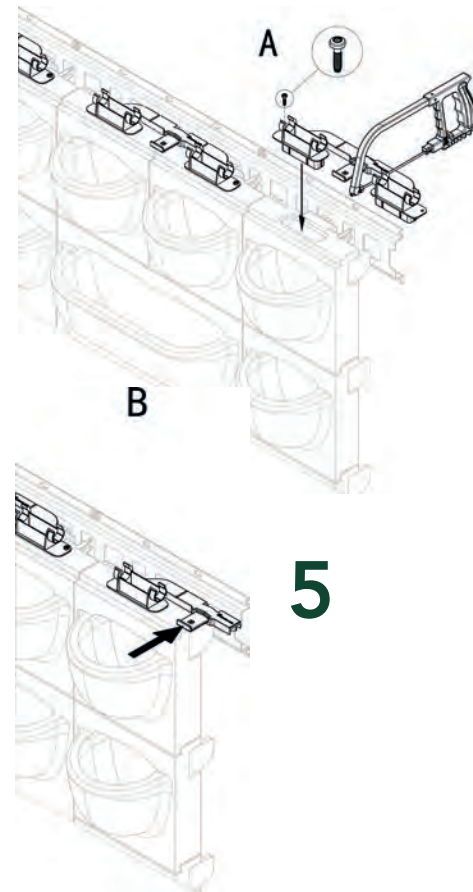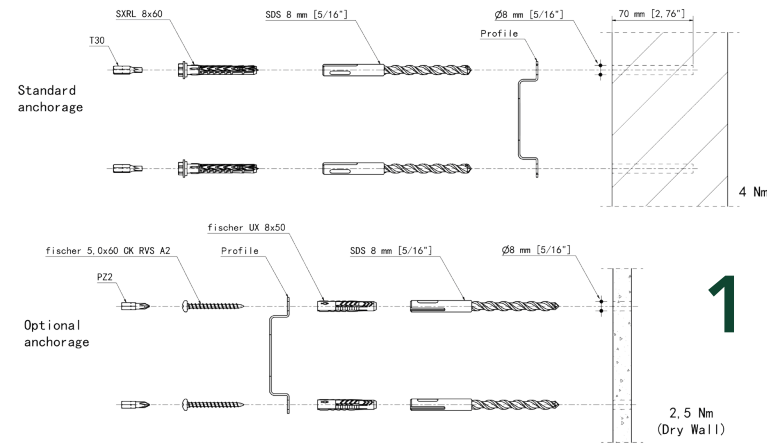
MAINTENANCE

The maintenance of a green facade consists of pruning, replacing bad plants, identifying and controlling any diseases and pests. The frequency of maintenance depends on the types of plants, season, and the associated growth of the planting. Maintenance of a green facade is very important for ensuring optimum appearance and a healthy green facade.

1. PRUNING

For the protection of the green facade, it is essential that the wall is well maintained and the planting is pruned. The wall should be pruned about twice a year, depending on plant type. This should be avoided in colder seasons and nesting periods. The planting in the green facade must be pruned in order to keep it's optimal design, giving the planting light and space grow to grow and bloom again. The green facade is pruned by means of an (electric) hedge trimmer or pruning shears.

2. CONTROL OF DISEASES AND PESTS

During inspection visits, the presence of diseases and pests us also carefully considered, and treated if necessary. This happens biological as much as possible. For example, nematodes are used in the control of vine weevil larvae.

3. ANNUAL IRRIGATION SYSTEM CHECK

The irrigation system should be checked regularly. Mobilane offers a suitable irrigation system with integrated nutrient supply for every green facade. Every green facade is different and requires appropriate adjustment. For example, it is important that a wall on the north does not get as much water as a wall on the south, because a wall on the south will consume more water in summer than a northern wall. Many variables are under monitoring to ensure that the green facade has a healthy appearance all year round.

4. NUTRITION

Non-ground-based systems such as Mobilane's MobiPanel, having no connection to the ground, require a permanent and a responsive needs-adapted water and power supply. The MobiPanel facade vegetation system used an irrigation system in which continuous nutrition is added to the water to give the green facade the perfect appearance and keep plants healthy.

REFERENCES AND APPLICATIONS

HEADQUARTERS

APARTMENT BUILDING

DISTRIBUTION CENTRE

HEADQUARTERS

CASE STUDY

PROJECT INFORMATION

Interior and lifestyle brand ESSENZA HOME has moved into a new, completely renovated office in Bunnik in 2021. The new office is entirely sustainability-oriented. The Mobilane green façade at Essenza Home contributes to the company's sustainability vision and provides a warm welcome for its retailers, customers, and staff.

LIVING WALL SYSTEM

The almost 10,000 plants are installed in modular cassettes and pixels attached to the profiles. All of the cassettes, pixels, and covers are made of a fire-retardant EPP (B-s2, d0). This material is light, UV-resistant, air-permeable (for good root growth), and fully recyclable. An automated irrigation system provides the MobiPanel green walls with water and nutrients.

CLIENT: ESSENZA HOME
ARCHITECT: BK Punt
YEAR OF CONSTRUCTION : 2021
LOCATION : Bunnik, NL
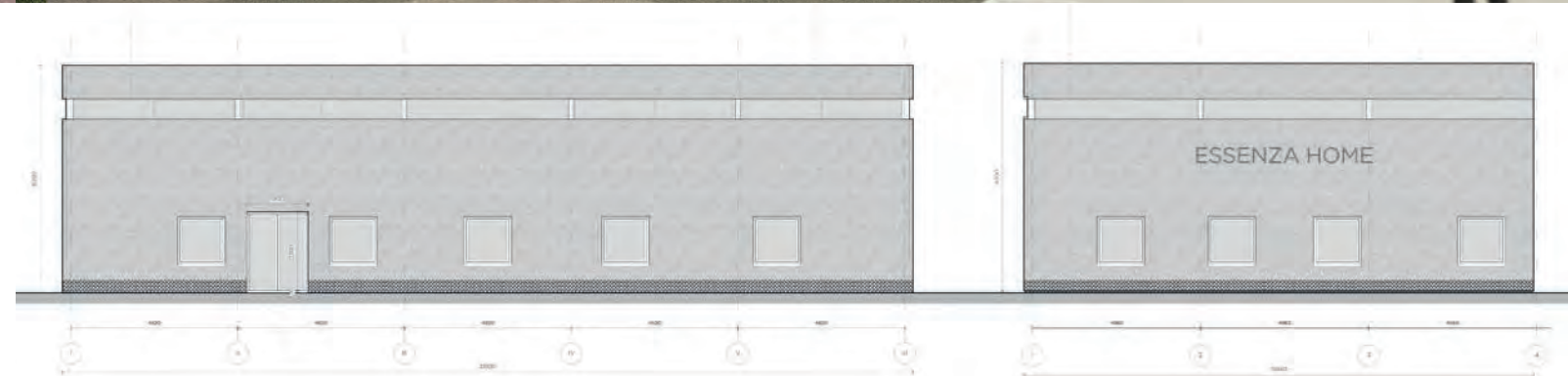
PARTS

CASSETTE

OMEGA PROFILE

DRIP ASSEMBLY

PLASSON END CAP
20 MM

PLASSON ELBOW
20MM

PLASSON T-PIECE
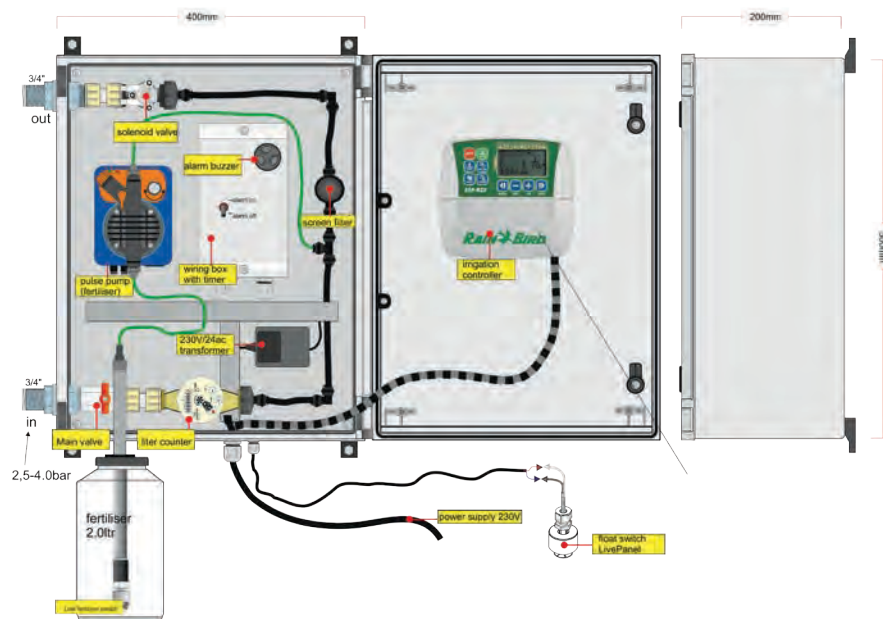20MM

PIXEL

HOSE BRACKET

DRIP LINE

DRIPPER

COVER

INTERMEDIATE COVER

DRAIN HOSE

IRRIGATION UNIT

SPECIFICATIONS GN81

- Automatic injector pump
- Rainbird controller controlled
- 1 output 3/4" outer wire
- Fertilization tank
- Unit size: 400 x 200 x 500 mm

ALARM OPTIONS*

1. SMS alarm integrated
2. SMS alarm external

OPTIONEEL

- Break tank + pump
- Frost protection
- WiFi module

* The irrigation unit is equipped with a buzzer as standard.

CAD AND BIM

All CAD and BIM models can be downloaded from the Mobilane website www.mobilane.com or by scanning the QR-code. CAD and BIM can be used for Revit, IFC, and Civil 3D by architects, engineers and construction professionals (AEC).

SCAN FOR CAD AND BIM MODELS