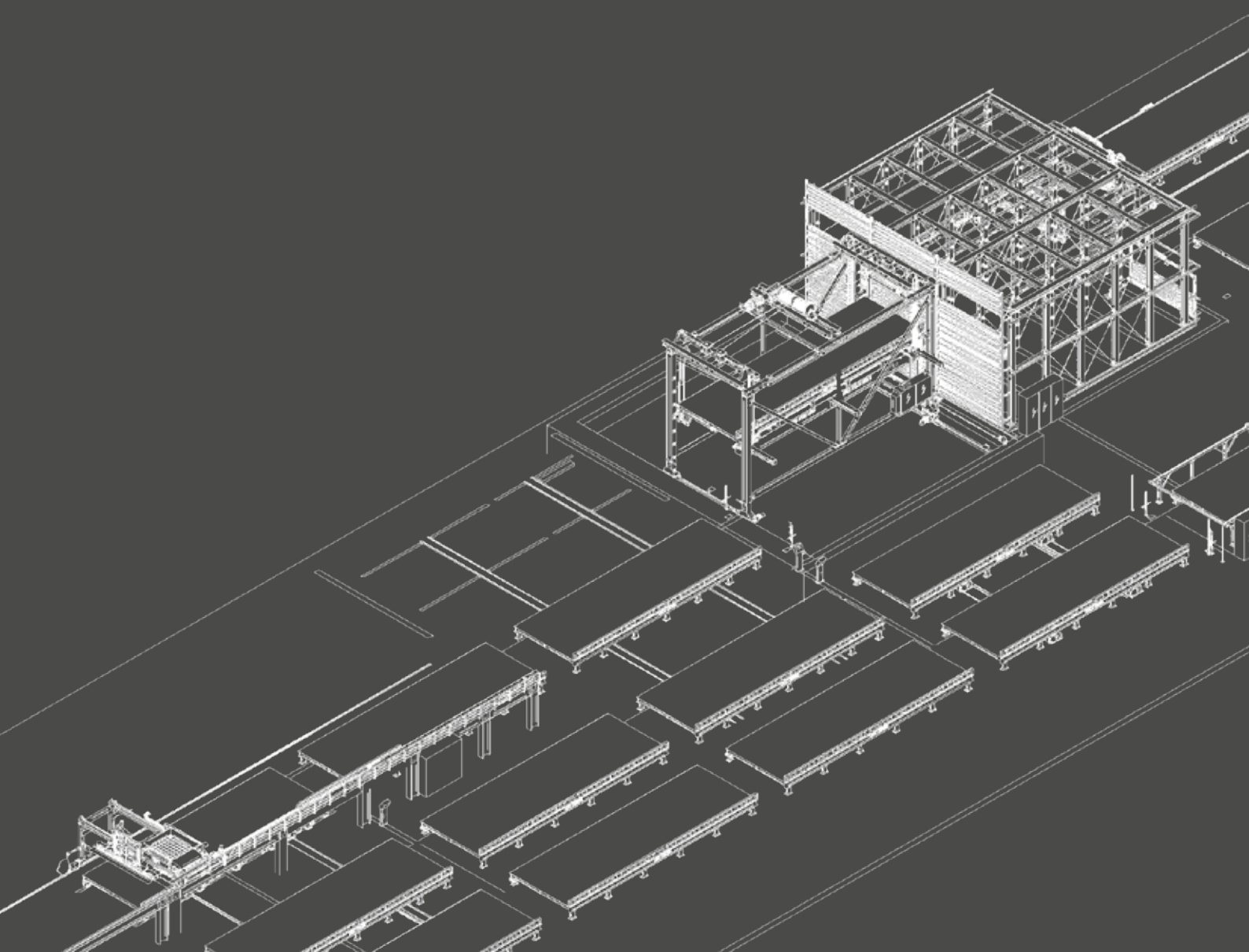
OLMET

Concrete Machinery to build the future



OLMET ITALY

Concrete Machinery to build the future

Your expert partner in designing and manufacturing of concrete pre-casting machinery and plants

OLMET ITALY designs and manufactures machinery and plants for pre-casting concrete elements.
Since 1961 the company is committed to ensure continuity of vision and values between past, present and future, maintaining always the most suitable organization to follow markets evolutions.
Olmet suggests to customers advanced technological solutions - entirely automatic- for small, medium and large-size industrial productions.

Expertise, know-how, competence, passion, efficiency, dynamism. Olmet solutions are always highly customized, versatile and flexible to grant the best in efficiency, energy saving in everyday use.
Olmet, a global partner in the pre-casting industries, with whom to reach the highest quality standards, ensuring quality and safety in the manufacture process: the company is in total synergy with customers, accepting ever-changing challenges, to promote innovative solutions in the sector.
Starting from conventional building projects by customers, Olmet may provide as well, the designing of concrete precast elements for the civil, industrial and infrastructure construction industry, in connection with renowned Italian architecture and engineering firms.

The headquarter is located next to Venice in Italy. Over the years the company has created and developed an international sales network with a worldwide presence in more than 70 different countries with over 1150 installations.

The manufacturing workshop, with 43.000 sq.mt/462848 ft of outdoor area out of which 6.000 sq.mt/64584 ft are covered area, can carry out any type of material processing thanks to the highly automated pre-processing plants for steel plates, including:

- CNC laser-cutting;
- CNC boring on flat bars and other profiles, up to a maximum size of 5.000 mm/196,85";
- Special machining of large size steelwork elements;
- Press-bending up to 14.000 mm/551,2" length;
- Milling and lathing by CNC machinery;
- Design-made sheared, press-bended, milled and welded elements of large dimensions and maximum weight of 20 t.

The reliability over the years has grown giving to customers a fully flagged support not only during assembling procedures, but also by providing additional services like scheduled periodic technical assistance, maintaining throughout the time, a high

“ The experience gained allows us to offer the most appropriate technologies to produce prefabricated concrete elements.
We develop and design customized solutions for the specific needs of each individual project.
We use the latest 3D design software which allows us to design the individual equipment or the entire system by simulating its real operation. ”

The prefabricated concrete architecture is synonymous with modernity and quality, ensuring high technical and aesthetic performance, energy efficiency, eco-friendly, durability over time, low and certain construction costs.

The lack of skilled workers and the rising costs of manpower are among the biggest challenges facing the construction industry worldwide. Industrialized prefabrication is advantageous for solving these problems.

Standardized production methods, plant training, plant automation guarantee technological efficiency to maximize production, guaranteeing quality and economy.

Modern and powerful design software allow you to create prefabricated elements:

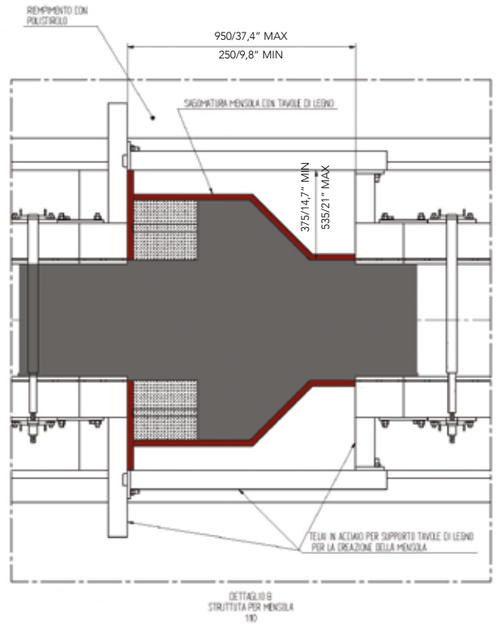
- resistant to earthquakes and more extreme weather phenomena;
- optimizing the use of raw materials such as concrete and construction steel;
- create, combine, manage and share multi-material 3D models rich in valuable construction information;
- import, export and link data with other software solutions, digital construction tools and manufacturing plants for fast and verified workflows.

From simple single-family buildings, to multi-storey buildings, to skyscrapers, stadiums, bridges, logistics warehouses, hospitals, all this can be achieved with prefabricated elements.
The experience gained allows us to offer the most appropriate technologies to produce prefabricated concrete elements. We use the latest 3D design software which allows us to design the individual equipment or the entire system by simulating its real operation.

We develop, design, manufacture, tailor-made solutions for the needs of each individual buyer.
Olmet technicians install and commission the equipment, teach the technicians to the use of the same equipment, guaranteeing a quality after-sales service and creating customer loyalty.

COLUMNS

FORMWORKS FOR COLUMNS



Formwork for the production of columns and beams with manual or automatic handling.

The elements can be produced with reinforced concrete or with prestressed concrete.
The formworks, supplied by Olmet Italy, can produce elements with different sections:

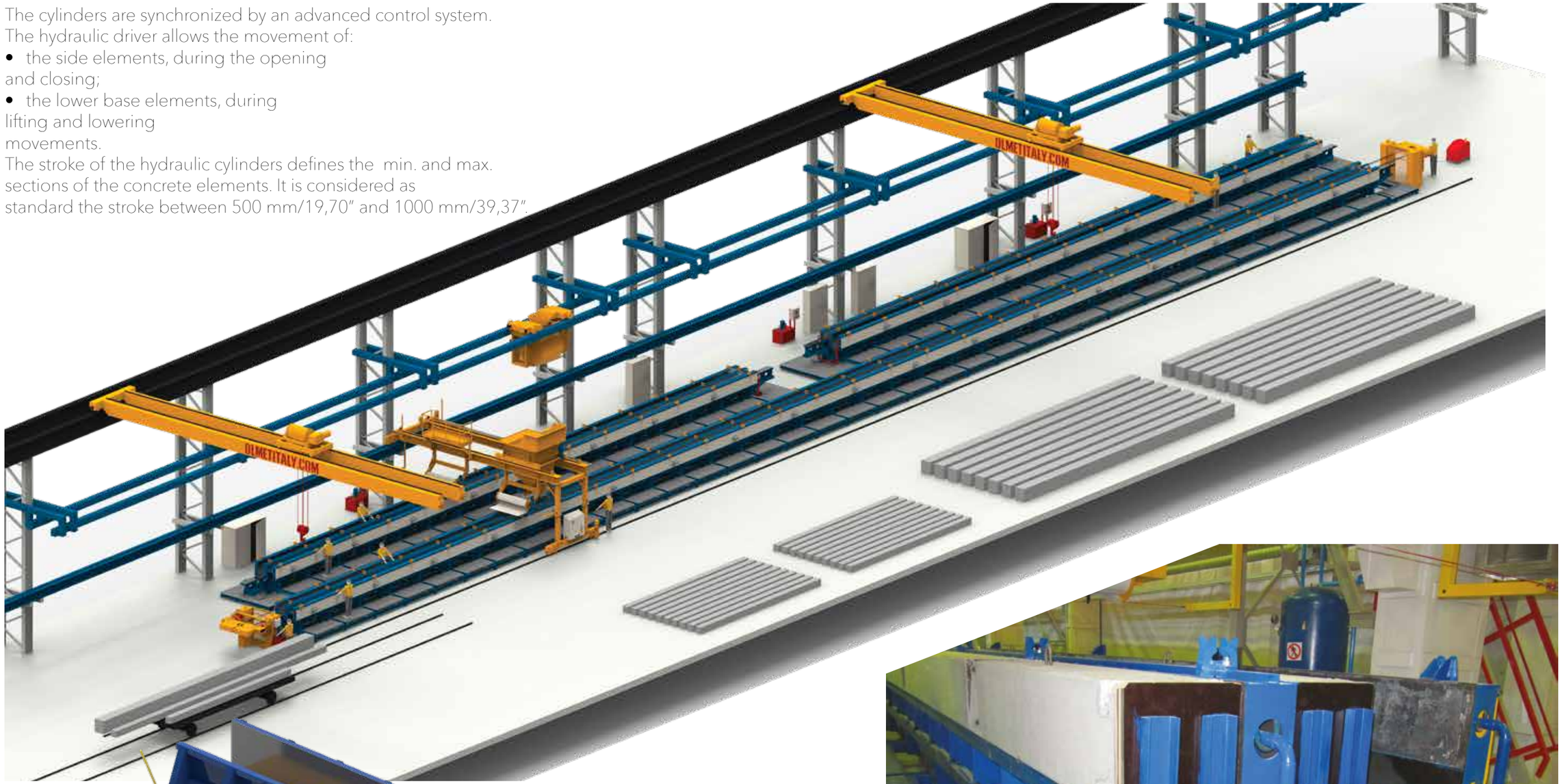
- sez. min. 200 * 200 mm/8" * 8".
- sez. max. 1.500 * 1.500 mm/59,05" * 59,05".

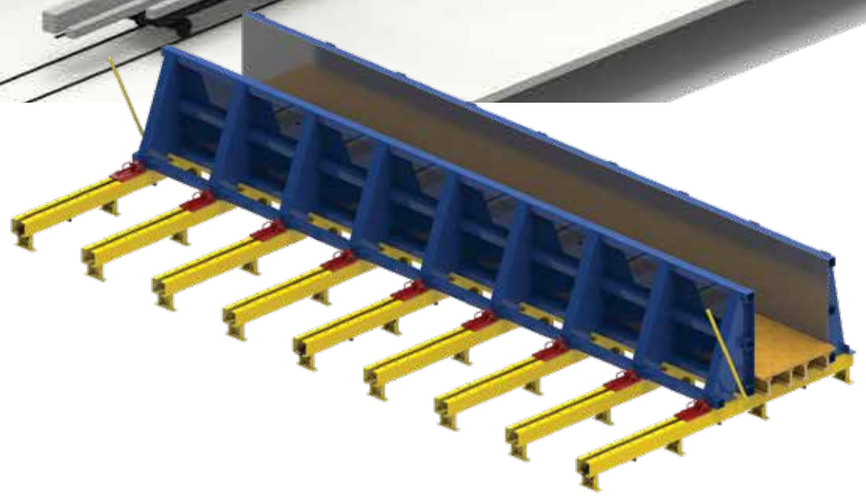
It is possible to manufacture formworks with a larger section, if required.
The steel coating for the casting side is made with sheets of different thickness: 6 mm/0,2" - 8 mm/0,3" or 10 mm/0,5".
The customer can choose between the supply of formwork with stainless steel sheets or with Multiplex wooden panels.
The formwork can be supplied in the "multiple battery" or "single-line" and its length con be agreed with customer, usually, from 6 m/19,70' up to 100 m/320,10'.
The manual movement of the side elements is supported by sliding parts, this minimize operator efforts.
Otherwise, the automatic movement of the side elements take place with hydraulic actuators (the operator does not make any physical effort). These are driven by a high-pressure pump.

The cylinders are synchronized by an advanced control system.
The hydraulic driver allows the movement of:

- the side elements, during the opening and closing;
- the lower base elements, during lifting and lowering movements.

The stroke of the hydraulic cylinders defines the min. and max. sections of the concrete elements. It is considered as standard the stroke between 500 mm/19,70" and 1000 mm/39,37".





COLUMNS

concrete precast elements

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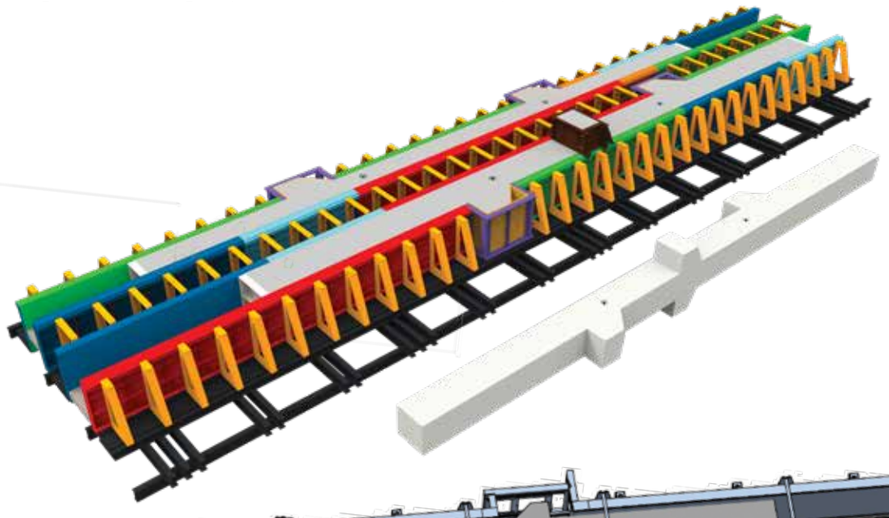
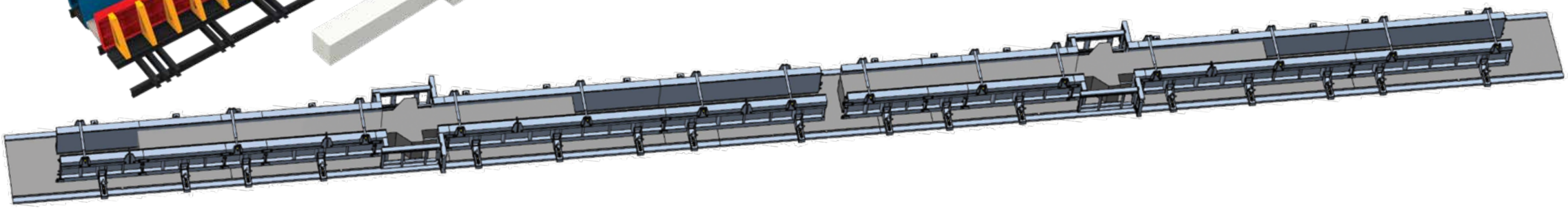
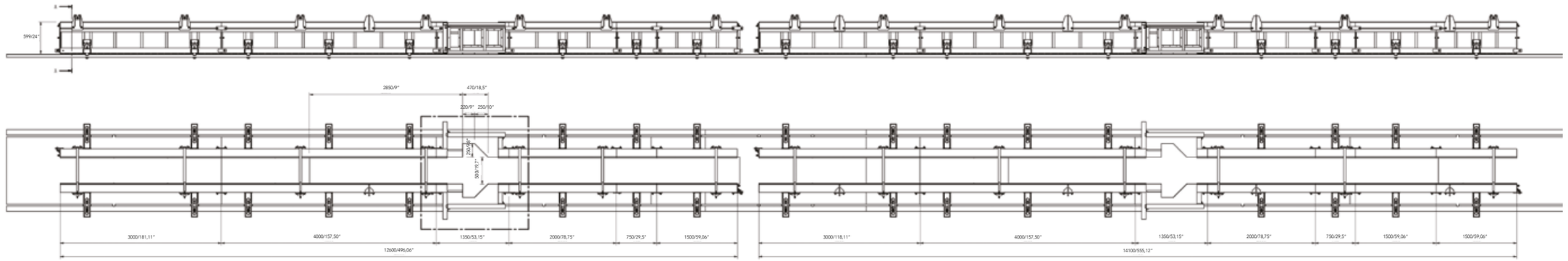
COLUMNS

Optional:

- special cavities for the construction of brackets integrated into the columns. The brackets can be manufactured on one, two, three or four sides of the formwork;
- special false-formwork for reducing the section on all the four sides;
- electric vibration system with variable frequency from 0 to 200 Hz through inverter;
- pneumatic vibration systems with manual or automated management;
- radio control to check different movements of the formwork and to manage “all in one” vibration;
- closed circuit curing plants, high and low pressure;
- magnetic casting separators of different shapes and sections.






599/24"
2850/9"
470/18,5"
220/9"
250/10"
250/9,8"
300/11,7"
3000/181,11"
4000/157,50"
1350/53,15"
2000/78,75"
750/29,5"
1500/59,06"
12600/496,06"
3000/118,11"
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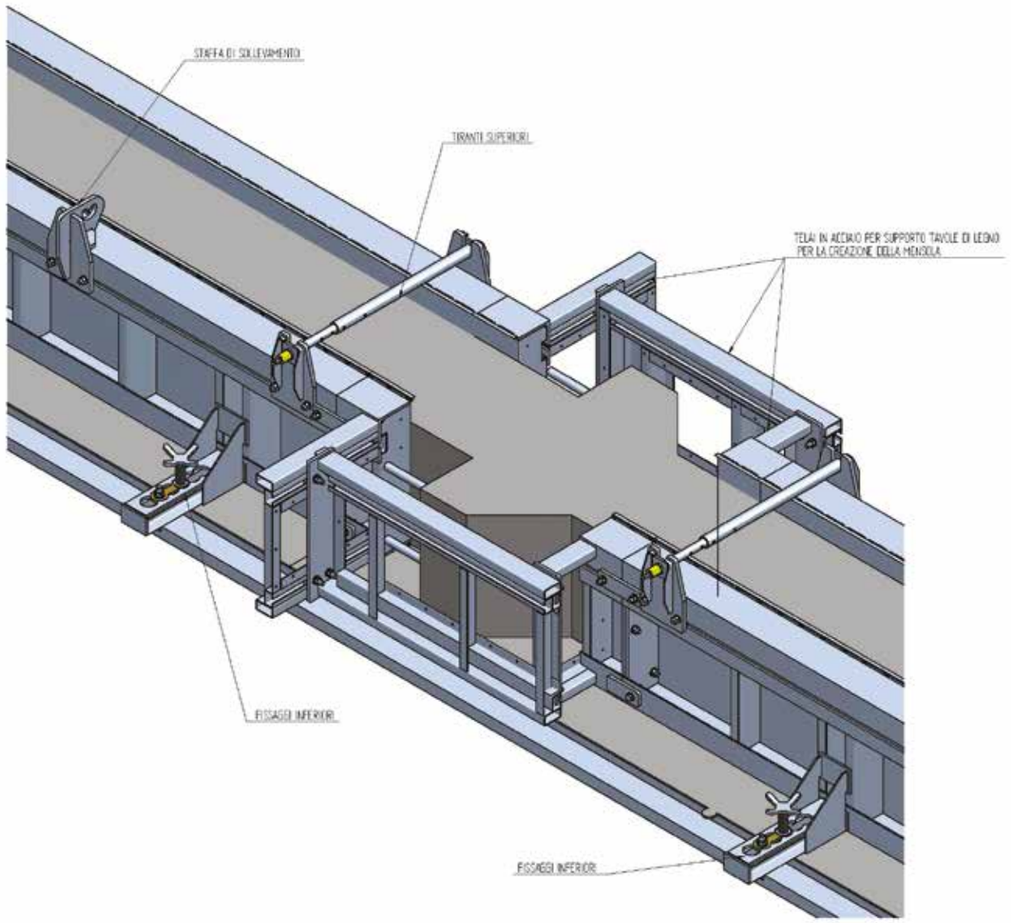
1350/53,15"
2000/78,75"
750/29,5"
1500/59,06"
1500/59,06"
14100/555,12"


STAFFA DI SOLLEVAMENTO
TIRANTI SUPERIORI
TELAI IN ACCIAIO PER SUPPORTO TAVOLE DI LEGNO
PER LA CREAZIONE DELLA MENSOLA
FISSAGGI INFERIORI
FISSAGGI INFERIORI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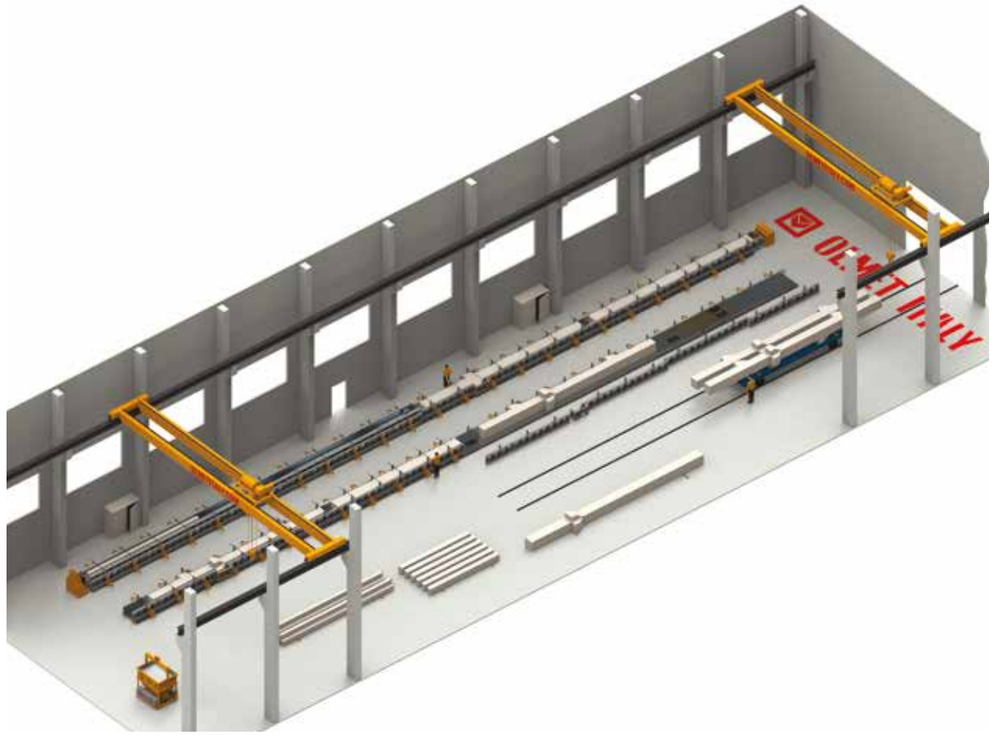
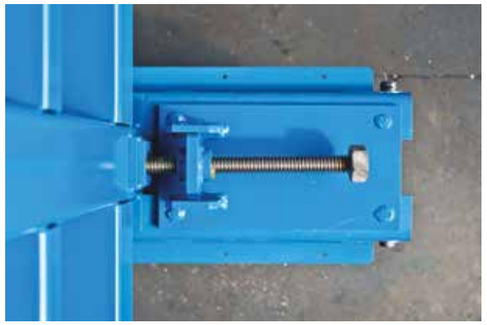
COLUMNS



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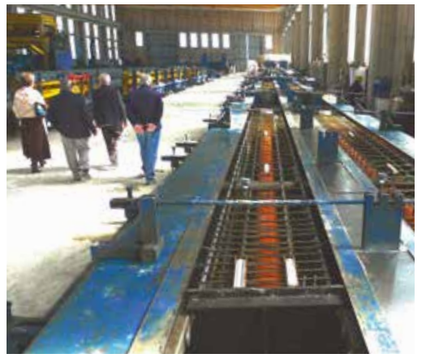
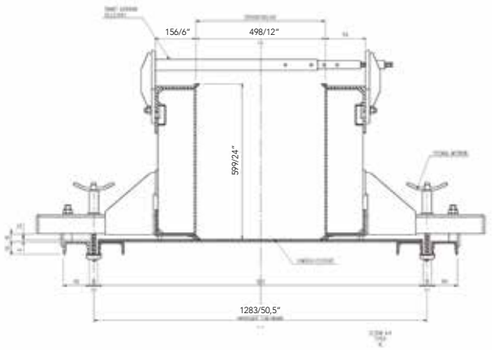
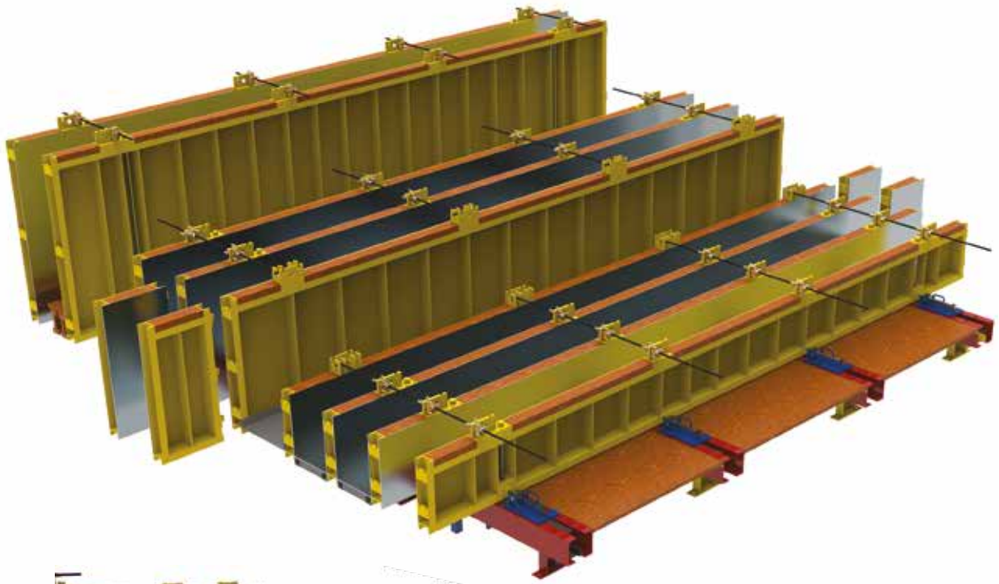
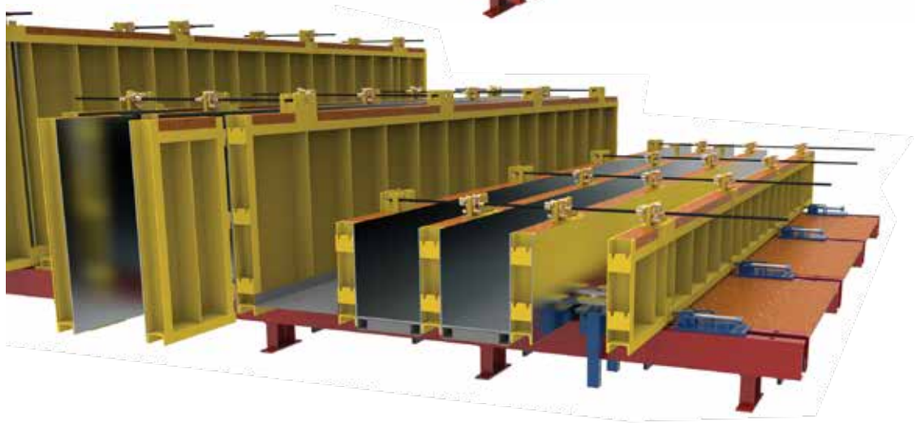


Optional:

- fixed or modular side elements, the modular panels are removable and interchangeable;
- hydraulically adjustable systems to set the width but also the height of the base elements;
- the base elements can be supplied of wood material by the customer, otherwise in case of a frequent use, can be supplied of steel material on required dimension;
- fixed or removable triangular chamfers for the upper and lower part of the formworks;
- working platforms with stairs for the access to different levels and with anti-fall safety parapets.

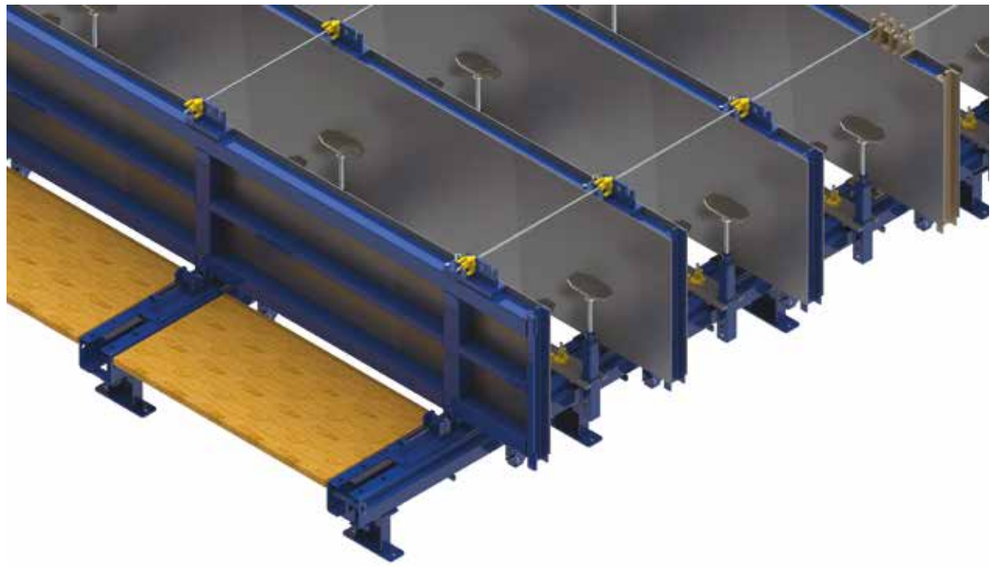


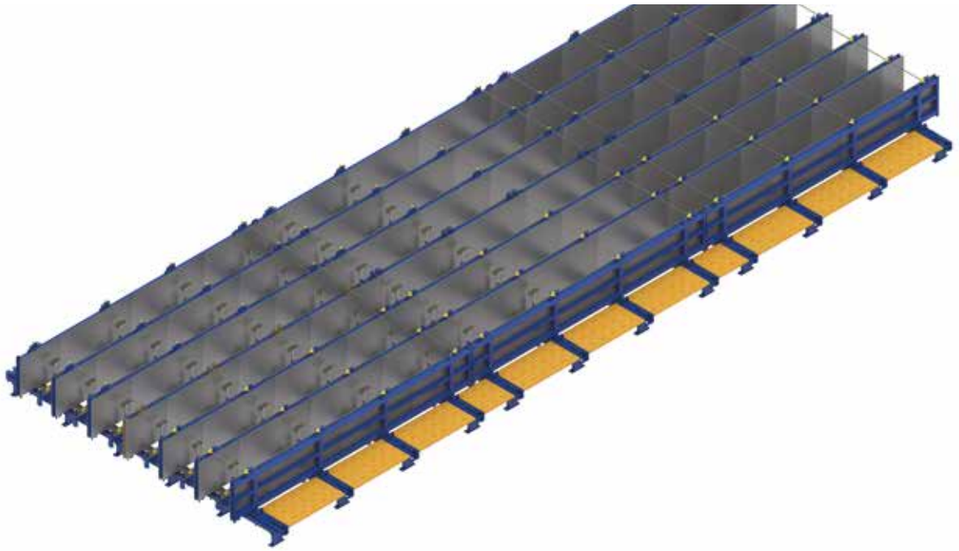




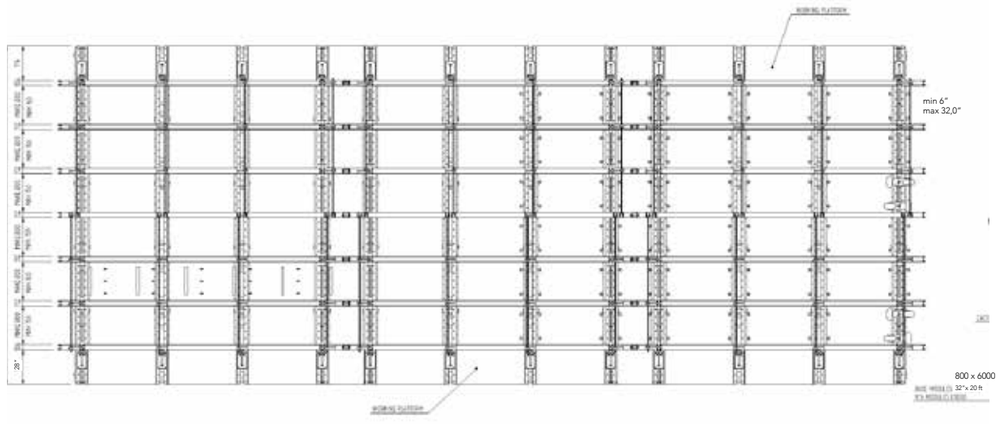
concrete precast elements

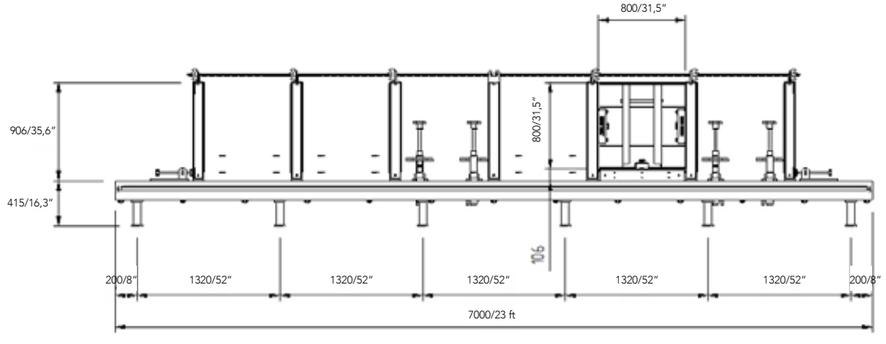
COLUMNS






500/20"
1660/65,35"
1660/65,35"
1660/65,35"
1000/39,4"
1660/65,35"
1660/65,35"
1660/65,35"
1000/39,4"
1660/65,35"
1660/65,35"
1660/65,35"
560/20"


min 6"
max 32,0"
800 x 6000


800/31,5"
906/35,6"
415/16,3"
800/31,5"
106
200/8"
1320/52"
1320/52"
1320/52"
1320/52"
1320/52"
200/8"
7000/23 ft

OLMET

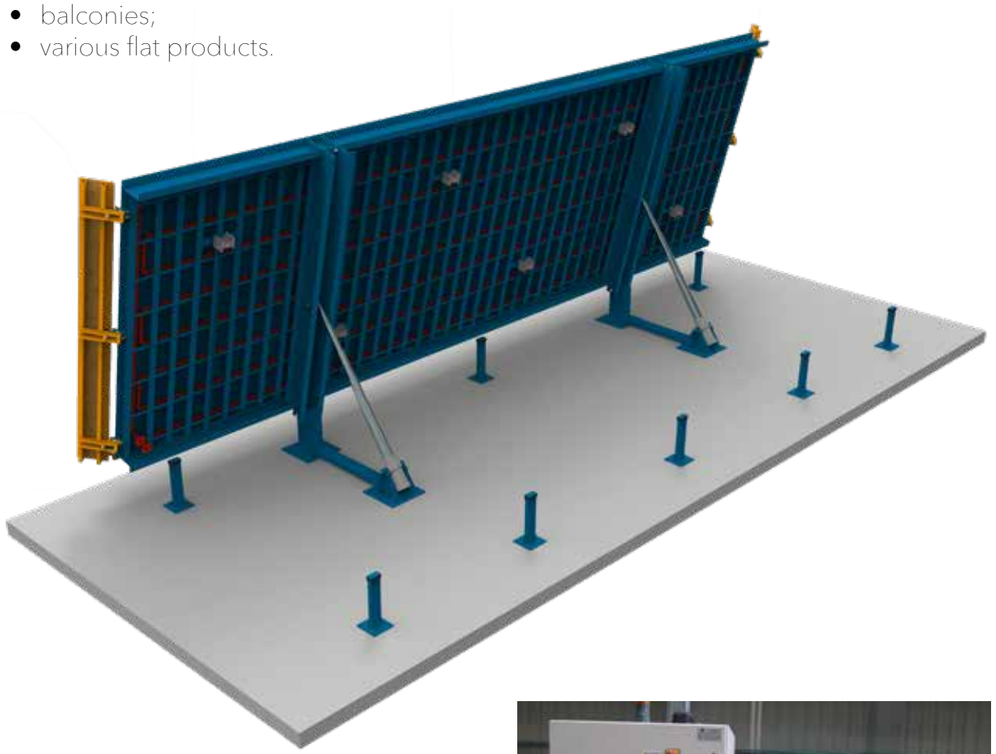
concrete precast elements

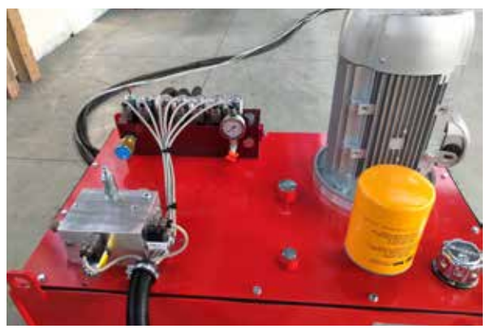
WALLS AND FLOORS

TILTING TABLES AND LONG LINES

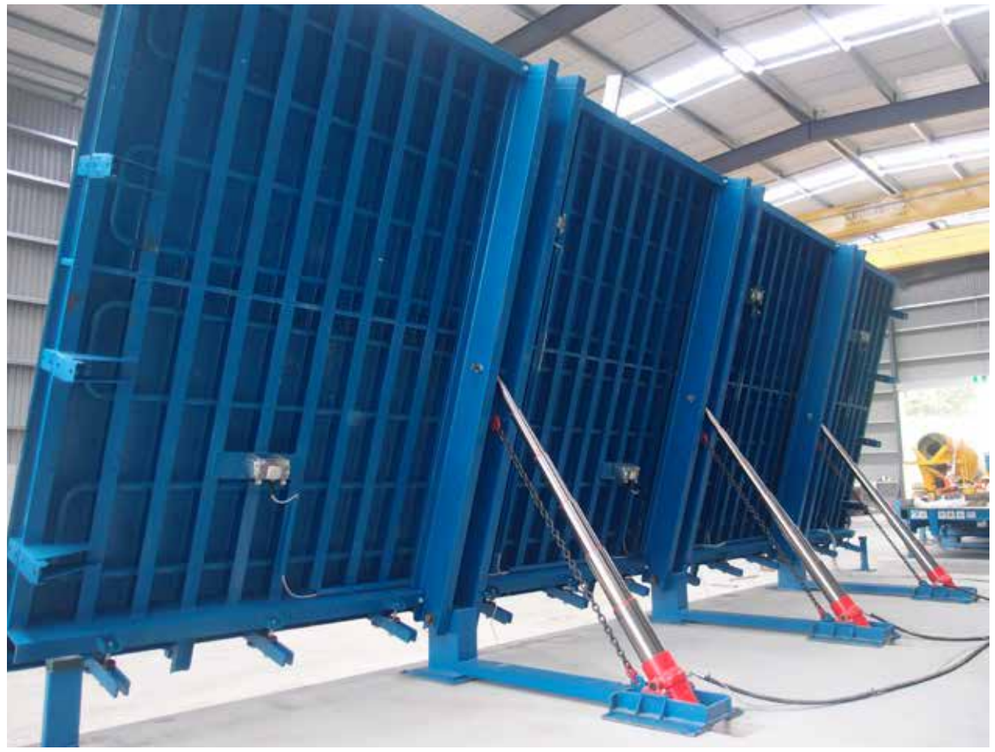
Formwork for the production of:

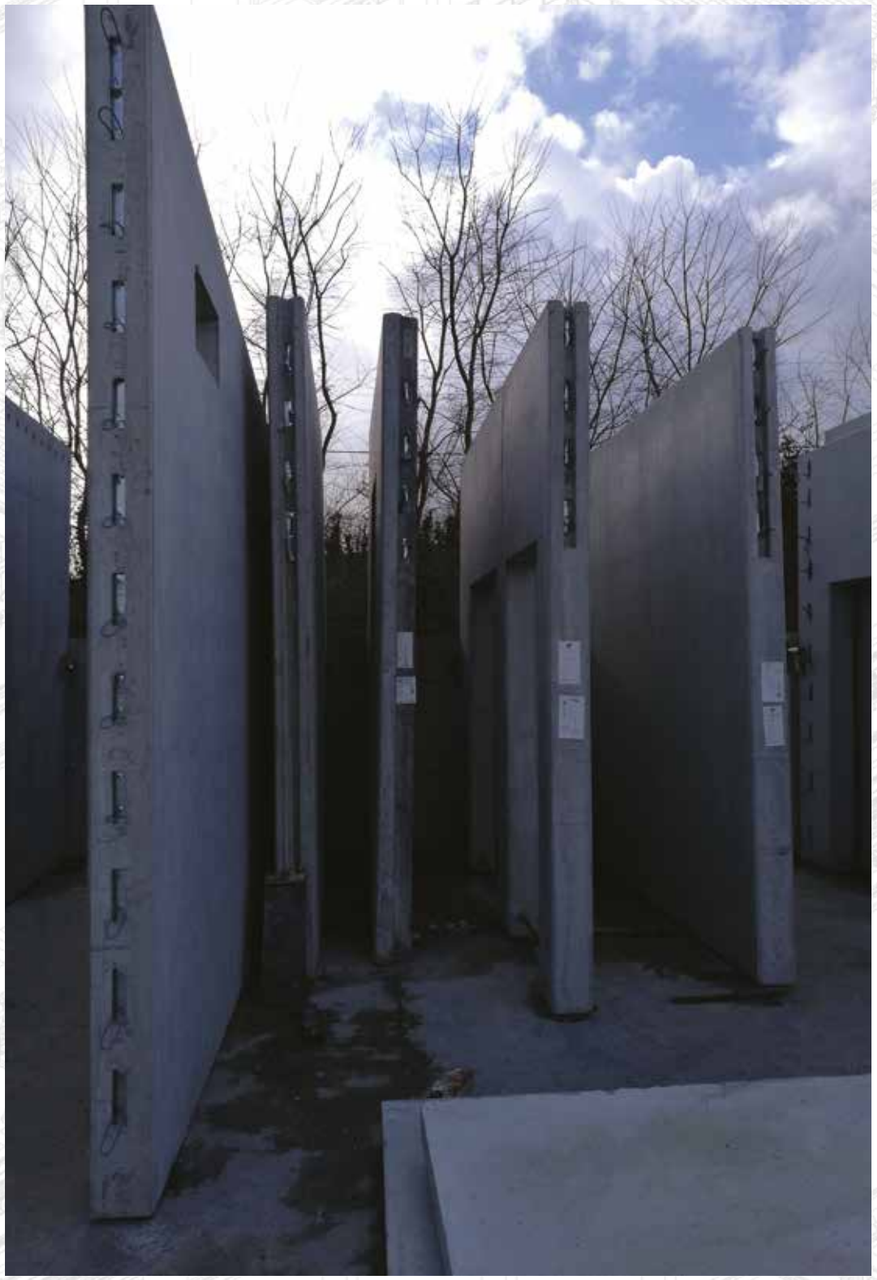
- walls elements;
- sandwich panels;
- panels with matrices;
- armed floors slabs;
- prestressed floors,
- balconies;
- various flat products.





WALLS AND FLOORS





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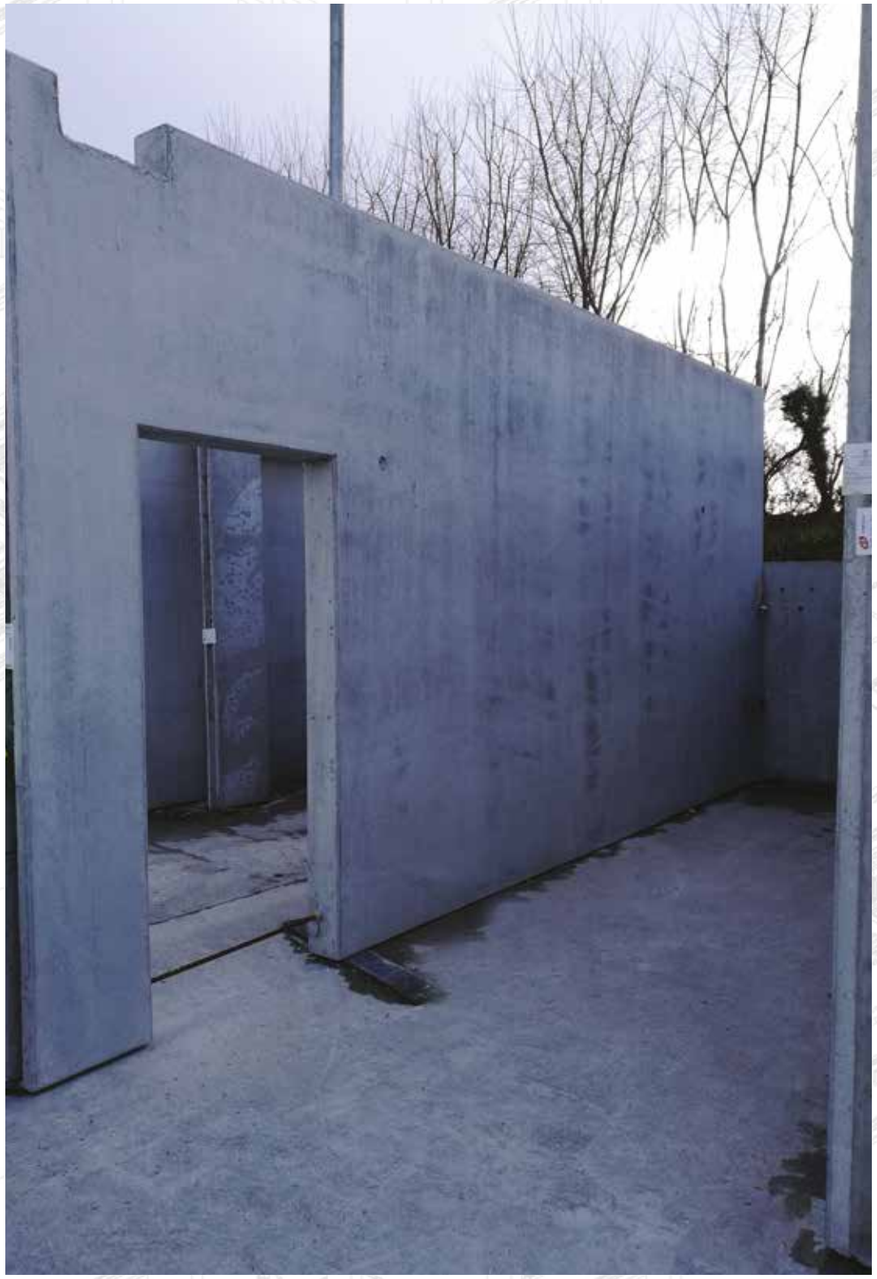
WALLS AND FLOORS



The tilting tables and long-lines are equipment designed, manufactured, tested and installed by Olmet Italy, made to measure, following specific customer requests.
Maximum dimension in width is 4.500 mm/177".; it is possible to manufacture elements of wider width by joining two sheets; in this case the sheets will be connected and polished on site. The length varies from a minimum of 4 m/13 ft. up to a maximum of 120 m/394 ft. The modules are made in standard lengths up to 16 m/53 ft. and then connected to the site where they will be installed.
Casting sheets are sandblasted and then polished with a special honing machine: this system guarantees a perfect finish of the product, which is therefore smooth and shiny.

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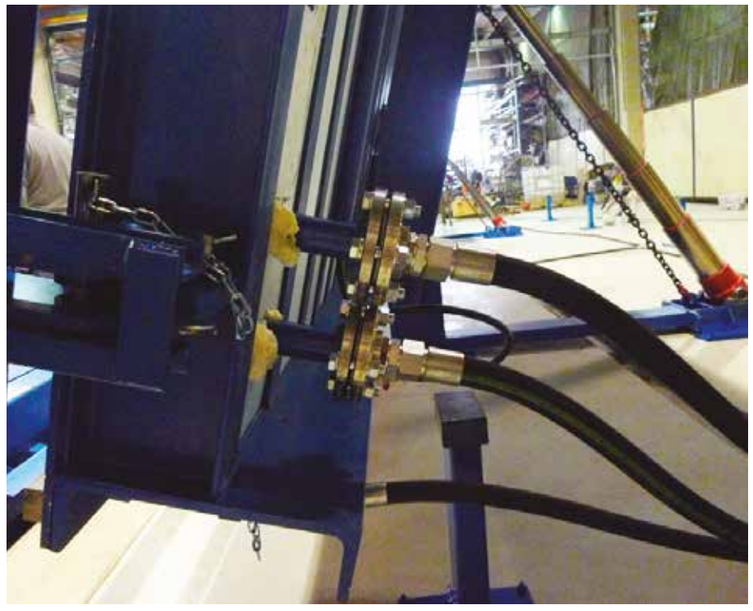
WALLS AND FLOORS



The casting steel sheets are of the highest quality, usually 10 mm/0,4″ thick. (agreed with customer); they are welded on the frame ensuring a surface flatness of +/- 1.0 mm/0,04″. per meter.
The special welded steel frame guarantees rigidity to the surface sheet; the frame is manufactured with large cross-sectional steel beams. The transversal ones are positioned at a center distance of 300 mm/12″. between each other.

The structures of Olmet Italy tables are engineered to bear loads from 250/551 up to 1000 kg/m²/2205 lb/sf.

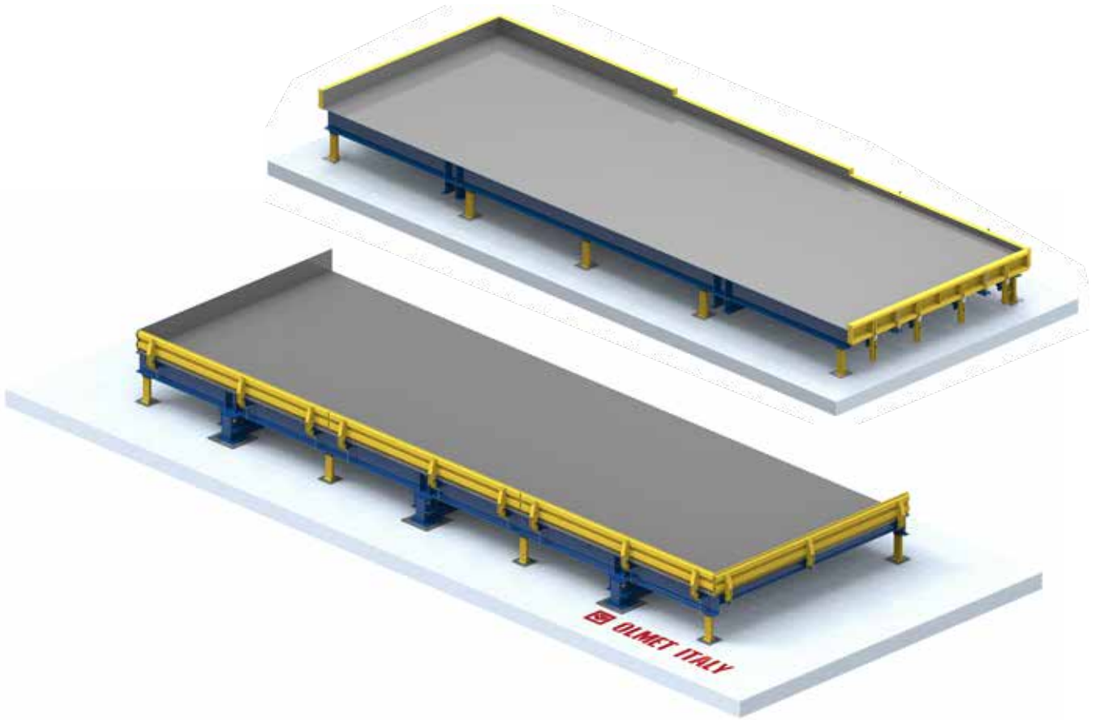
WALLS AND FLOORS

concrete precast elements

WALLS AND FLOORS

The transverse beams can be set for the installation of steel pipes, necessary to the plant to accelerate curing of the concrete (optional). The pipes are connected to a coil and are tested at a maximum operating pressure of 10 bar/145 psi. The whole is insulated with extruded polystyrene material at closed cells, obtained with ecologic procedures. Connections (IN-OUT) are agreed with customer.
"SCC" (self-compacting) concrete or, alternatively, normal concrete can be used and then pneumatic or electric vibration systems may be installed under the tables.
Special plates are welded on the steel frame in specially reinforced fixed positions, which guarantee the rigid fixing of the electric (or pneumatic) vibrators. Special rubber silent-blocks isolate vibrations from the floor.

WALLS AND FLOORS



concrete precast elements

WALLS AND FLOORS


MONOCRANE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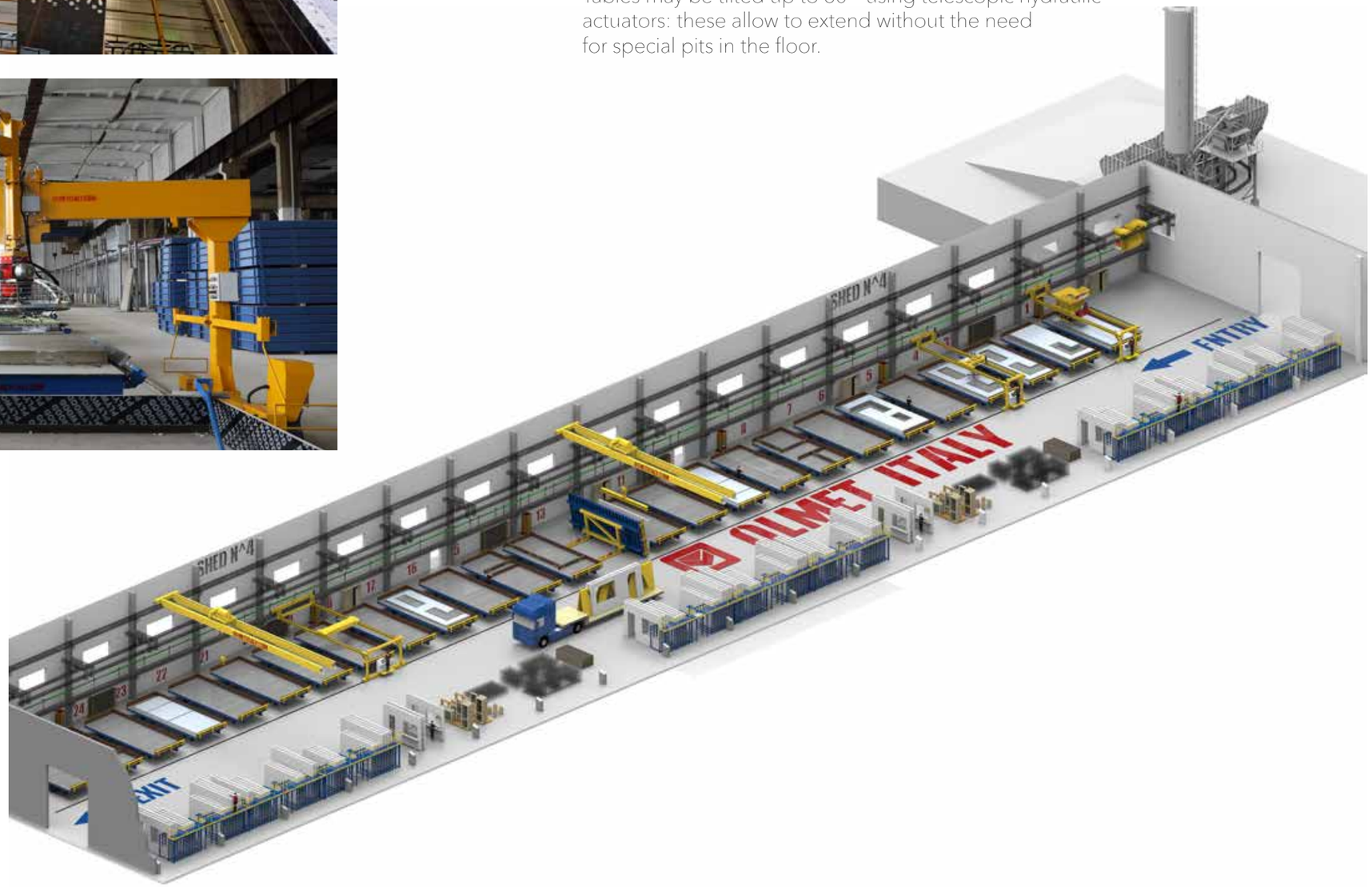
Electric vibrators can be managed by advanced control systems with the use of the latest generation inverters and HMI. With just one remote control, only an operator can manage the operations of:

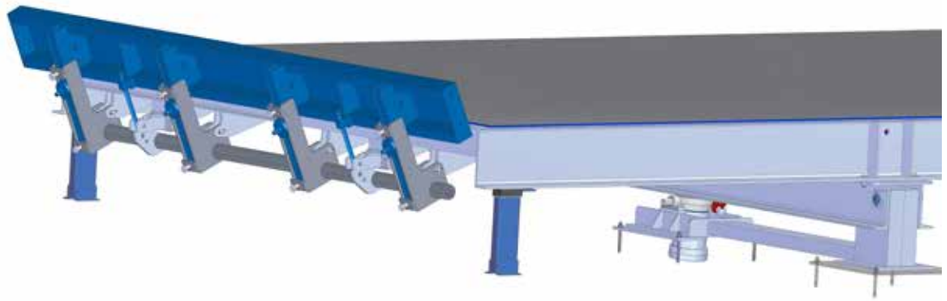
- lifting and lowering the tables;
- management of vibration cycles.

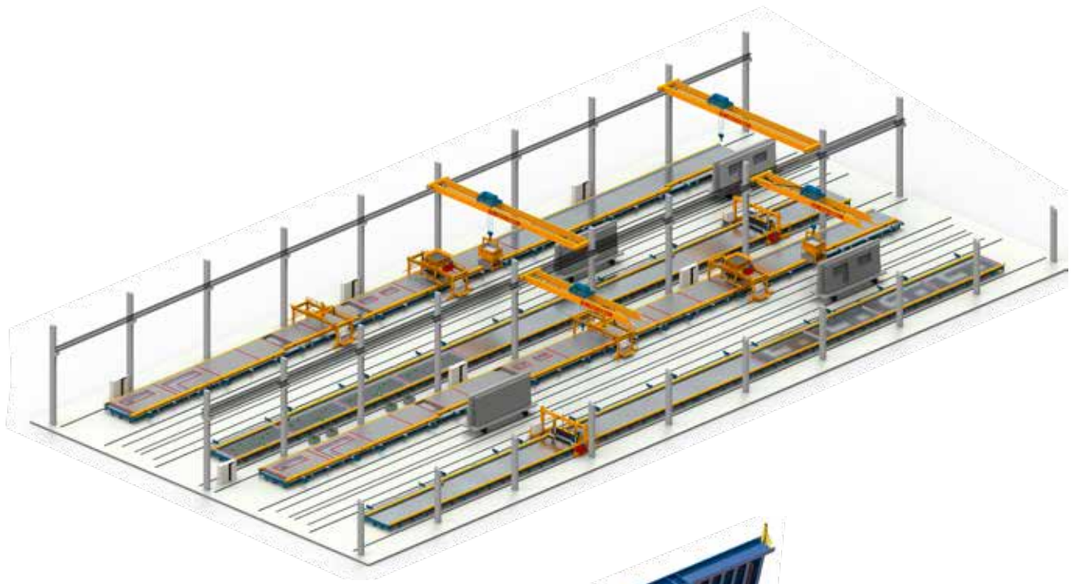
Olmet Italy manufacture fixed horizontal and horizontal tilting tables.
Fixed horizontals are suitable for the manufacture of:

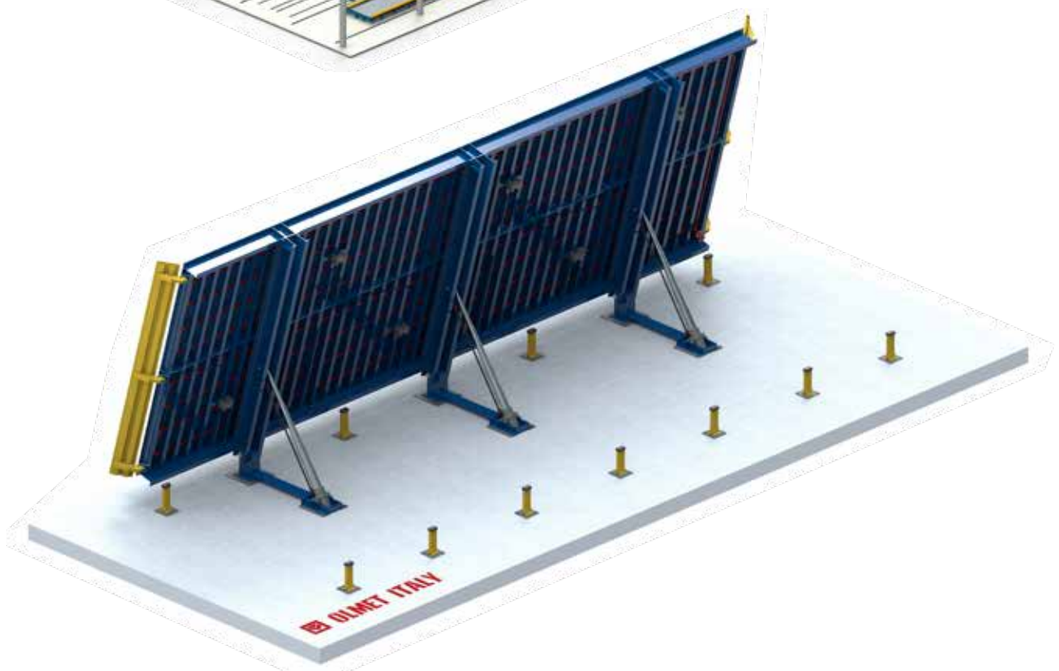
- armed floors;
- prestressed floors;
- reinforced panels with a minimum thickness of 230 mm/9".

The tilting tables are suitable for the realization of large panels, with thin thicknesses. The inclination of the table, to deform the product, avoids the micro-cracks in the concrete. Tables may be tilted up to 80 ° using telescopic hydraulic actuators: these allow to extend without the need for special pits in the floor.









WALLS AND FLOORS

The hydraulic actuators are equipped with anti-fall safety valve. A hydraulic system combined with the "hi-tech" electronic control allows you to
lift the tables very precisely. Olmet Italy guarantees the aligned lifting of all hydraulic cylinders even with decentralized loads.
The system is managed through the use of PLC and HMI SIMENS/SCHNEIDER.
Tables can be equipped with side rails:

- fixed, non-opening, screwed and removable;
- can be hinged manually;
- hydraulically opening hinges;
- hydraulically movable through the use of hydraulic actuators;
- adjustable in height from min 100 mm/4" at max. 500 mm/20" with millimetric adjustment by means of fast adjustment screws;
- fixed with permanent magnets or made of reusable playwood;
- with nuts welded under the sheet, so that customer may fix any type of support.

The long-lines, suitable to manufacture prestressed elements, are equipped with fixed and mobile pull heads. The mobile heads are supplied with hydraulic relaxation cylinders. The tables do not need special foundations to be placed, but simply a 350 mm/13,7" thick industrial floor. The stressing heads are equipped with protective cages to protect from strands.

Max pre-compression: up to 300 tons/330,70 short ton.
Max width of the artefact: up to 4 m/13 ft.
Max length: up to 150 m/492 ft.

Long-lines may be equipped with pneumatic or electric high frequency vibration with inverter.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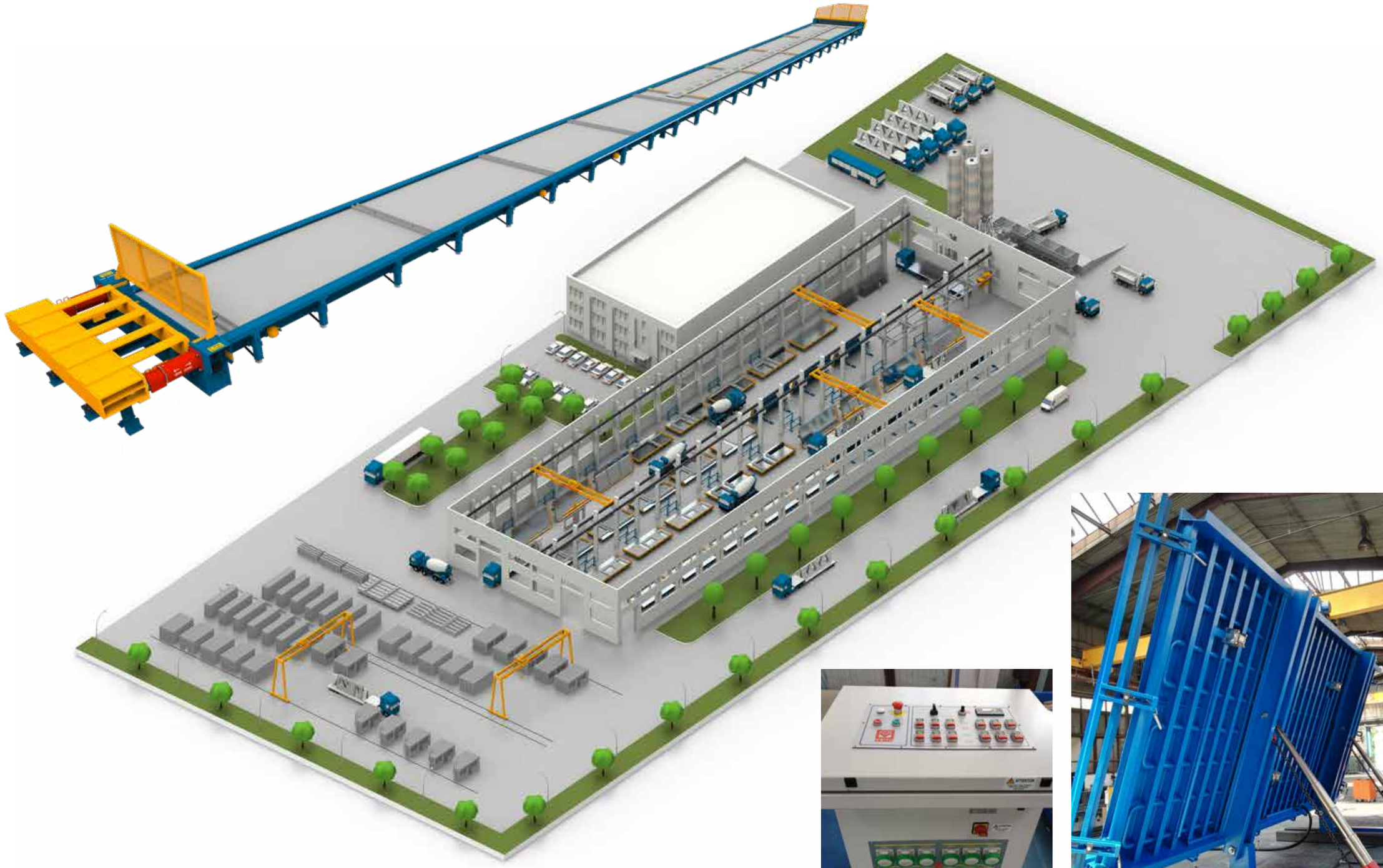

WALLS AND FLOORS

concrete precast elements

concrete precast elements

WALLS AND FLOORS

The heating system, to accelerate the concrete curing is composed of longitudinal pipes connected to a coil; it is possible to use steam, hot water, diathermic oil, or electrical resistances as a thermal agent.
Both, for tilting tables and for long-lines it is possible to equip them with the following accessories:

- plotter to draw the 2D panel on the formworks;
- concrete distributor, to evenly dose the concrete;
- helicopter to smooth semi-fresh concrete;
- cleaning/oiling machine, to clean and oil the formwork.

WALLS AND FLOORS

WALLS AND FLOORS


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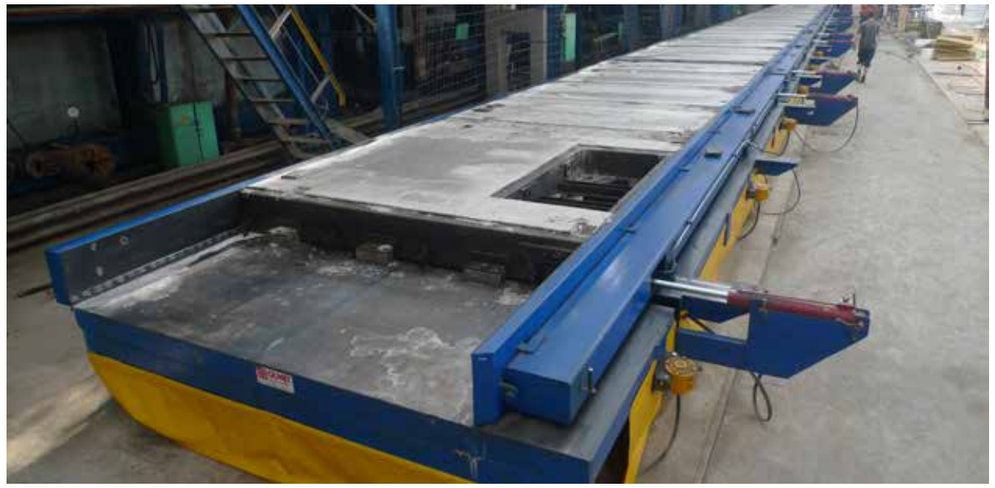

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concrete precast elements

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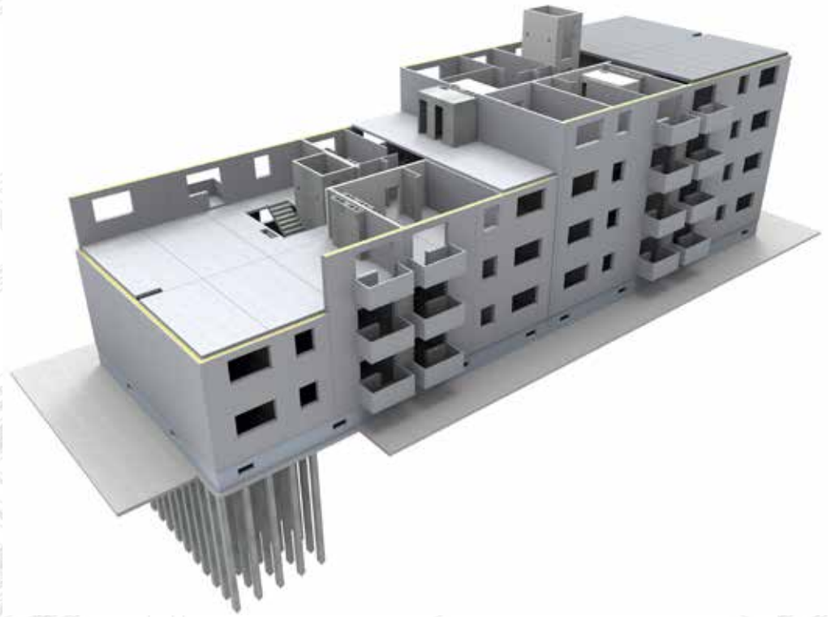


WALLS AND FLOORS

WALLS AND FLOORS

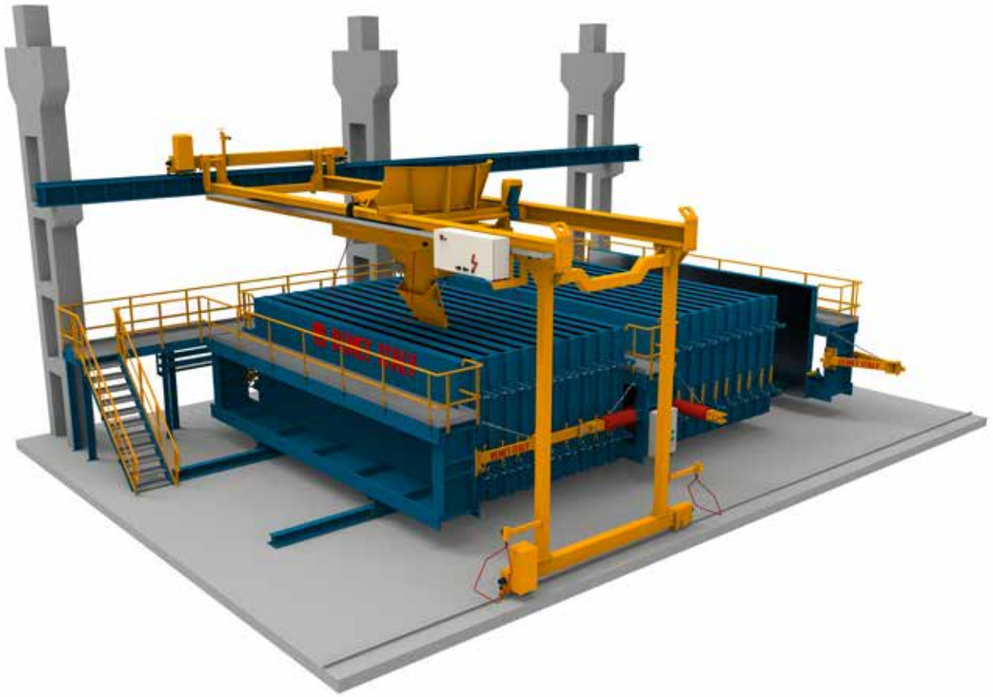
VERTICAL BATTERY FORMWORKS

Production system for panels with vertical casting. Multi-pocket battery formwork, suitable for the production of smooth panels on both surfaces. The multi-pocket system guarantees high productivity, reducing the space occupied by the formwork itself. Vertical 12 + 12 pocket batteries can be realised with productivity up to 1.000 m²/10764 sqft per working shift. The formwork sheets may be made in thicknesses of 8 mm/0,3" or 10 mm/0,5". The whole internal structure is engineered to resist the pressures of the concrete during the casting.

Battery is mainly composed of:

- reinforced central fixed shutter complete with hydraulic cylinders to lock all the pockets during the casting phase, hydraulic pump and electronic control panel positioned nearby the formwork;
- intermediate mobile shutters, made with double casting surface, complete with integrated high frequency electric vibrators. Shutters are mounted on sliding rollers;
- mobie side shutters equipped with towing motors at the base, necessary for the operations of moving the shutters during setting and disarming.

All shutters are complete with lower and lateral concrete containment profiles with a minimum thickness of 80 mm/3" and max. 300 mm/12".

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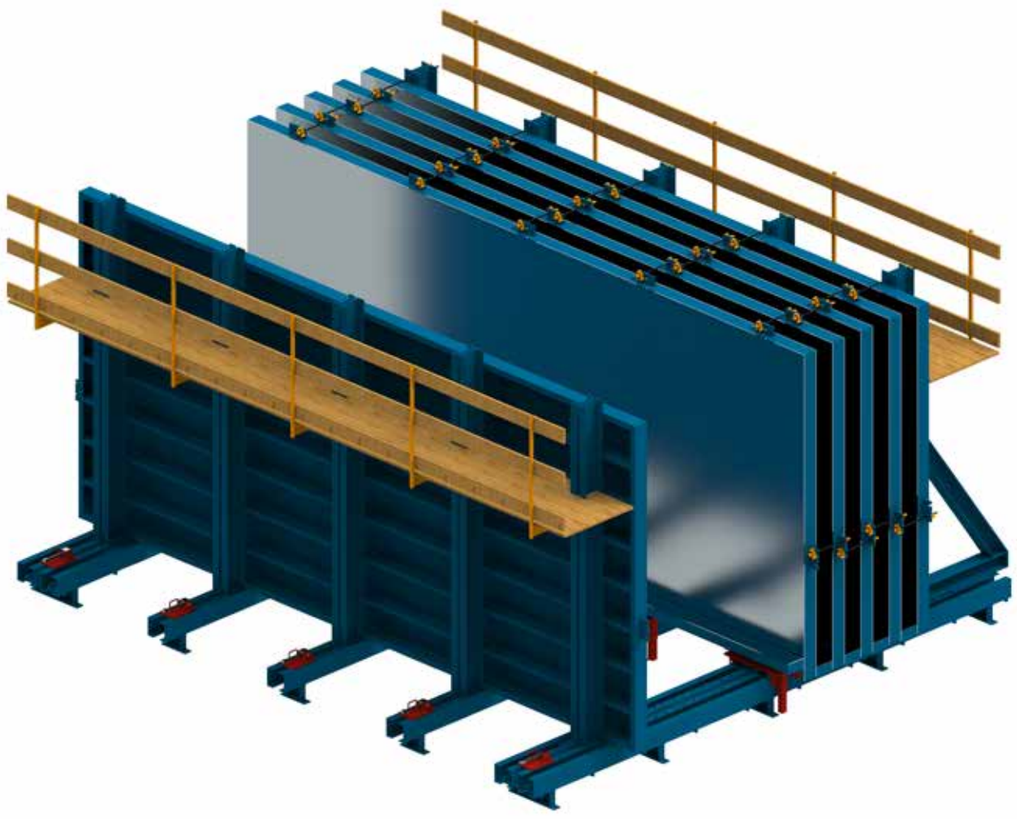
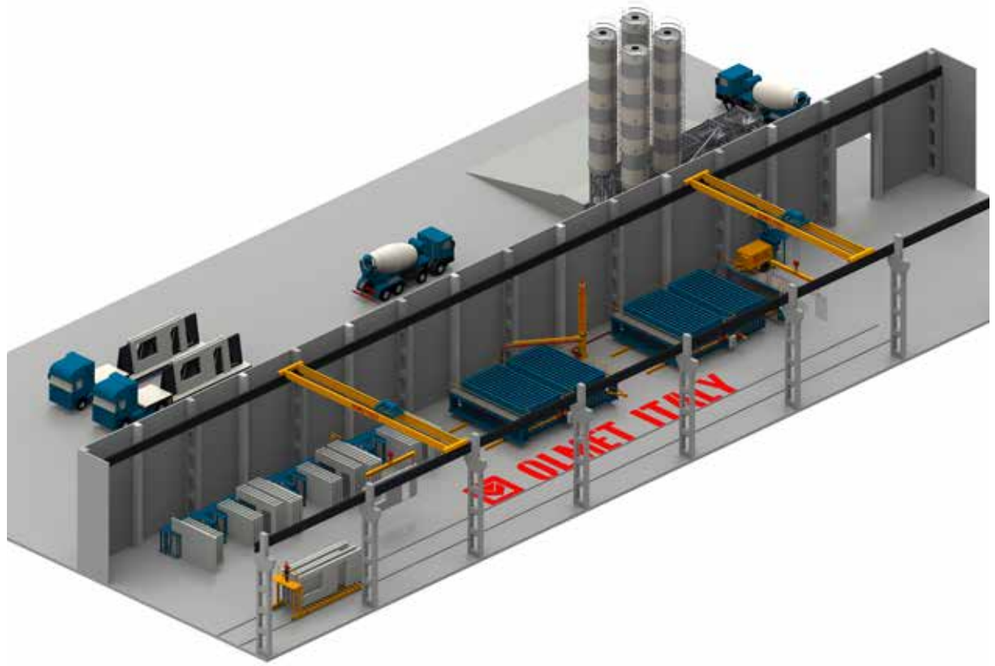
The vertical demoulding of the product is very rapid, thanks to the automatic movement of the lateral containment bases. Each pocket can be opened up to 2 m/6,5 ft for setting and disarming operations (according to the customer's specific request). Thus to allow, operator working in total safel and comfort.

Main advantages for the user:
- possible filling of individual pocket, which can be self-supporting;
- sturdy construction with minimum flatness tolerances +/- 1,5 mm/0,06".

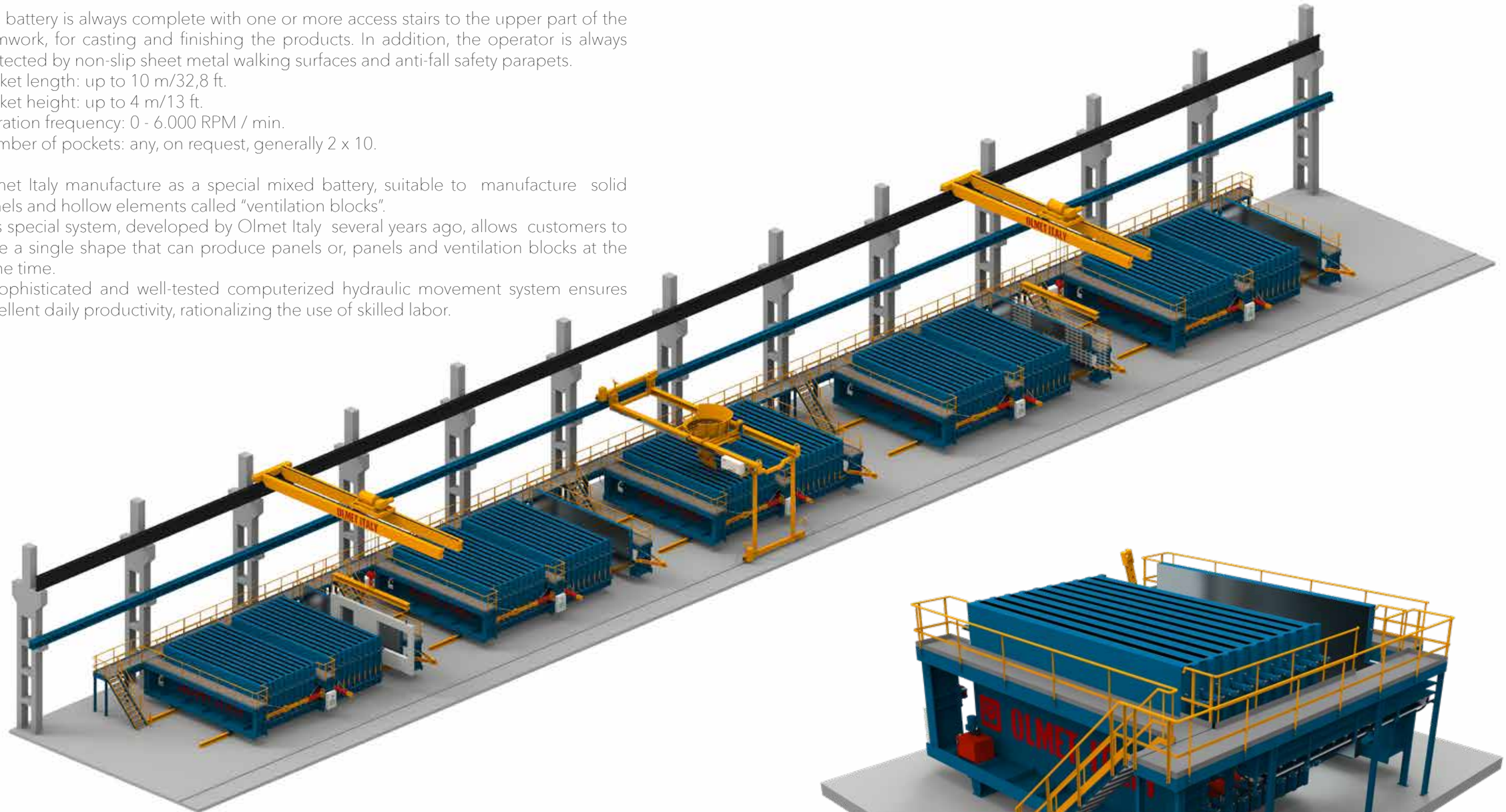
Integrated heating pipes (optional) can operate with either hot water or thermal oil. Uniform temperature distribution ensures uniform and energy-saving heating of prefabricated parts. The lower and lateral containment bases can be made of steel with rubber sealing edges to prevent the concrete from leaking out. The lower bases can be movable in height to produce products of different heights.





The battery is always complete with one or more access stairs to the upper part of the formwork, for casting and finishing the products. In addition, the operator is always protected by non-slip sheet metal walking surfaces and anti-fall safety parapets.
Pocket length: up to 10 m/32,8 ft.
Pocket height: up to 4 m/13 ft.
Vibration frequency: 0 - 6.000 RPM / min.
Number of pockets: any, on request, generally 2 x 10.

Olmet Italy manufacture as a special mixed battery, suitable to manufacture solid panels and hollow elements called "ventilation blocks".
This special system, developed by Olmet Italy several years ago, allows customers to have a single shape that can produce panels or, panels and ventilation blocks at the same time.
A sophisticated and well-tested computerized hydraulic movement system ensures excellent daily productivity, rationalizing the use of skilled labor.



For concrete casting operations Olmet Italy offers:
1) pumping concrete at high pressure up to 110 bar/1595 psi, directly from the batching plant to the formwork, by:
- stationary pump;
- steel pipes for high pressures;
- articulated concrete distribution boom.

2) portal or semi-portal concrete distributor, equipped with bucket for concrete up to 4 m^3/141 cf^3. In this case concrete is fed by a flying bucket.

WALLS AND FLOORS

Olmet batteries may be used as stationary production units, although if equipped with minor technical accessories, they are suitable for mobile job sites, even on open air.

WALLS AND FLOORS

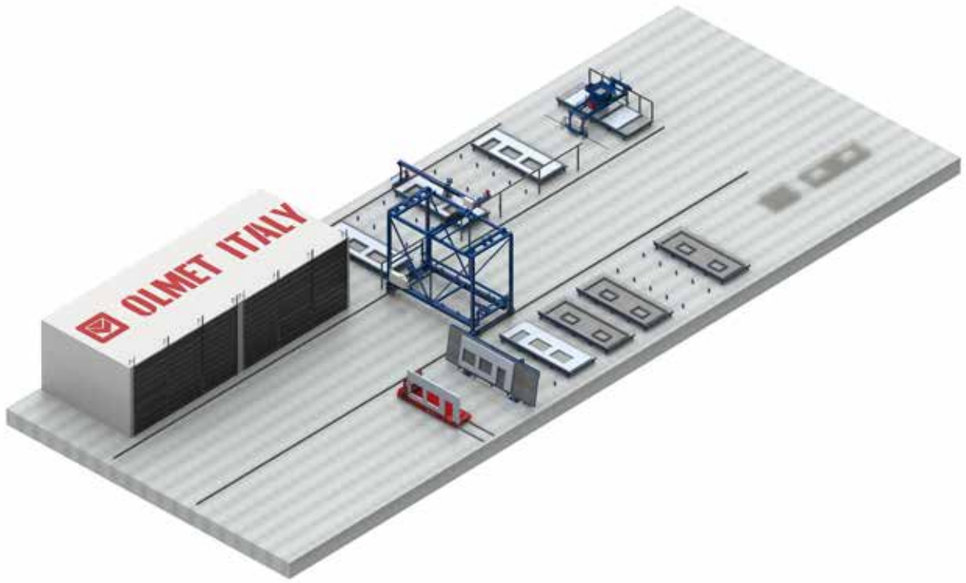
WALLS AND FLOORS

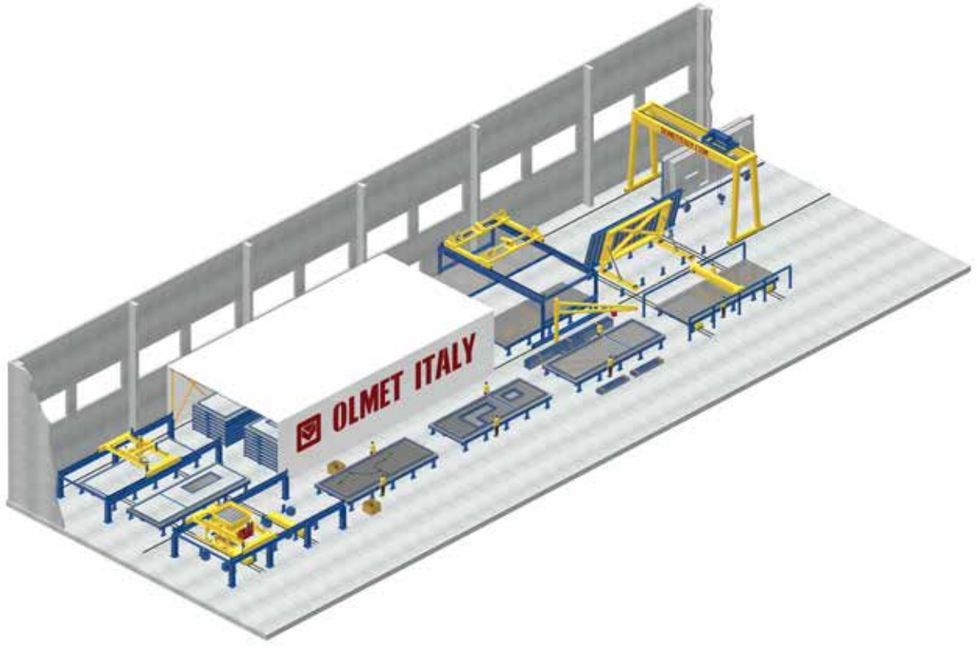
CAROUSEL PLANTS

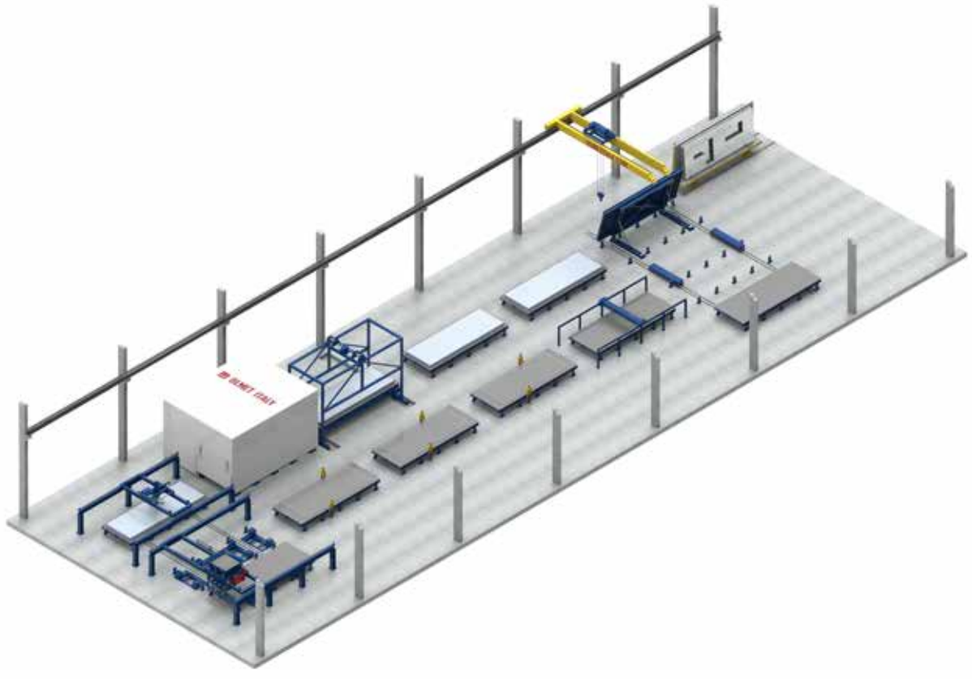
Pallet circulation system.

This highly automated production system allows to obtain a high quality standard in the prefabrication of flat elements. Production quality, rapid and economic production processes, comfort and safety for workers, together with a high degree of automation, guarantee the return on investment in time. Cad cam control systems combined with cutting-edge technological equipment ensure controlled and efficient production processes. The production of prefabricated flat elements takes place through the use of large trays ("pallets") that run from one preparation station to another along the production chain.


OLMET ITALY
OLMET ITALY

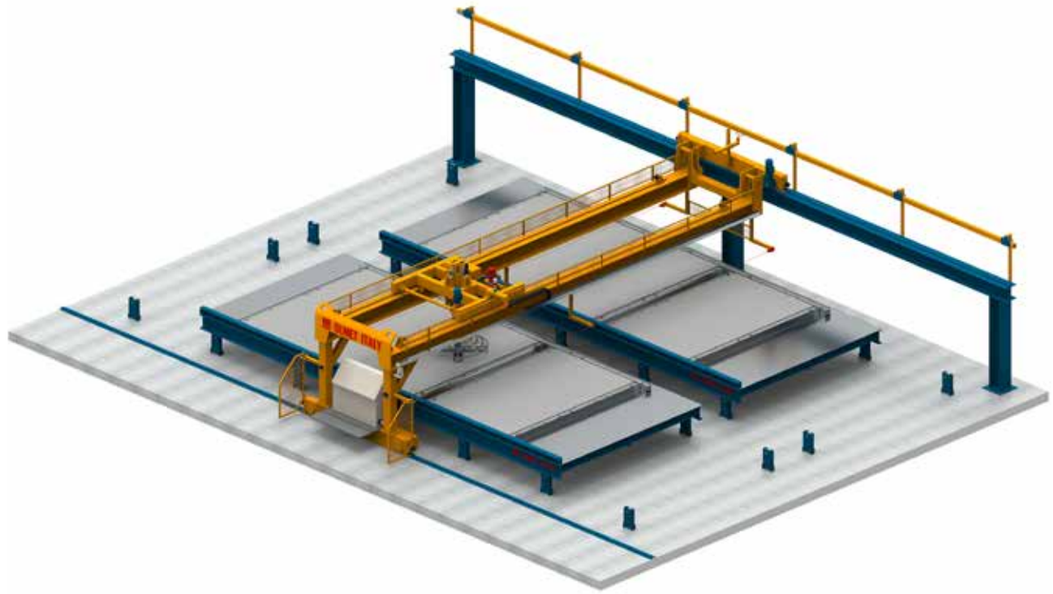

OLMET ITALY


OLMET ITALY



The flat elements produced are floors, solid walls, double walls, sandwich walls, but also special large format elements. The innovation of this system consists in organizing production on preparation stations manned by one or more employees. This system provides significant advantages for companies, which will have to standardize both the production process, which the component parts, with positive impacts in terms of reduction of production times and costs.

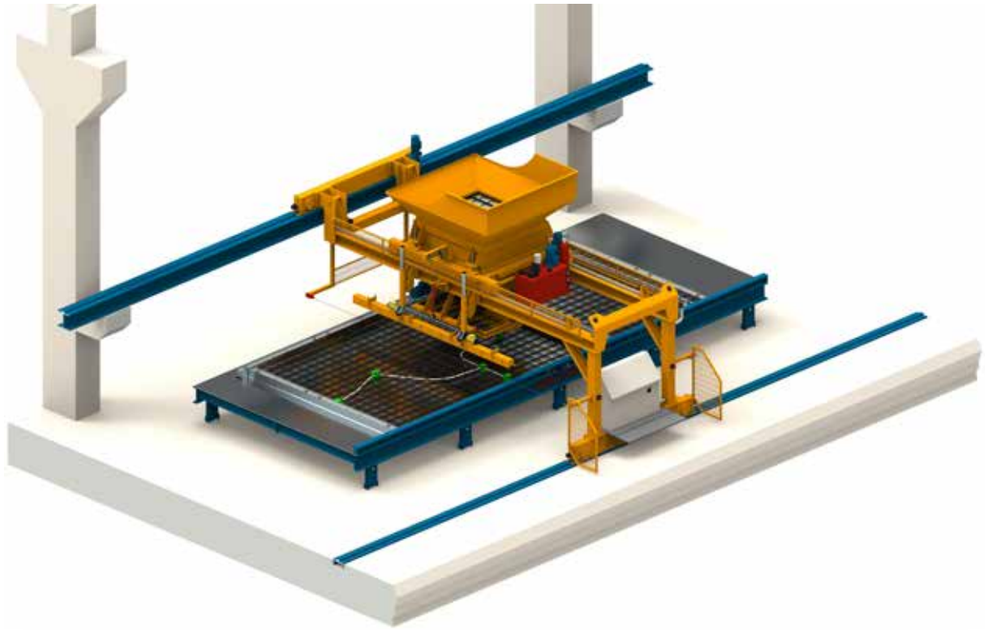
Productivity, traceability and product quality will always be controllable, storable and tracked.
The circulation system of the pallets can be managed with basic automatic systems and subsequently implemented to obtain highly automated systems.
The cleaning machine with integrated oiling system is necessary to clean of the casting sheet by rotating brushing. A large brush ensures accurate cleaning of the sheet from concrete residues. The accumulation of dirt is discharged onto a container positioned at the end of the pallet. Following a low pressure pump feeds a series of noozles that distribute the release oil evenly.
The vapors caused by the atomization of the oil are vacuum with a specific suction and filtering system.

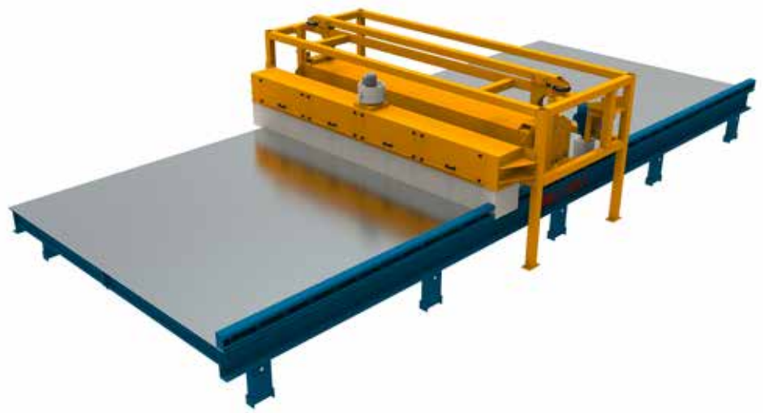


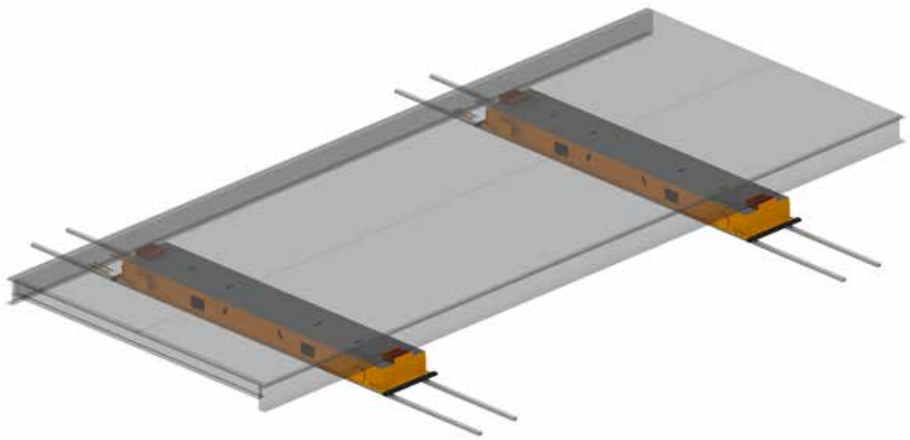
The large 2D plotter uses a specific program to import the file which will then be drawn on the pallet. The two-axis plotter draws the boundary lines of the panel and the various integrated parts. The master computer on which the application software will be loaded will manage the files created by the technical office. All post processes will be viewable on the various HMI panels located along the production line.
The fully automatic two-axis robot is needed to position the magnetic separators on the pallets. Also in this case a specific cad-cam program allows the positioning of these magnetic inserts with millimetric precision. An automatic warehouse keeps the dividers stacked divided by length, thickness and type. The same robot is also able to automatically remove the same separators by scanning them first and then collecting them to transport them on the automatic cleaning machine. This equipment is very suitable for those looking for very high precision and productivity, substantially reducing the use of labor. Also in this the SCADA software (supervisor) manages the machine. The automatic warehouse can be managed by a second robot (to increase productivity). The same picks up the separators on the loader of the cleaning machine and deposits them in a specific roller conveyor waiting to be immediately reused or deposited in the dedicated spaces waiting for use.

Laser projection, projection of precise contours, for the positioning of any element on the pallet such as doors, windows, inserts, etc. This system speeds up the manual assembly process of the inserts, reducing cycle times by more than 50%. in individual workstations. laser projectors visualize where workers must place armor, electrical outlets or wiring ducts. Clearly visible laser contours minimize errors during manual positioning. This allows to increase the quality of the product and to respect the production tolerances up to the millimeter precision. our laser projectors can check the presence, the correct position and the orientation of all the elements after pouring the concrete.

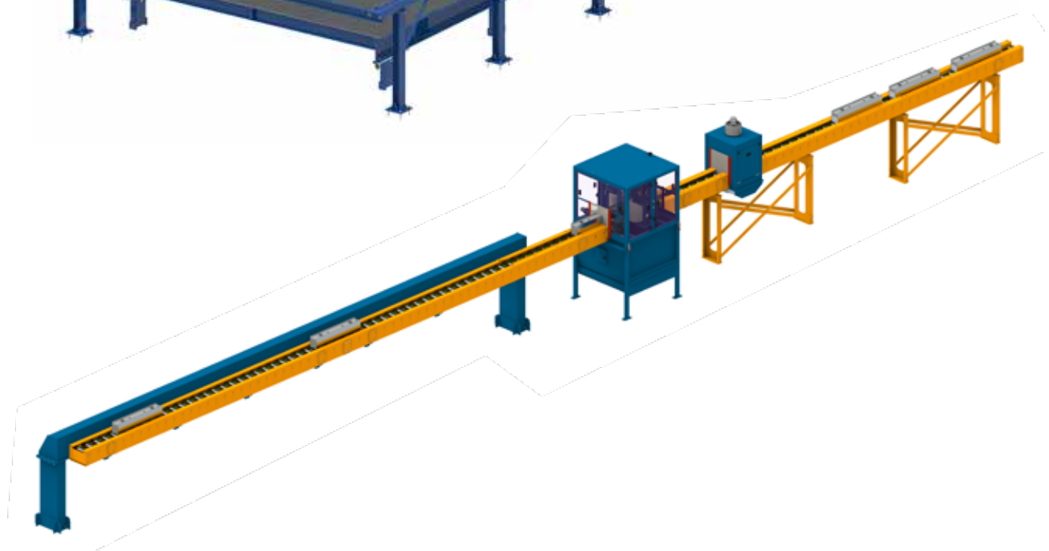
WALLS AND FLOORS







WALLS AND FLOORS



This is particularly important for collision control in double-walled production to ensure that, on the one hand, each wall fits the other half correctly and that, on the other hand, the reinforcing bars or mounting parts do not collide during the union. The software is specially optimized for the concrete prefabrication industry also considering the different heights of the components, visually compensating for the differences. The laser projection can be controlled by a handheld radio control, the training is fast, the management software interface is intuitive. The important functions can be managed directly from the remote control.
Laser projection, projection of precise contours, for the positioning of any element on the pallet such as doors, windows, inserts, etc. This system speeds up the manual assembly process of the inserts, reducing cycle times by more than 50%. in individual workstations. laser projectors visualize where workers must place armor, electrical outlets or wiring ducts. Clearly visible laser contours minimize errors during manual positioning. This allows to increase the quality of the product and to respect the production tolerances up to the millimeter precision. our laser projectors can check the presence, the correct position and the orientation of all the elements after pouring the concrete. This is particularly important for collision control in double-walled production to ensure that, on the one hand, each wall fits the other half correctly and that, on the other hand, the reinforcing bars or mounting parts do not collide during the union. The software is specially optimized for the concrete prefabrication industry also considering the different heights of the components, visually compensating for the differences. The laser projection can be controlled by a handheld radio control, the training is fast, the management software interface is intuitive. The important functions can be managed directly from the remote control.

The concrete distributors are used to uniformly unload the concrete onto the production trays, also for SCC concrete. Normally they have a capacity of 2 m³/7,1 CF and move longitudinally and transversely along the pallet. The concrete is unloaded through partialisable doors. The machine can be configured with 8/10 outputs.

WALLS AND FLOORS

Independent hydraulic cylinders allow the opening and closing of the outputs, single or multiple, through proportional valves. The machine can be managed manually via remote control with a single operator, or controlled through specific software.

Internal mixing double shaft with inclined T-blade on the top of the bucket for a controlled dosage. Vibrating straightener, with interchangeable consumable base, manufactured with reinforced steel rod. Necessary to smooth the concrete before inserting into the ripening chamber.

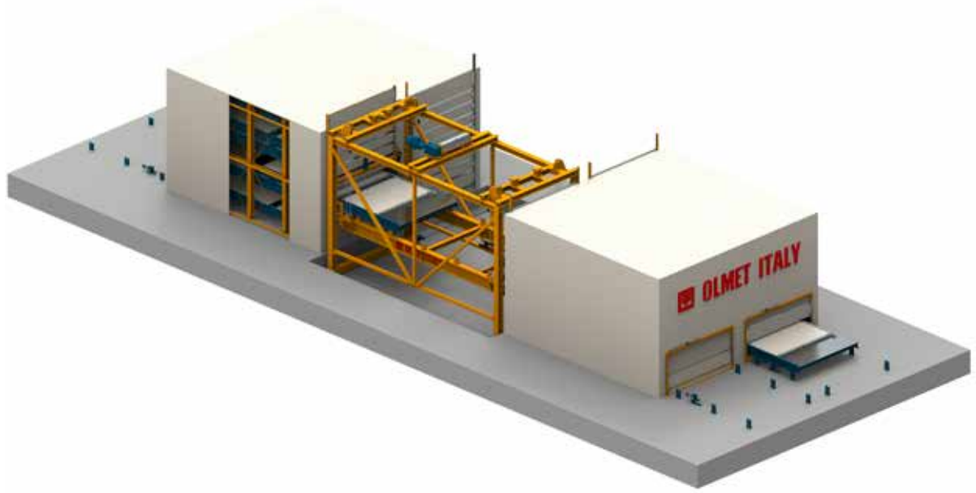
The bucket is installed on board an electric bridge crane manufactured with a double beam structure with H beams. The electric crane can be:

- sliding bridge on overhead rails;
- with soft foot sliding on overhead rail and floor rail;
- sliding grasshopper on floor rails.

Aerial transport system for concrete, it is the fastest and most modern system to transfer concrete from the mixing plant to the different casting distributors as the batching plant cannot always be mounted near the concrete distributor. Indeed, very often the concrete mixing plant is installed at the very end of the spans to serve multiple users. The system allows the transport of concrete by air without hindering the logistics of the production site. We can manufacture aerial rail cars that transport up to 3 m^3 of concrete. Based on the consistency of the concrete it is possible to create flying wagons with lower discharge or with reversible tank. The same aerial rail can also feed other equipment such as overhead traveling buckets or other concrete distributors. The airway can be straight, curved and with slopes uphill or downhill.

WALLS AND FLOORS

High and low frequency fresh concrete compaction system. The pallets are positioned above the vibration station, where a series of external vibrators shaken the pallets. The frequency of vibration regulated by an inverter, based on the quantity and consistency of the concrete. A special device mounted on inflatable bearings with hooking centering devices raises the pallet and locks it to evenly distribute the vibration. Vibration modes such as vibration times, frequencies and amplitudes can be programmed in the integrated software. All this can be called up at any time on the HMI panels positioned along the plant.
Curing chambers are composed of support surfaces one above the other. The pallets with vibrated concrete are pushed on the rollers and lifted automatically, stored for a variable time according to the hardening process of the concrete. The ripening chambers are completely insulated with sandwich panels to prevent heat loss. A series of segmented doors open and close automatically to allow the entry and exit of the pallets. The maturation chamber can be equipped with special hot air circulation heating systems. The pallets inserted in the ripening chambers are automatically locked, to ensure them from accidental movement. The ripening chambers can be arranged side by side or in front. The arrangement is agreed with the buyer, based on the availability of the shed space. The handling of the pallets is managed automatically by an automated lift that picks up and leave pallets within the different floors of the curing chambers.



WALLS AND FLOORS

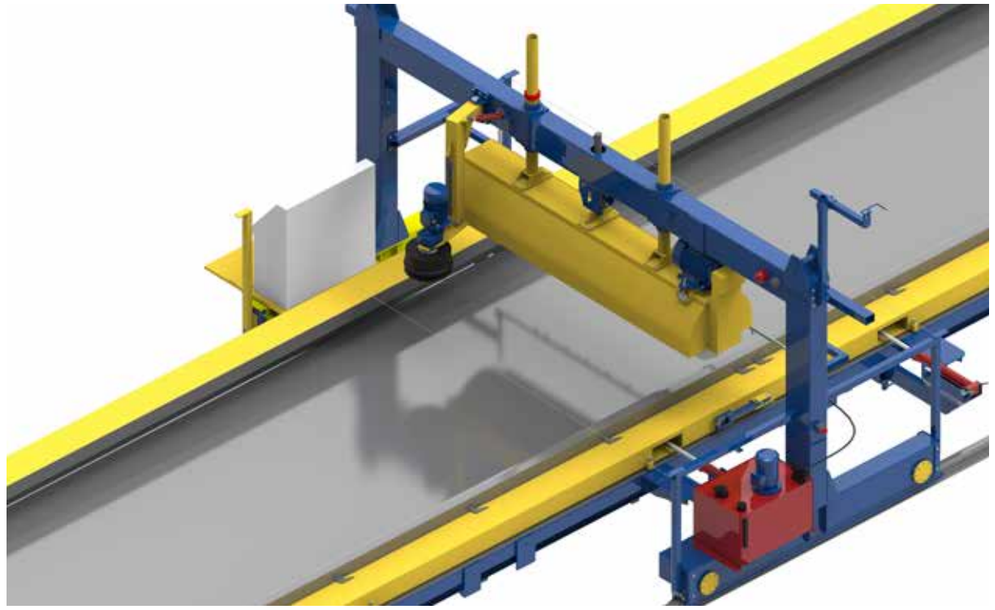
The same equipment manages additional processes such as intermediate stations and smoothing stations. The work area of this machine is protected by certified anti-intrusion laser nets and sensors as it is fully automatic. With reference to the engineering study of the plant and the real needs of the user, fixed lifts, movable on floor rails, on overhead rails are produced. The weights that these equipment can move vary from a minimum of 10 to a maximum of 50 t. All lifting and translation speeds are programmable to be adapted consistently to the cycle times of the system.
Surface smoothing with semi-dry concrete, by mechanized trowel. A special helicopter with 4 tilting blades and with potentiometric speed adjustment allows the surface smoothing of flat walls. Roughing with fresh concrete is also possible using specific discs. Once roughed, the panel enters the curing cell and remains there for about 2/3 hours (much depends on the quality of the concrete and the temperature of the curing cell), it is then extracted with an automated lift and brought back to the smoothing station. This procedure is repeated until the concrete is perfectly smoothed. The helicopter is installed on an electric bridge crane manufactured with a single girder box structure. The electric crane can be of the type:

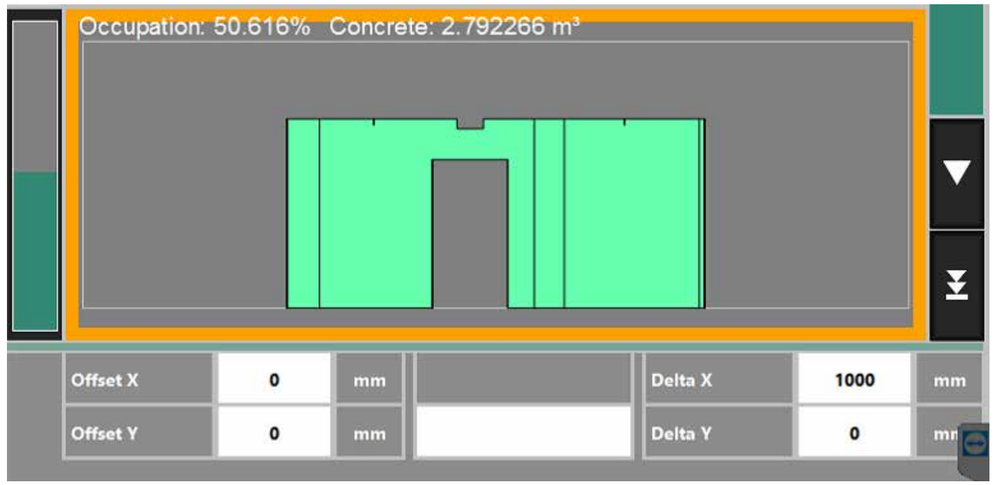
- sliding bridge on overhead rails;
- with soft foot sliding on overhead rail and floor rail;
- with grasshopper sliding on floor rails.

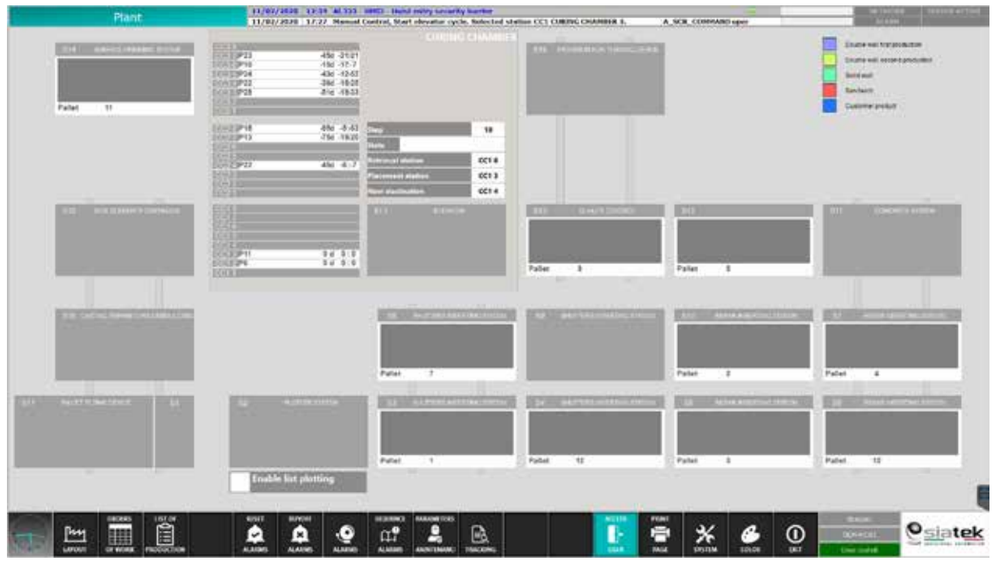
The management of this equipment is entrusted to a pouch radio control with control joystick and potentiometer to increase and decrease the rotation of the blades. The inclination of the blades is regulated by a specific button.
Production pallets, made to measure according to the specific requests, are the basis for producing the flat products which are moved along the entire production circuit and are used to initially contain the reinforcement, all the parts contained by a panel and concrete. Manufactured with reinforced 8-10 mm/0,3”-0,4” thick metal sheet.

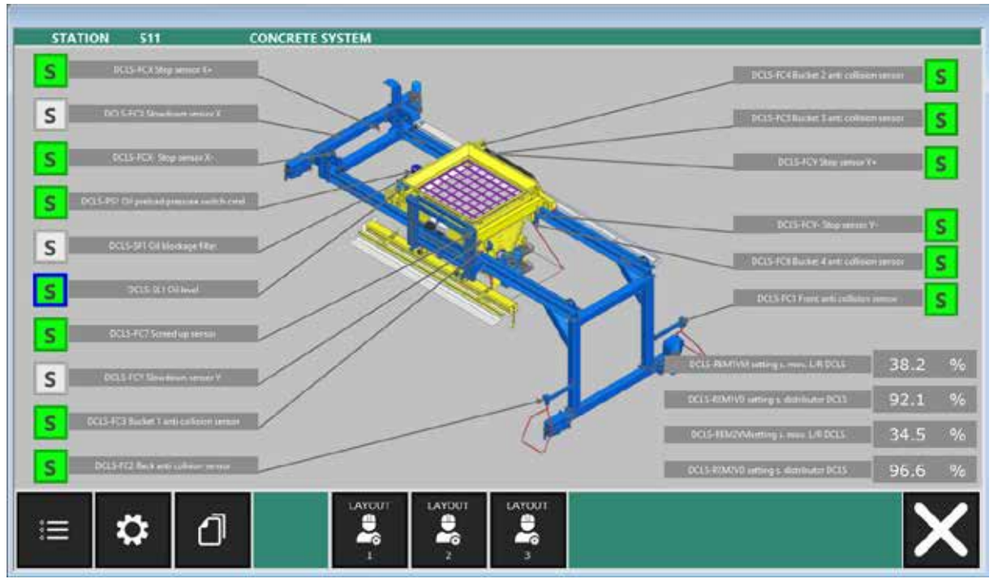
Production trays, made to measure according to the specific requests, are the basis for producing the flat products which are moved along the entire production circuit and are used to initially contain the reinforcement, all the parts that make up a panel and concrete. Construction with sheet 8-10 mm/0,3"-0,4" thick. reinforced below with longitudinal C beams and transverse I profiles. They are perfectly polished in the upper part to produce a perfectly smooth product The pallets are specifically calculated to support loads up to 1.000 kg/m²/2205 lb/m². The pallets can be built with side panels that can be bolted and interchangeable. The pallets transported longitudinally along the production lane by means of motorized wheels are designed to avoid the risk of crushing between the wheels and the pallets themselves. Upon request, laser protection barriers can be installed to ensure total control of the area.

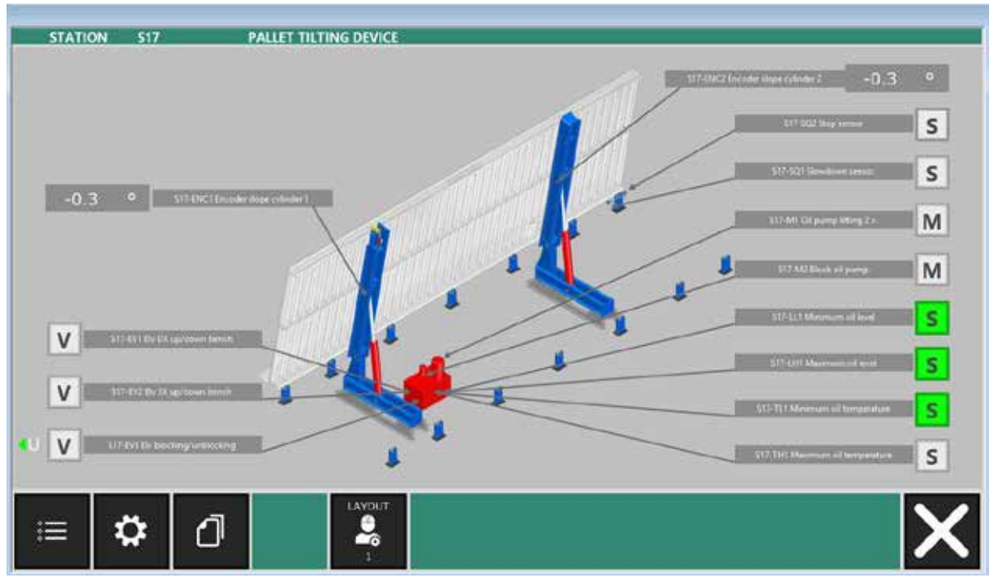
The motorized transverse forklifts move the pallets transversely along the line. A pair of motorized wagons is pushed under the pallets. 4 hydraulic centering devices raise the production tray and transport it to a lateral production station. The pallets are then placed again on the sliding wheels. Once the pallet is released, the wagons are free to carry out other transport operations.

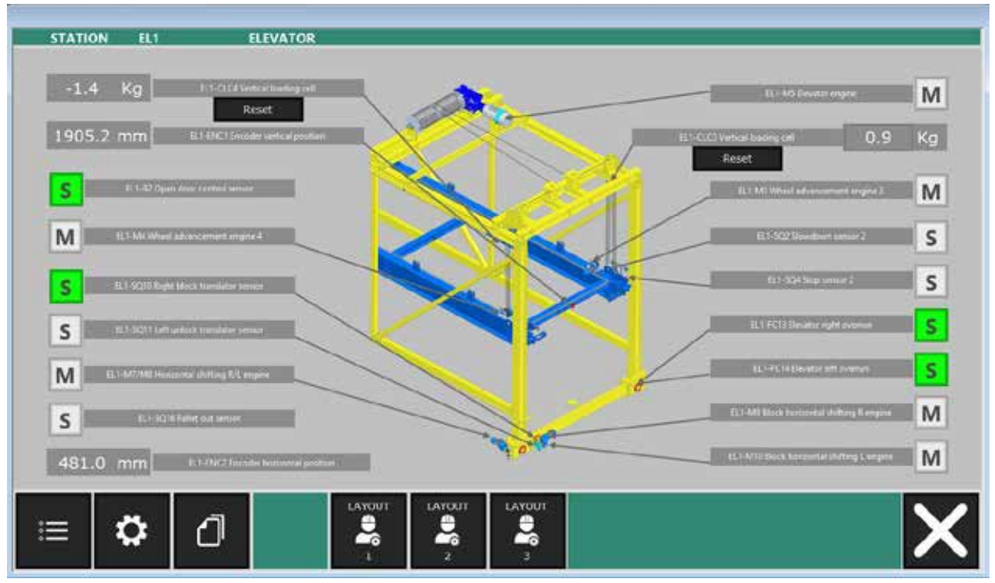


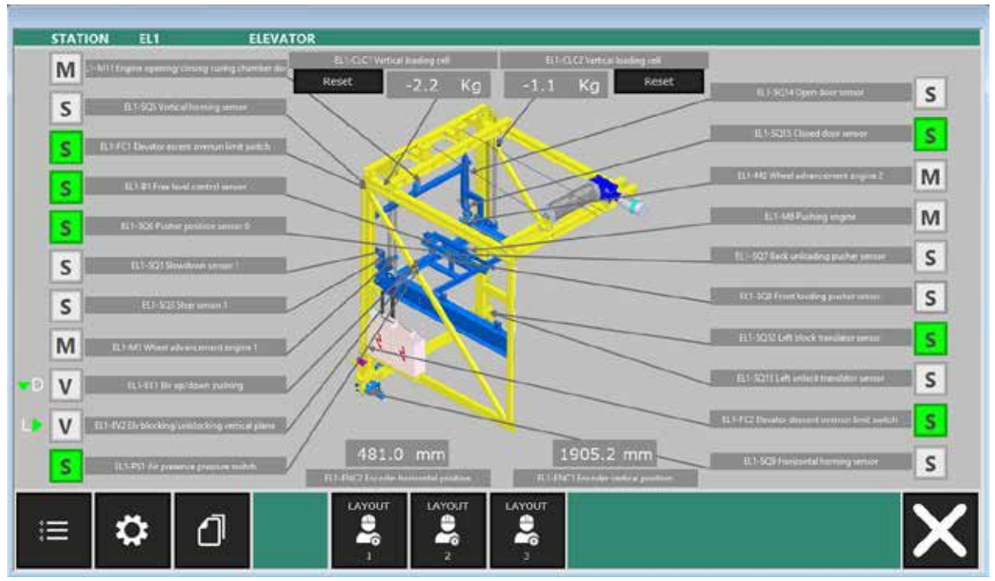

Occupation: 50.616% Concrete: 2.792266 m³
Offset X
0
mm
Offset Y
0
mm
Delta X
1000
mm
Delta Y
0

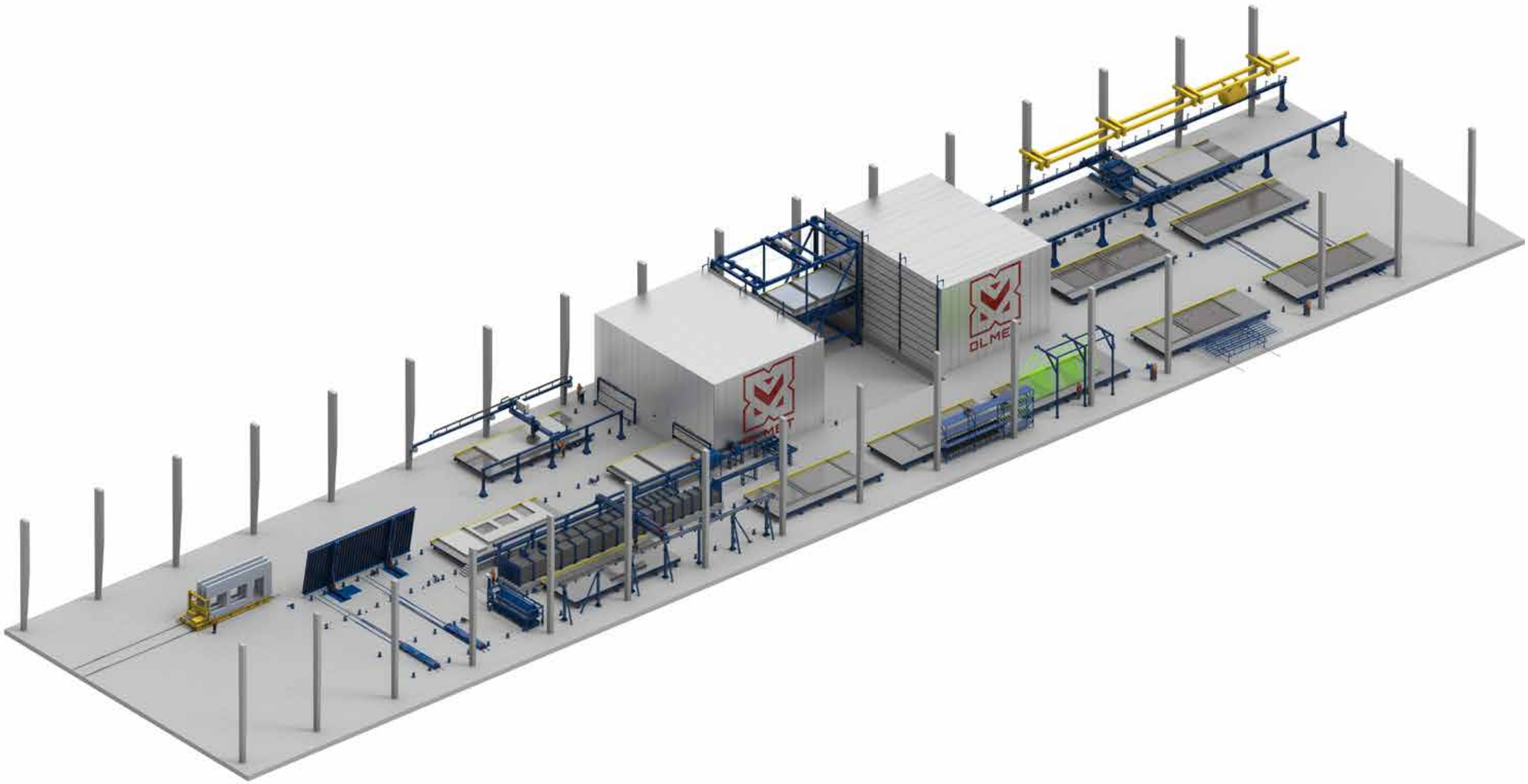

Plant
Enable list plotting


STATION S11 CONCRETE SYSTEM
DCLS-FCX Stop sensor X+
DCLS-FCY Slowdown sensor Y
DCLS-FCX Stop sensor X-
DCLS-PS1 Oil preload pressure switch cutoff
DCLS-SF1 Oil blockage filter
DCLS-EL1 Oil level
DCLS-FC7 Screed up sensor
DCLS-FCY Slowdown sensor Y-
DCLS-FC3 Bucket 1 anti collision sensor
DCLS-FC2 Rack anti collision sensor
DCLS-FC4 Bucket 2 anti collision sensor
DCLS-FC5 Bucket 3 anti collision sensor
DCLS-FCY Stop sensor Y+
DCLS-FCY- Stop sensor Y-
DCLS-FC8 Bucket 4 anti collision sensor
DCLS-FC1 Front anti collision sensor
DCLS-RXMTVM setting s. mov. L/R DCLS
38.2 %
DCLS-REMTV0 setting s. distributor DCLS
92.1 %
DCLS-REM2VMsetting s. mov. L/R DCLS
34.5 %
DCLS-R1M2V0 setting s. distributor DCLS
96.6 %
LAYOUT 1
LAYOUT 2
LAYOUT 3

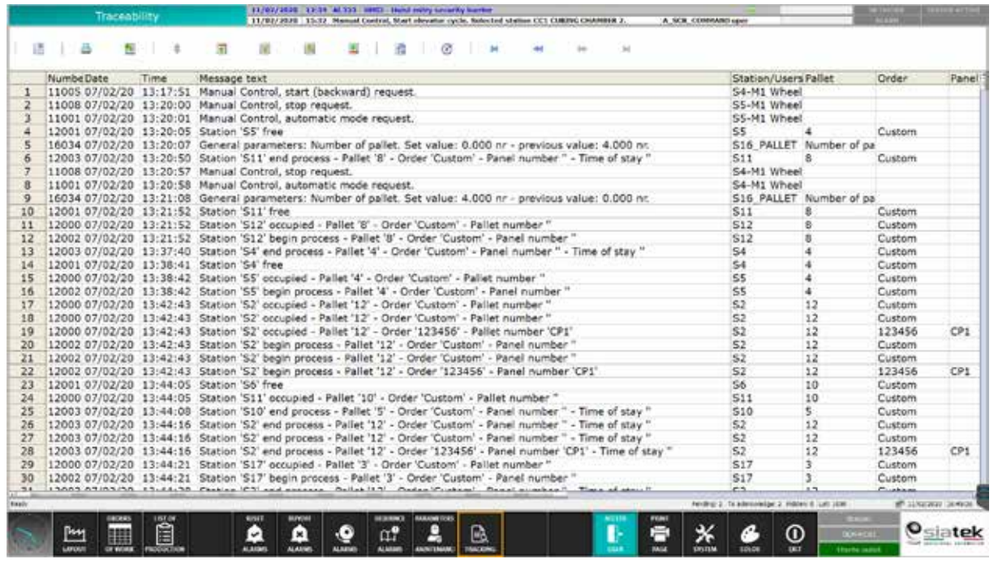

STATION S17 PALLET TILTING DEVICE
S17-ENC2 Encoder slope cylinder 2
-0.3 °
S17-SQ2 Stop sensor
S17-SQ1 Slowdown sensor
S17-M1 Oil pump lifting 2 v.
S17-M2 Block oil pump
S17-LL1 Minimum oil level
S17-LH1 Maximum oil level
S17-TL1 Minimum oil temperature
S17-TH1 Maximum oil temperature
-0.3 °
S17-ENC1 Encoder slope cylinder 1
S17-EV1 Elv EX up/down bench
S17-EV2 Elv 3X up/down bench
S17-EV3 Elv blocking/unblocking
LAYOUT 1


STATION EL1 ELEVATOR
-1.4 Kg
Reset
1905.2 mm
EL1-ENC1 Encoder vertical position
EL1-M5 Elevator engine
EL1-CLC2 Vertical loading cell
0.9 Kg
Reset
EL1-M1 Wheel advancement engine 3
EL1-SQ2 Slowdown sensor 2
EL1-SQ4 Stop sensor 2
EL1-FC13 Elevator right overrun
EL1-FC14 Elevator left overrun
EL1-M8 Block horizontal shifting R engine
EL1-M10 Block horizontal shifting L engine
EL1-M4 Wheel advancement engine 4
EL1-SQ10 Right block translator sensor
EL1-SQ11 Left unlock translator sensor
EL1-M7/M8 Horizontal shifting R/L engine
EL1-SQ18 Pallet out sensor
481.0 mm
EL1-ENC2 Encoder horizontal position
LAYOUT 1
LAYOUT 2
LAYOUT 3

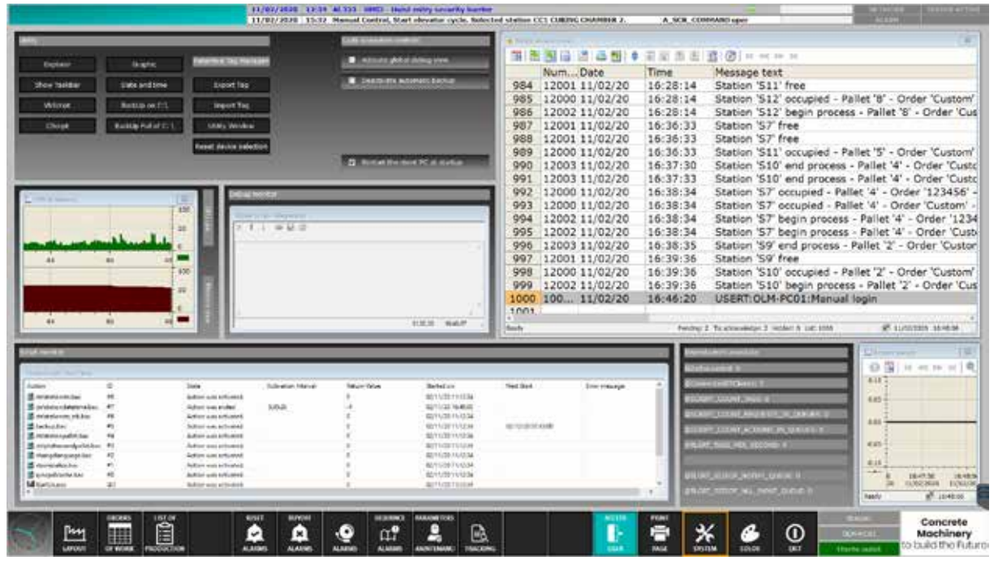

STATION EL1 ELEVATOR
EL1-CLC1 Vertical loading cell
Reset
-2.2 Kg
EL1-CLC2 Vertical loading cell
-1.1 Kg
Reset
EL1-SQ14 Open door sensor
EL1-SQ15 Closed door sensor
EL1-M2 Wheel advancement engine 2
EL1-M8 Pushing engine
EL1-SQ7 Back unloading pusher sensor
EL1-SQ8 Front loading pusher sensor
EL1-SQ10 Left block translator sensor
EL1-SQ11 Left unlock translator sensor
EL1-FC2 Elevator descent sensor limit switch
EL1-SQ9 Horizontal homing sensor
481.0 mm
1905.2 mm
EL1-ENC2 Encoder horizontal position
EL1-ENC1 Encoder vertical position
LAYOUT 1
LAYOUT 2
LAYOUT 3

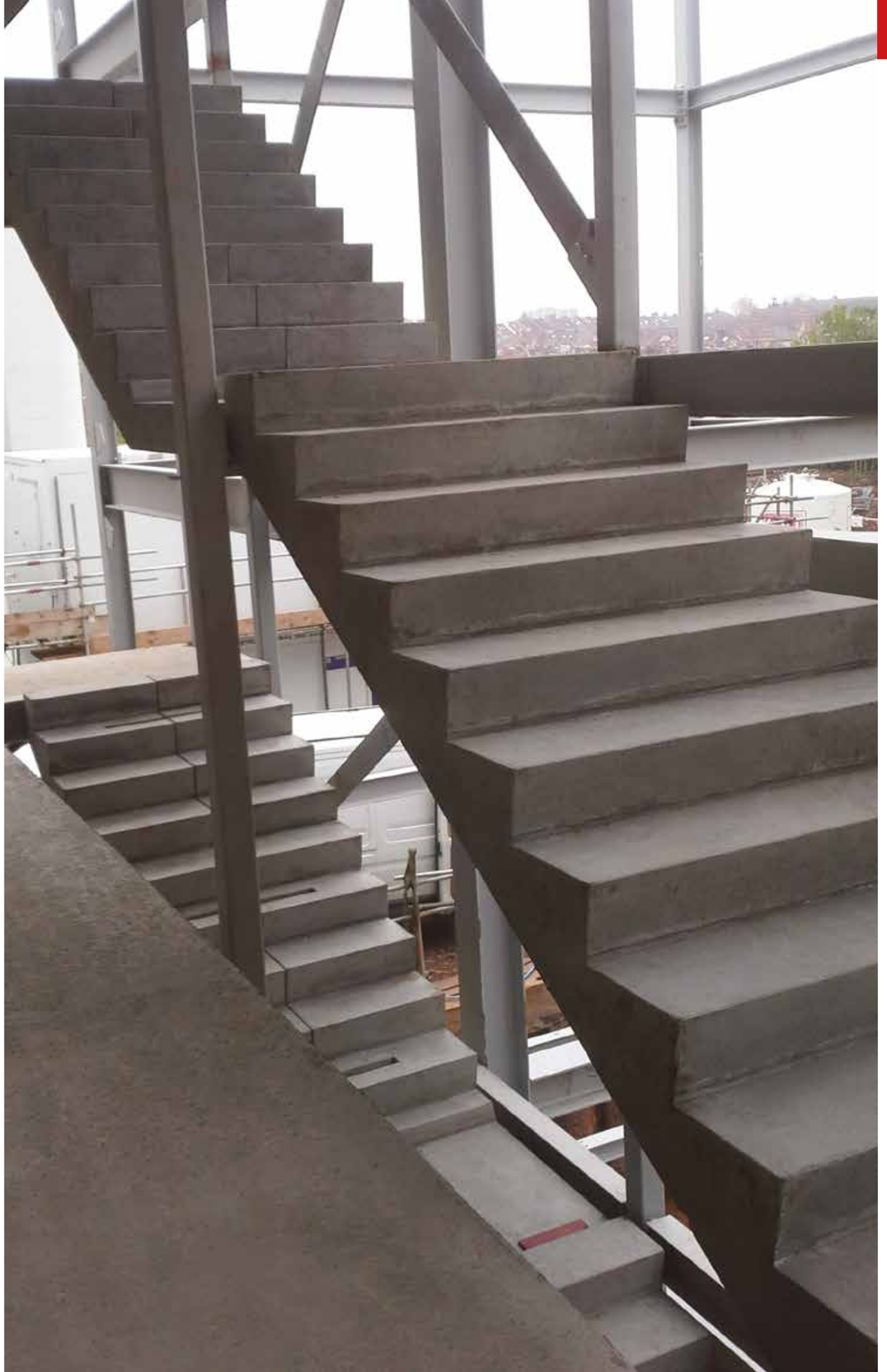


WALLS AND FLOORS



	Numbe	Date	Time	Message text	Station/Users	Pallet	Order	Panel
1	11005	07/02/20	13:17:51	Manual Control, start (backward) request.	S4-M1 Wheel			
2	11008	07/02/20	13:20:00	Manual Control, stop request.	S5-M1 Wheel			
3	11001	07/02/20	13:20:01	Manual Control, automatic mode request.	S5-M1 Wheel			
4	12001	07/02/20	13:20:05	Station 'S5' free	S5	4	Custom	
5	16034	07/02/20	13:20:07	General parameters: Number of pallet. Set value: 0.000 nr - previous value: 4.000 nr.	S16_PALLET	Number of pa		
6	12003	07/02/20	13:20:50	Station 'S11' end process - Pallet '8' - Order 'Custom' - Panel number '' - Time of stay ''	S11	8	Custom	
7	11008	07/02/20	13:20:57	Manual Control, stop request.	S4-M1 Wheel			
8	11001	07/02/20	13:20:58	Manual Control, automatic mode request.	S4-M1 Wheel			
9	16034	07/02/20	13:21:08	General parameters: Number of pallet. Set value: 4.000 nr - previous value: 0.000 nr.	S16_PALLET	Number of pa		
10	12001	07/02/20	13:21:52	Station 'S11' free	S11	8	Custom	
11	12000	07/02/20	13:21:52	Station 'S12' occupied - Pallet '8' - Order 'Custom' - Pallet number ''	S12	8	Custom	
12	12002	07/02/20	13:21:52	Station 'S12' begin process - Pallet '8' - Order 'Custom' - Panel number ''	S12	8	Custom	
13	12003	07/02/20	13:37:40	Station 'S4' end process - Pallet '4' - Order 'Custom' - Panel number '' - Time of stay ''	S4	4	Custom	
14	12001	07/02/20	13:38:41	Station 'S4' free	S4	4	Custom	
15	12000	07/02/20	13:38:42	Station 'S5' occupied - Pallet '4' - Order 'Custom' - Pallet number ''	S5	4	Custom	
16	12002	07/02/20	13:38:42	Station 'S5' begin process - Pallet '4' - Order 'Custom' - Panel number ''	S5	4	Custom	
17	12000	07/02/20	13:42:43	Station 'S2' occupied - Pallet '12' - Order 'Custom' - Pallet number ''	S2	12	Custom	
18	12000	07/02/20	13:42:43	Station 'S2' occupied - Pallet '12' - Order 'Custom' - Pallet number ''	S2	12	Custom	
19	12000	07/02/20	13:42:43	Station 'S2' occupied - Pallet '12' - Order '123456' - Pallet number 'CP1'	S2	12	123456	CP1
20	12002	07/02/20	13:42:43	Station 'S2' begin process - Pallet '12' - Order 'Custom' - Panel number ''	S2	12	Custom	
21	12002	07/02/20	13:42:43	Station 'S2' begin process - Pallet '12' - Order 'Custom' - Panel number ''	S2	12	Custom	
22	12002	07/02/20	13:42:43	Station 'S2' begin process - Pallet '12' - Order '123456' - Panel number 'CP1'	S2	12	123456	CP1
23	12001	07/02/20	13:44:05	Station 'S6' free	S6	10	Custom	
24	12000	07/02/20	13:44:05	Station 'S11' occupied - Pallet '10' - Order 'Custom' - Pallet number ''	S11	10	Custom	
25	12003	07/02/20	13:44:08	Station 'S10' end process - Pallet '5' - Order 'Custom' - Panel number '' - Time of stay ''	S10	5	Custom	
26	12003	07/02/20	13:44:16	Station 'S2' end process - Pallet '12' - Order 'Custom' - Panel number '' - Time of stay ''	S2	12	Custom	
27	12003	07/02/20	13:44:16	Station 'S2' end process - Pallet '12' - Order 'Custom' - Panel number '' - Time of stay ''	S2	12	Custom	
28	12003	07/02/20	13:44:16	Station 'S2' end process - Pallet '12' - Order '123456' - Panel number 'CP1' - Time of stay ''	S2	12	123456	CP1
29	12000	07/02/20	13:44:21	Station 'S17' occupied - Pallet '3' - Order 'Custom' - Pallet number ''	S17	3	Custom	
30	12002	07/02/20	13:44:21	Station 'S17' begin process - Pallet '3' - Order 'Custom' - Panel number ''	S17	3	Custom	





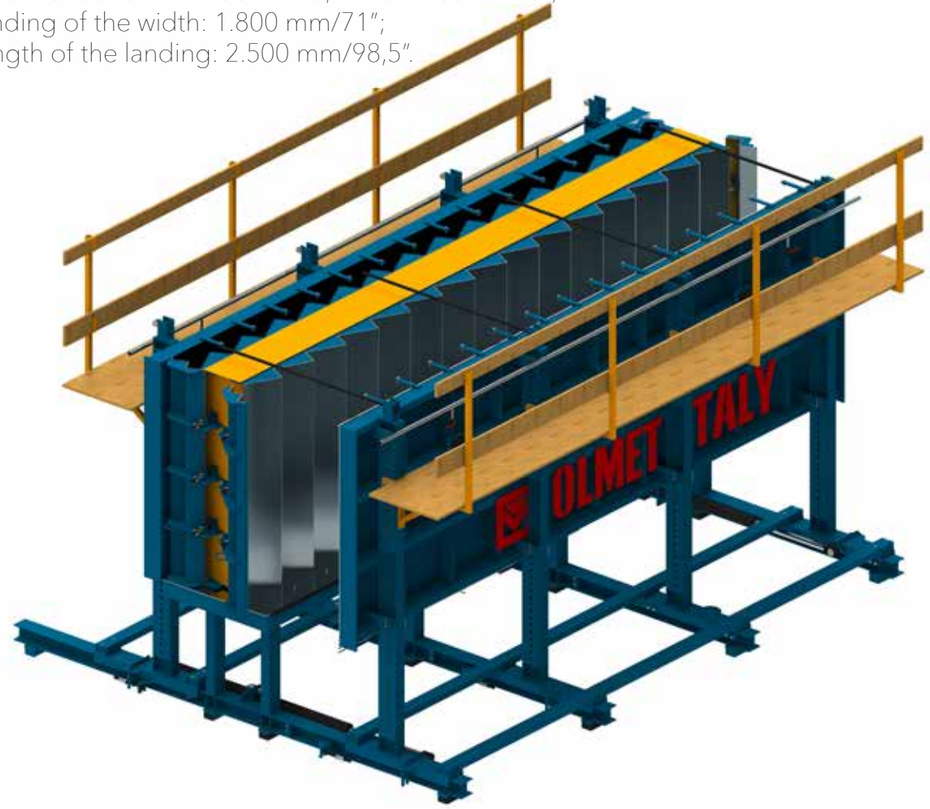
STAIRS

Formwork for stairs with /without landings, with adjustable or fixed risers and treads.
These formworks can be manufactured with casting in horizontal as well as in vertical position (battery formworks for vertical casting or single formworks for horizontal production).
The battery formwork can be supplied with fixed section, for the production of a large quantity of elements and to optimize production processes.
Olmet Italy also supplies double batteries with the possibility of adjusting all the geometric dimensions of the stair, such as:

- tread length;
- tread thickness;
- number of the steps;
- thickness of the concrete element;
- length and width of the landing;
- thickness of the landing.

Technical details:

- width of the stairs: up to 1.800 mm/7,1";
- number of the steps: up to 20;
- tread size: min. 200 mm/7,8" max. 320 mm/13";
- lift dimensions: min. 150 mm/5,9" max. 200 mm/8";
- landing of the width: 1.800 mm/71";
- length of the landing: 2.500 mm/98,5".

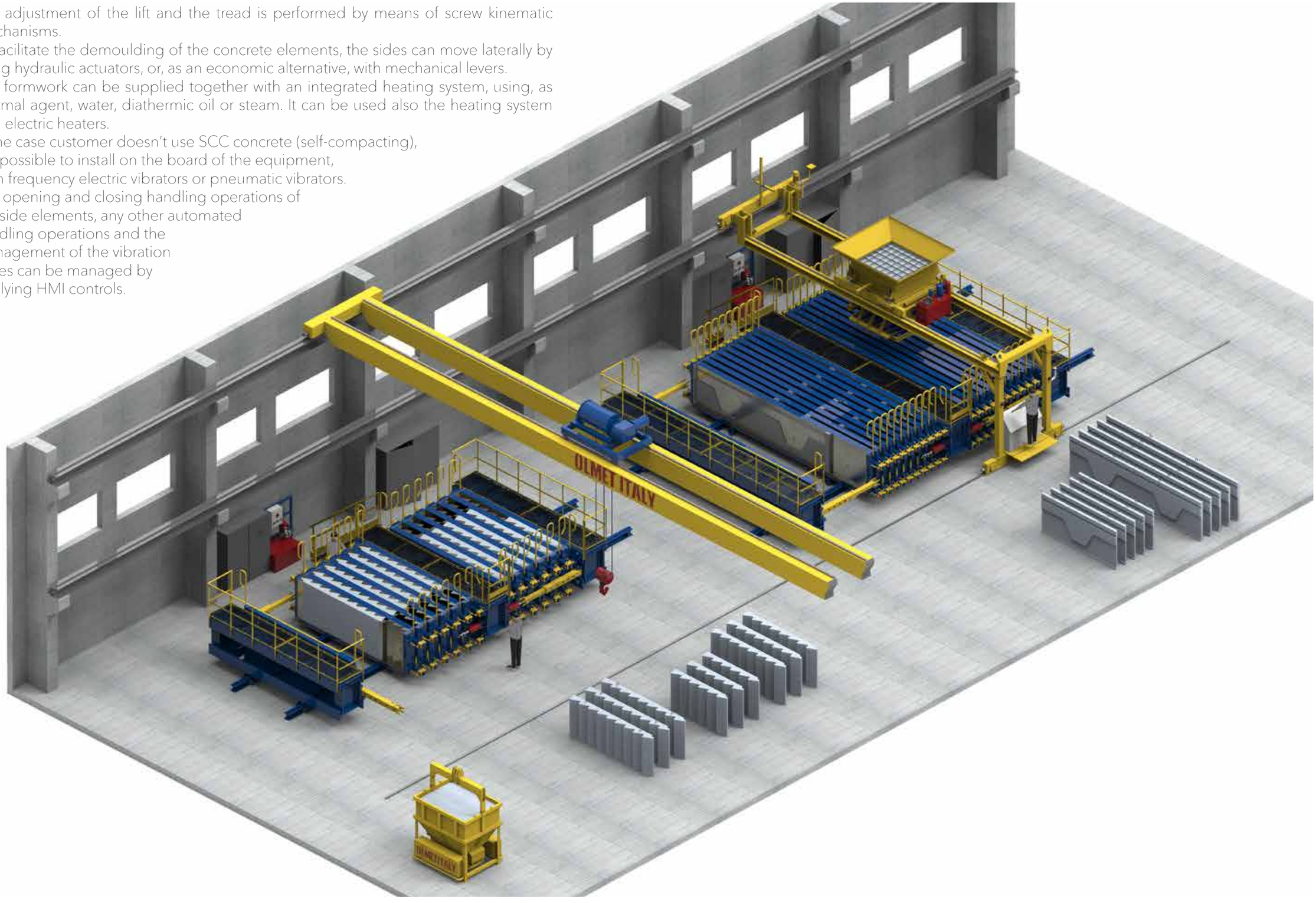


STAIRS

concrete precast elements

STAIRS

The adjustment of the lift and the tread is performed by means of screw kinematic mechanisms.
To facilitate the demoulding of the concrete elements, the sides can move laterally by using hydraulic actuators, or, as an economic alternative, with mechanical levers.
The formwork can be supplied together with an integrated heating system, using, as thermal agent, water, diathermic oil or steam. It can be used also the heating system with electric heaters.
In the case customer doesn't use SCC concrete (self-compacting), it is possible to install on the board of the equipment, high frequency electric vibrators or pneumatic vibrators.
The opening and closing handling operations of the side elements, any other automated handling operations and the management of the vibration cycles can be managed by applying HMI controls.



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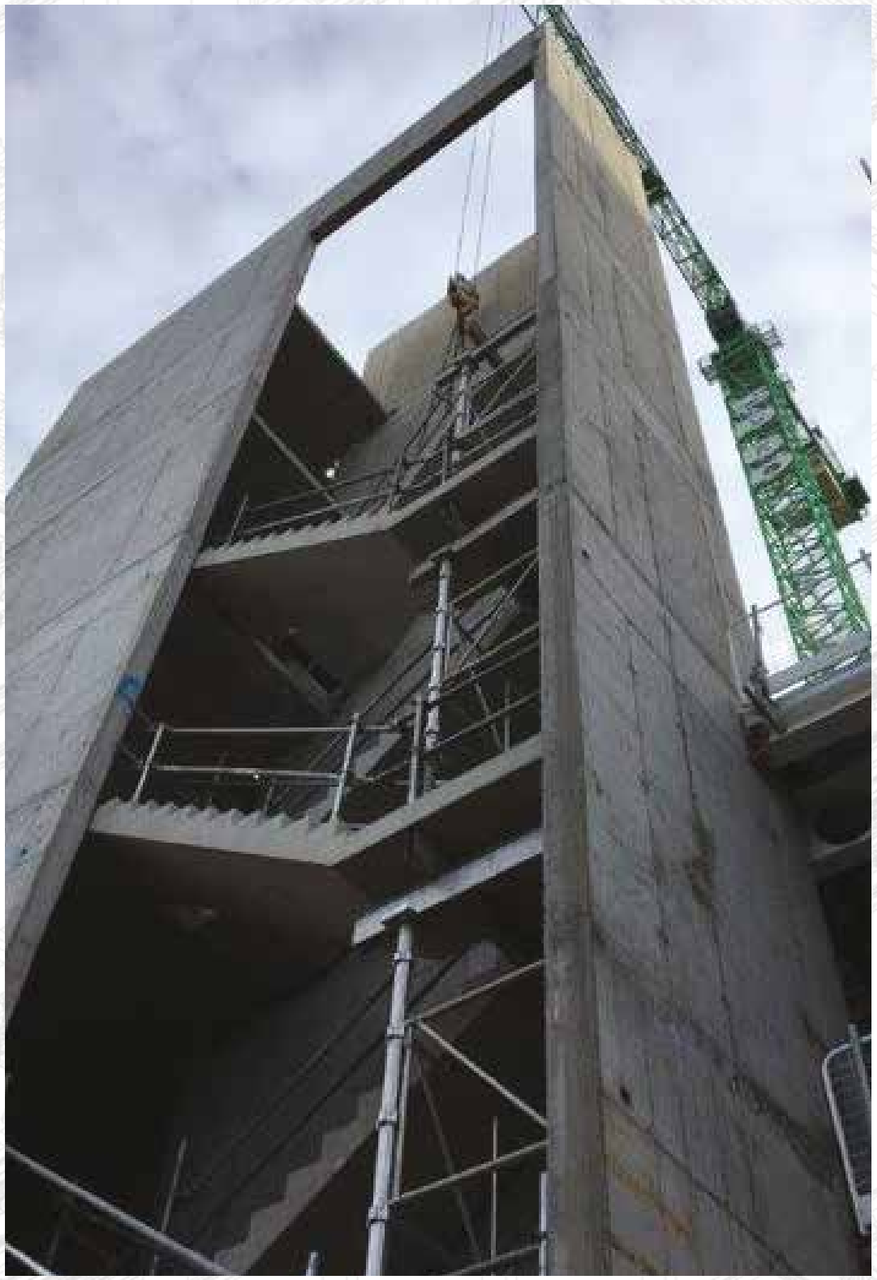


STAIRS

BOX CULVERTS

BOX CULVERTS

Modular mold for culverts, elevator shafts or stairs.

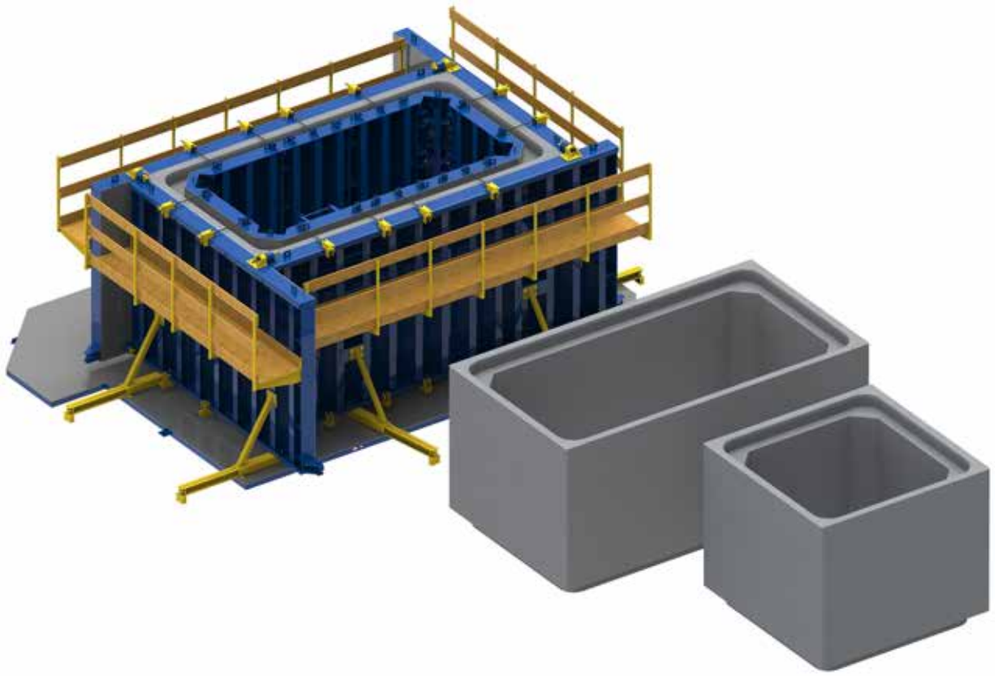
Olmet Italy supplies modular formworks for the production of monolithic elements consisting of 4 and more walls; these formworks are built with sheets of 6 mm/0,2" - 8 mm/0,3" or 10 mm/0,4" thicknesses.
The formworks con have adjustable dimensions (length, width and height):

- min. length 2 m/6,5 ft, max. 7 m/23 ft;
- min. width 2 m/6,5 ft, max. 7 m/23 ft;
- variation of the pitch for each side 100 mm/3,9";
- wall thickness, from 150 mm/6" to 500 mm/20" pitch 50 mm/2";
- internal angles chamfered from 250/250 mm - 10"/10", 300/300 mm - 12"/12", 350/350 mm - 14"/14", 400/400 mm - 16"/16", 450/450 mm - 18"/18", 500/500 mm - 20"/20" (and angles dimension on specific request).

The formworks can be designed with lower and upper base elements with male/female junction shapes.
The internal false formworks are built with angles that can be tightened on four sides by a specific system of inclined planes. The system works mechanically or with hydraulic cylinders.

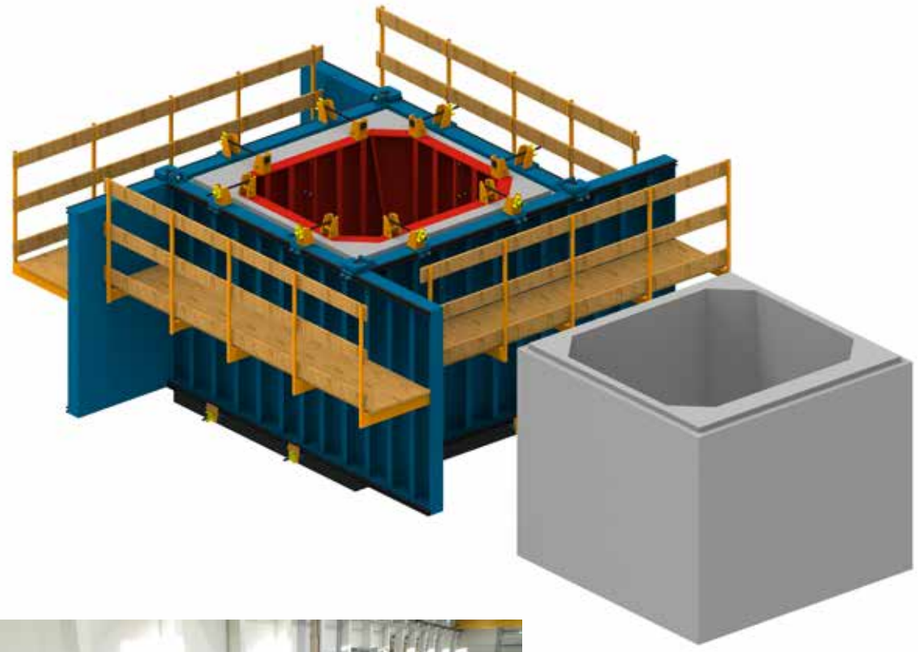
concrete precast elements

BOX CULVERTS



The side elements can be removed, for the demoulding of the concrete element, by mechanical handling with the overhead travelling crane; alternatively, there is the possibility to move them with double-acting hydraulic cylinders.
Upper and lower locking, between the false formwork and external side elements with dividag bars for a quick screwing and unscrewing.

Application (in a fixed reinforced position) of vices to support pneumatic or high frequency electric vibrators with inverter.
To operate in safety in height, during the casting and finishing operations of the concrete element, Olmet Italy always provides one or more access stairs to the top of the formwork. The operator works on non-slip walking surfaces, always with fall protection parapets.



BOX CULVERTS

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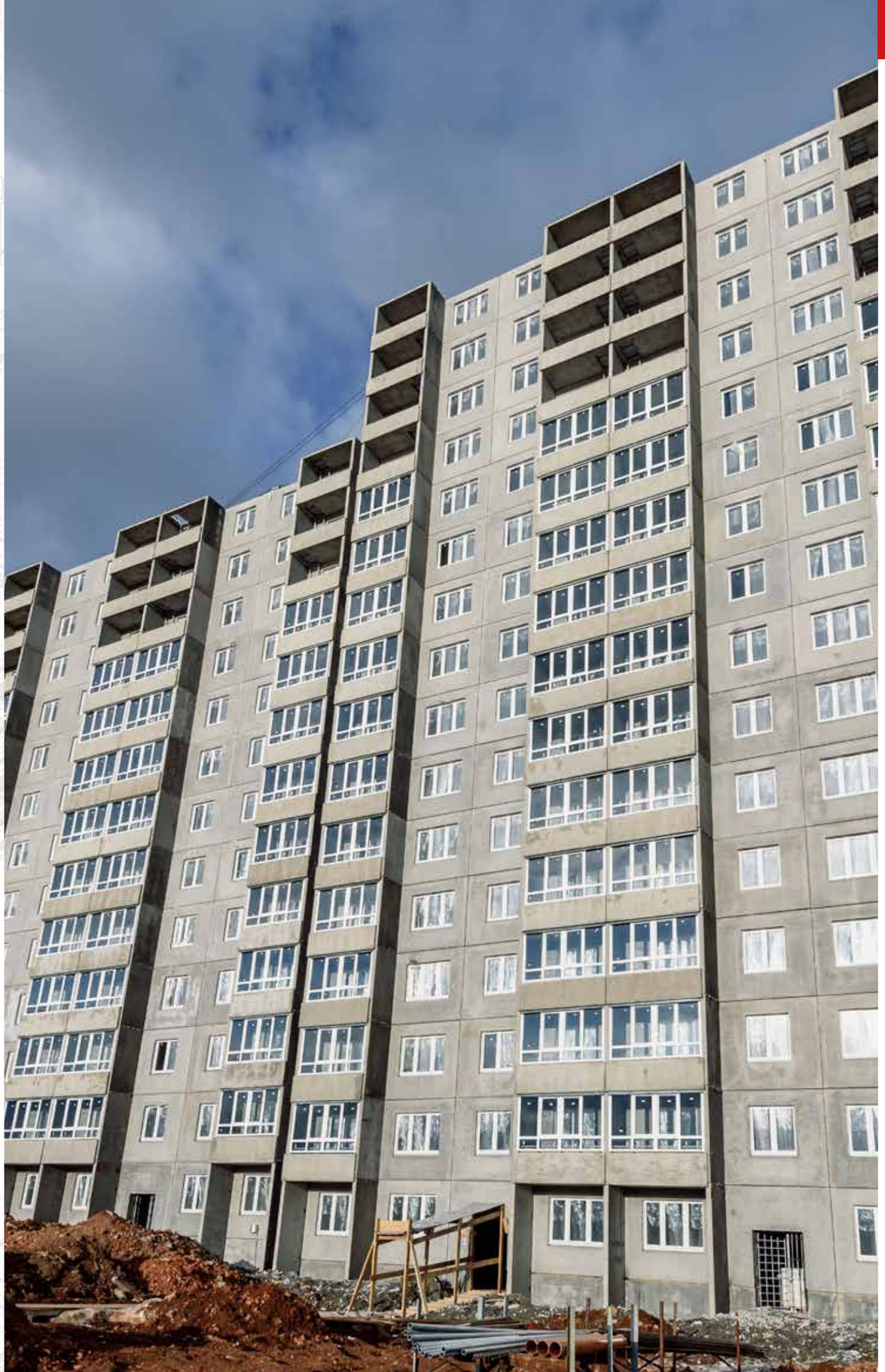
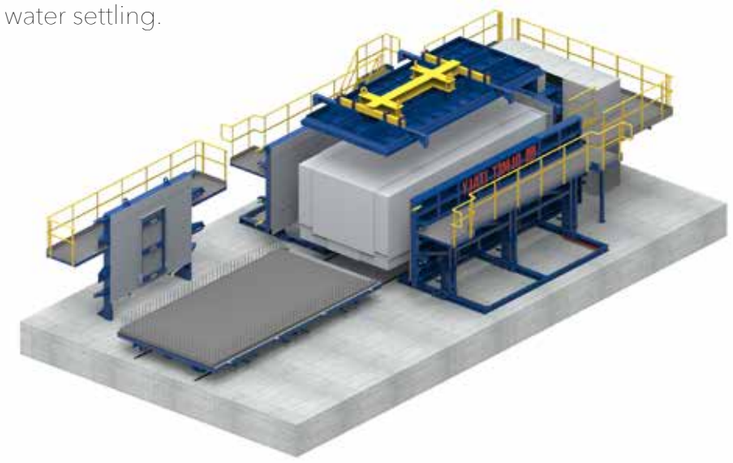
BOX CULVERTS



3D MONOLITHIC ELEMENTS

FORMWORKS FOR 3D MONOLITHIC ELEMENTS

Monolithic prefabricated 3D elements for the production of:
- housing modules;
- substations for electrical transformation;
- garage;
- prison cells;
- purification tanks;
- tanks for water settling.



High-tech formworks for the production of small and large prefabricated elements:
- minimum dimensions (L*P*H): 3 m/9,8 * 3 m/9,8 * 3 m/9,8 ft.
- maximum dimensions (L*P*H): 12 m/39,3 *4 m/13 * 4 m/13 ft.

3D MONOLITHIC ELEMENTS

concrete precast elements

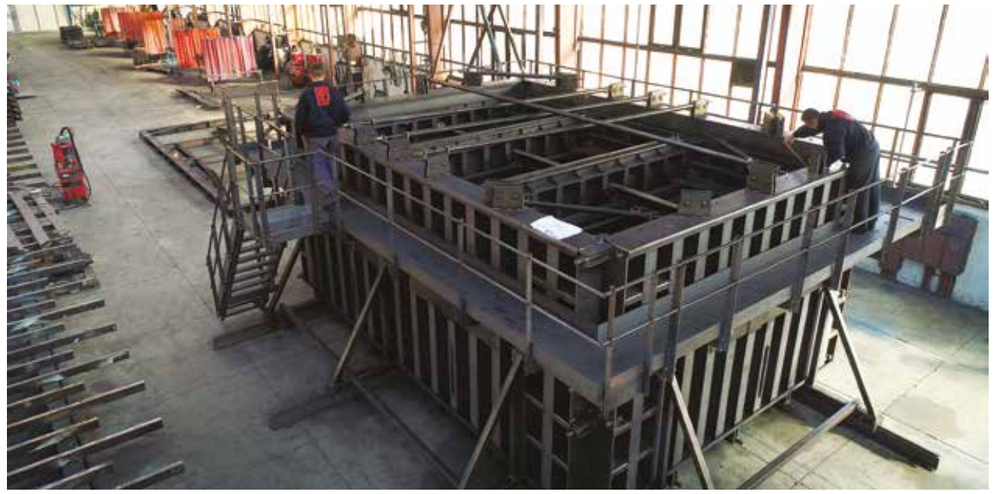
3D MONOLITHIC ELEMENTS

All the formworks made by Olmet Italy are manufactured on specific customer's requests and they are completely designed by the internal technical department.
Before the shipment, the formworks are completely assembled and tested; furthermore, upon specific customer's request, there is the possibility to produce a real element.

All the shapes are manufactured with high quality steel plates with a thickness from a minimum of 6 mm/0,2" up to a maximum of 15 mm/0,6"; the steel plates are always reinforced on the back with a strong reticular structure of thick profiles, to permit a long durability of the equipment itself. Olmet Italy can boast installed equipment at customer's jobsite who have been molding concrete elements for over 15 years every day.

The internal element that models the hollow part of the element is a true concentrate of construction technique: metal carpentry, kinematic movements of precision, oleodynamic integrated together with PLC controlled actuators, move different parts of the equipment with millimeter precision.

Also the external side elements can be moved on rollers manually activated by levers, or even with double-acting oleodynamic actuators (in this way the operator makes no effort). Everything is controlled and managed by a control panel, or by a radio-controlled console.



concrete precast elements

3D MONOLITHIC ELEMENTS

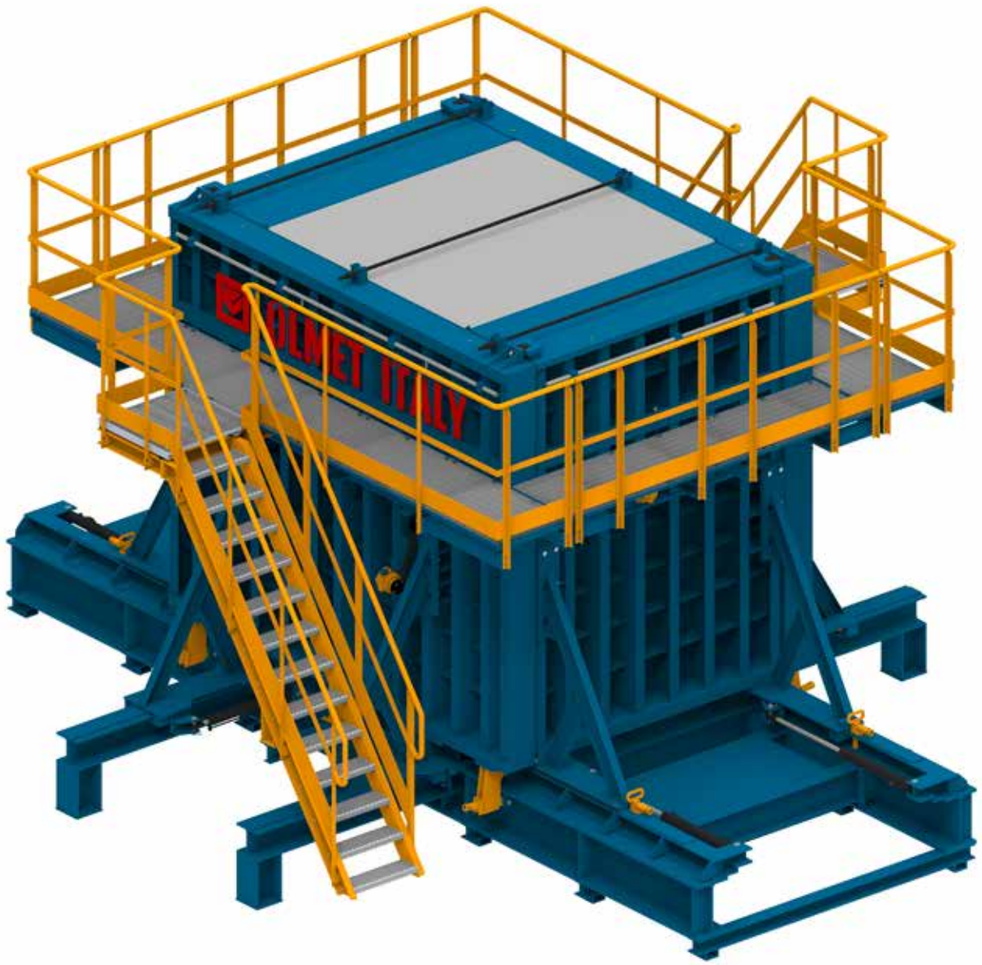
From the radio-controlled console, the operator can also manage the vibration cycles. The vibration can take place by installing, in a fixed reinforced position electric or, alternatively, pneumatic high frequency vibrators. Here are the specifications:

- three-phase external electric vibrator 400V (380 ÷ 415V Multi-voltage), extra compact with foot fixing;
- supply voltage: 400 Volt;
- frequency: 0 ÷ 100 Hz;
- power at 6000 RPM: 1,100 watts;
- current at 6000 RPM: 1.75 A
- centrifugal force at 6000 RPM: 13.1 KN/2944 lb
- pe at 6000 RPM: kgmm 33.2/72,9 lb
- weight: 15 kg/33 lb

The formworks made by Olmet Italy can be designed to create a single cell or, alternatively, several interconnected cells, divided by reinforced concrete walls. Therefore, the finished element can have one, two, three or four interconnected cells, connected to each other by doors.
The doors, the terraces and even the balconies are all thrown at the same time, thus creating a real monolithic element, very resistant even to the most violent earthquake.
With specific spacers it is also possible to produce products with thermally insulated walls, or solid walls.

It is possible to speed up the drying process of the product by introducing special hot air fans into the internal nucleus which substantially reduce the drying times of the product.
Olmet Italy formworks are flexible and are able to satisfy even the most complex requests.

The formworks are always supplied complete with one or more access stairs to the upper part of the formwork, to facilitate casting and finishing operations of the element. Furthermore the operator is always protected by non-slip metal sheet walking surfaces and anti-fall safety parapets.
Olmet Italy also provides, on customer's request, the necessary equipment to tilting the element of 180°/356 °f.
Olmet Italy has successfully created the double "L" tilting table, supplied with four rotatable arms, to solve any problem with the rotation of all 3D element.



Elements with the following dimensions can be rotated:

- length: min. 3 m/10 ft - max. 9 m/29,5 ft
- height: min. 2 m/6,5 ft - max. 4 m/13 ft
- weight: max. 50 tons

An innovative electronic control system complete with 4 inclinometric sensors allows the synchronized rotation of the arms with millimeter precision: this system is managed by a dedicated program specific for the plc.
One part of the tipping frame is fixed to the floor, the other is mobile so that it is possible to allow the movement and therefore to receive the element rotated 90° with any height of the product.
Special mechanical supports block the product during the rotation phases, even with asymmetrical walls.
The tipper is always supplied complete

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3D MONOLITHIC ELEMENTS

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3D MONOLITHIC ELEMENTS

with a special oleodynamic station suitable for the control of 4 + 4 telescopic cylinders for lifting.
You can opt for total control of the machine from the pendant push-button panel or, alternatively, with a handheld radio control.

The equipment must be placed on a simple reinforced industrial floor with a thickness og 300 mm/12".

3D MONOLITHIC ELEMENTS

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3D MONOLITHIC ELEMENTS

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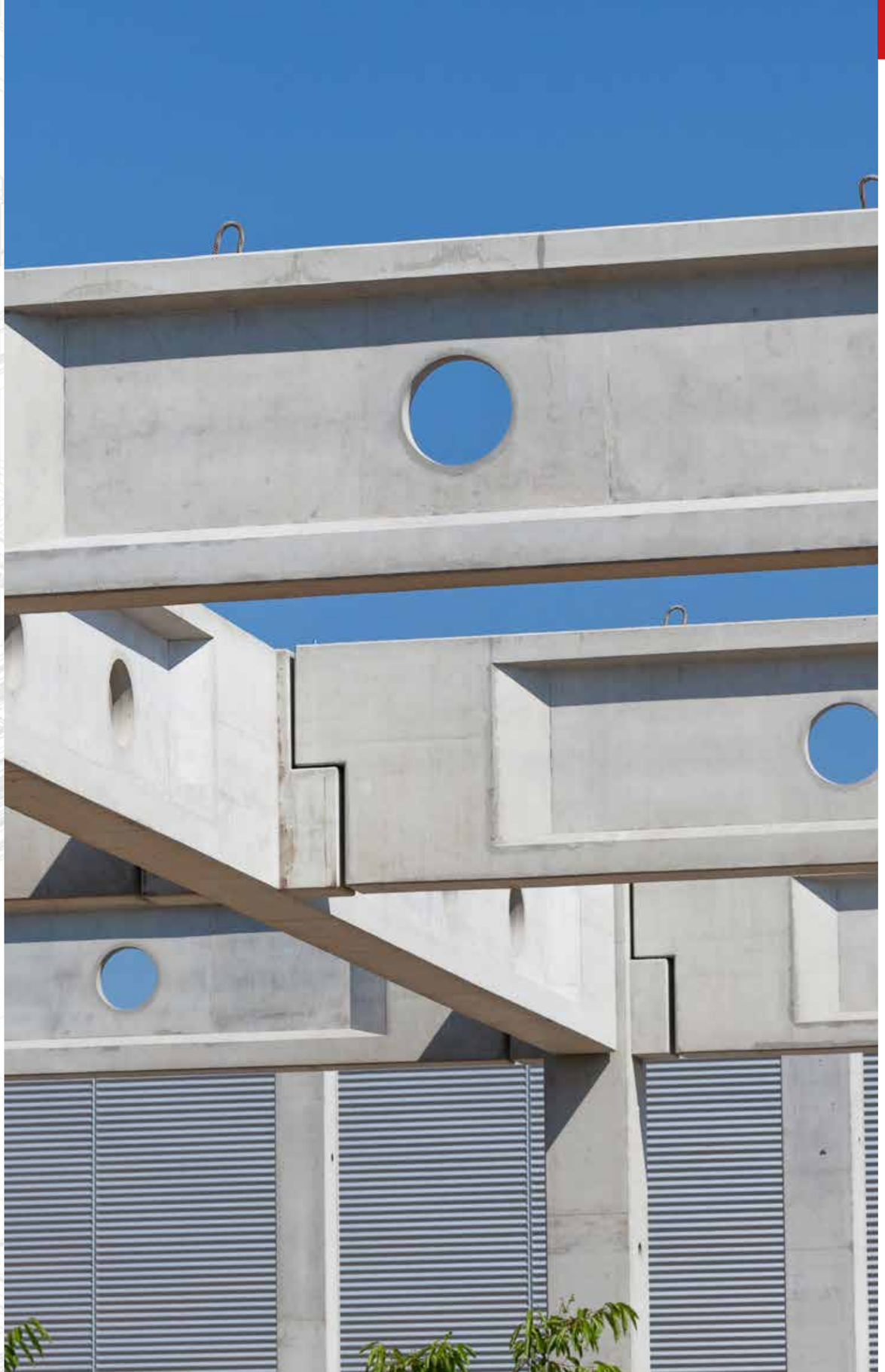


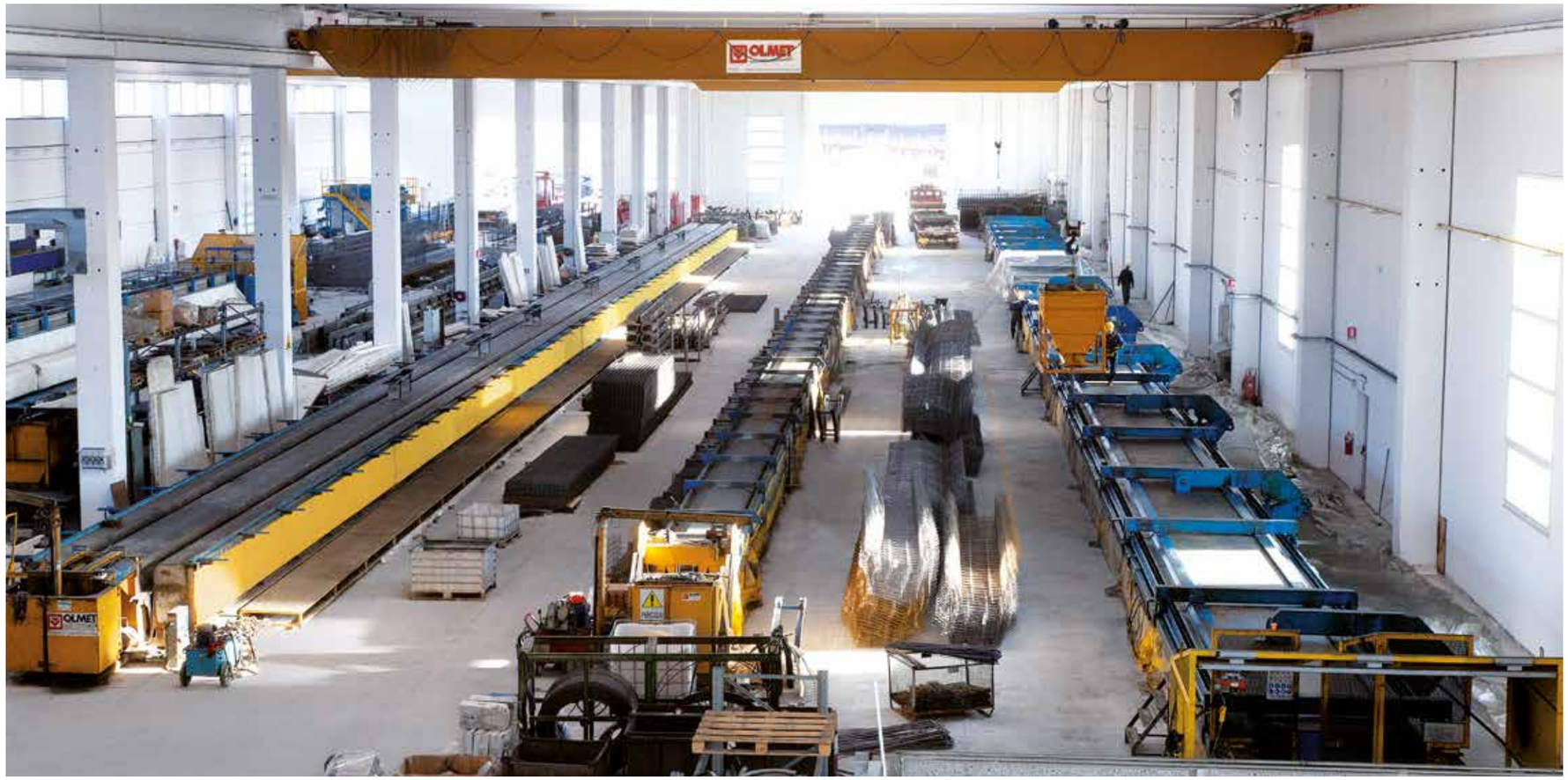
PRESTRESSED ELEMENTS

Prestressed elements, for:

- bridge beams with I, V, U section, with lengths up to 45 m/148 ft;
- primary beams with section I, T, inverted T, L, H and rectangular;
- covering beams with TT, Y, V, I and Shed section 4) decks with TTT, TT and V sections.

A series of steel cables is stretched to produce concrete elements with high tensile strength. The maximum prestressing force is given by the total sum of the cables that must be pre-tensioned in the specific product. We manufacture production lines with prestressing force up to 1.600 tons. with max. bending moment 450 tons. Max. Prestressing width: 3.5 m/11,5 ft. Max. Prestressing height: 3 m/10 ft.

PRESTRESSED ELEMENTS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The length of the lines is defined on specific customer request. Lines up to 150 m/492 ft in length can be made. The prestressed products are made with specific equipment such as:

- long universal beds, with concrete foundation pits (the prestressing heads transfer the force to the foundation pits);
- long universal beds with parallel steel reagents and counterweights in concrete foundations (the prestressing heads transfer the force to the parallel reactants and concrete counterweights);
- fully self-reacting formworks (the prestressing heads transfer the force to the formwork reagents). In all three cases the equipment is mainly complete with a prestressing system, consisting of tension heads and hydraulic tensioning equipment.

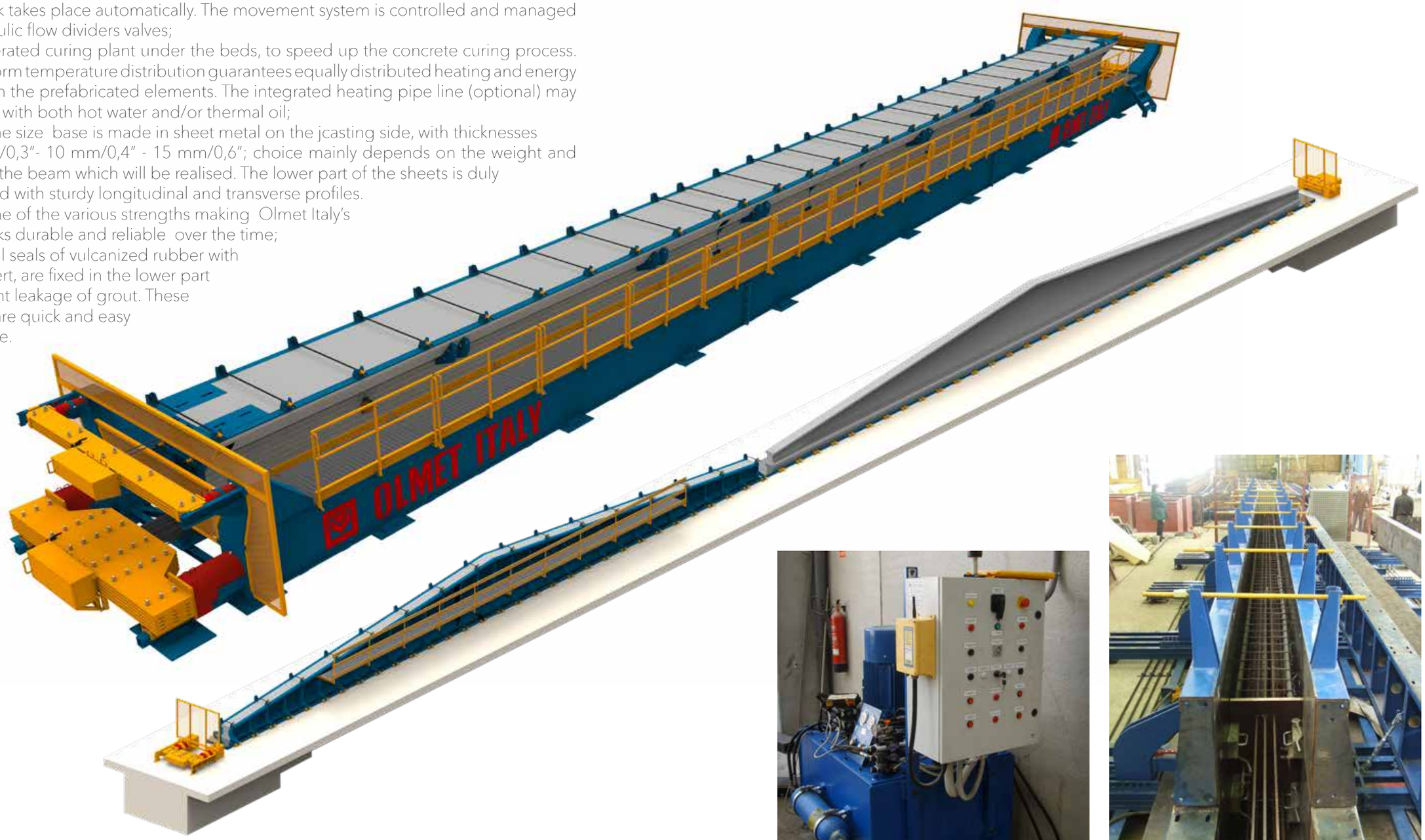
The system is generally composed of an active tensioning head (with relaxation cylinders, moving head) and a passive tensioning head (fixed head).

PRESTRESSED ELEMENTS

PRESTRESSED ELEMENTS

The universal beds are enginereed to latch the lateral formworks, necessary to shape the product. The same may be equipped with:

- specific mechanical grippers lock the lateral formworks, during casting. In this case, the lateral formwork is normally moved by an Over Head Crane;
- transversal sliding slides combined with hydraulic systems with double acting actuators. In this case, therefore, the movement of setting and disarming the side formwork takes place automatically. The movement system is controlled and managed by hydraulic flow dividers valves;
- accelerated curing plant under the beds, to speed up the concrete curing process. The uniform temperature distribution guarantees equally distributed heating and energy savings in the prefabricated elements. The integrated heating pipe line (optional) may be filled with both hot water and/or thermal oil;
- the one size base is made in sheet metal on the jcasting side, with thicknesses of 8 mm/0,3"- 10 mm/0,4" - 15 mm/0,6"; choice mainly depends on the weight and width of the beam which will be realised. The lower part of the sheets is duly reinforced with sturdy longitudinal and transverse profiles.
This is one of the various strengths making Olmet Italy's formworks durable and reliable over the time;
- special seals of vulcanized rubber with steel insert, are fixed in the lower part to prevent leakage of grout. These gaskets are quick and easy to replace.



PRESTRESSED ELEMENTS


15
16
17
18

PRESTRESSED ELEMENTS

The lateral formworks may be manufactured with flexible or fixed section; this is defined in agreement with the customer, based on his production needs. Such equipment can be:

- with continuous streamlined section, with a length varying between 10 m/33 ft and over 50 m/165 ft:
  - fixed in height
    H = min. 400 mm/15,7″ - max. 2.000 mm/79″
  - flexible in height
    H = min. 400 mm/15,7″ - max. 1.000 mm/39,4″
    H = min. 1.100 mm/43,3″ - max. 1.600 mm/63″
    H = min. 1.700 mm/67″ - max. 2.200 mm/87″
    Further modules on request.
  - flexible in width
    L = min. 400 mm/15,7″ max. 1.000 mm/39,4″
    Further modules on request.
- extensible in length, with constant fixed height or modular tilt:
  0.50 m modules
  1 m/3,3 ft modules
  2 m/6,6 ft modules
  3 m/10 ft modules
  4 m/13 ft modules

All modules can be manufactured with a constant rectilinear or oblique section. Easy change of beam geometry via a two-point spindle system. The compensations for the positioning of the shapes obliquely may be realised in wooden modules shaped to size.

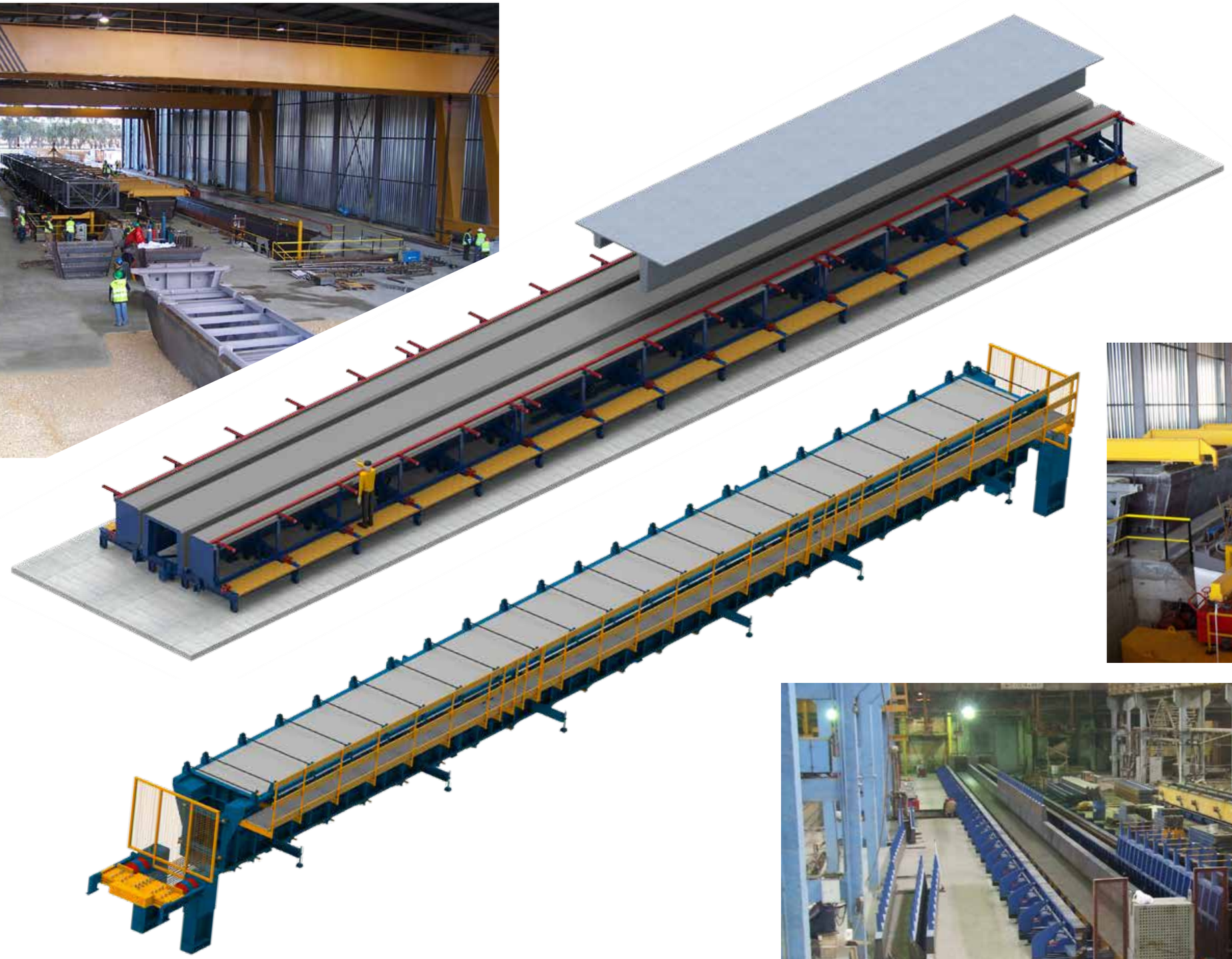
PRESTRESSED ELEMENTS

The formworks according to their size, therefore according to the size of the beam, are manufactured in 6 mm/0,2" - 8 mm/0,3" - 10 mm/0,4" casting side plates. They are always complete with:

- sturdy reinforcement ribs, laser-shaped;
- specific supports for their movement, in case of setting and disarming using anoverhead crane;
- specific supports in case of automated handling by automatic actuators;
- for large-sized equipment for which it is necessary to work at height, we provide specific decking surfaces in anti-slip metal and safety parapets.

To vibrate the concrete, resistant steel supports are applied in proper positions, suitable for fastening high frequency electric or pneumatic vibrators;
Lateral formworks may be designed to hook steel or wooden counter-formwork to create a lighter concrete beam.
These inserts are usually boltable, therefore removable and positionable on various heights. These parts are normally handled by Over Head Crane or other hydrualic meanings.
Bespoke diaphragms for each type of beam.
These elements are used to determine the final length of the beam.
They are made in 10 mm/0,4" - 15 mm/0,6" thick sheets, fully reinforced on the rear side. They are complete with holes to insert the prestressing strands.
These elements can be completed with perimeter sealing gaskets to prevent grout spills.
For the operations of fixing the diaphragms during the casting phases, it is possible to hook them to the strands themselves by mechanical screw terminals, or, alternatively, with permanent magnetic systems.

PRESTRESSED ELEMENTS



PRESTRESSED ELEMENTS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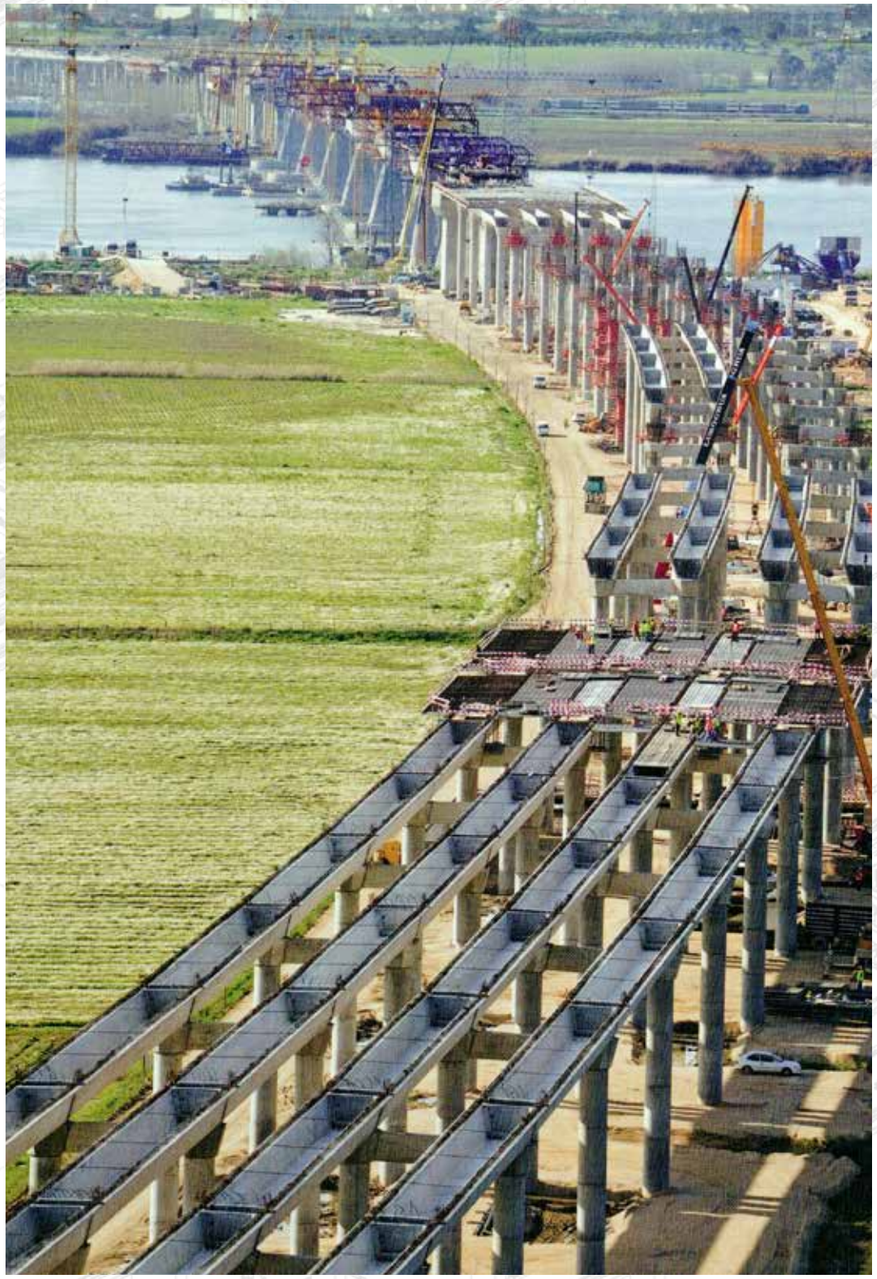

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