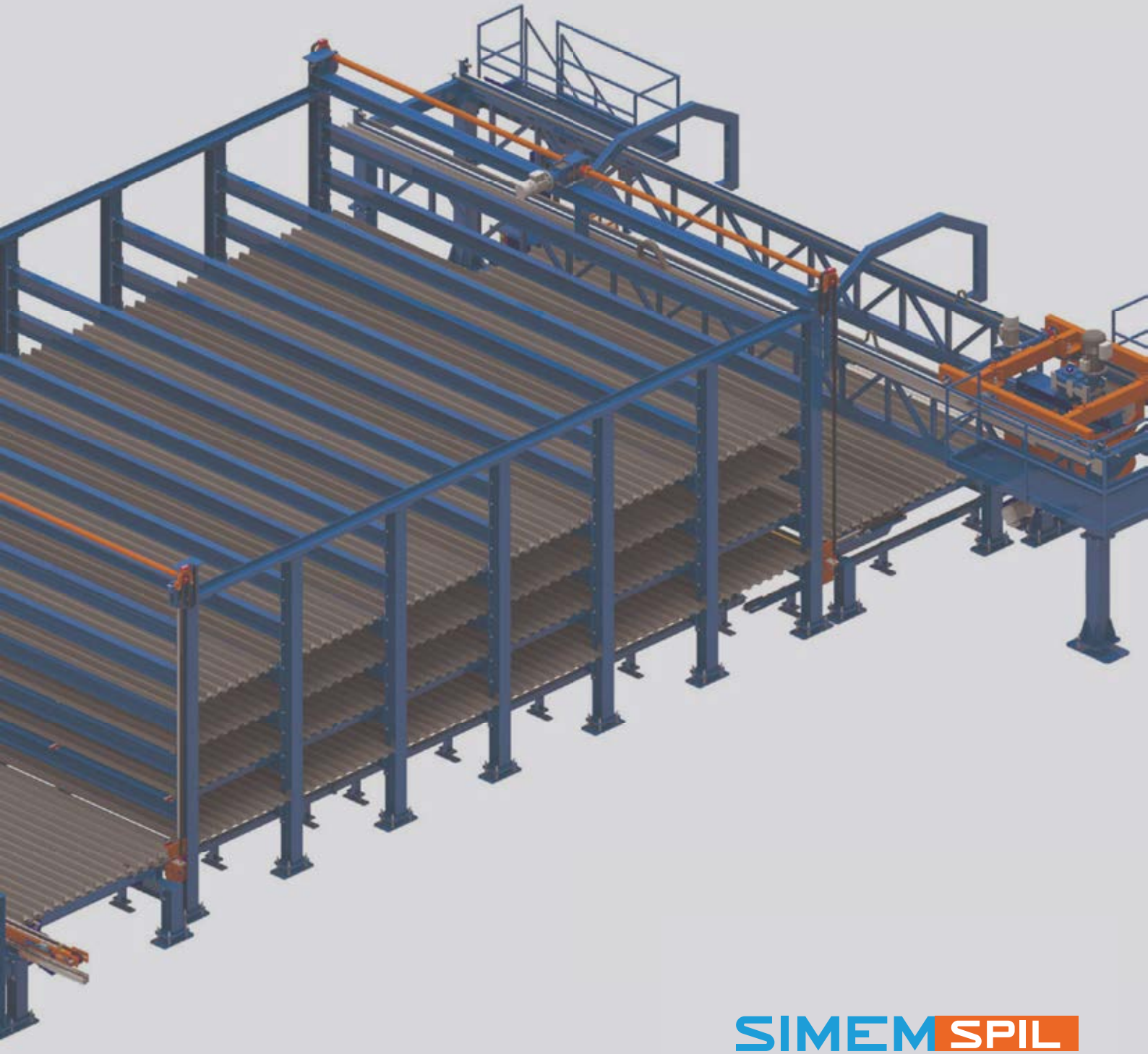
CRETEBEAM

C.G.S. 105/400

Casting machine
for concrete beams.

Compact machinery
to produce concrete
lattice girder beams
and concrete lintels.



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The machinery is designed to produce all-concrete items, specifically lintels and lattice girder beams. Special "U" section metal formwork is used, to contain and mould the concrete until its hardening.

Machinery composition

The machinery consists of a set of modular moulds, i.e. the metal formwork, moved sequentially between the operative stations. This movement is represented as a closed loop assembly line. **The curing magazine is built into the machinery and appears like a 7-level Tower.**

The operative stations are in a fixed position, a specific production stage is carried out at each operative station.
The five main operative stations are:

- framewcrk station, **requires operator**
- casting and vibrofinishing station, automatic
- curing station, automatic
- demoulcing station, automatic
- stacking station, **requires operator.**

All formwork movements are carried out automatically, within the machinery, according to a pre-set sequence, in a simple and fast manner:

- from the initial packaging stages
- to the final stage of cleaning and reccvering the empty formwork.

Special features

Standard EN 15037
The use of metal framework together with the suitable spacers to support the reinforcement bars **assures the required enveloping of the metal reinforcement**, in full compliance with european standards on reinforced concrete items, with regard to protecting reinforcement from oxidation.

Tower magazine for curing
The machinery includes a suitable tower curing magazine, consisting of 7 superposed levels.
In this way:

- the metal formwork always remains housed on the machinery, removing the need for external handling, typically slow and manual
- dimensions is minimum, much less than the overall dimensions of machinery with equivalent performance
- the machinery's overall dimensions are very compact.

Typical size of the items

Length
10 m at the most, which corresponds to the useful length of the metal formwork, considering that nothing can protrude from their heads.
One or two aligned items may be produced on the same formwork in single file.

Width
12 cm nominal, which corresponds to the nominal width of the formwork.

Height of the items
20 cm at most, which corresponds to the free height between the 7 levels of the tower magazine.

Thickness of the all-concrete base
50 mm at most, which corresponds to the internal height of the two sides of the metal formwork.

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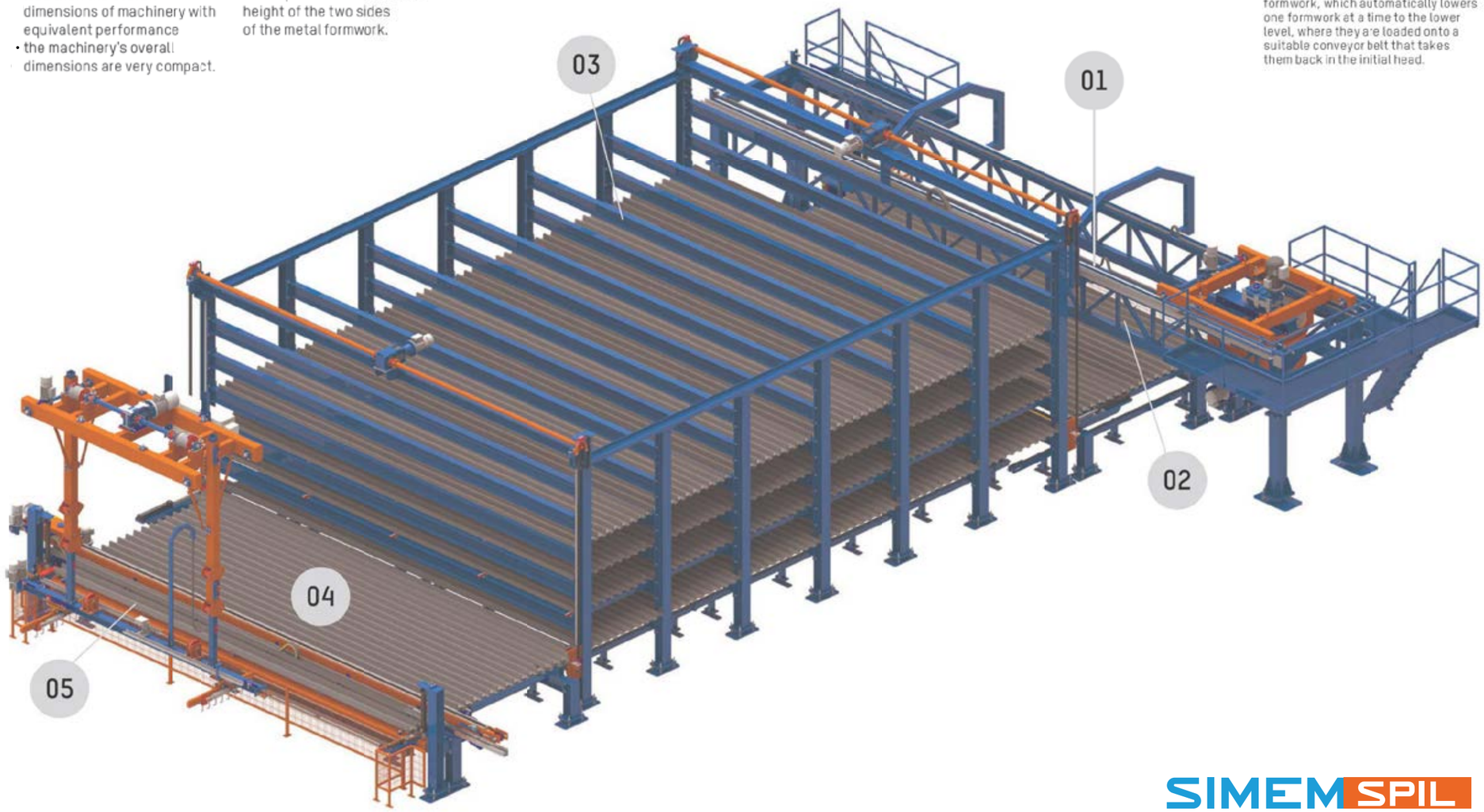
Compact machinery to produce concrete lattice girder beams and concrete lintels



01 **Initial head**, including the elevator for empty formwork, which automatically lifts them one at a time to the operative level. In this work station the first operator positions in the formwork the shuttering and reinforcement, helped by the second operator for the heavier reinforcements.

02 **Casting and vibrofinishing station**, includes the self-propelled batching carriage, automatic, mobile on its own gantry tracks, and the vibro-compacting devices for the formwork.

03 **Tower curing magazine**, with 7 levels, includes the elevator with automatic pusher and the lowerator with automatic extractor.

04 **Shakeout station**, includes the self-propelled carriage with suitable picking and stacking Clamps, suitable for de-moulding and stacking 8 items at a time.

05 The Clamps are operated by the third operator.
Cleaning station of empty formwork, includes the lowerator for empty formwork, which automatically lowers one formwork at a time to the lower level, where they are loaded onto a suitable conveyor belt that takes them back in the initial head.

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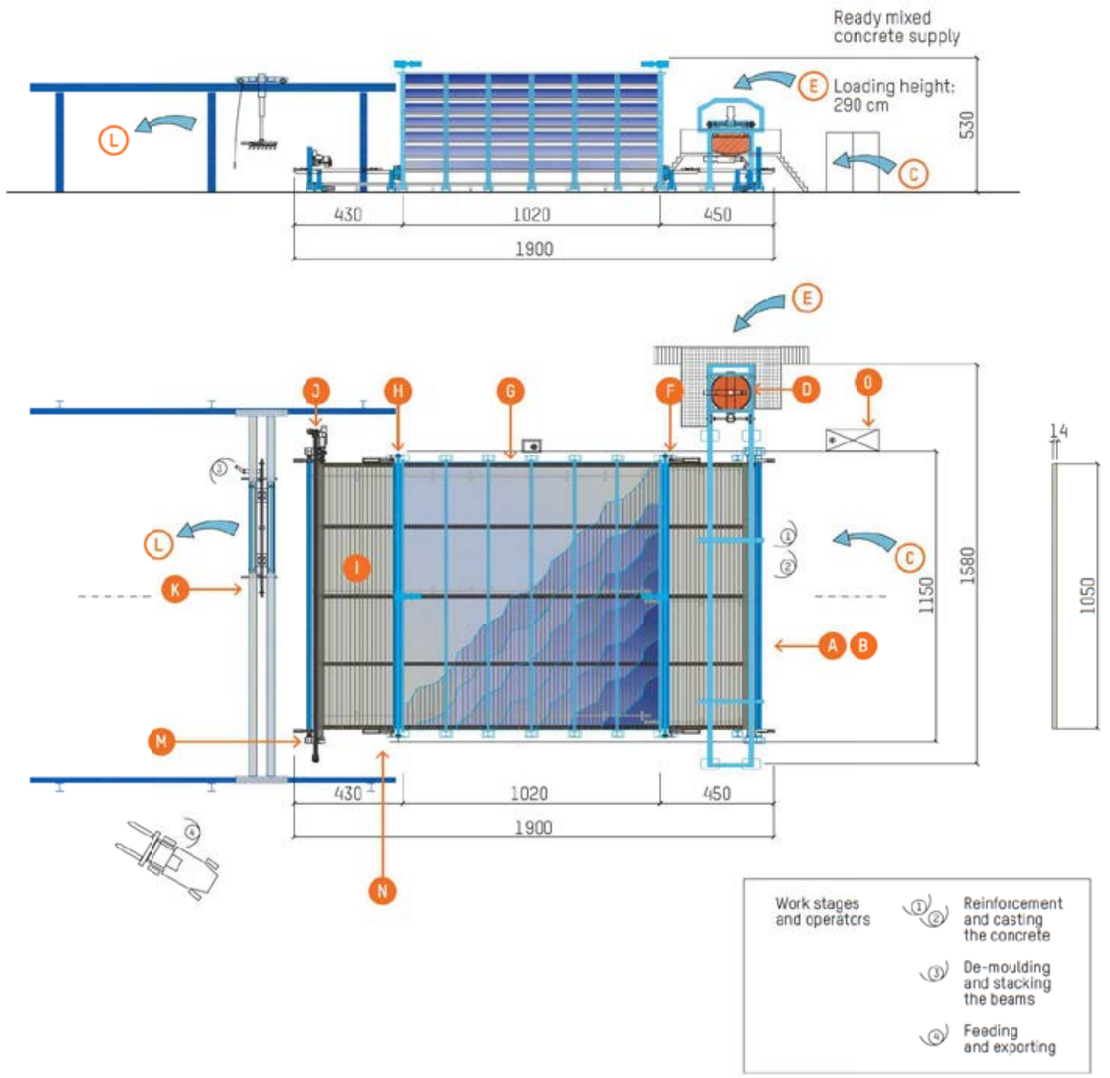
All dimensions are in centimetres.



- A Elevator of empty formwork
- B Manual reinforcement station
- C Reinforcement supply
- D Self-propelled Batching Carriage, mobile on gantry tracks
- E Concrete supply
- F Elevator to load the curing magazine
- G Tower curing magazine with 7 levels
- H Lowerator to unload the curing Magazine
- I Demoulding station
- J Brushing and Oiling Carriage, self-propelled
- K Stacking Clamps, mobile on bridge crane
- L Stacking Stations
- M Lowerator of empty formwork
- N Conveyor belt of empty formwork
- O Main electric panel

Features of the items

Minimum length
1.8m in conformity with the Stacking Clamps
Maximum length
10 m**
Width
12 cm nominal**

Width of the concrete base
4 cm nominal, 5 cm max**
Height of the lattice
18 cm max
Height of the beam
20 cm max

** *In conformity with the real formwork dimension*

Overall machinery dimensions

Length
19 m
Width
16 m
Height
5.5 m

Metal formwork

N.400 formworks with "U" section

Length
10,5 m
Width
14 cm
Height
5 cm
Thickness
5 mm

Time

Cycle time
on average 90 seconds/formwork
Hourly productive capacity
300 m/hour, equal to 40 formwork/hour

Daily productive capacity
3000 m/day in 10 hours of work equal to 400 75% filled formwork on average

Manpower

1 or 2 teams consisting of 4 workers, of whom:
3 workers on the machinery
1 worker with forklift truck

Raw material used to produce 300 m/hour

Concrete
1600 litres/hour, divided into n.4 400 litre refills
Lattice
300 m/hour, already cut to measure
Reinforcement bars
approx. 500 m/hour, already cut to measure in various diameters
Power
Installed power
55 kwh
Average hourly consumption
20 kwh/hr
Daily consumption (10 hours):
135 kwh/day

End of day washing

7 bar compressed air
approx. 300 L/day
Water
approx. 200 L/day

Concrete hopper

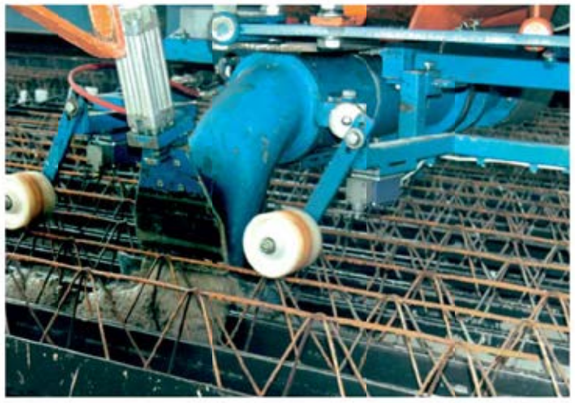
Capacity
800 L (1000 litres flush)
Loading height
290 cm

↑ Stacking clamps in the picking stage.

← Beams in two side-by-side rows, to form a double-width stack.

↑ Loading the concrete in the batcher's hopper.

↓ Automatic stage of the concrete casting.



→ The self-propelled batching carriage, on its own overhead track.

↓ Stacking clamps in the clamping stage for picking.

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