

CASTING MACHINES

Extruders

mordimpianti

MACHINES AND EQUIPMENT FOR THE PRODUCTION
OF PRESTRESSED CONCRETE ELEMENTS



CASTING MACHINES

Extruders

- High level of automation
- Flexible
- High casting speed
- Ease of use

NORDIMPIANTI EXTRUDER MACHINES

THE BEST CHOICE FOR THE PRODUCTION OF HIGH QUALITY HOLLOW CORE SLABS

Nordimpianti's extrusion machines are designed for the production of prestressed hollow core slabs for both floors and walls.

Available in various models, **Basic, Semi-automatic and Advanced** depending on the level of automation required and the size of the hollow core slabs required.



ECO SERIES

A machine **well suited** to those just starting to invest in the hollow core slab sector requiring the minimum of outlay.

Easy to use for slabs up to **320 mm** high and **1500 mm** wide.



EVO SERIES

Sturdy machines for continuous production of hollow core slabs up to **525 mm** high and **1500 mm** wide.

The dynamic compaction control avoids the need for operational monitoring during casting and guarantees high quality end products.



EVO2 SERIES

The **state of the art** in extrusion casting technology producing hollow core slabs up to **525 mm** high and **2400 mm** wide.

The machine uses individual screw drive motors and automation that allow it to achieve **high casting speeds of over 2.5 meters/min** with low production costs.

NORDIMPIANTI EXTRUDER MODELS		
ECO	EVO	EVO2
★	★★★	★★★★★
★★★	★★★	★★★★★
★★★★	★★★★	★★★★★
★★★★	★★★★	★★★★★

ECO SERIES BASE

pag. 8

EVO SERIES SEMI-AUTO

pag. 10

EVO2 SERIES ADVANCED

pag. 12

MACHINES AND EQUIPMENT FOR THE PRODUCTION OF PRESTRESSED CONCRETE ELEMENTS

HOLLOW CORE SLABS PRODUCED BY THE EXTRUDER
WHY CHOOSE EXTRUSION TECHNOLOGY

The hollow core slabs produced by NORDIMPIANTI's Extruders offer cost-effective solutions for companies who are looking for a flexible approach to produce hollow core slabs in various sizes.

Standard heights range from **120 mm** to **525 mm** while the widths available are **2x600 mm**, **1200 mm, 1250 mm, 1500 mm, 2x1200 and 2400 mm.**

The extruder machine casts elements in a single phase using the extrusion method without the need for vibration, thus keeping the noise of the machine to a minimum.

Concrete is pushed into place around the forming tubes by the Archimedean screws, ensuring an excellent level of compaction at every point along the element.

The forming tubes and the side formers create the shape and the voids of the element.

The heights of the elements, as well as the thickness of the vertical ribs, can be varied within certain limits according to the application and the element specifications required.

FOR FLOORS AND WALLS

READY-TO-USE PANELS

The production system gives a good surface finish on both sides of the element (one side is smooth because of the steel casting bed and the other side is given an excellent finish by the smoother device on the casting machine).

It means that the panel is finished ready for painting if required.





For walls



For floors

PRODUCTION OF SPECIAL ELEMENTS

CORRUGATED SIDE EDGE

NORDIMPIANTI's Extruders can also be equipped to produce hollow core slabs for floors with profile edge keys along the sides of the element.

These enable the elements, when constructed together to meet seismic requirements.

The particular corrugated side edge is made by special edge cog rollers.





MAIN ADVANTAGES OF
NORDIMPIANTI'S EXTRUDER CASTING MACHINES


2


1

PROVEN RELIABILITY

1 Oil bath gearbox

2 Most mechanical parts are galvanized for durability and easy maintenance

- Heavy-duty construction
- Third-party components are sourced from the world's most renowned suppliers


4


3


5

USER FRIENDLY

3 Wide touch screen operator control panel

4 Wear parts engineered to be changed with the minimum down-time

5 Rapid production changeover to manufacture different slab heights (less than 20 min)

- Wear parts designed for long service life
- Electric motors are INVERTER driven allowing precise control of the machine
- Machine noise kept to a minimum


8


6 7

END PRODUCT QUALITY

6 High level of concrete compaction

7 Perfect prestressing wire bonding

8 Excellent surface finish

9 Light and dense element cross sections available to meet different project requirements


9

Light cross section



Dense cross section


10



PRODUCT FLEXIBILITY

10 Narrow slabs available 2x600 mm, 800 mm, 900 mm, 1000 mm and 1100 mm

- Slab heights from 120 mm to 525 mm high
- Slab widths 2x600 mm, 1200 mm, 1250 mm, 1500 mm, 2x1200 and 2400 mm
- Element fire resistances from 60 minutes to 240 minutes are available

EXTRUDER TECHNOLOGY
DESCRIPTION

ECO SERIES BASE

Extruders from Nordimpianti are made up of 3 main units, a universal control and power unit, a universal hopper and an **interchangeable forming insert module.**

POWER UNIT



The universal power unit houses the main motors, the drive motors and the control panel.

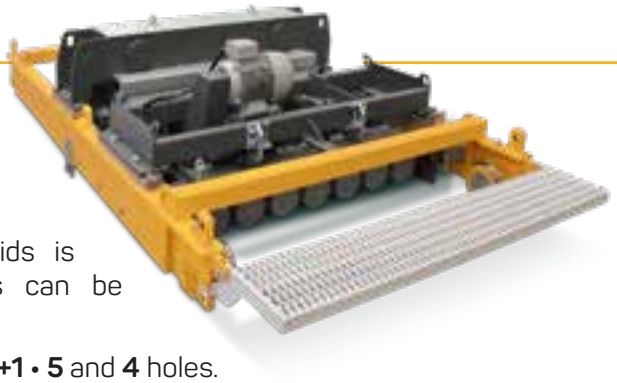
The power unit, together with the hopper can be easily and quickly transferred to another forming insert to produce a different element.

HOPPER

The concrete is delivered to the machine's hopper.
The concrete then falls onto the Archimedean screws of the forming insert.
The hopper has a minimum level sensor which stops the machine if there is not enough concrete.

This device stops the machine in order to avoid the situation where element damage can occur if the machine is completely out of concrete. When the hopper is refilled the Extruder automatically restarts.

FORMING INSERT



The forming insert contains the special gearbox with an oil bath for the transmission components. It also contains the Archimedean screws, forming tubes, side formers, smoother and the wire guides.

The height of the hollow core slabs and the number of voids is determined by the forming insert. Different element heights can be manufactured by changing the forming inserts.

The forming inserts produce hollow core slabs with **8 • 8+1 • 7 • 6 • 6+1 • 5** and **4** holes.

A RANGE OF FORMING INSERTS TO MEET ALL CROSS SECTION REQUIREMENTS



8 screw



7 screw

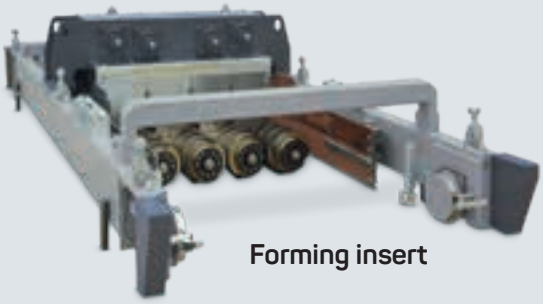


6 screw

Element ranges for each forming insert are:	from **120** up to **200** mm high	from **150** up to **300** mm high	from **150** up to **300** mm high

PRODUCTION FLEXIBILITY

The forming inserts can produce hollow core slabs of different heights by simply changing specific components included in the **accessory set**, which consists of the following:

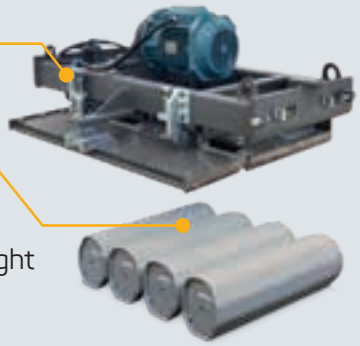


Forming insert

15 MINUTES 2 PEOPLE

Time required for changing a forming insert

Smoother device
Set of forming tubes



25 MINUTES 2 PEOPLE

Time require dfor changing the height variant accessory set

EVO SERIES
SEMI-AUTOMATIC

EVO EXTRUDER





EVO2 SERIES
ADVANCED

EVO2 EXTRUDER







5 screw
from **265** up to **500** mm high



4 screw
from **320** up to **500** mm high



Extruder EVO2 casting 900 mm wide narrow slabs on a standard 1200 mm wide hollow core beds

SPECIAL FORMING INSERT

8+1 screw
from **130** up to **200** mm high

2x600 mm wide



1200 mm wide



6+1 screw
from **160** up to **265** mm high

2x600 mm wide



1200 mm wide

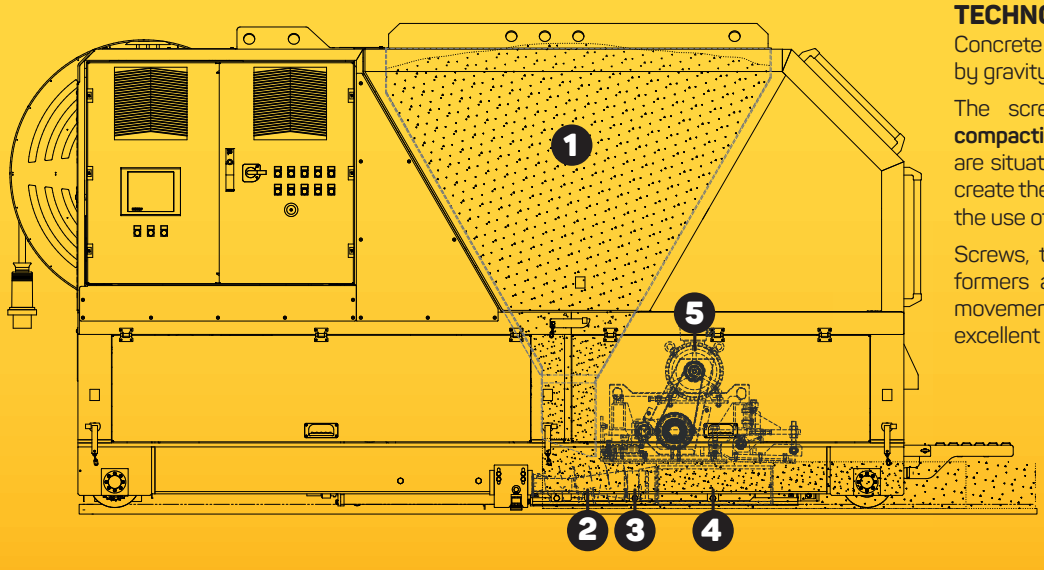


NARROW SLABS

For the production of hollow core slabs with widths different from the standard size.

The narrow slabs available are
2x600 • 800 • 900 • 1000 and 1100 mm





TECHNOLOGY

Concrete is delivered to the extruder's **hopper (1)** and by gravity falls onto the Archimedean **screws (2)**

The screws then drive the concrete into the **compaction chamber (3)** where the **forming tubes (4)** are situated. The forming tubes and the side formers create the shape and the voids of the element without the use of vibration.

Screws, together with the forming tubes, the side formers and the **smoother (5)** have an oscillating movement backwards and forwards which give excellent concrete compaction at every point along the element ensuring the element's excellent technical characteristics.

ELEMENTS THAT CAN BE PRODUCED
FOR FLOORS AND WALLS

	HOLLOW CORE SLAB WIDTH (mm)				
H (mm)	2x600	1200-1250	1500	2x1200	2400
120		☒			
150		☒			
180		☒			
200		☒			
220		☒	☒		
250		☒			
265		☒			
300		☒			
320		☒			
350					
360					
380					
400					
420					
450					
460					
500					
525					

	FORMING INSERT (the numbers indicate the number of holes in the hollow core slabs)						
H (mm)	8	8+1	7	6	6+1	5	4
120	☒						
150	☒		☒	☒			
180	☒		☒	☒			
200	☒		☒	☒			
220			☒	☒			
250			☒	☒		☒	
265			☒	☒		☒	
300			☒	☒		☒	
320						☒	
350							
360							
380							
400							
420							
450							
460							
500							
525							

☒ Default height of the forming insert



EXTRUDER ECO
BASE

eco EXTRUDER



TECHNICAL DATA*

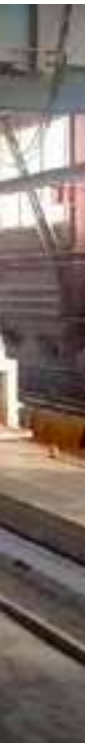
Length with cable drum	**4550 mm**
Width	**1650 mm**
Height (depending on forming insert)	**2100-2200 mm**
Rail gauge Standard Nordimpianti casting bed	**1410 mm**
Concrete hopper capacity	**1.5 m³**
Total weight (depending on forming insert)	**5800-6500 kg**
Connection power, 400 V, 50-60 Hz	**35 kW**
Noise level	**< 85 dBA**

*ECO-120 MODEL (FOR HOLLOW CORE SLABS 1200 MM WIDE)

A MACHINE WELL SUITED TO THOSE JUST STARTING TO INVEST IN THE HOLLOW CORE SLAB SECTOR REQUIRING THE MINIMUM OF OUTLAY

EASY TO USE FOR SLABS UP TO **320** MM HIGH AND **1500** MM WIDE

MAIN FEATURES
OF THE NORDIMPIANTI ECO EXTRUDER





High concrete compaction and excellent surface finish



Feeding screw in two parts



Rapid connections between machines parts

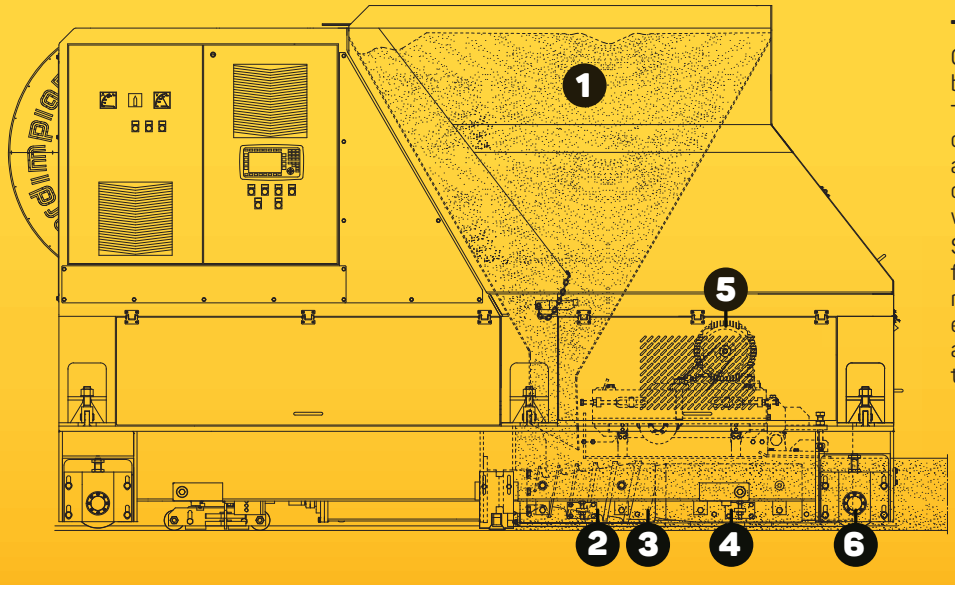


Transmission in oil bath



User friendly interface





TECHNOLOGY

Concrete is delivered to the extruder's **hopper (1)** and by gravity falls onto the Archimedean **screws (2)**

The screws then drive the concrete into the compaction **chamber(3)** where the **forming tubes(4)** are situated. The forming tubes and the side formers create the shape and the voids of the element without the use of vibration.

Screws, together with the forming tubes, the side formers and the **smoother(5)** have an oscillating movement backwards and forwards which give excellent concrete compaction at every point along the element ensuring the element's excellent technical characteristics.

NORDIMPIANTI's EVO extruder is equipped with a **ocompaction control system(6)** that allows the operator complete control of the machine in order to reduce or increase the concrete compaction when required.

ELEMENTS THAT CAN BE PRODUCED
FOR FLOORS AND WALLS

	HOLLOW CORE SLAB WIDTH (mm)				
H (mm)	2x600	1200-1250	1500	2x1200	2400
120	☒	☒			
150	☒	☒		☒	
180	☒	☒		☒	
200	☒	☒		☒	☒
220		☒	☒	☒	☒
250		☒		☒	☒
265		☒		☒	☒
300		☒		☒	☒
320		☒		☒	☒
350		☒		☒	☒
360		☒		☒	☒
380		☒		☒	☒
400		☒		☒	☒
420		☒		☒	☒
450		☒		☒	☒
460		☒		☒	☒
500		☒		☒	☒
525		☒		☒	☒

	FORMING INSERT (the numbers indicate the number of holes in the hollow core slabs)						
H (mm)	8	8+1	7	6	6+1	5	4
120	☒	☒					
150	☒	☒	☒	☒			
180	☒	☒	☒	☒			
200	☒	☒	☒	☒			
220			☒	☒			
250			☒	☒		☒	
265			☒	☒		☒	
300			☒	☒		☒	☒
320						☒	☒
350						☒	☒
360						☒	☒
380						☒	☒
400						☒	☒
420						☒	☒
450						☒	☒
460						☒	☒
500						☒	☒
525						☒	☒

☒ Default height of the forming insert



EXTRUDER EVO
SEMI-AUTOMATIC

EVO EXTRUDER



TECHNICAL DATA*

Length with cable drum	**4550 mm**
Width	**1750 mm**
Height (depending on forming insert)	**2200-2300 mm**
Rail gauge Standard Nordimpianti casting bed	**1410 mm**
Concrete hopper capacity	**1.7 m^3**
Total weight (depending on forming insert)	**7800-8500 kg**
Connection power, 400 V, 50-60 Hz	**55 kW**
Noise level	**< 85 dBA**

*EVO-120 MODEL (FOR HOLLOW CORE SLABS 1200 MM WIDE)

STURDY MACHINES FOR CONTINUOUS PRODUCTION OF HOLLOW CORE SLABS UP TO 525 MM HIGH AND 1500 MM WIDE

MAIN FEATURES
OF THE NORDIMPIANTI EVO EXTRUDER





Production of narrow slabs



Rapid connections between machines parts



Transmission in oil bath



Production of 2x600 mm wide Hollow core slabs

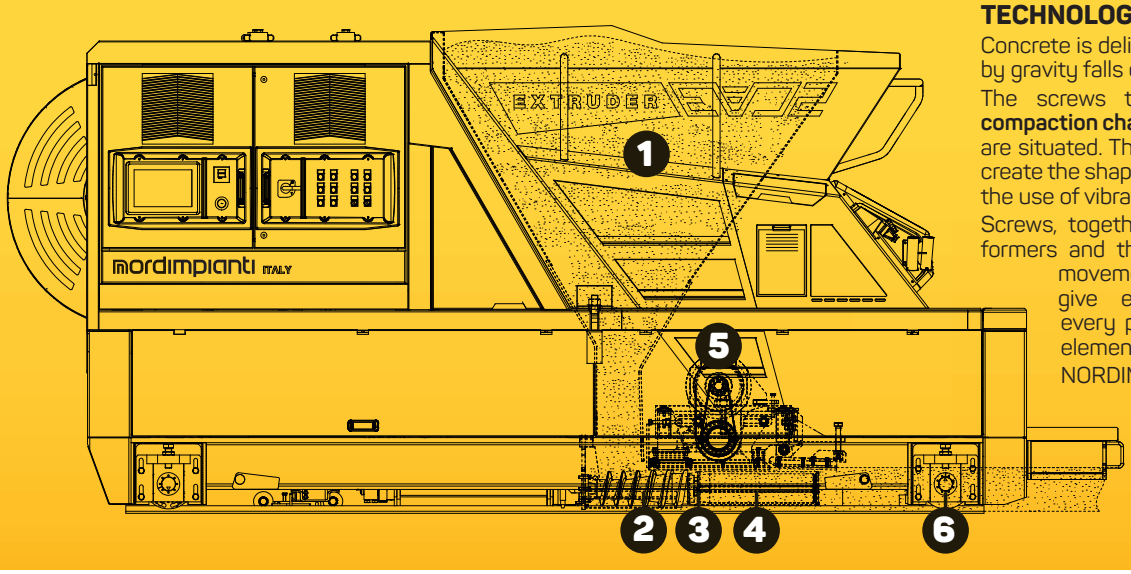


Feeding screws in two parts



Minimum downtime for element height change





TECHNOLOGY

Concrete is delivered to the extruder's **hopper (1)** and by gravity falls onto the Archimedean **screws (2)**

The screws then drive the concrete into the **compaction chamber (3)** where the **forming tubes (4)** are situated. The forming tubes and the side formers create the shape and the voids of the element without the use of vibration.

Screws, together with the forming tubes, the side formers and the **smoother (5)** have an oscillating movement backwards and forwards which give excellent concrete compaction at every point along the element ensuring the element's excellent technical characteristics.

NORDIMPIANTI's EVO2 extruder is equipped with a **compaction control system(6)** that allows the operator complete control of the machine in order to reduce or increase the concrete compaction when required.

ELEMENTS THAT CAN BE PRODUCED
FOR FLOORS AND WALLS

	HOLLOW CORE SLAB WIDTH (mm)				
H (mm)	2x600	1200-1250	1500	2x1200	2400
120	☒	☒			
150	☒	☒		☒	
180	☒	☒		☒	
200	☒	☒		☒	☒
220		☒	☒	☒	☒
250		☒		☒	☒
265		☒		☒	☒
300		☒		☒	☒
320		☒		☒	☒
350		☒		☒	☒
360		☒		☒	☒
380		☒		☒	☒
400		☒		☒	☒
420		☒		☒	☒
450		☒		☒	☒
460		☒		☒	☒
500		☒		☒	☒
525		☒		☒	☒

	FORMING INSERT (the numbers indicate the number of holes in the hollow core slabs)						
H (mm)	8	8+1	7	6	6+1	5	4
120	☒	☒					
150	☒	☒	☒	☒	☒		
180	☒	☒	☒	☒	☒		
200	☒	☒	☒	☒	☒		
220			☒	☒	☒		
250			☒	☒	☒	☒	
265			☒	☒	☒	☒	
300			☒	☒	☒	☒	☒
320						☒	☒
350						☒	☒
360						☒	☒
380						☒	☒
400						☒	☒
420						☒	☒
450						☒	☒
460						☒	☒
500						☒	☒
525						☒	☒

☒ Default height of the forming insert



EXTRUDER EVO2
ADVANCED EXTRUSION TECHNOLOGY



EVO2 EXTRUDER

TECHNICAL DATA*

Length with cable drum	**5100 mm**
Width	**1780 mm**
Height (depending on forming insert)	**2200-2500 mm**
Rail gauge Standard Nordimpianti casting bed	**1410 mm**
Concrete hopper capacity	**1.8 m³**
Total weight (depending on forming insert)	**8000-9000 kg**
Connection power, 400 V, 50-60 Hz	**45 kW**
Noise level	**< 85 dBA**

*EVO2-120 MODEL (FOR HOLLOW CORE SLABS 1200 MM WIDE)

THE STATE OF THE ART IN EXTRUSION TECHNOLOGY WITH ADVANCED AUTOMATION THAT ALLOW THIS EXTRUDER TO ACHIEVE HIGH CASTING SPEEDS OF OVER 2.5 METERS/MIN

HIGH CASTING SPEED

MAIN FEATURES
OF THE NORDIMPIANTI EVO2 EXTRUDER





Transmission in oil bath



New smoother device



Dynamic machine Control



User friendly interface



Independent screw motors



Auxiliary power socket for tools



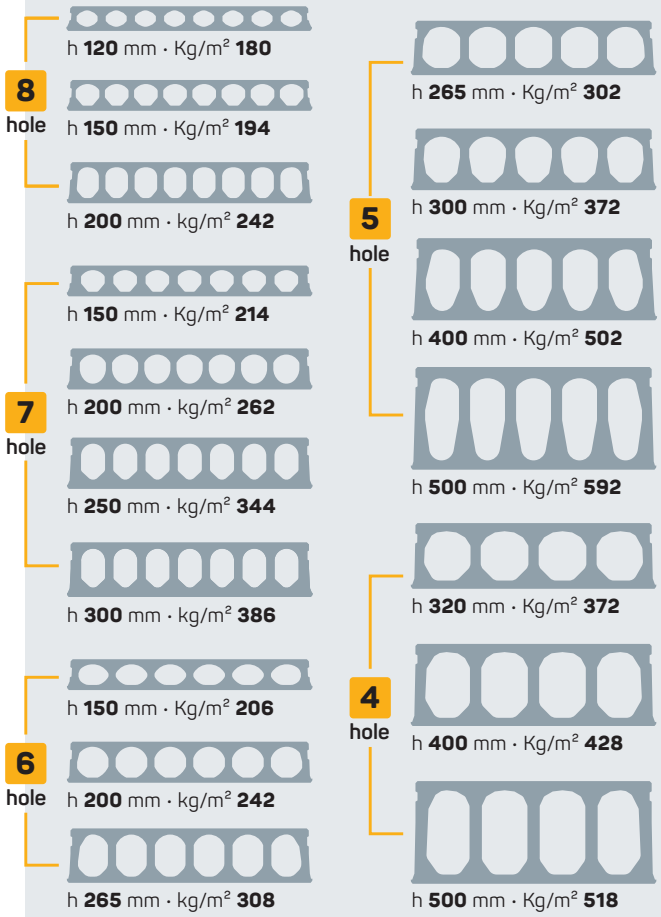
Integrated access ladder



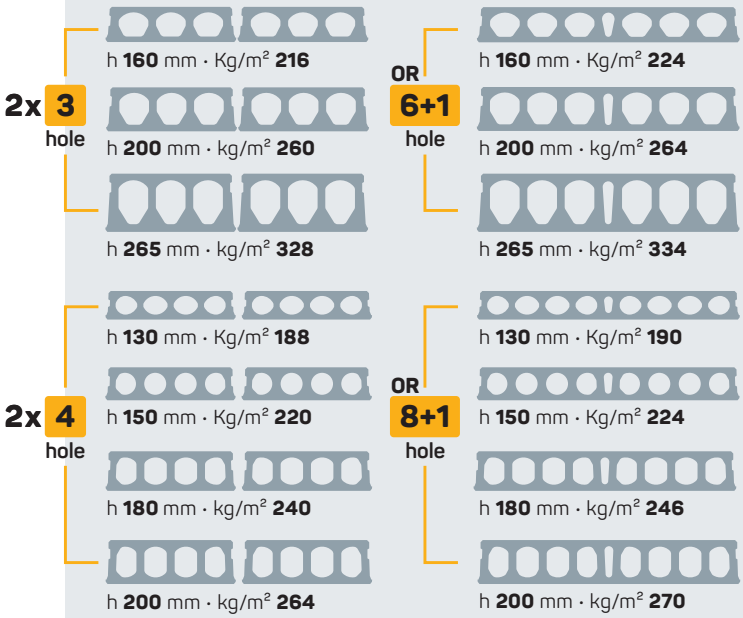
Tool holder compartments

HOLLOW CORE SLAB FEATURES
FLOORS AND WALLS

1200/1250 mm
BRAZILIAN MARKET



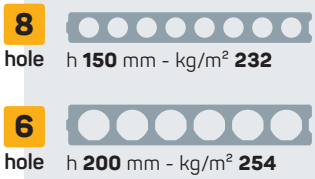
2x600 mm AND 1200 mm



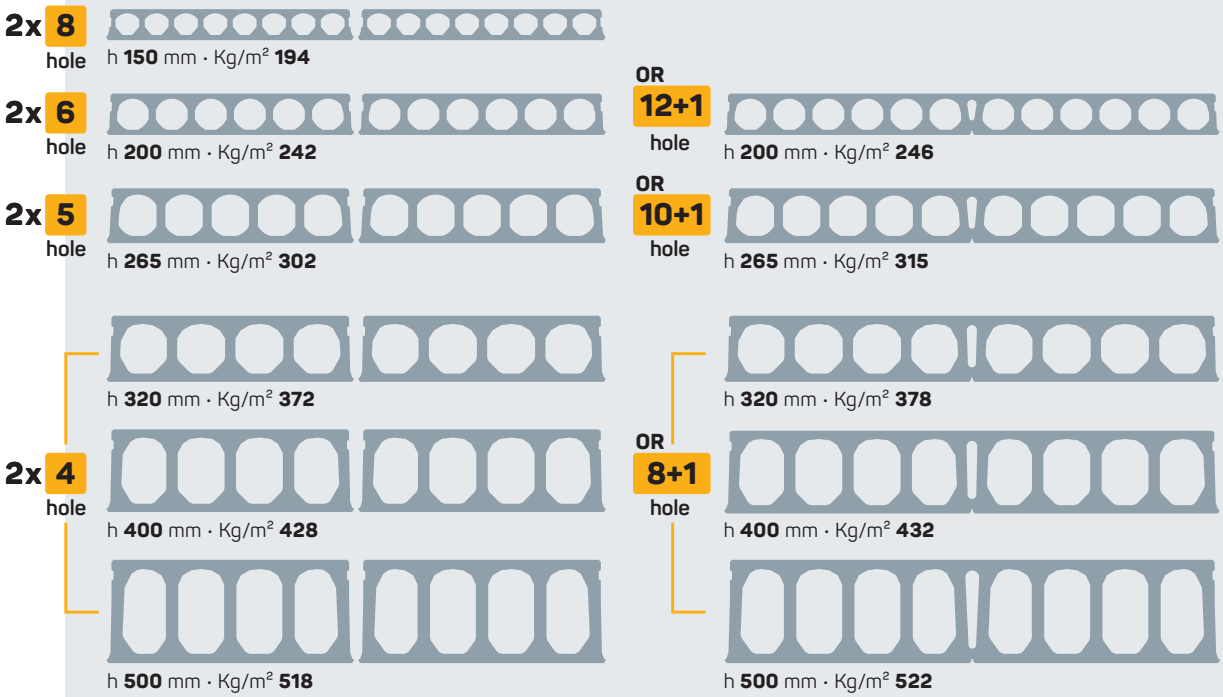
1500 mm
CIS COUNTRY



1200 mm
WALL PANELS



2x1200 mm AND 2400 mm



CROSS SECTIONS AND DIMENSIONS OF THE PRESTRESSED CONCRETE ELEMENTS CAN BE ADAPTED TO CUSTOMER REQUIREMENTS

A RANGE OF MACHINES CAPABLE OF MEETING ALL YOUR NEEDS



Features and characteristics	ECO	EVO	EVO2
Transmission in oil bath	✔	✔	✔
Independent screw drive			✔
Universal side formers	✔	✔	✔
Two part Archimedean screws	✔	✔	✔
Dynamic machine control (DMC)		Optional	✔
Production data storage for specific element heights		✔	✔
Automatic greasing of forming tube bearings		✔	✔
Automatic forming insert recognition		✔	✔
Toothed drive belts	✔	✔	✔
Hopper level sensor	✔	✔	✔
Front wheel drive with gear motor with encoder	✔	✔	✔
Touch screen operator panel	10"	15"	15"
Drive shaft connection to transmission	Rapid with two bolts	Rapid with two bolts	Rapid with one bolt
Tool compartments			✔
Rear auxially power socket			✔
Cast iron forming tubes	✔	✔	✔
Light or dense element production	✔	✔	✔
Parking feet		✔	✔
Remote assistance	Optional	Optional	✔
Max hollow core slabs height possible	320 mm	525 mm	525 mm
Max hollow core slabs width possible	1500 mm	1500 mm	2400 mm
Element production 2x600/1200 or 2x1200/2400			✔
Variable smoother oscillation speed		✔	✔
Variable sideformer oscillation speed			✔

COMPARATIVE TABLE OF WIDTHS AND HEIGHTS OF HOLLOW CORE SLBAS FOR EXTRUDER MACHINE MODELS

HEIGHT	EXTRUDER		
Height (mm)	ECO	EVO	EVO2
120	☒	☒	☒
150	☒	☒	☒
180	☒	☒	☒
200	☒	☒	☒
220	☒	☒	☒
250	☒	☒	☒
265	☒	☒	☒
300	☒	☒	☒
320	☒	☒	☒
350		☒	☒
360		☒	☒
380		☒	☒
400		☒	☒
420		☒	☒
450		☒	☒
460		☒	☒
500		☒	☒
525		☒	☒

WIDTH	EXTRUDER MODELS		
Width (mm)	ECO	EVO	EVO2
2x600 - 1200		☒	☒
1200	☒	☒	☒
1250	☒	☒	☒
1500	☒	☒	☒
2x1200 - 2400			☒

FORMING INSERT/EXTRUDER MODEL COMPATIBILITY

MODELS	FORMING INSERT (the numbers indicate the number of holes in the hollow core slabs)						
Extruder	8+1	8	7	6	6+1	5	4
ECO		☒	☒	☒		☒	
EVO	☒	☒	☒	☒		☒	☒
EVO2	☒	☒	☒	☒	☒	☒	☒

CASTING MACHINES

Extruders

(EN)



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