



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

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### EVO SERIES SEMI-AUTO

pag. 10

### EVO2 SERIES ADVANCED

pag. 12



# 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

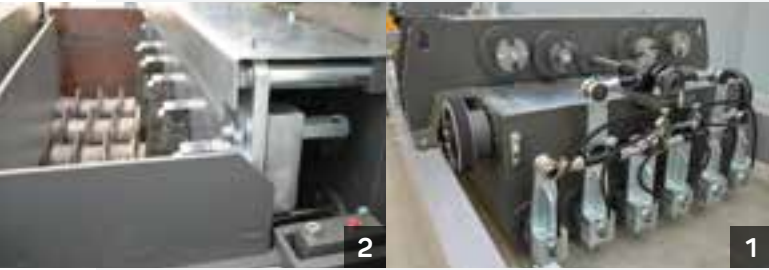
NORDIMPIANTI's Extruders can also be equipped to produce hollow core slabs for floors with profile edge keys along the sides of the element.

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

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

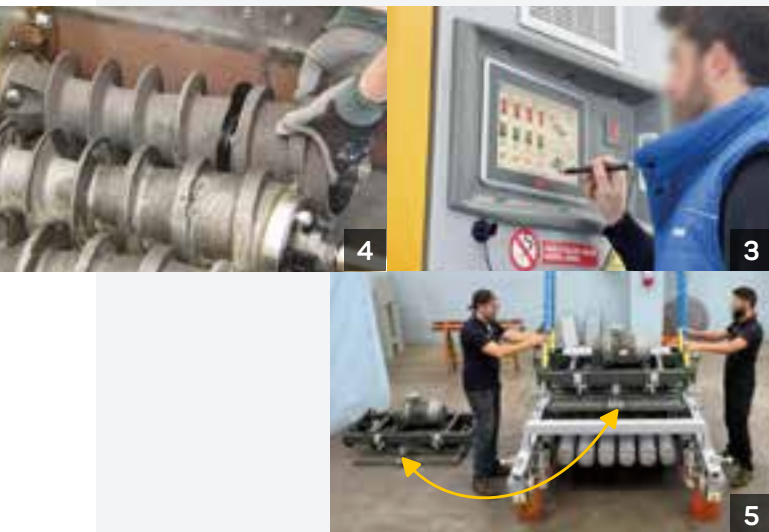


# MAIN ADVANTAGES OF NORDIMPIANTI'S EXTRUDER CASTING MACHINES



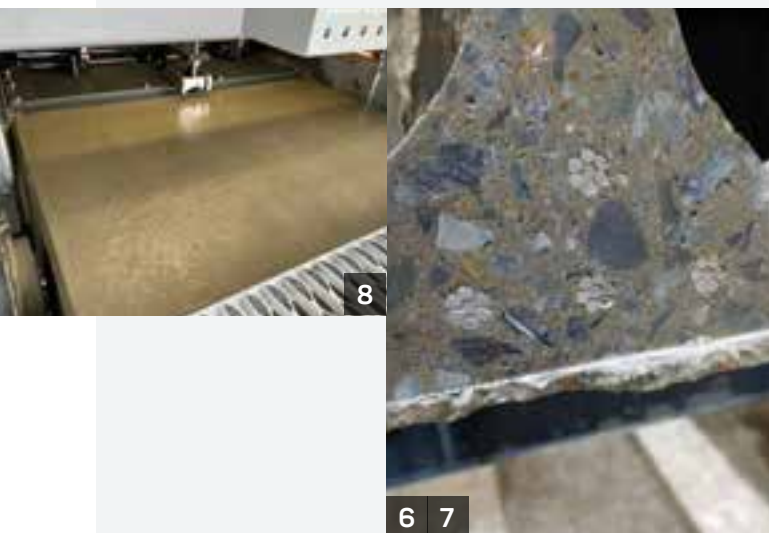
## PROVEN RELIABILITY

- 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



## 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



## 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



Light cross section

Dense cross section

## 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.

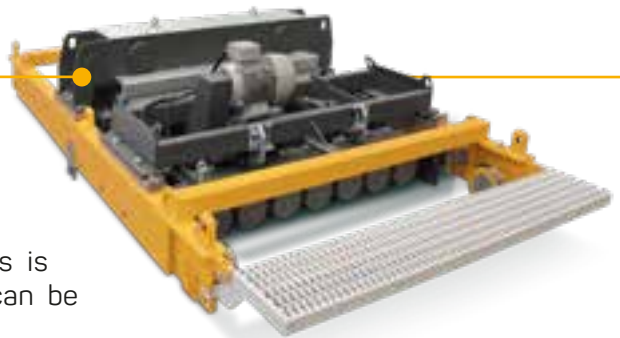
This device stops the machine in order to avoid the situation where element damage can occur if the machine is completely out of concrete. When the hopper is refilled the Extruder automatically restarts.

### 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

Element ranges for each forming insert are:

from **120** up to **200** mm high



**7** screw

from **150** up to **300** mm high



**6** screw

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:



Time required for changing a forming insert

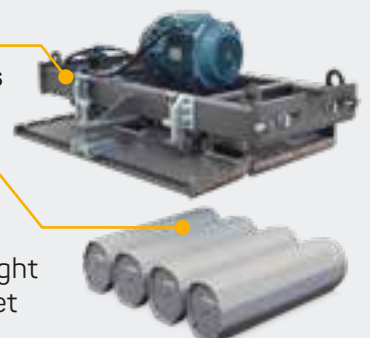


Forming insert



Time required for changing the height variant accessory set

Smoother device  
Set of forming tubes





# EVO SERIES SEMI-AUTOMATIC



# EVO2 SERIES ADVANCED



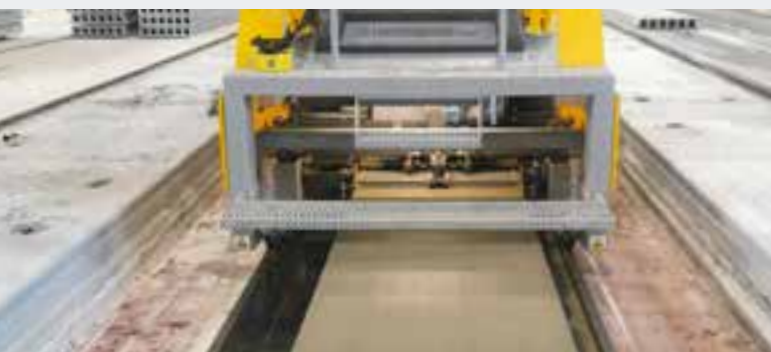
**5** screw

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



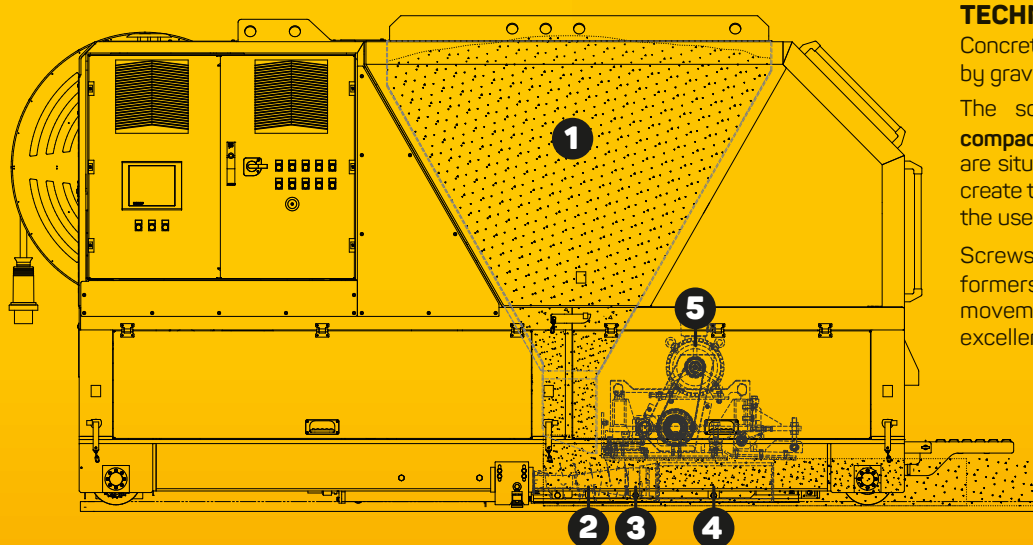
**1200** mm wide



## 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

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

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

x Default height of the forming insert





# EXTRUDER ECO BASE



## 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 m <sup>3</sup>
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 screws in two parts



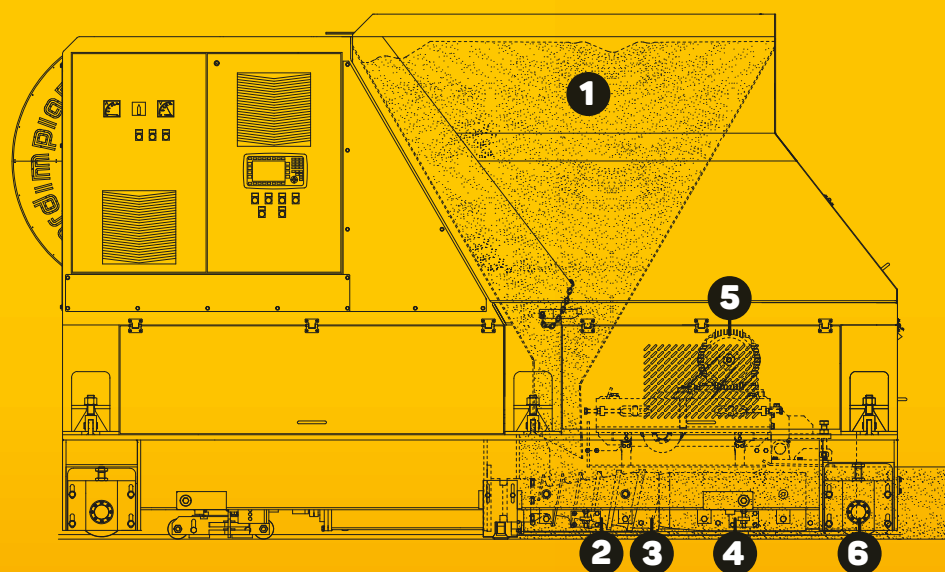
Rapid connections between  
machines parts



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 **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

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

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

x Default height of the forming insert





# EXTRUDER EVO SEMI-AUTOMATIC



## TECHNICAL DATA\*

Length with cable drum	4550 mm
Width	1780 mm
Height (depending on forming insert)	2200-2300 mm
Rail gauge Standard Nordimpianti casting bed	1410 mm
Concrete hopper capacity	1.7 m <sup>3</sup>
Total weight (depending on forming insert)	7800-8500 kg
Connection power, 400 V, 50-60 Hz	55 kW
Noise level	< 85 dBA

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

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

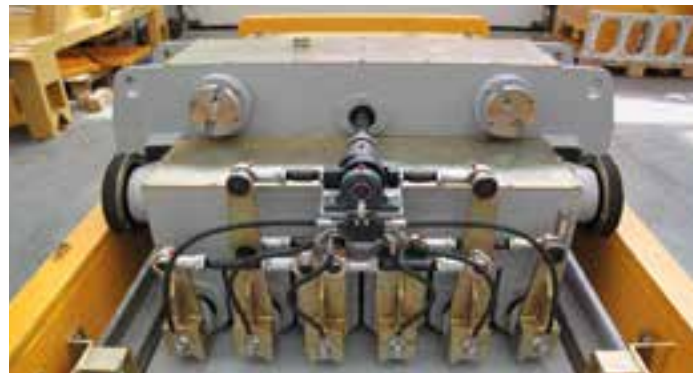
## MAIN FEATURES OF THE NORDIMPIANTI EVO EXTRUDER



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



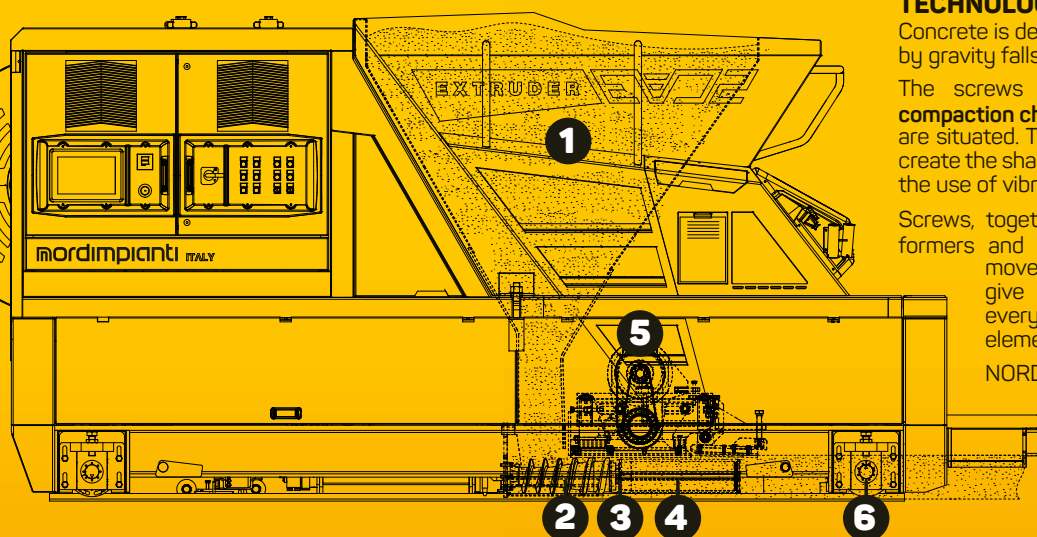
## TECHNOLOGY

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

H (mm)	HOLLOW CORE SLAB WIDTH (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		✗		✗	✗

H (mm)	FORMING INSERT (the numbers indicate the number of holes in the hollow core slabs)						
	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



### 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 m <sup>3</sup>
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**



## 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



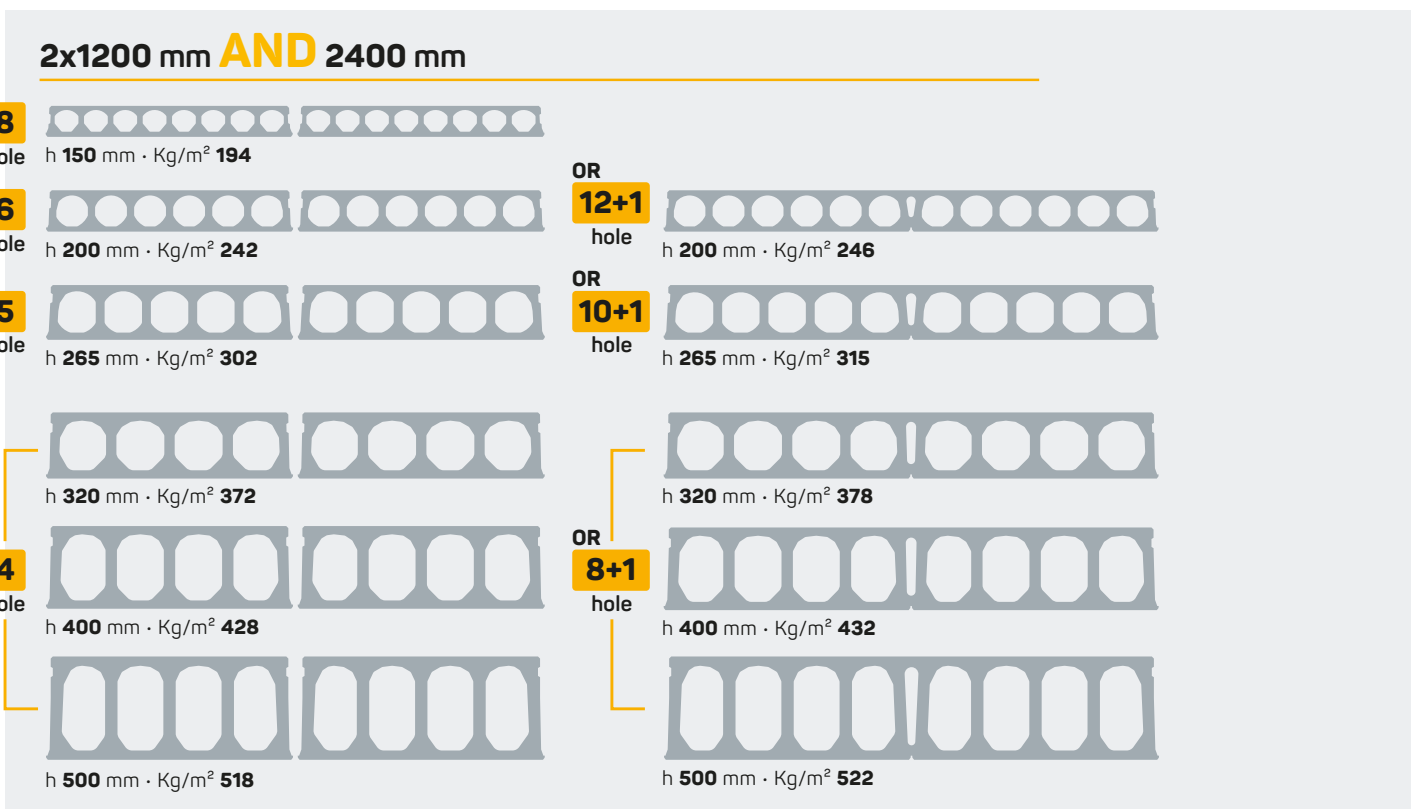
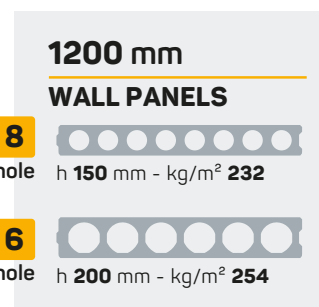
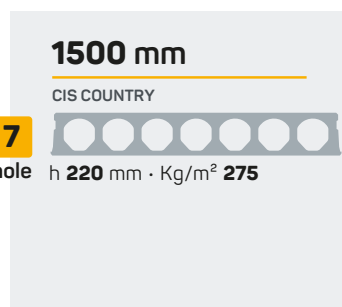
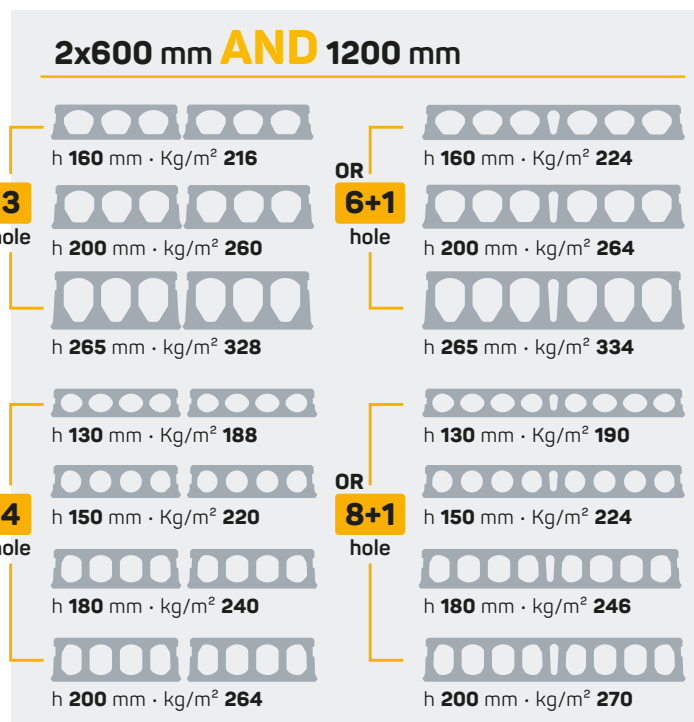
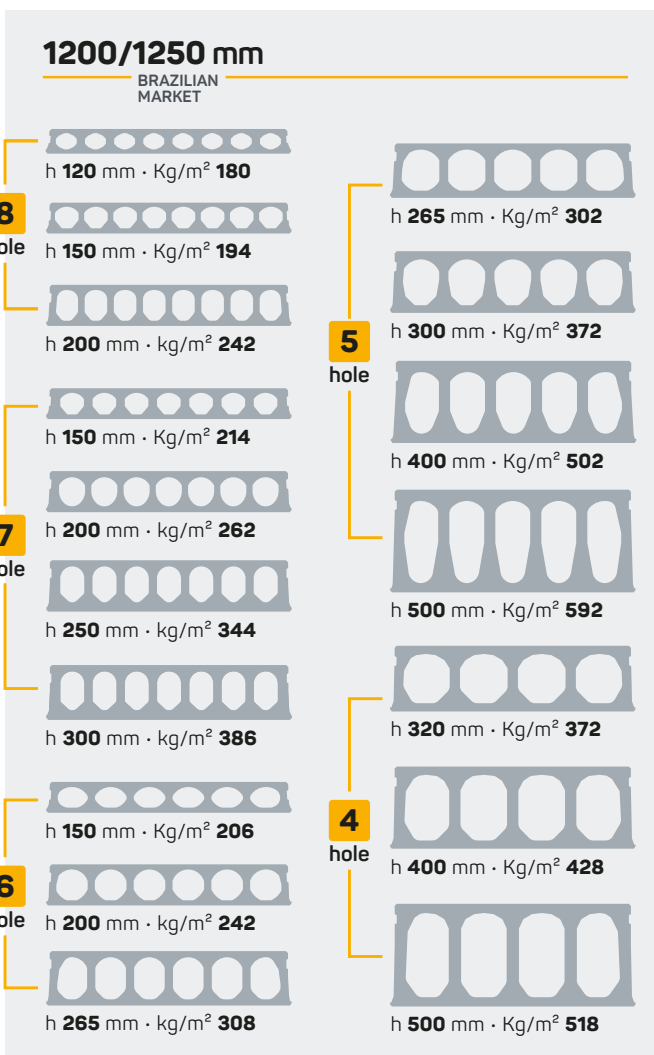
Integrated  
access ladder



Tool holder  
compartments

# HOLLOW CORE SLAB FEATURES

## FLOORS AND WALLS



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 COMPATABILITY

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)

## NORDIMPIANTI SYSTEM SRL

Via Erasmo Piaggio, 19/A

66100 Chieti (CH) - Italy

☎ +39 0871 540222

info@nordimpianti.com

**nordimpianti**  
nordimpianti.com

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2.1 - EXTRUDERS - EN.25.03

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