Concrete Experience

Extruder NANO Machines

Products

Technology for the Precast and Prestressed Concrete Industry

nordimpianti

EXTRUDER NANO MACHINE

PRODUCTS

The NANO Extruder machine represents the state of the art in the production of hollow core slabs suitable for use as either non-load bearing partition walls or as a thin floor slab elements.

Depending on the type of elements to be produced, the NANO extruder from Nordimpianti offers cost-effective solutions for companies who are looking for a flexible approach to produce thin hollow core walls and floors in various sizes and applications.

The Extruder machine casts elements in a single phase using the extrusion method.

The machine is modular and a slab-specific product module can easily be changed in order to produce an element with a different height.

Standard heights range from 80 mm to 120 mm in element widths of either 2x600 mm or 1200 mm.

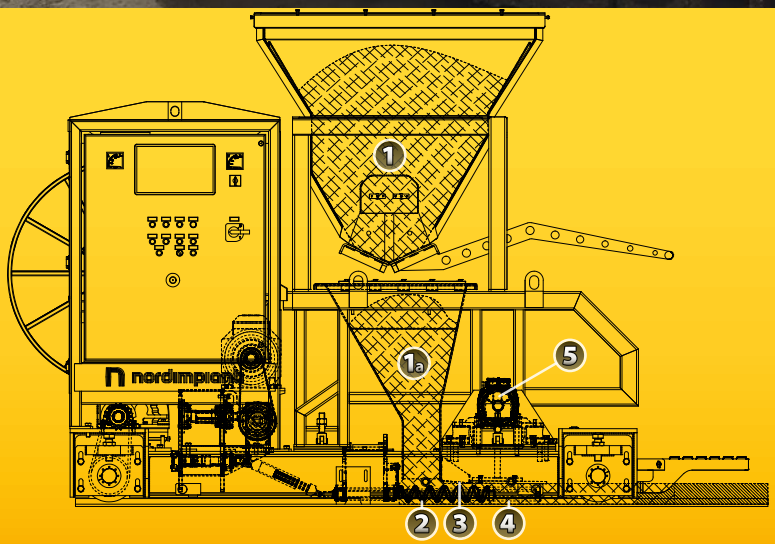
The heights of the elements, as well as the thickness of the vertical ribs can be varied within certain limits according to the application and the element specifications required.

Extruder NANO

Non-load bearing partition walls and thin floor slabs

Casting Machine

Extruder NANO Technology

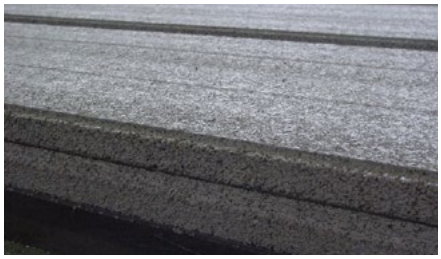


The NANO Extruder System

Concrete is delivered to the two hoppers (**1, 1a**) 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.

Screws, together with the forming tubes, the side formers and the vibrating top plate (**5**) give excellent concrete compaction at every point along the element ensuring the element's excellent technical characteristics.

Main Advantages of NORDIMPIANTI's Extruder NANO machines:



EXCELLENT SURFACE FINISH

FLAT SURFACE

PRODUCTIVITY
able to cast on existing hollow core slab production beds

Productivity

- Compared to other production systems available on the market, the NANO Extruder can increase productivity by 100%. This is because the NANO Extruder can cast two 600 mm wide panels at the same time instead of just the one element produced by competing systems.
- Moreover changing production between thin floor slabs and non-loading partition wall panels is a simple operation requiring only a few steps.

Excellent finished product quality

- The concrete compaction and the product finish is of the highest quality guaranteed by the latest generation of extrusion technology.

Production flexibility

- The NANO extruder is extremely flexible and can be configured in many ways.

Economical

- The NANO Extruder works on the same rails using the same equipment as on the standard 1200 mm production beds for prestressed elements. This gives companies the opportunity to diversify their production of prestressed elements with minimal investment allowing them to extend their range of products to include elements for partition walls or to offer thinner floor panels.

Extruder nano

A viable solution for the production of *Non-load bearing partition walls* **and thin** *floor slabs*

Technical data

Length, with cable drum	2800 mm
Width	1650 mm
Height, depending on forming insert	2250 mm
Rail gauge, standard Nordimpianti casting bed	1410 mm
Volume concrete hopper	1 m^3
Total weight, depending on forming insert	3300 - 3800 kg
Connection power, 400 V, 50 Hz	10 kW
Noise level	< 85 dBA

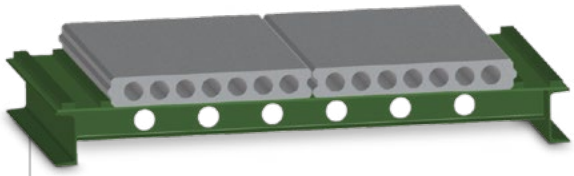
THE DIMENSIONS CAN BE ADAPTED TO CUSTOMER REQUIREMENTS

Uses Standard Beds

The NANO Extruder from Nordimpianti does not require the use of special production beds. It can be used on the same steel beds that produce the standard hollow core slabs as well as on the more simpler concrete casting beds.

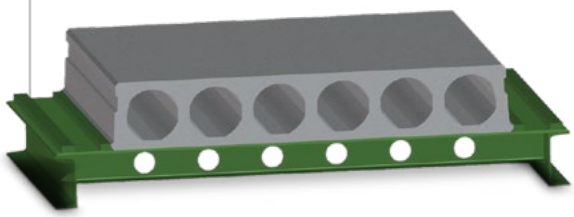
On the same steel casting beds the NANO Extruder can cast 2 x 600 mm elements simultaneously or 1x1200 mm floor slab.

Non-load bearing partition walls



STANDARD BED FOR PRESTRESSED AND NON-PRESTRESSED CONCRETE ELEMENTS

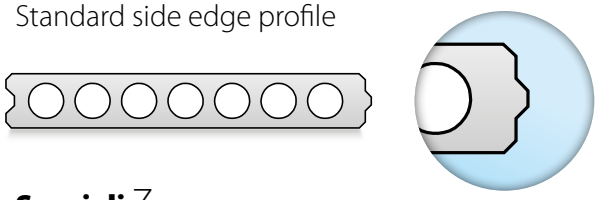
Prestressed hollow core floor slabs



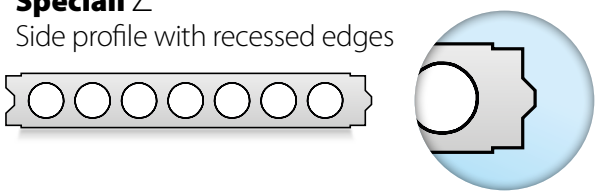
Element Options

The Nano extruder can produce various element types.

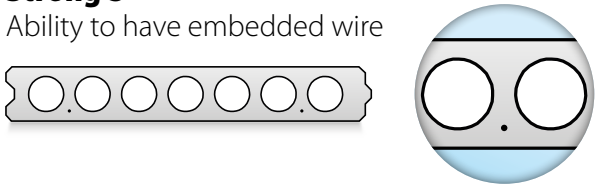
Standard L
Standard side edge profile



Speciali Z
Side profile with recessed edges



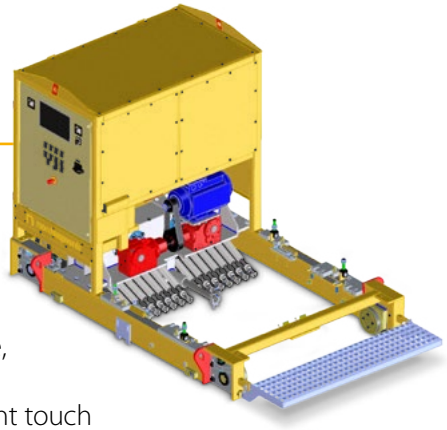
Strong S
Ability to have embedded wire



DESCRIPTION

EXTRUDER NANO TECHNOLOGY

The NANO extruder machine is made up of 3 main parts, a universal casting module, two hoppers and a slab-specific product module.

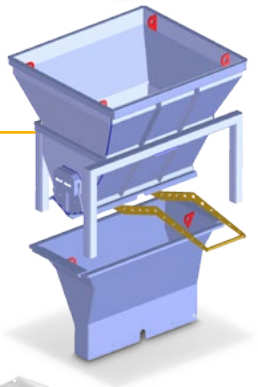


Universal casting module

As well as being the main structural component of the machine, the universal casting module also consists of the drive unit for the screws, the wheels, which can be adjusted to change the height of the machine, the support feet for when the machine is parked, the mounts for the sideformers and the vibration assembly.

The universal casting module also contains a slab-specific product module, the type of which is dependent on what product is being produced.

The universal casting module houses the control box fitted with a convenient touch screen operator's panel. If necessary the machine can be fitted with a cable reel to supply power to the machine depending on the customer's own installed electrical supply.



Hoppers

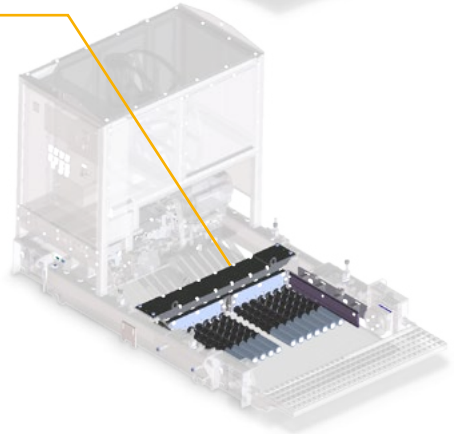
The NANO extruder has two hoppers, one above the other. The upper hopper has a capacity of approximately 1 m^3. This main hopper allows continuous concrete feeding to the lower hopper by means of a manually operated special double-opening system.

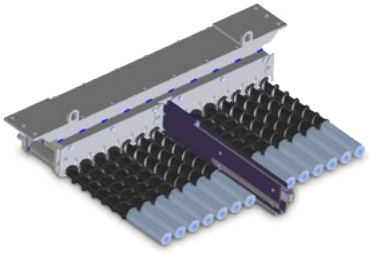
The lower hopper then distributes the concrete within the machine.

Slab-specific product module

The slab-specific product module includes the Archimedean screws and the forming tubes.

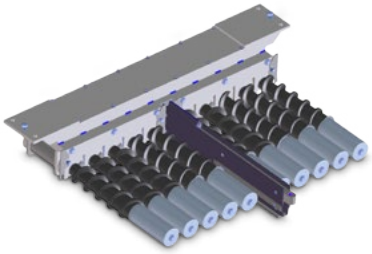
Two slab-specific product modules are available.





Slab-specific product module with 14 (7+7) Archimedean screws:

For the production of elements with heights of 80, 90 and 100 mm



Slab-specific product module with 10 (5+5) Archimedean screws:

For the production of elements 120 mm high

Changing between the two slab-specific product modules is a simple and straightforward operation and can be done in less than 1 hour.

To adjust the production height between 80, 90 and 100 mm it is only necessary to change the forming tubes and to fit the correct spacer under the lower hopper and vibration group.

For the production of 600 mm wide elements a central divider with anti-wear plates is easily fitted.

This applies to both slab-specific product modules.

For the production of 1200 mm wide elements the central divider is replaced by a forming tube specific to the height of the element being produced.

This also applies to both slab-specific product modules.

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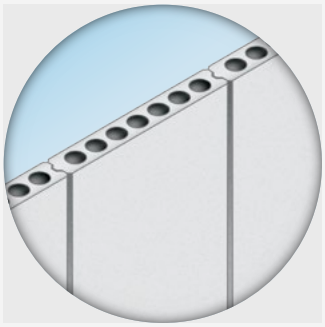
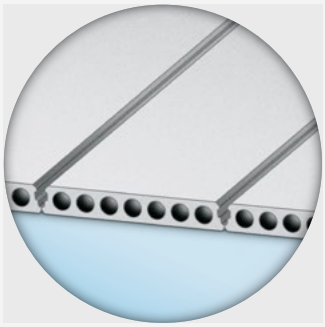
Extruder nano
Variety of prestressed elements





Partition Walls
2x600 mm wide


h**80** mm • Kg/m² **134**


h**90** mm • Kg/m² **138**


h**100** mm • Kg/m² **159**


h**120** mm • Kg/m² **171**

Floors
2x600 mm wide


h**80** mm • Kg/m² **124**


h**90** mm • Kg/m² **128**

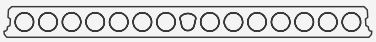

h**100** mm • Kg/m² **148**


h**120** mm • Kg/m² **156**

1200 mm wide


h**80** mm • Kg/m² **128**


h**90** mm • Kg/m² **132**


h**100** mm • Kg/m² **150**

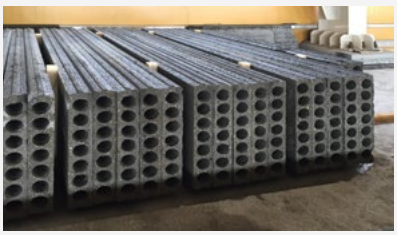

h**120** mm • Kg/m² **160**

For Partition Wall Panels and Floors Slabs


Extruder Nano


2x600 mm Partition Wall Panels


1200 mm Floor Slabs


Storage of Partition Wall Panels


Storage of Floor Slabs


Packaging of Partition Wall Panels


Partition Wall Panels on-site


Erected Partition Wall Panels


Example of buildings using Partition Wall Panels

Extruder NANO Machines

Products

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