



# NAGEL paper drill

Versatile. Robust. Precise.



NAGEL-Citoborma 290 B  
table top

## Citoborma 111

With the Citoborma 111 electric hole punch, Nagel has created a compact tool for a flawless perforation of thick paper pads. The Citoborma 111 is frequently used by banks, in-house print shops, copy shops, notaries, public and tax accountants, where large quantities of stacked paper must be punched.

### Simple handling

The electric punch stands out by its high-quality workmanship and user-friendly functions. Paper pads of up to 5 cm thickness can be perforated quickly by applying little force. The integrated centre register ensures that the paper is always positioned correctly and makes time-consuming manual adjustments unnecessary. The punch is equipped with default settings for the hole patterns of all common filing systems, e.g. patterns with 2, 3 and 4 holes, patterns for labels and filofax organisers. Alternate hole patterns can be made on request and are also available as an optional program bar. Versatility, time-saving operation and convenient handling are convincing arguments in favour of the Citoborma 111.

### Technical specifications

#### Citoborma 111

Pre-set filing systems	<ul style="list-style-type: none"> <li>- A4 and A5 perforations (2 holes each, 80 mm apart)</li> <li>- A4 ring binder (4 holes, 80 / 80 / 80 mm apart)</li> <li>- A5 ring binder (4 holes, 45 / 65 / 45 mm apart)</li> <li>- Filofax time planner (6 holes, 19 / 19 / 50 / 19 / 19 mm apart)</li> <li>- US perforation (3 holes, 108 / 108 mm apart)</li> </ul>
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Special hole patterns	any (optional)
Max. stack thickness (mm)	50
Paper formats max. (mm)	250 x 420
Stops	infinitely adjustable and self-centering
Distance from edge max. (mm)	28
Paper drill (mm Ø)	2 – 9
Power supply	230 V / 50 Hz / 250 W 115 V / 60 Hz / 180 W
Weight (kg)	26
H x W x D (cm)	48 x 47 x 47

NAGEL-Citoborma 111 with stops for A3 paper format

### Wide range of features

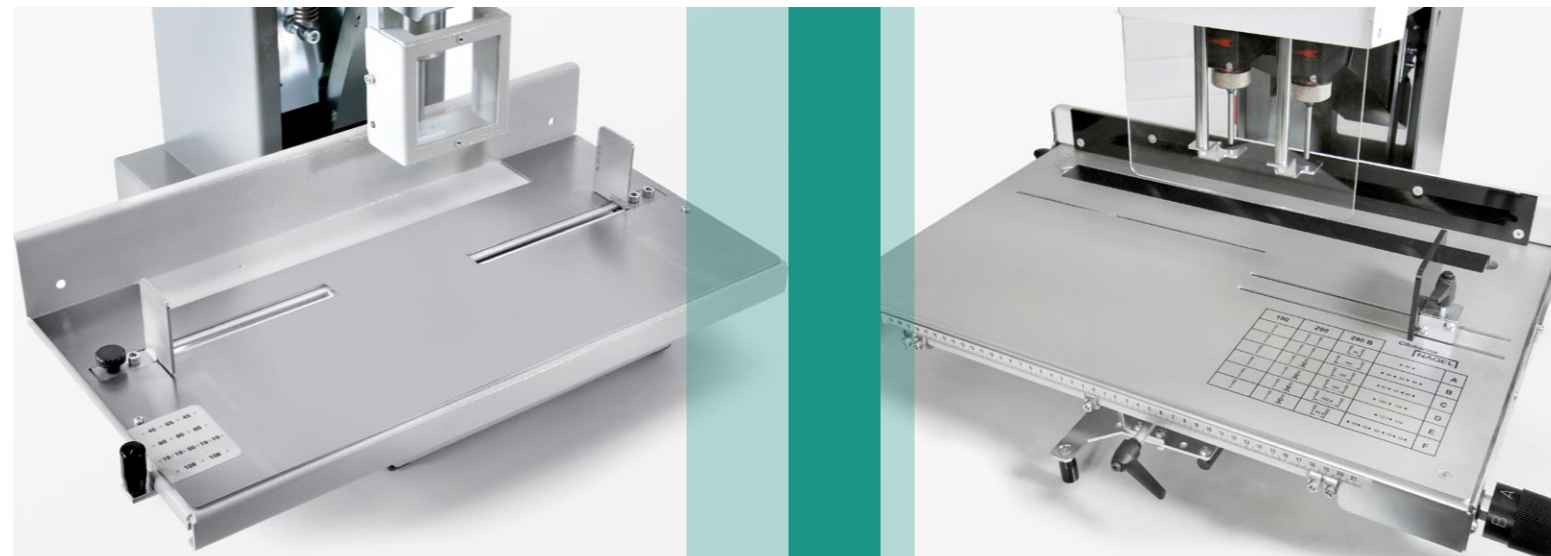
- infinitely variable, self-centering stops
- Additional stops for processing A3 sheets
- Convenient solution for waste (drawer)



NAGEL-Citoborma 111



NAGEL drill bits are available in different types (alternative drill bits on p.8)



## Citoborma 190 / 290

### Time saving sliding table

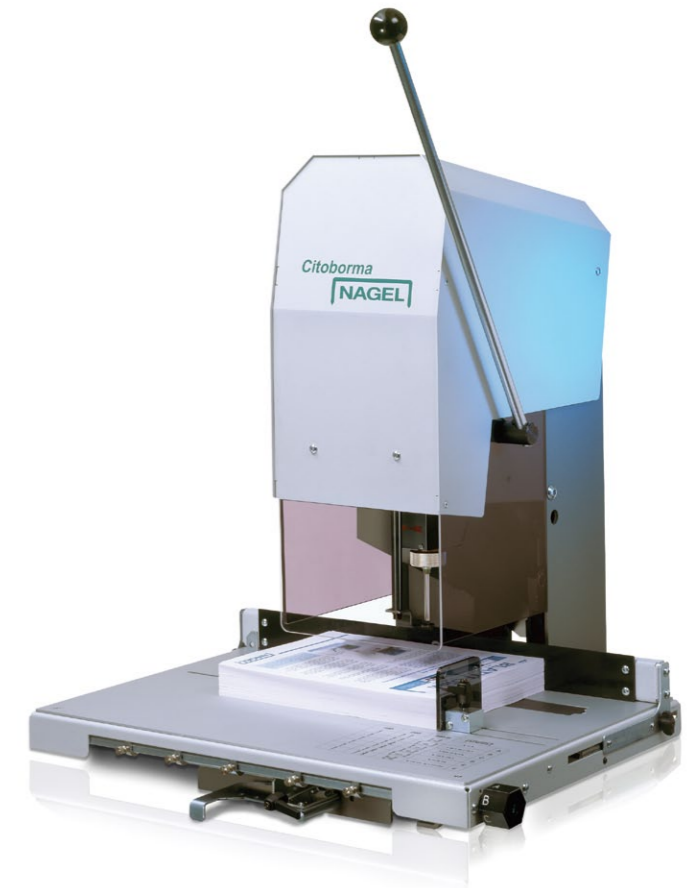
The drilling machines Citoborma 190 / 290 are remarkably user-friendly and cover a wide range of applications. All models have a powerful motor and are designed for professional use.

The standard version of the Citoborma 190 and 290 comes as a table top model, but is also available with an optional stand with foot treadle operation to increase productivity.

### FlexoDrill<sup>o</sup> sliding table

The Citoborma 190 / 290 models are equipped with a unique quick release FlexoDrill<sup>o</sup> sliding table. So the stack of paper can be centered for convenient operation also for large formats without further adjustments. Beneficial features as the large sliding distance and throat depth make the FlexoDrill<sup>o</sup> sliding table extremely versatile. The left side stop is retractable to ensure smooth and fast access.

The FlexoDrill<sup>o</sup> sliding table releases automatically after each stroke. It can be fixed at any position if required and the individually programmed tabulator bars are interchangeable. These remarkable features are suitable for multi-purpose applications.



NAGEL-Citoborma 190 table top

### Versatile features at a glance:

- Suitable for drilling paper, cardboard, plastic, textiles, leather etc.
- 6 pre-programmed hole patterns set-up within seconds
- Additional tabulator bar with 5 interchangeable stops for individual programs
- Paper width up to 470 mm
- Throat depth up to 105 mm
- Smooth drilling process

### Useful options:

- The Citoborma models are available with one spindle, two fixed spindles or two spindles with variable distance for any combination of holes to be drilled
- 3 phase model of Citoborma 290 B available without additional charges
- Treadle unit for foot operation
- Automatic table stroke for convenient operation
- Additional side stop for small formats
- Drill bit cooling to ensure a gentle processing of sensitive materials

For operator's convenience:  
The quick release FlexoDrill<sup>o</sup> sliding table



# Citoborma 190 / 290

## Different versions for individual needs

The NAGEL paper drilling machine is perfectly suited for individual requirements and perfect drilling of thick paper stacks. The models are available in different versions due to the number of spindles needed. The Citoborma 190 is equipped with only one spindle whereas the series of Citoborma 290 are equipped with two spindles. The different features of the Citoborma 190 and Citoborma 290 are listed below:

### NAGEL-Citoborma 190:

- Table top model with one drill spindle
- Suitable for any hole pattern
- Manual operation
- Optional stand with or without foot treadle operation.



NAGEL-Citoborma 190 table top

Nagel offers three different versions of the Citoborma 290:

- Citoborma 290
- Citoborma 290 B
- Citoborma 290 AB

The difference of these versions are as follows:

### NAGEL-Citoborma 290:

- Table top model with two fixed spindles of 80 mm distance between centers.
- Achieves the two hole pattern in one stroke
- Adjustment of drill bit length without usage of tools possible
- Optional stand with or without foot treadle operation

### NAGEL-Citoborma 290 B:

- Table top model with two self-centering spindles that can vary in positions between 45 – 160 mm for any combination of holes to be drilled
- Convenient handwheel for quick and centered adjustment of spindles
- Adjustment of drill bit length without usage of tools possible
- Optional stand with or without foot treadle operation



NAGEL-Citoborma 290 B table top

### NAGEL-Citoborma 290 AB:

- Electric hole punch machine with two self-centering spindles that can vary in positions between 45 — 160 mm for any hole pattern
- Automatic lifting gear for powerstroke operation with foot switch
- Convenient handwheel for quick and centered adjustment of spindles
- Recommended for large volumes or sensitive material
- Fast and easy operation without applying force at constant drilling speed
- Adjustment of drill bit length without usage of tools possible

The Nagel Citoborma 190/290 series enable users to work efficiently and highly precisely.



NAGEL-Citoborma 290 AB with an automatic lifting gear and stand

## Technical specifications

	Citoborma 190	Citoborma 290	Citoborma 290 B	Citoborma 290 AB
Number of drill heads	1	2	2	2
Max. pile height (mm)	60	60	60	60
Max. paper width (mm)	470	470	470	470
Max. throat depth (mm)	105	105	105	105
Drill bit sizes (mm)	2 – 14 (2 – 20)	2 – 10 (2 – 14)	2 – 10 (2 – 14)	2 – 14
Distance between centres (mm)	–	80	45 – 160	45 – 160
Time / stroke (s)	Operator speed	Operator speed	Operator speed	3,3
Power stroke	–	–	–	✓
Foot treadle stand	•	•	•	–
Power supply	230 V, 50 Hz (400 V, 50 Hz)	230 V, 50 Hz (400 V, 50 Hz)	230 V, 50 Hz (400 V, 50 Hz)	400 V, 50 Hz
Power consumption (kW)	0,5	0,5	0,5	0,9
H x W x D net (cm)	70 x 64 x 60	70 x 64 x 60	73 x 64 x 60	158 x 64 x 60
Weight, net (kg)	55	59	69	165
H x W x D (cm) gross	80 x 80 x 80	80 x 80 x 80	80 x 80 x 80	165 x 80 x 80
Weight, gross (kg)	75	80	90	195

✓ Standard    • optional    – not available

# Citoborma 490

## Precision for professional applications

The paper drilling machine Citoborma 490 offers the perfect solution for all requirements and materials. Robust and extremely precise even under heavy duty, the compact Nagel Citoborma 490 is a professional paper drilling machine. This easy-to-operate machine comes with a wide range of standard equipment. Additionally the drill can be customized to meet even highly specialized requirements with optional accessories

## One machine for all applications

You can drill holes of various sizes in all kinds of material, such as paper, cardboard, plastics, leather, and textiles, with drill bit diameters ranging from 2 to 35 mm and a maximum pile height of 60 mm. The machine is suitable for large sheet sizes, due to a working width of 460 mm and a throat depth of 270 mm behind the drill bits. The greater depth permits drilling of two A4 sheets (one A3 sheet) in one pass. By using up to 6 heads, a single stroke is all you need for many drilling jobs.

## Vario

Drilling and table lifting speed can be adjusted steplessly through a potentiometer. It reduces the heat that gets generated when drilling plastics or holes with larger diameters.

## Total reliability under toughest conditions

The Citoborma 490 is designed for extremely heavy duty; it uses standard heads made of robust grey cast iron or special heads made of high-grade aluminium alloy. All spindles have an axial thrust bearing. Drill bit sharpeners and special cardboard pads ensure a long service life.

## The result – precision

Ultimate precision: Ground steel profiles make sure that the drill spindles and the drill table are guided without play. The splined shaft drive ensures a non-slip power transmission and the long spindle guide keeps the drill bits on centre.

## User-friendly and functional

The drill heads can be adjusted infinitely; the adjustment is quick and easy to make. The length of the drill bits is adjusted without tools. Thanks to the quick-action chucks of the drill, bits can be changed very quickly, which increases overall efficiency.

## The features: More than standard

- Two drilling speeds
- Constant feed rate
- Simple adjustment of the back stop and the table lift by handwheel
- Side stop with quick-action lock
- Optimum safety due to two-hand operation, reversible mode and safety cover



Manual indexing drill matrix ( cardboard )



Professional drill bit lubrication with cooling system



NAGEL-Citoborma 490 Vario

## The height of sophistication: Drill bit lubrication and cooling

The drill bit lubrication with drill bit cooling system ensures a gentle processing of sensitive materials. Heat build-up is reduced to a minimum to prevent the material sticking together. The drill bit cooling system, when used in combination with the drill bit lubrication, prolongs the service life considerably.

## Customized and reliable: Optional equipment

The Nagel Citoborma 490 has the equipment for your special requirements. Special drill heads permit drilling of non-standard patterns in one stroke, even with minimum hole spacing. Other assets are the infinitely variable drilling speed and lifting speed, the drill bit lubrication with cooling system and the foot switch operation. A sliding table enables the Citoborma 490 to drill multiple perforations.

By using the manual indexing drill matrix even the lowermost sheet is drilled precisely and at the same time the wear on the drill block is prevented.

## Technical specifications

Citoborma 490	
Number of drill heads	1 – 6
Max. pile height (mm)	60
Max. paper width (mm)	460
Max. throat depth (mm)	270
Drill bit sizes (mm)	2 – 35
Distance between centres (mm)	19 – 425
Drill bit speed	2 positions
Time / stroke (s)	3,3
Power stroke	✓
Power supply (V)	400 V 50 Hz phase
Power consumption (kW)	1,8
H x W x D net (cm)	139 x 71 x 77
Weight, net (kg)	265
H x W x D gross (cm)	164 x 91 x 97
Weight, gross (kg)	365
Drill head 45	✓ hole spacing min. 45 mm drill bit sizes 2 – 14 mm
Special drill heads:	
Drill head 32	• hole spacing min. 32 mm drill bit sizes 2 – 9 mm
Filofax 3 spindels	• hole spacing 19 mm (fix)
Trio 2 spindels	• hole spacing 21 mm (fix)
Drill head 125	• paper drill bits for 15 – 35 mm
Foot switch	•
✓ Standard • optional	

# Paper drill bits and drill bit maintenance

## NAGEL wax paper and drilling pads

By perforating the wax paper, the drill bits are lubricated on the inside. Corrosion and congestion are prevented from day one, breaking of the drill bits is a thing of the past.

The special cardboard drilling pads by Nagel ensure that even the last sheet of the pile is perforated cleanly; and also reduces the wear of the plastic support bar.

### Type I – green colour coding

- High-performance steel
- Suitable for offset, copy paper and cardboard
- Recommended for all table top drills
- Good price-performance ratio

### HD quality – yellow colour coding

- High-performance steel with special High Density coating
- Suitable for art paper and illustration printing paper
- Recommended for all power stroke drills
- For heavy duty and long-term use

### Teflon quality — blue colour coding

- High-performance steel with Teflon coating
- Suitable for coated paper and cardboard, plastic, foil and rubber

## Flexibility of application

- Sample collections of wallpapers, fabrics, blinds etc.
- Label sheets
- Calendars
- Filofaxes
- Ring binder perforations
- Multiple perforations for spiral binding etc.



*Nagel paper drill bits: 2 – 35 mm diameter, 30 – 60 mm working length, and special designs on request*