



# Pin drill ATLAS

Ref. 080610



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Individualizing the dies is, without doubt, one of the most commonly used technique in the Dental Lab. The reason is easy to guess: you just need a simple former, a few pins, and a drilling machine to apply a technique that, if correctly used, can save a lot of work.

However, not everything is perfect. These systems require a high level of accuracy. If the position of the drill, its diameter and drilling depth are not strictly adjusted, the time we pretend to save is most likely to become a torment for the dental technician.

Basically this was the starting point of the **Atlas** project in **MESTRA**: to design a versatile and universal machine, adaptable to the different individualization systems currently in the market; but at the same time, extremely accurate and easy to use. And, of course, at the quality level and low price required by **MESTRA** in all its products. The challenge was on the table.

## Characteristics:

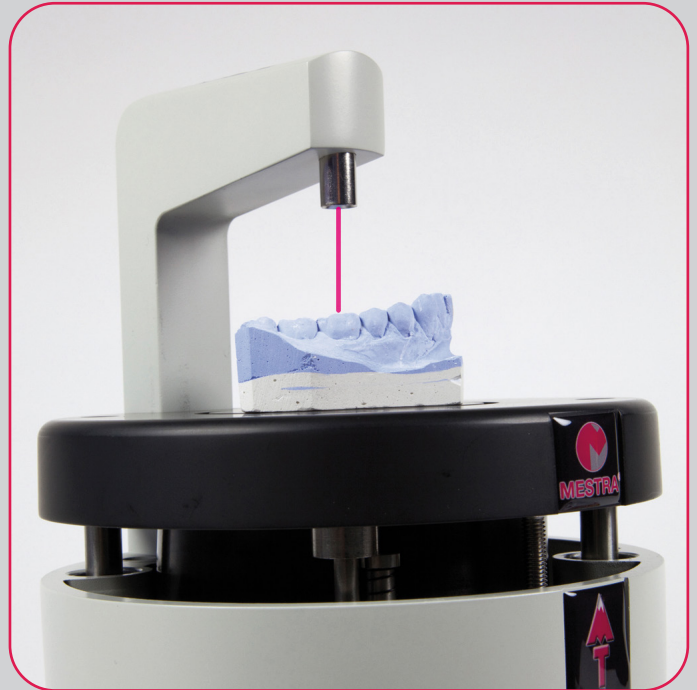
Height 300 mm	Voltage 230 V, 50/60 Hz
Width 165 mm	Power consumption 100 W
Depth 165 mm	Speed 6000 rpm
Weight 5 kg	



# Concept

Before the design team got down to work, it was essential to have clear ideas. There are many points to take into account when designing a pin drill, so it is advisable to ensure several aspects that will make operating the machine easier and more comfortable; these aspects will make the difference between an average product and an excellent one.

To begin with, the dimensions are a key starting point, since many fundamental features depend on them, such as the room the machine takes in the Lab, the ergonomics of the machine or its stability. And this is the reason why our engineers designed a small-sized model, but with enough stability so as to ensure a practical, comfortable and secure operation.



Besides, this time our engineers recommended to build the model out of injected aluminium instead of plastic in order to make the machine heavier and stiffer. The result is obvious: the Atlas drill offers a perfect balance between stability and size, together with an attractive and harmonious design.

The size of the table is another of the aspects most carefully studied by our engineers. Its diameter of 165 mm is more than enough to lean the model and the hands comfortably. With the **Atlas** drill you can forget the narrowness of other models of smaller size and irregular forms. It should be outlined that the laser holding pole is placed quite apart from the drill, which allows you to move the plaster model freely and without trouble. You will not need to pay attention to obstacles while you are working.

# Motor

The motor is another element that requires a thorough study. Taking into account the small diameter of the drill (1.85 mm) in these types of machines, a 100 W power is more than enough for a correct drilling. Adding more power would not be practical, and would mean an environmentally unfriendly energy waste.

The same goes for the rotation speed: more than 5000 or 6000 rpm are not advisable, since in case of drilling plastic formers, the heating produced at high revolution speeds could even melt the material. Besides, in ceramic materials such as plaster, an excess of revolutions produces a premature wear, and the drilling time is not significantly reduced. In regard to the versatility of the machine, the **Atlas** pin drill is the most balanced option to work with plaster models, plastic bases and any other element or material.



# Ergonomics and practicality

Practicality and ergonomics also meet in the **Atlas** pin drill: the position of the hands has been thoroughly studied to achieve an efficient use. The sides are chamfered to allow a comfortable and secure grip with the fingertips, while the thumbs rest on the table. This way we prevent awkward body positions that can produce local fatigue, and at the same time we maximize the strength exerted by the hand when pressing the table. On the other hand, the machine has been designed to be operated either in a standing position or seated.

If we now consider the dust produced during the operation, we believe that cleanness has to be another key point when designing a pin drill. In the **Atlas** model the table is easily dismantled without any special tool, and it gives access to an inner container too collect the dirt. Once removed, you can clean the container with water and soap before placing it again.

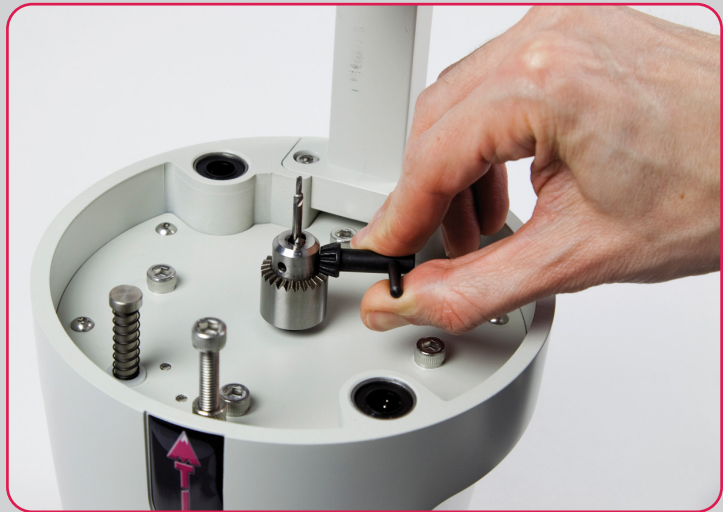
With regard to cleaning the machine, the design of the machine is once again surprising: its round shape, the lack of crevices and the fine finish of paint make up an attractive design, and make the cleaning child's play.





## Functionality and detail

Details are very important when designing a good pin drill: the drill-anchoring system has to be easy to loosen. In the case of the **Atlas** pin drill, a few seconds are enough to replace the drill or adjust its height. The table can easily regulate the depth of the drill: you just have to turn a screw to adjust the height at will. It takes a few seconds.



Another significant feature is the smooth operation of the drill. Unlike in some other machines, in the **Atlas** pin drill the table is guided by axial bearings and return springs. The result is astonishing: the touch is firm and accurate, with the exact amount of resistance and elasticity, and without the slightest play. Its smooth sliding, free and without trouble, is difficult to find in other machines of this kind.



# Laser

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On the other hand, the fine-focusing laser system, of just 1 mm of diameter, gives enough lighting power as to make it easily distinguishable. The alignment of the laser is exactly in line with the axis of the drill. As it has been said before, the laser is quite far from the drill in order to prevent obstacles when sliding the model across the table.



# Advice to choose a pin drill

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- ✓ **First of all, be objective.** Do not let names, nationality or any other information from the dealer influence you. Do not pay attention to set phrases such as “there must be something wrong if it is so cheap”, “cheap products often prove to be expensive”, “in XX (country) they have never been good at manufacturing machines” and so on. Take into account just reasons, facts and arguments. Never accept disparaging remarks from dealers. Compare at least three models (four, better) before choosing one.
- ✓ **In this type of machines the ratio size/weight is decisive.** The machine should be small, so you can place it anywhere, but at the same time it should be very stable to prevent any movement during the drilling. It is advisable to check out its resistance to sliding to prevent unpleasant surprises.
- ✓ **Cleaning the machine is another aspect to be taken into account:** keep away from sharp edges, rough surfaces or elements with odd geometric shapes. Smooth and round shapes are the most recommended. The container of the dust produced by the drill should have immediate access.
- ✓ **Check out the features of the motor.** As we said above, at more than 3000 or 3500 rpm plastic materials are difficult to drill due to the heat produced by the friction. In the case of plasters, a high rotation speed does not mean a reduction of the drilling time, but it will obviously mean a premature wear of the drill.
- ✓ **Check out the size and shape of the table.** When leaning your hands you should feel at ease and have a feeling of spaciousness and control. The plaster model should slide with no obstacles across the table, whichever its position or the turn you give it. The laser pole should not interfere in the movement of the model.

You may be currently interested in buying a steam box. In this case, you are lucky, because you will find many models and manufacturers of excellent products in the market.

We would like to give you several useful tips for you to choose the most suitable model.

- ✓ **The mechanism to operate the table should have a firm touch and accuracy to guide it.** Do not ever accept “soft” mechanisms or mechanisms with play. The exact hardness when pressing is something very subjective, but in any case, it should combine firmness and a smooth movement, without obstacles. You will probably know what we are talking about.
- ✓ **Details are also important: the size of the machine,** the access to replace the drill, the touch of the table surface, the cleaning system foreseen by the manufacturer... are distinctive signs of a good make. Quality is not improvised; it requires years of hard work, patience and experience.
- ✓ **Although a minor issue, do not forget the product design:** a modern and efficient professional should use modern and efficient tools. Several-decades-old designs give a poor image of your lab.

After analyzing the aspects above, consider the price, the technical support and all the other services offered by the manufacturer. Think over all this information, and make your choice. If you take into account all these tips, be sure you will always make the right choice, whatever you decide





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We have maintained a line of constant expansion since our foundation in 1945, thanks to our best qualities: the high quality of our products that have earned the ISO 9001:2015 certification by TÜV Rheinland, a close and attentive relationship with our customers, and a constant technical innovation in the design of our products.

Our design philosophy is based on three fundamental pillars: the needs of our clients, the observation of the techniques used in dental laboratories and our more than 77 years of experience providing creative and contemporary solutions to the daily problems of professionals in the sector.

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