

# Drilling Machine

## Description and Data



DESIGN and MANUFACTURED BY:

**SIDIA**

**Tools and Machines**

**Engineering – Developing – Manufacturing**

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MANUFACTURED IN:

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## 1 Customer request and needs

Needs:	realize holes in a rod with countersink
N° of holes	2 per rod
Rods per Year:	60.000 pieces
<b>Cycle time request:</b>	<b>90 sec*</b>
Lengths of rods:	2 sizes: 655 mm and 514 mm

\* Including flashing in manual operation



## 2 Machine Achievements

Loading and positioning:	manual with poka-yoke system on the support
N° of holes:	2 simultaneously
<b>Cycle time:</b>	<b>20 sec*</b>
Countersink:	included (by special drill bits)
Length check on-line:	by LVDT ( $\pm 0,25$ mm) before drill
Lubrication system:	by venturi, automatic and synchronized
Cleaning:	by air blow, automatic and synchronized
Inter-axes check:	by gig to check drilling tuning
Tuning and setting:	quick change from 655 mm and 514 (less then 2 min.)

\* including loading and unloading and flashing in manual operation



## 4 Cycle

1. Loading by operator
2. Start (by double green button)
3. Pusher align the rod on the left
4. Sensor detect the piece in the correct position
5. LVDT measure the length (and give GOOD or NOT GOOD)
6. Gripper lock the rod
7. Drilling start vertical stroke (fast )
8. Lubrication system is activated by a timer
9. An hydraulic dumper reduce the speed in the last part of the stroke (machining)
10. Final part of the stroke realize the countersink by means of special drill bit
11. Meanwhile the drilling cylinder come back up, the air blow clean the residual material
12. Gripper open
13. Pusher release the rod
14. Unloading by operator

## 5 Engineering Ideas

With more than 30 years of experience, SIDIA is able to share with Customers a wide range of solution for different problems.

Every Jig, tool or machine has been developed with the target to satisfied completely the Customer's need.

With our fully availability is also easy to focus solutions that have a complete payback in a really short time.

Without Machine	With Machine
90 sec	20 sec
220 day (1 year men)	46 day
30.000 euro/year (e.g.)	8.500 euro/year (compare to left colum)

