

CNC – Scoremachine RM 656

Full Automated Scoring system with numerically controlled z-axis



Technical Description

Scope of function

The RM 656 CNC – Scoring Machine offers the full range of functions of today's scoring technology. It is used to cut lines into multi-pcb panels, that allows to easily break them. The booth z-axis are independent controlled and to set variable cutting depths between the several score lines, single side thredment and jump-scoring down to a rest thickness of 0,2 mm. The standartversion is able to handle boards from minimum 240 x 260 mm up to 650 x 650 mm (min. 120 x 120 mm in manual operation) The system is able to handle all common materials from FR2 to FR4 , Green Ceramics, Polyamides and Aluminium in material thickness from 0,5 up to 3,2 mm. The logic operator software interface, makes it easy to program , setup and handle the system. It is useful for small production series as well as for high volumes. The automatic system scores panels in x- and y direction by automatic rotating them during the process. The system is able to run stacks of 150 panels of an thickness of 1,6 mm. For single boards or test scoring the the system provides a manual mode.

Operation

The system is controlled by an cnc-processing , which is accessed by an connected pc terminal. The loader unit is controlled by an integrated touch screen controlling unit in front.

The drive system is equipped with servo controlled dc-motor-system for each axis. The process software is visualized by an windows typical pull down menu structure with macro functionality. Caused by the logical software interface, the system is work ready to every operator within a very short range of training. The program editor of the system allows easy and quick to generate complete score files and offers an internal memory for approx. 100.000 different score programs, which is expandable by external memory stations or via local network. Programming might be made direct on the system editor or send by an external source via network. Each program allows an individual score line design with a variety of score depth, jump scores etc. different from line to line. To have the editing in the easiest way, the system offers a tool database which is able to speed up the process of score file generating. Each line could be set up to 40 interrupts per cutted line. The score file date contains all steps for x & y directions and so it's able to give full treatment in one process. The system is able to score aluminium boards with Special kinds of blades. All surfaces inside RM 656 are made to provide a scratch free surface on critical materials.

Technical Data

Panel Size	Max. 650 x 650 mm Min. 120 x 120 mm
Panel Stength	0,5 – 3,2 mm
Traversing	X-Axis 650 mm Y-Axis 850 mm Z-Axis 10 mm
Drive System x/y/z-Axis	Ball Screw DC-Servo with Incremental counters
Positioning accuracy	
X-Axis	+/- 0,02 mm
Y-Axis	+/- 0,05 mm
Z-Axis	+/- 0,02 mm
Repeatable Accuracy	
X-Axis	+/- 0,01 mm
Y-Axis	+/- 0,02 mm
Z-Axis	+/- 0,01 mm
Routingspeed	Programmable 0,5-40 m/min.
Saw Blade Drive	
Rotation Speed	from 0 to 5000 rpm
Rated Power	0,6 kw
Score Blade	Dm 120 x 2 x 40 mm Fullhardmetal oder Carbon
Fixation System	Pins 2 x fixed / 1 x adustable by Servo Controll
	Automatic Depining
Fixation Pin	Ø 3,0 mm Standard
	Other Pin Sizes available
Distance (Pin to Pin)	min. 100 mm others on request
Min. Distance for Scoring (Pin to Score)	8 mm
Parallelism (Pin zu Score)	+/- 0,03 mm
Score Values	
Distance Tolerance	
Score to Score	+/- 0,02 mm
Jumps	100
Score Lines	1000
Interruptions	Programmable
Score Depth	Programmable
Residual ridge width	Down to 0,2 mm
Processing Unit	
Units	PC-Terminal w. Windows7
Systemcode	Programmed in C++



RM 656 Frontview from operation side



Touchscreen panel control

Main Connection	230 V – 50/60 Hz
RM 656	400 V – 50/60 Hz 16A
Autom. Loading Unit	CEE
Power Consumption	
RM 656	2 kW
Compressed Air Con.	8 bar
Unit Dimension	3600 x 1900 x 1750 mm
Weight	1300 kg
Noise Level	>75 db
Options	Exhausting Unit Special Score Tools

Techn. Stand November 2011 / Techn. Änderungen vorbehalten

Hersteller / Manufacturer: HML Haseneder Maschinenbau e.K.
Niederer Hofweg 4
D-09376 Oelsnitz / Erzgeb.
Deutschland / Germany
Telefon: +49 37298 301290
Fax: +49 37298 301299
Mail: info@hml-hm.com
www: www.hml-hm.com