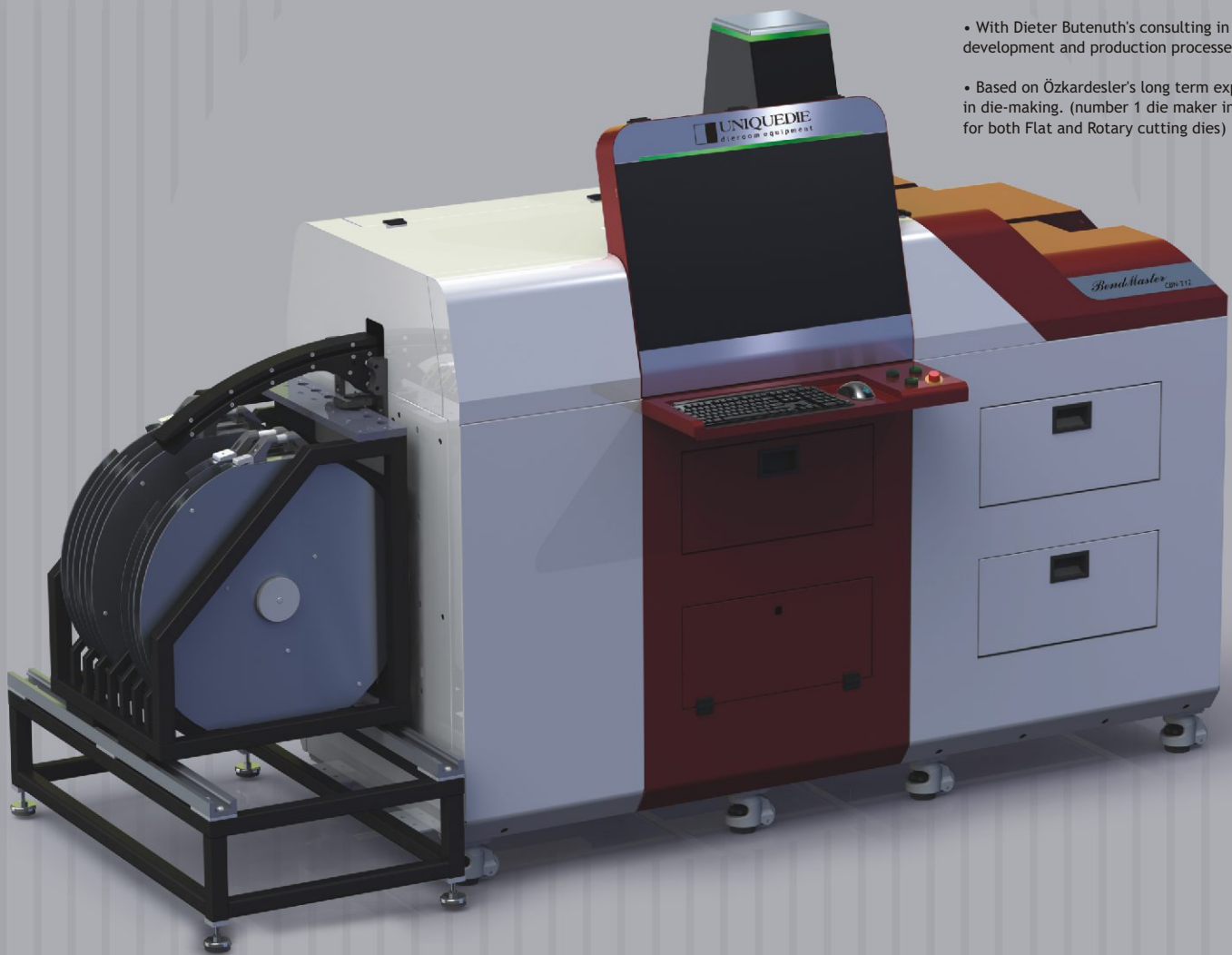


BendMaster CBN-T12

HIGH-TECH DIE-CUTTING PROCESSING SYSTEM

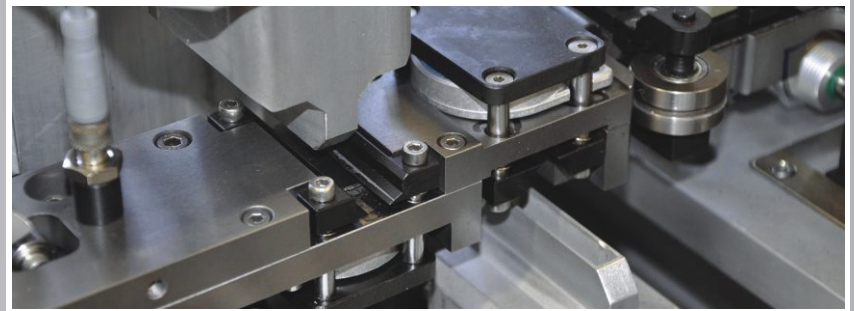


- With Dieter Butenuth's consulting in the development and production processes
- Based on Özkardesler's long term experience in die-making. (number 1 die maker in Turkey for both Flat and Rotary cutting dies)

- Processing 2pt. - 3pt. - 4pt. steel coils without requiring a change of the tooling each time as a rotating disc holds 12 tools
- 6 different discs in a single nick grinding unit
- Fast and burr free broaching technology
- New generation servo linear actuators substitute slow and bulky hydraulic technology
- Able to process creasing, perforated and cut-crease rules
- Practical and user friendly Cad - Cam

Unique Bendmaster is a fully automatic steel rule processing machine for the diemaking industry.

- Straight/Lip Cutting
- Notching
- Perforated Rule Processing
- Cut-Crease Rule Processing
- Broaching
- Nick Grinding
- Bendmarking
- Bending

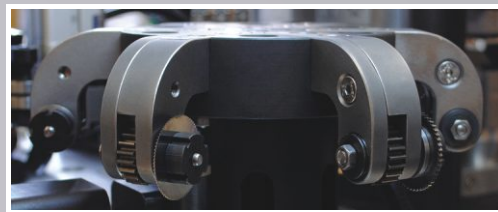


Patent Pending T-12 Rotating Tool Module

- Compact carousel tool head with fast and easy access
- Single tool block (with 12 tool houses) for all 2pt, 3pt, 4pt steel rule processing tools, perforation and cut-crease making tools and bendmarking tool
- Processing all types of steel rules up to 30 mm height

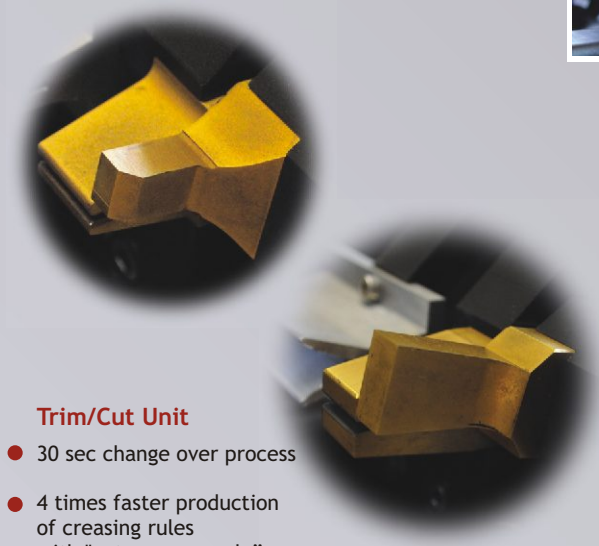
Servo Linear Actuator

- Entire cutting operation in only 0,3 sec.
- Adjustable stroke length
- Compact unit in comparison to hydraulic systems, works faster and quieter, requires minimal maintenance
- Environmentally friendly as it doesn't work with hydrolic oil
- 30 years average lifetime



Patent Pending Nick Grinding Unit

- 6 different thicknesses of nick grinding disk in a single unit
- 1 electric motor for all 6 discs
- Manufacturing microperferation

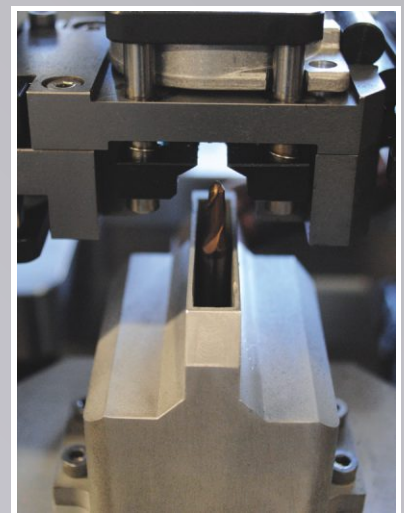


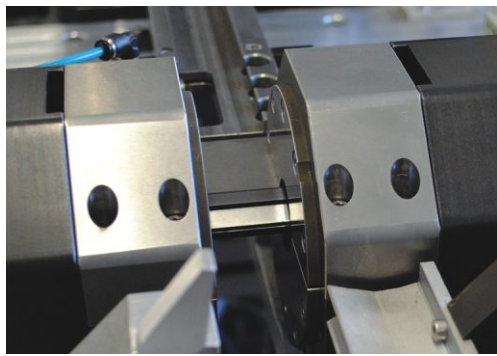
Trim/Cut Unit

- 30 sec change over process
- 4 times faster production of creasing rules with "cut-crease mode"

Patent Pending Broaching Unit

- HSC broaching (high speed cutting process) in different geometries
- Fast and burr free
- Standard milling bits are easy to reach and economic to replace





Bending Unit

- Extremely Compact Bending head with two driving motors
- 3 minutes change over time of 2-3-4 pt. bending heads

PC/CNC Controller

- ODW One directional synchronized Workflow technique, parallel rule processing on all modules in workflow
- Configuration of the straight and lip cut function through the lines of selected cutting rules - the first unit ever to do this
- Automatic selection all of the creasing, cut-creasing and perforating lines in one step
- Applying parameters of selected perforation and cut crease rules to the whole die in one step
- Simultaneous processing of multiple and diverse jobs in workflow
- Automatic assembling of required quantities after machine stop
- Automatic monitoring of the functional lifetime of processing tools (punches, grinding discs, broaching millings, bending fingers, trim-cut knives, etc.) With a automatic warning when exceeding the set parameters

All of the automated parts used are manufactured in Europe or the USA

UNIQUE Bendmaster Technical Specifications	
Steel Rule Thickness	2 - 3 - 4 pt.
Steel Rule Height	20 - 30 mm
Broaching	2-6 mm Diameter two-sided milling
Nicking	0,2 - 2,5 mm thickness / 6 units
Tool Disk	12 Units usable without change
Punch Motor	Servo Linear Actuator
Perforating & Cut-Creasing	Min : 0,2 x 0,2 mm
Coil Holder Trolley	8 Units
Cad-Cam	True Works rule preparation Software
Motion Control	Unique CNC Controller
Data Input	Cf2 - dxf - dwg
Power	400 V / 3 kW
Air	6 bar - 90 psi

Dimensions of the Machine (mm)	
Machine Body	2000 x 780 x 1900
Coil Holder Trolley	1140 x 620 x 1050
Depositing System	620 x 470 x 590
Vacume System	1000 x 650 x 700

The Unique Bendmaster can process bending, cutting, notching and produce perforated and cut-crease (combination) rules.

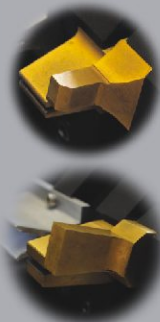


The Bendmaster can process the 2pt. - 3pt. - 4pt. steel coils up to 30 mm height without needing a change the tools at everytime by a carousel tool unit in which 12 different tools are integrated.

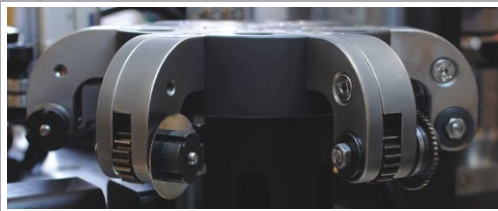
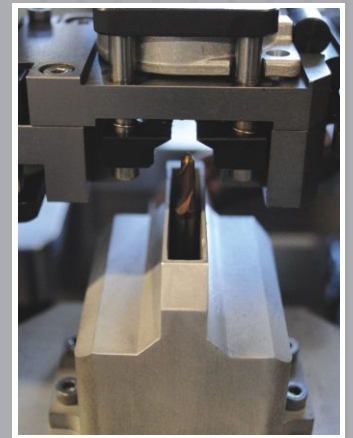
New technology Servo-Linear Actuator substitutes slow-working and large-placed hydraulic units. It is possible to adjust the stroke depth of all of the tools, so if there is any grinded tool in the tool disk, this tool can be punched deeper. The calculated lifetime of this servo linear actuator is overall 30 years.



Trim-cut tool is also working with a servo linear actuator, by cutting from the up and down side through the geometry of bended parts. There is the possibility to cut creasing rules directly on the trim-cut unit to achieve a higher production speed.



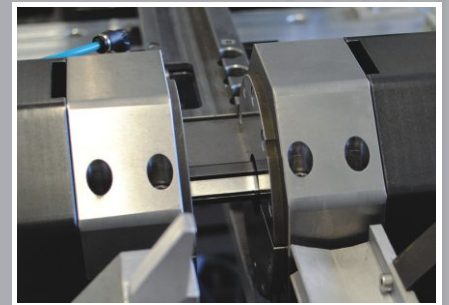
The machine, which can broach with up and down milling parts, provides both smooth surface and low-cost spare parts by using standard milling tools in the broaching system. It is possible to use different geometries of milling tools by broaching.



Another qualification of the machine is that it has 6 different nicking saws on the rotative nicking disc.

Unique Machines are developed:

- Based on Özkardesler's long term experience in diemaking. Özkardesler is the number 1 die maker for both flatbed and rotary cutting dies in Turkey.
- And consultancy by Mr. Dieter Butenuth, who has over 30 years experience in machine production in diemaking industry.



Extreme compact bending head with 2 driving motors which are working simultaneously. Exchange time of the bending heads is under 1 minute.



With an operator it is possible to produce the cutting lines through a machine and the creasing lines through an other machine simultaneously.



Some of the possible options by PC/CNC Controller on Unique Machines:

- * One directional rule flow (Rule coil's minimum back movement ability by synchronized working technique).
- * Automatic adjustment of the straight and lip cut functions and offset of the length through the lines of the die-design.
- * Automatic Selecting all of the Creasing, Cut-Creasing and Perforating lines with one button.
- * Application the property of the selected Perforated and Cut-Crease Rules to the whole die with one button.
- * Pre-processing with more than one file at the same time and putting in order many files to be processed in the machine.
- * Continuing without requiring a new CAM file when the machine stops.
- * The system of determining the functional lifetimes of the consumables (punch tools, grinding discs, broaching millings, bending fingers, trim-cut knives, etc.) and warning when it exceeds the limit by digital counters
- * Flexible adjustment of bending angle settings.
- * Determining of broach and nick positions on the die design or on the selected lines.
- * With "Analysis Drawing" function, repair the intersection faults on the drawings.
- * Reporting function on the selected lines with the length and bending settings information.



Why To Choose Unique?

- Rigid, Durable and Long Lasting,
- Efficient,
- High Quality,
- All of our products are made "in-house"

All machines are guaranteed
by our firm for a period of 1 year.