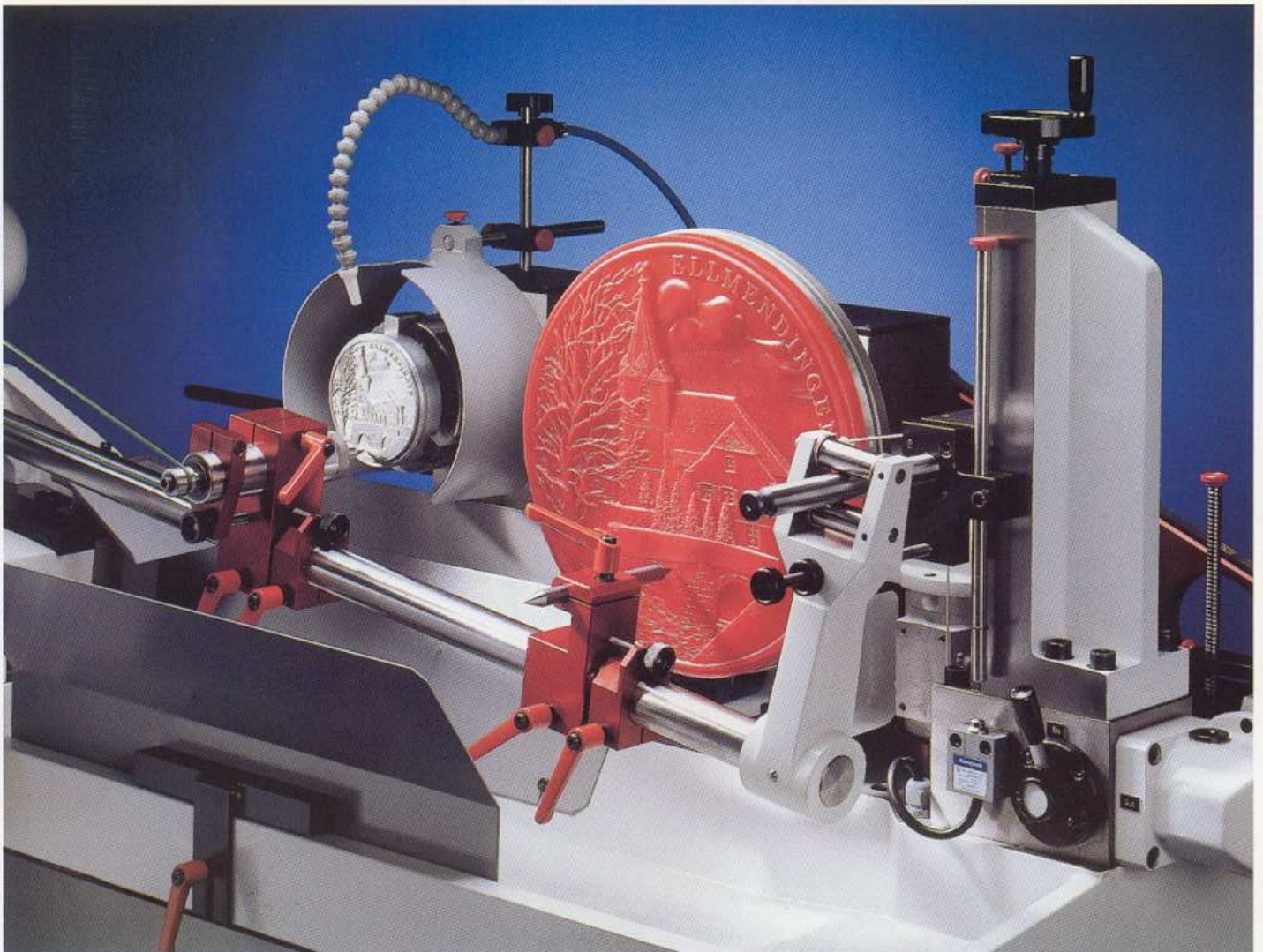


**BEMA**  
**BEMA**



**SYSTEM**  
**3001**

**Three-Dimensional,  
Universal-  
Automatic Engraving,  
Copying  
and  
Reducing Machine**



# BEMA BEMA

## Three-dimensional Universal-Automatic Engraving, Copying and Reducing Machine System 3001

Three-dimensional engraver's profile milling which has been successful for several decades of years. A tracing pin (2) serves to scan the metal or duroplastic (1) template. The work piece can be milled at the same time, because there is a solid connection between the tracing pin (2), and a milling spindle (3). A put-on milling unit 1 : 1 is, moreover, available as special equipment. Adaptation will take a few minutes time only. The perfect surface quality of the finished work pieces is beyond any competition even the slightest cavities get detected. You may, of course, also mill mirror-inverted and vary the sectional heights infinitely. Operators will be completely familiar with the system within less than a day. (4) The die can be engraved infinitely reduced in size from 1 : 1.41 to 1 : 100.

### 1 The model

Your model can be made from plaster, steel, bronze or duroplastic. You can also of course have a model produced from wax and then through an intermediate form, develop a duroplastic model. The maximum model diameter is 320 mm.

### 2 The feeler

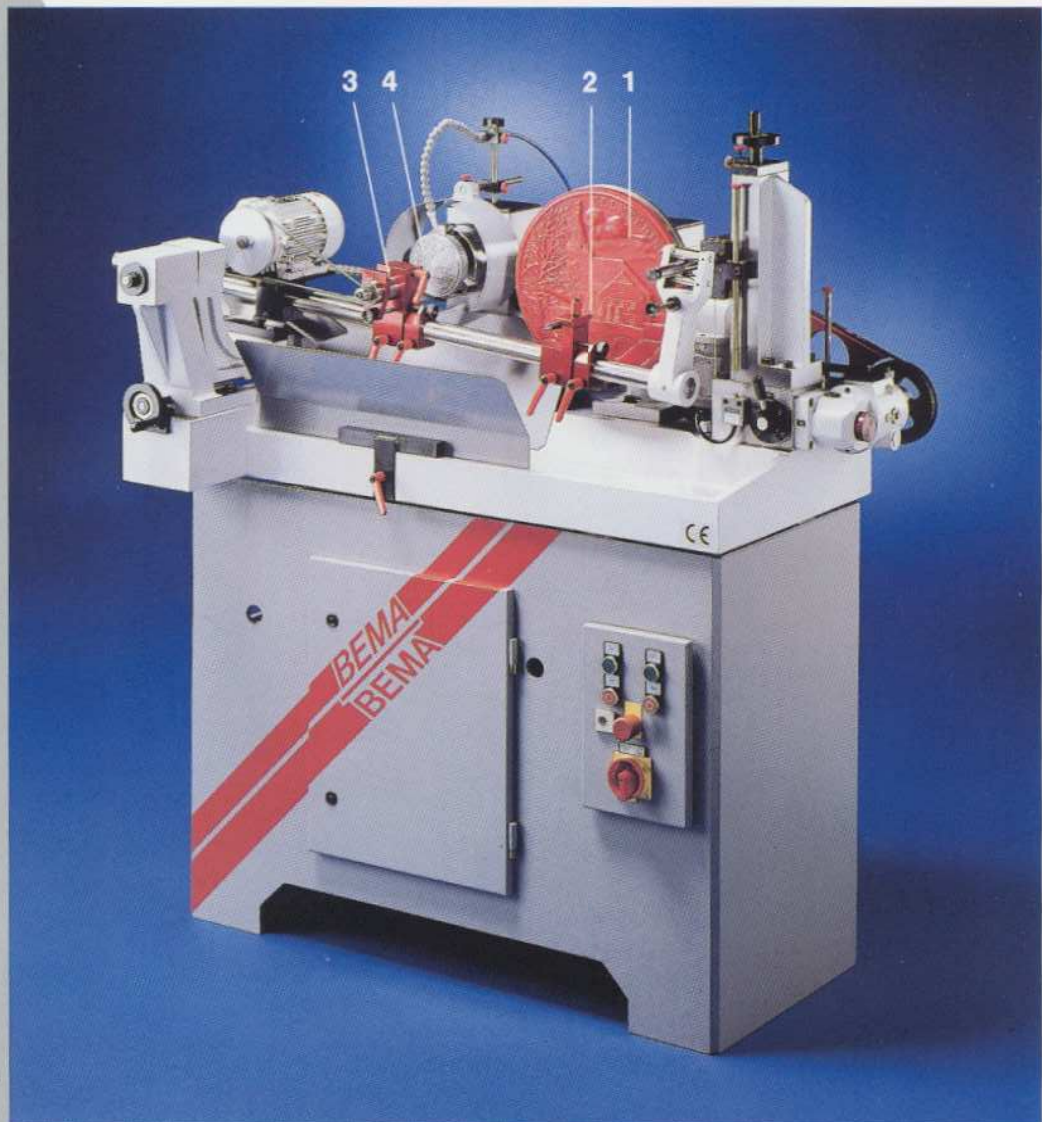
The feeler scans the model. Due to the fact that the machine operates without vibrations, even the thinnest of depths can be picked up.

### 3 The milling spindle

The milling spindle is solidly fixed to the probe and it mills exactly according to that which is scanned from the model. The complete scanning and milling procedure does not have to be supervised. The machine operates independently 24 hours a day.

### 4 The stamping die

The stamp can be infinitely reduced or increased in size relationship from between 1 : 1.41 to 1 : 100.



## BEMA System 3001 (model diameter 320 mm)

### Including Standard Equipments:

- Precision-milling spindle  
Ø 40 x 140 mm, 16.000 rpm,  
maintenance, with draw-in tube  
Ø 6 mm
- Carbide milling cutter Ø 6 mm
- Stylus hard metal 17 degrees
- Face plate Ø 320 mm
- Concentric chuck Ø 125 mm
- Pressure weights

### Technical Data:

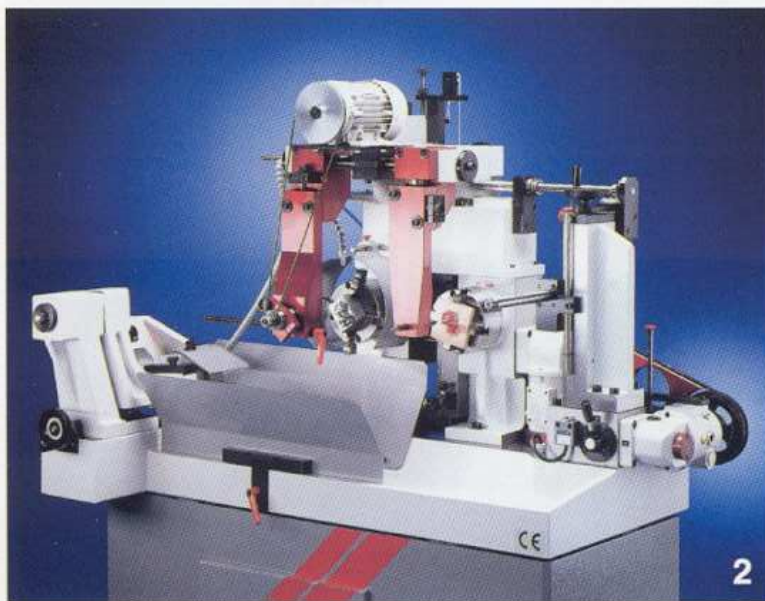
- Reducing from work piece to model  
1 : 1.41 to 1 : 100
- Mirror-inverted transmission right or left  
("Janus-Form")
- The flattening or the raising of a profile correspond  
to a maximum of 0-100 % of the normal cut
- Automatic circumference speed control from  
work-piece and model
- Infinitely variable drive





### High-Frequency Milling Spindle (Pict. 1)

Using a high-frequency milling spindle, a working speed of 5.000 to 35.000 rpm may be selected in advance. The use of a high-frequency milling spindle is recommended when high cutting speeds at a constant number of revolutions are required (for example diamond cutting). The milling spindle is supplied with a transformer. The speed range (number of revolutions) may be read at the available scale.



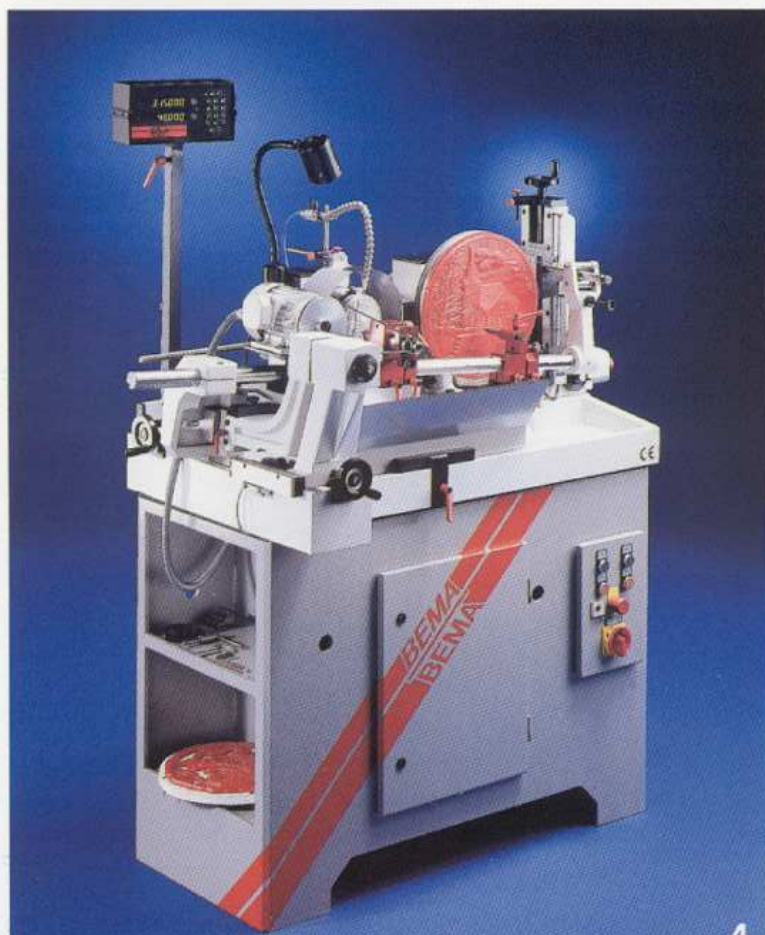
### Copy Unit 1: 1 (Pict. 2)

For copying work pieces in the ratio of 1 : 1 a copying attachment is necessary. The max. work-piece/model diameter 250 mm. Adaptation will take a few minutes time only. This attachment can be retrofitted as special equipment.



### The Milling-Graver (Pict. 3)

For an optimal machine output, the chisel form has proven to be the best shape of the milling-cutter. Carbide milling cutters or diamond milling cutters ground to the shape of a chisel ensure the highest tool life. For special applications also standard milling-gravers may be used.



### Machine System 3001 (Pict. 4)

The machine, fully equipped with halogen machine light. Digital display for varying X and Y.



# Field of Application

# BEMA BEMA



## 1 Mirror-Inverted Transmission

The machine is equipped with a reversing gear which allows a synchronous reverse rotation of model and work-piece. It results a mirror-inverted transmission from model to work-piece. This fact enables the production of symmetrical mirror-inverted workpieces ("Janus-form").



2 Working process: plaster model, silicone casting, - scanning model, various work piece dimension



3 Minting tools for coins



4 Casting moulds for tin plates and tin goblet



5 Electrodes for spark erosion machines



6 Processing of semi precious stones such as coral, onyx, agate and pearl-shell



7 Stamping dies for the jewellery industries



8 Coining dies for button production (coat button) various work piece dimension

# BEMA BEMA

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