

C.N.C. BENDING MACHINE FOR FLAT ARMoured RESISTORS WITH TWO TRAVERSE UNITS



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This bending machine has been developed from a previous model (OP-044). Its characteristics remain versatile set-up for different models, and rapid programming. The important improvement consists of the addition of a rotating turret composed of four bending heads on which rollers with different diameters can be mounted. This permits horizontal processing of resistors with different bend radii which can be controlled from a visual display terminal. It is composed of two bending units placed opposite one another. They slide on both sides on steel ball-bearing guide rails, and are operated by brushless motors.

The work area is composed of a sheet metal surface where the resistors are placed. The bending units are above this surface, so that they are always secure and precisely oriented. The bending heads are hydraulically operated and numerically controlled. The machine is equipped with a supervisory and self-diagnosing system where messages are shown on a 14" LCD visual display terminal. All of the variables of the bending programmes can be set up from this terminal, as well as cycles times, speed and all other machine parameters. The system is also able to effect a general self-diagnosis.

Description of the axes on one side of the machine:

Axis n° 1: verification and control of the longitudinal position of the unit on the bending axis.

Axis n° 2: verification and control of the angular rotating position of the bend in degrees.

Axis n° 3: verification and control of the transverse position of the unit which determines the clockwise or counter-clockwise bend.

Axis n° 4: verification and control of rotation of the head-selecting block for one of the four available heads.

The machine can simultaneously bend four resistors having a diameter of 6.5 mm. each or three having a diameter of 8 mm. each. The resistors are automatically unloaded after each cycle.

Technical specifications of the machine:

- Weight-bearing structure in welded tubular steel with carriage rails in tempered steel with sliding pads on ball-bearings.
- Non-stop resistor feeder with manual loading onto a fork and mechanical loading hand for transfer to the bending station. It may also contain resistors which are quite deformed and annealed.
- The machine can be easily equipped with an electro-pneumatic device for centering two or four resistors having diameters of 6.5 or 8 mm.
- Two-way rotating bending unit with oleo-dynamic operation and relative control system.
- Mechanical hand for unloading pieces from the bending station.
- Pneumatic drive system.
- Programmable Numeric Control by means of a terminal with a 70 program memory capacity.



Optional:

The machine may be equipped with an automatic feeder having a 1000 piece capacity for resistors which have been previously straightened.

GENERAL TECHNICAL SPECIFICATIONS:

Number of resistors which can be processed per cycle	pieces	4 Ø 6.5 mm
		3 Ø 8 mm.
Time required to adjust equipment for different programmed model including replacement of the four bending pins	min.	15
Average time needed to create a new programme with six bends per side	min.	20/25
Movement speed	mm/s	250
Repositioning speed at end of cycle	mm/s	250
Bending and return speed (90° angle)	s.	1.5
Bending and return speed (180° angle)	s.	2.5
Non-stop feeder capacity	pieces	60
Resistor length	mm.	240÷3000
Electric power supply	V.	3x400V+N 50 Hz
Installed electric power	kW	10
Maximum number of bends made by each head		20
Number of bending heads for each bending unit		4
Max. rotation for each bending head (with Ø 26 mm roller)	degrees	210
Minimum distance between centres of bends lateral to vice	mm	60
Minimum bend radius	mm	7
Maximum bend radius	mm	38
Pneumatic power supply	bar	6
Hydraulic oil tank capacity	lt.	170
Dimensions	mm.	5300x3400x2100
Weight	Kg.	2000

