



**MARBLE POLISHING LINE + BRIDGE MILLING
MACHINE FP 725/B**

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**N....1 AUTOMATIC LOADER WITH SUCKERS FOR
MARBLE AND GRANITE, MODEL
"200/CAV/330/20"**

Code A157 (ACCESSORIES)

To automatically load the slabs into the work line; it mainly consists of:

- a support structure on motorised wheels to allow the loader to move near to the pack of slabs;
- a tilting surface of 1720x3000 mm, complete with suckers to automatically remove the slabs from the stock trestle, position them horizontally and send them to the work line;
- hydraulic control system;
- decompression system;
- electrical control system, containing the control apparatus at low voltage.

Technical specifications:

- stainless steel rollers
- hydraulic pump power : 3 kW
- vacuum pump power : 0.75 kW
- roller conveyor translation power : 0.75 kW
- minimum thickness loadable : 20 mm





N....1 CONNECTING ROLLER CONVEYOR WITH MOTORIZED ROLLERS HAVING VARIABLE SPEED, MOD. "200/RLM/300/SEL"
Code T208

Technical specifications:

| | | | |
|---------------------------|---|------|----|
| - stainless steel rollers | | | |
| - roller diameter | : | 133 | mm |
| - roller pitch | : | 360 | mm |
| - width | : | 2000 | mm |
| - length | : | 3000 | mm |
| - roller motor power | : | 0,75 | KW |

The roller conveyor is divided into two sections, one with free-moving motorized rollers and the other one with frictioned rollers. The motorization of the rollers is powered by an inverter.

N....1 POLISHING MACHINE FOR MARBLE SLABS, MOD. "LM 2000/06"
Code M086

LM means : machine model;
2000 means : maximum polishable width 2000 mm;
06 means : machine equipped with no. 6 polishing spindles.

The « LM 2000/06 » machine enables the polishing of marble slabs.

Main elements which compose the machine:

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- 1 table of electro-welded sheet, with a steel milled surface of 20 mm of thickness; on the table slides the belt conveying the material; the table is provided with perforated grills (located at the sides of the working surface) to hold the working waste; at the ends of the table 2 turned steel rollers are installed, one of which is free-moving and one is motorized; the motorized roller is powered by a 1.5 kW reduction gear and variable-speed drive which gives a variable speed to the belt from 0 mm to 2900 mm max./minute; the tensioning of the belt takes place using 2 rods applied to the free-roller;





- 1 beam of steel construction, in which are housed centrally the abrasive-carrying spindles; the beam has alternative movement;
- 1 drive bar powered by a reduction gear whose motor is controlled by an inverter to adjust the traverse speed; the bar is adjustable to take up the slack between pinion and rack;
- 2 shoulders to support the beam; the shoulders house the beam slideways which are composed of a steel roller cage, with \varnothing 20 mm, on which the hardened steel slideways run, the upper one is fastened to the beam and the lower one is fastened to the shoulder;
- 1 labyrinth system protects the slideways from splashes and dust and keeps them in complete oil-bath;
- 6 dressing/polishing units, in cast iron, on which the marble abrasive-holding plates are installed.

Each unit includes:

- 1 asynchronous, three-phase, 7.5 kW electric motor, which drives the rotation of the spindle shaft; the movement takes place through pulley and 7 "V" belts;
- 1 spindle in cast iron, located at the centre of the beam to prevent bending and vibrations damaging the head;
- 1 pneumatic cylinder with 63 mm bore;
- 1 tap to control and regulate the inflow of cooling water;
- 1 control panel is installed in front of the machine near each unit; on this panel are placed the control push-buttons and the pressure gauge which visualizes the pneumatic pressure acting on the polishing head and the pressure regulator;
- 1 power unit containing the low-voltage drive and control equipment.

All the metallic protections of the machine are made of stainless steel.

The front guards comply with the safety regulations and can be only opened if the beam and the tool have stopped.

To change the abrasive easily, the beam places itself at the operator's side.





Technical specifications:

| | | | |
|----------------------------------|---|--------------|------|
| - useful working width | : | 2000 | mm |
| - maximum workable thickness | : | 100 | mm |
| - dressing spindle motor power | : | 7.5 | kW |
| - belt advancement motor power | : | 1.5 | kW |
| - belt advancement speed | : | 0:2.9 | m/1' |
| - bridge translation motor power | : | 1.85 | kW |
| - machine weight | : | 12.5 | t |
| - overall dimensions | : | 6.5x2.9x2.3h | m |

...1 SLAB READING SYSTEM, MODEL "SEL 60" Code E016 (ACCESSORIES)

Slab-reading system, consisting of:

General Electric P.L.C. (FANUC), interfaced to 60 photocells at the machine entry to determine electronically the polishable area of the slab. The P.L.C. co-ordinates the automatic lifting and descent of the heads with the passing of the slab. The adaptation to the width and the thickness to be worked is automatic. The system is designed to allow polishing of slabs with irregular profiles. For accuracy of the slab conveying system, a special slip-resistant belt with "saw teeth" is used.

Main menu for the General Electric FANUC PLC:

- 1) belt speed control
- 2) bridge speed control
- 3) abrasive wear control;
- 4) lubrication time control;
- 5) beam parameters;
- 6) secret code;
- 7) Over-run software limit;
- 8) head lifting point control;
- 9) bridge reverse point control;
- 10) bridge slow-down point control;
- 11) re-calibration value control
- 12) head descent ascent advance;
- 13) hysteresis on slab edges;
- 14) re-processing program for edges or slab centre;
- 15) machine diagnostics.





N....6 **ABRASIVE WEAR MONITORING DEVICE,
MODEL "CCA"**
Code E005 (ACCESSORIES)

Device to check on the wear of the abrasives for each dressing spindle, with manual adjustment.

N....1 **SCRAPER MODEL "RAS 2000"**
Code E120 (ACCESSORIES)

Scraper to be fixed over the roller conveyor at the machine exit to wipe off the water.

N....1 **CONNECTING ROLLER CONVEYOR WITH MOTORIZED ROLLERS HAVING VARIABLE SPEED, MOD. "200/RLM/200/L"**
Code T136

Technical specifications:

| | | | |
|---------------------------|---|------|----|
| - stainless steel rollers | | | |
| - roller diameter | : | 89 | mm |
| - roller pitch | : | 260 | mm |
| - width | : | 1800 | mm |
| - length | : | 2000 | mm |
| - variable speed drive | : | 0,37 | KW |

N....2 **COLD AIR DRYING UNIT WITH UPPER ELECTRIC FAN, MODEL "1/V/200"**
Code A115 (ACCESSORIES)

The drying unit is designed to be positioned on the material roller conveyor; the unit can both be adjusted in height and on the inclination of the air outlet to allow better drying of the material.

Technical specifications:

| | | |
|---------------------------|---|---------|
| - length of drying outlet | : | 2000 mm |
| - fan power | : | 3 kW |

N....1 **FILLING LINE, MODEL "200/LS/1400/2FI4-3"**
Code A082 (ACCESSORIES)

For continuous filling of the marble slabs. The machine consists mainly of:

- 1 slat conveyor, 1800 mm wide, 14000 mm long;





- 1 infra-red oven for pre-heating the slabs, 4000 mm long with 24 lamps each 1200 Watts.
- 1 infra-red oven for hardening the resin, 3000 mm long with 18 lamps each 1200 Watts.

Technical specifications:

- conveyor variator power : 1.1 kW
- power of oven lamps : 50.4 kW
- conveyor length : 14000 mm

N....1 CONNECTING ROLLER CONVEYOR WITH MOTORIZED ROLLERS HAVING VARIABLE SPEED, MOD. "200/RLM/300/SEL"
Code T208

Technical specifications:

- stainless steel rollers
- roller diameter : 133 mm
- roller pitch : 360 mm
- width : 2000 mm
- length : 3000 mm
- roller motor power : 0,75 KW

The roller conveyor is divided into two sections, one with free-moving motorized rollers and the other one with frictioned rollers. The motorization of the rollers is powered by an inverter.

N....1 POLISHING MACHINE FOR MARBLE SLABS, MOD. "LM 2000/012"
Code M089

LM means : machine model;
2000 means : maximum polishable width 2000 mm;
012 means : machine equipped with no. 12 polishing spindles.

The « LM 2000/012 » machine enables the polishing of marble slabs.

Main elements which compose the machine:

- 1 table of electro-welded sheet, with a steel milled surface of 20 mm of thickness; on the table slides the belt conveying the material;





the table is provided with perforated grills (located at the sides of the working surface) to hold the working waste; at the ends of the table 2 turned steel rollers are installed, one of which is free-moving and one is motorized; the motorized roller is powered by a 1.5 kW reduction gear and variable-speed drive which gives a variable speed to the belt from 0 mm to 2900 mm max./minute; the tensioning of the belt takes place using 2 rods applied to the free-roller;

- 1 beam of steel construction, in which are housed centrally the abrasive-carrying spindles; the beam has alternative movement;
- 1 drive bar powered by a reduction gear whose motor is controlled by an inverter to adjust the traverse speed; the bar is adjustable to take up the slack between pinion and rack;
- 2 shoulders to support the beam; the shoulders house the beam slideways which are composed of a steel roller cage, with \varnothing 20 mm, on which the hardened steel slideways run, the upper one is fastened to the beam and the lower one is fastened to the shoulder;
- 1 labyrinth system protects the slideways from splashes and dust and keeps them in complete oil-bath;
- 12 dressing/polishing units, in cast iron, on which the marble abrasive-holding plates are installed.

Each unit includes:

- 1 asynchronous, three-phase, 7.5 kW electric motor, which drives the rotation of the spindle shaft; the movement takes place through pulley and 7 "V" belts;
- 1 spindle in cast iron, located at the centre of the beam to prevent bending and vibrations damaging the head;
- 1 pneumatic cylinder with 63 mm bore;
- 1 tap to control and regulate the inflow of cooling water;
- 1 control panel is installed in front of the machine near each unit; on this panel are placed the control push-buttons and the pressure gauge which visualizes the pneumatic pressure acting on the polishing head and the pressure regulator;





- 1 power unit containing the low-voltage drive and control equipment.

All the metallic protections of the machine are made of stainless steel.

The front guards comply with the safety regulations and can be only opened if the beam and the tool have stopped.

To change the abrasive easily, the beam places itself at the operator's side.

Technical specifications:

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| | | | |
|----------------------------------|---|--------------|------|
| - useful working width | : | 2000 | mm |
| - maximum workable thickness | : | 100 | mm |
| - dressing spindle motor power | : | 7.5 | kW |
| - belt advancement motor power | : | 1.5 | kW |
| - belt advancement speed | : | 0:2.9 | m/l' |
| - bridge translation motor power | : | 1.85 | kW |
| - machine weight | : | 18.5 | t |
| - overall dimensions | : | 9.5x2.9x2.3h | m |

N....1 SLAB READING SYSTEM, MODEL "SEL 60"
Code E016 (ACCESSORIES)

Slab-reading system, consisting of:

- General Electric P.L.C. (FANUC), interfaced to 60 photocells at the machine entry to determine electronically the polishable area of the slab. The P.L.C. co-ordinates the automatic lifting and descent of the heads with the passing of the slab. The adaptation to the width and the thickness to be worked is automatic. The system is designed to allow polishing of slabs with irregular profiles. For accuracy of the slab conveying system, a special slip-resistant belt with "saw teeth" is used.

Main menu for the General Electric FANUC PLC:

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- 1) belt speed control
- 2) bridge speed control
- 3) abrasive wear control;
- 4) lubrication time control;
- 5) beam parameters;
- 6) secret code;





- 7) Over-run software limit;
- 8) head lifting point control;
- 9) bridge reverse point control;
- 10) bridge slow-down point control;
- 11) re-calibration value control
- 12) head descent ascent advance;
- 13) hysteresis on slab edges;
- 14) re-processing program for edges or slab centre;
- 15) machine diagnostics.

**N....12 ABRASIVE WEAR MONITORING DEVICE,
MODEL "CCA"**

Code E005 (ACCESSORIES)

Device to check on the wear of the abrasives for each dressing spindle, with manual adjustment.

N....1 SCRAPER MODEL "RAS 2000"

Code E120 (ACCESSORIES)

Scraper to be fixed over the roller conveyor at the machine exit to wipe off the water.

N....1 CONNECTING ROLLER CONVEYOR WITH MOTORIZED ROLLERS HAVING VARIABLE SPEED, MOD. "200/RLM/400/L"

Code T140

Technical specifications:

| | | | |
|---------------------------|---|------|----|
| - stainless steel rollers | | | |
| - roller diameter | : | 89 | mm |
| - roller pitch | : | 260 | mm |
| - width | : | 1800 | mm |
| - length | : | 4000 | mm |
| - variable speed drive | : | 0,37 | KW |

N....2 COLD AIR DRYING UNIT WITH UPPER ELECTRIC FAN, MODEL "1/V/200"

Code A115 (ACCESSORIES)

The drying unit is designed to be positioned on the material roller conveyor; the unit can both be adjusted in height and on the inclination of the air outlet to allow better drying of the material.





Technical specifications:

- length of drying outlet : 2000 mm
- fan power : 3 kW

N....1 UNIT FOR SLAB CLEANING, MODEL "200/RTP"
Code A109 (ACCESSORIES)

The unit consists of a spindle suitable for fitting cotton discs. The spindle unit is positioned vertically through a reduction gear. The unit is designed to be mounted on a roller conveyor.

Technical specifications:

- disc width : 1800 mm
- cotton disc diameter : 300 mm
- disc motor power : 5.5 kW
- lifting motor power : 0.5 kW

N....1 AUTOMATIC UNLOADER, MODEL "200/SCA/330"
Code A158 (ACCESSORIES)

To automatically unload the slabs from the work line; it mainly consists of:

- a support structure on motorised wheels to allow the unloader to move near to the pack of slabs;
- a tilting surface of 1720x3000 mm, to automatically remove the slabs from the working line and position them vertically on the stock trestle;
- hydraulic control system;
- electrical control system, containing the control apparatus at low voltage.

Technical specifications:

- stainless steel rollers
- hydraulic pump power : 3 kW
- roller conveyor translation power : 0.75 kW

N....1 BRIDGE MILLING MACHINE FOR MARBLE AND GRANITE, MOD. "FP 725/B"
Code M356

FP means : machine model;
725 means : applicable disk max. diameter;





B means : automatic version with tilting spindle for increment cutting.

The « FP 725/B » machine enables the cutting of marble and granite by means of a diamond disk.

Main elements which compose the machine:
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- 1 bridge of electro-welded steel on which the disk holding spindle is applied; the bridge moves transversally on ball recycling sliding skid in oil bath; the displacement takes place by means of a motoreducer coupled to pinion/rack; the motoreducer is controlled by an inverter for the adjustment of the displacement speed;
- 1 spindle unit suitable to hold a disk max Ø 725 mm, contained in a protection, powered by a 22 kW motor; the disk holding spindle is height adjustable with a race of 450 mm; the motoreducer for the lifting is self-braking; an encoder shows the vertical position of the spindle on the machine's computer; the spindle can be tilted to 50 degrees through a motoreducer to cut thick material by increments; the tilting degree is shown on an electronic display; the spindle slides longitudinally on ball recycling sliding skid in oil bath; the movement takes place by means of a motoreducer powered by an asynchronous motor and inverter;
- 1 electric power unit on the machine housing all the electric equipment in low voltage;
- 1 mobile push button panel on which the controls of the machine are placed;
- 1 automatic programmer of the bridge displacements; the measurement takes place by means of an encoder together with pinion/rack; when reaching the set size, the bridge is locked by means of hydraulic brake;
- 1 automatic rotating table and locking in any position; the operator presets on the machine's computer the chosen rotating angle and the table turns automatically and stops at the set angle; the reading is shown on the computer's display and at the end of the operation, a hydraulic brake locks the table.





Technical specifications:

| | | | |
|--------------------------------|---|--------------|------|
| - diameter of applicable disks | : | 500-725 | mm |
| - slide vertical race | : | 450 | mm |
| - max. cutting length | : | 3500 | mm |
| - max. cutting width | : | 3500 | mm |
| - table dimensions | : | 3500x1750 | mm |
| - max. disk diameter | : | 725 | mm |
| - disk motor power | : | 22 | kW |
| - bridge movement motor power | : | 0.55 | kW |
| - spindle movement motor power | : | 1.1 | kW |
| - spindle lift motor power | : | 0.37 | kW |
| - spindle tilting motor power | : | 0.37 | kW |
| - bridge positioning speed | : | 0:5 | m/l' |
| - spindle displacement speed | : | 0:16 | m/l' |
| - machine weight | : | 8.3 | t |
| - overall dimensions | : | 6.7x6.1x2.4h | m |

N....1 REFERENCE LASER, MODEL "LSR/R"
Code E170 (ACCESSORIES)

