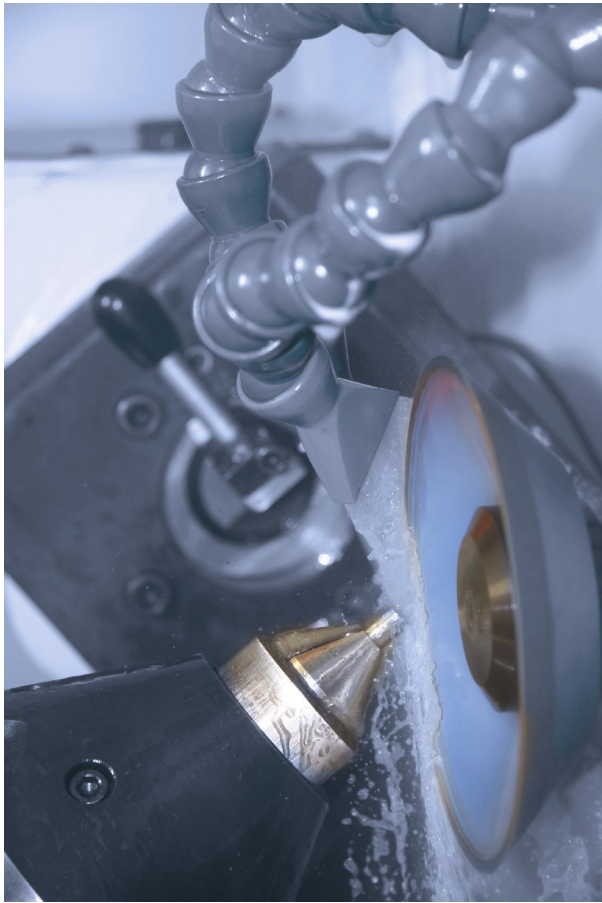


AVYAC MACHINES



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Drill grinding center

AVYAC NC240

1 PRESENTATION

1.1 INTRODUCTION

DRILLS GRINDING CENTER NC240
4 axis with SIEMENS 810D numerical control

1.2 AXIS

AXE X : Stroke 150 mm –longitudinal slide

AXE Y : Stroke 150 mm –transversal slide
X and Y slides are equipped with crossed roller design of centralized lubrication system.
They are driven by precision ball screws and controlled by synchronous motors.

AXE A : Stroke 130° - specific rotary axis (supports the dividing tool holder)
Inclination of the dividing tool holder allowing the evolution of clearance angles.

AXE B : Stroke 360° - Dividing tool holder
Spindle, of 40H6 bore, equipped with precision ball bearings assuring a perfect concentricity (0.005 mm). The spindle conical connection guarantees a perfect centering of the removable chucks in charge of the handling of the tools. Automatic pneumatic locking of the tool to be drilled.

Minimum Diameter of tools : 2 mm
Maximum Diameter of tools : 40 mm
Maximum length of tools : 1000 mm (option : 1250 mm)

All the axis are controlled with synchronous motors from SIEMENS with absolute coder.

1.3 ELECTROSPINDLE

Standard : Compact, precise and water tight motor grinding wheel spindle, with a speed of 3000 to 9000 t/min. Allows the use of borazon or diamond grinding wheel Dia.100-150 mm. Equipped with a grinding wheel nose of security Dia.20, standard or specific.
Three head motor. 2.2 kW, 230/400 Volts

Option (A5510000) : Electro spindle power 4,5 KW – ISO 30

1.4 NUMERICAL CONTROL

SIEMENS SINUMERIK 810D, with color screen.
Option : 840D

1.5 TOOL DETECTION

Probing precision: 5 microns.

Possible use for:

- Detection of tools diameter
- drill and mill holding (finds the lips position)
- Detection of helix angle.

1.6 GRINDING SOFTWARE

Graphic interface specific for drill grinding. Very easy to use.

Each parameter goes with a small obvious drawing allowing introducing value without thinking about sign, unit and so on ...

1.7 ELECTRICAL CABINET

In conformity with CE and ELECTROMAGNETIC COMPATIBILITY

Three head electrical equipment 400 volts - 50 Hz.

Lighting 24 V - 50 Hz by fluorescent tube, watertight IP65.

Suppresser – Ventilated

1.8 WHEEL REFERENCE (Y axis)

With an integrated clock which allows to save the wheel position directly on the machine.

1.9 COOLANT DEVICE

Tank of decantation for the coolant liquid (capacity 200l) located behind the frame.
Castors allow easy cleaning and filling.
Pump with flow of 150 l /mm is driven thanks to digitally controlled system.

1.10 COMPRESSED AIR

Allows : To tighten the drill, to give the probe position, and to get cold the electro spindle.
Pressure : 6 bars.

1.11 CENTRALIZED LUBRICATION

Lubrication by automatic pump centralised for all types of slides and screw ball
Motor spindle is lubricated for its lifetime, ventilated by air; low pressure

1.12 SAFETY

Electronically and mechanical safety-device.

1.13 COLOR :

Frame and electrical cabinet : gray RAL 7035.
Door and control console : blue RAL 5013

1.14 DIMENSIONS

weight : 1700 kg (without option)
Dimensions : 1,7 m x 2,05 m x 2,10 m (without option)

1.15 MAINTENANCE

Very easy access for maintenance (board that can be dismantled)

2 THE GRINDING "PACK"

2.1 "Standard drills grinding pack" 855.80.101

Including :

- The software package « Standard grinding » : End grinding of 3 rakes drills, cruciform drills, core drills, drills with progressive clearance angle form A, B or C, center drills, drills for sheet metal, end flat drills, HSS or carbide.
- 4 wheel holder diameter 20 et diameter 32.
- 2 CBN wheels and 2 diamond wheels
- 3 six jaws chuck, covering capacity 5 to 40 mm.
- 4 shank holder MT1, MT2, MT3, MT4 with 4 extensions, to back introduce the shank drills.
- 1 mandrel for collets with 2 set of collets covering capacity 3 to 20 mm + 1 set of 5 slit cases 5 capacity 21 to 25 mm, to back introduce cylindrical drills.
- 1 set of tools

This pack is supplied with standard machine

2.2 "Specific drills grinding pack" 855.80.102

Including :

- The software package "Specific drills" : End grinding of drills from DIAGER®, MITSUBISHI®, SECO®, TITEX®, HERTEL®, SUMITOMO, SANDVIK®, HSS or carbide.
- 3 wheel holder diameter 20
- 1 wheel holder for 2 wheels diameter 20
- 5 Diamond wheels and 1 CBN wheel

This pack is an option. Valid for drills whose diameter is lower or equal than 20 mm.

2.3 "End mills grinding pack" 855.80.103

Including :

- The software package "End mills" : End grinding of mills with 2 flutes, 3 flutes, 4 flutes and countersink, HSS or carbide.
- 2 wheel holder diameter 20
- 1 CBN wheel and 1 diamond wheel
- 1 mandrel for cases to tighten the mills

This pack is an option. Valid for drills whose diameter is lower or equal than 25 mm

2.4 "Step drills grinding pack" 855.80.104

Including :

- The software package « Step drills » : End grinding of drills with 1 step, maximum step length = 50 mm and step angle = 90 or 180°, HSS or carbide.
- 4 wheel holder diameter 20
- 2 CBN wheels CBN and 2 diamond wheels

This pack is an option

2.5 "Gun drills grinding pack" 855.80.105

Including :

- The software package "Gun drills" : Grinding drills for deep hole.
- 2 wheel holder diameter 20 and 32
- 2 Diamond wheels
- 2 chucks for collets covering capacity 2 to 32 mm with set of collets.
- 1 holder device for long drills.

This pack is an option. Valid for drills whose diameter is lower or equal than 32 mm.

2.6 "Customer drill grinding pack" 855.80.110

Including :

- The modification of a standard software
- 1 wheel holder
- 1 wheel

This pack is an option.

3 MAIN OPTIONS

3.1 Working with full oil : A55.22.000

Including :

- 3.1.1 filtration centre: Device using cartridge. Filtration level :10 µm.
- 3.1.2 Mist catching : Centrifugation with impact, flow : 1250 m3/h
- 3.1.3 Automatic fire extinguisher : CO₂, with sound and luminous alarm, with manual control.

3.2 Loading Robot : A55.47.000



Helical drill minimum length: 65 mm
Helical drill minimum diameter: 5 mm

Helical drill maximum length: 300 mm
Helical drill maximum diameter: 22 mm

Including :

ROBOT STAUBLI RX60L or TX60L + controller STAUBLI CS8M or CS8C

1 pallet holder.

1 starting pallet (diameter at choice).

1 wrist equipped with 3 prehensile (capacity 5 to 25 mm)

Accessories (to order separately):

Extra Pallet 315 x 300 mm (drill diameter at choice)

The guaranty for this option is valid for 1 year, parts and working.

Guaranty Extension to 2 years, parts, working and moving for robot : **855.60.014**

3.3 Electro spindle ISO30 : A55.10.000

Electro spindle : Power **4,5kw to 6 000 tr/min**

Cone ISO30, pressure 6 bar, **automatic clamping**

4 FURTHER OPTIONS

4.1 Isolation transformer : E13.24.500

Isolation transformer 15kVA with output neutral (400V-400V). The machine must be connected with an electrical network TN type (neutral connected to earth). Else, (IT or TT), it is necessary to set up an isolation transformer up stream the main disconnecting switch. The guaranty will not be applicable if those orders are not followed.

4.2 Numerical control 840D : E13.50.000/A2

Increase in value for replacement of the numerical control 810D with 840D.

4.3 Long frame for drills until 1m 25 length : A55.30.000

Increase in value for long frame.

5 TRAINING and SERVICE

Training course in our plant (4 days) : 855.70.004

Training course in customer plant, FRANCE (4 days) : 855.70.001

Training course in customer plant, EUROPE (4 days) : 855.70.002

Training course in customer plant, EXPORT (4 days) : 855.70.003

Guaranty extension 2 years parts and working, FRANCE : 855.60.011

Guaranty extension 2 years parts and working, EUROPE: 855.60.012

Guaranty extension 2 years parts and working, EXPORT: 855.60.013