

Important information for the CNC machining system

DATRON **ML1500-2C**



- ⇒ **Installation**
- ⇒ **Connections**
- ⇒ **Coolant**

Dear customer,

We would like to provide you with the following information on your new machining system. Please read the information carefully and check connection conditions. We will be delighted to answer any inquiries you may have.

Yours DATRON-Team

Installation

The machine is installed on site on a firm supporting surface. It requires all-round clearance of 60 cm to allow access to components within the outside cover. Consider additionally the legal regulations for the topic of escape routes. The height of the supporting feet is adjustable and the feet are not screwed to the floor.

Room climatic conditions

Required room climatic conditions:

Temperature: 15-30 °C
Air humidity: < 65 % relative

CAUTION!

The air should be free of aggressive dust or gases. Make sure there is good ventilation in the set-up environment. If required, install a suitable suctioning device for coolant mist. When machining materials which release dusts which are hazardous to health (e.g. GRP materials), the created dusts must be suctioned. Observe the statutory regulations. For perfect operation, the spindles require a coolant temperature of at least 18°C. For room temperatures under 18°C, it might be necessary to use a temperature control unit. If there is a risk of frost during the storage or transportation of the machine, you first must completely empty the machine of cooling water and drain the cooling unit.

Dimensions and weight

CNC Basic system	ML 1500-2C
Weight approx.	1800 kg
max. table load	150 kg
Dimensions:	
Width X <i>incl. Terminal</i> (mm)	3000
Width X <i>without Terminal</i> (mm)	2360
Depth Y <i>incl. Terminal</i> (mm)	2250
Depth Y <i>without Terminal</i> (mm)	1850
Height Z (mm)	1950
Height Z <i>when door is open</i> (mm)	2300
Working area X/Y (mm)	1500/1000

(See illustration on last page)

Connections / Technical data (CNC basic system)

Electrical connection

In order to guarantee the failure-free operation of the machine, the basic interference levels of the power supply must be below the limiting values according to EN55011. If you operate the machine with residual current circuit breakers with a release current < 300 mA, you have to use an isolating transformer (e.g. when using residual current circuit breakers with a release current of 10 mA or 30 mA).

The CNC machining system must be connected to a separate, fuse-protected electrical power circuit (16 A).

HINT:

Even a vacuum cleaner should not be operated from the same power circuit.

Data

Voltage	1 x 230 V	<i>for spindles up to 2 kW</i>
	3 x 400 V	<i>for spindles greater than 2 kW and corresponding to accessories</i>
Frequency	50 Hz / 60Hz	
Power input	approx. 0.6 kW	<i>without spindle</i>
	up to 3 kW	<i>for spindles up to 2 kW (depending on spindle type)</i>
	4 kW	<i>for spindles greater than 2 kW</i>

Pneumatic connection

The used compressed air must comply with the requirements of the spindle supplier (see operating instructions, „Spindle“). It must be dry, clean and oil-free. Otherwise the ventilated components may be damaged (especially the spindle).

Required air purity

Solid contaminants	Class 3	<i>max. particle size 5 µm, max. particle content 5 mg/m³</i>
Water content	Class 4	<i>max. Dew point +3 °C</i>
Total oil content	Class 3	<i>max. oil content 1 mg/m³</i>

DATRON urgently recommends an air pretreatment stage to be installed!

Any air treatment system available on the market can be used which fulfills the above requirements.

Our commissioning personnel is instructed to use a suitable dehumidifier (which you may purchase), if there is moisture in the compressed air.

If the machine is operated with insufficiently purified compressed air, the guarantee expires for the spindle and components which have air flowing through them.

Data

Required Pressure	6.5 to 10 bar	<i>Set 6.5 bar on pressure reduction valve in machine cover</i>
Connection	1/2" quick-release coupling	
Compressed air consumption	max. 200 NI / min	<i>machine</i>
	approx. 100 NI / min	<i>compressed-air pistol</i>

Cooling lubricant

Select a suitable cooling lubricant depending on the application.

When machining non-ferrous metals, use the following cooling lubricant for perfect operation and the best machining results:

Ethanol (99%, denatured)

Ethyl alcohol 642

EEC designation 200-578-6 (EINECS)

Ethanol can be purchased tax free without any formalities when the following denaturants are involved: Methyl ethyl ketone, shellac, pininic colophonium, toluol or cyclohexane.

Supplier for ethanol:

e. g. : Wilhelm E.H. Biesterfeld, ZN Frankfurt
Bereich Chemiebetriebe
Karl Benz Str. 9
D-60314 Frankfurt/Main
Tel. : +49-69/40101-0

In the following cases, ethanol is not permissible as a cooling lubricant:

When **machining steel** or other metals which form sparks in machining, ethanol is not permissible as a cooling lubricant. There is a danger of fire due to spark formation!

Use another suitable coolant/lubricant (e.g. fatty alcohol).

When **suctioning chips**, ethanol is not permissible as a cooling lubricant. There is a danger of explosion in the suctioner!

Non-permissible cooling lubricants

Do not use any drilling emulsions, cooling lubricants with high solid content or such which tend to flocculate (milky emulsion). The DATRON CNC machining system is not designed for such coolants and potential material damage will be the consequence. Problems with the cooling system caused by use of unsuitable cooling agents will invalidate the warranty!

Chip suction

If you have a chip suctioning system: Only use suctioning systems which are permitted for the material to be machined.

CNC Machining System DATRON ML1500-2C

