



Technical Specification

Document Number

[AD01]

Title

Technical Specification for the supply of a 5 axis CNC milling machine for metal and brittle materials

Type of tender

Open procedure pursuant to art. 71 of Legislative Decree March 31, 2023, n. 36, and successive modifications and integrations

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Applicable and reference documents

#	Document	Description
[AD02]	<i>OAB_esec_Tav_E1.pdf</i>	Technical drawing / Building plan

Art. 3 Installation

The installation of the milling machine, as specified In SoW is under Contractor responsibility whose take care of download procedure with the support of OAB personnel. The width of the entrance door is 265 cm, the width of the narrowest aperture is 250 cm while the available height is 285 cm.

The crane lift up to 3,2 ton with an under hook height of 280 cm.

The maximum floor load is 3000 kg/m².

In case building interventions are necessary, in order to fulfil requirement R1, the procedure and the technical aspects of modifications to the wall must be specified.

Art. 4 Technical specification

The technical specification are the requirements of this supply and they are divided into mandatory requirements and optional requirements. Without the compliance of the mandatory requirements, the bidder must be excluded from the tender procedure.

The requirements are listed in the next table and can be evaluated according "Disciplinare di Gara" document.

The coordinate system to define the axes in the table is shown In Figure 2:

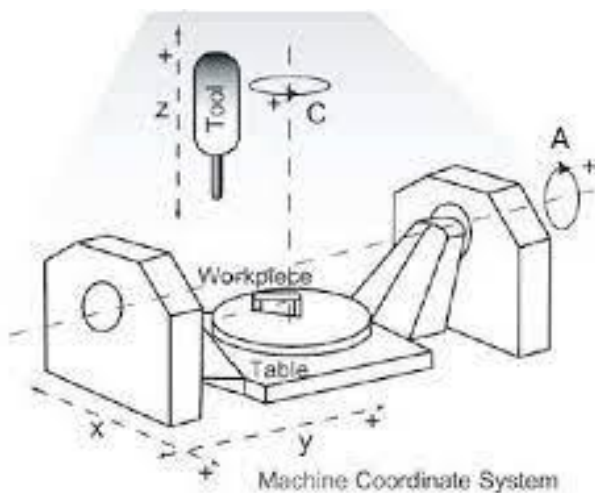


Figure 2 – Definition of axes.

Table 1 – Mandatory requirement. If the requirement is used in the evaluation of the technical offer the criterium number is marked in the last column

Req. #.	description	value	Mandatory	points
R1	Installation into workshop	-	✓	
R2	Maximum overall height	3.1 m	✓	
R3	n. of automatic axis	5	✓	
R4	C axis mode	continuous	✓	
R5	Classical working materials	Metals, plastics.	✓	
R6	Brittle working materials	glass, ceramic	✓	
R7	Range for C axis [deg]	360	✓	
R8	Maximum needed air pressure [bar]	≤ 8	✓	
R9	Tool maximum speed (spindle) [rpm]	≥ 10000	✓	
R10	Time for change the configuration from metals to brittle material	3 days maximum	✓	✓ (criterium 2.3)
R11	Linear resolution [mm]	≤ 0.001	✓	
R12	Angular resolution [deg]	≤ 0.001	✓	
R13	Maximum diameter of axis-symmetrical mirror to be machined	≥ 800	✓	✓ (criterium 1.1)
R14	Maximum load mass [kg]	≥ 240	✓	
R15	Bi-directional accuracy [mm]	≤ 0.02	✓	✓ (criterium 3.1)
R16	Number of tools in the automatic tools storage	≥ 10	✓	✓ (criterium 3.2)

Table 2 – Optional requirements and the corresponding values for evaluable points.

Criterium #	description	value
1.2	X range [mm]	≥ 600
1.3	Y range [mm]	≥ 600
1.4	Z range [mm]	≥ 400
1.5	Range for A axis [deg] (Max-min)	≥ 90
2.1	Minimum rotary velocity for C axis [rpm]	< 0.11
2.2	Maximum rotary velocity for C axis [rpm]	> 4

4.1. Clarification on complex requirements

Concerning the req. **R1**, Installation into workshop, the available space described in art. 3 is representative of the current constraints. If minor modification in the building are necessary, they must be specified with the technical requirements described in detail.

Concerning the req. **R13**, Maximum diameter of axis-symmetrical mirror to be machined, it means that a piece with a axial-symmetrical geometry shown in Figure 3 can be mounted on the main table (by means of specific interfaces, not provided in the supply), rotated in continuous mode and worked with an existing tool (not provided in the supply) only on the spherical surface.

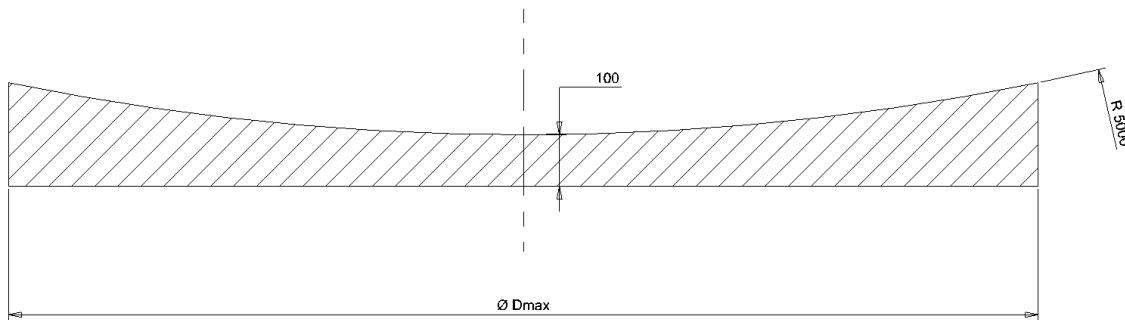


Figure 3 – section of piece to be machined for computation of the maximum diameter. Dimension in [mm]

The tool used for the computation of the maximum diameter must be specified and described (shape, geometry and dimension)

Concerning the req. **R10**, Time for change the configuration from metals to brittle material, it means the overall time needed to switch from the “classical material” setup to the “brittle material” setup. The time includes all the phases of the operation, done by one or two people (to be specified). For example the phases could be switch off, substitution of components (filters, liquid), cleaning, switch on, etc. If the time needed to switch from the brittle to classical material is different it must be specified.