

# ROBONANO $\alpha$ -NM<sub>i</sub>A Mechanical specifications



<b>Stroke</b>	X-axis (horizontal linear) [mm]	450
	Y-axis (vertical linear) [mm]	200
	Z-axis (horizontal linear) [mm]	300
	B-axis (horizontal rotation) [°]	360 (note 1)
	C-axis (vertical rotation, ) [°]	360 (note 1)
<b>Command resolution</b>	X-, Y-, Z-axes [mm]	0.0000001
	B- and C-axes [°]	1/1'000'000
<b>Work-table area</b>	B- and C-axes [mm]	φ220
<b>Hydrostatic bearing medium</b>	X-, Y-, Z-, B- and C-axes	Oil
	Milling spindle	Air
<b>Max. loading capacity</b>	B-axis table [kg]	60
<b>Max. feed rate</b>	X-axis [mm/min]	1000
	Y-axis [mm/min]	200
	Z-axis [mm/min]	1000
	B-axis [°/min]	3600
	C-axis [°/min]	3600
<b>Straightness</b>	X-axis [nm over 450 mm]	200
	Y-axis [nm over 200 mm]	200
	Z-axis [nm over 300 mm]	200
<b>Run-out</b>	B- and C-axes [mm]	< 0.001
<b>Accuracy</b>	Positioning accuracy [nm over 450 mm]	±0.200 (note 2)
<b>Operation and display</b>	Display unit	15" Colour LCD
	Operation unit	Flat keyboard
<b>Milling spindle</b>	Tool shank diameter [mm]	φ6.000 (notes 2, 3)
	Max. speed [rpm]	50'000
	Max. output [W]	50
	Run-out [mm]	0.00005 (note 4)
	Air bearing flow rate [m <sup>3</sup> /min]	0.02
	Air turbine flow rate [m <sup>3</sup> /min]	0.2
	Dimensions [mm]	φ74 x 84
Weight [kg]	1.5	

Note 1) Indexing table with continuous rotation

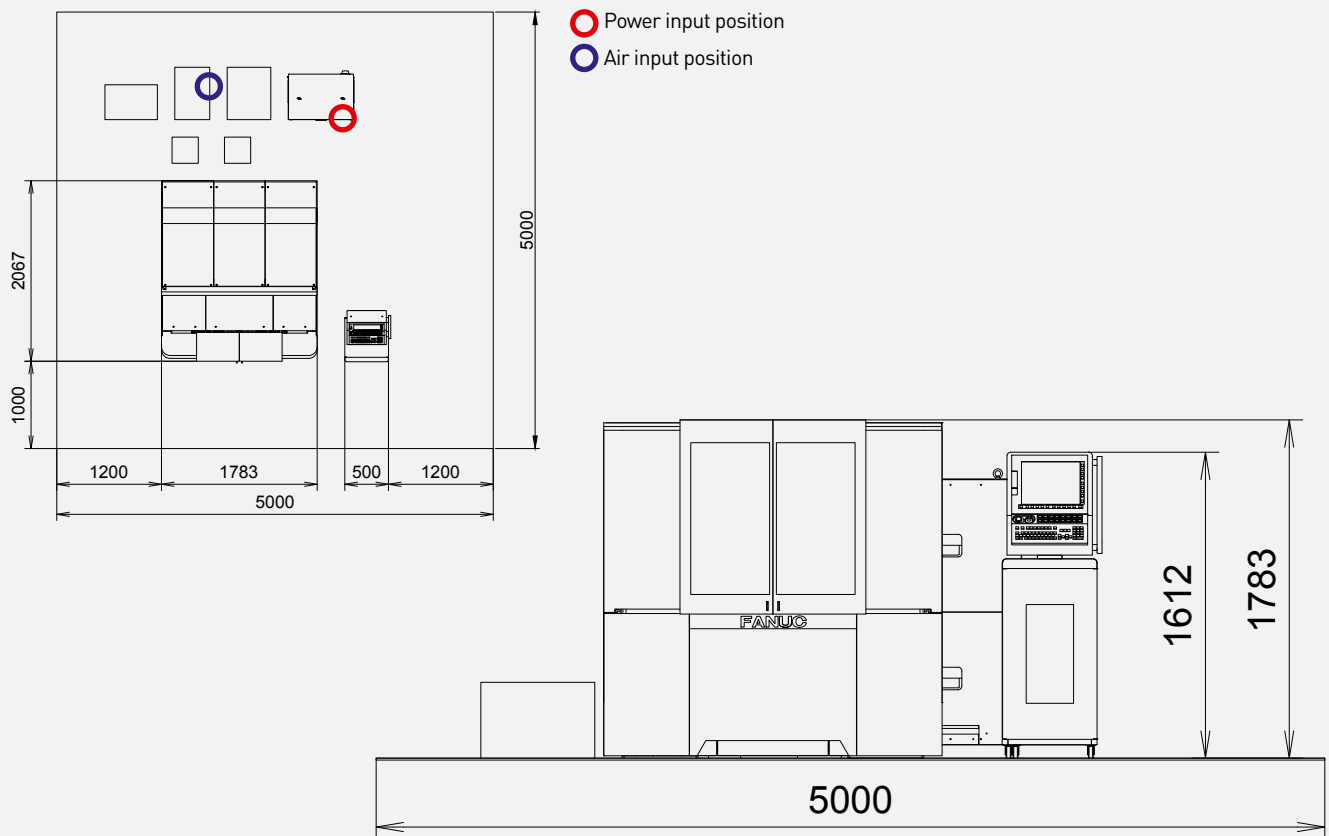
Note 2) Compliant with JIS B 6201

Note 2) Tool shank tolerance: φ6.000 mm +0.000/-0.001 mm

Note 3) φ4.000, φ3.000 mm with shrink-fit adapter (not included)

Note 4) NRRO [Non-Repeatable Run Out]

# ROBONANO $\alpha$ -NM<sub>i</sub>A Dimensions and installation



<b>Power supply</b>	Power supply [VAC]	200-220 $\pm$ 10%
	Phases	3
	Frequency [Hz]	50/60 $\pm$ 1
	Power [kVA]	7
	Overvoltage category	Class III
<b>Compressed air</b>	Air pressure [MPa]	0.7
	Allowed air pressure change [MPa]	0.01
	Maximum air flow rate [m <sup>3</sup> /min]	1.0
	Purity class	[1:6:1] (note 5)
<b>Dimensions</b>	Width [mm]	1800
	Length [mm]	2100
	Height [mm]	1800
	Required floor area [mm]	5000x5000
	Weight [kg]	3600
<b>Installation requirements</b>	Ambient temperature [°C]	23
	Ambient temperature stability [K]	$\pm$ 1.0 (note 6)
	Max relative humidity [%]	0.5
	Floor vibration max. amplitude [mm]	0.001
	Floor vibration max. acceleration [Gal, 3 to 100 Hz]	0.1
	Maximum noise level [db]	70 (note 7)

Note 5) According to ISO 8573-1:2010 standards (conditions: 23°C, 0.7MPa, 1.0m<sup>3</sup>/min)

Note 6) Fluctuation is tolerated according to target machining accuracy, maximum allowed fluctuation  $\pm$ 1°C

Note 7) A-weighted, with milling spindle at 50'000 RPM measured at 0.5 m from the machine, 1.5 m above the floor