## Specification

Machine (Standard)	Item		Ø-D21\$ <b>!</b> B	01-D21M <i>i</i> B		
Xaxis-travel (longitudinal movement of table)   SOO mm   SOO mm   700 mm   700 mm   Yeaki travel (cross movement of saddle)   300 mm   100 mm   400 mm   Acceptable (cross movement of saddle)   300 mm   100 mm   400 mm   Acceptable (cross movement of saddle)   300 mm   650 mm   400 mm   Acceptable (cross movement of saddle)   300 mm   650 mm   400 mm   850 mm   410 mm   850 m	Machine (Standard)					
Y-axis travel (cross movement of saddle)   300 mm + 100 mm   400 mm   330 mm   330 mm   330 mm   330 mm   650 mm × 400 mm   850 mm × 410 mm   850 mm   850 mm × 410 mm   850 mm   850 mm   850 mm   850 mm × 410 mm   850 mm   850 mm   850 mm   850 mm × 410 mm   850 mm   8	Macrille (Start	,	300 mm	500 mm	700 mm	
Zexis travel (vertical movement of spindle head)   330 mm   150 mm to 480 mm (when no high column is specified)   150 mm to 480 mm to 180 mm to 480 mm to 180 mm to 480 mm to 48	Capacity	, ,			700 11111	
Distance from table surface to spindle gage plane   150 mm to 480 mm (wh-n no high column is specified)   Morking space (X-axis XY-axis)   630 mm x 330 mm   850 mm x 410 mm   850						
Morking space (X-axis × Y-axis)   630 mm × 330 mm   650 mm × 400 mm   850 mm × 410 mm		,				
Table   Capacity of workpiece mass   200 kg (uniform load)   300 kg (uniform load)   Working surface configuration   3×T-slots size 14 mm pitch 125 mm	Table		,			
Spindle   Speed range   100 min¹ to 10000 min² to 24000 min¹ (option)					838 111117418 111111	
Spindle   Speed range   100 mim¹ to 10000 mim¹ / 240 mim¹ to 24000 mim¹ (option)			, , ,			
Spindle   Sp			·			
Rapid traverse rate   48 m/min (X,Y,Z)	·		, , , , , , , , , , , , , , , , , , ,			
Feedrate						
Tool change system   Turret type   Type of tooling   JIS B 6339-2011 BT30, MAS 403-1982 P30T-1 (45°)						
Type of tooling						
Tool storage capacity	Turret		· · · · · · · · · · · · · · · · · · ·			
Turret   Maximum tool diameter   80 mm   200 mm : α-D14SiB   250 mm (changed by specifications)   2 kg/tool (total mass 23 kg) / 3 kg/tool (total mass 33 kg) : α-D21SiB/D21MiB/D21LiB (changed by specifications)   2 kg/tool (total mass 23 kg)/3 kg/tool (total mass 33 kg) : α-D21SiB/D21MiB/D21LiB (by the changed by specifications)   2 kg/tool (total mass 23 kg)/3 kg/tool (total mass 23 kg) : α-D14SiB/D14MiB/D14LiB (when 2 kg/tool is specified)   1.6 s : α-D21SiB/D21MiB/D21LiB (when 2 kg/tool is		Type of tooling				
Turret Maximum tool diameter 80 mm		Tool storage capacity				
Turret  Maximum tool length  Power source  Model  Simultaneously controlled axes  Model  Simultaneously controlled axes  Power source  Power source  Maximum tool selection  Maximum tool mass  200 mm : α-D14siB   190 mm : α-D21siB   (changed by specifications)  200 mm : α-D21siB   (changed by specifications)  Power source  Poor space  200 mm : α-D14siB   190 mm : α-D21siB   (changed by specifications)  200 mm : α-D21siB   250 mm (changed by specifications)  260 mm : α-D14siB   (changed by specifications)  1.4 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.5 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s : α-D14siB/D14MiB/D14LiB   (when 2 kg/tool is specified)  1.6 s :		Manifestor de la dispersada de				
Turret Maximum tool length 190 mm : $\alpha$ -D21SiB (changed by specifications)  Method of tool selection Random shortest path  Maximum tool mass 2 kg/tool (total mass 23 kg) 3 kg/tool (total mass 33 kg) : $\alpha$ -D21SiB/D21MiB/D21LiB 2 kg/tool (total mass 33 kg) : $\alpha$ -D14SiB/D14MiB/D14LiB 2 kg/tool (total mass 33 kg) : $\alpha$ -D14SiB/D14MiB/D14LiB 2 kg/tool (total mass 33 kg) : $\alpha$ -D14SiB/D14MiB/D14LiB (when 2 kg/tool is specified)  Tool changing time (Cut to Cut) 1.6 s : $\alpha$ -D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified)  Motors Spindle drive motor 11.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)  Bidirectional accuracy of positioning of an axis (ISO23O-2:1988)  Bidirectional repeatability of positioning of an axis (ISO23O-2:1997, 2006)  Sound pressure level Less than 0.004 mm  Control unit Model FANUC Series 31i-B  Simultaneously controlled axes Max.4 axes  Installations (note)Please make sure to comply with installation conditions specified by FANUC when installing ROBODRILL *3  Power supply 200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4  Compressed air supply 0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5  Machine height 2236 mm ±10 mm (when no high column is specified)  Floor space Floor space 995 mm×2210 mm 1615 mm×2040 mm		Maximum tool diameter				
Method of tool selection   Random shortest path		Maximum tool length	I -	250 mm (changed by sp	pecifications)	
Method of tool selectionRandom shortest pathMaximum tool mass2 kg/tool (total mass 23 kg)/3 kg/tool (total mass 33 kg) : α-D21SiB/D21MiB/D21LiB 2 kg/tool (total mass 15 kg)/3 kg/tool (total mass 22 kg) : α-D14SiB/D14MiB/D14LiBTool changing time (Cut to Cut)1.4 s : α-D14SiB/D14MiB/D14LiB (when 2 kg/tool is specified) 1.6 s : α-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.6 s : α-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)MotorsSpindle drive motor11.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)Bidirectional accuracy of positioning of an axis (ISO230-2:1988)0.006 mm to 0.020 mmBidirectional repeatability of positioning of an axis (ISO230-2:1997, 2006)Less than 0.004 mmSound pressure levelLess than 70 dB *2Control unitFANUC Series 31i-BSimultaneously controlled axesMax.4 axesInstallations(note)Please make sure to comply with installation conditions specified by FANUC when installing ROBODRILL *3Power sourcePower supply200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4Compressed air supply0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5Machine height2236 mm ±10 mm (when no high column is specified)Floor space995 mm×2210 mm1615 mm×2040 mm2165 mm×2040 mm						
Maximum tool mass  2 kg/tool (total mass 23 kg)/3 kg/tool (total mass 33 kg) : \alpha-D21SiB/D21MiB/D21LiB 2 kg/tool (total mass 15 kg)/3 kg/tool (total mass 22 kg) : \alpha-D14SiB/D14MiB/D14LiB  Tool changing time (Cut to Cut)  1.4 s : \alpha-D14SiB/D14MiB/D14LiB (when 2 kg/tool is specified) 1.6 s : \alpha-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.6 s : \alpha-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.6 s : \alpha-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.6 s : \alpha-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.6 s : \alpha-D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified) 1.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)  Bidirectional accuracy of positioning of an axis (ISO230-2:1988) Bidirectional repeatability of positioning of an axis (ISO230-2:1997, 2006)  Control unit  Sound pressure level  Less than 0.004 mm  Less than 70 dB *2  FANUC Series 31i-B  Machine size  Max.4 axes  Installations  (note)Please make sure to comply with installation conditions specified by FANUC when installing ROBODRILL *3  Power source  Power supply  200 Vac. to 220 Vac., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4  Compressed air supply  0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5  Machine height  Floor space  Floor space  Floor space  Power source Floor space  1615 mm×2040 mm  2165 mm×2040 mm			· • · · · · · · · · · · · · · · · · · ·			
Maximum tool mass   2 kg/tool (total mass 15 kg)/3 kg/tool (total mass 22 kg) : α-D14SiB/D14MiB/D14LiB		Method of tool selection	'			
Motors Spindle drive motor 11.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)  Accuracy *1  Bidirectional accuracy of positioning of an axis (ISO230-2:1988)  Bidirectional repeatability of positioning of an axis (ISO230-2:1987, 2006)  Control unit  Model  Control unit  Power source  Power source  Machine size  Tool Changing time (Cut to Cut)  1.6 s : $\alpha$ -D21SiB/D21MiB/D21LiB (when 2 kg/tool is specified)  11.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)  0.006 mm to 0.020 mm  Less than 0.004 mm  Less than 0.004 mm  Less than 70 dB *2  FANUC Series 31i-B  Max.4 axes  Max.4 axes  Max.4 axes  Power supply  200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4  Compressed air supply  0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5  Machine height  Ploor space  995 mm×2210 mm  1615 mm×2040 mm  2165 mm×2040 mm		Maximum tool mass				
Bidirectional accuracy of positioning of an axis (ISO230-2:1988)  Bidirectional repeatability of positioning of an axis (ISO230-2:1997, 2006)  Sound pressure level  Control unit  Model  Simultaneously controlled axes  Installations  Power source  Power source  Machine size  Bidirectional accuracy of positioning of an axis (ISO230-2:1988)  Less than 0.004 mm  Less than 0.004 mm  Less than 70 dB *2  FANUC Series 31i-B  Max.4 axes  Max.4 axes  Max.4 axes  Power supply  Compressed air supply  Day 10 mm (at atmospheric pressure) (atmospheric		Tool changing time (Cut to Cut)				
Accuracy *1    Accuracy *1   (ISO230-2:1988)   U.OUG mm to 0.020 mm	Motors	Spindle drive motor	11.0 kW (1minute rating)/3.7 kW(continuous rating) (changed by specifications)			
Bidirectional repeatability of positioning of an axis (ISO230-2:1997, 2006)   Less than 0.004 mm	Accuracy *1		0.006 mm to 0.020 mm			
Sound pressure level  Control unit  Model  FANUC Series 31i-B  Simultaneously controlled axes  Max.4 axes  Installations  Power source  Power supply  Compressed air supply  Machine height  Machine size  Less than 70 dB *2  FANUC Series 31i-B  Max.4 axes  Max.4 axes  Max.4 axes  Max.4 axes  Power supply  200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4  Compressed air supply  0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5  Machine size  Floor space  995 mm×2210 mm  1615 mm×2040 mm  2165 mm×2040 mm			Less than 0.004 mm			
Control unit    Model   Simultaneously controlled axes   Max.4 axes	Sound pressure level		Less than 70 dB *2			
Control unit  Simultaneously controlled axes  Max.4 axes  Installations (note)Please make sure to comply with installation conditions specified by FANUC when installing ROBODRILL *3  Power supply  Power supply  Compressed air supply  Machine height  Power supply  200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4  Compressed air supply  Machine height  2236 mm ±10 mm (when no high column is specified)  Floor space  Power supply  200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4  Compressed air supply  236 mm ±10 mm (when no high column is specified)  Machine size  Floor space  995 mm×2210 mm  1615 mm×2040 mm  2165 mm×2040 mm	Control unit	Model	FANUC Series 31 <i>i</i> -B			
Power source         Power supply         200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4           Compressed air supply         0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5           Machine height         2236 mm ±10 mm (when no high column is specified)           Machine size         Floor space         995 mm×2210 mm         1615 mm×2040 mm         2165 mm×2040 mm		Simultaneously controlled axes				
Power source         Power supply         200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4           Compressed air supply         0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure), 0.15 m³/min (at atmospheric pressure) *5           Machine height         2236 mm ±10 mm (when no high column is specified)           Machine size         Floor space         995 mm×2210 mm         1615 mm×2040 mm         2165 mm×2040 mm	Installations	(note)Please make sure to comply with	installation conditions specified by FANUC when installing ROBODRILL *3			
Compressed air supply	Power source	Power supply	200 Va.c. to 220 Va.c., -15 % to +10 %, 3-phase, 50 Hz±1 Hz or 60 Hz±1 Hz 10 kVA *4			
Machine height         2236 mm ±10 mm (when no high column is specified)           Machine size         Floor space         995 mm×2210 mm         1615 mm×2040 mm         2165 mm×2040 mm		Compressed air supply	0.35 MPa to 0.55 MPa (0.5 MPa is recommend) (gage pressure) , 0.15 m³/min (at atmospheric pressure) *5			
		Machine height	2236 mm ±10 mm (when no high column is specified)			
Mass of machine Approx. 1950 kg Approx. 2000 kg Approx. 2100 kg	Machine size	Floor space	995 mm×2210 mm	1615 mm×2040 mm	2165 mm×2040 mm	
		Mass of machine	Approx. 1950 kg	Approx. 2000 kg	Approx. 2100 kg	

- \*1 Positioning accuracy is the adjusted and measured value in compliance with applicable standard at FANUC's factory. Depending on an influence of JIG & workpiece mass on table, the use conditions and installation environment, there may be a case where the accuracy shown in this catalog can not be achieved.
- \*2 Sound pressure level is measured in compliance with FANUC's own regulation. Depending on the use conditions and installation environment, there may be a case where the sound pressure level shown in this catalog can not be achieved.
- \*3 Fastening the machine to the floor (mounting anchors) may be required depending on the use conditions and installation environment, or to prevent the machine from toppling over due to an earthquake.
- \*4 In case of center through coolant and cleaning unit for tool taper shank, additional + 1 kVA is required respectively. In case of additional 1 axis, additional maximum + 1.5 kVA is required. A cable with 10 mm<sup>2</sup> or more should be used at primary power connection.
- \*5 In case of center through coolant, additional + 0.05 m³/min is required. In case of air blow for chips, additional + 0.2 m³/min is required. In case of side automatic door, 0.4 MPa compressed air supply or more is required.

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