

FANUC

ROBODRILL

α -DiB Plus series | α -DiB ADV Plus series

High-performance vertical machining center



Automated machining
for more versatile milling,
drilling and tapping

WWW.FANUCAMERICA.COM

ROBODRILL – Versatility beats size. Intelligence surpasses raw power.

The new-generation ROBODRILL promises unrivalled quality and precision at great hourly rates. With an unbeatable tool change time of 0.7 seconds and a turret capable of handling tools weighing in total 30 kg, the new advanced version is the fastest and strongest vertical machining center on the market. With the shortest cycle times on most machining operations, all ROBODRILL machines are real high-speed versatile performers, offering incredible performance and unbeatable efficiency.

Breakthrough advances of the new ROBODRILL α -DiB Plus

- ultrafast tool changer
- extraordinarily stable machining and accuracy
- easy automation
- optimal acceleration and deceleration control for increased efficiency
- improved ergonomics
- enhanced intelligence
- future-proof investment
- latest CNC and servo technology for energy saving

More than

50

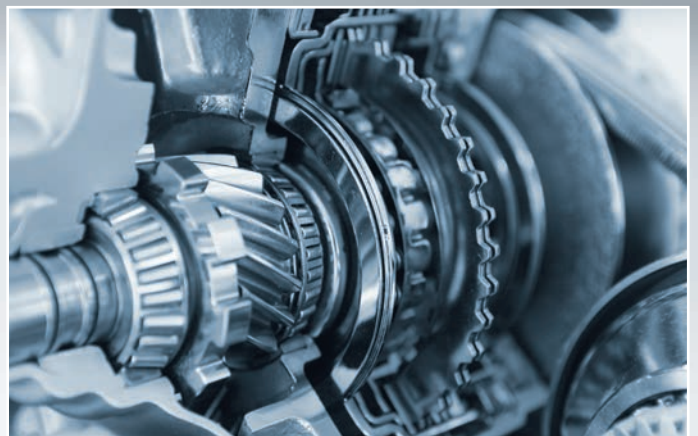
years of
ROBODRILL
technology

designed and built in Japan

For the Automotive Industry

Mass-producing parts for the automotive industry requires versatile machining centers. Combining speed and replicable accuracy, ROBODRILL produces flawless parts with minimal downtime, fast cycle times, and quick acceleration.

In the light of rapidly changing production runs, programming and setup are just as easy as maintenance and operation – thereby minimising cost and maximising availability. Moreover, ROBODRILL's on-board monitoring ensures that preventive maintenance is focused, timely, and necessary



The multipurpose solution to your efficiency needs

Designed to meet every need, the ROBODRILL α -DiB Plus series comprises completely re-designed models in S, M and L sizes, available in either standard or advanced versions. With a rigid servo drive control and a highly dynamic BBT30 spindle, these high-speed all-rounders are suitable for all vertical machining applications, from short production runs requiring fast turnaround times to flawless mass production. Its future-proof versatility and easy adaptability make the ROBODRILL the best-selling machine in its class.

α -D21SiB5 Plus

α -D21MiB5 Plus

α -D21LiB5 Plus



High-performance cutting

Maximize productivity with the ROBODRILL α -DiB Plus series thanks to its consistently high speed, precision, and power. In addition, stable machining enables optimized yield of the workpiece, while ROBODRILL's versatility allows for a wide range of applications.

Maximizing uptime

A machining center you can count on – the ROBODRILL α -DiB Plus series combines high reliability with high maintainability and preventive maintenance applications. For minimal trouble. And maximum operation life.

Ease of use

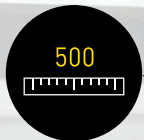
Using the ROBODRILL α -DiB Plus series is a breeze. The excellent user interface allows for quick and easy utilization of ROBODRILL's wide-ranging functionality, and operating peripheral equipment becomes entirely stress-free thanks to the series' exceptional level of expandability. Robot Interface 2 is an option the ROBODRILL offers that makes robot integration with ROBODRILL super easy!

Unbeatable versatility

New ROBODRILL α -D28LiB5ADV Plus Y500



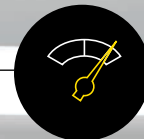
**SUPER FAST
TOOL CHANGER –
0,7 SEC
TOOL TO TOOL**



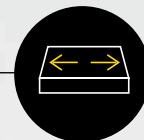
**EXTENDED
Y-AXIS STROKE
TO 500 MM**



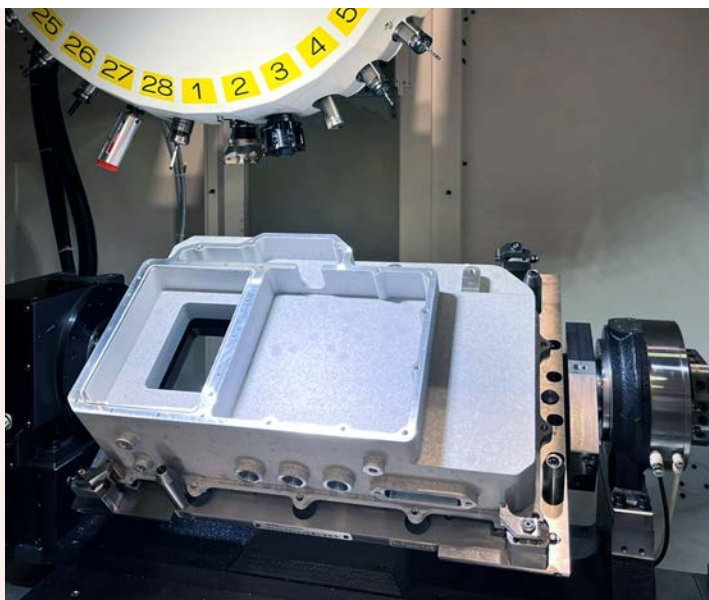
**INCREASED TOOL
CAPACITY TO 28 TOOLS
(46 KG MAX. WEIGHT
CAPACITY)**



**IMPROVED Z-AXIS
ACCELERATION AND
RAPID TRAVERSE**



**INCREASED
TABLE SIZE
850 X 500 MM**



Designed for ultimate performance

- Designed to cover a wider range of machining tasks involving large workpieces, such as EV parts
- Maximum flexibility given by an extended Y-axis stroke (500 mm) and an increased table size
- Reduced drilling and tapping applications cycle time thanks to a greater Z-axis acceleration (2.2.G) and traverse rate (60m/min)
- Suitable for an even wider range of applications due to the increased tool capacity to 28 tools while keeping the super-fast tool changing time
- Ergonomically designed work area
- Optimal acceleration and deceleration control for increased efficiency

Features of the ROBODRILL α -DiB Plus series

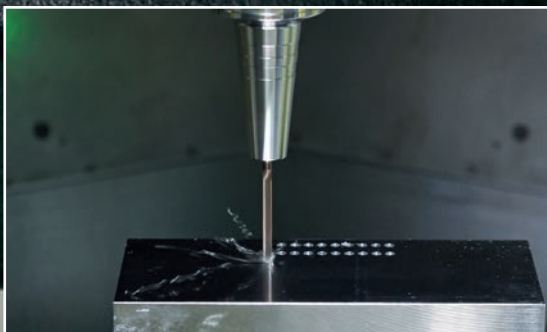
Cycle time reduction

Tool-to-tool changes on ROBODRILL α -DiB Plus models are extremely fast – ranging from 0.9 seconds on our standard versions to an incredible 0.7 seconds on the advanced. Cut to cut means 1.5 seconds for standard and 1.3 seconds for advanced versions. That's the secret to our speed machine!



Fast cycle time reduction

The latest FANUC CNC, Series 31i-Model B5 Plus, provides you access to our Smart rigid tapping feature: Reduce tapping cycle time by utilizing the spindle motor's maximum output without sacrificing accuracy. For further cycle time reduction, the smart overlap function avoids speed-down at the transition between rapid traverse and cutting feed with overlapping command blocks.



Canned cycle for ROBODRILL

FANUC'S ROBODRILL CNC offers you pre-installed programming techniques provided by expert engineers – for even faster cycle times. Quick and easy programming rounds off ROBODRILL's user-oriented accessibility.



ATC and table motion overlap

The latest ROBODRILL's iteration lets you achieve further cycle time reduction, specifically by allowing for overlapping tool change motion and table positioning.

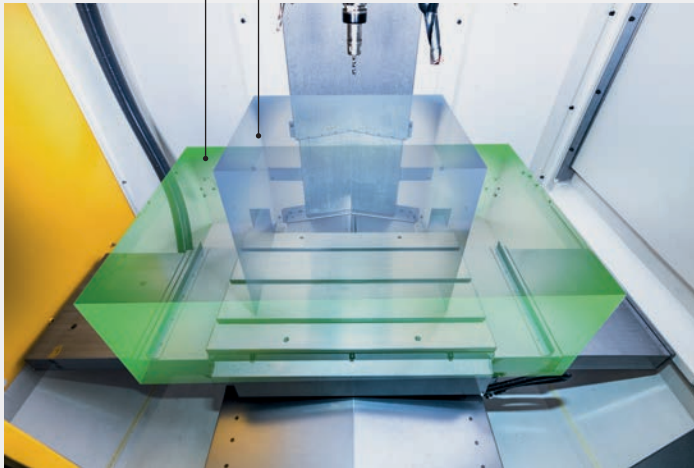


High-speed SKIP interface

Benefit from the latest High-Speed Skip Function interface! With the optional touch probe or tool measurement switch, the Series 31i-Model B5 Plus now lets you utilize high-speed and high-accuracy measurements.

Features of the ROBODRILL α -DiB Plus series

Max. fixture size
Range of axis travel



	α -D21Si/B5ADV Plus	α -D21Mi/B5ADV Plus	α -D21Li/B5ADV Plus	α -D28Li/B5ADV Plus Y500
Max. fixture size (X)	640 mm	1050 mm	1400 mm	1400 mm
Max. fixture size (Y)	520 mm	620 mm	620 mm	610 mm

Expanding application range

Expanding machining area

With up to 400 mm Z-axis stroke expansion, ROBODRILL improves the approach to the machining point, while at the same time providing less interference structure with large fixtures.

Table load capacity 400 kg*¹

ROBODRILL's advanced table load capacity applies to large fixtures and workpieces for maximum versatility.

High column (optional)*²

Available for a wide range of applications, the column can be raised up to 400 mm, depending on fixtures.

Servo turret

The servo turret features a maximum tool weight of 46 kg, enabling an overall larger cutting tool, and reducing tool change time by 0.2 s compared with the standard version ROBODRILL.

For advanced models only

Network function

On-board multifunction Ethernet

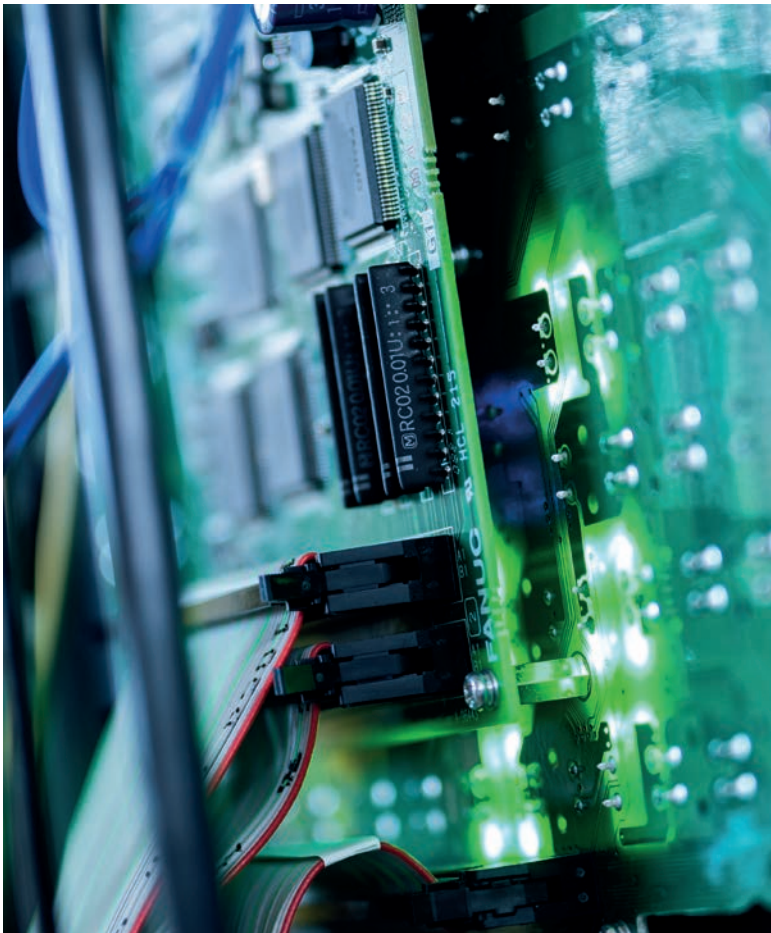
Use the fast on-board Ethernet port for high-speed data transfer. Together with the standard Ethernet port, the CNC can also be connected with two different networks at the same time for further flexibility. To make system integration even more accessible, various Ethernet cable-based network protocols such as FL-net, EtherNet/IP, PROFINET, or Modbus/TCP are also supported.

Field network (optional)

By adding the optional board on the CNC, other field networks such as CC-Link, DeviceNet, PROFIBUS-DP also become available for even more flexible connectivity.

Network manager screen

By unifying screens for network settings, connection guidance helps connect PC software such as Program Transfer Tool or FANUC LADDER III (PC software) – thus improving overall operability. In addition, the detailed setting screen supports multiple networks connection assignments using visual guidance.



Features of the ROBODRILL α -DiB Plus series



Excellent chip countermeasure

Z-axis telescopic cover

Featuring a compact design for less interference, ROBODRILL applies a new telescopic cover for overall higher durability.

Optional for standard models

Y-axis front mountain-shaped telescopic cover*³

ROBODRILL's Y-axis cover provides enhanced protection against chips and coolant, while smooth coolant flow simultaneously improves chips evacuation.

X-axis telescopic cover with 3 pieces*⁴

With a 3-piece design equipped as standard, the X-axis telescopic cover allows for higher reliability through structural improvements.

Enhanced cover around spindle motor (optional)*⁵

Protection from chips and coolant also benefits the spindle motor. To achieve this, the enhanced cover separates the spindle mechanism from the machining area, resulting in a high level of sustainability.

*¹ Max. 200kg for α -D14SiBADV Plus/D21SiB ADV Plus | *² Max. 200mm for α -D14SiBADV Plus/D21SiBADV Plus

*³ Except for α -D14SiBADV Plus/D21SiBADV Plus | *⁴ Except for α -D14SiBADV Plus/D21SiBADV Plus | *⁵ Basic top cover (optional) necessary

Maximizing uptime

Complete preventive maintenance

Maintenance information management

For effective periodical maintenance, ROBODRILL helps you monitor the condition of maintenance items, or announces the abnormality of maintenance timing. Additionally, up to 10 maintenance items can be customised to keep downtime to a minimum.

Leakage Detection Function

Get ahead of the breakdown: Preventive maintenance lets you detect insulation resistance drops for each motor and motor power cable early on.

Fan Monitor Function

With its monitoring function, ROBODRILL keeps an eye on the cooling fans for the servo and spindle amplifiers as well as the power supply. Once the rotation speed of any cooling fan is dropping, the system sends an alarm ahead of further failure, making it easy to detect the abnormal fan and prevent unnecessary downtime.



Remote monitoring with MT-LINK*i*

- Improve productivity thanks to detailed machine data
- Detect inefficiencies in machine utilisation
- Improve uptime with diagnostic functions
- Reduce costs by monitoring power consumption
- Save time with automatic custom regular reports
- Ensure that you have a system and program backup

Specific ROBODRILL functions (Option):

- Enables you to collect signals from ROBODRILL machines
- Real-time charts available:
 - Tool life monitoring
 - Periodic maintenance
- Simultaneous file transmission function



High maintainability

Recovery guidance screens

Whenever unforeseen downtime occurs, instructions on each screen allow you to easily recover vital functions such as turret position or motor origin.

Maintainability improvement for I/O devices

In case of I/O device failures such as disconnection or earth fault, cause and location play an important role – ROBODRILL CNC identifies both, and lets you know.

Machine configuration to improve parts replacement

Discover easy parts replacement with our cartridge-type fan motor units.

Rechargeable battery unit (optional)

The rechargeable battery unit not only supplies both the CNC and the Pulsecoder with steady backup power, but is also maintenance-free and automatically recharged while ROBODRILL is on.

Designed to save energy

FANUC ROBODRILL delivers considerable energy savings compared to its larger rivals. In addition to numerous intelligent features designed to reduce energy consumption, every component has been chosen to provide the highest possible performance for the least possible energy. Power used by the servo, spindle and peripheral devices is calculated by software and displayed on the Energy Saving Screen, enabling you to monitor and optimize power consumption.



Proven power regeneration function

- Power regeneration function that regenerates the energy at deceleration of motors has been adopted since 1994
- Regenerated power is used by other equipment and contributes to reduce power consumption of entire factory

Electric power consumption monitor

- Energy saving setting for ROBODRILL and option devices is available
 - Automatic power-off function
 - Screen saver, illumination, coolant pumps, lubrication and spindle air purge
 - Energy saving mode of Servo system, rigid tapping*
- Energy saving effect can be confirmed by the consumption record

* Limits motor output at acceleration/deceleration to reduce consumption. Cycle time becomes longer relatively.



Optimized energy
usage – intelligent
energy management

Simple robot integration via Robot Package

ROBODRILL has been designed for easy automation and comes with an ergonomically designed work area as well as easy robot access for loading heavier workpieces and hassle-free machine tending. The optional ROBODRILL Robot Package helps with fast, uncomplicated automation and covers FANUC robots, robot interface, robot stand, safety fence, robot sample program etc.

Additionally, third-party automation systems are seamlessly connectable to FANUC machines via the new robot interface.



Your efficiency benefits:

- easy all-round access for robots
- Robot Package with tending robots
- high-speed automatic front and side doors that open in just 0.8 seconds
- versatile interfaces

Upgrade for your user experience

Favorite screens

ROBODRILL now offers you to save frequently used screen setups as favourites in a specific favourites menu. To further enhance versatility, these settings can easily be imported to or exported from other ROBODRILL devices – for maximum usability.

Custom screens

With the new custom screens feature, you can register up to 15 FANUC PICTURE applications. At the same time, the feature allows for controlling peripheral devices using our custom PMC function, with various exclusive third-party screens available.

External interface function

General I/O signals such as external start are ready to use only by assigning in the screen. Configuration of signal can be set on the screen.

Custom PMC function

When it comes to peripheral devices, ROBODRILL's custom PMC function enables you to create and monitor LADDER programmes on screen, and to expand the number of I/O signals whenever necessary (Standard: Input 16 / output 16, maximum: Input 1024 / output 1024). With respect to FANUC's Dual Check Safety (DCS) solution, the custom PMC function also lets you connect the safety I/O signals of peripherals (input 12 / output 8), while also allowing for software safety circuits with duplicated signals.

Custom control panel

With its custom control panel, ROBODRILL offers a flexible and cost-efficient solution for simple system integration. Create on-screen switches (ON/OFF or pulse setting) and indication lamps to operate peripheral devices – without the need to integrate additional control panel hardware.



High-precision control

The world's most reliable CNC FANUC 31i-B5 Plus is at the core of ROBODRILL. User-friendly and easy to program, it contains twenty easy-to-configure M-codes to control additional devices. Further customisation is achievable via the custom PMC function.



Customize your ROBODRILL

Enhance the productivity of your ROBODRILL and experience an enormous spectrum of applications. FANUC's range of dedicated software and hardware accessories gives you the freedom to create bespoke machining processes – tailor-made to fit your specific needs.

Like all our products, FANUC accessories combine world-beating reliability with industry-leading ease of use, designed to help you get the most out of your ROBODRILL.

No matter how challenging your machining processes may be – FANUC accessories allow you to increase output while maintaining consistently high quality standards.



Touch probe system

ROBODRILL can be equipped with state-of-the-art touch probes and third-party tool measurement devices – for contact-free tool breakage monitoring as well as measuring tools and workpieces exactly.



Machining Mode Setting Function

Using this feature, it is possible to set and optimize machining and energy modes according to the program. Servo parameters can be altered to suit machining conditions and machining mode parameters which are changed via M-code during machining in order to create the ideal conditions for processing.



Robot Interface 2

Thanks to FANUC's Robot Interface 2, constructing machining cells with safety issue is not just easy, but also inexpensive. Connect four ROBODRILLS and one ROBOT without an additional system controller – the entire control software necessary is already included in the ROBODRILL PMC. In addition, the robot controller supports automatic side or front doors.



Preventive Maintenance Guidance

Offering a complete overview of ROBODRILL's leakage detection functionality, our maintenance guidance screens flag issues with insulation resistance and power leakage early on, indicating the need for preventive maintenance and thus avoiding breakdowns. Equally, the screens support periodical maintenance through schedules and reminders. Moreover, these processes can also be easily customized to suit your exact needs.



Custom PMC

ROBODRILL's custom PMC features easy-to-create LADDER programs for peripheral devices, including the ability to set LADDER program I/O and customize I/O signals. The custom control panel includes the ability to monitor the status of peripheral devices, control the ON/OFF on machining programs as well as create ON/OFF, lamp, and pulse switches. In addition, using the panel makes peripheral devices easy and inexpensive to construct and maintain.



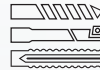
AI Thermal Displacement Compensation

Easy to set up, this function significantly reduces machine warm-up times, while also ensuring accurate machining under thermal growth conditions that can affect dimensional accuracy. By monitoring the spindle's operational status, the function adjusts the machining process to compensate for any elongation that may occur.



Network interfaces

Ethernet makes networking ROBODRILL with personal computers and robots particularly easy, thanks to a variety of supported field networks and connections such as FL-net, EtherNet I/P and Profinet.



AI Tool Monitor

ROBODRILL's AI Tool Monitor checks the spindle load during hole machining and issues an alarm in case of exceeded load parameters to prevent both breakages and costly downtime. Should breakages occur anyway, the AI Tool Monitor automatically stops the machine.



Additional axis interface (4/5 axes)

The standard 31i-B5 CNC is already capable of turning ROBODRILL into a 5-axis machine – all you need is the hardware and software option, simultaneous 5-axis control capability is already included. Using an additional servo amplifier and cable connector, various third-party rotary tables can easily be fitted to ROBODRILL. Furthermore, on applications involving rotary tables, FANUC Tilted Working Plane Indexing makes programming holes and pockets in tilted planes easier than ever.



Smoothing functions

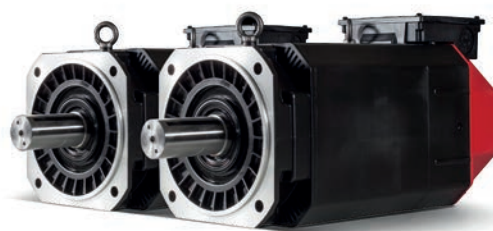
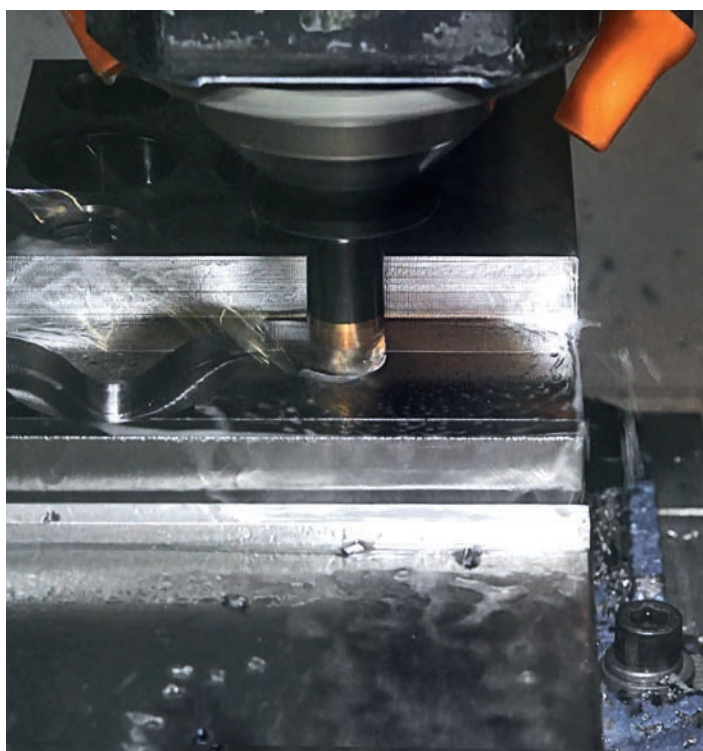
FANUC ROBODRILL's Nano Smoothing functionality reduces the need for manual finishing on processes that require sculptured surfaces, such as mould machining. When it comes to processes such as die and mould machining which involve cutting complex part forms defined by numerous tiny programme blocks, ROBODRILL's look-ahead blocks expansion allows for higher precision machining. In addition, AI Contour Control I/II enables high-precision machining at optimal.



ROBODRILL efficiency highlights

Heavy-duty machining

ROBODRILL isn't just for small parts. Thanks to ROBODRILL's strong spindle and rigid structure, it is also ideally suited to heavy-duty machining applications, including high-speed operations involving lots of swarf. ROBODRILL even takes large-diameter tools, usually only found on bigger machines.



Machining capability

	Machining	Drilling Tool dia. (mm) x Feed (mm/rev)			Tapping Tap size x Tap pitch (mm)		
		S50C	FC200	ADC12	S50C	FC200	ADC12
	Material						
Spindle spec.	High torque	Dia. 30 x 0.15	Dia. 30 x 0.30	Dia. 32 x 0.40	M20 x 2.5	M27 x 3.0	M30 x 3.5
	High speed	Dia. 20 x 0.10		Dia. 22 x 0.25	M16 x 2.0		M24 x 3.5

Spindle spec	Max. Speed	Application
High torque	10000 min ⁻¹	Heavy machining of steel parts (Max. 100N-m)
High speed	24000 min ⁻¹	High speed machining with small diameter tools

ROBODRILL efficiency highlights



Versatile 5-axis machining

To turn your ROBODRILL into a 5-axis machine, all you need to do is add the option package. Simultaneous 5-axis control and CNC-related requirements such as indexing and simultaneous operation are already in the CNC. Intelligent options such as look-ahead data sets, interpolation and smart smoothing functions mean you can manufacture top-quality moulds, electrodes and other 3D parts quickly and precisely.



FANUC ROBODRILL DDRiB rotary table – the ideal add-on axis

Thanks to its direct-drive motor and improved rigidity for more accurate machining, the FANUC ROBODRILL DDRiB makes the perfect additional axis for your ROBODRILL. Benefits include an indexing time of just 0.54 seconds, ultrafast clamping and clamp torque of 700Nm. Extremely precise and reliable, the DDRiB also offers unbeatable value for money.



FANUC ROBODRILL DDR-HSiB rotary table – experience the power of high-speed and high-precision turning

Designed to integrate seamlessly with your FANUC CNC, the FANUC DDR-HSiB rotary table unlocks the full potential of turning functions. Benefits include unmatched indexing accuracy, powerful clamping force on par with the DDRiB model, and a user-friendly setup process with automatic servo parameter adjustment based on your workload.

ROBODRILL efficiency highlights

FANUC ROBODRILL DDR-TiB

Excellence for parts up to 200 kg

When precision and power converge, exceptional machining becomes a reality. FANUC ROBODRILL DDR-TiB, is the ultimate solution for machining parts weighing up to 200 kg with unprecedented accuracy and efficiency.

Unlocking Excellence

The highly rigid DDR-T trunnion system encompasses all the benefits of the DDR rotary table and includes a support spindle and L-brackets. With improved rigidity, you can achieve higher degrees of machining accuracy. Simply add the fixture plate, and watch your precision soar. The DDR-T's 4-axis rotary table has a practical design to ensure maximum X-axis travel is unchanged from a 3-axis design.

Performance that inspires confidence:

- Max. rotation speed: 200 min⁻¹ (*1)
- Indexing 180°: 0.34 s (*2)
- Clamp torque: (700+400) N·m
- Max. loading mass: 200 kg (*3)

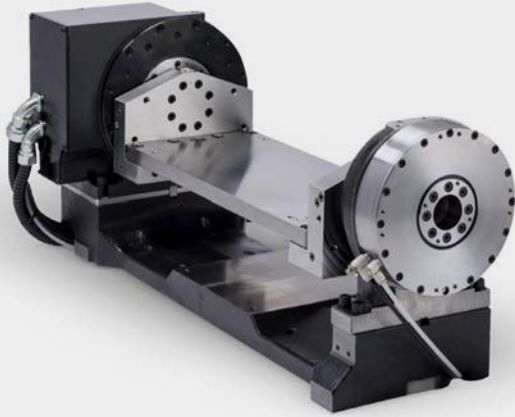
*1 When loading mass is under 100kg and workpiece inertia is under 1 kg * m²

*2 When loading mass is under 50kg and workpiece inertia is under 0.5 kg * m²

*3 Except DDR-TSiB. The maximum rotation speed is limited to 100 min⁻¹



ROBODRILL efficiency highlights



FANUC ROBODRILL DDR-TiB features

- **Optimized space utilization**
Maximize your ROBODRILL's workspace for efficient operations.
- **Enhanced rigidity**
Achieve greater loading capacity by optimizing the casting body's shape.
- **Advanced clamp mechanism**
Attain higher clamp torque with the new clamp mechanism of DDRiB and the support spindle.
- **Effortless setup**
Enjoy initial settings and automatic parameter adjustments via the DDR setting screen

Seamless Integration

Effortlessly integrate the DDR-TiB into your machining process with these valuable options.



Rotary joint (DDRiB side)

Enhance your DDR-TiB setup's versatility with a rotary joint on the DDRiB side.



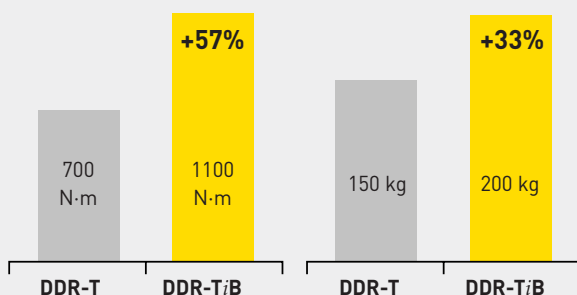
Rotary joint (Tail support side)

Further optimize your machining capabilities with a rotary joint on the tail support side

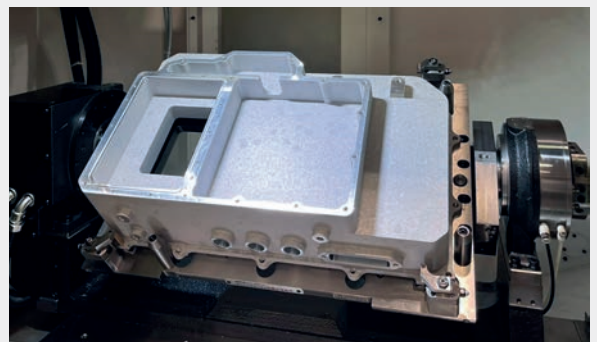
Comparison with the previous model

Clamp torque

Max. loading mass

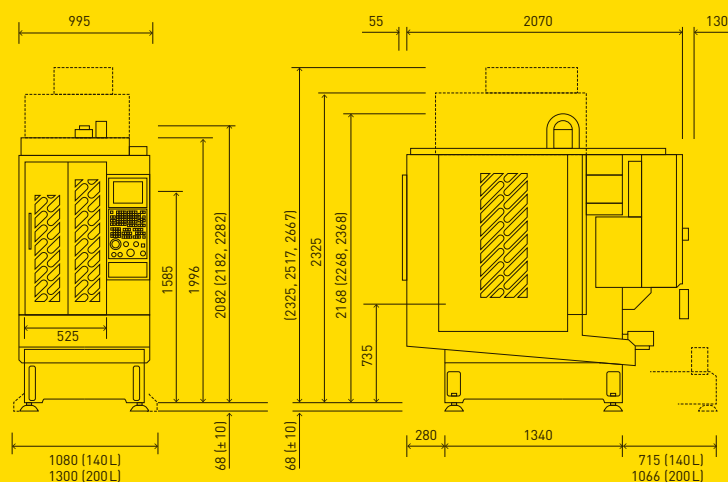


Application example

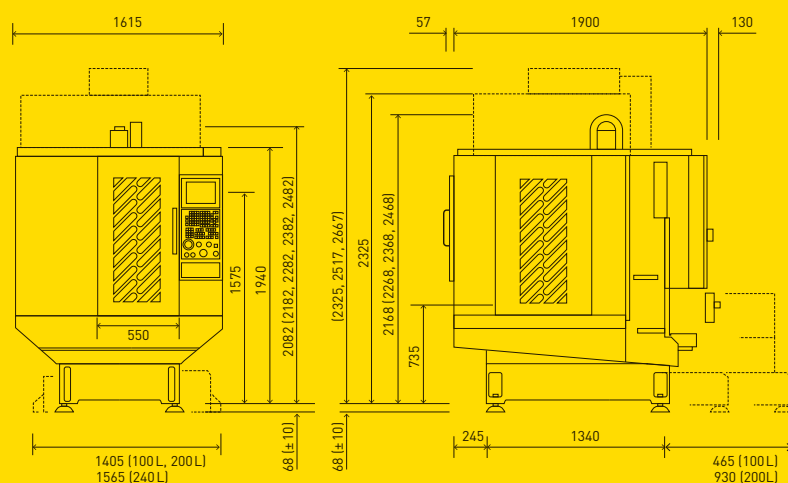


Technical data standard models

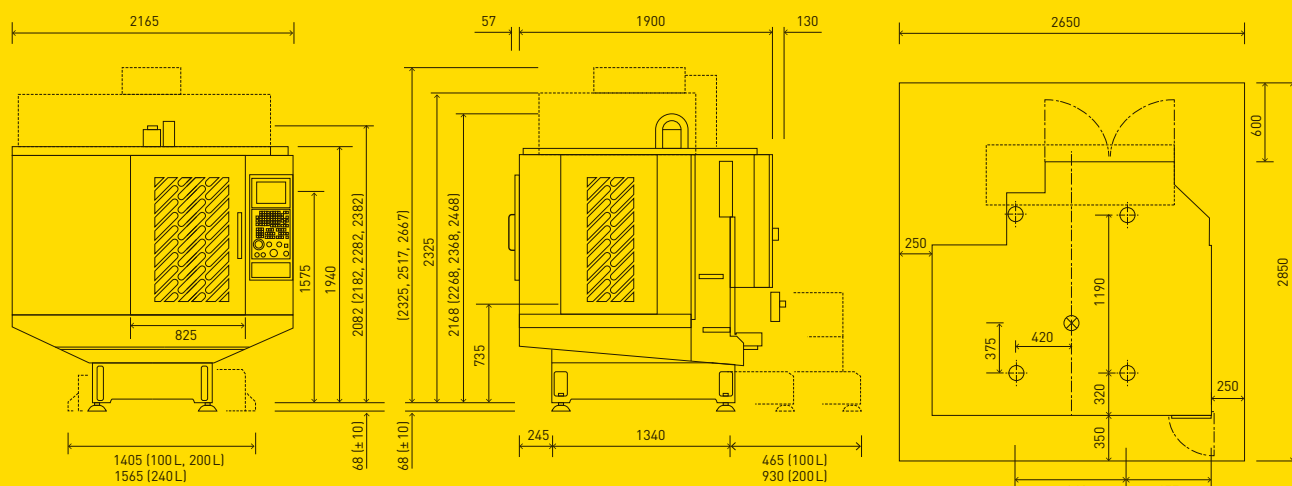
α -D21SiB5 Plus



α -D21MiB5 Plus



α -D21LiB5 Plus



Technical data standard models

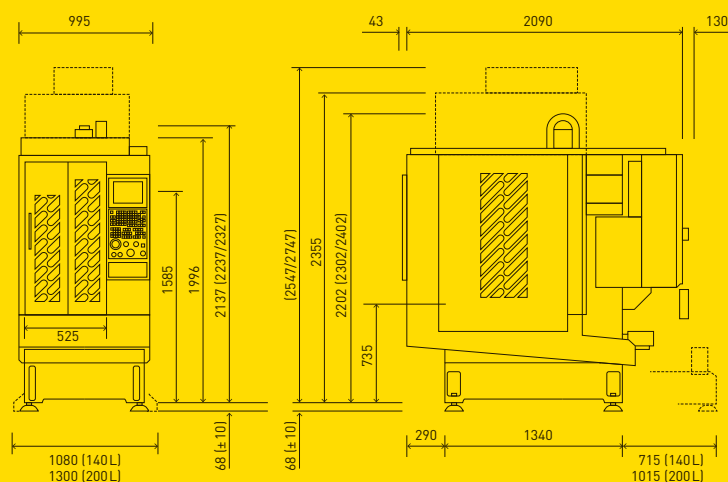
ROBODRILL α -DiB Plus series		α -D21SiB5 Plus	α -D21MiB5 Plus	α -D21LiB5 Plus
Travel X/Y/Z	mm	300 x 300 (+100) x 330	500 x 400 x 330	700 x 400 x 330
Max. tool length (HC100)	mm	190	250 (depends on specifications)	
Max. tool diameter	mm		80	
Table size	mm	630 x 330	650 x 400	850 x 410
Max. table load	kg	200	300	
Max. tool mass	kg		3	
Distance from spindle nose to table (with HC100)	mm		250-580	
Controller			31i-B5 Plus	
Spindle speed	rpm		10000 24000	
Spindle load 10,000 rpm (1 min)	Nm kW		80 14.2	
Spindle load 10,000 rpm (continuous operation)	Nm kW		13.6 4	
Spindle load 24,000 rpm (1 min)	Nm kW		35 26	
Spindle load 24,000 rpm (continuous operation)	Nm kW		7.5 5.5	
Rapid traverse in all axes	m/min		54	
Maximum programmable cutting feed	mm/min		30000	
Number of tools			21	
Tool change time [2 kg-tool] (cut to cut)	s		1.6	
Spindle holder BT30			○	
Spindle holder BBT30			●	
Bidirectional accuracy of positioning of an axis (ISO230-2:1988)	mm		< 0.006	
Bidirectional repeatability of positioning of an axis (ISO230-2:1997,2006)	mm		< 0.004	
Air pressure consumption	L/min MPa		160 0.35-0.55	
Machine mass/with DDR-TiB	ton	2/2.2	2/2.2	2.1/2.3

● Available ○ Optional

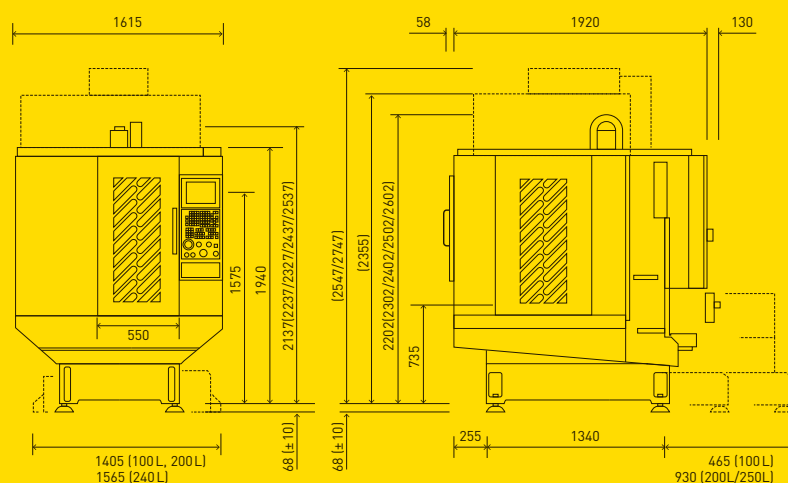


Technical data advanced models

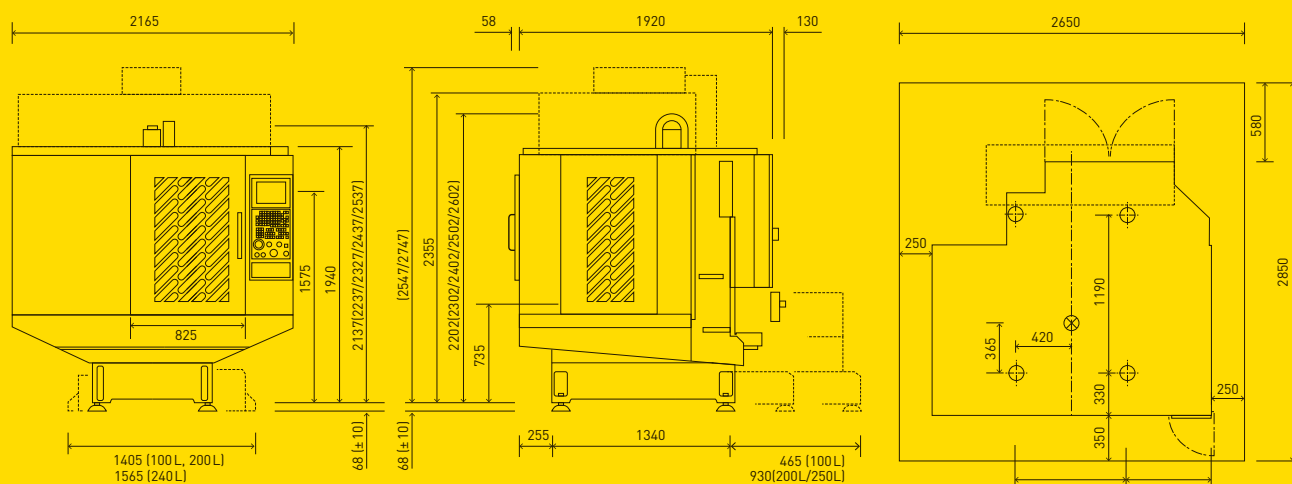
α -D21SiB5Adv Plus



α -D21MiB5Adv Plus



α -D21LiB5Adv Plus



Technical data advanced models

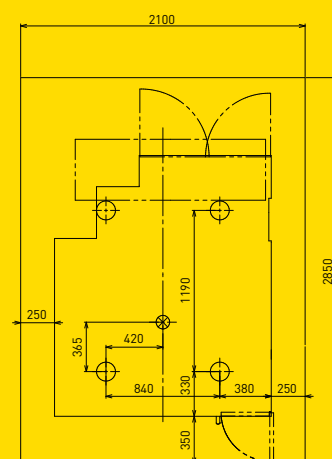
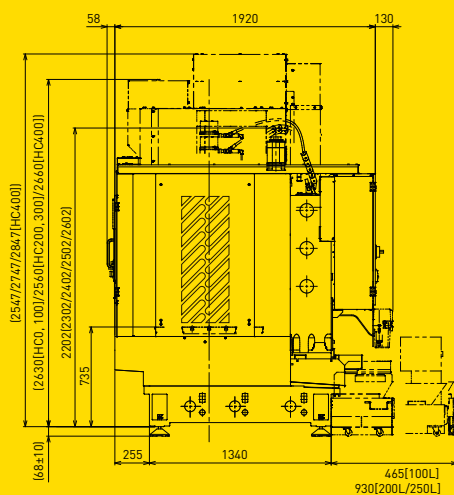
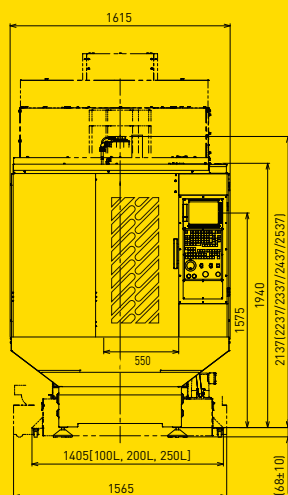
ROBODRILL α -DiB _{ADV} Plus series		α -D21SiB _{5ADV} Plus	α -D21MiB _{5ADV} Plus	α -D21LiB _{5ADV} Plus
Travel X/Y/Z	mm	300 x 300 (+100) x 400	500 x 400 x 400	700 x 400 x 400
Max. tool length (HC200)	mm	90	250	
Max. tool diameter	mm	80		
Table size	mm	630 x 330	650 x 400	850 x 410
Max. table load	kg	200	400	
Max. tool mass	kg	4		
Distance from spindle nose to table (with HC200)	mm	280-680		
Controller		31i-B5 Plus		
Spindle speed	rpm	10000 24000		
Spindle load 10,000 rpm (1 min)	Nm kW	80 14.2		
Spindle load 10,000 rpm (continuous operation)	Nm kW	13.6 4		
Spindle load 24,000 rpm (1 min)	Nm kW	35 26		
Spindle load 24,000 rpm (continuous operation)	Nm kW	7.5 5.5		
Rapid traverse in all axes	m/min	54		
Maximum programmable cutting feed	mm/min	30000		
Number of tools		21		
Tool change time (2 kg-tool) (cut to cut)	s	1.3		
Spindle holder BT30		○		
Spindle holder BBT30		●		
Bidirectional accuracy of positioning of an axis (ISO230-2:1988)	mm	< 0.006		
Bidirectional repeatability of positioning of an axis (ISO230-2:1997,2006)	mm	< 0.004		
Air pressure consumption	L/min MPa	160 0.35–0.55		
Machine mass/with DDR-TiB	ton	2.2/2.4	2.2/2.4	2.3/2.5

● Available ○ Optional

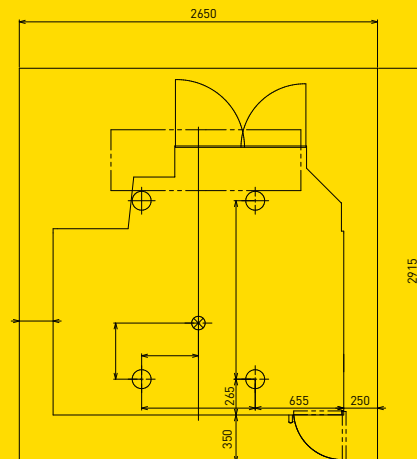
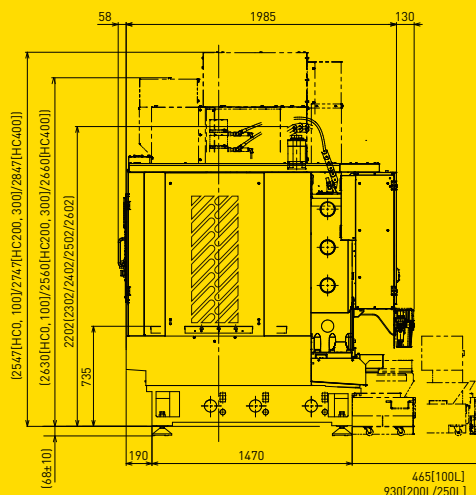
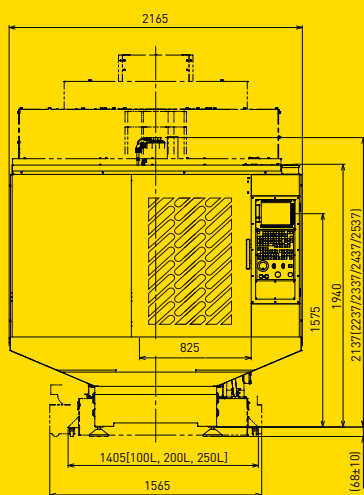


Technical data advanced models (28 tools)

α -D28MiB5_{ADV} Plus



α -D28LiB5_{ADV} Plus Y500



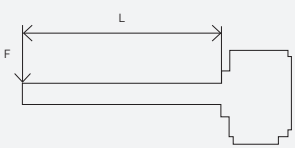
Technical data advanced models (28 tools)

ROBODRILL α - DiB _{ADV} Plus series (28 tools)			α - D28MiB5 _{ADV} Plus	α - D28LiB5 _{ADV} Plus Y500
Travel X/Y/Z	mm		500 x 400 x 400	700 x 500 x 400
Max. tool length (HC200)	mm			250
Max. tool diameter	mm			80
Table size	mm		650 x 400	850 x 500
Max. table load	kg			400
Max. tool mass	kg			4
Distance from spindle nose to table (with HC200)	mm			280-680
Controller				31i-B5 Plus
Spindle speed	rpm			10000 24000
Spindle load 10,000 rpm (1 min)	Nm kW			80 14.2
Spindle load 10,000 rpm (continuous operation)	Nm kW			13.6 4
Spindle load 24,000 rpm (1 min)	Nm kW			35 26
Spindle load 24,000 rpm (continuous operation)	Nm kW			7.5 5.5
Rapid traverse in all axes	m/min		54 (X, Y, Z)	54 (X, Y), 60 (Z)
Maximum programmable cutting feed	mm/min			30000
Number of tools				28
Tool change time (1.5 kg-tool) (cut to cut)	s		1.4	1.3
Spindle holder BT30				○
Spindle holder BBT30				●
Bidirectional accuracy of positioning of an axis (ISO230-2:1988)	mm			< 0.006
Bidirectional repeatability of positioning of an axis (ISO230-2:1997,2006)	mm			< 0.004
Air pressure consumption	L/min MPa			160 0.35-0.55
Machine mass/with DDR-TiB	ton		2.2/2.4	2.3/2.5

● Available ○ Optional



Technical tables DDRiB/DDR-TiB

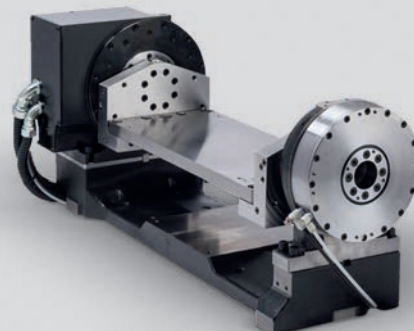
FANUC ROBODRILL DDRiB rotary table	Specifications	
Drive method	Direct drive	
Motor	Synchronous built-in servomotor D _i S 50/300-B	
Continuous rating	46 Nm	
Maximum torque	275 Nm	
Table rotation speed	200 min ⁻¹	300 min ⁻¹
Maximum loading capacity	100 kg	25 kg
Permissible workpiece inertia [kg m ²]	J = 1.0 kg m ² [GD2 = 4.0 kgf m ²] I	J = 0.25 kg m ² [GD2 = 1.0 kgf m ²] I
Detector	Absolute AlphaiCZ sensor 512A	
Least input increment	0.0001 degrees [IS-C]	
Indexing precision	±0.0028 degrees [±10 s]	
Clamp method	Air pressure + spring	
Clamp torque	700 Nm for air pressure of 0.5 MPa	
	500 Nm for air pressure of 0.35 MPa	
	100 Nm when air pressure is shut off	
Rotating-part inertia	J = 0.04 kgm ² [GD2 = 0.16 kgf m ²]	
Spindle outside diameter	Ø 90 mm	
	Ø 140 mm when the end plate (option) is mounted	
Spindle hole diameter	Ø 46 mm	
	Ø 55 mm when the end plate (option) is mounted	
Center height	150 mm	
Main body mass	80 kg	
Permissible moment load	 F x L = 600 Nm	

FANUC ROBODRILL DDR-TiB	X300	X500	X700
Clamp torque	1100 Nm (for an air pressure of 0.5 MPa)		
Maximum Swing Ø	φ 310 mm	φ 410 mm	
Number of bracket ports (option)	6 (oil/air)		
Table rotation speed	200 min ⁻¹	200 min ⁻¹ 100 min ⁻¹ 100 min ⁻¹	
Maximum loading capacity	50 kg	100 kg 150 kg 200 kg	
Permissible workpiece inertia [Kg m²]	J = 0.5	J = 1.0 J = 1.5 J = 2.0	
Center height	200 mm	260 mm	
Main body mass	155 kg	190 kg	200 kg

DDRiB



DDR-TiB



The swing plate is not included.

Technical Specification for FANUC ROBODRILL

Standard specifications

- Control unit FANUC Series 31i-B5 Plus
- Simultaneously controlled axes (Max. 5 axes)
- Multi-function Ethernet
- Control unit incorporated type display unit with 10.4" color LCD
- PCMCIA memory card port
- USB port (USB2.0)
- Part program storage size 4Mbyte
- Number of registerable programs 1000
- Addition of workpiece coordinate system 48 pairs
- Tool offset pairs 200-pairs
- Tool life management
- Production control counter
- iHMI Set-up Guidance (MANUAL GUIDE *i* on iHMI)
- Machining Mode Setting
- Thermal displacement compensation function
- Double contact tooling (BBT30/NBT30)
- Custom PMC
- Dual Check Safety
- Smart Trouble Shooting Function
- Leakage Detection Function
- Smart rigid tapping
- Spindle Smart Load Meter
- AI contour control I
- HRV control
- Rapid traverse block overlap
- Helical interpolation
- Coordinate system rotation
- Multi-step skip
- High-speed skip
- Custom macro
- Interruption type custom macro

Mechanical Option

- High torque spindle 10,000min⁻¹, High acceleration spindle 10,000min⁻¹
- Tapping spindle 12,000min⁻¹, High acceleration spindle 24,000min⁻¹
- Low vibration High speed spindle 24,000min⁻¹
- High power version spindle
- Center through spindle (7MPa)
- High column 100/200/300mm
- Splashguard wide opening door: 730mm (α -D14MiB Plus/D21MiB Plus)
- Splashguard wide opening door: 1100mm (α -D14LiB Plus/D21LiB Plus)
- Automatic front doof opening/closing of splashguard
- Automatic side doof of splashguard (right/left)
- Splashguard glass window
- Basic top cover of splashguard/Full-closed cover of splashguard
- X-axis telescopic cover with 3-pieces
- Z-axis metal cover
- Additional 1 axis rotary table DDRiB/DDR-TiB
- Rotary joint for DDRiB/Tail support (standard type)
- Rotary joining for DDRiB/Tail support (High pressure type)
- Adjustment of center height, Adjustment of shaft length, End plate (for DDRiB)
- Coolant unit (Tank capacity: 100/200/140*4 L)
- Coolant unit for center through coolant (Tank capacity: 240/200*4 L)
- Coolant unit with chip flush (with oil gun)
- Cleaning unit for tool taper shank
- Excellent chip evacuation
- Air blow for chips
- Grip cover
- Automatic oil lubricating/Automatic grease lubricating
- Illumination (LED)
- Signal lamp (3 lamps)
- Tool length switch
- Touch probe

Electric Option

- Conformity to safety standards for EU (CE), China (GB), Korea (KCs), Australia (RCM), Brasil (NR-12)
- Automatic breaker shutdown
- Backup function for power failure (quick stop function)
- Mounting plate for options
- CNC with touch panel LCD
- Network adapter (DeviceNet, PROFIBUS-DP, CC-Link)
- Fast data server (with Compact Flash Memory 4GB)
- ROBOT INTERFACE 2
- Portable MPG (with ESP switch)
- RS232C port
- Rechargeable battery unit
- Various additional I/O unit

Software Option

- AI thermal displacement compensation II
- AI tool monitoring
- Part program storage size 8Mbyte
- Number of registerable programs 4000
- Addition of workpiece coordinate system 300 pairs
- Tool management function (1000 pairs)
- 3D interference check
- Single direction positioning
- Conical/spiral interpolation
- Cylindrical interpolation
- Polar coordinate command
- Scaling
- Programmable mirror image
- AI contour control II
- High-speed processing
- Look-ahead blocks expansion (1000 blocks)
- Smooth tolerance+ control
- NURBS interpolation
- High-speed Smooth TCP
- 3-dimensional cutter compensation
- 3-dimensional coordinate conversion
- Punch tapping function
- Smart spindle load control
- Quick program restart

PC software

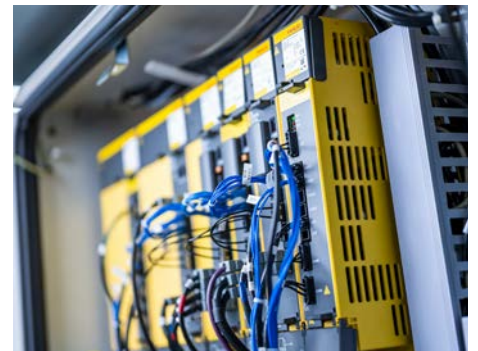
- ROBODRILL-LINK*i*
- ROBODRILL-CNC Guide
- FANUC SERVO VIEWER
- FANUC LADDER III
- FANUC PICTURE
- Program transfer tool



Whenever You Need Us: We are There

With the largest global network of local subsidiaries across all continents, we are always there to meet your needs when you need us. Fast and efficient - 24/7. You will always have a local contact that speaks your language.

Service First 



World-class support for world-class customers

FANUC is committed to our Service First motto, which means we provide customers with lifetime product support for as long as their FANUC product is used in production. We have an expert team of service, support and training staff to meet your needs. That's something that no other automation company can say.

Transforming the world through automation

FANUC America is a global leader in automation systems, but the heart of the company's work is in solving real-world production challenges. Whether streamlining processes, improving efficiency or tackling complex manufacturing hurdles, FANUC is in the business of finding solutions and making things work.

Efficient supply: Lifetime OEM spare parts

As long as your machine is in service, we will provide you with original spare parts – for a minimum of 25 years. With a wide range of parts stocked, dedicated service engineers and direct online access to FANUC stores, availability checks and ordering, we keep you running.

A woman with dark hair tied back, wearing clear safety glasses and a black short-sleeved shirt, is operating a FANUC robotic drilling machine. She is looking intently at the machine's tool head, which is positioned over a metal workpiece. Her right hand is near the tool head, possibly adjusting it. The machine is black and silver, with a label that reads "FANUC ROBODRILL DDR TYPE AD4B-0099-B191*2NO SERIAL NO. P. DATE 2019-03 FANUC CORPORATION". The background is a blurred industrial setting.

FANUC

MORE speed
MORE performance
MORE ease of use
MORE automation

The Most
POWERFUL
Solution in
Compact
Machining