



air turbine spindles® for

**FANUC
ROBODRILL**

**25,000 – 90,000 RPM – Power To 0.76 HP (0.57 kW)
Constant Governed High Speed and Torque**

Add High-Speed With Air Turbine Spindles®



600X Series

65,000 - 80,000 RPM

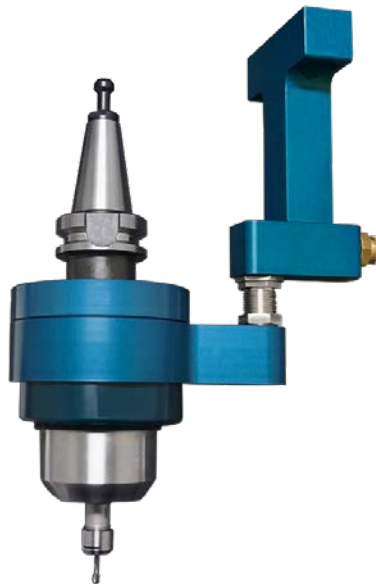
Power to 0.15 HP (0.11 kW)



601 Series

40,000 - 90,000 RPM

Power to 0.2 HP (0.15 kW)



625(X) Series

30,000 - 65,000 RPM

Power to 0.76 HP (0.57 kW)

With patented governed high speed and torque Air Turbine Spindles®, your FANUC Robodrill is a high speed machine!

Fully automated loading:

1. With air through the spindle or
2. With our patented Toolchanger Mounting Assembly (TMA).

BT and DIN options available for any CNC. Manual connection also possible.

High-speed with no heat!

Just connect 90 psi/6.2 bar.

Fully Automatic Loading To Save Time And Money



TMA Assembly



Air Through Spindle



ATC From Magazine

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Dramatically Reduce Your Cycle Times While Optimizing Cutting Tool Performance And Life

Keep continuous tool path engagement on your existing CNC at high speed even in angles and hard material. Ideal for micro machining.

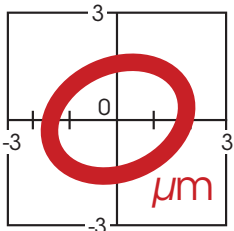
25,000 - 65,000 RPM < 0.76 HP (0.57 kW)

Accuracy - 2µ Certified

Most of the problems that occur in micro machining come from a lack of RPM and poor dynamic runout.

Air Turbine Spindles® use the highest quality runout and balancing systems on the market today. This creates the best dynamic runout accuracy and governed high speed precision.

Runout measured at the nose of spindle. (Reference value)



600 SERIES

Improved Machining Cycle Times

Better Surface Finish

Longer Tool Life

Automatic Loading

Super Low Vibration Direct Drive

Powerful, totally oil-free low friction motor produces extremely low vibration and heat in continuous 24/7 operation. No thermal expansion, great reliability.



600X - 80,000 RPM

Ultra Precision ER 8 or ER 11 collets standard.

Environmentally Clean

No oil required, and maintenance free.

Air Pressure:

Dry, clean air at 90 psi (6.2 bar).

Air Consumption (Working):

600X: 5 CFM (2.36 L/s)

601: 5 - 6 CFM (2.36 - 3.3 L/s)

625(X): 11 - 30 CFM (5.2 - 14.16 L/s)

Low Noise Design:

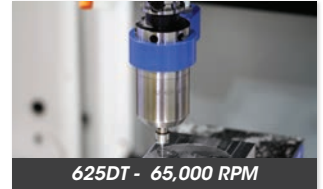
Under 78 dBA (cutting noise of endmills can be heard).

Standard Equipment:

0.3µm high flow filter/extractor

Automatic Toolchange Options

No need for operator downtime. Automatically load Air Turbine Spindles® using center airfeed or with our wrap around Toolchanger Mounting Assembly (TMA).



625DT - 65,000 RPM

Superior Technology

- ▶ Unique patented direct drive with no vanes, gears or brushes to wear or burn.
- ▶ No heat and no duty cycle- 24/7 operation.
- ▶ Governor keeps constant high speed + torque on tool path in angles and corners.

Spindle Selection Guide

√ = Optimum ! = Dependent upon cutting conditions
∞ = Acceptable x = Not recommended for use

Cutting Tool		600X	601	625(X)
Drill	Ø 0.1 - 0.3 mm	√	√	√
	Ø 0.3 - 0.5 mm	√	∞	√
	Ø 0.5 - 1.0 mm	√	!	√
	Ø 1.0 - 1.5 mm	√	x	∞
	Ø 1.5 - 2.0 mm	x	x	!
Endmill	Ø 0.1 - 1.0 mm	x	√	√
	Ø 1.0 - 2.0 mm	x	√	√
	Ø 2.0 - 3.5 mm	x	!	√
	Ø 3.5 - 5.0 mm	x	x	∞
	Ø 5.0 - 6.0 mm	x	x	!
Jig Grinding		x	x	!
Specifications		600X	601	625(X)
Speed (RPM)		65,000 80,000	40,000 50,000 65,000 90,000*	30,000 40,000 50,000
Power (HP)		0.15	0.15 - 0.2	0.4 - 0.76
T.I.R. at Nose		Less than 2µm		
Collet Range		0.5 mm - 7 mm		
Air Pressure		90 psi/6.2 bar (0.62 MPa)		
Air Flow		7 - 30 CFM (3.3 - 14.16 L/s) [ANR]		



*Due to its governed high speed and power the 601 90,000 RPM is for use only with micro end mills in special applications.