



**air
turbine tools®**

for



OKUMA

**25,000 – 90,000 RPM – Power to 1.4 HP (1.03 kW)
Constant Governed High Speed and Torque - No Duty Cycle**

*Spindle airfeed
from rear or side NPT.*



625(X) Series

30,000 - 65,000 RPM
Power to 0.76 HP (0.57 kW)



650(X) Series

25,000 - 40,000 RPM
Power to 1.4 HP (1.03 kW)



660 Series

50,000 RPM
Power to 0.94 HP (0.7 kW)

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

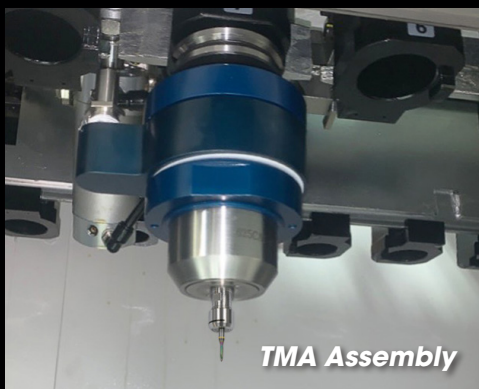
No duty cycle.

*Fully automated loading:
With our patented
Toolchanger Mounting
Assembly (TMA).*

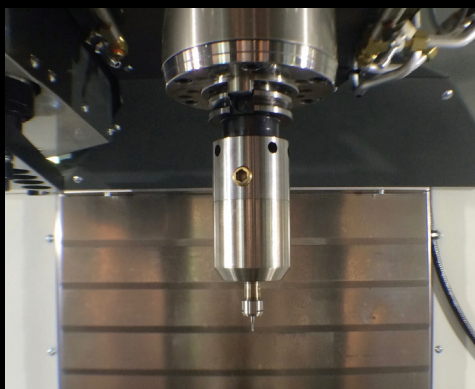
*CAT, BT, DIN and HSK options available.
Manual connection also possible.*

***High-speed with no heat!
Just connect 90 psi/6.2 bar air.***

Fully Automatic Loading to Save Time and Money



TMA Assembly





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.

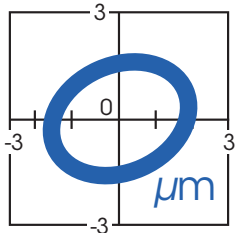
25,000 - 90,000 RPM < 1.4 HP (1.03 kW)

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.



625 - 65,000 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):

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

650(X): 14 - 40 CFM (6.61 - 18.89 L/s)

660: 20 - 35 CFM (9.44 - 16.52 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® with our wrap around Toolchanger Mounting Assembly.



650 - 40,000 RPM

Superior Technology

- ▶ Unique patented direct drive with no vanes, gears or brushes to wear, burn or break.
- ▶ Cooled by turbine air for 24/7 operation. No oil or control system required. No duty cycle.
- ▶ Governor keeps constant high speed + torque on tool path in angles and corners.

Spindle Selection Guide

✓ = Optimum

∞ = Acceptable

! = Dependent upon cutting conditions

x = Not recommended for use

Cutting Tool		625(X)	650(X)	660
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	∞	✓	✓
	Ø 1.5 - 2.0 mm	!	✓	✓
Endmill	Ø 0.1 - 1.0 mm	✓	✓	✓
	Ø 1.0 - 2.0 mm	✓	✓	✓
	Ø 2.0 - 3.5 mm	✓	✓	✓
	Ø 3.5 - 5.0 mm	∞	✓	✓
	Ø 5.0 - 6.0 mm	!	∞	∞
Jig Grinding		!	✓	✓
Specifications		625(X)	650(X)	660
Speed (RPM)		30,000 40,000 50,000 65,000	25,000 30,000 40,000	50,000
Power (HP)		0.4 - 0.76	0.8 - 1.4	0.94
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		12 - 23 CFM (5.66 - 10.85 L/s) [ANR]		

