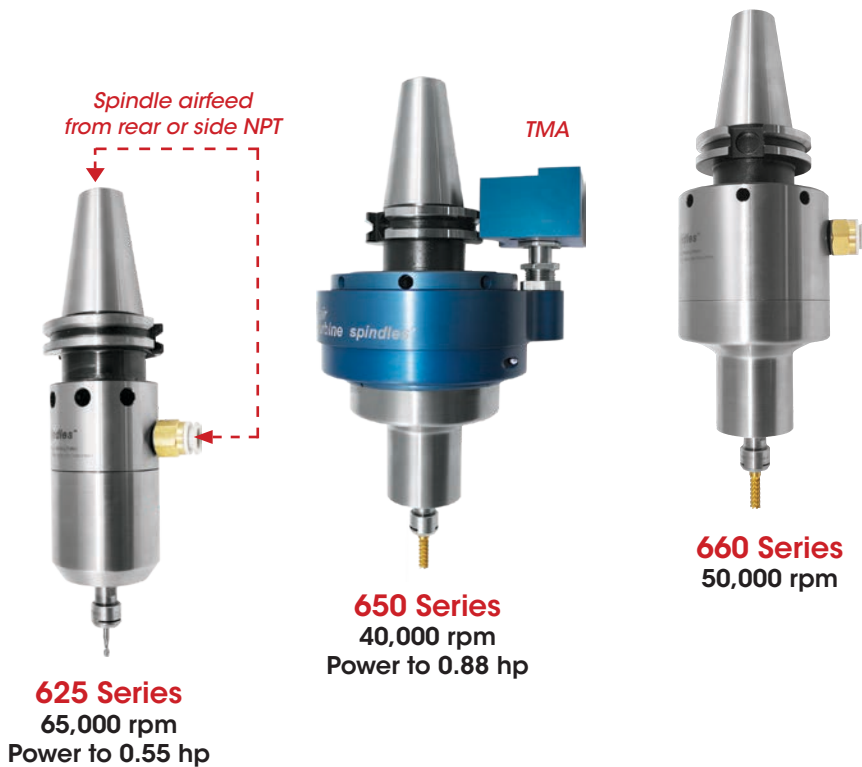


25,000 – 90,000 rpm – power to 1.4 hp
Constant Governed High Speed and Torque - No Duty Cycle

Now your Haas CNC delivers faster production 24/7



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

Tool holders in CAT, BT, DIN, HSK are available. Cylindrical shaft versions are also available as standard in the machine via the collet chuck

Fully Automated Loading:

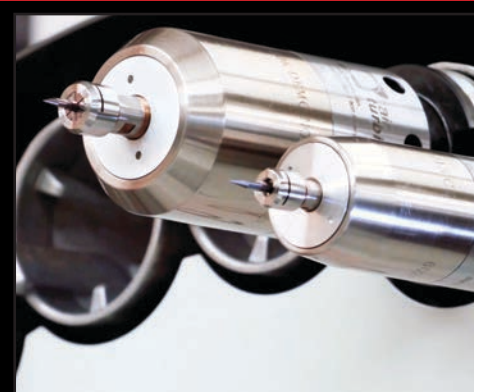
1. With our patented Toolchanger Mounting Assembly (TMA) or
2. Through Spindle Air Option using Haas Through Tool Air Blast*

Manual Connection also possible

X Versions for Extra Power

Call for a Demonstration!

Manual or Automatic Loading to Save Time and Money





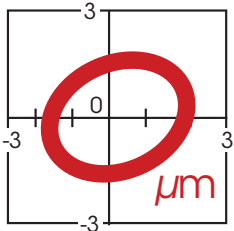
25,000 - 90,000 rpm < 1.40 hp
Dramatically reduce your cycle times, optimize cutting tool performance and life.

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

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)

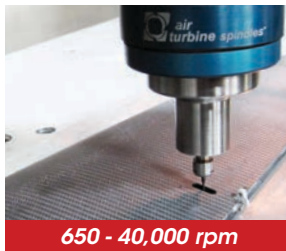


600 SERIES

- Improved Machining Cycle Times
- Better Surface Finish
- Longer Tool Life
- Automatic Loading

Super Low Vibration Direct Drive

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



650 - 40,000 rpm

Ultra Precision 2μ ER 8 or ER 11 collets standard.

Environmentally Clean

No oil required, and maintenance free.

Air Pressure: Dry, Clean Air @ 90 psi (6.2 bar)

Air Consumption (Working) • (X) = Double Turbine Version

625(X): 11 - 30 cfm

650(X): 14 - 40 cfm

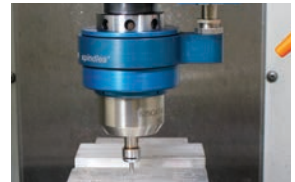
660: 14 - 40 cfm

Low Noise: Under 78 dBA

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.



625 - 50,000 rpm

Alternatively, use **Through Spindle Air Option** if your Haas Machine has Through Tool Air Blast.*

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

√ = Optimum

! = Dependent upon cutting conditions

∞ = Acceptable

		625	650(X)	660
Drill	Ø 0.1 - 0.3mm	√	√	√
	Ø 0.3 - 0.5mm	√	√	√
	Ø 0.5 - 1.0mm	√	√	√
	Ø 1.0 - 1.5mm	∞	√	√
	Ø 1.5 - 2.0mm	!	√	√
Endmill	Ø 0.1 - 1.0mm	√	√	√
	Ø 1.0 - 2.0mm	√	√	√
	Ø 2.0 - 3.5mm	√	√	√
	Ø 3.5 - 5.0mm	∞	√	√
	Ø 5.0 - 6.0mm	!	∞	∞
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)	0.40 - 0.78	0.80 - 1.40	0.94 (0.70)	
T.I.R. at Nose	Less than 2μm			
Collet Range	0.5mm - 7mm 1 1/8" - 1/4"			
Air Pressure	90 PSI			
Air Flow	11 - 40 CFM (Depending on Load) [ANR]			



*The 625 (Single Turbine) is compatible with through air spindle option using Haas Through Air Blast (TAB)