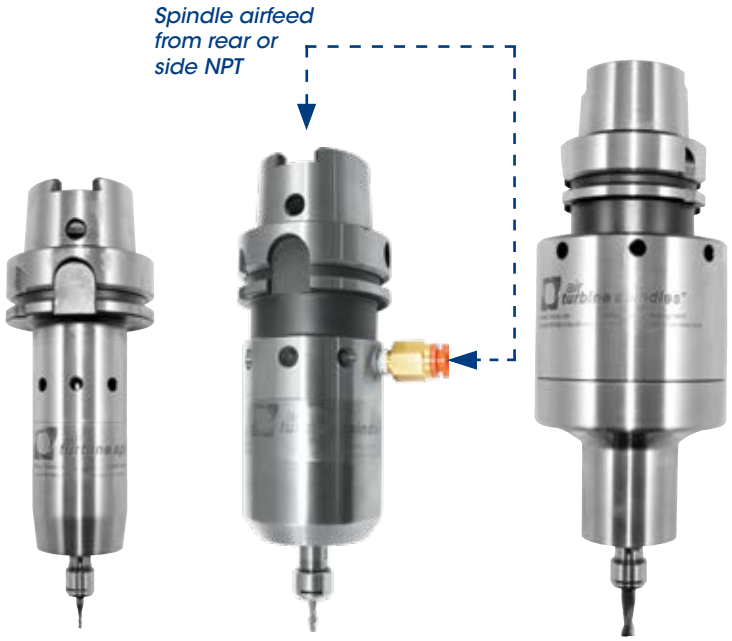
air turbine spindles® for GROB

25,000 – 90,000 rpm – power to 1.04 kW (1.4 hp)
Constant Governed High Speed and Torque

Now your Grob CNC delivers faster production 24/7

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



602HSK-A63
0.11 - 0.15 kW
0.15 - 0.2 hp

625LHSK-A63
0.40 - 0.50 kW
0.53 - 0.67 hp

650(X)HSK-A63
0.57 - 1.04 kW
0.76 - 1.40 hp

No Duty Cycle

Call for a Demonstration

Tel: +1.561.994.0500 • ***Fax: +1.561.994.8097*** • 1225 Broken Sound Parkway, NW, Suite D • Boca Raton, Fl 33487 USA

air turbine spindles®

GROB

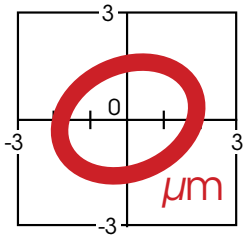
Dramatically reduce your cycle times, optimize cutting tool performance and life.

Keep continuous tool path engagement on your existing CNC at high speed even in angles and hard material. Ideal for micro machining.
25,000 - 90,000 rpm < 1.04 kW (1.40 hp)

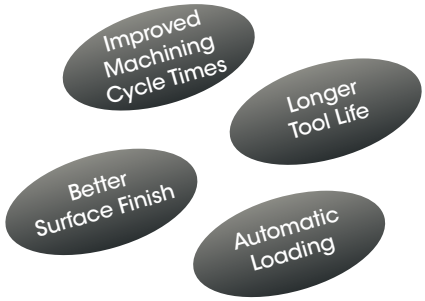
Accuracy

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. (refrence value)



600 SERIES



Super Low Vibration Design

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

Ultra Precision ER 8 or ER 11 collets standard.

Model 650 - 40,000 rpm

Environmentally Clean

No oil required, and maintenance free.

Air Pressure: Dry, Clean Air @ 90 psi / 6.2 bar

Air Consumption (Working):
602: 5 - 10 cfm (2.36 - 4.27 L/s)
625(X): 11 - 30 cfm (5.20 - 14.16 L/s)
650(X): 14 - 40 cfm (6.60 - 18.99 L/s)

Low Noise Design: Under 67 dBA (cutting noise of endmills can be heard).

Standard Equipment: 0.3µm High Flow Filter/Extractor

Automatic Toolchanger

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

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.
- Center Airfeed using coolant channel or Side Airfeed using Automatic Spindle Loading TMA.

Spindle Selection

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

		602(X)	625(X)	650(X)
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	602	625(X)	650(X)
Speed (rpm)	40,000, 50,000, 65,000, 90,000*	30, 000, 40,000, 50,000	25,000, 30,000, 40,000
Material Capacity	6061 aluminum and softer rubber, plastic, graphite, wood etc.	Aluminum and softer for standard high speed machining. All materials if light cutting, finish cutting, engraving etc.	All material capacity - Titanium, enconel, ceramics, mold steel, tool steel, and softer
Average DOC (mm)	0.01 - 0.127	0.01 - 0.305	0.01 - 0.508
Power (kW)	0.11 - 0.15	0.30 - 0.67	0.57 - 1.04
T.I.R. at Nose	Less than 1µm		
Collet Range	1mm - 6mm		
Air Pressure	Less than 6.2 Bar (0.62 MPa)		
Air Flow	5 - 40 CFM (2.36 - 18.89 L/s) [ANR]		

**Due to its governed high speed and power the 602 90,000 rpm is for use only with micro end mills in special applications.*

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