

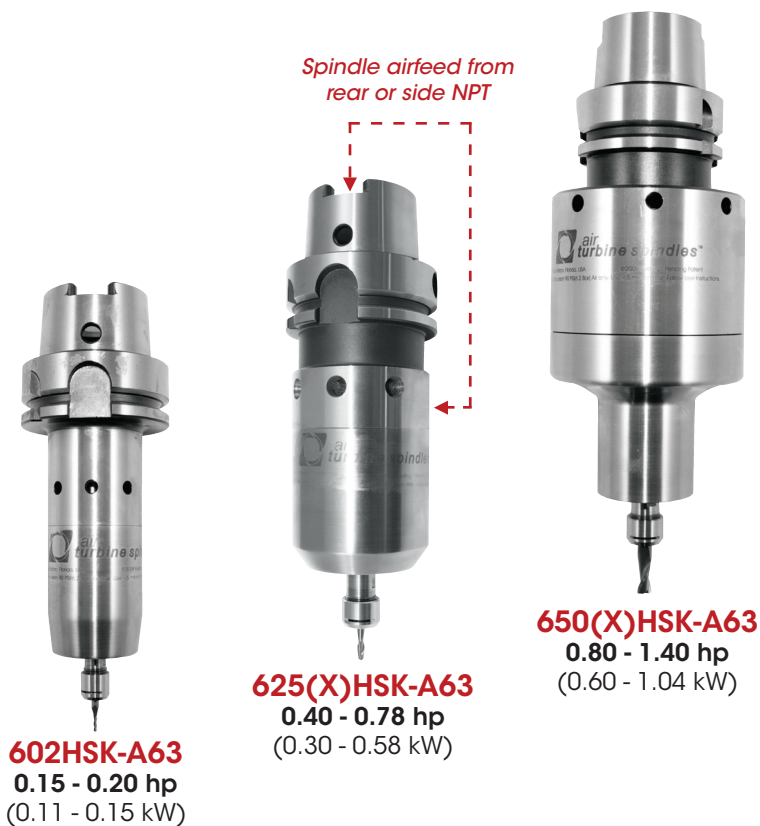


**air
turbine spindles®** for



**25,000 – 90,000 rpm – power to 1.40 hp (1.04 kW)
Constant Governed High Speed and Torque**

New High Speed Option with Air Turbine Spindles®



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

No Duty Cycle

Call for a Demonstration

Fully automated loading:

1. With our patent pending Toolchanger Mounting Assembly (TMA) or
2. Power spindle with through spindle air option

Manual Connection also Possible

Manual or Automatic Loading to Save Time and Money





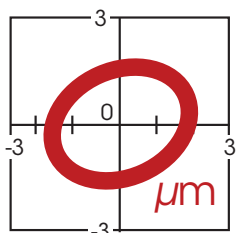
*Dramatically reduce your cycle times,
optimize cutting tool performance and life.*

*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 < 1.40 hp (1.04 kW)*

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.
(reference value)



600 SERIES

Improved Machining Cycle Times

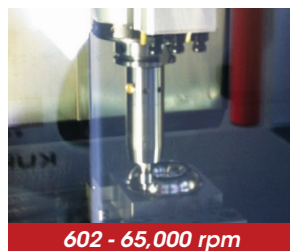
Better Surface Finish

Longer Tool Life

Automatic Loading

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.



602 - 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 @ 90 psi (6.2 bar)

Air Consumption (Working):

602: 5 - 6 cfm (2.36 - 3.30 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 78 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
∞ = Acceptable

! = Dependent upon cutting conditions
x = Not recommended for use

		602	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	x	∞	√
	Ø 1.5 - 2.0mm	x	!	√
Endmill	Ø 0.1 - 1.0mm	√	√	√
	Ø 1.0 - 2.0mm	√	√	√
	Ø 2.0 - 3.5mm	!	√	√
	Ø 3.5 - 5.0mm	x	∞	√
	Ø 5.0 - 6.0mm	x	!	∞
Jig Grinding		x	!	√
Specifications		602	625(X)	650(X)
Speed (rpm)	40,000		30,000	25,000
	50,000		40,000	30,000
	65,000		50,000	40,000
	90,000*			
Power (hp)		0.15 - 0.20	0.40 - 0.78	0.80 - 1.40
T.I.R. at Nose		Less than 2µm		
Collet Range		0.5mm - 7mm		
Air Pressure		90 PSI 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.*