

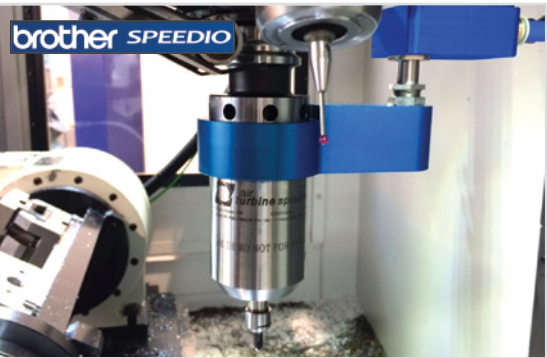
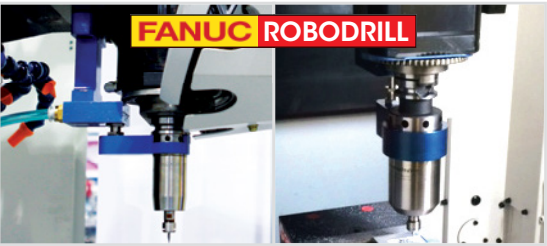
Drill Tap Series - For RoboDrill, Brother TC / Speedio, and other Drill-Tap Machines

Retrofit your Drill Tap machine with the double turbine **602XDT Series** for governed constant high speeds at 40,000, 50,000, 65,000 or 75,000 rpm up to 0.47 hp (0.35 kW) or the **625XDT Series** at 30,000, 40,000, or 50,000 rpm up to 0.90 hp (0.67 kW). Optimizes milling, drilling, engraving, marking, slotting and finishing with small tools.

Patented *Air Turbine Spindles®* maintain high speed and torque while cutting with **no gears, vanes or brushes to burn up**. The **Drill Tap Series** require no lubrication and emits no oil mist. With just 2 moving parts, low friction and low heat, the direct drive **602XDT Series** and **625XDT Series**, with automatic loading **TMA** option, are a powerful, precise and reliable solution to reduce cycle times and increase tool life. No Duty Cycle.

For automatic loading from the Drill Tap machine, connect the spindle mounted manifold block to a clean, dry (90 PSI / 6.2 Bar) air supply. Contaminated air will damage the Air Turbine spindle. A High Flow Filter Regulator/Extractor (0.3 micron) is included in the spindle price. For manual loading installation of the spindle the side NPT adaptor simply connects to a 1/4" / 6mm ID clean airline.

Automatic spindle loading adaptor kits are available for Drill Tap machines, including the Fanuc RoboDrill, Brother TC/ Speedio, Haas DT and Matrix XR45. Please refer to the Installation Guide at www.airturbinetools.com during installation.



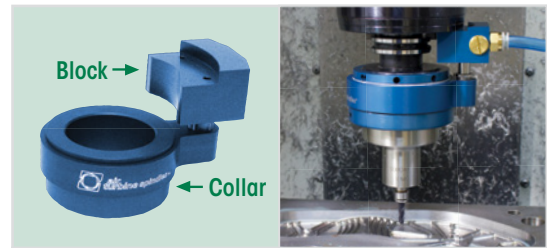
General Specifications	602XDT Models	625XDT Models
Governed Speed rpm	40,000 / 50,000 / 65,000 / 75,000	30,000 / 40,000 / 50,000
Power Rating hp (kW)	0.30 (0.22) / 0.40 (0.30) / 0.45 (0.34) / 0.47 (0.35)	0.8 (0.60) / 0.9 (0.67) / 0.9 (0.67)
Inlet Air Pressure (clean dry air only)	90 PSI (6.2 Bar)	90 PSI (6.2 Bar)
Air Consumption Idle cfm (l/s)	6 (2.8) / 6 (2.8) / 6.14 (2.9) / 6.14 (2.9)	19 (8.97) / 20 (9.44) / 20 (9.44)
Air Consumption Working Flow cfm (l/s)	7 (3.30) - 10 (4.27)	22 (10.38) - 30 (14.16)
Sound Level	Less Than 67 dBA	Less Than 67 dBA
Max Shank Capacity	ER 11 - 1/4" (6mm)	ER 11 - 1/4" (6mm)
Spindle Weight	66.4 oz (1.88 kg)	96 oz (2.72 kg)

Autoloading Options - Toolchanger Mounting Assembly or Center Airfeed

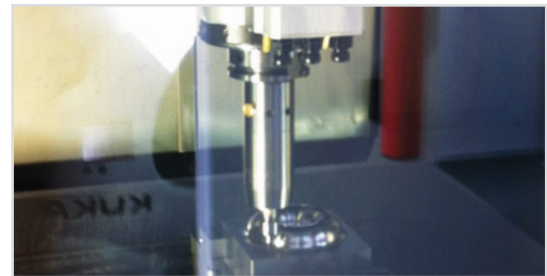
Automatically load *Air Turbine Spindles®* in CNC machines with our wrap-around **Toolchanger Mounting Assembly (TMA)** (patent pending). This option allows CNC tool-changers to automatically load/unload our family of high speed precision spindles using a proprietary collar system and mounting block integrated to the right side of the CNC spindle in minutes. The mounting block connects to a clean airline and solenoid. Filter extractor included with spindle.

Pre-machined spindle mounting blocks designed for popular CNC machines are available. A Universal block is available for custom mounting applications. The **TMA** block remains on the CNC spindle for normal tool changes, even if not using the Air Turbine Spindles® as it will not interfere when using the main spindle. View **Set Up Videos** and full **Installation Guide** and **Kits** at http://www.airturbinetools.com/set_up.html.

Due to *Air Turbine Spindles®* **Center Airfeed Option**, the TMA option is not required for automatic spindle changes on VMC's where coolant channel can be used to supply sufficient cfm / l/s air flow. *Air Turbine Spindles®* **Center Airfeed** can be used if coolant channel has 1/4" / 6mm internal diameter for 601 / 602 / 625 models. Not suitable for 625X / 650(X) models, except all HSK spindles, including 625X and 650 Series, can be used with center airfeed if coolant channel has sufficient internal diameter (3/8" / 9mm required for 625X and 650, 0.40" / 10mm required for 650X). Coolant channel and connector tube must be purged and cleaned before dry, clean 90 psi / 6.2 bar air is induced.



Toolchanger Mounting Assembly



Center Airfeed Option

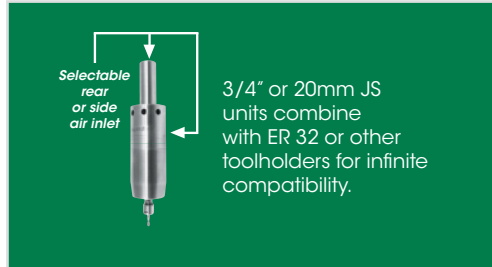
Why Are Our Spindles Different?

- Governed constant high speed and torque under load are maintained by patented governor.
- 25,000 - 90,000 rpm, with power to 1.40 hp / 1.04 kW direct drives.
- This unique powerful turbine motor has no vanes, no gears and no brushes to wear or thermally expand. The only moving parts are the turbine and the bearing sets. The result is less friction, less heat, and long life.
- Allows 24/7 milling at high speed, substantially reducing cycle times.
- Ideal for Trochoidal milling programs. High speed is maintained under load in continuous angle engagement.
- Higher finish quality and optimized end mill performance.
- Air Turbine's constant high spindle rpm's allow correct surface feeds for small tools, which extend tool life and further reduce costs.
- Profiling, drilling, finishing, engraving, slotting, micro machining and milling with small cutting tools up to 1/4" / 6mm.
- No duty cycle. Ceramic bearings cooled by turbine air standard.
- 2 micron Ultra Precision (UP) collet standard.
- Selectable twin airfeed inlets - connect to side NPT or through shank rear air inlet according to CNC configuration.
- Totally oil free - use 90 psi / 6.2 bar dry clean oil free air only. Use 0.3 micron filter/extractor included. Do not use hoses, fittings, or couplings less than 1/4" / 6mm ID for 602/625 units, less than 3/8" / 9.5mm ID for 625X/650 units, or less than 0.40" / 10mm ID for 650X units.

Standard Equipment: Combo filter extractor, spindle, collet*, ER 8 or 11 collet nut, wrenches, plug and carrying case.

**Collet is supplied with each spindle based on part number (i.e. 1/8", 1/4", 3mm, or 6mm). See Price List for part numbers. Optional collets available.*

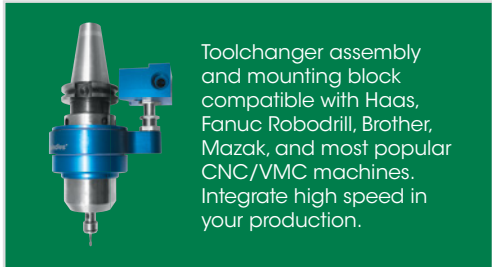
Mounting Options - Mount on any CNC



Straight Shank (JS)



Integrated Shank



Toolchanger Mounting Assembly



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NEW - Extended Series Spindles
50mm and 100mm Length

Do not use couplings/hoses less than 1/4" / 6mm internal diameter. Use couplings / hoses with a minimum internal diameter of 3/8" / 9.5mm for 625X and 650 units, and 0.40" / 10mm for 650X units. Always use a 0.3 micron filter and/or extractor where required and check specified psi or l/s air flow. Use 90 psi / 6.2 Bar clean, dry, oil-free air only. Use eye protection and follow safety instructions. Supply is subject to Air Turbine Technology Inc. (ATT) distributor policies and upon terms contained in the ATT distributor agreement. Subject to availability, change of specifications, price and terms without notice. All specifications approximate. © 2015 Air Turbine Tools, Inc. All rights reserved.

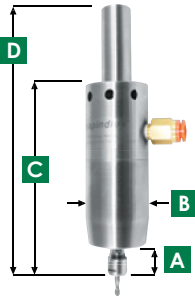


High Tech: High Speed – Air Turbine Superiority

Constant High Speed and Torque • 25,000 - 90,000 rpm, 1.4 hp / 1.04 kW

- **Significantly reduced cycle times. Complete in minutes instead of hours.**
- **Save time and money: *Air Turbine Spindles®* power + speed gives you mirror finishes (<7 RA).**
- **Cost effective milling, deburring and polishing of parts on your CNC, eliminating secondary processes.**
- **Direct drive with only two moving parts. No vanes, gears or brushes to wear, burn up or thermally expand. No maintenance required.**
- **No wear on CNC machine spindle motor.**
- **VMC Autochange option for full integration on any CNC.**

602 Series - General Information



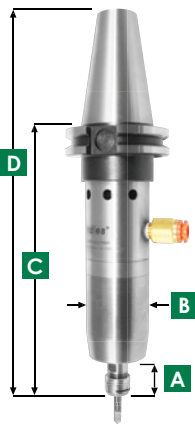
Compact, the **602 Series** delivers governed constant high speeds under load. Ideal for **engraving, marking, micro machining, drilling and finishing** with micro or smaller capacity tools the **602** speeds up cycle times – cutting cost and accelerating production. Selectable center or side air feed. **No Duty Cycle**.

- Constant governed speeds **40,000 to 90,000 rpm, < 0.20 hp (0.15 kW)**
- Expertly engineered for precise micro machining
- **2 micron Ultra Precision ER 8 Collet System standard**
- JS Straight Shank or HSK, CAT, BT and DIN Integrated Toolholder options

602 Series Dimensions - Other integrated shank dimensions and specifications available at www.airturbinetools.com			
	JS	HSK-A63	CAT40
A	0.75" (19mm)	0.75" (19mm)	0.75" (19mm)
B	1.57" (40mm)	1.57" (40mm)	1.57" (40mm)
C	4.69" (119mm)	5.55" (141mm)	6.06" (154mm)
D	6.65" (169mm)	6.69" (170mm)	8.74" (222mm)



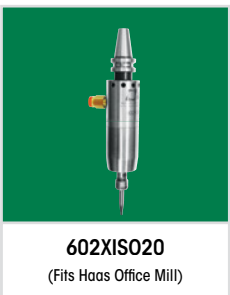
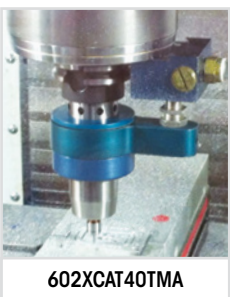
602X Series - General Information



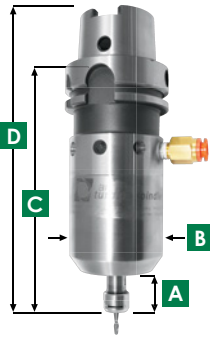
The **602X Series** has double turbines for extra power - maintaining speed and feed rate in corners. Ideal for **engraving, marking, micro machining, drilling and finishing** with small tools the **602X** speeds up cycle times – cutting cost and accelerating production. Selectable center or side air feed. **No Duty Cycle**.

- Constant governed speeds **40,000 to 65,000 rpm, < 0.45 hp (0.34 kW)**
- Expertly engineered for precise micro machining
- **2 micron Ultra Precision ER 11 Collet System standard**
- JS Straight Shank or HSK, CAT, BT and DIN Integrated Toolholder options

602X Series Dimensions - Other integrated shank dimensions and specifications available at www.airturbinetools.com			
	JS	HSK-A63	CAT40
A	0.98" (25mm)	0.98" (25mm)	0.98" (25mm)
B	1.57" (40mm)	1.57" (40mm)	1.57" (40mm)
C	5.31" (135mm)	6.22" (158mm)	6.65" (169mm)
D	7.28" (185mm)	7.36" (187mm)	9.37" (238mm)



625 Series - General Information



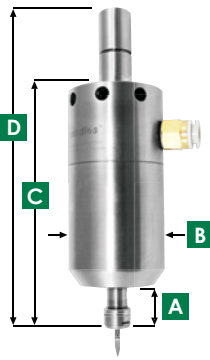
With vibration at just 0.4mm/sec the **625 Series** produces superb accuracy and fast results. Ideal for **mold making, milling, finishing** with small cutter capacities. Rigid steel construction in one piece with the integrated toolholder models also cuts the height of the unit. **625NS** shank-less version for fixtured operations available.

- Constant governed speeds **30,000 to 50,000 rpm, < 0.50 hp (0.37 kW)**
- Our compact and reliable multi purpose High Speed Spindle
- **2 micron Ultra Precision ER 11 Collet System standard**
- JS Straight Shank or HSK, CAT, BT and DIN Integrated Toolholder options

625 Series Dimensions - Other integrated shank dimensions and specifications available at www.airturbinetools.com			
	JS	HSK-A63	CAT40
A	0.87" (22mm)	0.87" (22mm)	0.87" (22mm)
B	2.24" (57mm)	2.24" (57mm)	2.24" (57mm)
C	5.12" (130mm)	6.06" (154mm)	6.42" (163mm)
D	7.09" (180mm)	7.13" (181mm)	9.13" (232mm)



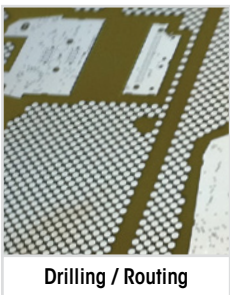
625X Series - General Information



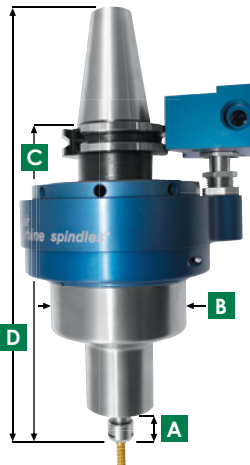
The **625X Series** has double turbines for extra power - maintaining speed and feed rate in corners. Ideal for **mold making, milling, finishing** with small cutter capacities. The **625X** speeds up cycle times – cutting cost and accelerating production. Selectable center or side air feed on JS and HSK units. **No Duty Cycle**.

- Constant governed speeds **30,000 to 50,000 rpm, < 0.90 hp (0.67 kW)**
- Our compact and reliable multi purpose High Speed Spindle
- **2 micron Ultra Precision ER 11 Collet System standard**
- JS Straight Shank or HSK, CAT, BT and DIN Integrated Toolholder options

625X Series Dimensions - Other integrated shank dimensions and specifications available at www.airturbinetools.com			
	JS	HSK-A63	CAT40
A	0.87" (22mm)	0.87" (22mm)	0.87" (22mm)
B	2.24" (57mm)	2.24" (57mm)	2.24" (57mm)
C	5.55" (141mm)	6.50" (165mm)	6.85" (174mm)
D	7.52" (191mm)	7.56" (192mm)	9.57" (243mm)



650 Series - General Information



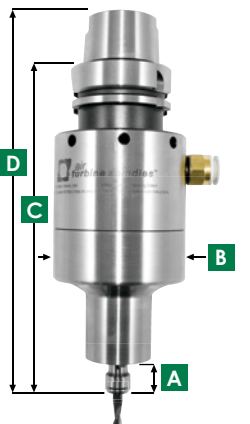
In 24 hour operation the patented governed high speed **650 Series** delivers constant high speed and torque under load with high reliability and accuracy as a result of its low friction power unit with only two moving parts. Power to speed up your inches cut per minute. **L Series** extended version for extra reach available.

- Constant governed speeds **25,000 to 40,000 rpm, < 0.88 hp (0.66 kW)**
- Rugged + Robust, Double front bearings - *Air Turbine Spindles®* Workhorse
- **2 micron Ultra Precision ER 11 Collet System standard**
- JS Straight Shank or HSK, CAT, BT and DIN Integrated Toolholder options

650 Series Dimensions - Other integrated shank dimensions and specifications available at www.airturbinetools.com			
	JS	HSK-A63	CAT40
A	0.87" (22mm)	0.87" (22mm)	0.87" (22mm)
B	3.23" (82mm)	3.23" (82mm)	3.23" (82mm)
C	5.79" (147mm)	7.76" (197mm)	7.20" (183mm)
D	7.76" (197mm)	8.66" (220mm)	9.88" (251mm)



650X Series - General Information



With *Air Turbine Spindles®* patented **double turbine's extra power** the 1.40 hp (1.04 kW) maintaining stable high speed and torque under load, the **650X Series** accelerates feed rates and cuts cycle times. **L Series** extended version for extra reach available. **No Duty Cycle** in 24/7 operations.

- Constant governed speeds **25,000 to 40,000 rpm, < 1.40 hp (1.04 kW)**
- Rugged + Robust, Double front bearings - *Air Turbine Spindles®* Workhorse
- **2 micron Ultra Precision ER 11 Collet System standard**
- JS Straight Shank or HSK, CAT, BT and DIN Integrated Toolholder options

625X Series Dimensions - Other integrated shank dimensions and specifications available at www.airturbinetools.com			
	JS	HSK-A63	CAT40
A	0.87" (22mm)	0.87" (22mm)	0.87" (22mm)
B	3.23" (82mm)	3.23" (82mm)	3.23" (82mm)
C	6.26" (159mm)	8.23" (209mm)	7.68" (195mm)
D	8.23" (209mm)	9.13" (232mm)	10.40" (263mm)



General Specifications	602 Models	602X Models
Governed Speed rpm	40,000 / 50,000 / 65,000 / *90,000	40,000 / 50,000 / 65,000
Power Rating hp (kW)	0.15 (0.11) / 0.2 (0.15) / 0.2 (0.15) / 0.2 (0.15)	0.30 (0.22) / 0.40 (0.30) / 0.45 (0.34)
Inlet Air Pressure (clean dry air only)	90 PSI (6.2 Bar)	90 PSI (6.2 Bar)
Air Consumption Idle cfm (l/s)	4.5 (2.1) / 4.5 (2.1) / 4.5 (2.1) / 5 (2.4)	4 (1.9) / 5 (2.4) / 6 (2.8)
Air Consumption Working Flow cfm (l/s)	5 (2.36) - 6 (3.30)	5 (2.36) - 12 (5.66)
Sound Level	Less Than 67 dBA	Less Than 67 dBA
Max Shank Capacity	ER 8 - 1/8" (3mm)	ER 11 - 1/4" (6mm)
Spindle Weight	JS: 23.2 oz (0.66 kg) CAT/DIN/BT/HSK: 46.4 oz (1.32 kg)	JS: 26.4 oz (0.75 kg) CAT/DIN/BT/HSK: 63.2 oz (1.79 kg)

*90,000 rpm 602 version is recommended for only special applications with micro end mills. Please call +1.561.994.0500 for more information

General Specifications	625 Models	625X Models
Governed Speed rpm	30,000 / 40,000 / 50,000	30,000 / 40,000 / 50,000
Power Rating hp (kW)	0.40 (0.30) / 0.45 (0.34) / 0.50 (0.37)	0.8 (0.60) / 0.9 (0.67) / 0.9 (0.67)
Inlet Air Pressure (clean dry air only)	90 PSI (6.2 Bar)	90 PSI (6.2 Bar)
Air Consumption Idle cfm (l/s)	10.5 (4.9) / 11 (5.2) / 11 (5.2)	19 (8.97) / 20 (9.44) / 20 (9.44)
Air Consumption Working Flow cfm (l/s)	11 (5.2) - 20 (9.4)	22 (10.38) - 30 (14.16)
Sound Level	Less Than 67 dBA	Less Than 67 dBA
Max Shank Capacity	ER 11 - 1/4" (6mm)	ER 11 - 1/4" (6mm)
Spindle Weight	JS: 49.6 oz (1.41 kg) CAT/DIN/BT/HSK: 81.6 oz (2.31 kg)	JS: 64 oz (1.81 kg) CAT/DIN/BT/HSK: 96 oz (2.72 kg)

View installation information and installation kits at www.airturbinetools.com

General Specifications	650 Models	650X Models
Governed Speed rpm	25,000 / 30,000 / 40,000	25,000 / 30,000 / 40,000
Power Rating hp (kW)	0.76 (0.57) / 0.83 (0.62) / 0.88 (0.66)	1.2 (0.90) / 1.3 (0.98) / 1.4 (1.04)
Inlet Air Pressure (clean dry air only)	90 PSI (6.2 Bar)	90 PSI (6.2 Bar)
Air Consumption Idle cfm (l/s)	13 (6.1) / 14 (6.6) / 14 (6.6)	16 (7.56) / 17 (8.02) / 18 (8.49)
Air Consumption Working Flow cfm (l/s)	14 (6.60) - 35 (16.5)	19 (8.97) - 40 (18.89)
Sound Level	Less Than 67 dBA	Less Than 67 dBA
Max Shank Capacity	ER 11 - 1/4" (6mm)	ER 11 - 1/4" (6mm)
Spindle Weight	JS: 65.8 oz (1.95 kg) CAT/DIN/BT/HSK: 112.8 oz (3.20 kg)	JS: 75.2 oz (2.13 kg) CAT/DIN/BT/HSK: 118.4 oz (3.34 kg)

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