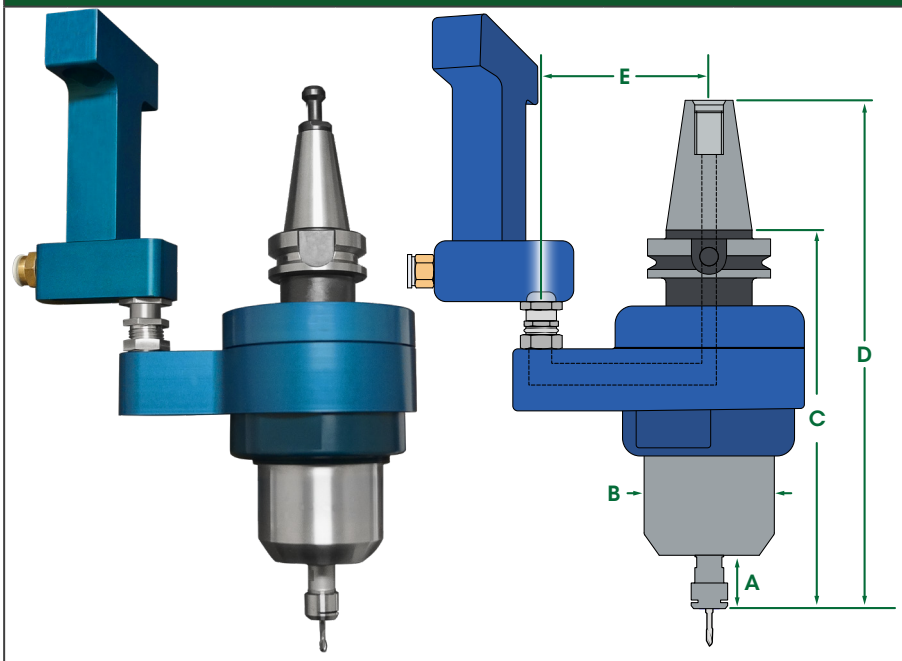
625XDT
Double Turbine Drill-Tap CNC Spindle Series

air turbine spindles®

Just fit the patented, single turbine **625XDT** Series spindle to your Drill-Tap machine magazine for increased production with tool automatic tool change functionality. Increase milling and drilling feed rates with **no duty cycle for true 24/7 unattended production 30,000, 40,000, or 50,000 RPM, with up to 0.76 HP (0.57 kW).** For automatic loading from the Drill-Tap magazine, install the spindle mounted manifold block and align the nozzle to block connector, which supplies clean, dry 90 psi (6.2 bar) air to the spindle.

625XDT Dimensions



All fittings, couplings, and hoses must have a minimum of 8 mm internal diameter.

A	1.0" (25.4 mm)	C	6.89" (175 mm)	E	Robodrill	2.56" (65 mm)
B	Ø 2.24" (56.7 mm)	D	8.84" (224.54 mm)		Brother TC	3.58" (91 mm)
					Haas DT	2.59" (66 mm)

625XDT Specifications

Speed	30,000 RPM	40,000 RPM	50,000 RPM
Power Rating	0.72 HP (0.54 kW)	0.74 HP (0.55 kW)	0.76 HP (0.57 kW)
Inlet Air Pressure	90 psi (6.2 bar)		
Air Consumption Idle	16 CFM (7.55 L/s)	20 CFM (9.44 L/s)	
Air Consumption Working Flow	22 CFM - 30 CFM (10.38 L/s - 14.16 L/s)		
Air Hoses and Fittings Minimum Size	8 mm internal diameter		
Sound Level	Less Than 78 dBA		
Max Shank Capacity	ER11 UP - 1/4" (6 mm)		
Spindle Weight	96 oz (2.72 kg)		

Accessories

Model	Part Number
High Flow Filter / Regulator / Extractor	30008
Tube 12 mm O.D. - 8 mm I.D. (order by foot)	16509
Hose & Fitting - 12 mm O.D. - 8 mm I.D. - 12'	30045

625DT Equipment Included

- 625XBT30 Spindle
- TMA Block
- TMA Collar
- Combo Filter Extractor
- ER11 UP Collet System (1/4" or 6 mm standard)
- Collet Wrenches
- Air Hose
- Fittings
- Plug (For alternate air inlet not in use.)
- Coolant Guard
- Carrying Case

Standard Equipment

ER11 UP collet system. 1/4" or 6 mm standard, other sizes are available.

Oil-free 90 psi / 6.2 bar clean, dry air supply required.

Scan to consult full user instructions.

Tel:+1.561.994.0500 • www.airturbinetools.com • ask@airturbinetools.com

625XDT
Double Turbine Drill-Tap CNC Spindle Series

air turbine spindles®

625XDT Series Part Numbers				
Model	Collet System	Part Number		
		30,000 RPM	40,000 RPM	50,000 RPM
625XDTBT30 Robodrill	ER11 UP 1/4"	64630	64632	64634
	ER11 UP 6 mm	64631	64633	64635
625XDTBT30 Brother TC	ER11 UP 1/4"	64636	64638	64640
	ER11 UP 6 mm	64637	64639	64641
625XDTBT30 Haas DT-1	ER11 UP 1/4"	64642	64644	64646
	ER11 UP 6 mm	64643	64645	64647

Spindle Only Part Numbers				
Model	Collet System	Part Number		
		30,000 RPM	40,000 RPM	50,000 RPM
625XDTBT30	ER11 UP 1/4"	64214	64216	64380
	ER11 UP 6 mm	64215	64217	64381

TMA (Block + Collar) Part Numbers	
Model	Part Number
625XDT - Robodrill	36302
625XDT - Brother TC	36303
625XDT - Haas DT-1	36305

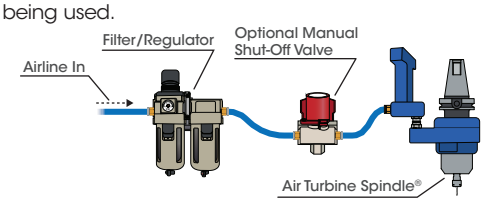
Block Assembly Only Part Numbers	
Model	Part Number
625XDT - Robodrill	36314
625XDT - Brother TC	36315
625XDT - Haas DT-1	36316

Collar Assembly Only Part Numbers	
Model	Part Number
625DT - Robodrill	36318
625DT - Brother TC	36320
625DT - Haas DT-1	36324

Mounting blocks for other CNC machines are available.

Initial Installation

Install a new dedicated clean air line from the included filter/regulator to your Air Turbine Spindle® as shown below. **Ensure all air lines, couplings and fittings meet the minimum internal diameter (ID) of 8 mm.** Any connections smaller than 8 mm will restrict air flow and reduce power to your Air Turbine Spindle®. Additionally, place a plug in any air inlet that is not being used.



Air flow restrictions (such as air leaks) will cause underpower performance and drag your tool through the material, damaging the bearings. **Some fittings with nominal internal dimensions may have an internal diameter passage that is smaller than stated and restrict air flow and power.** It only takes one fitting with an internal diameter that is too small to reduce air flow and power of your Air Turbine Spindle®.

Air Requirements

Do not oil or lubricate. Use dry, clean, oil free 90 psi (6.2 bar) air supply only. Ensure there is sufficient volume of clean compressed air flow at 90 psi (6.2 bar) with **22 CFM - 30 CFM (10.38 L/s - 14.16 L/s)** to maintain working air consumption. Depending on application, consider peak or stall capacity consumption.

Our patented governor increases air flow volume on demand to keep rotation at the high speed when your tool starts to cut. **Air pressure and flow volume must be available on demand and remain constant with no drop over time or when cutting.** Avoid pressure below 90 psi / 6.2 bar, which causes rapid bearing wear and underpowered performance. Do not use more than 100 psi / 6.9 bar pressure which will burst the turbine power producer. Air pressure and flow must remain constant with no drops under cutting load. Insufficient flow will cause the rotation of your tool to slow or stop suddenly, damaging the bearings. If a drop in psi (bar) occurs below 90 psi (6.2 bar), your compressor may not have enough CFM (L/s) to power the Air Turbine Spindle® or there is a flow restriction in the air line.

Maintenance

Your Air Turbine Spindle® must be run at least 10 minutes every 30 days from manufacture date to maintain optimal performance. Run at least 10 minutes before initial use. The airline must be impeccably clean with no coupling or hose smaller than 6 mm internal diameter. The included 0.3 micron filter extractor regulator combination is a necessary accessory for Air Turbine Spindles® to eliminate impurities in your air supply. Contamination will damage your turbine components and require repair. **Filter elements need to be changed periodically, and extractor drained in regular maintenance cycles.** Replacement elements and a repair service are available on our website.

Operation

Purge the line of contamination and run at least 10 minutes before initial use to ensure the bearing lubrication does not solidify.

Monitor the air pressure gauge during operation of your Air Turbine Spindle®. The key to successful high-speed machining and optimized tool performance is to program light passes at very high feed rates. Start with a light pass observing surface finish quality and gradually step down or increase your rate of advance for optimal cutting conditions. Do not try to cut too aggressively. You will overload your turbine causing your cutting tool to stall or drag in the material. Dragging your tool on the work or a sudden stop will cause stress to the bearings and force the grease out, causing premature failure.

WARNING
Connection to air supply starts motor rotation. Do not connect air to your tool until installation is complete.

Tel:+1.561.994.0500 • www.airturbinetools.com • ask@airturbinetools.com