

REALITY

The information source for esthetic dentistry

2013

The Ratings | HANDPIECES - AIR-HIGHSPEED

1



(4.5)



RAVES & RANTS

- + Awesome torque
- + Doesn't stall when heavy pressure is applied
- Installation requires an advanced engineering degree
- Entry level price is relatively steep

MANUFACTURER

Dentsply Professional
www.StylusATC.com

PRICES

Starter Package

\$5,142.69 (includes 2 handpieces, control box, coupler, and cords)

Replacement Handpieces

\$1,577.49

WARRANTY

2 years (handpieces)

3 years (control box, coupler, and tubing)

Midwest Stylus ATC

INTRODUCTION/MANUFACTURER'S CLAIMS

Air-powered highspeed handpiece that looks and feels like the handpiece you may be using right now. The real advantage of the ATC over conventional air-powered handpieces is its coupler and control box. This is where the ATC (Adaptive Torque Control) comes from. As explained by the manufacturer, a sensor in the coupler tells the control box you are about to cut through, for example, a nonprecious metal coping to remove a crown and you need more power. The control box, which is referred to as an electronic "brain", then increases the air pressure that gives the handpiece the turbo boost necessary to cut through the hard metal. For light cutting tasks, the opposite effect is supposed to occur, i.e., adequate torque at low speeds. In addition, the turbine has been redesigned to handle the higher air pressures.

This is actually the second version of the ATC and, according to one evaluator, is far better than the first, in which the automatic torque controller was inconsistent.

CONTROL BOX

Cream plastic. Measures 4.9in/12.5cm long, 3.9in/10.0cm wide, and 2.0in/5.0cm high. It needs to be mounted somewhere inconspicuously near your dental unit and comes with integral tubing that replaces whatever you are using now. Our unit was mounted on the arm behind our continental-style, dental delivery unit.

HANDPIECE

Contemporary, almost seamless design with numerous shallow dimples to facilitate a positive grip.

LIGHT INTENSITY (LUX)

12,800. This level of illumination is close to the highest we have ever recorded for an air-powered handpiece (two electrics tested higher). Half of the evaluators thought it seemed brighter than most other handpieces, 40% felt it was about the same, and 10% wanted more light.

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WATER SPRAY

4-port, arranged around the bur for the full-sized version. 1-port for the mini version.

Half of the evaluators thought it did an excellent job keeping the prep cool and visible, another 20% thought it was about the same as other highsPEEDS, while the remaining 30% had problems with the water spray. One evaluator was not able to adjust the water below fire-hose quantities, while another one stated that the water spray did not start until the handpiece had been activated for 20-30 seconds.

Since the test units at **REALITY** did not exhibit these issues, we suspect the water spray problems were the result of improper installation. This system does indeed require more diligence during its installation and some techs may not have had proper training. Therefore, if your system does not seem to be performing properly, it could be that it wasn't installed as directed by the manufacturer.

DURABILITY (TURBINE)

Minimum guaranteed 1,250 sterilization cycles. With all the new technology built into this handpiece, one evaluator was hopeful, but somewhat anxious over its long-term durability.

NOISE (dBA)

70 @73 psi. Among the quietest we have tested. While our sound meter is not discriminatory and records all sound emitted by the handpiece, the pitch or "shrillness" of the ATC is audibly lower than other air-powered handpieces and should cause less shivers from your patients. Half of the evaluators thought it was quieter than other highsPEEDS while the other half thought it was about the same.

TORQUE

21 watts. Most (60%) of the evaluators thought it cut better than other highsPEEDS, while the other 40% considered it on par with others. An even higher percentage (70%) stated that the ATC didn't lose power when heavy cutting was performed, while the other 30% could not "feel" the increased power as more pressure was applied to the bur.

In addition, 60% of the evaluators did not notice the momentary, turbo-like lag when you first apply pressure to the foot control. After this short hiccup, the handpiece accelerates quickly similar to a turbo-charged engine in a sports car. Of the 40% of the evaluators who noticed the lag, only one commented it was slightly bothersome.

One evaluator stated that the ATC was significantly more powerful than other air-powered highsPEEDS, but another evaluator commented that it was difficult finding a comfortable cutting pressure. Still another evaluator could not feel the difference between the ATC and other, air-powered

handpieces and was even able to stall out the bur with heavy pressure. However, the evaluator with the stall-out problem also had water spray problems, indicating again that the performance was probably affected by an installation problem, since we were unable to stall out any of our in-house test units.

MAXIMUM OPERATING SPEED

330,000 rpm.

MAXIMUM OPERATING PRESSURE

80 psi.

RECOMMENDED OPERATING PRESSURE

73 ± 5 psi.

WEIGHT

3.3oz/93.6g Middle of the air-powered pack, but much less than even the lightest of the electrics. Most (70%) of the evaluators thought it felt about the same compared to other highsPEEDS, while 20% thought it was lighter and 10% thought it was heavier. One evaluator commented that he considered it too lightweight and wanted it to weigh more.

BALANCE

Very good. Half of the evaluators thought its balance and comfort were on par with other highsPEEDS, 40% felt it had better balance, and 10% did not think it was as balanced and/or comfortable to hold compared to other highsPEEDS. One evaluator commented that it was much better than electrics.

HANDPIECE DIMENSIONS (mm)

Diameter	16.4
Length	120.0

HEAD DIMENSIONS (mm)

Full-size

Diameter	10.7
Length (w/330 bur)	21.4

Mini

Diameter	10.7
Length (w/330 bur)	21.3

NOTE: The length of mini head is 19.8mm with a short shank bur.

One evaluator preferred the mini head over the regular one, while another evaluator thought the mini head was still too large.

ANGLE OF THE HEAD

108.5°. Most (67%) of the evaluators considered its angle about the same as other highsPEEDS, 22% thought it was better, and 11% thought it was not as good. One evaluator in particular preferred a more obtuse angle.

MAINTENANCE

Most (90%) evaluators found it about the same as other highsPEEDS when it came to cleaning and lubricating it, while the other 10% considered it easier to perform these procedures. Its satin-like finish is smooth and easy to clean.

REALITY

STRENGTHS Exceptional power that doesn't falter when heavy pressure is applied. Cuts very fast and smoothly with minimal vibration. Makes prepping very efficient. Cuts through gold and hard ceramics easily. Has a sleek design and the nubs where your fingers hold the handpiece give it a nice tactile feel. Relatively lightweight and quiet, especially the low pitch. Best-in-class illumination.

WEAKNESSES While the highsPEED/high torque combo was easy to appreciate, the lowsPEED/high torque claim was more difficult to use. Coupler doesn't rotate as easily as some competitive models. Initial system cost is significantly higher than just buying a new highsPEED handpiece. Performance of the system is highly dependent on skill, training, and experience of the installer. At least two evaluators had major installation problems and other evaluators commented that the installer needed to make several visits to get it right.

BOTTOM LINE

Does not possess the unbridled power of an electric, but its inventive engineering has produced a handpiece that is significantly lighter than all electrics and it will outperform conventional air-powered versions assuming its somewhat tricky installation is handled properly.

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