

# TwinPower Turbine

The image features a hand in a white glove holding a dental turbine instrument. The instrument has a long, slender handle with a silver-colored section near the tip. The handle is marked with 'TWIN POWER TURBINE S', 'UMX 0 D1', 'N.Y. 10002', and a 'CE' mark. A small 'LED' logo is visible on the handle. The instrument's tip is a small, precise micro-head. In the background, a large, detailed turbine engine is visible, suggesting the instrument's power and precision.

**Finger Instrument**  
**Powerful Micro-head**

## Features of TwinPower Turbine

---

Quiet

Reduces uncomfortable high-pitch noise

Powerful

Steady, effective & efficient drilling

Durable

Faster & more durable ceramic ball bearings

Quick Stop

Stops within 2 seconds

Zero Suck Back

Prevents the intake of debris

Micro-head

Improves access & visibility

# Lineup



Torque type  
X

Power: 25W  
Burr length: under 22mm



Standard type  
EX

Power: 22W  
Burr length: under 22mm



Ultra E type  
UEX

Power: 20W  
Burr length: under 22mm

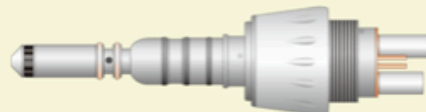


Ultra M type  
UMX

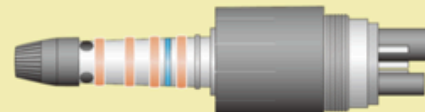
Power: 18W  
Burr length: under 20mm



TwinPower Turbine  
4H



KaVo  
MULTiflex LUX



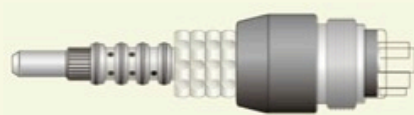
Sirona  
Quick



W&H  
Roto Quick



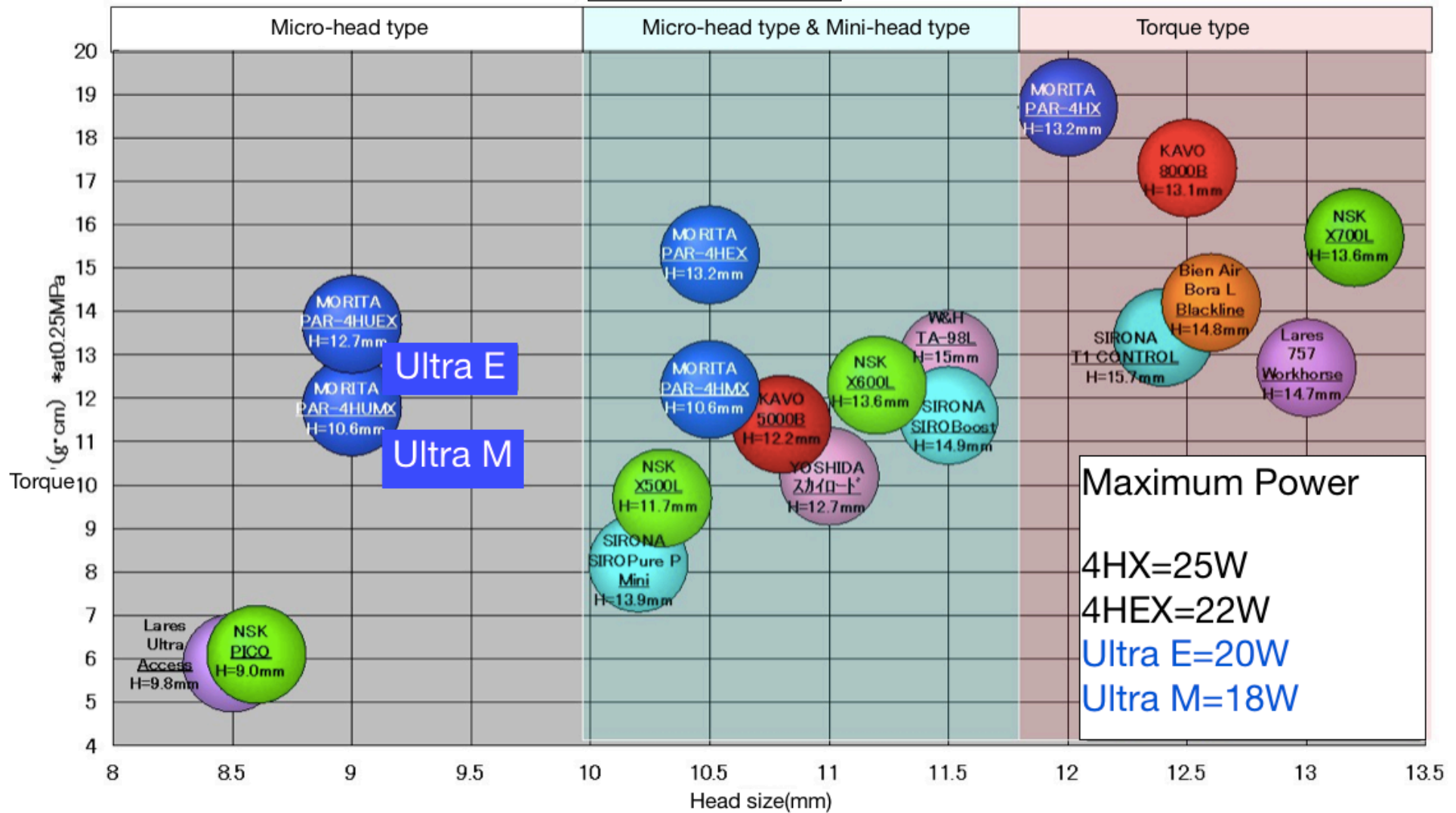
NSK  
Mach/Phatelus



YOSHIDA  
Quick Optical

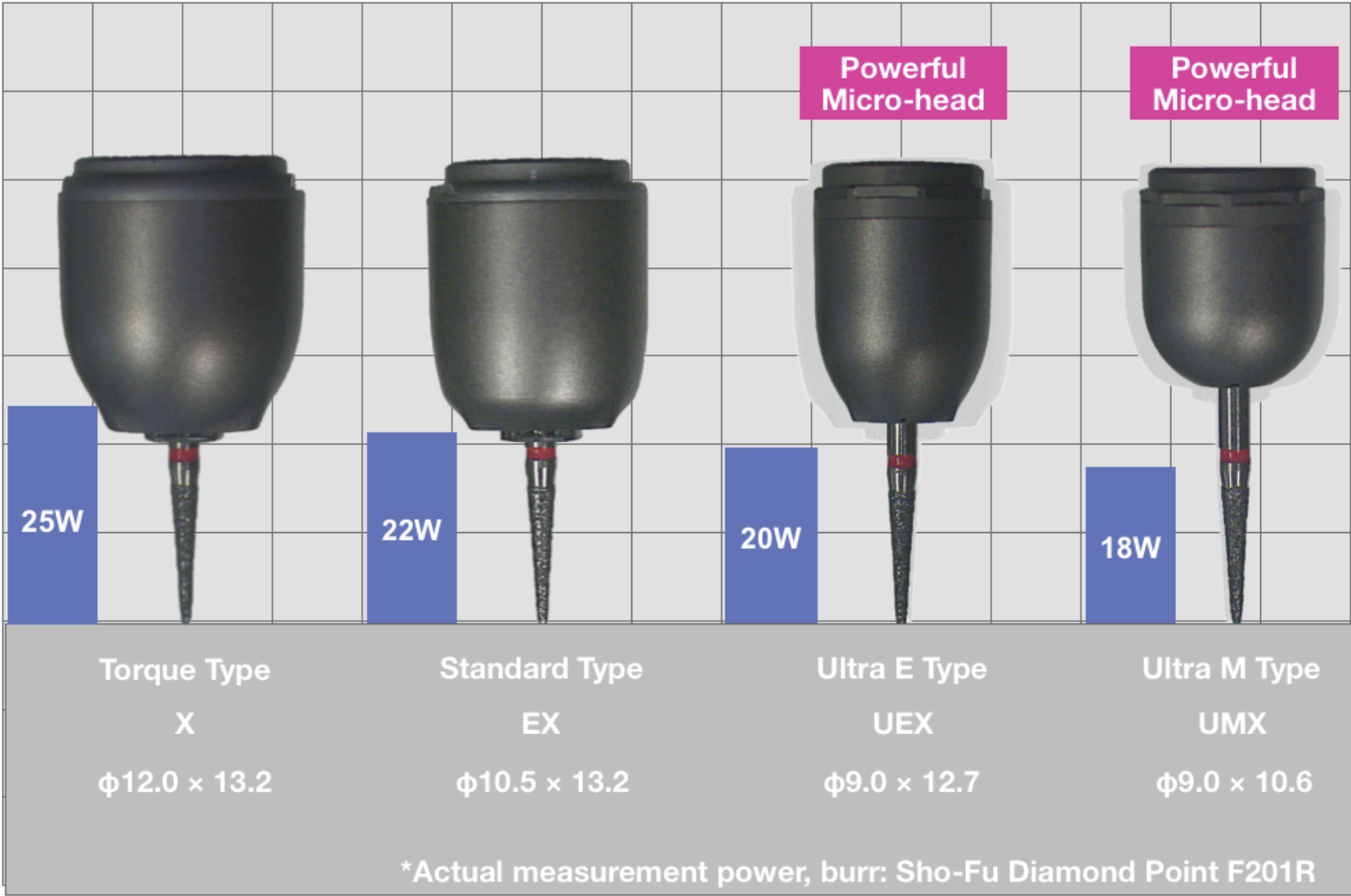
# Head Size Comparison with Competitors

Head Size & Torque  
at 0.25(MPa)





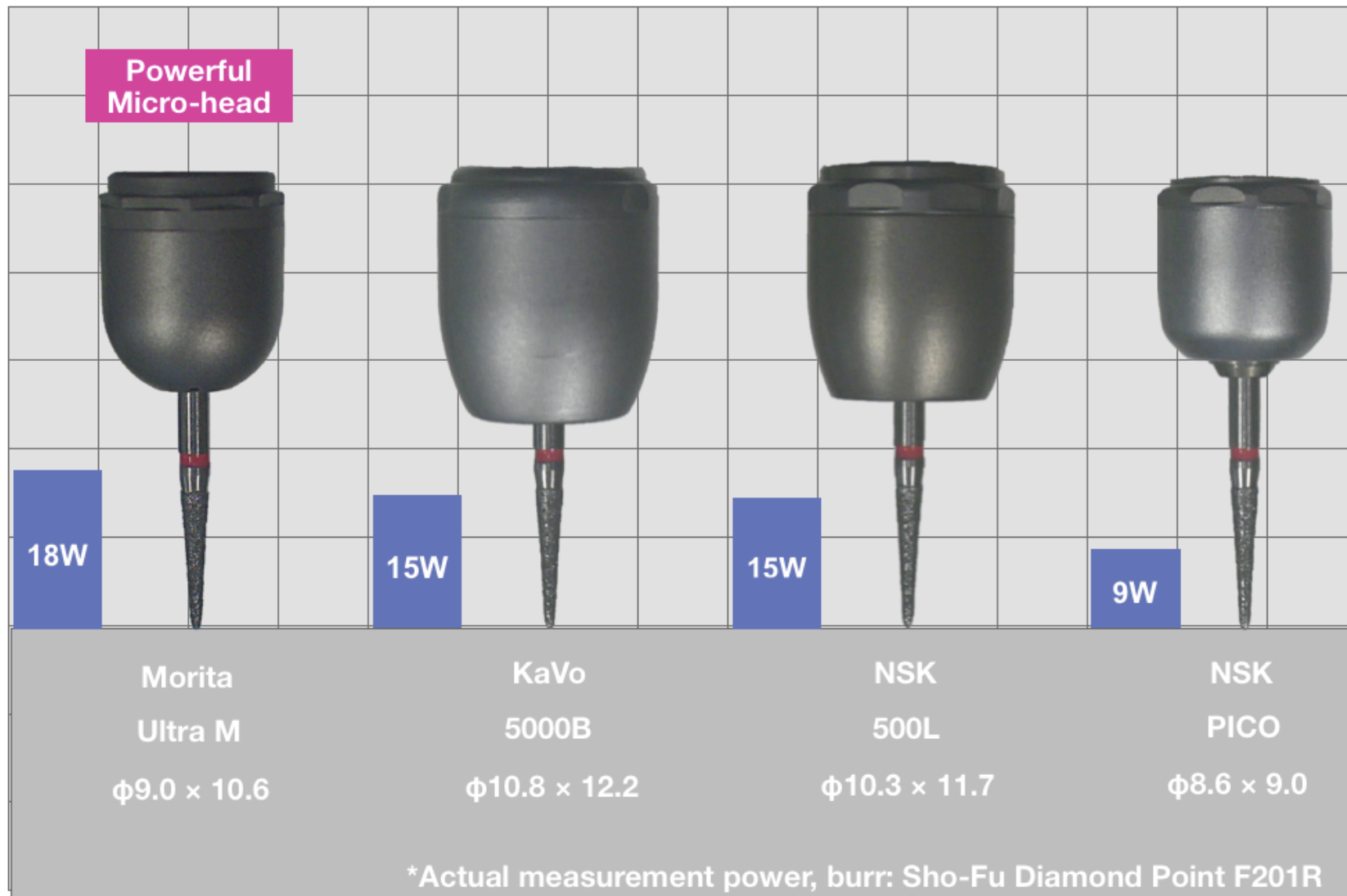
# Comparison of Head Size & Power



# Comparison of Head Size & Power

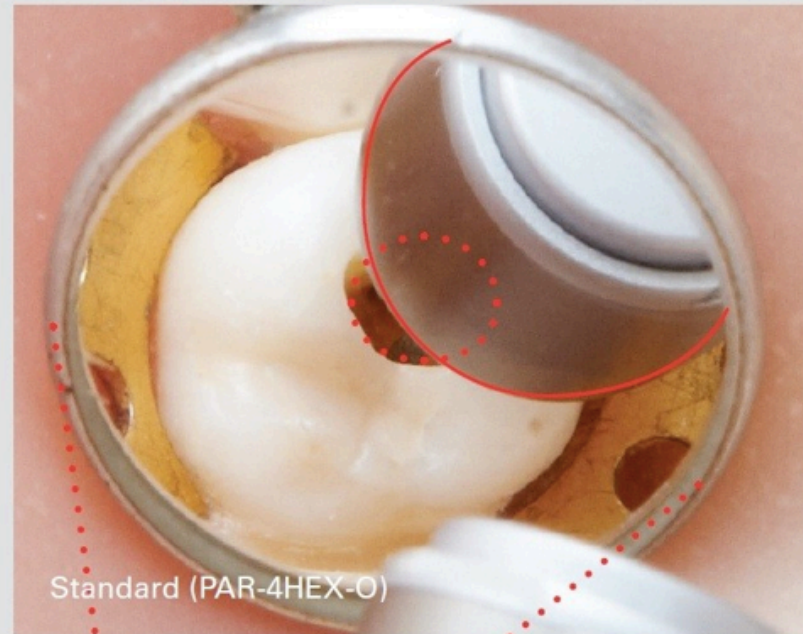
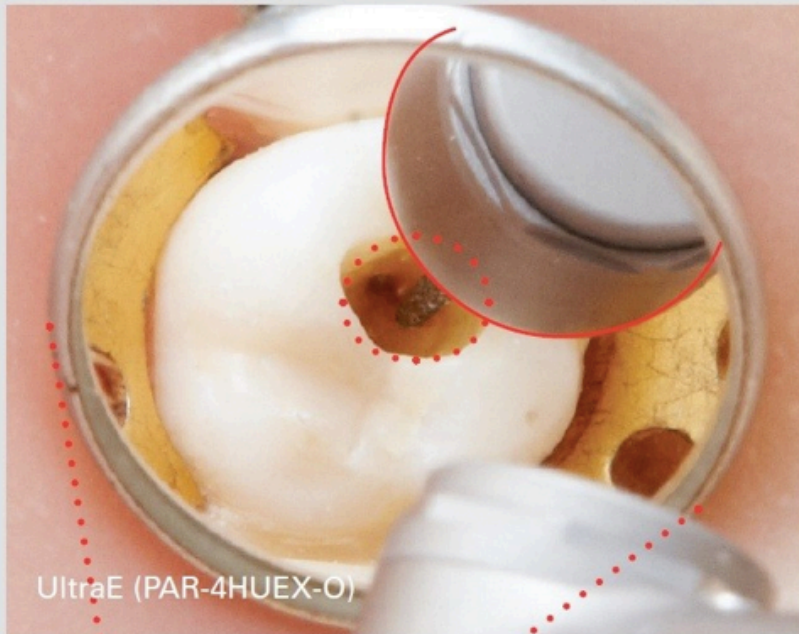


## Comparison of Head Size & Power



## Micro-head (1)

### Case 1. Tooth 16 Pulp Chamber Opening



The UltraE head facilitates an improved view with a mirror or a microscope. The bur can easily be seen while accessing the pulp chamber. The small head allows for improved mirror positioning and better vision.

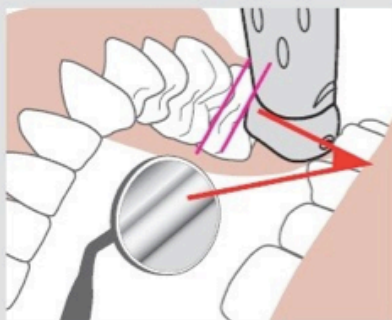


When using a standard sized head, the bur must be slanted for visibility which results in removal of more tooth structure than necessary.

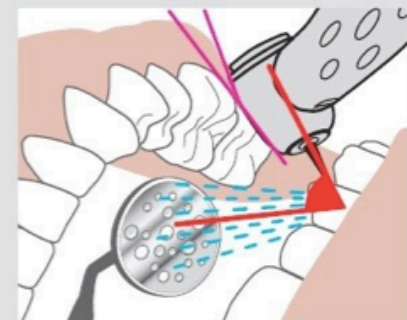


## Micro-head (2)

### Case 2. Tooth 17 Cavity Preparation



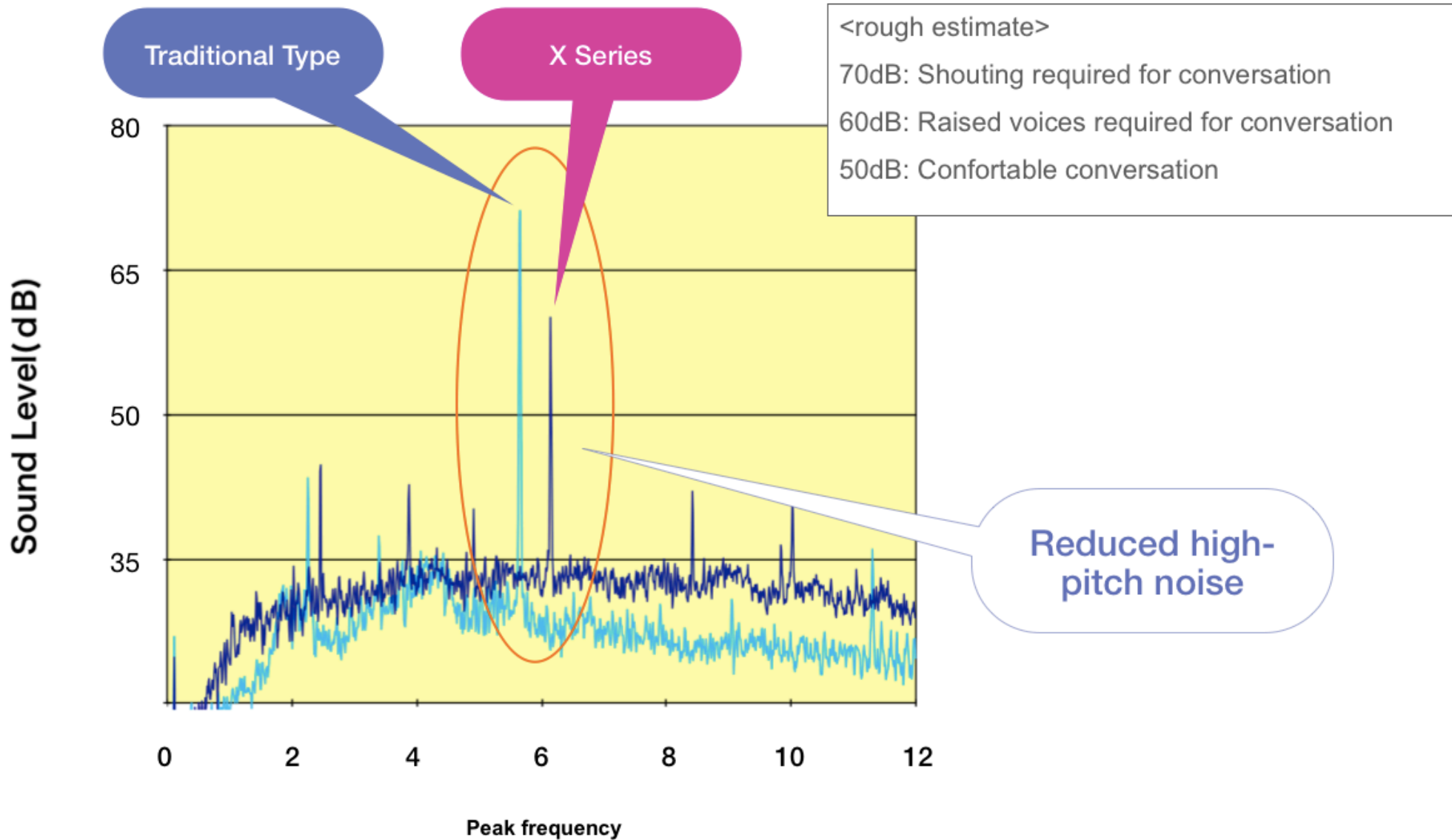
With UltraM, the bur can be held upright for use on molars (including wisdom teeth) or for patients who have limited opening.



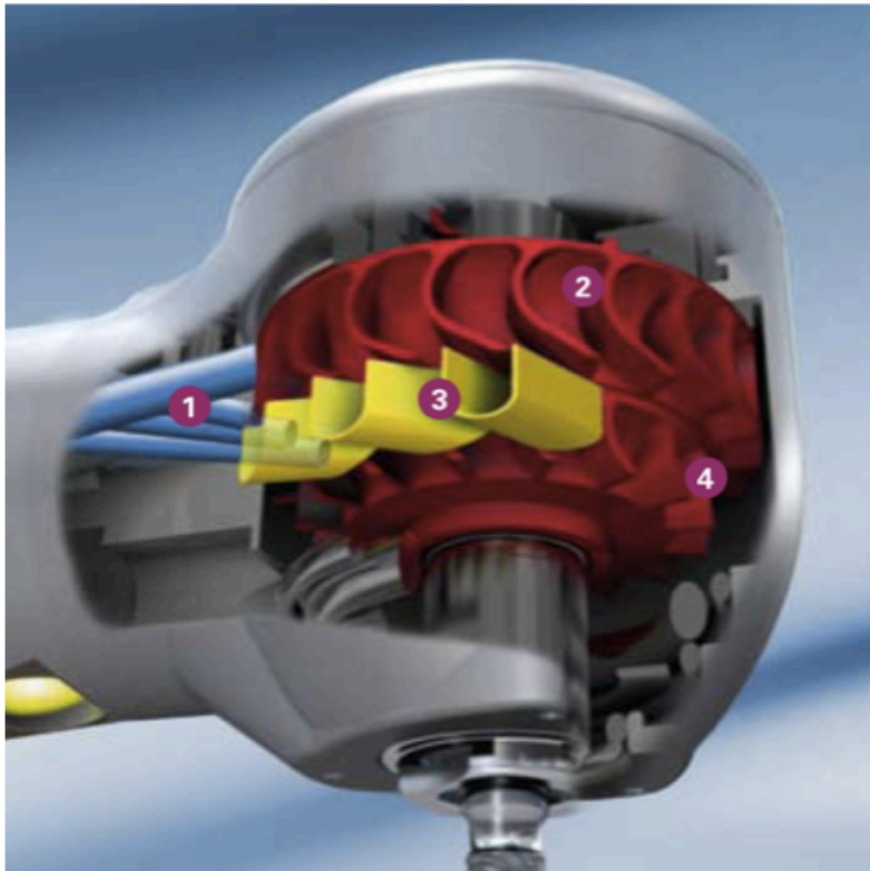
The bur must be slanted with a standard head to gain access which leads to excessive drilling of the tooth structure. The mirror is placed to the side of the handpiece head and gets wet resulting in poor visibility.



# Reduces Uncomfortable High-pitch Noise



## Truly Unique – TwinPower's Double-Impeller Technology

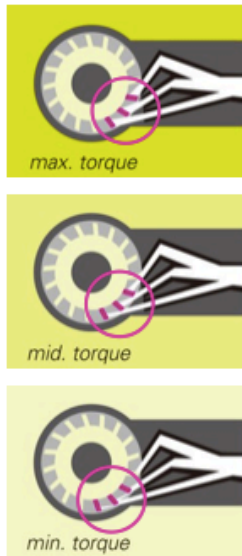


The torque produced by TwinPower technology provides steady, effective, and efficient drilling with a light touch.

The air from the drive air nozzles **1** powers the primary impeller **2**. The exhaust air is directed through fixed fins **3** to power the secondary impeller **4**. The operational result is a more powerful, constant torque and controlled speed, even under load.

- 1** Three drive air nozzles
- 2** Primary impeller
- 3** Fixed fins to direct the exhaust air
- 4** Secondary impeller

# Extremely Powerful, Balanced Constant Torque

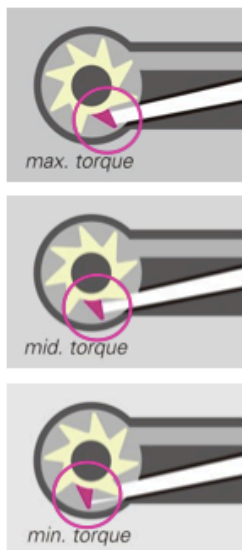
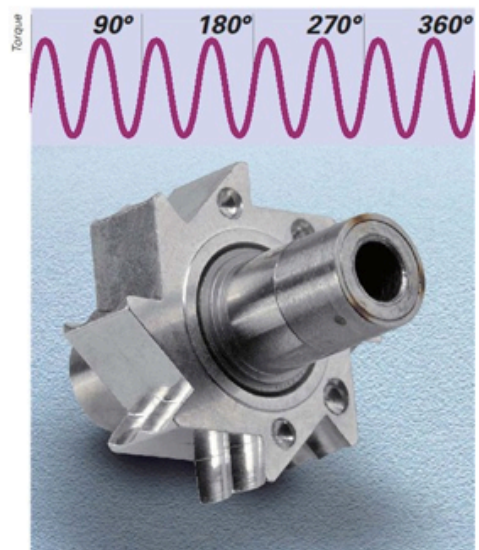


## TwinPower Rotor

TwinPower's double-impeller technology features 40 impeller blades (PAR-4HX). Three drive air nozzles power the blades.

Even when the blade angle changes, the drive air continues to be captured by multiple blades, generating superior power and constant torque, thus creating no vibration.

Play movie



## Conventional Rotor

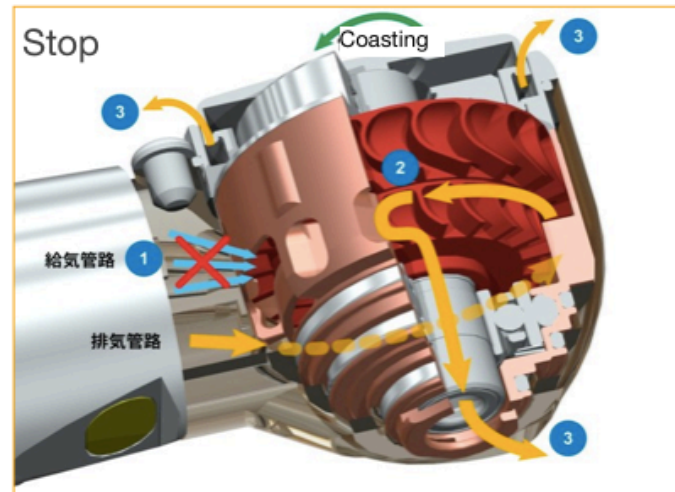
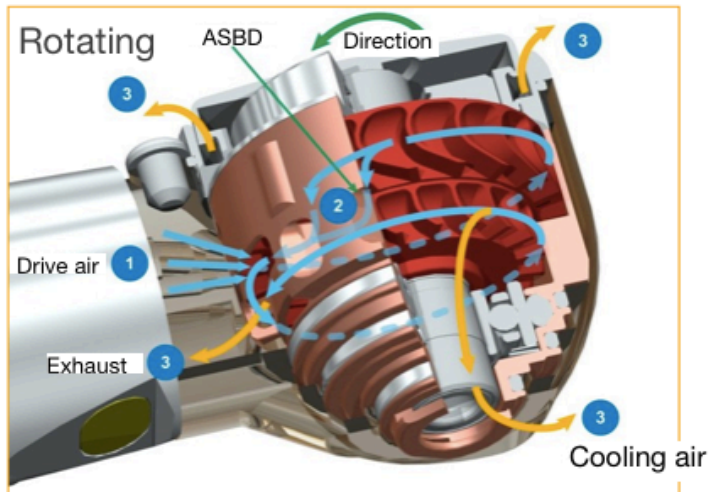
Conventional high speed rotors are typically equipped with 8 impeller blades and 1 drive air nozzle.

Depending on the angle of the blade, the drive air is not directly captured by the blade, resulting in weak torque phases.

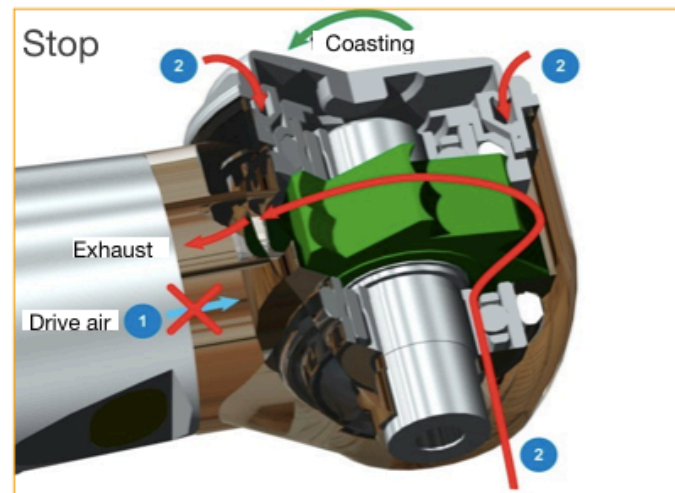
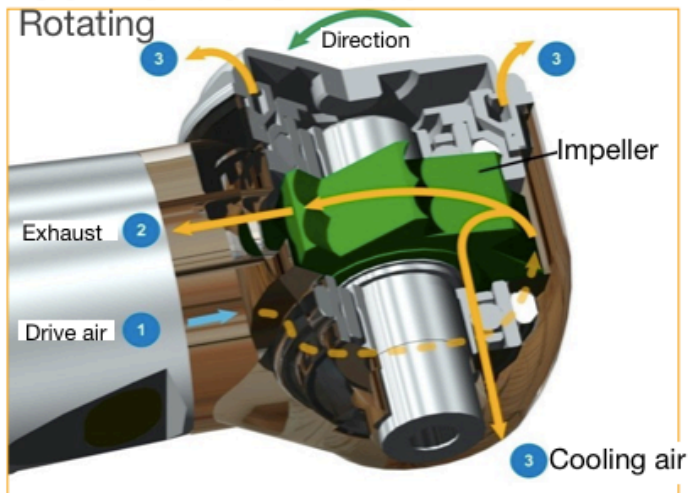


# Prevention of Cross Infection

## TwinPower Rotor

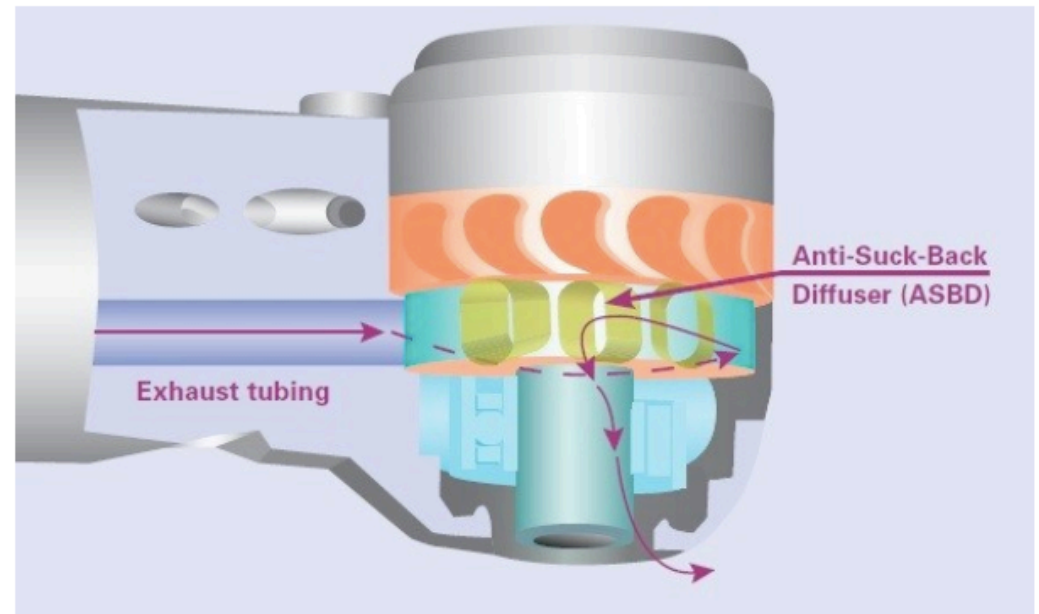
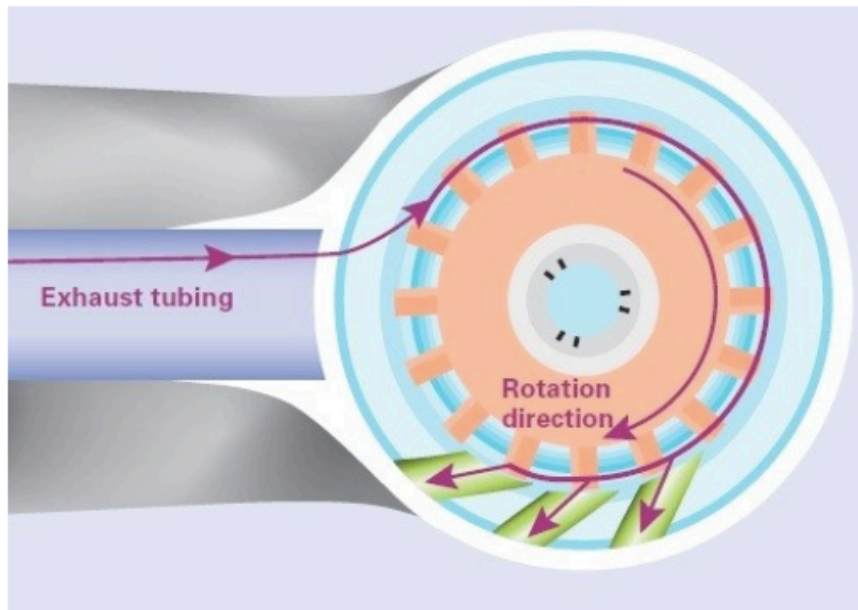


## Conventional Rotor



## Zero Suck-Back Through Innovative Fluid Dynamics

Prevent contamination at the handpiece itself.



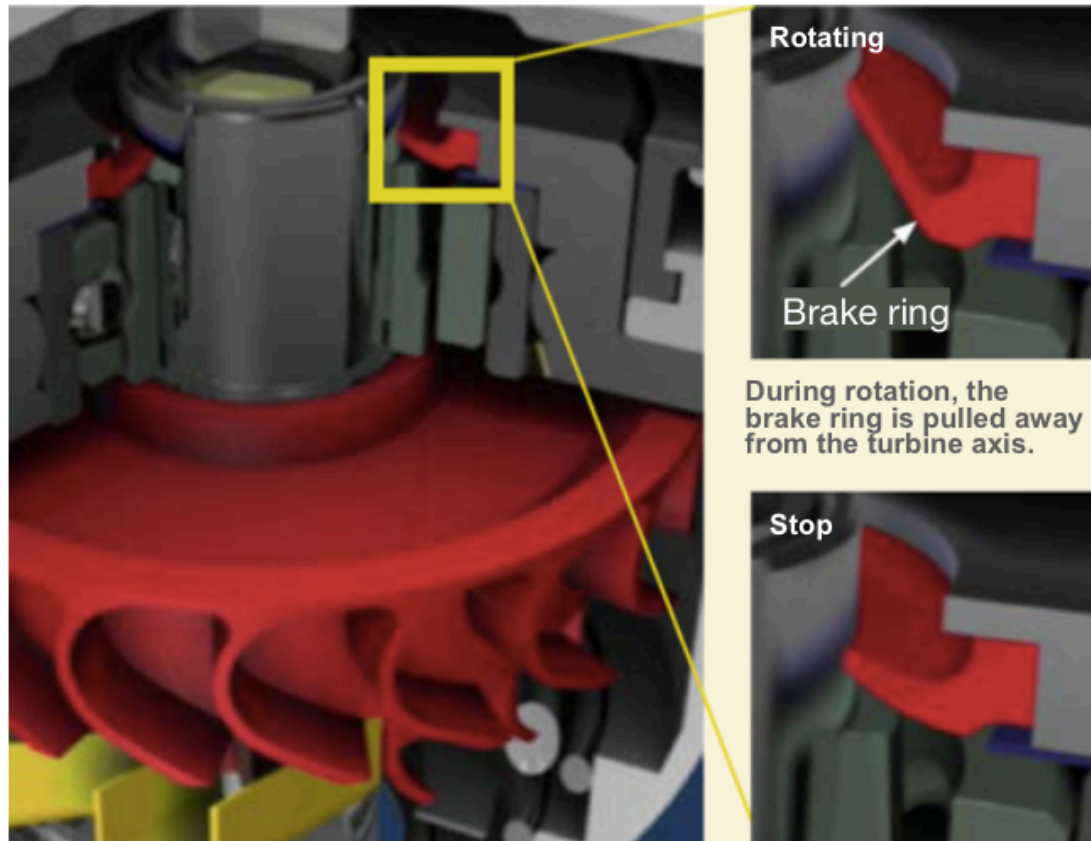
Suck-Back happens when a turbine continues rotating by inertia after driving air has stopped. The Zero Suck-Back mechanism channels exhaust air into the Anti-Suck-Back Diffuser(ASBD). The pressurized air in the ASBD is released to the outside when the turbine stops effectively preventing depressurization in the head thus preventing suck-back.

[Play Movie](#)





## Quick Stop



During rotation, the brake ring is pulled away from the turbine axis.

The brake contacts the axis, stopping rotation faster than other handpieces.

Rapid braking poses a particular challenge for all ball bearing high-speed handpieces.

Due to the unique rubber brake ring in the TwinPower quick stop system, it is now possible to rapidly stop the turbine within 2 seconds – allowing for safer and more efficient preparations.

Play movie



## Well-Balanced – Where Ergonomics Meets Design



### 1 Comfortable Even During Extensive Use

The compact and lightweight design of TwinPower is extremely comfortable to work with – even over extended periods of use. Weighing only 51g\*, fatigue of the operator's hand, wrist and fingers is significantly reduced.

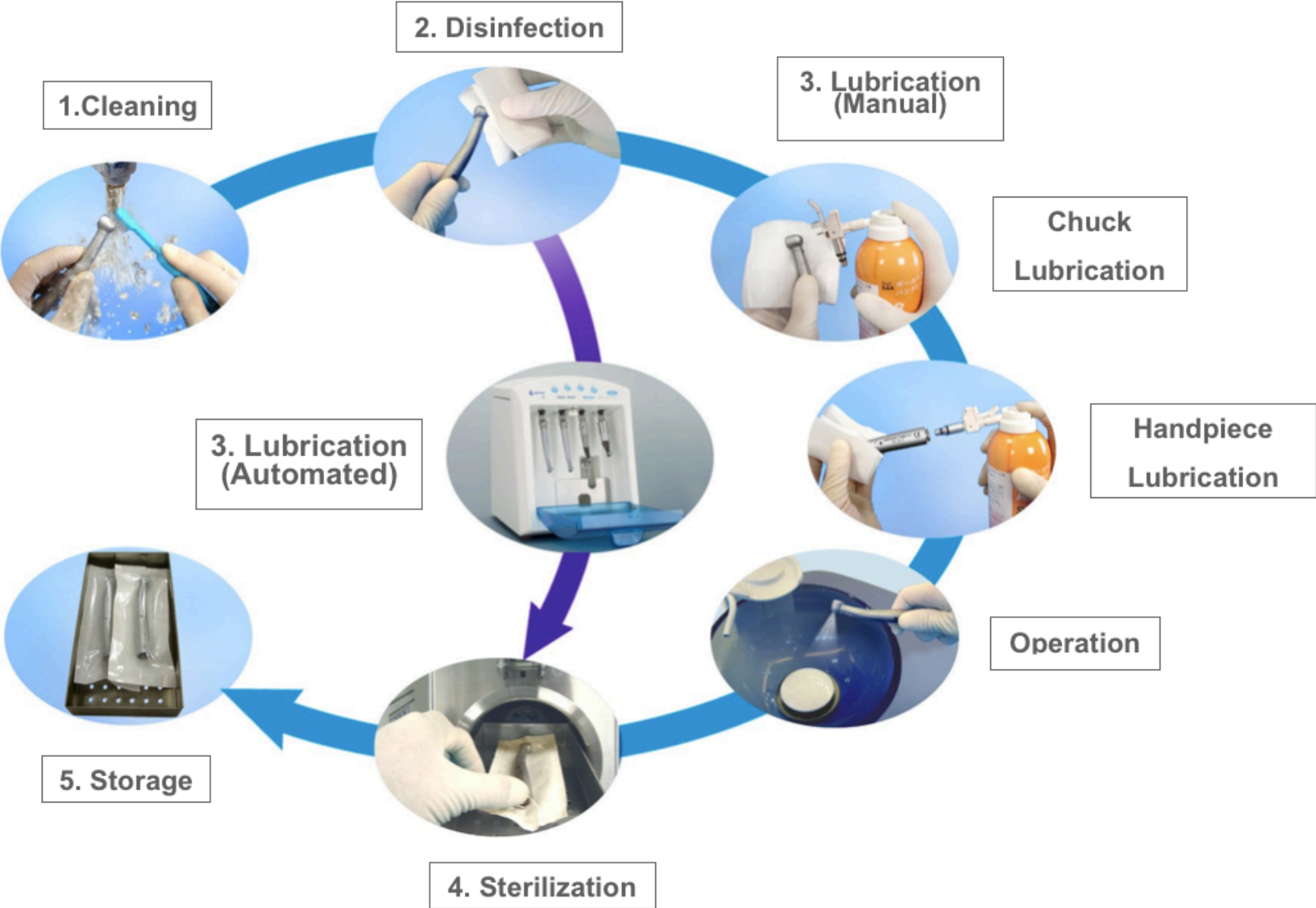
### 2 Ideal Angulation

The practical 15° angle of TwinPower's handpiece enables you to easily maneuver around the various areas of the oral cavity. It is also perfectly angled to enhance alignment of the burr shaft with the tooth's axis.

### 3 New Grip Design and Surface Treatment

The TwinPower 4H series features a newly designed grip, which enables a relaxed and comfortable hold. The new, special ceramic-impregnated surface treatment offers up to 30% greater frictional forces, improving grip and durability even after multiple sterilization cycles.

# Maintenance Guide



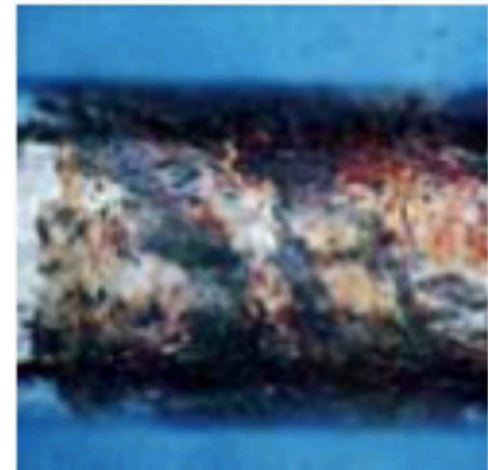
## Importance of Chuck Maintenance



Build-up of debris due to lack of maintenance.



Debris leaking from an unclean chuck during maintenance.

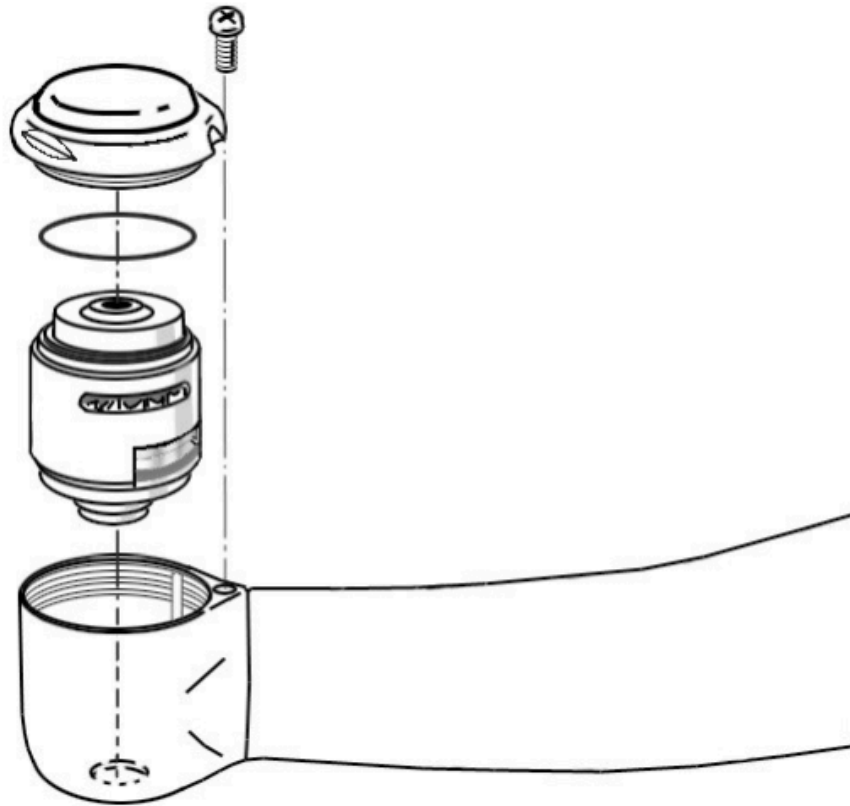


Damaged burr shank due to lack of lubrication.

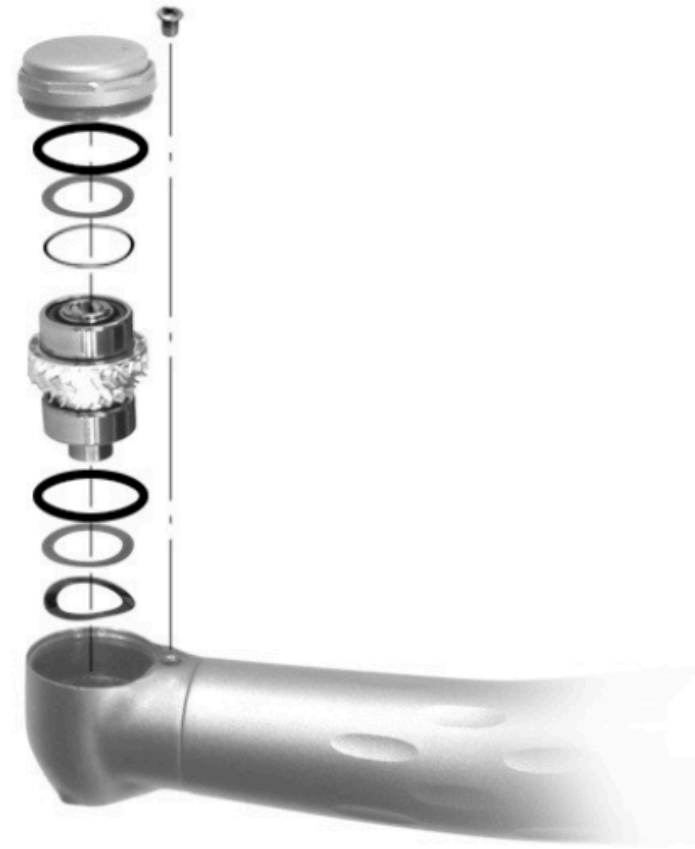


## Cartridge Replacement

The cartridge can be replaced at the clinic.



Torque Type(X), Standard Type(EX)



Ultra E Type(UEX), Ultra M Type(UMX)