TwinPower Turbine® High Speed Handpieces
Standard, 45°, and Ultra Series Head Designs
Focused on life.
The TwinPower Turbine high speed handpiece is a masterful symbiosis of design and function. It combines state-of-the-art engineering with highly practical and user-friendly handling including the world’s only ‘Zero Suck Back’ system. The TwinPower Turbine is well equipped to provide you first-rate instrumentation for performing all clinical procedures.
Double-impeller Technology
Provides class leading, high-powered performance (up to 22 W) while delivering constantly balanced torque.

Ceramic Ball Bearings
40% lighter and 3 times harder than conventional bearings, they offer an extended turbine life, reduced operation noise, and less vibration.

Quick-stop Brake System
Rapid braking for optimal operator and patient safety.

Unique Zero Suck Back Technology
Prevents the intake of aerosol and other particles when it is stopped.

Radial Air Bypass
Minimizes patient discomfort by displacing exhaust air away from the preparation area.

Quiet Operation
Advanced fluid dynamics enables extremely quiet, high speed instrumentation.

Compact Head
Offers enhanced maneuverability and superior access.

Glass Rod Optics
Highly focused and stable illumination (25,000 LUX).

Flexible Coupling Options
Direct connection to various commonly used couplings

Push-button Chuck
Simple to operate, this high-precision function ensures safe attachment to the preparation instrument.

Easy Cartridge Replacement
Capsule-type cartridge rotor allows for simple exchange when required.

TwinPower Turbine High Speed Handpieces
Equipping You with Numerous Advantages

Note: Evaluations conducted on standard head design.
Well-balanced, Ergonomic Design

With Morita’s unique design, TwinPower forms a perfect balance of efficiency and operator comfort. Light, compact, convenient, and highly functional – in a word: perfection.

**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 as little as 48 grams, fatigue of the operator’s hand, wrist, and fingers is significantly reduced.

**Ideal angulation**

The practical 15° angle of TwinPower’s standard head handpiece enables you to easily maneuver around the various areas of the oral cavity. The head is also perfectly angled at 21.5° to enhance alignment of the bur shaft with the tooth’s axis.

**New grip design and surface treatment**

TwinPower features a newly designed grip, which enables a relaxed hold of the handpiece. The unique ceramic coating treatment offers up to 30% greater friction forces, improving grip and durability throughout multiple sterilization cycles.
TwinPower Turbine Head Designs

**TwinPower Turbine Standard**
- Head Diameter: 10.5 mm
- Head Height: 13.2 mm
- Power: 22 Watts

The TwinPower standard model offers 22 watts of smooth cutting power. Clinically evaluated by several institutions, TwinPower has earned high marks for its fit to hand ergonomics, balance, visibility, power output, and braking ability.

**TwinPower Turbine UltraM**
- Head Diameter: 9 mm
- Head Height: 10.6 mm
- Power: 18 Watts

UltraM delivers 18 watts, twice the power of other popular mini handpieces, and offers an extremely compact head height for exceptional posterior access.

**TwinPower Turbine UltraE**
- Head Diameter: 9 mm
- Head Height: 12.7 mm
- Power: 20 Watts

UltraE is slightly taller than UltraM and more powerful at 20 watts, but still offers a compact head that improves the clinician’s view when using a mirror or microscope.

**TwinPower Turbine 45**
- Head Diameter: 10.5 mm
- Head Height: 13.2 mm
- Power: 20 Watts

The TwinPower Turbine 45 model offers maximum access and visibility with a 45° angle and an overall head size smaller than competitive units. Rear-facing exhaust vents direct air flow away from the surgical site for patient protection.
TwinPower features the all new double-impeller technology – a truly unique engineering advancement.

1 Rapid stop brake ring
For enhanced preparation safety, the TwinPower series features a unique quick stop brake ring that stops the turbine within 2 seconds. It also reduces the risk of contaminated aerosol suck back flow and prolongs the life span of the bearings.

2 Radial air bypass
Unique and new – the air is dispersed sideways via the radial air bypass to minimize the patient’s discomfort. Usually this discomfort occurs from a vertical cold air stream on the preparation area from other high speed handpieces.

3 Glass rod optics
Autoclave tested, glass rod optics guide for stable brightness (25,000 LUX).

4 Push-button chuck
The push-button chuck is simple to operate. This high-precision function ensures safe attachment to the preparation instrument while providing high-level durability for heavy-load applications.

TwinPower’s design and operational concept
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

Quiet operation
Advanced fluid dynamics reduces high-pitch noise typically found in high speed handpieces in the 6 - 7 kHz range. The result is quieter operation for both the dental team and patients.

Greater precision through higher torque
The unique double-impeller technology of TwinPower offers high continuous torque and improved stability, even under high-load conditions. The consistent cutting power allows you to prepare with far greater precision.

Advanced Engineering with Double-impeller Technology

Chuck part is made of metal.
Zero Suck Back
Through Innovative Fluid Dynamics

Zero suck back
1. Drive air flows into an Anti Suck Back Diffuser (ASBD) within the capsule. Air in the ASBD is pressurized through centrifugal force created by the impeller rotation.

2. Through the centrifugal force and rotation of the impeller, air continues to flow into the ASBD and remains pressurized even after drive air is stopped.

3. The pressurized air in the ASBD is released to the outside at the bottom of the head.

4. Exhaust air is also directed over the ASBD through rotation and released at the bottom of the head.

5. The pressurized air in the ASBD prevents depressurization in the head, thus enabling true zero suck back.

Rapid braking poses a particular challenge for 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.
Balanced, constant torque is required to achieve exceptional, smooth tooth preparations. The unique functional design of TwinPower has delivered this balanced, constant torque for the first time. Morita has turned this concept into reality.

**TwinPower rotor**
TwinPower’s double-impeller technology features 36 impeller blades. 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.

**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.

**Compact but Powerful Design**
Thanks to the double-impeller technology, the turbines of the TwinPower series are extremely powerful. With up to 22 watts, these heads can be used for both ceramic and metal prosthetics.
TwinPower Turbine Ultra Series

Powerful Mini Handpieces

The Ultra Series includes the UltraM and UltraE.

The TwinPower Turbine Ultra Series offers excellent cutting ability with smooth, chatter-free revolutions. A compact head design allows for exceptional posterior access and offers improved views with a mirror or microscope. Although they are ‘mini’ handpieces, clinician reviews have noted this series is powerful enough for everyday tooth preparation.

- Twice as powerful as other popular mini handpieces
- Compact design offers exceptional posterior access
- Improved views with a mirror or microscope
- More comfortable for patients
Case 1. 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.

UltraE (PAR-4HUEX-O)

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

Standard (PAR-4HEX-O)

Case 2. Molar Caries Preparation

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

UltraM (PAR-4HUMX-O)

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.

Standard (PAR-4HEX-O)
More Comfortable for Patients

Case 3. Posterior Occlusal Surface Treatment

The UltraM head is more comfortable for patients and offers better access in the posterior region. It is especially helpful on the occlusal surface when the patient has limited opening.

Case 4. Posterior Caries Treatment

The handpiece head may be placed perpendicular to the tooth even in the posterior region. The labial and buccal gingiva do not prevent this due to the small head size of UltraM.

15° Head Angle
This is the ideal angle to hold the bur parallel to the tooth axis when resting your little finger on a tooth.

A standard size head presses up against the labial and buccal gingiva, which can be unpleasant for the patient.

Wide Field of View
A compact head leaves a wide field of view in line with the axis of the tooth. The dentist can see the tip of the bur during procedures. (shown with 19 mm bur)
The UltraM head is approximately 30% smaller than a TwinPower Turbine standard head. This gives the dentist a much better view of the treatment area. The UltraM head accepts a standard bur up to 20 mm in length. The usable portion of the bur (the part extending out of the head) is the same as that of a standard head.

### Head Type Comparison

**UltraM**

UltraM delivers 18 watts, twice the power of some other popular mini handpieces, and offers an extremely compact head height for exceptional posterior access.

Accepts burs up to 20 mm.

**UltraE**

UltraE is a bit larger and more powerful at 20 watts, but still offers a compact head that improves the clinician’s view when using a mirror or microscope.

Accepts standard burs.
TwinPower Turbine 45
Applications in Surgery, Periodontics, and Endodontics

- Maximum access and visibility with compact, 45° head
- Safe, rear-facing exhaust vents
- Excellent contamination control with zero suck back
- High torque; up to 20 watts of power

TwinPower Turbine 45 offers maximum access and visibility with a 45° angle and an overall head size smaller than competitive units. Extremely powerful, it delivers up to 20 watts for smooth, efficient cutting.

Rear-facing exhaust vents direct air flow away from the surgical site for patient protection. With zero suck back in the air line, TwinPower also provides excellent contamination control, especially important in surgical procedures such as sectioning of 3rd molars.

TwinPower Turbine 45 is one of the most powerful 45° handpieces available.

45° Handpiece Power Comparison

- COMPANY A
- COMPANY B
- Morita TwinPower Turbine 45

Exhaust vents direct the air flow away from the work site – an important design for patient safety during surgical procedures.
CP4 LED Coupler for TwinPower Turbine
Highly Durable with Natural, Balanced Lighting

- 50% brighter than halogen lighting
- 4 times wider field of illumination
- Long lasting, energy saving technology
- Compatible with Morita type TwinPower Turbine handpieces

Perform delicate operations more quickly and efficiently
The LED coupler offers a bright, natural colored light which is very similar to those used in a surgical operating room. It is 50% brighter than Morita’s current halogen bulb and produces a consistent and even illumination which results in less eye fatigue and makes it easier to identify caries, diseases, and abnormalities.

Wide field of illumination
The LED coupler produces a 4 times wider field of illumination compared to halogen light bulbs.

Efficient and dependable
The LED coupler offers a long working life and low operating costs.

Low heat generation and power consumption
An LED light generates very little heat and uses much less energy – about 1/7 of a halogen light bulb.

Easy to upgrade
It’s easy to upgrade without purchasing a new handpiece. The new LED coupler can be integrated into any Morita type TwinPower Turbine handpiece. It is available with and without water adjustment and is compatible with a standard ISO 9168 Type 3 connection.

Constant current control
The CP4 LED coupler has a wide range of acceptability for input supply voltage. In most cases, it requires no adjustment for operation.
TwinPower can be connected to various commonly used couplings.

TwinPower Connection Options
Total Versatility

Note: TwinPower Turbine 45 is available only in Morita and KaVo® type.
TwinPower Couplings – Total Compatibility

TwinPower Turbine offers several coupling options compatible with 4-hole, 5-hole, or 6-pin connections. Each of these coupling options feature an extremely smooth 360° rotation and quick disconnect for ease of use.

<table>
<thead>
<tr>
<th>TwinPower Morita Coupling Options</th>
<th>(tubing side)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CP4-LD (with LED light)</strong></td>
<td></td>
</tr>
<tr>
<td>- Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C')</td>
<td></td>
</tr>
<tr>
<td>- Non-retractive valve</td>
<td>6-Pin Connection</td>
</tr>
<tr>
<td><strong>CP4-W-LD (water adjustment &amp; LED light)</strong></td>
<td></td>
</tr>
<tr>
<td>- Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C')</td>
<td></td>
</tr>
<tr>
<td>- Non-retractive valve</td>
<td></td>
</tr>
<tr>
<td>- Water adjustment valve</td>
<td>6-Pin Connection</td>
</tr>
<tr>
<td><strong>CP4-O (with light)</strong></td>
<td></td>
</tr>
<tr>
<td>- Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C')</td>
<td></td>
</tr>
<tr>
<td>- Non-retractive valve</td>
<td>6-Pin Connection</td>
</tr>
<tr>
<td><strong>CP4-WO (with water adjustment &amp; light)</strong></td>
<td></td>
</tr>
<tr>
<td>- Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C')</td>
<td></td>
</tr>
<tr>
<td>- Non-retractive valve</td>
<td></td>
</tr>
<tr>
<td>- Water adjustment valve</td>
<td>6-Pin Connection</td>
</tr>
<tr>
<td><strong>CP4 (without light)</strong></td>
<td></td>
</tr>
<tr>
<td>- Compatible with 4-hole connection ISO 9168 Type 3 (formerly Type C')</td>
<td></td>
</tr>
<tr>
<td>- Non-retractive valve</td>
<td>4-Hole Connection</td>
</tr>
<tr>
<td><strong>CP5-O (with optics)</strong></td>
<td></td>
</tr>
<tr>
<td>- Compatible with 5-hole connection ISO 9168 Type 2 (formerly Type B')</td>
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</tr>
<tr>
<td>- Use with standard fiber optic tubing</td>
<td></td>
</tr>
<tr>
<td>- Non-retractive valve</td>
<td>5-Hole Connection (with Optics)</td>
</tr>
</tbody>
</table>

† ISO 9168 - Hose connectors for air driven dental handpieces was revised July 1, 2009. The type designation of handpiece joints was changed from letters to numbers.
# Ordering Information and Specifications

## TwinPower 4HEX-O Series (Standard)

<table>
<thead>
<tr>
<th>Order Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-5340888</td>
<td>TwinPower Turbine 4H PAR-4HEX-O (TwinPower Morita)</td>
</tr>
<tr>
<td>16-5340608</td>
<td>TwinPower Turbine 4H PAR-4HEX-O-KV (KaVo® MULTIflex® LUX*)</td>
</tr>
<tr>
<td>16-5340632</td>
<td>TwinPower Turbine 4H PAR-4HEX-O-SR (Sirona® R/F*)</td>
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<tr>
<td>16-5340624</td>
<td>TwinPower Turbine 4H PAR-4HEX-O-WH (W&amp;H® Roto Quick*)</td>
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<tr>
<td>16-5340616</td>
<td>TwinPower Turbine 4H PAR-4HEX-O-NK (NSK® FlexiQuick**)</td>
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## TwinPower 4HUMX-O Series UltraM (Mini)

<table>
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<th>Order Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>16-5356989</td>
<td>TwinPower Turbine PAR-4HUMX-O (TwinPower Morita)</td>
</tr>
<tr>
<td>16-5357578</td>
<td>TwinPower Turbine PAR-4HUMX-O-KV (KaVo® MULTIflex® LUX*)</td>
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<tr>
<td>16-5357608</td>
<td>TwinPower Turbine PAR-4HUMX-O-SR (Sirona® R/F*)</td>
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<tr>
<td>16-5357594</td>
<td>TwinPower Turbine PAR-4HUMX-O-WH (W&amp;H® Roto Quick*)</td>
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<tr>
<td>16-5357586</td>
<td>TwinPower Turbine PAR-4HUMX-O-NK (NSK® FlexiQuick**)</td>
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## TwinPower 4HUEX-O Series UltraE (Mini)

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<th>Order Code</th>
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<tbody>
<tr>
<td>16-5356970</td>
<td>TwinPower Turbine PAR-4HUEX-O (TwinPower Morita)</td>
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<tr>
<td>16-5357497</td>
<td>TwinPower Turbine PAR-4HUEX-O-KV (KaVo® MULTIflex® LUX*)</td>
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<tr>
<td>16-5357527</td>
<td>TwinPower Turbine PAR-4HUEX-O-SR (Sirona® R/F*)</td>
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<tr>
<td>16-5357519</td>
<td>TwinPower Turbine PAR-4HUEX-O-WH (W&amp;H® Roto Quick*)</td>
</tr>
<tr>
<td>16-5357500</td>
<td>TwinPower Turbine PAR-4HUEX-O-NK (NSK® FlexiQuick**)</td>
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</table>

## TwinPower 4HEX-O-45 Series (45°)

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<th>Order Code</th>
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<tbody>
<tr>
<td>16-5344670</td>
<td>TwinPower Turbine 4H PAR-4HEX-O-45 (TwinPower Morita)</td>
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<tr>
<td>16-5350522</td>
<td>TwinPower Turbine 4H PAR-4HEX-O-KV-45 (KaVo® MULTIflex® LUX*)</td>
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## TwinPower Morita Coupling Options

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<th>Order Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>16-5354978</td>
<td>TwinPower coupling CP4-LD (with LED light)</td>
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<tr>
<td>16-5354951</td>
<td>TwinPower coupling CP4-W-LD (with water adjustment &amp; LED light)</td>
</tr>
<tr>
<td>16-5333830</td>
<td>TwinPower coupling CP4-O (with light)</td>
</tr>
<tr>
<td>16-5339421</td>
<td>TwinPower coupling CP4-WO (with water adjustment &amp; light)</td>
</tr>
<tr>
<td>16-5333881</td>
<td>TwinPower coupling CP4 (without light)</td>
</tr>
<tr>
<td>16-5349214</td>
<td>TwinPower coupling CP5-O (with optics)</td>
</tr>
</tbody>
</table>

## Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Ball Bearing Handpiece</th>
<th>Ceramic ball bearing handpiece</th>
<th>Push-button chuck</th>
<th>Light</th>
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<tbody>
<tr>
<td>Rotation speed (rpm)</td>
<td>370,000 / ± 30,000</td>
<td>at 0.2 MPa/29 psi</td>
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<tr>
<td>Air/Water ports</td>
<td>Standard: 3</td>
<td>UltraM: 5</td>
<td>UltraE: 3</td>
<td>45°: 0</td>
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<td></td>
<td>Air/Water: 3</td>
<td>Chip Air: 5</td>
<td>Chip Air: 3</td>
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<td></td>
<td>Water: 1</td>
<td>Water: 1</td>
<td>Water: 3</td>
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<tr>
<td>Head diameter (mm)</td>
<td>Standard: 10.5</td>
<td>UltraM: 9.0</td>
<td>UltraE: 9.0</td>
<td>45°: 10.5</td>
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<tr>
<td>Head height (mm)</td>
<td>Standard: 13.2</td>
<td>UltraM: 10.6</td>
<td>UltraE: 12.7</td>
<td>45°: 13.2</td>
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<tr>
<td>Weight (g)</td>
<td>48 - 59 (Depending on type)</td>
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<tr>
<td>Driving air pressure</td>
<td>0.2 – 0.29 MPa/29 psi</td>
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<tr>
<td>Light intensity (LUX)</td>
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<tr>
<td>Warranty</td>
<td>2 years</td>
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* KaVo MULTIflex LUX is a registered trademark of Kaltenbach & Voigt GmbH. Sirona is a registered trademark of Sirona Dental Systems GmbH. W&H and Roto Quick are registered trademarks of W&H Dental Bürmoos GmbH.
** NSK and Phatelus are registered trademarks of NAKANISHI INC. Name of coupling varies by country.
Thinking ahead. Focused on life.

In 1916, Junichi Morita started to import products of the leading dental equipment manufacturers into Japan, where demands for modern dentistry were growing. His venturesome attempts of supplying selected products for oral healthcare has grown steadily by receiving valuable support and guidance from the dental profession. His enterprising spirit lives through the decades, and all Morita Group Companies join in continuing to pursue marketing, distribution and services, as well as R&D and manufacturing, in collaboration with world leaders in healthcare products and research organizations.