

TwinPower Turbine® High Speed Handpieces









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.











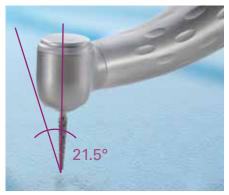


# TwinPower Turbine High Speed Handpieces Equipping You with Numerous Advantages



# TwinPowerTurbine Standard Head 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.



The angle of the head provides greater visibility

#### Well-balanced, ergonomic design

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 features the all new double-impeller technology – a truly unique engineering advancement.



#### 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

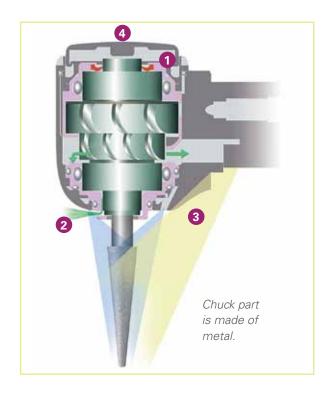
#### **Quiet operation**

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



## 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.

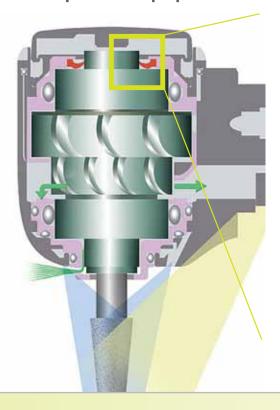
# 3 Glass rod optics

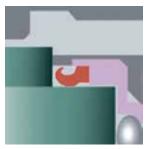
Autoclave tested, glass rod optics guide for stable brightness of 25,000 LUX.

# 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.

# Quick-stop brake for preparation safety



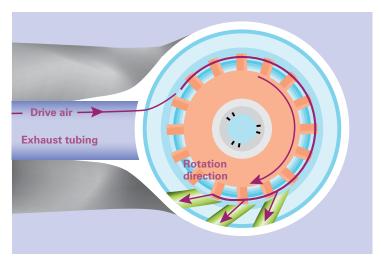


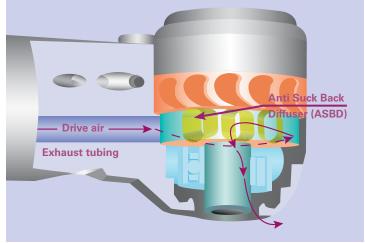
During rotation, the uniquely designed rubber brake ring in TwinPower is pulled away from the turbine axis



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.

# 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.

# Extremely Powerful, Balanced, and Constant Torque

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.



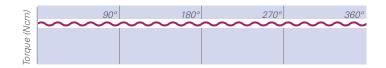
#### TwinPower rotor

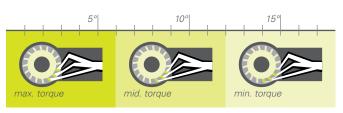
TwinPower's double-impeller technology features 36 impeller blades. Three drive air nozzles power the blades. Even when the blade angle changes, the drive air continues to be captured by multiple blades, generating superior power and constant torque, thus creating no vibration.



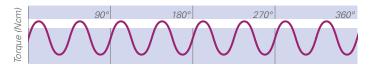
#### **Conventional rotor**

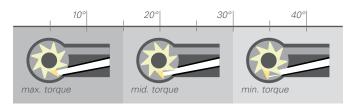
Conventional high speed rotors are typically equipped with 8 impeller blades and 1 drive air nozzle. Depending on the angle of the blade, the drive air is not directly captured by the blade, resulting in weak torque phases.





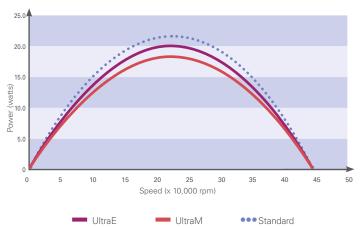
Blades angle (degrees)





Blades angle (degrees)

## **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 Product Line

## **TwinPower Turbine Standard**

Head Diameter: 10.5 mm Head Height: 13.2 mm

Power: 22 Watts



#### TwinPower Turbine Basic

Head Diameter: 10.5 mm Head Height: 13.2 mm

Power: 22 Watts



#### TwinPower Turbine UltraM

Head Diameter: 9 mm Head Height: 10.6 mm

Power: 18 Watts



#### TwinPower Turbine UltraE

Head Diameter: 9 mm

Head Height: 12.7 mm

Power: 20 Watts



# TwinPower Turbine 45

Head Diameter: 10.5 mm

Head Height: 13.2 mm

Power: 20 Watts



#### **TwinPower Turbine 45 Non-Optic**

Head Diameter: 10.5 mm

Head Height: 13.2 mm

Power: 20 Watts



#### **TwinPower Turbine 45 Basic**

Head Diameter: 10.5 mm

Head Height: 13.2 mm

Power: 20 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.

The new TwinPower Turbine Basic is an excellent choice for any practice. It offers several features of the original TwinPower line, above and beyond those in its class at a very economical price.

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

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.

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.

The TwinPower Turbine 45 Non-Optic offers the same features as the regular 45, but without optics.

The TwinPower Turbine 45 Basic offers a 4-hole connection and a chrome body without optics. This model offers high power and several unique features at a surprisingly affordable price.



# TwinPower Turbine Basic



# **TwinPower Turbine Basic**

The TwinPower Turbine Basic is an excellent choice for any practice. It offers several features of the original product line, above and beyond those in its class.

- High power, up to 22 watts
- Safe, rapid braking
- Chrome body
- Ceramic bearings
- 4-hole connection

#### Power

The Basic model offers the same cutting efficiency as the TwinPower Turbine standard head. Its double-impeller rotor design produces up to 22 watts of power.

## Safety

A pressurized air system prevents suck back in the air line resulting in superior infection control. Additionally, a unique rubber brake ring design stops the turbine within 2 seconds, allowing for safer and more efficient preparations.

# Design

The body of the handpiece is chrome and comes with a convenient push-button chuck. Lightweight, at just 45 grams, it also helps reduce operator fatigue.

# TwinPowerTurbine 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





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.

# Ultra Series – Improved Access and Visibility

# 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.

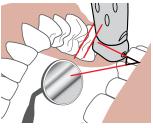




When using a standard sized head, the bur must be slanted for visibility which results in removal of more tooth structure than necessary.

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.



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.



# More Comfortable for Patients

Case 3. Posterior Occlusal SurfaceTreatment





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.

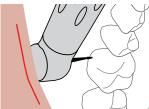




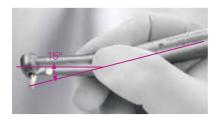
A standard sized head strikes opposing teeth in the treatment area. The sensation of this can be stressful and uncomfortable for patients.

Case 4. Posterior Caries Treatment



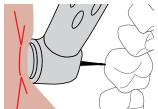


The handpiece head may be placed perpendicular to the tooth even in the posterior region. The labial and buccal gingiva do not prevent this due to the small head size of UltraM.



**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)



# 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

TwinPowerTurbine 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.

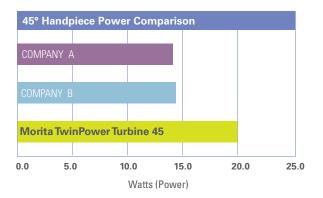
Rear-facing exhaust vents direct air flow away from the surgical site for patient protection. With zero suck back in the air line, TwinPower also provides excellent contamination control, especially important in surgical procedures such as sectioning of 3rd molars.

TwinPower Turbine 45 is also available in a Non-Optic version.



TwinPower Turbine 45 Non-Optic

TwinPowerTurbine 45 is one of the most powerful 45° handpieces available.





Exhaust vents direct the air flow away from the work site – an important design for patient safety during surgical procedures.

# TwinPower Turbine 45 Basic



#### **Features**

- Economical choice without sacrificing power or safety
- Maximum access and visibility with a compact, 45° head
- Safe, rear-facing exhaust vents
- High torque; up to 20 watts of power
- Chrome body
- 4-Hole connection

Introducing the new TwinPower Turbine 45 Basic – an air driven, high speed handpiece for applications in surgery, periodontics, and endodontics.

J. Morita's TwinPower Turbine 45 is now offered in the Basic Collection. This model is economically priced, yet offers several unique features of the original 45° handpiece, above and beyond those in its class. As with the original model, it 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.

Rearfacing 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.

Its double-impeller rotor design, exclusive to TwinPower handpieces, delivers constant torque and controlled speed, even under high load conditions. Other features include: ceramic ball bearings, rapid braking within 2 seconds, and a chrome body.



# 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.





Wide field of illumination

#### 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 Couplings – Total Compatibility

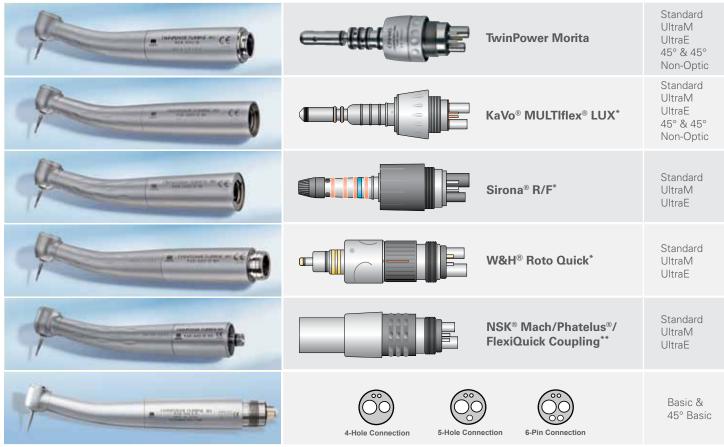
TwinPower Turbine offers several coupling options compatible with 4-hole, 5-hole, or 6-pin connections. Each of these coupling options feature an extremely smooth 360° rotation and quick disconnect for ease of use.

# **TwinPower Morita Coupling Options** (tubing side) Effective CP4-LD (with LED light) Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C<sup>+</sup>) CP4-W-LD (water adjustment & LED light) ■ Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C<sup>†</sup>) ■ Non-retractive valve ■ Water adjustment valve 6-Pin Connection CP4-O (with light) ■ Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C<sup>†</sup>) Non-retractive valve 6-Pin Connection CP4-WO (with water adjustment & light) Compatible with 6-pin connection ISO 9168 Type 3 (formerly Type C<sup>†</sup>) ■ Non-retractive valve ■ Water adjustment valve 6-Pin Connection **CP4** (without light) ■ Compatible with 4-hole connection ISO 9168 Type 3 (formerly Type C<sup>†</sup>) Non-retractive valve 4-Hole Connection CP5-O (with optics) Compatible with 5-hole connection ISO 9168 Type 2 (formerly Type B†) Use with standard fiber optic tubing 5-Hole Connection Non-retractive valve (with Optics)

<sup>†</sup> 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.

# TwinPowerTurbine High Speed Handpieces Total Versatility

# TwinPower can be connected to various commonly used couplings.



Note: TwinPower Turbine 45 is available only in Morita and KaVo® type. TwinPower Turbine Basic and 45 Basic are only available with 4-Hole connection.

Specifications	Ceramic ball bearing handpiece			Push-button chuck			
Model	Standard	Basic	UltraM	UltraE	45°	45° Non-Optic	45° Basic
Power	22 W	22 W	18 W	20 W	20 W	20 W	20 W
Rotation speed	370,000 rpm ± 30,000 rpm (at 0.2 MPa/29 psi)						
Air/Water ports	Air/Water: 3	Air/Water: 3	Chip air: 5 Water: 1	Chip air: 3 Water: 3	Chip air: 0 Water: 3	Chip air: 0 Water: 3	Chip air: 0 Water: 3
Head diameter	10.5 mm	10.5 mm	9.0 mm	9.0 mm	10.5 mm	10.5 mm	10.5 mm
Head height	13.2 mm	13.2 mm	10.6 mm	12.7 mm	13.2 mm	13.2 mm	13.2 mm
Body/Coating	Ceramic coating	Chrome	Ceramic coating	Ceramic coating	Ceramic coating	Ceramic coating	Chrome
Optics	Glass rod optics	None	Glass rod optics	Glass rod optics	Glass rod optics	None	None
Light intensity	25,000 LUX	NA	25,000 LUX	25,000 LUX	25,000 LUX	NA	NA
Weight*	48 - 57 g	45 g	48 - 57 g	48 - 57 g	53 - 59 g	50 - 56 g	45 g
Driving air pressure	0.2 – 0.29 MPa/29 - 42 psi						
Warranty	2 years	1 year	2 years	2 years	2 years	2 years	1 year

<sup>\*</sup> Weight varies depending on connection type

# **Ordering Information**

#### TwinPower Turbine Standard



16-5340888	TwinPower Turbine 4H PAR-4HEX-O (TwinPower Morita)
16-5340608	TwinPower Turbine 4H PAR-4HEX-O-KV (KaVo® MULTIflex® LUX*)
16-5340632	TwinPower Turbine 4H PAR-4HEX-O-SR (Sirona® R/F*)
16-5340624	TwinPower Turbine 4H PAR-4HEX-O-WH (W&H® Roto Quick*)
16-5340616	TwinPower Turbine 4H PAR-4HEX-O-NK (NSK® FlexiQuick**)

#### **TwinPower Turbine Basic**



16-5360838 TwinPower Turbine 4H PAR-4HEX-B (4-Hole)

#### TwinPower Turbine UltraM (Mini)



16-5356989 TwinPower Turbine 4H PAR-4HUMX-O (TwinPower Morita)
16-5357578 TwinPower Turbine 4H PAR-4HUMX-O-KV (KaVo® MULTIflex® LUX\*)
16-5357608 TwinPower Turbine 4H PAR-4HUMX-O-SR (Sirona® R/F\*)
16-5357594 TwinPower Turbine 4H PAR-4HUMX-O-WH (W&H® Roto Quick\*)
16-5357586 TwinPower Turbine 4H PAR-4HUMX-O-NK (NSK® FlexiQuick\*\*)

#### TwinPower Turbine UltraE (Mini)



16-5356970 TwinPower Turbine 4H PAR-4HUEX-O (TwinPower Morita)
16-5357497 TwinPower Turbine 4H PAR-4HUEX-O-KV (KaVo® MULTIflex® LUX\*)
16-5357527 TwinPower Turbine 4H PAR-4HUEX-O-SR (Sirona® R/F\*)
16-5357519 TwinPower Turbine 4H PAR-4HUEX-O-WH (W&H® Roto Quick\*)
16-5357500 TwinPower Turbine 4H PAR-4HUEX-O-NK (NSK® FlexiQuick\*\*)

#### TwinPower Turbine 45 (45°)



16-5344670 TwinPower Turbine 4H PAR-4HEX-O-45 (TwinPower Morita)
16-5350522 TwinPower Turbine 4H PAR-4HEX-O-KV-45 (KaVo® MULTIflex® LUX\*)

## TwinPower Turbine 45 Non-Optic (45°)



16-5361087 TwinPower Turbine 4H PAR-4HEX-45 (TwinPower Morita)
16-5361079 TwinPower Turbine 4H PAR-4HEX-KV-45 (KaVo® MULTIflex® LUX\*)

#### TwinPower Turbine 45 Basic (45°)



16-5606322 TwinPower Turbine 4H PAR-4HEX-B-45 (4-Hole)

#### **TwinPower Morita Coupling Options**



16-5354978TwinPower coupling CP4-LD (with LED light)16-5354951TwinPower coupling CP4-W-LD (with water adjustment & LED light)16-5333830TwinPower coupling CP4-O (with light)16-5339421TwinPower coupling CP4-WO (with water adjustment & light)16-5333881TwinPower coupling CP4 (without light)16-5349214TwinPower coupling CP5-O (with optics)

<sup>\*</sup> KaVo MULTiffex 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.

<sup>\*\*</sup> NSK and Phatelus are registered trademarks of NAKANISHI INC. Name of coupling varies by country.

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Distributed by

# J. Morita USA, Inc.

9 Mason Irvine, CA 92618 U.S.A. Tel: 1-949-581-9600, Fax: 1-949-465-1095 www.morita.com/usa

Developed and Manufactured by

#### J. Morita Mfg. Corp.

680 Higashihama Minami-cho, Fushimi-ku, Kyoto, 612-8533 Japan Tel: +81-75-611-2141, Fax: +81-75-622-4595

#### J. Morita Corporation

33-18, 3-Chome, Tarumi-cho Suita City, Osaka, 564-8650 Japan Tel: +81-6-6380-1521, Fax: +81-6-6380-0585

#### J. Morita Europe GmbH

Justus-von-Liebig-Strasse 27A, D-63128 Dietzenbach, Germany Tel: +49-6074-836-0, Fax: +49-6074-836-299

#### Siamdent Co., Ltd.

444 Olympia Thai Tower, 3rd Floor, Ratchadapisek Road, Samsennok, Huay Kwang, Bangkok 10310, Thailand Tel: +66-2-512-6049, Fax: +66-2-512-6099 www.siamdent.com

#### J. Morita Corporation Australia & New Zealand

Suite 2.05, 247 Coward Street, Mascot, NSW 2020, Australia Tel: +61-2-9667-3555, Fax: +61-2-9667-3577

#### J. Morita Middle East

4 Tag Al Aoasaa, Saba Pacha 21311, Alexandria, Egypt Tel: +203-58-222-94, Fax: +203-58-222-96

Morita Global Website: www.morita.com