Instructions for use

Advantage

High Speed Handpieces L7100 / L7200 / L7400
Low Speed Motor L6200
Straight Nose Cones L6250, L7800
Attachments L7465

Contents

Contents

iM3 Symbols

WARNING!
(Risk of injury)

ATTENTION!
(to prevent damage occurring)

General explanations, without risk to persons or objects

Thermo washer disinfection

Sterilizable up to the stated temperature

Disposable article

1. Introduction

Skilled application

iM3 dental handpieces are intended only for informed use in the veterinary dental field. All dental handpieces should be maintained according to the manufacturer's recommendations and in-line with infection control procedures for the safety and well-being of patients. Improper use, e.g. missing hygienic maintenance, or non-compliance with our Instructions or the use of accessories and spare parts which are not released by iM3, invalidates all claims under warranty and any other claims.

Service

In case of service or repair contact iM3 or your local iM3 distributor. Service and maintenance work must only be carried out by accredited iM3 service organizations.

2. Before use – Safety notes

> **Danger zones M and G**
In accordance with IEC 60601-1 / UL 60601-1, the LED high speed handpiece and LED 1:1 straight nose cone are not suitable for use in potentially explosive atmospheres.

> Always ensure the correct operating conditions and cooling function.

> Always ensure that sufficient and adequate cooling is delivered and ensure adequate evacuation. If the coolant supply fails, the high speed handpiece must be stopped immediately.

> Use only distilled water or distilled water and iM3 CLS solution for cooling.

> Use only non-contaminated, filtered, oil-free and dry compressed cooling air to operate the High Speed handpiece.

> All Advantage high speed and low speed handpieces must be lubricated using MD-30 Handpiece Oil (iM3 code MD30) or F1 MD400 service oil.

> Check the high speed handpiece for damage and loose parts prior to use (e.g. leaks at the handpiece connection or press-button).

> Do not use the high speed handpiece at soft tissue wounds in the mouth.
> Avoid contact between the instrument head and soft tissue (risk of burn).
> Do not touch the soft tissue with the LED 1:1 straight nose cone tip (risk of burn).
> Avoid contact between the LED and soft tissue (risk of burn).
> Do not use the high speed handpiece and LED 1:1 straight nose cone as a light source.
> Do not look directly into the optic outlet.

Hygienic maintenance – L7100, L7200, L7400, L6200, L6250, L7800

The handpieces are in clean condition when delivered. Lubricate the handpieces prior to initial use. Sterilize the handpieces prior to use.

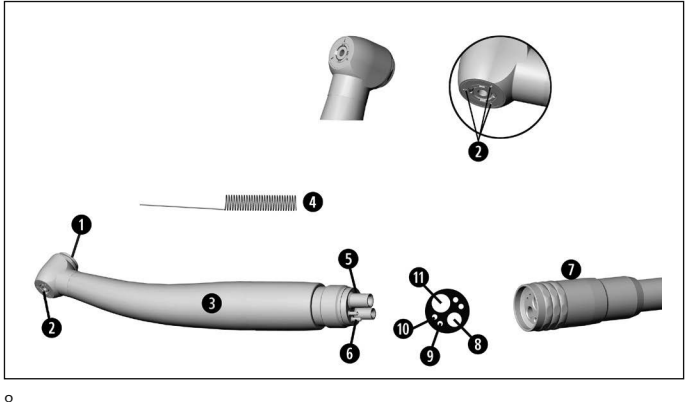
High speed handpieces

> Oil service Page 20
> Sterilization Page 24

LED 1:1 straight nose cone

> Oil service Page 55
> Sterilization Page 57

3. Product description L7100



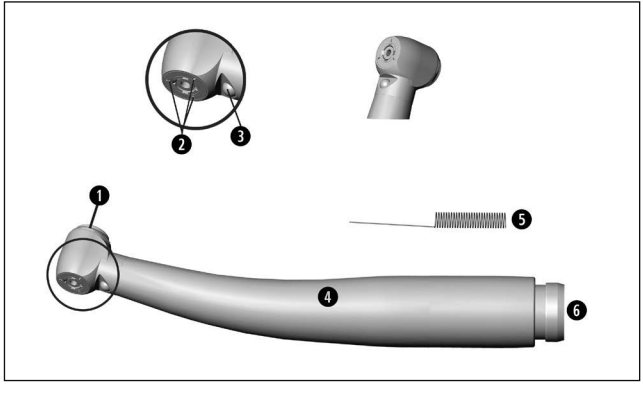
High speed handpiece without light, 4-hole connection

1. Press-button
2. Spray nozzles
3. Sleeve
4. Nozzle cleaner
5. Seal
6. Water filter
7. Handpiece hose

Connections:

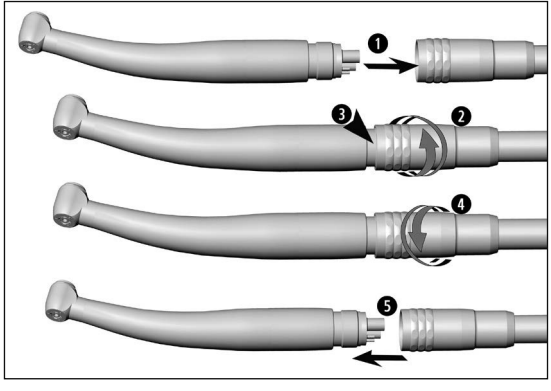
8. Drive air
9. Coolant
10. Spray air
11. Exhaust air

3. Product description L7200



High speed handpiece with LED light for Roto Quick (swivel) coupling

1. Press-button
2. Spray nozzles
3. LED
4. Sleeve
5. Nozzle cleaner
6. RQ connection

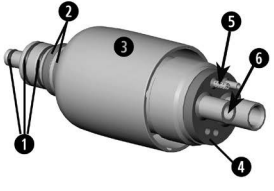


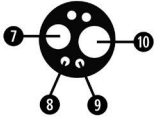
Assembly and removal (4-hole connection)

Do not activate the coupling system during operation!

1. Insert the high speed handpiece with 4-hole connection into the apertures of the handpiece hose.
2. Firmly screw the union nut on.
3. Check for leaks at the high speed handpiece.
4. Unscrew the union nut.
5. Remove the high speed handpiece from the handpiece hose.

5. Product description L7400



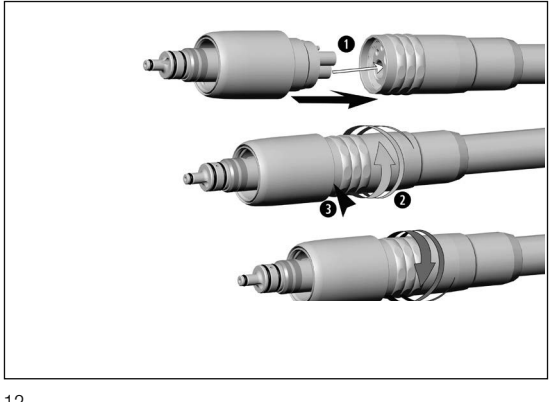


L7400 Roto Quick (swivel) coupling for L7200 high speed handpieces

1. O-rings
2. Electrical contacts
3. Nut
4. Gasket
5. Water filter with resuction stop
6. Generator

Connections:

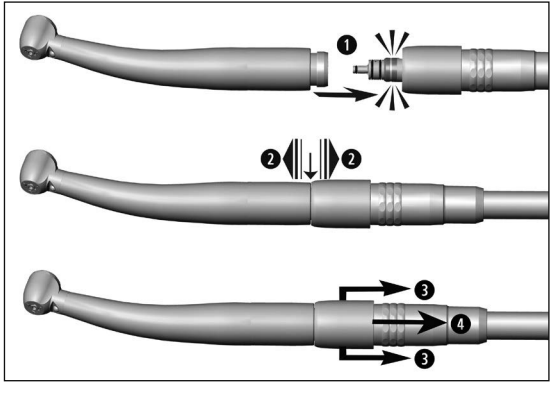
7. Drive air
8. Water
9. Spray air
10. Exhaust



Assembly and removal

Do not activate the coupling system during operation!

1. Attach the Roto Quick coupling to the handpiece hose.
2. Firmly tighten the union nut of the handpiece hose by hand in a clockwise direction to ensure there are no leaks at 3.
3. Unscrew the union nut of the handpiece hose by hand in an anticlockwise direction.
4. Carefully remove the Roto Quick coupling from the handpiece hose.



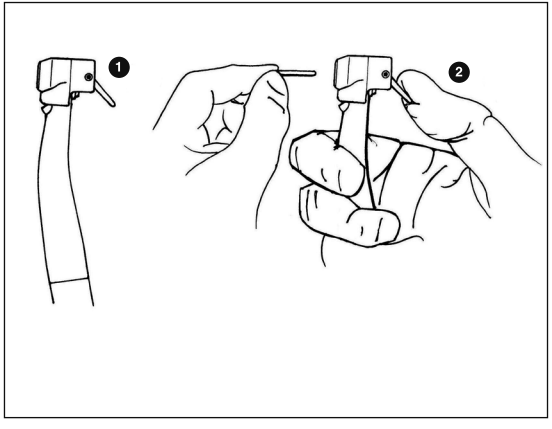
Do not assemble or remove the turbine handpiece during the operation!

L7200 & L7400 assembly

1. Push the turbine handpiece onto the Roto Quick coupling.
2. Check the secure hold of the Roto Quick coupling.

or

3. Pull the retention sleeve of the Roto Quick coupling back.
4. Remove the turbine handpiece by pulling in an axial direction.



To change high speed bur (FG)

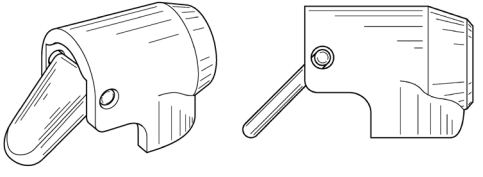
1. Place iPush onto the LED Advantage push button handpiece.
2. Depress the lever with your thumb and insert the bur all the way until it stops.
3. Remove the iPush before using the handpiece.
4. To change the bur repeat step 2. and remove the bur.

Extremely important

Use the iPush provided to ensure both the complete insertion and smooth removal of the bur.

To increase the life of the handpiece use a brand new bur between each patient.

iM3 iPush



L7050 Yellow iPush -
Fits HS HP LL7100 & L7200

Designed and Manufactured by iM3.
EC Patent No. 001882788
USA Patent No 29/398937

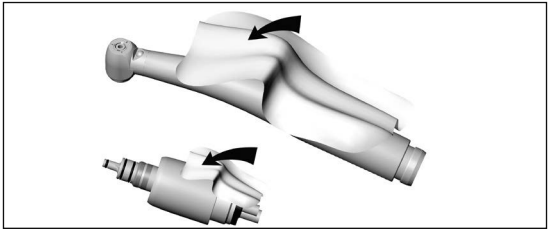
Test run

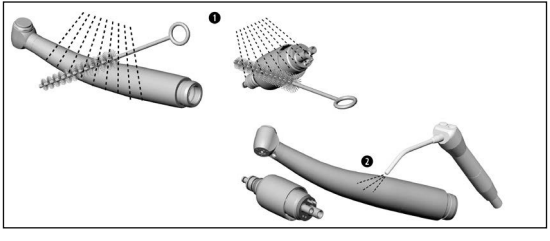
> iM3 recommends sterilization of the iPush between each patient, see P23.
> Insert rotary instrument (bur).
> Start the high speed handpiece.
> If you observe problems (e.g. vibrations, unusual noise, overheating, coolant supply failure or leakage), or discoloration of the LED, **stop the high speed handpiece immediately** and contact iM3 or your local iM3 distributor.

8. Hygienic maintenance

> Follow your country-specific directives, standards and guidelines for cleaning, disinfection and sterilization.
> You can process the high speed handpiece manually or mechanically.

> Wear protective clothing.
> Remove the rotary instrument.
> Remove the high speed handpiece from the coupling and/or from the handpiece hose.
> Clean and disinfect the high speed handpiece **immediately after every treatment**, to flush out any liquid (e. g. blood, saliva etc.), which may have seeped in and to prevent settling on the internal parts.
> Sterilize the high speed handpiece following manual or mechanical cleaning, disinfection and lubrication.





Pre-disinfection

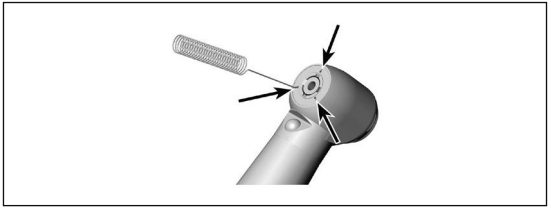
> If heavily soiled: clean first with disinfectant cloths.

Only use disinfectants that have no protein-fixing effects.

Manual cleaning internal and external

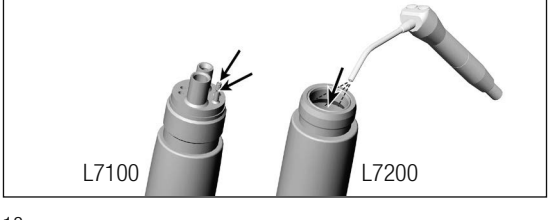
1. Rinse under demineralized water (<38°C/100°F) with the aid of a brush (brush is not recommended in U.K.)
2. Then remove any liquid residue (absorbent cloth, blow dry with compressed air from 3 way syringe).

Do not place the handpiece in the disinfection solution or the ultrasonic bath.



Clean spray nozzles

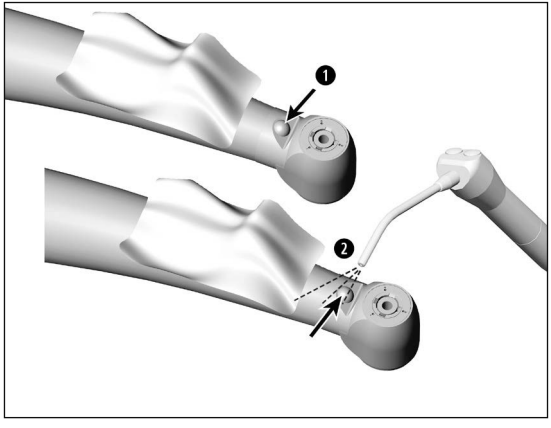
❸ Clean spray nozzles carefully with the nozzle cleaner to remove dirt and deposits.



Clean coolant tubes

❹ Blow through the coolant tube with an air syringe.

In the case of clogged spray nozzles or coolant tubes contact iM3 or your local iM3 distributor.

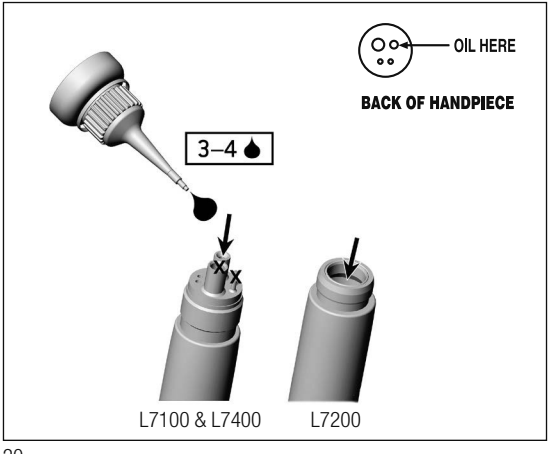


Cleaning of the optic outlet

Avoid scratching of the optic outlet!

1. Wash the optic outlet with cleaning fluid and a soft cloth.
2. Blow the optic outlet dry with air syringe or dry it carefully with a soft cloth.

Carry out a visual inspection after each cleaning process. Do not use the high speed handpiece if the optic outlet is damaged and contact iM3 or your local iM3 distributor.



Daily oil service with iM3 MD-30 or F1 MD400 handpiece oil

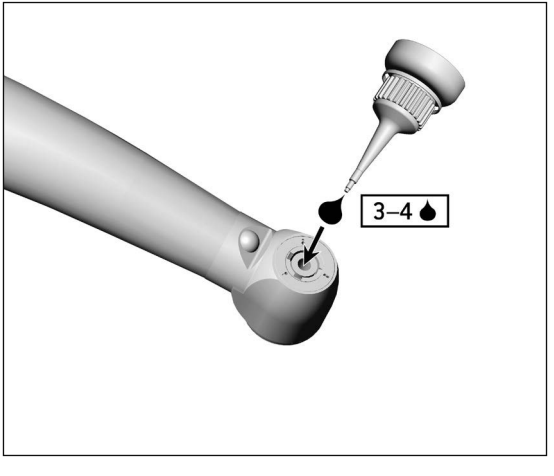
Recommended lubrication cycles

> Essential after every internal cleaning.
> Before each sterilization.

or

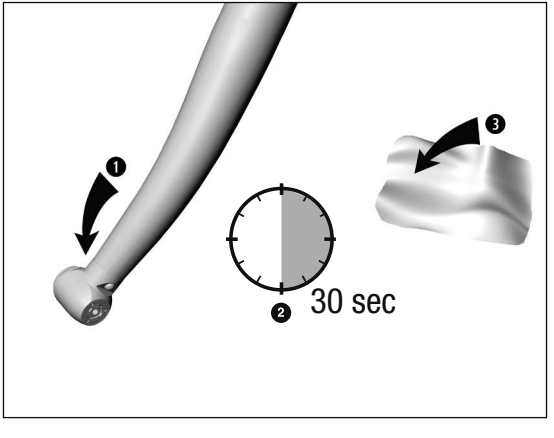
> After 30 minutes of use or at least once daily.

Handpieces must be lubricated with MD-30 or F1 MD400 handpiece oil. Failure to do so will void all warranties.



Weekly oil service of the chuck system with iM3 MD-30 handpiece oil

> Weekly place 3-4 drops of oil into the chuck system.



Test run following oil service

❶ Place the high speed handpiece with the head downward.

❷ Start the high speed handpiece for 30 seconds to remove excessive oil.

> Repeat the complete hygiene and maintenance process at any sign of dirt re-emerging.

❸ Wipe the high speed handpiece with gauze or soft cloth.

Sterilization and storage

iM3 recommends sterilization according to EN 13060, class B.

> Follow the operating instructions of the manufacturer.
> Clean, disinfect and lubricate before sterilizing.
> Wrap the high speed handpiece and the accessory in sterile goods packing according to EN 868-5.
> Make sure, that you only remove dry sterile goods.
> Store sterile goods dust-free and dry.

Approved sterilization procedures

Follow your country-specific directives, standards and guidelines.

> Steam sterilization class B with sterilizers in accordance with EN 13060.
  Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F)

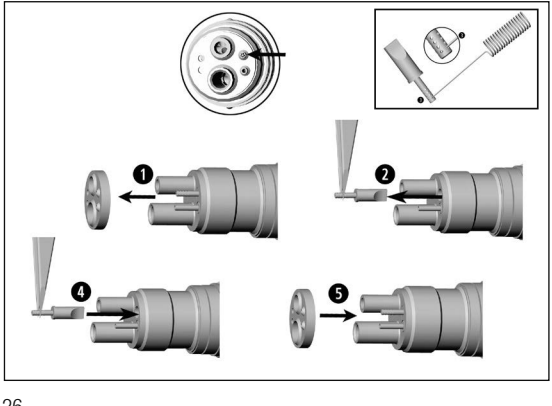
or

> Steam sterilization class S with sterilizers in accordance with EN 13060.
  The sterilizer manufacturer must give their express approval for the sterilization of high speed handpieces.
  Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F)

9. Technical data

		L7100 & L7200
FG burs	EN ISO 1797-1 (Ø mm)	1.6 – 0.01
max. length of bur approved by iM3	(mm)	21
min. chucking length		to the limit stop
max. cutting diameter	(mm)	2
Idle mode speed (measured at 36 psi)	(rpm)	390,000 ± 30,000
Coolant supply volume	ISO 7785-2 (ml/min)	> 50
Operating pressure (rec. operating pressure)	(psi)	35 – 40
Air consumption	(Nl/min)	30 – 45
Intensity of LED illumination	(Lux)	22,000
iPush - bur changing tool		Yellow iPush

Cleaning/Replacing the water filter



L7100 & L7400

1. Remove the gasket.
2. Pull the water filter out using a pair of tweezers.

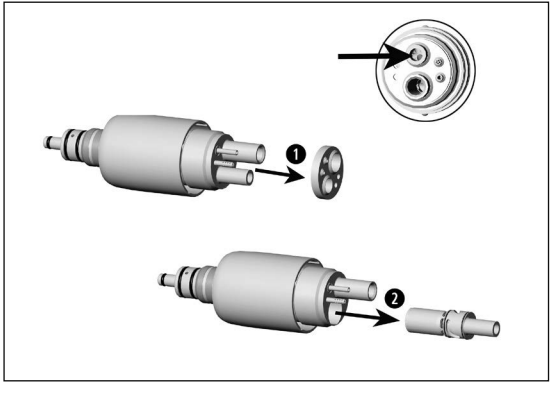
3. Clean the water filter

or

4. Insert the new water filter.

5. Slide on the gasket.

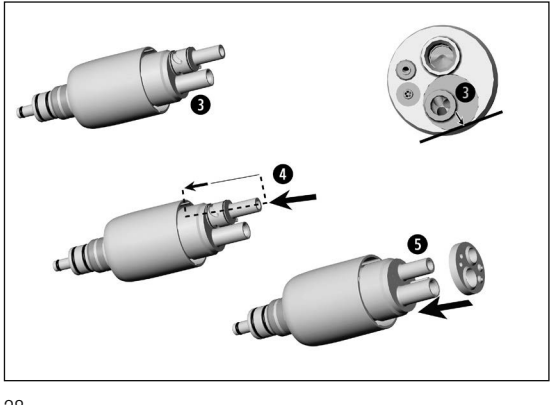
Replacing the generator



L7400

1. Remove the gasket.
2. Pull the generator out using a pair of tweezers.

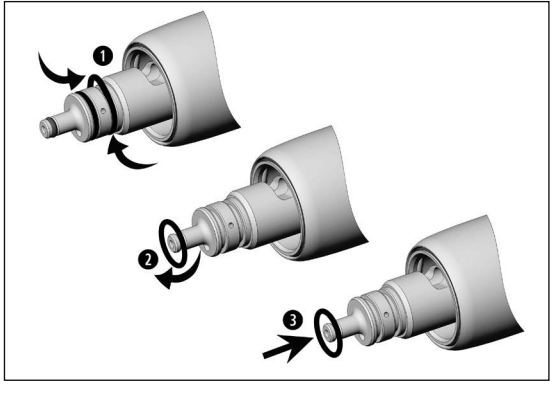
Replacing the generator



❸ Position the generator with the mark aligned with the notch on the Roto Quick coupling.
❹ Insert the new generator until back stop.
❺ Slide on the gasket.

Clean and disinfect the Roto Quick coupling.

Replacing the O-rings

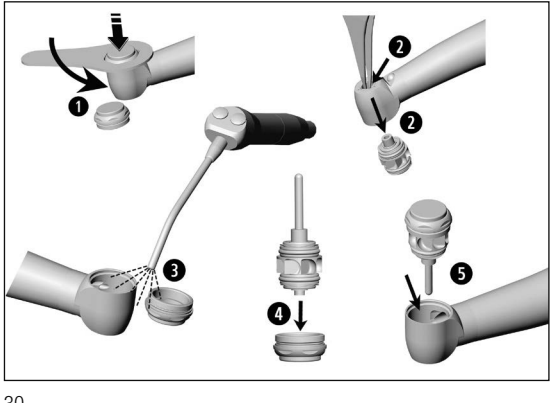


L7400

> Replace damaged or leaking O-rings immediately.
> Always replace all the O-rings.
> Do not use a sharp tool!

1. Squeeze the O-ring between your thumb and index finger so that it forms a loop.
2. Pull off the O-ring..
3. Push the new O-ring on in its place.

Replacing the Turbine in L7100 & L7200

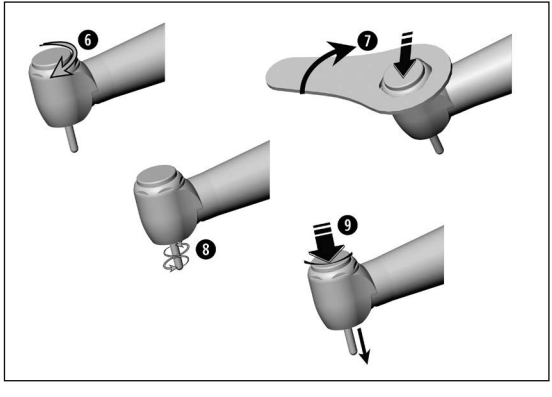


1. Unscrew the push-button using the hexagon wrench.
2. Push the turbine out of the handpiece head using the tip of a pair of tweezers.

Clean the inside of the handpiece head and the push-button with a cloth soaked in isopropyl alcohol.

3. Blow dry the push-button and the handpiece head with compressed air.
4. Place the new turbine (iM3 code L7550) into the push-button.
5. Place the turbine with the push-button into the handpiece head.

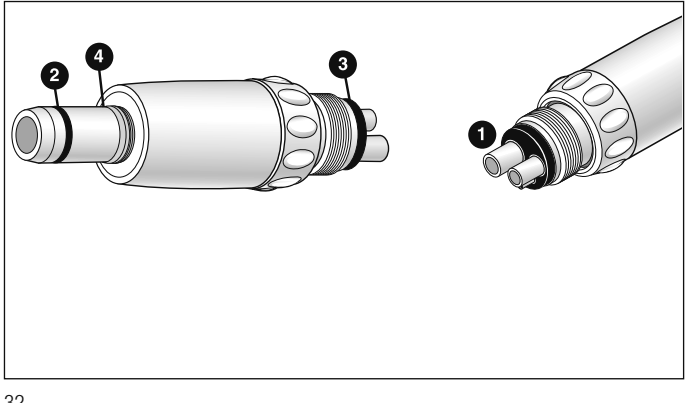
Replacing the Turbine



6 Screw the push-button onto the handpiece head.
7 Tighten the push-button using the hexagon wrench.
8 Check free running of the chucking system.
9 Activate the push-button and remove the mandrel.

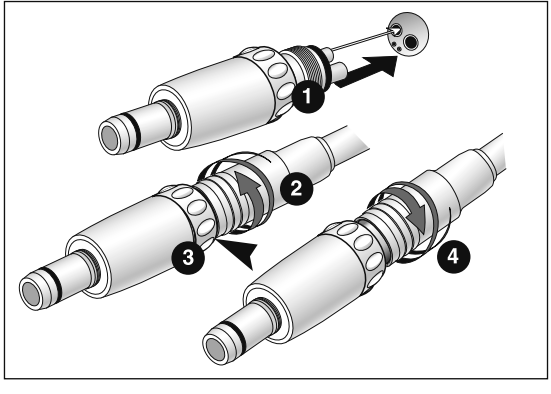
> Perform a test run.
> Repeat the complete hygiene and maintenance process.

12. Product description L6200



L6200 Low speed motor

1. Standard 4-hole connection
2. O-ring
3. Seal
4. ISO 3964 connection

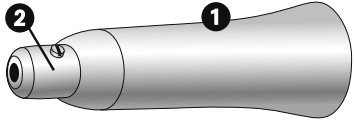


❶ Insert the air motor with 4-hole connection into the apertures of the supply hose.

❷ Firmly screw on the union nut in a clockwise direction.

❸ Check for leakages.

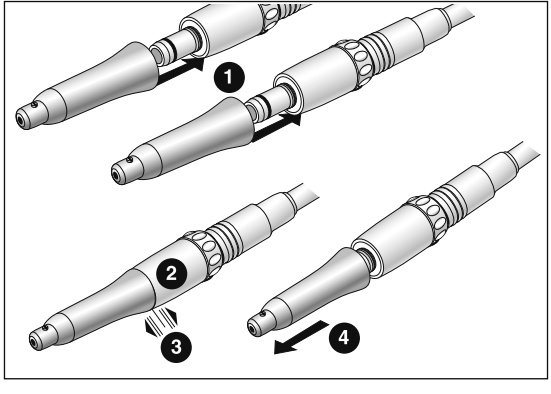
❹ Unscrew the union nut anticlockwise from the supply hose.



L6250 Advantage 4:1 straight nose cone (SNC)

❶ Straight handpiece for polishing

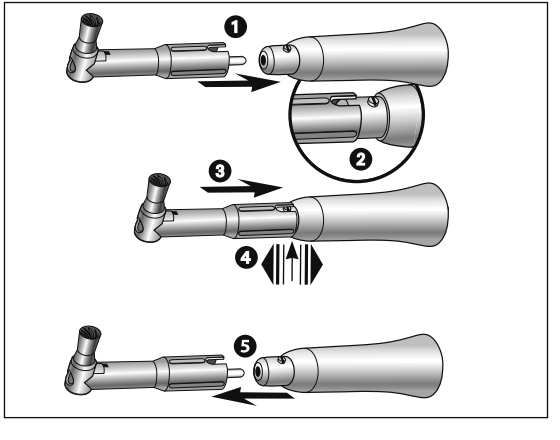
❷ Nose



Assembly and removal

Do not assemble / remove during operation!

❶ Push the 4:1 straight nose cone onto the motor until it engages audibly ❷.
❸ Check the connection to the motor is secure.
❹ Remove the straight nose cone by pulling in an axial direction.



To change a disposable prophy head (iM3 code L7465)

Only use once!

1. Push the disposable head onto the handpiece axially.
2. Align the cut out of the disposable head with the screw on the nose cone.
3. Insert the disposable head as far as the stop.
4. Check the head is secure by pulling it axially.
5. Pull the disposable head off the handpiece axially.

> Dispose of the head according to the guidelines for disposable articles.

Only use iM3 disposable prophy angles with plastic shank.

Test run

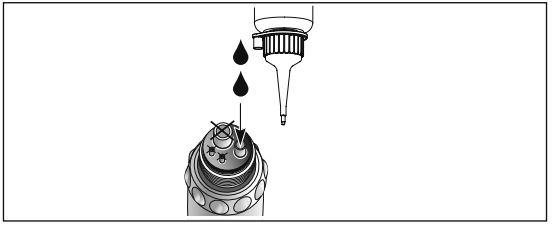
> Use the disposable head.
> Start the straight nose cone.
> If you observe problems (e.g. vibrations, unusual noise, overheating), **stop the straight nose cone immediately** and contact iM3 or your local iM3 distributor.

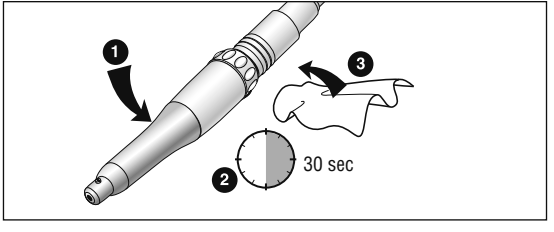
> Follow your country-specific directives, standards and guidelines for cleaning, disinfection and sterilization.
> The low speed motor and 4:1 SNC can be prepared manually or mechanically.

> Wear protective clothing.
> Remove the disposable head.
> Remove the SNC from the motor.

> Clean and disinfect the SNC , to flush out any liquid (e. g. blood, saliva etc.), which may have seeped in and to prevent settling on the internal parts.

> Sterilize the SNC following manual or mechanical cleaning, disinfection and lubrication.





Daily lubrication only with iM3 MD-30 & F1 MD400 handpiece oil

Recommended lubrication cycles

> Before each sterilization.
> 2 – 3 x daily.
or
> After 30 minutes of use.

Test run following lubrication

❶ Place the 4:1 SNC with the instrument head downwards.
❷ Start the SNC for 30 seconds to remove excess oil.
> Repeat the complete hygiene and maintenance process at any sign of dirt re-emerging.
❸ Wipe the SNC with gauze or a soft cloth.

Sterilization and storage

iM3 recommends sterilization according to EN 13060, class B

> Follow the operating instructions of the manufacturer.
> Clean, disinfect and lubricate before sterilizing.
> Wrap the SNC and the accessory in sterile goods packing according to EN 868-5.
> Make sure that you only remove dry sterile goods.
> Store sterile goods dust-free and dry.

Follow your country-specific directives, standards and guidelines.

> Steam sterilization class B with sterilizers in accordance with EN 13060.
  Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F)

or

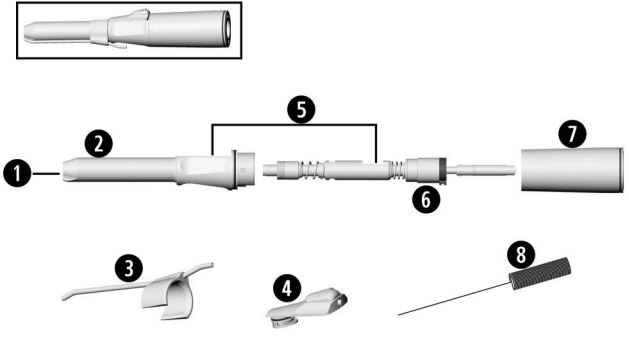
> Steam sterilization class S with sterilizers in accordance with EN 13060.
  The sterilizer manufacturer must give their express approval for the sterilization of handpieces.
  Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F)

17. Technical data

Advantage low speed motor		L6200
Coupling	Hose-side according to standard	ISO 9168
Motor coupling		ISO 3964
Speed range at 32 psi – 43.5 psi	(rpm)	20,000 – 25,000
Air consumption at 32 psi – 43.5 psi	(Nl/min)	42 – 50
Operating pressure	(psi)	35

Advantage straight nose cone		L6250
Motor coupling according to standard		ISO 3964
Transmission ratio		4 : 1
Max. speed	(rpm)	5,000 – 10,000

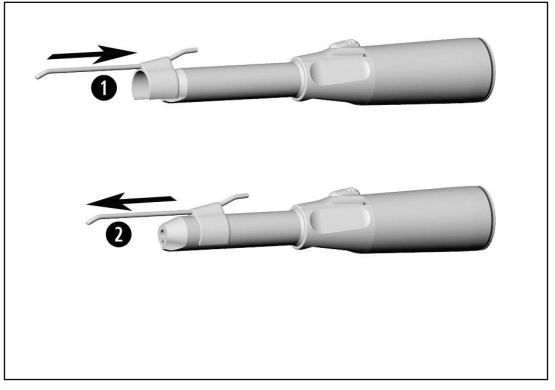
18. Product description – Straight handpiece L7800



1. LED.
2. Handpiece head*
3. Coolant tube (movable)
4. Chuck lever
5. Area of chuck lever
6. Shaft
7. Sheath*
8. Long nozzle cleaner

*Symbols on the parts 2 and 7

- ○ = Sheath open
- ↔ = Direction of rotation
- ● = Sheath locked

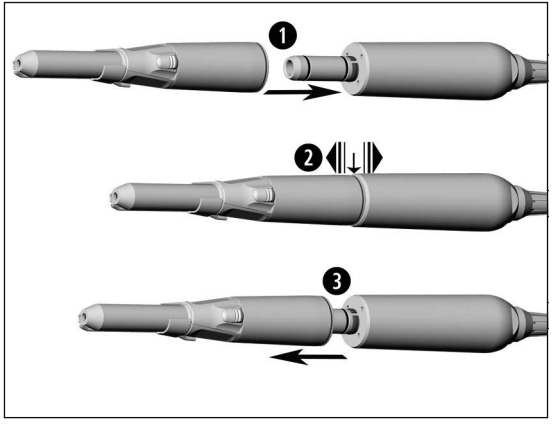


L7800 straight nose cone – coolant tube

❶ Install the coolant tube.

or

❷ Remove the coolant tube.



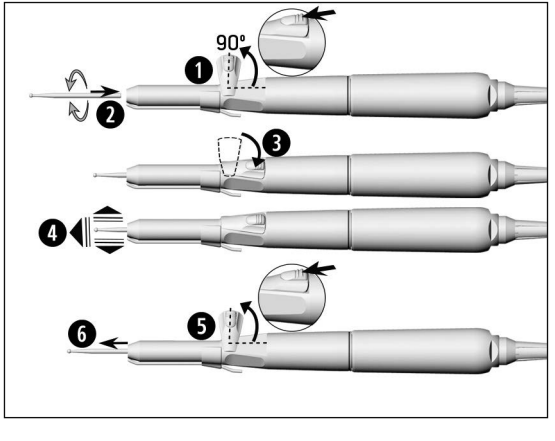
Assembly and removal

Do not assemble / remove during operation!

1. Push the straight nose cone onto the motor.
2. Ensure the straight nose cone is securely fitted to the motor.
3. Remove the straight nose cone from the motor by pulling in an axial direction.

Rotary instruments (dental burs HP)

> Use only rotary instruments which are in perfect condition and be careful when the rotary instrument is rotating. Follow the operating instructions of the manufacturer.
> Insert rotary instruments only when the straight nose cone is stationary.
> Do not interfere with the running or slowing down of rotary instruments.
> Do not activate the chuck lever of the straight nose cone during operation. This leads to detachment of the rotary instrument and makes the head of the straight nose cone hot.



To change rotary instrument / bur

1. Unlock and swivel the chuck lever.
2. Insert rotary instrument (Bur) fully.
3. Return the chuck lever to the initial position.
4. Check secure location by applying slight axial tension.
5. Unlock and swivel the chuck lever. Remove the rotary instrument.

Test run

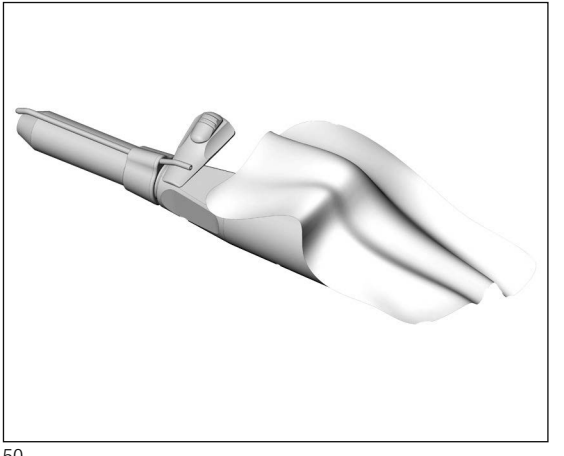
> Insert rotary instrument.
> Start the straight nose cone.
> If you observe problems (e.g. vibrations, unusual noise, overheating, coolant supply failure or leakage), or discoloration of the LED, **stop the straight nose cone immediately** and contact iM3 or your local iM3 distributor.

19. Maintenance L7800

After manual cleaning, disinfection and lubrication you must carry out a final sterilization (wrapped) in the class B or S steam sterilizer according to EN 13060.
For USA and Canada: Hospital grade sterilization with pre and post vacuum cycle.

Reassemble the handpiece following manual cleaning and disinfection..
> Without coolant tube
> Types and serial numbers on individual parts must be identical.

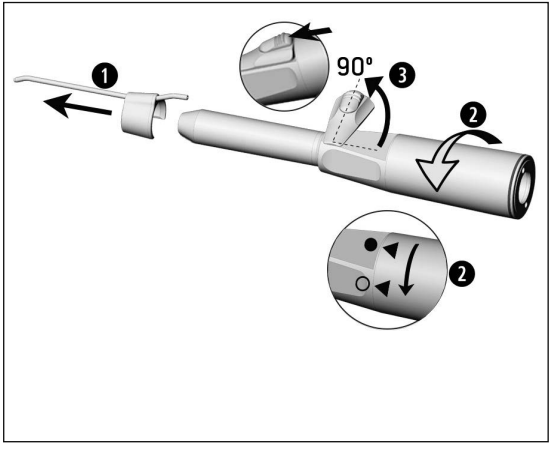
> Sterilize the reassembled handpiece following manual or mechanical cleaning, disinfection and lubrication.
> Sterilize the coolant tube.



Pre-disinfection

> If heavily soiled: Clean first with disinfectant cloths.

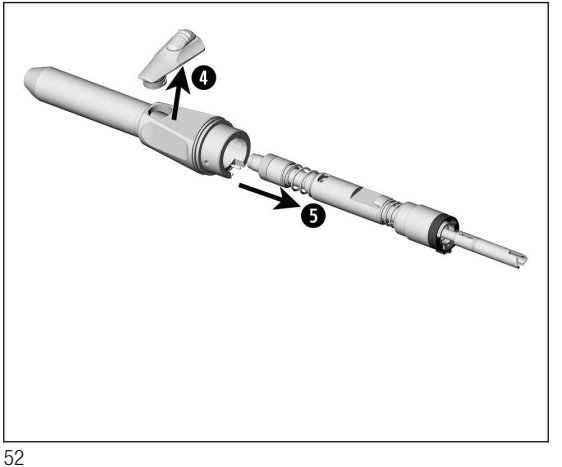
Only use disinfectants that have no protein-fixing effects.



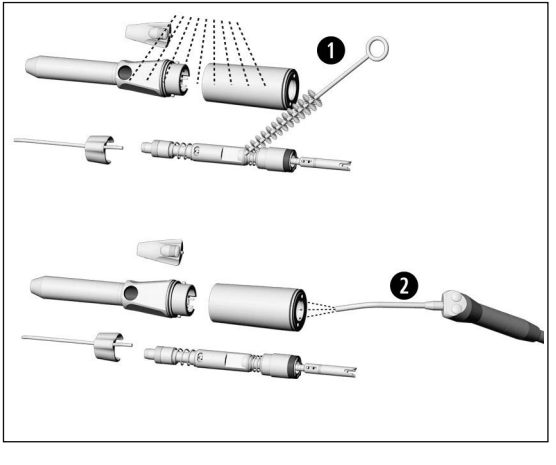
Disassemble straight handpiece

L7800

1. Pull off the coolant tube.
2. Turn off the sheath from the handpiece head by turning once.
3. Unlock and swivel the chuck lever.



❹ Remove the chuck lever.
❺ Remove the shaft from the handpiece head.

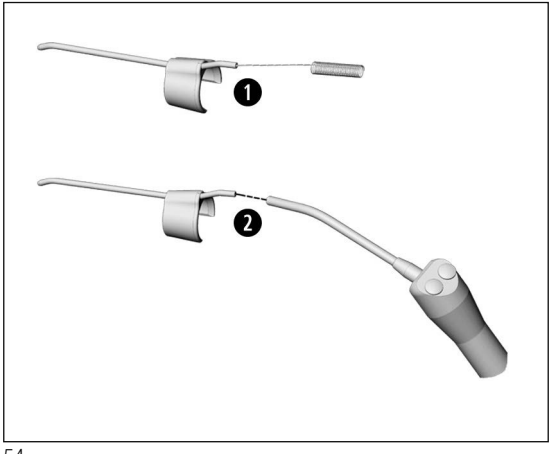


Manual cleaning internal and external

❶ Rinse and brush off under demineralized water (< 38 °C / < 100 °F).

❷ Remove any liquid residues (absorbent cloth, blow dry with compressed air).

Do not place the handpiece in liquid disinfectant or in an ultrasonic bath.

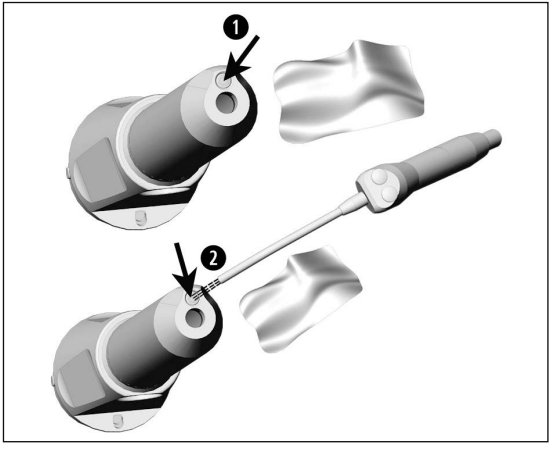


Cleaning of the external coolant tubes

The removable coolant tube and the nozzle cleaner can be cleaned in an ultrasonic bath.

1. Clean coolant outlets carefully with the nozzle cleaner to remove dirt and deposits.
2. Blow through the coolant tube with the air syringe.

In the case of blocked coolant outlets or coolant tubes contact an authorized iM3 service partner.

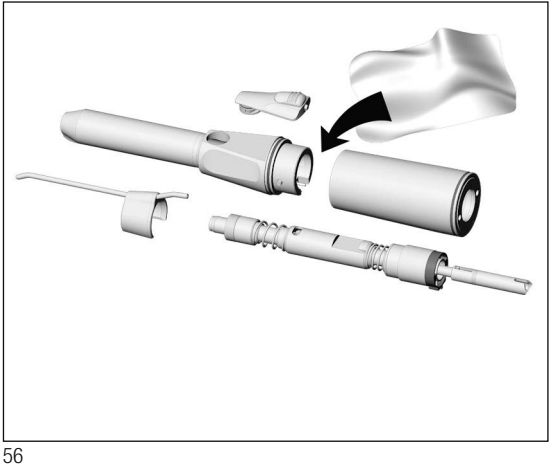


L7800

Cleaning of the LED

Avoid scratching of the LED!

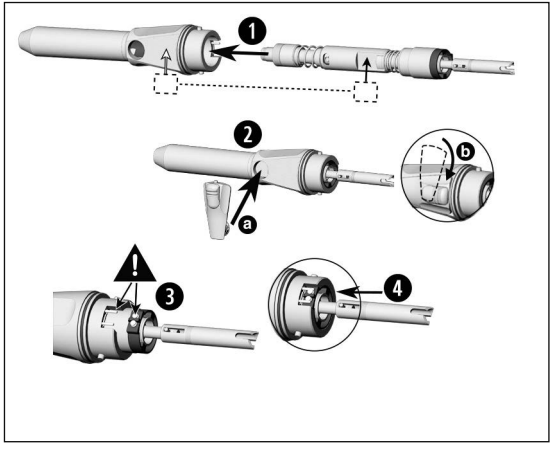
1. Wash the LED with cleaning fluid and a soft cloth.
2. Blow the LED dry with air syringe or dry carefully with a soft cloth.



Manual disinfection

iM3 recommends wiping down with disinfectant.

> Use only disinfectants which do not contain chlorine and which are certified by officially recognized institutes.
> **For USA and Canada: Use EPA registered surface disinfectants.**
> Note the manufacturer's specifications for the use of the disinfectants.



Reassemble straight handpiece

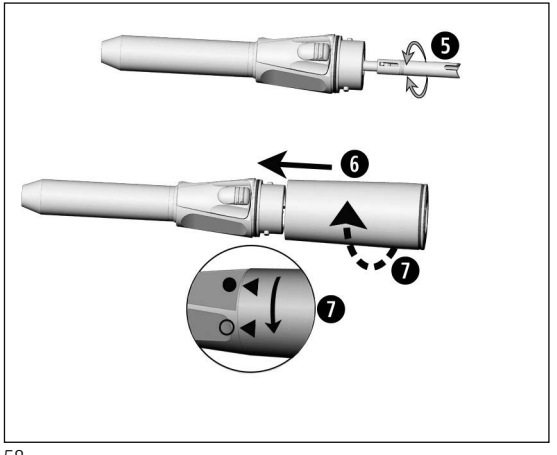
L7800

❶ Note the positioning of the area of chuck lever. Insert the shaft into the handpiece head.

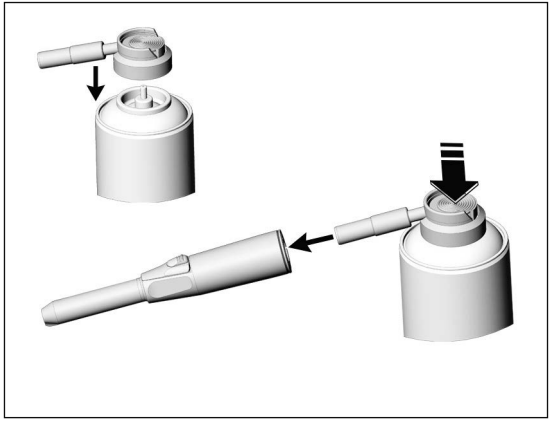
❷ Insert chuck lever (a) and turn it to initial position (b).

❸ Only S-11 L G: Position the golden contacts on the shaft and handpiece head so that they are facing each other.

❹ Push the shaft into the handpiece head.



❺ Check free running of the shaft.
❻ Insert the sheath onto the handpiece head.
❼ Note the symbols and turn until locked.



Daily oil service only with Service Oil F1, MD-400

> Follow the Instructions for use of the oil spray can.

Recommended lubrication cycles

> Essential after every internal cleaning.
> Before each sterilization.

or

> After 30 minutes of use or at least once daily.

Sterilization and storage

 iM3 recommends sterilization according to EN 13060, class B.

> Note the instructions of the unit manufacturer.
> Clean, disinfect and lubricate before sterilizing.
> Wrap the straight nose cone and the accessory in sterile goods packing according to EN 868-5.
> Make sure that you only remove dry sterile goods.
> Store sterile goods dust-free and dry.

Approved sterilization procedures

Follow your country-specific directives, standards and guidelines.

> Steam sterilization class B (pre and post vacuum) with sterilizers in accordance with EN 13060.
Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F).
Required pressure -0.85 bar (-12.3 psi) up to 2.16 bar (31.3 psi).

or

> Steam sterilization class S with sterilizers in accordance with EN 13060.
The sterilizer manufacturer must give their express approval for the sterilization of handpieces.
Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F).

20. Technical data

Advantage straight nose cone		L7800
Transmission ratio		1 : 1
Colour coding		blue
Motor coupling according to standard		ISO 3964
Rotary instruments	EN ISO 1797-1 (Ø mm)	2.35
Length approved by iM3	(mm)	max. 45*
Minimum chucking length	(mm)	until back stop
Maximum rated speed	(rpm)	40,000
Spray water volume	(ISO 7785-2 (ml/min)	> 50

* When using longer rotary instruments the user must ensure by correct selection of the operating conditions, that there is no danger to the user, patient or third parties.

Letter of indemnity

This product has been manufactured with great care by highly qualified specialists. A wide variety of tests and controls guarantee faultless operation. Please note that claims under warranty can only be validated when all the directions in the instructions for use have been followed.

iM3 is liable for material or manufacturing defects within a warranty period of 12 months from the date of purchase.

We accept no responsibility for damage caused by incorrect handling or by repairs carried out by third parties not authorized to do so by iM3!

Claims under warranty – accompanied by proof of purchase – must be sent to the vendor or to an authorized iM3 service organization. The provision of service under warranty extends neither the warranty period nor any other guarantee period.

12 months warranty

Manufactured for and serviced by:

iM3 Pty Ltd

21 Chaplin Drive
Lane Cove NSW 2066
Australia

Ph: +61 (0)2 9420 5766
Fax: +61 (0)2 9420 5766
Email: sales@im3vet.com
www.im3vet.com.au

iM3 Inc

12414 NE 95th St,
Vancouver, WA 98682
USA

Ph: +1 800 664 6348
Fax: +1 360 254 2940
Email: info@im3usa.com
www.im3vet.com

iM3 Dental Limited

Unit 29,
Duleek Business Park Duleek,
Co Meath A92 N72W, Ireland

Ph: +353 (0)16911277
Direct: UK +44 (0)1423 224297
Email: sales@im3dental.com
www.im3vet.eu

Made in Austria