

MOTRANSER

User Guide

M1 Bright (LED Dental Mirror)

M2 Rainbow (Dental Mirror with Endo Gauge)

M3 Breeze (AirClean Dental Mirror)

M5 Mini (AirClean Micro Mirror)

M6 Lumi (AirClean Photography Mirror)

M7 Eva (3D HVE Suction Mirror)

Directions for Use

M1 Bright (LED Dental Mirror)

M2 Rainbow (Dental Mirror with Endo Gauge)

*Extended Series: **M2 Magnifying** (Dental Mirror with Endo Gauge)*

M3 Breeze (AirClean Dental Mirror)

M5 Mini (AirClean Micro Mirror)

M6 Lumi (AirClean Photography Mirror)

M7 Eva (3D HVE Suction Mirror).

Disclaimer

ACME TOOLING TECHNOLOGY CO., LTD. assumes no responsibility or liability for any injury or damage to anyone, for any illegal or improper use of the product that might arise out of or in connection with failure to use this product in accordance with the instructions, cautions, warnings, or statement of intended use published in this manual.

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All Products Manufactured in Taiwan R.O.C.

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Introduction

This manual describes the installation and use of M1 Bright, M2 Rainbow, M3 Breeze, M5 Mini, M6 Lumi, and M7 Eva.

Intended Use

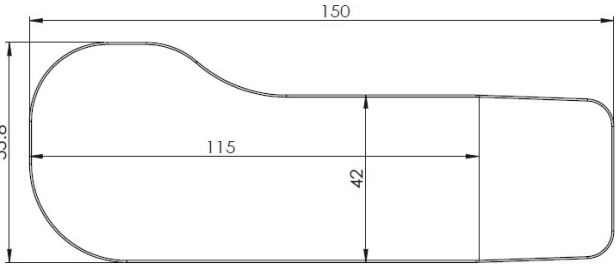
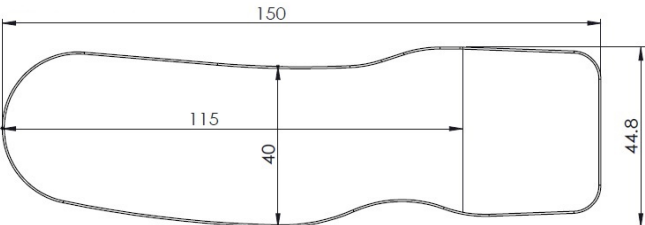
1. M1 is intended to provide additional illumination in a dental cavity in the process of dental examinations.
2. M2 is intended to provide a light-weight handy and reusable mirror for dentists.
3. M2 magnifying is an extended series of M2. With concave mirror, this product is intended to provide a simple and convenient magnification function.
4. M3, M5, and M6 are intended to provide an additional self-cleaning air blow function to improve diagnosis or treatment efficiency of dentistry.
5. M7 is intended to provide an additional high-power suction function with a lightweight handy experience of dentistry.
6. The described devices are intended to be used by trained clinical professionals in dentistry.
7. Professional qualification includes degree in medicine with dentistry specialization, degree in dentistry, or degree in dental nursery.

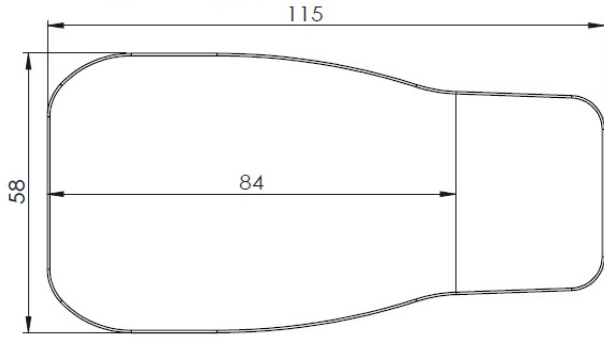
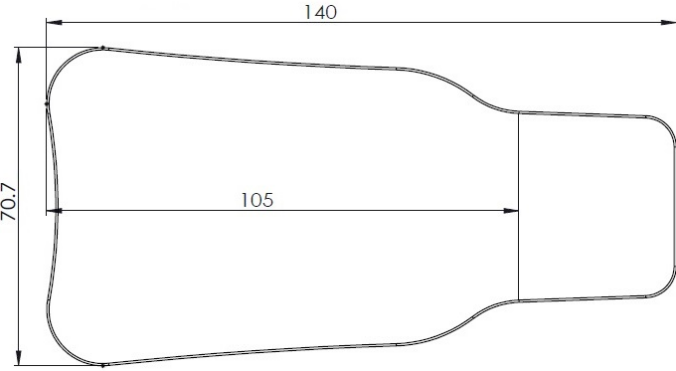
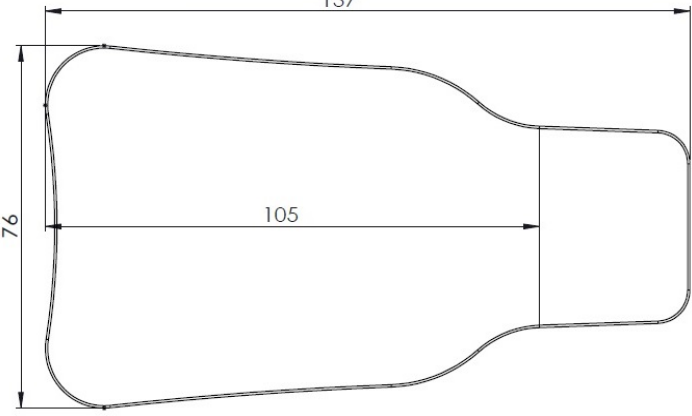
Contraindications




The M1 Bright LED light output is in a range that may contribute to the premature polymerization of composite materials. In addition, do not point the light directly into your eyes.


Specifications

Take care to leave free space or operation room to avoid any interference with fixed obstacles. The free space or operation room can be determined by the following sizes and dimensions:

M1 Size	Dental mirror handle (with tail cap): 184 mm x 25 mm Light source module: 146 mm x 13 mm
M1 Diameter	Handle: 15.5 mm Light source module: 12.7 mm
M1 Weight	Dental mirror handle (with tail cap): 11 g Light source module: 27 g
M2 Length	180 mm
M2 Diameter	12 mm
M2 Weight	12.40 g
M3 Length	162 mm
M3 Diameter	12 mm
M3 Weight	12 g
M5 Length	164 mm
M5 Weight	10 g
M5 Mirror Length	3 mm, 5 mm, 10 mm, and 15 mm
M5 Thickness for 3 mm and 5 mm mirror head	1.6 mm
M5 Thickness for 10 mm and 15 mm mirror head	3.15 mm
M6 Buccal Side Mirror (Double Side)	
M6 Lingual Side Mirror (Double Side)	

M6 Occlusal Side Mirror (S) (One side)	
M6 Occlusal Side Mirror (M) (One side)	
M6 Occlusal Side Mirror (L) (One side)	
M6 Buccal Side Mirror Weight	45.53 g
M6 Lingual Side Mirror Weight	38.1 g
M6 Occlusal Side Mirror (S) Weight	38.22 g
M6 Occlusal Side Mirror (M) Weight	53.59 g
M6 Occlusal Side Mirror (L) Weight	54.83 g
Air Pressure	0.4 MPa
M7 Mirror Length	172 mm
M7 Mirror Width	27 mm
M7 Mirror Weight	10.9 g
M7 Suction Tube Length	180 cm

M7 Tube Width	12 mm
M7 Tube Weight	87.2 g
M7 3-Axis Free Rotation Connector	10.4 g
M7 Suction Mirror Holder Length	82 mm
M7 Suction Mirror Holder Width	62 mm
M7 Suction Mirror Holder Weight	13.7 g
M7 Suction Mirror Holder Connector for U.S.A. Type	11 mm
M7 Suction Mirror Holder Connector for Europe Type	16 mm
M7 U Spring	SUS 316 
Mirror Protective Cover Length	28.55 mm
Mirror Protective Cover Width	31 mm
Mirror Protective Cover Thickness	8.5 mm
Mirror Protective Cover Weight	2.5 g
Material	Glass Fiber/Polymer 
Mirror Material	Glass 
Reflectance	R75: 70-75% reflectance R94: 94% reflectance R98: 97-99% reflectance
White Light Source Module	Brightness: 65,000 LUX Color Temperature: 5000K, CRI ≥90
Diameter of M1 and M7 mirror	23 mm
Diameter of M2 and M3 mirror	23mm, 20mm
Operating Temperature Conditions	50° F to 104° F (10° C to 40° C)
Storage Conditions	-4°F at 50% RH to 122°F at 95% RH

	-20°C at 50% RH to 50°C at 95% RH
Performance	White light: 6 hours continuously
Battery	Two 1.5V AAA batteries
	The CE mark on this product indicates that it has been tested to and conforms to the provisions noted within the MDR/2017/745 Medical Device Regulation.

Warnings and Cautions

All operating personnel must read and understand the general safety information in this summary. Specific warnings and cautions are also found throughout this manual. A caution or warning statement in this manual identifies a condition or practice which if not corrected or discontinued immediately, could lead to patient injury, illness, death equipment failure, equipment damage, or data loss.



WARNING Do not use if the mirror cannot be properly installed into the mirror frame.



CAUTION Do not use alkaline batteries; leaking of battery fluid may cause corrosion of electronic components.

CAUTION Do not look directly at an illuminated Light Source Module. Temporary blindness or vision loss may result.

CAUTION Do not immerse or soak the Light Source Module in any liquid.

CAUTION Do not autoclave the batteries or Light Source Module to avoid the risk of damage to the batteries and Light Source Module or to operate without hazard to the user.

CAUTION Before use, check if any cracks or chips on the mirror.

CAUTION Stop using if the mirror is broken or damaged and replace with a new dental mirror. Do not attempt to take out the damaged mirror.

CAUTION Before use, check if the mirror is fully pressed against the frame edge.

CAUTION Do not proceed to a rapid cooling after high temperature sterilization.

CAUTION Please clean, steam sterilization and dry the new mirrors before first use.

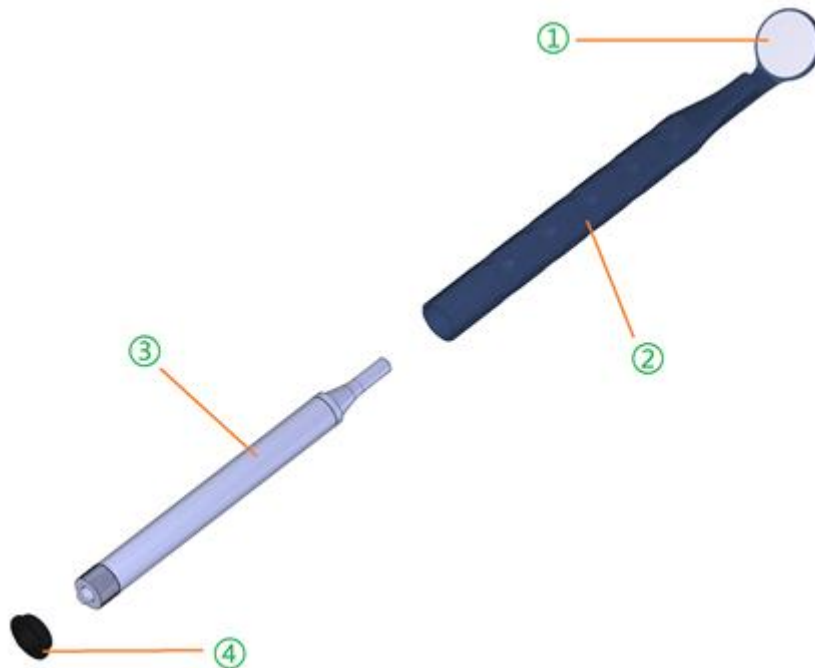
CAUTION Follow the exact mirror replacement procedure. Please visit our website <http://www.motranser.com> for related product information and video demonstrations.

Device Setup and Installation

M1: Installation and Removal of Light Source Module

Please refer to the figure below, and the M1 Bright is mainly comprised of:

- ①: HD mirror ②: Dental mirror handle
③: Light source module ④: Tail cap

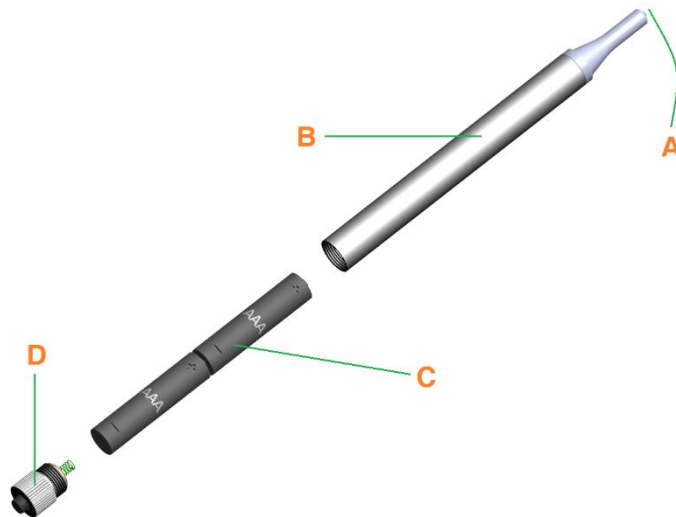


1. Insert ③ “light source module” into ② “dental mirror handle”.
2. Plug ④ “tail cap” into ② “dental mirror handle”.
3. Press ④ “tail cap” to turn on the light and press again to turn off.
4. Please use cotton swab with alcohol to clean “HD mirror” in order to prevent possible scratch.
5. Or, visit <http://www.motranser.com> for related product information and video demonstration.

M1: Battery Replacement of Light Source Module

Please refer to the figure below, and

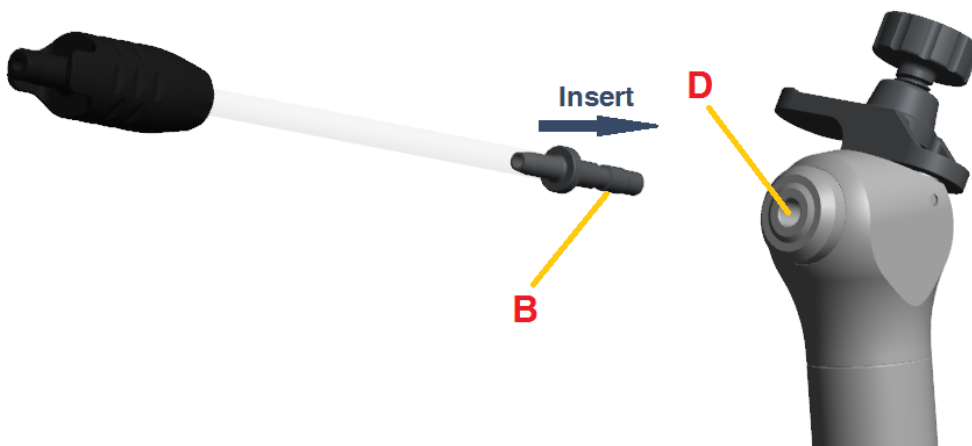
- A: LED light bulb
B: Battery cartridge
C: Standard AAA battery
D: Battery cap



1. Insert two standard AAA batteries "C" in "B" (battery cartridge) in opposite orientation by the positive terminal (+ pole) facing upward/inward.
2. Tighten "D" (battery cap) screw onto "B" (battery cartridge).
3. Beware of the risk of fragile "A" (LED light bulb).
4. Or, visit <http://www.motranser.com> for related product information and video demonstration.

M3, M5 & M6: How to Connect to 3-Way Syringe

Please refer to the figure and configuration as below:



Simply insert "B" (3-Way Adapter) to "D" (3-Way Syringe) all the way in and ensure its good fixation.

M3, M5 & M6: How to Install Air Pressure Regulator

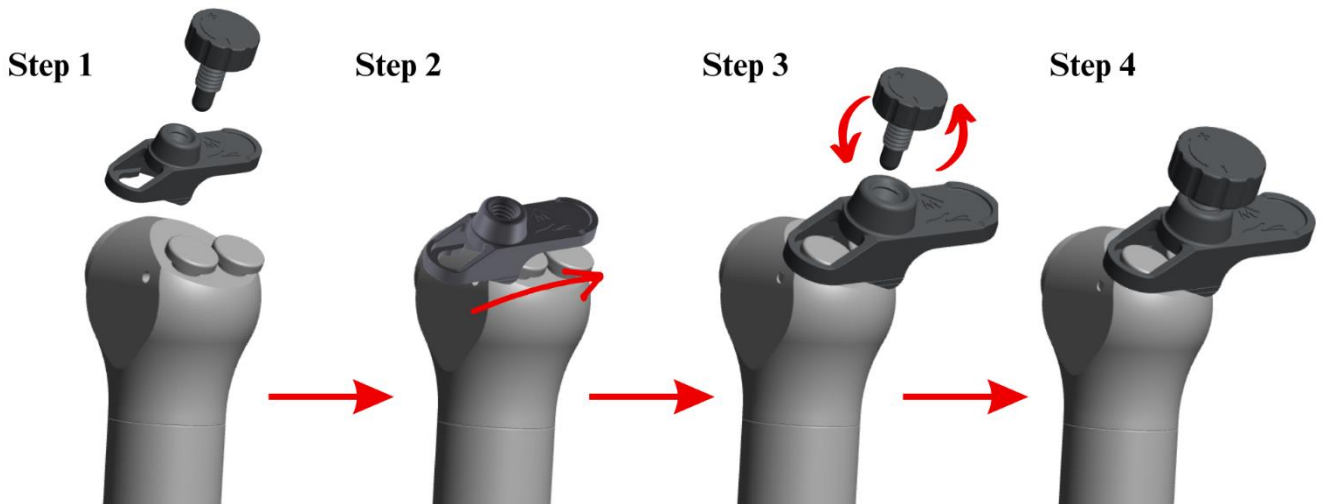
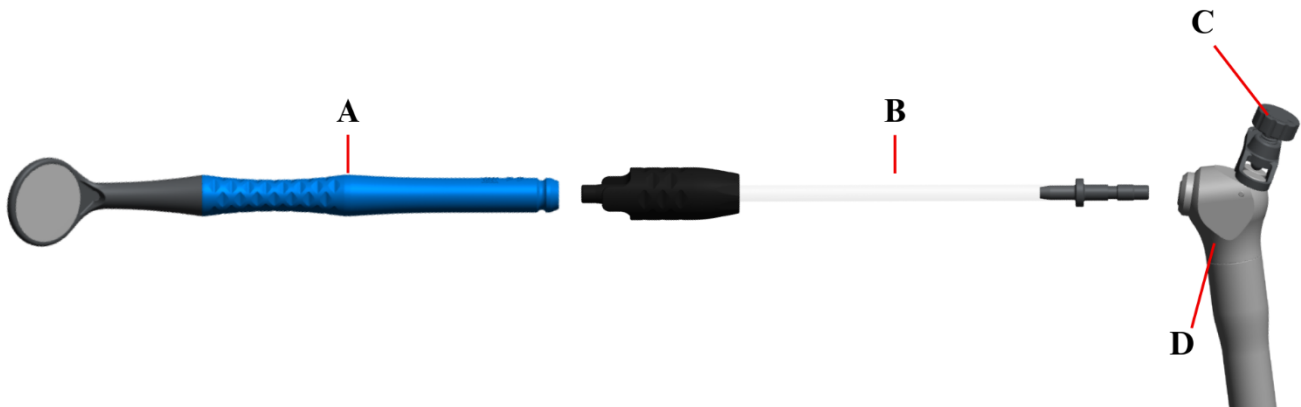
Please refer to the figures below and the M3 Breeze is comprised of four main components:

A: AirClean Dental Mirror Handle

B: 3-Way Adapter

C: Air Pressure Regulator

D: Your 3-Way Syringe **The 3-way syringe is not included in our products*



1. Screw (without locking) Air Pressure Regulator "C" in your 3-Way Syringe (referring to "D"), referring to Step 1 to Step 3.
 2. Air flow rate can be adjusted by rotating Air Pressure Regulator "C", referring to Step 4.
 3. Insert AirClean Dental Mirror Handle "A" into the receiving end of 3-Way Adapter "B".
- In addition, optional choices of 1/4" and 3/8" QD Dental Unit Adapter are available.

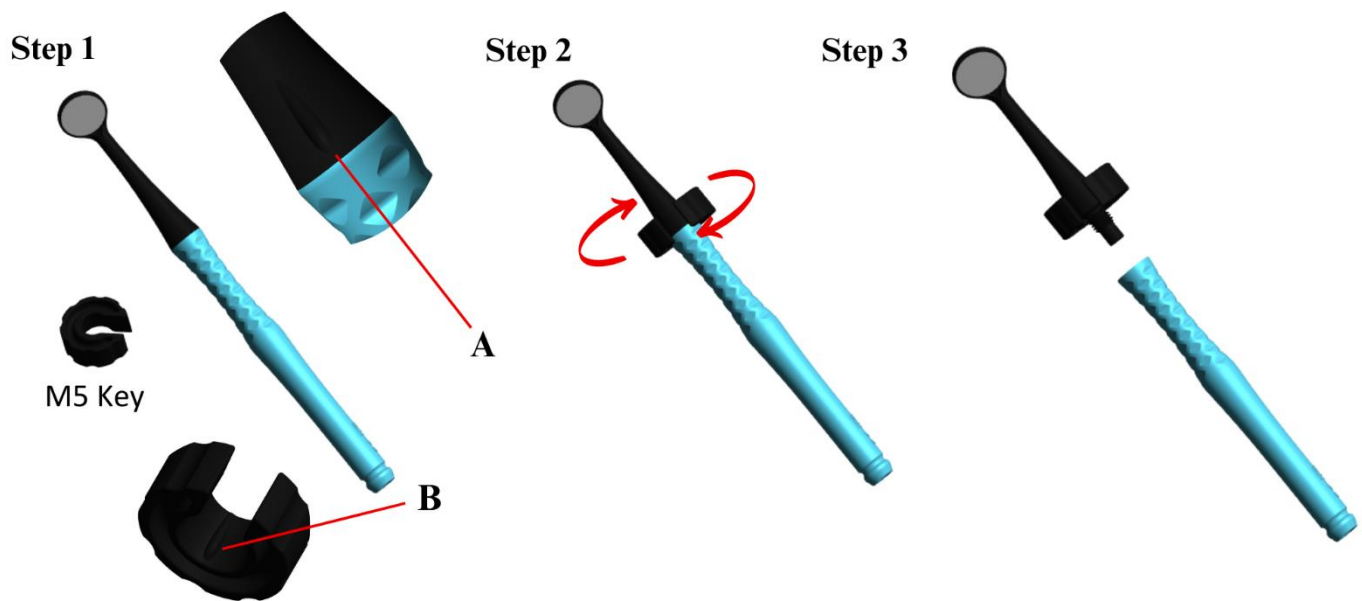


Please refer to the figures below, and simply insert into dental unit socket.



M5: Replacement Procedure of Mirror Head

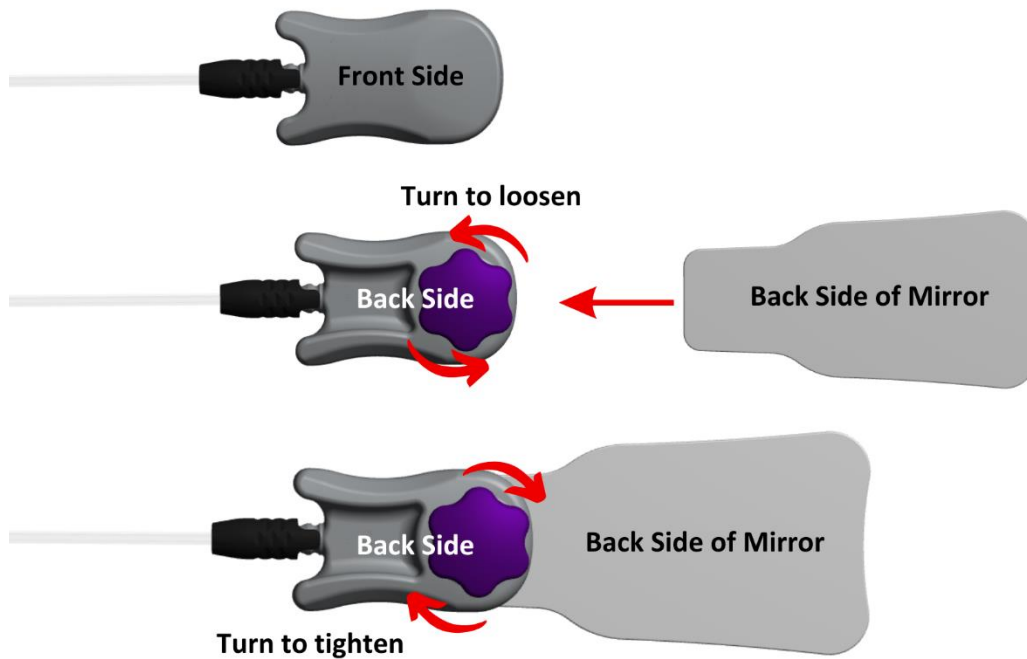
Please refer to the figures below and follow steps 1 to 3:



1. Configure "Mirror Head" into "M5 Key" from the "Neck" position, and place M5 Key to the position where "A" in respect to "B".
2. Turn counterclockwise to separate the Mirror head from the Handle.
3. Screw New Mirror Head on the Handle and apply M5 Key to tighten.

M6: Procedure for Mirror Replacement

Please refer to the figures below and follow steps 1 to 3:

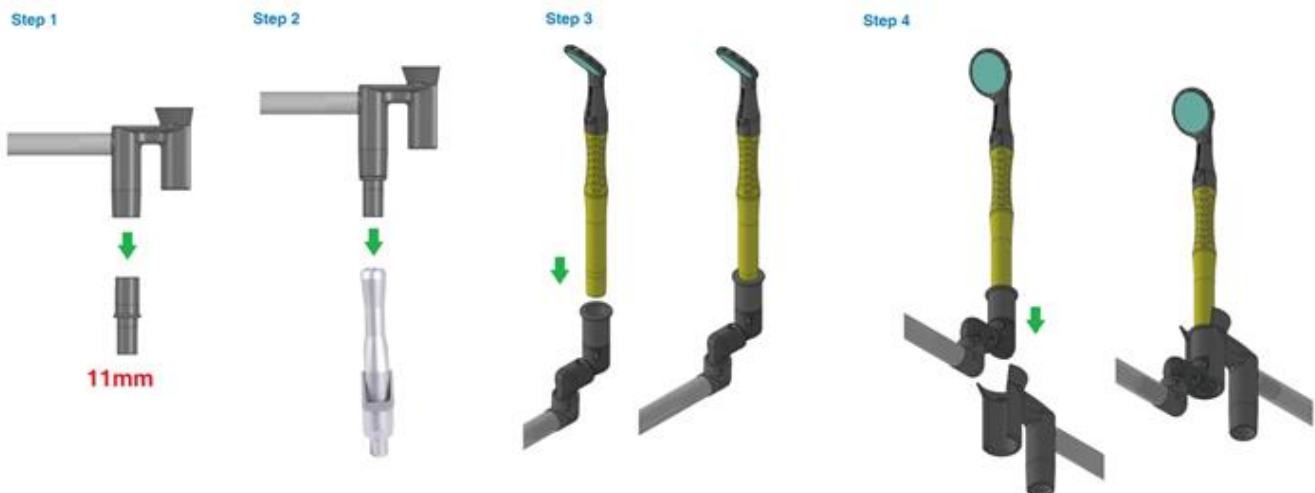


1. Remove the PE film prior to new mirror installation.
2. Rotate the screw counterclockwise to loose and then insert the mirror.
3. Rotate the screw clockwise to tighten and secure the mirror.

M7 How to install the M7 to your HVE suction

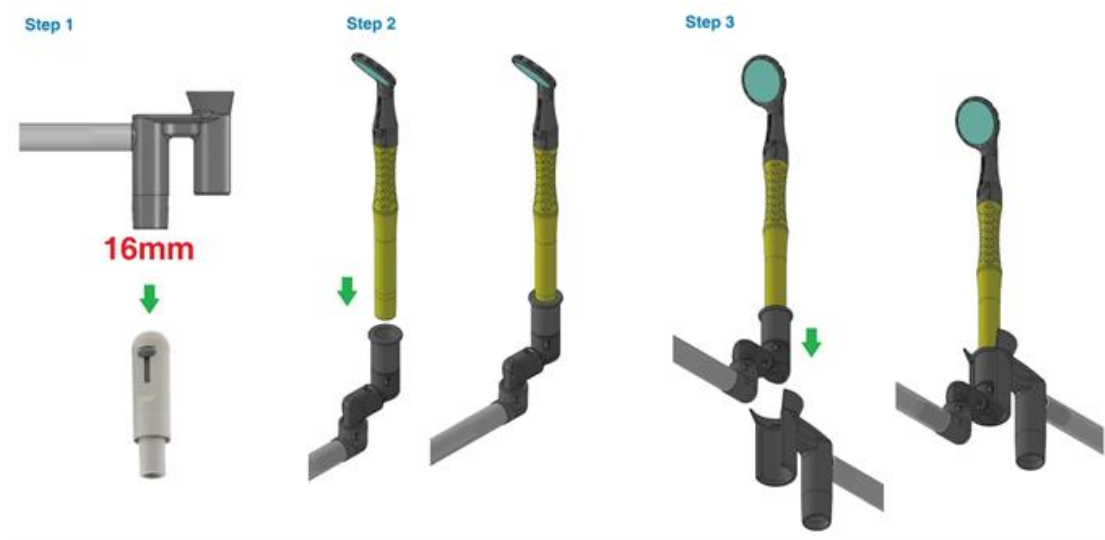
To an U.S. Standard 11mm HVE

Please refer to the steps below:



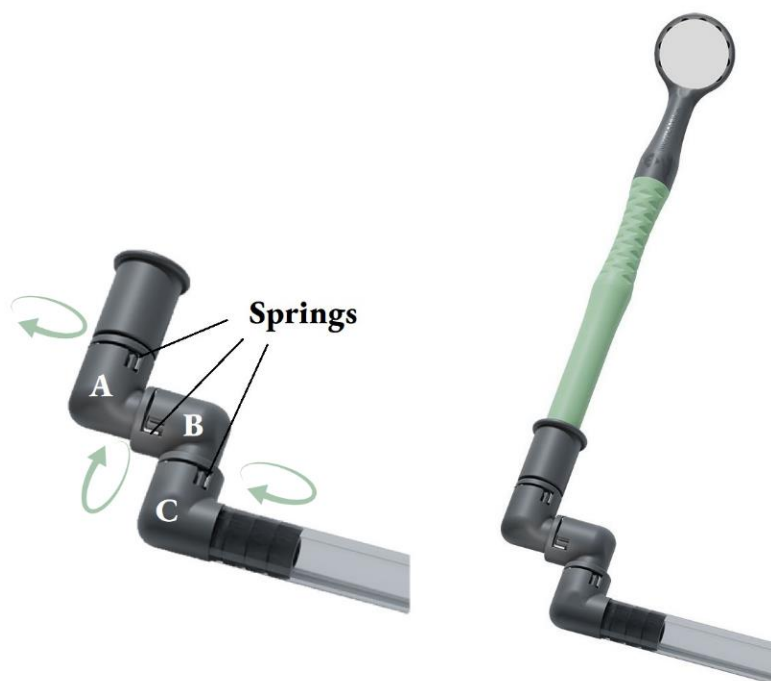
To a Europe Standard 16mm HVE

Please refer to the steps below:



3D Rotation

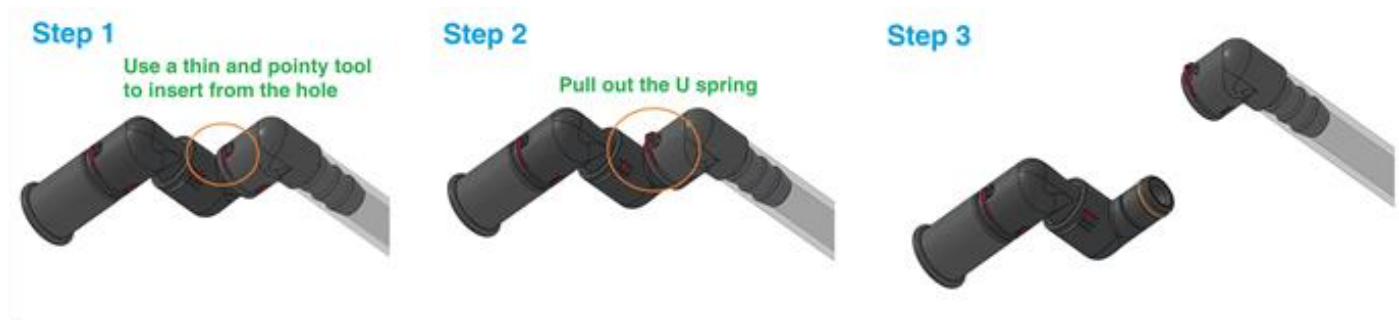
Please refer to the figures below and follow steps 4 to 5:



4. All of "A", "B", and "C" are designed for 360 degrees free rotation. The 3-axis joint design helps to reduce the drag on dentists' hands.
5. The springs in connection to "A", "B", and "C" are disassembled for cleaning, or applying silicone lubricant to the parts.

M7 How to disassemble 3-Axis Free Rotation Connector

Please refer to the figures below and follow steps 1 to 3:



1. Use a thin and pointy tool (ex: the other side of a bur of slow speed $\Phi 2.35\text{mm}$) to insert from the hole.
2. Pull out the U spring.
3. The joints can be disassembled.

Mirror Protective Cover

Please refer to the figure below:



Please put on the mirror protective cap for maximum mirror protection after use.

Maintenance





User Guideline

Dental Mirror (M1, M2, M3, M7)	<ol style="list-style-type: none"> 1. Before any use, examine the mirror handle for cracks and/or other imperfections & flaws. 2. Be sure that the mirror has been fully pressed against the edge.
Light Source Module	<ol style="list-style-type: none"> 1. Insert the light source module into the dental mirror handle and plug with the tail cap. 2. After the insertion, use the dental mirror to observe in the mouth. 3. The light source module is for direct/reflective illumination. 4. If the light source module fails to illuminate, and ensures the batteries have






	<p>been replaced, discontinue use and replace the Light Source Module.</p> <p>5. Please refer to P.10 and reassemble Light Source module.</p>
Batteries	<p>1. Use 2 standard AAA batteries.</p> <p>2. In consideration of environmental protection, using rechargeable batteries is recommended.</p> <p>3. If the lamp does not illuminate or is dim, please replace the batteries.</p> <p>4. Refer to P.11 for the battery replacement.</p>
3-Way Adapter	<p>1. 3-Way Adapter is not suitable for autoclave.</p> <p>2. Please do not exceed 6 kgf/cm² (6 Bar) air pressure.</p>
M6 Handle	Please make sure the screw is tightened.
Mirror	Please stop using the mirror if there are any cracks. Replace the cracked mirror with a new mirror immediately.
Hydrophilic Mirror (M1, M2, M5, M6, M7)	Please immerse/soak the mirror in clean water for few seconds before use for better anti-fog effect.
M7 Mirror Handle	Please make sure the suction mirror handle and the suction tube are fully attached and tightened.

Cleaning & Sterilization

M1-M7 Dental Mirrors	Cleaning <ol style="list-style-type: none"> Please use a neutral detergent solution for washing and cleaning before sterilization. M3, M5, M6: Please use surface disinfectant wipes to clean 3-way adapter. This PU tube is not suitable for high temperature sterilization. 			
	Sterilization <ol style="list-style-type: none"> Important! Please Steam Sterilize Only. Please steam sterilize with the mirror and silicone plug attached to the mirror frame. Do not sterilize them separately. Recommended Sterilization Parameters are as follows: 			
		Class N	Class S	Class B
	Temp	121°C (250°F)	134°C (273°F)	134°C (273°F)
	Sterilization Time	≥15 mins	≥3 mins	≥3 mins
Drying Time		Optional	Optional	Optional
Light Source Module	Please wipe the light source module with dry soft cloth.			

	<p> CAUTION Do not sterilize the Light Source Module or batteries.</p> <p> CAUTION Do not immerse or soak the Light Source Module in any liquid.</p> <p> CAUTION Do not use wet cloth to clean the Light Source Module, to prevent possible electric leakage.</p> <p> CAUTION Do not use alkaline batteries; leaking of battery fluid may cause corrosion of electronic component.</p>
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Disposal

Dental Mirror Handle	<p>Apply a final sterilization and recycle the plastic handle and mirror separately.</p> 
Mirror	
U Spring (M7)	 <p>SUS 316</p>
Spring (M7)	 <p>SUS 304</p>
Light Source Module	<p>Light source module contains electronic components, and waste. Its disposal method complies with in accordance with applicable local, state and federal regulations.</p>
Batteries	<p>In Taiwan (R.O.C), please call 0800-085717 or look up (http://recycle.epa.gov.tw) for instructions on how to recycle batteries.</p> <p>For users outside Taiwan (ROC), contact your local authorities on recycling procedures or go to http://www.rbrc.org/ for recycling information.</p>  <p>Dispose of Properly</p>

Trouble Shooting

Parts	Problem	Solution
Dental Mirror Handle (M1, M2, M3, M7)	Mirror blur vision	1. Wash and clean mirror 2. Wipe the mirror surface with a new cotton pad 3. If the problem persists, please replace a new mirror
Light Source Module	No Light	1. Make sure the switch cap is screw on tightly 2. Install 2 new AAA batteries. 3. If no light illuminates, please contact your local distributor.
3-Axis Free Rotation Connector	Not Lubricate	Refer to P.16 to see direction of detach procedure and apply Silicone Grease.

Warranty

All Motranser mirrors are guaranteed to be free from defects in material and workmanship when used for their intended dental purpose. All Motranser mirrors have a limited 1-year warranty, which only applies to the system components: air control system/valve, suction connection parts, supplied tubing, mirror holders, and LED light source. Consumables such as mirror handles, mirror heads, mirror lens, mirror cap covers are not covered by the warranty.

Motranser offers a warranty on all of its products based on the useful lifetime of the product. If you purchase a product that is determined to have a manufacturing defect, it will be exchanged if the product is within the stated warranty period for the product from the invoice date. Please contact your local dealer if you believe that any product you purchased has a manufacturing defect within the stated warranty period from the date of purchase. Any warranty is void if the product has been subject to misuse or abuse, or the proper sterilization instructions, or instructions for use, have not been followed.

Warranty Exceptions

This warranty is void for Motranser instruments and products serviced by any person or facility other than the Motranser Instrument Repair Services. Any custom made, custom etched or neutralized products are not returnable. Warranties are not valid for Motranser instruments and products that prove defective as a result of improper care and cleaning or misuse such as improper installing of new mirrors to cause possible mirrors detached. Instruments or products that are damaged in fire, flood or other acts or disasters are also excluded from warranty.

Except as set forth in these Terms and Conditions, Motranser makes no other representations and warranties regarding its instruments or products, either expressed or implied. In addition, in no event will Motranser be liable for any incidental, special or exemplary damage or loss of profits in connection with the use of Motranser instruments and products

Contact Information

For additional information, please contact your local MOTRANSER representative.

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