



Sicher is a UK based global brand; owned by Sicher Holdings Ltd. UK, is incorporated as per the laws of England and Wales under the company registration number 10902574. Sicher caters to a wide range of products in healthcare industry including highly innovative dental equipments and consumables. We lay great emphasis in producing high quality, innovative, reliable and affordable healthcare products and accessories.

Innovation, product design and service are the key drivers of our existence. Over the years, through our key business partnerships with the industry, we have been able to develop products which addresses the relevant needs of the market . Sicher is constantly expanding our product range across all medical equipments, dental equipments, consumables, disposables and accessories. This manual provides you the basic instructions of usage of our air turbines.

DX SICHER MAX T 100

Head Type	:	Torque Head
Power	:	19W
Head Size	:	D12.0mm X H13.6mm
Bearing	:	2.38mm German Myonic Ceramic ball
Speed	:	370,0000 RPM
Water Spray	:	Single
Chuck Bur Type	:	Push Button
Operating Pressure	:	0.22-.025 Mpa
Bur	:	1.59-1.60
Chuck Type	:	Push Button
Noise Level	:	<60dB

MAX T100

Head Type	:	Torque Head
Power	:	22W
Head Size	:	12.6mm X 13.8mm
Bearing	:	Covered Ceramic
RPM	:	300,000-350,000
Water Spray	:	Single
Operating Pressure	:	0.22-.025 Mpa
Noise Level	:	<60 dB
Bur	:	1.59-1.60
Chuck Type	:	Push Button

MAX S100

Head Type	:	Standard Head
Power	:	20W
Head Size	:	12mm X13.8mm
Bearing	:	Covered Ceramic
RPM	:	350,000-420,000
Water Spray	:	Single
Operating Pressure	:	0.22-.025 Mpa
Noise Level	:	<60 dB
Bur	:	1.59-1.60
Chuck Type	:	Push Button

MAX Plus T100

Head Type	:	Torque Head
Power	:	23W
Head Size	:	D12.8mm X H13.2mm
Bearing	:	Covered Ceramic
RPM	:	300,000-350,000
Water Spray	:	Tripple
Operating Pressure	:	0.22-.025 Mpa
Noise Level	:	<60 dB
Bur	:	1.59-1.60
Chuck Type	:	Push Button

MAX Plus S100

Head Type	:	Standard Head
Power	:	20W
Head Size	:	D11.8mm X H12.9mm
Bearing	:	Covered Ceramic
RPM	:	350,000-420,000
Water Spray	:	Tripple
Operating Pressure	:	0.22-.025 Mpa
Noise Level	:	<60 dB
Bur	:	1.59-1.60
Chuck Type	:	Push Button

MAX XT

Head Type	:	Super Torque
Power	:	22W
Head Size	:	12.5mm x13.8mm
Bearing	:	Covered Ceramic
RPM	:	300,000 – 350,000
Water Spray	:	Single
Operating Pressure	:	0.25-0.3 Mpa
Noise Level	:	<65dB
Bur	:	1.59 – 1.60
Chuck Type	:	Push Button

Max XT Plus

Head Type	:	Super Torque
Power	:	21W
Head Size	:	12.8mm x14.8mm
Bearing	:	Covered Ceramic
RPM	:	300,000 – 350,000
Water Spray	:	Triple
Operating Pressure	:	0.22-0.25 Mpa
Noise Level	:	<65dB
Bur	:	1.59 – 1.60
Chuck Type	:	Push Button

DX Sicher MAX PLUS T 100

Head Size	: 11.2*13.6mm (Torque head)
Speed	: >40,000RPM
Air pressure	: 2.8mPa
Noise	: <60dB
Water Spray	: Single spray
Power	: 19W
Material	: Copper
Head	: Integrate head
Bearing	: 2.78mm Germany Myonic Ceramic ball
Chuck bur Type	: Push button
Vibration	: Less than 0.008mm

PX Max 1

Head Type	: Ultra Mini Head
Power	: 9W
Head Size	: D8.8mm x H9.15mm
Bearing	: Covered Ceramic
RPM	: 350,000 – 380,000
Water Spray	: Single
Operating Pressure	: 0.22 – 0.25Mpa
Noise Level	: <60dB
Bur	: 1.59 - 1.60
Chuck Type	: Push Button

CAUTION

Intended to use: This handpiece is designed only for clinical dental use by qualified personnel

- ▶ When operating the handpiece always consider the safety of the patient.
- ▶ Check for vibration, noise and overheating outside the patient's oral cavity before use. If any abnormalities are found, stop using the handpiece immediately and contact dealer.
- ▶ Should the handpiece function abnormally, cease operation immediately and return the handpiece to an authorized dealer for repair.
- ▶ Depressing the push-button while the handpiece is rotating will result in OVERHEATING of the handpiece head. Special caution must be exercised during use to keep cheek tissue AWAY from the push-button of the handpiece. Contact with cheek tissue may cause the push-button to depress and burn injury to the patient may occur.
- ▶ Do not applying excessive power in the direction which bur removes. When the bur drops into patient's oral cavity, they may drink by mistake and get injured.
- ▶ The LED handpiece may have a built-in dynamo. Consumption Air generates electricity and LED become luminous. Therefore, do not perform autoclave sterilization which it heat and cools rapidly.

- ▶ Do not allow any impact on to the Handpiece. Do not drop the Handpiece.
- ▶ Do not look into LED light directly.
- ▶ When abnormalities are in LED (dark, do not light on or flashing or so), contact dealer to repair.
- ▶ Do not attempt to disassemble the handpiece or tamper with the mechanism except Sicher recommend on this Operation Manual.
- ▶ Always keep bur shanks clean. Dirt or debris in a chuck could cause poor bur concentricity or low chuck retention force.
- ▶ Do not exceed the drive motor speed recommended the bur manufacturers. If the rotary speed which the manufacturer of bur nominates is lower than spec of handpiece, do not use it.
- ▶ Do not connect or disconnect the handpiece or bur until the motor has completely stopped.
- ▶ Sicher has not recommended the repair and disassembly of the cartridge without exception. Handpiece may perform abnormally (abnormal noise or abnormal vibration). Damage, failure or accidents are outside of our guarantee.
- ▶ Do not wipe with, or clean or immerse in, high acid water or sterilizing solutions.
- ▶ Use eye protectors, mask for safety when operating this handpiece.
- ▶ User is responsible for operation, maintenance and safety.
- ▶ If the handpiece has not been used for a long period, check for noise, vibration, and overheating before use.
- ▶ Treatment under the sufficient irrigation water(Spraying water).

CONNECTING/DISCONNECTING HANDPIECE

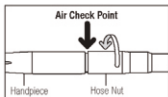


Fig. 1

Connecting

- 1) Insert the handpiece into the hose connector.
- 2) Tighten the Hose Nut. (Fig.1)

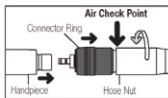


Fig. 2

Disconnect

- 1) Loosen the Hose Nut and pull out the Hose.
- 2) Slide back the Connector Ring as shown in Fig.2

Set the Air pressure at the “Air Check point” on Fig. 1 and Fig. 2 The setting values are on the specification table. Do not exceed the recommended air pressure by using Multi Gauge.

CAUTION

- ▶ Ensure connect “Coupling and Hose” or “Handpiece and Coupling” firmly.
- ▶ Do not pull the Connector Ring while the handpiece is under air pressure. It may jump the handpiece out from the connector because of the air pressure.
- ▶ Do not exceed the recommended air pressure. If it exceeds the pressure, it may bur jump out from the handpiece.
- ▶ Ensure clean, dry air supply. Moisture and debris in air supply may cause the motor to malfunction.

CHECK BEFORE TREATMENT

Follow the steps below before use. If any abnormalities are found, stop using the handpiece immediately and contact the authorized Sicher dealer.

- 1) Insert the Bur (Do not exceed maximum rotation speed for any item).
- 2) Check that there is no abnormal rotation, vibration, noise and overheating.
- 3) If there are no immediate apparent abnormalities, continue to rotate the handpiece for about 1 minute. Then check that there is no abnormal heating on the outer surface.
- 4) Operate it if there are not abnormalities above.

INSERTION /REMOVAL OF THE BUR

- ▶ Do not use non-standard burs. The ISO standard shank diameter is $\phi 1.59 - \phi 1.60$ mm.
- ▶ Do not exceed the bur speed recommended by the bur manufacturer. Moreover, do not use the bur which it has lower rotation speed.
- ▶ Do not use long surgical burs. Do not use burs longer than 26mm.
- ▶ Do not use short shank burs.
- ▶ Always keep the bur shank clean. Entry of hard debris into the chuck via the bur shank could cause rotation slip and also prevent the bur from being securely located in the chuck.
- ▶ Fully depress the Push Button and insert the bur into the chuck until it is secure.
- ▶ Test that the bur is secure by gently pulling and pushing the bur without depressing the Push Button.



To inserts the Bur

- 1) Insert the bur until it stops.(1) 2) Depress the Push Button.(2)
3) Insert the bur into the chuck until it is stops.(3) 4) Release the button.

To remove the Bur

Depress the Push Button firmly and remove the bur.(4)

- ▶ Do not connect or disconnect the handpiece or bur until the motor has completely stopped.
- ▶ When used for crown removal and other procedures that would involve heavy vibration, the bur may become difficult to remove.
- ▶ Push the button firmly, and forcibly pull out the bur with a pair of pliers. Apply small amount of spray lubricant into the chuck. This can be prevented if the bur is repositioned a few times during the procedure.



Fig. 4



Fig. 5

MAINTENANCE

After the treatment of each patient, perform maintenance below.

Cleaning (Head-Clean System)

- 1) Scrub dirt and debris from the handpiece.(Fig.4)
- 2) Half fill a cup with clean water.
- 3) Rotate the handpiece and immerse half of the handpiece head. (Fig. 5)
- 4) Rotate and stop intermittently the handpiece about 2 to 3 seconds. (About 3 times)
- 5) By the function of the clean head system, the clean head hole can be washed.
- 6) Stop the handpiece and wipe it dry. If the dirt could not remove from the hole, remove the cartridge and clean by brush.
- 7) Perform lubrication (4-3 Lubrication) and sterilization. (5-4 Lubrication, 5-5 Sterilization)

Note : Use only clean water to maintain the Head Clean System

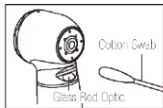


Fig. 6

Glass Road Optic

Cleaning (Glass Rod)

Wipe clean the Cellular Glass Optic Rod entry point and exit point with an alcohol-immersed cotton swab. Remove all debris and oil.(Fig.6)

Note : Do not use a pointed tool or sharp edged to clean the Cellular Glass Optic Rod. They may damage the mirror finish and reduce the light transmission efficiency. If Cellular Glass Optic Rod end has become damaged, return it to dealer for repair.

Cleaning

This handpiece can be washed via Thermo Disinfector 

Scrub dirt and debris from the handpiece, and wipe clean with alcohol-immersed cotton swab or cloth. Do not use a wire brush.

* Refer the manual of Thermo-Disinfector for performing it.

Lubrication

- 1) Mount the Arrow Head Spray Nozzle into the Spray Port.(Fig.7)
- 2) Remove the Bur from the handpiece.
- 3) Insert the Arrow Head Spray Nozzle in the drive Air Tube of the handpiece and spray for approximately 2-3 seconds

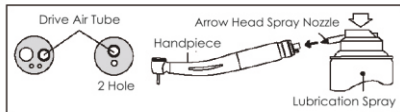


Fig. 7

Note :

- Be sure to hold the handpiece firmly to prevent the handpiece from slipping out of hand by the spray pressure when lubricating.
- Supply lubricant until it comes out of the handpiece head.(at least 2 seconds)
- Hold the spray can upright.

Sterilization

This handpiece and motor can be autoclavable up to Max.135°C



Autoclave sterilization is recommended. Sterilization is required first time you use and after each patient as noted below.

Autoclave Procedure:

- 1) Clean and lubricate the handpiece.
- 2) Insert into an autoclave pouch. Seal the pouch.
- 3) Autoclavable up to max. 135°C. (ex. Autoclave for 3 min. at 134°C).
- 4) Keep the handpiece in the autoclave pouch to keep it clean until you use it.

CAUTION ⚠

- ▶ To prevent infectiveness, Autoclave the handpiece every patient.
 - ▶ Do not autoclave the handpiece, even when it is bagged, together with other instruments, from which chemicals are not sufficiently cleaned. This is to avoid discoloration and/or damage to the plating of the handpiece.
 - ▶ In case the sterilizer chamber temperature could exceed 135°C during the dry cycle, skip the dry cycle.
 - ▶ Do not heat or cool the handpiece quickly. Rapid change in temperature could break the glass rod or dynamo or LED parts.
 - ▶ Do not wash, soak, or wipe off the handpiece with/in the oxidation potential solution (strong acid, super acid solution) sterilized solution, strong alkaline solution or functional water.
 - ▶ The handpiece is kept in suitable atmospheric pressure, temperature, humidity, ventilation, and sunlight. Moreover, air does not include a dust, salt and sulfur.
 - ▶ Do not touch the handpiece just after the autoclave. It may very hot.
- Sicher do not recommend you to sterilize on plasma sterilization or EOG sterilization.

CHANGING TURBINE CARTRIDGE

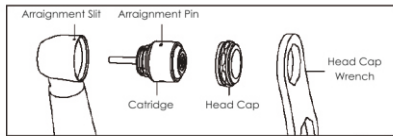


Fig. 9

- 1) Mount a dummy bur in the chuck.
- 2) Turn the Wrench counter clockwise and remove the Head Cap by Head Cap Wrench.
- 3) Push up the dummy bur to remove Cartridge.
- 4) Clean the head interior. (Wipe extra oil after lubrication)
- 5) Align the Alignment Pin and insert Cartridge. (Fig. 8)
- 6) Turn the Wrench clockwise and mount the Head Cap. (Fig. 9)

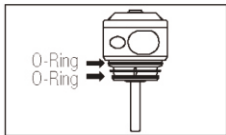


Fig. 10

- Tighten the head cap after changing the cartridge. If attachment is loose, there are the causes of an injury in oral cavity or possibility of accidental ingestion.
- Use only Sicher purity cartridge. Competitive cartridge is not covered under warranty.
- The screw of head cap is very small. Do not bind tight using a Wrench from the start. After tightening by the hand, use the Wrench.
- Check that the O-Rings are placed correct position and then install the cartridge.(Fig.10)

SPRAY PORT CLEANING

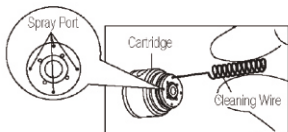


Fig. 11

When spray port are clogged, or spray does not exit evenly from three ports, clean the ports as follows:

- 1) Remove the bur from the chuck. (Refer to "4. Insertion/Removal the Bur" and "6. Replacing the Cartridge")
- 2) Take out the cleaning wire from the back end of the brush holder. Insert the wire straight into the spray ports with caution. Do not forcibly insert the wire into the port. Damaged or disoriented port could cause the spray diverge or directed away from the bur, and the cooling efficiency deteriorates.
- 3) After use, clean the cleaning wire. Push into the brush holder with the pointed end of the wire inward.

REPLACING THE O-RINGS (QD COUPLING)

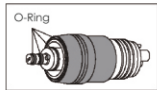


Fig. 12

Worn or damaged O-ring may cause air or water to leak.

When water is found in the exhaust air or water leak from the coupled point, replace four O-rings as shown in Fig.10

NON-RETRACTION VALVE (QD COUPLING)

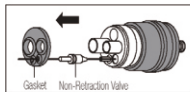


Fig. 13

To prevent oral fluids drawn into the water line, QD coupling has Non-Retracton valve. If water is beginning to leaking from handpiece, replace non-retraction valve.

- 1) Remove the back-end gasket.
- 2) Replace Non-Retracton Valve.

WARRANTY

Sicher warrants our product against poor manufacturing, faulty workmanship and defects in materials. Sicher reserves the right to analyze and determine the cause of any problem. Warranty is void if the handpiece is not used appropriately. Replacement parts are available for seven years beyond discontinuation of the model.

For any service/warranty information please write to **service@sicherdental.com**

RECYCLING AND DISPOSAL

Sicher considers that it has a special duty towards the environment. The turbine handpiece along with its packaging has been designed to be as environmentally friendly as possible.



Disposal of the turbine handpiece

Follow your country-specific laws, directives, standards and guidelines for the disposal of used electrical devices. Ensure that the parts are not contaminated on disposal.

Disposal of the packaging material

All packaging materials have been selected according to environmentally compatible and disposal aspects and can be recycled. Please send old packaging materials to the relevant collection and reprocessing system. This way, you will contribute to the recycling of raw materials and the avoidance of waste.