

Instruction Manual of Ultrasonic Scaler Tips

【Product Name】

Ultrasonic Scaler tip

【Product Model】

Please refer to outer packing

【Performance and components】

This product consists of a head part and a tail part. The tail part is connected to the ultrasonic scaler and it is replaceable. It is driven by an Ultrasonic Scaler.

【Scope of application】

Used in conjunction with Ultrasonic Scaler; it is suitable for cleaning and shaping of tooth surface, root canal and other parts.

Note: Refer to “Tip Classification” for the model of the Ultrasonic Scaler with which each type of tip matches.

【Date of manufacture】

Please refer to label on packing.

【Contraindication】

1. Patients with hemophilia are not allowed to use.
2. Patients with cardiac pacemakers are not allowed to use.
3. Doctors with cardiac pacemakers are not allowed to use.
4. Patients with heart disease, pregnant women and young children should be cautious to use.

【Tip Classification】

1. Gx,GxT,Px,PxL,PxR,PxLT,PxRT,PxLDT,PxRD T,PxD,PxT,PxLD,PxRD,PxDT,Ex(Tx),ExD,ExT,ExD T,ExL,ExLT,SBx,SBL,SBR,SBxL,SBxR(x:1 ~ 999) are Woodpecker series tips which are compatible with Woodpecker, EMS and Mectron Ultrasonic Scaler.

2. GD_x,GD_xT,PD_x,PD_xD,PD_xT,PD_xDT,PD_xL,PD_xR,PD_xLT,PD_xRT,PD_xLD,PD_xRD,PD_xLDT,PD_xRDT,ED_x(TD_x),ED_xD,ED_xT,ED_xDT,ED_xL,ED_xLT,ED_xLD,ED_xKDT,ED_xR,ED_xRT,ED_xRD,ED_xRDT,SBD_x,SBDL,SBDR,SBD_xL,SBD_xR(x:1 ~ 999) are DTE series tips which are compatible with DTE, Satelec and NSK Ultrasonic Scaler.

3. GS_x, PS_x, PS_xD, ES_x, ES_xD (x:1 ~ 999) are the external thread series tip,which are compatible with Sirona Ultrasonic Scaler.

4. GC_x,GK_x,PC_x,EK_x (x:1 ~ 999) are Kava series tips that are compatible with Kavov scaler.

5. Ax, AxT (x:1 ~ 999) is compatible with Amdent scaler.

【Operation methods】

Recommended power description:

“Low gear power” means that the device functions normally within 0-30% of the full gear.

“Medium gear power” means that the device functions normally within 0-60% of the full gear.

“High gear power” means that the device functions normally within 0-100% of the full gear.

1. Scaling series: used in the Scaling mode (G mode) of Ultrasonic Scaler.

1.1 G1, G1T, GD1, GD1T, GS1 are used to remove supragingival and dental neck calculus, and remove hard objects at cusp. Recommended service life: 200 operations of all teeth scaling.Recommended power: high gear power.

1.2 GC1, GC2, G3, G3T, GD3, GD3T, GS3, GK1, GK2, GK3, GK5, GK6, GK7 are used to remove the supragingival, subgingival calculus and calculus in

dental clearance. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.3 G2, G2T, GD2, GD2T, GS2 are used to remove the supragingival large calculus and plaque. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.4 G4, G4T, GD4, GD4T, GS4, GK4 are used to remove the supragingival and interdental calculus of all teeth. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.5 G5, G5T, GD5, GD5T, GS5 are used to remove supragingival and dental neck calculus. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.6 G6, G6T, GD6, GD6T, GS6 are used to remove the supragingival large calculus and plaque. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.7 G7, G7T, GD7, GD7T, and GS7 are used to remove crowns and patches. Recommended service life: 1000 teeth. Recommended power: high power.

1.8 G8, G8T, GD8, GD8T, and GS8 are used to remove crowns and patches. Recommended service life: 1000 teeth. Recommended power: high power.

1.9 G9, G9T, GD9, GD9T, GS9 are used to remove supragingival, interdental and dental neck calculus. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.10 G10, G10T, GD10, GD10T, GS10 are used to remove the supragingival and interdental calculus and

plaque. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.11 G11, G11T, GD11, GD11T, GK11, GS11 are used for orthodontics, and polish of teeth surface. Recommended service life: 50 teeth. Recommended power: high gear power.

1.12 G12, G12T, GD12, GD12T are used for lingual tooth surface cleaning. Recommended service life: 200 operations of all teeth scaling. Recommended power: medium gear power.

1.13 G13, G13T, GD13, GD13T are used for teeth scaling in interdental space. Recommended service life: 200 operations of all teeth scaling. Recommended power: medium gear power.

1.14 A1, A1T, A2, A2T are used to remove supragingival calculus and plaque. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

1.15 G20, G20T, GD20, GD20T, GK20 with coarse sand are used for grinding dentin. Recommended service life: 100 teeth. Recommended power: medium gear power.

1.16 G21, G21T, GD21, G21T, GK21 with fine sand are used for finishing and polishing the prepared shoulder. Recommended service life: 100 teeth. Recommended power: medium gear power.

1.17 G22, G22T, GD22, G22T Plastic material, supragingival scaling. Recommended service life: 30 teeth. Recommended power: medium gear power.

1.18 G30, G30, GD30, GD30T are used for the preparation of pit and fissure gaps. Recommended

service life: 50 teeth. Recommended power: medium gear power.

1.19 G31, G31T, GD31, GD31T for the preparation of mesial cavity. Recommended service life: 50 teeth. Recommended power: medium gear power.

1.20 G32, G32T, GD32, GD32T are used for the preparation of the distal cavity. Recommended service life: 50 teeth. Recommended power: medium gear power.

1.21 G33, G33T, GD33, GD33T are used for the preparation of dental veneers. Recommended service life: 50 teeth. Recommended power: medium gear power.

1.22 G35, G35T, GD35, GD35T are used for the preparation of pit and fissure gaps in children. Recommended service life: 30 teeth. Recommended power: medium gear power.

1.23 GK60, GK61, and GK62 are used to remove the supragingival, subgingival calculus and interdental calculus. Recommended service life: 50 teeth. Recommended power: high gear power.

2. Periodontal treatment series: used in the Periodontal Treatment mode (P mode) of Ultrasonic Scaler.

2.1 P1, P1T, PD1, PD1T, PS1, PC1 are used to remove subgingival calculus. Recommended service life: 150 operations of all teeth scaling. Recommended power: high gear power.

2.2 P2L, P2LT, P2R, P2RT, PD2L, PD2LT, PD2R, PD2RT are used for teeth scaling in furcation, interdental space and narrow gap. Recommended service life: 50 times. Recommended power: low gear

power.

2.3 P2LD, P2LDT, P2RD, P2RDT, PD2LD, PD2LDT, PD2RD, PD2RDT are used for root surface leveling and subgingival scaling. (Diamond-coated tip) Recommended service life: 50 teeth. Recommended power: low gear power.

2.4 P3, P3T, PD3, PD3T, PS3 are used to remove calculus in the subgingival part and deep part of periodontal pockets. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.5 P3L, P3R, P3LT, P3RT, PD3L, PD3R, PD3LT, PD3RT are used for subgingival scaling. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.6 P3D, P3DT, PD3D, PD3DT, PS3D are used for root surface leveling after periodontal flap surgery. Recommended service life: 50 times. Recommended power: medium gear power.

2.7 P4, P4T, PD4, PD4T, PS4 are used to remove the calculus in shallow periodontal pocket and irrigate the pocket. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.8 P4D, P4DT, PD4D, PD4DT, PS4D are used to determine the position of the root canal and to remove calcification at the 1/3 of the crown in the root canal. Recommended service life: 50 teeth. Recommended power: medium gear power.

2.9 P5, P5T, PD5 and PD5T are used to remove the calculus at subgingival part, interdental spaces, and neck of teeth.

Recommended service life: 150 teeth. Recommended power: high power.

2.10 P6, P6T, PD6 and PD6T are used for scaling and irrigation in deep part of periodontal pocket. Recommended service life: 150 operations of all teeth scaling. Recommended power: high gear power.

2.11 P7, P7T, PD7, PD7T are used for scaling and irrigation in deep part of periodontal pocket. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.12 P8 and P8T are used to remove the calculus in shallow periodontal pocket and for scaling in tooth surface and the groove area. Recommended service life: 150 operations of all teeth scaling. Recommended power: high gear power.

2.13 P10, P10T, PD10, PD10T are used for subgingival scaling in deep periodontal pocket. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.14 P11, P11T, PD11, PD11T are used for subgingival scaling in shallow periodontal pocket. Recommended service life: 50 times. Recommended power: low gear power.

2.15 P12, P12T, PD12, PD12T are used for subgingival scaling. Recommended service life: 150 operations of all teeth scaling. Recommended power: high gear power.

2.16 P14L, P14LT, PD14L, PD14LT, P14R, P14RT, PD14R, PD14RT are used to remove stubborn calculus in posterior subgingival part. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.17 P18, P18T, PD18, PD18T are used for detection and irrigation of periodontal pocket. Recommended service life: 300 times. Recommended power: high gear power.

2.18 P20, P20T, PD20, PD20T are used for the removal of dental calculus in the interdental space, the neck of the tooth and the subgingival 3 mm area. Recommended service life: 150 operations of all teeth scaling. Recommended power: high gear power.

2.19 P20L, P20LT, PD20L, PD20LT, P20R, P20RT, PD20R, PD20RT are used to effectively remove stubborn tartar in posterior subgingival part. Recommended service life: 100 operations of all teeth scaling. Recommended power: medium gear power.

2.20 P21L, P21LT, PD21L, PD21LT, P21R, P21RT, PD21R, PD21RT are used for the scaling of the posterior teeth root furcation part and the scaling of the posterior interdental root surface. Recommended service life: 100 operations of all teeth scaling. Recommended power: low gear power.

2.21 P22L, P22LT, PD22L, PD22LT, P22R, P22RT, PD22R, PD22RT are used to remove subgingival calculus and stains. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.22 PC60 is used to remove the supragingival calculus of all teeth. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear power.

2.23 PC61 is used for subgingival cleaning and cleaning. Recommended service life: 200 operations of all teeth scaling. Recommended power: high gear

power.

2.24 PC62 is used to remove calculus in subgingival part and deep periodontal pockets. Recommended service life: 200 operations of all teeth scaling. Recommended power: medium gear power.

2.25 P24L, P24LT, P24R, P24RT, P28, P28T are used for periodontal treatment in the root furcation area. Recommended service life: 150 operations of all teeth scaling. Recommended power: medium gear power.

2.26 P33, PD33 and P33T are used to remove calculus in subgingival part and deep periodontal pockets. Recommended service life: 100 operations of all teeth scaling. Recommended power: medium gear power.

2.27 P50L, P50LT, PD50L, PD50R, P50R, P50RT, P53L, P53LT, P53R and P53RT are used for explore subgingival calculus, root planing and subgingival scaling. Recommended service life: 80 operations of all teeth scaling. Recommended power: high gear power.

2.28 P52 and P52T are used for gingival scaling. Recommended service life: 80 operations of all teeth scaling. Recommended power: high gear power.

2.29 P54L, P54LT, P54R, P54RT, P58 and P58T are used for the treatment of root bifurcation area. Recommended service life: 80 operations of all teeth scaling. Recommended power: low gear power.

2.30 P55、 P55T are used to remove supragingival calculus and ental plaque.(for children) Recommended service life: 80 operations of all teeth scaling. Recommended power: medium gear power.

2.31 P56 ,PD56 and P56T are used for gingival large stones and dental plaque. Recommended service life: 80 operations of all teeth scaling. Recommended power: high gear power.

2.32 P57 and P57T are used to remove dental plaque and rinse the gingival margin. (for children) Recommended service life: 80 operations of all teeth scaling. Recommended power: medium gear power.

2.33 P59, PD59 and P59T are used for subgingival calculus probing, subgingival scaling and root planning. Recommended service life: 80 operations of all teeth scaling. Recommended power: high gear power.

2.34 P61 and P61T are used for gingival scaling. Recommended service life: 80 operations of all teeth scaling. Recommended power: medium gear power.

2.35 P90 and P90T are used for implant cleaning and maintenance. Recommended service life: 50 teeth. Recommended power: medium gear power.

2.36 P94, P95, PD94, PD95, P96L, PD96L, PD96R and P96R are used for implant cleaning and maintenance. Recommended service life: 50 teeth. Recommended power: low gear power.

2.37 PD40 and PD40T are used as adapters to hold the implant maintenance tip. Recommended service life: 500 times. Recommended power: low gear power.

2.38 PD41、 PD42、 PD43L and PD43R (implant maintenance tip) are attached to the adapter PD40 for implant cleaning and maintenance. Recommended service life: 50 teeth. Recommended power: low gear power.

3. Endo series tip: sed in the Root Canal Treatment

mode (E mode) of Ultrasonic Scaler.

3.1 E1(T1), E1T, ED1(TD1), ED1T, ES1, E51, E51T (120°Endo adapter) are used to clamp the titanium-nickel alloy file. It is often used for root canal irrigation of the front teeth. Recommended service life: 500 times, each endo file is recommended to be used not more than 10 times. Recommended power: low gear power.

3.2 E2T, ED2, ED2T, ES2 (95°Endo adapter) are used for holding titanium-nickel alloy file. It is often used for root canal irrigation of molars. Recommended service life: 500 times, each endo file is recommended to be used not more than 10 times. Recommended power: low gear power.

3.3 E3, E3T, ED3, ED3T and ES3 are used for softening the filled gutta-percha with the mechanical energy and thermal energy of the ultrasonic vibration after root canal irrigation. The top end of the tip is in contact with the gutta-percha. Recommended service life: 500 root canals. Recommended power: medium gear power.

3.4 E3D, E3DT, ED3D, ED3DT, ES3D are used to remove calcification and poor filling in the cavity and to remove the pulp chamber overhang. Recommended service life: 50 root canals. Recommended power: low gear power.

3.5 E4, E4T, ED4, ED4T and ES4 are used to remove foreign bodies such as filling at the middle part of the root canal or apical 1/3 part. Recommended service life: 100 root canals. Recommended power: moderate power.

3.6 E4D, E4DT, ED4D, ED4DT and ES4D are

used for root canal retreatment to remove the stubborn substances in the middle of the root canal and apical 1/3. Recommended service life: 50 root canals. Recommended power: low power.

3.7 E5, E5T, ED5, ED5T and ES5 are used to remove foreign matter such as infillings in the upper third of the crown in root canal treatment. Recommended service life: 100 root canals. Recommended power: moderate power.

3.8 E5D, E5DT, ED5D, ED5DT and ES5D are used for root canal treatment. The lateral grinding efficiency is enhanced, and stubborn substances in the medullary cavity wall are removed efficiently. Recommended service life: 50 root canals. Recommended power: low power.

3.9 E6(T6),E6T,ED6(TD6),ED6T are used to remove foreign bodies from deep root canals. Recommended service life: 50 root canals. Recommended power: low gear power.

3.10 E7, E7T, ED7, ED7T are used to remove foreign body on top 1/3 of the root canal. Recommended service life: 50 root canals. Recommended power: low gear power.

3.11 E8, E8T, ED8, ED8T, ES8, EK8 are used to clamp the burr to realize root enlarging and grinding of teeth. Recommended service life: 500 times. Recommended power: high gear power.

3.12 E9, E9T, ED9, ED9T, ES9, EK9 are used to clamp the bur to realize root enlarging and grinding of teeth. Recommended service life: 500 times. Recommended power: high gear power.

3.13 E10, E10T, ED10, ED10T and ES10 are used

for polishing the root canal wall in retropreparation surgery. Recommended service life: 50 root canals. Recommended power: moderate power.

3.14 E10D, E10DT, ED10D, ED10DT and ES10D are used for efficient apical modification in apical surgery. Recommended service life: 50 root canals. Recommended power: moderate power.

3.15 E11, E11T, ED11, ED11T, and ES11 are used for polishing the root canal wall in retropreparation surgery. Recommended service life: 50 root canals. Recommended power: moderate power.

3.16 E11D, E11DT, ED11D, ED11DT, ES11D are used for efficient apical modification in apical surgery. Recommended service life: 50 root canals. Recommended power: moderate power.

3.17 E12, E12T, ED12, ED12T, E12D(T4), E12DT, ED12D(TD4), ED12DT, E13D, ED13D are used to remove foreign bodies in the root canal and expose the root canal. Recommended service life: 50 root canals. Recommended power: high gear power.

3.18 E14, E14T, ED14, ED14T and ES14 are used for root canal treatment, rapidly removing the foreign bodies and instrument fragments at the center of the root canal and apical 1/3 with water cooling. Recommended service life: 50 Root canal. Recommended power: low power.

3.19 E14D, E14DT, ED14D, ED14DT, ES14D are used for root canal treatment to quickly remove stubborn material in the middle of the thick root canal and its apical 1/3 with water cooling (diamond-coated tip). Recommended service life: 30 Root canal. Recommended power: low power.

3.20 E15, E15T, ED15, ED15T and ES15 are used for root canal treatment to rapidly remove foreign body and instrument fragments at 1/3 part of root canal in the direction of crown; with water cooling. Recommended service life: 50 Root canal. Recommended power: low power.

3.21 E15D(T5), E15DT, ED15D(TD5), ED15DT and ES15D are used for root canal treatment. The lateral grinding efficiency is enhanced, and stubborn substances in the medullary cavity wall are removed efficiently; with water cooling. Recommended service life: 30 root canals. Recommended power: low power.

3.22 E16, E16T, ED16, ED16T are used for locating root canal cleaning pulp chamber and enlarging root canal orifice. Recommended service life: 50 root canals. Recommended power: medium gear power.

3.23 E17, E17T, ED17 and ED17T are used for root canal treatment to remove dentin and calcification in the root canal. Recommended service life: 100 teeth. Recommended power: medium gear power.

3.24 E18(T3), E18T, ED18(TD3) and ED18T are used for root canal treatment to remove dentin and calcification at 1/3 of the root canal. Recommended service life: 100 teeth. Recommended power: medium gear power.

3.25 ED19, ED19T, ED20, ED20T, ED21L, ED21LT, ED21R, ED21RT, ED22, ED22T, ED23, ED23T, ED24, ED24T, ED25L, ED25LT, ED25R, ED25RT are used for root canal retropreparation to polish the root canal wall. Recommended service life: 80 root canals. Recommended power: medium gear power.

3.26 ED19D, ED19DT, ED20D, ED20DT,

ED21LD, ED21LDT, ED21RD, ED21RDT, ED22D, ED22DT, ED23D, ED23DT, ED24D, ED24DT, ED25LD, ED25LDT, ED25RD and ED25RDT are used for efficient apical modification in apical surgery. Recommended service life: 50 root canals. Recommended power: medium gear power.

3.28 ED27 and ED27T are used for finishing the pulp cavity and removing the calcification at the pulp chamber floor. Recommended service life: 30 teeth. Recommended power: medium gear power.

3.29 ED28 and ED28T are used to locate and negotiate the root canal orifice. Recommended service life: 30 root canals. Recommended power: Only used in 1st gear power.

3.27 E61, ED61, E62(T2), ED62(TD2), E63, ED63, E90, ED90, E93, ED93, E95, ED95, E96, ED96, E97, ED97, E98, ED98, E99, ED99 are used for root canal irrigation. (Smooth file) Recommended service life: 50 root canals. Recommended power: low gear power.

3.28 E70, E70T, ED70, ED70T, EK70 (Endo adapter) are used to install and connect the root canal irrigation tip to clean the root canal. Recommended service life: 500 times. Recommended power: low gear power.

3.29 E71, ED71, E72, ED72, E73, ED73, E74, ED74, E75, E76 (Root canal irrigation tip) are attached to the endo adapter E70, ED70 or EK70 for root canal irrigation.

3.30 E60, ED60, E64, ED64, E65, ED65, E66, ED66, E94, ED94 are used for root canal irrigation. (Thread file) Recommended service life: 50 root canals. Recommended power: low gear power.

4. Cavity preparation: Be used under the scaling function mode.

4.1 SB1, SBD1, SB1T, SBD1T, SB4, SBD4: Ball diamond tip. Preparation of the occlusal surface and the neck of the carious teeth. Recommended service life: 30 teeth. Recommended power: medium gear power.

4.2 SB2, SBD2, SB2T, SBD2T, SB5, SBD5: Upper hemispherical ball sprayed finishing with diamond grain, to remove the carious teeth without damaging the adjacent teeth. Recommended service life: 30 teeth. Recommended power: medium gear power.

4.3 SB3, SBD3, SB3T, SBD3T, SB6, SBD6: Lower hemispherical ball sprayed finishing with diamond grain, to remove the carious teeth without damaging the adjacent teeth. Recommended service life: 30 teeth. Recommended power: medium gear power.

4.4 SBL, SBDL, SBLT, SBDLT, SB7L, SBD7L: Half ball diamond tip. Set 45° to the left, Allows get rid of the carious teeth without damaging the adjacent teeth. Recommended service life: 30 teeth. Recommended power: medium gear power.

4.5 SBR, SBDR, SBRT, SBDRT, SB7R, SBD7R: Half ball diamond tip. Set 45° to the right, Allows get rid of the carious teeth without damaging the adjacent teeth. Recommended service life: 30 teeth. Recommended power: medium gear power.

4.6 SB8 and SBD8 The round surface of the tip end is diamond-coated ($85\mu\text{m}$), which is used to remove caries from adjacent tooth surfaces. Recommended service life: 30 teeth. Recommended power: medium gear power.

【Cautions】

1. A tip engraved with the "WOODPECKER" logo cannot be used on a handpiece engraved with the "DTE" logo and vice versa.

2. It is normal for the tip of to drip and incompletely atomize during operation. The doctor can adjust to the power level he needs to use.

3. The tip must be tightened to the handpiece and there must be water spray during operation.

4. Tips must be cleaned, disinfected and sterilized before operation.

5. The chemical reagent used in the reprocessing of tip should not be a strong acid or strong alkali solution with strong corrosiveness.

6. Please replace the tip with a new one when it is broken or worn out.

7. Do not bend or grind the tip.

8. After the golden working tip is exposed to oxidizing solution such as hydrogen peroxide or sodium hypochlorite, please wash it with water in time to avoid damage to the surface of the coating.

9. Do not continue to operate when the work tip is stuck. It should be removed first, otherwise the tip may be broken.

【Cleaning, Disinfection and Sterilization】

Warnings:

The use of strong detergent and disinfectant (alkaline $\text{pH} > 9$ or acid $\text{pH} < 5$) will reduce the life span of products. And in such cases, the manufacturer takes no responsibility.

This device shall not be exposed to high temperature above 138°C .

Processing limit:

The products have been designed for a large number of sterilization cycles. The materials used in manufacture were selected accordingly. However with every renewed preparation for use, thermal and chemical stresses will result in ageing of the products. The maximum number of sterilizations for tips is 300 times.

1 Initial processing

1.1 Processing principles

It is only possible to carry out effective sterilization after the completion of effective cleaning and disinfection. Please ensure that, as part of your responsibility for the sterility of products during use, only sufficiently validated equipment and product-specific procedures are used for cleaning/disinfection and sterilization, and that the validated parameters are adhered to during every cycle.

Please also observe the applicable legal requirements in your country as well as the hygiene regulations of the hospital or clinic, especially with regard to the additional requirements for the inactivation of prions.

1.2 Post-operative treatment

The post-operative treatment must be carried out immediately, no later than 30 minutes after the completion of the operation. The steps are as follows:

1. Let the Ultrasonic Scaler works for 20-30 seconds under irrigation mode to flush the handpiece and tip;
2. Remove the handpiece from the Ultrasonic Periodontal Treatment Device, and rinse away the dirt on the surface of product with pure water (or distilled water/deionized water);

3. Dry the product with a clean, soft cloth and place it in a clean tray.

Notes:

a) The water used here must be pure water, distilled water or deionized water.

2 Preparation before cleaning

Steps:

Tools: Endo wrench or 1# torque wrench, tray, soft brush, clean and dry soft cloth

1. Remove the tip from product with endo wrench or 1# torque wrench provided by Guilin Woodpecker Medical Instrument Co., Ltd, and then put the tip and wrench into a clean tray.

2. Then use soft cloth to dry the product and accessories and put them into a clean tray.

3 Cleaning

The cleaning should be performed no later than 24 hours after the operation.

The cleaning can be divided into automated cleaning and manual cleaning. Automated cleaning is preferred if conditions permit.

3.1 Automated cleaning

- The cleaner is proved to be valid by CE certification in accordance with EN ISO 15883.

- There should be a flushing connector connected to the inner cavity of the product.

- The cleaning procedure is suitable for the product, and the irrigating period is sufficient.

It is recommended to use a washer-disinfector in accordance with EN ISO 15883. For the specific procedure, please refer to the automated disinfection section in the next section "Disinfection".

Notes:

a) The cleaning agent does not have to be pure water. It can be distilled water, deionized water or multi-enzyme. But please ensure that the selected cleaning agent is compatible with the product.

b) In washing stage, the water temperature should not exceed 45 °C, otherwise the protein will solidify and it would be difficult to remove.

c) After cleaning, the chemical residue should be less than 10mg / L.

4 Disinfection

Disinfection must be performed no later than 2 hours after the cleaning phase. Automated disinfection is preferred if conditions permit.

4.1 Automated disinfection-Washer-disinfector

· The washer-disinfector is proved to be valid by CE certification in accordance with EN ISO 15883.

· Use high temperature disinfection function. The temperature does not exceed 134 ° C, and the disinfection under the temperature cannot exceed 20 minutes.

· The disinfection cycle is in accordance with the disinfection cycle in EN ISO 15883.

Cleaning and disinfecting steps by using Washer-disinfector.

1. Carefully place the product into the disinfection basket. Fixation of product is needed only when the product is removable in the device. The products are not allowed to contact each other.

2. Use a suitable rinsing adaptor, and connect the internal water lines to the rinsing connection of the washer-disinfector.

3. Start the program.

4. After the program is finished, remove the product from the washer-disinfector, inspect (refer to section "Inspection and Maintenance") and packaging (refer to chapter "Packaging"). Dry the product repeatedly if necessary (refer to section "Drying").

Notes:

a) Before use, you must carefully read the operating instructions provided by the equipment manufacturer to familiarize yourself with the disinfection process and precautions.

b) With this equipment, cleaning, disinfection and drying will be carried out together.

c) Cleaning: (c1) The cleaning procedure should be suitable for the product to be treated. The flushing period should be sufficient (5-10 minutes). Pre-wash for 3 minutes, wash for another 5 minutes, and rinse it for twice with each rinse lasting for 1 minute. (c2) In the washing stage, the water temperature should not exceed 45 °C, otherwise the protein will solidify and it is difficult to remove. (c3) The solution used can be pure water, distilled water, deionized water or multi-enzyme solution, etc., and only freshly prepared solutions can be used. (c4) During the use of cleaner, the concentration and time provided by manufacturer shall be obeyed. The used cleaner is neodisher MediZym (Dr. Weigert).

d) Disinfection: (d1) Direct use after disinfection: temperature ≥ 90 ° C, time ≥ 5 min or A0 ≥ 3000 ;

Sterilize it after disinfection and use: temperature ≥ 90 ° C, time ≥ 1 min or A0 ≥ 600

(d2) For the disinfection here, the temperature is 93

° C, the time is 2.5 min, and $A_{0>3000}$

e) Only distilled or deionized water with a small amount of microorganisms (<10 cfu/ml) can be used for all rinsing steps. (For example, pure water that is in accordance with the European Pharmacopoeia or the United States Pharmacopoeia).

f) After cleaning, the chemical residue should be less than 10mg / L.

g) The air used for drying must be filtered by HEPA.

h) Regularly repair and inspect the disinfectant.

5 Drying

If your cleaning and disinfection process does not have an automatic drying function, dry it after cleaning and disinfection.

Methods:

1. Spread a clean white paper (white cloth) on the flat table, point the product against the white paper (white cloth), and then dry the product with filtered dry compressed air (maximum pressure 3 bar). Until no liquid is sprayed onto the white paper (white cloth), the product drying is completed.

2. It can also be dried directly in a medical drying cabinet (or oven). The recommended drying temperature is 80°C ~ 120°C and the time should be 15 ~ 40 minutes.

Notes:

a) The drying of product must be performed in a clean place.

b) The drying temperature should not exceed 138 °C;

c) The equipment used should be inspected and maintained regularly.

6 Inspection and maintenance

In this chapter, we only check the appearance of the product.

1. Check the product. If there is still visible stain on the product after cleaning/disinfection, the entire cleaning/disinfection process must be repeated.

2. Check the product. If it is obviously damaged, smashed, detached, corroded or bent, it must be scrapped and not allowed to continue to be used.

3. If the service time (number of times) of the product reaches the specified service life (number of times), please replace it in time.

7 Packaging

Install the disinfected and dried product and quickly package it in a medical sterilization bag (or special holder, sterile box).

Notes:

a) The package used conforms to ISO 11607;

b) It can withstand high temperature of 138 °C and has sufficient steam permeability;

c) The packaging environment and related tools must be cleaned regularly to ensure cleanliness and prevent the introduction of contaminants;

d) Avoid contact with parts of different metals when packaging.

8 Sterilization

Use only the following steam sterilization procedures (fractional pre-vacuum procedure*) for sterilization, and other sterilization procedures are prohibited:

1. The steam sterilizer complies with EN13060 or is certified according to EN 285 to comply with EN ISO

17665;

2. The highest sterilization temperature is 138 ° C;

3. The sterilization time is at least 4 minutes at a temperature of 132 ° C / 134 ° C and a pressure of 2.0 bar ~ 2.3 bars.

4. Allow a maximum sterilization time of 20 minutes at 134 °C.

Notes:

a) Only products that have been effectively cleaned and disinfected are allowed to be sterilized;

b) Before using the sterilizer for sterilization, read the Instruction Manual provided by the equipment manufacturer and follow the instructions.

c) Do not use hot air sterilization and radiation sterilization as this may result in damage to the product;

d) Please use the recommended sterilization procedures for sterilization. It is not recommended to sterilize with other sterilization procedures such as ethylene oxide, formaldehyde and low temperature plasma sterilization. The manufacturer assumes no responsibility for the procedures that have not been recommended. If you use the sterilization procedures that have not been recommended, please adhere to related effective standards and verify the suitability and effectiveness.

Fractional pre-vacuum procedure = steam sterilization with repetitive pre-vacuum. The procedure used here is to perform steam sterilization through three pre-vacuums.

9 Storage

1. Store in a clean, dry, ventilated, non-corrosive

atmosphere with a relative humidity of 10% to 93%, an atmospheric pressure of 70KPa to 106KPa, and a temperature of -20 °C to +55 °C;

2. After sterilization, the product should be packaged in a medical sterilization bag or a clean sealing container, and stored in a special storage cabinet. The storage time should not exceed 7 days. If it is exceeded, it should be reprocessed before use.

Notes:

a) The storage environment should be clean and must be disinfected regularly;

b) Product storage must be batched and marked and recorded.

10 Transportation

1. Prevent excessive shock and vibration during transportation, and handle with care;

2. It should not be mixed with dangerous goods during transportation.

3. Avoid exposure to sun or rain or snow during transportation.

【Manufacturer】



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