

Endo-Eze® Motor & Handpiece

Description & Indications:

The Endo-Eze® air motor (REF/UP 1178) is cleaned and packaged in a plastic box, and not sterilized in the delivery state. The Endo-Eze® Contra-Angle Handpiece (REF/UP 1155) is designed to be used with the Endo-Eze Handling Files and all other files with handle diameters of 2.35mm. Before initial use, we recommend sterilizing the air motor, the Contra-Angle and the rotary instrument.

Assembly:

1. Lubricate 1178

- Insert spray cap (with nozzle) onto spray can (Fig. 1). Remove blue insert in nozzle and replace with black cone shaped insert.
- Shake spray can several times.
- Set the speed ring of the air motor to maximum (position F or R).
- Fit the drive air tube (the smallest air intake) of motor onto the spray cap.
- Keep spray can upright (Fig. 2).
- Spray for approximately 1 second.

Keep spray cap with nozzle for use with subsequent oil cans. Following the application of oil and before first use of the air motor, sterilization in an autoclave is strongly recommended.

2. Lubricate 1155

- Screw E-type nozzle onto the spray cap over the arrow-head nozzle (Figs. 3 & 4). Turn approximately 10 times.
- Insert spray cap onto spray can.
- Shake spray can heavily several times.
- Insert the nozzle into the back end of contra-angle handpiece (Fig. 5).
- Hold the contra angle handpiece firmly.
- Keep spray can upright.
- Spray for approximately 1 second.

3. Endo Files

- The Contra-Angle handpiece has a push-button chuck. No tool is needed to change the root canal file.
- To insert file, press the button firmly with thumb and insert file into chuck until it is secure (Fig. 6). Make sure file is secure.
- To remove file, press button firmly with thumb and remove file.

4. Connect Air Motor 1178

- Align the motor back-end tubes with holes in the supply hose connector (Fig. 7).
- Push the motor into the supply hose connector.
- Turn the supply hose nut and securely fasten it. If loose, air and/or water leak may take place, and air pressure to motor will become insufficient.
- When motor speed feels low, check this connection first.

5. Assemble Contra-Angle Handpiece

- Firmly seat Contra-Angle onto air motor until it clicks in place (Fig. 8).

6. Test Run Handpiece

- Hold handpiece with head downward and let run approximately 30 seconds (without root canal file attached).
- Wipe off handpiece with gauze or cellulose paper and prepare for sterilization.

7. Test Run Air Motor

- Start the air motor.
- Screw speed regulation ring to "F" clockwise rotation or "R" counter-clockwise rotation.
- Vary the air motor from minimum to maximum within 30 seconds.
- Wipe off the air motor with gauze or cellulose paper.

8. To Remove Handpiece

- Remove handpiece from motor by pressing the push-button on the air motor (Fig. 9).

9. To Remove Air Motor

- Unscrew the supply hose nut.
- Pull out of the supply hose (Fig. 10)

WARNING! When removing the air motor, make sure that the speed regulating ring is set to position F or R to prevent it coming off due to any buildup of pressure. Do not remove the air motor during operation.

Operating condition and functional check

1. Check tightness

- Check tightness at the connection between air motor and supply hose. Leakage reduces the performance of the air motor and quality of spray.
- Check tightness of handpiece and air motor by running motor with spray on. If air and water come out from the side of the Contra-Angle, change O-rings on motor attachment.

2. Regulate water flow

- Adjust valves on the unit.

Disinfection/Sterilization

1. Manual disinfection

- Disinfect external surfaces by spraying or wiping with microbiologically tested surface disinfectant (Fig. 11).

2. Manual Cleaning

- Wear protective gloves.
- Make sure the speed regulating ring is set to position F or R.
- Remove root canal file from handpiece and remove handpiece from air motor. Disconnect the air motor from the supply hose (Fig. 12).
- Clean handpiece and air motor externally with cloth or brush soaked in disinfectant.

**If there is a high calcium content in the spray water (>18dH represents 180mg CaO in 1 quart, ~ 1 liter water), we recommend blowing out the water tubes before sterilization. For handpiece, blow through water tubes with air syringe.*

3. Sterilization

- We recommend autoclaving up to 135° C for 15 minutes.

The air motor should be cleaned and lubricated before placing into autoclave. Only sterilize with distilled water. For sterilization use sterilization packaging. We recommend sterilizing after every patient.

Oil Service

Keep away from open flames or ignition sources. Do not smoke near this product. Lubricate before every sterilization or twice daily after 30 minutes of continuous use.

Storage

Keep handpiece and air motor in sealed sterilization packaging (Fig. 13-14).

Description of the air motor

#1 Coupling, handpiece side with positive lock provided by push button 3.

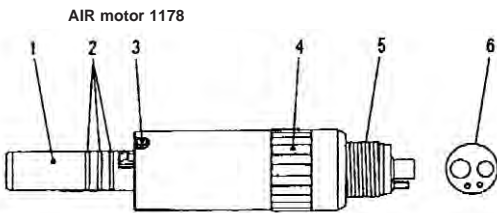
#2 O-Rings. 3 O-rings Spray connection integrated.

#3 Push button lock

#4 Rotary direction. Clockwise and counter-clockwise direction selected with speed regulation ring:
F = Clockwise
R = Counter-clockwise

#5 Supply hose connection threads.

#6 Rubber gasket.



Operating pressure

- The operating pressure is measured as flow pressure.
- Operating pressure possible with 32psi (2.2 bar) to 43psi (3.0 bar).
- If only the air motor is used on the supply hose, we advise you to set the operating pressure to 43psi (3.0 bar).
- If the air motor is used alternately with a turbine on the same supply hose, it is essential to ensure that the pressure set for the two drives is within the prescribed range.

Changing the O-rings

Exchange damaged O-rings immediately!

- O-Rings can be exchanged without a special tool.
- Do not use a sharp tool.
- Firmly squeeze together the worn O-Ring between thumb and forefinger so as to form a loop and then withdraw the O-ring (Fig. 15).
- Slide on new O-rings by hand.



Fig. 15 Removing O-rings

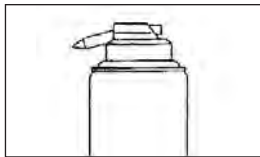


Fig. 1 Spray cap with nozzle.

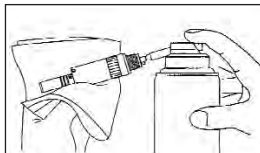


Fig. 2 Holding the air motor firmly, hold the oil can upright and spray for approximately 1 second.

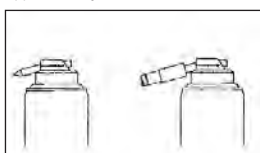


Fig. 3 Oil spray can.

Fig. 4 Spray cap with E-type nozzle.

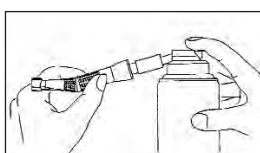


Fig. 5 Hold handpiece firmly. Hold spray can upright and spray for approximately 1 second.



Fig. 6 Insert and chuck the root canal file.

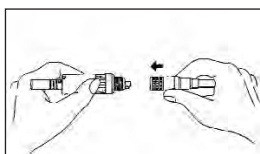


Fig. 7 Connect motor to supply hose. Securely tighten the supply hose nut.

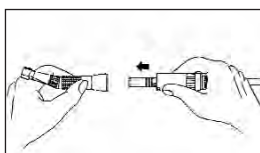


Fig. 8 Assemble the contra-angle handpiece.

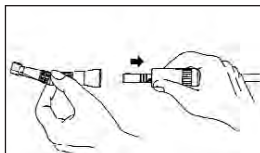


Fig. 9 Remove Contra-Angle handpiece by pressing push-button on motor.

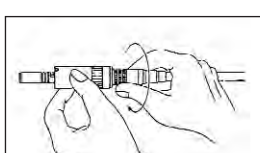


Fig. 10 Remove supply hose.



Fig. 11 Disinfect with surface disinfectants or ethyl alcohol.

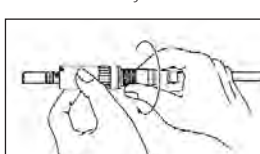


Fig. 12 To remove air motor.



Fig. 13 Handpiece in sterile goods packaging.

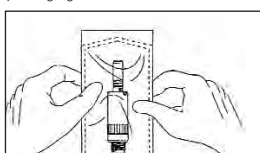


Fig. 14 Air motor in sterile goods packaging.

| Technical Data - Air Motor | 1178 | Technical Data - Contra-angle | 1155 |
|---|----------------------------------|--|-------------------------------|
| Rated speed (r.p.m.) at an 32psi (2.2 bar) operating pressure of: 43psi (3.0 bar) | 5000 - 20000 5000 - 25000 | Transmission Ratio | 4:1 |
| Stationary torque (Ncm) | 4 | Color coding | green ring |
| Max. power (W) | 20 | Motor coupling according to standard | ISO 3964 |
| Air consumption (NI/min) 32psi (2.2 bar) 43psi (3.0 bar) | 42 50 | Recommended root canal files | files with shank of ø 2.35 mm |
| Spray water volume (ml/min) according to ISO 13294 | >100 | Minimum chucking length | until fully located |
| Operating pressure psi (bar) | 32psi - 43psi (2.2 - 3.0bar) | Maximum rated reamer/file speed (min-1) | 6 000 |
| Exhaust air pressure psi (bar) | 7.15psi (< 0.5bar) | Spray water volume (mL/min) according to ISO 7785-2 | >50 |
| Water pressure psi (bar) | 21.8psi - 36.3psi (1.5 - 2.6bar) | Recommended water pressure (bar) | 28psi-43psi (2-3bar) |
| Spray air pressure psi (bar) must be higher than the water pressure | 28psi - 43psi (2 - 3bar) | Recommended chip air pressure psi (bar) must be higher than water pressure | 28psi-56psi (2-4bar) |

In case of service or repair, contact Ultradent Products, Inc.

U.S. federal law restricts this device to sale by or on the order of a dentist.

Keep out of reach of children.

For immediate reorder and/or complete descriptions of Ultradent's product line,

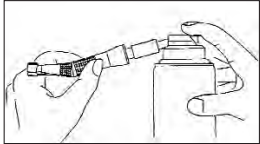
refer to Ultradent's catalog or call Toll Free 1-800-552-5512.

Outside U.S. call (801) 572-4200 or visit www.ultradent.com.

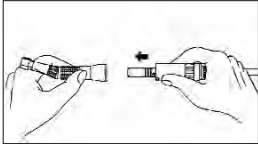
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Endo-Eze[®] Motor and Handpiece

DE-Motoreinheit und Winkelstück/FR-Moteur et pièce à main Endo-Eze/NL-motor en handstuk/IT-Motore e manipo/ES-Motor y Pieza de Mano/PT-Motor e Peça de Mão/SV-motor och insats/DA-motor og håndtag/FI-Moottori ja käsikappale/EL-Μικρομότορ και Χειρολαβή



English Lubricate prior to first use. Then twice daily or prior to sterilization. Motor: Set the speed ring to position F or R.



Assemble the contra-angle handpiece. To remove handpiece from motor press the push-button.



Insert file into head of handpiece. Make sure file is secure.

German Vor dem ersten Gebrauch und danach zweimal täglich bzw. jeweils vor dem Sterilisieren ölen. Motor: Den Ring für die Geschwindigkeitsregelung auf F oder R stellen.

Das Winkelstück aufstecken. Es kann mit der Drucktaste vom Motor getrennt werden.

File in den Kopf des Winkelstücks stecken und auf festen Sitz achten.

French Lubrifier avant la première utilisation. Lubrifier ensuite deux fois par jour et avant la stérilisation. Moteur : régler la bague de vitesse sur F ou R.

Assembler la pièce à main en contre-angle. Pour désolidariser la pièce à main du moteur, appuyer sur le bouton-poussoir.

Insérer la lime dans la tête de la pièce à main. S'assurer qu'elle est bien fixée.

Dutch Smeren: voor ingebruikname en vervolgens tweemaal per dag of voor sterilisatie. Motor: stel de snelheidsring in op stand F of R.

Zet het gebogen handstuk in elkaar. Koppel het handstuk los van de motor door de knop in te drukken.

Zet de vijl in het kopje van het handstuk en controleer op een goede bevestiging.

Italian Lubrificare prima del primo utilizzo e, in seguito, due volte al giorno o prima della sterilizzazione. Motore: regolare la ghiera di velocità sulla posizione F o R.

Assemblare il manipo a contrangolo. Per estrarre il manipo dal motore, premere il pulsante.

Inserire il file nella testa del manipo, accertandosi che sia fissato correttamente.

Spanish Lubríquelo antes de usarlo por primera vez; luego, dos veces diarias o antes de esterilizarlo. Motor: Coloque el anillo regulador de velocidad en posición F o R.

Ensamble el contra-ángulo de la pieza de mano. Para remover la pieza de mano del motor, presione el botón de empujar.

Inserte la lima en la cabeza de la pieza de mano. Cerciórese que la lima esté bien segura.

Portuguese Lubrifique antes da primeira utilização e, em seguida, duas vezes por dia ou antes da esterilização. Motor: coloque o anel de velocidade na posição F ou R.

Monte a peça de mão de contra-ângulo. Para separar a peça de mão do motor, prima o botão de pressão.

Insira a lima na cabeça da peça de mão. Certifique-se de que a lima está bem fixa.

Swedish Smörj före första användningen. Därefter två gånger om dagen eller före sterilisering. Motor: ställ hastighetsringen i läge F eller R.

Montera den vinklade insatsen. För att ta bort insatsen från motorn håller du ner tryckknappen.

Sätt in filen i insatsens huvud. Se till att den sitter säkert.

Danish Smør for brug første gang. Derefter to gange dagligt eller før sterilisation. Motor: Sæt hastighedsringen i position F eller R.

Saml kontravinkelhåndtaget. Håndtaget kan fjernes fra motoren ved at trykke på trykknappen.

Indsæt filen i håndtagets hoved. Sørg for, at filen er låst fast.

Finnish Voitele ennen ensimmäistä käyttökertaa ja sen jälkeen kahdesti päivässä tai ennen sterilointia. Moottori: Aseta nopeusrenkaas asentoon F tai R.

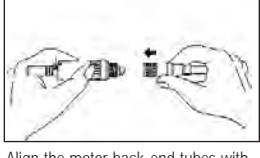
Kokoa vastakulmakäsikappale. Irrota käsikappale moottorista painamalla painiketta.

Työnnä viila käsikappaleen päähän. Varmista, että viila on kunnolla kiinni.

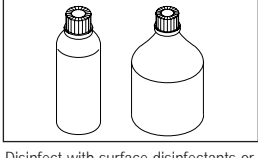
Greek Λιπάνετε πριν από την πρώτη χρήση. Έπειτα, δύο ημερησίως ή πριν από την αποστείρωση. Μικρομότορ: Ρυθμίστε το δακτύλιο ταχύτητας στη θέση F ή R.

Συναρμολογήστε τη γωνιακή χειρολαβή. Για να αφαιρέσετε τη χειρολαβή από το μικρομότορ, πιέστε το push-button.

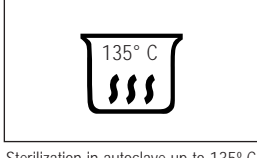
Τοποθετήστε τη ρίνη μέσα στην κεφαλή της χειρολαβής. Βεβαιωθείτε ότι η ρίνη είναι στερεωμένη.



English Align the motor back-end tubes with holes in the supply hose connector. Push the motor into the supply hose connector. Turn the supply hose hub to secure.



Disinfect with surface disinfectants or ethyl alcohol.



Sterilization in autoclave up to 135° C and use sterilization packaging.

Precautions:
1. When removing the air motor, make sure that the line marking of the speed regulating ring is set to position F or R to prevent it slipping out from buildup of pressure.
2. Coupling is not sterilizable.
3. Operating pressure possible with 2.2 bar (32psi) to 3.0 bar (43psi).

German Die Öffnungen an der Unterseite der Motoreinheit mit den Anschlussöffnungen des Druckluftschlauches ausrichten, die Motoreinheit in der Schlauchkupplung einrasten lassen und durch Drehung verriegeln.

Mit Oberflächendesinfektionsmittel oder Ethylalkohol desinfizieren.

Verpackt bei max. 135°C autoklavieren.

Vorsichtsmaßnahmen:
1. Beim Abnehmen der Motoreinheit muss die Strichmarkierung am Ring für die Geschwindigkeitsregelung auf F oder R zeigen, damit der Motor nicht bei Druckerhöhung abspringt.
2. Die Kupplung ist nicht sterilisierbar.
3. Der Betriebsdruck muss zwischen 2,2 bar (32 psi) und 3,0 bar (43 psi) liegen.

French Aligner les tubulures perforées de l'extrémité du moteur avec le connecteur du tuyau d'alimentation. Engager le moteur dans le connecteur du tuyau d'alimentation. Faire pivoter le connecteur du tuyau d'alimentation pour fixer l'ensemble.

Désinfecter avec des antiseptiques de surface ou de l'alcool éthylique.

Stériliser en autoclave jusqu'à 135° C dans une pochette de stérilisation.

Précautions :
1. Lors de la déconnexion du moteur à air comprimé, vérifier que la marque de la bague de réglage de la vitesse est en position F ou R pour éviter qu'elle ne soit chassée par l'air sous pression.
2. Le raccord n'est pas stérilisable.
3. Pression de fonctionnement : 2,2 bars (32 psi) à 3,0 bars (43 psi).

Dutch Breng de aansluiting aan de achterkant van de motor op één lijn met de connector van de drukslang. Druk de motor in de connector van de drukslang. Zet de koppeling vast door het verdraaien van de koppeling van de drukslang.

Desinfecteer met een desinfectiemiddel voor oppervlakken of met ethylalcohol.

Steriliseer in de autoclaaf, max. 135° C, en gebruik verpakkingsmateriaal voor sterilisatie.

Voorzorgen:
1. Let er bij het loskoppelen van de luchtmotor op dat de markeringsstreep op de ring voor de snelheidsregeling op de stand F of R staat; dit voorkomt dat de koppeling losschiet als gevolg van de opgebouwde druk.
2. Het koppelstuk kan niet worden gesteriliseerd.
3. De werkdruk is tussen de 2,2 en 3,0 bar (32 tot 43 psi).

Italian Allineare i tubi sull'estremità posteriore del motore con i fori nel connettore del tubo di alimentazione. Spingere il motore nel connettore del tubo di alimentazione e ruotare l'attacco del tubo per fissarlo.

Disinfettare con disinfettanti per superfici o con alcol etilico.

Sterilizzare in autoclave fino a 135°C e utilizzare contenitori di sterilizzazione.

Precauzioni:
1. Durante la rimozione del motore ad aria, verificare che la tacca della ghiera di regolazione della velocità si trovi sulla posizione F o R, allo scopo di evitare la fuoriuscita causata dall'accumulo di pressione.
2. L'innesto non è sterilizzabile.
3. La pressione di esercizio ammessa è compresa tra 2,2 bar (32 psi) e 3,0 bar (43 psi).

Spanish Ajuste los extremos traseros de los tubos que tienen agujeros en el conector de la manguera. Empuje el motor hacia el conector de la manguera. Dé vuelta al eje de la manguera para asegurarlo.

Desinfecte con desinfectantes de superficie o alcohol etílico.

Esterilice en autoclave a 135° C y use el empaquetado de esterilización.

Precauciones:
1. Al remover el motor de aire, asegúrese que la línea que marca la velocidad en el anillo está colocada en posición F o R, para evitar que se escape la acumulación de presión.
2. El acoplador no es esterilizable.
3. La presión de operación es posible con bar de 2.2 (32psi) a bar de 3.0 (43psi).

Portuguese Alinhe os tubos traseiros do motor com os orifícios no conector do tubo de alimentação. Empurre o motor para o interior do conector do tubo de alimentação. Para fixar rode o eixo do tubo de alimentação.

Desinfecte com desinfectantes de superfície ou álcool etílico.

Esterilização em autoclave até 135° C e usar embalagem de esterilização.

Precauções:
1. Ao remover o motor pneumático, certifique-se de que a marcação do anel regulador de velocidade se encontra na posição F ou R, a fim de evitar que este se solte devido ao aumento de pressão.
2. A junta não é esterilizável.
3. Pressão de funcionamento entre 2,2 bares (32psi) e 3,0 bares (43psi).

Swedish Rikta in motorns bakre rör med hålen i tilloppslangens kontaktdon. För in motorn i tilloppslangens kontaktdon. Vrid tilloppslangens nav så att anslutningen säkras.

Desinfektera med ytligt desinfektionsmedel eller med etylalkohol.

Sterilisering i autoklav upp till 135° C och använd steriliseringsförpackning.

Försiktighetsåtgärder:
1. Se vid borttagande av tryckluftsmotorn till att den hastighetsreglerande ringens linjemarkering är i läge F eller R så att den förhindras att glida ut på grund av uppbyggt tryck.
2. Kopplingen går inte att sterilisera.
3. Möjligt drifttryck är 2,2 bar (32 psi) till 3,0 bar (43 psi).

Danish Hold motorens rør på bagstykket på linje med hullerne i forsyningslangens kobling. Tryk motoren ind i forsyningslangens kobling. Drej forsyningslangens muffe for at fastgøre den.

Desinficer med overfladedesinfektionssmiddel eller sprit.

Steriliser i autoklave op til 135° C og anvend steril emballage.

Forholdsregler:
1. Ved afmontering af trykluftsmotoren skal det sikres, at stregmarkeringen på hastighedsreguleringsringen er stillet på position F eller R for at forhindre, at motoren falder af på grund af det opbyggede tryk.
2. Koblingen kan ikke steriliseres.
3. Driftstrykket skal ligge mellem 2,2 (32psi) og 3,0 bar (43psi).

Finnish Kohdista moottorin takapaässä olevat putket syöttöletkun liittimen reikiin kanssa. Työnnä moottori syöttöletkun liittimeen. Kiristä liitos kaantamalla syöttöletkun kantaa.

Desinifioi pintadesinfiointiaineella tai etyylialkoholilla.

Sterilointi pakattuna autoklaavissa, lämpötila enintään 135° C.

Varotoimia:
1. Varmista paineilmamoottoria irrottaessasi, että nopeudensäätörenkaan merkkiiviiva on asennon F tai R kohdalla, jotta moottori ei luiskahda pois paikaltaan paineen vaikutuksesta.
2. Liitäntä ei saa steriloida.
3. Käyttöpainne voi olla 2,2–3,0 bar.

Greek Ευθυγραμμίστε τους σωλήνες που βρίσκονται στο πίσω άκρο του μικρομότορ με τις οπές του συνδετήρα του καλωδίου τροφοδοσίας. Σπρώξτε το μικρομότορ μέσα στο συνδετήρα του καλωδίου τροφοδοσίας. Περιστρέψτε την υποδοχή του καλωδίου τροφοδοσίας για να το στερεώσετε.

Απολυμάνετε με απολυμαντικά επιφανειακά ή αλκυολική αλκοόλη.

Αποστειρώστε σε αυτόκαυτο σε θερμοκρασία έως 135° C και χρησιμοποιείτε συσκευασία αποστείρωσης.

Προφυλάξεις:
1. Όταν αφαιρέσετε το αερότορ βεβαιωθείτε ότι η γραμμή ένδειξης του δακτυλίου ρύθμισης της ταχύτητας βρίσκεται στη θέση F ή R προκειμένου να αποτραπεί η μετακίνησή του προς τα έξω λόγω της ανήμνης πίεσης.
2. Οι συνδέσεις δεν αποστειρώνονται.
3. Πίεση λειτουργίας από 2,2 bar (32 psi) έως 3,0 bar (43 psi).