

BEFORE OPERATING THE MOTOR, CAREFULLY READ AND FOLLOW ALL OF THESE INSTRUCTIONS. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE AND OBSERVE ALL WARNINGS AND CAUTIONS.

Indications For Use

The Titan 5K and 20K low speed dental motors are used by trained dental professionals to facilitate various dental procedures requiring cutting, drilling, polishing and pin setting.

Contents

- Specifications
- Installation Swivel Motors
- Installation Non Swivel Motors
- Operation Cleaning
- Sterilization
- Replacement Part Numbers
 - Warranty

Application Guide

Troubleshooting

Specifications

5,000 rpm Motor: Titan®3 (StarDental® Part #262261); Titan 3 For use with Extended Straight Attachment (ESA) (StarDental® Part #265208); Titan 3 Fixed Back End (StarDental Part #262409); or Titan T (StarDental Part #263940)

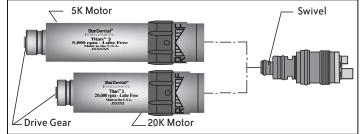
20,000 rpm Motor: Titan 3 (StarDental Part #262262); Titan 3 Fixed Back End (StarDental Part 262410); or Titan T (StarDental Part #263941)

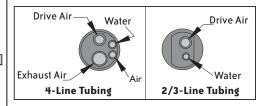
- No Lubrication Required
- Recommended Air Pressure: 40-45 psi (swivel motor)
- Air Flow: 2.1 SCFM @ 40-45 psi at Maximum Power Point (swivel motor)
- Rotation: Forward and Reverse
- 4-Line Connection (Fixed Back End)



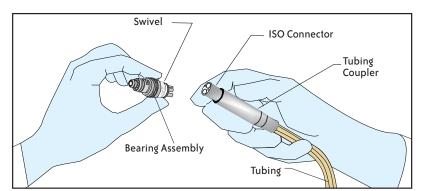
Sterilizable up to 135°C

Installation - Swivel Motors





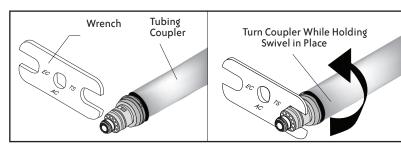
1. Select the motor appropriate for tubing based on power requirements. Examine connection of the motor and swivel tubing configuration as these must match configuration of delivery system tubing.



Note: If delivery unit has oil/mist lubrication, detach and drain; motor needs no lubrication

NOTICE To prevent damage to bearings, before installing always check drive air pressure by using air pressure gauge, StarDental Part #262591 (4/6-Line) between swivel and tubing and obtain a reading. Adjust air pressure at delivery head until gauge reads 40-45 psi while operating motor in full forward position and with foot control completely depressed.

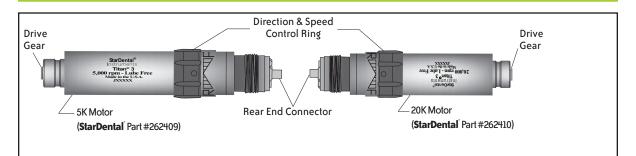
- 2. Disconnect swivel from motor if necessary. Grasp the swivel in front of the bearing assembly between the thumb and index finger as shown.
- 3. Slide tubing coupler until the end of the ISO connector is exposed; hold in hand as shown with fingers securing the tubing.
- 4. Align and insert swivel tubes into the ISO connector holes.
- 5. While applying slight pressure to hold fittings in the connector holes, slide coupler forward and engage threads. Continue threading coupler clockwise until hand tight against the swivel.



6. Using the wrench as shown, tighten the swivel to the tubing coupler. Be sure to turn tubing coupler, not swivel.

Note: This joint loosens over time, resulting in air leakage and loss of power. Check for tightness periodically. 7. Connect motor to swivel.

Installation - Non Swivel Motors



Note: If delivery unit has oil/mist lubrication, detach and drain; motor needs no lubrication.

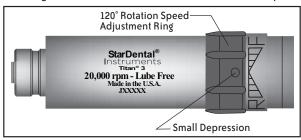
NOTICE To prevent damage to bearings, before installing always check drive air pressure by using air pressure gauge, StarDental Part #262591 (4/6-Line) between motor and tubing and obtain a reading. Adjust air pressure at delivery head until gauge reads 40-45 psi while operating motor in full forward postion and with foot control completely depressed.

- 1. Examine rear end connector of motor. Verify motor matches tubing connector of delivery system.
- 2. To connect motor to tubing, align drive air and exhaust tubes with mating ISO connector holes in coupler.
- 3. While applying slight pressure to hold tubing in connector holes, slide tubing coupler forward and engage threads. Continue threading tubing coupler clockwise until hand tight against the motor. DO NOT OVER TIGHTEN.

Note: This joint loosens over time, resulting in air leakage and loss of power. Check for tightness periodically.

Operation

The 120° rotation speed adjustment ring sets direction and speed. To run motor forward at full speed, rotate ring towards the letter 'F' while operating the foot control. Rotate to the letter 'R' to yield full speed in reverse. Vary speed by rotating ring in either direction towards center. Note the small depression for the current setting. After setting, the motor runs at current speed and direction until reset. Pausing the motor is not needed to alter direction or speed using the ring.



Cleaning & Sterilization

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 ∴ CAUTION	Do not exceed 135°C Do not use:			
Limits on Reprocessing	Repeated processing has minimal effect on these attachments. End of life is normally determined by wear and damage due to use.			
INSTRUCTIONS				
∴ WARNING	The handpiece motor must be cleaned and sterilized before first use and between patient use.			
Containment and transportation:	It is recommended that handpieces are reprocessed as soon as is reasonably practical following use.			
Preparation for cleaning:	Remove motor from swivel if applicable or tubing.			
Cleaning-Automated:	Washer-disinfectors are not recommended.			
Cleaning-Manual: Maintenance & Lubrication:	Cleaning the Swivel & Mating Motor Part: To optimize operation of the swivel connector, clean all internal surfaces of the motor with a cotton swab soaked in isopropyl alcohol until clean. Clean area around bearing/spring assembly at rear of swivel using isopropyl alcohol and a toothbrush. Dry both using syringe air. Sterilizing Handpiece Motor: After each patient, flush air by running handpiece motor for 20 seconds. Remove attachment. Clean all internal surfaces at rear of handpiece motor with a cotton swab soaked in isopropyl alcohol until clean. Clean all external surfaces using a small toothbrush with isopropyl alcohol. Dry thoroughly. Place handpiece motor and swivel in sterilization bag – . Follow the sterilization guidelines as stated by the manufacturer of your sterilizer. The Titan Motor is LubeFree and, therefore, requires no lubrication. However, at times debris from the delivery system's drive air tubing collects in the motor. This build-up may cause sluggish motor operation. To ease, place 3 drops of DentaLube II, StarDental Part #262539 into the drive air tube of motor, and alternately operate the motor in forward and reverse.			
Disinfection:	Use steam sterilization exclusively for complete sterility as outlined below.			
Drying:	Always use complete dry cycle of sterilizer. Always allow product to cool in bag to room temperature prior to using. Contact your sterilizer manufacturer if moisture remains inside bag and on product after drying.			
Inspection & function testing:	See Installation, Operating Recommendations, and/or Troubleshooting sections of this manual.			
Packaging:	Single: A standard sterilization packaging material must be used. Ensure that the pack is large enough to contain the item without stressing the seals.			
Instrument Sterilization:	A wrapped handpiece motor should be steam sterilized at 132° C for a minimum of 10 minutes or at 121° C for a minimum of 50 minutes. Do not exceed 135° C.			
	An unwrapped handpiece motor should be steam sterilized at 132° C for a minimum of 8 minutes or at 121° C for a minimum of 30 minutes. Do not exceed 135° C. Note: An unwrapped handpiece motor needs to be used immediately or sterility is not maintained.			
Storage:	Store in bag after sterilization until ready to use.			
Additional Information:	Do not exceed the sterilizer manufacturer's guidelines for load capacity. Use only paper or paper/plastic bags.			
Manufacturer Contact:	See first or last panels of this manual.			

Application Guide Titan® 3 Titan T

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PROPHY	Lubricated	LubeFree	Lubricated	LubeFree	
RPM Range: 1,000 to 3,000 Systems Configuration Options: 5,000 RPM Motor Motor-to-Angle Adapter		262261 264073		263940 263970	
5 Star Prophy Angle 20,000 RPM Motor Torque Multiplier	265803	265801 262262 258443		265802 263941 263944	
Motor-to-Angle Adapter 5 Star Prophy Angle	265803	264073 265801		263970 265802	
GRINDING & TRIMMING (Fabrication) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor		262262		263941	
Straight Nose Cone		257506		263942	
POST & PIN DRILLING Systems Configuration Options: 5,000 RPM Motor RPM Range: 1,000 to 5,000		262261		263940	
Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle 20,000 RPM Motor	259005 264182	264073 262738 264146 262262	2639 4 7 2639 4 9	263970 263948 263950 263941	
RPM Range: 1,000 to 5,000 Torque Multiplier Motor-to-Angle Adapter Ball Bearing Latch Angle OR	259005	258443 264073 262738	263947	263944 263970 263948	
Ball Bearing Auto Latch Angle	264182	264146	263949	263950	
PIN SETTING Systems Configuration Options: 5,000 RPM Motor RPM Range: 1,000 to 5,000		262261		263940	
Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle 20,000 RPM Motor	259005 264182	264073 262738 264146 262262	263947 263949	263970 263948 263950 263941	
RPM Range: 500 to 2,000 Motor-to-Angle Adapter 10:1 Gear Reduction Latch Angle	264180	264073	263951	263970	
20,000 RPM Motor RPM Range: 500 Torque Multiplier		262262 258443		263941 263944	
Motor-to-Angle Adapter 10:1 Gear Reduction Latch Angle	264180	264073	263951	263970	
ENDODONTIC (Canal enlargements) Systems Configuration Options: 20,000 RPM Motor RPM Range: 500 to 2,000		262262		263941	
Motor-to-Angle Adapter 10:1 Gear Reduction Latch Angle	264180	264073	263951	263970	
5,000 RPM Motor RPM Range: 350 to 5,000		262261		263940	
Motor-to-Angle Adapter Auto Latch Endodontic Anglefor Standard Files & Reamers (90° reciprocating motion) OR	262570	264073		263970	
Manual Latch Endodontic Angle - -for Latch Type Files & Reamers (90° reciprocating motion)	262571				
ENDODONTIC (Condensing gutta percha) RPM Range: 10,000 to 20,000 Systems Configuration Options: 20,000 RPM Motor		262262		263941	
Motor-to-Angle Adapter Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	259005 264182	262262 264073 262738 264146	263947 263949	263970 263948 263950	

Application Guide, con't. Titan 3 Titan T

	Lubricated	LubeFree	Lubricated	LubeFree
CARIES REMOVAL				
Systems Configuration Options: 5.000 RPM Motor		262261		263940
RPM Range: 2,000 to 5,000				
Motor-to-Angle Adapter Ball Bearing Friction Grip Angle OR	258965	264073 262740	263952	263970 263955
Ball Bearing Autochuck Friction Grip Angle	264149	264151	263953	263954
Ball Bearing Latch Angle OR Ball Bearing Auto Latch Angle	259005 264182	262738 264146	263947 263949	263948 263950
20,000 RPM Motor		262262		263941
RPM Range: 2,000 to 5,000 Torque Multiplier		258443		263944
Motor-to-Angle Adapter		264073		263970
Ball Bearing Friction Grip Angle OR Ball Bearing Autochuck Friction Grip Angle	258965 264149	262740 264151	263952 263953	263955 263954
Ball Bearing Latch Angle OR	259005	262738	263947	263948
Ball Bearing Auto Latch Angle	264182	264146	263949	263950
FINISHING (Cavity and crown preps) RPM Range: 10,000 to 20,000				
Systems Configuration Options:		0.0000		040041
20,000 RPM Motor Motor-to-Angle Adapter		262262 264073		263941 263970
Ball Bearing Friction Grip Angle OR	258965	262740	263952	263955
Ball Bearing Autochuck Friction Grip Angle Ball Bearing Latch Angle OR	264149 259005	264151 262738	263953 263947	263954 263948
Ball Bearing Auto Latch Angle	264182	264146	263949	263950
POLISHING				
(Amalgam, composites, gold margins) RPM Range: 10,000 to 20,000				
Systems Configuration Options:		262262		2620/11
20,000 RPM Motor Motor-to-Angle Adapter		262262		263941 263970
Ball Bearing Latch Angle OR	259005	262738	263947 263040	263948
Ball Bearing Auto Latch Angle Ball Bearing Auto Latch Angle	259005 264182	262738 264146	263947 263949	2639 4 8 263950

Troubleshooting

Problem: LACK OF POWER

Cause: Air pressure

Correction: Verify proper motor air pressure. Refer to applicable Installation section.

Cause: Crimped tubing

Correction: Straighten tubing inside and outside delivery head.

Cause: Swivel or Fixed Back End Motor not threaded fully onto tubing

Correction: Refer to applicable Installation section.

Cause: Brittle swivel or Fixed Back End Motor silicone rubber seal

Correction: Replace silicone rubber seal for 2/3-line swivel with **StarDental**® Part #203103

and 4-line with **StarDental** Part #202897.

Cause: Swivel O-rings worn

Correction: Replace swivel O-rings, StarDental Part #259884.

Cause: Debris build-up in motor or attachment

Correction: Clean motor and attachment. Refer to Cleaning section in this manual and

applicable attachment's manual(s).

Problem: SWIVEL WILL NOT DISENGAGE FROM MOTOR

Cause: Build-up of debris

Correction: Place 3 drops of DentaLube II, StarDental Part #262539, into the swivel/tubing

connector. Rotate swivel to circulate lubricant. Disengage motor. Contact dealer if unable to disengage swivel. To prevent reoccurrence, refer to Cleaning.

Note: If a problem persists, contact dealer for further assistance or contact **StarDental** technical service at 1-866-DTE-INFO.

Replacement Part Numbers

Always insist on StarDental parts for best performance.	Titan 3	Titan T	
Description	Item Number	Item Numb	
Straight Nose Cone	257506	263942	
Motor-to-Angle Adapter	264073	263970	
Torque Multiplier	258443	263944	
Swivel, Motor 2/3-Line	260152	260152	
Swivel, Motor 4-Line			
LubeFree Ball Bearing Auto Latch Angle	264146	263950	
LubeFree Ball Bearing Manual Latch Angle	262738	263948	
LubeFree Ball Bearing Autochuck Friction Grip Angle	264151	263954	
LubeFree Ball Bearing Manual Chuck Friction Grip Angle	262740	263955	
LubeFree 5 Star Prophy Angle	265801	265802	
Ball Bearing Auto Latch Angle	264182	263949	
Ball Bearing Manual Latch			
Ball Bearing Autochuck Friction Grip Angle	264149	263953	
Ball Bearing Manual Chuck Friction Grip Angle			
Five Star Prophy Angle	265803		
10:1 Reduction Angle	264180	263951	
Titan Endodontic Angle, Auto Latch	262570	262570	
Titan Endodontic Angle, Manual Latch	262571	262571	
Air Pressure Gauge for 4/6-Line			
Silicone Rubber Seal, 2/3-Line (Pkg. of 3)	203103	203103	
Silicone Rubber Seal, 4-Line (Pkg. of 3)	202897	202897	
Swivel O-Rings Kit (2 large, 2 small)	259884	259884	
DentaLube II			
Titan T 20K, 4 Line, Stainless Steel Back End, Motor		264430	
Titan 3 5K Motor - Used with Extended Straight Attachment (ESA)	265208		



For new products, manuals and technical information, call 1-866-DTE-INFO or visit our web site at www.dentalez.com.

Important Notice About Returning Product To The DentalEZ Inc.

Anyone wishing to return any DentalEZ Inc. product to a DentalEZ facility MUST obtain the proper RETURN AUTHORIZATION NUMBER from the Customer Service Department. The RA Number must appear clearly marked on both the outside and inside of the returned product carton. When calling for a return authorization number you will be asked to provide the following information:

To Obtain A Return Authorization Number Call

- Product Name, Model Number or Part Number
- Serial Number of Product
- Dealer Return Purchase Order Number
 - Reason For Return
- 1-866-DTE-INFO Copy of Invoice Showing Purchase

Items will be evaluated. Return Authorization Number is not a guarantee for credit. Your cooperation with this procedure will help us expedite processing of any returns.

Limited Warranty

O-Rings and Seals are specifically excluded from this warranty.

DentalEZ® warrants the Titan Low Speed Handpiece Motor for 1 year from the date of purchase*.

Please note the following additional terms of our warranty policy:

- Warranties cover manufacturing defects only and do not cover defects resulting from abuse, improper handling, cleaning, care or maintenance, normal wear and tear or non-observance of operating, maintenance or installation instructions. Failure to use authorized parts or an authorized repair facility voids this warranty.
- Liability is limited to repair or replacement of the defective product at our sole discretion. All other liabilities, in
 particular liability for damages, including, without limitation, consequential or incidental damages are excluded.
- THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE, REPRESENTATIVE OR DEALER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY.

*Provided conditions in warranty are met.

WARRANTY REGISTRATION

PLEASE VISIT ONE OF THE WEBSITES BELOW TO REGISTER YOUR STARDENTAL PRODUCT. THIS WILL ENSURE PROPER REGISTRATION AND PROMPT AND ACCURATE SERVICE SHOULD ANY OF YOUR PURCHASES NEED EVALUATION OR REPAIR DURING THE WARRANTY PERIOD.

For Identafi® Oral Cancer Screening System products: www.identafi.net/warranty

For all Other StarDental® Products: www.dentalez.com/warranty

