Beehive® INSTRUCTIONS FOR USE

CE 0425

Aksdent Global Dental Tıbbi Cihazlar San. Tic. Ltd. Şti
Fatih Mh. 1191 Sk. No:1/14 Sarnıç Gaziemir İzmir Türkiye

TD.01.KK.01.EN rev01 06.2026

HIGH-SPEED DENTAL HANDPIECES

Description of the Product: A device consisting of a handpiece and head assembly, in which the spindle, turbine and bearing system located in the head are driven by compressed air to rotate a dental bur for use in various dental procedures.
Available Product Ranges and Models : Beehive C-002, C-005, P-202, P-219, C-007, C-009, C-034, C-002C, C-005C, P-219L, P-202L
Intended Users: Dentists
Disposability/Reusability Classification: High-speed dental handpieces are designed for reusability. However, the recommended lifespan for reprocessing is limited to 250 sterilisation cycles.
Product Storage and Shipping Conditions: In accordance with the labels outlined by the EN 15223-1 standard, high-speed dental handpieces must be stored within a temperature range of -20 °C to 70 °C, a relative humidity range of %5 RH to %95 RH and pressure range of 700 hPa to 1060 hPa.
Intended Patient Population : The manufactured High-speed dental handpieces are intended for use in patients aged 20 and above.

INDICATIONS:

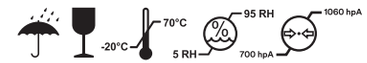
Cavity Preparation: High-speed dental handpieces are commonly used in cavity preparation procedures to shape and clean the cavity before filling the tooth with dental restorative materials, such as amalgam or composite resin, as part of restorative dental treatments.
Dental Restoration: High-speed dental handpieces are used to remove damaged or decayed dental tissue and prepare the tooth for restorative procedures, such as crowns, inlays, onlays, or porcelain veneers.
Tooth Extraction: In oral surgery, High-speed dental handpieces can be used, particularly for extracting impacted or hard to reach teeth.
Crown and Bridge Preparation: High-speed dental handpieces may be used for shaping teeth and preparing surfaces for crowns, bridges or other prosthetic restorations.
Endodontic Procedures: High-speed dental handpieces are used during root canal treatments to access the dental pulp and shape the root canals for filling.
Orthodontic Procedures: High-speed dental handpieces can be used in procedures such as the extraction or replacement of orthodontic appliances.
Implantology: High-speed dental handpieces are used in bone preparation for the placement of dental implants.
Bone Surgery: High-speed dental handpieces may be used in oral and maxillofacial surgery, skilfully employed for precise bone sculpting, the removal of excess bone, or for intricate reconstructive procedures.
Smile Aesthetics: In the field of cosmetic dentistry, High-speed dental handpieces are used to sculpt and refine the teeth, enhancing their shape and contributing to the overall balance and complexion of the smile.
Gum Surgery: High-speed dental handpieces can be used during procedures such as gingivectomy to remove excess gum tissue.
Tissue Excision: High-speed dental handpieces are used for the precise and delicate excision of both soft and hard tissues, tailored to the specific needs of various dental procedures.

CONTRAINDICATIONS:

Medical Conditions: Patients with poorly controlled hypertension, significant cardiovascular diseases, bleeding disorders, or compromised immune function may not be suitable candidates for procedures involving High-speed dental handpieces. A thorough evaluation of the patient's medical history should be conducted prior to use, and consultation with the treating physician is recommended if necessary.
Allergies and Sensitivities: Certain patients may exhibit allergies or sensitivities to the materials used in dental procedures involving High-speed dental handpieces, as well as to cooling and lubrication agents. Dentists should thoroughly inquire about any known allergies or sensitivities and carefully select materials and agents that align with the patient's specific needs.
Infection Control: It is imperative to follow rigorous infection control protocols when using High-speed dental handpieces. Failure to do so may facilitate the spread of infections. Ensuring the proper sterilisation and maintenance of the devices, alongside the use of appropriate personal protective equipment (PPE), is essential in preventing cross contamination.
Insufficient Anaesthesia: In procedures involving High-speed dental handpieces, inadequate local anaesthesia may cause discomfort or pain for the patient. Dentists should ensure that patients are properly anaesthetised before beginning the procedure.
Age and Psychological Factors: Paediatric patients, as well as those with significant dental anxiety or phobias, may find it difficult to tolerate the noise and vibrations produced by High-speed dental handpieces. Dentists should consider alternative approaches or techniques to alleviate anxiety and discomfort for these individuals. (Use is recommended only for patients aged 20 and above.)
Pregnancy: While there is no evidence to suggest any risk to the developing foetus, it is generally advisable to avoid dental procedures involving High-speed dental handpieces during the first trimester of pregnancy, where possible. In such cases, it is recommended to consult with an obstetrician.
Prosthetics and Implants: High-speed dental handpieces should be used with caution around dental prosthetics, implants, and delicate restorations to prevent potential damage. Special techniques and instruments may be required for these procedures.
Operator Competence: Dentists and dental professionals must possess the necessary training and expertise in using High-speed dental handpieces. Insufficient skill or experience can result in procedural errors and may pose a risk of harm to the patient.
Tissue Integrity: High-speed dental handpieces can generate heat that may cause damage to dental tissues. To prevent thermal injury to the teeth and surrounding structures, dentists should utilise effective cooling techniques and ensure a sufficient water spray is applied.
Ergonomics and Operator Safety: When using High-speed dental handpieces, dentists should apply proper ergonomic techniques to prevent operator fatigue and minimise the risk of injury.

SIDE EFFECTS:

The use of High-speed dental handpieces is generally considered safe and well-tolerated. However, as with any medical or dental procedure, there may be potential side effects and complications. These effects are generally rare and can be minimised or prevented through proper technique, regular maintenance and effective patient management. Potential side effects associated with the use of High-speed dental handpieces may include:
Tissue Damage: The excessive heat produced by High-speed dental handpieces in operation can potentially damage dental tissues, including the pulp (nerve). This risk is heightened in High-speed dental handpieces that do not feature an adequate water cooling system.
Post-Operative Sensitivity: Following procedures involving High-speed dental handpieces, some patients may experience transient tooth sensitivity or discomfort. This is usually temporary and can be effectively managed with over the counter analgesics.
Tooth Fracture: Although uncommon, the use of High-speed dental handpieces may result in tooth fractures, particularly in teeth with pre-existing structural vulnerabilities or restorations. Dentists should exercise heightened caution when employing High-speed dental handpieces on such compromised teeth.
Aerosol Formation: The use of High-speed dental handpieces generates airborne particles, which may potentially contain infectious agents.
Acoustic and Vibratory Disturbance: The high rotational speed of High-speed dental handpieces can produce noise and vibrations, which may induce discomfort or anxiety in certain patients. Dentists should be attentive to patient comfort, offering thorough explanations and reassurances to alleviate concerns.
Operator Fatigue and Musculoskeletal Injury: Extended use of High-speed dental handpieces, when not accompanied by appropriate ergonomic practices, may contribute to operator fatigue and the onset of musculoskeletal disorders.

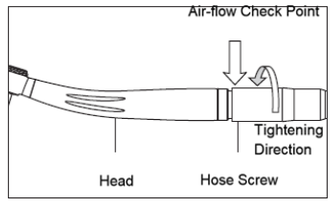


⚠ WARNINGS AND PRECAUTİONS: ⚠

- Read these instructions for use thoroughly before use to fully understand the product's functions, and retain it for future reference.
- Always prioritise the patient's safety when using the product.
- Users are responsible for operational control, maintenance and continuous monitoring of the device.
- Protect the product from physical impact.
- All users and individuals in the vicinity must wear protective eyewear and a mask during operation to ensure personal safety. Should the product exhibit abnormal functionality, immediately cease operation and contact your supplier for assistance.
- Do not use highly acidic water or sterilising solutions to clean or disinfect the product.
- The products are delivered non-sterile and must be autoclaved prior to use.
- Perform regular functionality and maintenance checks.
- Before using the product on a patient after prolonged inactivity, perform a thorough check to ensure it is functioning correctly.
- To ensure uninterrupted treatment and mitigate the risk of disruption during surgical procedures, it is advisable to have a spare unit readily available in case of breakage.
- The product should not be used after 250 sterilisation cycles.

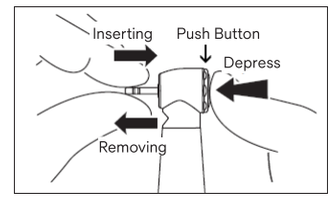
Information: The technical specifications, drawings, and dimensions contained in these instructions are provided for guidance only and shall not constitute grounds for any claim. The manufacturer reserves the right to make technical improvements to the equipment without updating these instructions. For further information, please contact Aksdent Global Dental at the address provided.

Accessories :
Couplings
Connecting and Disconnecting the Handpiece:
For Connection: Attach the handpiece securely to the appropriate hose connector and tighten the hose coupling. Ensure that the handpiece is firmly connected to the hose.
For Disconnection: Loosen the hose coupling and detach the hose.



MOUNTING AND REMOVING THE BUR :

Inserting the Bur :
1) Insert the bur until it fits securely in place.
2) Press and hold the push button, insert the bur into the locking mechanism until it is securely in place, then release the button.
3) Without pressing the push button, gently pull and push the bur to check and confirm that it is securely locked in place.
Removing the Bur: Firmly press and hold the push button, then remove the bur.



Recommended Air Pressure: **The operating air pressure at the handpiece inlet should be 2.5–2.8 bar.** Please note that the air pressure to the handpieces may increase during compressor filling.
Operating within the recommended pressure range is essential for prolonging the product's lifespan.
Warning: Before each use, or if the instrument has been subjected to impact, check for any visible signs of damage. If any damage or impact is detected, the instrument must be sent to an authorised Beehive service center for inspection. A damaged handpiece carries the risk of malfunction, which may cause abnormal heat generation and vibration. The handpiece must not be operated without a bur installed. To prevent the push button from overheating, which could cause burns, avoid pressing the button unintentionally while the instrument is running. Soft tissues (such as the tongue, cheeks, lips, etc.) should be protected and retracted using a retractor or mirror. Do not use non-standard or worn burs. Use only burs compliant with ISO 1797 Type 3 and ISO 6360-1 Code 4, where applicable

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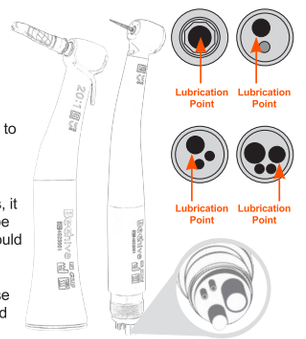
LUBRICATION - MAINTENANCE - CLEANING - DISINFECTION - STERILIZATION:

Recommended Lubrication Interval
▶ Before Each Sterilisation
▶ Bur chuck: at least once daily
Or
▶ After each 30-minute period of use, or at least twice Daily
▶ Bur chuck: at least once Daily

1) Shake the spray oil container thoroughly.
2) Attach the appropriate spray nozzle designed for the handpiece.
3) Place a tissue or cloth under the handpiece head.
4) Press the spray button until oil begins to flow from the head of the handpiece (approximately 2 seconds).
5) If contaminated oil is expelled from the handpiece, repeat the lubrication procedure.
6) After lubricating the handpiece, allow it to run idle for a minimum of 30 seconds to expel any excess oil.
7) To maintain proper function of the push-button chuck mechanism, lubricate through the bur insertion opening at least once daily.
8) Lubrication should be applied at the air inlet. If oil is applied through other inlets, it may not reach the handpieces, resulting in inadequate lubrication. For Borden-type connections, the air inlet is the largest hole. For Midwest-type connections, oil should be applied through the slightly smaller of the two larger holes.
9) Use only a low-viscosity, non-resinifying synthetic spray lubricant specifically intended for high-speed dental air-turbine handpieces. Do not use general-purpose machine oils, silicone-based oils, grease, petroleum jelly or lubricants not specified for dental handpieces.



1. Cleaning
- After each treatment, immediately clean the handpiece to prevent blood, saliva, and other fluids on the head from penetrating and leaving residues inside.
- Use cleaning agents that are suitable for medical devices, compatible with the handpiece materials and approved for subsequent sterilisation.

2. Disinfection
- The use of disinfectants containing acetone, chlorine, or bleach is strictly not recommended.
- The handpiece must never be immersed in disinfectant solutions.
- For disinfection, wipe the surface with a clean cloth or cotton moistened with an appropriate disinfectant.
- Ultrasonic bath disinfection is not recommended.

3. Pre-Sterilisation Preparation
- The handpiece must be thoroughly cleaned with no residues remaining.
- Lubricate the handpiece according to the lubrication procedure before sterilisation.
- Place the handpiece inside an autoclave pouch and seal it.

4. Sterilisation

Only the sterilisation procedure specified below should be used:
- Steam sterilisation with a fractional pre-vacuum phase, using a Class B cycle compliant with EN 13060 standard.
- Nominal sterilisation temperature: 134°C
- Duration: 3 or 18 minutes, depending on national guidelines.
- The product is autoclavable up to 135°C. Follow the steriliser manufacturer's instructions. The maximum temperature specified for the product must not be exceeded during the sterilisation and drying phases.

⚠ **After sterilisation, keep the handpiece sealed in the pouch to maintain sterility until use.**

Technical Data

	Max Speed	Power	Noise Level	Illumination	Bearing Type	Connection
C-002 C-005 C-007 C-009 C-034	360.000 rpm	23W	<60dB	Fiber Op.	Ceramic	6-pin swivel

	Max Speed	Power	Noise Level	Illumination	Bearing Type	Connection
C-002C	360.000 rpm	23W	<60dB	Fiber Op.	Ceramic	6-pin swivel
C-005C	360.000 rpm	23W	<60dB	Fiber Op.	Ceramic	6-pin swivel

	Max Speed	Power	Noise Level	Illumination	Bearing Type	Connection
P-202	340.000 rpm	21W	<60dB	N/A	Ceramic	4h Midwest
P-202L	340.000 rpm	21W	<60dB	LED	Ceramic	4h Midwest

	Max Speed	Power	Noise Level	Illumination	Bearing Type	Connection
P-219	340.000 rpm	21W	<60dB	N/A	Ceramic	2h Borden
P-219L	340.000 rpm	21W	<60dB	LED	Ceramic	2h Borden

FAULTS	POSSIBLE CAUSES	RECOMMENDED ACTION
Sudden Variations in Torque and Speed	Irregular air pressure.	Verify the pressure value and adjust accordingly if this is identified as the cause.
	Air leakage at hose coupling	Tighten the coupling nut or replace the gasket with a new one if it is damaged.
	Insufficient lubrication	Perform multiple lubrication cycles, ensuring short runs between each lubrication session.
	Obstruction in hose or handpiece air pathways.	Inspect the hose for blockages and replace it if necessary.
	Damaged bearings.	Contact authorised service.
Excessive Noise Level	Bent, worn, or non-standard bur	Replace the bur with a new, correctly specified one.
	Damaged bearings	Contact authorised service.
Difficulty in Inserting or Removing the Bur	Insufficient pressure on the push button	Ensure that adequate force is applied to the push button to engage the chuck mechanism properly.
	Bur diameter is outside the specified tolerance	Only use burs that meet the appropriate quality and dimensional standards.
	Bent or excessively worn bur.	Replace the bur with a new one.
	Spindle performance degradation	Contact authorised service for inspection and repair.

FAULTS	POSSIBLE CAUSES	RECOMMENDED ACTION
Suboptimal Performance of Spray Cooling System	Closed air or water flow regulators.	Review and adjust the flow settings as required.
	Clogged spray nozzles.	Carefully clean the spray nozzles on the handpiece using the fine wire provided, ensuring not to deform the nozzles.
Insufficient Lighting Performance	Minimal light intensity.	Inspect the light source and control settings within the dental unit to ensure proper operation.
	Faulty fiber optic system.	Contact authorised service to address the issue.
Water Leaks	Loose hose connection.	Tighten the ring nut securely at the connection point.
	Worn or damaged seals.	Replace the seals with new ones and lubricate them to ensure optimal function.

Trouble-shooting : In the event of a malfunction, immediately contact the Beehive after-sales support department. Repairs and maintenance procedures should only be performed by the Beehive after-sales support team. Any serious incident that has occurred in relation to the device must be reported to the manufacturer and the competent authority of the country in which the user and/or patient is located. **Contact:** +90 850 762 85 05 **Internal:** 3 ● **e-mail:** d.k@aksdent.com

SYMBOLS AND THEIR MEANINGS ACCORDING TO EN 15223-1 STANDARD

Box Label Template:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Beehive A Perfect Harmony	Product Name/ Model	#	CE	SN XXXXX	TR XXXX		-20 70	5 95	700 hpA 1060 hpA				MD	UDI

16	17	
TD.01.ET.01 Rev. No: 00 Rev. Date: --/--/--	Aksdent Global Dental ve Tıbbi Cihazlar San. Tic.Ltd. Şti Fatih Mh. 1191 Sk. No:1/14 Gaziemir Sarnıç Gaziemir İzmir Türkiye	The product is autoclavable up to 135°C.

Symbols and Definitions

1	Brand	3	Product Model Number	5	Product Serial Number	7	Consult the instructions for use	9	Symbol for Humidity Storage Conditions	11	Keep away from sunlight	13	Keep Dry	15	UDI	17	Manufacturer Information
2	Product Name	4	CE Marking	6	Manufacturer's Country Code and Date of Manufacture	8	Symbol for Temperature Storage Conditions	10	Product Pressure Range	12	Do Not Use if the Package is Damaged	14	Medical Device	16	Label Information		

Carton Label Template:

1	2	3	4	5	6	7	8	9
Beehive A Perfect Harmony	-20 70	5 95	⚠		MD	Aksdent Global Dental ve Tıbbi Cihazlar San. Tic. Ltd. Şti Fatih Mh. 1191 Sk. No:1/14 Gaziemir Sarnıç İzmir Türkiye		Quantity per Carton:

Symbols and Definitions

1	Brand	2	Storage Condition (Temperature)	3	Storage Condition (Humidity)	4	Caution	5	Fragile	6	Medical Device	7	Manufacturer Information	8	Keep Dry	9	Quantity per Carton

Laser Product Label Template:

1	2	3	4	5	6
Beehive A Perfect Harmony	CE	SN	MD	TR	#

Symbols and Definitions

1	Brand	2	CE Marking	3	Serial Number	4	Medical Device	5	Country of Manufacture Code and Date of Manufacture	6	Model/Type Number