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.03.EN rev01 06.2026

LOW-SPEED CONTRA-ANGLE AND STRAIGHT HANDPIECES

Product description: Contra-angle and Straight handpieces are primarily intended for use by dental professionals to assist in the performance of intraoral examinations and therapeutic procedures
Product Brand and Models: Beehive G-302, G-310, G-311, G-319, G-333
Intended Users: Dentists
Single Use / Reusable Status: Contra-angles and straight handpieces are reusable products but reusable period is limited by 250 sterilisation cycles.
Product Storage and Shipping Conditions: Contra-angles and straight handpieces must be stored in a temperature range of -20 to 70 °C and a relative humidity range of 5% RH to 95% RH, pressure range of 700 hPa to 1060 hPa as indicated on the labels created according to EN 15223-1 Standard.
Intended Patient Population : Adult patients (aged 20 and above).
Combined Equipment and Accessories: Pneumatic or electric micro-motor

INDICATIONS:

The devices are indicated for use in the following dental procedures:

Prophylaxis: Used in conjunction with prophylaxis tips to remove plaque, stains, and calculus.

Endodontics: Fitted with specialized endodontic burs and files to facilitate access, shaping, and cleaning of root canals

Restorative Dentistry: Used in cavity preparation, dental restoration, and the placement of fillings, crowns, inlays, onlays, and veneers.

Orthodontics: Used to remove or adjust orthodontic appliances, bands, and brackets

Oral Surgery & Implantology: Used with surgical burs for tooth extraction, bone preparation (osteotomy), and implant placement.

Prosthodontics & Periodontology: Used for crown/bridge preparation, scaling, root planing, and gingivectomy procedures.

CONTRAINDICATIONS :

Medical Conditions: Contraindicated for patients with uncontrolled hypertension, severe cardiovascular diseases, bleeding disorders, or compromised immune systems. Evaluate the patient's detailed medical history prior to the procedure and consult the attending physician if necessary.

Allergies and Sensitivities: Contraindicated for patients with known allergies or sensitivities to the materials used in treatment, metal alloys, cooling solutions, or device lubricating agents. Dentists must inquire about the patient's allergy history and select appropriate materials accordingly.

Infection Control: The use of devices is strictly contraindicated without fully adhering to appropriate infection control and sterilisation protocols. Failure to comply poses a severe risk of pathogen transmission and cross-contamination. Utilizing appropriate Personal Protective Equipment (PPE) and maintaining strict device protocols are legally mandated.

Insufficient Anaesthesia: The use of rotary instruments is contraindicated if local anaesthesia is insufficient, as it causes acute pain and dental stress for the patient. Dentists must verify that profound regional or local analgesia is achieved prior to commencing the procedure.

Age and Psychological Factors: Paediatric patients and individuals presenting with severe dental phobia or anxiety may fail to tolerate the acoustic noise and mechanical vibrations generated by the device. Alternative sedation or therapeutic modalities should be considered for these groups. (Device utilization is recommended for adult populations aged 20 and above).

Pregnancy: Although there is no clinical evidence indicating a direct risk to the developing foetus, it is generally recommended to defer elective dental procedures involving rotary instruments during the first trimester of pregnancy. For mandatory interventions, consultation with the patient's obstetrician/ gynaecologist is advised.

Operator Competence: Devices must strictly be operated by licensed dentists and certified dental professionals. Insufficient clinical skills or experience may lead to procedural errors, device malfunctions, and iatrogenic tissue damage.

Tissue Integrity & Thermal Damage: Rotary instruments generate high frictional heat that can cause thermal degeneration in dental tissues. To prevent thermal necrosis of the pulp and surrounding hard/soft tissues, a continuous flow of water cooling spray at an adequate flow rate must be maintained throughout the procedure.

Ergonomics and Operator Safety: To prevent musculoskeletal disorders, physical fatigue, and potential injuries during prolonged use, the operator must employ proper ergonomic posture and gripping techniques during clinical practice.

Bone Density & Jamming Warning: In cases of high bone density or sclerotic bone structures, do not apply excessive axial force if the bur gets jammed in the bone. Remove the jammed bur safely by switching the motor to "Reverse" mode. Forcing the device may cause the internal transmission gears of the head to fracture, leading to mechanical failure.

POTENTIAL SIDE EFFECTS:

When used correctly in accordance with the manufacturer's instructions and clinical guidelines, the devices are generally safe and well tolerated. However, improper use or inadequate maintenance may result in the following complications.

Overheating: Prolonged operation conducted with insufficient spray water or without cooling flow causes the device head to overheat. This may result in mucosal burns, pulpal damage, and thermal degradation of the dental anatomy. Continuous water flow during operation is critical.

Noise and Vibration: Although these devices operate significantly quieter and generate minimal vibration compared to high-speed handpieces, certain hypersensitive patients may still experience discomfort. The clinician must monitor patient tolerance and adjust speed/torque parameters when necessary.

Contamination & Cross-Contamination: As with all surgical and dental instruments, to minimise the risk of patient-to-patient pathogen transmission and infection, it is mandatory to meticulously clean, lubricate, and autoclave the devices after each patient in strict compliance with the validated protocols in this manual.

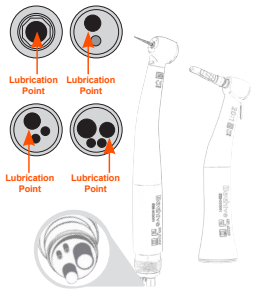
⚠ WARNINGS AND PRECAUTIONS: ⚠

- 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.
- The users are responsible for the operational control, maintenance, and continuous monitoring of this product.
- 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 agents to clean or sanitise 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.
- Before reusing the product, it must be sterilised as specified in the sterilisation section.
- Never use non-standard, worn, bent, or eccentric burs. This may damage the cartridge/bearings and cause the bur to detach during operation, posing a severe risk of patient injury.
- Always verify that the bur is securely locked in place by gently pulling it manually before clinical operation
- During osteotomy and implant insertion, set the speed and torque via the surgical motor according to the implant system specifications. Do not exceed the mechanical torque limit of the device.

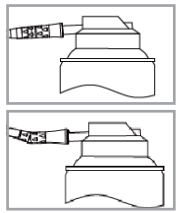
LUBRİCATİON AND MAİNTENANCE :

Lubricate the handpiece immediately after cleaning and/or disinfection. Use only a low-viscosity, non-resinifying, particle-free spray lubricant specifically intended for low-speed dental handpieces, contra-angles and straight handpieces. The lubricant must be suitable for use before sterilisation. Do not use general-purpose machine oils, silicone-based oils, grease, petroleum jelly or lubricants not specified for dental handpieces.

Recommended Lubrication Interval
After each cleaning procedure
Before each sterilisation procedure
Or
After 30 minutes of use or at least once daily
For the spindle mechanism, once a week



1) Shake the spray oil container thoroughly.
2) Attach the appropriate lubrication nozzle designed for the handpiece.
3) Position a napkin or cloth beneath the head of the handpiece.
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 at least 30 seconds to expel any excess oil.



CLEANING, DISINFECTION AND STERILISATION :

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 suitable, sterilisable products that do not damage the handpiece for cleaning.
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 fractionated pre-vacuum phase, using a Class B cycle compliant with EN 13060 standard.
   - Nominal temperature: 134°C (273°F)
   - 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.

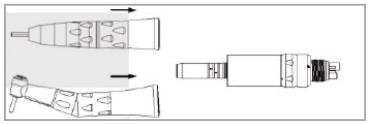
After sterilisation, keep the handpiece sealed in the pouch to maintain sterility until use.
** To prevent blood and bone debris from drying and locking the internal gears, perform pre-cleaning and lubrication within 30 minutes post-surgery

Bur Standards and Safe Selection

- **For contra-angles:** Use only burs complying with the ISO 1797 Type 2 (RA/CA) standard, with a shank diameter of Ø 2.35 mm.
- **For 1:5 contra-angles:** Use only high-speed burs complying with the ISO 1797 Type 1 (FG) standard, with a shank diameter of Ø 1.60 mm.
- **For straight handpieces:** Use only long-shank burs complying with the ISO 1797 Type 2 (HP) standard, with a shank diameter of Ø 2.35 mm.

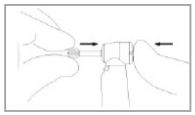
CONNECTION OF THE PRODUCT TO MICRO MOTOR

Connection: Switch off the motor. Position the handpiece until properly seated. Rotate until the fixing pin is secure.
Disconnection: Switch off the motor. Remove the handpiece directly from the motor.



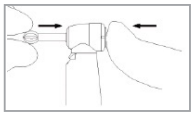
INSERTING THE BUR

The pneumatic motor should be switched off. Before inserting the bur, place it in the bur holder without pressing the Push Button. Slowly rotate the bur until it is securely seated in the socket.



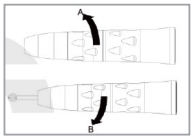
REMOVING THE BUR

The pneumatic motor should be switched off. Remove the bur by pressing the Push Button on the contra-angle.



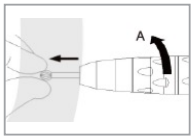
INSERTING A BUR INTO THE STRAIGHT HANDPIECE

Switch off the micro-motor. Rotate the handpiece lock in the direction of 'A' until it stops.Securely place the bur into the bur holder. Hold the handpiece steady, then rotate the lock in the direction of 'B' until it stops to lock the bur in place. When the two arrows align, the bur is locked.To test if the bur is properly secured, rotate it manually.



REMOVING THE BUR FROM STRAIGHT HANDPIECE

Switch off the pneumatic motor. Rotate the handpiece lock in the direction of 'A' until it stops. Pull the bur straight out of the Chuck.



WATER CONNECTION (EXTERNAL WATER PIPE SYSTEMS)

When water is required for the contra-angle or handpiece, connect the fine hose to the pneumatic micro-motor 's water outlet, ensuring the other end is properly fitted to the water inlet of the contra-angle or handpiece.

Technical Data

Model	Technical Data			
G302	**Max Speed**	25.000 RPM	**Cooling**	Internal single spray
	Noise level	<75 dB	**Connection**	ISO-E Type
	Gear Ratio	1:1	**Illumination**	Fiber Optic
G310	**Max Speed**	25.000 RPM	**Cooling**	Internal single spray
	Noise level	<75 dB	**Connection**	ISO-E Type
	Gear Ratio	1:1	**Illumination**	N/A
G311	**Max Speed**	25.000 RPM	**Cooling**	Internal single spray
	Noise level	<75 dB	**Connection**	ISO-E Type
	Gear Ratio	1:1	**Illumination**	N/A
G319	**Max Speed**	2.000 RPM	**Cooling**	External single spray
	Noise level	<70 dB	**Connection**	ISO-E Type
	Gear Ratio	20:1	**Illumination**	N/A
G333*	**Max Speed**	200.000 RPM	**Cooling**	Internal four-port spray
	Noise level	<70 dB	**Connection**	ISO-E Type
	Gear Ratio	1:5	**Illumination**	Fiber Optic

The G333 model is a 1:5 speed-increasing, red-band contra-angle handpiece intended for high-speed surgical/restorative applications.

FAULTS	POSSIBLE CAUSES	RECOMMENDED ACTION
The device does not operate or does not rotate	The micromotor is not operating or the handpiece is not fully connected.	Check that the micromotor is operating properly. Ensure that the handpiece is fully seated on the ISO E-type connection and that the fixing pin is engaged.
	The internal gear mechanism may be jammed.	Stop using the device immediately. Do not force the device to operate. Contact an authorised Beehive service centre.
Sudden variations in torque or speed	The micromotor or surgical motor speed/torque setting is incorrect.	Check and adjust the speed and torque settings according to the device model and the intended procedure.
	Insufficient lubrication has increased friction in the internal gear or bearing system.	Lubricate the device according to the lubrication procedure. After lubrication, run the device idle for at least 30 seconds to expel excess oil.
	The bur is bent, worn, eccentric or non-standard.	Replace the bur with a new one. Use only burs complying with ISO 1797.
	The internal gears, bearings or transmission mechanism may be damaged.	Stop using the device and contact an authorised Beehive service centre.
Excessive noise during operation	Lubrication is insufficient.	Lubricate the device according to the lubrication procedure. If the noise continues, stop using the device.
	The bur is bent, worn, eccentric or non-standard.	Replace the bur with a new one. Use a bur with the correct shank diameter and applicable standard.
	The gear system, bearings or spindle mechanism may be damaged.	Contact an authorised Beehive service centre.
Excessive heating of the handpiece head	Lubrication is insufficient or contaminated oil remains inside the device.	Lubricate the device. If contaminated oil continues to be expelled, repeat the lubrication procedure.
	Water cooling is insufficient or the spray outlets are clogged.	Check the water flow and spray outlets. Carefully clean clogged spray outlets with the appropriate cleaning wire without damaging the outlets.
	The device has been used for a prolonged period or under excessive load.	Stop operation and allow the device to cool down. Adjust speed and torque values according to the procedure.
	Mechanical friction, internal gear damage or bearing damage may be present.	Stop using the device and contact an authorised Beehive service centre.
Difficulty inserting or removing the bur	The bur shank diameter is incorrect or outside the specified tolerance.	Use burs complying with the appropriate ISO 1797 standard for the device model. Use RA/CA or FG burs for contra-angles as applicable, and HP long-shank burs for straight handpieces.
	The bur is bent, worn or deformed.	Replace the bur with a new one.
	The push-button mechanism or locking mechanism is not fully opened or closed.	For contra-angle models, check the push-button mechanism. For straight handpieces, ensure that the locking ring is fully opened or closed as required.
	Dirt, blood, bone debris or residue has accumulated in the chuck, spindle or locking mechanism.	Clean and lubricate the device according to the cleaning and lubrication procedure. If the problem persists, contact an authorised Beehive service centre.
The bur becomes loose or may detach during operation	The bur has not been fully locked.	Before each procedure, always verify that the bur is securely locked by gently pulling it manually.
	An incorrect or non-standard bur has been used.	Use only burs complying with ISO 1797 and suitable for the relevant device model. Do not use non-standard, worn, bent or eccentric burs.
	The chuck or locking mechanism has lost retention performance.	Stop using the device and contact an authorised Beehive service centre.
Suboptimal spray cooling performance	The water flow setting is closed or insufficient.	Check the water flow settings on the dental unit, micromotor or surgical motor.
	The spray outlets are clogged.	Carefully clean the spray outlets using the appropriate cleaning wire. Do not deform or damage the outlets.
	For external water models, the water tube is not connected, loose, bent or blocked.	Check that the water tube is properly connected to the micromotor water outlet and the handpiece water inlet. Ensure that the tube is not bent or blocked.
Water leakage	The water tube or connection point is loose.	Check the water tube and connection points. Reconnect or secure the tube properly.
	The seal or O-ring may be worn or damaged.	Check the seals and O-rings. Contact an authorised Beehive service centre for replacement if required.
Difficulty connecting to or disconnecting from the micromotor	The handpiece is not aligned correctly with the ISO E-type connection.	Connect and disconnect the handpiece along a straight axis. Do not twist or force the device.
	Dirt, oil residue or mechanical deformation is present at the connection area.	Inspect and clean the connection area. If deformation is observed, contact an authorised Beehive service centre.
Insufficient illumination performance	The fibre optic surface may be contaminated.	Carefully clean the fibre optic surface with a suitable soft cloth. Do not use abrasive materials.
	The light source of the micromotor or dental unit is insufficient.	Check the light source and control settings of the micromotor or dental unit.
	The fibre optic system may be damaged.	Contact an authorised Beehive service centre.
Mechanical locking after a surgical procedure	Blood, saline or bone debris may have dried inside the device.	After surgical procedures, clean the device according to the cleaning procedure within 30 minutes and lubricate it immediately. If the device remains locked, do not force it and contact an authorised Beehive service centre.
Bur jamming during osteotomy	Excessive axial force has been applied in dense or sclerotic bone.	Do not apply excessive force. Switch the motor to reverse mode and remove the bur safely. If abnormal noise, heating or performance loss is observed, stop using the device

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 related to the device must be reported to the manufacturer and to 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	16	17	
Beehive A Perfect Harmony	Product Name/ Model	#	CE	SN XXXXX	TR XXXX		-20 70	5 95	1060 hpA 700 hpA				MD	UDI	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 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