BA ULTIMATE POWER + / BA ULTIMATE

BA 200 / BA 40 / BA 60 / BA 280
BA 250 / BA 45 / BA 65

English

Operating Instructions

Table of contents

English

1 Before you begin …

BA ULTIMATE POWER + / BA ULTIMATE complies state-of-the-art technical regulations. BA ULTIMATE POWER + / BA ULTIMATE complies with the ISO 14457 standard.

1. Read the operating instructions prior to using BA ULTIMATE POWER + / BA ULTIMATE.
2. Only use BA ULTIMATE POWER + / BA ULTIMATE for the applications described in the operating instructions.
3. Observe the applicable hygiene standards, occupational safety regulations and accident prevention measures for BA ULTIMATE POWER + / BA ULTIMATE.

Intended Use

BA ULTIMATE POWER + / BA ULTIMATE is used to hold and drive burr instruments for the purposes of rotary or oscillatory processing and is intended for the following uses in dentistry:

- Removal of carious material and fillings; cavity and crown preparation of hard tooth substance; processing tooth and restoration surfaces; processing of dental prostheses: crowns, fillings, bridges (red, blue and green contra-angle handpieces)
- Prophylaxis (blue and green contra-angle handpieces)
- Endodontics (blue and green contra-angle handpieces)
- Implantology, surgery, processing of bones (blue and green contra-angle handpieces)
- Prosthetics (handpiece, blue and green contra-angle handpieces)

Contraindications

None

Target group

This product is intended only for use by trained dental personnel in dental practices and laboratories.

1.1 Structure of the document

1.1.1 Labeling of information

Warnings

➢ To prevent injuries, please observe all warnings.

Warnings are labeled as follows:

⚠ **DANGER!** indicates a danger **leading** to death or serious injury if not avoided.

⚠ **WARNING!** indicates a danger that **may lead** to death or serious injury if not avoided.

⚠ **CAUTION!** indicates a danger that **may lead** to injury if not avoided.

Instructions for use

➢ To prevent material damage and additional expenses, please observe all instructions for use.

Instructions for use are labeled as follows:

NOTICE! indicates measures for the prevention of material damage.

IMPORTANT: indicates information on the avoidance of additional expenses and other important information.

Tip: indicates information for facilitating work.

1.1.2 Formats and symbols

The formats and symbols used in this document have the following meaning:

✓ Prerequisite **1.** First action step **2.** Second action step or ➢ Alternative action ↳ Result ➢ Individual action step	Requests you to do something.
Use of formats and symbols [→ 8].	Identifies a reference to another text passage and specifies its page number.
• List	Identifies a list.

1.1.3 Abbreviations/codes used

FG	Friction grip burr instrument
CA	Contra-angle handpiece burr instrument
HP	Straight handpiece burr instrument

1.2 Service life

When used as intended:

- Non-moving parts have a typical service life of 5 years
- Moving parts have a typical service life of 3 years

No warranty claim can be inferred here, as wear may occur earlier or later than indicated above depending on use, frequency of sterilization, and frequency of maintenance.

2 Safety information

Obligations of the user

- Use only fault-free materials that do **not** deviate from the specified data [→ 17].
- Protect yourself, patients, and others against any foreseeable dangers. To do this, follow the safety information.
- Comply with the Intended use of the equipment.
- You should always keep these operating instructions within reach for further reference.

Preventing the spread of infections and cross contamination

Prevent the spread of infections and cross contamination between patients, users, and third parties. Sterilize equipment after each patient.

Take the appropriate hygiene measures, e.g. wear protective gloves.

Emitted cooling air

The cooling air emitted by the coupling of the motor must have a flow rate of 1.5 - 10 Nl/min.

Instrument head overheating

If the instrument is defective, the area around the instrument head may heat up, thus creating a risk of burning the patient's oral mucosa.

Malfunction or damage

Discontinue use immediately in case of malfunction, unusual or different sounds or damage. Damaged instruments may cause injury. Notify the dental depot or the manufacturer.

Repair

Do **not** repair the instrument yourself.

The BA instrument is the result of a precise development and must **not** be disassembled by third parties. In the case of service or repair work, please send the instrument in an assembled state to B.A. International Ltd. or to a service center approved by B.A. International.

Spare and accessory parts

Use only original parts produced by the manufacturer.

If you have any questions, please contact your dental depot or the manufacturer.

3 Technical description

3.1 Task

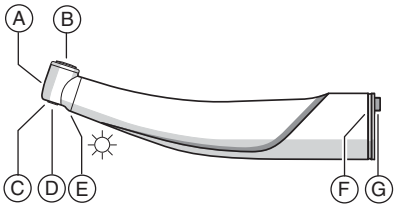
The instrument transmits the driving power and speed of the electric motor or air motor to the preparation tool.

3.2 Functionality

The transmission ratio of the instrument distorts the operating speed of the preparation tool.

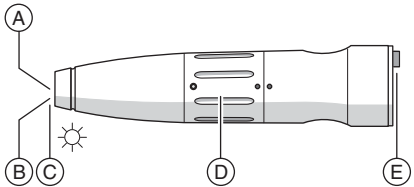
3.3 BA ULTIMATE POWER + design

Contra-angle handpiece



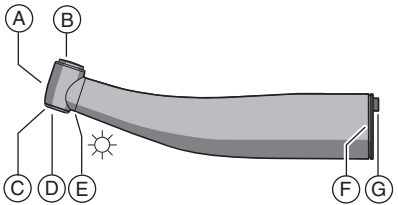
A	Instrument head
B	Push button
C	Cooling spray outlet
D	Opening of chuck system
E	Light aperture
F	Color coding for gear ratio
G	ISO slider

Straight handpiece



A	Opening for the clamping system
B	Cooling spray outlet
C	Light aperture
D	Center part of handpiece
E	ISO slider

3.4 BA ULTIMATE design



A	Instrument head
B	Pushbutton
C	Cooling spray aperture
D	Opening of chuck system
E	Light aperture (**only** in the case of BA 250LT/BA 45LS/BA 65LS)
F	Color coding for transmission ratio
G	ISO slider (**only** in the case of BA 250LT/BA 45LS/BA 65LS)

3.5 Technical data

BA ULTIMATE POWER +

	BA 200LTS	BA 40LSS	BA 60LSS	BA 280LSS
Gear ratio	1:5	1:1	6:1	1:1
Color coding for gear ratio	Red	Blau	Green	Blue
Maximum motor speed in rpm	40000	40000	40000	40000
Maximum operating speed in rpm	200000	40000	6700	40000
Clamping system	FG	CA	CA	HP/CA
Internal cooling media	x	x	x	x
Back suction stop	x	x	x	x

	BA 200LTS	BA 40LSS	BA 60LSS	BA 280LSS
Light function	x	x	x	x
Instrument coupling	INTRAmatic LUX®	INTRAmatic LUX®	INTRAmatic LUX®	INTRAmatic LUX®

BA ULTIMATE

	BA 250LT	BA 250T	BA 45 LS	BA 45S	BA 65LS	BA 65S
Gear ratio	1:5	1:5	1:1	1:1	6:1	6:1
Color coding for gear ratio	Red	Red	Blue	Blue	Green	Green
Maximum motor speed in rpm	40000	40000	40000	40000	40000	40000
Maximum operating speed in rpm	170000	170000	40000	40000	6700	6700
Clamping system	FG	FG	CA	CA	CA	CA

	BA 250LT	BA 250T	BA 45 LS	BA 45S	BA 65LS	BA 65S
Internal cooling media	x	x	x	x	x	x
Back suction stop	x	x	x	x	x	x
Light function	x	-	x	-	x	-
Instrument coupling	INTRAmatic LUX®	INTRAmatic®	INTRAmatic LUX®	INTRAmatic®	INTRAmatic LUX®	INTRAmatic®

Burr instruments

	FG	CA	HP
Shank diameter in mm	1.59 - 1.60	2.334 - 2.35	2.334 - 2.35
Maximum total length in mm	25	34	50

	FG	CA	HP
Maximum working diameter in mm	2.1	-	-
Standard	ISO 1797-1 ISO 2157	ISO 1797-1	ISO 1797-1

Treatment center

	BA ULTIMATE POWER + / BA ULTIMATE
Spray air pressure in bar	2.7
Spray water pressure in bar	2.0

	BA ULTIMATE POWER + / BA ULTIMATE
Maximum water temperature in °C	40
Recommended water content in spray in ml/min	> 50

3. Production data

6 HSI HIBC code

A	Product label code (in this case: 675LN 1)
B	Year of manufacture (in this case: 2007)
C	Serial number (in this case: 00001)

4 Preparation

4.1 Initial start-up and longer breaks in use

➢ Sterilize the instrument and accessories prior to startup.

➢ Clean and maintain the instrument after longer breaks in use.

4.2 Prior to starting the work day

➢ Purge the water and air channels for 30 seconds.

4.3 Before each patient

1. Purge the water and air channels for 30 seconds.
2. ⚠ **CAUTION!** Keep the motor running.
   Insert the instrument [→ 27].
3. Insert the burr instrument [→ 28].
4. Set a sufficient amount of cooling water (> 50 ml/min) [→ 35].

5. Use filtered water only (< 50 µm).
6. Check the nozzles for blockages and lime deposits, for example, and clean the nozzles if necessary [→ 50].

⚠ **CAUTION!** Insufficient cooling leads to overheating of the preparation site and damage to the tooth substance. Ensure that the water content is > 50 ml/min.

5 Operation

NOTICE! Use only burrs and diamond polishers that are sharp and undamaged. Use clean burrs and diamond polishers to avoid dirt in the clamping system.

⚠ **CAUTION!** A loose or partially removed burr instrument can come loose from the head or break off. Risk of injury! Therefore the instrument must only be used when the burr instrument is securely clamped at least 10 mm deep.

⚠ **CAUTION!** The handpiece must only be operated with the clamping system closed.

⚠ **CAUTION!** Insufficient cooling leads to overheating of the preparation site and damage to the tooth substance. Ensure that the water content is > 50 ml/min.

⚠ **CAUTION!** Do not pull the patient's cheek back with the contra-angle handpiece while the motor is running. This would actuate the pushbutton, thus creating a risk of burning the patient's oral mucosa.

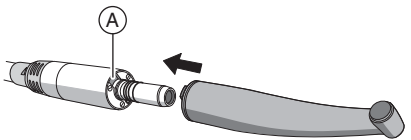
⚠ **CAUTION!** Always operate the contra-angle handpieces with cooling spray when marked red!

IMPORTANT: For application details and operating data of the different preparation tools, please refer to the information provided by the manufacturer.

5.1 Replacing the instrument

⚠ **CAUTION!** The instrument should only be fitted or removed when the motor is at standstill.

NOTICE! Do not use instruments with light on motors without light.



Attaching the BA ULTIMATE POWER + / BA ULTIMATE

✓ The motor is at a standstill.

1. Insert the instrument until it snaps into place.
2. When using a motor with a light groove (A): turn the instrument until the ISO slider clicks into place.

Removing the BA ULTIMATE POWER + / BA ULTIMATE

✓ The motor is at a standstill.

➢ Detach the instrument. Do not pull on the supply hose while doing this.

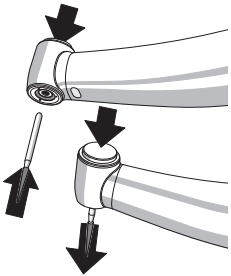
5.2 Inserting and removing burr instruments

IMPORTANT: Check the push button to make sure it moves freely!

NOTICE! Use only burrs and diamond polishers that are sharp and undamaged. Use clean burrs and diamond polishers to avoid dirt in the clamping system.

⚠ **CAUTION!** A loose or partially removed burr instrument can come loose from the head or break off. Risk of injury! Therefore the instrument must only be used when the burr instrument is securely clamped at least 10 mm deep.

⚠ **CAUTION!** The handpiece must only be operated with the clamping system closed.



Inserting the friction grip burr instrument

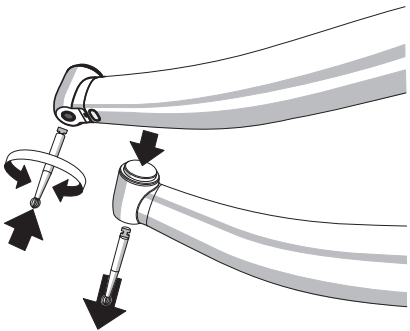
✓ The motor is at a standstill.

1. Press the button and slide the burr instrument in until it reaches the stop.
2. Pull on the burr instrument to check that it is firmly attached.

Removing the friction grip burr instrument

✓ The burr instrument must not be moving.

➢ Press the button and remove the burr instrument.



Inserting the contra-angle handpiece bur

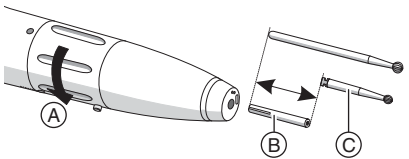
✓ The motor is at a standstill.

1. Insert the bur without pushing the button.
2. Turn the bur back and forth gently until it snaps into place.
3. Pull and turn the bur to check that it is firmly in place.

Removing the contra-angle handpiece bur

✓ The bur must not be moving.

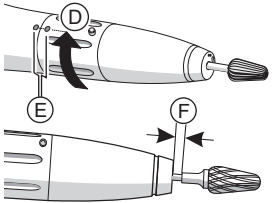
➢ Press the button and remove the bur.



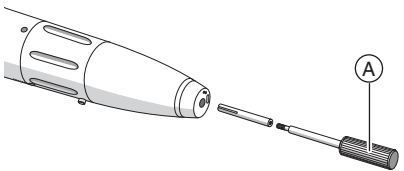
Inserting the straight handpiece burr instrument

✓ The motor has come to a stop.

1. Turn the center part of the handpiece in the direction of the arrow (A) up to the stop.
2. When using the **contra-angle handpiece burr instrument** (C): insert the pin (B) into the handpiece, with the slotted end first. The pin compensates for the difference in length between straight and contra-angle handpiece burr instruments.
3. Insert the burr instrument as far as it will go.

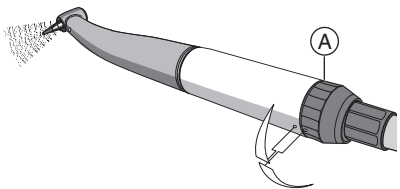


4. Clamp the burr instrument by turning the center part of the handpiece in direction (D) up to the stop.
   - When the two marks (E) are located opposite each other, the burr instrument is clamped.
   - When using handpiece burr instruments with detached shaft: ensure that the detached shaft is not lying against the chuck opening (F).
5. Then pull and turn the burr instrument to check that it is firmly seated.



Removing the pin

1. Screw in the supplied tool (A).
2. Open the clamping system.
3. Pull out the pin.



5.3 Adjusting the cooling spray

➢ Adjust the flow rate of the cooling water using the control ring (A) (> 50 ml/min).

Tip: You can measure the amount of cooling water with a measuring cup and watch.

Water flow rate

The **maximum water flow** is set when the two marks are located opposite one another.

6 Follow-up

6.1 After each treatment session

NOTICE! Condition immediately, or at the latest, one hour after treatment.

✓ The burr instrument must not be moving.

✓ Wear appropriate protective clothing.

1. Purge the water and air channels on the treatment center for 30 seconds.
2. Remove the burr instrument with tweezers.
3. Pre-disinfect directly at the treatment center [→ 38].
4. Detach the instrument from the motor.
5. Transport the instrument to the hygiene room in a suitable transport container.

6. Conduct automatic conditioning. Manual conditioning [→ 40] is possible in exceptional cases if the national/local regulations are followed.
7. Apply spray to the instrument [→ 43].
8. Sterilize the instrument and accessories [→ 46].

6.2 At the end of the work day

➢ Apply spray to the instrument [→ 43].

NOTICE! Do not leave any instruments on the motor overnight, in order to prevent oil from leaking into the electric motor. Never lubricate the electric motor.

7 Conditioning

7.1 Conduct pre-disinfection

✓ Wear appropriate protective clothing.

✓ All disinfectants must be approved in your country and have proven bactericidal, fungicidal and virucidal properties. Only use disinfectants with **no** protein-fixing properties.

1. Spray the surface with disinfectant.
2. Wipe the disinfectant off with a cloth.

↳ For further conditioning, the instrument should be dry and free of residue.

Please observe the manufacturer's instructions for using instrument disinfectants.

7.2 Automated cleaning and disinfecting

BA ULTIMATE POWER + / BA ULTIMATE can also be cleaned and disinfected in suitable cleaning and disinfection equipment.

The cleaning and disinfection equipment used must be approved by its manufacturer for the cleaning and disinfection of dental instruments and comply with EN ISO 15883-1 (e.g. 95°C (203°F) and 10 min. holding time).

For further details, refer to the operating instructions supplied with the unit.

✓ BA ULTIMATE POWER + / BA ULTIMATE is conditioned with a cleaning and disinfection device.

1. Check whether BA ULTIMATE POWER + / BA ULTIMATE is clean after conditioning under good lighting (min. 500 lux) and color rendering index (min. 80 Ra).
2. If they are still dirty, repeat the process.

↳ For further processing, BA ULTIMATE POWER + / BA ULTIMATE should be dry and free of residue.

3. Blow BA ULTIMATE POWER + / BA ULTIMATE out with max. 3 bar.
4. Maintain mechanical parts manually [→ 43].
5. Maintain the push button chuck manually [→ 45].
6. Pack BA ULTIMATE POWER + / BA ULTIMATE in packaging material suitable for sterilization and storage. e.g. paper/plastic composite packaging.
7. Conduct sterilization [→ 47].

7.3 Manual cleaning and disinfection

IMPORTANT: Manual conditioning is possible in exceptional cases if the national/regional regulations are followed. The national/regional regulations are to be checked before.

NOTICE! Condition immediately, or at the latest, one hour after treatment.

NOTICE! Never clean in an ultrasound bath!

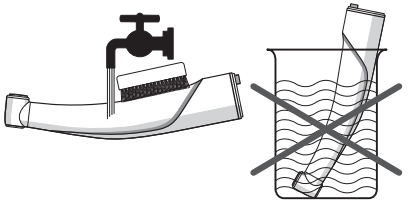
NOTICE! Never immerse in disinfectant solution!

NOTICE! Using sprays from other manufacturers can reduce the product's service life. Only use BA Ultimate Spray.

IMPORTANT: Use a soft, clean, and disinfected brush for cleaning.

✓ Wear appropriate protective clothing.

✓ All disinfectants must be approved in your country and have proven bactericidal, fungicidal and virucidal properties. Only use disinfectants with **no** protein-fixing properties.



1. Brush the instrument under running water (< 38 °C, < 100 °F, at least drinking water quality) and good lighting (min. 500 lux) and color rendering index (min. 80 Ra) until no more dirt can be seen, for at least 10 seconds.
2. Flush the drive channels with spray.
3. Clean and disinfect spray channels with suitable agents and adapters according to manufacturer's instructions, e.g. with WL Clean made by ALPRO®.
4. Blow spray channels with suitable adapters out with 2.5 - 3 bar until no more moisture displaces, but at least 10 seconds. You can use e.g. WL-dry made by ALPRO®.
5. Conduct thermal disinfection or unwrapped steam sterilization.
6. Maintain mechanical parts manually [→ 43].
7. Maintain the push button chuck manually [→ 45].

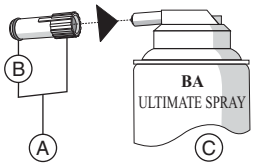
8. Pack the instrument in packaging material suitable for sterilization and storage. e.g. paper/plastic composite packaging.
9. Sterilize the adapter [→ 47].

7.4 Manual maintenance

7.4.1 Maintenance of mechanical parts

Intervals

- At least every noon and evening
- Prior to each sterilization
- After every thermal disinfection without integrated maintenance



Required accessories

A Spray adapter

B O-ring for spray adapter

BA Ultimate Spray

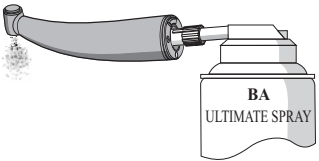
NOTICE! Using sprays from other manufacturers can reduce the product's service life. Only use BA Ultimate Spray.

Process

✓ The spray adapter is disinfected.

✓ The O-ring on the spray adapter is intact.

1. Fit the spray adapter onto the nozzle of the spray can.



2. Insert the instrument until it snaps into place and hold it.
3. Spray the instrument for 1 - 2 seconds.
   IMPORTANT: Hold the spray can upright.
4. Wipe any spray that comes out with a disinfection cloth.
5. Repeat the process until the spray is clear.

7.4.2 Care of the push button chuck

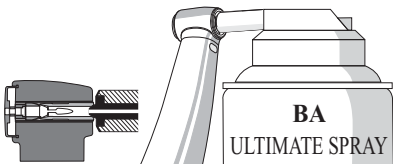
To remove deposits and ensure proper functioning of the clamping system, the pushbutton chuck must be maintained with BA Ultimate Spray.

Interval

- At least once a week

Required accessories

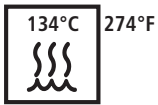
BA Ultimate Spray



Procedure

✓ The instrument is clean and disinfected.

1. Press the contra-angle handpiece head with the chuck firmly against the spray can nozzle.
2. Spray the chuck for 1 - 2 seconds.
   IMPORTANT: Hold the spray can upright.
3. Wipe any spray that comes out with a disinfection cloth.



7.5 Sterilizing

✓ The instrument is clean and disinfected.

✓ Instrument maintenance is complete.

✓ The instrument can be sterilized in packaging suitable for sterilization and storage: paper/plastic composite packaging according to ISO 11607.

➢ Sterilize the instrument in the steam sterilizer with saturated water vapor.

Overpressure:	2.04 bar (29.59 psi)
Temperature:	134° C (274° F)
Holding time:	3 min

Steam sterilizers that meet the requirements of EN 13060, class B or S, and are also suitable for the sterilization of straight/contra-angle handpieces are approved.

NOTICE! Do not exceed 140°C (284°F), even during the drying phase.

After sterilizing

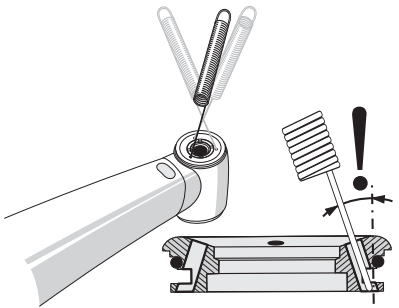
1. Remove the instrument from the steam sterilizer immediately.
   ⚠ **CAUTION!** The instrument is hot. Risk of burns!
   NOTICE! Do **not** attempt to accelerate the cooling process by immersing the instrument in cold water. This can damage your instrument.
2. Store all instruments so that they are protected from contamination.
3. Sterilize again once the storage period has elapsed.

8 Maintenance

Elastomers, e.g. O-rings, must be replaced depending on their degree of wear.

For safety and technical reasons, check the clamping system of the contra-angle and straight handpiece burr instruments on an annual basis.

Check the clamping system of friction grip burr instruments on a monthly basis [→ 51].



8.1 Maintenance of cooling spray nozzles

If your tap water is very hard, lime deposits may constrict or completely block the cooling spray nozzles.

1. Carefully clean the nozzle openings by regularly running a disinfected cleaning wire through them.
2. Let the instrument run briefly with cooling spray.

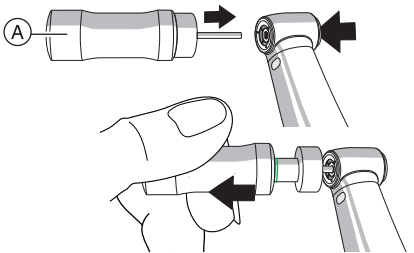
8.2 Testing the FG clamping system

Interval

Test the FG clamping system at least once a month.

Required accessories

Chuck tester



Process

✓ The expiry date of the chuck tester (A) has **not** elapsed.

1. Insert the chuck tester into the FG clamping system [→ 28].
2. Tighten the chuck tester until the marking ring appears (withdrawal force: 22 N)

Does the chuck tester slide out of the chuck before the marking ring appears?

⚠ **CAUTION!** The chuck is defective and the secure fit of the burr instrument is not guaranteed. This may cause injury!

1. Do not use the product.
2. Have the clamping system replaced by a workshop authorized by B.A. International.

Tip: Record the time and result of the check for your own information.

We reserve the right to make any alterations which may be required due to technical improvements.
Änderungen im Zuge technischer Weiterentwicklung vorbehalten.
Sous réserve de modifications dues au progrès technique.
Reservados los derechos de modificación en virtud del progreso técnico.
Riservato il diritto di modifiche dovute al progresso tecnico.
Wijzigingen in het kader van de technische ontwikkeling voorbehouden.

CE 0476


Consult Instructions For Use


Fragile, handle with care


Keep dry


Manufacturer


Date of manufacture

Can be sterilized

Catalogue number

Serial number


ATTENTION

Relative humidity

Air pressure

Tempe-rature

D3551.201.03.03.09 07.2016 Ä.-Nr.: 121 709

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