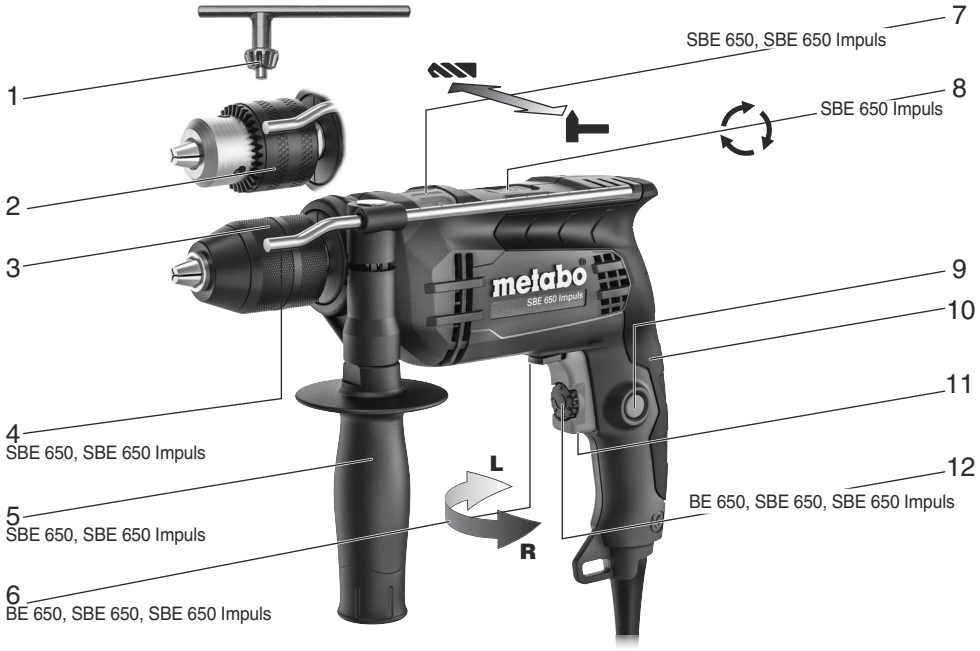
metabo®

B 650
BE 650
SBE 650
SBE 650 Impuls

www.metabo.com


1
2
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SBE 650, SBE 650 Impuls
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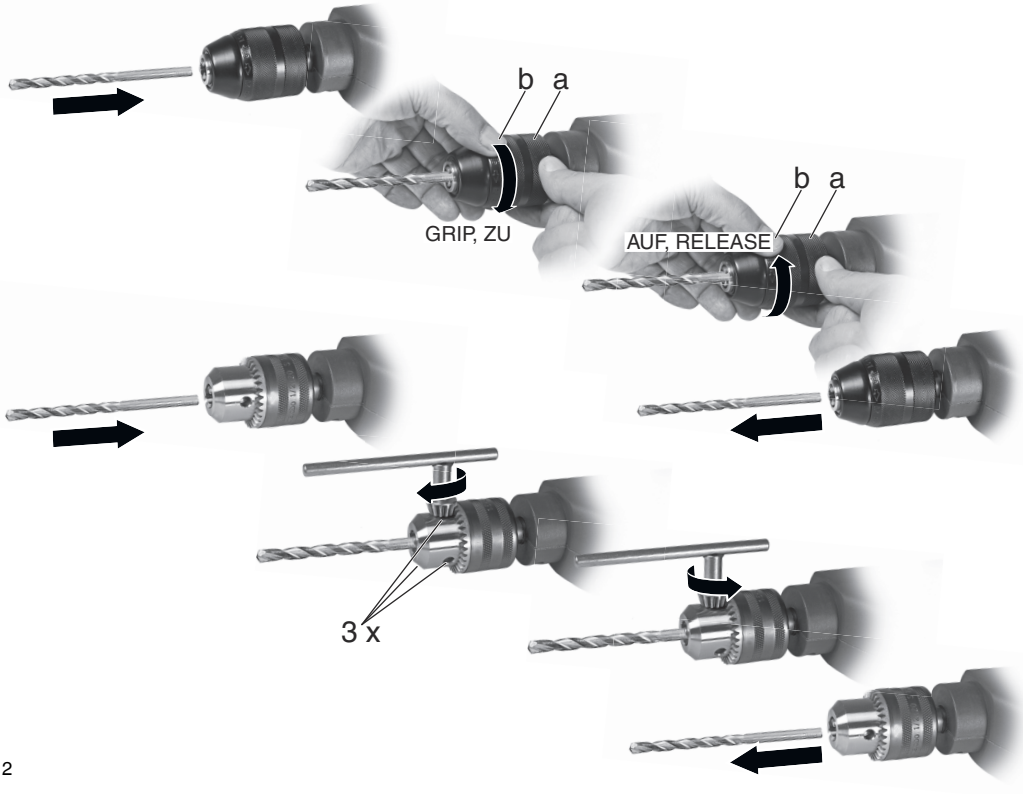
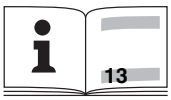
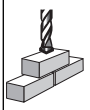
BE 650, SBE 650, SBE 650 Impuls
L
R
metabo
SBE 650 Impuls

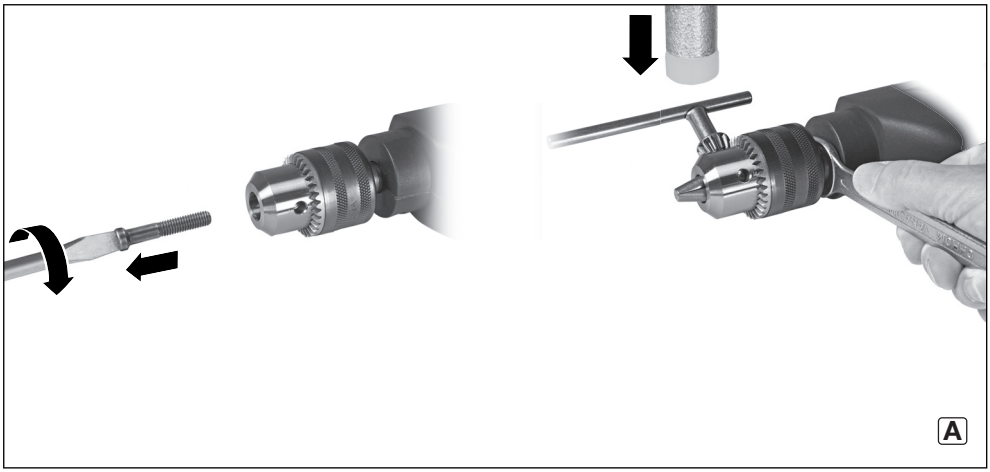

b a
GRIP, ZU
b a
AUF, RELEASE
3 x

			B 650 *1) 00740..	BE 650 *1) 00741..	SBE 650 *1) 00742..	SBE 650 Impuls *1) 00743..
	P_1	W	650	650	650	650
	P_2	W	320	320	320	320
	n_0	/min	2800	0-2800	0-2800	0-2800
	n_1	/min	1500	1500	1500	1500
	s max.	/min. bpm	-	-	44800	44800
	ø max.	mm (in)	-	-	16 (5/8“)	16 (5/8“)
	ø max.	mm (in)	30 (1 3/16“)	30 (1 3/16“)	30 (1 3/16“)	30 (1 3/16“)
	ø max.	mm (in)	13 (1/2“)	13 (1/2“)	13 (1/2“)	13 (1/2“)
	G	UNF (in)	1/2“-20	1/2“-20	1/2“-20	1/2“-20
	H	mm (in)	6,35 (1/4“)	6,35 (1/4“)	6,35 (1/4“)	6,35 (1/4“)
	m	kg (lbs)	1,8 (4.0)	1,8 (4.0)	1,8 (4.0)	1,8 (4.0)
	D	mm (in)	43 (1 11/16“)	43 (1 11/16“)	43 (1 11/16“)	43 (1 11/16“)
	$a_{h,\,ID}/K_{h,\,ID}$	m/s^2	-	-	24,4 / 1,5	24,4 / 1,5
	$a_{h,\,D}/K_{h,\,D}$	m/s^2	4,8 / 1,5	4,8 / 1,5	5,8 / 1,5	5,8 / 1,5
	L_{pA}/K_{pA}	dB(A)	89 / 3	89 / 3	94 / 3	94 / 3
	L_{WA}/K_{WA}	dB(A)	97 / 3	97 / 3	102 / 3	102 / 3

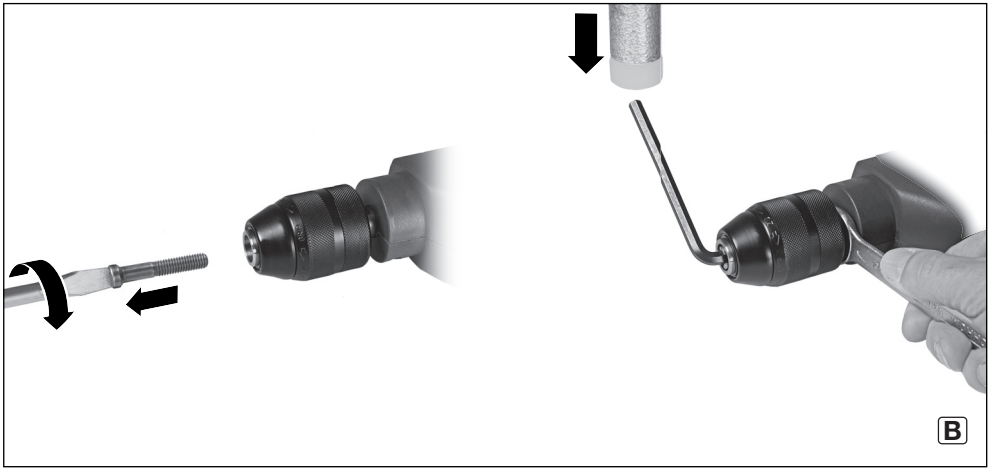
CE *2) 2014/30/EU, 2006/42/EC, 2011/65/EU
*3) EN 62841-1:2015+A11:2022, EN 62841-2-1:2018, EN IEC 63000:2018

ppa. B. Fl

2021-09-21, Bernd Fleischmann
Chief Technology Officer Koki Holdings Co., Ltd.
*4) Metabowerke GmbH - Metabo-Allee 1 - 72622 Nuertingen, Germany



A



B

BE 650, SBE 650, SBE 650 Impuls

ø mm		ALU		
4	F	F	F	F
6				
8	E			
10				
12				E
16				
20				

	A	B	C	D	E	F	
BE 650, SBE 650, SBE 650 Impuls	700	1200	1700	2000	2300	2800	.../min
	50	40	30	20	15	10	%

C

Original instructions

1. Declaration of Conformity

We, being solely responsible, hereby declare that these drills/impact drills, identified by type and serial number *1), meet all relevant requirements of directives *2) and standards *3). Technical documents for *4) - see page 3.

For UK only:

UK CA We as manufacturer and authorized person to compile the technical file, see *4) on page 3, hereby declare under sole responsibility that these drills/impact drills, identified by type and serial number *1) on page 3, fulfill all relevant provisions of following UK Regulations S.I. 2016/1091, S.I. 2008/1597, S.I. 2012/3032 and Designated Standards see *3) on page 4.

2. Specified Conditions of Use

SBE 650, SBE 650 Impuls:
The impact drill is suitable for non-impact drilling in metal, wood, plastic and similar materials and impact drilling in concrete, stone and similar materials.

B 650, BE 650:
The drill is suitable for non-impact drilling into metal, wood, plastic and similar materials.

BE 650, SBE 650, SBE 650 Impuls:
The machine is suitable for thread cutting and screwdriving.

The user bears sole responsibility for any damage caused by inappropriate use.

Generally accepted accident prevention regulations and the enclosed safety information must be observed.

3. General Safety Information

For your own protection and for the protection of your power tool, pay attention to all parts of the text that are marked with this symbol!

WARNING – Read the operating instructions to reduce the risk of injury.

WARNING – Read all safety warnings, instructions, illustrations and specifications provided with this power tool.
Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Keep all safety instructions and information for future reference.
Always include these documents when passing on your power tool.

4. Special safety instructions

4.1 Safety instructions for all operations

a) **Wear ear protectors when impact drilling.** Exposure to noise can cause hearing loss.

b) **Use the auxiliary handle(s).** Loss of control can cause personal injury.

c) **Brace the tool properly before use.** This tool produces a high output torque and without properly bracing the tool during operation, loss of control may occur resulting in personal injury.

d) **Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting accessory or fasteners may contact hidden wiring or its own cord.** Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

4.2 Safety instructions when using long drill bits

a) **Never operate at higher speed than the maximum speed rating of the drill bit.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
b) **Always start drilling at low speed and with the bit tip in contact with the workpiece.** At higher speeds, the bit is likely to bend if allowed to rotate freely without contacting the workpiece, resulting in personal injury.
c) **Apply pressure only in direct line with the bit and do not apply excessive pressure.** Bits can bend causing breakage and loss of control, resulting in personal injury.

4.3 Additional safety instructions

Pull the plug out of the plug socket before any adjustments or servicing are performed.

Ensure that the spot where you wish to work is free of **power cables, gas lines or water pipes** (e.g. using a metal detector).

Avoid inadvertent starts by always unlocking the switch when the plug is removed from the mains socket or in case of a power cut.

Keep hands away from the rotating tool!

Remove chips and similar material only with the machine at a standstill.

Caution must be exercised when driving screws into hard materials (driving screws with metric or imperial threads into steel)! The screw head may break or high reverse torques may build up.

High forces are released if the tool jams or catches. Always hold the machine firmly, adopt a steady stance
and focus on your work.
Secure small workpieces, for example by clamping them in a vice.

Reducing dust exposure:

WARNING - Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to

cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

This also applies to dust from other materials, such as some timber types (like oak or beech dust), metals, asbestos. Other known diseases are e.g. allergic reactions, respiratory diseases. Do not let dust enter the body.

Observe the relevant guidelines and national regulations for your material, staff, application and place of application (e.g. occupational health and safety regulations, disposal).

Collect the particles generated at the source, avoid deposits in the surrounding area.

Use suitable accessories for special work. In this way, fewer particles enter the environment in an uncontrolled manner.

Use a suitable extraction unit.

Reduce dust exposure with the following measures:
- do not direct the escaping particles and the exhaust air stream towards yourself or nearby persons or towards dust deposits,
- use an extraction unit and/or air purifiers,
- ensure good ventilation of the workplace and keep it clean using a vacuum cleaner. Sweeping or blowing stirs up dust.
- Vacuum or wash protective clothing. Do not blow, beat or brush protective gear.

5. Overview

See page 2.

1 Chuck key (for a geared chuck) *
2 Geared chuck *
3 Keyless chuck *
4 Depth stop *
5 Additional handle *
6 Direction switch *
7 Sliding switch for normal drilling/impact drilling *
8 Rocker switch for pulse function *
9 Lock button (continuous operation)
10 Handle
11 Trigger
12 Speed preselection wheel *

* depending on the features / model

6. Initial Operation

Before commissioning, check that the rated mains voltage and mains frequency stated on the type plate match your power supply.

Always install an RCD with a maximum trip current of 30 mA upstream.

BE 650, SBE 650, SBE 650 Impuls: To guarantee that the chuck is securely fitted: After initial drilling (clockwise), use a screwdriver to firmly tighten the safety screw inside the drill chuck. Caution left-handed thread! (See chapter 7.9)

6.1 Assembly of the additional handle
(BE 650, SBE 650 Impuls)

For safety reasons, always use the additional handle supplied.

Open the clamping ring by turning the side handle (5) anti-clockwise. Push the side handle onto the collar of the machine. Insert the depth stop (4). Securely tighten the additional handle at the angle required for the application.

7. Use

7.1 Depth Stop Setting
(SBE 650, SBE 650 Impuls)

Loosen the additional handle (5). Set depth stop (4) to the desired drilling depth and retighten additional handle.

7.2 Switching On and Off

Press the trigger switch (11) to switch on the machine.

BE 650, SBE 650, SBE 650 Impuls: Press the trigger switch to change the speed.

For continuous operation, the trigger button can be locked using the lock button (9) . Press the trigger switch again to stop the machine.

In continuous operation, the machine continues running if it is forced out of your hands. Therefore, always hold the machine with both hands using the handles provided, stand securely and concentrate.

7.3 Rotational speed preselection
(BE 650, SBE 650, SBE 650 Impuls)

Select the maximum speed using the preselection wheel (12). For recommended rotational speeds for drilling, see page 4.

7.4 Switching over drilling/impact drilling
(SBE 650, SBE 650 Impuls)

Select the desired operating mode by pushing the sliding switch (7).

Drilling

Impact drilling

Work with high speed settings when impact drilling.

Impact drilling and normal drilling only in a clockwise direction.

7.5 Selection of direction of rotation
(BE 650, SBE 650, SBE 650 Impuls)

Only activate the rotation selector switch (6) when the motor has completely stopped.

Select direction of rotation:
R = Clockwise
L = Anti-clockwise

Screw the chuck firmly to the spindle and tighten the safety screw inside the chuck using a screwdriver. (Caution, left-handed thread!)
If rotated anti-clockwise (e.g. when screwing) it could otherwise become loose.

7.6 Switching pulse function on and off
(SBE 650 Impuls)

Do not work for long periods with pulse function switched on! (The motor can overheat.)

Actuate rocker switch for pulse function (8).

0 = pulse function switched off
= pulse function switched on

7.7 Tool change with keyless chuck (3)

See illustrations on page 2.

Insert the tool. Hold the retaining ring (a) firmly and turn the collet (b) towards "GRIP, ZU" with the other hand until the mechanical resistance which can be felt is overcome.
Caution! The tool is not yet clamped! Keep turning the sleeve (**it must "click" when turning**) until it cannot be turned any further - **only now** is the tool **securely** clamped.

With a soft tool shank, retightening may be required after a short drilling period.

Opening the chuck:
Grip the retaining ring (a) firmly and, with the other hand, turn the sleeve (b) towards "AUF, RELEASE".

Note: The grating sound which may be heard after opening the drill chuck is functional and is stopped by turning the sleeve in the opposite direction.

If the drill chuck is closed very tightly: Pull mains plug. Hold drill chuck using an open-end spanner at the flats on its head and turn the sleeve (b) vigorously in direction of "AUF, RELEASE".

7.8 Tool change Geared chuck (2)

See illustrations on page 2.

Chucking the tool:
Insert the tool and used the chuck key (1) to uniformly clamp tight all 3 bores.

Remove the tool:
Open the geared chuck (2) with the chuck key (1) and remove the tool.

7.9 Removing the chuck

B 650, BE 650, SBE 650, SBE 650 Impuls: The chuck can be removed to insert a screwdriver bit. Insert screwdriver bit directly in the hexagon socket of the spindle.
The screwdriver bit is retained if a bit clamping bush (accessory, order no. 6.31281) is fitted.

Keyless chuck.

See illustration A on page 4.

Unscrew the safety screw - if available. Caution left-handed thread!

Hold the drill spindle tight with an open-ended spanner. Clamp an Allen key in the chuck and strike lightly with a rubber hammer to loosen, then unscrew.

Geared chuck

See illustration B on page 4.

Unscrew the safety screw - if available. Caution left-handed thread!

Hold the drill spindle tight with an open-ended spanner. Insert the key in the chuck and strike lightly with a rubber hammer to loosen, then unscrew.

8. Maintenance

Keyless chuck cleaning:
After prolonged use, hold the chuck vertically with the opening facing downwards and fully open and close it several times. The dust collected falls from the opening. Regular use of cleaning spray on the jaws and jaw openings is recommended.

9. Accessories

Use only genuine Metabo accessories.

Use only accessories that fulfil the requirements and specifications listed in these operating instructions.

Fit accessories securely. If the machine is operated in a holder: secure the machine well. Loss of control can cause personal injury.

For the complete range of accessories, see www.metabo.com or the main catalogue.

10. Repairs

Repairs to electrical tools must ONLY be carried out by qualified electricians!

A defective mains cable must be replaced only with a special, original mains cable from Metabo available from the Metabo service.

Contact your local Metabo representative if you have Metabo power tools requiring repairs. For addresses see www.metabo.com.

You can download a list of spare parts from www.metabo.com.

11. Environmental Protection

Observe national regulations on environmentally compatible disposal and on the recycling of disused machines, packaging and accessories.

Packaging materials must be disposed of according to their labelling in accordance with municipal guidelines. Further information can be found at www.metabo.com in the “Service” section.

Only for EU countries: never dispose of power tools in your household waste! According to European Directive 2012/19/EU on Waste from Electric and Electronic Equipment and implementation in national law, used power tools must be collected separately and recycled in an environmentally-friendly manner.

12. Technical Specifications

Explanatory notes on the specifications on page 3.

Changes due to technological progress reserved.

P_1 = Rated input power
P_2 = Power output
n_0 = Idle speed
n_1 = Speed at rated load
s max. = maximum impact rate
ø max. = maximum drill diameter
G = Drill spindle thread
H = Drill spindle with hexagon socket
m = Weight without mains cable
D = Collar diameter

Measured values determined in conformity with EN 62841.

⧈ Machine in protection class II

~ AC Power

The technical specifications quoted are subject to tolerances (in compliance with relevant valid standards).

Emission values
These values make it possible to assess the emissions from the power tool and to compare different power tools. The actual load may be higher or lower depending on operating conditions, the condition of the power tool or the accessories used. Please allow for breaks and periods when the load is lower for assessment purposes. Arrange protective measures for the user, such as organisational measures based on the adjusted estimates.

Vibration total value (vector sum of three directions) determined in accordance with EN 62841:
$a_{h, ID}$ = Vibration emission value (impact drilling into concrete)
$a_{h, D}$ = Vibration emission value (Drilling in metal)
$K_{h,ID}$,$K_{h,D}$=Uncertainty (vibration)

Typical A-effective perceived sound levels:
L_{pa} = sound-pressure level
L_{WA} = Acoustic power level
K_{pA}, K_{WA}= Uncertainty

The noise level can exceed 80 dB(A) during operation.

Wear ear protectors!