

Original operating instructions

P 90 combi hammer

DUSS




TECHNICAL DATA

P 90


Power input	1100 W
Voltage	100 V / 110 V / 115 V / 230 V / 240 V
Current input	12.5 A / 11.4 A / 10.9 A / 5.5 A / 5.3 A
Frequency	50 - 60 Hz
Machine weight	8.0 kg
Drilling speed under load	110 - 200 rpm
Impact rate under load	1650 - 2780 impacts/min
Drilling range with drill bit	dia. 8 - 80 mm
Drilling range with core bit	dia. 55 - 125 mm
Drilling performance dia. 35 mm in hard concrete C45/55	120 mm/min
Single impact energy	4.3 - 10.5 J
Chiselling performance in hard C45/55 concrete with pointed chisel	approx. 160 kg/h
Chuck	19 mm hexagon
Permanent lubrication	
Swivelling side handle	
Push-button switch on/off with trigger lock, ensuring non-fatiguing work	
Change lever hammer drilling/chiselling	
Safety clutch	
Electronic for speed and impact force control, full load speed = no load speed	
Speed and impact force infinitely adjustable with adjusting dial	
Self-disengaging carbon brushes	
Optional dust extraction / optional wet/dry vacuum cleaner	Order-No. ASG 68, MASH 2 / IS 35 M

☐ Class II device

Specifications subject to change

 **Familiarize yourself with all operating instructions, safety information, instructions, illustrations and technical data provided with the product before use.**

SAFETY WARNINGS

 **WARNING** Read all safety warnings and instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. **Save all warnings and instructions for future reference.**

HAMMER SAFETY WARNINGS

Safety instructions for all operations

Wear ear protectors. Exposure to noise can cause hearing loss.

Use auxiliary handle(s), if supplied with the tool. Loss of control can cause personal injury.

Hold the power tool by insulated gripping surfaces, when performing an operation where the cutting accessory 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.

Safety instructions when using long drill bits with rotary hammers

- 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.
- Apply pressure only in direct line with the bit and do not apply excessive pressure. Bits can bend causing breakage or loss of control, resulting in personal injury.

ADDITIONAL SAFETY INSTRUCTIONS

- Use the device and accessories only when they are in perfect working order.
- Never tamper with or modify the device or accessories in any way.
- Check the device's supply cord at regular intervals. Have the cord and the plug replaced exclusively by DUSS or a DUSS customer service.

- Never operate the product when it is dirty or wet.
- Before beginning work, check the working area for concealed electric cables or gas and water pipes. Any cable or pipes in the area must be disconnected.
- Secure the workpiece. A workpiece clamped with clamping devices or in a vice is held more secure than by hand.
- Before starting make sure that the swivelling D-handle and side handle resp. the auxiliary handle are firmly screwed in at the desired position. Switch the device on only after it is in position at the workpiece. Always hold the device with both hands when working and maintain a firm stance. Work concentrated. A sudden break-through can affect your balance!
- Do not expose power tool to splash or rain water. Stop working immediately if water is entering the power tool and have the power tool checked by a qualified electrician. Otherwise the life of the user may be at risk.
- The application tool may jam during operation. Make sure you have a stable footing and hold the device firmly with both hands. Otherwise you could lose control of the device. Switch the device off immediately if the application tool stalls! Do not switch the device on again while the application tool is stalled.
- Keep mains lead and hoses clear from working range of the device. Always lead the cable away from the device.
- Switch the device off and unplug the supply cord in the event of an interruption in the electric supply in order to avoid inadvertent restarting when the power returns.
- Always wait until the device has come to a complete stop before placing it down. The application tool can jam and cause you to lose control of the device.
- Do not touch any application tools or adjacent housing components shortly after operation. These can become very hot during operation and cause burns.
- Falling fragments of the demolition material could injure you or any bystanders. Secure the working area.
- Observe the relevant regulations in your country for the materials to be worked. Do not machine any materials that present a danger to health (e.g. asbestos).
- Provide for good ventilation of the working place. Avoid dust accumulation at the workplace. Dust can easily ignite.
- Take work breaks.
- Keep the device away from children.

Wear appropriate protective equipment:



Observe the applicable regulations issued by your trade association or similar.

INTENDED USE

The **P 90 combi hammer** is suitable for drilling and chiselling in concrete, stone and masonry. The user is solely responsible for damages which result from improper use.

COMPONENTS AND CONTROL ELEMENTS

- 1 · Vibration damped handle
- 2 · Adjusting dial for speed and impact force
- 3 · Trigger lock for pushbutton switch
- 4 · Push button switch on/off
- 5 · Swivelling side handle
- 6 · Retaining clip
- 7 · Change lever

ELECTRICAL CONNECTION

To prevent the device from being started unintentionally during

care, maintenance or repair operations, and before replacing the tool, unplug the machine at the mains socket.

The device is designed according to protection class II, therefore do not drill into the machine housing, do not damage it, do not ground it and protect it from humidity. The voltage indicated on the rating plate must agree with the power supply voltage. Only use the extension lead with sufficient section approved for the field of application.

INSERTING AND CHANGING TOOLS

Disconnect the plug from the power source from the power tool before making any adjustments, changing accessories, or storing power tools. Wear protective gloves when changing the application tool. Touching the application tool can result in cuts and burns. Do not lay the hot application tool down on highly inflammable materials.

Inserting the tool: Clean the insertion end of the tool, coat it lightly with a grease film using the tube of DUSS grease. Slide the tool into the tool chuck in the desired position and place the retaining clip (6) over the round shank of the tool. Regrease the insertion end of the tool at regular intervals of 2 - 3 hours of operation.

Changing the tool: Lift up the retaining clip (6) and pull out the tool. While changing the tool make sure that no debris enters the chuck.

OPERATION

Always comply with recognized accident prevention regulations and the accompanying safety precautions.

Before starting work unplug the machine at the mains socket. Make sure that the swivelling side handle (5) is **firmly** screwed in at the desired position. Always hold the machine with both hands when working and maintain a firm stance. First place the tool against the stone and then switch on the machine.

Continuous operation: Press the push-button switch (4) and depress the trigger lock (3) upwards. **Never use the continuous operation lock for hand-held drilling.**

Switch off: Briefly press the push-button switch (4).

Infinitely adjustable speed and impact force control: Depending on the characteristics of the material, the required speed and impact force can be continuously adjusted with the adjusting dial (2). The adjusting dial (2) is ergonomically arranged to permit this either before or during work.

+ = full speed and impact force

- = reduced speed and impact force

Hammer drilling/chiselling

Switch on the machine briefly without tools and switch the change lever (7) to the desired position while slowing down.

- **Drill symbol** on the change lever (7) points toward arrow on housing: Hammer drilling setting with safety clutch.
- **Chisel symbol** on the change lever (7) points toward arrow on housing: Chiselling setting. The chisel is now locked in this position. In the mid-position (change lever rotated 90°) the chisel can be positioned in the desired operating position.

Switch the machine off and disconnect the plug from the power source in the event of a power failure or interruption in the electric supply, if necessary release the trigger lock (3) on the push-button switch (4). This will prevent accidental restarting when the electric power returns.

NOTES

Apply only light pressure while working. The working performance cannot be improved by applying pressure. Simply place machine against material and guide it. The tool can be damaged when hitting reinforcing bars. If a tool jams in stone, remove the machine from the tool and work the tool free. Never attempt to release the blocked tool by turning or tearing at the handles of the machine with force. The use of force may lead to machine damage and tool breakage.

VIBRATION DAMPED HANDLE

To make your work less tiring, the handle (1) is vibration damped, i.e., is not rigidly connected to the housing.

Attention: Never tighten the threaded connections between the handle and the housing tighter than the factory specification, as this would counteract the effect of the anti-vibration design.

MECHANICAL OVERLOAD PROTECTION

The safety clutch protects the user from injury if the rotating tool suddenly jams.

LUBRICATION

The entire machine is permanently lubricated by means of a closed lubrication system.

TOOLS

Optimum working performance is only obtained with sharp tools. Blunt cutting edges cause tool breakage. **Therefore regrind or reforge chisels in good time.**

Pointed, narrow and wide flat, spade chisels: Forging: 900 - 1,050 °C. Hardening: 800 - 830 °C, quench in oil. Temper to 250 - 300 °C.

Resharpen gouging and conduit chisels with a corundum sharpening wheel.

Have drill cutting edges reground in good time with siliconcarbide wheels by an expert.

TRANSPORT AND STORAGE

Transport and store the machine in the carrying case. Do not transport the machine with an application tool installed. Store the machine in a dry place, in clean condition and with the supply cord unplugged.

WARRANTY

The warranty period is 12 months from the date of delivery as shown on the warranty certificate or invoice. The warranty is valid as long as the machine has been operated and handled correctly, cleaned and serviced properly in accordance with the operating instructions and has not been tampered with by unauthorized persons. The warranty is limited to the free repair or replacement of parts which become defective due to production or material faults only. Parts becoming defective as a result of normal wear or due to tampering by the customer or others are not covered by this warranty. The warranty is valid only if genuine DUSS tools, consumables, accessories and spare parts are used, i.e. only if the technical unit is maintained. Additional claims are excluded, i.e., DUSS is not liable for direct or indirect defects or consequential damages, losses or expenses in connection with the use of, or the inability to use the machine for any purpose. Implied warranties of usability or suitability for a particular purpose are excluded. If a defect is discovered, the machine must be sent immediately to DUSS or a DUSS customer service centre. All previous written or verbal warranties are superseded by the above warranty obligations.

SERVICE

Repairs may only be carried out by a qualified electrician. Failing this, the operator may be exposed to the risk of accidents. If a fault occurs, you are accordingly strongly recommended to return the machine to the following address



Alternatively send it to a DUSS Service Centre. Their experienced specialists and special equipment allow them to rectify faults properly. The machine is to be returned complete, at the sender's risk and expense.

DISPOSAL

A high percentage of power tools are made from recyclable materials. The materials must be correctly separated before they can be recycled.



Do not dispose of power tools along with household waste.

Only for EU countries:

Power tools that are no longer suitable for use must be disposed of separately. Use the designated collection systems.

NOISE AND VIBRATION INFORMATION

(in accordance with EN 62841)

Typical A-weighted noise levels of the P 90:

Noise pressure level:	$L_{pA} = 95 \text{ dB (A)}$
Noise power level:	$L_{WA} = 103 \text{ dB (A)}$
Uncertainty:	$K_{pA} = K_{WA} = 3 \text{ dB}$

Wear ear protection.

Vibration data of the P 90 drilling into concrete:

Normal setting:	$a_{h,CHeq} = 14.3 \text{ m/s}^2$
Uncertainty:	$K = 3.4 \text{ m/s}^2$

The values given in this instruction have been measured in accordance with EN 62841 standardised measurement methods and may be used for comparing power tools with each other. They also may be used for a preliminary assessment of exposure and represent the main applications of the power tool. However, if the power tool is used for other applications or with other accessories or if it is poorly maintained, the values may differ. This may increase the exposure level over the entire working period. For an accurate estimation of the exposure level, the times when the power tool is switched off or when it is running but not actually in use should be taken into account. This may reduce the exposure level over the entire working period. Wear ear protection and take additional safety measures to protect the operator from the effects of vibration such as: maintain of the power tool and the accessories, keeping hands warm, organization of work patterns.

DECLARATION OF CONFORMITY

We declare on our sole responsibility that the **P 90 combi hammer** conforms to the following standards or standardisation documents: EN 62841-1:2015 + AC2015 + A11:2022, EN IEC 62841-2-6:2020 + A11:2020, EN IEC 55014-1:2021, EN IEC 55014-2:2021, EN IEC 61000-3-2:2019 + A1:2021, EN 61000-3-3:2013 + A1:2019 + A2:2021+A2:2021/AC:2022 as per the provisions laid down in Directive 2006/42/EG, 2014/30/EU, 2011/65/EU. The technical documentation is archived at the manufacturer.

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Neubulach 05.12.2024

A handwritten signature in black ink, appearing to read 'Duss', written in a cursive style.

Konrad Duss
General Manager