DUSS

Operating Instructions for the **DUSS** Combihammer **PX 78**

Original operating instructions

Technical Data

Power input	1500 W
Voltage	230 V
Current input	7,1 A
Frequency	50 - 60 Hz
Weight	7,6 kg
Drilling speed under load	170 – 310 rpm
Hammering speed under load	1.800 – 3.370 impacts/min
Drilling Ø in concrete with SDS-max bits	Ø 12 – 80 mm
SDS-max core cutter	Ø 45 – 150 mm
Drilling performance Ø 35 mm dia. bit in concrete	160 mm
Single impact energy	4,5 – 10 J
Chiselling performance in medium-grade concrete	200 kg/h
Tool chuck	SDS-max
Permanent lubrication	
Side handle adjustable and secondary screw-mounted handle	
On/Off switch with locking button for continuous operation	
Settings: "Rotary hammer drilling" / "Chiselling only"	
Safety clutch	
Electronic rpm and hammering power control, infinitely variable	
Electronic control unit for reduction of no-load speed	
Service Indicator	
Automatic cut-out brushes	
Double insulation, class II, as per EN 60745	
Radio and TV interference suppression as per EN 55014	

Right of technical modifications reserved

1 Vibration damping RVA (Recoil Vibration Absorber)
2 Fastening nut for secondary handle
3 Drill speed controller thumbwheel
4 Locking button for continuous operation
5 On/Off switch
6 Service indicator
7 Change-over switch
8 Swivelling side handle
9 Locking sleeve

Intended Use

The **PX 78 Rotary Hammer** is intended for hammer drilling in brick, concrete, stone and natural masonry as well as for demolition and chiselling work. The user is solely responsible for damages which result from improper use. **Always comply with recognized accident prevention regulations and the accompanying safety precautions.**

Electrical Connection

Unplug the supply cord from the electrical socket to prevent unintentional starting before any work on the machine itself and before inserting and changing the tool.

The **DUSS PX 78 Rotary Hammer** is a Class II device in accordance with CENELEC/EN 60745 and is totally insulated. For this reason, the housing must **never be grounded** or drilled with holes, it must never be used if damaged, and it must always be kept dry. 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.

Hammer Drilling / Chiselling

Drill symbol on the change-over switch (7) **points toward arrow** on housing: Hammer drilling setting with safety clutch**.**
Chisel symbol on change-over switch (7) **points toward arrow** on housing: Chiselling setting. The chisel is now locked in this position.
Start machine without tool, while decelerating put the change-over switch in the desired position.

Inserting and Changing the Tool

Before inserting the tool clean the insertion end of the tool, coat it lightly with a grease film using the tube of DUSS grease. Pull back the locking sleeve (9) of the tool chuck and insert the tool shank by turning the tool slightly until it engages, then push it in until to the stop. Pull on the tool to check if it is properly locked. Regrease the insertion end of the tool at regular intervals of 2 - 3 hours of operation.
Changing the tool: Pull back the locking sleeve (9) of the tool chuck and remove the tool. While changing the tool make sure that no dirt drop into the tool chuck.
In the central position (change-over switch rotated 90°) the chisel can be positioned in the desired operating position.

Operation

Before starting work (the machine may not be attached to the electrical socket), make sure that the swivelling side handle is firmly screwed in at the desired position. Always hold the hammer with both hands when working and maintain a firm stance.
First place the tool bit against the stone, then switch on the drilling hammer.
Continuous operation: Press the push-button (5) switch and depress the locking button (4) upwards.
Switch off: Briefly press the push-button switch.
Infinitely variable speed and impact strength control: Depending on the characteristics of the material, the required impact force can be continuously adjusted with the thumbwheel (3). The thumbwheel (3) is ergonomically arranged to permit this either before or during work.
+ = full impact force, – = reduced impact force.

Lubrication

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

Recoil Vibration Absorber RVA

To ease the workload and reduce vibration loads affecting the user, the PX 78 is equipped with the RVA vibration damping system (1). With this system the switch handle is decoupled from the machine housing and an active oscillating mass in the damping unit effectively counteracts the occurring vibrations. It should be noted that the contact pressure is not too high otherwise the decoupling function is impaired.

Service indicator

The service indicator (6) is located in the lower part of the handle. When it lights up red, the time has come for the drill to be serviced. It can still be used for a few hours but will then switch off automatically.
Return the drill to your DUSS Service Centre as soon as possible to ensure that its serviceability is maintained.

Compressor position

On the switch-handle of the PX 78 a thread (2) is integrated into which an additional handle can be screwed (included in delivery). This grip layout ensures a comfortable posture which protects the spine when working vertically downwards.

Tools

Optimum chiselling performance is only obtained with sharp tools. Blunt cutting edges cause tool breakage. Therefore, regrind or reforge chisels in good time.
Pointed, narrow flat, wide flat and spade chisels:
Forging: 900 - 1,050 °C. Hardening: 800 - 830 °C, quench in oil. Temper to 250 - 300 °C.
Resharpen **hollow and gouging chisels** with a corundum sharpening wheel.
Have **drill cutting edges** reground in good time with silicon-carbide wheels by an expert.

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 tool 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 undismantled to your dealer or the **DUSS** 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 operater may be exposed to the risk of accidents. If a fault occurs, you are accordingly strongly recommended to return the machine to the follwing address:

Alternatively, send it to a **DUSS** Service Centre.
In urgent cases, the repairs will be carried out the same day.
The **PX 78 Rotary Hammer** must be sent in at the sole risk and cost of the customer.

Notes

Apply only light pressure while drilling. The drilling or chiselling performance cannot be improved by applying pressure. Simply place tool against material and guide it. Hold hammer so that the shank of the tool bit slides smoothly into the chuck. Never force it in at an angle. Do not drill through reinforcing steel if possible, as this is dangerous to the tool.
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 gear damage and tool breakage.

Safety Precautions

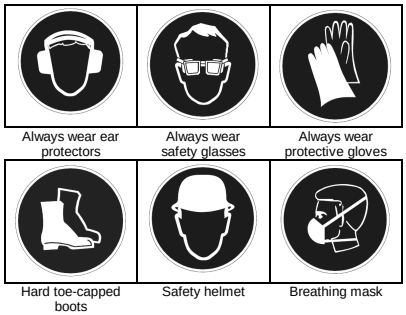
Read all the safety notes and instructions!

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injuries.

Keep the safety notes and instructions for future reference.

Safety precautions:

Wear appropriate protective equipment, e.g.



Use auxiliary handles supplied with the tool.
Loss of control can cause personal injury.

Hold 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.

Take protective measures when dust can develop during working that is harmful to one’s health, combustible or explosive.
Example: some dusts are regarded as carcinogenic. Wear a dust mask and work with dust extraction.

Noise/vibration information

(in accordance with EN 60745)

Typical A-weighted noise levels of the machine are as follows :

Noise pressure level :	L_{pA}=93 dB(A)
Noise power level:	L_{WA}=104 dB(A)
Uncertainty:	$K_{pA}=K_{WA}$=3dB

Wear ear protection.

Vibration data (chiselling in concrete) :

Standard chiselling:	$a_{h,CHeq}$= 6,8 m/s²
Uncertainty:	K= 1,5 m/s²
Compressor downward chiselling:	$a_{h,CHeq}$= 6,3 m/s²
Uncertainty:	K= 1,5 m/s²

Vibration data (drilling in concrete) :

Standard drilling:	$a_{h,HD}$= 9,8 m/s²
Uncertainty:	K= 1,5 m/s²
Compressor downward drilling:	$a_{h,HD}$= 8,2 m/s²
Uncertainty:	K= 1,5 m/s²

The vibration emission level given in this information sheet has been measured in accordance with a standardized test given in EN 60745 and may be used to compare one tool with another.
It may be used for a preliminary assessment of exposure
The declared vibration emission level represents the main applications of the tool. However if the tool is used for different applications, with different accessories or poorly maintained, the vibration emission may differ.

This may significantly increase the exposure level over the total working period. An estimation of the level of exposure to vibration should also take into account the times when the tool is switched off or when it is running but not actually doing the job. This may significantly reduce the exposure level over the total working period. Identify additional safety measures to protect the operator from the effects of vibration such as: maintain the tool and the accessories, keep the hands warm, organization of work patterns.

CE – Declaration of Conformity

We declare on our sole responsibility that this product conforms to the following standards or standardisation documents:
EN 60745-1, EN 60745-2-6, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3 as per the provisions laid down in Directive 2006/42/EG, 2014/30/EU, 2011/65/EU

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