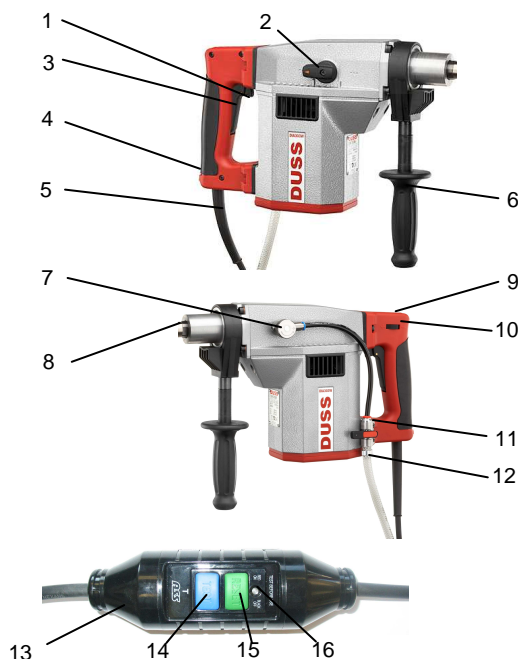




### Technical Data

Power input	2000 W
Voltage	230V
Current input	9,4 A
Frequency	50 - 60 Hz
Weight without accessories	6,4 kg
Speed under load	1st gear 290 - 360 rpm
	2nd gear 540 - 680 rpm
	3rd gear 1010 - 1270 rpm
Drilling range	1st gear 137 – 202 mm
	(hand guided up to Ø 300mm)
	2nd gear 82 – 137 mm
	3rd gear 32 – 82 mm
Drill spindle	Outer thread G ½"
Permanent lubrication	
Swivelling side handle and secondary screw-mounted handle	
On/Off switch with locking button for continuous operation	
Safety clutch	
Electronic overload indicator	
Service indicator	
Automatic carbon brush cutout	
Electronic speed control and overload protection	
Manual speed control thumbwheel (can be used when drill is running)	
Class of protection I as per CENELEC/EN 60745-1 (mains electricity supply with protective earth conductor required)	
Radio and TV interference suppression as per EN 55 014	
Operator safety switch ( PRCD)	Response threshold 10 mA

We reserve the right to alter technical specifications without notice



- 1 Locking button for continuous operation
- 2 Gear selector
- 3 On/Off switch
- 4 Overload indicator/service indicator
- 5 Supply cord with PRCD
- 6 Side handle
- 7 Water flow regulator
- 8 Drill spindle
- 9 Fastening nut for secondary handle
- 10 Drill speed controller thumbwheel
- 11 Stop-cock
- 12 Water supply
- 13 Operator safety switch (PRCD)
- 14 Test button
- 15 Reset button
- 16 Indicator lamp

### Applications

The DIA 303W diamond core drill is suitable for wet drilling into concrete, asphalt and all types of masonry and dry drilling with dust extraction into all types of masonry. Drilling operations may only be carried out by trained personnel. The user alone is liable for any damages resulting from improper use

## Electrical connection

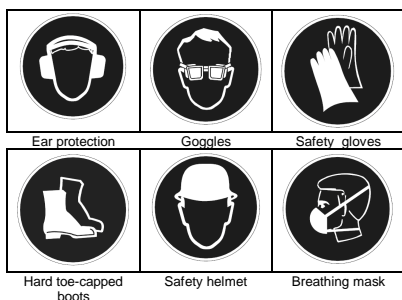
To prevent the drill from being started unintentionally during care, maintenance or repair operations, and before replacing the diamond core bit, unplug the machine at the mains socket. The DIA 303W drill is a Class I machine which may only operate on a mains power supply with a protective earth conductor. The voltage indicated on the rating plate must agree with the mains voltage.

An operator safety switch (PRCD) integrated into the supply cord ensures protection in the event of insulation failures in the drill and the connecting cable from the PRCD. In addition, it is prevented from starting up automatically after a power cut in the mains electricity supply.

**Attention: the PRCD must not lie in water. It must be checked for perfect functioning at regular intervals by pressing the TEST button. Never operate a diamond core drilling machine without RCD or PRCD directly from the mains system.**

## Safety precautions

- **Before starting drilling operations**, check that the core bit is securely seated on the drill spindle or, when working with an extension, that the extension is securely seated on the drill spindle and the core bit on the extension.
- Ensure that the drilling process will not affect the static loads on the building.
- The area in which drilling is to be carried out must be devoid of any electricity cables, gas or water pipes or other leads/pipework. Any cables or pipes in the vicinity of the drilling work must be isolated.
- Take care to ensure that, if the core bit breaks through (particularly when drilling through ceilings), nobody will be injured or material damage caused. If necessary, make appropriate provision for any falling items of equipment or concrete to be caught and block off access to the front and rear of the drilling area.
- **Vertical overhead drillings in the wet drilling mode are prohibited.**
- Special safety precautions must be taken for drilling holes in walls and securing the drill stand by means of a vacuum.
- Protect the diamond drill from splash water and rain. If it gets wet, stop work immediately and have the drill inspected by a qualified electrician, otherwise the operator's life may be put at risk.
- The drill may only be connected to a mains power supply with a protective earth conductor (three-core cable).
- The drill must not be operated without the PRCD supplied.
- The plug or supply cord must not be replaced other than by DUSS or a DUSS customer service centre.
- If an extension cable is used to connect the drill, check to ensure that the earth lead of the three-core extension is in sound condition.
- Before starting any hand-held drilling operations, ensure that the swivelling side handle or secondary handle **is screwed in securely** in the desired position. When drilling, hold the drill securely with both hands. Make sure that you have a secure foothold. Concentrate on, and pay close attention to, what you are doing.
- Wear appropriate protective equipment, e.g.



- Observe the accompanying safety instructions and the applicable regulations issued by your trade association or similar, e.g. wear goggles, ear protection, safety gloves, hard toe-capped boots, safety helmet, etc. If drilling will cause dust, wear a breathing mask.

## Read all the safety notes and instructions!

Failure to observe these may cause an electric shock, fire and/or serious injuries.

**Keep the safety notes and instructions for future reference.**

## Initial use

All the generally recognised accident prevention regulations, the applicable regulations issued by your trade association (or similar) and the accompanying safety instructions must be observed. To comply with official national regulations, the protective function of the operator's safety switch (PRCD) must undergo regular testing. **Never use the drill without the PRCD ground fault interruptor.**

**It must also be function-tested on every occasion before the drill is used, i.e.**

1. Insert the supply cord, plug in the mains socket.
2. Press the RESET button.

**The red indicator lamp must light.**

3. Unplug the unit from the socket. The indicator lamp must not light.
4. Repeat procedures 1 and 2.
5. Press the TEST button. The red indicator lamp must not light.
6. Press the RESET button, enabling the drill to be switched on. The red indicator lamp must light.

**If the drill will not start, have it inspected by a qualified electrician before resuming work.**

**For continuous operation**, press the on/off switch, then push the locking button upwards.

**To switch off**, briefly press the on/off switch.

**Variable adjustment feature:** Under normal circumstances, the drill will be operated at maximum speed. This can, however, be infinitely variably adjusted by means of the thumbwheel, depending on the quality of the concrete or masonry and/or with starting of coring. The ergonomic positioning of the thumbwheel permits adjustment even when drilling is taking place.

+ = max. speed, - = reduce speed

## Mechanical and electronic overload protection

The **DIA 303W** is fitted with mechanical and electronic overload protection.

### Mechanical overload protection:

An integral safety clutch protects the operator from injury if the core bit suddenly becomes jammed.

### Electronical overload protection:

The electronic protects the motor from being overloaded by reducing the speed of the core bit under excessive applied pressure. This condition ceases to be effective when the core bit and, in turn, the motor, are relieved of pressure. The motor and bit then rotate again at the nominal speed. If the machine is overloaded, the electronic reduces the power input, that is the drilling speed. The machine works in the overload mode only 5 seconds, afterwards the motor switches off. To restart the machine disconnect the machine and switch on again. The contact pressure must be adjusted.

Before switching on the machine again, check to ensure that the drill bit can be easily turned and is not jammed in the drill-hole.

## Overload indicator

The purpose of the overload indicator, which is located in the lower part of the handle, is to monitor the load on the motor. A green LED light indicates the various operating modes of the drill.

#### Indicator functions:

Continuous green light:	⇒ Machine switched on and motor loading slight to optimum.
Flashing green light, slow:	⇒ Motor overloaded, applied pressure must be reduced.
Flashing green light, fast:	⇒ Motor speed reduced due to overloading. Applied pressure must be reduced.
Green light goes out:	⇒ Machine has switched off due to overloading and must be switched off and on again. Alternatively, the machine is not switched on.

#### Service indicator

The service indicator is likewise 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.

#### Selecting the drilling speed

The **DIA303W** features a three-speed gearbox, permitting the optimum speed to be set for each diameter of core bit. The speed is preselected by means of the gear selector at the side of the gearcase. Do not use force to change gear and do so only when the motor is running down or has stopped. If the gear selector lever cannot be shifted to the desired position when the drill is stopped, try again, squeezing the trigger briefly at the same time. Always select the most suitable speed for the diameter of the core bit (see Technical Data or the label inside the carrying case).

#### Drilling

##### General Instructions

The drill spindle of the DIA 303W diamond core drilling machine has an outer thread G ½". Only use suitable high quality diamond core bits. Use sharp core bits and ensure that the diamond segments are sufficiently larger than the inner and outer diameter of the core bit tube. Apply teflon spray to the core bit thread so that the bit can be easily loosened.

Use contact pressure as required. If you do not, the diamond segments will tend to "polish". In this case the rate of advance will fall constantly until cutting finally stops. The segments can be resharpened with a sharpening plate.

Take care that the core bit does not vibrate, otherwise the diamonds can be tugged out of their bond.

When drilling through reinforcements, use a greater contact pressure and the next lower gear.

If the diamond core bit blocks, do not try to loosen it by switching the machine on and off. Switch the machine off immediately and try to loosen the core bit by turning right and left using a suitable wrench.

When drilling, the drill speed controller should always be set to the maximum speed. Reduced speeds should only be used for pilot drilling or sharpening on a sharpening plate.

#### Wet drilling

For wet drilling, a water supply must be connected to the drill by means of a quick-fit water coupling with integral water filter. Use only clean mains water, otherwise the seals will rapidly become worn.

A stop-cock on the handle permits the water supply to be turned on and off. Precise adjustment of the flow rate is set by means of a knurled wheel on the cylinder housing. Set the quantity of water at the water flow regulator so, that the waste material is completely rinsed out of the drill hole. If drilling mud forms round the drill hole, you are not using enough water. **In the event of a leak in the water supply, return the drill to your service centre without fail. The six extractor holes in proximity to**

**the drill bit thread must be sealed** (install the six plugs supplied in the holes or, in the case of 52 mm and 67 mm diameter core bits, pull on the rubber ring).

The drill can be hand held or mounted in a drill stand for wet drilling.

##### Hand held:

Before drilling with a diamond core bit, a pilot hole must be made in the centre of the planned drill-hole, 14 mm in diameter by approx. 8 cm deep. This will serve to guide the centring rod supplied, which should be inserted into the drill spindle or extension. For pilot drilling with the centring rod installed, drill a hole with the diamond core bit approx. 2 cm deep, then switch off the drill, remove the centring rod and resume drilling. With using of the quick centring bit SZ, available as optional accessory, no pilot hole is necessary.

##### Drill stand:

The drill can be clamped with the side handle installed in drill stands BS130 (max Ø132 mm) or BS160 - (max Ø202 mm)

#### Dry drilling

**Dry drilling must only be carried out with the dust extraction system working.**

To prevent machine failure and/or a plugging of the water flow system the stop-cock (water supply on/off) and the water flow regulator (preselection of water flow rate) should be completely **open**. The quick-fit water coupling has to be disconnected. **For this purpose, the six extractor holes in the proximity to the drill bit thread must be open** (remove the six plugs supplied from the holes or pull off the rubber ring). The dust extraction system permits not only virtually dust-free drilling but also affords increased drilling progress, prolongs the service life of the core bit and cools the diamond segments to the optimum extent. Drilling without dust extraction can damage the diamond segments beyond further use through overheating. A vacuum cleaner with a prefilter or fine dust filter should preferably be used. To obtain effective suction power, the dust extractor must be cleaned at regular intervals.

##### Hand held:

The drill is hand held for dry drilling operations. For this reason, a pilot hole must be drilled for the centring rod in the manner described above for hand held wet drilling operations or the quick centring bit SZ (optional accessory) must be used.

#### Sharpening

Blunt diamond core bits should be resharpened by a brief period of drilling in the sharpening plate SP.

Worn or detached diamond segments can be rebrazed by DUSS. If a diamond segment is detached from the core bit tube stop working immediately, otherwise the core bit will be damaged.

#### Lubrication

A sealed lubrication system provides the drill with permanent lubrication.

#### Maintenance

**Attention: You must remove the mains plug from the supply socket before beginning any maintenance or repair work.**

Clean the machine with a dry or moist cleaning rag and not with a jet of water. Make sure that no water gets into the motor. Ensure that the ventilation slots are always clean. Clean and lubricate the core bit thread with teflon spray, too.

## Warranty

The warranty period is 12 months from the date of delivery, as shown on the warranty certificate or invoice. The warranty will be valid provided the machine has been operated and handled correctly and cleaned and serviced properly, in accordance with the operating instructions, and has not been tampered with by unauthorised persons. The warranty is limited to the free repair or replacement of parts which have become defective due to manufacturing or material faults only. Parts becoming defective as a result of normal wear or due to tampering by the customer or third parties are not covered by the warranty.

All other claims are excluded, i.e. **DUSS** will not be liable for direct or indirect defects or consequential damages, losses or expenses arising in connection with the use of the drill (or in its inability to be used) for any purpose whatsoever. Implied warranties of usability or suitability for a particular purpose are excluded.

If a defect is discovered, the machine must be sent for repair immediately to **DUSS** or a **DUSS** customer service centre. All previous written or verbal warranties are superseded by the above warranty terms and conditions.

## 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** customer service centre. Their experienced specialists and special equipment allow them to rectify faults properly and economically. In urgent cases, the repairs will be carried out within a day.

The **DIA 303 W drill** is to be returned complete, at the sender's risk and expense.

## Noise/vibration information

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

Noise pressure level:	$L_{pA}=88 \text{ dB(A)}$
Noise power level:	$L_{WA}=99 \text{ dB(A)}$
Uncertainty:	$K_{pA}=K_{WA}=3\text{dB}$

Wear ear protection.

Vibration data (drilling into concrete):

Handle:	$a_{h,DD}= 4,2 \text{ m/s}^2$
Side handle:	$a_{h,DD}= 3,5 \text{ m/s}^2$
Uncertainty:	$K= 1,5 \text{ m/s}^2$

## 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 60745-2-1, 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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04/2016      Eugen O. Duss