PLARAD

Translation of the original

Operating manual

Electric Nut Runner DE1

Store for future reference.

PLARAD®
Torque & Tension Systems

1 Manufacturer

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2 User instructions

2.1 **Purpose of the document**

This operating manual is intended to familiarise the owner/operator with the machine and provide information about its possible applications and intended use. The operating manual contains important information that allows the owner/operator to use the machine safely, correctly and efficiently. Observing this information helps avoid hazards, minimise repair costs and downtimes and increase the reliability and service life of the machine.

Information about precautions to be taken by the owner:

- Only entrust personnel who have the necessary qualification for the respective work with tasks on the machine.
- Clearly define the responsibilities and accountabilities of the operating and maintenance personnel.
- Supplement the operating manual by rules arising from national regulations regarding occupational health and safety and the environment (e.g. work organisation).
- Order and occasionally verify compliance with the operating manual and its supplements. Keep a copy of the operating manual at the place where the machine is used at all times!
- Only operate the machine when it is in technically faultless condition and maintain this.

In addition to the operating manual, the mandatory accident prevention regulations applicable in the country and the place where the machine is used must be observed. In addition, all recognised technical rules devised to ensure safe and correct working must be observed.

2.2 Target groups

a) The **owner** as the superior legal person is responsible for the intended use of the machine and the training and deployment of authorised persons. He defines the mandatory competences and authorisations of the authorised personnel for his company.
b) A **specialist** is defined as a person who is capable of assessing the tasks assigned to him and recognising possible hazards due to his professional training, knowledge and experience. This person is also familiar with all applicable regulations. Only trained specialist personnel or such personnel who have been selected and found capable by the owner are qualified to work with the machine.
c) A **trained/instructed person** is a person who has been instructed and, if necessary, trained in the assigned tasks and the possible risks for incorrect behaviour. This person has also been informed about the necessary safety devices and protective measures.
Personnel to be qualified, trained, instructed or undergoing general job training may only act under the constant supervision of an experienced person.

2.3 Liability and warranty

All tasks and instructions provided in this operating manual are based on our previous experience and findings and given to the best of our knowledge. The original version of this operating manual was prepared in German and reviewed by us for technical accuracy. The translation into the respective national/contractual language has been prepared by a certified translation agency.
This operating manual has been compiled with the greatest level of care. However, If you discover any parts that are incomplete and/or incorrect, please notify us in writing. Your suggested improvements help us create an operating manual that is more user-friendly.

3 Product safety

The prerequisite for the safety-compliant handling and trouble-free operation of this machine is knowledge of the basic safety instructions.

3.1 CE mark

The products are labelled with the CE mark. The Declaration of Conformity verifies that the products are in compliance with the safety directives of the European Union.

3.2 Directives

The product meets the requirements of the EC Machinery Directive 2006/42/EC. EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC according to:
EN 60745-1 and EN 60745-2-2
EN 55014-1 (2006) Emission
EN 55014-2 (1997) A1 Interference Resistance, Cat. II
EN 61000-3-2 (2006) Current Harmonics
EN 61000-3-3 (1995) + A1, A2 Flicker

3.3 Information about this manual

This manual contains important instructions on how to operate, set up and connect the machine. Read these instructions carefully before putting the machine into operation. This is for your own protection and will provide you with important information for connection, use and safety of the machine. The operating manual is an integral part of the machine. Keep it ready to hand near the machine. Observing every detail of the operating manual is a requirement for using the machine as intended and correct operation. For this reason, pass this operating manual on to the next owner when selling the machine. Please note that details of the illustrations and technical specifications contained in this operating manual may be different from the product you purchased. The information provided in this operating manual is current as of the time it was printed. We reserve the right to make changes at any time without prior notice.

3.4 Information about the workplace

The safety of the operator and the trouble-free operation of the machine are only guaranteed if original Plarad components are used. This applies both for machine components and spare parts.

If different components are used, Maschinenfabrik Wagner cannot guarantee safe and reliable operation.

3.5 General safety information for power tools

Warning!
Read all safety information and instructions. Failure to observe the safety

information and instructions can result in electric shock, fire and/or serious injuries.

Store all safety information and instructions for future reference.

The term "power tool" used throughout the safety information refers both to mains-operated power tools (with mains cable) and battery-powered electric tools (without mains cable).

1. **Safety at the workplace**
   a) **Keep your work area clean and sufficiently illuminated.** Working in untidy or unlit work areas can result in accidents.
   b) **Do not use your power tool to work in explosive atmospheres that contain inflammable liquids, gases or dust.** Power tools generate sparks that can ignite dust or vapours.
   c) **Keep children and other persons away from the power tool while using it.** Any distractions can cause you to lose control of your machine.
2. **Electrical safety**
   a) **The connection plug of the charger must fit in the power outlet. The plug must not be modified in any way.** Unchanged plugs and matching power outlets reduce the risk of electric shock.
   b) **Avoid body contact with grounded surfaces such as pipes, heaters, stoves and refrigerators.** There is an increased risk of sustaining electric shock when your body is grounded.
   c) **Do not expose the power tool to rain or moisture.** Water penetrating a power tool increases the risk of electric shock.
   d) **Do not misuse the cable to carry or hang up the power tool or pull the plug out of the power outlet. Keep the cable away from heat, oil, sharp edges or moving machine parts.** Damaged or entangled cables increase the risk of electric shock.
   e) **When using a charger for outdoor work, only use extension cables that are also suitable for outdoor use.** Using an extension cable that is suitable for outdoor use reduces the risk of electric shock.
   f) **If operating the charger in wet environments cannot be avoided, use a residual current circuit breaker.** Using a residual current circuit breaker reduces the risk of electric shock.

3. **Safety of persons**

a) **When working with a power tool, stay alert, pay attention to what you are doing and apply common sense. Never operate a power tool when you are tired or under the influence of drugs, alcohol or medication.** Even a brief moment of carelessness during the use of a power tool can result in serious injuries.

b) **Always wear personal protective equipment and safety goggles.** Wearing personal protective equipment such as a dust mask, non-slip safety shoes, hard hat or hearing protection (depending on the type and use of the power tool) reduces the risk of injury.

c) **Avoid any inadvertent start-up of the machine. Ensure that the power tool is switched off before connecting it to the power supply and/or the battery and before picking it up or carrying it.** Carrying the power tool with your finger on the switch or connecting it to the power supply while the device is switched on can result in accidents.

d) **Remove all adjusting tools or spanners before switching on the power tool.** Any tool or spanner located in a rotating machine part can result in injuries.

e) **Refrain from assuming an abnormal body posture. Assume a firm stand and keep your balance at all times.** This will help you retain better control over the power tool if faced with unexpected situations.

f) **Wear suitable clothing. Do not wear any loose-fitting clothes or jewellery. Keep hair, clothing and gloves out of reach of moving parts.** Loose-fitting clothes, jewellery or long hair may become caught in moving components.

g) **If an option to fit dust extraction and collecting equipment is available, ensure that this is connected and used correctly.** The use of a dust extraction system can reduce the risks caused by dust.

4. **Using and handling the power tool**

a) **Do not overload the machine. Use the power tool that is designed for the work you wish to complete.** Using the appropriate power tool will help you work more efficiently and safely within the specified range of capacity.

b) **Do not use any power tools that have a defective switch.** A power tool that can no longer be switched on or off is dangerous and must be repaired.

c) **Remove the plug from the power outlet and/or remove the battery before making any adjustments**

to the machine, changing accessories or putting the machine away. This precaution prevents unintended start of the power tool.

d) Store power tools that are not in use out of reach of children. Never allow persons to use the machine who are not familiar with its operation or who have not read the instructions. Power tools are dangerous if used by inexperienced persons.

e) Maintain the power tool with care. Check if moving parts function properly and without sticking and whether parts are broken or damaged so that the power tool's function is impaired. Have damaged parts repaired before using the machine. Many accidents can be attributed to poorly maintained power tools.

f) Keep cutting tools sharp and clean. Carefully looked-after cutting tools with sharp cutting edges have a lower tendency to become jammed and are easier to operate.

g) **Use power tools, accessories, insertion tools, etc. in accordance with these instructions. During use, take into consideration the operating conditions and the task to be completed.** The use of power tools for applications other than the ones specified can result in dangerous situations.

5. Service

a) Only let your power tool be repaired by qualified specialist personnel and only with original spare parts This ensures that the safety of the power tool is maintained.

3.6 Organisational measures

a) The operating manual must always be kept in legible condition and readily available at the place where the machine is used.

b) The operating manual also needs to be supplemented by mandatory local regulations regarding accident prevention and environmental protection (e.g. handling hazardous materials, disposal of auxiliary and/or operating materials, and the provision/requirement to wear personal protective equipment).

c) Personnel must be instructed to observe the operating manual.

Personnel are required to notify the owner or his agent of any defects or hazards they have discovered.

3.7 Technically faultless condition

a) All safety instructions and warnings at / on the machine must be maintained in complete and legible condition.
b) Do not make any modifications, attachments and conversions to the machine that could impair safety without consultation/agreement with the manufacturer/supplier.

Substantial changes to the machine can also invalidate the EC Declaration of Conformity.

c) Comply with the deadlines stated in the operating manual for recurring tests / inspections.
d) All spare parts used must comply with the technical requirements specified by the manufacturer. This requirement is always satisfied by the use of original spare parts.
e) When performing maintenance work independently, make sure the appropriate workshop equipment necessary to complete the work is provided.

3.8 Training of personnel

a) Only reliable personnel are permitted to work on/with the machine. Observe the minimum age requirements stipulated by law.
b) Only use trained or at least instructed personnel. Instruct and occasionally verify that only authorised personnel are used to work on/with the machine.
c) Clearly define the responsibilities and accountabilities of the personnel with regard to operation, set-up, maintenance and repair.
d) Only let personnel undergoing training, instruction or in the context of general training work on the machine while under constant supervision by an experienced person.
e) Work on electrical equipment of the machine must only be performed by qualified electricians or instructed persons under the management and supervision of a qualified electrician. The electrical engineering regulations must be complied with for safety reasons.

3.9 Presentation of safety instructions

CE mark

Read all safety information and instructions. Failure to observe the safety information and instructions can result in electric shock, fire and/or serious injuries.

Particular tasks and/or requirements and prohibitions regarding the correct and efficient use of the machine

Wear hearing protection

Use protective eye wear

Use protective footwear

Wear protective headgear

Crushing hazard warning

Warning about hot surface

Warning about dangerous electrical voltage

Hazard warning. The type of hazard is specified in the text found next to the respective warning.

Class 2 protective insulation

WEEE recycling/disposal instructions

Service seal specifying the date of the next inspection

4 Description of the machine

4.1 Illustration and identification

The electric nut runner is identified by its type plate.

4.2 Technical specifications

Performance range: see included torque table
Weight: see type plate
Motor idle speed: 8,500 to 14,000 rpm

Emission values according to EN 60745:
Sound pressure level: 79 dB(A)
Sound power level: 90 dB(A)
Uncertainty factor: 3 dB(A)
Vibration emission value:
< 2.5 m/s²
Uncertainty factor: 1.5 m/s²
The noise and vibration emission values have been measured in accordance with EN 60745. The stated emission values are used for machine comparison, are suitable for an estimate of the vibration and noise load during use and represent the main application of the tool.

For the nut runner dimensions, refer to the technical data sheets which are available at www.plarad.de.

4.3 Electrical power supply

Mains voltage: 220 -240 V/50-60 Hz
or 230 V/50-60 Hz
110 V/50-60 Hz
120 V/50-60 Hz
Power consumption: 1.4 kW
Insulation class: E
Protective insulation: Protection rating IP 20
Minimum power input for mobile power generators: 4 kVA

4.4 Scope of delivery

- Electric nut runner, ready for operation
- Operating manual including EC Declaration of Conformity
- Torque table with (optional) test certificate

4.5 Intended use

The electric nut runner is a hand-held tool that is designed exclusively for tightening and loosening bolted connections. It may only be used for commercial purposes. Each bolting application requires the use of suitable impact sockets/tools. The suitability for use of tools other than impact sockets must be tested and approved by the manufacturer. Make sure there is a proper positive connection between the impact socket and the bolt. Make sure

there is a proper positive connection between the square drive of the tool and the square retainer of the impact socket. The tool is designed for indoor and outdoor operation within an ambient temperature range of -20 °C to +70 °C. In the case of differences from these conditions, consult the manufacturer before use.

The electric nut runner is not suitable for continuous operation as a drive unit.

4.6 Non-intended use

Any use deviating from or exceeding the scope of intended use is considered to be improper. The risk is borne solely by the owner / user.

4.7 Electrical energy

Warning!

Contact with live components can result in serious injuries and death from electric shock.

Observe the following safety information when operating electric nut runners.

When operating the tool, observe all applicable laws and regulations at the operating site. Verify every time before using the tool that it operates in a reliable manner and is in proper condition. The user must be familiar with the operation of the tool. Before putting the tool into operation, check the tool and the mains power cable for damage. Never continue using a defective tool or a tool with defective cables or connectors. Have damaged cables or connectors replaced by authorised qualified electricians before resuming operation. When using an extension cable with small cross section and large length, a voltage drop can occur which adversely affects the start-up and function of the nut runner. Only use extension cables that meet the following requirements:

Mains voltage	**Minimum cross section**
230 V / 220 – 240 V	1.5 mm²
110/120 V	2.5 mm²

When working outdoors, only use extension cables that are approved for this purpose and labelled accordingly.

Do not expose electric tools to rain. Do not use power tools in a moist or wet environment.

Keep your tools in a safe place. Store unused power tools in a dry room.

Disconnect the tool from the mains power supply before all repair and maintenance work.

4.8 Relevant documents

EU safety data sheet Klübersynth GE-151

5 Function description

5.1 Start-up

Attention!

Only components and accessories that do not impair the function and safety of the tool are permitted to be used.

- **If in doubt, contact the manufacturer.**

Warning!

Contact with live components can result in serious injuries and death from electric shock.

- **Check the mains connection cable for damage before putting the nut runner into operation.**
- **Do not use the nut runner if the mains power cable or the plug connection is damaged.**

Attention!

Note the mains voltage and frequency stated on the rating plate.

5.2 Preparing the tool

1. Attach O-ring to toothing

2. Attach the reaction arm to the toothed holder on the nut runner.
3. Secure the reaction arm using retaining ring.
4. Put the socket insert (socket) on the square drive on the nut runner and secure it. Only use impact sockets.
5. Secure the impact socket.

6. Nut runner with secured reaction arm and secured impact socket.

Warning!

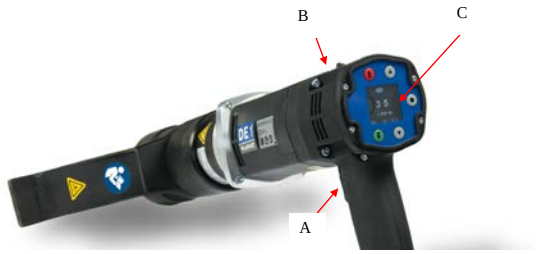
Unsecured components or tools can be flung out. **Secure reaction**

arm and impact socket before start-up. Follow the instructions and warnings provided on the tool and the accessories.

6 Operation

6.1 Controls and display elements

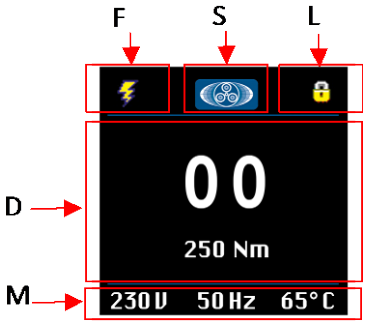
The following illustrations show the positions of the various controls on the machine.



Controls and display elements DE1XX

A) Gun button
B) Rotation direction switch
C) Display &buttons

6.1.1 Screen display area



Picture 6.1.1

D) The specified torque level (see below) or the symbol for the Undo mode is displayed in this area. The associated torques are optionally displayed under the torque level. These have been determined on a dynamometer and correspond to a medium hard test setup according to ISO 5393. This display is hidden during the start of any bolting and displayed again by pressing any button.

M) Currently measured values are displayed in this area:
- Mains voltage [V]
- Mains frequency [Hz]
- Motor temperature [°C]

F) Further information about the cause is displayed in this area in the event of an error:

 Mains voltage not sufficient

 Motor temperature too high

 Motor does not reach the minimum speed

F) The state of the machine is indicated in this area using various icons

 Static state or animated during any bolting

 Bolting OK

 Bolting NOK

L) The padlock symbol is displayed in this area when button lockout is active 

Attention!

The Nm information in the display of the tool corresponds to the values achieved for the respective settings on the reference bolting application for the respective tool type. These values can be exceeded or

undercut depending on the bolting application.

6.1.2 Display controls

Picture 6.1.2

Special functions are always initiated by pressing and holding the button and then pressing another button.
The following special functions are implemented:

+ Undo mode

+ Button lockout

+ Menu

+ Test mode

6.2 Undo mode

+

Activate or deactivate the Undo mode.
When Undo mode is active, the following symbol (instead of the torque level) is shown in the area D of picture 6.1.1:

The mode enables quick changeover between the torque levels required for bolting and unscrewing. In this mode, the tool achieves a torque approx. 10% higher as compared with the "99" setting. This mode is not suitable for precise torque tightening.

The previous torque level is restored when this mode is deactivated.

6.3 Display button lockout

+

Activate or deactivate the button lockout.
When button lockout is active, the symbol is shown in the area L of picture 6.1.1.

The function buttons can be locked out to prevent any unintended adjustment of the torque level.

6.4 Test mode (optional)

+

Activate or deactivate the Test mode.
When Test mode is active, the following symbol is shown before the torque level in the area E of picture 6.1.1:

The Test mode can be used to "test" any bolting.

For this, the tool moves with very reduced speed "against" the bolt and then slowly increases the applied torque to the specified value.

Analogous to a test with a torque wrench, the following applies here:

- If the necessary torque for further turning of the present bolting is higher than the specified setpoint torque, the nut runner switches off without further turning.
- If the necessary torque for further turning of the bolting is smaller than the specified setpoint torque, the turning continues until the setpoint torque is reached.

Whether the bolt has actually been turned further can only clearly be recognised using a previously applied marking.

Attention!

The inherent drawbacks of such a test are the same as those for a test using a torque wrench.

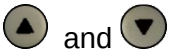
- If no further turning is performed, this has only established that the **breakaway torque** is above the specified value (e.g.: in the case of a corroded bolt, the breakaway torque can be significantly higher than the original tightening torque of the bolt).
- Further turning occurs if the breakaway torque is slightly below the specified setpoint torque. If the specified torque is reached immediately afterwards, the energy in the system can result in slightly exceeding the setpoint torque.
- This possible overshoot is in the same tolerance range as for bolting mode and is limited to 5% of maximum torque for the DE1.
- In the case of multiple tests on the same bolting, further overshoots can occur each time; however, the maximum overshoot of 5% of maximum torque also applies here.

6.5 Menu (Settings/Info Display)

Open the "Settings/Info Display" menu. While the menu is active, the following symbol is shown in the area F of picture 6.1.1: 

This button combination is used for calling a menu in which various submenus with settings or displays can be called.

The following buttons can be used to navigate in the menu and submenus

 and selection of the required submenu / menu item

 Exit a submenu without saving

Exit the menu

Exit a submenu with saving of the changed parameters

Call-up of the selected submenu

The following settings and displays are currently implemented:

Contrast

Information

Service counter

Total counter

a) Contrast

and contrast settings of the display. The respective set value is shown using a bar and settings of the contrast (as a result, the display can sometimes be difficult to read).

b) Information

The following information is displayed:

SW-NR.: xx xx Firmware version Display

SW-NR.: xx xx Firmware version Controller

XXX h Operating hours

c) Service counter

0…32: n1

33..65: n2

66..99: n3

0—99: n4

The number of bolting applications (since the last service) in the specified ranges of the torque levels is counted (n4=n2+n3). This makes it possible to define the required maintenance intervals according to the loads (see also "Service intervals" chapter).

The button calls another submenu for Service. If this has been called accidentally, it can be exited by pressing the button.

d) Total counter

The total counter records the number of bolting applications over the life cycle of the tool. Otherwise the display is identical to that of the service counter.

6.6 Setting the torque

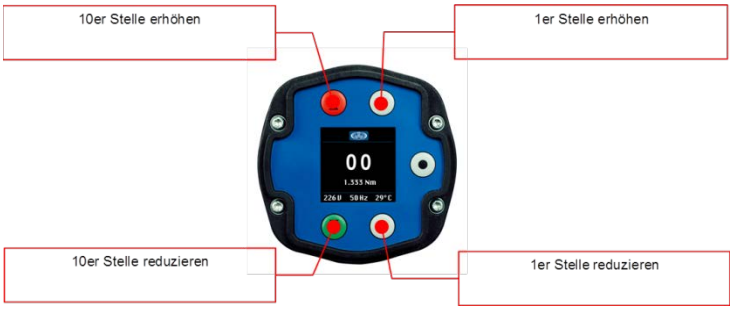
You need to set the desired torque before starting the bolting process. Making adjustments while the bolting process is underway is not possible.

The torque is selected by adjustment of the corresponding torque level. Refer to the included torque table for the required torque level. The associated torque for the respective torque level is optionally shown in the display.

The assignment of torque level and torque has been determined on a test setup according to ISO 5393 (medium hard test setup). Other torque levels can be

necessary depending on the bolting application.

Set the required torque level by pressing the buttons on the display.



Set the torque to the desired value for each individual bolting application. Check the generated torque during an actual bolting application before tightening all bolts of an identical bolting application. We recommend that you verify the torque using a rotating electronic transducer. However, you can also use a certified torque wrench for this purpose. If you need such devices, request our range of torque measurement equipment.

6.7 Safety pivot

The safety pivot situated between drive motor and gearbox makes it possible to rotate the grab handle into any desired position - even under load. The reaction force will not affect your hand during this process.

6.8 Supporting the reaction arm

Torques cannot be generated without an absorption of the reaction forces. This function is provided by the nut runner's reaction arm. A standard reaction arm is included in the scope of delivery of the tool. The tool is only permitted to be used with the included reaction arm.

Warning!

There is a crushing hazard between the reaction arm and the contact surface. The reaction arm attached to the tool can cause serious crushing injuries.

- **Do not reach between the reaction arm and the contact surface.**
- **Do not place hands/feet close to the contact surface.**

Warning!

Shearing of the mains power cable!

Contact with live components can result in serious injuries and death from electric shock.

- **The mains power cable must never be situated between reaction arm and contact surface while you are working with the tool.**
- **Only use the insulated handles to guide the tool during work.**

Only use reaction arms or extensions that have been approved by Plarad. Suitable reaction arms - including custom models - are available on request. Reaction arms must never be modified. Modifications to the reaction arm can invalidate the included original performance table.

Substantial changes to the machine can also invalidate the EU Declaration of Conformity.

Warning!

If supported insufficiently, the tool can slip off and be flung out.

- **The thrust bearing at the bolting position must prevent the reaction arm from slipping off the contact surface.**

6.8.1 Optimum support scenario

Make sure the supporting plate rests fully against the surface.

6.8.2 Impermissible support scenario

Warning!

If the reaction arm rests only partially against the surface at the corners of the reaction foot, considerable forces can impact the tool. The device accessories can break, and the tool may be flung out.

Do not support tool on the corners of the support feet.

Only support tool on the surfaces of the support feet.

Incorrect support at the corner of the foot.

7 Operation

Warning!

Danger from a falling tool!

- **Only use suitable aids to lift larger tools.**
- **When working overhead, secure the tool and wear protective headgear and safety footwear.**

Warning!

Hearing damage from noise!

- **Depending on your nut runner setting and the noise level to which the user is exposed, wear well-fitting personal hearing protection during operation.**
- **It is the owner's responsibility to select and provide the correct kind of equipment.**

Caution!

Risk of burns!

When used in high ambient temperatures, the nut runner can reach surface temperatures of up to 80 °C.

- **Wear protective gloves.**

Attention!

Check if valid torque tables are available for the tool. The serial number of the appropriate torque table is specified on the type plate of the tool and included in the "Technical Data Sheet - Wrench". When setting the torque, strictly ensure that the maximum permissible torque of the tool and the accessories is not exceeded.

7.1 Bolting process

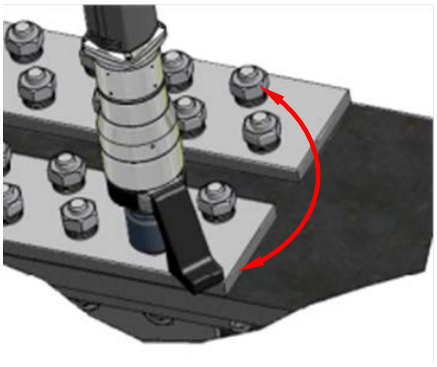
1. Place the nut runner on top of the bolting so that the bolt head/nut is captured in its entirety by the socket or the hexagon socket insert. If this is not possible, you may only subject the accessories to reduced torque or use a special socket/different accessories.
2. Bring the nut runner with the supporting plate into contact with the thrust bearing against the desired rotational direction of the nut runner. Make sure it rests against the entire surface.

Attention!

The tool can exceed the specified torque if the starting rotation angle (reaction arm + bolt) is too small.

Recommended values:

- DE1-10 (W) 60°
- DE1-20 (W) 60°
- DE1-25J (W) 30°
- DE1-30 (W) 30°
- DE1-36 (W) 30°
- DE1-48 (W) 30°



Warning!

Components or the bolted connections can tear during work. The tool can be flung out of the bolting position.

- **Do not subject tool and accessories to more than the permissible torque.**

7.2 Tightening

Warning!

If supported insufficiently, the tool can slip off and be flung out.

- **The thrust bearing at the bolting position must prevent the reaction arm from slipping off the contact surface.**

1. Connect the tool to the mains power supply.
2. Preselect the rotation direction on the hand lever.
3. Place the nut runner with the socket wrench insert on top of the bolt head or the nut you wish to turn.
4. Support foot against the desired rotation direction of the tool.
5. Press down and hold the power button until the nut runner switches off.
6. Check the torque using suitable means if necessary.

The result is shown on the display until any button is pressed.

- Specified torque has been reached

- Specified torque has **not** been reached

The respective display is maintained until any button on the display or the power button is pressed.

If a bolting is interrupted (power button is released before switching off) or not even started due to any fault, bolting can be restarted immediately afterwards (by pressing the power button again).

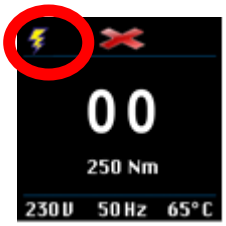
If bolting is aborted due to any of the errors listed below, the power button is blocked until "confirmation" of the error.

This ensures that the user registers and error and not (because, for example, he cannot view the display due to the application situation) simply starts the next bolting and thus does not notice any incorrect bolting.

- Flashing of the symbol indicates that a confirmation is required.
- The conformation is made by pressing any button on the display.
- The symbol no longer flashes after the confirmation.

If the specified torque is not reached, a display of the error cause is also shown.

The following error causes are displayed:



a) 

Mains voltage not sufficient (tool does not start) or power failure.

b) 

Timeout. The tool cannot reach its minimum speed (start angle too small, see 7.1). The torque has already been reached in the starting phase! **Bolting result is not OK!**

c) 

Motor temperature is too high.

7.3 Loosening

Loosening bolting often requires higher levels of torque than are necessary for tightening. When faced with a situation like this, you will find that standard sockets and accessories often do not provide the necessary stability. Also, the power of the tool is usually greater than the load capacity of the accessories. Note that the accessories are only permitted to be loaded with the maximum permissible torque.

a) Preselect the rotation direction on the hand lever. Attach the reaction arm to the thrust bearing against the desired rotation direction of the nut runner.

b) Activate Undo mode if required (see chapter 6.2).

c) Press down and hold the power button until the bolt or the nut has been loosened. Do not press the power button more than once!

8 Maintenance/Service

8.1 General

a) **Only let your power tool be repaired by specialist personnel and only using original spare parts.** This ensures that the safety of your power tool will be maintained.

b) The tool needs to be serviced in order to maintain its functionality and safety.

Attention!
Service work may only be performed by the manufacturer. Only allow Maschinenfabrik Wagner or bodies authorised by Maschinenfabrik Wagner to install, readjust, modify, expand and repair the tool.

The safety for the operator and the trouble-free operation of the tool are only guaranteed if original Plarad components are used. This applies for all tool components and spare parts.

If different components are used, Maschinenfabrik Wagner cannot guarantee the safe and reliable operation.

Contact

Maschinenfabrik Wagner GmbH & Co. KG, Abteilung Technical Support
Birrenbachshöhe
D-53804 Much
Service-Hotline +49 (0) 172 461 42 79
Switchboard: +49 (0) 2245 62-0
Email: Technical.Support@plarad.de

8.2 Service intervals

The nut runner needs to be serviced on a regular basis depending on the frequency with which it is used. The service intervals specified merely represent recommendations. You can determine the service interval that fits your individual conditions of use by consulting one of our field representatives or service technicians.

You can arrange for the service to be performed by our service/repairs department on our premises by consulting our field representatives.

If replacement of the connection cable is required, this must be performed by the manufacturer or his representative to prevent safety hazards.

Every 3 months:

- in extreme usage conditions
- if application frequency is high
- if used during multi-shift operation
- if used continuously for work in the upper torque range
- if used for soft bolting applications

Every 6 months:

- in normal usage conditions
- if application frequency is medium
- if used for work in the medium torque range

Every 12 months:

- if application frequency is low

Cleaning:

- Clean the surface of the tool
- Remove flash rust as necessary

Visual inspection:

- Damage
- Leaks
- Mains connection cable

Function check:

- All moving parts OK
- Output drive and reaction arm without damage
- Mains connection cable

9 Instructions for disposal

Dispose of the tool in accordance with the applicable local regulations.


Attention!

This symbol indicates that the product must not be disposed of with regular household waste as specified in the WEEE directive (Waste Electrical and Electronic Equipment Directive, 2002/97/EC) and national laws.

- **Dispose of this product at an authorised waste collection facility. Return the product if, for example, purchasing a similar product or take it to a waste collection facility that is authorised to recycle waste electrical and electronic equipment.**
- **Information about waste collection facilities can be obtained from your local administration office, your public waste disposal authority, any facility that is authorised to dispose of waste electrical and electronic equipment or your waste management company.**

PLARAD® Torque & Tension Systems

… eine erfolgreiche Verbindung!

Maschinenfabrik Wagner GmbH & Co. KG
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EG-Konformitätserklärung

im Sinne der EG-Maschinenrichtlinie 2006/42/EG

Declaration of EC Conformity

within the meaning of the Directive on Machinery 2006/42/EG

Attestation de Conformite Communautaire

au sens de la Directive C.E. en matière de machines 2006/42/EG

Gerätetyp Model / Type:	**DE1-10 (W)** **DE1-20 (W) / DE1-25J (W)** **DE1-30 (W) / DE1-36 (W)** **DE1-48 (W)**
Bezeichnung der Maschine: Designation of the machine / Désignation de la machine:	**Elektrischer Drehschrauber** **Electric Nutrunner** **Visseuse dynamométrique électrique**

Hiermit erklären wir, PLARAD Verschraubungstechnologie:
Maschinenfabrik Wagner GmbH & Co.KG

dass die oben bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforde-rungen der EG-Richtlinien entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Der Bevollmächtigte für die Zusammenstellung der Unterlagen nach der Maschinenrichtlinie 2006/42/EG Anhang VII ist die
Maschinenfabrik Wagner GmbH & Co.KG

We, PLARAD Bolting technology:
Maschinenfabrik Wagner GmbH & Co.KG
herewith declare that the piece of machinery identified herein below fully complies with the pertinent fundamental safety and health requirements as defined in the EC Directives in terms of concept and design as well as the implemented form as marked. Any modification of the machine without our previous approval will result in invalidity of the present declaration.

The authorized representative for the compilation of the documents according to Maschinenrichtlinie 2006/42/EG appendix VII is
Maschinenfabrik Wagner GmbH & Co.KG

Nous, PLARAD La technique du boulonnage industriel :
Maschinenfabrik Wagner GmbH & Co.KG
déclarons par la présente que la machine identifiée dans ce qui suit, en raison de sa conception et sa construction ainsi que sa réalisation sous forme du modèle mis en circulation, est conforme et répond aux exigences fondamentales relatives de sécurité et de santé selon les Directives Communautaires. Toute modification de la machine sans notre consentement préalable aboutit à l'invalidité de la présente déclaration.

Le mandataire ou chargé de la compilation des documents selon Maschinenrichtlinie 2006/42/EG annexe VII est la
Maschinenfabrik Wagner GmbH & Co.KG

Much, 13 Dezember 2016

Herr Rüssmann, Lt. Konstruktion
(Engineering Manager, Responsable de la construction)

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