

## • **Joint cutters**

- Diamond drilling
- Table saws
- Wall saws
- Wire saws
- Hydraulic units
- Special machinery



# CF-22 E

Change index 004

Issue date 2016-09-21

Translation of the original operating manual



## **Operating manual maintenance manual and safety notes**



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This operating manual has been produced for specialist personnel and for users/operators trained by specialists!

Read through this operating manual before commissioning and clarify any unanswered questions with **CEDIMA®**.

This operating manual is an integral part of the machine, to be passed on with the machine and to be kept where it is easily accessible at the installation site of the machine.

The displayed and listed tools (workshop equipment) and the diamond saw blades are not part of the standard scope of delivery of the table saw!

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Technical Documentation

Translation of the original operating manual

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**CEDIMA®** Diamantwerkzeug- und Maschinenbauges. mbH  
Celle/Germany

## EC Declaration of Conformity

Manufacturer:

**CEDIMA**® Diamantwerkzeug- und Maschinenbauges. mbH  
Lärchenweg 3, D-29227 Celle/Germany

Collection and storage of the technical documentation:

Technical documentation of  
**CEDIMA**® Diamantwerkzeug- und Maschinenbauges. mbH  
Siedemeierkamp 5, D-29227 Celle/Germany

Machine description:

Walk-behind hand-guided for wet cutting in asphalt and concrete as well as similar abrasive construction materials with diamond saw blades up to 700 mm diameter in left or right cutting. Cutting shaft drive via V-belts with a 7.5 kW electric motor. Maximal cutting depth of 270 mm progressively and firmly adjustable via frame rocker and threaded rod. Pressurised water supply provided by GEKA-connection and adjustable shut-off valve. Dismountable in 3 modules for transport.

Measured acoustic power level: LWA= 94 dB (A)

Guaranteed acoustic power level: LWA(d)= 98 dB (A)

Procedure for assessing the conformity: RL 2000/14/EC, Appendix V

Hereby we confirm that in the sense of EC Directive 2006/42/EC, Annex II 1.A dated 2006-05-17 (modifications inclusive) of the European Parliament and the Council

the joint cutter **CF-22 E** from the year of manufacture 2009

complies with the following harmonised standards and EU Directives:

EN ISO 12100-1, EN ISO 12100-2, EN 13862, EN ISO 14121-1, EN 60204-1, 2000/14/EC, 2002/96/EC

In regard to dangers due to electricity, according to Annex I No. 1.5.1 of the Machinery Directive 2006/42/EC, the protective aims of the Low Voltage Directive 2006/95/EC (formerly 73/23/EEC) are met.

In regard to dangers due to radiation, according to Annex I No. 1.5.10 of the Machinery Directive 2006/42/EC, the protective aims of the EMC Directive 2004/108/EC (formerly 89/336/EEC) are met.

**This declaration of conformity immediately becomes invalid if changes are incorporated to the machine which have not been approved by us!**



Celle, 2016-09-21



Bob Siemsen (managing director)



EC Declaration of Conformity

**Chapter 1            Technical data and accessories**

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### 1.0 Technical data and accessories for the CEDIMA® joint cutter CF-22 E

#### 1.1 Technical data

<b>Drive motor</b>	electric motor
Max. motor output	7.5 kW
Speed	2900 min <sup>-1</sup>
Voltage	400 V / 50 Hz
Amperage	16 Ampere
Starting device	Star Y delta Δ reversing switch
Type of protection	IP 54
Blade mounting Ø	25.4 mm
Drive pin Ø	8,0 mm
Max. saw blade clamping width	6,0 mm
Cutting shaft rpm	1630 min <sup>-1</sup>
Max. saw blade diameter	700 mm
Max. cutting depth	270 mm
Cutting depth adjustment	manually over a lockable hand crank (threaded spindle)
Saw blade receptacle side	right or left
Feed	manuell
Water supply	Pressurised water with GEKA connection
Dimensions Length / width / height	1350 mm / 660 mm / 930 mm
Weight	110 kg
dismountable in:	
Rocker with motor and cutting shaft	60 kg
Frame	30 kg
Blade guard	20 kg
Sound pressure level at the workplace *	L <sub>PA</sub> = 78 dB (A)
Measured acoustic power level *	L <sub>WA</sub> = 94 dB (A)

\* Higher values are possible during cutting.

### 1.2 Vibration acceleration values, hand-arm vibration

Equivalent total vibration rating $a_{hv,eq}$	$< 2,5 \text{ m/s}^2$
Measurement uncertainty K	$\text{m/s}^2$

The given values can vary as they depend on the application conditions (the material that has to be cut, the state of the machine, handling, the operator and the diamond tools being used, etc.).

The actual period of exposure, which can be considerably affected by the non-productive times (reduced), must always be taken into consideration when determining the daily vibration load A (8) as per DIN EN ISO 5349-2. The following count as non-productive times: time needed for refilling with fuel, dealing with the water supply, changing the tools, setting up and moving the machine, etc., as well as securing the workplace, the area of operation.

Uncertainties in measurement according to DIN EN 12096.

A parameter calculator for determining the daily vibration rating (daily vibration load A (8)) can be found on the internet e.g. The German Accident Insurance (DGUV) and/or the Trade Association sites (BG).



#### **DANGER**

***Risk of being injured when exceeding the highest permissible daily vibration load!***

*At uninterrupted work with the CF-22 E the daily maximum value is not reached (noise and accident prevention regulation).*

### 1.3 Accessories provided:

- 1 x double open-ended spanner SW 17/36
- 1 x operating manual
- 1 x spare parts list

**No liability will be accepted for any damage that results from using accessories that do not comply with the CEDIMA® specifications.**

**Details for aiding in the selection of the correct diamond saw blade can be obtained in the current price list as well as in the current joint cutter brochure**

**Contact CEDIMA® directly in the case of special applications.**

**A list of additional accessories can be found in the current CEDIMA® price list.**

### 2.0 Joint cutter CF•22 E

The electrically driven CF•22 E is intended to be used as joint cutter / ground parting-off grinder for wet cutting, using diamond saw blades. In places where due to exhaust and/or noise protection regulations machinery with internal combustion engines cannot be used (e.g. closed rooms).

In spite of the compact design the CF•22 E can achieve a cutting depth of 270 mm and thus allowing more demanding cutting works.

The construction in 3 easily transportable modules enables trouble-free transport and the assembling of the CF•22 E at workplaces difficult to access.

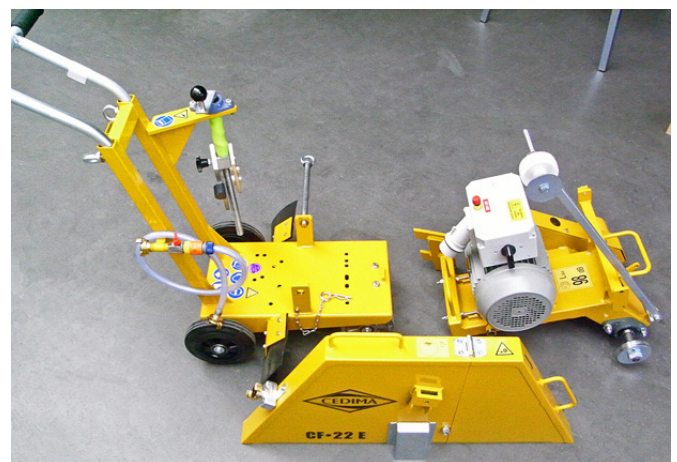
Assembly and dismantling of the subassemblies is done in just a few steps, no extra tools are necessary.



Figure 2.1

The weight distribution resulting from the arrangement of all the components of the CF•22 E on this joint cutter means that sufficient pressure is applied to the diamond saw blade, at the same time making the machine easy to handle when setting it up and repositioning.

The modular design facilitates cleaning, maintenance and if necessary the repair.



Separated in modules

Figure 2.2





## Description of the joint cutter CF-22 E

The cutting shaft with the diamond saw blade is driven by a modern, powerful electric motor over a V-belt.

The blade mounting is right or left possible. For this purpose the blade guard mounting side must be changed.

The feed is performed manually by pushing on the adjustable push handle.

Lowering and raising the diamond saw blade takes place exactly and quickly over a lockable hand crank with a threaded spindle.

By using the infinite cutting depth adjustment it is possible to achieve cutting depths of up to 270 mm.

The cutting shaft is mounted in two self-aligning pedestal bearings. The precision-engineered shaft has a 25.4 mm diameter blade mounting flange.

The front pointer, which is mounted on the joint cutter frame, enables the user to cut accurately along a line.

The water supply of the saw blade occurs over pressurised water from an external hose which is to be connected to the shut-off valve using a Geka coupling.

The drive unit and cutting shaft rpm are designed in such a way that they create the optimal conditions for cutting with **CEDIMA**® diamond saw blades.

We recommend the **CEDIMA**® diamond saw blades as a cutting insert since they achieve preservation of the joint cutter due to their cutting capacity and smooth running.

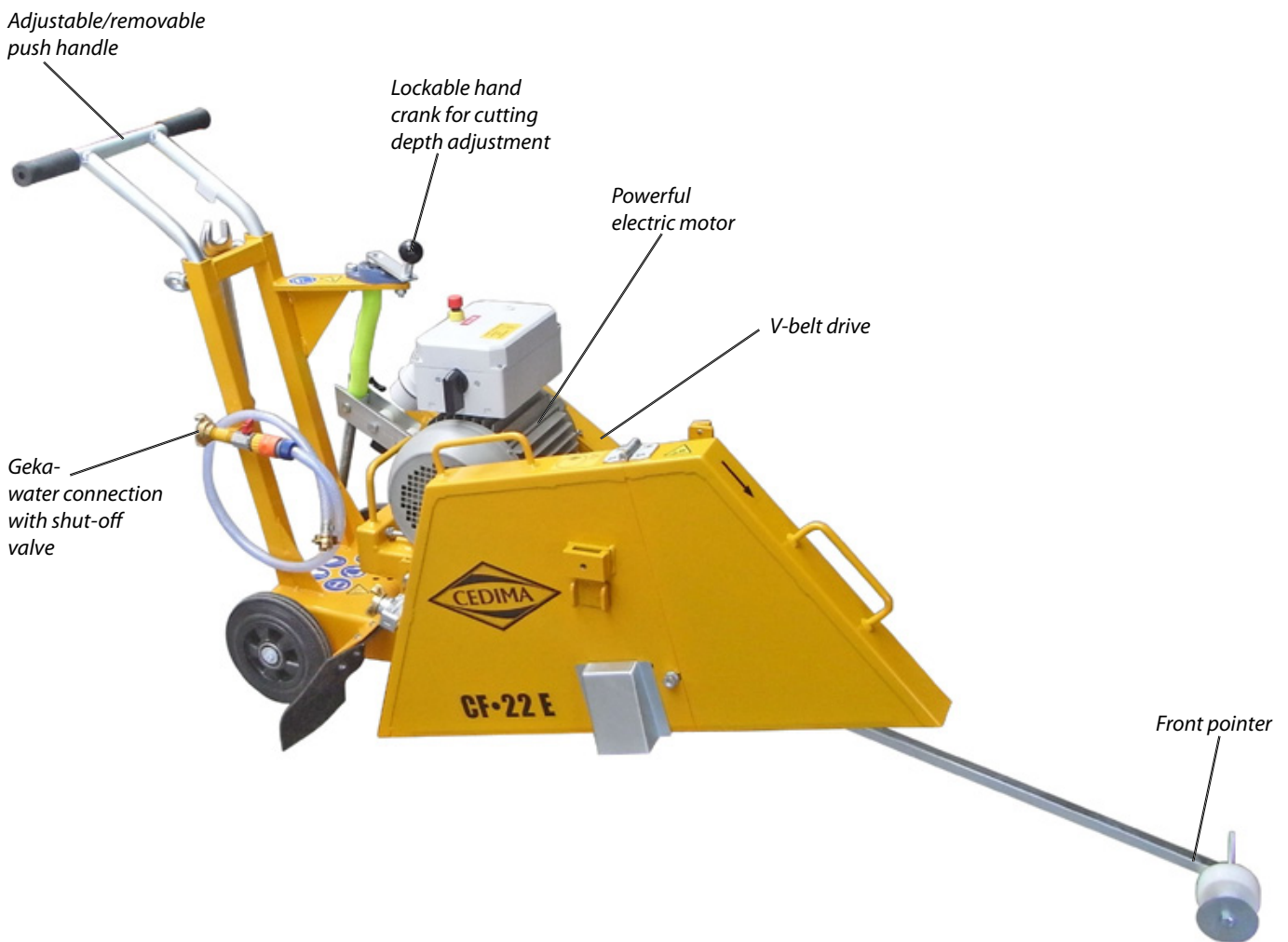


Figure 2.3



## 3.0 Basic safety instructions

### ATTENTION

Read and observe all operating manuals pertaining to the joint cutter!

### 3.1 Icons, symbols, notes

The following signs and symbols are used at the joint cutter for information of special importance:



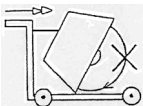
#### **DANGER**

Warning of a hazard area!

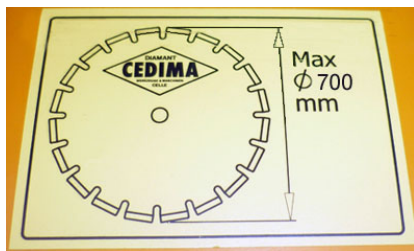


#### **DANGER**

Warning of cutting shaft, saw blade!



To move the joint cutter beyond the cutting area, stop the tool!



Maximum mountable saw blade diameter! (450 mm)



Direction of rotation of saw blade / cutting shaft (on the saw blade guard)



Guaranteed sound pressure level



Read the operating manual!



Use eye protection!



Use hearing protection!



Use foot protection!



Use hand protection



Use light breathing protection

The following designations or characters are used in the operating manual for particularly important information:

#### **Note**

Special instructions regarding economic use. The advice that follows after the "Note" symbol contains important information that differs from other text!

#### **ATTENTION!**

Special information regarding instructions and prohibitions for avoiding damage. The advice that follows after the "ATTENTION!" symbol contains instructions that must be fully complied with in order to prevent damage occurring to the fittings or material as well as injuries to the operator or third parties!



#### **DANGER**

Details or regulations and prohibitions for the prevention of injuries to personnel and/or extensive equipment damage. The advice that follows after the "DANGER" symbol warns you that ignoring the relevant instructions or procedural instructions might result in the operator or third parties being injured!

Important passages are always written in italics!

**Text passages relating to safety are always shown in bold lettering, in italics!**

### 3.2.1 Designated use, predictable misuse

- 3.2.1.1 The joint cutter CF-22 E, in the following referred to as machine, is exclusively to be used as walk-behind hand-guided floor cutting machine for cutting by means of diamond saw blades in wet cutting operation of firmly installed components made of asphalt, concrete and abrasive construction material as used e.g. in roadwork, hall floors and runways! Using the machine for purposes other than those mentioned above is considered contrary to its designated use; in particular the use of the machine with cutting tools other than those approved by the manufacturer/distributor is prohibited. The manufacturer/distributor cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user.
- 3.2.1.2 The machine is not approved for other use than the one specified herein; this constitutes improper use.
- 3.2.1.3 Operating the machine within the limits of its designated use also involves observing the instructions set out in this operating manual and complying with the inspection and maintenance directives.
- 3.2.1.4 The machine has been designed in accordance with state-of-the-art standards and recognized safety rules. Nevertheless, its use may constitute a risk to life and limb of the user or of third parties, or cause damage to the machine or other material property.
- 3.2.1.5 The machine must only be used in technically perfect condition in accordance with its designated use, the instructions set out in the operating manual and the relevant national safety regulations, and only by safety-conscious persons who are fully aware of the risks involved in operating the machine. Any functional disorders, especially those affecting the safety of the machine, must therefore be rectified immediately.

### 3.2.2 Organisational measures

- 3.2.2.1 This operational manual must always be kept at the hand at the machine operating site and must be accessible to operating personnel at all times!
- 3.2.2.2 In addition to the operating manual, generally applicable legal and other binding rules and regulations for accident prevention and environmental protection must also be observed! Such duties can, for example, also concern the handling of dangerous substances, the provision/wearing of safety equipment or road traffic regulations!
- 3.2.2.3 Additionally this operating manual with instructions, including supervisory and reporting duties for taking special plant situations should be observed, e.g. with regard to work organisation, working procedures, personnel used, ect.

- 3.2.2.4 The personnel charged with activities at/on the machine must have read the operating manual prior to beginning work! This is also especially applicable to personnel which only works at the machine occasionally (e.g. during set-up/take down, maintenance work)!
- 3.2.2.5 Safety and danger-conscious working of the personnel under observance of the operating manual must be checked at least occasionally!
- 3.2.2.6 The personnel must tie back long hair and may not wear loose clothing or jewellery, including rings! There is a danger of injury (e.g. by becoming caught or being pulled in by moving parts)!
- 3.2.2.7 If necessary or required by regulations, personal safety equipment must be used (e.g. protective goggles, hearing protection, safety shoes and safety clothing)! Corresponding to working conditions, the wearing of further personal safety equipment (protective clothing) may be necessary! The accident prevention regulations must be observed at all times!
- 3.2.2.8 All safety- and danger warnings at, in and on the machine must be observed and must always be kept in proper, legible condition!
- 3.2.2.9 In case of safety-relevant changes to the machine or its operation, shut down the machine immediately and report the fault to the responsible office/person!
- 3.2.2.10 Safety equipment at, in or on the machine may never be removed or rendered inoperative!
- 3.2.2.11 Changes, attachments and modifications to the machine which could impair safety are not permitted without the approval of the manufacturer/supplier! This also applies to the installation and adjustment of safety equipment, and to welding and drilling on load-bearing parts!
- 3.2.2.12 Replace defective or damaged machine parts immediately! Only use original spare parts!
- 3.2.2.13 Spare parts and tools must correspond to the technical requirements set down by the manufacturer/supplier! This is guaranteed by using original spare parts!
- 3.2.2.14 The intervals for repetitive testing or inspection of the machine required by law or specified in this operating manual must be complied with!
- 3.2.2.15 Hydraulic hoses must be replaced at the specified or suitable intervals, even if no safety-relevant defects are apparent!
- 3.2.2.16 To conduct maintenance measures, suitable workshop equipment and corresponding specially trained personnel are always required!
- 3.2.2.17 The ability to report and fight fire must be ensured, and all employees must be informed of the location and operation of extinguishing equipment!

## 3.2.3 Selecting qualified staff

- 3.2.3.1 Work on and with the machine may only be carried out by reliable personnel. The legal minimum age must be observed!
- 3.2.3.2 Only use trained or instructed personnel! The responsibilities of the personnel for the operation, preparation, maintenance and repair of the machine must be clearly defined!
- 3.2.3.3 It must be ensured that only authorised, skilled personnel use or handle the machine!
- 3.2.3.4 Specify the responsibility of the machine operator with regard to traffic laws and regulations and enable him/her to refuse to follow any instructions of others which would affect safety!
- 3.2.3.5 Personnel to be trained or instructed, or who are participating in general training may only use the machine when supervised by an experienced person!
- 3.2.3.6 Work on electrical components and equipment may only be carried out by an electrician or instructed persons under the direction and supervision of an electrician in accordance with the rules of electrical engineering!
- 3.2.3.7 Hydraulic equipment may only be worked on by personnel with a special knowledge of and experience in hydraulics!

## 3.2.4 Safety information on certain operation phases

### I. Normal operation

- 3.2.4.1 Always familiarise yourself with the work site and surroundings before starting work! The work-site and surroundings include, for example, the obstacles in the working and traffic area, the load-bearing capacity of the ground and the measures required for securing the work site!
- 3.2.4.2 Assemble the machine on an even, stable and hard ground! The stableness is to be ensured. Clear the ground of all things that could impede the work!
- 3.2.4.3 Ensure a safe stand on even, firm, stable ground and make sure to keep the balance any time.
- 3.2.4.4 Avoid any manner of working with the machine which could present a safety risk!
- 3.2.4.5 Machines which are driven by a combustion engine must only be filled with the fuel recommended by the manufacturer. Pay attention to the danger of fire and explosion when filling the tank! Do not spill fuel onto hot machine parts.

- 3.2.4.6 Keep to the conditions given by the manufacturer concerning the connections for electricity and water.
- 3.2.4.7 Make sure that the machine is only used when in a safe, operative condition! Only operate the machine when all safety equipment and safety-related equipment (e.g. guards, emergency-stop devices, noise insulation etc.) are present and operative!
- 3.2.4.8 Each time before you start working and at least once per shift, check the machine for obvious damage and defects. Any changes (including changes in the performance or behaviour of the machine) must be reported to the competent authority/person immediately.  
If required, shut down the machine immediately and secure it.
- 3.2.4.9 In the event of malfunctions or if the machine behaves differently, shut it down immediately and prevent it from being restarted. Have faults rectified immediately!
- 3.2.4.10 The following must be checked before starting cutting operations:
  - the diamond saw blade for compatibility to the directions given by the manufacturer regarding the drilling method (wet or dry cutting) and the kind of work to be performed
  - the proper condition of the diamond saw blade (no deformation, damages)
  - the diameter of the saw blade recommended by the manufacturer
  - the cutting speed (RPM.) of the diamond saw blade (max. RPM) of the machine recommended by the manufacturer
  - the accordance of the machine's direction of cut to the direction of cut of the diamond saw blade
  - the compatibility of the diamond saw blade to the arbour (flange)
  - that the saw blade clamping tools (spanners) have been removed,
  - the firm seating of the diamond saw blade. Secure the fit of the diamond saw blade (mounting according to recommendations of the manufacturer, with only original screws!
- 3.2.4.11 The direction of rotation of machines with electrical AC motors or hydraulic drive must be maintained to prevent loosening of the saw blade!
- 3.2.4.12 Observe the procedures for switch-on and switch-off, as well as the indicating devices described in the operating manual!
- 3.2.4.13 Before switching on the machine or putting it into gear, make sure that it cannot pose a danger to anyone during start-up or operation.



- 3.2.4.14 Only qualified operators are to be in the range of the machine. Other persons are to be kept at a safe distance!
- 3.2.4.15 The machine may only be started from the operators/drivers place (CF•22 E at the back of the machine)!
- 3.2.4.16 Take precautions to ensure that the operator always has an adequate view of the working area and can intervene in the work process at any time!
- 3.2.4.17 Before starting work, make sure that all brakes, steering, signals and lighting are in working order!
- 3.2.4.18 Hydraulic and water hoses as well as electrical cables must be installed so that damage by tools or the machine are not possible!
- 3.2.4.19 Cutting must be carried out with water to prevent the forming of health-endangering fine dusts, and to increase the service life of the cutting tool!
- 3.2.4.20 When wet-cutting, make sure that enough water is available where it is needed. Cooling water supply must always follow the cutting process!
- 3.2.4.21 When working at dry-cutting, make sure of sufficient dust removal.
- 3.2.4.22 When unhealthy or explosive substances are released (dust, sludge) observe the national safety regulations!
- 3.2.4.23 Moving the machine outside the working area may only be done with the saw blade removed!
- 3.2.4.24 When the machine is to be driven on public highways, roads and places, the relevant traffic laws must be observed and, if necessary, make sure that the machine complies with the relevant road vehicle regulations!
- 3.2.4.25 Before moving the machine, always make sure that the accessories are safely stored!
- 3.2.4.26 Do not drive transversely across inclines steeper than 5%!
- 3.2.4.27 Inclines steeper than 15% may only be negotiated with the aid of one or more safety lines!
- 3.2.4.28 When leaving the machine unattended, it must always be secured against being switched on again accidentally!
- II. Special work related to the maintenance and repair of the machine and troubleshooting, disposal**
- 3.2.4.29 Observe the adjustment, maintenance and inspection work and intervals set down in the operating manual, including the specifications for the replacement of part and assemblies. This work may only be carried out by specially trained personnel!
- 3.2.4.30 Inform the operating personnel before the start of special- and maintenance work! Name the responsible supervisor!
- 3.2.4.31 During all work concerning the operation, adaption for production, conversion or adjustment of the machine and its safety-related equipment, as well as inspection, maintenance and repair work, observe the procedures for switching the machine on and off as described in the operating manual and the information on performing maintenance work!
- 3.2.4.32 Block off a large area around the maintenance area if necessary!
- 3.2.4.33 Service and repair work may only be carried out with a fully lowered cutting shaft/frame or through securing the frame by means of approved trestles. Hydraulic valves for raising the frame must be opened (pressure relief).
- 3.2.4.34 Only conduct maintenance and repair work with the machine standing on a level surface with sufficient load-bearing capacity and secured against rolling!
- 3.2.4.35 If the machine is completely shut down during maintenance and repair work, it must be secured against accidentally being switched on again:
- remove the key and/or disconnect the power supply!
  - install a warning sign!
- 3.2.4.36 During replacement, individual parts and larger assemblies must be mounted and secured carefully on lifting equipment, so that they cannot present a danger! Only use suitable lifting equipment and load attachment devices in proper technical condition and with a sufficient load-bearing capacity! Never stand or work under hanging loads!
- 3.2.4.37 Only charge experienced persons with the attachment of loads and the instructing of crane or industrial truck operators. The person giving instructions must be within sight of or must have voice contact with the operator!
- 3.2.4.38 Before maintenance/repairs, clean the machine and remove any grease, dirt or residues left by protective substances from the connectors or screw joints. Never use aggressive cleaners (detergents)! Use a lint-free cloth!
- 3.2.4.39 Before cleaning the machine with water or any other cleaning solution, cover or mask off all openings into which no water, steam or cleaning agents may enter for safety and operational reasons! Ball bearings, electric motors and control cabinets are particularly endangered! Pay attention to special types of protection!
- 3.2.4.40 The cover/taped protection must be completely removed after cleaning!



- 3.2.4.41 Following cleaning, inspect all cable and hydraulic connections for leaks and/or loose connections, for rub spots and damages. Have any defects rectified immediately!
- 3.2.4.42 Any bolted joints which have been undone during maintenance and repair work, must always be tightened up again afterwards!
- 3.2.4.43 If it is necessary to remove safety equipment during preparation, maintenance and repair work, then this safety equipment must be mounted and checked immediately following the completion of the preparation, maintenance and repair work!
- 3.2.4.44 Always keep a safe and sufficient distance to edges of excavations, ditches and slopes!
- 3.2.4.45 Refrain from any manner of working which may affect the stability of the machine under load!
- 3.2.4.46 Before leaving the machine, secure against it rolling away inadvertently!
- 3.2.4.47 Ensure that all process materials, auxiliary materials and replaced parts are disposed of in a safe and environmentally favourable way!

## 3.2.5 Information about special risks related to electric energy

- 3.2.5.1 Electric connections are only permitted in CE-approved mains networks with appropriate fusing and fault current safety switch.
- 3.2.5.2 Observe the pertinent DIN/VDE regulations!
- 3.2.5.3 Electrical connections must always be free of dirt and moisture!
- 3.2.5.4 Only use original fuses with the specified amperage! Switch off the machine immediately in the case of faults in the power supply!
- 3.2.5.5 Avoid physical contact with earthed parts e.g. pipelines (danger by electric shock).
- 3.2.5.6 After touching or cutting lines carrying high voltage:
  - Let go of the machine but do not leave it unattended!
  - Run the machine (saw blade) out of the danger area provided it is possible without endangering the operator!
  - Warn outsiders against approaching and touching the machine!
  - Have the voltage switched off!
  - Only leave the machine when the cable touched or damaged has definitely been de-energised!
- 3.2.5.7 Always keep the machine in a sufficient distance from electrical overhead cables! When working near electric overhead cables, the equipment must not come near the cables! **DANGER TO LIFE !!!**  
Find out about the safe distances to be maintained!

- 3.2.5.8 Work on the electrical system or equipment may only be carried out by a qualified electrician or by properly instructed personnel working under the supervision of a qualified electrician and in accordance with the applicable electrical engineering rules.
- 3.2.5.9 Machine parts on which inspections, maintenance and repair work is carried out, must be de-energised if required! First check the de-energised parts to make sure there is no voltage, then earth and short-circuit and isolate adjacent live parts!
- 3.2.5.10 The electric parts of the machine must be regularly inspected and thoroughly checked! Any faults – e.g. loose connections or charred cables must be cleared immediately!
- 3.2.5.11 When work has to be carried out on the live parts, a second person must be present to cut the power supply or turn the main power off in case of an emergency! The work area must be secured with a red and white warning chain and a warning sign! Use voltage-insulating tools only!
- 3.2.5.12 When working on high-voltage assemblies after switching off the voltage, connect the supply cable to earth and short-circuit the components, e.g. capacitors, using the earth rod!
- 3.2.5.13 If used, mobile electrical apparatus, connecting cables with plugs, extension cables and equipment power cables with their plugs attachments are to be checked at least once every six months by an electrician or by means of suitable testing apparatus operated by a person with knowledge of electrics, to ensure that they are functioning correctly!
- 3.2.5.14 Protective installations with fault current protection units are to be checked for their effectiveness at least once a month by a person with knowledge of electrics!
- 3.2.5.15 Residual-current and residual-voltage protective devices must be checked regularly for proper operation by actuating the test facility:
  - once each working day for mobile systems
  - at least once every six months for a stationary system!

## 3.2.6 Gas, dust, vapour and smoke

- 3.2.6.1 Welding, grinding, sanding or using a flame on the machine is prohibited unless it has been explicitly permitted!
- 3.2.6.2 Before welding, grinding or using a flame, the machine and the surrounding area must be cleaned of dust and combustible materials and sufficient ventilation provided (danger of explosion)!
- 3.2.6.3 Observe any applicable national regulations when working in confined spaces!

3.2.6.4 Combustion engines must be used in sufficiently ventilated rooms only! Never leave the engine running in enclosed or confined spaces! The exhaust fumes contain the poisonous gas carbon monoxide!

3.2.6.5 Check all pipes and lines, hoses and screwed joints for leakage and visible damage! Clear any faults immediately / have any faults cleared immediately!

### 3.2.7 Noise

3.2.7.1 Noise-absorbing elements of the machine must be in their proper places during operation of the machine!

3.2.7.2 Wear hearing protection as required (e.g. according to the valid accident prevention laws/occupational health and safety laws)!

### 3.2.8 Lighting

3.2.8.1 The machine is designed for use in daylight only! The operator must make sure that adequate lighting is provided in unlit working areas!

### 3.2.9 The handling of fluids, lubricants and other chemical substances

3.2.9.1 When handling pressure fluids, lubricants, greases or conservation agents (hereinafter referred to as operating materials or lubricants), the safety regulations applicable for the respective product must be observed!

3.2.9.2 Avoid prolonged contact of operating materials and lubricants with the skin! The skin must be carefully cleaned of adhesive operating materials and lubricants!

3.2.9.3 Be careful when handling pressurised liquids! There is a risk of injury due to hydraulic fluid escaping at high pressure! Never tamper with the hydraulic system, especially not with the pipes and hoses!

3.2.9.4 Exercise caution when handling hot operating materials and lubricants, as there is a danger of burns or scalding! Particularly at liquid temperatures above 60 °C, avoid any skin contact with these liquids!

3.2.9.5 If operating materials or lubricants get into the eyes, flush thoroughly with drinking water! Then visit a doctor!

3.2.9.6 Immediately clean up any operating materials or lubricants which have leaked out! Use absorbent material for this purpose!

3.2.9.7 Operating material and lubricants must not be allowed to seep into the soil or get into the public sewage system!

3.2.9.8 Properly collect, store and dispose of operating materials and lubricants which can no longer be used!

3.2.9.9 Observe and follow the respective applicable laws and regulations for handling operating materials and lubricants and their disposal in the country in which these substances are used! Obtain information from the responsible agencies!

### 3.2.10 Transporting the machine

3.2.10.1 Observe the relevant regulations, directives and standards.

3.2.10.2 Use hoisting tools and floor-level conveyors with loads > 25 kg.

3.2.10.3 For loading or transporting the machine, use only lifting and transporting devices and equipment with a sufficient bearing force!

3.2.10.4 Determine an experienced instructor for the lifting/hoisting process!

3.2.10.5 Only lift the machine properly in accordance with the operating manual (position, points of attachment for hoisting devices), using hoists!

3.2.10.6 Only use a suitable transport vehicle with sufficient load-bearing capacity!

3.2.10.7 For transport, the saw blade has to be dismantled!

3.2.10.8 Before transporting the machine, always make sure that the accessories are stowed away in such a way that they cannot cause an accident!

3.2.10.9 The machine must always be kept straight and horizontal, otherwise the operating material, fuel and/or oil will run out of the machine!

3.2.10.10 Secure the load reliably! Use suitable attachment points!

3.2.10.11 Before loading, secure the machine and its assemblies to ensure that it cannot move accidentally! Attach a corresponding warning sign! Remove the devices properly before putting into operation again!

3.2.10.12 Carefully remount and secure parts that must be removed for transport purpose before putting into action again!

3.2.10.13 Even when relocating slightly, disconnect the machine from any external power supply! Before putting into operation again re-connect the machine properly to the power supply!

3.2.10.14 When resuming operation, only proceed as described in operating manual! The machine may only be installed and operated in accordance with the instructions of this operating manual!

### 4.0 Set-up and operation

#### 4.0.1 To be checked on delivery

First check the completeness and intactness of your **CEDIMA®** joint cutter CF•22 E. You will find the scope of the delivery in the chapter “Technical data and accessories”.

The joint cutter can be put into operation with no special effort or installation procedure. However, when setting up and operating the machine it is important to observe the notes shown below, as well as the general safety regulations and safety instructions for the operation of the engine.

#### 4.1 Preparing the joint cutter

##### 4.1.1 Assembling/dismantling the joint cutter

###### Assembling:

- Grease all connecting elements before each assembly.
- Place rocker with motor and cutting shaft down into the bearing on the trolley.
- Insert the central bolt and secure by means of the spring pin.
- Fix the connecting plate for the height adjustment onto the rocker using the ring bolt. The connecting plate must be located in the upper section of the threaded spindle.
- Attach the blade guard.

###### Dismantling:

- Proceed in reverse order to Assembling.

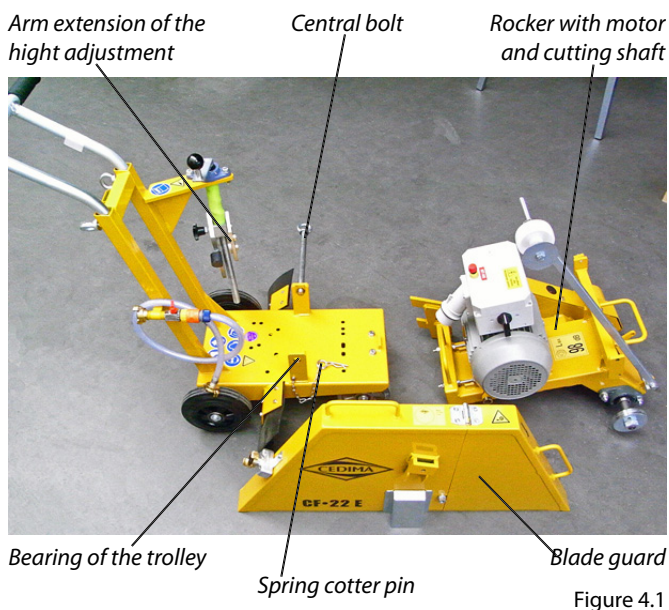


Figure 4.1

##### 4.1.2 Adjusting the push handle

Release the ring bolts and pull out the push handle appropriate to your height until you can move the joint cutter comfortably.

Lock the push handle in the desired position by means of the ring bolts.

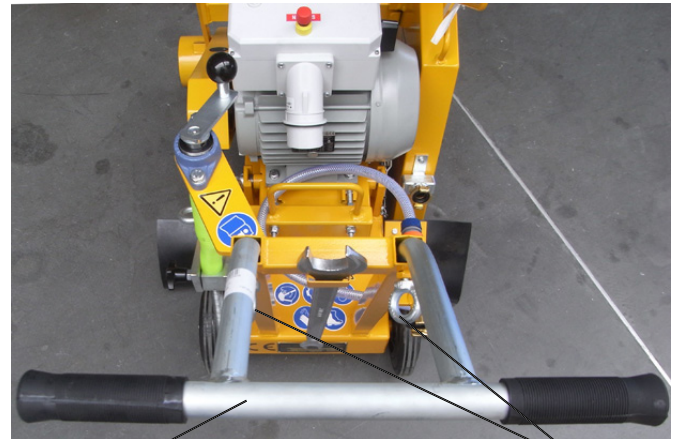


Figure 4.2

##### 4.1.3 Checking the V-belts tension

Check the tension of the V-belts daily!

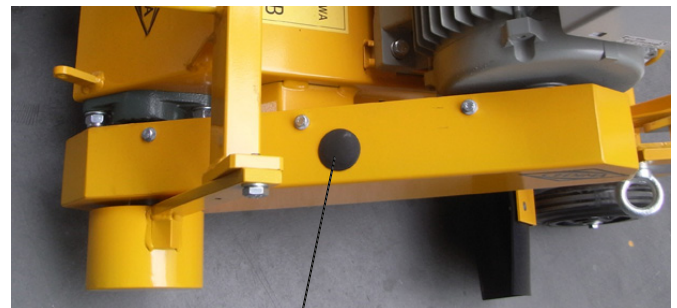


Figure 4.3

The tension of the V-belts is checked as follows:

Disconnect the joint cutter from the mains by pulling the plug!

Remove the plug of the V-belt cover at a motor standstill. The plug is located on top of the belt cover.

Check the now accessible V-belts through the control opening by pressing the belts with your fingers. It should only be possible to press the belts about 10 mm downwards. If they can be pressed further they need to be retightened.

**The tensioning and changing of the V-belts is described in chapter “care and maintenance”.**



### 4.2 Mounting the diamond saw blade

#### 4.2.1 General information on mounting

The drive unit of motor and cutting shaft RPM are designed to provide optimal conditions for cutting with **CEDIMA®** diamond saw blades!

Choose the right kind of diamond saw blade for the material to be cut!

**Observe the diameter of the shaft hole (spindle diameter) and of the cutting shaft.**

Please refer also to chapter “technical data and accessories”.

If the shaft hole diameter of your saw blade is larger, use an appropriate reducing ring!

**The maximum permissible saw blade diameter is 700 mm!**

Detailed information about the proper saw blade types and reducing rings are to be obtained from **CEDIMA®**!

**CEDIMA®** can not accept any warranty in case of incorrect use of diamond saw blades!

Complaints concerning diamond saw blades supplied by **CEDIMA®** can only be accepted if the diamond segments show a minimum remaining segment height of 20 %!

#### 4.2.2 Lifting the cutting shaft



#### **DANGER!**

**Make sure that the joint cutter can not be started unintentionally by isolating the motor from the power supply!**

Loosen the star-knob screw which locks the lifting spindle.

Turn the spindle by means of the hand crank until the blade arm reaches its maximum height. At the same time the machine is braked by the stopper.

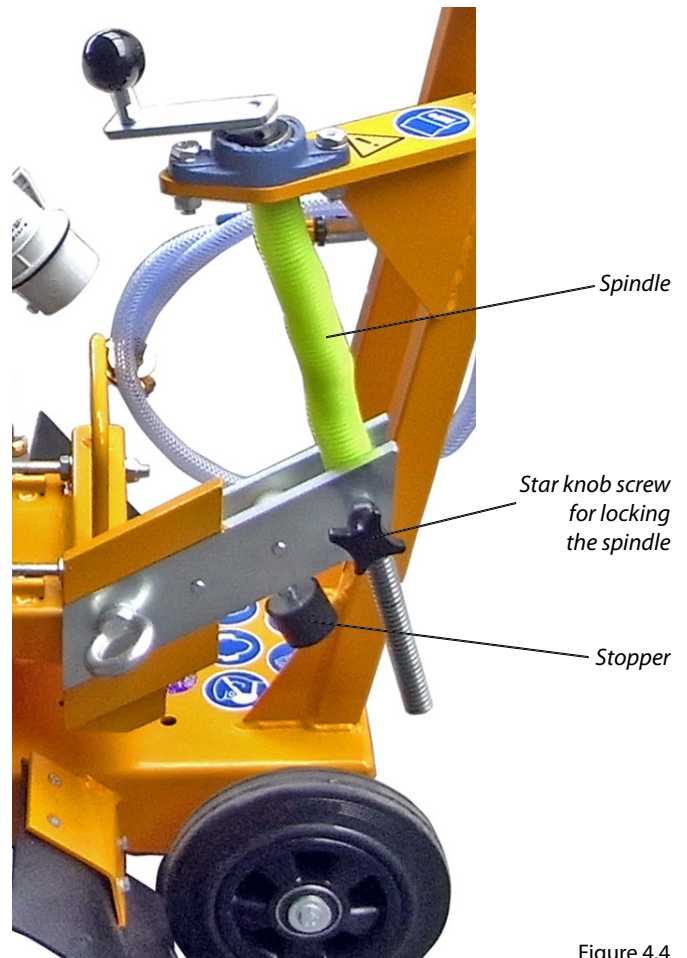


Figure 4.4

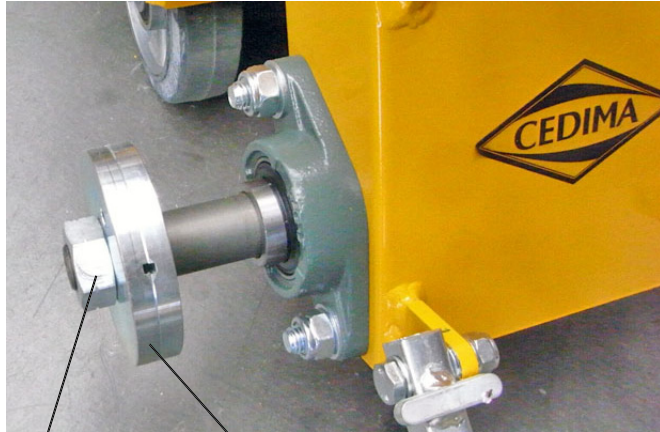
Loosen the clamping screw on the blade guard and lift it upwards from the machine.



Figure 4.5

### 4.2.3 Mounting the saw blade

Loosen and remove the cutting shaft nut with the SW 36 spanner provided.



Cutting shaft nut  
Pressure flange

Figure 4.6

Remove the pressure flange.

Provide cleanliness of cutting shaft (thread) and blade flanges. Remove any dirt with a lint-free cloth.

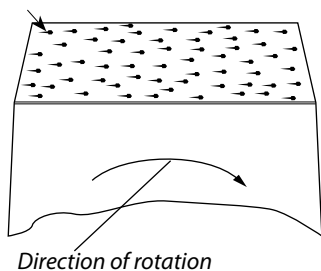
**The direction of rotation of the cutting shaft has to comply with the direction of rotation of the saw blade!**

The sense of rotation of the cutting shaft is marked by an arrow on the blade guard.

Imprinted on the saw blade is an arrow for the cutting direction.

If this arrow is not visible, the cutting direction of the saw blade can be determined as follows: During cutting, a "tail" is formed behind the diamond; therefore, the diamond is always in front of the "tail" (direction of rotation).

Diamond tail



Segment

Figure 4.7



#### **DANGER!**

**Check the sense of rotation of the diamond saw blade, its true running and make sure it is undamaged!**

Before mounting the saw blade check it for possible damages.

Any damages/missing diamond segments as well as untrue running exclude the use of the saw blade.

Mount the diamond saw blade and the clamping flange on to the cutting shaft and tighten the cutting shaft nut securely!

Make sure that the drive pin is properly inserted into the clamping flange!

Replace the blade guard and tighten it with the clamping screw.

After the cutting shaft nut has been tightened on the opposite side the cutting shaft protection must be assembled.



#### **DANGER!**

**Using the joint cutter without the blade guard is not allowed!**

Diamond saw blades are designed to re-sharpen themselves during cutting operation. They can become blunt by frequent cutting in heavy steel armouring or in hard material, which is only slightly abrasive. Blades can be re-sharpened by cutting in an abrasive material such as chalky sand stone or asphalt!

#### **ATTENTION!**

**Operating the joint cutter without blade cover is not allowed!**

### 4.3 Aktuate the parking brake

To park the machine and prevent it from rolling away unintentionally, set the cutting shaft to the highest position using the hand crank.

In this position, the left rear wheel is blocked.

Spindle

Star knob screw for locking the spindle



Stopper

Figure 4.8



At strongly sloping terrain the machine must be additionally secured against rolling away.

Replace a worn stopper in time to preserve the braking effect.

### 4.4 Adjusting and using the front pointer

The front pointer is adjustable mounted on the rocker with motor of the joint cutter.

When fold down it allow the operator to cut precisely along a marked line.

Alignment of the pointer is carried out with the motor stopped and with the diamond saw blade fitted.

If the pointer has been knocked out of adjustment or bent during transportation, it can be realigned as shown in the illustration below.

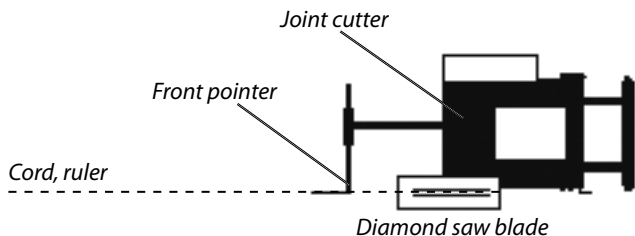


Figure 4.9

Stretch out a cord, a straight edge or a chalked line parallel to the saw blade.

Loosen the locking nut and securing screw of the front pointer rod.

Now dislocate the pointer disc to the left or right until the saw blade is aligned in line with the pointer disc. Finally retighten the screw.

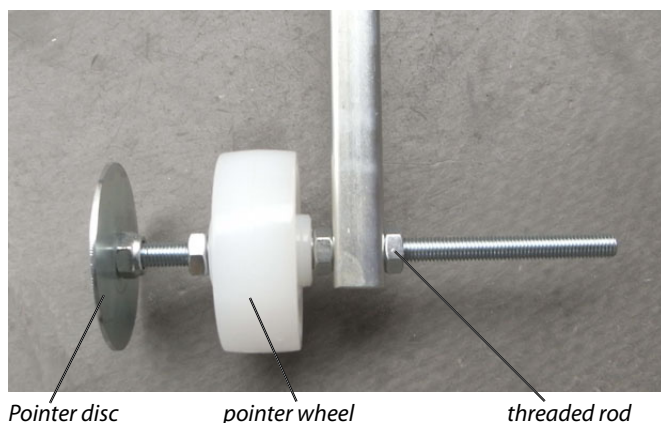


Figure 4.10

### 4.5 Connecting the water supply

The joint cutter CF•22 E is provided with water via a GEKA coupling.

The water shut-off valve which is located behind, permits to stop or reduce the supply of water.

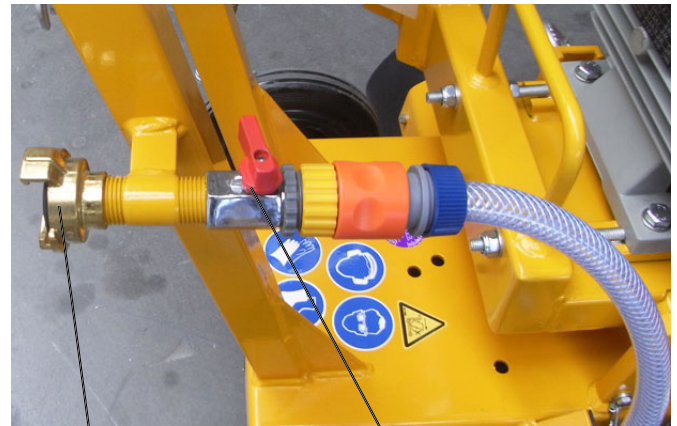


Figure 4.11

Only use water which is free from coarse pollution (free of solids, clean) to prevent blockage of the cooling system!

### **ATTENTION!**

**Cutting tools which are designed for the wet-cutting mode only, may never be operated without water! Loss of segments will inevitably be the consequence!**

### 4.6 Starting the motor



### **DANGER!**

**When starting the engine, the cutting shaft with any mounted saw blade will start rotating immediately!**

**The joint cutter should only be moved to the operating area when the saw blade is at standstill!**

**Transporting and moving the joint cutter with the saw blade rotating freely is forbidden!**



**Ear protection must be worn!**

To start the motor in safety, lift the diamond sawing blade from the surface to be cut (resp. out of the cut) by turning the crank 2 turns by hand.

The motor is started via the star-delta reversing switch on the control box.

Before starting, connect the power supply to the electric motor. Make sure that you obey the relevant safety provisions for the operation of electrical machinery.

# Set-up and operation

## Joint cutter CF•22 E



### **ATTENTION!**

#### **Connect the electrical connections properly!**

Working on electrical mains and electric motors may only be carried out by electricians or by persons under the supervision of electrical specialists according to the electro-technical rules. Observe the specific rules and regulations of the country in question!

For use on a construction site, the connections must be on a power supply according to IEC (EN) 61439 und 60364-7-704 a building site power supply!

Pay attention to the relevant safety information for operating electrical systems, e.g. DGUV 3 of BGHW, the respective VDE specifications and the relevant measuring (standard) e.g. EN 60 204-part 1!

### **ATTENTION!**

#### **Observe specifications for connecting the mains power supply cable!**

The mains power supply cable, the cable drum must be according to the connected values and be released for the outer area!

Never connect with the mains power supply cable wound onto the cable drum since power losses can occur on the joint cutter due to the heat resistance!

From a cable length of 50 m losses in performance arise on the joint cutter!

From a cable length of 100 m losses in performance increase strongly!

The losses in performance can be almost completely compensated for by using appropriate cable cross sections:

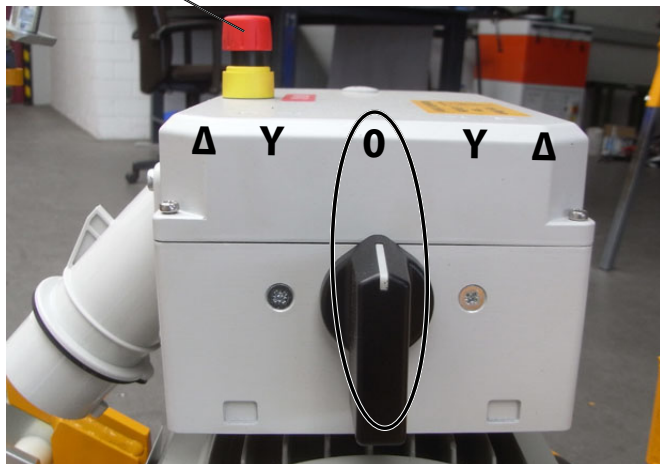
Pay attention to the cross-section equivalent to the lengths of the electric connections:

up to 20 m → 5 x 4 mm<sup>2</sup>

up to 50 m → 5 x 6 mm<sup>2</sup>

up to 100 m → 5 x 10 mm<sup>2</sup>

Emergency-stop button



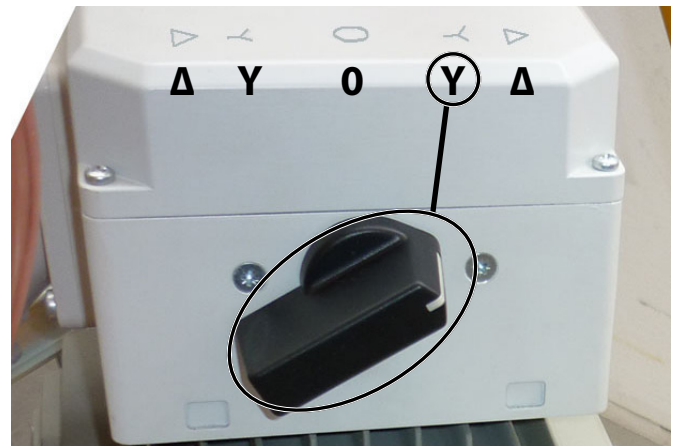
CF-22 E switched off

Figure 4.12b

The saw blade will start rotating on operating the motor switch. Make sure that no danger might occur from the rotating saw blade!

Turn the star-delta reversing switch right to **Y** position until the saw blade begins to turn, then turn the star-delta reversing switch left, back to **0**.

The saw blade is slowly running down. Observe the rotational sense of saw blade. The rotational sense of the saw blade must correspond to the direction indicated by the arrow on the blade guard (the rotational sense of the ventilator wing must correspond to the arrow on the ventilator cover).



Star-delta reversing switch switched in Y-position

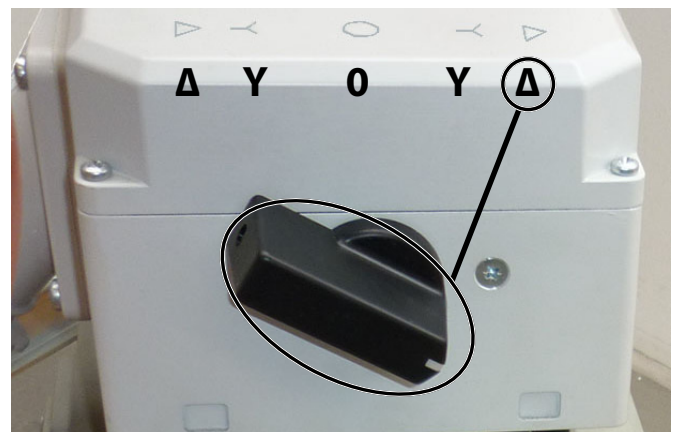
Figure 4.12a

When the rotational senses match, turn the star-delta reversing switch again right to position **Y**. Wait until the motor has reached the final number of revolutions, then turn the star-delta reversing switch further right to **Δ**.

If the direction of rotation of the saw blade is wrong, switch the star-delta reversing switch to the left and, when the final speed is reached, switch it further to the left into the **Δ** position.

### **ATTENTION!**

#### **Only operate the machine in the Δ position!**



Star-delta reversing switch switched in Δ-Position

Figure 4.12c

### 4.7 Adjusting the cutting depth

The cutting shaft respectively the diamond saw blade are steplessly lowered and raised by means of the hand crank with threaded spindle.

After lowering the diamond saw blade to the required depth, the spindle is fixed against accidental adjustment by means of the star knob screw.

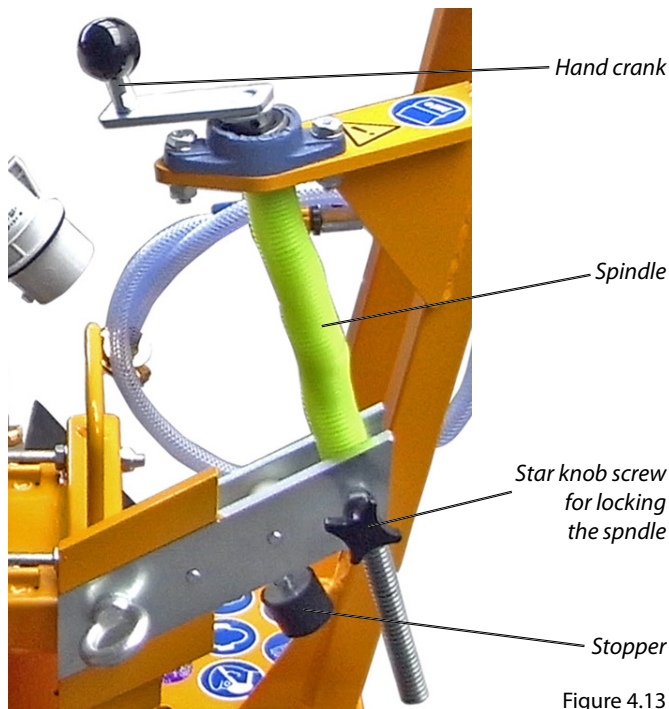


Figure 4.13

### 4.8 Performing the cutting work

- Align the joint cutter to the cutting line.
- Open the water shut-off valve and regulate the required water quantity.
- Lower the diamond saw blade slowly to the desired cutting depth. Hold the joint cutter firmly!
- Proceed in several steps when deep cutting operations are to be performed.  
Cutting depth per cut:
  - Asphalte up to 10 cm
  - Concrete up to 6 cm
- After lowering the saw blade to the desired cutting depth tighten the cutting depth adjustment.
- The motor should continue to run at approximately nominal speed.
- The cutting feed is generated by pushing the joint cutter forward. Start moving the joint cutter slowly and keep pushing forwards evenly! Choose the feed rate in such a way so that the motor rpm is slightly reduced!

### 4.9 Finishing cutting operations

- Move the joint cutter a little backwards in order to allow the diamond saw blade to turn freely in the cut.
- Release the hand crank and raise the diamond saw blade out of the cut. Keep the machine in its position. Now secure the hand crank against unintentional displacement.
- Activate the fixing brake as described in section 4.3.
- Stop the water supply.
- Switch off the blade drive motor by putting the star delta switch in to position "0"!

**The joint cutter is additionally equipped with an emergency stop button which enables its quick separating of the motor from the power supply in case of danger.**

**The emergency stop button is located on control box of the star-delta reversing switch.**

### 4.10 Replacing the diamond saw blade

**The diamond saw blade is replaced:**

- after complete wear of the diamond segments
- when the material to be cut changes.

**Replacing the diamond saw blade is absolutely necessary:**

- if it is worn down unevenly
- if the diamond segments are damaged or broken off.

For mounting a new diamond saw blade please proceed as described in section 4.2.

### 4.11 Work to be performed after use

Carry out cleaning and maintenance work according to chapter "care and maintenance"!

## 5.0 Maintenance and care

When carrying out maintenance and care work, follow the "Basic safety instructions" in chapter 3 of this operating manual!

- The joint cutter has to be cleaned before each maintenance!
- Care and maintenance work has to be carried out according to the cycles described in chapt. 5.5! Also check and if necessary change or adjust all wear parts that have not specifically been included in the listed maintenance intervals.

Keep exactly to the care and maintenance intervals! This will lengthen the life of your machine!



### **DANGER!**

#### ***Risk of injury!***

***The joint cutter CF-22 E has to be switched OFF when care and maintenance work is being carried out!***

***Switch off the blade drive motor! Disconnect the joint cutter from the mains!***

***Secure the joint cutter against unintentional starting and rolling off!***

## 5.1 Cleaning

### **Cleaning agents**

- Do not use any aggressive cleaning agents (solvents, acids or similar)
- High-pressure cleaners and aggressive cleaning fluids, as well as cleaning with fluids of exceeding a temperature of 30 °C are not allowed!
- Use lint-free cleaning cloths!



## 5.2 Cleaning procedure

### **Dry cleaning**

- Remove dust and dirt with a lightly damp cloth!
- Remove stubborn crusty sediment with a (not too hard) brush!

### **Wet cleaning**



### **ATTENTION!**

***Do not use high-pressure cleaners respectively steam cleaners!***

***For safety reasons, no water / cleaning liquid may penetrate the electric motor, plugs and switch box with the star-delta reversing switch!***


- Therefore, cover or seal all openings, casings, plug connectors etc. which are at risk!
- Remove dirt and residues with a "gentle" jet of water and a (not too hard) brush.
- Be especially careful at the critical parts (e.g. electric motor, switches,...)!

*The electric motor as well as all electrical components may not be cleaned with a water jet!*

- To avoid them running dry, do not rinse the bearings with water! The bearings are lubricated for life.
- After cleaning, covers or sealing materials are to be removed completely!

### **Re-greasing, corrosion protection**

- After cleaning, provide the metallic sliding parts (spindle fig. 4.13) with a thin coating of grease (anti-rust protection) or corrosion protection oil! All other metal bearings and movable machine parts should never run dry, but slightly be greased with a thin film of multi-purpose grease and machine oil!

 Excessive grease and oil promotes wear and tear due to adhesive dust and dirt (slurry) clinging to the machine!

- Check all connections and connecting elements between the components and re-tighten screw connections that may have become loose (see section 5.4)!



### 5.3 Maintenance and care of the motor

The electric motors does not need any special maintenance and care. Stick to the safety and functional checks!

#### **ATTENTION!**


***Stick precisely to the maintenance and inspection intervals (refer to section 5.5) and let the repair works be carried out by a specialized workshop or by CEDIMA®.***

*Thus you extend the life time of your joint cutter.*

### 5.4 Tightening torques

Coarse-pitch thread acc. to DIN ISO 262	tightening torque [Nm] matching the strength class	
	8.8	10.9
M 4	2.25	3.31
M 5	4.61	6.77
M 6	7.80	11.5
M 8	19.1	28.0
M 10	38.0	55.8
M 12	66.5	97.7

According to VDI directive 2230

 *Keep the safety and warning plates fitted to the machine always clean so that they are still legible after a longer period.*



### 5.5 Maintenance intervals for the CEDIMA® joint cutter CF•22 E

	Before every start-up	After finishing work	Every working day	Initially after 10 h	Weekly	Monthly	After 3 - 6 months	Annually	In case of disturbances	In case of damages
Entire machine	3	1						3	3	
Electrical system (switches, ...)			7		7	7	7	7		4
Tool holder (flange and saw blades holder)	1, 3								3	4
Tool (diamond saw blade)	3, 6	1								4
Control elements (hand crank, ...)	3	1								4
V-belt	3			3, 5	3			4	3	4
Threaded spindle					2				3	4
Motor housing		1								
Motor	3, 7									
Parking brake	3								3, 5	4
Reachable connecting elements (nuts, screws, ...)					5					

h = Operating hours

- 1 Clean
- 2 Lubricate, grease, oil, corrosion protection
- 3 Control (visual inspections, function)
- 4 Change, exchange
- 5 Retighten, adjust, change wear parts
- 6 Change as required
- 7 Legally required safety inspection (see section 5.6)

*The description of the maintenance work can be found in the following and respective chapters of this operating manual!  
The table can be updated at any time by CEDIMA® (for example appropriate technical requirements and developments)! Inform yourself by contacting CEDIMA®!*

**5.6 Safety checks of the electrical system according to DGUV regulation 3 § 5, processing instruction paragraph 1 No. 2**

**Table 1 A: Repeated inspections of stationary electrical installations and equipment**

Installation / Equipment	Control period	Type of control	Inspector
electrical installations and stationary equipment	4 years	checking for good operational condition	electrical specialist
electrical installations and stationary electrical equipment in "operating sites, rooms and installations of special kind" (DIN VDE 0100 Group 700)	1 year	checking for good operational condition	electrical specialist
protective measures with residual-current-operated protective devices in non-stationary installations	1 month	effectivity	electrical specialist or electro-technical trained person, using suitable measuring and control instruments
Fault current, residual current device and circuit breaker  – in stationary installations – in non-stationary installations	6 months  every working day	checking for faultless function by releasing the checking device	operator

**Table 1 B: Repeated inspections of non-stationary electrical installations and equipment**

Installation / Equipment	Control period standard values and maximal values	Type of control	Inspector
– non-stationary electrical equipment (if used) – extension cables and connecting cables with sockets or plugs – connection cables with plugs – mobile cables with plugs and sockets	as a standard value every 6 months, on building sites 3 months*). Obtaining a margin of error < 2%, the control period can be extended.  Maximum values: On <b>building sites</b> , in <b>production facilities</b> and <b>work shops</b> or under similar conditions, one year  in <b>offices</b> or under similar conditions, two years.	checking for good operational condition	electrical specialist, when using appropriate measuring instruments also electro-technically trained persons

For more concrete specifications, refer to "rules for safety and health protection - selection and operation of electrical installations and operating equipment on building sites" (BGI 608).

### 5.7 Maintenance work

#### **ATTENTION!**

**Observe the safety instructions of this operating manual and all safety notes of attachments supplied with the joint cutter!**

#### **ATTENTION!**

**Only use genuine parts!**

Only by using genuine parts or parts (spare parts) approved by CEDIMA® the operational safety of the CF•22 E can be guaranteed.

#### 5.7.1 Adjusting the tension of the V-belts

For tensioning the V-belts slightly loosen the two motor fixing screws (fig. 5.1). Pull the motor backwards with the help of the two tensioning screws mounted on the rear side of the motor. While doing this, check the tension of the belts.

After the correct belt tension has been achieved, retighten the lock nuts of the tension screws and the motor fixing screws.

Motor fixing screws



Clamping nut

Lock nut

Figure 5.1

#### **ATTENTION!**

**Tighten the nuts of the clamping screws evenly!**

Unevenly tightened clamping nuts might lead to canting of the motor suspension plate and consequently of the motor and V-belt pulleys on the motor shaft.

The V-belts are running at the edges of the V-belt pulleys and wear more quickly. A sudden rupture with negative consequences for the diamond saw blade and the motor cannot be excluded!

#### **NOTE**

An even tightening of the clamping nuts can be obtained by turning the nuts alternately each one turn!

- Check the tension of the V-belts (refer to section 4.1.3).

#### 5.7.2 Changing the V-belts

The V-belts should and/or have to be replaced, when further tensioning is no more possible and when they are damaged (frayed, porous, ...).



#### **DANGER!**

**Risk of jamming and crushing during changing of the V-belts! Watch out for hands and fingers!**

#### **NOTE**

The belts should always be changed together, so an equal tensioning and power transfer is possible.

Depending on the right or left cutting side, dismantle the blade guard or the cutting shaft protection first (fig. 4.3).

After dismantling the V-belt cover (fig. 4.3) the V-belt drive is exposed.

Relax the V-belts as described in sect. 5.7.1, remove the old belts and place the new.

Tighten the cutting shaft V-belts and mount the V-belt cover and the blade guard resp. cutting shaft protection.

#### **ATTENTION!**

**Do not use any sharp or pointed objects for changing the V-belts in order to prevent damages that might destroy the V-belts.**

#### **NOTE**

Turn the pulleys of the cutting shaft and the motor and move the V-belts diagonally across the pulley grooves until all V-belts are parallel.

#### **ATTENTION!**

**Do not overstretch the V-belts (1,5 % wear limit)! The V-belt can break and the cutting shaft bearings and motor bearing will be destroyed otherwise.**

#### **ATTENTION!**

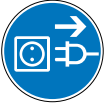
**New V-belts have to be checked for correct tension and, if necessary, be retensioned at least after 10 operating hours!**

#### 5.8 Transporting the joint cutter CF•22 E



##### **DANGER!**

***Risk of injury! The joint cutter must always be switched off before transport, secured against unexpected restarting and against rolling away!***



*Disconnect the mains power connection, pull out the mains plug!*

- Uncouple the external compressed water hose and drain the cooling and flushing system completely!
- Dismount the diamond saw blade!

Do not transport the joint cutter with the diamond saw blade mounted!

- Transport the joint cutter upright and horizontally!
- Swivel up the front pointer!
- Lower the cutting shaft up to the stop!
- Push completely in the push handle and secure.

##### **ATTENTION!**

***The push handle is not designed for transport by crane!***

- Pay attention on the firm seat of all joint cutter components (tools,...).
- Use the two push handle pipes and the rocker for lashing!
- Dismantle the joint cutter in the appropriate (3) parts (see sect. 4.1.1).

***Check all connection, attachment elements and modules after transport for firm and correct seat!***

#### 5.9 Longer periods out of service/storage

- Note the above-mentioned points for transport
- Observe maintenance intervals and carry out maintenance work!
- Release the tension of V-belts!
- Turn the cutting shaft (motor) roughly once a month (by hand) through some revolutions!
- Actuate functions roughly once a month!
- Relieve the wheels (protect the base of the tire) by supporting the joint cutter frame with suitable pieces of wood!
- Store the joint cutter in a dry, frost-free and dust-proof place and also protected against extreme sunlight, temperatures (fluctuations) as well as vibrations and other negative physical and chemical effects!
- Check that all of the screws and assemblies are correctly seated (firmly)!



## **6.0 Taking back / disposal of the equipment**

**CEDIMA**® commits to take the joint cutter CF•22 E back for disposal.

The joint cutter is to be delivered free of charge at **CEDIMA**® or at a point of acceptance appointed by **CEDIMA**®.

## 7.0 Troubleshooting at the joint cutter CF•22 E

### 7.1 Problems when starting (engine)

Problem	Possible cause	Remedy
The motor does not start	<p>The network cable is not attached properly</p> <p>Network cable, plug connector, socket defective</p> <p>Star-delta reversing switch is defective</p> <p>Loosened electric connection in the electric system</p> <p>The motor is defective</p> <p>Cutting shaft blocked, cutting shaft with the saw blade not lifted from the ground or out of the cut</p> <p>The power network fuse(s) have triggered</p> <p>The motor has not yet been cooled off after overloading</p>	<p>Attach the network cable properly</p> <p>Check the network cable, plug connector, socket and replace it if necessary</p> <p>Check the star-delta switch and replace it if necessary</p> <p>Have the complete electrical system checked by an electrician</p> <p>Check the motor and replace it if necessary</p> <p>Check for ease of movement of the cutting shaft lift the cutting shaft (saw blade) from the ground, out of the cut</p> <p>Remove the fault, reset the fuses</p> <p>Leave the motor to cool down</p>
No power available when cutting,	<p>The network cable is the wrong size, too long, cable drum coiled up</p> <p>The power supply network is not adequate</p> <p>Star-delta reversing switch not "started through", motor in still in Y-mode</p> <p>The motor does not maintain its rotational speed</p>	<p>Connect the respective network cable, keep the network cable as short as possible, roll off the cable drum</p> <p>Comply with specified connection values</p> <p>Bring the star-delta switch further into the <math>\Delta</math> position</p> <p>Check the motor, repair it / replace it if necessary</p>
The motor has stopped	<p>Too high cutting pressure (overload protection)</p> <p>Motor overload switch defective</p> <p>Damage in electrical system</p>	<p>Reduce the cutting pressure (feed rate, cutting depth) resp. have the motor cooled down with freely rotating saw blade</p> <p>Have the switch checked by an electrician and, if necessary, replace it</p> <p>Have the electrical system checked by an electrician</p>

### 7.2 Problems when cutting

Problem	Possible cause	Remedy
Cutting blade wobbling	<p>Diamond saws flange(s) is/are dirty, and/or defective</p> <p>The cutting shaft nut has come loose</p> <p>Poor saw blade tension</p>	<p>Clean the diamond saw flange, check it and replace it if necessary</p> <p>Tighten the cutting shaft nut</p> <p>Return the saw blade to the manufacturer</p>
The saw blade has side and/or radial run-out	<p>The saw blade is damaged, bent</p> <p>The diamond saws flange(s) is/are dirty, and/or defective</p> <p>The cutting shaft is bent and/or the bearing is defective</p>	<p>Have the saw blades realigned</p> <p>Have the diamond segments resoldered onto a new blade core</p> <p>Use a new saw blade</p> <p>Clean the diamond saws flange(s), replace</p> <p>Replace the cutting shaft and/ or bearing</p>
Diamond segments come loose	<p>The saw blade is overheating</p>	<p>Resolder the diamond segments</p> <p>Optimise the cooling water feed</p>
Excessive diamond segment wear	<p>The wrong type of saw blade is/are being used</p> <p>The cutting shaft is bent</p> <p>The saw blade is overheated</p>	<p>Use a harder type of saw blade</p> <p>Replace the bearing and/or cutting shaft</p> <p>Optimise the cooling water feed</p>

## Trouble shooting, what if ...? Joint cutter CF•22 E



Problem	Possible cause	Remedy
The saw blade does not cut	The saw blade is mounted backwards against the direction of rotation	Mount the saw blade according to the direction of rotation of the cutting shaft
	The saw blade is not matched to the material to be cut (possibly it is too hard)	Use the correct type of saw blade
	The saw blade is not matched to the machine power output	Use the correct type of saw blade
	Diamond segments are blunt	Resharpener the saw blade
Cracks in the saw blade steel core	The saw blade is too "hard"	Use a "softer" saw blade
Cutting line is not optimal	Poor saw blade tension (steel core)	Return the saw blade to the manufacturer
	The saw blade is overloaded	Reduce the feed rate (cutting depth)
	Diamond segments are blunt	Resharpener the saw blade
The saw blade has rotated on the cutting shaft	Driving pin defective, missing	Replace, insert the driving pin
The saw blade remains under load	The V-belt is slipping	Tension the V-belt
	The V-belt is defective (torn)	Change the V-belt
	Driving pin defective, missing	Replace, insert the driving pin
The saw blade has become coloured	The saw blade is overheated	Optimise the cooling water feed
	The saw blade is subjected to excessive lateral friction	Reduce the feed rate Do not tilt the saw blade in the cut
Chafing points on the saw blade	The feed direction is not parallel to the saw blade	Do not tilt the saw blade in the cut
	The saw blade is overloaded	Reduce the advance speed
	Poor saw blade tension	Return the saw blade to the manufacturer
Diamond segments show signs of eccentric wear	The cutting shaft has shrunk	Renew the cutting shaft
	The mount for the saw blade is worn out (cutting shaft, saw blade bore)	Turn out the saw blade mounting hole and adapt to the correct diameter using a ring
	Excessive bearing play on the cutting shaft	Replace the bearing or the cutting shaft
A reduced or no cooling water flow	The water supply is not optimal	Adapt the pressurised water supply
	The water hoses are blocked, defective, come off, kinked	Clean the water hoses, check them, connect them, replace them if necessary
	The shut-off valve is blocked, defective, not opened	Clean, check, open the shut-off valve; replace it if necessary

The problems and their possible causes are mainly due to natural wear and to **incorrect** use of the joint cutter or the diamond saw blades!

**Therefore you should read this operating manual thoroughly!**





## 8.0 Terms of warranty

1. Complaints must be submitted without delay, however, within 14 days following the arrival of the device at the latest. If this deadline has expired, or if the device complained about is put into operation and used for work, then the device complained about shall be considered accepted and therefore free of faults. Hidden defects must be reported in writing immediately after being discovered, however at the latest within 6 months of the receipt of the device.

2. We guarantee the agreed usability of the device delivered by us for a period of 12 months, the term beginning on the day the device arrives with the buyer. Irrespective of this, our obligation shall be considered as fulfilled, as soon as the goods are despatched from our works/warehouse. In no case do we assume a producers' guarantee. The mandatory regulations of the law for product liability remain untouched.

3. Wearing parts are subject to a limited warranty. Wearing parts are parts subject to operation-related wear during proper use of the device. The rate of wear cannot be uniformly defined and differs according to the intensity of use. The wearing parts must be adjusted, maintained and, if necessary, replaced for the specific device in accordance with the manufacturer's operating manual. Operation-related wear is not a reason for claims to defects.

Wearing parts for the construction devices such as core drilling and sawing machines and special machinery as well as related general assemblies (if available):

- Feed and drive elements such as toothed racks, gear wheels, pinions, spindles, spindle nuts, spindle bearings, wires, chains, sprockets, belts
- Seals, cables, hoses, packings, gaskets, plugs, couplings and switches for pneumatic, hydraulic, water, electricity, fuel systems
- Guide elements such as guide strips, guide bushes, guide rails, rollers, bearings, sliding protection supports
- Clamping elements for quick release systems
- Flushing head seals
- Slide and roller bearings that do not run in an oil bath
- Shaft oil seals and sealing elements
- Friction and safety clutches, braking devices
- Carbon brushes, collectors/armatures
- Consumable operating materials such as fuels, lubricants, coolants etc.
- Easy-release rings
- Control potentiometers and manual switching elements
- Securing elements such as dowels, anchors, screws and bolts
- Fuses and lamps
- Bowden cables
- Commutators
- Diaphragms
- Spark plugs, glow plugs
- Parts of the reversing starter such as the starting rope, starting pawl, starting roller and return spring
- Sealing brushes, rubber seals, splash protection cloths
- Filters of all kinds
- Drive and guide wheels/pulleys and associated rubber tyres
- Cable wire protection elements
- Drive and travel wheels
- Water pumps
- Cut-material transport rollers
- Drilling, separating and cutting tools
- Energy storage devices

- 4.** In case of a justified complaint, we can choose to repair the device and/or to provide a replacement against return of the device. Replaced parts or devices become our property.
- 5.** A complaint has to be filed in writing, stating machine number, invoice number and date.
- 6.** Improvements shall always be carried out at the delivery plant. Repair work requested by the buyer to be carried out on his or a third party's premises, needs prior consent by us. The resulting costs of the mechanic and any other assistants are borne by the buyer. The warranty expires, if the customer or any other, unauthorized person, interfere with the purchased device.
- 7.** If the replacement of assemblies or components by the buyer or others has been expressly arranged with us, any possible recognition of the warranty case cannot be given by us until after the defective parts have been returned to us and inspected by us.
- 8.** According to the statutory regulations the buyer is only entitled to cancel a contract, if we refuse improvements or the supply of replacements acc. to fig. 4 even though a defect has been proven, or a deadline that we have been given has elapsed unfulfilled. If only a minor defect has occurred, the buyer is merely entitled to an abatement of the purchase price, which in any other case is excluded. We are not liable for compensation on account of a defect or damages subsequent to a defect, unless these occur on account of an intention of a negligence which we are responsible for.
- 9.** No guarantee is assumed for damages that have arisen of the following reasons:
  - a) faulty installation,
  - b) improper use or overstressing,
  - c) permanent overload, leading to damages to coils or the windings of armatures,
  - d) extraneous causes, e.g. transport damages, climatic influences or other natural phenomena,
  - e) use of integral or accessory parts that are not suitable/adjusted to our devices.
- 10.** If there is reason for complaint about a diamond tool(s), this tool(s) must be removed from the machine immediately! To protect your interest and to conduct a proper inspection, a segment height of at least 20 % (of height in new condition) is required. Failure to observe this will lead to any claims to replacement that you may have being avoided!
- 11.** If warranty claims are satisfied by us, then this neither extends the warranty period nor does it begin a new warranty period for the device. The warranty period for installed spare parts shall end no sooner or later than the warranty period for the device.
- 12.** Otherwise, our complete terms of sale and delivery apply.
- 13.** The place of performance and venue for both parties is Celle, Germany.

**CEDIMA®** Diamantwerkzeug- und Maschinenbaugesellschaft mbH, Celle

January 2005

- **DIAMOND SAW BLADES**

for wet and dry cutting in concrete, reinforced concrete, asphalt, natural stone;  
saw blade diameter from 110 to 2200 mm

- **DIAMOND DRILL BITS**

for wet and dry drilling in concrete, reinforced concrete, asphalt, natural stone;  
drill bit diameter from 12 to 1200 mm

- **DIAMOND TOOLS**

grinding discs for hand and floor grinders, diamond saw wires,  
chamfering discs, diamond saw chains, diamond segments

- **JOINT CUTTERS**

with petrol, diesel or electric motor, with or without automatic feed;  
cutting depths from 120 to 900 mm

- **CORE DRILL MACHINES**

hand or drill rig machines with electric or hydraulic drilling motor;  
drill diameter from 12 to 1250 mm

- **WALL AND WIRE SAWS**

electric, hydraulic and electro-hydraulic wall saws with a cutting depth  
up to 730 mm; wire saw machines, circular saw

- **TABLE SAWS**

to cut tiles, general construction material or large-format stones;  
cutting depth from 25 to 450 mm

- **SPECIAL MACHINERY**

reinforced concrete breakers, floor grinders, surface mills, crack mills,  
brush machines, chain saws, hand saws, slurry separators



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