

ENGINEERING  
TOMORROW

*Danfoss*

Operator's Manual

# ET9600 Cutting Machine



## Imprint

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**This Operating Manual of the machine is a translation; the original is in German.**

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## EC / UK - Declaration of Conformity

In accordance with EC Machinery Directive 2006/42/EC and UK-Supply of Machinery (Safety) Regulations 2008.

The following machine

ET9600

was developed, designed and manufactured in compliance with EC Directive 2006/42/EC and UK-Supply of Machinery (Safety) Regulations 2008, in the sole responsibility of

UNIFLEX-Hydraulik GmbH  
Robert-Bosch-Strasse 50 - 52  
D-61184 Karben

The following standards, codes and specifications have been applied:

- EC Directive 2006/42/EC
- EMC Directive 2014/30/EC
- EN ISO 12100: 2010
- EN 60204-1: 2018
- UK-Supply of Machinery (Safety) Regulations 2008
- UK-Electromagnetic Compatibility Regulations 2016

This declaration are invalid when the machine is modified or if unauthorized and unapproved third-party components are used without our prior approval.

Entity authorised for documentation: Uniflex-Hydraulik GmbH, Technical Documentation Dept.

Karben, 05.10.2022



Managing Director Harald von Waitz

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## 1 About this document

### 1.1 Target groups

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## 1 About this document

The "Cutting machine ET9600" is consistently designated as machine in this Operation Manual.

This Operation Manual includes important notes on how you operate your machine/unit safely, properly and economically.

Use not in compliance with the intended purpose may result in hazard to the operator's health and life and/or in the risk of damage to/the machine/unit. Consequently, please only use the machine/unit

- in good order and condition,
- in accordance with its intended purpose,
- in a safety-conscious manner, with awareness of risks and hazards,
- in compliance with all notes included in this Operation Manual.

The machine/unit may only be operated by staff who

- has read the Operation Manual,
- has understood it,
- has been instructed in the operation of the machine/unit, and
- has signed in the Annex.



Figures may include accessories/options. Customer-specific equipment may vary.

The product images shown are for reference only and may differ from the product delivered.

### 1.1 Target groups

The target groups of this Operation Manual are:

#### **Owner**

An owner is a natural person or entity using the device himself/herself/itself, or on whose behalf the device is used. An owner may appoint a representative to exercise the owner's rights and obligations.

The owner has to make sure that

# 1 About this document

## 1.1 Target groups

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- national provisions, occupational safety regulations and applicable environmental protection regulations are fully complied with;
- persons working on the machine/unit are adequately qualified;
- persons working on the machine/unit are suitable for operating the machine/unit;
- the Operation Manual has been read and understood. One hardcopy of the Operation Manual must always be kept at a designated place where the machine/unit is used.
- persons working on the machine/unit are aware of potential risks;
- the operating staff is familiar with the location as well as with operating the fire alarm and fighting means. Free access to this equipment must be ensured.
- personal protection equipment is worn (safety footwear, protection gloves and safety glasses).

### **Machine/unit fitters**

Machine/unit fitters must be at least 18 years old and have completed training for the task, i.e. they must have attended a specialist vocational training.

#### A fitter

- must observe the instructions in the Operation Manual;
- must inform the owner on failures and damage.

### **Operator**

An operator is a person charged with and instructed in the proper operation of the machine/unit by the owner or the otherwise contractually obliged person.

#### The operator

- must observe the instructions in the Operation Manual;
- must inform the owner on failures and damage.
- must not perform and maintenance or repair work on the machine/unit.

# 1 About this document

## 1.2 Storage

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### 1.2 Storage

The Operation Manual is part of the machine/unit and must be kept near the machine/unit at all times. Upon disposal of the machine/unit, the Operation Manual must also be handed over.

### 1.3 Name plate

The name plate is fixed near the power cable.

### 1.4 Abbreviations

TM	cutting knife, plain
TMG	cutting knife, with slots
TMC	cutting knife, coated



## 2 Safety instructions

### 2.1 Presentation of warnings

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## 2 Safety instructions

### 2.1 Presentation of warnings

Warning notes in the Operation Manual warn against risks involved with the handling of the machine/unit. Risk levels are identified as follows:

#### **HAZARD!**

The signal word HAZARD identifies an imminent hazard resulting in serious injuries or death. This warning is supplemented by a triangular hazard symbol.

#### **WARNING!**

The signal word WARNING identifies a potentially hazardous situation, which might result in serious injuries or death. This warning is supplemented by a triangular hazard symbol.

#### **CAUTION!**

The signal word CAUTION identifies a potentially hazardous situation, which might result in light injuries. This warning is supplemented by a triangular hazard symbol.

#### **ATTENTION!**

The signal word ATTENTION identifies a potentially hazardous situation, in which the product or property in the environment may be damaged. This warning is supplemented by a hazard symbol or an exclamation mark.

### 2.2 Intended use

This machine is intended for industrial use; it is only suitable for cutting pneumatic and hydraulic hoses up to a specific permissible diameter, see "Technical Data" in Section 3.

Intended purposes include:

- Single user workplace for one person only
- Manual input and retrieval
- Operating temperatures between 5 °C and 40 °C
- Operation in a closed operation room
- The machine must not be operated by persons not capable of operating the machine without any risk. These may include:
  - persons with physical or mental disabilities;
  - children and persons under age;

## 2 Safety instructions

### 2.3 Product-specific risks

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- persons with a restricted capability for the operation of machines (e.g. under the influence of drugs, alcohol or narcotics)

Use of the control in compliance with the intended purpose also includes compliance with the instructions in this Operation Manual.

#### **Use for other than the intended purpose**

Any other use is considered as being not in compliance with the intended purpose, in particular:

- Design modifications of the machine
- Use in explosive environments
- Use of impermissible cutting knives
- Cutting of inflexible workpieces
- misuse of consumables and waste materials.

<b>WARNING!</b>	
	<p><b>Risk for life and health!</b></p> <p>Use not in compliance with the intended purpose imposes risks for life and health. Consequences resulting from use for other than the intended purpose shall be under the sole responsibility of the owner.</p> <ul style="list-style-type: none"><li>• Always use the machine in compliance with its intended purpose.</li></ul>

## 2.3 Product-specific risks

The machine/unit is designed in accordance with the latest state of technology. Nevertheless, the machine/unit may impose risks:

### 2.3.1 Risks imposed by mechanical equipment

#### **Cutting risk**

A cutting risk exists during cutting and when the cutting knives are replaced.

- Take care and wear cut-proof protective gloves when cutting and replacing knives.

## 2 Safety instructions

### 2.3 Product-specific risks

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#### **Risk of squeezing**

There is a risk of squeezing on the moving parts.

#### **Tilting hazard**

The risk of tilting mainly exists while the machine is being transported.

- Observe the machine's centre of gravity during transport.

#### **2.3.2 Risks imposed by electricity**

There is a risk of electrocution near the live parts!

- Work on electric systems may only be performed by qualified electricians or instructed and trained persons under the supervision of a qualified electrician.
- Deactivate the machine/unit and secure it against unintentional restart before maintenance.

#### **2.3.3 Risks imposed by noise**

The noise level meter acc. to IEC 804, Class 2, was calibrated before measuring.

The operation of the machine causes noise emissions of 90 dB(A) at the workplace. Noise protection is required.

Higher noise emissions may occur when other machinery is simultaneously used at the workplace. The machine owner must provide for appropriate protection, e.g.

- instruct staff to wear ear protection;
- provide information/instructions on risks
- identify hazardous areas
- provide health monitoring

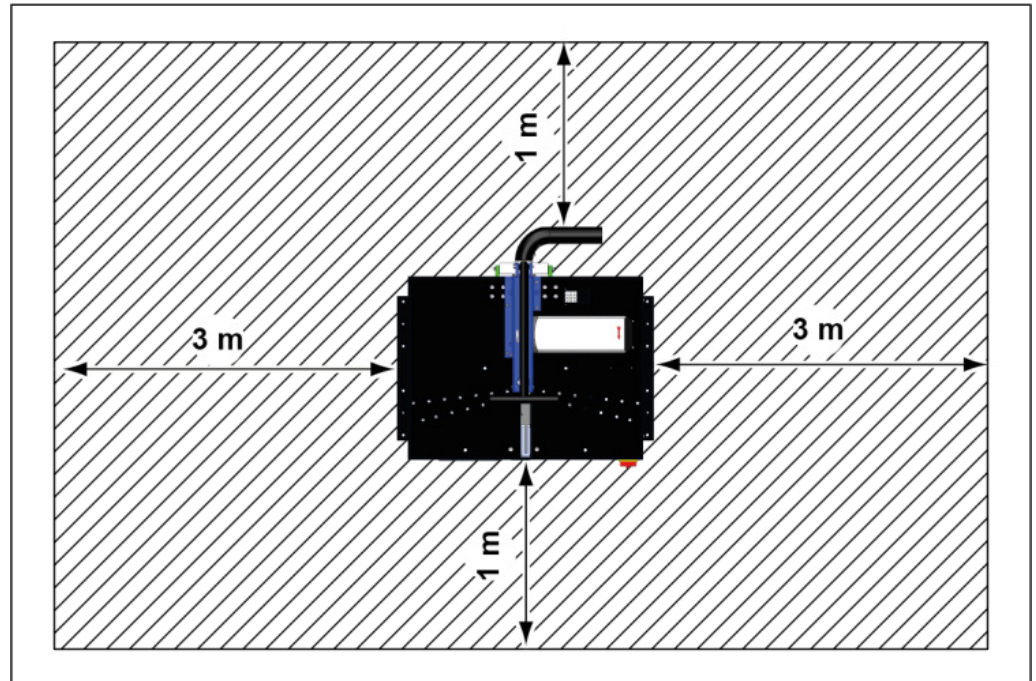
#### **2.3.4 Risks in case of fire**

The operating staff has to be familiar with the location as well as with operating the fire alarm and fighting means. Free access to this equipment must be ensured.

Use extinguishing powder in case of fire.

## 2.4 Safety

### 2.4.1 Working area



The working area is defined as the area all around the machine (shaded).

- Keep the working area free from trip hazards.
- Use ducts for lines and cables.
- Provide good illumination.

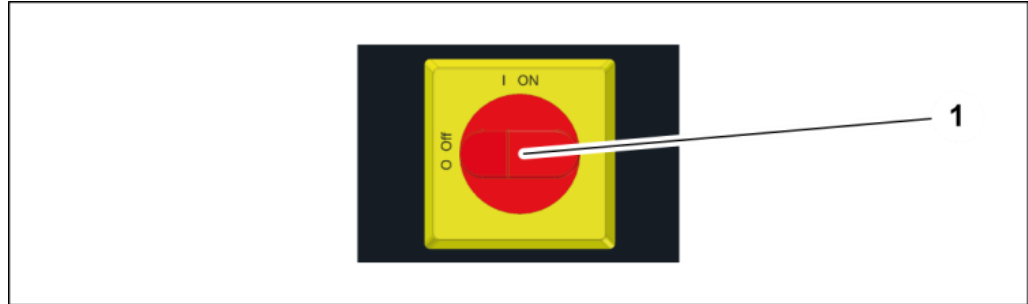
## 2 Safety instructions

### 2.4 Safety

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#### 2.4.2 Emergency-stop

The machine is fitted with an emergency-stop button.



Immediately activate the emergency-stop function (1) in cases of emergency.

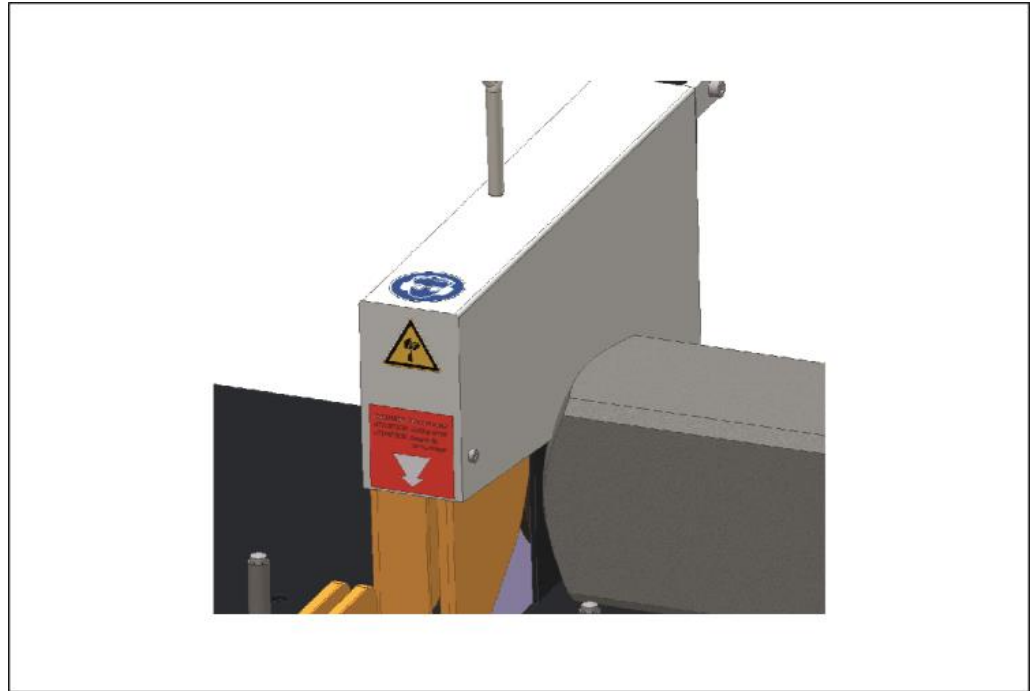
Remedy the cause of the emergency stop first before re-starting the machine.

## 2 Safety instructions

### 2.4 Safety

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#### 2.4.3 Warning signs on the machine



**Cutting risk**  
on the cutting knife



**Danger from electric current**  
at the power supply line

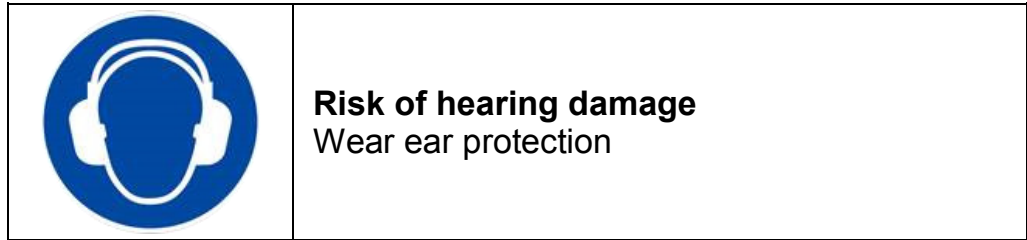


**Risk of eye injuries**  
Wear safety goggles

## 2 Safety instructions

### 2.4 Safety

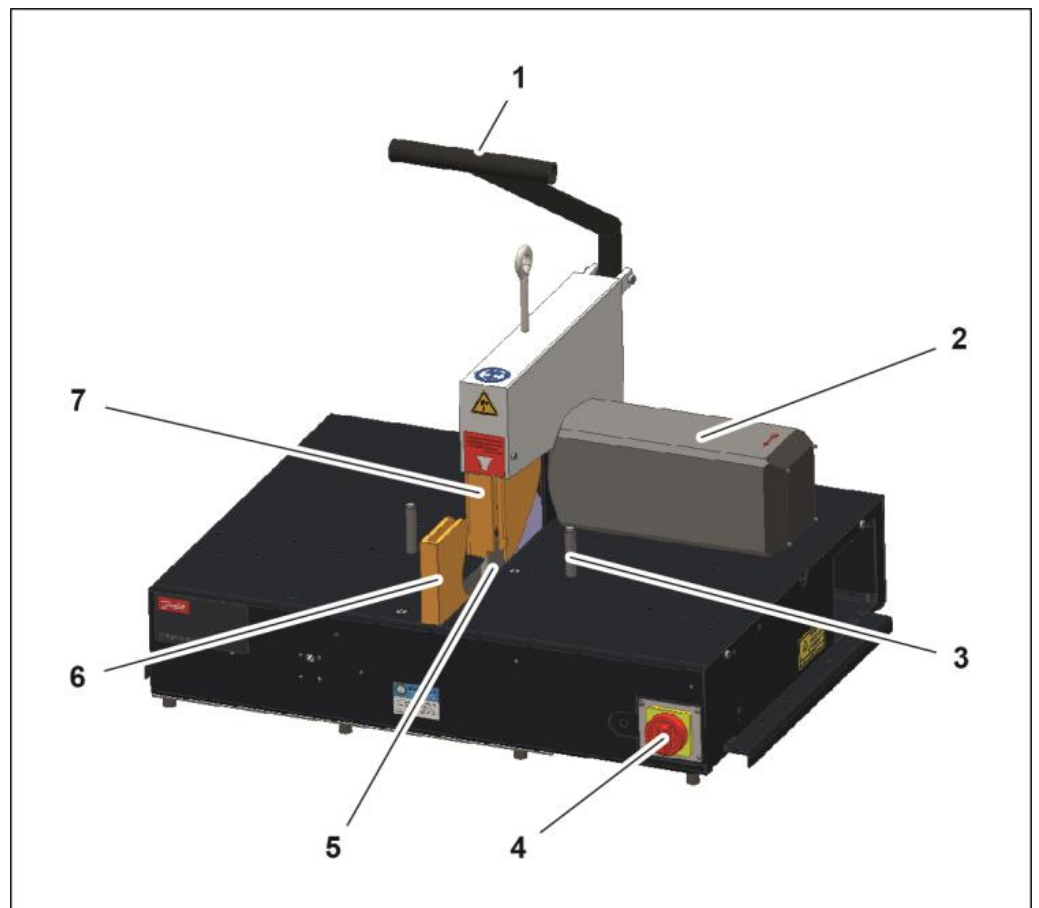
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Illegible or missing warning signs must immediately be replaced by the operator.

## 3 Machine description

### 3.1 Design and function



- (1) Lever
- (2) Motor
- (3) Bending pin
- (4) Cutting knife
- (5) Main switch
- (6) Hose feed
- (7) Knife protection

The work piece is placed on the cutting plate between the retaining pin (3) and the hose feed (6). The machine is switched on using the main switch (4), starting the motor (5) which in turn drives the cutting knife (5).



## 3 Machine description

### 3.1 Design and function

---

For cutting, the hand lever (1) is moved downwards in the direction of the cutting plate. The lever (1) pushes the hose feed (6) and the work piece mechanically in the direction of the cutting knife (4). The knife protection (7) prevents the operator from unintentionally reaching into the rotating cutting knife (4).

Once the cutting process is completed, the lever (1) is moved back to the starting position and the machine is switched off at the main switch (5).

#### **Accessories**

The machine can be fitted with accessories. A list of the available accessories is included in the Annex, Section "Accessories".

## 3 Machine description

### 3.2 Technical data

---

#### 3.2 Technical data

##### Machine

Dimensions L x W x H 900 x 780 x 880 mm

Weight approx. 122 kg

Noise level 85 dB(A)\*

Protection class IP 42

Operation mode S6-60%

##### Function

Hose feed Manual

Brake motor Yes

Extraction connection Ø 60 mm

Cutting knife TM C 400 x 4 x 30 mm

##### Work piece capacity

Workshop SAE R13 &  
SAE R15 2"

Production SAE R13 &  
SAE R15 1<sup>1/4</sup>"

SAE R15 2<sup>1/2</sup>"

Industry 4"

Max. outside Ø 120 mm

## 3 Machine description

### 3.2 Technical data

---

#### Electrical connection

Power rating	4.6 kW
Voltage rating	400 V ± 10 % 50/60 Hz, 3 phases
Back-up fuse	20 A (delayed)
Short circuit current $I_{k3p}$	6,7 kA
Short circuit current $I_{p3p}$	9,7 kA
Full load current of circuit	16,5 kA
Full load current of control circuit (primary)	0,48 kA

#### Workbench

Stable, level workbench with a carrying capacity of approx. 500 kg

#### We recommend industrial flooring which meets the following structural requirements

Permanent floor loading	Approx. 0.07 kg/mm <sup>2</sup>
Floor carrying capacity	Min. 2500 kg/m <sup>2</sup>
Floor quality	B25
Evenness	Max. unevenness 5 mm/m
Inclination	max. 5 mm/m

#### Ambient conditions

Ambient temperature	5 °C – 40 °C
Air humidity	45 % – 65 %

The \* data are theoretical/computed values, or values measured on a prototype. Actual values may vary slightly, depending on the machine.

## 4 Transport and commissioning

### 4.1 Transport

## 4 Transport and commissioning

### 4.1 Transport

The goods should be transported in the original packaging. During transport, the goods must be secured safely within the packaging. All applicable laws and regulations relating to securing loads shall be observed during transport.



The machine may only be unloaded and transported by means of a lift truck or a crane. When a crane is used for transport, lifting gear with a sufficient length and lifting capacity has to be used. The lifting gear must be attached to the lifting lug (1). For machine weight, please refer to "Technical data" in Section 3.

#### **WARNING!**



#### **Danger from falling loads!**

Risk of injury from falling loads.

- Do not stand under suspended loads.

## 4 Transport and commissioning

### 4.2 Intermediate storage of machine/unit

---

#### WARNING!



#### Danger from tilting machine!

The machine may tilt if it is transported improperly. There is a risk of being injured.

- Only lift the machine at the designated points.

1. Lift the machine using the load hook (1) and transfer it to the installation site.

### 4.2 Intermediate storage of machine/unit

If the machine/unit cannot be mounted immediately upon delivery, it must be protected against:

- Contamination,
- Weather influences,
- Mechanical damage.

The machine/unit components may only be stored in closed rooms and under the following conditions:

- temperature between 10°C and 35°C,
- maximum air humidity 80% (non-condensating).

### 4.3 Commissioning

The machine is commissioned by the customer's fitter.

1. Lift the machine using the load hook and place it on the supplied table.
2. Position the cutting plate flush with the table edge.
3. Fix the machine on the workbench using suitable screws.
4. Remove the load hook from the machine.



Place the machine in a way so that it is easily accessible for maintenance work from all sides.

5. Check the machine for damage.

## 4 Transport and commissioning

### 4.3 Commissioning

6. Check the electric cables for damage.
7. Train the operating staff and record training sessions in “Declaration of trained staff”, Section 9.

#### WARNING!



##### Risk of injuries!

Machine components might loosen during transport. Such components might be flung out during the cutting process. There is a risk of being injured.

- Perform a cutting process in idle mode and without a work piece.
- Check the machine for atypical noise.

#### 4.3.1 Extraction process for TM/TMG cutting knife



1. Mount a metal hose for smoke and particle extraction to the extraction nozzle (1).



We recommend an extraction fan with 100 mm water column and a capacity of 4 m<sup>3</sup>/min, as well as a filter element and a spark extinguisher suitable for this purpose.

## 4 Transport and commissioning

### 4.3 Commissioning

#### 4.3.2 Extraction process for TMC cutting knife

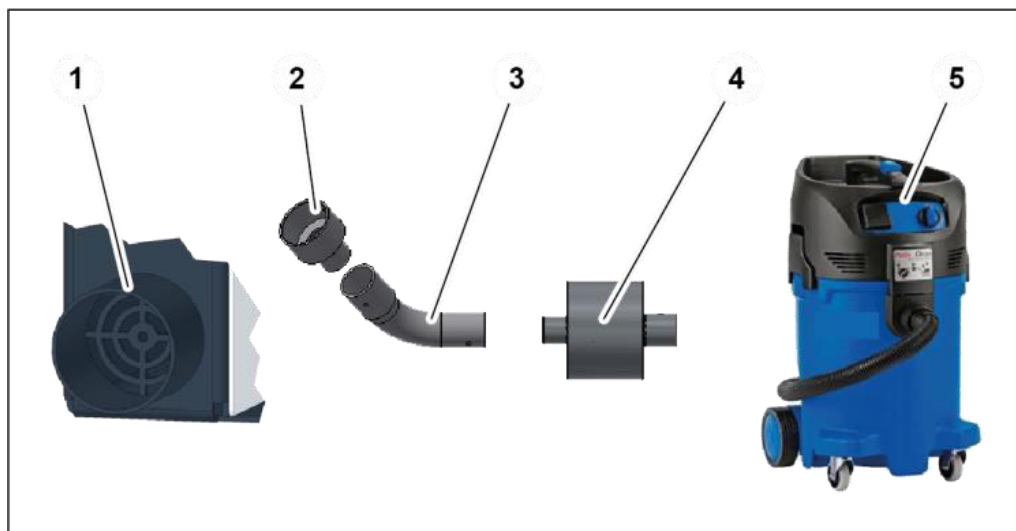
### WARNING!



#### Risk of fire

During cutting, there is a risk for life and health due to the fire hazard from flying sparks.

- Only operate the machine with a spark extinguisher.
- Clean the machine and spark extinguisher after each use (see “Cleaning” in Section 5).



1. Attach the adapter (2) to the extraction nozzle (1) of the machine.
2. Attach the angle adapter (3) to the adapter (2).
3. Attach the spark extinguisher (4) to the angle adapter (3).
4. Attach the metal hose to the spark extinguisher (4) and extraction device (5).



We recommend an extraction fan with 100 mm water column and a capacity of 4 m<sup>3</sup>/min, as well as a filter element suitable for this purpose.

## 4 Transport and commissioning

### 4.3 Commissioning



Figures may include accessories/options. Customer-specific equipment may vary.  
The product images shown are for reference only and may differ from the product delivered.

#### 4.3.3 Electrical connection

##### WARNING!



##### Risk by electrical voltage!

There is a risk of electrocution near the live parts!

- Work on electric systems may only be performed by qualified electricians or instructed and trained persons under the supervision of a qualified electrician.
- Do not operate the machine without a sufficiently rated ground wire.
- Deactivate the machine and secure it against unintentional restart before maintenance.

1. Disconnect the power supply for the machine and secure it against unintentional restart.
2. Have the power cable of the machine connected to the local mains by a qualified electrician according to the regulations of the Electricity Board.
3. Check the electric motor rotational direction according to the arrow. Exchange outer cable (phases) of the connection, if required.

##### ATTENTION!



##### Risk of damage to machinery!

Operating the motor in the wrong direction of rotation results in the loosening of the knife attachment.

- Ensure that the rotational direction of the motor is correct. Observe the red arrow on the motor cover.
- If the motor has been operated in the wrong direction of rotation, the securing nut and/or bolt has to be tightened as described in Section 6 "Knife replacement".



## 4 Transport and commissioning

### 4.3 Commissioning

#### 4.3.4 Initial operation

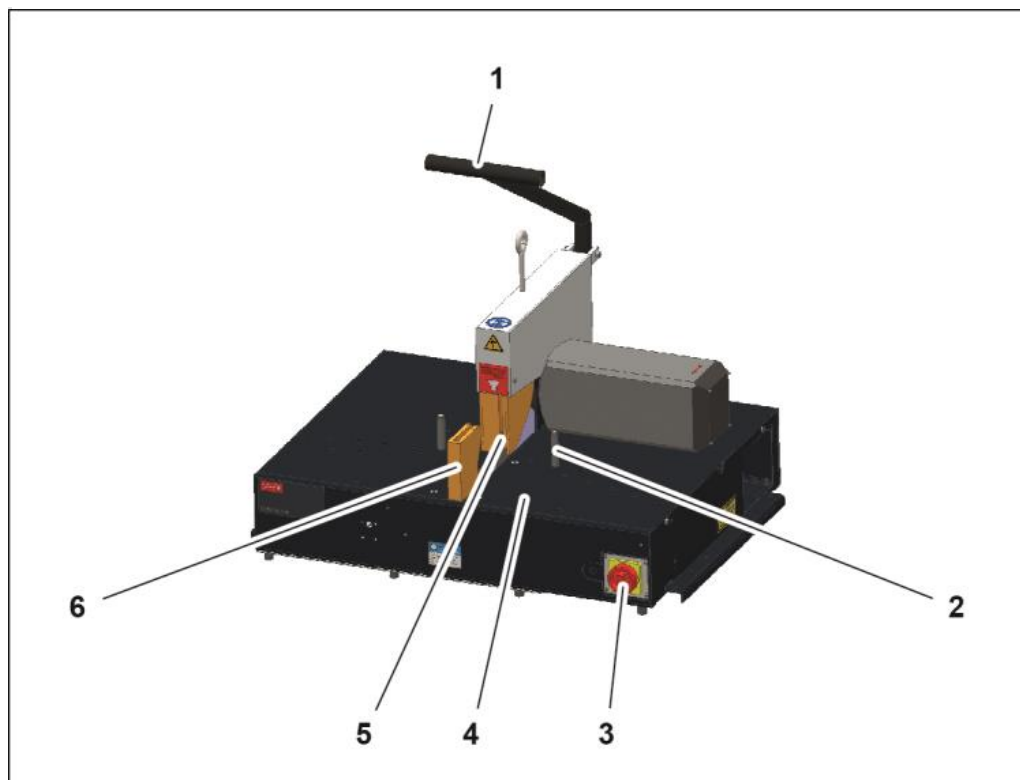
### WARNING!



#### Risk for life and health!

Improper use imposes risks for life and health.

- The initial operation may only be performed by qualified maintenance staff (machine fitters).
- If unusual noises can be heard, switch off the machine immediately and eliminate the cause.



#### Test run without work piece

1. Switch on the machine using the main switch (3).
2. Move the lever (1) downwards steadily and slowly.
3. Move the lever (1) upwards into the starting position.

#### Test run with work piece

1. Position the bending pin (2) according to the work piece diameter (see “Cutting the work piece” in Section 5).

## 4 Transport and commissioning

### 4.3 Commissioning

---

2. Place the work piece onto the cutting insert (4) between the bending pin (2) and hose feed (6).
3. Switch on the machine using the main switch (3).
4. Move the lever (1) downwards steadily and slowly.
5. Move the lever (1) upwards into the starting position.
6. Wait for around one minute until the cutting knife (5) has cooled.
7. Repeat the cutting process nine times when cutting a work piece with cutting knife TM or TMG.



These ten careful cutting processes are important for the durability of the cutting knife TM or TMG.

## 5 Operation

### 5.1 What you have to observe

---

## 5 Operation

### 5.1 What you have to observe

The operator has received the Operation Manual from the owner, has read and understood it and will observe it.

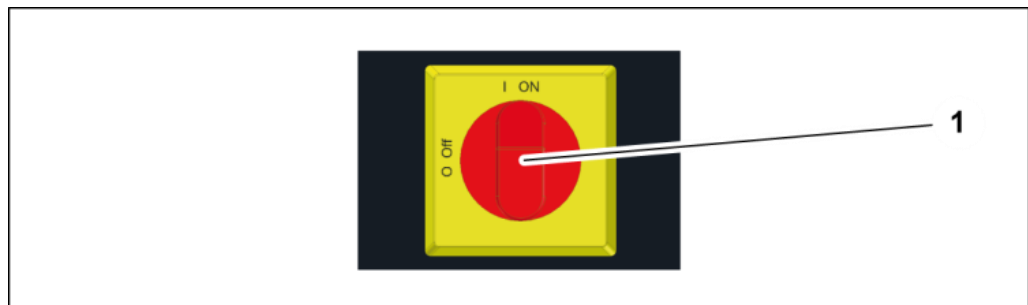
#### Before starting and/or re-starting

- Ensure sufficient illumination of the working area of the machine.

#### During operation

- Observe the safety instructions on the machine.
- Make sure that no other persons stay in the working area.
- Each movement of the hand must be observed.
- Eating, drinking and smoking at the workplace is prohibited.
- Wear close-fitting clothes.
- Do not wear watches or jewellery.

### 5.2 Start



1. Check that there is no emergency-stop situation.
2. Activate the main switch (1).

## 5.3 Work piece cutting

### 5.3.1 Prerequisites

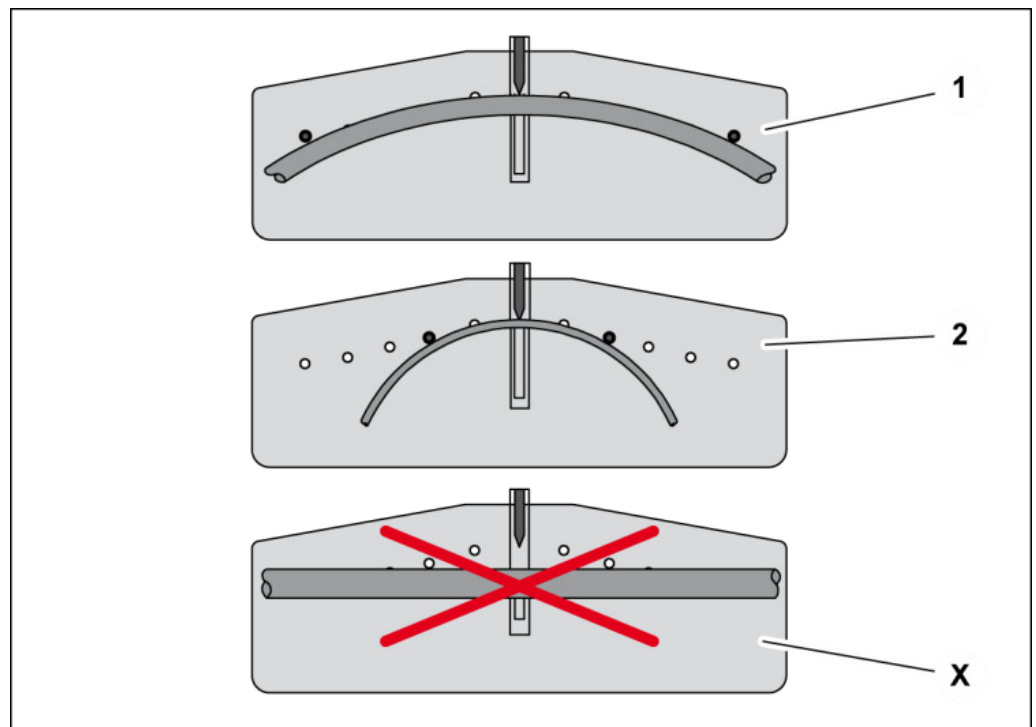
#### ATTENTION!



##### Damage to the machine

The knife may be damaged when the machine is operated without hose prestressing.

- Never cut without bending (X).
- Adjust the bending pin and the workpiece.



Prerequisites for a correct cutting process:

- The bending pin position and the hose diameter are matched to each other:
  - (1) Large hose diameter = large bolt distance
  - (2) Small hose diameter = small bolt distance
- The work piece must protrude over the two bending pins by at least 50 mm.

## 5 Operation

### 5.3 Work piece cutting

- The work piece must completely bear on the cutting plate.

#### 5.3.2 Cutting individual hoses

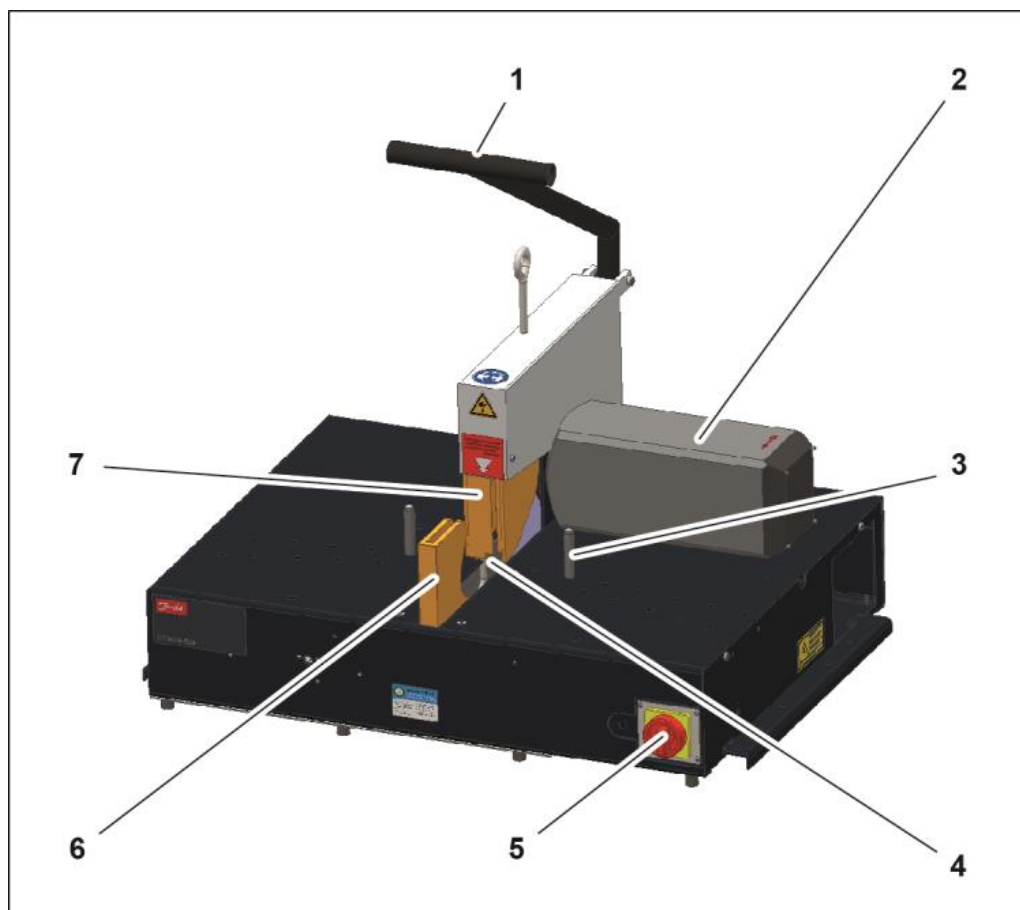
##### WARNING!



##### Cutting risk

There is a risk of cutting your extremities when cutting work pieces.

- When moving the lever, makes sure that your extremities are not between the hose feed and the knife protection.



1. Position the bending pin (3) according to the hose diameter, see “Cutting the work piece” in Section 5.
2. Place the work piece onto the cutting insert between the bending pin (3) and hose feed (6).
3. Switch on the machine using the main switch (5).

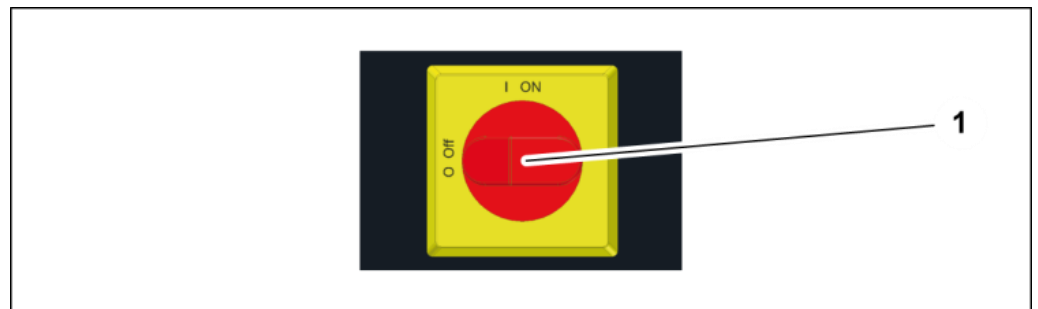
## 5 Operation

### 5.4 Stop

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4. Move the lever (1) downwards steadily and slowly.  
This pushes the hose feed (6) and in turn the work piece towards the cutting knife (4). The cutting process is completed.
5. Move the lever (1) upwards into the starting position.
6. Switch off the machine using the main switch (5).
7. Remove the work piece.

### 5.4 Stop



1. Complete the cutting process.
2. Deposit the work piece outside the machine.
3. Deactivate the main switch (1).
4. Check the machine for glowing embers.
5. Check the machine for contamination and outside damage.
6. Check the cutting knife for damage and cracks.
7. Remove contamination, dust and chips using a vacuum.



Inform the fitter in case of damage or other irregularities.

### 5.5 Overload protection

The motor is protected against overload by a motor protection switch.

After a motor overload, if any, let the motor cool down and restart it.



## 5 Operation

### 5.5 Overload protection


---

The restart protection prevents an unintentional restart of the machine. Starting the machine is only possible by activating the main power switch again.

## 5.6 Cleaning

<b>WARNING!</b>	
	<p><b>Risk for life and health!</b></p> <p>There is an acute risk of injuries when working in the danger zone of the cutting knife.</p> <ul style="list-style-type: none"><li>• Disconnect the machine from all energy sources and secure it against switching on unintentionally.</li><li>• Wear cut-proof gloves.</li></ul>
<b>ATTENTION!</b>	
	<p><b>Risk of damage to machinery!</b></p> <p>If the machine is cleaned with a steam jet or compressed air, dirt and water may ingress in the machine and cause serious damage.</p> <ul style="list-style-type: none"><li>• Do not use a steam jet to clean the machine.</li><li>• Do not use compressed air to clean the machine.</li></ul>

## 5.1 Cleaning

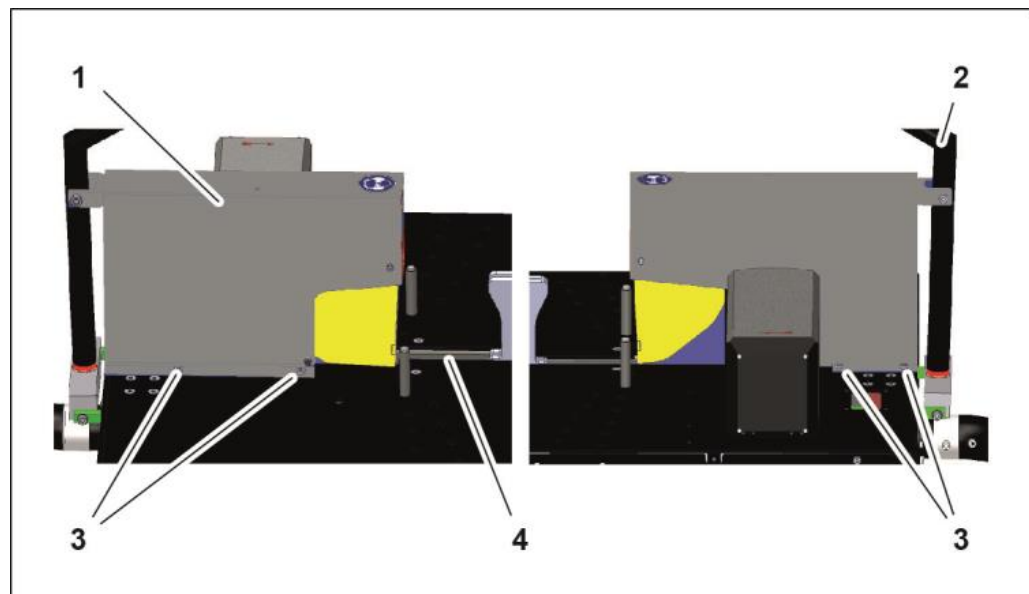
<b>ATTENTION!</b>	
	<p><b>Risk of damage to machinery!</b></p> <p>If the machine is cleaned with a steam jet or compressed air, dirt and water may ingress in the machine and cause serious damage.</p> <ul style="list-style-type: none"><li>• Do not use a steam jet to clean the device.</li><li>• Do not use compressed air to clean the machine.</li></ul>



## 5 Operation

### 5.1 Cleaning

---



1. Use a vacuum cleaner or a soft cloth to clean the machine.
2. Release the four screws (3) on the machine cover (1).
3. Remove the machine cover (1) by the handle (2).
4. Extract the entire area of the hose feed (4).
5. Reattach the machine cover (1) using the lever (2).

## 6 Maintenance

### 6.1 What you have to observe

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## 6 Maintenance

Regular maintenance will ensure the continuous operation reliability of the device.

### 6.1 What you have to observe

This Section describes action to be taken by you as the fitter regularly to ensure the troublefree use of the machine/unit.

- Maintenance work may only be performed by qualified maintenance staff (machine/unit fitters).
- Repair work on the machine/unit or components may only be performed by appropriately qualified expert staff or UNIFLEX experts!
- The machine/unit must always be deactivated during maintenance work (see "Deactivation" in Section 5). Use the lock to prevent the main switch from being switched on and also attach a sign. Example text:

Machine/unit out of service for  
maintenance work!  
Do not switch on!

- Welding, flame-cutting and grinding work on and in the machine/unit and its environment must be approved in advance. There is a risk of fire. The machine/unit must be cleaned from dust and inflammable substances. Adequate ventilation must be ensured.

### 6.2 Maintenance schedule

If not specified otherwise, inspections listed in the maintenance schedule are visual inspection. Replace defective parts.

If you work in 2 shifts, the check frequency has to be doubled. If you work in 3 shifts, you proceed as with 2-shift operation.

Record maintenance work performed in the maintenance log.

## 6 Maintenance


### 6.2 Maintenance schedule

Maintenance item	Daily	Weekly	Monthly
<b>Cutting tool</b>			
Cutting knife: check cutting edge for sharpness, cracks and breakouts; sharpen or replace knives as appropriate. Coating: check (TMC cutting knives only).	X		
Bolted connections: check and retighten if necessary.			X
Machine: Cleaning	X		
Extraction line: Cleaning	X		
<b>Safety equipment</b>			
Knife protection: check for function Press the knife protection on the outside edges towards the motor with both thumbs wearing cutting protection gloves. There must be a significant resistance.		X	
Warning signs on the machine: Check legibility (see "Warning signs on the machine" in Section 2).			X
Motor brake: Motor: check for function and readjust if necessary (see "Motor brake readjustment", Section 6).			X

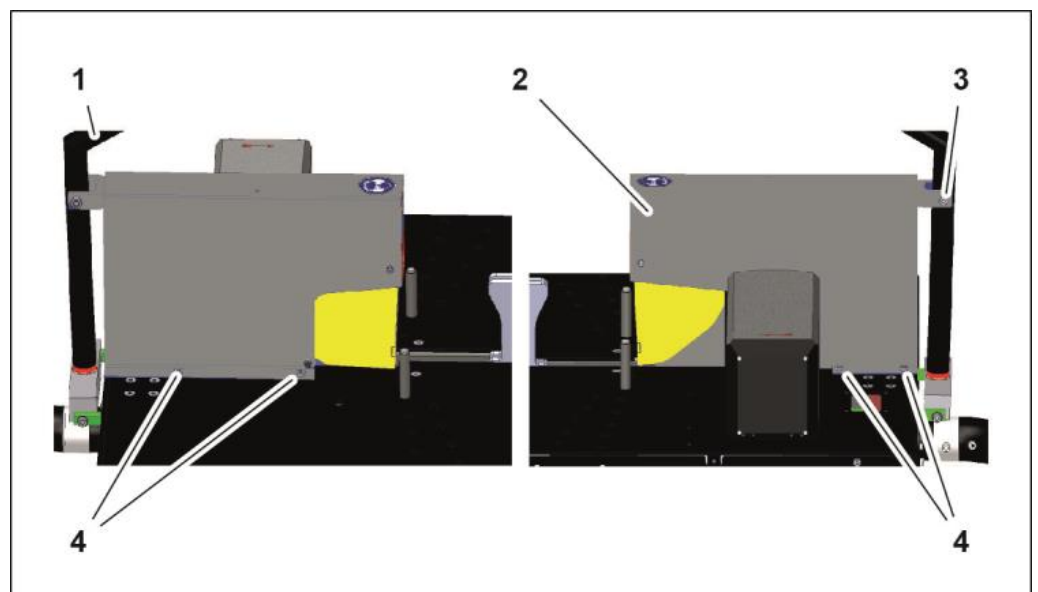


The replacement of wear parts must be recorded in the maintenance log!

## 6.3 Knife replacement

<b>WARNING!</b>	
	<p><b>Cutting risk!</b> Knife replacement imposes a significant risk of injuries to the hands.</p> <ul style="list-style-type: none"><li>• Always wear cut-proof gloves when replacing the knives.</li></ul>

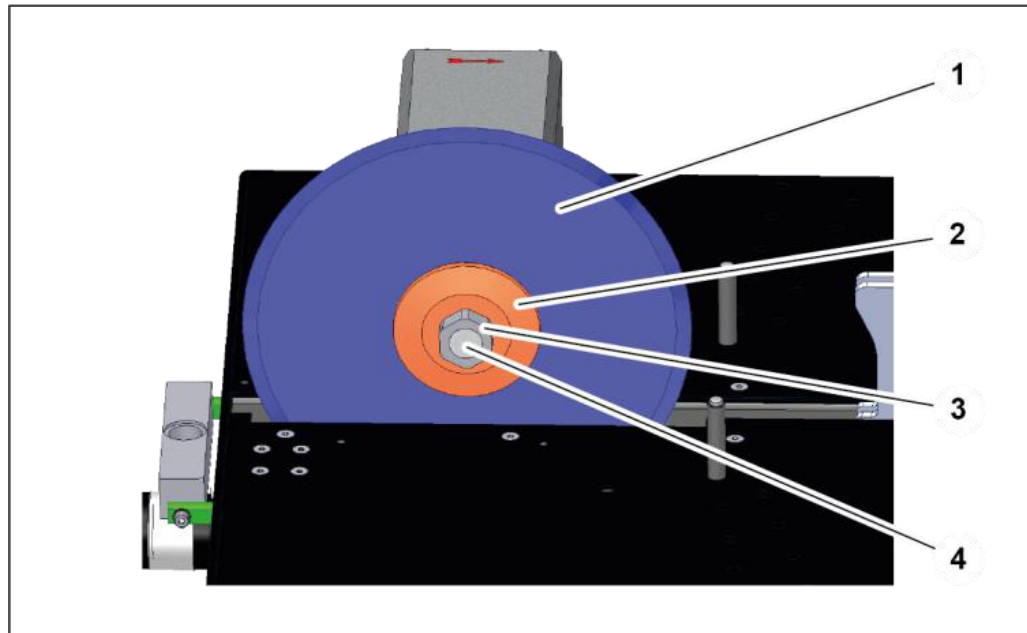
1. Complete the cutting process.
2. Deposit the work piece outside the machine.
3. Disconnect the machine from the power supply.



4. Release the four screws (3) on the machine cover (1).
5. Remove the machine cover (1) by the handle (2).

## 6 Maintenance

### 6.3 Knife replacement



6. Hold the shaft (4) with a hexagon socket wrench and release the nut (3) using an open-end wrench.



The nut has a left-hand thread!

7. Remove the washer (2) and cutting knife (1) from the shaft and place them down carefully.
8. Attach the new cutting knife in the reverse order.

#### ATTENTION!



#### Risk of damage to machinery!

If the directions of rotation of the motor and the knife do not match, there is a risk that the knife will be destroyed during cutting.

- Check the direction of rotation before starting the machine.



#### Observe the cutting direction!

The direction of rotation is to the left when viewing the free end of the shaft (TMG only).

9. Reattach the machine cover using the lever.

## 6.4 Motor brake readjustment

Due to wear on the brake linings, the braking effect of the motor brake may decrease over time.

In this case, the brake has to be readjusted. If the brake cannot be readjusted anymore, the brake linings are worn and must be replaced.

### WARNING!



#### Risk of injuries

The motor brake is a major safety element of the machine. For this reason, the machine must in no event be operated without any functional motor brake and only with mounted fan runner cover.

- Check and readjust the motor brake regularly.
- Do not continue using the machine if the brake is defective.



The motor brake is located behind the black plastic cover (1) on the motor.

1. Deactivate the machine on the main switch and secure it against unintentional restart.
2. Remove nuts on the plastic cover and remove the plastic cover.

## 6 Maintenance

### 6.4 Motor brake readjustment

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3. Block the shaft using a hexagon socket wrench and turn the adjusting nut to the right using an open-end wrench.
4. Secure the plastic cover.
5. Switch on the motor.
6. Once the motor has reached full speed, allow the motor to run for a further 30 seconds.
7. Switch off the motor and measure the time taken for the motor to come to a complete standstill.
8. Check that the motor has come to a complete standstill within 10 seconds of being switched off.
9. If the braking effect is insufficient, repeat the process.



The motor brake must bring the motor to a standstill within 10 seconds of it being switched off. If this time is exceeded and it is still not possible to achieve this time despite repeated adjustment, contact the customer service of the manufacturer immediately.

#### WARNING!



##### Hot surface - risk of burns

The brake may become very hot. There is a risk of burns.

- Check the temperature carefully.

10. Let the motor run for 1 minute after adjusting the brake and then check the temperature on the adjusting nut.  
If the brake is hot, the adjustment has to be corrected.
11. Turn the adjusting nut to the left by 30°.
12. Check the braking effect and the temperature again.
13. Remount the plastic cover and tighten the nuts.



If the problems with the brake continue, immediately contact the service department of the manufacturer.

## 7 Troubleshooting

Error	Cause	Remedy
Machine does not cut	Main switch is off	Switch on the main switch.
	Power plug defective	Check the power plug, replace if necessary.
	Motor defective	Contact service.
	Main switch defective	Contact service.
	Cutting knife worn	Check cutting knife for wear, replace if necessary.
Knife not centred	Flange disc is not positioned correctly on the feather key	Turn flange disc and insert it into the feather key.
Work piece is jammed in knife protection		Switch off the machine using the main switch and secure it against unintentional restart. Move the lever into the starting position. Remove the work piece. Wear cut-proof gloves.



## 8 Decommissioning, disposal

### WARNING!



#### Risk by electrical voltage!

There is a risk of electrocution near the live parts!

- Shut down the machine/unit.
- Disconnect the machine/unit from the power supply.

### CAUTION!



#### Risk of injuries!

Contact with consumables, e.g. oils, greases, test media, imposes a risk of injuries for the skin, eyes, respiratory and intestinal tracts!

- Observe supplier's protection and safety instructions (see data sheet).
- Wear personal protection equipment.
- Do not eat, drink or smoke in the working area and when handling consumables.
- Ensure good ventilation.

### 8.1 Dismantling

This section describes activities to be performed by you as the operator to ensure the safe dismantling of the machine/unit.

- The machine/unit may only be dismantled by entrusted and qualified staff.
- Check the machine/unit for mechanical tension and consider it during dismantling.

### 8.2 Recycling

The machine/unit contains metal, hydraulic hoses, electric cables and electronic components, depending on the type.

As regards disposal, the applicable national environmental protection and waste disposal regulations have to be complied with.

### **8.3 Consumables and waste**

Observe applicable national environmental protection and waste disposal regulations.

Return consumables, e.g. oils, greases, test media, to supplier - they are hazardous waste. Also observe the information given on the safety data sheet.

## 9 Annex



Individual machine/unit components may deviate in their features. Please indicate the serial number of the machine for spare part orders.

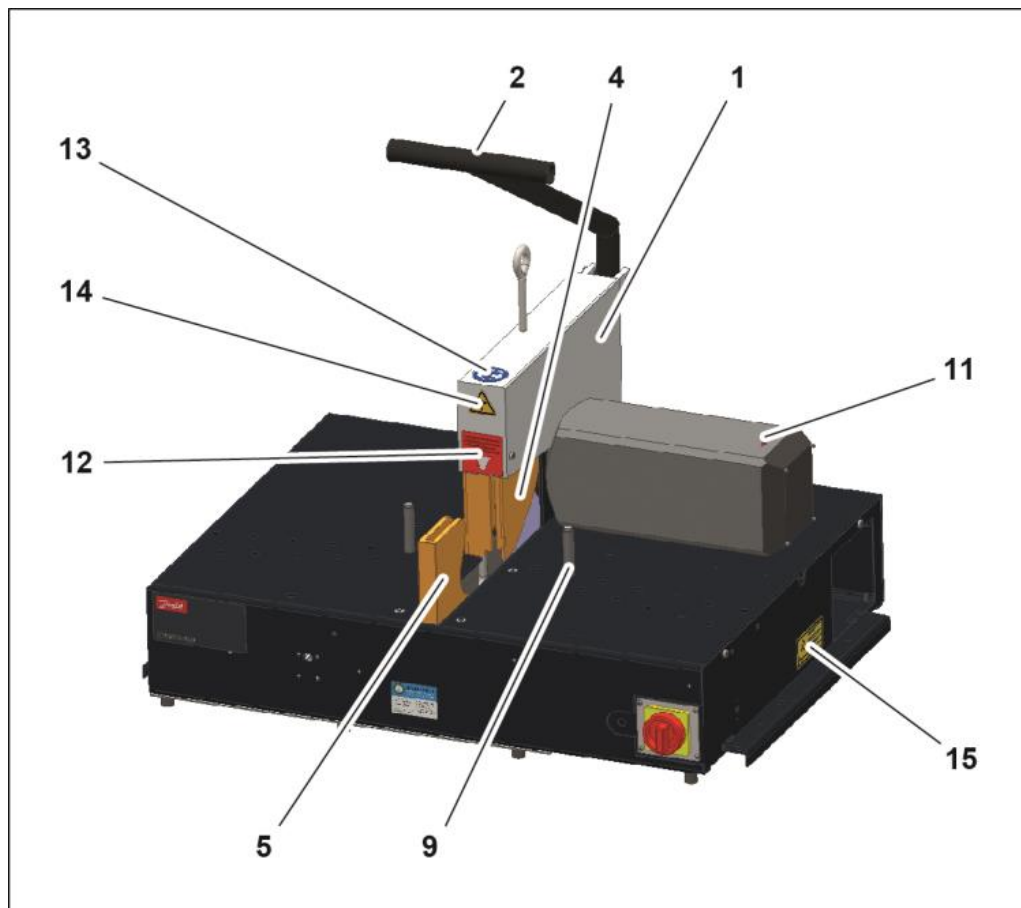
### 9.1 Accessories (retrofitable)

Accessories	Part code
Hose guide, 2000mm	UHG 14
Extension, 1000mm	UHG 14 EXT
Suction system + Adaptor	UVC S36 + 777.055
Extraction system for cutting machines	UVC 100.2 MVA FSD
Hose length measuring device	UMS 4
Spark extinguisher	330.1
Cutting knife with inclined slots	TM G 400 x 4 x 30
Cutting knife, coated	TM C 400 x 4 x 30
Bench	TU
Hose coiling reel	UWT 2.2
Hose measuring tool	UMS 4 + 514.1
Hose winder	UAT 4.2
Hose winder	USH 4 - 5
Quantity counter kit	323.1

Please contact our Sales Department for ordering optional accessories.

## 9.2 Spare parts list

### 9.2.1 Mechanical equipment



Item	Quantity	Part code	Designation
1	1	323.094.1	Machine cover
2	1	323.075.3	Lever
No picture	1	323.116.3	Protective plate
4	1	323.111.0	Knife protection
5	1	323.002.3	Hose feed
No picture	2	323.071.4	Tension rod
No picture	2	323.070.4	Holder for tension rod
9	1	304.2001	Set of bending pins
No picture	1	330.050.3	Spark extinguisher DN 40
11	1	3.166	Red direction arrow
12	1	304.101.4	Knife sign

## 9 Annex

### 9.2 Spare parts list

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Item	Quantity	Part code	Designation
13	1	3127/60	Mandatory Eye and Hearing Protection sticker
14	1	300.100.4	Cutting risk warning sign
15	1	777.031	Power supply disconnection warning sign

#### 9.2.2 Electric equipment

Item	Quantity	Part code	Designation
No picture	1	800.021	Safety isolating transformer
No picture	1	8.06.002 8.06.145 8.06.042	Motorschutzschalter_00 Motorschutzschalter_22_21 Motorschutzschalter_24_26
No picture	1	8.06.003	Auxiliary switch block
No picture	2	VME 0265	Fine wire fuse
No picture	1	8.00.030	Metal oxide varistor
No picture	1	322.401	Main switch
No picture	1	320.111 320.124	Electric motor with brake 4,6kW_00_05_06_20_21 Electric motor with brake 4,6kW_24_26

## 9 Annex

### 9.2 Spare parts list

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#### 9.2.3 Wear parts

Quantity	Part code	Designation
1 item	TM C 400 x 4 x 30	Cutting knife, coated (standard)
1 item	TM G 400 x 4 x 30	Cutting knife with inclined slots
1 kit	320.121	Spare parts kit (Seimec/Habasit) Flange disc set and shaft nut
1 item	320.116	Spare brake Seimec (see motor nameplate)
1 item	320.118	Spare brake Soga (see motor nameplate)
1 set	320.119	Spare flange set for motor 320.111 Soga
1 item	320.120	Spare shaft nut for motor 320.111 Soga
1 item	320.125	Fan for motor 320.111
1 item	320.126	Fan cover for motor 320.111
1 set	304.2001	Set of bending pins







## 9 Annex

### 9.5 Declaration of qualified staff

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#### 9.5 Declaration of qualified staff

I herewith declare that I have attended an internal training for the operation of the UNIFLEX machine and have been informed on all safety-related details. In addition I declare that I have read and understood this Operation Manual completely.

City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature
City	Date	Name	Signature

## 9 Annex

### 9.5 Declaration of qualified staff

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## 9 Annex

### 9.5 Declaration of qualified staff

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## About Danfoss Power Solutions FC

We sincerely appreciate your choice in selecting this product as part of the range of tooling products distributed by Danfoss.

Danfoss hoses, fittings, and tooling provide the ultimate fluid conveyance solutions for a variety of equipment and applications around the world. We proudly engineer to support a sustainable future for tomorrow.

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