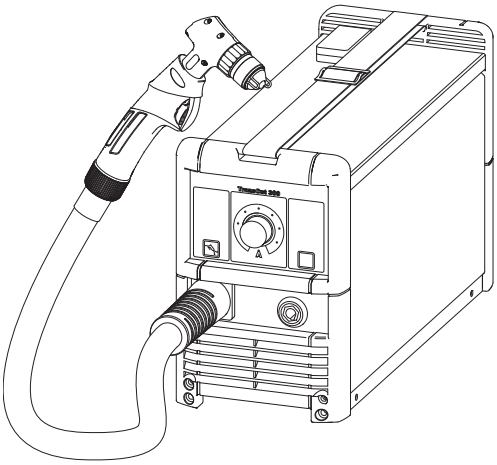
TransCut 300

EN

Operating Instructions
Spare Parts List
Plasma cutting unit



42,0426,0039,EN 002-11042012

Dear Reader

Introduction

Thank you for choosing Fronius - and congratulations on your new, technically high-grade Fronius product! This instruction manual will help you get to know your new machine. Read the manual carefully and you will soon be familiar with all the many great features of your new Fronius product. This really is the best way to get the most out of all the advantages that your machine has to offer.

Please also take special note of the safety rules - and observe them! In this way, you will help to ensure more safety at your product location. And of course, if you treat your product carefully, this definitely helps to prolong its enduring quality and reliability - things which are both essential prerequisites for getting outstanding results.

Safety rules

DANGER!

„DANGER!“ indicates immediate and real danger. If it is not avoided, death or serious injury will result.

WARNING!

„WARNING!“ indicates a possibly dangerous situation. Death or serious injury may result if appropriate precautions are not taken.

CAUTION!

„CAUTION!“ indicates a situation where damage or injury could occur. If it is not avoided, minor injury and/or damage to property may result.

NOTE!

„NOTE!“ indicates a risk of flawed results and possible damage to the equipment.

Important!

„Important!“ highlights tips for correct operation and other particularly useful information. It does not indicate a potentially damaging or dangerous situation.

If you see any of the symbols depicted in the „Safety rules“, special care is required.

General remarks

The device is manufactured using state-of-the-art technology and according to recognised safety standards. If used incorrectly or misused, however, it can cause

- injury or death to the operator or a third party,
- damage to the device and other material assets belonging to the operator,
- inefficient operation of the device.

All persons involved in commissioning, operating, maintaining and servicing the device must

- be suitably qualified,
- have sufficient knowledge of plasma cutting and
- read and follow these operating instructions carefully.

The operating instructions must always be at hand wherever the device is being used. In addition to the operating instructions, generally applicable and local regulations regarding accident prevention and environmental protection must be made available and observed.

All safety and danger notices on the device

- must be kept in a legible state
- must not be damaged/marked
- must not be removed
- must not be covered, pasted or painted over.

For the location of the safety and danger notices on the device, refer to the section headed „General remarks“ in the operating instructions for the device.

General remarks
(continued)

Before switching on the device, remove any faults that could compromise safety.

Your personal safety is at stake!

Utilisation in accordance with „intended purpose“

The device is to be used exclusively for its intended purpose.

The device is designed exclusively for plasma cutting.
Utilisation for any other purpose, or in any other manner, shall be deemed to be „not in accordance with the intended purpose“. The manufacturer shall not be liable for any damage resulting from such improper use.

Utilisation in accordance with the „intended purpose“ also comprises
- reading all operating instructions carefully and following them thoroughly
- studying and obeying all safety and danger notices carefully
- performing all stipulated inspection and servicing work.

The device is designed for use in industry and the workshop. The manufacturer accepts no responsibility for any damage caused through use in living quarters.

The manufacturer likewise accepts no liability for inadequate or incorrect results.

Environmental conditions

Operation and/or storage of the device outside the stipulated area will be deemed as „not in accordance with the intended purpose.“ The manufacturer shall not be liable for any damage resulting from such improper use.

Surrounding temperature:
- during operation: -10 °C to + 40 °C (14 °F to 104 °F)
- for transport and storage: - 25 °C to + 55 °C (-13 °F to 131 °F)

Relative humidity:
- up to 50 % at 40 °C (104 °F)
- up to 90 % at 20 °C (68 °F)

Keep ambient air free from dust, acids, corrosive gases and substances, etc.

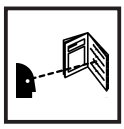
For use at altitudes above sea level: up to 2000 m (6500 ft)

Obligations of the operator

The operator undertakes to allow only such people to work with the device who:
- are familiar with the fundamental instructions regarding safety and accident prevention, and have been instructed how to use the device
- have read and understood the „Safety rules“ section and warning notices in these operating instructions, and then signed them to confirm this
- are trained to produce the required results.

Checks must be carried out at regular intervals to ensure that operators are working in a safety-conscious manner.

Obligations of personnel



Before using the device, all persons instructed to do so undertake to:
- follow the basic instructions regarding safety at work and accident prevention
- read the „Safety rules“ section and warning notices in these operating instructions, and sign them to confirm that they have understood them and will follow them.

Before leaving the work area, ensure that no-one or nothing can come to any harm in your absence.

Protecting yourself and others

Anyone involved with plasma cutting exposes themselves to numerous risks e.g.:
- flying sparks, hot pieces of metal flying around
- arc radiation, which can damage eyes and/or skin

- hazardous electromagnetic fields, which risk the lives of those using cardiac pacemakers

- risk of electrocution from mains current and cutting current

- greater noise pollution

- harmful smoke and gases

Anyone working on the workpiece whilst cutting is taking place must wear suitable protective clothing with the following properties:
- flame-resistant
- insulating and dry
- cover the whole body
- undamaged and in good condition
- trousers with no turn-ups

Protective clothing refers to a variety of different items. Operators should
- protect eyes and face from UV rays, heat and sparks with regulation protective goggles with side shields.
- wear solid footwear that provides insulation even in wet conditions
- protect the hands with suitable gloves (electrically insulated and providing protection against heat).

Insulated ear protectors should be worn to reduce the harmful effects of noise and to prevent injury.

Keep all persons, especially children, out of the working area while any devices are in operation or cutting is in progress. If, however, there are people in the vicinity,
- make them aware of all the dangers (risk of dazzling by arc, injury from sparks, inhaling cutting smoke, noise, possible danger from mains or cutting current, etc),
- provide suitable protective equipment and
- erect suitable safety screens/curtains.

Danger from toxic gases and vapours

The smoke produced during cutting contains harmful gases and vapours.

This smoke contains substances which may, under certain circumstances, cause birth defects or cancer.

Hold your head away from any developing smoke or gases. Developing smoke and harmful gases should
- not be breathed in
- be sucked out of the working area using appropriate methods.

Make sure the area is well ventilated. Otherwise, a protective mask with air supply must be worn.

If there is any doubt about whether the extraction system is powerful enough, then the measured toxic emission values should be compared with the permissible limit values.

The following components are responsible, amongst other things, for the smoke's degree of toxicity:
- metallurgical composition of the workpiece
- coatings
- cleaners, degreasers, solvents etc.

The relevant material safety data sheets and manufacturer's specifications for the listed components should therefore be studied carefully.

Flammable vapours (e.g. solvent fumes) should be kept away from the arc's radiation area.

Danger from flying sparks

Flying sparks may cause fires or explosions.

Never cut close to flammable materials.

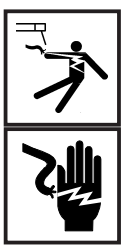
Flammable materials must be at least 11 metres (35 ft) away from the arc, or alternatively covered with a tried-and-tested cover.

A suitable, tested fire extinguisher must be available and ready for use.

Sparks and pieces of hot metal may also get into adjacent areas through small gaps or openings. Take appropriate precautions to prevent any danger of injury or fire.

Cutting must not be performed in areas that are subject to fire or explosion or near sealed tanks, vessels or pipes unless these have been prepared in accordance with the relevant national and international standards.

Danger from mains current and cutting current



An electric shock can be fatal. Every electric shock is potentially life threatening. Do not touch live parts either inside or outside the device.

Make sure that you and others are protected with an adequately insulated, dry temporary backing or cover for the earth or ground potential. This backing or cover must extend over the entire area between the body and the earth or ground potential.

Danger from mains current and cutting current
(continued)

All cables and leads must be complete, undamaged, insulated and adequately dimensioned. Loose connections, scorched, damaged or inadequately dimensioned cables and leads must be repaired/replaced immediately .

Do not sling cables or leads either around the body or parts of the body.

Never immerse the plasma cutting torch in liquids (e.g. for cooling purposes)

Have the mains and device supply checked regularly by a qualified electrician to ensure the PE conductors are functioning properly.

The device must only be operated on a mains supply with a PE conductor and a socket with an earth contact.

If the device is operated on a mains without a PE conductor and in a socket without an earth contact, this will be deemed to be gross negligence. The manufacturer shall not be liable for any damage resulting from such improper use.

If necessary, provide an adequate earth connection for the workpiece.

Switch off unused devices.

Wear a safety harness if working at great heights.

Before working on the device, switch it off and disconnect it from the mains supply.
Attach a clearly legible and easy-to-understand warning sign to the device to prevent anyone from reconnecting it to the mains and switching it on again.

After opening the device:
- discharge all components that are electrically charged
- ensure that all components in the device are de-energised.

If work on live parts cannot be avoided, appoint a second person to switch off the main switch at the right moment.

EMC and EMF measures

It is the operator’s responsibility to ensure that no electromagnetic interference occurs in electrical and electronic devices

If electromagnetic interference is detected, the operator is obliged to take action to rectify the situation.

Check for possible problems, and check and evaluate neighbouring devices’ resistance to interference according to national and international requirements:
- safety components
- power, signal and data transfer lines
- computer and telecommunications devices
- measuring and calibrating devices

EMC and EMF measures
(continued)

Supporting measures for avoidance of EMC problems:

a) Requirements for the mains connection
- if electromagnetic interference arises despite correct mains connection, additional measures are necessary (e.g. use a suitable line filter).
- High-performance devices can affect the quality of mains voltage through their current input. For certain types of device, therefore, there may be special application restrictions or minimum requirements in respect of the maximum permissible mains impedance (see Technical data). In this event the plant operator (if appropriate after consultation with the power supply company) must check whether the connection conditions are appropriate.

b) Current-carrying cables and leads should be
- keep leads as short as possible
- allow them to run closely together (to avoid EMF problems)
- keep them far from other leads

c) Potential equalisation

d) Earthing the workpiece
- If necessary, establish earth connection using suitable capacitors.

e) Screening, if necessary
- screen off other devices nearby
- Screen off entire cutting installation

Electromagnetic fields may pose as yet unknown risks to health:
- effects on other persons' health, e.g. those with pacemakers and hearing aids
- Those with pacemakers must seek advice from their doctor before approaching the device or any cutting that is in progress
- For safety reasons, keep distances between the cables and the operator's head/torso as great as possible
- Do not carry cables or hosepacks over the shoulders or wind them round any part of the body

Specific hazardous areas

Covers and side panels may only be opened/removed while maintenance or repair work is being carried out.

During operation
- ensure that all covers are closed and all side panels are fitted properly.
- Keep all covers and side panels closed.

When there is steam escaping from the cutting torch, this represents a serious risk of injury (scalding of hands, body, face, eyes, etc.). The cutting torch should therefore be held away from the body at all times.

Specific hazardous areas
(continued)

Never touch the workpiece or tip of the cutting torch during or after cutting - risk of burns.

Slag can sometimes fly off workpieces as they cool down. The specified protective equipment must therefore also be worn when reworking workpieces, and steps must be taken to ensure that other people are also adequately protected.

Cutting torches and other parts with a high operating temperature must be allowed to cool down before handling.

Special provisions apply in areas at risk of fire or explosion - observe relevant national and international regulations.

Power sources that are to be used in rooms/areas with increased electric risk (e.g. near boilers) must carry the Safety sign. However, the power source must not be located in such areas.

Use only suitable load-carrying equipment supplied by the manufacturer when transporting devices by crane.

If the device has a carrying strap or handle, this is intended solely for carrying the device by hand. The carrying strap is not to be used if transporting with a crane, fork-lift or other mechanical hoist.

Danger from cutting medium

Cartridge containing cutting medium is under pressure and may burst if damaged. Protect cartridge from direct sunlight, temperatures above 50°C, mechanical impact, naked flames, sparks and arcs.

Never use any cutting medium unless it is in good condition and suitable for the application in question.
A flammable gas/air mixture may develop during use.
Only use in well-ventilated areas, and never inhale an aerosol spray.

If the fluid gets into the eyes, rinse with copious amounts of water and seek medical attention if necessary. If swallowed, call a doctor immediately and show him/her the packaging or label.

Do not use force to open the cutting medium cartridge and do not incinerate it, even when it is empty. Keep the cartridge in a well-ventilated place and out of the reach of children. Leave the protective cap on the cartridge when storing it.

Do not dispose of the cartridge with domestic rubbish, and do not allow cutting medium to enter the waste water/sewage system. Full or part-full cartridges should only be disposed of as special waste. Only recycle completely empty and depressurised cartridges.

The manufacturer’s instructions must be observed as well as applicable national and international regulations. A safety data sheet may be obtained from your service centre or downloaded from the manufacturer’s website.

Safety measures at the installation location and during transport

A device that topples over can easily kill someone. Place the device on a solid, level surface. The maximum permissible slope is 10°.

Special regulations apply in rooms at risk of fire or explosion. Observe relevant national and international regulations.

Use internal directives and checks to ensure that the workplace environment is always clean and clearly laid out.

Only set up and operate the device in accordance with the degree of protection shown on the rating plate.

When setting up the device, ensure there is a gap of 0.5 m (1.6 ft.) all round so that cooling air can enter and exit unhindered.

When transporting the device, observe the relevant national and local guidelines and accident prevention regulations. This applies especially to guidelines regarding the risks arising during transportation.

After transporting the device, and before commissioning, you MUST carry out a visual inspection to check whether it has been damaged in any way. Any damage must be repaired by trained service personnel before commissioning takes place.

Safety measures in normal mode

Only operate the device when all protection devices are fully functional. If the protection devices are not fully functional, there is a risk of
- injury or death to the operator or a third party,
- damage to the device and other material assets belonging to the operator,
- inefficient operation of the device.

Any safety devices that are not functioning properly must be repaired before switching on the device.

Never bypass or disable protection devices.

Before switching on the device, ensure that no one is likely to be endangered.

- Check the device at least once a week for obvious damage and proper functioning of safety devices.
- Only use suitable original cutting medium from the manufacturer.
- Always check the cutting medium level before you start cutting.

Maintenance and repair

It is impossible to guarantee that bought-in parts are designed and manufactured to meet the demands made on them, or that they satisfy safety requirements. Use only original replacement and wearing parts (also applies to standard parts).

Do not carry out any modifications, alterations, etc. without the manufacturer's consent.

Components that are not in perfect condition must be changed immediately.

When ordering, please give the exact designation and part number as shown in the spare parts list, as well as the serial number of the device.

Disposal

Do not dispose of this device with normal domestic waste!
To comply with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment and its implementation as national law, electrical equipment that has reached the end of its life must be collected separately and returned to an approved recycling facility Any device that you no longer require must be returned to our agent, or find out about the approved collection and recycling facilities in your area.
Ignoring this European Directive may have potentially adverse affects on the environment and your health!

Safety inspection

The operator is obliged to arrange a safety inspection of the device at least once every 12 months.

The manufacturer recommends that the power source is calibrated during the same 12 month period.

A safety inspection must be carried out by a qualified electrician
- after any changes are made
- after any additional parts are installed and after any conversions
- after repair, care and maintenance
- at least every twelve months.

For safety inspections, follow the appropriate national and international standards and directives.

Further details on safety inspection and calibration can be obtained from your service centre. They will provide you on request with any documents you may require.

Safety

Devices with the CE marking satisfy the essential requirements of the low-voltage and electromagnetic compatibility directive (e.g. relevant product norms from the EN 60 974 series).

EMC device classes in accordance with EN/ IEC 60974-10

Class B devices comply with EMC requirements for industrial areas and residential areas with a direct power supply from the public low-voltage grid.

Class A devices are not designed for use in residential areas with a direct power supply from the public low-voltage grid. When Class A devices are used in such areas, problems may arise in terms of guaranteeing electromagnetic compatibility and with regard to both line-bound and radiated interference.

Copyright

General remarks

Basic system principle

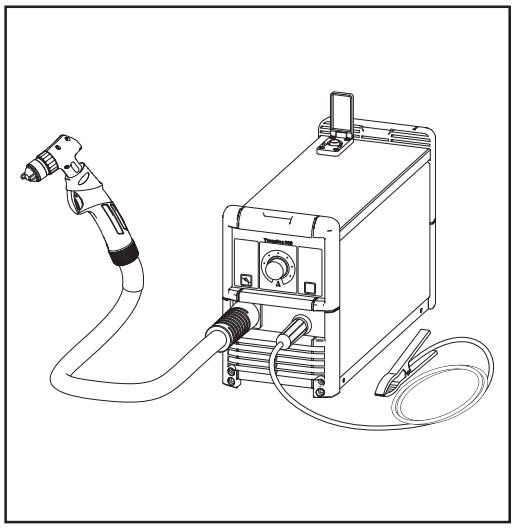


Fig. 1 TransCut 300 plasma cutting system

The TransCut 300 plasma cutting system is a mobile plasma cutting device with a fixed plasma cutting torch.

This plasma cutting torch is based on a system with regenerative cooling which uses a liquid cutting medium rather than gas or compressed air.

The cutting medium (TransCut Liquid) is transferred from the integrated tank to the cutting torch, where it is converted into gaseous form. The cutting medium is poured into practical cartridges that are easy to refill.

The plasma cutting tool operates on the principle of a resonance inverter, offering a number of advantages:
- Outstanding cutting properties
- Lightness in weight and compactness
- Excellent portability

Device concept

The plasma cutting system is small and compact, but at the same time so robust that it can function reliably even under hard operating conditions. A powder-coated sheet-metal housing with protected controls allows the unit to meet the most stringent demands. The carrying strap facilitates easy transportation, both in-house or on-site.

Application areas

The TransCut 300 plasma cutting system is particularly well suited for mobile deployment on construction sites and in installation projects due to its integrated supply of liquid cutting medium and its compact size. But even when used as stationary units in workshops or industrial facilities, the machines are powerful and economical alternatives.

- Air conditioning and ventilation systems
- Automotive sheet-metal work / bodywork
- Industrial plant and pipeline construction
- Metal and gantry construction / fitting shops and forges
- Maintenance / repair
- Boiler and container construction
- Assembly companies

Controls and connections

General remarks

WARNING! Operating the equipment incorrectly can cause serious injury and damage. You should not use the functions described until you have thoroughly read and understood the following documents:

- These operating instructions
- all operating instructions for the system components, especially the “Safety rules”

Controls

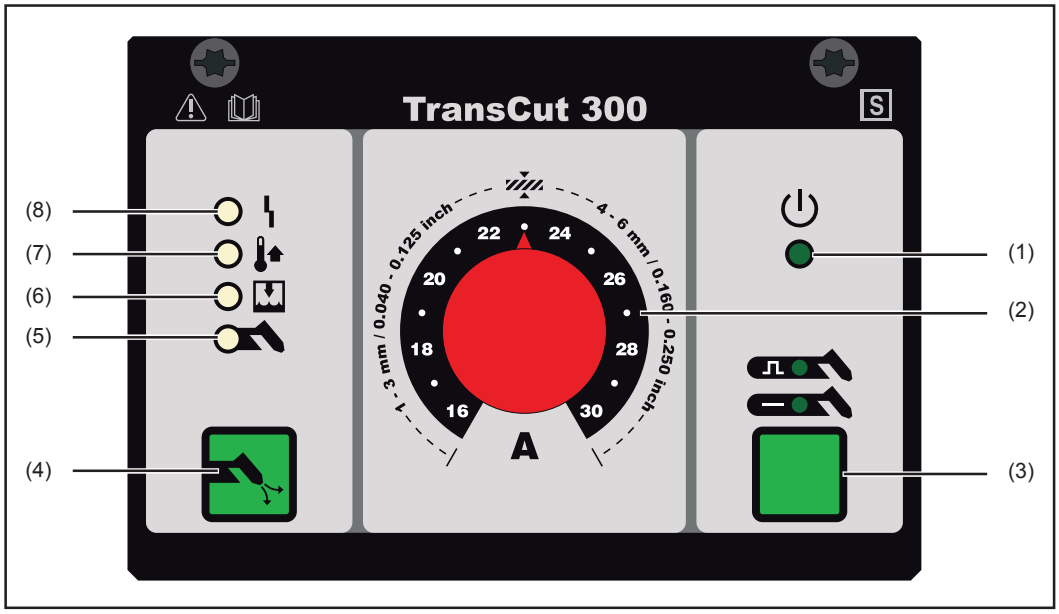


Fig. 2 Controls

n°	Function
(1)	**‘Standby’ indicator** - flashes on and off whilst the device is in its warm-up and reheating phase - flashes on and off whilst the cutting torch is in its cool-down phase - lights steady when the device is ready for use
(2)	**Cutting current parameter** for selecting the cutting current
(3)	**Mode button** for selecting the operating mode for different materials Pulse mode. Recommended for cutting ferrometallic materials Standard mode. Recommended for cutting aluminium
(4)	**Fill button** For filling the hosepack and cutting torch with the cutting medium. Must be performed every time the tank is filled and when the device has not been used for a period of time.
(5)	**Torch indicator** - comes on when wear parts of the cutting torch are fitted incorrectly or worn - comes on when the cutting torch’s protective cap is fitted incorrectly
(6)	**Fill level indicator** - comes on when most of the cutting medium has been used up. Keep a new cartridge of cutting medium at the ready, or fill up the tank. - flashes on and off if the tank is empty

Controls
(continued)

(7) Overtemperature indicator
- comes on when the device is too hot

(8) Error indicator
- comes on if a malfunction occurs

Connections

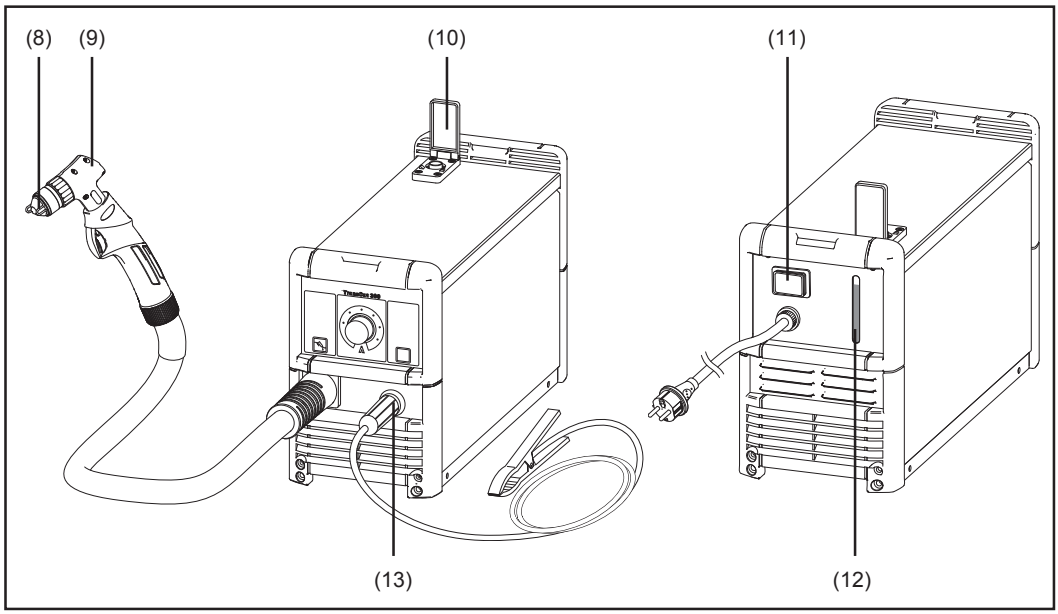


Fig.3 Connections on the front and rear of the plasma cutting device

n°	Function
(8)	**Spacer**
(9)	**Plasma cutting torch**
(10)	**Fill valve with protective cap** for topping up with cutting medium
(11)	**Mains switch**
(12)	**Fill level inspection glass**
(13)	**Grounding (earthing) cable**

Before commissioning

General remarks

WARNING! Operating the equipment incorrectly can cause serious injury and damage. You should not use the functions described until you have thoroughly read and understood the following documents:
- These operating instructions
- All the operating instructions for the system components, especially the safety regulations

Utilisation in accordance with „intended purpose“

The device is designed exclusively for plasma cutting.
Utilisation for any other purpose, or in any other manner, shall be deemed to be „not in accordance with the intended purpose“. The manufacturer shall not be liable for any damage resulting from such improper use.

Utilisation in accordance with the „intended purpose“ also comprises
- Following all the instructions given in this manual
- Performing all stipulated inspection and servicing work.

The device must only be used in combination with the CTW 300 plasma cutting torches.

Setup regulations

WARNING! A machine that topples over or falls from its stand can easily kill someone. Place machine on a solid, level surface in such a way that it remains stable.

The power source is tested to IP 23S, meaning:
- protection against ingress of solid bodies with diameters greater than 12.5 mm (.49 in.)
- protection against direct sprays of water up to 60° from the vertical

You can therefore set up and operate the device outdoors in accordance with IP 23S. If it is raining or snowing, however, the machine must not be used. Built-in electrical parts must be protected from direct wetting.

Mains connection

The device is designed to run at the mains voltage indicated on the rating plate. The required mains supply fuse protection can be found in the „Technical data“ section.
If there is no network cable or mains plug on your machine, fit a network cable or plug according to the national standards.

NOTE! Inadequately dimensioned electrical installations can lead to serious damage. The mains lead, and its fuse protection, must be dimensioned in accordance with the local power supply. The technical data shown on the rating plate shall apply.

Generator-powered operation

The device is completely generator-compatible, provided the maximum apparent power delivered by the generator is at least 8 kVA.

NOTE! The voltage supplied by the generator must never rise above or fall below the mains voltage tolerance specified in the Technical data chapter.

Commissioning

General remarks

WARNING! An electric shock can be fatal. If the machine is plugged into the mains electricity supply during installation, there is a high risk of very serious injury and damage. Only carry out work on the machine when
- the mains switch is in the „O“ position,
- the machine is unplugged from the mains.

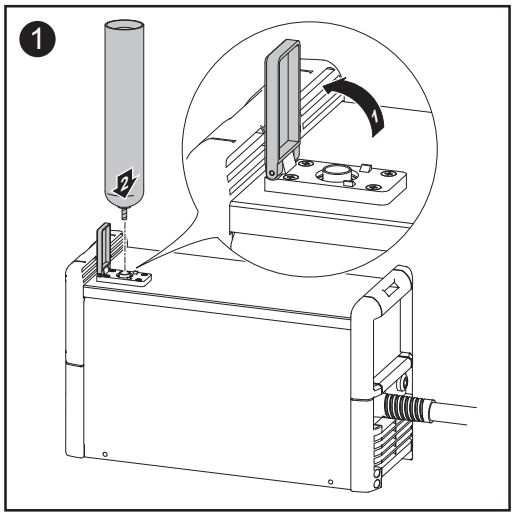
Fill the tank and hosepack

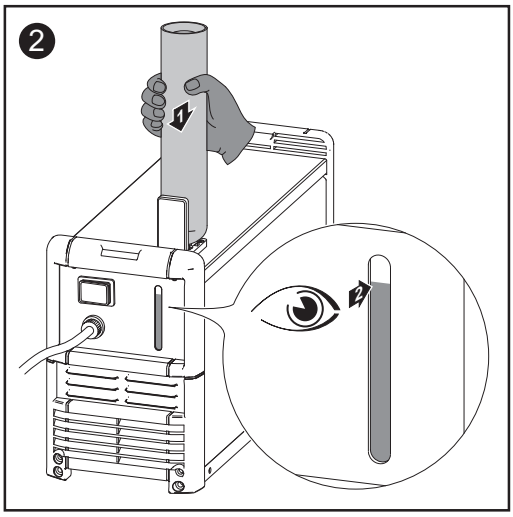
CAUTION! Danger of scalding from escaping steam. Hold the cutting torch so that it points away from your face and body.

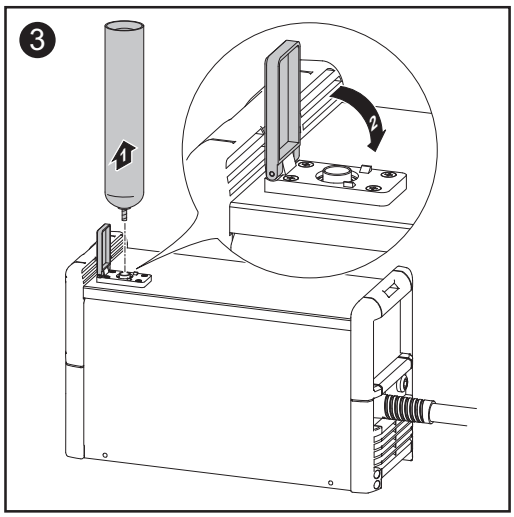
Each time the device is started you should check that there is sufficient cutting medium in the tank. When filling the tank, make sure that the filling valve is free of dust and other dirt and that the cutting torch is at the same level as the machine.

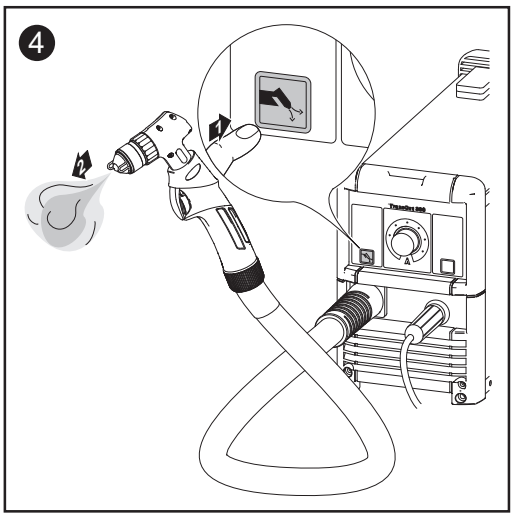
NOTE! Danger of damage from leaking cutting medium. If the tank is overfilled, any superfluous cutting medium will run off via the underside of the device. Any materials that are sensitive to liquids must not be stored in the immediate vicinity of the device, and it may be wise not to fill the tank to the brim.

Before starting the cutting process make sure that the device and cutting torch are filled with cutting medium.









Cutting

General remarks

WARNING! Operating the equipment incorrectly can cause serious injury and damage. You should not use the functions described until you have thoroughly read and understood the following documents:
- These operating instructions
- All the operating instructions for the system components, especially the safety regulations

CAUTION! Danger of injury or damage from escaping steam and hot pieces of metal being thrown around When you press the torch trigger:
- hold the cutting torch so that it points away from your face and body
- do not point the cutting torch at people

Preparing for cutting

1. Establish an earth connection to the workpiece

   Important! Never attach the earth terminal to the area of the workpiece that is to be cut off.

2. Connect to the mains and turn on the mains switch for the power source

3. Set the required operating mode depending on the material of the workpiece

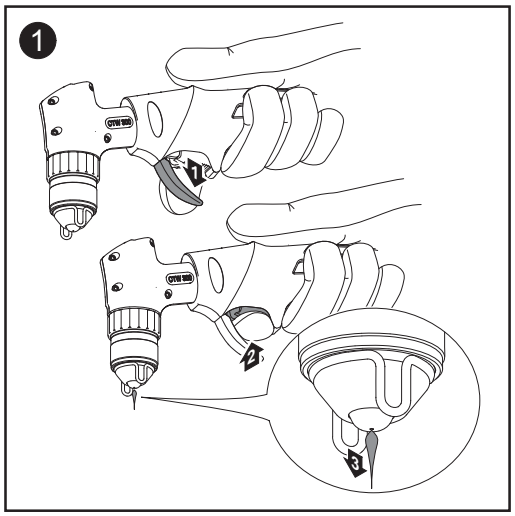
   Pulse mode. Recommended for cutting structural and stainless steels
   Standard mode. Recommended for cutting aluminium

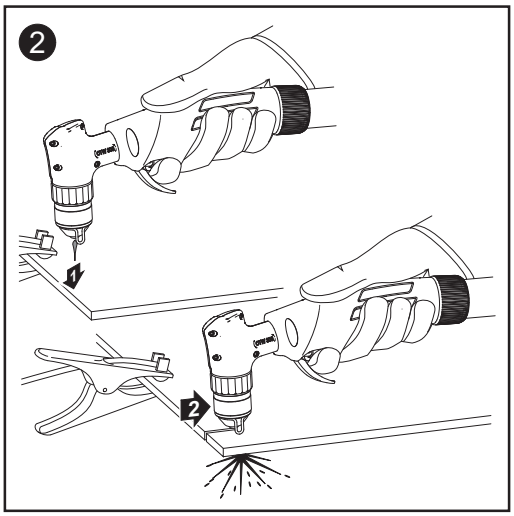
4. Adjust the cutting current in accordance with the material strength or the cutting speed required

   Important! Make sure during the cutting operation that the arc always passes through the workpiece and that any „dross“ that may form is as small as possible. If this is not the case:
   - Reduce cutting speed or
   - increase cutting current accordingly

Igniting the plasma jet

CAUTION! Risk of injury and damage from electric shock and escaping steam. When you press the torch trigger:
- hold the cutting torch so that it points away from your face and body
- do not point the cutting torch at people





Cut in straight lines

If possible, move the cutting torch towards you (pulling) over the workpiece. Depending on the application, you should opt for a slightly forward-inclined or slightly backward-inclined torch position.

NOTE! If the cutting torch is handled incorrectly, this will have the effect of considerably reducing the service life of wearing parts. During the cutting operation make sure that the cutting torch is always held at the correct angle.

For longer, straight cuts it is advisable to use a guide set or straight edge. When cutting with a guide set, spacers should be removed.

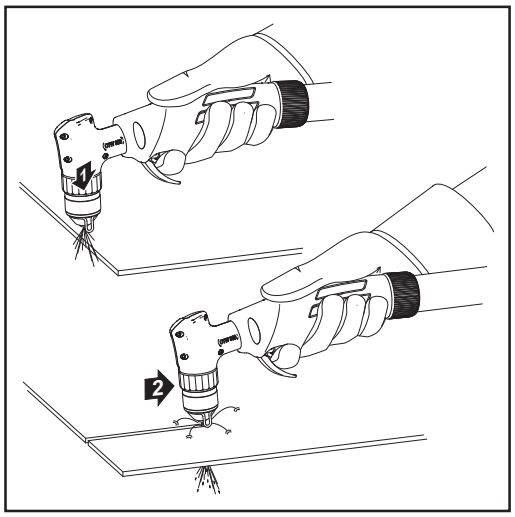


Fig. 4 Free-hand control of the cutting torch

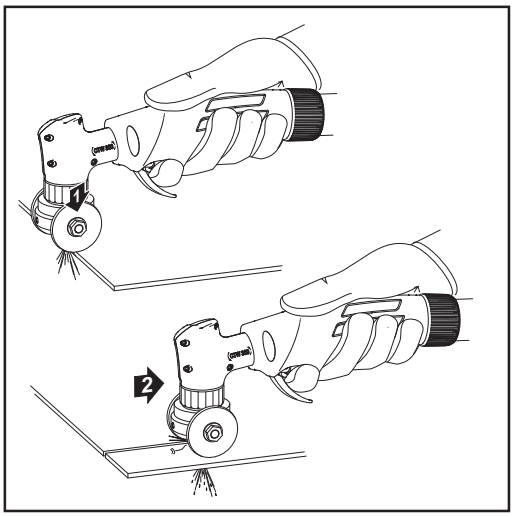


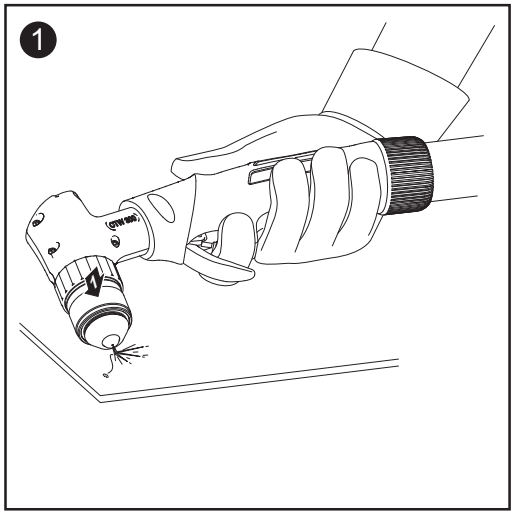
Fig. 5 Cutting with guide set, which is available as an optional extra

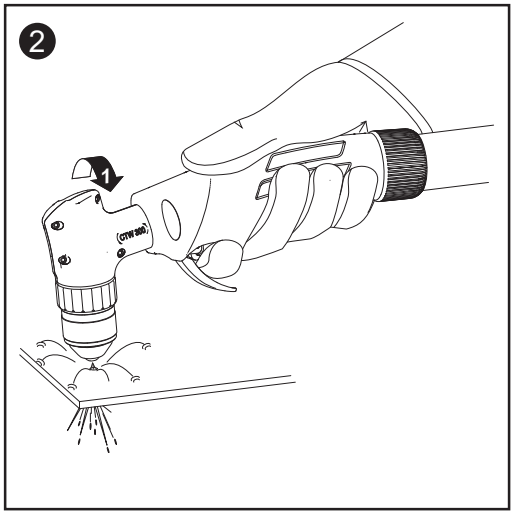
Hole punching

Hole punching is necessary when a piece is to be cut out of a workpiece but the cut is not started across the edge of the workpiece.

Important! Hole punching considerably reduces the service life of wearing parts. The tip of the cutting torch should never touch the workpiece. In the case of thicker sheet metals it is advisable to drill rather than punch a hole in the workpiece.

In order to protect the wearing parts, the cutting torch should be aligned at an angle to the workpiece and at a distance of 1-2 mm from it. Once it has been lit, swivel the torch slowly into an upright position until the arc has cut though the workpiece.

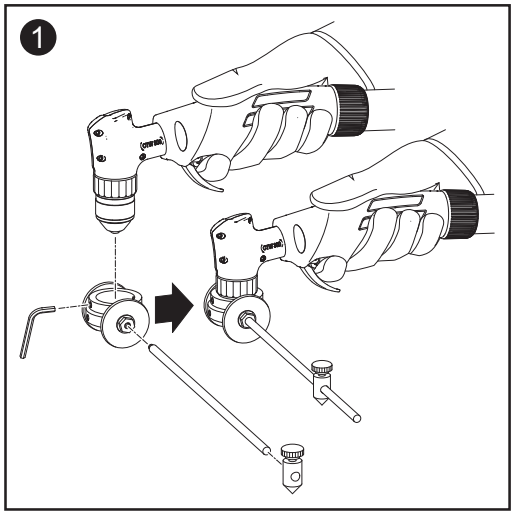


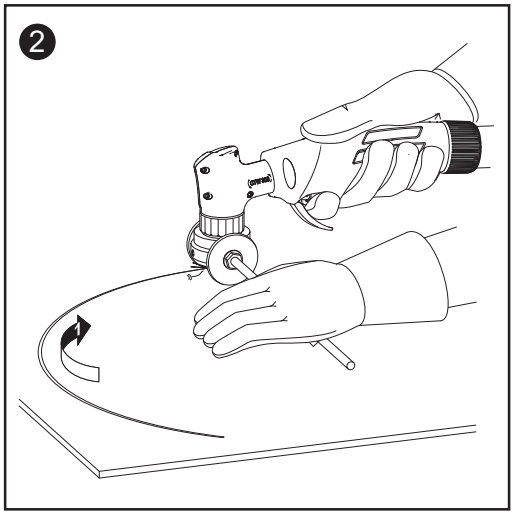


Making circular cuts

In order to cut a perfect geometric circle out of the workpiece, the guide set, which is available as an optional extra, must be used.

Before cutting, a hole should be drilled in the workpiece to start the cut. In the case of thin sheet metals this can also be done by punching a hole. It is advisable not to fit the guide set until after the hole has been punched, and to remove the spacer when cutting with the guide set.





Replace wearing parts

CAUTION! Danger of burns from hot cutting torch. The cutting torch must be allowed to cool down before it can be cleaned or wearing parts are replaced. Switch the device off and allow the cutting torch to cool down.

After operating for only a short time the wearing parts and the cutting torch can attain extremely high temperatures. As a result of these high temperatures, the cutting nozzle and cutting electrode are subject to a certain amount of wear.

Before the device is started the wearing parts should always be checked for damage and wear. The following illustrations can be used to determine whether or not wearing parts need to be replaced.

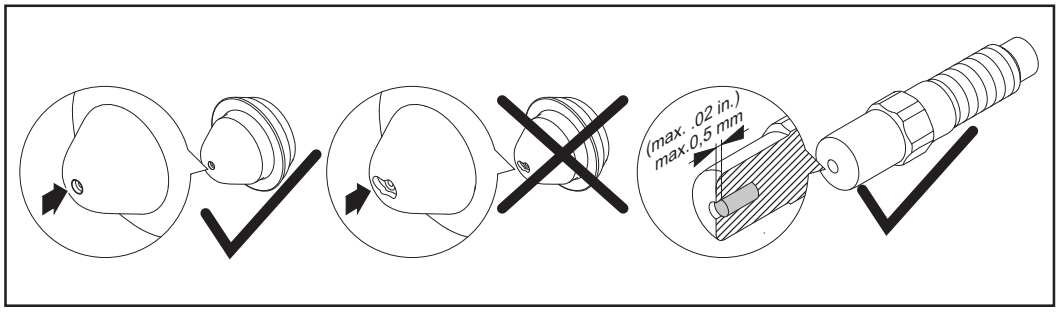
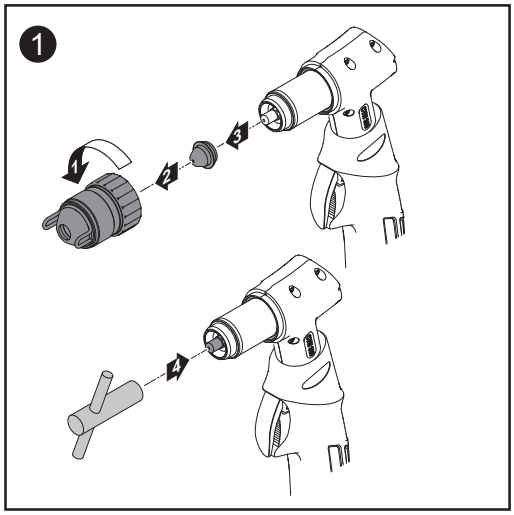
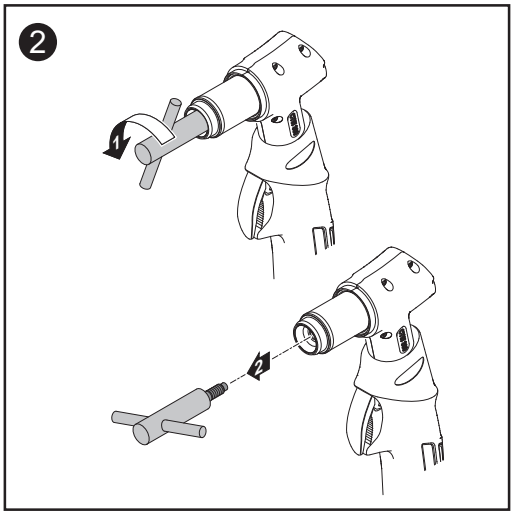
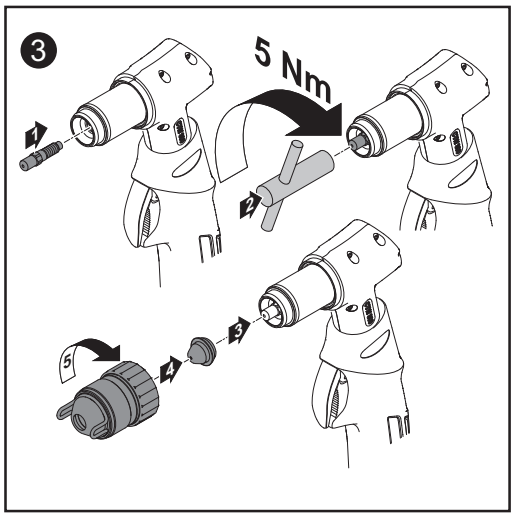


Fig. 6 Wearing parts

No tools are needed for replacing wearing parts other than the special spanner which was supplied with the device. Undo the torch cap by hand with the aid of a pair of gloves. Next, remove the cutting nozzle and, if appropriate, unscrew the cutting electrode.







Troubleshooting

General remarks

WARNING! An electric shock can be fatal. Before opening up the machine
- Move the mains switch to the “O” position
- Unplug machine from the mains
- Put up an easy-to-understand warning sign to stop anybody inadvertently switching it back on again
- Using a suitable measuring instrument, check to make sure that electrically charged components (e.g. capacitors) have been discharged

CAUTION! Inadequate PE conductor connections can cause serious injury and damage. The housing screws provide a suitable PE conductor connection for earthing (grounding) the housing and must NOT be replaced by any other screws that do not provide a reliable PE conductor connection.

Fault diagnosis

At some points the arc does not penetrate the workpiece completely
The cutting current is set to its maximum value

Cause:	Cutting speed too fast or distance from workpiece too great
Remedy:	Reduce cutting speed or distance from workpiece
Cause:	Wearing parts are worn excessively
Remedy:	Replace wearing parts
Cause:	Poor earth connection
Remedy:	Check contact between earth terminal and workpiece

Poor cutting performance

Cause:	Cutting current too low or distance from workpiece too great
Remedy:	Increase cutting current or reduce distance from workpiece
Cause:	Poor earth connection
Remedy:	Check contact between earth terminal and workpiece
Cause:	Very long mains lead extension
Remedy:	Use shorter mains lead extension

Arc breaks during cutting

Cause:	Poor earth connection
Remedy:	Check contact between earth terminal and workpiece
Cause:	Wearing parts are worn excessively
Remedy:	Replace wearing parts
Cause:	Very long mains lead extension
Remedy:	Use shorter mains lead extension
Cause:	Insufficient generator output
Remedy:	Use more powerful generator

Fault diagnosis
(continued)

Excessive formation of „dross“ during the cutting operation

Cause:	Cutting speed too fast
Remedy:	Reduce cutting speed
Cause:	Cutting speed too slow
Remedy:	Increase cutting speed
Cause:	Cutting current too low
Remedy:	Increase cutting current
Cause:	Wrong operating mode selected
Remedy:	Select a different mode
Cause:	Cutting torch applied incorrectly
Remedy:	Apply cutting torch with a slight forward inclination

Steam escaping between body of torch and protective cap

Cause:	Protective cap fitted to cutting torch incorrectly
Remedy:	Tighten protective cap on cutting torch
Cause:	Cutting nozzle cone dirty or damaged
Remedy:	Clean cutting nozzle or install new cutting nozzle

Service codes displayed

Excess temperature indicator lit

Cause:	Device overheating
Remedy:	Leave device switched on and wait until it has cooled down. The indicator is turned off automatically as soon as the device is ready for operation again.

Fill level indicator lit
Cutting can nevertheless continue.

Cause:	Most of the cutting medium in the tank has been used up
Remedy:	Keep a cartridge of cutting medium at the ready or refill tank

Fill level indicator flashing
Cutting can no longer be continued

Cause:	No cutting medium in tank
Remedy:	Fill tank with cutting medium

Torch indicator lit

Cause:	Protective cap fitted to cutting torch incorrectly
Remedy:	Fit protective cap correctly
Cause:	Wearing parts on cutting torch fitted incorrectly
Remedy:	Fit wearing parts correctly
Cause:	Wearing parts faulty or worn
Remedy:	Replace wearing parts

Error indicator lights up

Cause:	Internal machine fault
Remedy:	Switch device off and on again If the error recurs after the device is switched on again you should notify After-Sales Service immediately.

Care, maintenance and disposal

General remarks

Under normal operating conditions the charger requires only a minimum of care and maintenance. However, it is vital to observe some important points to ensure the plasma cutting system remains in a usable condition for many years.

WARNING! An electric shock can be fatal. Before opening up the machine
- Move the mains switch to the “O” position
- Unplug machine from the mains
- Put up an easy-to-understand warning sign to stop anybody inadvertently switching it back on again
- Using a suitable measuring instrument, check to make sure that electrically charged components (e.g. capacitors) have been discharged

CAUTION! Danger of burns from hot cutting torch. The cutting torch must be cleaned and wearing parts replaced only after the cutting torch has cooled down.

Every start-up

- Check wearing parts of torch and replace them as necessary
- Check fill level of cutting medium and top up as necessary

NOTE! Use only original cutting medium from the manufacturer for filling the device. Other cutting media will be unsuitable.

- Check mains plug and mains cable, as well as cutting torch and earth connection for damage
- Check whether the allround distance of 0.5 m (1ft 8in.) is kept to ensure that the cooling air can easily flow and escape.

NOTE! Air inlets and outlets must never be covered, not even partially.

Every 6 months

- Dismantle machine side panels and clean inside of machine with dry reduced compressed air

NOTE! Risk of damage to electronic components. Do not bring the air nozzle too close to the electronic components.

Disposal

Dispose of in accordance with the applicable national and local regulations.

Technical data

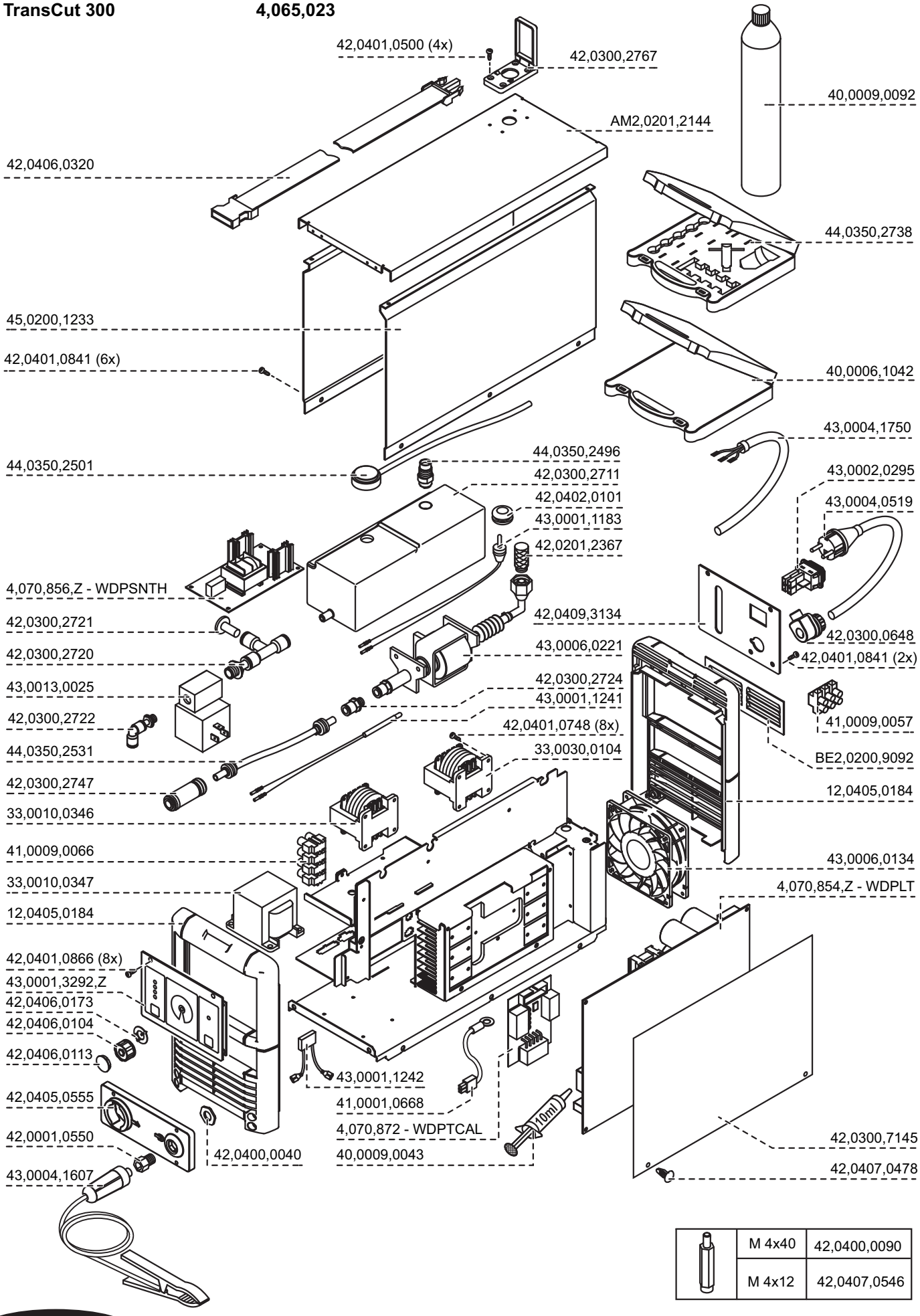
Special voltage

For machines designed for special voltages, the technical data on the rating plate applies.

TransCut 300

Mains voltage			230 V
Mains voltage tolerance			+ 10 % / -15 %
Mains frequency			50/60 Hz
Mains fuse protection			16 A slow-blow
Cos phi			0,99
Cutting current range			16 - 30 A
Cuttingcurrent at	10 min/40°C (104°F)	35 % d.c. 60 % d.c. 100 % d.c.	30 A 22 A 18 A
Separable thicknesses of sheet metal			up to 10 mm. .39 in.
Recommended sheet thickness			up to 6 mm. .24 in.
Tank capacity			1.5 l .40 gal
Cutting time (per tank)			approx. 3 hrs.
Protection			IP 23S
Marks of conformity			CE
Safety			S
EMC device class			A
Measurements l x b x h			460 x 180 x 275 mm 18.11 x 7.09 x 10.85 in.
Lenght of the plasma cutting torch			4,7 m 15 ft. 5 in.
Weight (incl. plasma cutting torch)			14,6 kg 32.19 lb.

TransCut 300 **4,065,023**



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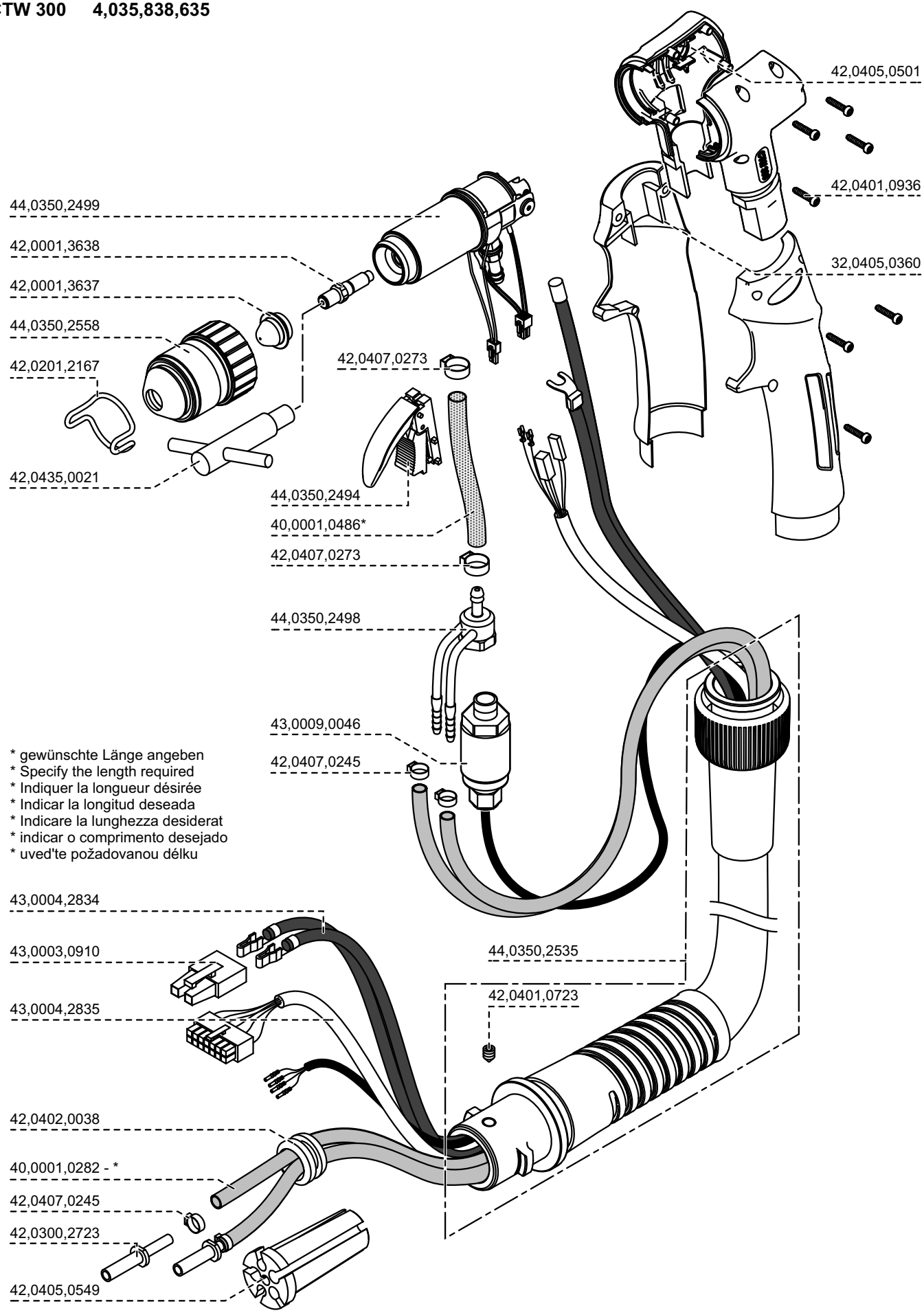
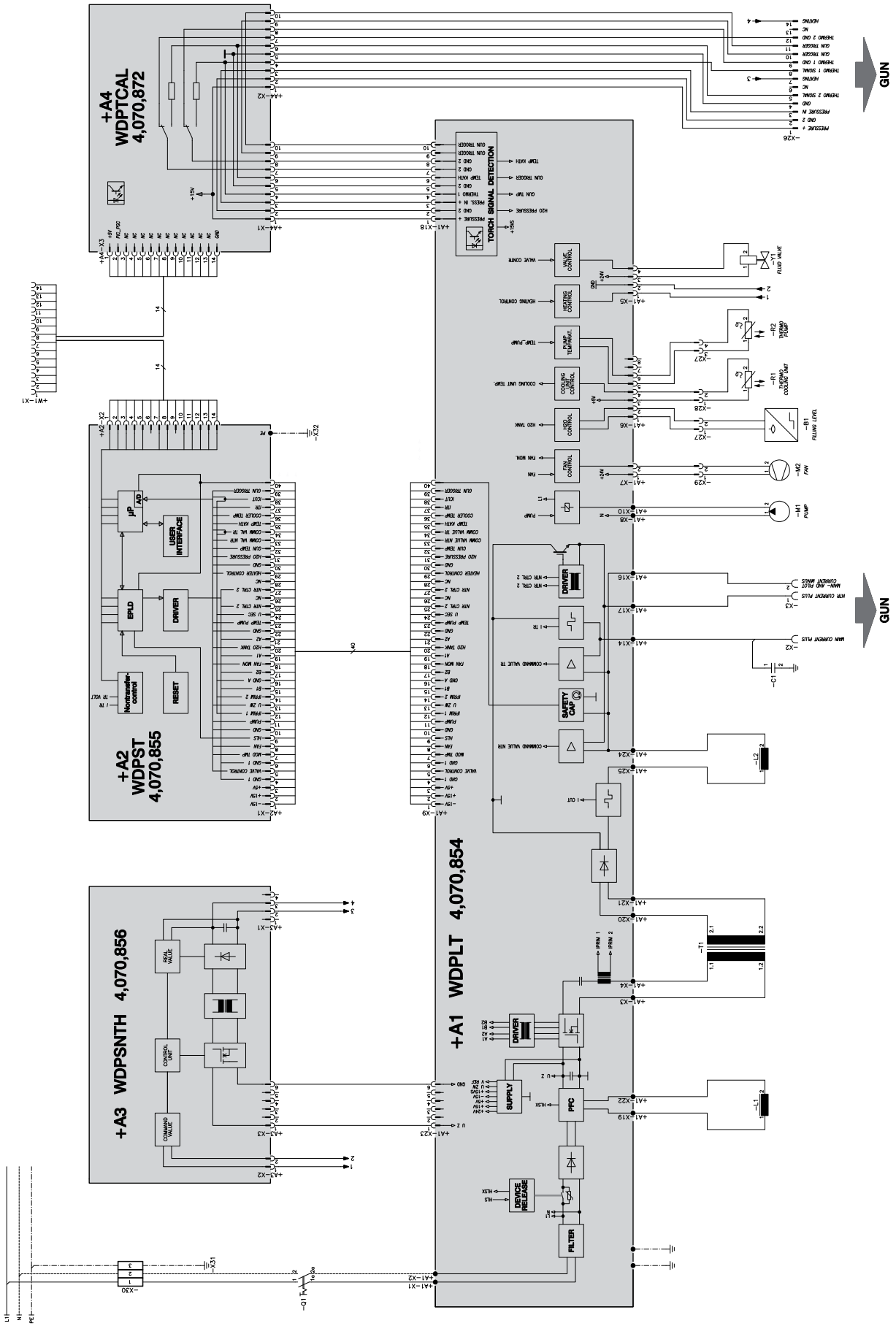
	M 4x12	42,0407,0546

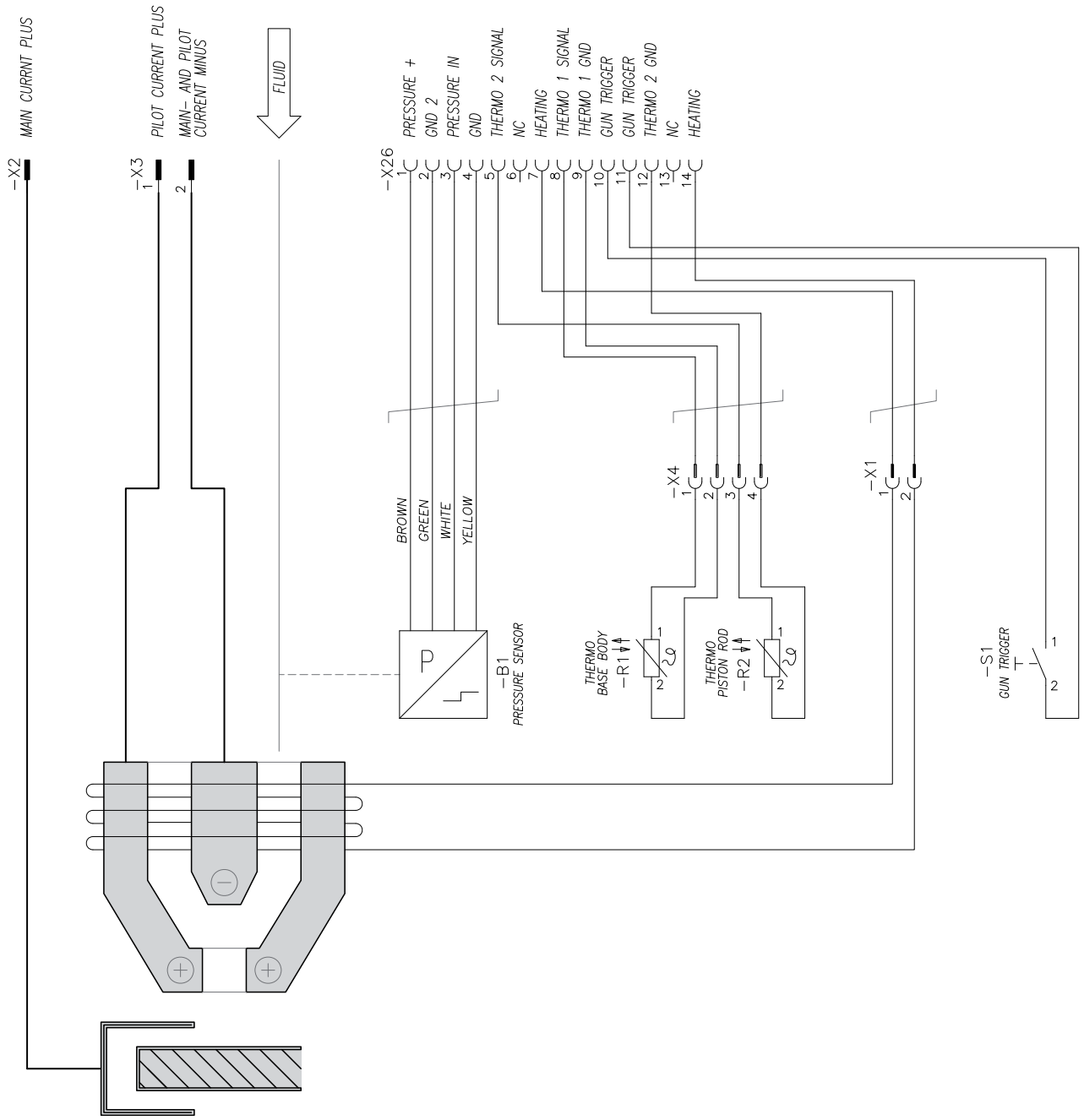
CTW 300 4,035,838,635



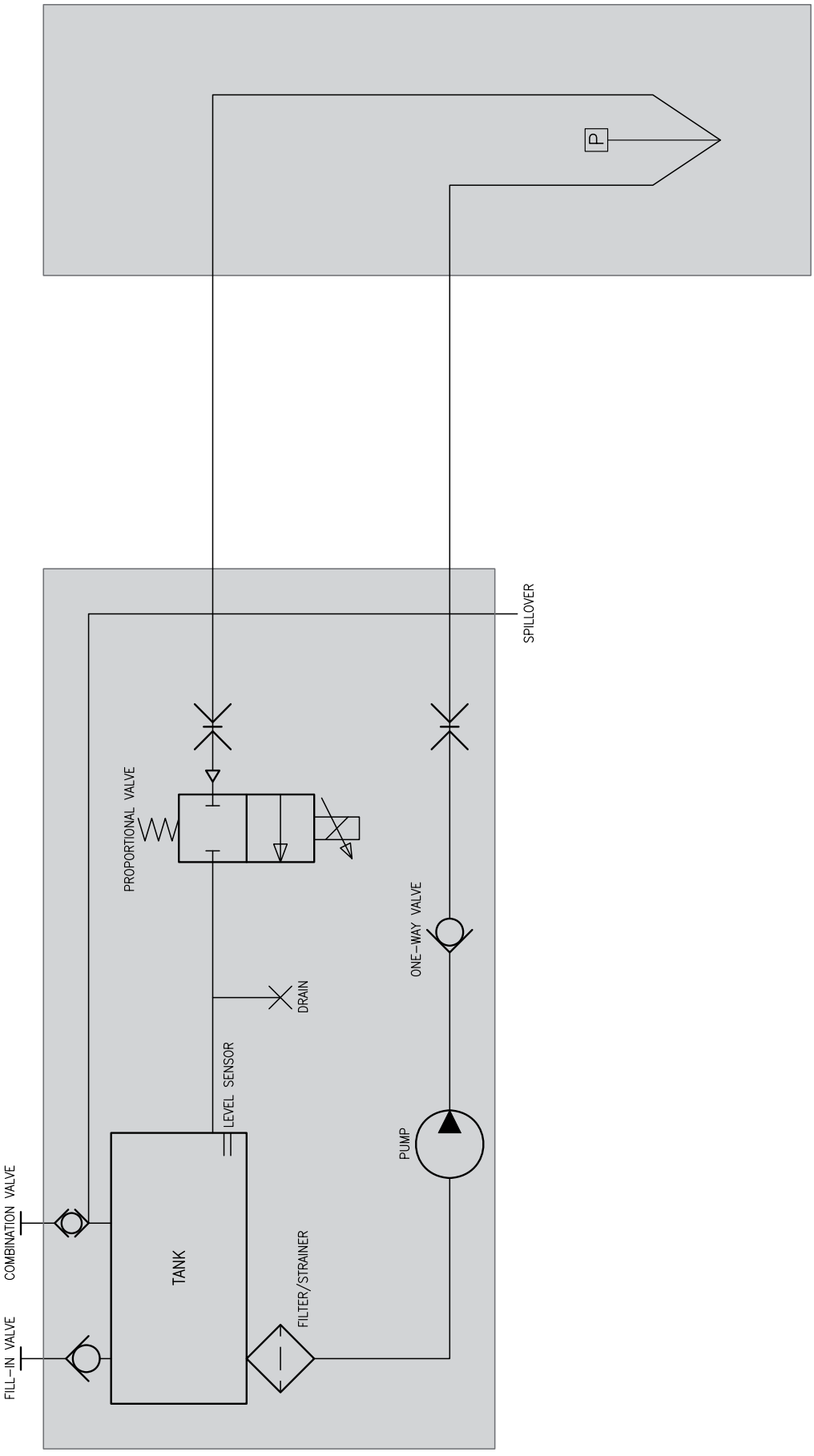
TransCut 300 - plasma cutting device



TransCut 300 - cutting torch



TransCut 300 - functional principle



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