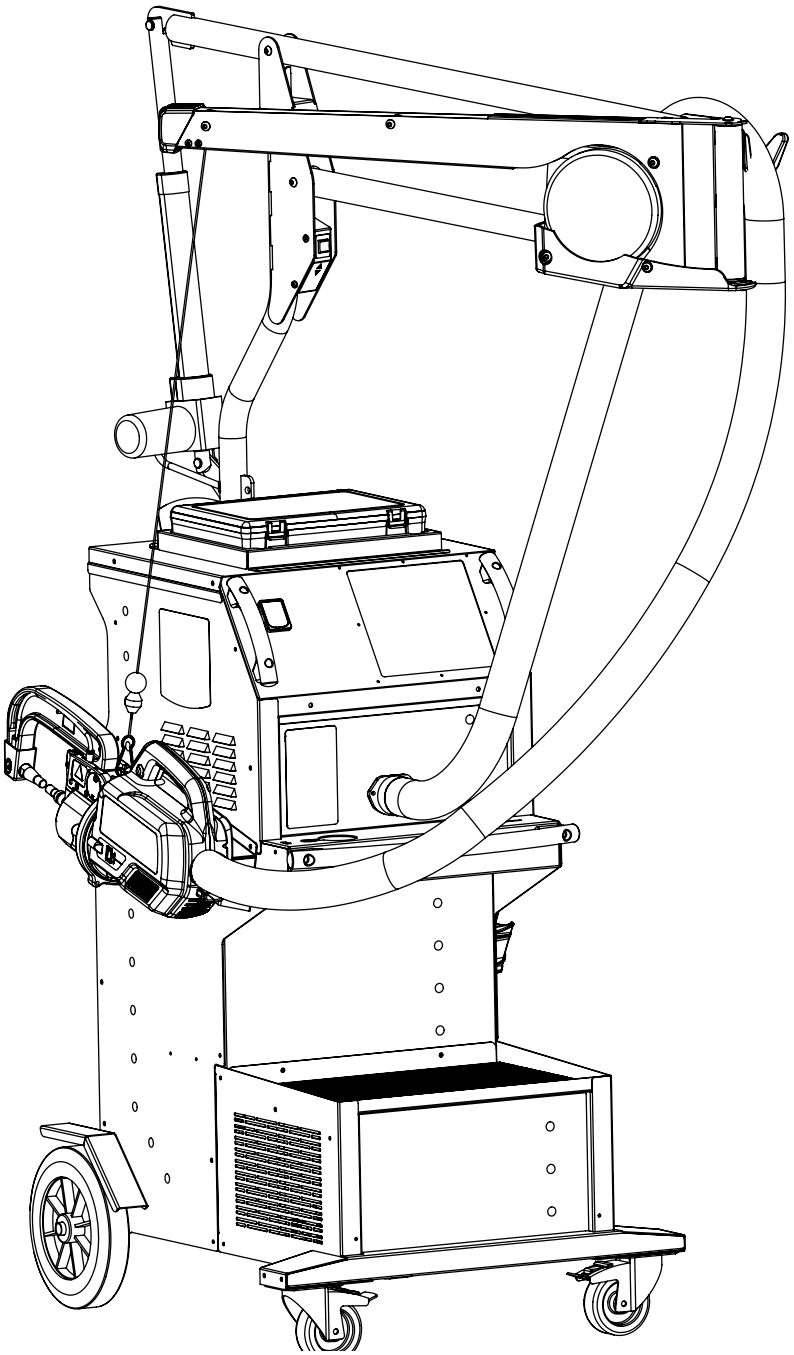

GYSPOT PTI GENIUS
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EN 2-17 / 40-60 / 105-120

DE 2-17 / 61-82 / 105-120

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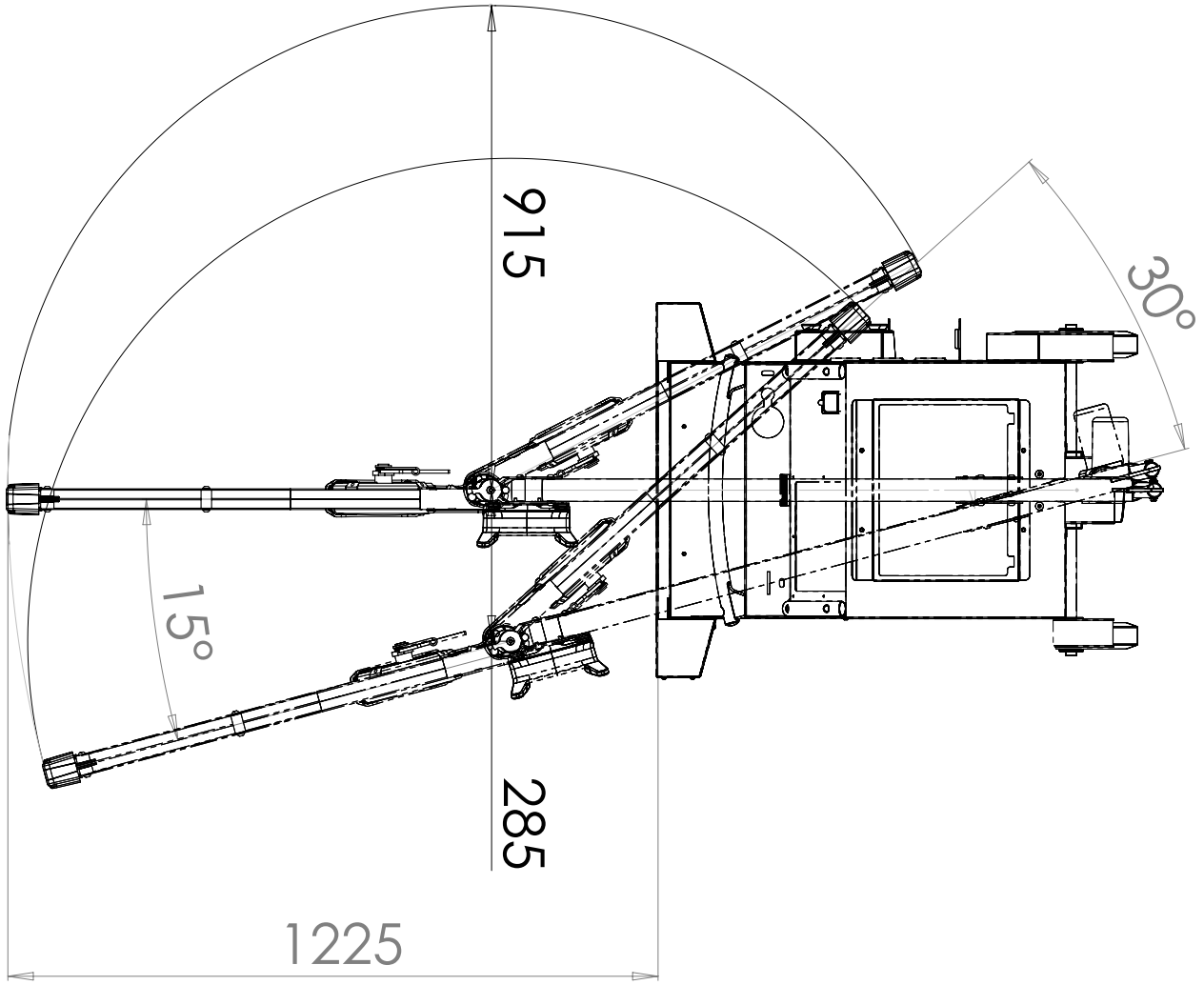
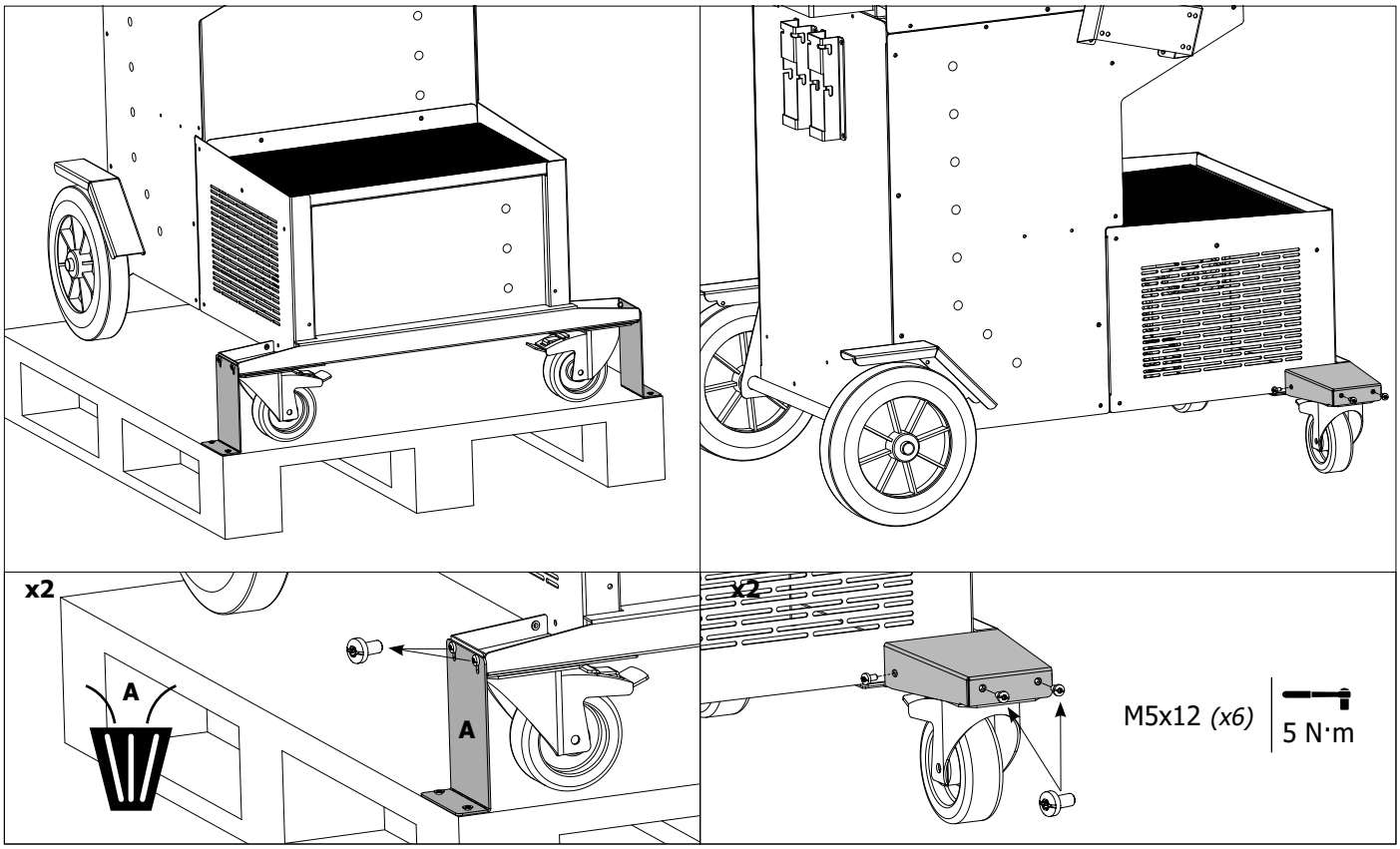
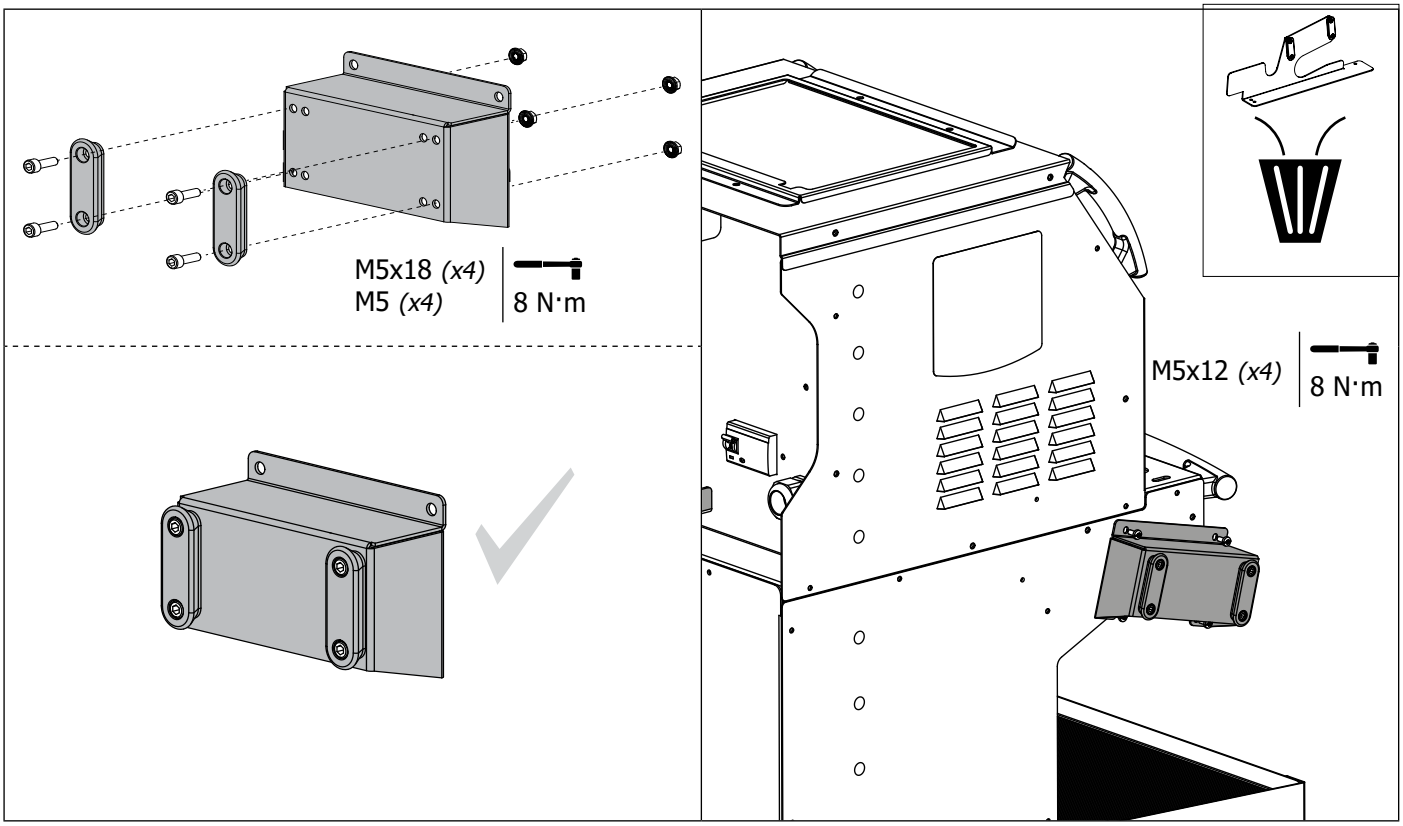
DIMENSIONS / ABMESSUNGEN / DIMENSIONES



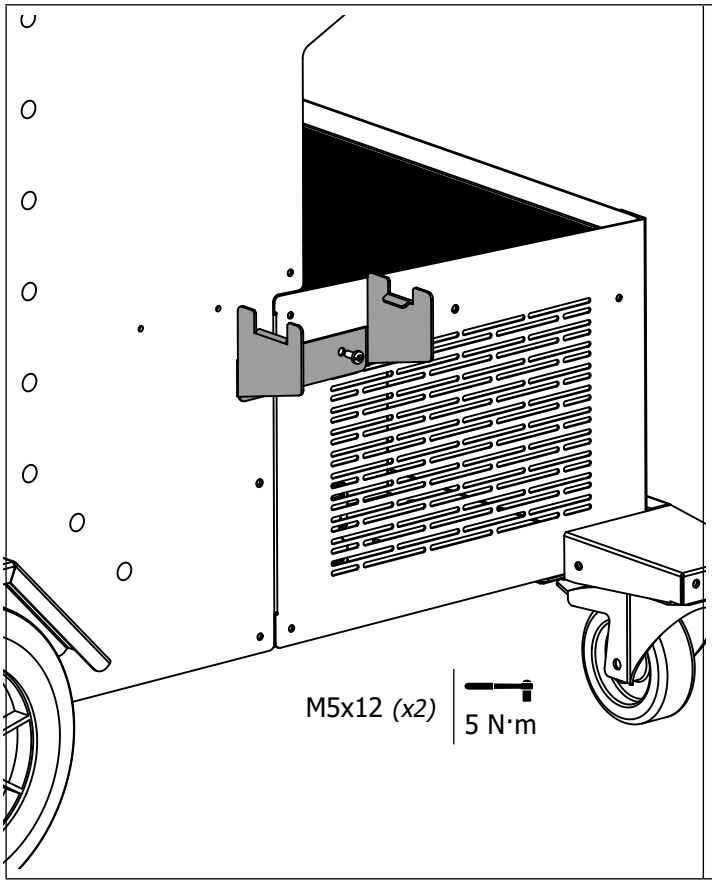
MONTAGE / ASSEMBLY / MONTAJE



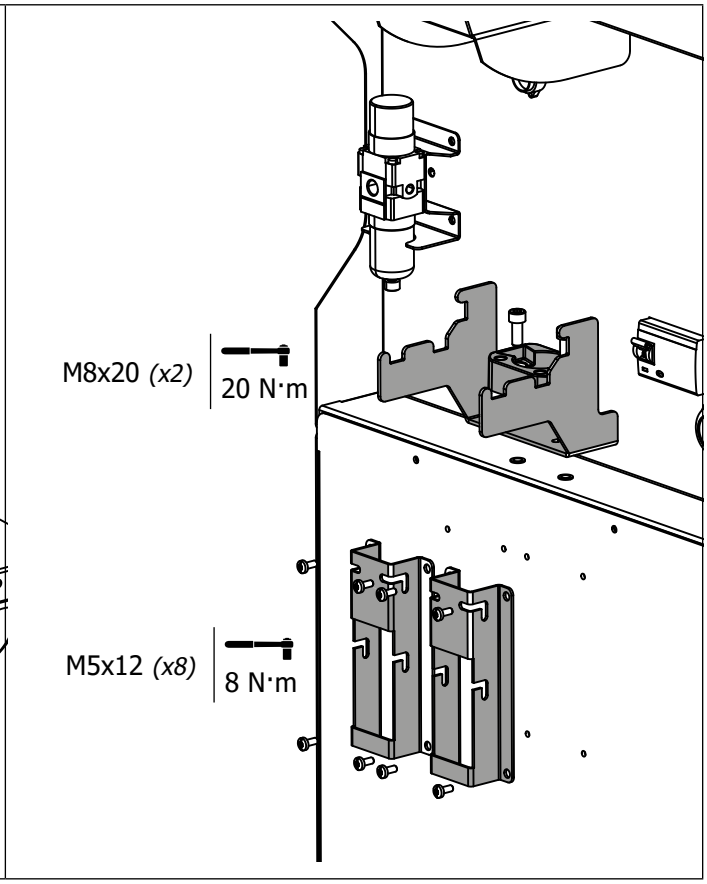
MONTAGE SUPPORT PINCE EN G / ASSEMBLY OF G CLAMP SUPPORT / MONTAGE HALTERUNG «G» C-ZANGE / MONTAJE DEL SOPORTE DE PINZA EN G



MONTAGE SUPPORT BRAS G9 (OPTION) / G9 ARM SUPPORT MOUNTING (OPTIONAL) / G9 ARMSTÜTZMONTAGE (OPTIONAL) / G9 MONTAJE DEL SOPORTE DEL BRAZO (OPCIONAL)



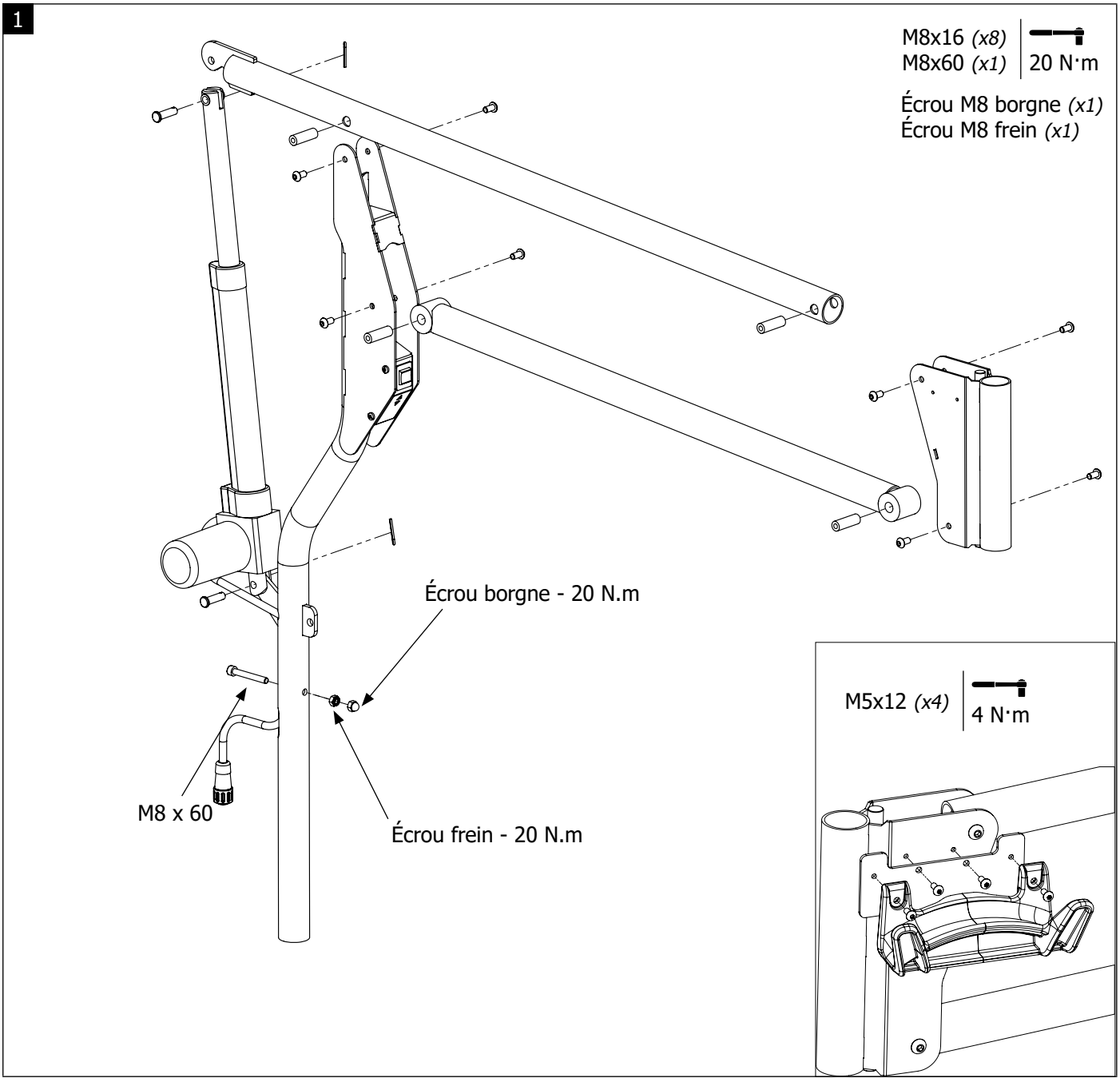
MONTAGE SUPPORT BRAS / ARM SUPPORT MOUNTING / ARMSTÜTZMONTAGE / MONTAJE DEL SOPORTE DEL BRAZO



MONTAGE POTENCE / ASSEMBLY OF OVERHANGING ARM / MONTAGE AUSLEGER / ENSAMBLAJE DEL SOPORTE

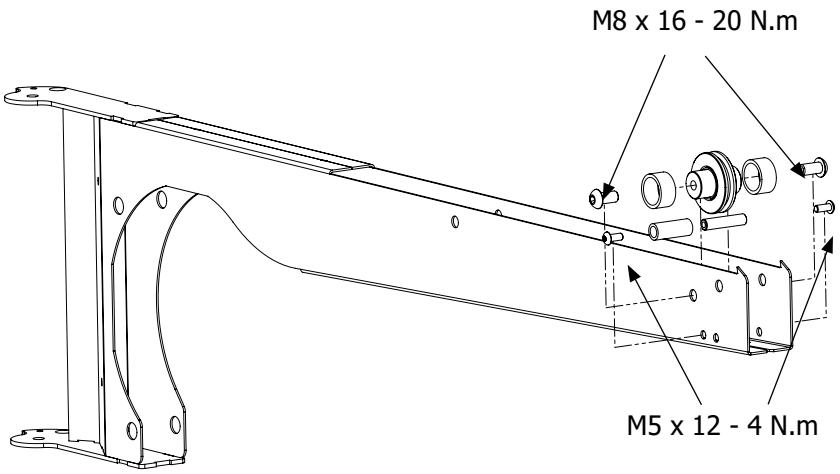
L'usage de la potence est strictement réservé à soulager le poids de la pince de soudage. Elle ne doit jamais être utilisé pour du levage ou autre application, sous peine de renversement de l'ensemble chariot potence.
The use of the bracket is strictly reserved to relieve the weight of the welding tongs. It must never be used for lifting or any other application, otherwise the jib crane trolley assembly may overturn.
Der Einsatz des Galgens ist ausschließlich zur Entlastung der Schweißzange vorgesehen. Sie darf niemals zum Heben oder für andere Anwendungen verwendet werden, da sonst die Schwenkkran-Katzeinheit umkippen kann.
El uso de la horca está estrictamente reservado para aliviar el peso de las pinzas de soldadura. Nunca debe ser usado para levantar o cualquier otra aplicación, de lo contrario el conjunto del carro de la grúa giratoria puede volcarse.

1



2

M8x16 *(x2)*	20 N.m
M5x12 *(x2)*	4 N.m



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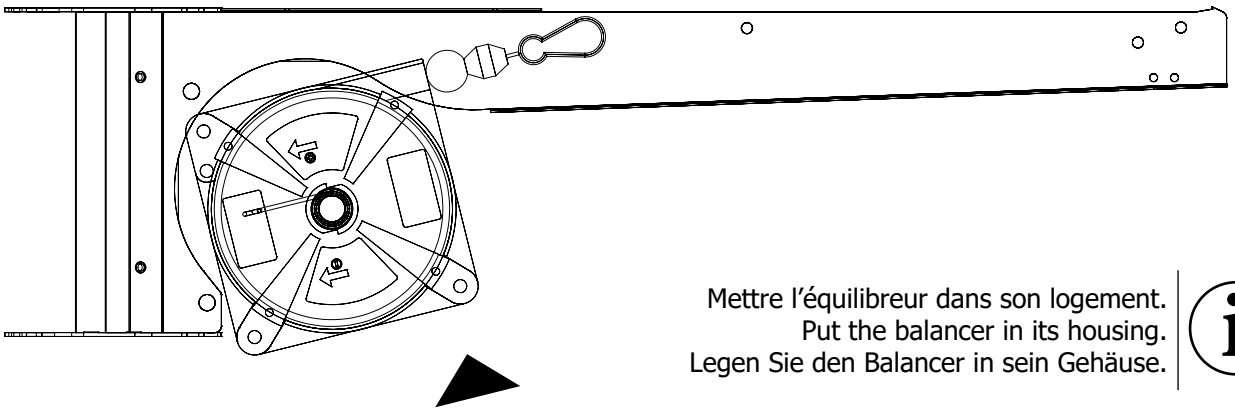
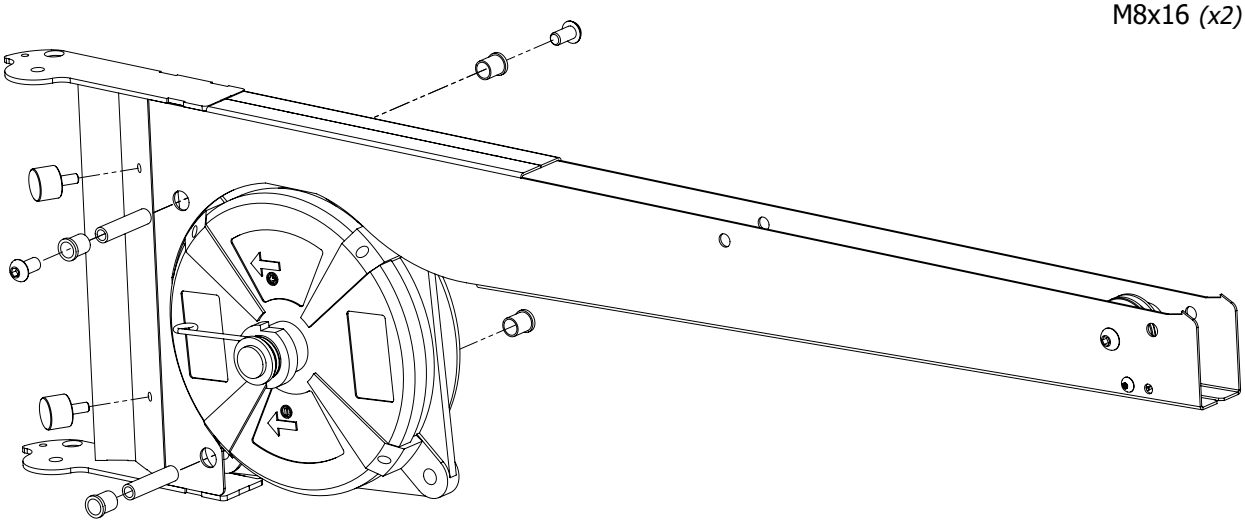


Mettre l'équilibreur dans son logement.
Put the balancer in its housing.
Legen Sie den Balancer in sein Gehäuse.

4

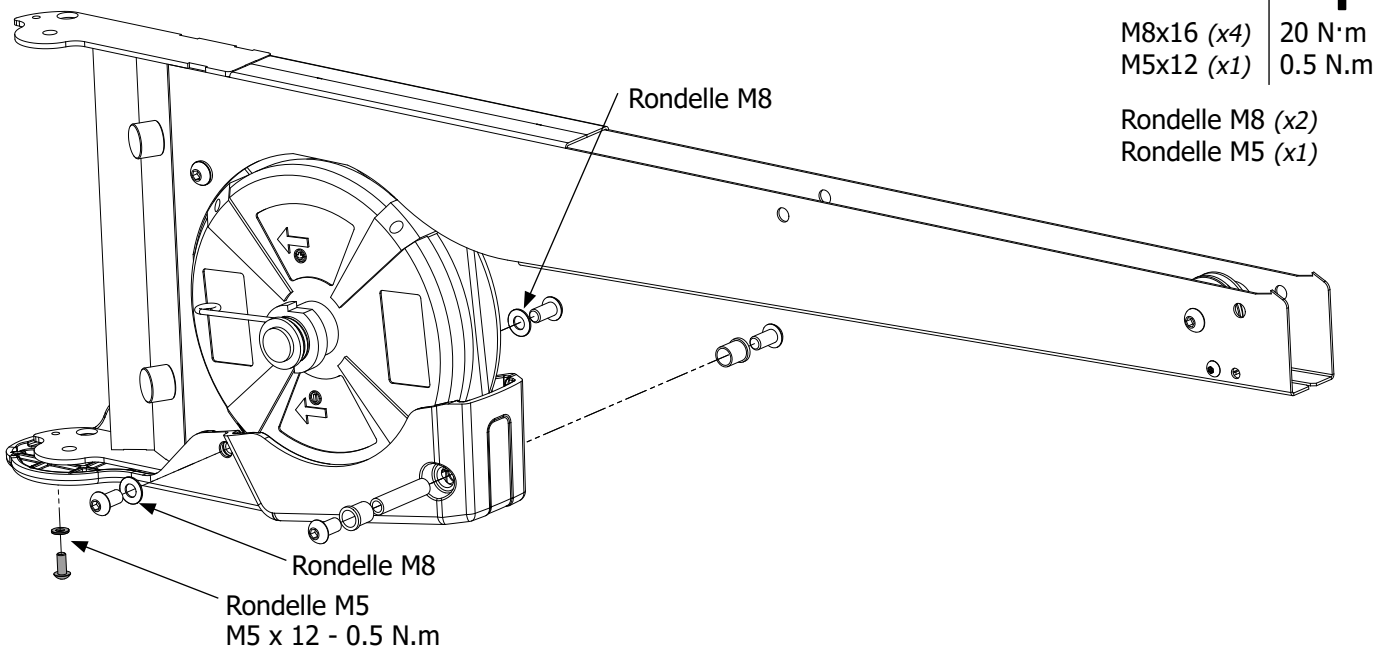
M8x16 *(x2)*	20 N·m



5

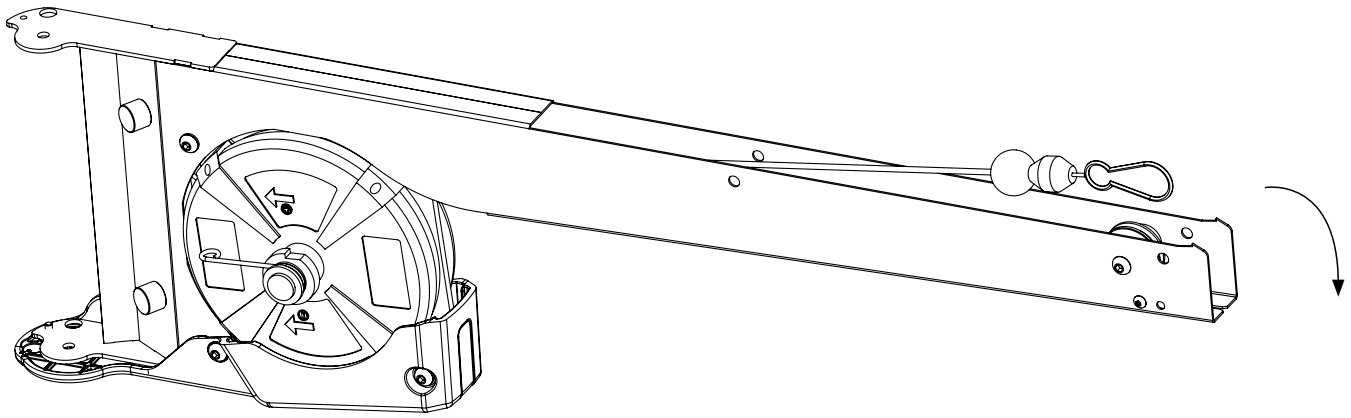
M8x16 *(x4)* | 20 N·m
M5x12 *(x1)* | 0.5 N.m

Rondelle M8 *(x2)*
Rondelle M5 *(x1)*



6

Tirer le câble de l'équilibreur pour le faire passer dans la poulie et l'encoche.
Pull the balancer cable through the pulley and the notch.
Ziehen Sie das Kabel vom Balancer durch die Umlenkrolle und die Kerbe.



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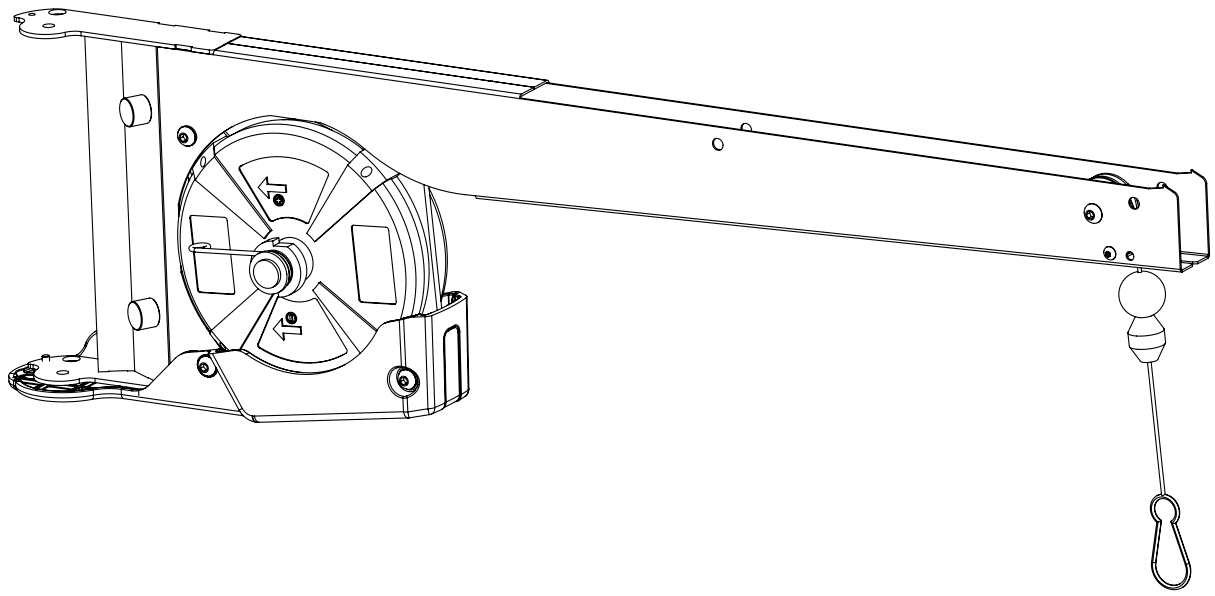
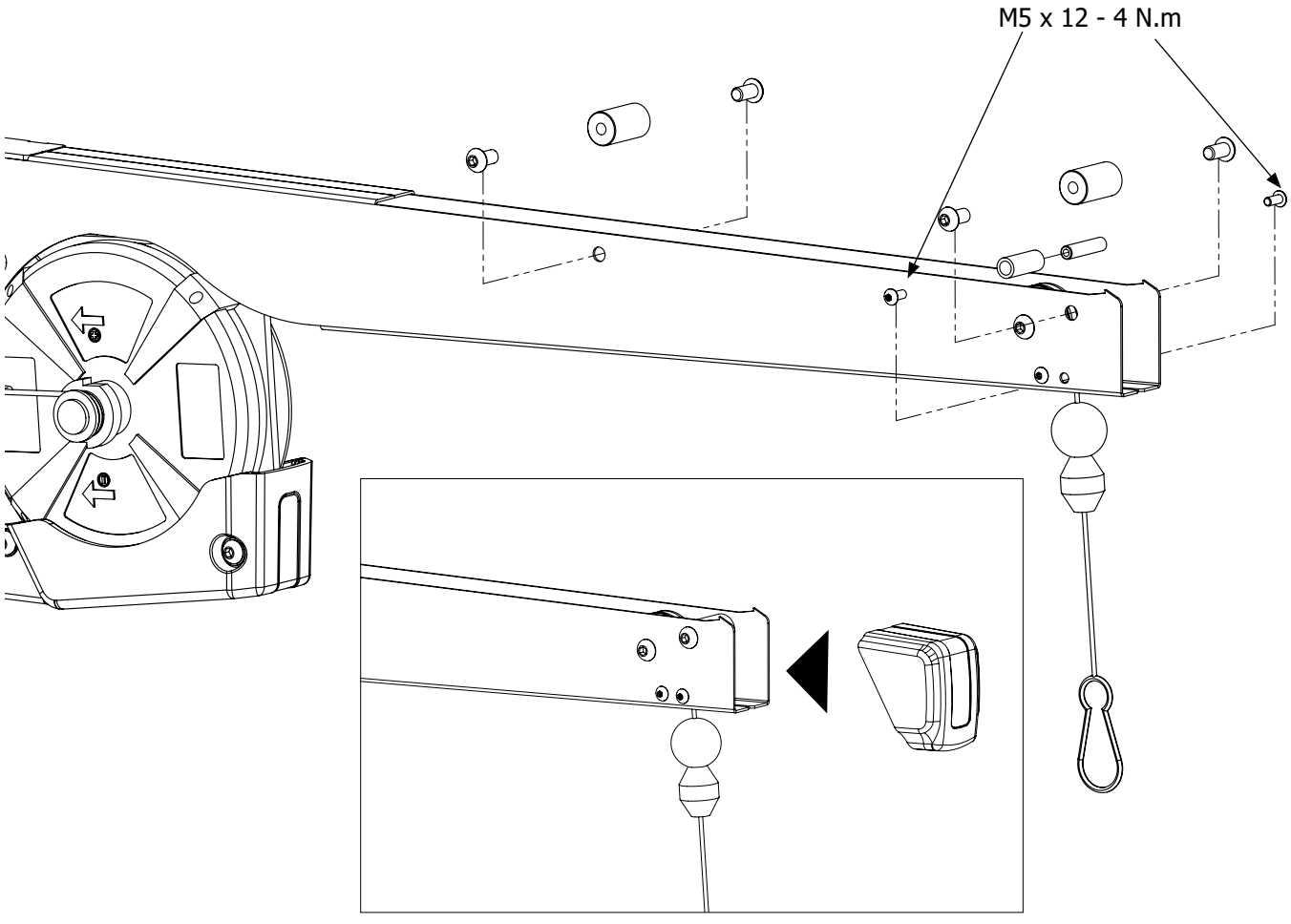


8

M8x16 *(x4)*	20 N·m
M5x12 (x2)	4 N.m

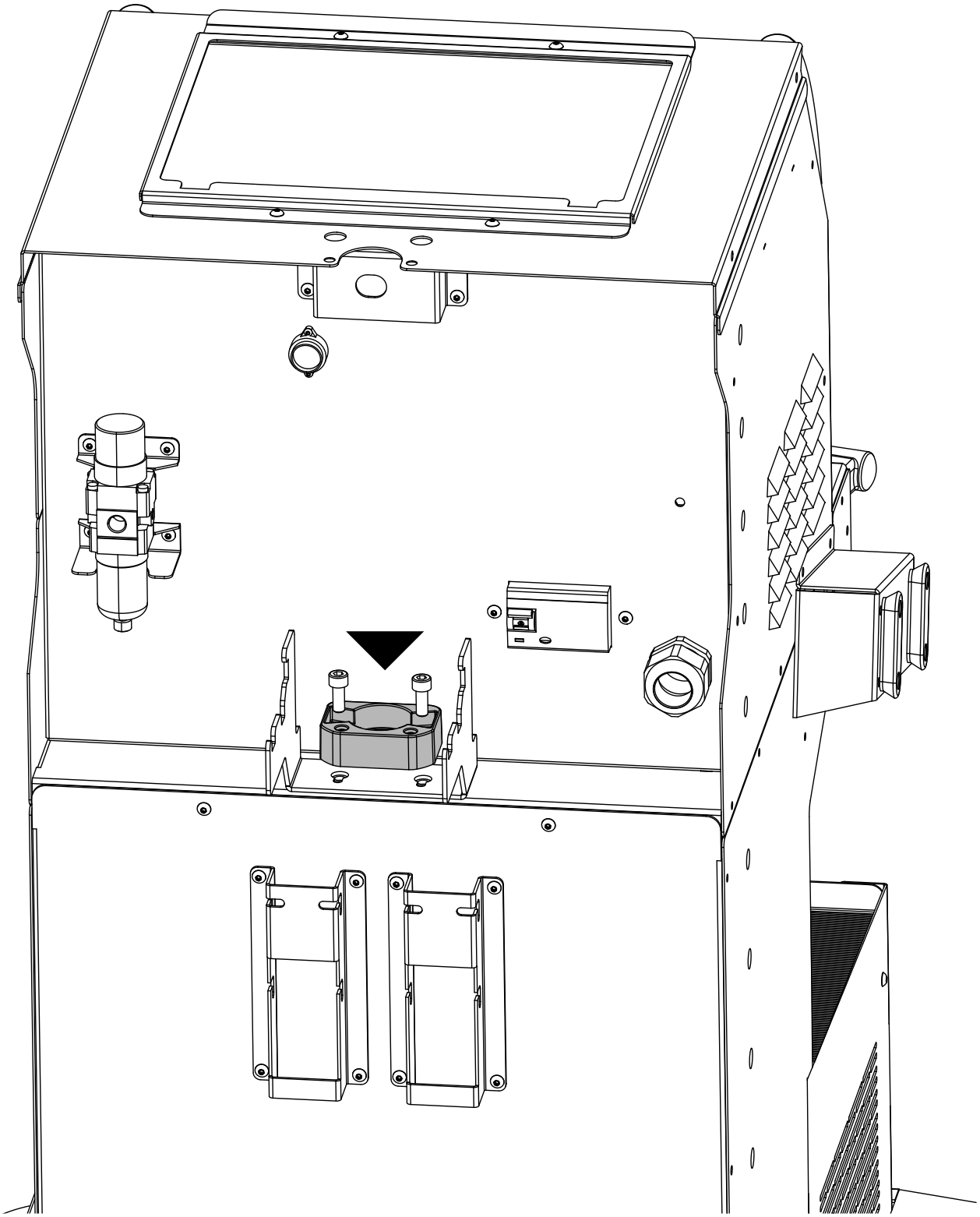


9

Montage du palier pivot bas (fourni avec la potence).
Mounting of the low pivot bearing (supplied with the stem).
Montage des niedrigen Schwenklagers (mit dem Vorbau mitgeliefert).

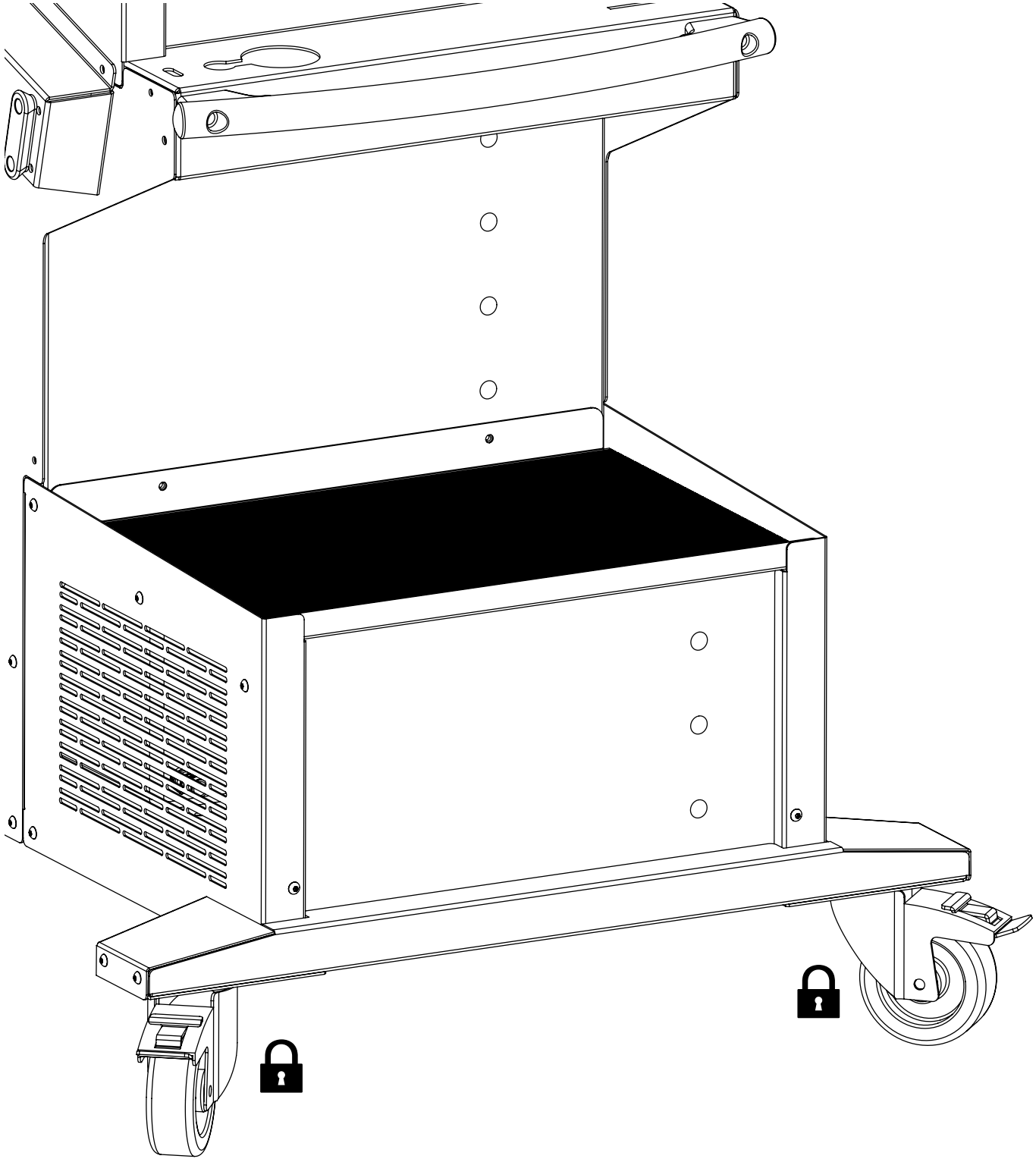
M8x20 *(x2)*

20 N·m

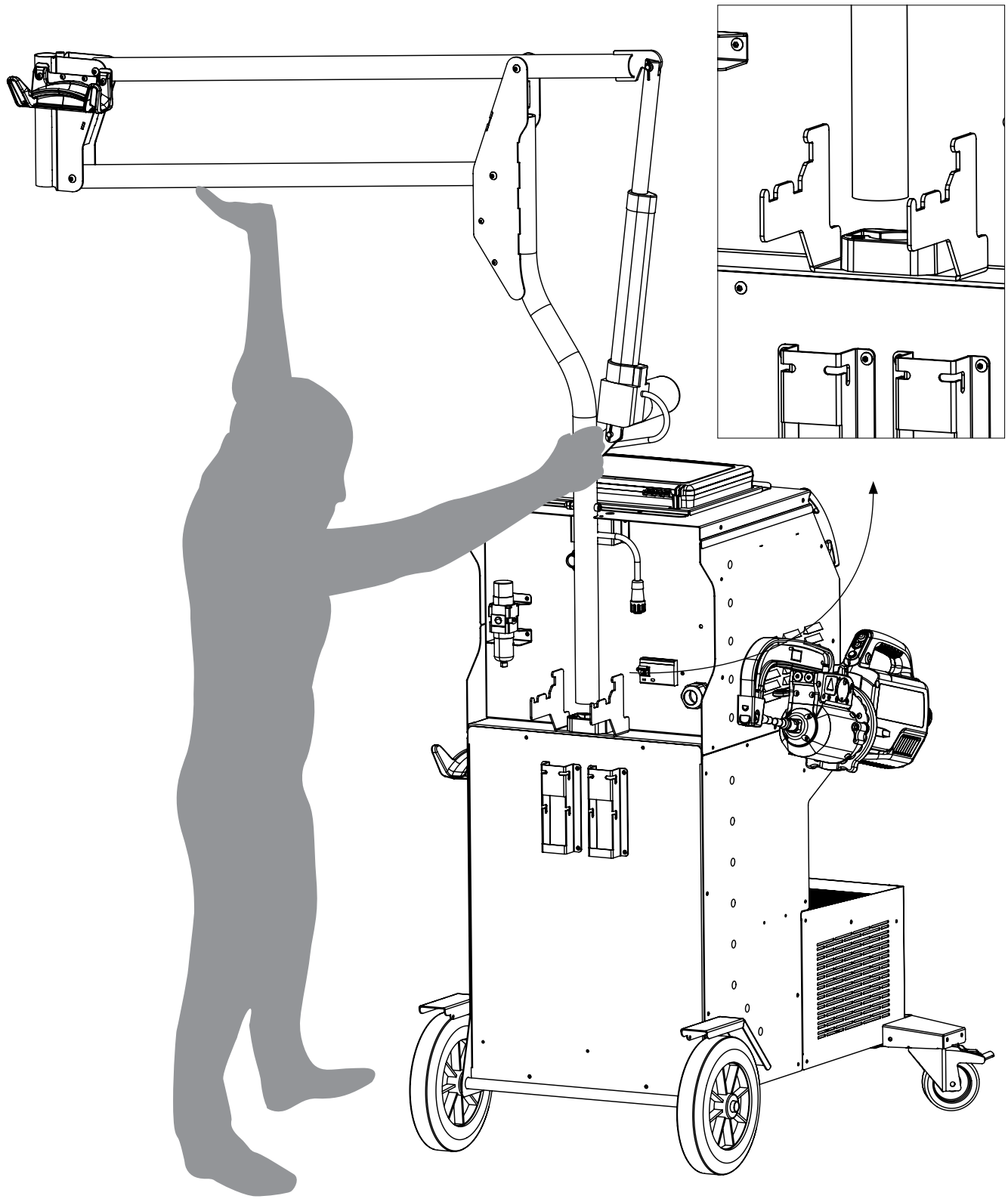


10

Enclencher le frein des 2 roues avants du générateur.
Engage the brake on one of the 2 front wheels of the generator.
Betätigen Sie die Bremse an einem der 2 Vorderräder des Generators.

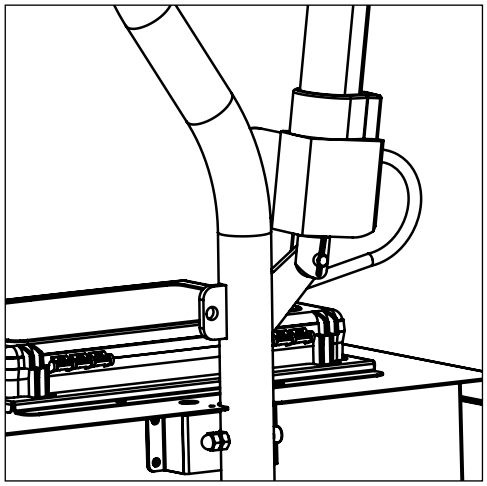


11



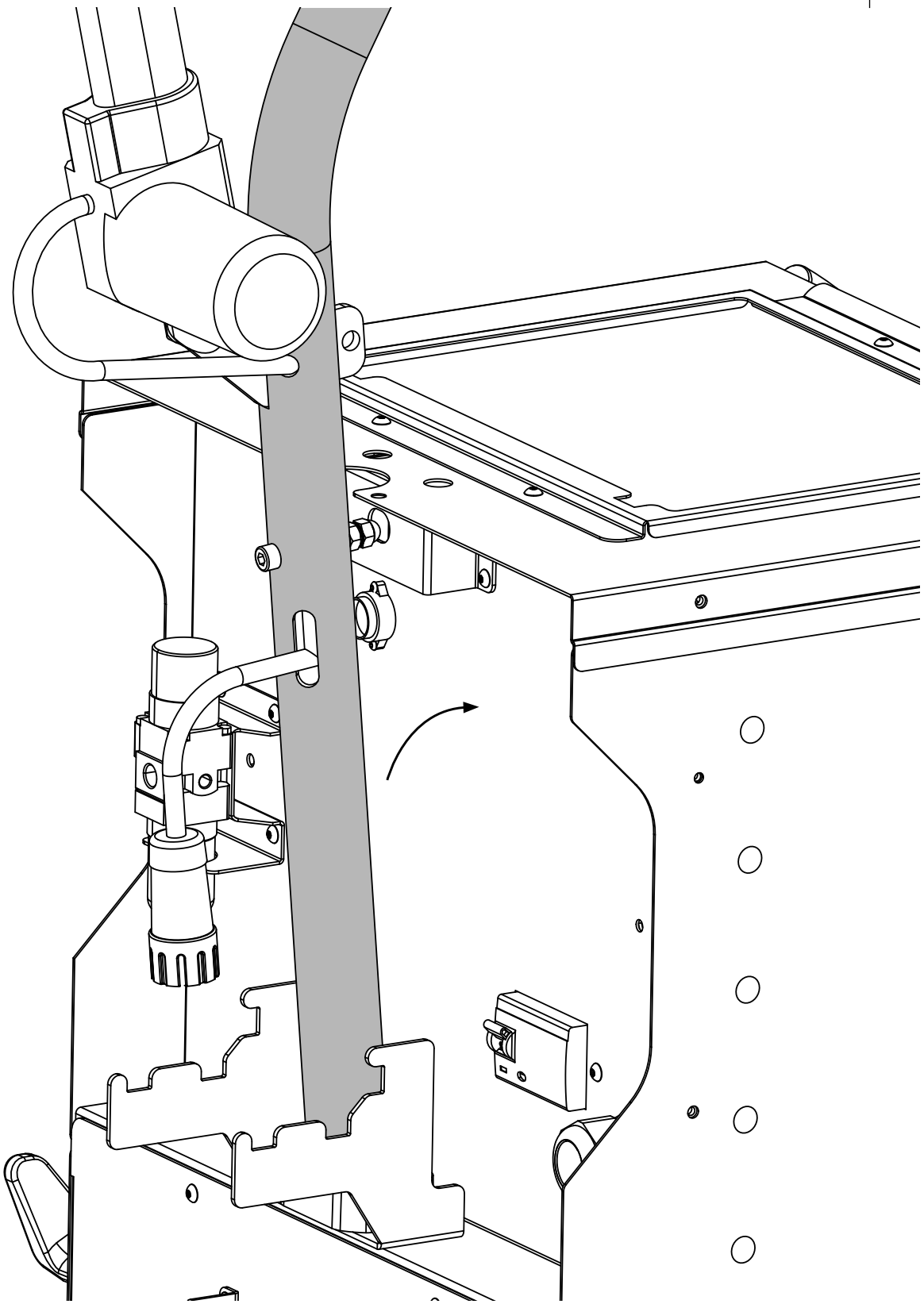
⚠	Ne pas sous évaluer le poids de la potence (17.4 kg) ! Do not underestimate the weight of the overhanging arm (17.4 kg) ! Das Gewicht des Ausleger nicht unterschätzen (17.4 kg) !
👥	Pour faciliter le montage/démontage de la potence sur le générateur, 2 personnes sont requises. In order to assemble or disassemble the overhanging arm smoothly and easily, 2 people are required. Montage/Demontage des Auslegers mit 2 Personen vornehmen.

12



13

Faire pivoter la potence jusqu'à ce que la vis se loge dans l'empreinte.
Swivel the bracket until the screw fits into the recess.
Den Schaft schwenken, bis die Schraube in der Aussparung sitzt.

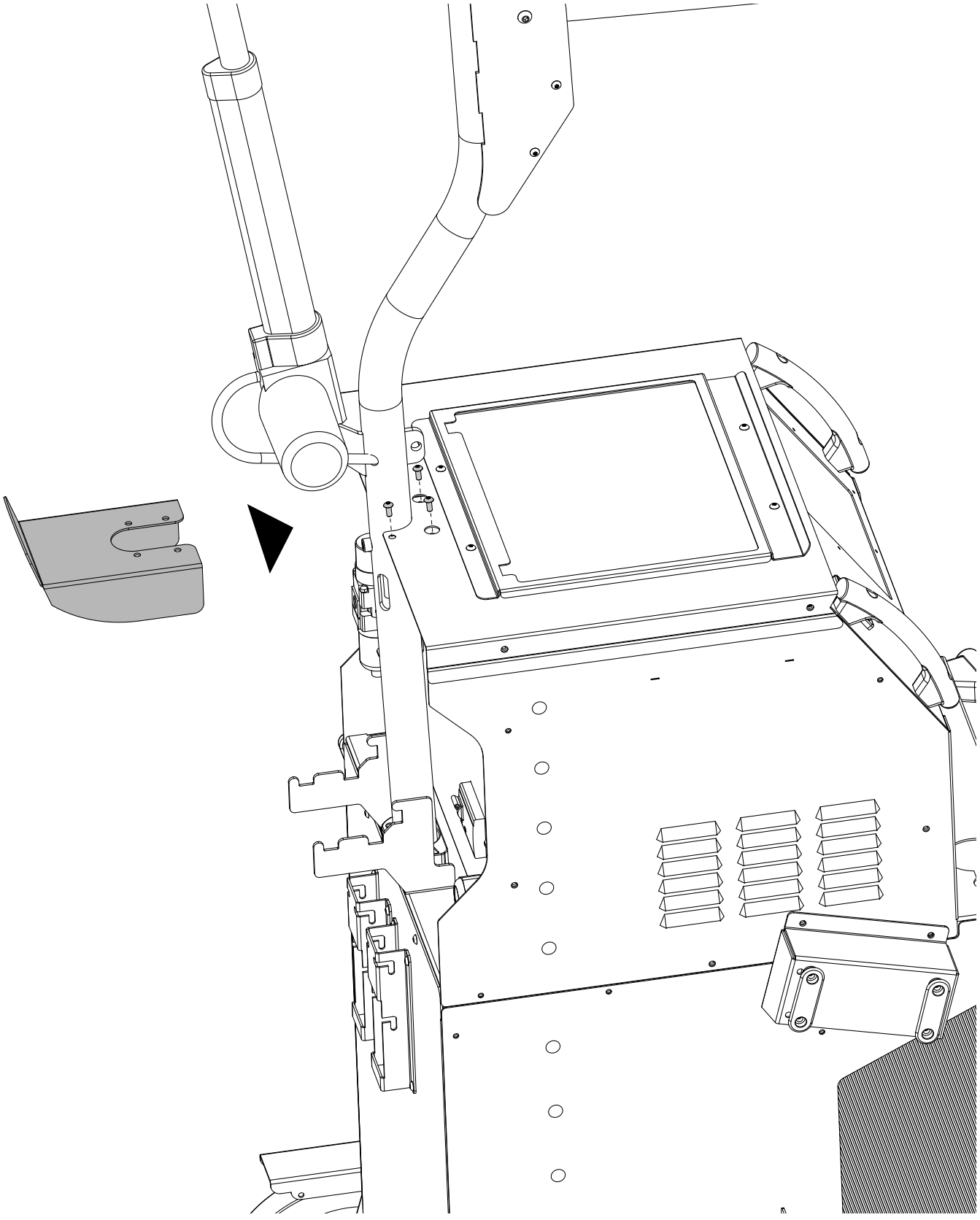


14

Verrouiller la potence en fixant le support.
Lock the gallows by fixing the bracket.
Verriegeln Sie den Schaft durch Sichern der Halterung.

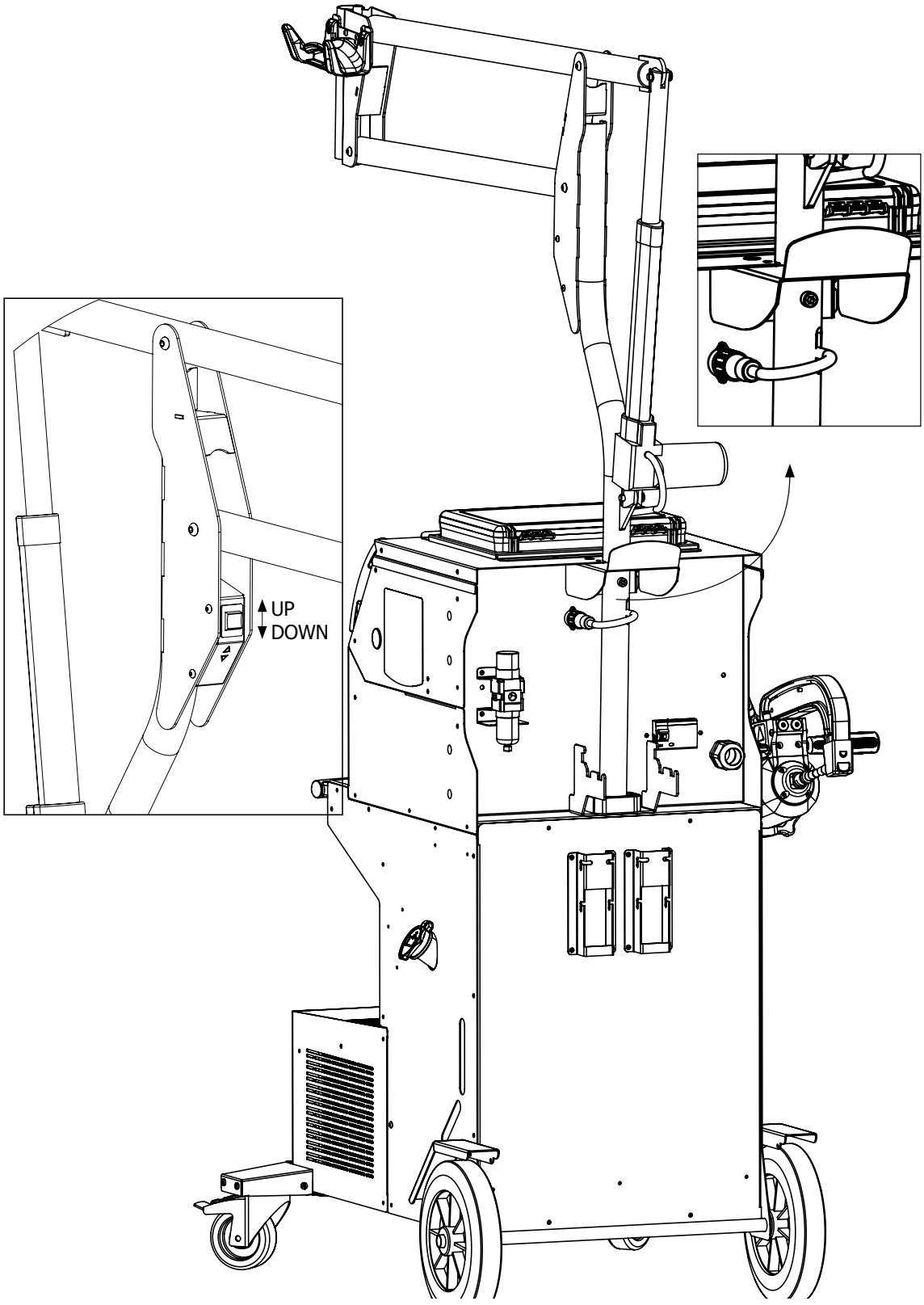
M5x12 *(x4)*

4 N·m



15

Brancher le connecteur du vérin sur le chariot.
Appuyer sur le bouton pour mettre la potence en position basse.
Connect the cylinder connector to the carriage.
Press the button to put the stem in the down position.
Verbinden Sie den Zylinderanschluss mit dem Schlitten.
Drücken Sie die Taste, um den Vorbau in die untere Position zu bringen.



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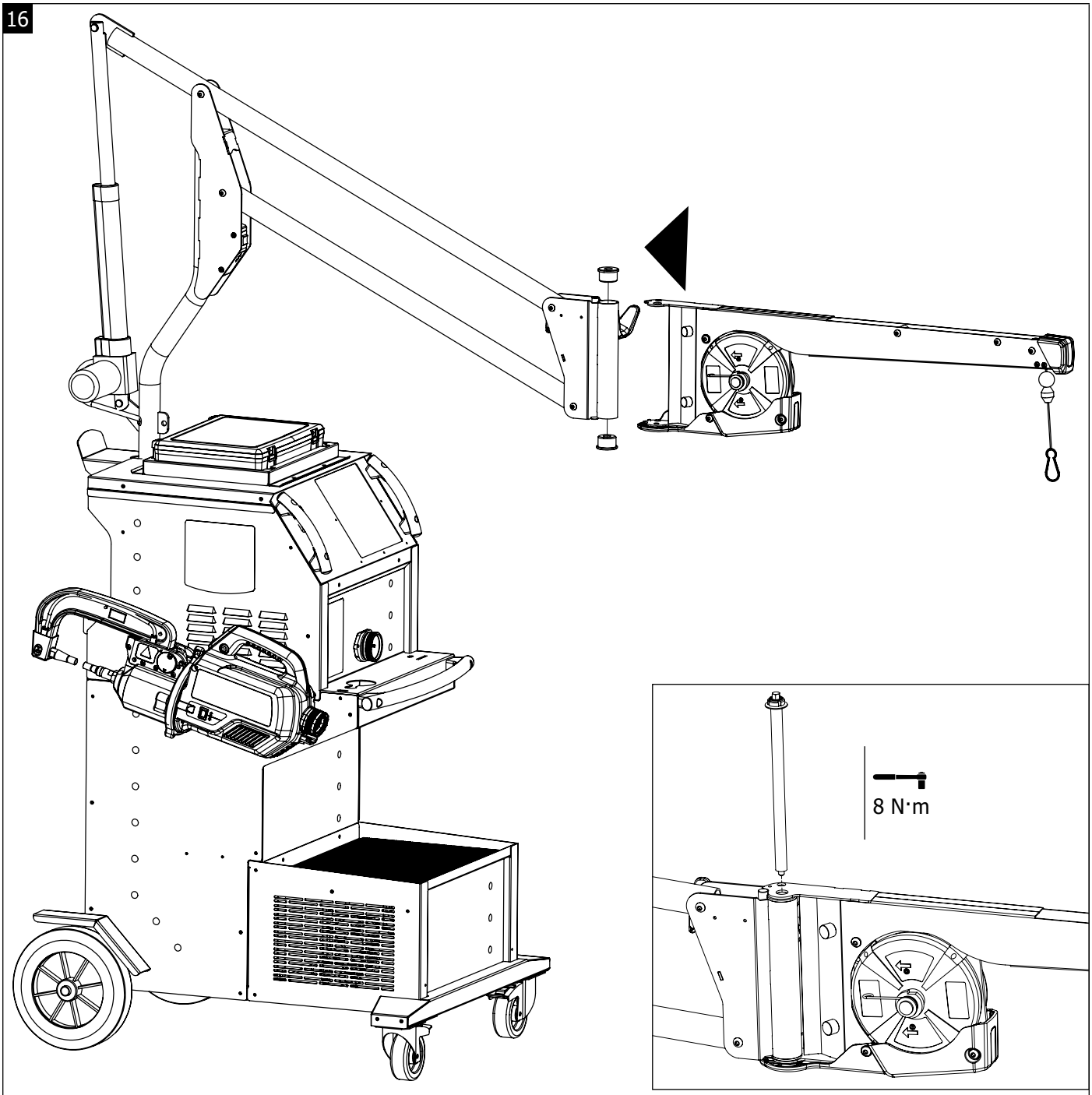
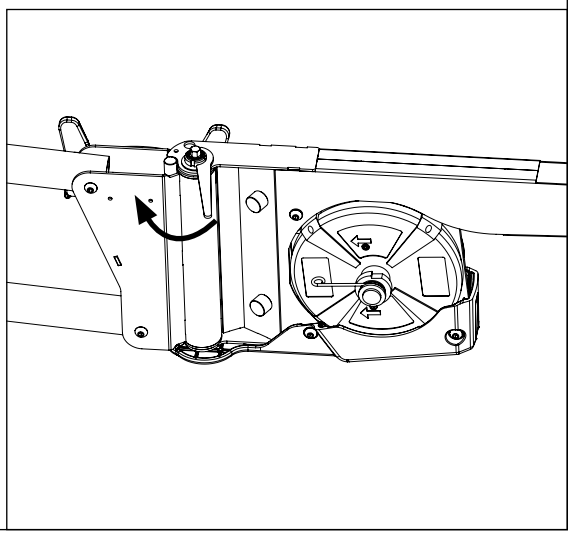
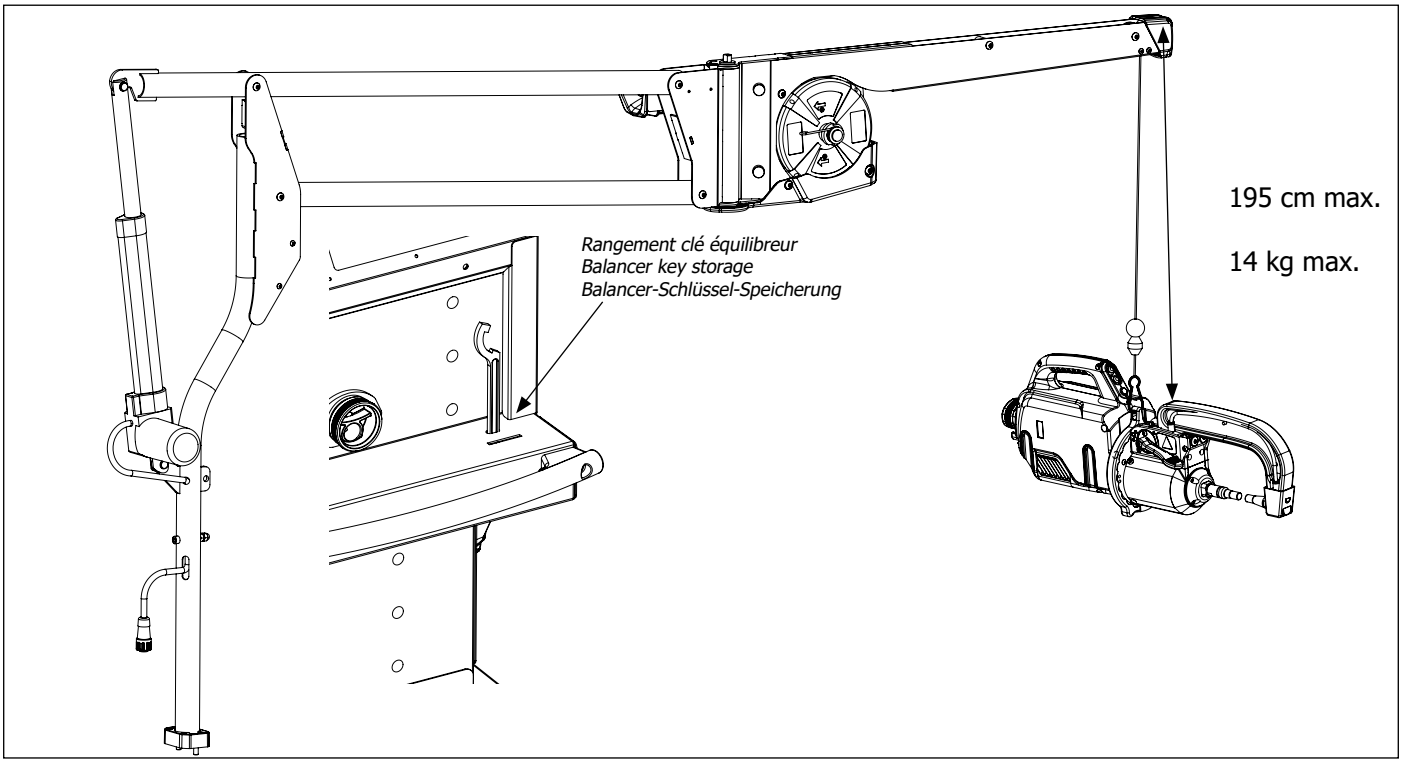




Régler la dureté du tronçon mobile en serrant l'écrou à l'aide de la clé fournie.
Adjust the hardness of the moving part by tightening the nut with the key provided.
Stellen Sie die Härte des beweglichen Teils ein, indem Sie die Mutter mit dem mitgelieferten Schlüssel anziehen.
Ajuste la dureza de la parte móvil apretando la tuerca con la llave suministrada.
Отрегулируйте твердость подвижной части, затянув гайку с помощью прилагаемого ключа.
Stel de hardheid van het bewegende deel af door de moer aan te draaien met de bijgeleverde sleutel.
Regolare la durezza della parte mobile stringendo il dado con la chiave fornita

17

Pour régler la tension du câble de l'équilibreur,
l'utilisateur doit impérativement mettre la pince en charge sur le câble.
pour augmenter la tension du câble de l'équilibreur, utiliser la clé fournie.
pour diminuer la tension du câble, utiliser la main.
To adjust the tension of the balancer cable, the user must load the clamp on the cable.
Um die Spannung des Balancerkabels einzustellen,
muss der Benutzer die Klemme unter Last auf das Kabel setzen.



MONTAGE PROTECTION RACCORD / ASSEMBLY PROTECTION FITTING / MONTAGESCHUTZBESCHLAG / MONTAJE DE LA PROTECCIÓN DEL ACCESORIO

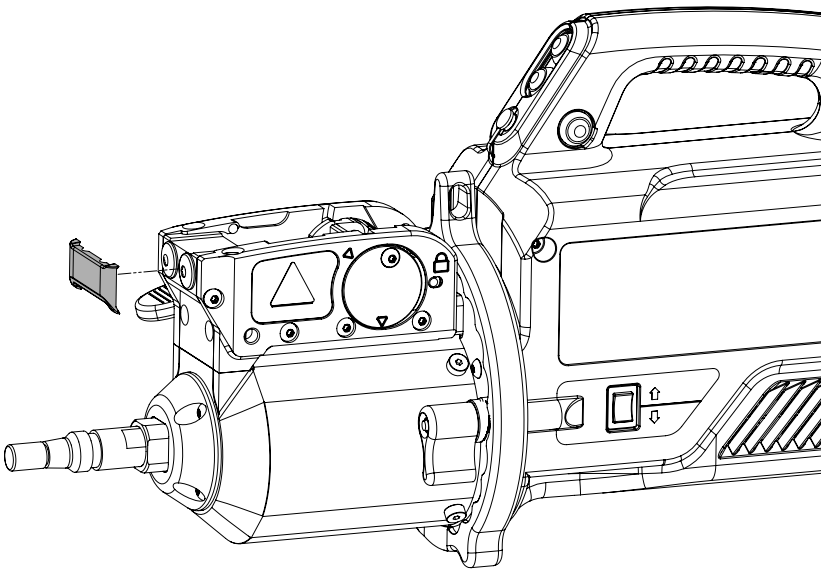
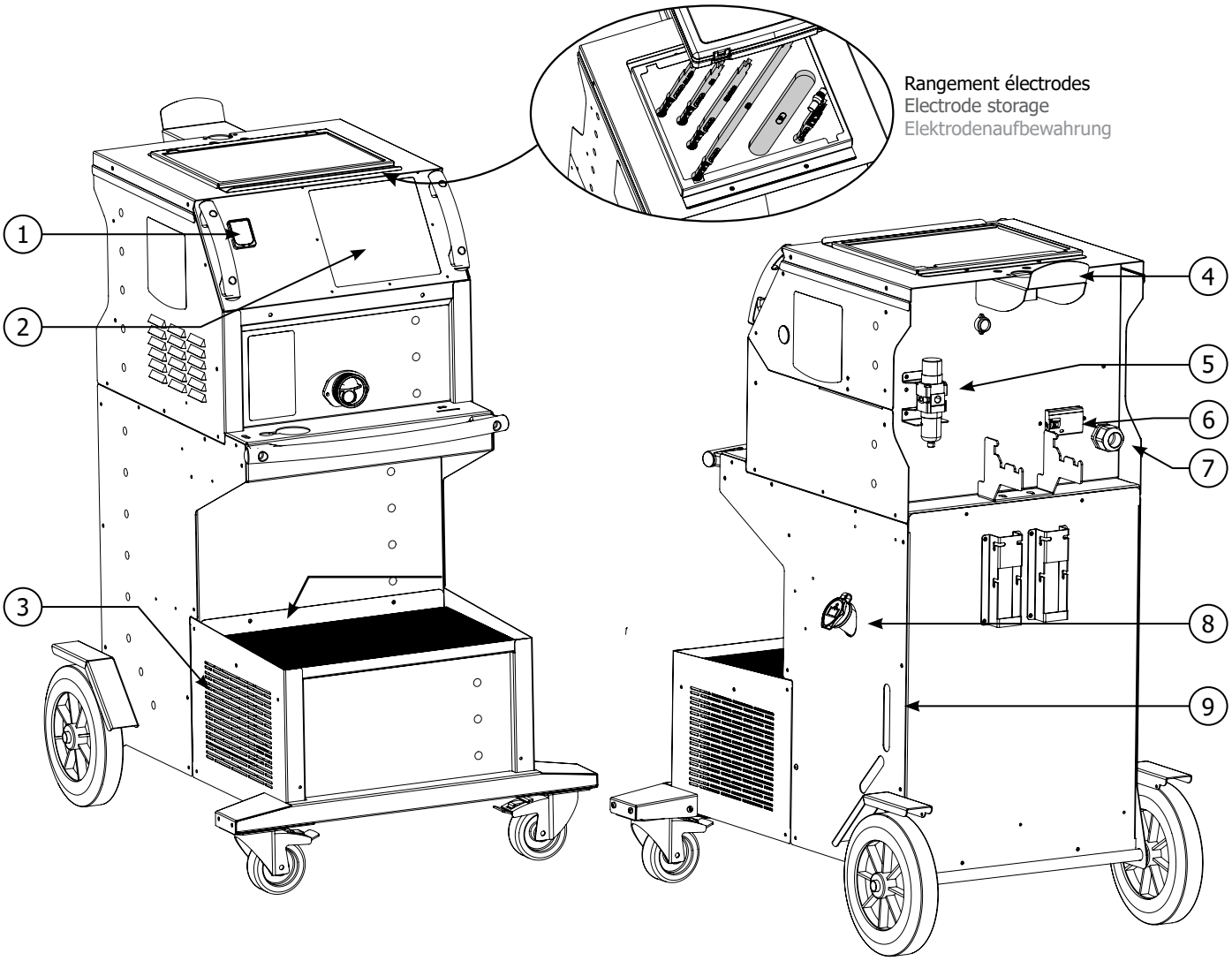


FIG-1


Rangement électrodes
Electrode storage
Elektrodenaufbewahrung
1
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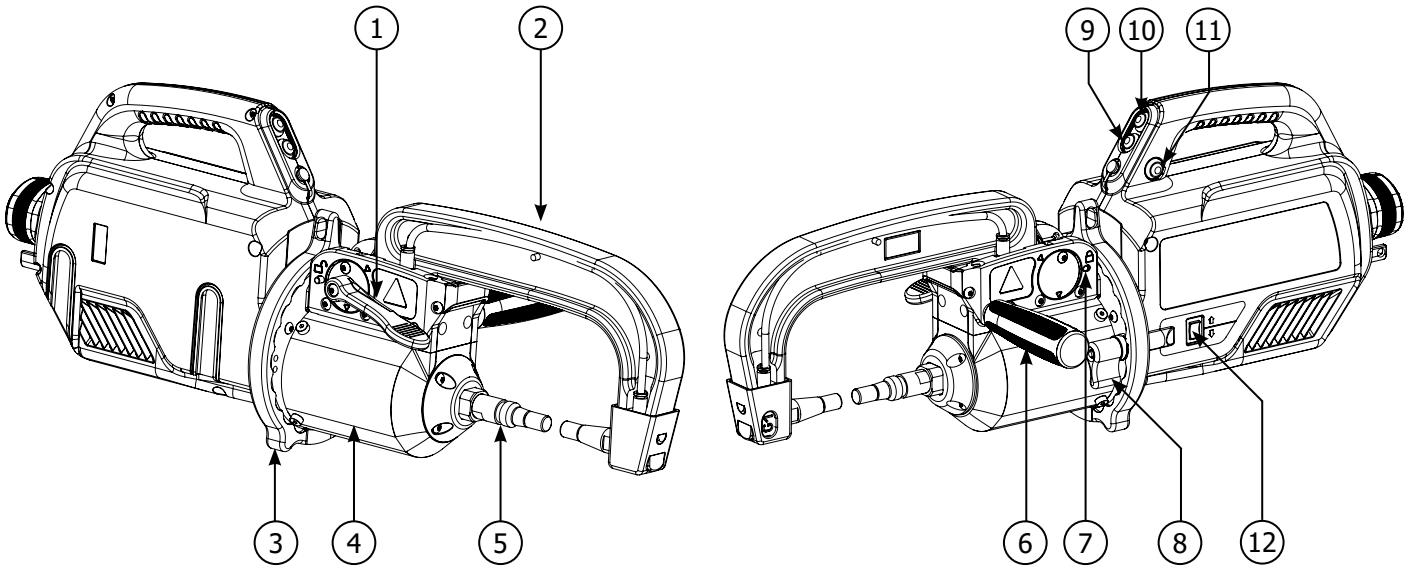
9

FIG-2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12

FIRE AND EXPLOSION RISKS

Protect the entire welding area. Flammable materials must be moved to a minimum safe distance of 11 meters.
A fire extinguisher must be readily available near the welding operations.

Be careful of weld spatter and sparks, even through cracks. If not careful then this could potentially lead to a fire or an explosion.
Keep people, flammable materials/objects and containers that are under pressure at a safe distance.
Welding in closed containers or pipes should be avoided and , if they are opened, they must be emptied of any flammable or explosive material (oil, fuel, gas ...).
Grinding operations should not be carried out close to the power supply or any flammable materials.

ELECTRICAL SAFETY

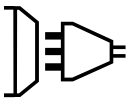
The electrical mains used must have an earth terminal. An electric shock could cause serious injuries or potentially even deadly accidents.

Never make contact with live parts inside or outside the current source (cables, electrodes, arms, guns...) as they are connected to the welding circuit.
Before opening the device, it is imperative to disconnect it from the mains and wait 2 minutes, so that all the capacitors are discharged.
Damaged cables and torches must be changed by a qualified and skilled professional. Make sure that the cable cross section is adequate with the usage (extensions and welding cables). Always wear dry clothes which are in good condition in order to be isolated from the welding circuit. Wear insulating shoes, regardless of the workplace/environment in which you work in.

Warning! Very hot surface. Risk of burns.
- The parts and pieces that have just been heated are hot and may cause burns when manipulated.
- Do not touch any hot parts with your hands.
- Wait for the parts and pieces to cool down before handling them.
- In case of burn, rinse thoroughly with water and consult a doctor as soon as possible.

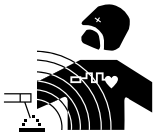
EMC MATERIAL CLASSIFICATION

This Class A machine is not intended to be used on a residential site where the electric current is supplied by the domestic low-voltage power grid. There may be issues in ensuring electromagnetic compatibility on these sort of sites, due to conducted interferences as well as radiation.



This equipment does not comply with IEC 61000-3-12 and is intended to be connected to private low-voltage systems interfacing with the public power grid only at the medium- or high-voltage level. If connected to a public low-voltage power grid, the installer or user of the machine has to ensure, by checking with the network operator, that the device can be connected.

ELECTROMAGNETIC INTERFERENCES



The electric current flowing through any conductor causes electrical and magnetic fields (EMF). The welding current generates an EMF around the welding circuit and the welding equipment.

The EMF electromagnetic fields can interfere with certain medical implants, such as pacemakers. Protective measures must be taken for people having medical implants. For example, by restricting access to passers-by or conducting an individual risk evaluation for the welders.

All welders should take the following precautions in order to minimise exposure to the electromagnetic fields (EMF) generated by the welding circuit:
- position the welding cables together – if possible, attach them;
- keep your head and upper body as far as possible from the welding circuit;
- never wrap the cables around your body;
- never position your body between the welding cables. Hold both welding cables on the same side of your body;
- connect the earth clamp as close as possible to the welding area;
- do not work too close to, do not lean and do not sit on the welding machine
- do not weld when transporting the welding machine or its wire feeder.

People wearing pacemakers are advised to consult their doctor before using this device.
Exposure to electromagnetic fields while welding may have other health effects which are not yet identified.

RECOMMENDATIONS FOR WELDING AREA ASSESSMENT AND WELDING

Miscellaneous
The user is responsible for the correct installation and usage of the welding material based on the instructions supplied by the manufacturer. If electromagnetic disturbances are detected, it is the user's responsibility to resolve the situation with the manufacturer's technical assistance. In some cases, this corrective action may be as simple as earthing the welding circuit. In other cases, it may be necessary to construct an electromagnetic shield around the welding power source and around the entire piece by fitting input filters. In all cases, electromagnetic interferences must be reduced until they are no longer inconvenient.

Welding area assessment
Before installing the machine, the user must evaluate the possible electromagnetic problems that may arise in the area where the installation is planned. The following must be taken into account:
a) the presence (above, below and next to the arc welding machine) of other power cables, remote cables and telephone cables;
b) television transmitters and receivers;
c) computers and other hardware;
d) critical safety equipment such as industrial machine protections;
e) the health and safety of people in the area especially if they are using pacemakers or hearing aids;
f) calibration and measuring equipment;
g) the isolation of other pieces of equipment which are in the same area.
The operator has to ensure that the devices and equipment used in the same area are compatible with each other. This may require extra precautions;
h) the time of day during the welding or other activities have to be performed.

The dimension of the cutting area that has to be considered depends on the size and shape of the building and the type of work undertaken. The area taken into consideration might go beyond the limits of the installations.

Review of the welding installation
Reviewing the welding installations can be useful to determine and resolve any case of electrical disturbances. The assessment of emissions must include in situ measurements as specified in Article 10 of CISPR 11: 2009. In situ measurements can also be used to confirm the effectiveness of mitigation measures.

RECOMMENDAED METHODS TO REDUCE ELECTROMAGNETIC EMISSIONS

a. National power grid: The arc welding machine must be connected to the national power grid in accordance with the manufacturer's recommendation. In case of interferences, it may be necessary to take additional precautions such as the filtering of the power supply network. Consideration should be given to shielding the power supply cable in a metal conduit or equivalent of permanently installed arc welding equipment. It is necessary to ensure the electrical continuity of the frame along its entire length. The shielding should be connected to the welding current source to ensure a good electrical contact between the conduit and the casing of the welding current source.

b. Maintenance of the resistance welding equipment: The resistance welding machine should be subject to a routine maintenance check in line with the recommendations of the manufacturer. All accesses, service doors and covers should be closed and properly locked when the arc welding equipment is on. The arc welding equipment must not be modified in any way, except for the changes and settings covered in the instructions.

c. Welding cables: Cables must be as short as possible, close to each other and close to the ground, if not on the ground.

d. Equipotential bonding: consideration should be given to bond all metal objects in the surrounding area. However, metal objects connected to the workpiece increase the risk of electric shock if the operator touches both these metal elements and the electrode. It is necessary to insulate the operator from such metal objects.

e. Earthing of the welded part: When the part is not earthed - due to electrical safety reasons or because of its size or location (which is the case with ship hulls or metallic building structures), the earthing of the part can, in some cases but not systematically, reduce emissions It is preferable to avoid the earthing of parts that could increase the risk of injury to the users or damage other electrical equipment. If necessary, it is appropriate that the earthing of the part is done directly, but the safety rules in some countries may not allow such a direct connection and it is appropriate that the connection is made using a capacitor selected according to national regulations.

f. Protection and shielding: The selective protection and shielding of other cables and devices in the area can reduce perturbation issues. The protection of the entire welding area can be considered for specific situations.

TRANSPORT AND TRANSIT OF THE WELDING MACHINE

The top of the machine is equipped with handles for movement by hand. Be careful not to underestimate the weight of the machine. The handles cannot be used to lift the product.

Do not use the cables or torch to move the machine. Do not place/carry the unit over people or objects.

EQUIPMENT INSTALLATION

- Put the machine on the floor (maximum incline of 10°).
- The machine must be placed in a sheltered area away from rain or direct sunlight.
- The machine protection level is IP20, which means :

- Protection against access to dangerous parts from solid bodies of a diameter ≥12.5mm and,
- Protection against water projections.

Power cables, extension leads and welding cables must be fully uncoiled to prevent overheating.

The manufacturer does not accept any liability in relation to damages caused to objects or harm caused to persons as the result of incorrect and/or dangerous use of the machine.

MAINTENANCE / RECOMMENDATIONS

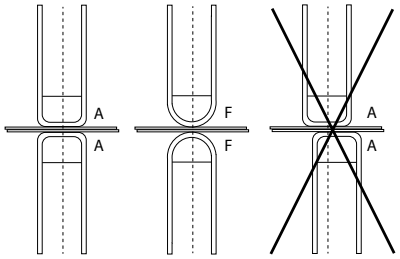
• The operators must have received suitable training in order to use the machine at its maximum potential and weld correctly.
• Check which welding process is authorised by the manufacturer before attempting any vehicle repair.

The maintenance and repair of the machine can only be undertaken by the manufacturer. Any work undertaken by a third party on the machine will invalidate the warranty. The manufacturer will not accept liability in the event of an incident that would occur after this work was undertaken.

Ensure the machine is unplugged from the mains, and then wait 2 minutes before carrying out maintenance work. Inside the machine, voltage and current levels are high and dangerous.

• Prior to any work on the machine, turn the air supply off and depressurise the circuit of the machine.
• Make sure to purge the filter of the dehumidifier located at the back of the machine regularly.
• The device is fitted with a balance system designed for easier handling. However, it is not recommended to leave the clamp hanging at the end of the cable of the balancing system for prolonged periods of time as it might increase wear. Do not drop the clamp repetitively or it might damage the balancing system.
• It is possible to adjust the tension of the balancing system spring using the spanner provided.
•The level of the cooling liquid is important for the machine to work correctly. It must always be between the «minimum» and «maximum» marks on the machine. Regularly check the level and top-up when needed.
• It is recommended to renew the cooling liquid every 2 years.
• All the welding tools will wear off with use. Ensure that these tools are clean to get the best results.

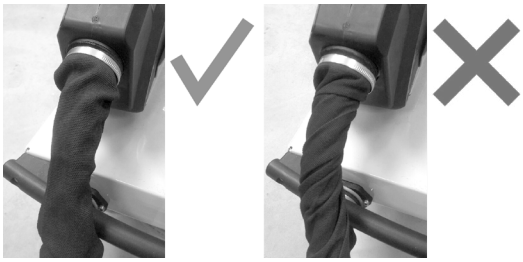
• Prior to using the pneumatic clamp, check the condition of the electrodes/caps (regardless if they are round or flat). If that is not the case, clean them using sand paper (thin grain) or replace them (see explanation on the machine).
• To ensure an efficient welding spot, it is necessary to replace the caps every 200 spots. In order to do so :
- Remove the caps using the caps removing wrench (ref. 050846)
- Fit the caps and apply contact grease (ref. 050440)
• Caps type A (ref : 049987)
• Caps type F (ref : 049970)
• Caps bevelled (ref : 049994)



Warning : the caps must be perfectly aligned. If this is not the case, check the alignment of the electrodes (cf. chapter «Assembly and replacement of the arms» P. 48)

• Prior to using the gun, check the condition of the different tools (star, single sided electrode, carbon electrode...) and clean or replace if required.
• Remove regularly the casing and any excess of dust. Take this opportunity to have the electrical connections checked by a qualified person, with an insulated tool.
• Regularly review the condition of the power cable and welding connection cables. In case of visible signs of damage, organise for them to be replaced by the manufacturer or a qualified technician.

After each use make sure that the harness is not left twisted. A constantly twisted harness leads to its premature deterioration and can present an electrical hazard to the user.



• Ensure the vents of the device are not blocked to allow adequate air circulation.

USE OF THE GALLOWS

• The operator must properly fill the coolant canister with coolant before use.
• The use of the bracket is strictly reserved to support the clamp during welding operations.
• Under no circumstances must the jib crane be used as a lifting or other means, as there is a risk of tipping the jib crane trolley assembly.

INSTALLATION – PRODUCT OPERATION

Only qualified personnel authorised by the manufacturer should perform the installation of the welding equipment. During the installation, the operator must ensure that the machine is disconnected from the mains. Connecting generators in serial or in parallel is forbidden.

EQUIPMENT DESCRIPTION (FIG-1)

This machine is designed to carry out the car body repair operations described below :
- spot welding on sheets using a pneumatic clamp,
- welding of sheets using a gun,
- welding of nails, rivets, washers, studs, mouldings,
- repair of bumps and impacts (hail impacts with the pliers option).

1- SD card reader
2- Interface (MMI)
3- Cooling unit
4- Overhanging arm locking support
5- Regulator
6- Power-on circuit breaker
7- Power cord
8- Filling cap
9- Cooling liquid gauge

DESCRIPTION OF THE G CLAMP (FIG-2)

1- Arm locking/unlocking lever
2- Interchangeable arm
3- Gyroscope
4- Pneumatic body
5- Over-opening electrode
6- Side handle
7- Locking latch
8- Gyro lock/unlock mechanism
9- Over-opening button
10- Spot welding button
11- Remote settings button
12- Stem height control lever

Clamp opening : push the button (FIG 2 - 10), the opening of the clamp can be released. The electrode retracts in the clamp leaving a space of 80 mm to access the welding area instead of 20 mm when not in use.

ACCESSORIES AND OPTIONS

Coolant

5 l: 062511
10 l: 052246

40 caps

048935

x 10 | x 18 | x 18 | x 6

050068

GYSPOT PTI GENIUS protective cover

077126

SD card including automatic programs INCLUDED

050914

Caps sharpener

048966

Pressure sensor

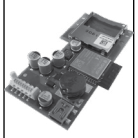
052314

Welding test case

050433

Anti-corrosion welding primer - 500 ml

076822

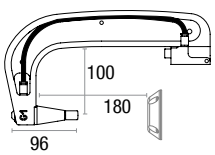


Kit renove wifi

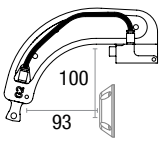
070691

Kit gun PTI GENIUS

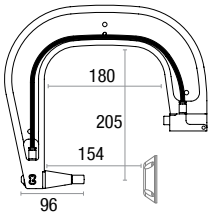
067226



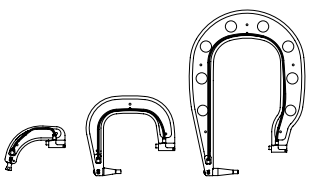
G1 (550 daN) - ref. 022768 **INCLUDED**



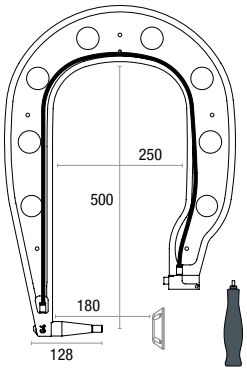
G2 (300 daN) - ref. 022775



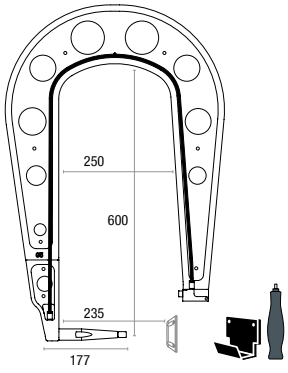
G3 (550 daN) - ref. 022782



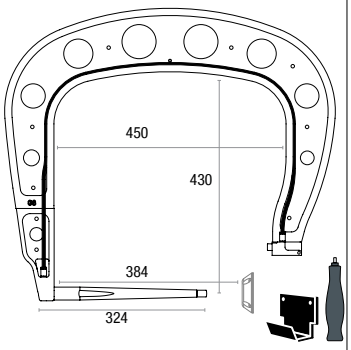
G2 + G3 + G4 - ref. 022898



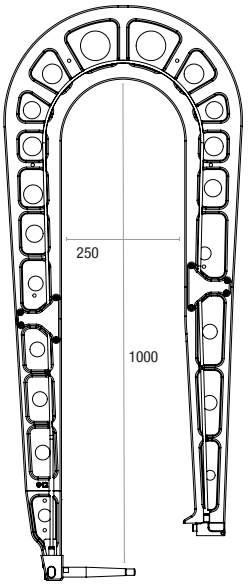
G4 (550 daN) - ref. 022799



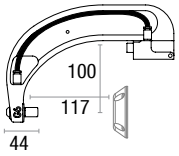
G5 (550 daN) (6.25 kg) - ref. 022805
G10 (400 daN) (5 kg) - ref. 067165



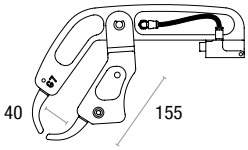
G8 (550 daN) - ref. 022836



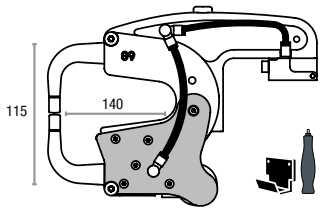
G12 (550 daN) - ref. 075238



G6 (550 daN) - ref. 022812

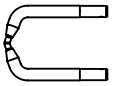


G7 (150 daN) - ref. 022829

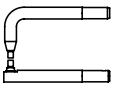


G9 + X1 (550 daN) - ref. 022881

X1 (550 daN) - ref. 050501



X2 (300daN)
ref. 050518



X6 (300daN)
ref. 050587

POWER SUPPLY

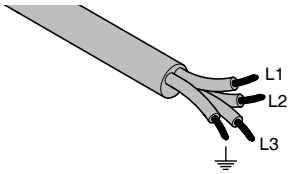
• This material is designed to be powered by a 3-phase 200V/240V power supply only (50-60 Hz) with four wires with a neutral one connected to the earth and fitted with a ≥ 50 A D-rated circuit breaker (or aM type fuse).
The permanent current absorbed (I1p or ILp) displayed in the section «technical specifications» of this manual relates to use at maximum power. Check that the power supply and its protection (fuse and/or circuit breaker) are compatible with the current needed by the machine. In some countries, it may be necessary to change the plug to allow the use at maximum settings.

• Power supply recommendations :

In order to limit the voltage drop in the power supply line and to avoid any risk of disconnection of the protection, it is imperative to connect the equipment to a «dedicated» socket. This plug must be connected to the electrical panel and only power this equipment.

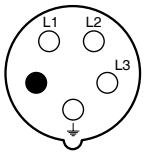
Check the cross-section of the cable reaching the connection socket: 4 x 16 mm² (6 AWG). If the power line from the switchboard is longer than 10 m, use a conductor cross-section of 25 mm² (4 AWG). If you are using an extension cable, use a conductor cross-section of 16 mm² (6 AWG) and 25 mm² (4 AWG) if the length of the line + extension > 10 m.

Power supply cable



L1 : Phase 1
L2 : Phase 2
L3 : Phase 3
⏚ : Earth (Green/Yellow or green)

Plug 230 V / 3 phases + earth



● Neutral (not used)

• The device turns into protection mode if the power supply tension is below or above the 15% or in the case of no phase. To indicate this default, the screen displays an error code.
• In order to ensure optimal functioning of the equipment, check that the compressed air circuit can supply 8 bar (116 Psi) and then connect the air supply to the back of the machine. The machine must not be used on an air network with a pressure under 4 bar (58 Psi) or over 10 bar (145 Psi).

CONNECTION TO A GENERATOR

The equipment is not protected against the regular overvoltage waves emitted by the power generator. It is therefore not recommended to connect them on this type of power supply.

REFILL OF THE COOLING LIQUID TANK

The cooling liquid recommended by GYS must be used:
5 l: ref. 062511 • 10 l : ref. 052246

The use of other cooling liquids, especially standard automotive liquid, can lead, through electrolysis, to the accumulation of solid deposits in the cooling system, reducing the cooling, and may even lead to system block. Any damage to the machine caused by the use of another coolant is excluded from the warranty.

Using purely the recommended coolant provide antifreeze protection down to -20°C (-4°F). It can be diluted, but only by using de-ionised water; do not use tap water to mix with the coolant! In all cases, at least one 10-litre bottle must be used to provide minimum protection for the cooling system.

30 litres of liquid	protection antifreeze down to -20°C (-4°F)
20 litres of liquid + 10 litres of deionised water	protection antifreeze down to -13° (9°F)
10 litres of liquid + 20 litres of deionised water	protection antifreeze down to -5° (23°F)

Any damage resulting from frost will not be covered by the warranty.

To refill the cooling liquid tank, proceed as follows :
- Put the pneumatic clamp on its support.
- Use the spout provided for filling.
- Pour 30 litres of liquid to reach half of the level indicated.

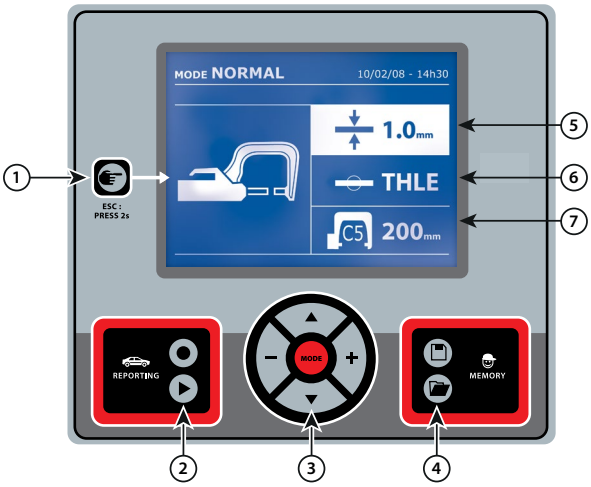
Safety data concerning the liquid:
- in case of contact with eyes, remove contact lenses if worn and rinse thoroughly using clear water for several minutes. Seek medical advice.
- in case of contact with the skin, clean thoroughly using soap and remove any contaminated clothing immediately. Seek medical advice if the skin gets irritated.
- in case of the liquid being swallowed, rinse the mouth abundantly using clear water. Drink plenty of water. Seek medical advice.

Maintenance : See chapter «PRECAUTIONS AND MAINTENANCE».

STARTING THE MACHINE

• Start the machine by switching the switch on ON (Fig 1 - 7), and stop it by switching to OFF. **Warning! Never disconnect the power supply when the welding electrical distribution is in operation.** The PCB inside the machine starts a test cycle and initiate the settings which takes around 10 seconds. At the end of that cycle, the machine is ready to be used.
• As soon as the machine is powered, the liquid starts circulating in the cables. check for potential leaks.

MAN TO MACHINE INTERFACE



① Button

• Push briefly the button to choose between the modes clamp, gun or «clamp settings».
• Push the button for 2 seconds to return to the «normal» mode from all the other modes.
• Push the button for 2 seconds to reset the spot count when it is on display.
• Push the button for 2 seconds to return to the «Settings» menu.
• Push briefly twice to erase the log displayed in the log view mode.
• Push briefly the button, in the programs saving mode, erase the program selected.

④ Saving the settings

• Button is used to save a machine setting (these are the settings that have been adjusted through the manual mode : current, duration and tightening).
• Button is used to re-establish a setting saved previously under the same name. The machine starts automatically in manual mode using the welding settings (current, duration and tightening) and the tool (clamp or gun saved).

② Saving a report

This function is detailed in the corresponding chapter.
Button ● activates or deactivates the creation of a report.
Button ▶ is used to view the points completed.

③ Using the different modes

Button MODE is used to move through the different welding modes. A prolonged push on the mode button activates the settings mode used to select the language, set the date and activate the warning sound for «current too low» or «pressure too low». Buttons (▲ or ▼) are used to navigate through and select the value that needs to be adjusted, and then buttons + and - are used to increase or decrease that value.

⑤ Setting the thickness of the plate

The value to be entered is in relation to the thickness of the sheets being welded on. The selection of the thickness is done using the + and - buttons, the different thicknesses available are 0.6, 0.8, 1.0, 1.2, 1.5, 1.8, 2.0, 2.5 and 3.0 mm.

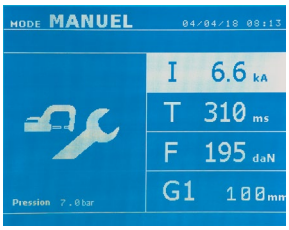
⑥ Setting the type of plate

This setting is used to specify the type of metal plate being welded on, the different choices are : coated steel, HLE/THLE steel, UHLE steel and bore/USIBOR steel. This setting can also be adjusted using the + and – buttons.

⑦ Setting up the arm

SETTING UP THE G CLAMP

Lock the G arm in place using the lever (FIG 2 - 1).



Use the ☚ button in order to select the clamp setting function. The «clamp setting» function is used to close the clamp and to apply the pressure pre-selected at the electrodes without power going through. The clamp remains closed while the trigger is pressed. This function is designed to verify the centering of the end bits.

Push the button ☚ for 2 seconds to return to the AUTO mode.

For the GYSPOT PTI GENIUS, always ensure to be in that mode to stop the pump when changing the arms. The electrode retracts into the clamp. The red indicator on the button (FIG 2 - 12) lights up when the pump stops.

THE DIFFERENT WELDING MODES

For all the models :

The buttons (▲ or ▼) are used to select the settings that need to be adjusted. Each adjustment is done by pressing the side keys + and –.

The button (FIG 2 -12) on the clamp is used to remotely adjust the welding settings (thickness, type of steel) :
- Long push : change of setting (to go from one setting to another)
- Short push : modification of the value

This button does not allow to change the arm on the screen. To change the arm (G1 to G2 for instance), the user must use the machine keypad.

Insufficient network pressure :
If the input pressure is insufficient to provide the correct pressure, the machine shows an error message before the weld «Insufficient network pressure» . Pressing the trigger a second time is used to «force» the spot weld using the available pressure.

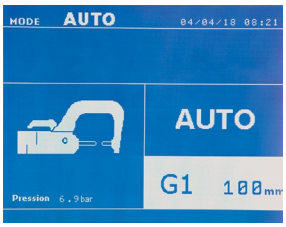
Low current :
If the current obtained during the spot weld is below the expected value (<6 %), the machine displays «low current» after the weld which means that the weld must be checked.

In any case, a message is displayed at the end of the weld indicating the current and pressure measured. This message remains on display on the screen until the user pushes a button on the keypad or carries on welding (FIG 2 - 11).

The welding conditions must be reviewed at the start of each new job. «Test» weld spots must be carried out on metal panels or sheets similar to the new job being undertaken. Carry our two spot weld with appropriate space in between, in line with the requirement of the job. Test the strength of the second weld. The test is successful if, when pulling the spot out, the panel breaks and the centre is extracted. The centre must have a minimum diameter in line with the specifications of the make of the vehicle.

AUTO mode

This mode is displayed by default when the machine starts.
This mode is used to weld sheets/panels without having to specify any settings on the screen. The machine sets the appropriate settings automatically.



In order to use this mode, do a blank spot weld (without any sheet/panel between the electrodes),as prompted on the display. Push the button (FIG 2 -11). The message «Do a spot without a load» is displayed on the screen. Push the button again to calibrate. Once the calibration is done, the machine shows all the settings to zero, and is ready to weld. Close the clamp on the area to weld and weld automatically, without entering any parameters in the machine. Every 30 spots, a new calibration will be required.

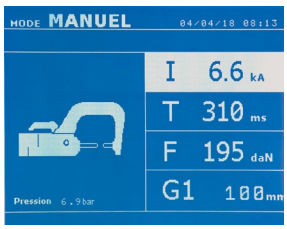
This mode can be used when using all arms except the G7.

This mode determines the welding settings based on the thickness of the sheets/panels and the type of steel.

The settings that need to be set when using this mode are:
- Thickness of the sheets/panels, with a range between 0.60 mm and 3.00 mm.
When 2 sheets/panels are being welded together, enter the thickness of the thinnest sheet.
When 3 sheets/panels are welded together, use the total cumulated thickness and divide by 2.
- **Type of steel** (coated steel, HLE/THLE steel, UHLE steel, bore steel (BORON)).
When welding a mix of different types of steel, select the strongest one.
- **Reference of the arm used.**

Push the button for 2 seconds to return to the AUTO mode.

MANUAL mode

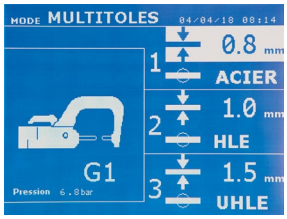


This mode is used to select the parameters of the spots by following the instructions of a repair book.

The parameters to set in this mode are:
- Current
- Duration
- Pressure
- Reference of the arm used.

Push the button for 2 seconds to return to the AUTO mode.

MULTI mode



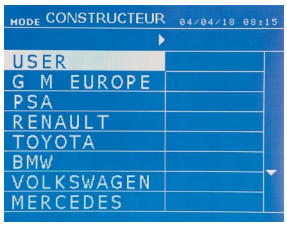
This mode is used to set precisely the thickness and type of steel for each sheet/panel .
The first element (thickness of sheet 1) is selected. The keys up and down are used to select the setting that needs to be adjusted, where the keys right and left are used to increase or decrease the value. Highlight the setting that needs to be adjusted.

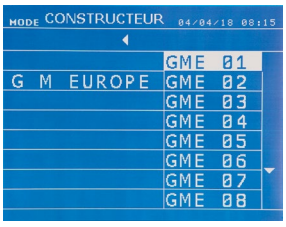
The settings that need to be set when using this mode are:
- Thickness of the sheets/panels, with a range between 0.60 mm and 2.50 mm.
- Type of steel (coated steel, HLE/THLE steel, UHLE steel, bore steel (BORON)).
When welding a mix of different types of steel, select the strongest one.
- To activate the sheet/panel 3, press the scroll keys (▲ or ▼) to highlight sheet/panel 3. Then use they keys + and - to select the thickness of the sheets/panels.
- Reference of the arm used.

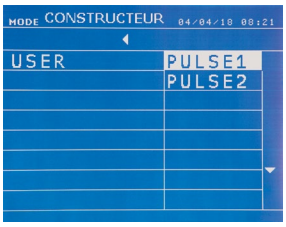
Push the button for 2 seconds to return to the AUTO mode.

MANUFACTURER mode

The MANUFACTURER mode is optional; it can be modified using the « Settings» menu.
This mode is used to name a pre-registered spot based on the repair book issued by the manufacturer.





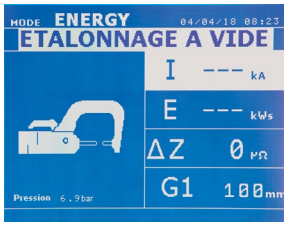


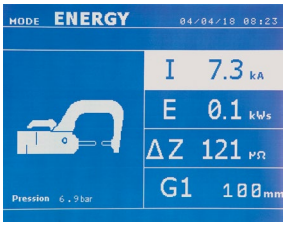
Spot welds programmed by the user can be recalled by selecting USER in the manufacturers list. Welding spots can be programmed using the GYSPOT software and the welding spots settings module.

Push the button for 2 seconds to return to the AUTO mode.

ENERGY mode

The ENERGY mode is optional and can be set using the «Settings» menu.
This mode is used to control the energy transmitted during the weld. This mode is not designed to be used during repairs but for the benefit of manufacturers and quality control organisations conducting tests.

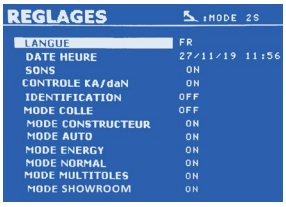




To enable this mode, first perform a weld without a load. Push the button (FIG 2 -11). The message «Do a spot without a load» is displayed on the screen. Push the button again to calibrate. Once the calibration has been done, the machine displays the last values used in this mode for current and energy. The use can then modify the welding current, energy and resistance. The duration of the weld will vary based on the time required for the machine to reach the energy level required. If it is taking too long, the machine will display the error message «maximum duration reached».

Push the button for 2 seconds to return to the AUTO mode.

SETTINGS MENU



This menu is accessible by pressing and holding the button MODE for 2 seconds.

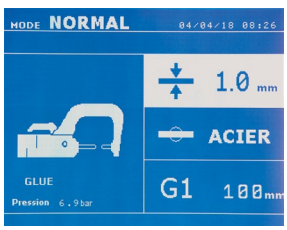
The language used in the menu can amended on line 1.
The date and the time can be programmed on line 2.

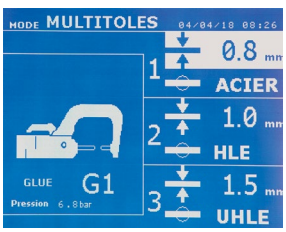
The modes GYSTEEL, MANUFACTURER , AUTO, ENERGY, NORMAL et MULTISHEETS can be activated or deactivated using this menu.

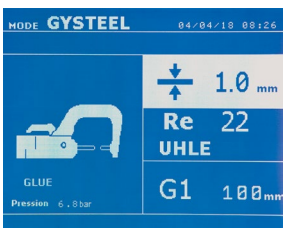
daN control :

This setting is used to activate or control the clamping force of the clamp during welding.

GLUE mode:
On the SETTINGS screen below, the user can specify the presence glue between the panels/sheets. When this mode is in use, a pre-spot is performed before the weld. The duration of this pre-spot is set in milliseconds, from 0 to 400 ms, with 50 ms thresholds. When the glue mode is selected, la word « GLUE » is displayed in the menus of the NORMAL, MANUAL, MULTI or GYSTEEL welding modes.

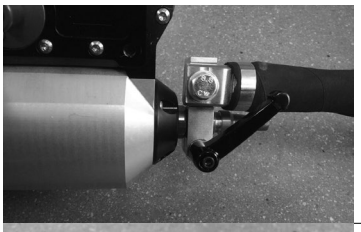




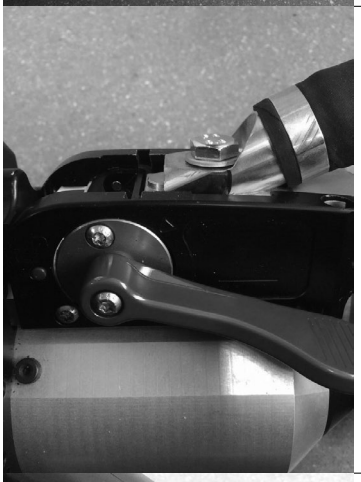


USE OF THE GUN (OPTION)

- Select the GUN tool using the button .



Attach the gun grounding cable to the mobile electrode. Slide and tighten the knurl.



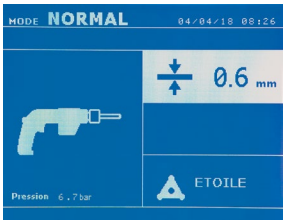
Remove the arm from the clamp and fix, in its place, the gun cable.

Connect the control cable to the jack plug.

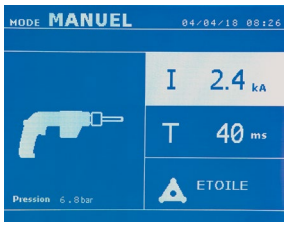
Check that the screw connecting the shoe to the cable lug is tight.

- Fix the earth pad firmly and as close to the weld as possible.
In the case of a monopoint weld, always place the earth on the sheet/panel that is not in contact with the welding electrode (in order for the current to go through the two sheets to be welded).
- Weld starting with the furthest spot away from the earth and work towards it.

- The normal welding mode using the stars is the one used by default.
- The gun can be used in normal or manual mode.



In normal mode, the gun will be limited to 1.5mm thick sheets.
Using the gun, the operator can choose between different tools (mono point, star, impact, heat, dowel pin, rivet, nut, toothed wheel). Select the desired tool using the + and - keys.



In Manual mode, the maximum possible intensity is 8 kA for a maximum duration of 500 ms. The settings showing on the screen will not exceed these values.
Set the generator by indicating the thickness of the sheet/panel to weld using + and - keys. It is possible to adjust the current and time settings when in manual mode.

Press the button for 2 seconds to get back to the NORMAL mode.

ERROR MANAGEMENT

Various elements may produce errors. They can be split into 4 categories :
1/ Warning messages designed to warn the operator of overheating, lack of pressure or power, etc. These messages are displayed on the screen and remain visible until a button is pressed.
2/ The faults that occur in relation to insufficient air pressure or power supply.
3/ The serious faults that block the machine. In this case, contact the service department
4/ The thermal protection is linked by a thermistance on the diode bridge and when it activates the machine is locked and the message «overheating» is displayed.

Low battery

The message «Battery low» is displayed when the machine is switched on and it indicates that the battery on the command board is low. This battery is used to record the date and time when the machine is switched off.

Invalid tool

The message «Invalid tool» is displayed when the machine is switched on and indicates that a button is pushed in, the trigger is pushed in or a permanent short-circuit. Check the trigger or the buttons on the clamps to remove the message.

Invalid arm

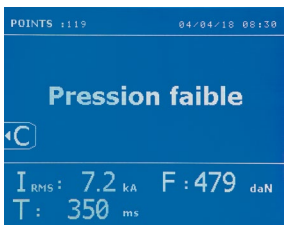
The arm used is not compatible with the welding mode selected.

Current too low

1/ Check the weld
If the current obtained during a spot weld is lower than the expected value (6%), the machine displays the warning message «Low current, check the weld».

2/ Check the sheets
If the machine cannot deliver the current required, the error message «Low current, check the sheets» is displayed. The weld does not happen and the fault must be skipped for the weld to happen.

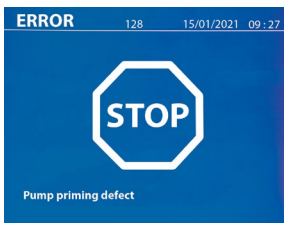
Insufficient air pressure



If the input pressure is insufficient to deliver the tightening requested, the machine beeps and displays, before the weld, the error message «Insufficient air pressure».

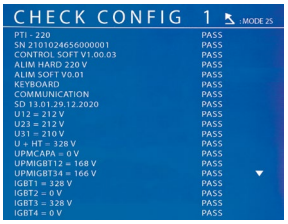
Pressing the trigger a second time is used to «force» the spot weld using the available pressure. If the tightening recorded is insufficient, the machine displays «Low pressure».
«p low» is also recorded in the active report.

Pump priming



The «Pump priming fault» message appears when the cooling system pump is defused. Check the coolant level in the tank.

Self-diagnostic



When the power is turned on, the machine performs self-diagnostics and displays the results on the screen.
If no blocking error is present, this page is displayed for 3s and then disappears. During this period, a short press of the MODE buttons, ▲ or ▼, leaves the CHECK pages displayed (results summarized on two pages). A long press on MODE will exit the CHECK mode.
It is not possible to exit the CHECK pages if a blocking fault is detected, except for a phase failure (see list below).

Line no.	Comment	Display left column	Display right column	Type of defect	In the event of a blocking fault
Page CHECK n°1					
1	Name of the product	PTI-400	PASS	No blocking	
2	Product serial number	SN xx.xx.xxxxxx.xxxxxx	PASS or FAIL	No blocking	
3	Secondary soft version	CONTROL SOFT Vxx. xx.xx	PASS	No blocking	
4	Hard primary version	ALIM HARD 400V	PASS or FAIL	Blocking	Wrong power supply card, contact your dealer.
5	Primary soft version	ALIM SOFT Vx.xx	PASS, FAIL	Blocking	Wrong software version, contact your reseller.
6	Keyboard test	KEYBOARD	PASS or FAIL	No blocking	Make sure that no key on the keypad or trigger is pressed, if the fault persists contact your dealer.
7	Communication test µ	COMMUNICATION	PASS or FAIL	Blocking	Communication problem between the cards, contact your retailer.
8	SD card	SD xx.xx.xx.xx.xxxx	PASS or FAIL	No blocking	SD card not present.
9	Voltage phase 1	U12 = xxx V	PASS or FAIL	Blocking	If there is no phase, pressing MODE for 5s accesses the Setup menu and allows the machine to operate in Showroom mode.
10	Voltage phase 2	U23 = xxx V	PASS or FAIL	Blocking	
11	Voltage phase 3	U31 = xxx V	PASS or FAIL	Blocking	
12	CAPA voltage	UPMCAPA = 0 V	PASS	No blocking	
13	Voltage PM IGBT 1 and 2	UPMIGBT12 = xxx V	PASS or FAIL	Blocking	Problem controlling the power electronics, contact your dealer.
14	Voltage PM IGBT 3 and 4	UPMIGBT34 = xxx V	PASS or FAIL	Blocking	
15	IGBT test result 1	IGBT1 = xxx V	PASS or FAIL	Blocking	
16	IGBT test result 2	IGBT2 = xxx V	PASS or FAIL	Blocking	
17	IGBT test result 3	IGBT3 = xxx V	PASS or FAIL	Blocking	
18	IGBT test result 4	IGBT4 = xxx V	PASS or FAIL	Blocking	
Page CHECK n°2					
1	Name of the product	CONNEXION TRANSFO	PASS or FAIL	Blocking	Check the connection of the power cable from the gripper to the generator.
2	Test result primary detection transfo	DATE/TIME	PASS or FAIL	No blocking	
3	Date and time	SHOW-ROOM	ON or OFF	No blocking	
4	SHOW-ROOM mode	GGUN WELD SW = x.xx V	PASS	No blocking	
5	Welding trigger, gun trigger and gun temperature test	GGUN OPEN SW = x.xx V	PASS or FAIL	Blocking	Check the connection of the power diode temperature sensor.
6	Trigger test on diode opening and temperature	TRANSFO TEMP = x.xx V	ON or OFF	Blocking	Overheating of the power transformer. Allow the machine to cool down before starting up again.
7	Transformer primary temperature	THICKNESS SENSOR = xx.x mm	PASS	No blocking	
8	Position sensor	WELDING VOLTAGE = x.xx V	PASS	No blocking	
9	Welding voltage	BACKUP CELL = x.xx V	PASS or FAIL	No blocking	
10	Backup battery voltage	AIR PRESSURE = xx.x bar si PASS	PASS or FAIL	Blocking	Air pressure sensor from the HS network, contact your dealer.
		Network pressure			
11	Clamp pressure	GUN PRESSURE = xx.x bar si PASS	PASS or FAIL	Blocking	Air pressure sensor of the HS gripper, contact your dealer.
		Gun presence detection			
12	Détection présence pistolet	CONNEXION GUN	ON or OFF	No blocking	

SPOT COUNT

A spot count tool keeps count of the different spot weld done using the same cap. If there is no problem during the welding, the following message is displayed.
The count is displayed at the top left corner of the screen. Press the button for 2 seconds to reset the count after changing the caps.

The machine counts the number of points achieved with each arm independently. A warning message appears on the screen when the limit of the points made by the headings is reached. The message remains displayed after each point until the counter is reset.

If the caps are not changed after the warning message is displayed and the count is simply reset, they can deteriorate and have a negative impact on the quality of the weld.

RECORDING FEATURES

The Identification mode is optional and can be activated using the «settings» menu.
If the identification mode is switched off, il suffit de saisir un nom de rapport et de l'activer pour mémoriser les points de soudure effectués.
The log allows to store the parameters of the spots made using the clamp. It is available in all the modes by pressing the 2 buttons ● and ▶.
The user program is available in all modes by pressing the and buttons.

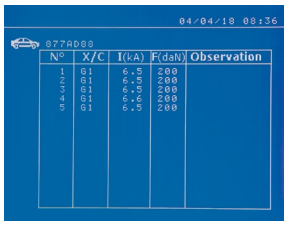
Report (log)

Saving a report allows you to retrieve the data of a series of spot made with using the clamp, and to save them on the memory card so that they can be retrieved from a PC for example. GYS provides a software called GYSPOT to read the SD card and edit the logs on a PC. This GYSPOT software is stored on the SD card as well as the user manual.
By default, this feature is disabled when the machine is switched on. Pressing the recording button (on/off) and the «mode» button starts recording the report in the selected log. Pressing the record button again (on/off) stops the current recording.

The log created contains: an ID entered by the user, as well as for each spot performed, the tool and arm used, the machine settings (power and pressure). It also contains the following possible error messages that may have occurred during its recording: I LOW, P LOW, PB CAPS.

The ID is entered using the 4 keys +, - ▲ or ▼. When entering an identifier already in use, the machine will record the new points in succession, without deleting the previous ones.
The ▶ button is used to retrieve a previously saved report and read it back on the screen.
The current recording must be stopped by pressing the ● button before it can be displayed on the screen. The MODE button is used to exit the report view mode.

To delete the contents of a report, you must display it on the screen using the button ▶.

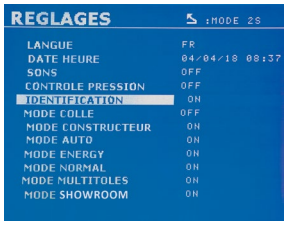


Then press the button.
The following message appears on the screen.

When the triangle is displayed, a second press on the button erases the content of the report displayed.

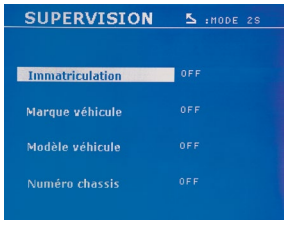
The triangle disappears from the screen automatically after 3 seconds.

Identification mode



If the identification mode is set to «ON», all mandatory fields in the repair order must be entered to allow the weld to go ahead or the machine will display «identification fault».
To activate and deactivate the identification mode, an SD identification card must be inserted in the BP card reader instead of the SD card containing the programs.

The settings screen is activated by pressing and holding down the MODE button for 2 seconds.



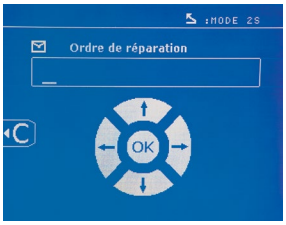
When the SD card «identification» is inserted and «identification ON» is selected, the supervision screen is displayed.
This screen is used to make the fields «registration, vehicle make, vehicle model, vehicle model, chassis number» mandatory fields when entering the repair order.

To exit the screen, press the MODE button for 2 seconds. Then, it is necessary to put the SD card containing the programs back into the machine card reader.

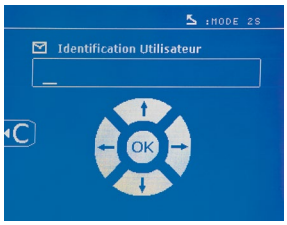
List of screens used to enter a repair order :

If a repair order has already been created, it cannot be changed or deleted on the machine. To delete it, use the Gyspot software on the PC. The user can create a maximum of 100 repair orders.

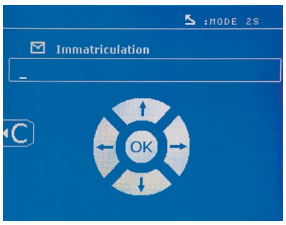
Repair order



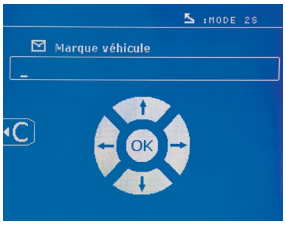
User identification



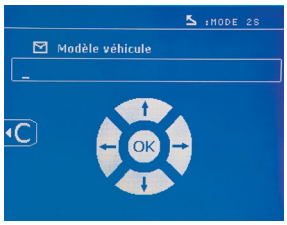
Registration (optional)



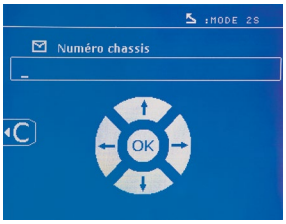
Vehicle make



Vehicle model

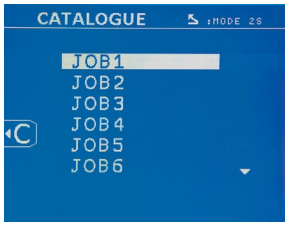


Chassis number (optional)

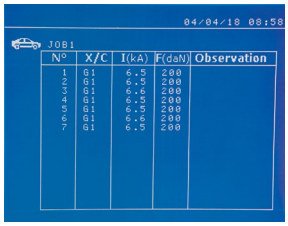


The arrow keys (▲ or ▼) are used to change the letters or numbers. The keys - and + are used to move the cursor inside the field. Press the button briefly to clear the field. The MODE button allows you to scroll through the fields for editing or reading.

Catalogue



The ▶ button is used to consult the repair orders. The page number is displayed (max. 13)



The keys - and + are used to change pages. The keys ▲ et ▼ are used to select previous or next job. The MODE button displays the selected repair order.
The button key is used to exit the report view mode.

• The SD card management library allows you to manage your SD cards over 2 GB..
• For each repair order, a log file xxx.dat is associated (with xxx=identifier from 001 to 100). In each log, a maximum of 500 welding points can be recorded. On consultation, the names of the repair order and the user are displayed.
• The page number is indicated at the top left..
• All repair orders are stored in the file called catalog.GYS.
• This file contains the total number of repair orders, the name of each repair order and the name of each user. There is a maximum of 100 repair orders.

User programs

Saving the settings allows you to define a user program in order to easily find its settings for future use. 20 memory slots are available. Each of them contains the following settings: tool, arm, welding power, welding time and pressure.
A program can be associated to the clamp or gun.

The button is used to save the current settings of the manual mode (power, time and pressure). The 20 memory slots are then indicated by their identifier (for those used) or by a symbol» ---» for free slots..

The ID is entered using the 4 keys . When entering an ID that has already been used, the machine will delete the settings that were previously stored.

The button is used to access the settings previously saved. Choosing an empty location has no effect.

Briefly pressing key deletes the selected program from the list of saved programs.

The key MODE exits the program selection mode, switches the machine to manual mode with the parameters and tool saved in the program.
To deactivate a program, simply change the value of a parameter in one of the three modes manual, normal or multiplate or change the tool (clamp, gun) using the button.

The key allows you to view a previously saved report and read it back on the screen.

SD memory card (ref. 050914)

This card allows the user to link the machine to a PC in order to:
• Retrieve logs (reports), keep a record of the work done, and eventually send it to an insurance company.
• Update welding parameters, add new languages.
• The GYSPOT software for editing parameters on a PC is stored on the SD memory card.
• The instructions are is stored on the SD memory card.

The memory space is sufficient to ensure an autonomy of more than 65,000 points.
The machine can operate without a memory card in «manual» mode only.
If the memory card is not inserted in the card reader, the following message appears. The machine must be stopped and restarted after inserting the SD card.

Important : It is necessary to turn off the power to the machine before removing the SD card from its reader and restart the machine only after inserting the SD card into its reader, otherwise the data saved on the SD card may be lost.

ASSEMBLY AND REPLACEMENT OF THE ARMS ON THE G CLAMP

The warranty does not cover anomalies and damages due to improper assembly of the G-clamp arms.

IMPORTANT :
- do not use copper grease on the arms.
- keep the arm base and arm support on the clamp clean to ensure a good flow of current between the parts in contact.
- If not used for a long time, always store the machine with an arm mounted on the clamp to avoid dust on the arm support.

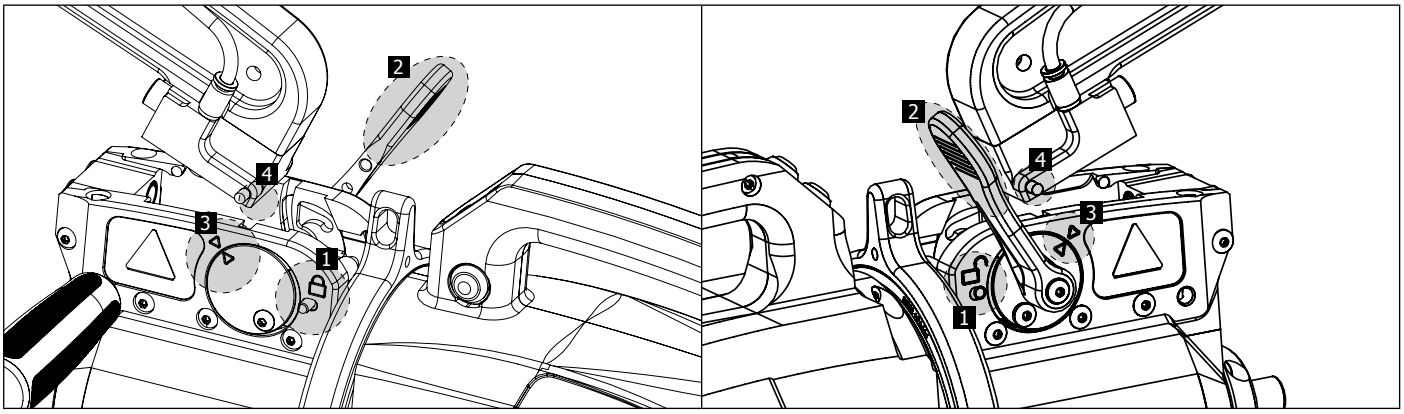
Procedure for changing the arms :
During the replacement of the arms on the clamp, the cooling circuit pump must be switched off. To do this, place yourself in the «Clamp Setting» mode on the machine; the red light on the clamp button (FIG 2 -12) indicates that the pump is off. The electrode retracts into the clamp to allow the arm to be removed.

1 The latch sticks out on the lock side

2 The lever must be in the rear position stop (~120°)

3 The arrows must be aligned

4 Tilt the arm about 15° and remove it from its housing (the pins must slide into the groove)



MECHANICAL OVER-OPENING OF THE ARM

To open the arm and gain easier access to the bodywork, activate the over-opening by pressing the clamp button (FIG 2 -10).

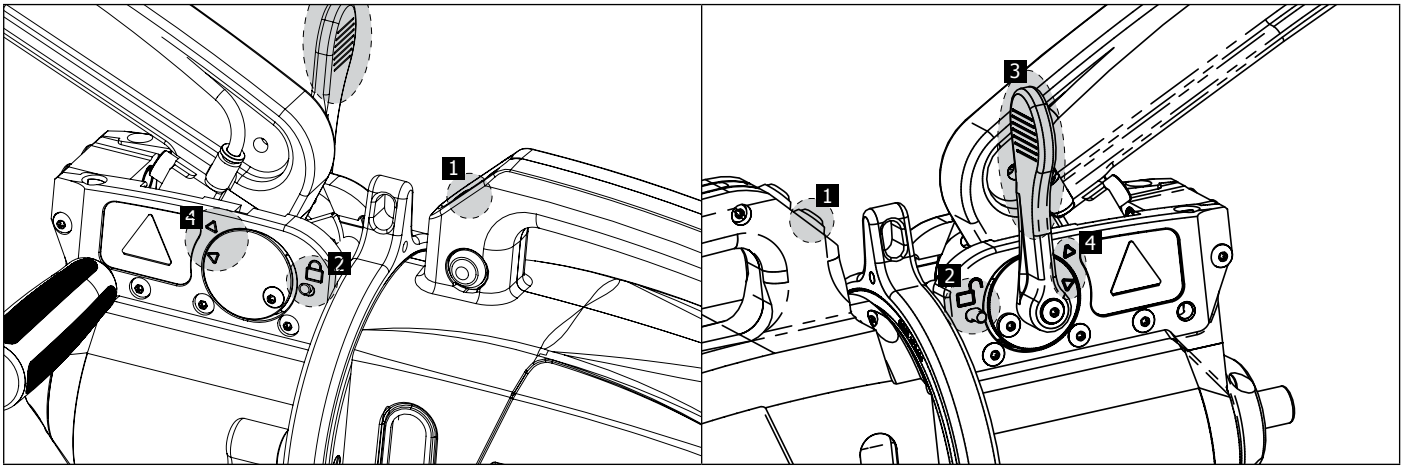
1 Press the button (FIG 2 -10)

2 The latch sticks out on the open lock side

3 The lever must be open (~90°) at the stop on the latch.

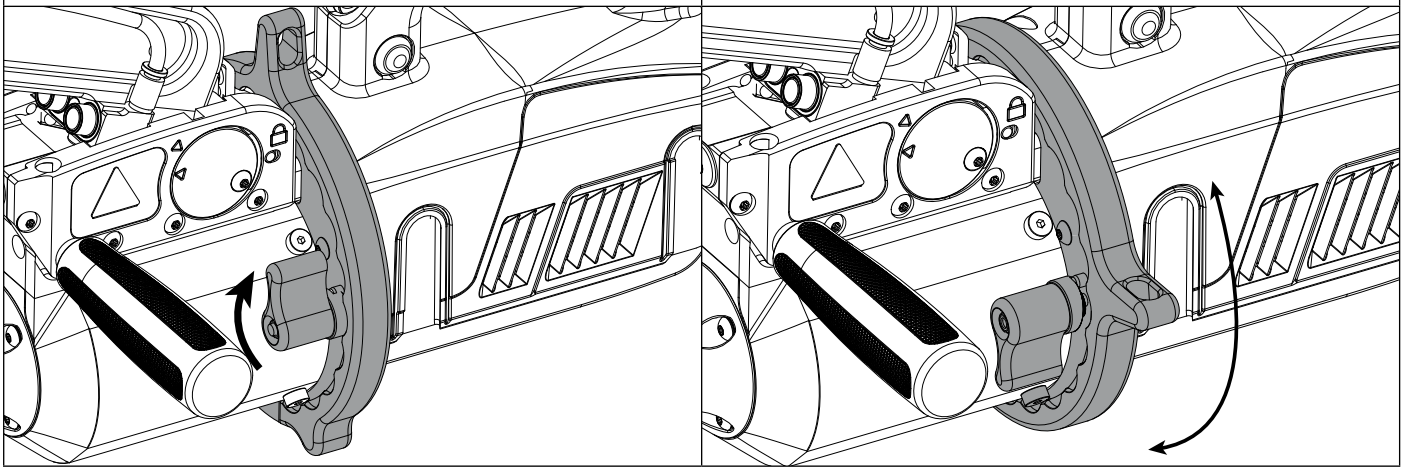
4 The arrows must not be aligned

Incline the arm.



LOCKING / UNLOCKING OF THE GYROSCOPE

When the lever is tilted upwards, the gyro is locked.	When the lever is tilted down, the gyro is unlocked. It can rotate around the clamp at a 360° angle.



GYSPOT SOFTWARE ON PC

The purpose of this software is to edit and save the spot weld reports made using a GYSPOT equipped with an SD card reader. To use this software, the PC must be equipped with an SD card reader.

The GYSPOT software can be installed from files on the SD card. In the directory \GYSPOT V X.XX, double click on the file INSTALL.EXE, and follow the instructions to install the software on your PC. A GYSPOT icon is automatically installed on your PC desktop.

1 - Language selection
The software supports several languages. Currently, the available languages are:
French, English, German, Spanish, Dutch, Danish, Finnish, Italian, Swedish, Russian, Turkish.
To select a language, from the menu, click on **Options** and then on **Languages.**
Note that once the language has been selected, it is necessary to close and open the GYSPOT software again so that the language can be taken into account.

2 - User identity
In order to personalise the editions with your personal information, some information is required. To give the required information, in the menu, click on **Options** then on **Identity**. A new window appears with the following information:
Company name
Address / Post code / City
Telephone / Fax / Email / Website
Logo
The information will then be displayed on the editions.

3 - Traceability
By default, the GYSPOT software opens in «Traceability» mode. In «Point Setting» mode, click on **Traceability** in the **Options** menu.

3.1 - Importing point reports from an SD card :
To import the point reports made with a GYSPOT into your PC, insert the SD card into the card reader on your PC and start the GYSPOT software. Then select the reader into which your SD card is inserted and click on the button .
When the import is performed, the weld spots performed are grouped by the maintenance order identifier. This identifier corresponds to the name of the report specified in the welding machine. This identifier is displayed in the **Current tab.**

Once the reports have been imported, it is possible to search, edit or archive each report. To visualise the spot completed in a report, select a report. The spots completed are displayed in the table.

To perform a search, fill in the search field and click on the button .
To edit a report, select a report and click on the button .
To archive a report, select a report and click on the button . Warning, please note that imported reports cannot be deleted until they have been archived.

3.2 - Consult the archived spot reports:
To view the archived reports, click on the Archives tab. The reports are grouped by year and month.
To view the spots completed, select a report. The spots completed are displayed in the table.
For archived reports, it is possible to search, edit or delete a report.
Be careful, a report archived and then deleted will be imported again when importing data from an SD that has not been cleared.
To perform a search, fill in the search field and click on the button .
To edit a report, select a report and click on the button .
To delete a report, select a report and click on the button .

3.3 - Clearing an SD card:
Clearing the card will erase all completed spot reports recorded on the SD card.
To clear an SD card, insert the SD card into the PC card reader and then, in the menu, click on **Options** and **purge the SD card.**
Be careful, when clearing, the spot reports completed that have not yet been imported will be automatically imported.

3.4 - To complete the information in a report:
Each report can be filled in with the following information:
Operator,
Type of vehicle,
Repair order,
Registration,
Date of first registration,
Intervention,
Comments.
To enter this data, select a report and enter the information in the report header.

3.5 - Printing a report :
To print a report, select a report and click on the button . A preview of the edition is displayed. Click on the button .

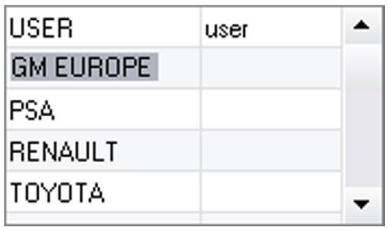
3.6 - Exporting the edition in PDF format:
To export an edition in PDF format, select a folder, then click on the button . A preview of the edition is displayed. Click on the button PDF.
An example of saving the parameters printed using the GYSPOT software is given below.

4 - Spot parameters

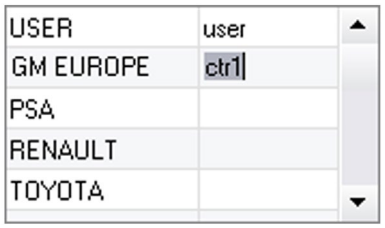
To switch to «Spot Parameter» mode, click on **Spot Parameter** in the **Options** menu.
The «Spot parameter» mode allows to use the operator to use spots set by the manufacturers. This mode also allows the user to choose his own welding parameters.

- Insert the SD card supplied with the GYSPOT spot welder into the reader of your PC and select the correct disk in the drop-down menu.
- GYSPOT spot welders support up to 16 files that can contain up to 48 spot settings.
- The first file called «USER» cannot be deleted. It allows the user to add, modify or delete a spot parameter.
- The other files are reserved for the spot set by the manufacturers. It is possible to import manufacturer files downloaded from our website (http://www.gys-welding.com). It is not possible to add, modify or delete a spot parameter taken from a manufacturer file.

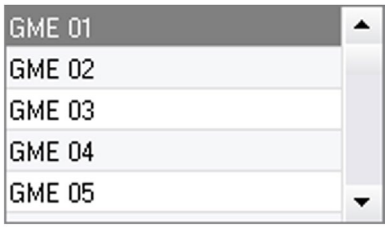
4.1 - Import a manufacturer spot parameter file :



Double-click in the first column and enter a manufacturer name.

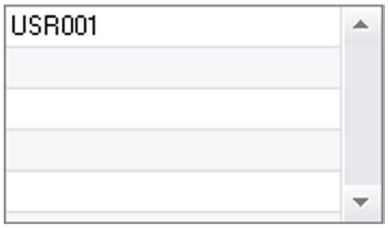


Then double-click in the second column to select a manufacturer file previously downloaded from our website.



The list of spots set by the manufacturer is displayed in the second list. Select a configured point to view the chronogram and configured parameters.

4.2 - Add a configured spot in the USER file :



To add a spot to the USER file, select the USER file from the file list and click on the button ✚ to the right of the list of configured spots. Enter the name of the spot and press the TAB key or click outside the list of configured spots to configure the welding parameters.

For a spot to be configured, it is possible to configure:
The pre-tightening stage
The pre-heating stage
The different pulses (4 pulses maximum)
And the hot and cold forging stage.
To change the settings, click on the buttons ▲▼.

When the operator changes a parameter, the spot chronogram is updated.

To validate the spot configuration, click on the button ✔.

To cancel the spot configuration, click on the button ↶.

4.3 - Modify a spot configured in the USER file:

To change the settings of a spot, select a spot from the list and then change the welding settings.

To validate the changes, click on the button ✔.

To cancel the changes, click on the button ↶.

4.4 - Delete a configured point in the USER file:

Select a spot parameter from the list and click on the button ✖ to the right of the list.

YOUR logo	**Raison sociale :** JBDC	**Téléphone :** 0243510101	
	Adresse : ZI, 134 Bd des Loges	**Télécopie :** 0243510102	
		Email : contact@companyname.com	
	Code postal : 53941	**Site Web :** www.companyname.com	
	Ville : Saint-Berthevin		

Intervenant :	OPERATEUR	**Marque :**	PEUGEOT
Ordre de réparation :	977AC92	**Modèle :**	308SW
Date du journal :	05/04/2018	**N° châssis :**	12365849
Intervention :	AILE ARRIERE	**Immatriculation :**	1450UT53
Commentaires :	Commentaires	**Mise en circulation :**	01/01/2017

GYSPOT BP.LG (1712009013)

Id	Date	Mode	Outil	Consignes			Mesures			Etat
				Temps (ms)	Intensité (kA)	Serrage (daN)	Intensité (kA)	Serrage (daN)	Epaisseur (mm)	
1	05/04/18 10:22	Auto	Pince en C n°1	630	9,4	325	9,4	325	3,5	Point Ok
2	05/04/18 10:22	Auto	Pince en C n°1	630	9,4	325	9,3	325	3,5	Point Ok
3	05/04/18 10:22	Auto	Pince en C n°1	490	8,2	240	8,2	240	2,0	Point Ok
4	05/04/18 10:22	Auto	Pince en C n°1	510	8,3	250	8,2	245	2,1	Point Ok
5	05/04/18 10:22	Auto	Pince en C n°1	510	8,3	250	8,3	245	2,1	Point Ok
6	05/04/18 10:23	Normal	Pince en C n°1	350	7,3	225	7,3	225	-	Point Ok
7	05/04/18 10:23	Normal	Pince en C n°1	350	7,3	225	7,2	225	-	Point Ok
8	05/04/18 10:23	Normal	Pince en C n°1	400	8,1	265	8,0	265	-	Point Ok
9	05/04/18 10:23	Normal	Pince en C n°1	400	8,1	265	8,1	260	-	Point Ok
10	05/04/18 10:23	Normal	Pince en C n°1	400	8,1	265	8,1	270	-	Point Ok
11	05/04/18 10:23	Manuel	Pince en C n°1	400	8,1	510	8,1	440	-	Pression faible

SAFETY AND MAINTENANCE

User training
People operating this machine must receive suitable training in order to get the most out of the machine capabilities and carry out good quality repairs (examples: car body work training).

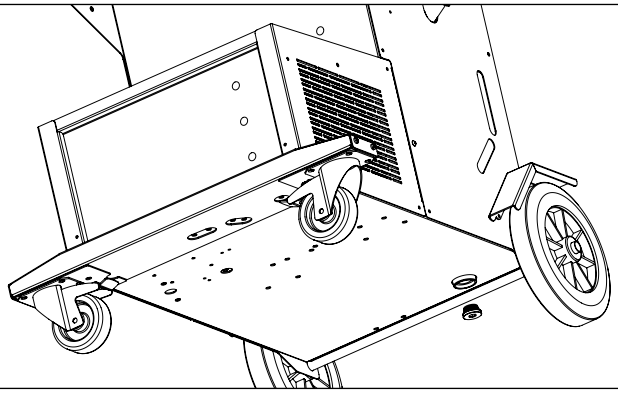
Preparation of the parts to be assembled
It is essential to clean and accost the area to be welded.
In the case of a protective application, make sure that it is conductive by first testing a sample.

Monopoint electrode welding
When repairing a vehicle, check that the manufacturer allows this type of welding process.

Using the underwing arm
The maximum pressure is 100 daN.

O-rings for the locking nuts of G arm.
Inside the 2 arm locking nuts, there are 2 O-rings that must be replaced in case of a leak or every 6 months. These 2 seals are necessary to avoid any risk of leakage.
These seals are O-rings d=25, group of 4. When replacing these seals, grease must be applied to them. (ref. 050440 : contact grease)

Quantity and quality of the coolant
The coolant level is important for the correct operation of the machine. It must always be between the minimum and maximum level indicated on the trolley. Top up with demineralized water if necessary.
Replace the coolant every 2 years :

1	Switch off the power supply using the switch located at the rear of the machine (OFF position) and disconnect the unit from the mains.	
2	Place a bucket (min. 30 l capacity) under the machine drain hole.	
3		Unscrew the drain plug located under the machine using a 10 mm torx spanner. (Ref. S6262)
4	Rinse the inside of the tank with running water to remove deposits.	
5	Replace the drain plug. (: 4 N.m)	
6	Fill the tank with coolant (5l : 062511 / 10l : 052246)	
7	Turn the power back on (ON position) and check for leaks.	

TROUBLESHOOTING

	TROUBLESHOOTING	CAUSES	SOLUTIONS
Clamp welding	The spot made does not hold or does not enough	The caps are worn out.	Change the caps.
		The sheets are not clean enough.	Check the preparation work.
		The arm selected does not match the one mounted.	Check the arm selected in the software.
	The machine makes a hole in the sheet.	The caps are worn out.	Change the caps.
		Insufficient air pressure.	Check the air pressure (min. 8 bar)
		The surface is not properly prepared.	Prepare/clean the surface to be worked on
	Lack of power	Power supply problem.	Check the stability of the mains voltage
		Caps blackened or damaged.	Change the caps.
		Incorrect arm locking.	Refer to the chapter "Assembly and changing the arms".
	- Fast overheating of the machine. - Power cable inflation.	No or poor circulation of the coolant.	Open the cart tank cap and observe the movement of the coolant and correcrt return.
	- Pump stopping - Polluted coolant - Circuit blocked.	Obstruction in the cooling circuit (pinched pipe)	Check the sheathing between the trolley. Check that the pump is working properly. Check the condition of the coolant.
Gun	Abnormal heating of the gun	Incorrect tightening of the chuck.	Check the tightness of the chuck, the star holder chuck, and the condition of the sheathing.
		Gun sheathing loose.	Replace the sheathing in order for the air cooling to reach the inside of the gun
		Incorrect positioning of the earth pad.	Check that the ground pad is in contact with the right sheet metal.
	Lack of power in the gun	Poor contact of the earth pad.	Check the earth contact
		Incorrect tightening of the chuck or accessories.	Check the tightness of the chuck and accessories, and the condition of the sheathing
		Damaged consumables.	Replace the consumables

WARRANTY

The warranty covers faulty workmanship for 2 years from the date of purchase (parts and labour).

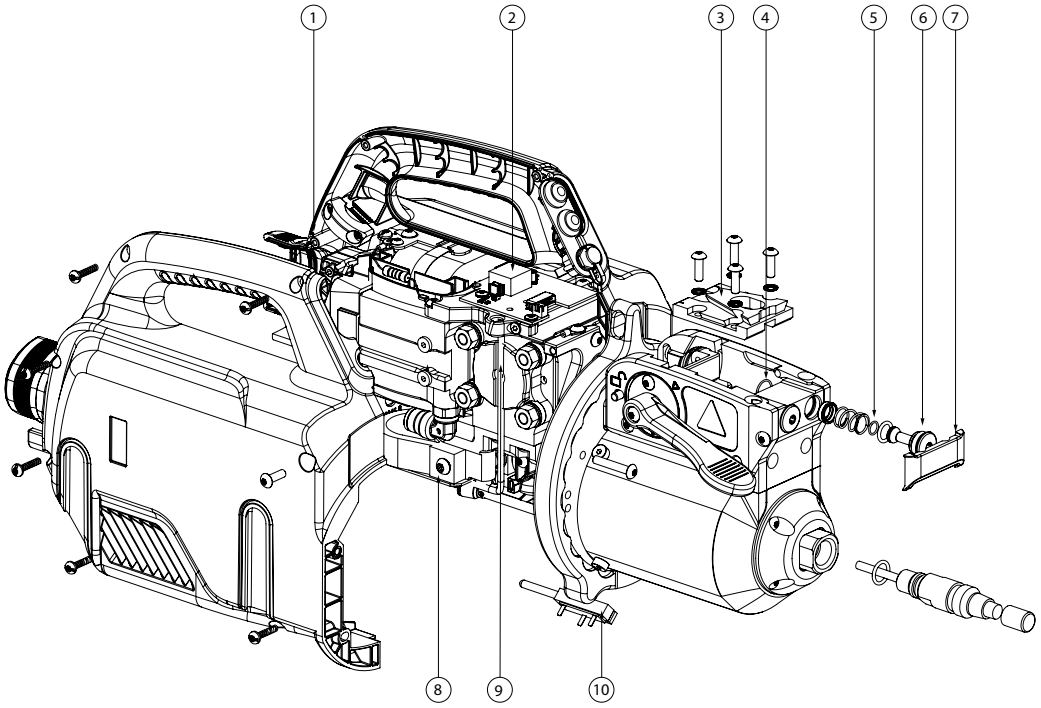
The warranty does not cover:
- Transit damage.
- Normal wear of parts (eg. : cables, clamps, etc..).
- Damages due to misuse (power supply error, dropping of equipment, disassembling).
- Environment related failures (pollution, rust, dust).

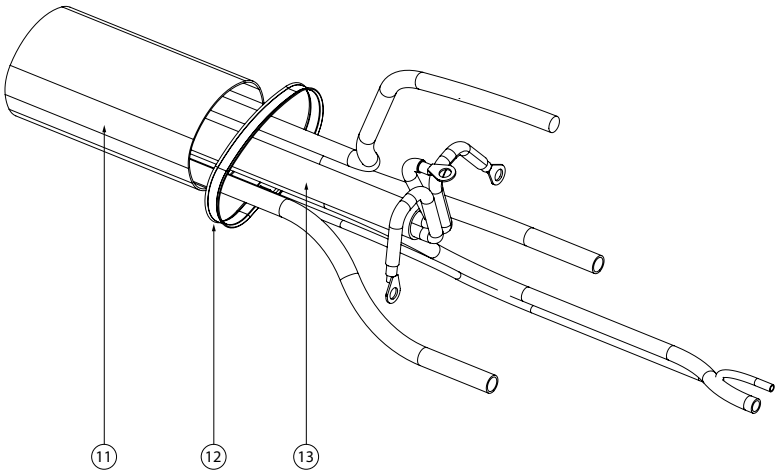
In case of failure, return the unit to your distributor together with:
- The proof of purchase (receipt etc ...)
- A description of the fault reported

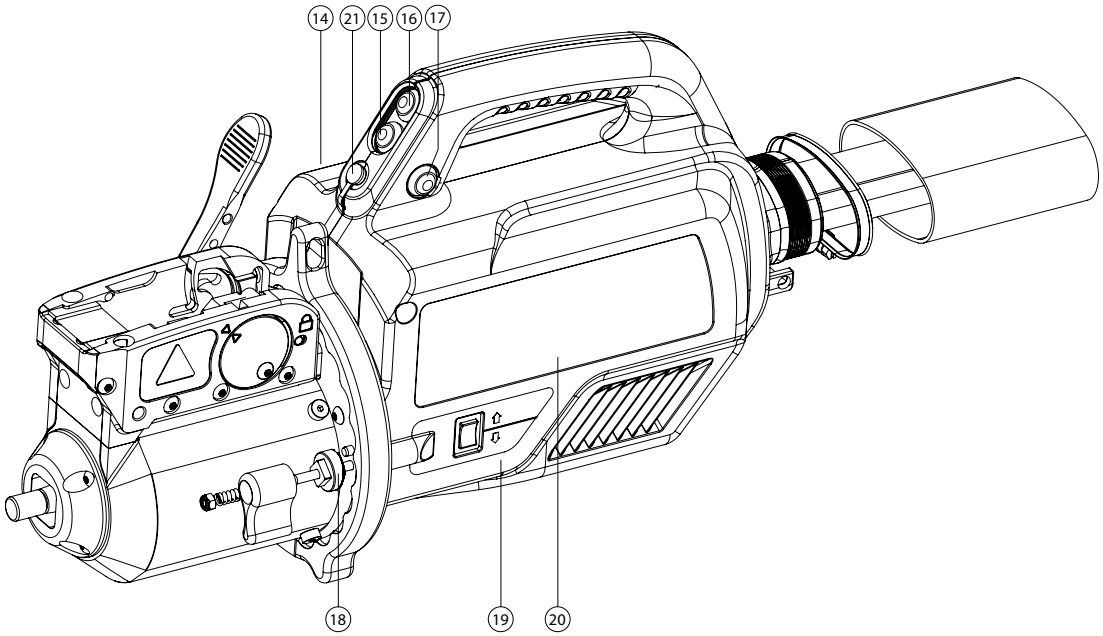
SPÉCIFICATIONS TECHNIQUES / TECHNICAL SPECIFICATIONS / TECHNISCHE DATEN / ESPECIFICACIONES TÉCNICAS

		PTI GENIUS 220 V			
Caractéristiques électriques / Electrical specifications / Elektrische Daten / Caracteristicas electricas					
Tension nominal d'alimentation / Nominal supply voltage / Eingangsspannung / Tensión nominal de alimentación	U1N	200 V	208 V	230 V	240 V
Fréquence secteur / Mains frequency / Netzfrequenz / Frecuencia	F	50 / 60 Hz			
Courant d'alimentation permanent / Permanent power supply / Dauerhafter Versorgungsstrom / Corriente de alimentación continua	Ilp	42 A			40A
Puissance à 50 % de facteur de marche / Power at 50% duty cycle / Nennleistung bei 50% ED / Potencia al 50% del ciclo de trabajo	S50	20.5 kVA	21.2 kVA	23 kVA	
Puissance permanente / Permanent stable power / Max. Dauerleistung / Energía permanente	Sp	14.5 kVA	15 kVA	16.5 kVA	
Puissance maximale instantanée / Instant peakl power / Max. Schweißleistung / Potencia máxima instantánea	Smax	83 kVA	88 kVA	96 kVA	
Tension secondaire / Secondary voltage / Sekundärspannung / Tensión secundaria	U2d	6.6 V	6.9 V	7.6 V	7.9 V
Courant maximal de court-circuit primaire permanent / Maximum current permanent primary short-circuit / Maximaler permanenter Primärkurzschlussstrom / Corriente máxima de cortocircuito primario permanente	I1cc	240 A	245 A	240 A	230 A
Courant secondaire en court-circuit / Secondary current in short-circuit / Max. Kurzschlussstrom / Corriente secundaria en cortocircuito	I2cc	12 500 A	13 000 A	14 500 A	
Courant secondaire permanent / Continuous secondary current / Max. Permanentstrom / Corriente secundaria permanente	I2p	2 200 A	2 300 A	2 500 A	
Courant maximal de soudage régulé / Maximum current regulated welding / Max. geregelter Schweißstrom / Corriente de soldadura máxima regulada		13 000 A			
Interrupteur (courbe D) / Switch (D curve) / Netzabsicherung (Kurve D) / Interruptor (curva D)		≥ 50 A			
Facteur de marche / Duty cycle / Einschaltdauer / Ciclo de trabajo		3 %			
Caractéristiques thermiques / Thermal specifications / Thermische bedingungen / Caracteristicas termicas					
Température de fonctionnement / Operating temperature / Betriebstemperatur / Temperatura de funcionamiento		+5°C → +40°C *+41°F → +104°F*			
Température de stockage / Storage temperature / Lagerungstemperatur / Temperatura de almacenaje		-25°C → +55°C *-14°F → +131°F*			
Température de stockage liquide de refroidissement / Storage temperature coolant / Lagertemperatur Kühlmittel / Temperatura de almacenamiento del refrigerante		-20°C → +55°C *-4°F → +131°F*			
Hygrométrie / Hygrometry / Max. Luftfeuchtigkeit / Higrometría — @ 40°C *(104°F)*		< 50 %			
Hygrométrie / Hygrometry / Max. Luftfeuchtigkeit / Higrometría — @ 20°C *(68°F)*		< 90 %			
Altitude / Altitude / Max. Höhenlage / Altitud		1 000 m *3800 ft*			
Protection thermique par thermistance sur le pont de diodes / Thermal protection by thermistor on the diodes bridge / Überhitzungsschutz durch Thermoastat am Gleichrichter / Protección térmica mediante termistor en el puente de diodos		70°C *158°F*			
Caractéristiques mécaniques / Mechanical specifications / Mechanische daten / Caracteristicas mecanicas					
Degré de protection / Protection level / Schutzgrad / Grado de protección		IP20			
Dimensions (Lxlxh) / Dimensions (Lxlxh) / Abmessung (LxBxH) / Dimensiones (Lxlxh)		65 x 80 x 205 cm *26 x 32 x 81 in*			
Poids / Weight / Gewicht / Peso		100 kg *220.5 lbs*			
Longueur du cordon secteur / Network cable length / Länge Netzkabel / Longitud del cable de alimentación		8 m *26 ft*			
Longueur du câble de la pince G / G clamp cable length / Kabellänge der Zange G / Longitud del cable de la pinza G		6 m *19.7 ft*			
Plage d'écartement des bras / Arm aperture dimension / Abstandsbereich der Arme / Rango de separación de los brazos	e	95 > 450 mm *3.7 to 17.7 inch*			
Plage de longueur des bras / Arm length dimension / Längebereich der Arme / Rango de longitud de los brazos	*l*	100 > 1000 mm *4 to 40 inch*			
Caractéristiques pneumatiques / Pneumatic specifications / Pneumatische merkmale / Caracteristicas pneumaticas					
Pression maximale / Maximum pressure / Maximaler Druck / Presión máxima	P1 max	10 bar *145 Psi*			
Pression minimale / Minimum pressure / Minimaler Druck / Pression minimale	P1 min	8 bar *116 Psi*			
Débit du liquide de refroidissement / Cooling liquid debit / Kühlflüssigkeitsdurchfluss / Débit du liquide de refroidissement	Q	2.3 l/min *0.6 US gpm*			
Perte de charge du fluide de refroidissement / Loss of cooling liquid / Druckverlust der Kühlflüssigkeit / Perte de charge du fluide de refroidissement	Δp	1.7 bar *24.6 Psi*			
Force minimale de soudage / Minimum welding force / Min. regulierter Anpressdruck / Force minimale de soudage / Fuerza mínima de soldadura	F_{1min}	100 daN *225 Lbf*			
Effort maximal régulé avec la pince en G / Maximum force regulated with the G clamp / Max regulierter Anpressdruck mit G-Zange / Fuerza máxima regulada con la pinza G	F_{max}	550 daN *1236 Lbf*			

PIÈCES DE RECHANGE / SPARE PARTS / ERSATZTEILE / PIEZAS DE RECAMBIO





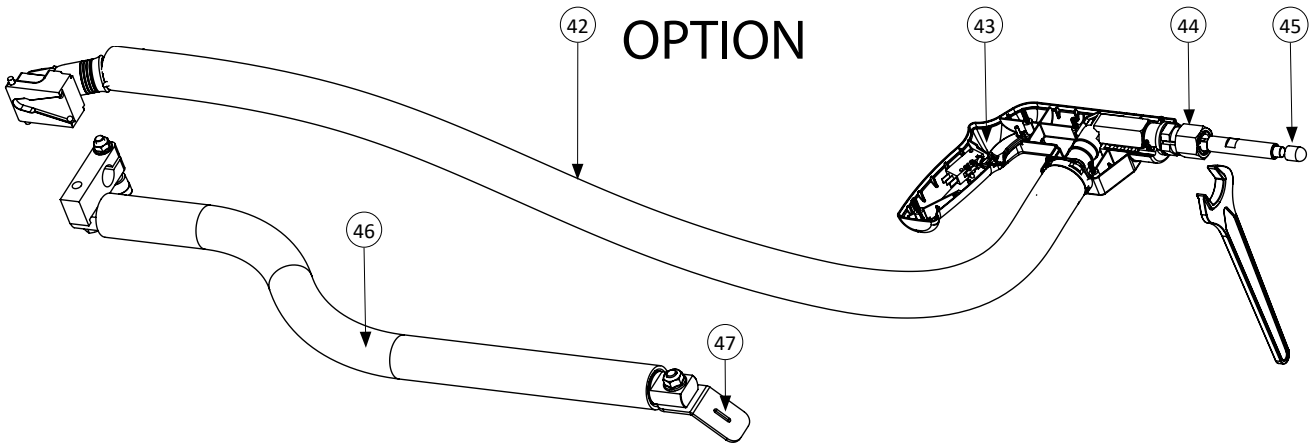


			Clamp
1	Resistance surélevée bobinée 47 ohms 5W / Raised coil resistance 47 ohms 5W / Erhöhter Spulenwiderstand 47 Ohm 5W / Resistencia de la bobina elevada 47 ohmios 5W		63137 55050 55057
2	Circuit mesure température primaire transfo PTI-G / Primary temperature measuring circuit PTI-G transformer / Primärtemperatur-Messkreis PTI-G-Transformator / Circuito de medición de la temperatura del primario Transformador PTI-G		SE0055C
3	Socle interchangeable connexion bras pince G / Interchangeable base with clamp arm connection G / Austauschbare Basis für G-Klemmarmanschluss / Base intercambiable para la conexión del brazo de la pinza G		90976
4	Joint torique 13x1 FKM VERT- 70SHORE / O-ring seal 13x1 FKM GREEN- 70SHORE / O-Ring 13x1 FKM GRÜN-70SHORE / Junta tórica 13x1 FKM VERDE- 70SHORE		55227
5	Joint torique 7x1 NBR 70SH / O-ring 7x1 NBR 70SH / O-Ring 7x1 NBR 70SH / Junta tórica 7x1 NBR 70SH		71125
6	Joint torique 10x2 NBR 70SH / O-ring 10x2 NBR 70SH / O-Ring 10x2 NBR 70SH / Junta tórica 10x2 NBR 70SH		55179
7	Protection raccord connecteur pince G / Protection for connector-clamp connection G / Schutz für G-Clamp-Verbindungsstück / Protección para el racor de la abrazadera G		56278
8	Shunt pince PTI G IND B / Shunt clamp PTI G IND B / Nebenschlussklemme PTI G IND B / Pinza de derivación PTI G IND B		77096 x 2
9	Tuyau coupé 71859 / 220mm / Cut pipe 71859 / 220mm / Rohr schneiden 71859 / 220mm / Tubo cortado 71859 / 220mm		F0116
10	Potentiomètre linéaire 3.4Kohm / Linear potentiometer 3.4Kohm / Lineares Potentiometer 3,4Kohm / Potenciómetro lineal 3,4Kohm		63090
11	Gaine tissée de Protection - Diam=57mm - Rlx de 50m / Protective woven sheath - Diam=57mm - Rlx of 50m / Gewebter Schutzmantel - Durchm=57mm - Rlx von 50m / Funda protectora tejida - Diam=57mm - Rlx de 50m		11251
12	Collier de serrage à vis 40-60 / Screw clamp 40-60 / Schraubzwinge 40-60 / Abrazadera de tornillo 40-60 /		71195
13	Cable de puissance / Power cable / Netzkabel / Cable de alimentación		S92051
14	Coque B - PTI-G / Hull B - PTI-G / Rumpf B - PTI-G / Casco B - PTI-G	*Si fabrication avant 06/2022* *If manufactured before 06/2022*	56248 + J0112
		Si fabrication pendant 06/2022 *If manufactured during 06/2022*	*Consulter SAV* *Consult SAV*
		Si fabrication après 06/2022 *If manufactured after 06/2022*	56248
15 16	Bouton poussoir rond noir IP67 / Black round pushbutton IP67 / Schwarzer runder Taster IP67 / Pulsador redondo negro IP67		51381 x 2
17	Bouton poussoir rond lumineux / Illuminated round push button / Beleuchteter runder Taster / Pulsador redondo iluminado		51408
18	Verrou Gyro Pince G / Bolt Gyro Pliers G / Schraube Gyro-Klemme G / Perno Abrazadera giroscópica G		93841
19	Coque A - PTI-G / Hull A - PTI-G / Rumpf A - PTI-G / Casco A - PTI-G	*Si fabrication avant 06/2022* *If manufactured before 06/2022*	56247 + J0112
		Si fabrication pendant 06/2022 *If manufactured during 06/2022*	*Consulter SAV* *Consult SAV*
		Si fabrication après 06/2022 *If manufactured after 06/2022*	56247
20	Sticker Latéral - Coque Pince PTI G - TRAFO GUN / Lateral Sticker - PTI G clip shell - TRAFO GUN / Seitlicher Aufkleber - PTI G Clamp Shell - TRAFO GUN / Pegatina lateral - PTI G Clamp Shell - TRAFO GUN		75729
21	Prise jack mono femelle 6.35mm & Bouchon anti-poussière pour connecteur jack 6.35 / 6.35mm mono female jack plug & Dust cap for 6.35mm jack connector / 6,35-mm-Mono-Klinkenbuchse & Staubkappe für 6,35-Klinkenstecker / Clavija hembra mono de 6,35 mm y tapa antipolvo para conector jack de 6,35		71251 & 43296
-	Diode de puissance / Power diode / Leistungsdiode / Diodo de potencia		52148 x 2
-	Pince PTI-G 220V / PTI-G 220V clamp / Zange PTI-G 220V / Pinza PTI-G 220V	*Si fabrication avant 06/2022* *If manufactured before 06/2022*	S81119
		Si fabrication pendant 06/2022 *If manufactured during 06/2022*	Consult SAV
		Si fabrication après 06/2022 *If manufactured after 06/2022*	S81132
-	Faisceau + Pince PTI-G 220V / Bundle + Clamp PTI-G 220V / Kabelbaum + Zange PTI-G 220V / Viga + Pinza PTI-G 220V	*Si fabrication avant 06/2022* *If manufactured before 06/2022*	S81120
		Si fabrication pendant 06/2022 *If manufactured during 06/2022*	Consult SAV
		Si fabrication après 06/2022 *If manufactured after 06/2022*	S81129

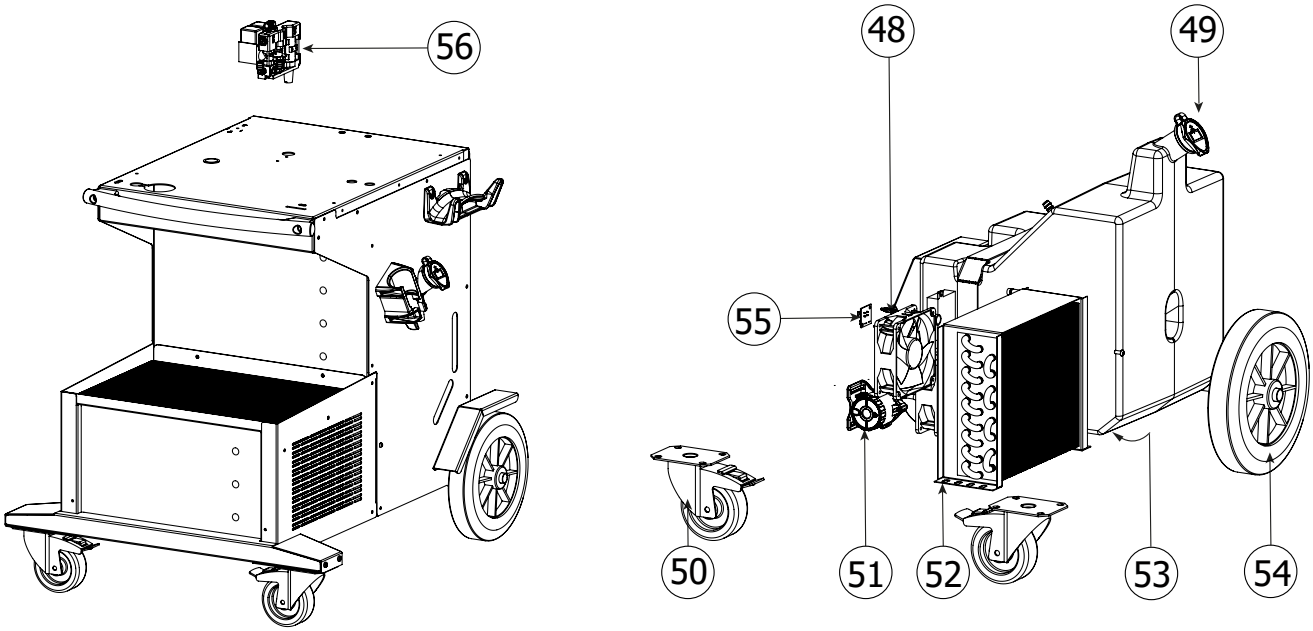
BRAS G /G ARM

Accéder à la liste des pièces détachées des bras :
Depuis la page produit SAV : 063419 - Bras G
En cliquant sur le lien : Nomenclature Bras G
En scannant le QR-Code :

Access the arms spare parts list :
From the After-Sales Service product page : 063419 - G Arm
By clicking on the link : G arms spare parts
By scanning the QR-Code :



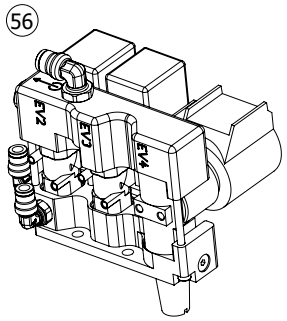
KIT (067226)		Gun
42	Cable pistolet PTI GENIUS / Gun cable PTI GENIUS / Pistolenkabel PTI GENIUS / Cable de la pistola PTI GENIUS	A0071
43	Switch pistolet 0.1A 125VAC / Pistol switch 0.1A 125VAC / Pistolenschalter 0,1A 125VAC / Interruptor de pistola 0,1A 125VAC	77053
44	Ecrou pour mandrin gyspot / Nut for gyspot chuck / Mutter für Gyspot-Futter / Tuerca para mandril gyspot	51198
45	Caps type F / Kappen Typ F / Tapas tipo F	77028
46	Cable masse PTI GENIUS / Ground cable PTI GENIUS / Erdungskabel PTI GENIUS / Cable de tierra PTI GENIUS	A0070
47	Plaque Cuivre masse / Copper ground plate / Grundplatte aus Kupfer / Placa de tierra de cobre	91197

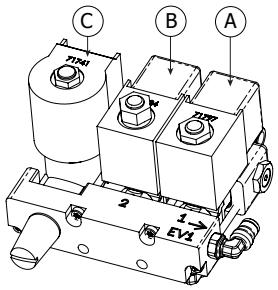


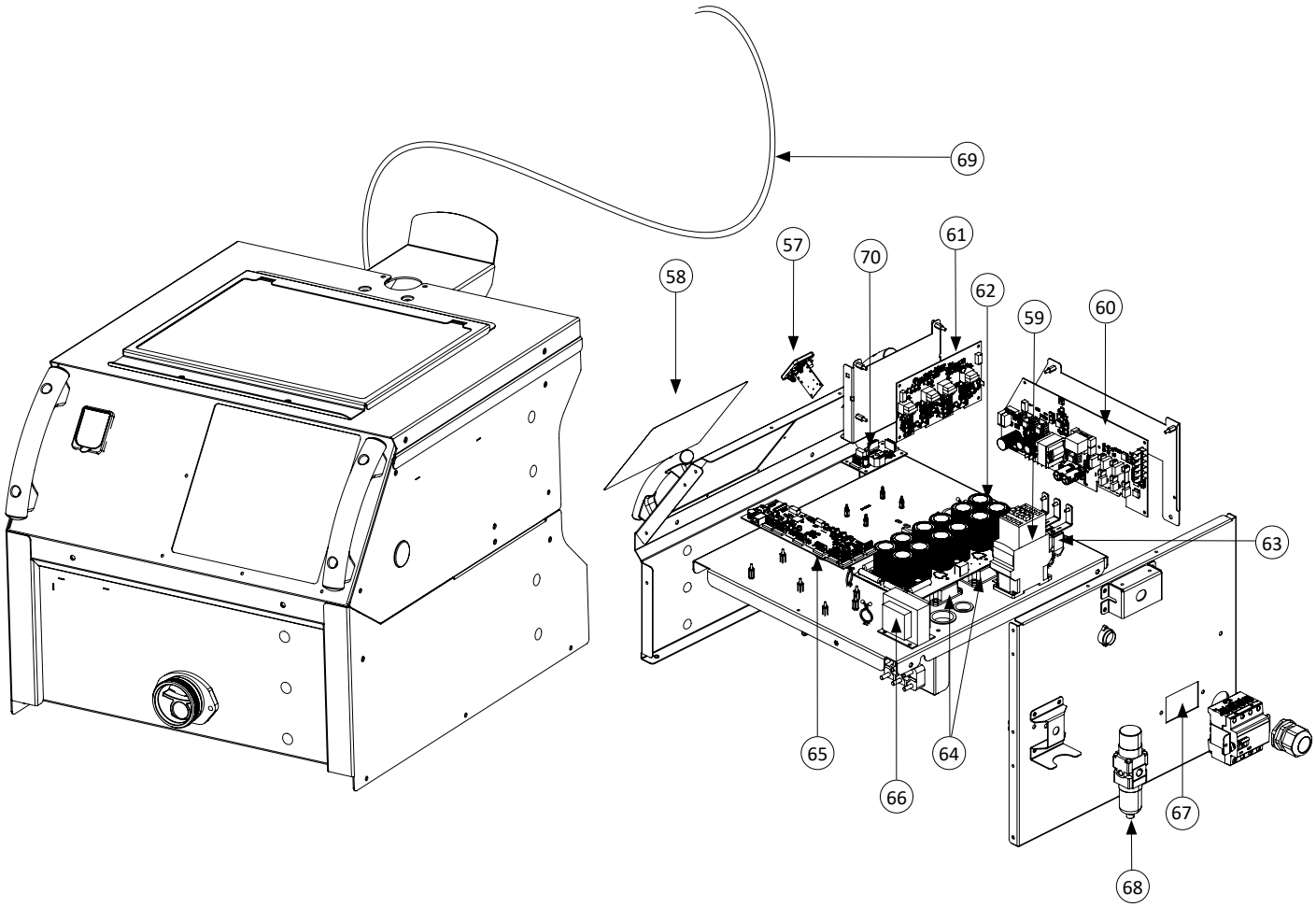
		PTI
48	Ventilateur 24 V / Fan 24 V / 24 V Lüfter / Ventilador de 24 V	51021 x 2
49	Bouchon de remplissage Ø40 / Filling plug Ø40 / Einfüllstopfen Ø40 / Tapón de llenado Ø40	71299
50	Roue pivotante / Rotating wheel / Lenkrolle / Rueda giratoria	71362 x 2
51	Pompe Centrifuge Brushless 10Lit/mn - 24VDC - 80W / Brushless Centrifugal Pump 10Lit/mn - 24VDC - 80W / Bürstenlose Zentrifugalpumpe 10Lit/mn - 24VDC - 80W / Bomba centrífuga sin escobillas 10Lit/mn - 24VDC - 80W	71876

52	Radiateur à eau 240x225x60 - 1.2Kw/h / Water radiator 240x225x60 - 1.2Kw/h / Wasserheizkörper 240x225x60 - 1,2Kw/h / Radiador de agua 240x225x60 - 1,2Kw/h	71750
53	Bouchon de vidange / Drain plug / Ablassschraube / Tapón de drenaje	56262
54	Roue Ø 250 / Wheel Ø 250 / Rad Ø 250 / Rueda Ø 250	71376 x 2
55	Circuit Connexion ventilateurs / Circuit Fans connection / Stromkreis Ventilatoranschluss / Circuito Conexión de los ventiladores	E0058C

56	Bloc électrovanne / Solenoid valve assembly / Magnetventil-Block / Bloque electroválvula			S81118
	Electrovannes / Solenoid valves / Magnetventile / Electroválvulas :	Ⓐ	EV2	71797
		Ⓑ	EV3	71824
		Ⓒ	EV4	71741







		PTI GENIUS
57	Circuit carte SD / SD card circuit / SD-Karten-Schaltung / Circuito de la tarjeta SD	97028C
	Nappe 10pts 40cm / Tablecloth 10pts 40cm / Tischtuch 10pts 40cm / Mantel 10pts 40cm	53095
58	Clavier / Keyboard / Tastatur / Teclado	51968
	Afficheur LCD / LCD display / LCD-Anzeige / Pantalla LCD	51905
59	Contacteur de puissance / Power contactor / Leistungsschütz / Contactor de potencia	51131
60	Circuit d'alimentation PTI-G 220 / Power supply circuit PTI-G 220 / Stromversorgungsschaltung PTI-G 220 / Circuito de alimentación PTI-G 220	E0006C
	Fusible temporisé 2A / Time-delay fuse 2A / Zeitträge Sicherung 2A / Fusible temporizado 2A	51363 x 3
	Nappe 10pts 25cm / Tablecloth 10pts 25cm / Tischtuch 10pts 25cm / Mantel 10pts 25cm	53100

61	Circuit driver PTI-G / PTI-G driver circuit / PTI-G-Treiberschaltung / Circuito conductor PTI-G	E0005C
	Nappe 10pts 20cm / Tablecloth 10pts 20cm / Tischtuch 10pts 20cm / Mantel 10pts 20cm	53092
62	Circuit condensateur PTI-G 220 / Capacitor circuit PTI-G 220 / Kondensatorschaltung PTI-G 220 / Circuito de condensadores PTI-G 220	E0002C
	Fusible 5A / Fuse 5A / Sicherung 5A / Fusible 5A	51409
63	Pont de diode triphasé / Three-phase diode bridge / Dreiphasige Diodenbrücke / Puente de diodos trifásico	52195
64	Module IGBT / IGBT module / IGBT-Modul / Módulo IGBT	52200 x 2
65	Circuit commande PTI-G 220 / Control circuit PTI-G 220 / Steuerkreis PTI-G 220 / Circuito de control PTI-G 220	E0008C
66	Transformateur de courant / Current transformer / Stromwandler / Transformador de corriente	96019
67	Interrupteur différentiel 40 A 30 mA / Differential switch 40 A 30 mA / Differenzialschalter 40 A 30 mA / Interruptor diferencial 40 A 30 mA	52351
68	Filtre régulateur air / Air regulator filter / Luftregulierungsfilter / Filtro regulador de aire	71729
69	Cordon d'alimentation / Power supply cable / Netzleitung / Cable de alimentación / Кабель массы / Voedingskabel / Cavo d'alimentazione	A0018
70	Circuit commande à distance potence / Remote stem control circuit / Fernsteuerungsschaltung des Vorbaus / Circuito de control remoto para el vástago / Схема дистанционного управления штоком / Afstandsbedieningscircuit voor de stuurpen / Circuito di controllo remoto per lo stelo	E0119C

SCHÉMAS ÉLECTRIQUE / CIRCUIT DIAGRAM / SCHALTPLÄNE / ESQUEMAS ELÉCTRICOS

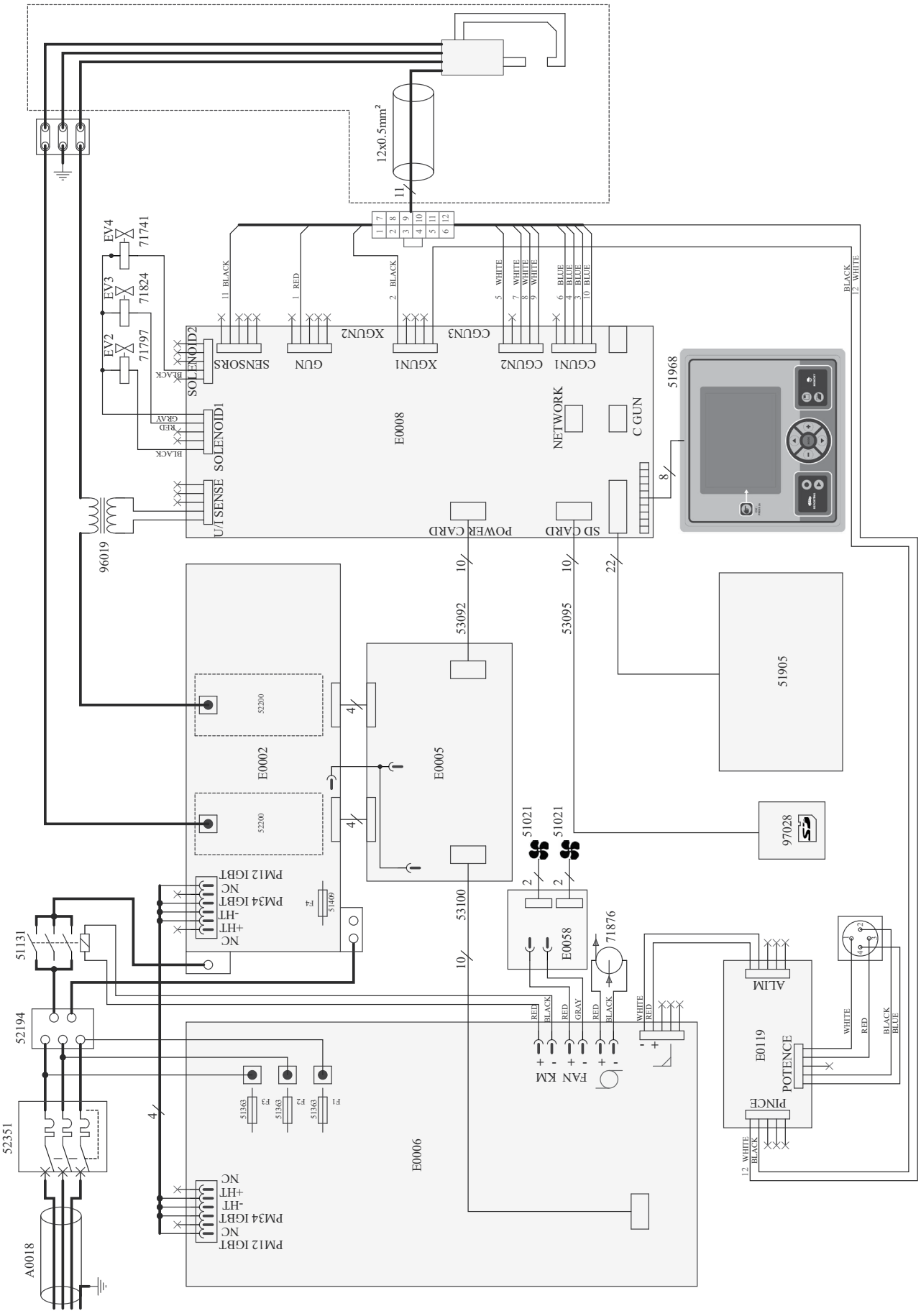


SCHÉMA FAISCEAUX / CABLE ASSEMBLY SCHEMATICS / SCHLAUCHPAKET SCHALTPLAN / ESQUEMA CABLEADO

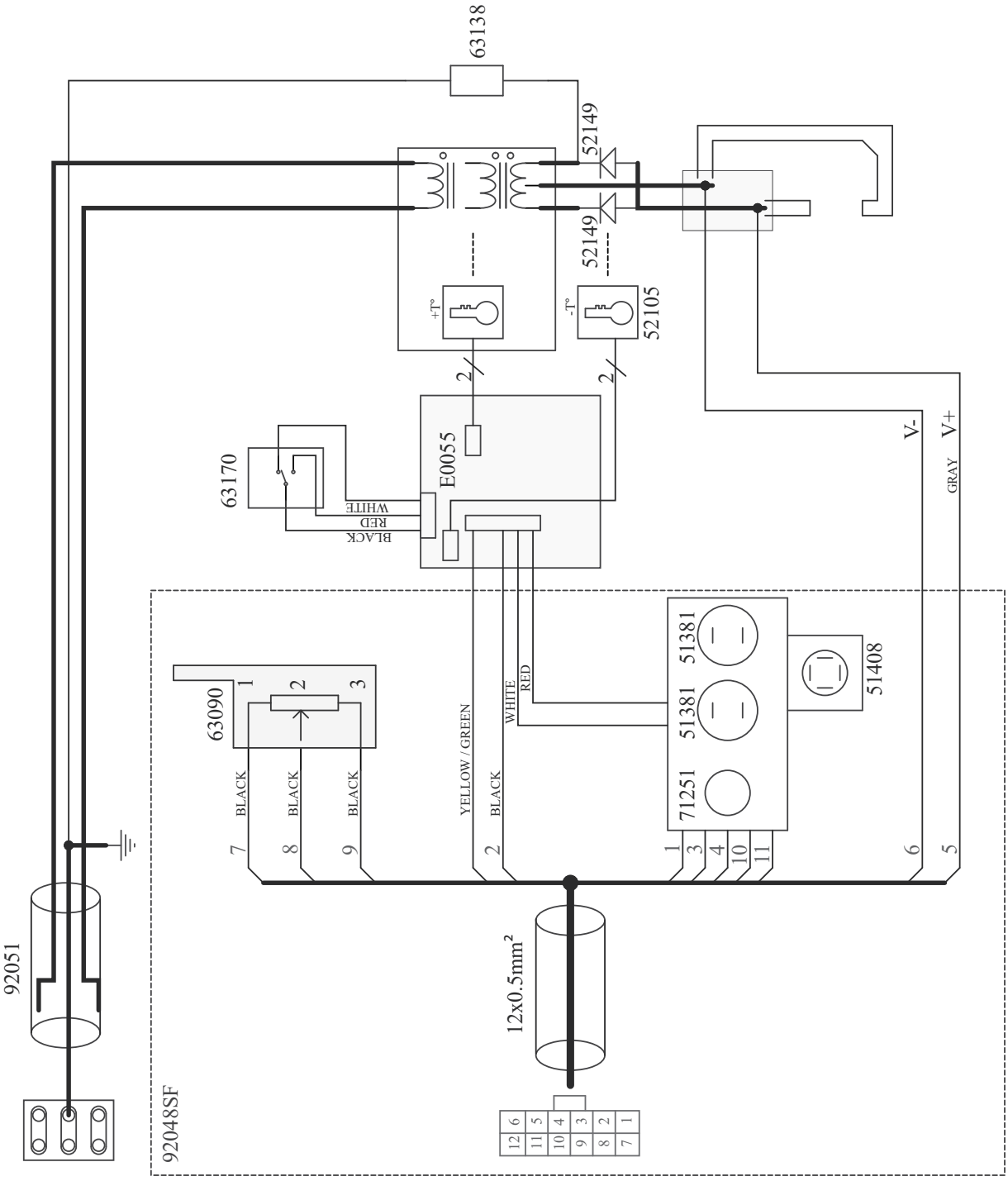


SCHÉMA PNEUMATIQUE / PNEUMATIC SCHEMATICS / PNEUMATISCHER SCHALTPLAN / ESQUEMA NEUMÁTICO

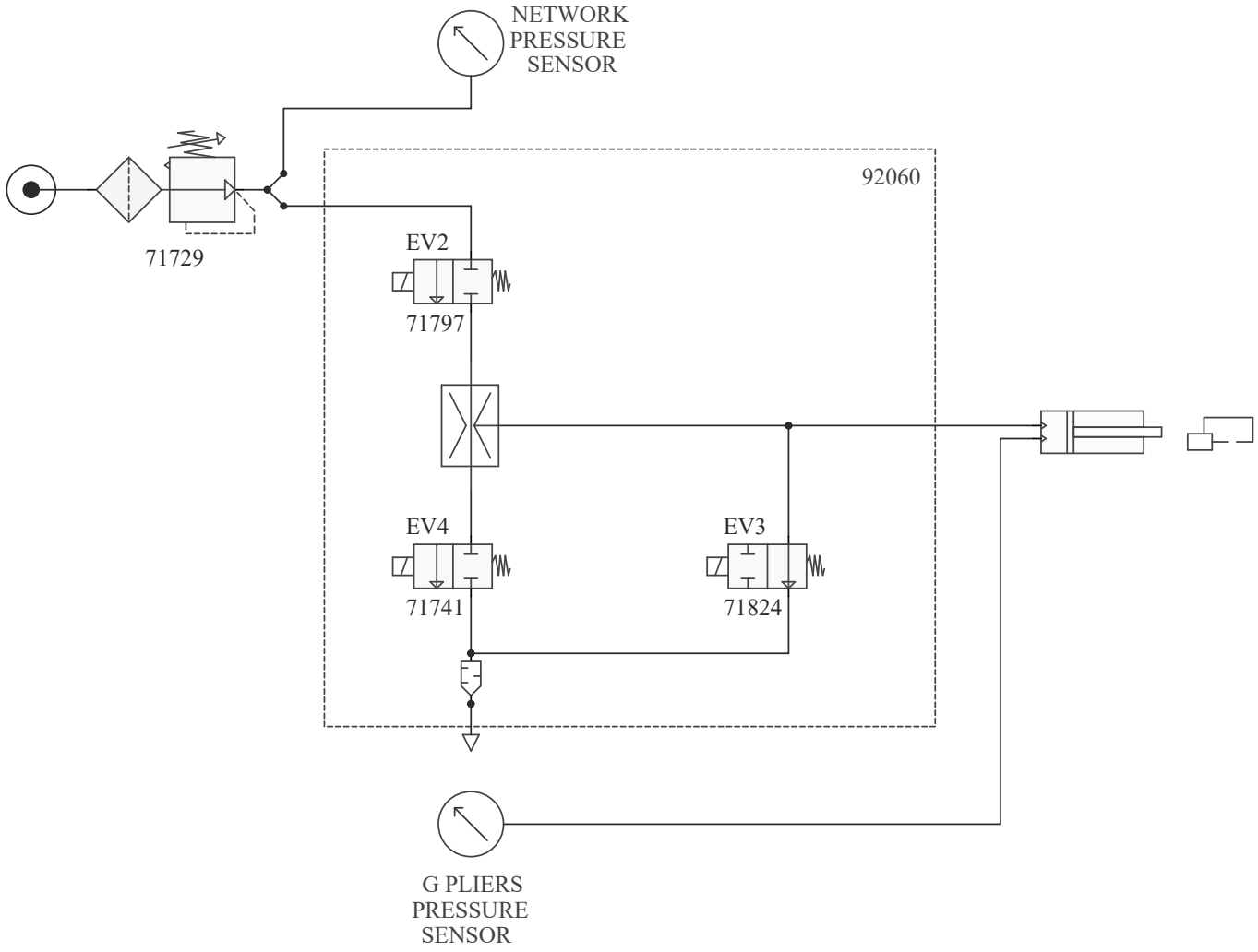
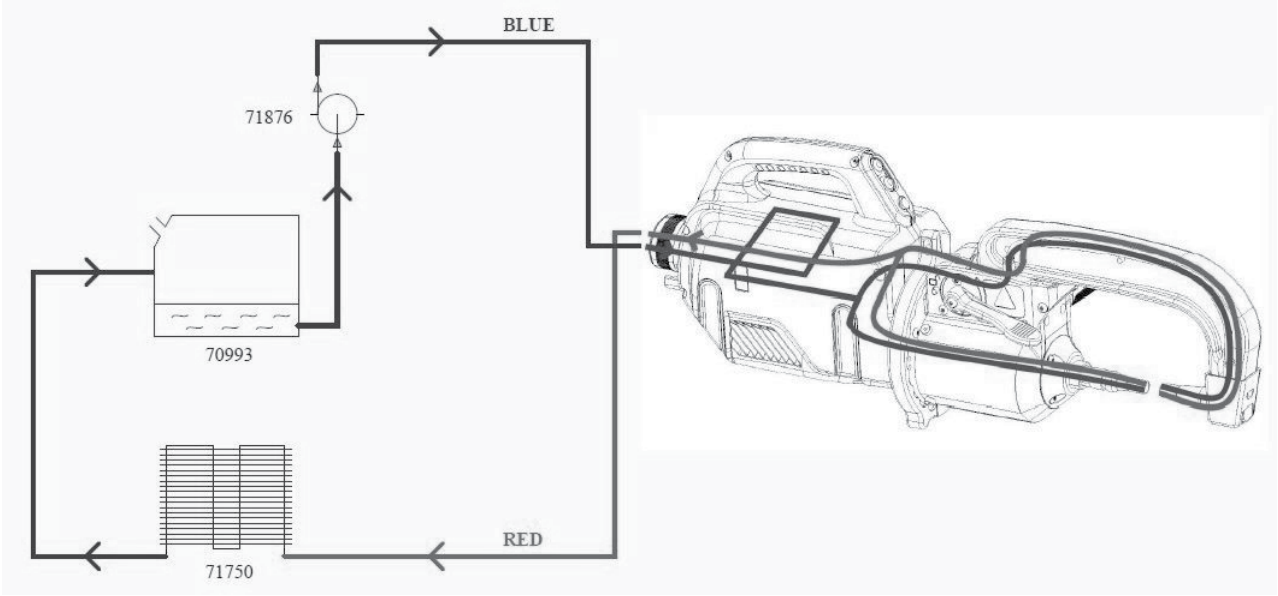


SCHÉMA HYDRAULIQUE / HYDRAULIC SCHEMATICS / HYDRAULISCHER SCHALTPLAN / ESQUEMA HIDRÁULICO



ICONOS / SYMBOLS / ZEICHENERKLÄRUNG / ICONOS

	- Attention ! Lire le manuel d'instruction avant utilisation. - Warning ! Read the instructions manual before use. - Внимание! Прочтите инструкцию перед использованием - ¡Cuidado! Lea el manual de instrucciones antes de su uso. - Let op! Lees voor gebruik aandachtig de gebruiksaanwijzing door. - Attenzione! Leggere il manuale d'istruzioni prima dell'uso.
	Courant de soudage continu - Direct welding current - Gleichschweißstrom - Corriente de soldadura continua. - Постоянный сварочный ток - Gelijkstroom
A	Ampères - Amperes - Ampere - Amperios - Амперы - Ampère - Amper - Ampère
V	Volt - Volt - Volt - Voltio - Вольт - Volt
Hz	Hertz
3 ~	- Alimentation électrique triphasée 50 ou 60Hz. - Three-phase power supply 50 or 60Hz - Dreiphasige Netzversorgung mit 50 oder 60 Hz - Alimentación eléctrica trifásica 50 o 60Hz - Трехфазное электропитание 50 или 60Гц - Driefasen elektrische voeding 50 of 60Hz - Alimentazione elettrica trifase 50 o 60Hz.
U 1N	- Tension d'alimentation assignée - Instructed supply voltage - Versorgungsspannung - Tensión de alimentación asignada - Номинальное напряжение питания - Nominale voedingsspanning
S P	- Puissance permanente (au facteur de marche de 100%) - Permanent power (at a 100% duty cycle) - Dauerleistung (Einschaltdauer @100%) - Potencia permanente (al ciclo de trabajo de 100%) - Постоянная мощность (при ПВ 100%) - Permanent vermogen (bij een inschakelduur van 100%)
S 50	- Puissance à 50% de facteur de marche - Power at 50% duty cycle - Leistung bei Einschaltdauer @ 50% - Potencia al 50 % del ciclo de trabajo - Мощность при ПВ 50 % - Vermogen bij 50% van de inschakelduur.
U 2d	- Tension continue à vide - Continued no load voltage - Leerlaufspannung - Tensión continua en vacío - Постоянное напряжение холостого хода - DC nullastspanning
I 2 CC	- Courant maximal de court-circuit secondaire - Maximal current of a secondary short circuit - Maximaler, sekundärseitiger Kurzschlussstrom - Corriente máxima de cortocircuito secundario - Максимальный ток короткого замыкания на вторичке - Secondaire maximale kortsluitingsstroomsterkte
I 2 P	- Courant permanent au secondaire - Permanent current to secondary - Sekundärseitiger Dauerstrom - Corriente permanente en el secundario - Постоянный ток на вторичке - Permanente secondaire stroom
e	- Plage d'écartement des bras - Arm aperture dimension - Abstandsbereich der Arme - Rango de separación de los brazos - Расстояние разжимания между электродами плеча - Spreidingsbereik armen
l	- Plage de longueur des bras - Arm length dimension - Längenbereich der Arme - Zona de longitud de brazos - Пределы длины плеч - Lengtebereik armen
F max	- Force maximale de soudage - Maximum welding force - Maximale Schweißkraft - Fuerza máxima de soldadura - Максимальная сила сварки - Maximale laskracht
P1 min	- Pression d'alimentation minimale - Minimum input pressure - Minimaler Versorgungsdruck - Presión mínima de alimentación - Минимальное давление подачи - Minimale voedingsdruk
P1 max	- Pression d'alimentation maximale - Maximum input pressure - Maximaler Versorgungsdruck - Presión máxima de alimentación - Максимальное давление подачи - Maximale voedingsdruk
Q	- Débit assigné du fluide de refroidissement - Cooling liquid debit instructed - Nominaler Kühlflüssigkeitsdurchfluss - Caudal asignado del fluido de refrigeración - Номинальный расход охлаждающей жидкости - Nominale toevoer koelvloeistof
Δp	- Perte de charge assignée du fluide de refroidissement - Loss of charge of the cooling liquid instructed - Nominaler Druckverlust der Kühlflüssigkeit<s - Pérdida de carga asignada del fluido de refrigeración - Номинальная потеря зарядки охлаждающей жидкости - Nominaal verlies koelvloeistof
m	- Masse de la machine - Mass of the machine - Gewicht des Geräts - Masa de la máquina - Масса аппарата - Gewicht van het apparaat
	- Groupe froid - Cooling unit - Kühleinheit - Grupo de refrigeración - Система охлаждения - Koelgroep
	Sortie d'eau - Water outlet - Kühlmittelausgang - Salida de agua - Выход жидкости - Uitgang water
	Entrée d'eau - Water inlet - Kühlmitteleingang - Entrada de agua - Вход жидкости - Ingang water
MAXI	Niveau maximum d'eau - Maximum water level - Maximaler Kühlmittelstand - Nivel máximo de agua - Максимальный уровень жидкости - Maximale waterniveau
MINI	Niveau minimum d'eau - Minimum water level - Minimaler Kühlmittelstand - Nivel mínimo de agua - Минимальный уровень жидкости - Minimale waterniveau
	Les porteurs de pacemaker ne doivent pas rester à proximité de cet appareil. / People wearing pacemakers are advised to not come close to the machine. / Personen mit Herzschrittmacher müssen nicht in der Nähe dieser Produket bleiben. / Personas utilizando estimuladores cardiacos no deben dejar cerca de este aparato. / Dragers van een pacemaker mogen niet in de buurt van het apparaat verblijven. / Os pcesos de pacemaker naõ podem ficar em proximidade do appareillo. / Лица, использующие электрокардиостимуляторы, не должны находиться вблизи данного аппарата.
	Attention ! Champ magnétique important. Les personnes porteuses d'implants actifs ou passifs doivent êtres informées. - Warning! Major magnetic field. Persons with active or passive implants must be informed.- - Achtung! Starkes Magnetfeld. Personen, die aktive oder passive Implantate tragen, müssen informiert werden. - ¡Atención! Campo magnético importante. Las personas que lleven implantes pasivos o activos deben informarse. - Let op! Sterk magnetisch veld. Dragers van actieve of passieve implantaten moeten worden geïnformeerd.- Внимание! Сильное магнитное поле. Лица, имеющие активные или пассивные имплантаты должны быть информированы.

	Ne pas utiliser l'appareil en plein air. Ne pas utiliser l'appareil sous des projections d'eau. - Do not use the machine in the open air. Do not project water onto the machine. - Gerät nicht in Außenbereichen verwenden. Gerät nicht ohne Schutz gegen Nässe verwenden. - No utilice la herramienta al aire libre. No utilice el aparato bajo proyecciones de agua. - Gebruik het apparaat niet in de open lucht. Het apparaat niet gebruiken onder spattend water. - Не используйте аппарат на улице. Не используйте аппарат под брызгами воды.
CE	- Matériel conforme aux directives européennes. La déclaration UE de conformité est disponible sur notre site (voir à la page de couverture). - Device complies with Europeans directives. The EU Declaration of Conformity is available on our website (see cover page). - Die Geräte entsprechen die europäischen Richtlinien. Die Konformitätserklärung finden Sie auf unsere Webseite. - Aparato conforme a las directivas europeas. La declaración de conformidad UE está disponible en nuestra página web (dirección en la portada). - Устройство соответствует директивам Евросоюза. Декларация UE о соответствии доступна для просмотра на нашем сайте (ссылка на обложке). - Apparaat in overeenstemming met de Europese richtlijnen. De E.U. verklaring van overeenstemming kunt u downloaden op onze website (adres vermeld op de omslag). - Dispositivo conforme alle direttive europee La dichiarazione UE di conformità è disponibile sul nostro sito internet (vedere alla pagina di copertina).
	- Matériel conforme aux normes Marocaines. La déclaration C‌م) CMIM) de conformité est disponible sur notre site (voir à la page de couverture). - Equipment in conformity with Moroccan standards. The declaration C‌م) CMIM) of conformity is available on our website (see cover page). - Das Gerät entspricht die marokkanischen Standards. Die Konformitätserklärung C‌م) CMIM) ist auf unserer Webseite verfügbar (siehe Titelseite). - Equipamiento conforme a las normas marroquíes. La declaración de conformidad C‌م) CMIM) está disponible en nuestra página web (ver página de portada). - Товар соответствует нормам Марокко. Декларация C‌م) CMIM) доступна для скачивания на нашем сайте (см на титульной странице). - Dit materiaal voldoet aan de Marokkaanse normen. De verklaring C‌م) CMIM) van overeenstemming is beschikbaar op onze internet site (vermeld op de omslag). - Materiale conforme alle normative marocchine. La dichiarazione C‌م) CMIM) di conformità è disponibile sul nostro sito (vedi scheda del prodotto)
IEC 62135-1 ISO 669:2016	La source de courant de soudage est conforme aux normes IEC62135-1 et EN ISO 669. - This welding machine is compliant with standard IEC62135-1 et EN ISO 669. - Das Gerät entspricht der Norm IEC62135-1 und EN ISO 669 für Schweißgeräte. - La fuente de corriente de soldadura es conforme a las normas IEC62135-1 y EN ISO 669. - Источник сварочного тока отвечает нормам IEC62135-1 и EN ISO 669. - De lasstroombron is in overeenstemming met de normen IEC62135-1 en EN ISO 669.
	L'appareil respecte la directive 2013/35/UE. - The machine is compliant with standard 2013/35/EU. - Das Gerät entspricht der Richtlinie 2013/35/UE. - El aparato se ajusta a la Directiva 2013/35/UE. - Аппарат отвечает директиве 2013/35/UE. - Het apparaat voldoet aan de richtlijn 2013/35/UE.
	- Ce matériel fait l'objet d'une collecte sélective selon la directive européenne 2012/19/UE. Ne pas jeter dans une poubelle domestique ! - This hardware is subject to waste collection according to the European directives 2002/96/UE. Do not throw away in a household bin! - Für die Entsorgung Ihres Gerätes gelten besondere Bestimmungen (sondermüll) gemäß europäische Bestimmung 2012/19/EU. Es darf nicht mit dem Hausmüll entsorgt werden. - Este material requiere una recogida de basuras selectiva según la directiva europea 2012/19/UE. ¡No tirar este producto a la basura doméstica! - Это оборудование подлежит переработке согласно директиве Евросоюза 2012/19/UE. Не выбрасывать в общий мусоросборник! - Afzonderlijke inzameling vereist volgens de Europese richtlijn 2012/19/UE. Gooi het apparaat niet bij het huishoudelijk afval ! - Questo dispositivo è oggetto di raccolta differenziata secondo la direttiva europea 2012/19/UE. Non smaltire con i rifiuti domestici.
	- Produit recyclable qui relève d'une consigne de tri. - This product should be recycled appropriately - Recyclingprodukt, das gesondert entsorgt werden muss. - Producto reciclable que requiere una separación determinada. - Этот аппарат подлежит утилизации. - Product recyclebaar, niet bij het huishoudelijk afval gooien. - Prodotto riciclabile soggetto a raccolta differenziata.
EAC	- Marque de conformité EAC (Communauté économique Eurasienne). - EAEC Conformity marking (Eurasian Economic Community). - EAC-Konformitätszeichen (Eurasische Wirtschaftsgemeinschaft) - Marca de conformidad EAC (Comunidad económica euroasiática). - Знак соответствия EAC (Евразийское экономическое сообщество). - EAC (Euraziatische Economische Gemeenschap) merkteken van overeenstemming - Marchio di conformità EAC (Comunità economica Eurasiatica).
UK CA	- Matériel conforme aux exigences britanniques. La déclaration de conformité britannique est disponible sur notre site (voir à la page de couverture). - Equipment in compliance with British requirements. The British Declaration of Conformity is available on our website (see home page). - Das Gerät entspricht den britischen Richtlinien und Normen. Die Konformitätserklärung für Grossbritannien ist auf unserer Internetseite verfügbar (siehe Titelseite). - Equipo conforme a los requisitos británicos. La Declaración de Conformidad Británica está disponible en nuestra página web (véase la portada). - Материал соответствует требованиям Великобритании. Заявление о соответствии для Великобритании доступно на нашем веб-сайте (см. главную страницу). - Materiaal conform aan de Britse eisen. De Britse verklaring van overeenkomt is beschikbaar op onze website (zie omslagpagina). - Materiale conforme alla esigenze britanniche. La dichiarazione di conformità britannica è disponibile sul nostro sito (vedere pagina di copertina).
	- Information sur la température (protection thermique). - Temperature information (thermal protection) - Information zur Temperatur (Thermoschutz) - Información sobre la temperatura (protección térmica) - Информация по температуре (термозащита). - Informatie over de temperatuur (thermische beveiliging). - Informazioni sulla temperatura (protezione termica).

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