



EN

Transport systems

Trolley 35.2-2

099-008296-EW501

Observe additional system documents!

23.02.2021

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General instructions

WARNING



Read the operating instructions!

The operating instructions provide an introduction to the safe use of the products.

- Read and observe the operating instructions for all system components, especially the safety instructions and warning notices!
- Observe the accident prevention regulations and any regional regulations!
- The operating instructions must be kept at the location where the machine is operated.
- Safety and warning labels on the machine indicate any possible risks. Keep these labels clean and legible at all times.
- The machine has been constructed to state-of-the-art standards in line with any applicable regulations and industrial standards. Only trained personnel may operate, service and repair the machine.
- Technical changes due to further development in machine technology may lead to a differing welding behaviour.

In the event of queries on installation, commissioning, operation or special conditions at the installation site, or on usage, please contact your sales partner or our customer service department on +49 2680 181-0.

A list of authorised sales partners can be found at www.ewm-group.com/en/specialist-dealers.

Liability relating to the operation of this equipment is restricted solely to the function of the equipment. No other form of liability, regardless of type, shall be accepted. This exclusion of liability shall be deemed accepted by the user on commissioning the equipment.

The manufacturer is unable to monitor whether or not these instructions or the conditions and methods are observed during installation, operation, usage and maintenance of the equipment.

An incorrectly performed installation can result in material damage and injure persons as a result. For this reason, we do not accept any responsibility or liability for losses, damages or costs arising from incorrect installation, improper operation or incorrect usage and maintenance or any actions connected to this in any way.

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Dr. Günter-Henle-Strasse 8
56271 Mündersbach Germany
Tel.: +49 2680 181-0, Fax: -244
Email: info@ewm-group.com
www.ewm-group.com

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The content of this document has been prepared and reviewed with all reasonable care. The information provided is subject to change; errors excepted.

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2 For your safety

2.1 Notes on using these operating instructions

DANGER

Working or operating procedures which must be closely observed to prevent imminent serious and even fatal injuries.

- Safety notes include the "DANGER" keyword in the heading with a general warning symbol.
- The hazard is also highlighted using a symbol on the edge of the page.

WARNING

Working or operating procedures which must be closely observed to prevent serious and even fatal injuries.

- Safety notes include the "WARNING" keyword in the heading with a general warning symbol.
- The hazard is also highlighted using a symbol in the page margin.

CAUTION

Working or operating procedures which must be closely observed to prevent possible minor personal injury.

- The safety information includes the "CAUTION" keyword in its heading with a general warning symbol.
- The risk is explained using a symbol on the edge of the page.



Technical aspects which the user must observe to avoid material or equipment damage.

Instructions and lists detailing step-by-step actions for given situations can be recognised via bullet points, e.g.:

- Insert the welding current lead socket into the relevant socket and lock.

2.2 Explanation of icons

Symbol	Description	Symbol	Description
	Indicates technical aspects which the user must observe.		Activate and release / Tap / Tip
	Switch off machine		Release
	Switch on machine		Press and hold
			Switch
	Incorrect / Invalid		Turn
	Correct / Valid		Numerical value – adjustable
	Input		Signal light lights up in green
	Navigation		Signal light flashes green
	Output		Signal light lights up in red
	Time representation (e.g.: wait 4 s / actuate)		Signal light flashes red
	Interruption in the menu display (other setting options possible)		
	Tool not required/do not use		
	Tool required/use		

2.3 Safety instructions

WARNING



Risk of accidents due to non-compliance with the safety instructions!

Non-compliance with the safety instructions can be fatal!

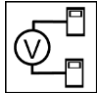
- Carefully read the safety instructions in this manual!
- Observe the accident prevention regulations and any regional regulations!
- Inform persons in the working area that they must comply with the regulations!



Risk of injury from electrical voltage!

Voltages can cause potentially fatal electric shocks and burns on contact. Even low voltages can cause a shock and lead to accidents.

- Never touch live components such as welding current sockets or stick, tungsten or wire electrodes!
- Always place torches and electrode holders on an insulated surface!
- Wear the full personal protective equipment (depending on the application)!
- The machine may only be opened by qualified personnel!
- The device must not be used to defrost pipes!



Hazard when interconnecting multiple power sources!

If a number of power sources are to be connected in parallel or in series, only a technical specialist may interconnect the sources as per standard IEC 60974-9:2010: Installation and use and German Accident Prevention Regulation BVG D1 (formerly VBG 15) or country-specific regulations.

Before commencing arc welding, a test must verify that the equipment cannot exceed the maximum permitted open circuit voltage.

- Only qualified personnel may connect the machine.
- When taking individual power sources out of operation, all mains and welding current leads must be safely disconnected from the welding system as a whole. (Hazard due to reverse polarity voltage!)
- Do not interconnect welding machines with pole reversing switch (PWS series) or machines for AC welding since a minor error in operation can cause the welding voltages to be combined, which is not permitted.



Risk of injury due to radiation or heat!

Arc radiation can lead to skin and eye injuries.

Contact with hot workpieces and sparks can lead to burns.

- Use hand shield or welding helmet with the appropriate safety level (depends on the application).
- Wear dry protective clothing (e.g. hand shield, gloves, etc.) in accordance with the applicable regulations of your country.
- Persons who are not directly involved should be protected with a welding curtain or suitable safety screen against radiation and the risk of blinding!

 **WARNING****Risk of injury due to improper clothing!**

During arc welding, radiation, heat and voltage are sources of risk that cannot be avoided. The user has to be equipped with the complete personal protective equipment at all times. The protective equipment has to include:

- Respiratory protection against hazardous substances and mixtures (fumes and vapours); otherwise implement suitable measures such as extraction facilities.
- Welding helmet with proper protection against ionizing radiation (IR and UV radiation) and heat.
- Dry welding clothing (shoes, gloves and body protection) to protect against warm environments with conditions comparable to ambient temperatures of 100 °C or higher and arcing and work on live components.
- Hearing protection against harming noise.

**Explosion risk!**

Apparently harmless substances in closed containers may generate excessive pressure when heated.

- Move containers with inflammable or explosive liquids away from the working area!
- Never heat explosive liquids, dusts or gases by welding or cutting!

**Fire hazard!**

Due to the high temperatures, sparks, glowing parts and hot slag that occur during welding, there is a risk of flames.

- Be watchful of potential sources of fire in the working area!
- Do not carry any easily inflammable objects, e.g. matches or lighters.
- Ensure suitable fire extinguishers are available in the working area!
- Thoroughly remove any residue of flammable materials from the workpiece prior to starting to weld.
- Only further process workpieces after they have cooled down. Do not allow them to contact any flammable materials!

⚠ CAUTION



Smoke and gases!

Smoke and gases can lead to breathing difficulties and poisoning. In addition, solvent vapour (chlorinated hydrocarbon) may be converted into poisonous phosgene due to the ultraviolet radiation of the arc!

- Ensure that there is sufficient fresh air!
- Keep solvent vapour away from the arc beam field!
- Wear suitable breathing apparatus if appropriate!



Noise exposure!

Noise exceeding 70 dBA can cause permanent hearing damage!

- Wear suitable ear protection!
- Persons located within the working area must wear suitable ear protection!



According to IEC 60974-10, welding machines are divided into two classes of electromagnetic compatibility (the EMC class can be found in the Technical data) > see 7 chapter:



Class A machines are not intended for use in residential areas where the power supply comes from the low-voltage public mains network. When ensuring the electromagnetic compatibility of class A machines, difficulties can arise in these areas due to interference not only in the supply lines but also in the form of radiated interference.



Class B machines fulfil the EMC requirements in industrial as well as residential areas, including residential areas connected to the low-voltage public mains network.

Setting up and operating

When operating arc welding systems, in some cases, electro-magnetic interference can occur although all of the welding machines comply with the emission limits specified in the standard. The user is responsible for any interference caused by welding.

In order to **evaluate** any possible problems with electromagnetic compatibility in the surrounding area, the user must consider the following: (see also EN 60974-10 Appendix A)

- Mains, control, signal and telecommunication lines
- Radios and televisions
- Computers and other control systems
- Safety equipment
- The health of neighbouring persons, especially if they have a pacemaker or wear a hearing aid
- Calibration and measuring equipment
- The immunity to interference of other equipment in the surrounding area
- The time of day at which the welding work must be carried out

Recommendations for reducing interference emission

- Mains connection, e.g. additional mains filter or shielding with a metal tube
- Maintenance of the arc welding system
- Welding leads should be as short as possible and run closely together along the ground
- Potential equalization
- Earthing of the workpiece. In cases where it is not possible to earth the workpiece directly, it should be connected by means of suitable capacitors.
- Shielding from other equipment in the surrounding area or the entire welding system



Electromagnetic fields!

The power source may cause electrical or electromagnetic fields to be produced which could affect the correct functioning of electronic equipment such as IT or CNC devices, telecommunication lines, power cables, signal lines and pacemakers.



- Observe the maintenance instructions > see 6 chapter!
- Unwind welding leads completely!
- Shield devices or equipment sensitive to radiation accordingly!
- The correct functioning of pacemakers may be affected (obtain advice from a doctor if necessary).

⚠ CAUTION**Obligations of the operator!**

The respective national directives and laws must be complied with when operating the machine!

- Implementation of national legislation relating to framework directive 89/391/EEC on the introduction of measures to encourage improvements in the safety and health of workers at work and associated individual guidelines.
- In particular, directive 89/655/EEC concerning the minimum safety and health requirements for the use of work equipment by workers at work.
- The regulations applicable to occupational safety and accident prevention in the country concerned.
- Setting up and operating the machine as per IEC 60974.-9.
- Brief the user on safety-conscious work practices on a regular basis.
- Regularly inspect the machine as per IEC 60974.-4.



The manufacturer's warranty becomes void if non-genuine parts are used!

- **Only use system components and options (power sources, welding torches, electrode holders, remote controls, spare parts and replacement parts, etc.) from our range of products!**
- **Only insert and lock accessory components into the relevant connection socket when the machine is switched off.**

Requirements for connection to the public mains network

High-performance machines can influence the mains quality by taking current from the mains network. For some types of machines, connection restrictions or requirements relating to the maximum possible line impedance or the necessary minimum supply capacity at the interface with the public network (Point of Common Coupling, PCC) can therefore apply. In this respect, attention is also drawn to the machines' technical data. In this case, it is the responsibility of the operator, where necessary in consultation with the mains network operator, to ensure that the machine can be connected.

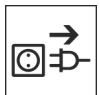
2.4 Transport and installation

⚠ WARNING**Risk of injury due to improper handling of shielding gas cylinders!**

Improper handling and insufficient securing of shielding gas cylinders can cause serious injuries!

- Observe the instructions from the gas manufacturer and any relevant regulations concerning the use of compressed air!
- Do not attach any element to the shielding gas cylinder valve!
- Prevent the shielding gas cylinder from heating up.

CAUTION



Risk of accidents due to supply lines!

During transport, attached supply lines (mains leads, control cables, etc.) can cause risks, e.g. by causing connected machines to tip over and injure persons!

- Disconnect all supply lines before transport!



Risk of tipping!

There is a risk of the machine tipping over and injuring persons or being damaged itself during movement and set up. Tilt resistance is guaranteed up to an angle of 10° (according to IEC 60974-1).

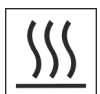
- Set up and transport the machine on level, solid ground.
- Secure add-on parts using suitable equipment.



Risk of accidents due to incorrectly installed leads!

Incorrectly installed leads (mains, control and welding leads or intermediate hose packages) can present a tripping hazard.

- Lay the supply lines flat on the floor (avoid loops).
- Avoid laying the leads on passage ways.



Risk of injury from heated coolant and its connections!

The coolant used and its connection or connection points can heat up significantly during operation (water-cooled version). When opening the coolant circuit, escaping coolant may cause scalding.

- Open the coolant circuit only when the power source or cooling unit is switched off!
- Wear proper protective equipment (protective gloves)!
- Seal open connections of the hose leads with suitable plugs.



The units are designed for operation in an upright position!

Operation in non-permissible positions can cause equipment damage.

- ***Only transport and operate in an upright position!***



Accessory components and the power source itself can be damaged by incorrect connection!

- ***Only insert and lock accessory components into the relevant connection socket when the machine is switched off.***
- ***Comprehensive descriptions can be found in the operating instructions for the relevant accessory components.***
- ***Accessory components are detected automatically after the power source is switched on.***



Protective dust caps protect the connection sockets and therefore the machine against dirt and damage.

- ***The protective dust cap must be fitted if there is no accessory component being operated on that connection.***
- ***The cap must be replaced if faulty or if lost!***

3 Intended use

WARNING


Hazards due to improper usage!

The machine has been constructed to the state of the art and any regulations and standards applicable for use in industry and trade. It may only be used for the welding procedures indicated at the rating plate. Hazards may arise for persons, animals and material objects if the equipment is not used correctly. No liability is accepted for any damages arising from improper usage!

- The equipment must only be used in line with its designated purpose and by trained or expert personnel!
- Do not improperly modify or convert the equipment!

3.1 Applications

For transporting arc welding systems and process-dependent components such as torch cooling modules or shielding gas cylinders.

3.2 Use and operation solely with the following machines

In general, the trolley accommodates machines with with round or rectangular feet. For machines with rectangular feet, the machine feet adapter (included) has to be installed on the trolley.

The following table shows system component combination options:

	cool35 U31	cool40 U31	cool41 U31	cool50 U40
Tetrix 230 TM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tetrix 300	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tetrix 300-2 TM / Tetrix 300 puls TM	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tetrix 400-2 TM	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Picomig 180 / 185 / 305 TKG	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taurus / Phoenix 355 TKM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

possible

not possible

3.3 Documents which also apply

3.3.1 Warranty

For information on warranty, maintenance and testing, see the website www.ewm-group.com.

3.3.2 Service documents (spare parts)

WARNING


Do not carry out any unauthorised repairs or modifications!

To avoid injury and equipment damage, the unit must only be repaired or modified by specialist, skilled persons!

The warranty becomes null and void in the event of unauthorised interference.

- Appoint only skilled persons for repair work (trained service personnel)!

Spare parts can be obtained from the relevant authorised dealer.

3.3.3 Part of the complete documentation

This document is part of the complete documentation and valid only in combination with all other parts of these instructions! Read and observe the operating instructions for all system components, especially the safety instructions!

The illustration shows a general example of a welding system.

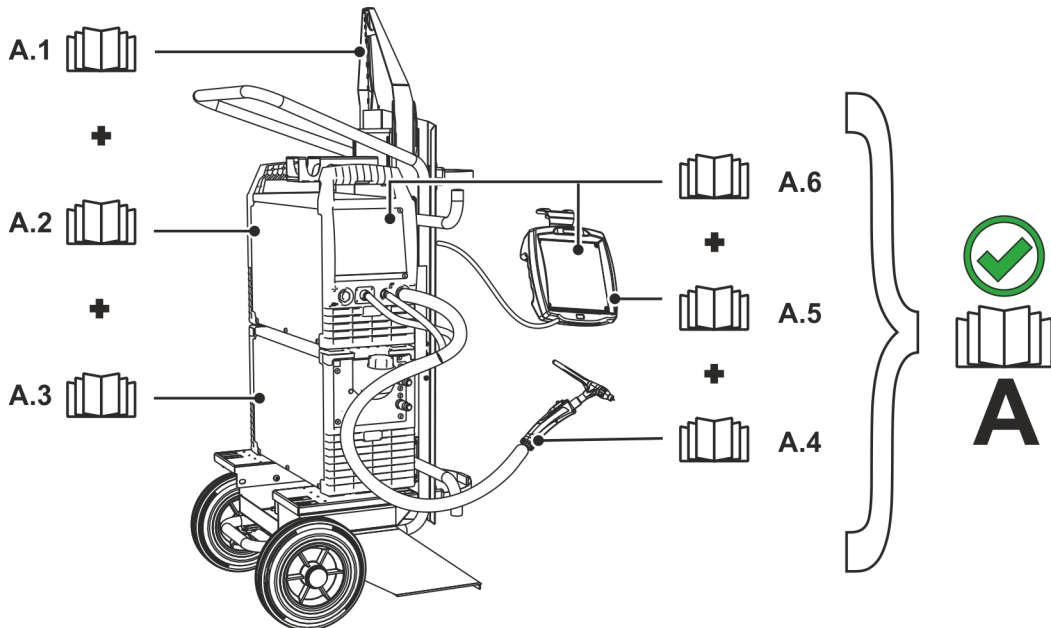


Figure 3-1

Item	Documentation
A.1	Options conversion instructions
A.2	Power source
A.3	Cooling unit, voltage converter, tool box etc.
A.4	Transport cart
A.5	Welding torch
A.6	Remote control
A.7	Control
A	Complete documentation

4 Machine description – quick overview

4.1 Front view / rear view

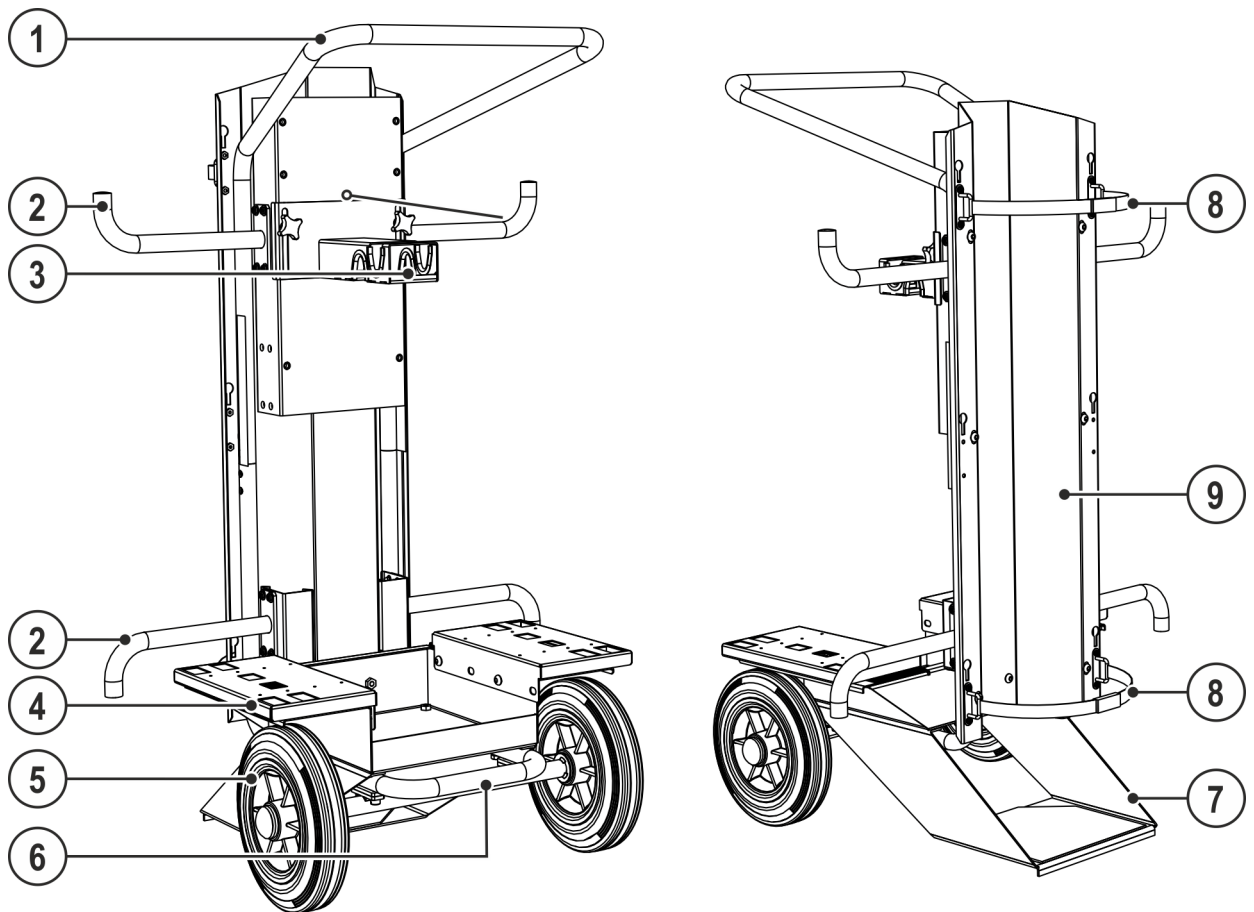


Figure 4-1

Item	Symbol	Description
1		Carrying handle
2		Cable or hose holders (arranged opposite)
3		Machine hold-down device > see 5.2 chapter
4		Machine feet adapter > see 5.1.1 chapter
5		Transport wheel
6		Foot bar > see 5.3 chapter
7		Shielding gas cylinder holder
8		Securing element Clamping belt for attaching the shielding gas cylinder
9		Holder for shielding gas cylinder

5 Design and function

5.1 Assembly

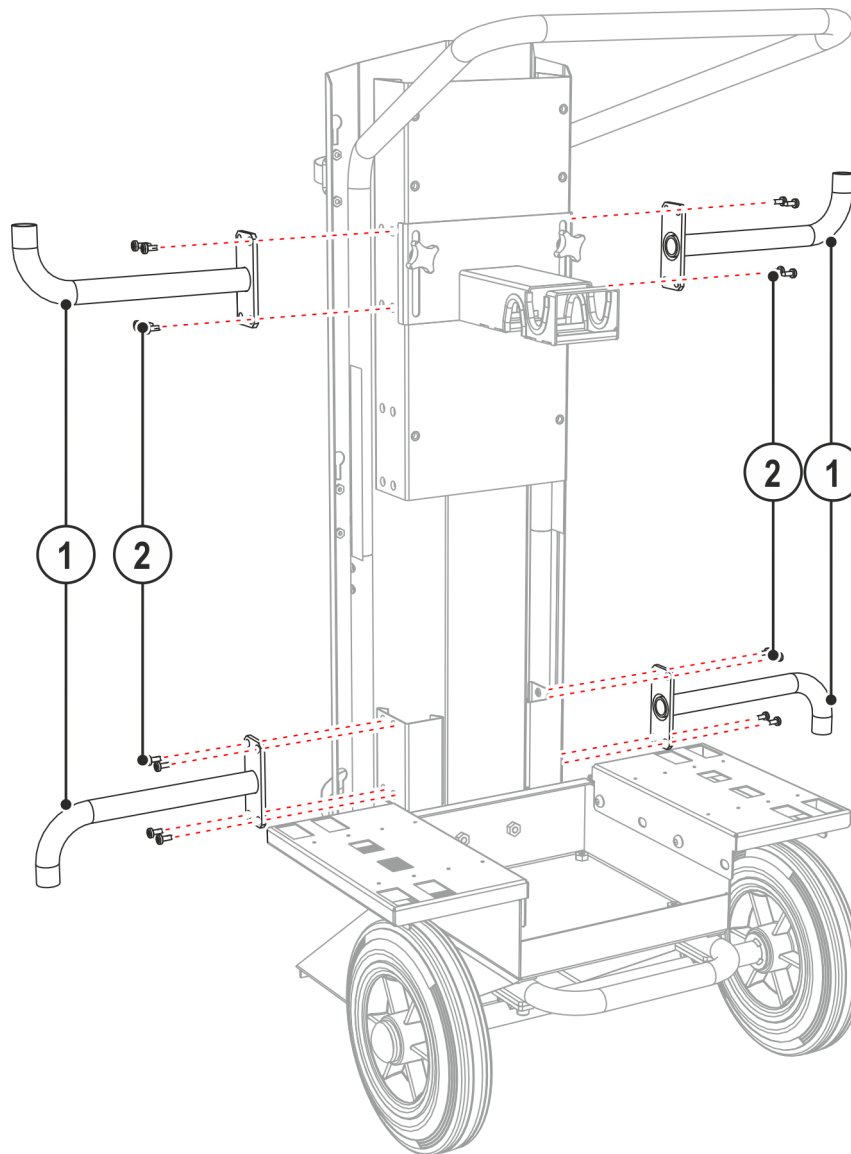


Figure 5-1

Item	Symbol	Description
1		Cable or hose holders (arranged opposite)
2		Threaded grooved pin M5 x 14 mm

- Fasten the holders to the transport cart using the screws supplied. The brackets must be attached in opposite directions (see illustration).

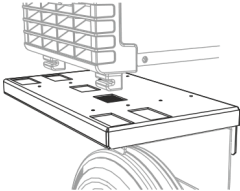
5.1.1 Install the machine feet adapter

In general, the trolley accommodates machines with with round or rectangular feet. For machines with rectangular feet, the machine feet adapter (included) has to be installed on the trolley.

⚠ CAUTION

! Risk of accidents due to improperly prepared transport vehicle! Depending on the machine series the trolley has to be adapted to mount the machine. Failing to adapt the trolley can cause the machine being transported to topple and lead to injuries!

- Use trolley with machine feet adapter for machines with rectangular feet.
- Remove machine feet adapter for machines with round feet.



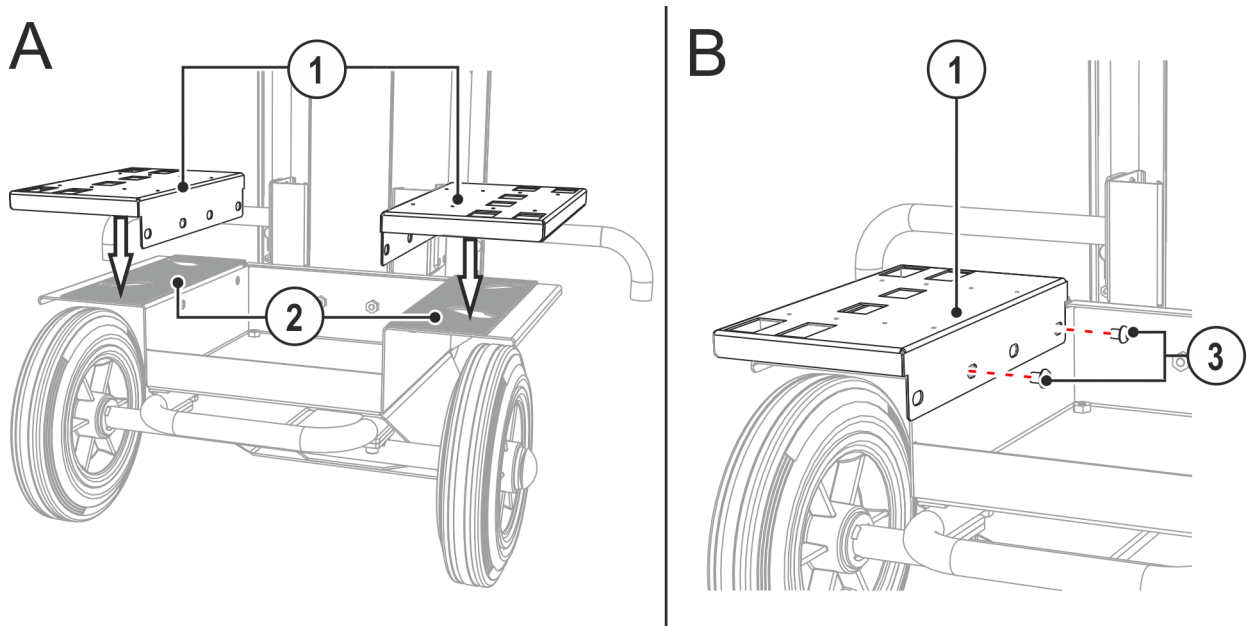


Figure 5-2

Item	Symbol	Description
1		Machine feet adapter
2		Machine carrier plate To support the welding machine.
3		Tallow-drop hexagon screw M8x10

- Install the machine feet adapter on the machine support using an allen key (5 mm) and the supplied screws,

5.2 Mounting the machine

CAUTION



Improperly secured equipment!

Equipment, equipment combinations and accessories incorrectly fastened onto transport systems can tip over during transport and cause injuries!

- Only used the original parts supplied to fasten the equipment.
- Use the systems only for transporting the machines > see 3.2 chapter.
- Check the fixing points before each transport and at regular intervals.

5.2.1 Fixing the welding machine

Mounting process using an example. Procedure is similar for other models as appropriate.

The position of the cross bar depends on the casing width.

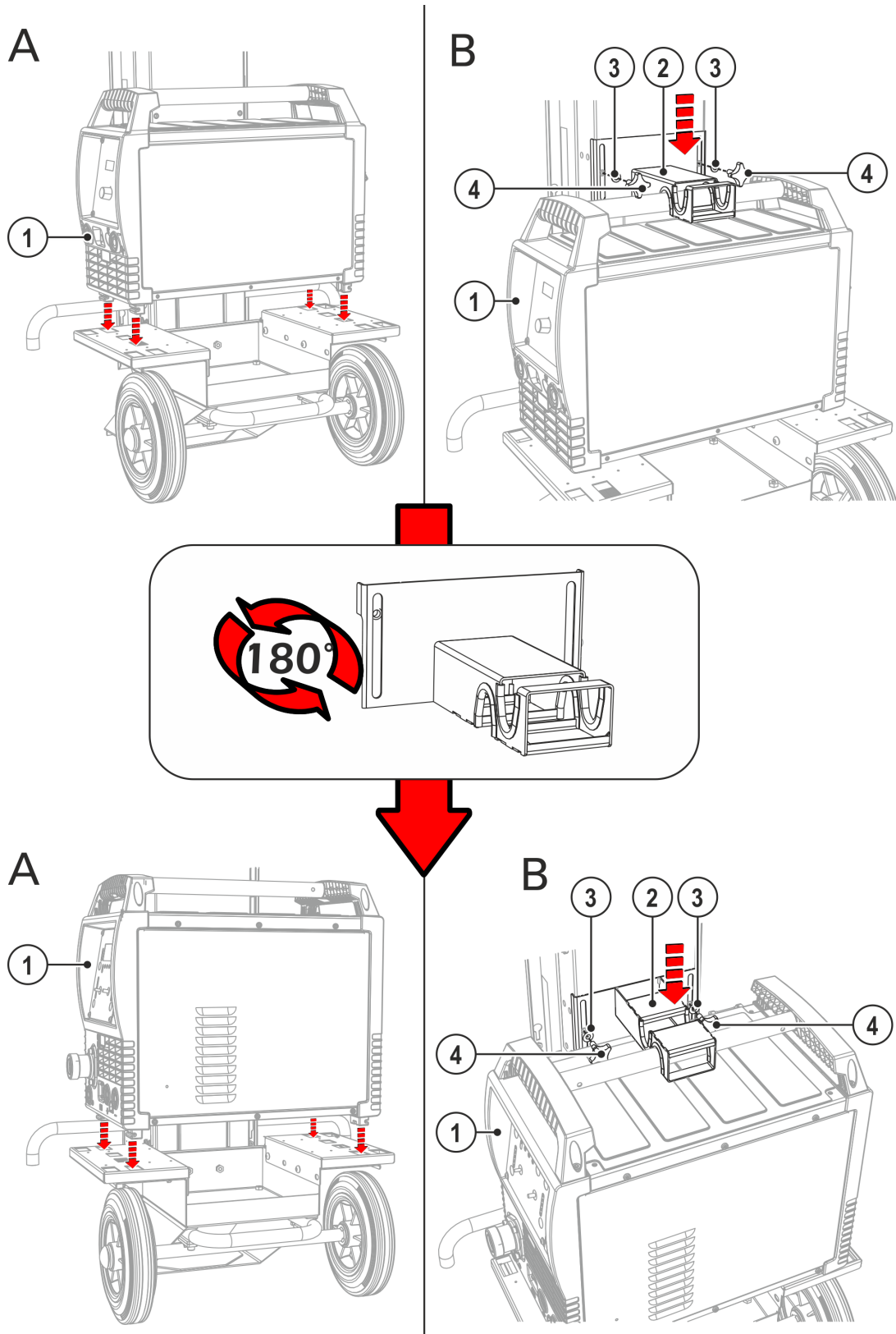



Figure 5-3

Item	Symbol	Description
1		Power source
2		Cross arm Upper device attachment

Item	Symbol	Description
3		Plain washer M5
4		Star handle M8x20

- Place the welding machine with its feet in the holes provided.
- Lower machine hold-down fitting onto the handle of the power source.
- Secure the machine hold-down fitting using star handles.

5.2.2 Fixing a welding machine with cooling module

The illustration serves as an example only.

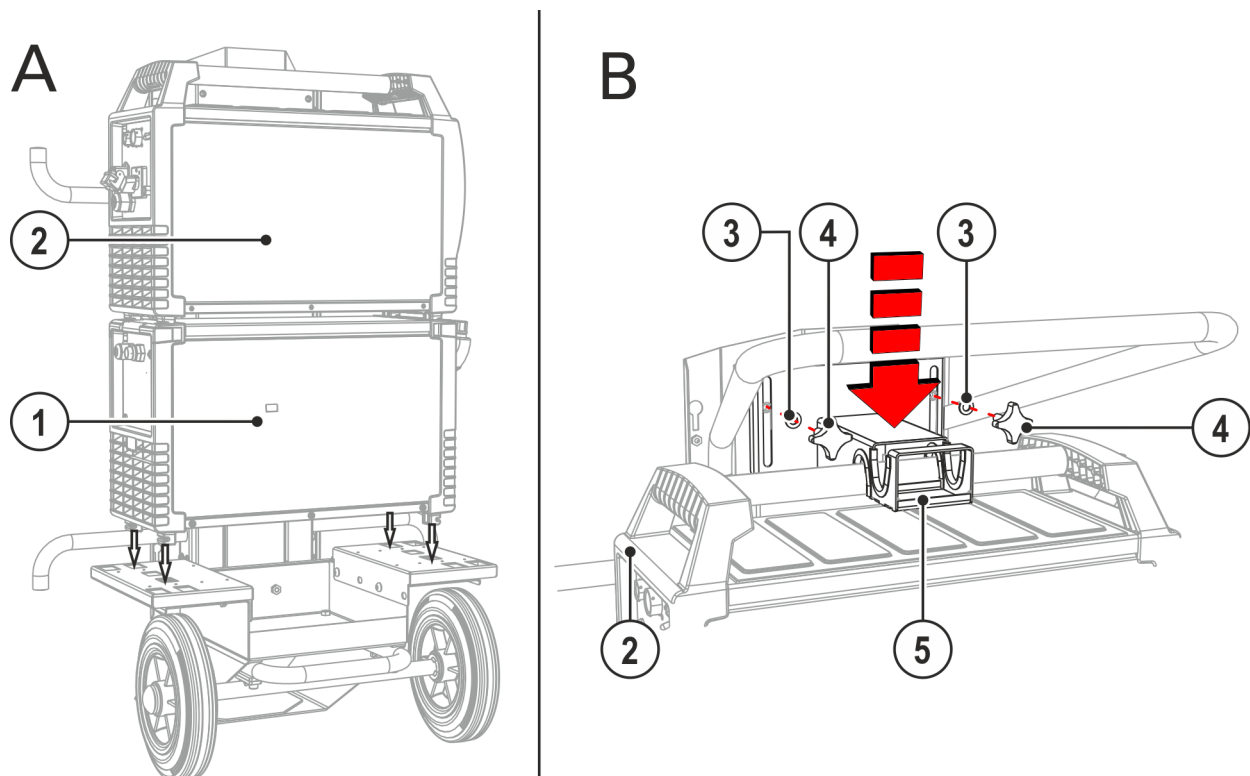



Figure 5-4

Item	Symbol	Description
1		Cooling unit
2		Power source
3		Plain washer M5
4		Star handle M8x20
5		Cross arm Upper device attachment

- Place the cooling unit with its feet in the recesses provided.
- Connect the welding machine with the cooling unit. (See operating instructions for cooling unit/power source)
- Lower machine hold-down device to the handle of the power source.
- Secure the machine hold-down device using star knobs.

5.2.3 Securing the shielding gas cylinder

⚠ WARNING



Risk of injury due to improper handling of shielding gas cylinders!
Improper handling and insufficient securing of shielding gas cylinders can cause serious injuries!

- The cylinders must be secured with at least two clamping belts.
- Adapt the fastening point of the upper clamping belt to the size of the cylinder.
- Do not attach anything to the shielding gas cylinder valve.

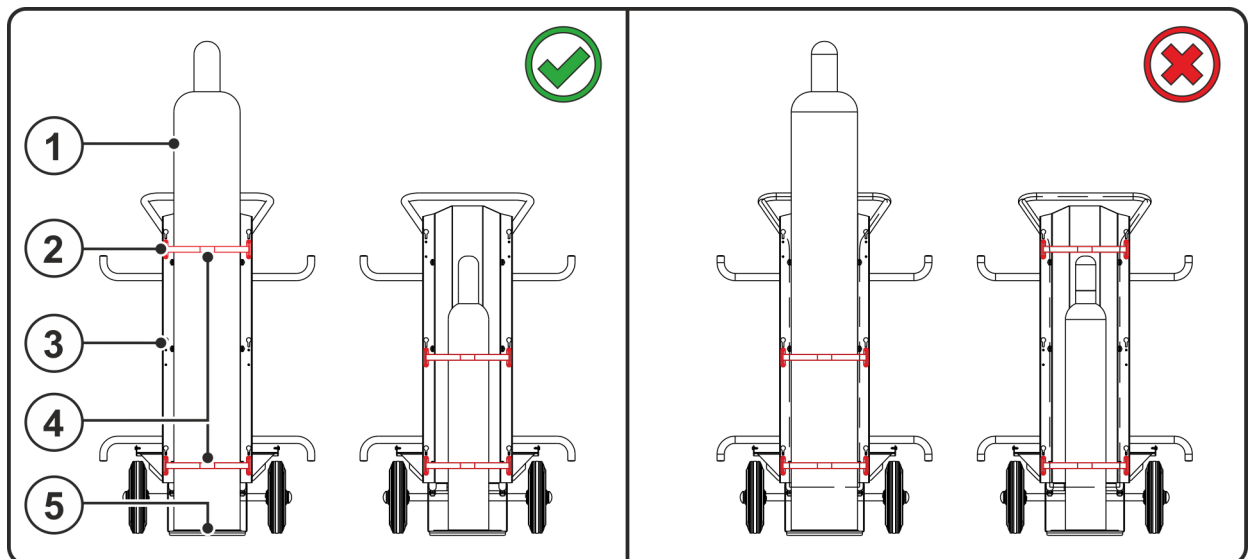


Figure 5-5

Item	Symbol	Description
1		Shielding gas cylinder
2		Upper fastening point of the clamping belt
3		Middle fastening point of the clamping belt
4		Securing element Clamping belt for attaching the shielding gas cylinder
5		Shielding gas cylinder holder

- Adapting the height of the upper cylinder fastening:
 large shielding gas cylinder > use the upper fastening point
 small shielding gas cylinder > use the middle fastening point
- Open the tension closures on the clamping belts.
- Place the shielding gas cylinder in the holder provided.
- Secure the shielding gas cylinder with the clamping belts (ensure that they are firm and tight).

5.3 Using the transport system

5.3.1 Transport

⚠ WARNING



Risk of accident due to improper transport of machines that must not be lifted!
Do not lift or suspend the machine! The machine can drop and cause injuries! The handles, straps or brackets are suitable for transport by hand only!

- The machine must not be suspended or lifted using a crane.
- Depending on machine type, equipment for lifting by crane or use while suspended is available as a retrofitting option > see 8 chapter.

⚠ CAUTION



Risk of accidents due to supply lines!
During transport, attached supply lines (mains leads, control cables, etc.) can cause risks, e.g. by causing connected machines to tip over and injure persons!

- Disconnect all supply lines before transport!

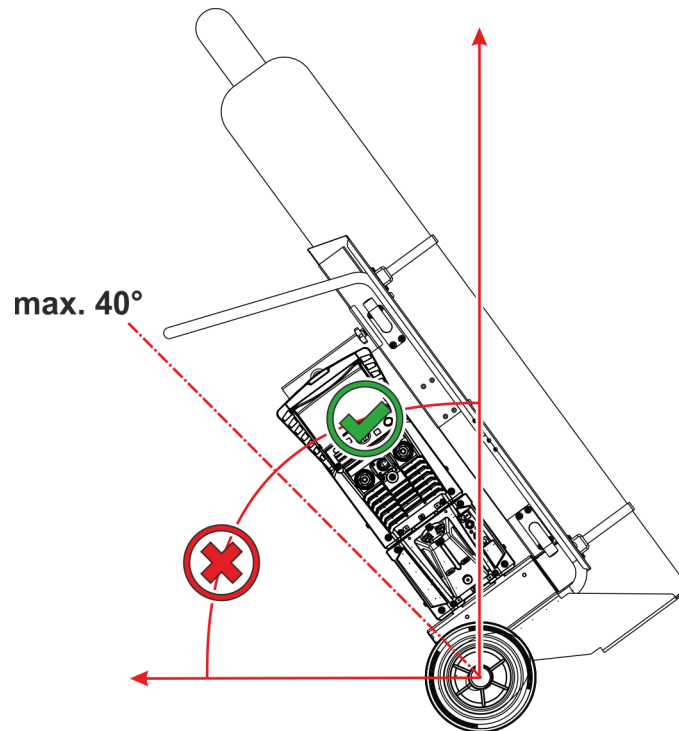


Figure 5-6

- Hold the transport cart by the transport handle.
- Use your foot to secure the foot bar to the axle and tilt the transport cart up to an angle of 40 °.

5.3.2 Cable or hose holders

⚠ CAUTION

Risk of accident due to improper use of the cable or hose holders!
Improperly coiled cables or hoses may lead to unpredictable tipping of the transport cart and injure people as a result.

- The cable and hose holders may only be used to transport the cables, hoses or hose packages used in the welding system.
- Ensure an even load distribution on both cable holders (right/left).
- Cables and hoses must not drag on the floor (ensure a firm attachment).
- All cables and hoses must be fully unwound for welding operations.

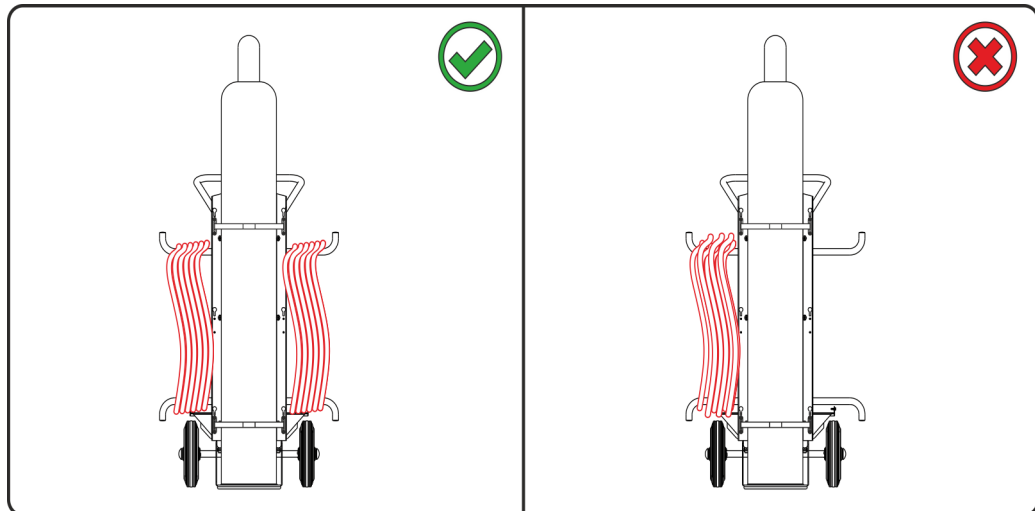


Figure 5-7

6 Maintenance, care and disposal

Repair and maintenance work may only be performed by qualified authorised personnel; otherwise the right to claim under warranty is void. In all service matters, always consult the dealer who supplied the machine. Return deliveries of defective equipment subject to warranty may only be made through your dealer. When replacing parts, use only original spare parts. When ordering spare parts, please quote the machine type, serial number and item number of the machine, as well as the type designation and item number of the spare part.

Under the specified ambient conditions and normal working conditions this machine is essentially maintenance-free and requires just a minimum of care.

Contamination of the machine may impair service life and duty cycle. The cleaning intervals depend on the ambient conditions and the resulting contamination of the machine. The minimum interval is every six months.

6.1 Maintenance work, intervals

6.1.1 Daily maintenance tasks

- Gas cylinder securing elements
- Other, general condition
- Keep moving parts clean.
- Wheels and their securing elements
- Transport elements (strap, lifting lugs, handle)

6.1.2 Monthly maintenance tasks

- Tighten the screw connections.
- Check bearings for damage.
- Service at regular intervals and check for errors.
- Clean surfaces and glass with a damp cloth (do not use aggressive cleaning agents)!

6.2 Disposing of equipment



Proper disposal!

The machine contains valuable raw materials that should be recycled.

- **Do not dispose of these materials using household waste!**
- **Follow the official regulations for disposal!**

7 Technical data

7.1 Trolley 35.2-2

Performance specifications and guarantee only in connection with original spare and replacement parts!

max. Height (Shielding gas cylinder)	970 mm 38.2 inch
max. Diameter (Shielding gas cylinder)	204 mm 8 inch
max. Filling pressure (Shielding gas cylinder)	300 bar 30 MPa
Dimensions (l x b x h)	1200 x 600 x 750 mm 47.3 x 23.6 x 29.5 inch
Weight	35 kg 77.2 lb.

8 Accessories

Performance-dependent accessories like torches, workpiece leads, electrode holders or intermediate hose packages are available from your authorised dealer.

8.1 General accessories

Type	Designation	Item no.
ON CS Trolley 35.2-2	Crane suspension for Trolley 35.2-2	092-002931-00000

9 Appendix**9.1 Searching for a dealer**

Sales & service partners
www.ewm-group.com/en/specialist-dealers



"More than 400 EWM sales partners worldwide"