



Welding machines and accessories

TH AMT

Torch holder

099-019400-EW501

Observe additional system documents!

25.02.2016

**Register now
and benefit!
Jetzt Registrieren
und Profitieren!**

www.ewm-group.com



General instructions

CAUTION



Read the operating instructions!

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

- Read the operating instructions for all system components!
- Observe accident prevention regulations!
- Observe all local regulations!
- Confirm with a signature where appropriate.



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.

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.

© EWM AG · Dr. Günter-Henle-Str. 8 · D-56271 Mündersbach, Germany

The copyright to this document remains the property of the manufacturer.

Reprinting, including extracts, only permitted with written approval.

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

1 Contents

1	Contents	3
2	Safety instructions	4
2.1	Notes on the use of these operating instructions	4
2.2	Explanation of icons.....	5
2.3	General	6
2.4	Transport and installation	6
2.4.1	Ambient conditions	7
2.4.1.1	In operation	7
2.4.1.2	Transport and storage.....	7
3	Intended use	8
3.1	General	8
3.2	Use and operation solely with the following machines	8
3.3	Documents which also apply	9
3.3.1	Warranty	9
3.3.2	Declaration of Conformity.....	9
3.3.3	Service documents (spare parts)	9
4	Machine description – quick overview	10
4.1	TH AMT.....	10
5	Design and function	11
5.1	General	11
5.2	Parts list	12
5.3	Assembly	13
5.4	Set up tool coordinate system	15
5.5	Secure tool coordinate system	16
6	Maintenance, care and disposal	19
6.1	General	19
6.2	Maintenance work, intervals	20
6.2.1	Daily maintenance tasks	20
6.2.1.1	Visual inspection	20
6.2.2	Monthly maintenance tasks.....	20
6.2.2.1	Visual inspection	20
6.3	Disposing of equipment	20
6.3.1	Manufacturer's declaration to the end user	20
6.4	Meeting the requirements of RoHS	20
7	Rectifying faults	21
7.1	Checklist for rectifying faults	21
8	Technical data	22
8.1	TH AMT.....	22
9	Appendix A	23
9.1	Overview of EWM branches	23

2 Safety instructions

2.1 Notes on the use of 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.

CAUTION

Working and operating procedures which must be followed precisely to avoid damaging or destroying the product.








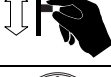






- The safety information includes the "CAUTION" keyword in its heading without a general warning symbol.
- The hazard is explained using a symbol at the edge of the page.

Special technical points which users must observe.

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
	Special technical points which users must observe.
	Correct
	Wrong
	Press
	Do not press
	Press and keep pressed
	Turn
	Switch
	Switch off machine
	Switch on machine
ENTER	enter the menu
NAVIGATION	Navigating in the menu
EXIT	Exit the menu
4 s 	Time display (example: wait 4s/press)
	Interruption in the menu display (other setting options possible)
	Tool not required/do not use
	Tool required/use

2.3 General

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!



Validity of the document!

This document is valid only in combination with the operating instructions for the product being used!

- Read and observe the operating instructions for all system components, especially the safety instructions!

CAUTION



Obligations of the operator!

The respective national directives and laws must be observed for operation of the machine!

- National implementation of the framework directive (89/391/EWG), as well as the associated individual directives.
- In particular, directive (89/655/EWG), on the minimum regulations for safety and health protection when staff members use equipment during work.
- The regulations regarding work safety and accident prevention for the respective country.
- Setting up and operating the machine according to IEC 60974-9.
- Check at regular intervals that users are working in a safety-conscious way.
- Regular checks of the machine according to IEC 60974-4.



Damage due to the use of non-genuine parts!

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.

2.4 Transport and installation

CAUTION



Damage due to supply lines not being disconnected!

During transport, supply lines which have not been disconnected (mains supply leads, control leads, etc.) may cause hazards such as connected equipment tipping over and injuring persons!

- Disconnect supply lines!

2.4.1 Ambient conditions

CAUTION



Equipment damage due to dirt accumulation!

Unusually high quantities of dust, acid, corrosive gases or substances may damage the equipment.

- Avoid high volumes of smoke, vapour, oil vapour and grinding dust!
- Avoid ambient air containing salt (sea air)!

2.4.1.1 In operation

Temperature range of the ambient air:

- -10 °C to +40 °C

Relative air humidity:

- Up to 50% at 40 °C
- Up to 90% at 20 °C

2.4.1.2 Transport and storage

Storage in an enclosed space, temperature range of the ambient air:

- -10 °C to +55 °C

Relative air humidity

- Up to 70% at 20 °C

3 Intended use

3.1 General

WARNING



Hazards due to improper usage!

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 proper usage and by trained or expert staff!
- Do not modify or convert the equipment improperly!


The TH AMT torch holder is used to mount the welding torch to the robot.

3.2 Use and operation solely with the following machines

- AMT 301
- AMT 451
- AMT 551

3.3 Documents which also apply

3.3.1 Warranty

 For more information refer to the "Warranty registration" brochure supplied and our information regarding warranty, maintenance and testing at www.ewm-group.com!

3.3.2 Declaration of Conformity

 The designated machine conforms to EC Directives and standards in terms of its design and construction:

- EC Low Voltage Directive (2006/95/EC),
- EC EMC Directive (2004/108/EC),

This declaration shall become null and void in the event of unauthorised modifications, improperly conducted repairs, non-observance of the deadlines for the repetition test and / or non-permitted conversion work not specifically authorised by the manufacturer.

The original copy of the declaration of conformity is enclosed with the unit.

3.3.3 Service documents (spare parts)



DANGER



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.

4 Machine description – quick overview

4.1 TH AMT

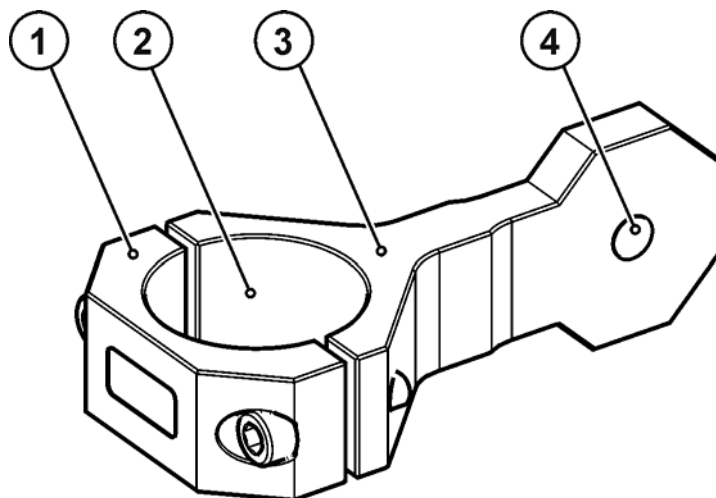


Figure 4-1

Item	Symbol	Description
1		Clamping bracket
2		Welding torch clamping range
3		Torch holder
4		Robot mounting bore

5 Design and function

5.1 General

WARNING

**Risk of injury from electric shock!****Contact with live parts, e.g. welding current sockets, is potentially fatal!**

- Follow safety instructions on the opening pages of the operating instructions.
- Commissioning may only be carried out by persons who have the relevant expertise of working with arc welding machines!
- Connection and welding leads (e.g. electrode holder, welding torch, workpiece lead, interfaces) may only be connected when the machine is switched off!

**Faulty assembly!****If system components are not carefully plugged in or not completely connected, they may detach during moving and cause severe injury.**

- Always completely plug in, connect or engage system components.

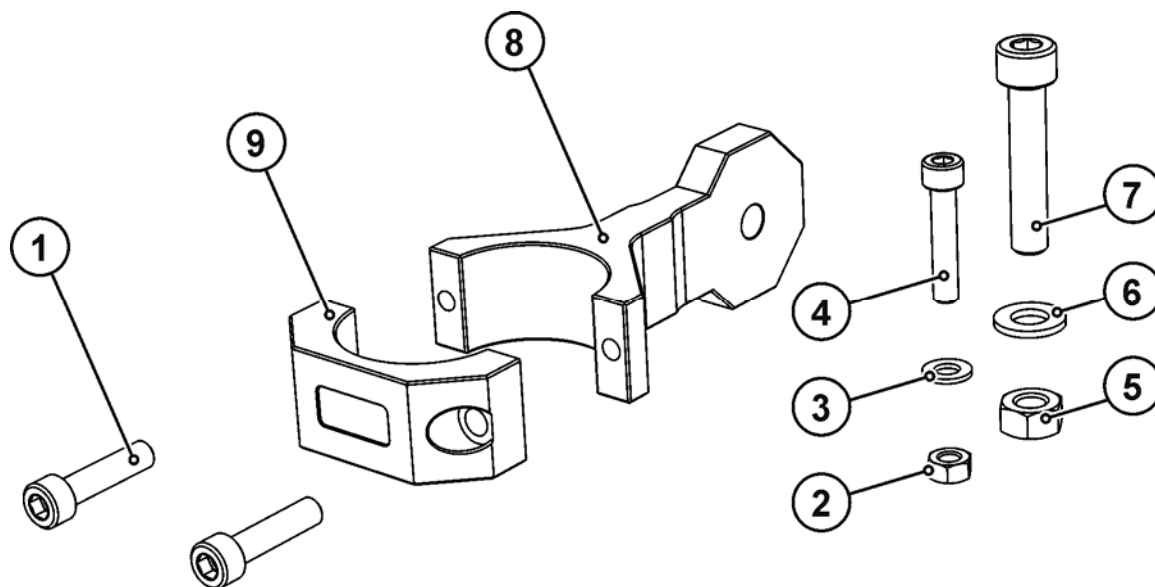
CAUTION

**Risk of injury due to electrical current and compressed air!****Only carry out the following tasks once the power source is securely switched off and there is no compressed air in the system!**

- Switch off the welding machine!
- Cut off the compressed air supply at the source!
- Disconnect all mains plugs!

5.2 Parts list

Check for completion before conversion (see item list).



Item	Quantity	Description
1	2	Cylinder head screw, M6 x 25
2	1	Hexagon nut, M6
3	1	M6 plain washer
4	1	M6 shoulder screw
5	1	Hexagon nut, M8
6	1	M8 plain washer
7	1	M8 shoulder screw
8	1	Torch holder
9	1	Clamping bracket

5.3 Assembly

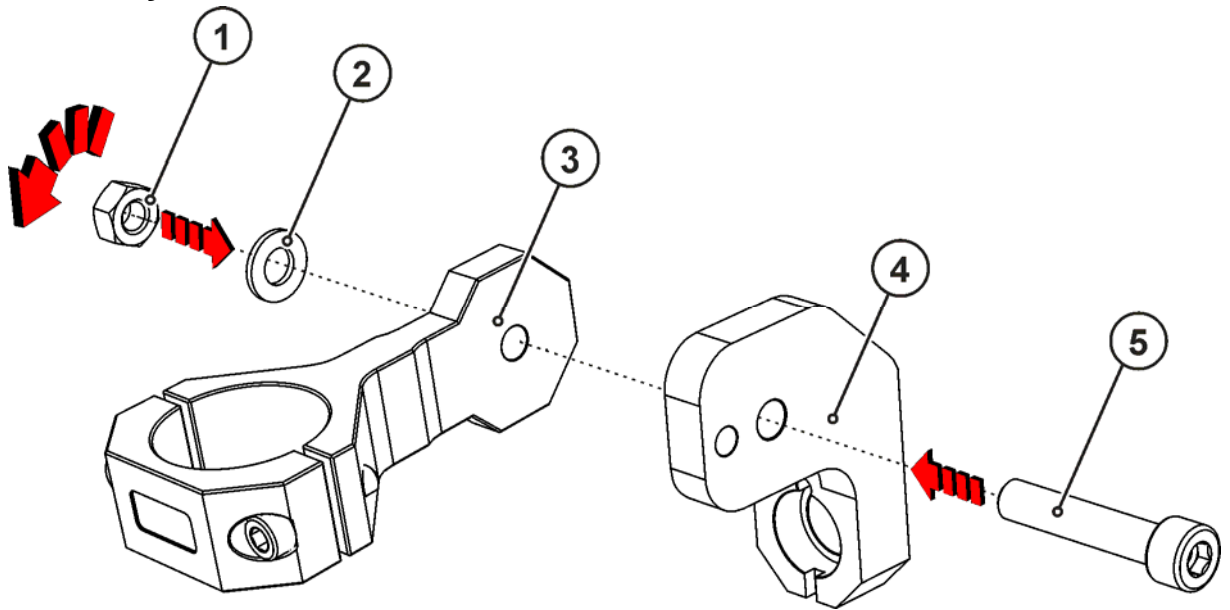


Figure 5-1

Item	Symbol	Description
1		Hexagon nut, M8
2		M8 plain washer
3		Torch holder
4		Mounting bracket RSA
5		M8 shoulder screw

- Install the torch holder to the support RSA using 1 M8 shoulder screw, M8 plain washer and M8 hexagonal nut each.

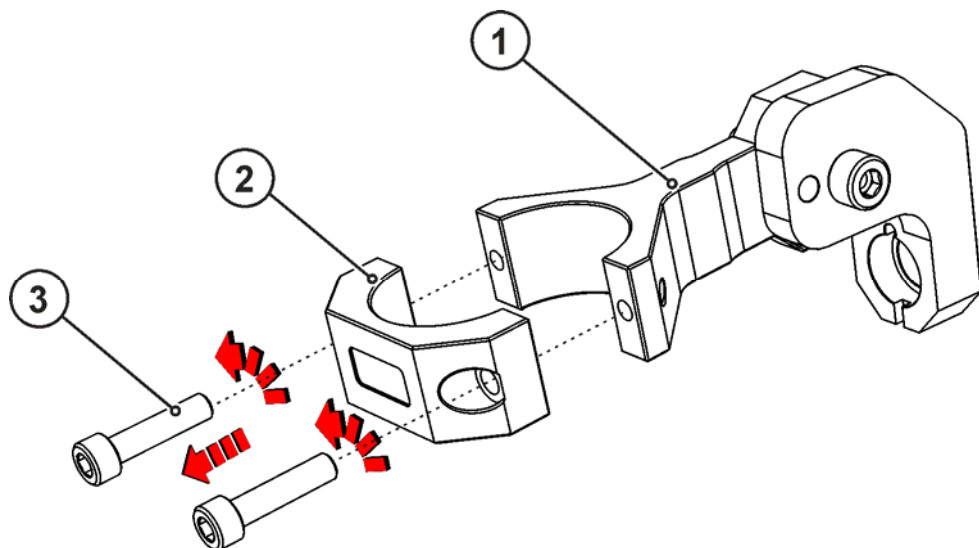


Figure 5-2

Item	Symbol	Description
1		Torch holder
2		Clamping bracket
3		Cylinder head screw, M6 x 45

- Remove the M6 x 25 mm cylinder head screw and clamping bracket from the torch holder.

The illustration serves as an example only.

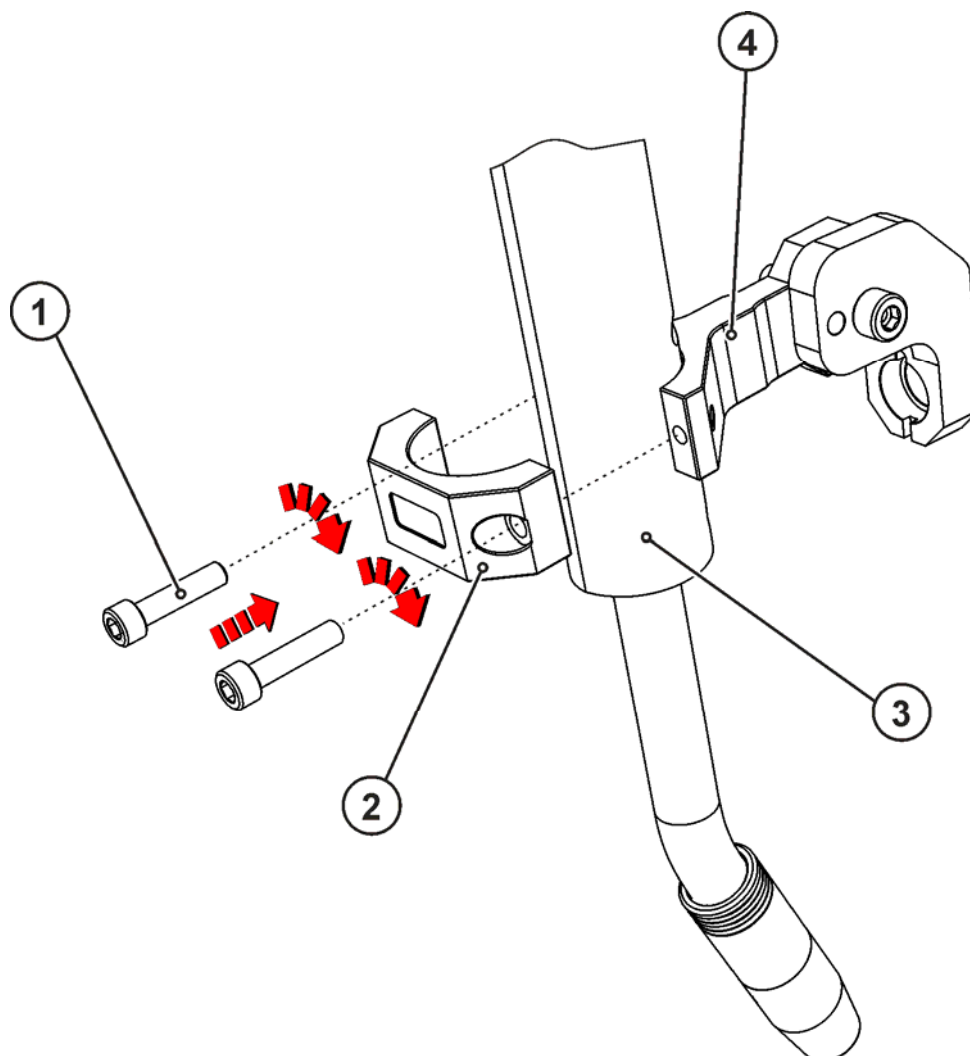


Figure 5-3

Item	Symbol	Description
1		Cylinder head screw, M6 x 45
2		Clamping bracket
3		Welding torch
4		Torch holder

- Attach the torch to the torch holder.

5.4 Set up tool coordinate system

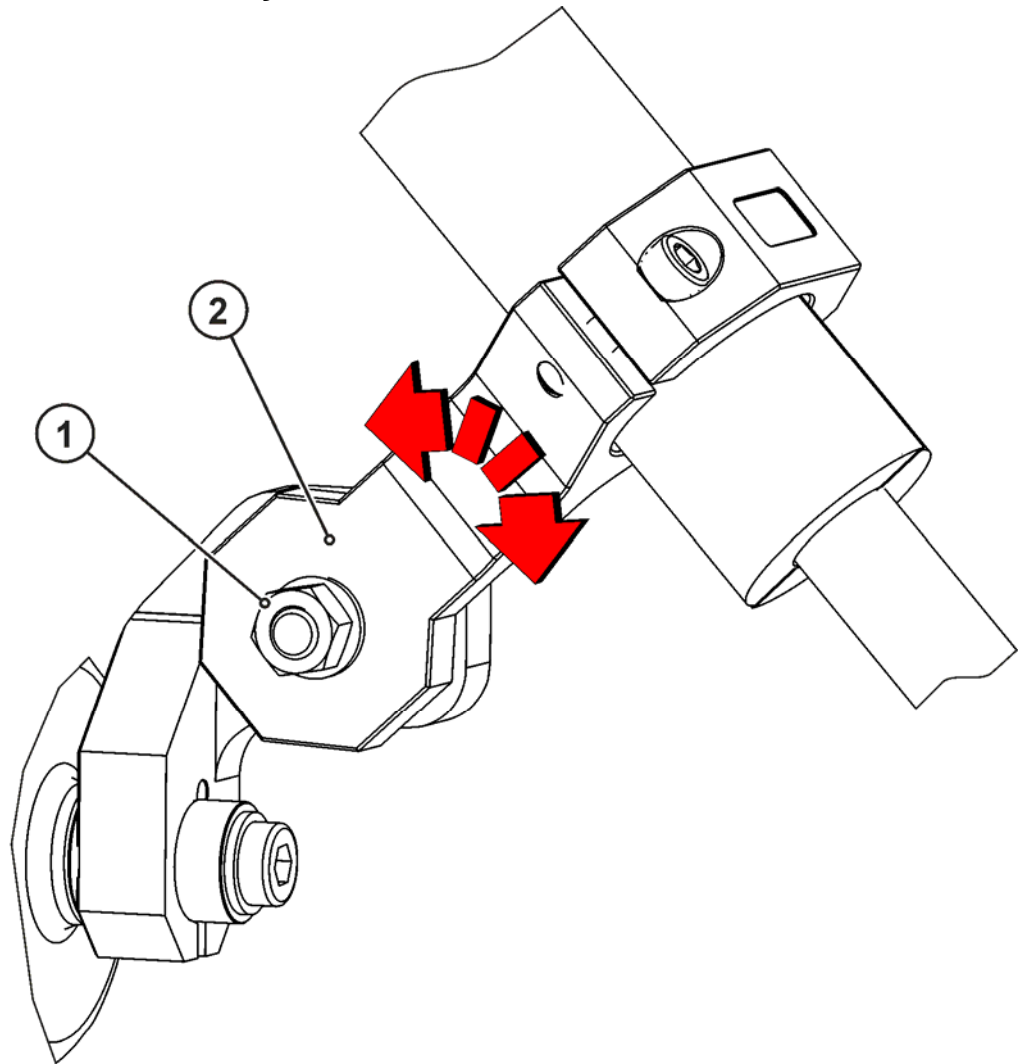


Figure 5-4

Item	Symbol	Description
1		Hexagon nut, M8
2		Torch holder

- Loosen M8 hexagonal nut and swivel the torch holder until the tool coordinate system is set up.
- Once the tool coordinate system is set up, secure with an M8 hexagonal nut.

5.5 Secure tool coordinate system

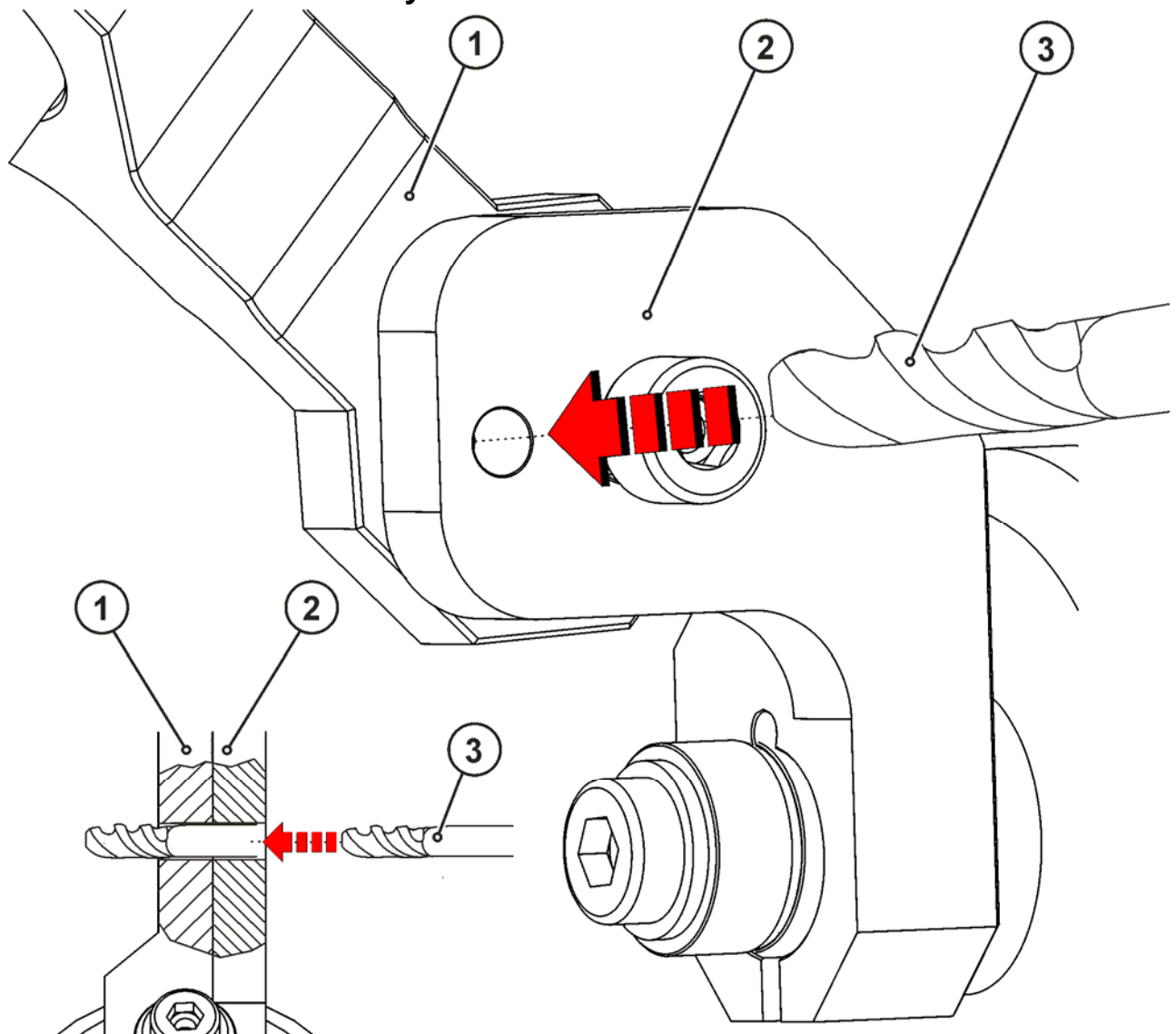


Figure 5-5

Item	Symbol	Description
1		Torch holder
2		Mounting bracket RSA
3		Twist drill with 5.8-mm diameter

- Align a twist drill with a diameter of 5.8 mm to the existing bore in the support RSA and drill through support and torch holder.
- Chamfer the bore outer edges

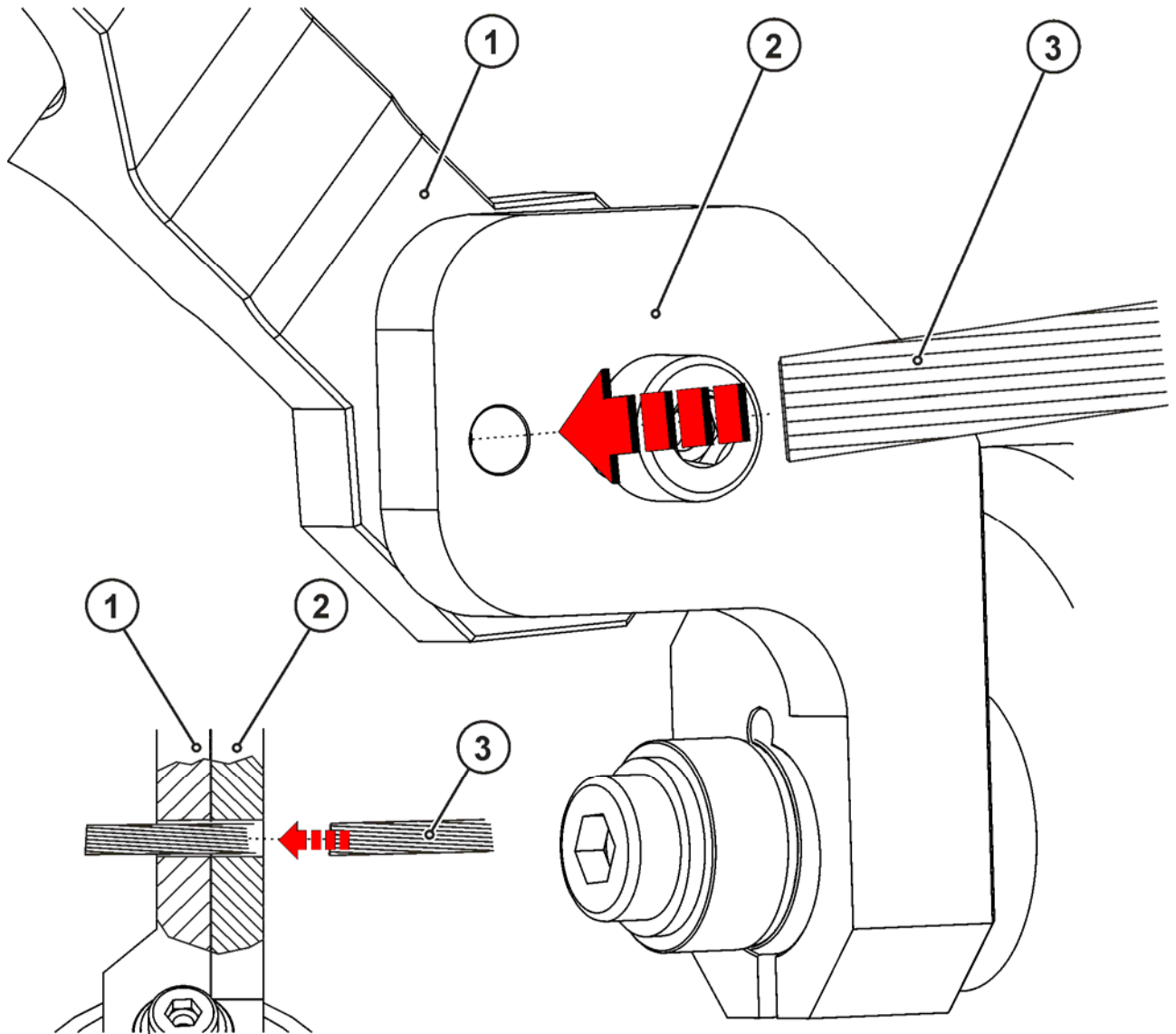


Figure 5-6

Item	Symbol	Description
1		Torch holder
2		Mounting bracket RSA
3		6H7 hand reamer

- Ream the 5.8-mm bore in the support RSA and torch holder using a 6H7 hand reamer to achieve a hole fit of 6H7.

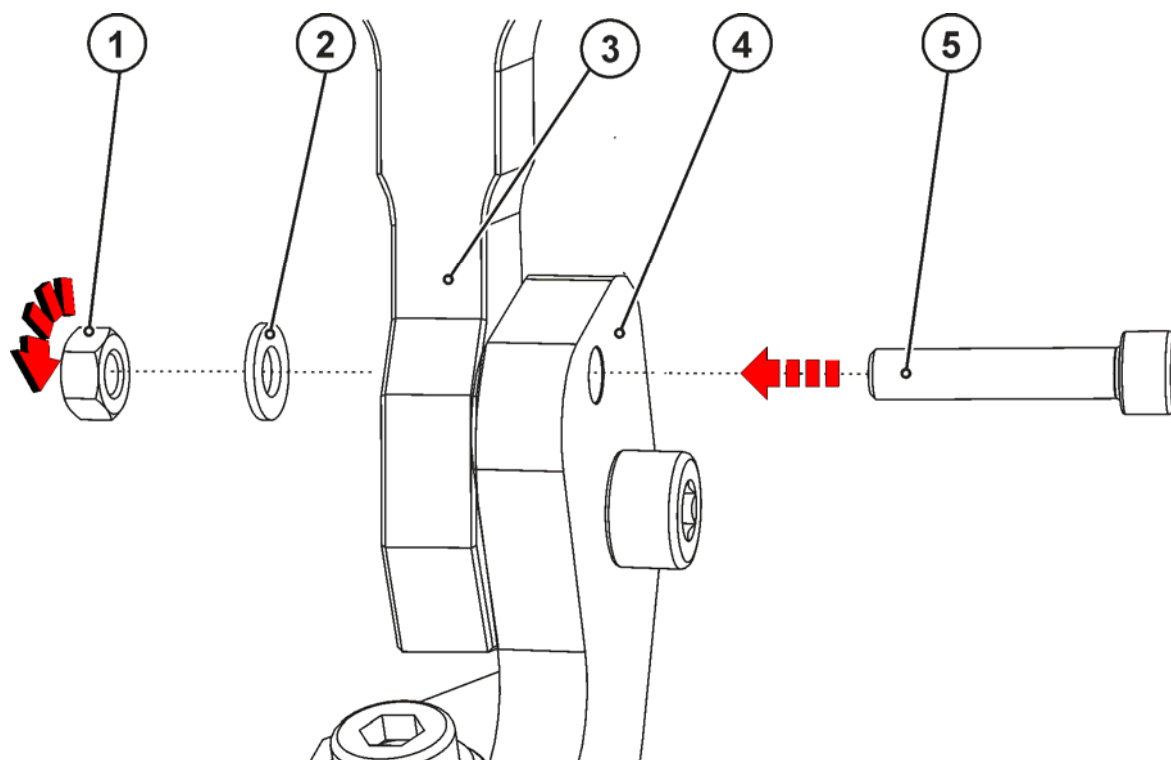


Figure 5-7

Item	Symbol	Description
1		M6 nut
2		M6 plain washer
3		Torch holder
4		Mounting bracket RSA
5		M6 shoulder screw

- Install support RSA and torch holder using 1 M6 shoulder screw, M6 plain washer and M6 nut each.

6 Maintenance, care and disposal

DANGER



Improper maintenance and testing

The equipment may only be cleaned, repaired or tested by specialist, skilled persons! A skilled person is one who, due to training, knowledge and experience, is able to recognise the dangers that can occur during testing of this equipment as well as possible subsequent damage and who is able to implement the required safety procedures.

- Complete all tests given in the chapter below!
- Only put the equipment back into operation following a successful test.

WARNING



Mains voltage!

All mains and supply lines on the machine being tested must be disconnected before cleaning or testing.

- Disconnect all mains and supply lines.

CAUTION



Risk of injury due to electrical current and compressed air!

Only carry out the following tasks once the power source is securely switched off and there is no compressed air in the system!

- Switch off the welding machine!
- Cut off the compressed air supply at the source!
- Disconnect all mains plugs!

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.

6.1 General

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

There are a few points which must be observed in order to ensure correct operation.

This includes regular cleaning and checking as described below, depending on the pollution level of the environment and the length of time the machine is in use.

6.2 Maintenance work, intervals

6.2.1 Daily maintenance tasks

CAUTION



Cleaning!

The machine may become damaged if cleaned with liquids! Removing residues using compressed air may disturb chips and result in eye damage!

- Do not use any liquids for cleaning!
- Use a small brush or suitable cleaning tool to remove residues!

- Check that all connections and wearing parts are hand-tight and tighten if necessary.
- Check that all screw and plug connections and replaceable parts are secured correctly, tighten if necessary.

6.2.1.1 Visual inspection

- Other, general condition

6.2.2 Monthly maintenance tasks

6.2.2.1 Visual inspection

- Remove any spatter.
- Clean surface

6.3 Disposing of equipment



Proper disposal!

The machine contains valuable raw materials, which should be recycled, and electronic components, which must be disposed of.

- *Do not dispose of in household waste!*
- *Observe the local regulations regarding disposal!*



6.3.1 Manufacturer's declaration to the end user

- According to European provisions (guideline 2002/96/EG of the European Parliament and the Council of January, 27th 2003), used electric and electronic equipment may no longer be placed in unsorted municipal waste. It must be collected separately. The symbol depicting a waste container on wheels indicates that the equipment must be collected separately.
This machine is to be placed for disposal or recycling in the waste separation systems provided for this purpose.
- According to German law (law governing the distribution, taking back and environmentally correct disposal of electric and electronic equipment (ElektroG) from 16.03.2005), used machines are to be placed in a collection system separate from unsorted municipal waste. The public waste management utilities (communities) have created collection points at which used equipment from private households can be disposed of free of charge.
- Information about giving back used equipment or about collections can be obtained from the respective municipal administration office.
- EWM participates in an approved waste disposal and recycling system and is registered in the Used Electrical Equipment Register (EAR) under number WEEE DE 57686922.
- In addition to this, returns are also possible throughout Europe via EWM sales partners.

6.4 Meeting the requirements of RoHS

We, EWM AG Mündersbach, hereby confirm that all products supplied by us which are affected by the RoHS Directive, meet the requirements of the RoHS (Directive 2011/65/EU).

7 Rectifying faults

All products are subject to rigorous production checks and final checks. If, despite this, something fails to work at any time, please check the product using the following flowchart. If none of the fault rectification procedures described leads to the correct functioning of the product, please inform your authorised dealer.

7.1 Checklist for rectifying faults



The correct machine equipment for the material and process gas in use is a fundamental requirement for perfect operation!

Legend	Symbol	Description
	↘	Fault/Cause
	✘	Remedy

Support and torch holder cannot be installed

- ↘ Deformed or damaged holder
 - ✘ Replace holder
- ↘ Incorrect torch holder selected
 - ✘ Use correct torch mount

8 Technical data

8.1 TH AMT

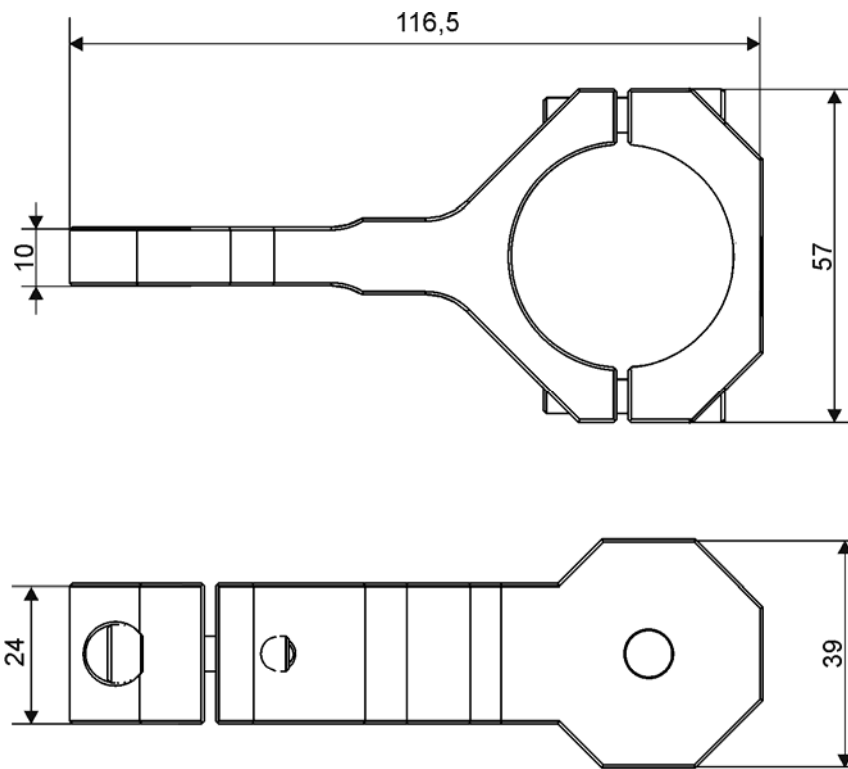


Figure 8-1

	TH AMT
Weight	0,18 kg

9 Appendix A

9.1 Overview of EWM branches

Headquarters

EWM AG
Dr. Günter-Henle-Straße 8
56271 Mündersbach · Germany
Tel: +49 2680 181-0 · Fax: -244
www.ewm-group.com · info@ewm-group.com

Technology centre

EWM AG
Forststraße 7-13
56271 Mündersbach · Germany
Tel: +49 2680 181-0 · Fax: -144
www.ewm-group.com · info@ewm-group.com



Production, Sales and Service

EWM AG
Dr. Günter-Henle-Straße 8
56271 Mündersbach · Germany
Tel: +49 2680 181-0 · Fax: -244
www.ewm-group.com · info@ewm-group.com

EWM HIGH TECHNOLOGY (Kunshan) Ltd.
10 Yuanshan Road, Kunshan · New & Hi-tech Industry Development Zone
Kunshan City · Jiangsu · Post code 215300 · People's Republic of China
Tel: +86 512 57867-188 · Fax: -182
www.ewm.cn · info@ewm.cn · info@ewm-group.cn

EWM HIGHTEC WELDING s.r.o.
9. května 718 / 31
407 53 Jiríkov · Czech Republic
Tel.: +420 412 358-551 · Fax: -504
www.ewm-jiríkov.cz · info@ewm-jiríkov.cz

Sales and Service Germany

EWM AG
Sales and Technology Centre
Grünauer Fenn 4
14712 Rathenow · Tel: +49 3385 49402-0 · Fax: -20
www.ewm-rathenow.de · info@ewm-rathenow.de

EWM AG
Rudolf-Winkel-Straße 7-9
37079 Göttingen · Tel: +49 551-3070713-0 · Fax: -20
www.ewm-goettingen.de · info@ewm-goettingen.de

EWM AG
Sachsstraße 28
50259 Pulheim · Tel: +49 2234 697-047 · Fax: -048
www.ewm-pulheim.de · info@ewm-pulheim.de

EWM AG
August-Horch-Straße 13a
56070 Koblenz · Tel: +49 261 963754-0 · Fax: -10
www.ewm-koblenz.de · info@ewm-koblenz.de

EWM AG
Eiserfelder Straße 300
57080 Siegen · Tel: +49 271 3878103-0 · Fax: -9
www.ewm-siegen.de · info@ewm-siegen.de

EWM HIGHTEC WELDING GmbH
Sales and Technology Centre
Draisstraße 2a
69469 Weinheim · Tel: +49 6201 84557-0 · Fax: -20
www.ewm-weinheim.de · info@ewm-weinheim.de

EWM Schweißtechnik Handels GmbH
Karlsdorfer Straße 43
88069 Tettngang · Tel: +49 7542 97998-0 · Fax: -29
www.ewm-tettngang.de · info@ewm-tettngang.de

EWM Schweißtechnik Handels GmbH
Heinkelstraße 8
89231 Neu-Ulm · Tel: +49 731 7047939-0 · Fax: -15
www.ewm-neu-ulm.de · info@ewm-neu-ulm.de

Sales and Service International

EWM HIGH TECHNOLOGY (Kunshan) Ltd.
10 Yuanshan Road, Kunshan · New & Hi-tech Industry Development Zone
Kunshan City · Jiangsu · Post code 215300 · People's Republic of China
Tel: +86 512 57867-188 · Fax: -182
www.ewm.cn · info@ewm.cn · info@ewm-group.cn

EWM HIGHTEC WELDING GmbH
Wiesenstraße 27b
4812 Pinsdorf · Austria · Tel: +43 7612 778 02-0 · Fax: -20
www.ewm-austria.at · info@ewm-austria.at

EWM HIGHTEC WELDING UK Ltd.
Unit 2B Coopies Way · Coopies Lane Industrial Estate
Morpeth · Northumberland · NE61 6JN · Great Britain
Tel: +44 1670 505875 · Fax: -514305
www.ewm-morpeth.co.uk · info@ewm-morpeth.co.uk

EWM HIGHTEC WELDING Sales s.r.o. / Prodejní a poradenské centrum
Tyršova 2106
256 01 Benešov u Prahy · Czech Republic
Tel: +420 317 729-517 · Fax: -712
www.ewm-benesov.cz · info@ewm-benesov.cz

Liaison office Turkey

EWM AG Türkiye İrtibat Bürosu
İkitelli OSB Mah. · Marmara Sanayi Sitesi P Blok Apt. No: 44
Küçükçekmece / İstanbul Türkiye
Tel.: +90 212 494 32 19
www.ewm-istanbul.com.tr · info@ewm-istanbul.com.tr

