

OPERATING INSTRUCTIONS

Translation of the original instructions



HiFIT device

Type: HFM12 P1
Type: HFM 12 P1-B

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1 Introduction

These operating instructions was created to work quick and safe with the HiFIT device. Read these operating instructions carefully to enable safe handling of the 'HiFIT device'.

In the further course of these operating instructions, the term 'device' is used instead of the full wording 'HiFIT device' for the sake of simplicity.

Operate the device properly, according to these instructions, so that injuries and damage are avoided. Do not operate the device based on assumptions. Keep the operating instructions available, and consult them if you are in doubt about the performance of a procedure. If you still have any doubts or questions after reading through this, do not put the device into operation. First clarify any outstanding questions with HiFIT.

The device was designed and manufactured in accordance with the current state of the art and the recognised safety regulations. Nevertheless, hazards to persons or property may arise, as not all danger points can be avoided while maintaining effective functionality. However, accidents due to these dangers and malfunctions can be prevented by applying the contents of these operating instructions and by fully conveying the instructions contained therein to your personnel during instruction. In addition, proper application of these operating instructions will enable you to use the performance of the device to the full extent possible and avoid unnecessary malfunctions.

NOTE

Prior reading and understanding of these operating instructions is a legal prerequisite for proper commissioning and operation of the device. Always observe the instructions and information contained, and follow the safety instructions carefully at all times.

These operating instructions apply exclusively to the devices specified on the cover sheet: HFM 12P1 and HFM 12P1-B. Compare this information with the information on the type plate of the devices.

Keep these operating instructions in a continuously accessible filing system so that you can refer to them at any time if you have questions.

Modification or alterations to the device are only permitted with the written approval of the manufacturer. In the event of unauthorised conversion, any liability on the part of the manufacturer and the warranty shall lapse.

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**OPERATING INSTRUCTIONS: HiFIT device type: HFM 12P1
HFM 12P1-B**

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These operating instructions are intended for the personnel defined in Chapter 1.9, 'Target groups – qualification'. It contains regulations and illustrations of a technical nature which must not be reproduced, distributed or exploited for competitive purposes without authorisation or communicated to others, either in whole or in part.

In the event that the operating instructions are handed over in digital form and there is an internal need for a physical printout and this project does not infringe copyright, such a printout must generally be made in colour, as the content of some information is only complete in colour.

1.1 Type plate

The following information can be found on the type plate:

Manufacturer or distributor placing on the market
Address
Type designation
Device number
Year of manufacture

For technical information and for spare parts orders,
provide all the data listed above.



1.2 General description



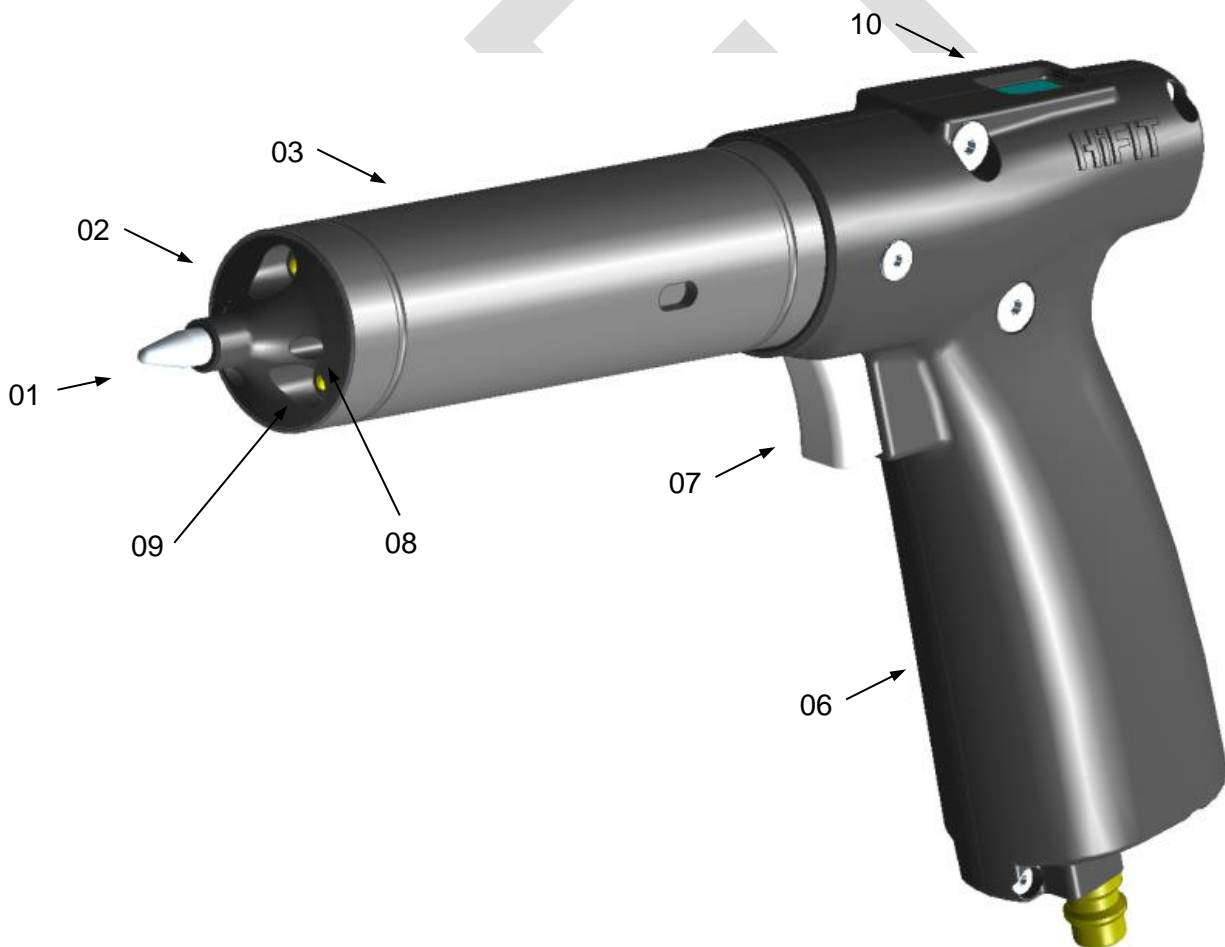
Fig. HiFIT device type HFM 12P1

The HiFIT device is used for the post-treatment of weld seams. It is to be regarded as a complete machine and is subject to the EC Machinery Directive 2006/42/EC.

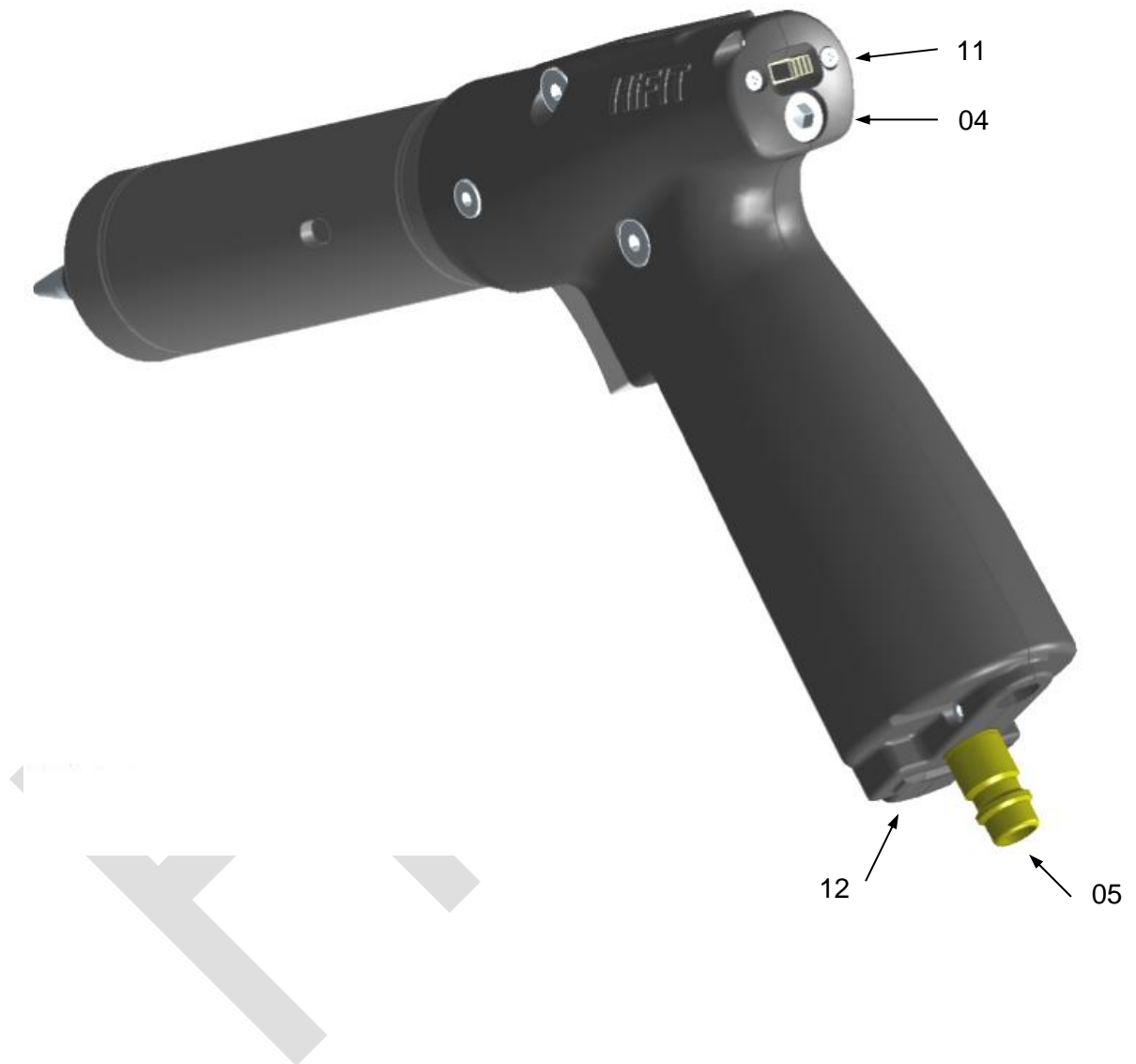
1.3 Main components

The following components are installed in the respective type:

Pos.	Component naming	Type HFM 12 P1	Type HFM 12 P1-B
01	Pin	✓	✓
02	Spike	✓	✓
03	Cap lock	✓	✓
04	Intensity setting	✓	✓
05	Compressed air connection	✓	✓
06	Handle	✓	✓
07	On/off switch	✓	✓
08	Air outlet	✓	✓
09	LED lighting	✓	
10	Pressure display	✓	
11	LED light switch	✓	
12	Battery compartment	✓	



The main components of the HiFIT device



1.4 Scope of delivery

Type HFM 12P1

The device is supplied in a case. The contents are as follows:

- 1 HiFIT device type HFM12P1
- 5 spare pins
- 1 Allen key
- 1 pair of pliers for circlip
- 1 gauge for checking the pin geometry and the groove depth
- 1 spare battery
- 1 battery charger
- 1 set of operating instructions

Type HFM 12P1-B

The device is supplied in a case. The contents are as follows:

- 1 HiFIT device type HFM12P1-B
- 2 spare pins
- 1 Allen key
- 1 pair of pliers for circlip
- 1 gauge for checking the pin geometry and the groove depth
- 1 set of operating instructions

1.4 Operating instructions of the manufacturer

The operating instructions of the manufacturer are an essential aid for the correct and flawless operation of the device.

The operating instructions are intended to help you as the operator to keep the device at a high level of performance during a long service life and to take the necessary measures for accident prevention.

Read these operating instructions before operating the device.

All illustrations are for general illustration purposes and are not authoritative for the design.

If you still have any doubts or questions after reading through the operating instructions, do not put the device into operation. Clarify any outstanding questions beforehand.

If further information is required, **HiFIT** staff are available to provide service consulting.

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If the device is passed on, the operating instructions must be handed over to the new operator.

Additional copies of the operating instructions or parts thereof are available at any time, if required, against reimbursement of the cost price.

1.5 Operating instructions of the operator

The device is built according to the state of the art and the recognised safety regulations. To the best of our knowledge, the unit does not pose any hazards when operated correctly.

However, even the safest appliance may pose residual risks to the health and safety of users or third parties during operation.

In order to achieve proper operation and safe use, it is necessary to instruct the personnel by means of clear usage, maintenance and other operating instructions within the framework of training and instructions.

The place of work and the surroundings are also of particular importance.

As an operator, you are obliged to draw up operating instructions for your company.

Your operating instructions have the task of enabling the safe operation and use of the device as well as taking into account the specific characteristics of your company, including your experience, and must be kept up to date by you.

You are obliged to eliminate all hazards on the unit itself and during operation. If this is not possible, you must clearly point out the dangers in the operating instructions you have drawn up.

Your operating instructions must be available to the personnel at the place of work of the unit at all times and within easy reach.

Take appropriate measures to ensure that unauthorised persons are kept away from the unit.

The following chapters are intended to make it easier for you to draw up your own operating instructions.

1.6 Intended use

The device was developed for the post-treatment of weld seam transitions in the workshop area and for use on construction sites.

Intended use also includes full knowledge of these operating instructions. Be sure to observe the safety instructions.

The device must only be operated with the original HiFIT pins. The regrinding of worn pins by the operator is not permitted. Without the necessary knowledge and machinery, the shape cannot be guaranteed, which may result in limited effectiveness of the HiFIT treatment.

The device must be operated only by compressed air. The maximum permissible operating pressure specified in the technical data must not be exceeded. This device must not be operated with explosive, flammable or harmful gases.

The device is built according to the state of the art and the recognised safety regulations. Nevertheless, improper use of the device may result in danger to life and limb of the user or third parties as well as damage to the device and other property.

Any other use is contrary to the intended use. Unintended use, modifications to the device or the use of parts that have not been tested and approved by the manufacturer may result in unforeseeable damage.

NOTE

The manufacturer/supplier is not liable for damage resulting from improper use. The operator alone bears the risk.

NOTE

In the event of unauthorised modifications to the device, the product liability and the liability of the manufacturer/supplier for any resulting damage shall lapse. The operator alone bears the risk.

NOTE

Intended use also includes compliance with the procedure described in these operating instructions.

1.7 Environmental conditions

The device is designed for use in workshops and on construction sites. Please observe the temperature ranges specified in the technical data.

Make sure that the surface allows safe working.

The supply of compressed air to the device must be ensured by the infrastructure of the workshop or construction site.



1.8 Foreseeable misuse

Foreseeable misapplications are considered to be:

- The removal of paint or zinc.
- The removal of rust or weld spatter.
- The cleaning of workpieces.

The points mentioned represent some of the residual risks that are possible despite the ban and can endanger the safety of personnel.

The safety requirements defined in the Ordinance on Industrial Safety and Health must be complied with by the operator.

Personnel shall be continuously trained according to a specific training plan. All activities on the device must be carried out with maximum concentration.

The instructions in the operating instructions must be followed.

Tampering with the device poses a great potential danger and is strictly prohibited.

Compressed air connections are to be provided exclusively for the operation of the device. Any deviating use not in accordance with the intended use, e.g. cooling your own body in summer, must be refrained from.

It is not permitted to affix safety instructions or type plates. In general, all components must be used as intended. Manipulations of any kind always contradict the intended use and are prohibited on principle.

The jamming of controls is prohibited.

In the event of unauthorised modifications to the operating equipment or unauthorised expansion of the device, product liability and liability for any resulting damage shall lapse.

The maintenance intervals specified in the chapter 'Care and maintenance' must be observed to the full extent with regard to ensuring the functions.

1.9 Target groups – qualifications



Risk of injury with unsuitable personnel or insufficient qualification

Improper handling of the device can lead to considerable personal injury or damage to property.

Have all work carried out by qualified personnel only.

The operating instructions specify the following target groups and qualifications for different areas of activity:

Instructed personnel

These persons have been instructed in a briefing by the operator about the tasks assigned to them and possible dangers in the case of improper behaviour.

Specialist personnel

These persons are, due to their professional training, expertise and experience as well as their detailed knowledge of the relevant regulations, able to carry out the work assigned to them and to independently recognise and avoid possible dangers.

Only persons who can be expected to perform their work reliably are permitted as personnel. Persons whose ability to react is influenced, e.g. by drugs, alcohol or medication, are not permitted.

When selecting personnel, the age- and occupation-specific regulations applicable at the place of employment must be observed.

1.10 Operator prerequisite

The operator must organise their working environment in such a way that optimum, continuous operation is realised.

The operator must be instructed before starting work for the first time and recurrently once a year.

All persons who are assigned to work with the device undertake to do the following before starting work:

Observe the basic regulations on work safety and accident prevention, read the safety instructions and warnings in the operating instructions and confirm by their signature that they have understood them,

Put on personal/workplace-related protective clothing and aids that serve occupational safety or use them during work, insofar as this is necessary for safety reasons.

The definitions of competences must be observed. For example, maintenance work on the device must only be carried out by a specially trained specialist or by an instructed person under the direction and supervision of such a specialist in accordance with the applicable technical rules.

1.11 Obligation for instruction and training

As the operator, you are obliged to train your personnel and inform them about existing legal and accident prevention regulations as well as your operating instructions.

You must ensure that these operating instructions have been understood by your personnel and are observed.

This applies in particular to the:

Safety instructions
Meaning of the hazard symbols
Operating instructions
Maintenance instructions
Quality assurance

Regularly check that your personnel is working in a safety-conscious and hazard-conscious manner in compliance with your operating instructions.

Conduct regular training for your personnel according to a set programme.

Ensure safe resumption of work after holidays and other work interruptions through instruction and training.

Operating the equipment requires practice.

Document the content of training sessions.

Have participants confirm that they have understood the content of training sessions.

Keep these documents.

Create a maintenance plan tailored to your usage conditions.

In the following chapter, 1.11.1 'Sample form', you will find an example of training topics with a form to confirm the instruction.

HiFIT offers training for the delivered device as a service.

Ask for specific information.

1.11.1 Sample form

Training topics for operating personnel		HiFIT device type: HFM 12P1 HFM 12P1-B	
Example of topics to be covered:			
Safety			
General legislation			
Accident prevention regulations			
General safety instructions			
Special safety instructions for the operation of the device			
Safety facilities on the device			
Personal protective equipment			
Safety facilities in the company			
Emergency measures			
Operation of the device			
Content of the operating instructions of the operator			
Special experiences of the operator of the device since the last instruction			
Special experiences with regard to the materials and tools since the last instruction			
Experience with the product produced			
Maintenance of the device			
Cleaning, maintenance and repair of the device, the auxiliary equipment and the operational environment			
Special experience regarding cleaning, maintenance and repair of the device since the last instruction			
Confirmation of training			
No.	Last name	First name	Signature
1			
2			
3			
4			
5			
6			
Date		Training manager	
Signature of the trainer			

2 Safety information

2.1 General notes

The basic prerequisite for safe and trouble-free operation of the unit is complete knowledge of the safety instructions and the safety regulations. Therefore, read this chapter carefully before operating the device. The safety instructions and warnings that you will find at the appropriate places in the text of the following chapters must also be observed. The manufacturer cannot be held liable if the instructions and warnings are not observed.

The operator is responsible for compliance with the protective regulations and for the intended use of the device.

In this respect, operation is at the operator's own risk. The manufacturer is not liable for damage caused during use of the device unless this damage can be attributed to gross negligence or intentional breach of contract on the part of the manufacturer.

The manufacturer cannot foresee every danger. The warnings contained in these instructions and attached to the device may therefore not include all dangers.

In addition to the instructions in these operating instructions, the legal regulations must be observed, in particular the safety and accident prevention regulations.

2.2 Symbols and hazard levels

In these operating instructions, symbols and colour backgrounds are used which must be observed in particular:

Hazard levels indicating dangerous situations with possible personal injury:



CAUTION

Indicates a dangerous situation in which an accident is possible. There is a risk of injury; however, death or serious injury is not possible.



WARNING

Indicates a dangerous situation in which an accident with fatal outcome or serious injuries is possible.



DANGER

Indicates a hazardous situation in which an accident resulting in death or serious injury is very likely to occur.

The danger levels are shown in conjunction with a warning symbol corresponding to the danger. Please note the following example:

Warning symbol		<p>Nature and source of the hazard:</p> <p>Warning of risk of falling or tripping There is a risk of falling or tripping due to contamination, residues of operating or auxiliary materials as well as replacement parts and tools lying around.</p>
Possible consequences of non-compliance:	People can suffer serious injuries from a fall.	
Prevention (measures/prohibitions):	<p>Keep the workplace, especially all handles, steps, railings, platforms, stages and ladders free from contamination.</p> <p>Dispose of operating and auxiliary material residues properly, and store replacement parts and tools carefully.</p>	

2.2.1 Requirements



GENERAL REQUIREMENT SIGN

This sign is used in combination with a supplementary sign. The requirements shown on the additional sign must be observed at all times.



REQUIREMENT – Read the operating instructions before commissioning.

Read the operating instructions before commissioning the device.



REQUIREMENT – Wear safety shoes.

Safety shoes must be worn when working with the device.



REQUIREMENT – Wear protective gloves.

Wear protective gloves when working with the device.



REQUIREMENT – Wear protective goggles.

Safety goggles must be worn when working with the device.



REQUIREMENT – Wear hearing protection.

Hearing protection must be worn when working with the device.



REQUIREMENT – Wear a mask.

Respiratory protection must be worn when working with the device.

2.2.2 Notes

NOTE

Indicates useful advice, explanations and supplements on the handling of the device.



Refers to a chapter in these operating instructions or to further external documents/information.



Reference to environmentally hazardous substances

2.3 Safety instructions

Observe the instructions given in the operating instructions.
Safety instructions.

NOTE

Failure to observe the safety instructions will result in danger to persons and/or damage to the device.

2.4 Regulations, standards

When working on or with the device, comply with the applicable accident prevention regulations and the generally recognised national rules of technology.

Be sure to comply with the regulations and guidelines listed below:

Safety regulations

Accident prevention regulations (BGV A1 etc.)

DGUV Information

Guidelines and recognised rules of technology (Directive 2006/42/EC, EN ISO 11161, VDI 2854, TRBS 2111 etc.)

Technical Rules on Noise and Vibration Occupational Health and Safety Ordinance (TRLV)

2.5 Emergency information

Ensure that up-to-date contact information for emergencies, e.g. fire, theft, vandalism, malfunctions or leaks in the fuel, gas, water or electricity supply, as well as malfunctions in operating equipment or auxiliary units, is always available to personnel (information signs, labels, folders, etc.).

2.6 Lettering, requirement signs

There are requirement signs on the type plate of the device that serve to ensure work safety and to protect the operator.

NOTE

Make sure that the requirement signs attached to the device are always clearly visible and legible.

In the operating instructions, a corresponding warning sign is shown for the relevant work steps, which explains the hazard and gives information on how to avoid it.

2.7 Specialist personnel

Only use reliable, trained and familiarised specialist personnel. Clearly define the qualifications, competences and responsibilities of the skilled personnel for commissioning, operation, maintenance and servicing.

Qualified personnel are persons who, due to their professional training, experience and instruction, have sufficient knowledge of:

- Safety regulations
- Accident prevention regulations
- Guidelines and recognised rules of technology (e.g. national standards)

The professionals must:

- be commissioned by the company,
- be able to assess the work assigned to them, recognise possible dangers and avoid them.



For all activities with the device, observe the definitions according to Chapter 1.9, 'Target groups – qualifications'.

2.8 Personal protective equipment

Provide operators with the necessary personal protective equipment, e.g.:



Safety goggles



Protective gloves



Safety shoes



Hearing protection



Respiratory protection

Instruct your personnel in the correct use of personal protective equipment.
Check the personal protective equipment regularly for damage.
Replace the personal protective equipment if damaged.

2.9 Instructions for operation, care and maintenance

Preventive and careful care and maintenance is a prerequisite for ensuring that the health and safety of persons in the vicinity of the device are not endangered. In addition, care and maintenance is necessary to keep the device in good working order. Observe the information given in the operating instructions.

NOTE

Have care and maintenance work carried out by qualified personnel only.

Inform staff in good time about care and maintenance work to be carried out on the device. Designate a responsible person. Do not make any modifications, additions and/or conversions without the manufacturer's consent. Make sure that the time periods for care and maintenance are observed. These periods depend on your company-specific requirements and are to be determined by you. Document care and maintenance work by having the work carried out entered in a maintenance book by a responsible person.

Only operate the device if it appears to be undamaged.

Provide suitable work equipment for work on the device.

Only use original wear parts from **HiFIT**.
For ordering, use the spare parts lists of **HiFIT**.



Dispose of oils, cleaning agents and other environmentally harmful substances properly.

2.10 Safety instructions for handling auxiliary and operating materials



Danger due to operating materials that are harmful to health

When handling operating materials that are designated as hazardous to health, there is a risk of damage to the health of the personnel concerned.

When using substances, e.g. cleaning agents, observe the information on the respective safety data sheets and in the operating instructions.

Wear personal protective equipment.

3 Technical data

3.1 Device data

Operating pressure	6–8 bar
Air requirement	Approx. 180 l/min. at 6 bar Approx. 260 l/min. at 8 bar
Compressed air connection	NW 7.2 with locking pins
Impact frequency	Approx. 180–300 Hz
Power supply (battery) Type HFM12 P1	3.7 V
Dimensions (length x width x height)	288 mm x 46 mm x 170 mm.
Weight	1.7 kg
Protection class according to DIN EN 60529	IP44
Pressure indicator (measuring range) Type HFM12 P1	0 to 12 bar
Pressure display (display deviation) Type HFM12 P1	± 0.2 bar
Subject to technical changes	

3.2 Operating and environmental conditions

Ambient temperature (operation)	-15 °C to 40 °C
Ambient temperature (storage)	-15 °C to 60 °C
Max. relative humidity	90% at 40°C
Subject to technical changes	



Explosion hazard

Do not use the unit in an explosive atmosphere.

3.3 Sound and vibrations

The sound and vibration emissions were determined according to DIN EN ISO 11148-4: 2012.

Measured sound pressure level (L_{pA})	96 dB ¹⁾
Measured sound power (L_{WA})	107 dB ¹⁾
RMS acceleration value (a_h) on handle	6 m/s ² ²⁾
RMS acceleration value (a_h) on the shaft	10 m/s ² ²⁾

¹⁾Uncertainty K_{pA} and K_{WA} : 3 dB

²⁾The influence on the hand-arm system depends, for example, on the intensity setting, the operating pressure, the gripping force, the contact pressure, the working position and others.

4 Transport and storage

4.1 Transport

NOTE

Only transport the device in the HiFIT case included in the scope of delivery.
Secure this when transporting in vehicles. If the case is damaged or lost, order a replacement case.

Avoid shock-like mechanical impacts on the device.
Parts of the device may be damaged.

4.1.1 Transport damage

Check the device and accessories for transport and packaging damage after delivery.

Report any transport damage immediately to the carrier and the supplier.

4.2 Storage

NOTE

If the device is not to be used for a long period of time, remove the battery and make sure that there is no moisture in the device. Before storing the device for a longer period of time, disassemble and clean it as described in the chapter 'Care and maintenance'.

Store the device and the battery in the appropriate containers in a dry place and according to the information in the chapter 'Operating and environmental conditions'.

5 Preparation for post-treatment

5.1 General notes

The preparation for post-treatment is carried out before each post-treatment and is a prerequisite for safe and economical work.

5.2 Safety instructions

The preparations for the post-treatment must only be carried out by specialists who, due to their professional training, experience and instruction, have sufficient knowledge of:

- Safety regulations
- Accident prevention regulations
- Guidelines and recognised rules of technology
- Quality assurance

The skilled personnel must be authorised by the person responsible for the safety of the appliance to carry out the preparation for post-treatment.



Risk of injury with unsuitable personnel or insufficient qualification

Improper handling of the device can lead to considerable personal injury or damage to property.

Have all work carried out by qualified personnel only.

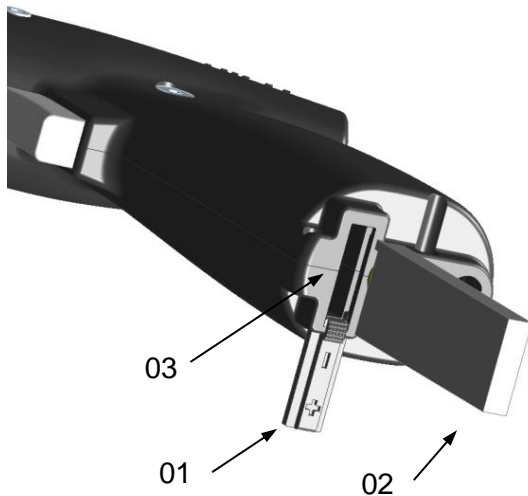


Checking the device

Before each use, check that the device is in perfect condition. Put the device out of operation immediately and do not operate it if there is visible damage to the device, if it is no longer functional, if parts of the device are loose or if connecting elements show visible damage.

5.3 General preparations

5.3.1 Remove and insert battery (only for type HFM 12P1)



A new battery or one that has not been used for a long time must first be charged.

Please use only the original HiFIT batteries.

To remove the battery, carefully open the battery cover (01) by sliding it and pull the battery (02) out downwards.

Push the charged battery (02) into the battery slot (03) with the contact surfaces first. Make sure that the polarity (+ -) of the battery (02) and the labelling on the battery cover (01) match. The battery must slide smoothly into the containment. If the battery is stuck, replace it.

Push the battery (02) into the slot (03) until you can carefully slide the battery cover (01) back into the closed position.

NOTE

The battery must be replaced only when the compressed air supply is disconnected; otherwise the pressure indicator will be calibrated incorrectly.



WARNING

Warning of damage due to improper handling of batteries

If batteries are used improperly, there is a risk of the cells exploding or catching fire. In this case, do not extinguish with water. The lithium in the battery could react with water.

Do not use force when handling the battery.

Replace weakening or damaged batteries in good time.

The HiFIT batteries must be charged only with the original HiFIT charger. Other, unsuitable chargers can cause the batteries to explode or catch fire.

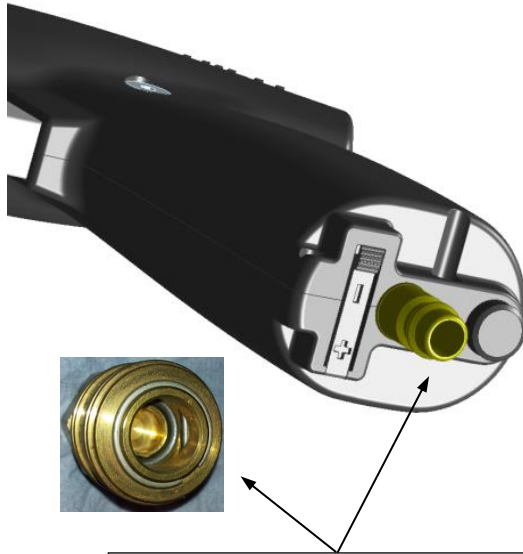


CAUTION

Disposing of batteries

Batteries contain substances that are harmful to the environment. Be sure to dispose of rechargeable batteries in accordance with the applicable legal regulations.

5.3.2 Establishing the compressed air supply



Compressed air connection and compressed air coupling NW 7.2 with locking pins

To supply the unit with compressed air, take the device in one hand and the compressed air hose with the coupling plug in the other. Guide the coupling plug axially, up to the stop, over the compressed air connection of the device. This requires some strength.

NOTE

To avoid contamination and possible damage to the device, only filtered, dry and oil-free compressed air may be used for operation.

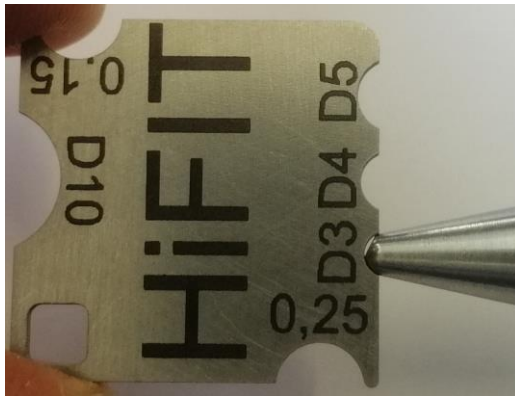
 **CAUTION**

Only use air couplings with hardened locking pins. Otherwise, hose couplings may flake off due to increased wear. In addition, the device will be damaged.

 **CAUTION**

Only operate the device within the permissible operating pressure of 6–8 bar. Otherwise, damage to the device cannot be ruled out.

5.3.3 Pin condition



Check the geometry of the pin before starting work, and then after no more than 5 m of treated weld seams. To do this, use the gauge included in the scope of delivery (gauge for checking the pin geometry and the indentation depth, item no. 3013). If wear is detected on the ball tip of the pin, it must be replaced, item no. 3001.

Picture left:

Pin tip of a badly worn and damaged pin in the D3 cut-out of the gauge.

Pins with deviations in shape and/or damage must not be used any further and must be replaced.

NOTE

The wear of the pin is strongly dependent on the actual parameters present, such as the material strength. For this reason, only a guideline value for the wear of the pins can be given here. For the treatment of S355 with a cleaned surface, experience shows that visible signs of wear appear on a pin after approx. 30–40 m of treated weld seams.

5.3.4 LED illumination (only for type HFM 12P1)



Switch on the LED light by sliding the switch (01) to the right.



Danger due to LEDs
Never point the LEDs directly at people or animals, never look directly into the LEDs yourself. There is a risk of injury to the eyes.

5.4 Intensity setting

The intensity with which a weld seam transition is treated must be adjusted before post-treatment according to the base material and the pressure level of the compressed air supply.

Since the strengths in the heat-affected zone vary greatly, an adjustment for the specific application is necessary. The correct setting must be checked by means of a sample and the evaluation of the measurement of the impact intensity and corrected if necessary.

NOTE

It is crucial to check the indentation depth using the indentation depth gauge supplied.

NOTE

The information in this document on treatment parameters (indentation depth, etc.) refers to weld seams on sheets with a minimum material thickness of 5 mm.

5.4.1 Setting the intensity on the device



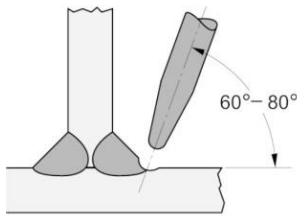
The intensity setting is easily adjustable by approx. $2\frac{1}{4}$ turns using an Allen key (included in delivery). The right stop is intended for material strengths below S355, the range of the middle position up to the left stop for strengths of S690 and higher.

NOTE

The impact frequency varies inversely to the intensity setting, i.e. when a high impact intensity is set, the number of impacts per second decreases. Setting a lower impact intensity increases the number of impacts per second.

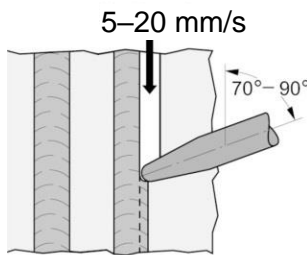
5.5 Trial treatment

Carefully place the pin at the weld seam transition. For optimal effectiveness, the unit must



a) be at an angle between 60° and 80° to the base material and

b) 70° to 90° to the weld seam and



c) be guided along the weld seam at a feed rate of 5 mm/s to 20 mm/s.

NOTE

The feed speed depends on the shape of the weld seam and changes depending on the geometry of the weld seam transition. It is important that the device guidance is continuous and not erratic and that the specified indentation depth is achieved.

NOTE

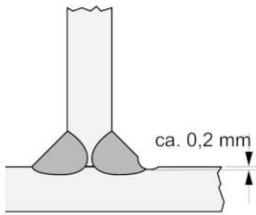
Only operate the unit as an exception and only for a short time without a counter resistance at the pin. The tip and the guide could otherwise be damaged.

5.6 Control of the intensity setting

Visual inspection

The treatment trace must be clearly visible at all machined weld seam transitions.

The transition of the weld to the basic material, which is recognisable as a line, must no longer be recognisable in the track of the pin's ball marks.



The depth of impression should be 0.15 mm to 0.25 mm.

Use the gauge described above to check the correct indentation depth, which you also use to check the pin geometry.

First place the gauge with the 0.15 mm tip in the groove. If there is a gap on the lower surface of the gauge (see illustration on the left), the groove is not deep enough.

If there is no gap on the lower surface of the gauge (see illustration on the left), the groove is at least 0.15 mm deep.

Now place the gauge with the 0.25 mm tip into the groove. If a gap appears on the lower surface of the gauge (see illustration on the left), the groove is OK because it is not too deep.

If there was no gap on the lower surface of the gauge even with the 0.25 mm tip, the groove would be too deep.

6 Post-treatment

6.1 General notes

The use of the appliance is only permitted to qualified personnel who are authorised by the person responsible for the appliance.
Furthermore, the operating instructions of the operator apply.

6.2 Safety instructions

Read the operating instructions and observe the instructions contained therein.
Ensure that the required personal protective equipment is in proper condition and donned.



Risk of injury with unsuitable personnel or insufficient qualification

Improper handling of the device can lead to considerable personal injury or damage to property.

Have all work carried out by qualified personnel only.



Checking the device

Before each use, check that the device is in perfect condition. Put the device out of operation immediately and do not operate it if there is visible damage to the device, if it is no longer functional, if parts of the device are loose or if connecting elements show visible damage.



Danger due to LEDs

Never point the LEDs directly at people or animals, never look directly into the LEDs yourself. There is a risk of injury to the eyes.

NOTE

A prerequisite for use is that the device has been treated according to the instructions in the chapter 'Care and maintenance' and is supplied with all media. Make sure that the device is in perfect condition.

6.3 Operating the device

Post-treatment of weld seams



For the post-treatment of weld seams, work with regard to guide angle and speed as described in Chapter 5.5, 'Trial treatment'.

Check the indentation depth at regular intervals as described in Chapter 5.6, 'Checking the intensity setting'. This is especially true if the weld seam or the trace of the post-treatment obviously changes.

NOTE

The compressed air line must not contain any condensation. To achieve the full performance of the device, always use compressed air hoses with an inner diameter of at least 10 mm. Special compressed air filters with integrated pressure reducers and other useful accessories are available from HiFIT GmbH.

7 Care and maintenance

7.1 General note

Care and maintenance work on the device must only be carried out by skilled personnel who, due to their professional training, experience and instruction, have sufficient knowledge about:

Safety regulations

Accident prevention regulations

Guidelines and recognised rules of technology (e.g. VDE regulations, DIN standards)

The professionals must:

- Be able to assess the work assigned to them, recognise possible hazards and avoid them,
- be authorised by the person responsible for the safety of the unit to carry out the necessary work and activities.

7.2 Safety instructions



Compressed air

Always disconnect the unit from the compressed air supply before starting any care or maintenance work.



Battery

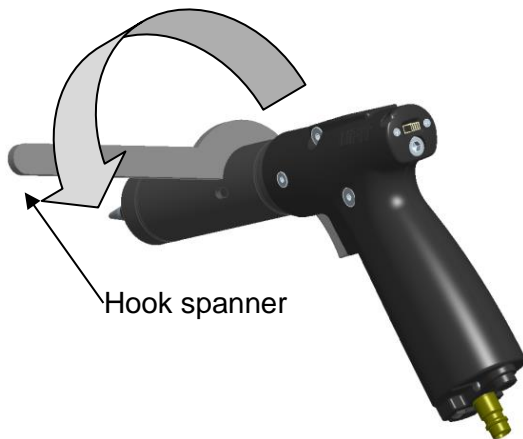
Before starting any care or maintenance work, remove the battery from the device.



Dispose of any lubricants, oils, cleaning agents or other substances in an environmentally friendly manner.

7.3 Maintenance, pin and pressure spring replacement

7.3.1 Loosening the cap lock



Hook spanner

To loosen the cap lock, hold the device with the spike away from you.

With the other hand, turn the cap lock anticlockwise until you can remove the spike and pin from the device.

NOTE

Loosen the cup nut by hand or using the hook spanner supplied. Never use pliers, otherwise the device may be damaged.

NOTE

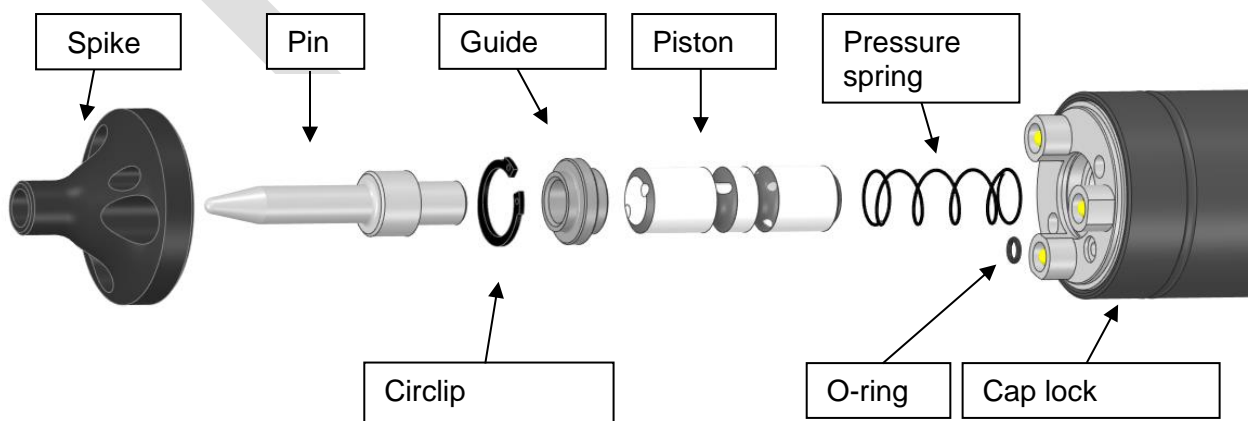
Briefly switching on the device in a jerky manner while simultaneously turning the union nut in the direction described can help to loosen the union nut.

7.3.2 Disassembly of the wearing parts

Now remove the O-ring.

Dismantle the circlip and pull out the guide. The guide may be slightly under tension, use a pin to help if necessary.

Now the piston and pressure spring can be removed.



7.3.3 Cleaning and checking the wearing parts

While cleaning the parts, visually inspect them. If in doubt, replace worn parts.

NOTE

Change the pressure spring with every second pin, even if it shows no signs of wear.

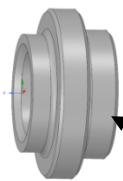
7.3.4 Assembly of the wearing parts



Two holes must be visible

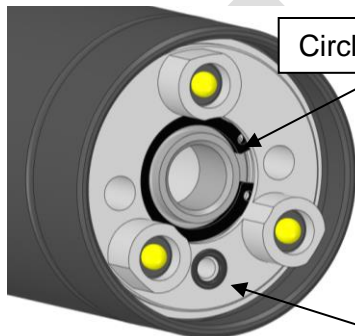
Assembly is done in reverse order.

First insert the new spring and then the piston. After inserting the piston, two holes must be visible on the front side of the piston.



Large diameter

Now the guide is put in place. This is done with the larger diameter first.



Circlip

Insert the circlip using the pliers provided.

O-ring

Now put the O-ring back into the recess provided.

NOTE

A little grease on the O-ring keeps it in place while assembling the pin and spike.



CAUTION

Vibrations

The O-ring is part of the damping system. Do not operate the hammer without an O-ring, otherwise increased vibration and damage to the unit will occur.

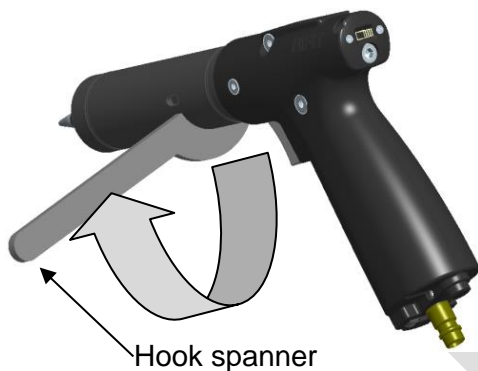
7.3.5 Pin and spike assembly

To mount the pin and spike, hold the unit as described in Chapter 7.3.1, place the pin in the guide and the spike over the pin.

NOTE

The spike only fits in one position, align the spike before tightening the cap nut.

7.3.6 Tightening the cap lock



Press the spike lightly against the cap nut and turn it clockwise. Turn the cap nut until you feel that the spike is in contact.

NOTE

The cap lock must always be tightened during operation. The tightening torque must not exceed 10 Nm.

The device is now ready for use again.

8 Repair

8.1 General notes

All the other work not previously listed in Chapter 7. Care and maintenance must only be carried out by **DYNATEC Gesellschaft für CAE und Dynamik mbH and HiFIT GmbH.**

NOTE

For all queries and orders of spare and wear parts, please be sure to quote the serial number of your HiFIT device. An overview of the spare and wear parts can be found as a separate document in the appendix.

9 Declaration of conformity



EC declaration of conformity

Manufacturer / authorised representative: DYNATEC Gesellschaft für CAE und Dynamik mbH
Adam-Opel-Strasse 4
38112 Braunschweig
Germany

Product: HiFIT device

- Type HFM 12P1
- Type HFM 12P1-B

We hereby declare that the machine described above complies with all relevant provisions of the Machinery Directive 2006/42/EC.

The above-mentioned machine fulfils the requirements of the following directives and standards:

- Machinery Directive 2006/42/EC
- EN ISO 12100:2010 Safety of machinery – General principles for design – Risk assessment and risk reduction.
- EN ISO 15744: 2008-11 Hand-held non-electric power tools – Noise measurement code – Engineering method (grade 2).
- EN ISO 3744: 2011-02 Acoustics – Determination Of Sound Power Levels And Sound Energy Levels Of Noise Sources Using Sound Pressure - Engineering Methods.
- EN ISO 11148-4: 2012-12 Hand-held non-electric power tools – Safety requirements – Part 4: Non-rotary percussive power tools.
- DIN EN ISO 28927-10: 2011-07 Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 10: Percussive drills, hammers and breakers.
- EN ISO 8041-1: 2017-10 Human response to vibration – Measuring instrumentation.
- EN ISO 20643 2012-10 Mechanical vibration - Hand-held and hand-guided machinery – Principles for evaluation of vibration emission.

Braunschweig, 2 March 2021

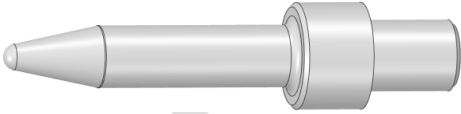

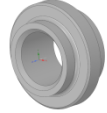


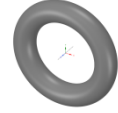

Dr.-Ing. S. Dannemeyer, Managing Partner

Dr.-Ing. G. Telljohann, Managing Partner

10 Appendix



Ersatzteile / Spare Parts

Artikel Nr. / Item No.	Bezeichnung / Name	Abbildung / Image
3001	Pin D=3 mm (other diameters are available)	
3005	Kolben / Piston	
3006	Führung / Guide	
3007	Sicherungring / Circlip	
3008	Druckfeder / Pressure spring	
3009	O-ring	
3010	Spitze / Spike	
3013	Messlehre / Measure Gauge	