

Verbindungen mit **System**  
The **Power** of Partnership

**Klauke**<sup>®</sup>  
A Textron Company

**i-press**<sup>®</sup>*mini*  
**MAP2L**



**D** Bedienungsanleitung

**GB** Instruction Manual

Serialnummer



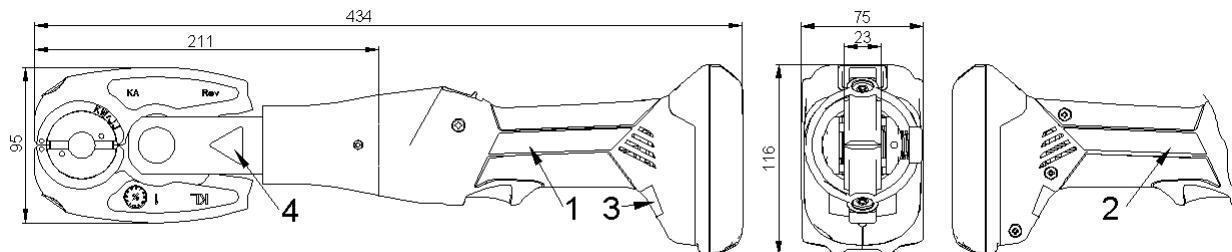
Hydraulic  
Pressure  
Check



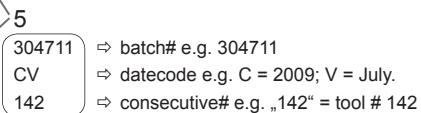
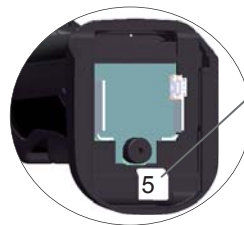


Bild/pic./fig. 1





Bild/pic./fig. 2



Bild/pic./fig. 3



Bild/pic./fig. 4



Bild/pic./fig. 5



Bild/pic./fig. 6



Bild/pic./fig. 7



Bild/pic./fig. 8



Bild/pic./fig. 9



Bild/pic./fig. 10



Bild/pic./fig. 11



**Makita**  
 #884676B996  
 #884598C990  
 Bild/pic./fig. 12



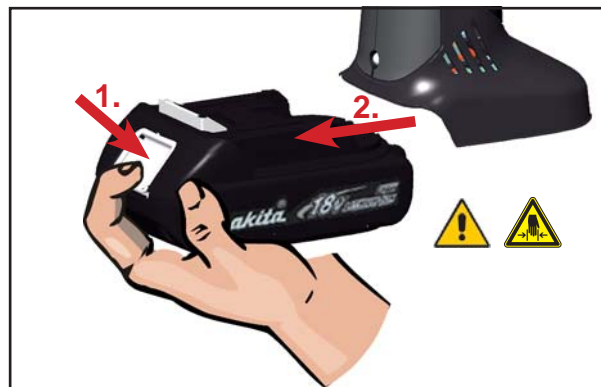
Bild/pic./fig. 13



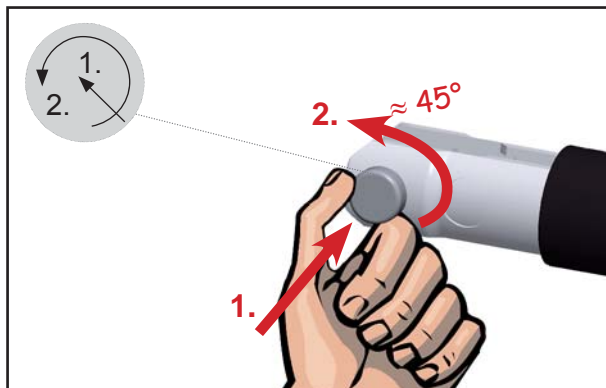
Bild/pic./fig. 14



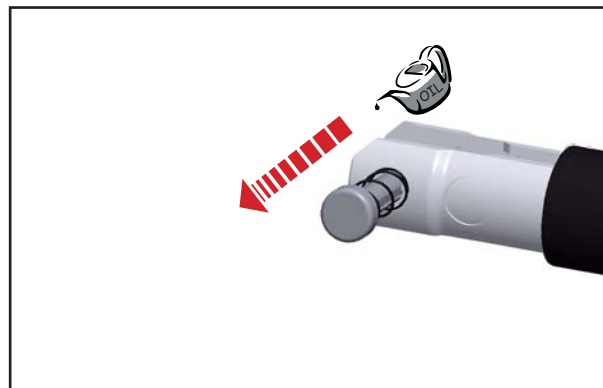
Bild/pic./fig. 15



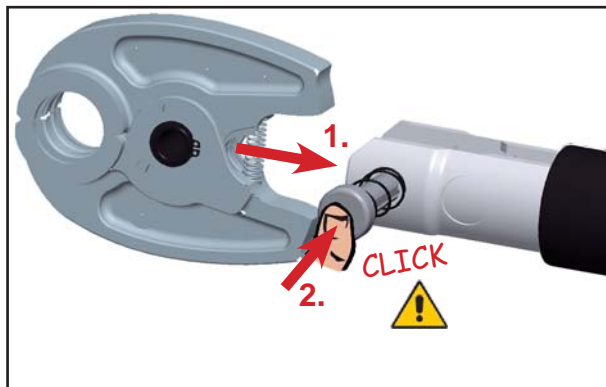
Bild/pic./fig. 16



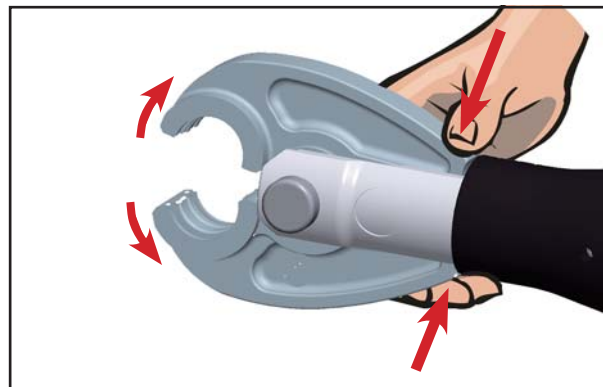
Bild/pic./fig. 17



Bild/pic./fig. 18



Bild/pic./fig. 19



Bild/pic./fig. 20



Bild/pic./fig. 21



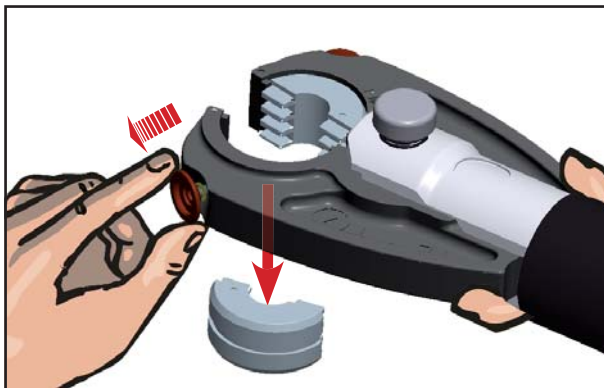
Bild/pic./fig. 22



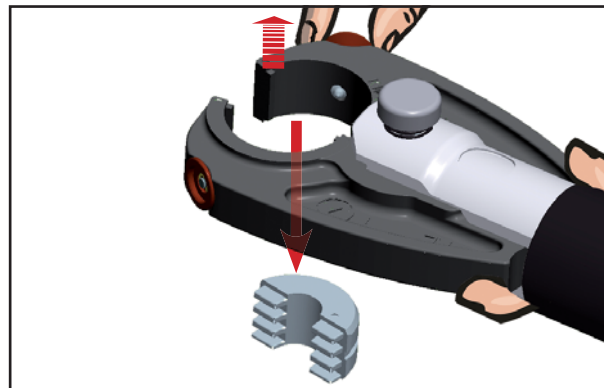
Bild/pic./fig. 23



Bild/pic./fig. 24



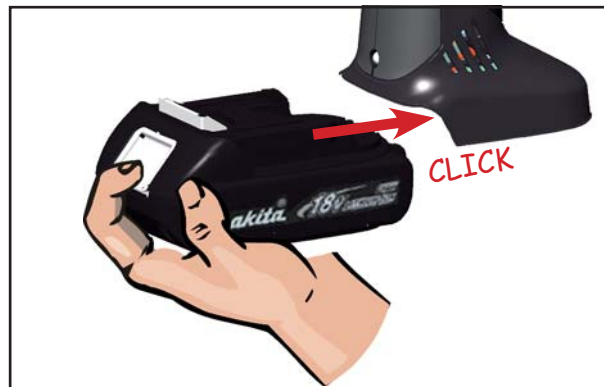
Bild/pic./fig. 25



Bild/pic./fig. 26

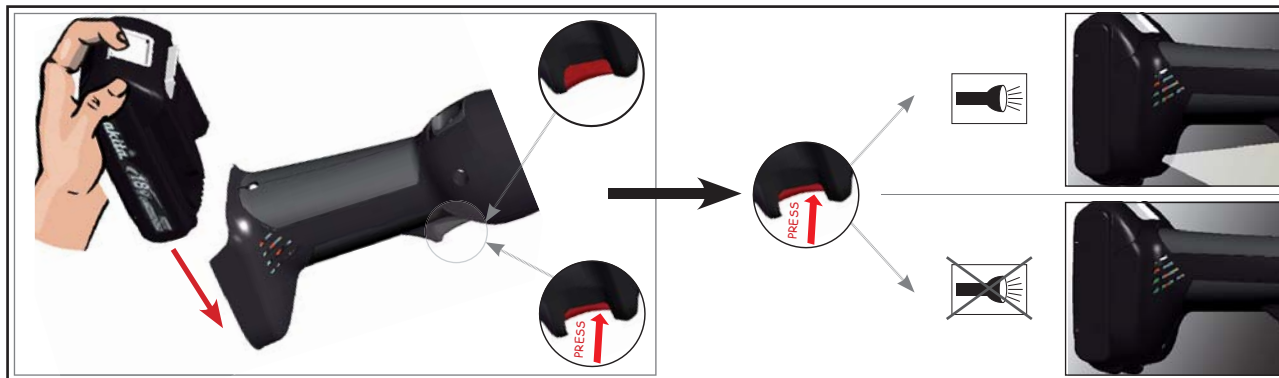


Bild/pic./fig. 27



Bild/pic./fig. 28





## Index

1. Introduction
2. Warranty
3. Description of the electro-hydraulic pressing tool
  - 3.1 Description of the components
  - 3.2 Brief description of the important features of the unit
  - 3.3 Description of the tool indication
4. Remarks in respect of the determined use
  - 4.1 Operation of the tool
  - 4.2 Explanation of the application range
  - 4.3 Mounting instructions
  - 4.4 Service and maintenance instructions
5. Troubleshooting
6. Technical data
7. Putting out of action/waste disposal

## Symbols



### Safety Warnings

*Please do not disregard to avoid injuries and environmental damage*



### Application Warnings

*Please do not disregard to avoid damaging the tool.*

## 1. Introduction



***Before starting to use the tool please read the instruction manual carefully.***

Use this tool exclusively for its determined use and follow all applicable safety instructions. This instruction manual has to be carried along during the entire life span of that tool.

The operator has

- to guaranty the availability of the instruction manual for the user and
- to make sure, that the user has read and understood the instruction manual.

## 2. Warranty



If the tool is operated according to its intended use and the regular maintenance services are observed our warranty is 24 months from the time of delivery. Worn-out parts resulting from their intended use are excluded. We reserve the right to rework the tool in case of a justified warranty claim.

## 3. Description of the battery operated electro-hydraulic pressing tool

### 3.1 Description of the components

The hydraulic tool is a hand guided tool and consists of the following components:

Table 2 (see page I, pic.1)

<b>Pos.</b>	<b>Description</b>	<b>Function</b>
1	Pressing head	Working unit to accommodate the pressing jaws
2	Retract slide	Slide to open the pressing jaws in case of an error or emergency
3	LED (red)	Indicator for battery charge, service intervals and faults
4	Battery lock	Slide to unlock the battery
5	Battery	Rechargeable Li-Ion battery 18V
6	LED (white)	to illuminate the working area
7	Trigger	Actuator to start the pressing cycle
8	Jaws	Displayed are jaws with interchangeable pressing dies with multiple pressing geometries
9	Locking pin	Pin with special lock to open/close the pressing head
optional:		
10	Locking device	Special locking device to hold the interchangeable dies in place.

### 3.2 Brief description of the important features of the unit

#### Safety features:



The unit is equipped with a special brake which instantly stops the forward motion of the piston/dies when the trigger is released.



A white LED illuminates the working space after activating the trigger. It automatically switches off 10 sec. after releasing the trigger. This feature can be deactivated (see page VIII)



Hydraulic Pressure Check, HPC for short, monitors the oil pressure in the tool's oil circuit, hence ensuring a continuous, consistent press quality.



During each pressing cycle, the achieved pressing pressure is determined by a pressure sensor and compared to the required minimum value. An audible warning signal sounds if the achieved pressure differs from the specified working pressure. The user will know immediately that the fitting must be checked and repressed or replaced as required.

### Functional features:



The hydraulic unit incorporates an automatic retraction which returns the piston into its starting position when the maximum operating pressure is reached.



A manual retraction allows the user to return the piston into the starting position in case of an incorrect crimp.



The pressing head can be smoothly turned by 350° around the longitudinal axis in order to gain better access to tight corners and other difficult working areas.



The unit is equipped with a microprocessor (page I, pic. 1.3) which shuts off the motor automatically after the compression is completed, indicates service intervals, checks battery capacity and does a trouble check e.g. informing the user through acoustical and optical warning signals about the kind of error.



Power saving function through motor switch-off.



The ergonomically formed compact housing is made of 2 components. The grip area is rubber coated and is therefore non-slip. Together with the improved center of gravity the tool allows fatigue-free working.



All tool functions can be controlled by **one** trigger. This results in an easy handling and a better grip compared to a two button operation.



Li-Ion batteries do neither have a memory effect nor self discharge. Even after long periods of non operation the tool is always ready to operate. In addition we see a lower power weight ratio with 50% more capacity and shorter charging cycles compared to NiMH batteries.



The oil used in our tool is highly biologically degradable and not hazardous to water and has been rewarded „**The Blue Angel**“. The oil is suitable for low temperatures and has excellent lubrication characteristics.



At the end of a job a print-out via a USB adapter can be generated documenting the proper function of the tool.

### 3.3 Description of the tool indication

See page IX, tab. 1

## **4. Remarks in respect of the determined use**

### **4.1 Operation of the tool**

The pressing cycle is started by actuating the trigger (page 1, pic. 1.7). The pressing cycle is characterized by the closing motion of the jaws. Due to the linear movement of the rollers on the piston the jaws close scissors like.

**Attention**



*A necessary condition for a permanently leaking free connection is that the pressing cycle has to be completed and the jaws are closed.*



**Attention**

*The pressing process can be interrupted at any moment by releasing the trigger.*



**Attention**

*The assembly of gas pipes in gas distribution lines is prohibited unless the system provider gives an explicit permission to use this tool on special gas fittings.*



**Attention**

*The user has to check by optical means whether the pressing jaws are completely closed.*



**Attention**

*If a pressing cycle has been interrupted the fitting has to be either dismantled or pressed a second time.*

**Attention**



*Do not operate the tool without jaws.*



**Achtung**

*For your own safety please observe all national and European safety regulations.*

The user needs to make sure that the pressing jaws are completely closed and that there are no foreign objects (e.g. plaster or stone fractions) between the pressing jaws.

## 4.2 Explanation of the application range

The hand guided pressing tool is to mount fittings on multi Layer, copper and stainless steel type plumbing pipes with Ø 12 to 28 mm, respectively 32 mm (multi layer pipes). The unit is not supposed to be restrained in a vise. It is not allowed to use the tool in a stationary application.

The tool is not designed for continued pressing operations. After a sequence of approximately 50 completed compressions you have to make a break of 15 min. to give the tool time to cool down.



### **Attention**

*Too intensive use can cause heat damages for the tool*



### **Attention**

*During the operation of built-in electric motors sparks can occur which might ignite highly inflammable or explosive liquids and materials*



### **Attention**

*Electric tools must not be operated in pouring rain or under water.*

## 4.3 Mounting instructions

Please reference the assembly manual of the systems supplier before mounting the fittings on the pipes. In order to safeguard a proper pressing and to guaranty a safe and reliable handling the machine must only be operated with pressing jaws/dies recommended by the provider of the pipe system and/or the tool manufacturer. If the markings on the tool and pressing jaw do not match respectively if there are no assembly instructions the user has to contact the provider of the system to request a compatibility statement.



### **Attention**

*Do not use bent or damaged pressing jaws.*



### **Remark**

*As a system supplier/tool manufacturer we offer perfectly designed pressing jaws for all pipe dimensions. Special designs and customer solutions upon request.*

#### **4.4 Service and maintenance instruction**

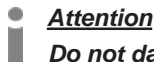
The reliable performance of the tool is dependent on careful treatment and service. This represents an important condition to safeguard a lasting connection. To safeguard this the tool have to be maintained and serviced regularly.

We would like to draw your attention to the following points:

1. The electric-hydraulic pressing unit have to be cleaned and dried after each use before being put into the transportation case.
2. In order to guaranty a proper function of the machine the pressing tool should be returned to the manufacturer or one of our Authorized Service Centers (ASCs) after the red LED indicates Service (after 10.000 pressing cycles) or once every year whatever occurs first.
3. The battery as well as the charging unit must be protected against humidity and foreign objects.
4. The bolt joins, the rollers and their guides must be oiled regularly in small amounts.
5. Check through test compressions or have the tool manufacturer check the tool and pressing jaws regularly for proper function.
6. Keep pressing jaws clean. Remove dirt with a brush.

In order to avoid possible malfunctions we offer you a manufacturer service consisting (see ASC) of disassembly, cleaning, exchange of possibly worn out parts assembly and final control. Only a clean and properly functioning press system can over the time safeguard a leaking free connection.

Within the determined use of the tool only the pressing jaws (page I, pic. 1.8; page IV, pic. 13+14) are permitted to be changed by the customers.



##### **Attention**

***Do not damage the seals of the tool. If the seals are damaged the warranty is invalidated.***



## 5. Troubleshooting

- a.) Constant flashing/indicating of the light diode display (page I, pic 1.3) or the occurrence of an acoustical warning signal.
- ⇒ see table 1. If the failure can not be solved return the tool to the nearest service center (ASC).
- b.) The tool loses oil.
- ⇒ Return the unit to the manufacturer. Do not open it and damage the seal of the tool.
- c.) The red LED flashes 3x and simultaneously 3 acoustic warning signals occur (see table 1).
- ⇒ Serious fault! If this fault occurs repeatedly return the unit to an Authorized Service Center (ASC). Do not open it and damage the seal of the tool.
- In case of a one time occurrence the fitting has to be dismantled or pressed a second time.

## 6. Technical Data

Type	MAP2L
Weight incl. battery:	1,7 kg
Pressing time:	3-4 s
Thrust force (linear):	15 kN min.
Battery voltage:	18 V
Battery capacity:	1,5 Ah Li-Ion (RAL1/BL1815) or 3,0 Ah Li-Ion (RAL2/BL1830)
Battery charging time:	15 min. (RAL1/BL1815) or 22 min. (RAL2/BL1830)
Cycles/charge:	approx. 150 cycles at NW 20 (RAL1/BL1815) approx. 300 cycles at NW 20 (RAL2/BL1830)
Ambient temperature:	-20°C to +40°C
Hydraulic oil:	Rivolta S.B.H. 11
Sound level:	70,6 dB (A) in a distance of 1m
Vibrations:	< 2,5 m/s <sup>2</sup>

## **7. Putting out of action/waste disposal**

This unit is subjected to the scope of the European WEEE (2002/96/EG) and RoHS (2002/95/EEC) directives.

Information about this can be found on our home page [www.Klauke.com](http://www.Klauke.com) under 'WEEE & RoHS'.

Battery cartridges must be specially disposed of according to the EEC Battery Guideline.

### **Attention**



***Do not dispose of the unit in your residential waste. Klauke has no legal obligation to take care of their WEEE outside Germany unless the product has been shipped and invoiced from inside your country by Klauke. Please contact your distributor to find out more how to get your tool recycled environmentally friendly.***

### **Remark**

***This instruction manual can be ordered free of charge. The Part No. is HE.13112.***