

**NIBCO**<sup>®</sup>  
AHEAD OF THE FLOW<sup>®</sup>

NIBCO INC. – World Headquarters  
1516 Middlebury Street  
Elkhart, IN 46516  
USA

## **PC-20M**

**US** *Instruction Manual*

*Battery-powered  
Pressing Tool*



Hydraulic  
Pressure  
Check

Serialnummer



(Components identified on page (US) 3)

	SERVICE 	2K
	Energy Save 	easy
		18v Li-Ion
		BIO
ELECTRONIC 		PDF 

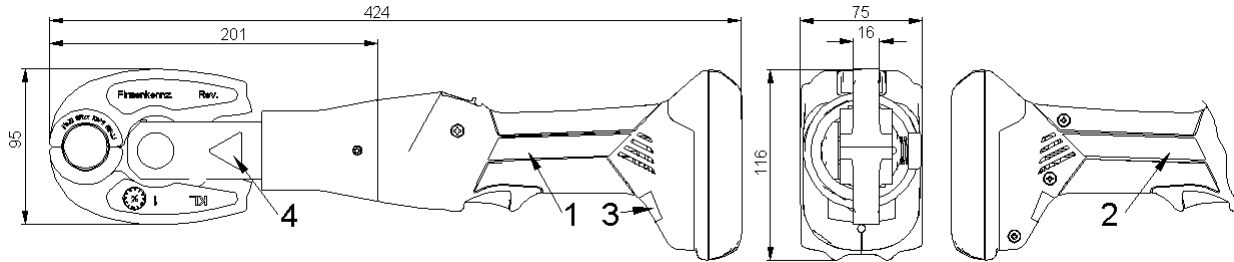
Hydraulic  
Pressure  
Check

*optional:*  
PC-9L  
120V-18V Adapter

*optional:*  
PC-7L  
3 Ah Battery



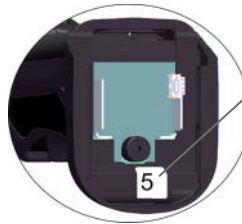
pic. 1



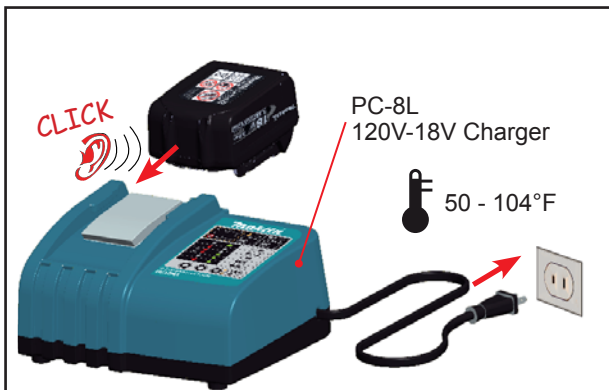
pic. 2



pic. 3



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NIBCO INC. - World Headquarters - 1516 Middlebury Street - Elkhart, IN 46516 - USA
- 3 **PC-20M**  
Voltage: 18V DC Thrust: 15 kN  
⚠️ ⚡️ ⚙️ ⚠️ ⚠️ ⚠️  
MADE IN GERMANY
- 4
- 5 304711 ⇒ batch# e.g. 304711  
CV ⇒ datecode e.g. C = 2009; V = July.  
142 ⇒ consecutive# e.g. „142“ = tool # 142



pic. 4



pic. 5



pic. 6



pic. 7



pic. 8



pic. 9



pic. 10



pic. 11



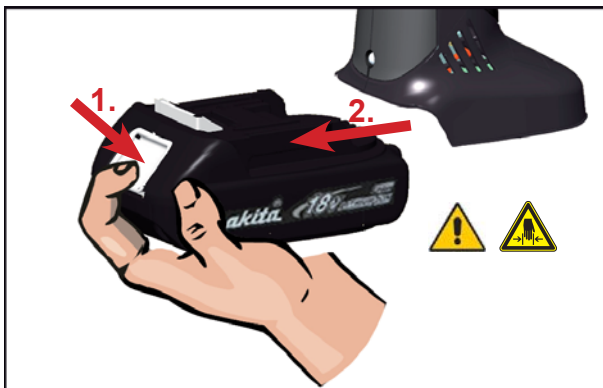
**Makita**  
#884676B996  
#884598C990  
pic. 12



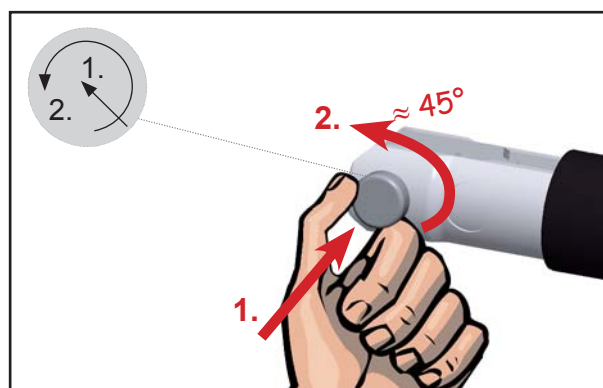
pic. 13



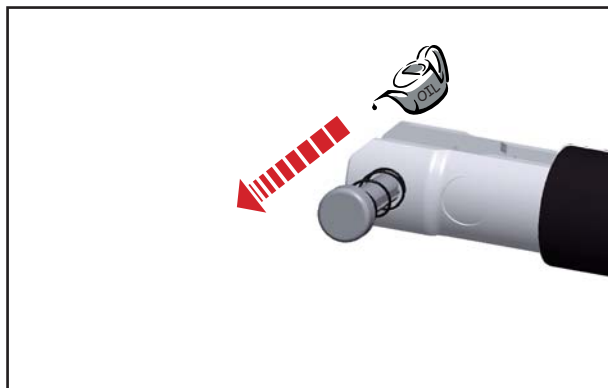
pic. 14



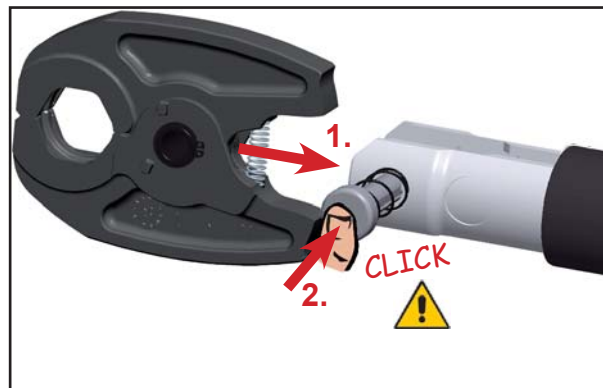
pic. 15



pic. 16



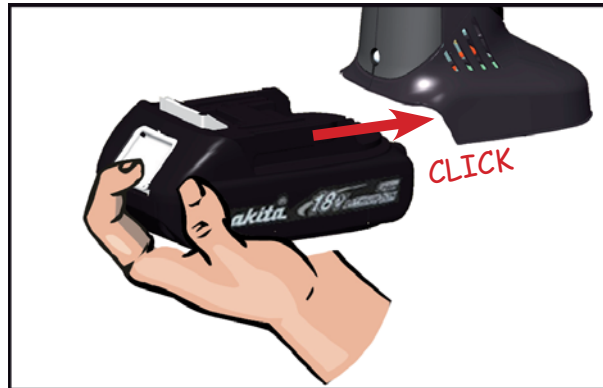
pic. 17



pic. 18

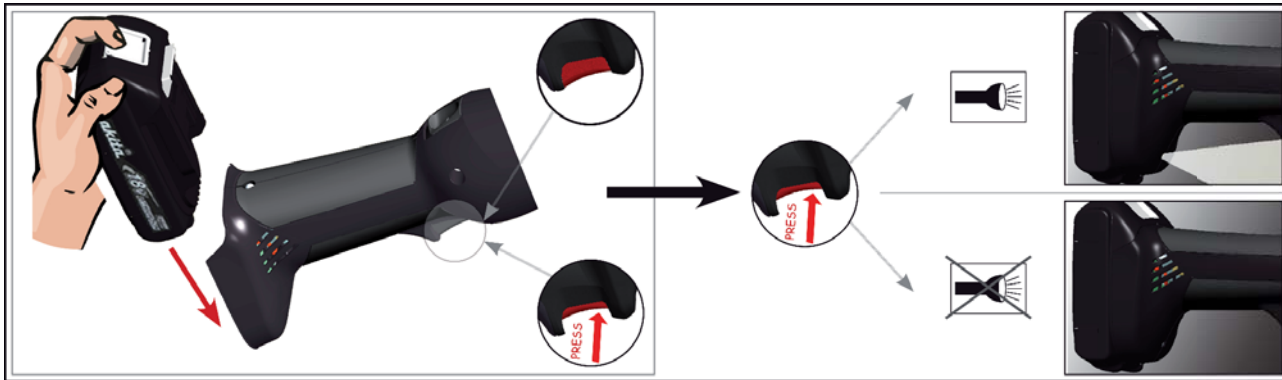


pic. 19





















pic. 20

 **on / off**



Tab. 1

			When	Why
 20 sec			after working cycle	
 2 x			after inserting the battery	Self check
 20 sec/2Hz			after working cycle	
 20 sec/5Hz			while exceeding the temp. limit	Unit too hot
 20 sec  20 sec/2Hz			after working cycle	 + 
 1 x		 1 x	after working cycle	Error: the required pressure has not been reached. The operator has interrupted the pressing cycle manually while the motor was not running.
 3 x	 3 x	 3 x	after working cycle	Serious Error: The pressure has not been reached while the motor was running.



## Index

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2. Description of the electro-hydraulic pressing tool
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  - 3.1 Operation of the tool
  - 3.2 Explanation of the application range
  - 3.3 Installation instructions
  - 3.4 Service and maintenance instructions
4. Troubleshooting
5. Technical data

## Symbols



### **Safety Warnings**

*Please do not disregard these instructions in order to avoid human injuries and environmental damage.*



### **Operational Warnings**

*Please do not disregard them 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 accompany the tool during its entire life span.

The operator has

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

## 2. Description of the electro-hydraulic pressing tool

### 2.1 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, 1.3 Ah
6	LED (white)	To illuminate the working area
7	Trigger	Actuator to start the pressing cycle
8	Jaws	Displayed are jaws that are available for each size
9	Locking pin	Pin with special lock to open/close the pressing head

### 2.2 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 VII)



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 crimping 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 neither have a memory effect nor self discharge. Even after long periods of non operation the tool is always ready to operate. In addition there is 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 degradeable and not hazardous to water. 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.

## **2.3 Description of the tool indicator**

See page VII, tab. 1

### 3. Remarks with respect to the intended use

#### 3.1 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 leak-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 and keep your hands away from the pressing tool head when pressing.***

**Attention**



***Before changing the pressing jaws, remove battery to avoid unintentional operation.***

**Attention**



***Keep your hands away from the pressing tool head when pressing.***

**Attention**



***Inspect the tool before use. Replace any worn or damaged parts. A damaged or improperly assembled tool can break and strike bystanders.***

**Attention**



***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.

### **3.2 Explanation of the application range**



**Attention**

***Using the tool too intensively can cause heat damage to 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.***

### **3.3 Installation instructions**

Please reference the installation instructions of the systems supplier before assembling the fittings on the pipes. In order to ensure a proper pressing and to guarantee safe and reliable handling, the machine must only be operated with pressing jaws 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 or if there are no assembly instructions, the user should contact the provider of the system to request a compatibility statement.



**Attention**

***Do not use bent or damaged pressing jaws.***

### 3.4 Service and maintenance instructions

The reliable performance of the tool is dependent on careful treatment and service. This represents an important condition to ensure a lasting connection. For optimal performance, the tool should be maintained and serviced regularly.

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

1. The electric-hydraulic pressing unit should be cleaned and dried after each use before being put into the carrying case.
2. In order to ensure the proper functioning of the machine, the pressing tool should be returned to an Authorized Service Center (ASC) after the red LED indicates Service (after 10.000 pressing cycles) or once every year, whichever 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 as well as the moveable parts of the pressing jaw must be oiled regularly in small amounts.
5. Check through test compressions or have an ASC check the tool and pressing jaws regularly for proper function.
6. Keep pressing jaws clean. Remove dirt or any build up 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 pressing tool can, over time, ensure a leak-free connection.

Within the determined use of the tool only the pressing jaws (page I, pic. 1.8) are permitted to be changed by the installer.

#### **Attention**

***Do not damage the seal of the tool. If the seal is broken the warranty is invalid.***

## 4. Troubleshooting

- a.) Constant flashing/indicating of the LED light (page I, pic 1.3) or the occurrence of an acoustical warning signal.  
⇒ see table 1. If the failure can not be resolved, return the tool to the nearest service center.
- b.) The tool loses oil.  
⇒ Return the unit to the nearest service center (ASC). 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. 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.

## 5. Technical Data

<b>Type:</b>	<b>PC-20L</b>
Weight incl. battery:	3.75 lbs
Pressing time:	3-4 s
Thrust force (linear):	15 kN min.
Battery voltage:	18 V
Battery capacity:	1.3 Ah Li-Ion, (PC-4ML) or 3.0 Ah Li-Ion, (PC-7L)
Battery charging time:	15 min. (PC-4ML)
Cycles/charge:	approx. 150 cycles at NW 20 (PC-4ML) / approx. 300 cycles at NW 20 (PC-7L)
Ambient temperature:	-4°F to +104°F
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>