



CEMBRE

PORTABLE BATTERY HYDRAULIC CUTTING UNITS **RADIO CONTROLLED**



B68M-P18-KV-RC1
B68M-P18A-KV-RC1

CE

UK
CA



ENGLISH

OPERATION AND MAINTENANCE MANUAL

FIG. 1



FIG. 2



FIG. 3

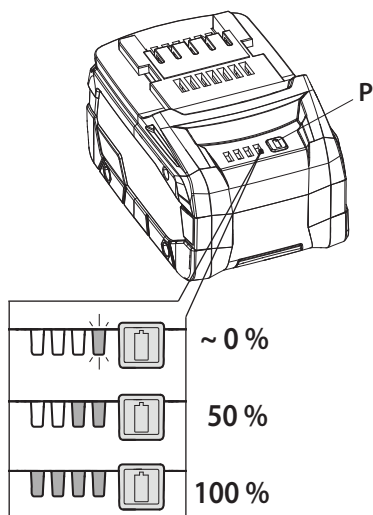


FIG. 4

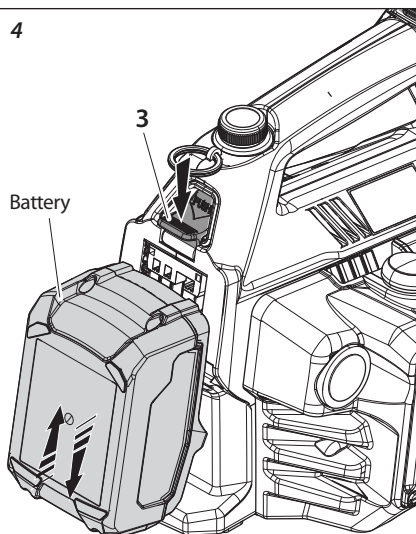


FIG. 5

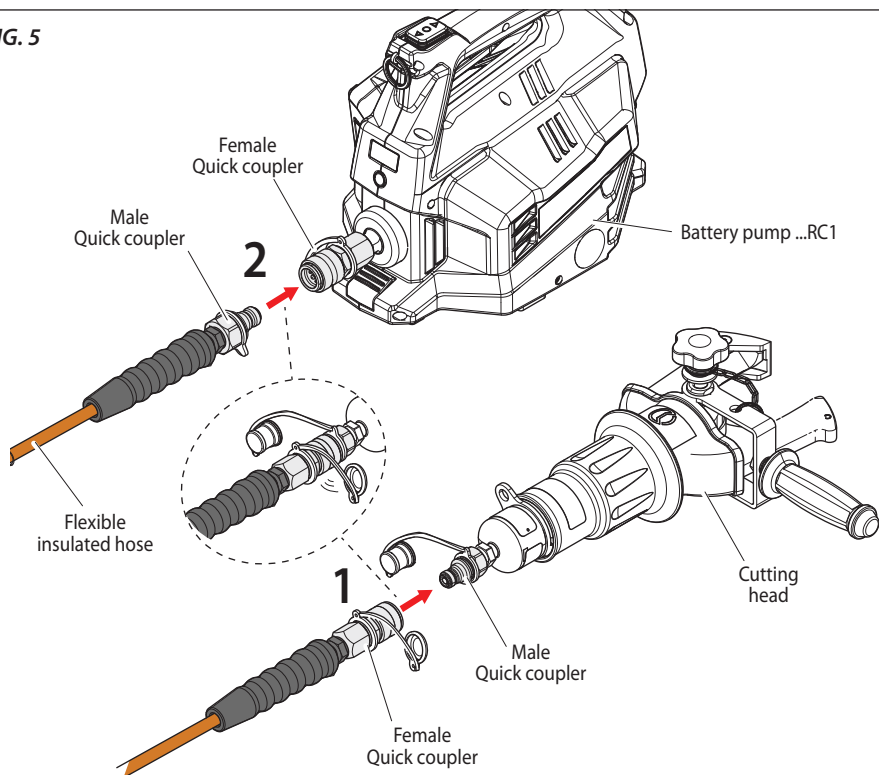


FIG. 6
example of a cutting operation within a manhole with user at a safe distance away.

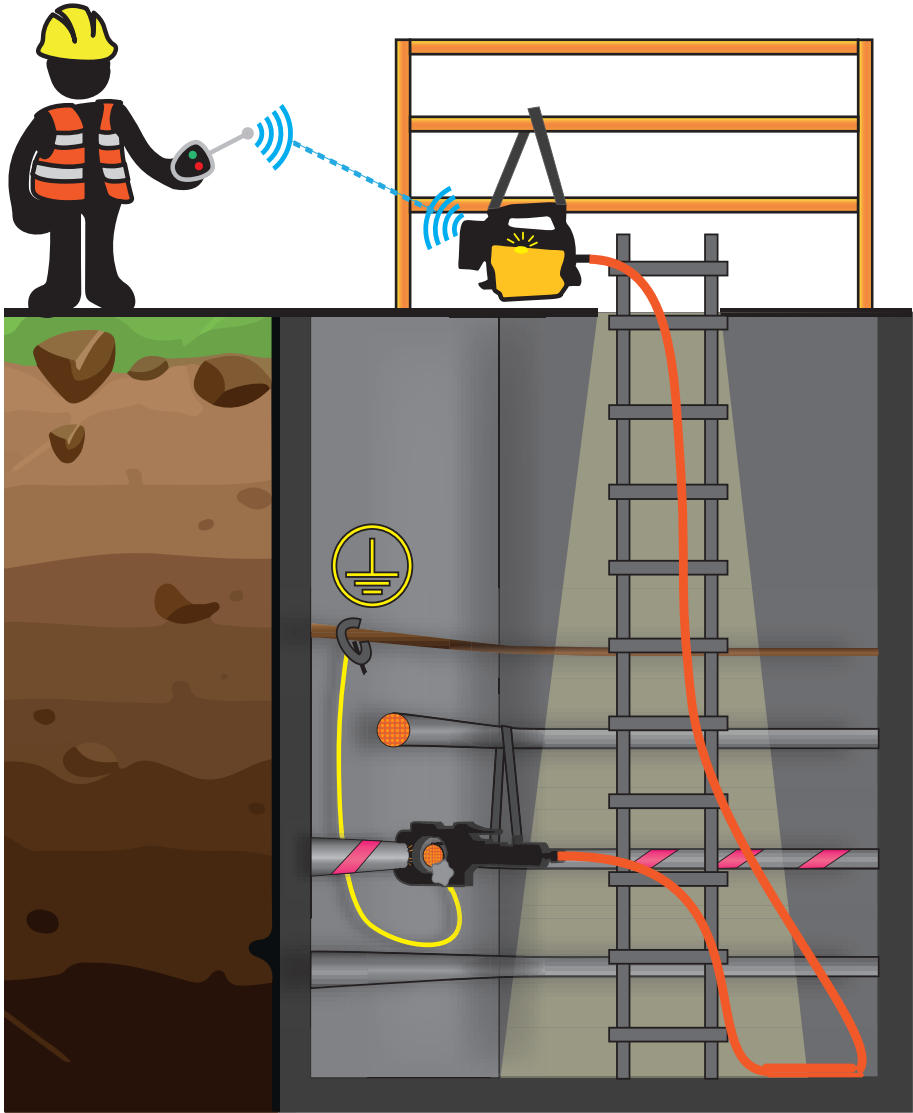
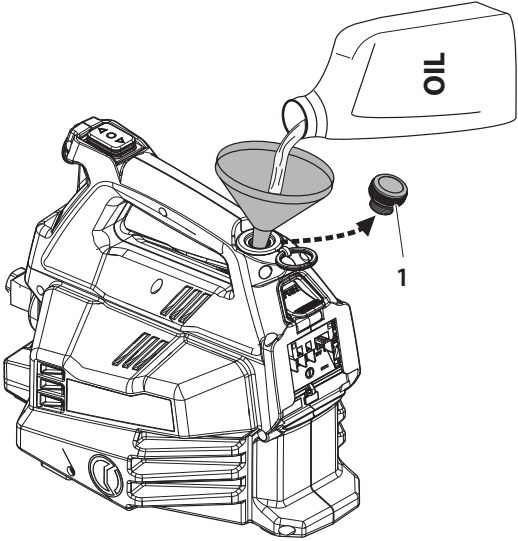


FIG. 7



WARNING: use dielectric oil only.
For type and quantity refer to
section 1, page 8.

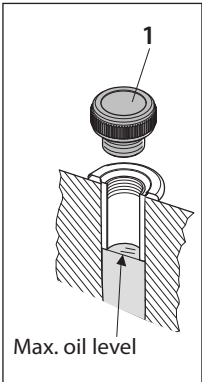
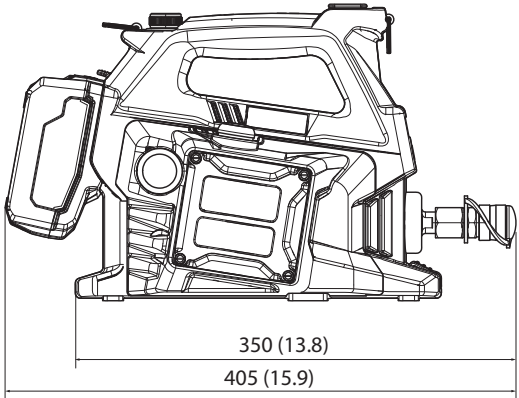
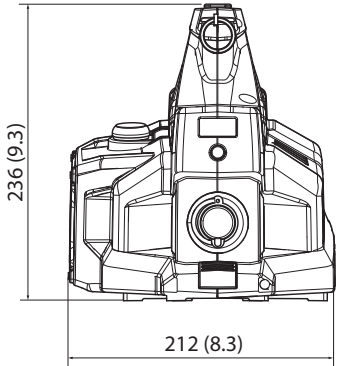


FIG. 8

mm (inch)





WARNINGS

Hydraulic pumps manufactured by CEMBRE S.p.A. are developed for use with hydraulic heads. According to this specific use, they do not need and are not equipped with an oil non-return safety system. For this reason, use in applications different from those intended (for example with hydraulic jacks, lifting systems or similar) can be dangerous for the operator.

CEMBRE S.p.A. does not accept any liability arising from the use of its hydraulics pumps for applications different from those listed in its catalogues or other documentation.

Do not use the pump for purposes other than those intended by CEMBRE S.p.A.

The operator should concentrate on the work being performed and be careful to maintain a balanced working position.

Avoid dirty surfaces: dust and sand are a danger to any Electro-hydraulic equipment.

Protect the pump and accessories from rain and moisture. Water will damage the pump and battery.

Do not connect the hydraulic head directly to the pump quick coupler but always use the specific flexible hose.





The pump contains special insulating oil which must not be polluted with any other types of oil.

Never connect to a pump hydraulic heads that still contain oil, namely with the ram not fully retracted; excess oil could cause the pump to malfunction.

Before disconnecting the flexible hose, check that the ram of the head is completely retracted, in order to ensure that a sufficient quantity of oil is available for subsequent operations.

The pump is unsuitable for continuous use and should be allowed to cool down following uninterrupted, successive crimping operations; for instance, having exhausted a fully charged battery in one session, delay battery replacement for a few minutes.

PUMP WARNING LABEL

 <p>IMPORTANT: Before using the equipment, carefully read all the warnings and instructions in this manual. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.</p>	 <p>When operating the pump, keep hands away from the danger zone.</p>	 <p>Always wear safety gloves when operating the equipment.</p>	 <p>User information (Directives 2011/65/UE and 2012/19/UE), see page 25.</p>
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Use and Care of rechargeable batteries

Recharge the supplied battery using the specific manufacturer's charger only.

A charger intended for a specific type of battery may become a fire hazard if used with other types of battery.

Use the tool with the specific intended battery pack only, the use of any other type of battery may lead to a risk of injury or fire.

When the battery is not in use, store it away from other metal objects, such as paperclips, coins, keys, nails, screws or other small metal objects that can create a connection between two terminals. Keep batteries out of reach of children.

Short-circuiting the battery terminals can cause burns or fire.

If in very poor condition, a battery can leak liquid. Avoid contact with the eyes.

In the case of accidental contact, rinse immediately under running water.

If the liquid comes into contact with the eyes, seek medical assistance immediately. Battery liquid can cause irritation or burns.



Keep batteries dry!
Keep batteries away from fire!
Never throw batteries into fire or water.



Always recycle batteries after use.



Never dispose of batteries with household waste; they must be deposited at the dedicated collection points for disposal.

Transporting Li-Ion batteries

Lithium-Ion rechargeable batteries are subject to the legal requirements on hazardous goods. In the event of road transport by the user, no further precautions are necessary.

In the event of third-party transport (e.g. transported by airplane or courier), transportation must comply with the special requirements concerning packaging and labelling. We recommend that you consult an expert.

Rechargeable batteries can only be transported if undamaged.

The packaging must prevent the batteries from moving around and exposed contacts must be covered with adhesive tape.

1. GENERAL CHARACTERISTICS

Operating pressure	psi (bar)	10,573 (729)		
Oil supply				
high speed - low pressure	US gpm (l/ min)	0.34 (1,28)		
low speed - high pressure	US gpm (l/ min)	0.07 (0,25)		
Motor	V DC	18		
Radio receiver frequency				
remote control	Mhz	2405–2480		
Operating temperature	°F (°C)	+5 to +122 (-15 to +50)		
Oil reservoir capacity	cu. in. (cm ³)	58.6 (960)		
Recommended dielectric oil		TOTAL DIEKAN 1640		
Operating speed		Double speed action: operation and automatic switching from a rapid advancing speed to a slower, more powerful working speed		
Degree of protection		IP 20		
Dimensions		Ref. to Fig. 8 page 5		
Weight with battery	lbs (kg)	13.2 (6)		
Safety		double safety system, electronic & mechanical safety valve		
Acoustic noise ⁽¹⁾	dB	L _{pA} 66.8 (A)	L _{pCPeak} 88 (C)	L _{WA} 82.8 (A)
Vibrations ⁽²⁾	m/s ²	0.318		

Rechargeable battery	type	CB1880L Li-Ion
	V / Ah (Wh)	18 / 8.0 (144)
Weight	lbs (kg)	1 (2,2)

		B68M-P18-KV-RC1	B68M-P18A-KV-RC1
Battery charger	type	ASC55-EU	ASC30-36-USA/CA
Input	V / Hz (W)	220 - 240 / 50 - 60 (85)	115 / 60 (85)
Weight	lbs (kg)	1.2 (0,53)	

⁽¹⁾ Directive 2006/42/EC, annexe 1, point 1.7.4.2 letter u

L_{pA} = weighted continuous acoustic pressure level equivalent.

L_{pCPeak} = maximum value of the weighted acoustic displacement pressure at the work place.

L_{WA} = acoustic power level emitted by the machine.

⁽²⁾ Directive 2006/42/EC, annexe 1, point 2.2.1.1

Weighted root mean square in frequency of the acceleration the upper limbs are exposed to for each biodynamic reference axis. Tests carried out in compliance with the indications contained in EN ISO 5349-1/2 Standard, and under operating conditions much more severe than those normally found.

1.1) Compliance of use

- The **B68M...-RC1** pump is designed to activate hydraulic heads for cutting conductor cables or for crimping electrical cable lugs.
- **The main use of the pump is combined with specific cutting heads to safely cut Copper and Aluminium cable where the absence of voltage cannot be guaranteed.**
- The dielectric oil used within the pump has special properties which insulate the pump from the cutting head in the event that a live cable is accidentally cut.
- The innovative radio remote control is designed specifically for use within manholes allowing the operator to control and operate the pump outside of the manhole at a safe distance away from the cutting operation.



In order to trace all of the components of each complete unit, such as: pump, radio control, the user should check the identification number reported on the tag attached to each item.

1.2) Description

B68M.....-RC1 includes the following (Ref. to Fig. 1):

- **(A) Canvas bag:** made from sturdy fabric, allows users to store the pump and accessories.
- **(B) Battery charger:** for recharging the batteries supplied; has “AIR COOLED” charging technology and a processor for managing charging cycles.
To use, carefully follow the instructions in the battery charger user manual.
- **(C) USB cable:** for transferring the data stored on the internal memory card to a PC.
- **(D) Rechargeable battery** (2 pcs): 18 V - 8.0 Ah high capacity Lithium Ion battery.
Provides 100% of its energy between +5 and +122 °F (-15 and +50 °C).
Electronic control of the individual cells to prevent over-charging and under-discharging.
Greater longevity and ventilated recharging in short times thanks to AIR COOLED technology.
Timed automatic power off to optimize energy consumption.
Equipped with LED indicators that indicate the remaining battery life at any time by pressing the button (P) (Ref. to Fig. 3):
4 LEDs illuminated: fully charged
2 LEDs illuminated: 50 % capacity
1 LED flashing: minimum charge, replace the battery.

With the battery inserted in the pump, the remaining battery life can also be checked on the display, via touch button selection (Ref. to **section 5**).



The display alongside indicates that the battery is low and the pump will not start (Ref. to **section 6.5**).

The approximate time to fully recharge the supplied battery is about 160 minutes.

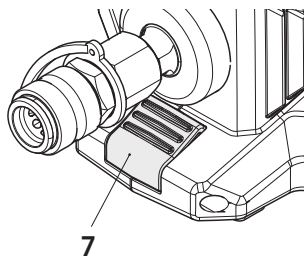


- **(E) Shoulder Strap:** allows for easy transportation of the pump when connected to the rings (2) on the pump.
It can also be used to secure the pump to the ladder in the manhole or to the manhole guard.
- **(F) Radio Remote Control RRC1:** allows users to control the pump from a safe distance.
(Ref. to **section 2** for further details).
- **(G) Portable hydraulic high capacity pump:** driven by an 18V battery powered electric motor. An Electronic Pressure Sensor (EPS) ensures precision and repeatability of the work cycles and a maximum pressure valve to ensure maximum operator safety.
The memory card integrated into the pump allows the storage of the data relating to previous operating cycles.
The default settings of the pump are:
Operating mode: **CUTTING** (Ref. to **section 6.2** to choose CRIMPING operating mode).
Oil release mode: **SMART** (Ref. to **section 6.3** for further details).
Pump control mode: **RADIO ON**, enables the radio remote control (Ref. to **section 6.4** for further details).

Main components (Ref. to Fig. 2):

- 1 - OIL FILLER CAP: for accessing the pump's oil tank.
- 2 - STRAP FASTENING RING: to attach the shoulder strap and transport the pump.
It can be used to hang the radio control before the storage of the pump.
- 3 - BATTERY RELEASE DEVICE: to lock/unlock the battery, press the button (3) and push the battery downward to unlock it (Ref. to Fig. 4). Insert a battery from the bottom by sliding it into the side guides until it locks.
- 4 - LED INDICATOR: to visually indicate to the operator the progress and the conclusion of the cutting operation or to notify the operator of procedural or operational errors.
- 5 - BUZZER: synchronized with the LED indicator to indicate audibly the operation in progress or to notify the operator of procedural or operational errors.
- 6 - RADIO RECEIVER BOX: includes the radio receiver of the remote control.

7- MECHANICAL PRESSURE RELEASE BUTTON: if required, by pressing hard on the mechanical pressure release button, the oil can be returned to the reservoir at any time, **regardless of the status of the battery.**



8- I38F AUTOMATIC QUICK COUPLER: enables connection of the insulated flexible hose. In order to attach or disconnect the hose, pull the ring back.

The couplers cannot be disconnected if the system is under pressure.

The anti-dust protection cap must be used on both the hose and pump couplings to prevent ingress of dirt or contamination.

9- CAPACITIVE TOUCH BUTTON: for menu selection allows selection of various screens only when the display is on (Ref. to **section 5**).



Do not apply pressure to or stab at the touch button, a light touch using a bare finger is sufficient. The command pulse is sent when the finger releases the button.

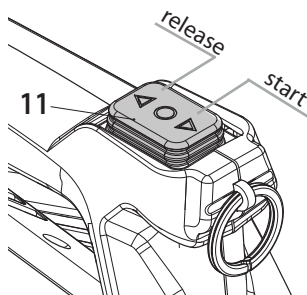
The capacitive touch button may not work if touched using objects or when wearing gloves, therefore always operate it using a bare finger.

10 - OLED DISPLAY: switches on when the control button (11) on the pump is pressed forward and off automatically after 1 hour of non-operation.

11 - CONTROL BUTTON: rocker type, push forward once to wake up the pump and turn on the display.

NOTE: if required the control button can be used to activate the the pump motor or release the oil in manual mode instead of the RRC1 radio remote control.

By default setting this function is disabled, to enable refer to **section 6.4**.



12 - HANDLE: for safe and balanced transportation of the pump.

2. RRC1 RADIO REMOTE CONTROL

FEATURES:

frequency band:	2405–2480 MHz
battery:	2 x 1.5V AAA / LR03 Alkaline
dimensions:	2.6 x 4.5 x 1.5 in (66 x 114 x 37.5 mm)
weight:	0.3 lbs (140 g)
IP code:	67
Operating temperature:	-4 to +130 °F (-20 to +55 °C)

The RRC1 radio remote control allows users to control the pump. Each RRC1 radio remote control is only paired to and should only be used with the pump which it was supplied with. It is particularly suitable to utility cable cutting operations in limited access locations, eg. in manholes, to enable working from a safe distance. Ergonomically designed with a comfortable grip even while wearing work gloves. The functions listed below are operable via the RRC1:

• Function:

1 - ON/OFF BUTTON: to switch on or off the radio remote control. **The radio remote control automatically switches off after 3 minutes of inactivity.**

2 - PUMP BUTTON: to start the pump motor or to reset any alarms when pressed and held for 2 seconds.

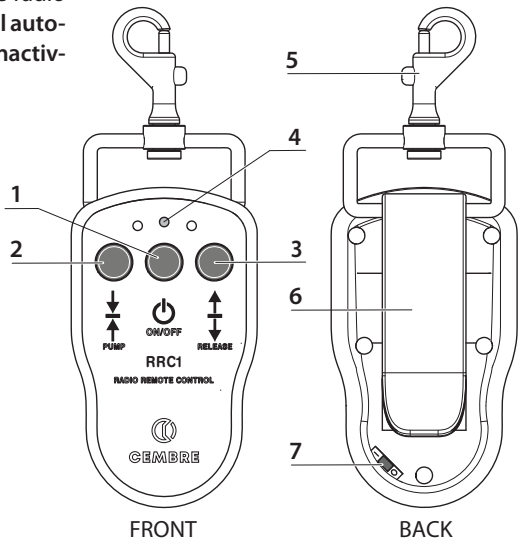
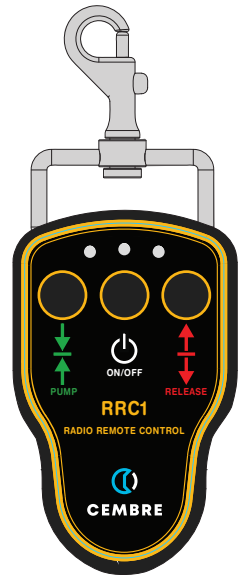
3 - RELEASE BUTTON: can be operated at any time (other than if there is an error) to release the pressure allowing oil to be returned to the pump reservoir.

4 - INDICATOR LED: the center LED flashes when the radio control is ON (green when the remote control battery is good, red when the remote control battery is low).

5 - HOOK: to hang the radio control to the rings (2) of the pump or to the operator's belt during transportation or storage.

6 - CLIP: to hang the radio control to the operator's belt.

7 - POWER SWITCH: located on the back of the radio control, this switch stops the power supply from the batteries. When in the off position (O), the radio control cannot be started. When the radio remote control is transported by airplane, the on/off switch must be in the off position. The switch should not be used as an on/off button for the radio control.



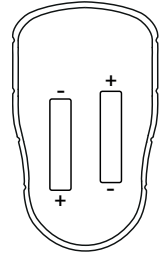
• Changing RRC1 batteries:

When approximately 10% of battery capacity remains, the top LED lights red.

- Remove the back of the radio control by unscrewing the 5 screws.
- Replace the 2 x 1.5V AAA batteries with the correct polarity.

Use alkaline batteries for optimal performance.

- Screw the back of the radio control into place.



BATTERY PRECAUTIONS

As batteries contain flammable substances such as lithium or other organic solvents, they may cause heating, rupture or ignition.

WARNING! Do not recharge the batteries. Attempts to recharge may cause rupture or hazardous liquids to leak, which will corrode the equipment.

NOTE: Electronics and batteries must be physically separated before disposal.

Make sure that electronics or batteries are not disposed of in household waste.

- There is a risk of explosion if a battery is replaced with the incorrect type of battery.
- Do not short circuit, disassemble, deform or heat batteries.
- Keep batteries out of reach of children. If a child swallows a battery, seek immediate medical attention.
- When discarding batteries, insulate the + and - terminals of batteries with insulating/masking tape. Do not put multiple batteries into the same plastic bag.
- When improperly disposed, batteries may short circuit, causing them to become hot, burst or ignite.
- Store in a cool place. Keep batteries away from direct sunlight, high temperatures, and high humidity. Do not throw batteries onto fire.

3. INSULATED FLEXIBLE HOSE



High pressure flexible hoses are subject to a natural ageing process which can result in a reduction in performance potentially affecting safety of the operator. As a result their life span is limited. In order to ensure safe use of their units, CEMBRE recommends replacing the hose within 10 years from the date printed on the fittings.

- Before using the pump always check the integrity of the flexible hose and the quick couplers making sure there are no abrasions, cuts, deformations or swellings.
- Keep the flexible hose away from naked flames and sources of heat above 158°F (70°C).
- The factory fitted guards must be in place at each end of the flexible hose.
- Do not touch the flexible hose when under pressure.
- When using the pump, the flexible hose must be uncoiled and laid out straight.

The standard flexible hose is 33 ft (10 m) long. It is used to deliver oil under pressure, generated by the pump, to the cutting head and as an insulating element between the head and the pump. The insulated flexible hose is completely filled with an insulating oil with dielectric properties which insulate the pump from the cutting head



The working range of the cutting head is 33 ft from the pump; this distance allows the proper communication between the head and the pump.

In case longer insulated flexible hoses are used and the pump is kept outside of the manhole, it is possible that the wireless blade travel sensor signal will not reach the pump.

4. INSTRUCTIONS FOR USE (Cutting operation)



Cutting operations must be strictly in accordance with the safety and working procedures established by the responsible power utility.



A protected zone must be established around the work place where entry is forbidden.

STEP 1- Checking and testing the pump prior to cutting operations

Check all components (cutting head, flexible insulated hose, couplings and pump) before use to verify there is no damage or leakage.

To use the cutting heads, carefully follow the instructions in the specific operation manual.

Checking and testing the unit prior to any cutting operations:

- ▶ Check the battery charge and recharge it if necessary following the instructions in the battery charger user manual. **When a cutting operation begins, a check is made to determine whether the battery charge is sufficient to complete the cutting operation. If this is not the case the pump does not start. The LED (4) light will FLASH intermittently and the buzzer (5) will emit an audible signal coordinated with the LED light.**
- ▶ Remove the battery from the pump.
- ▶ Connect the flexible hose first to the cutting head and then to the pump (Ref. to Fig. 5).
- ▶ Insert the battery into the pump.
- ▶ Activate the pump by pressing forward the control button (11) on the pump, the display lights up and the pump setting is displayed.
- ▶ Turn on the radio control by pressing the ON/OFF button (1), the LED will flash green, after 3 minutes the radio control automatically switches off.
- ▶ Press the pump button (2) on the radio control to perform a test cutting operation. **During the operation the pump's LED light will FLASH intermittently and the buzzer will emit an audible signal coordinated with the LED light (0.4s ON 0.4s OFF).**
- ▶ At the end of the operation when the max. pressure is reached, the pump will stop, **the LED light will FLASH intermittently and the buzzer will emit an audible signal coordinated with the LED light (4s ON 1s OFF)** the display will show the following flashing screen (Ref. to section 6.5 for further details).
- ▶ Release the finger from the radio control so to allow the pump proceeding with the SMART RELEASE operation thus check that the blades are fully retracted to the start position.
- ▶ Remove the battery from the pump.
- ▶ Disconnect the flexible hose from the pump and cutting head.



P_p = 729 bar
OK



At the end of the operation, in the event of a very quickly flashing LED light (0.1s ON 0.1s OFF) and an intermittent buzzer coordinated with the LED light, this is to inform the operator that the maximum pressure has not been reached. The display will show the following flashing screen "ERROR" (Ref. to section 6.6 for further details).

ERROR

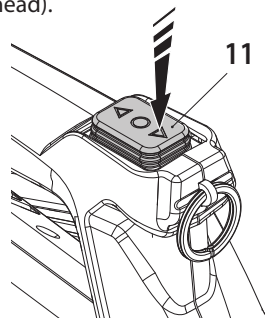
STEP 2 – Bringing the cutting head down into the manhole

- ▶ Secure the pump in proximity of the manhole or to the ladder, using the shoulder strap supplied (Ref. to Fig. 6). **The maximum distance between the cutting head and the pump is 33 ft (10 m) assuming that the pump is positioned in proximity of the manhole or on the ladder under the street level.**



Do not place the pump on dirty surfaces or in the presence of water.

- ▶ Lower the cutting head and the flexible hose into the manhole.
- ▶ Position the blades of the cutting head perpendicularly around the cable that has been identified for the cut, as described in the operation manual of the cutting head.
- ▶ Stabilize the cutting head position and support the head by strapping it to the above wires or cable holders. It is possible to hook the cutting head with the **SS-TCY strap** hooked to the hanging points of the head.
- ▶ Connect one end of the grounding wire to the cutting head and the other end to the relevant grounding attachment (Ref. to operation manual of the cutting head).
- ▶ Connect the flexible hose to the cutting head (Ref. to Fig. 5), **the operator should now leave the manhole.**
- ▶ After all personnel have exited the manhole or cable space, connect the flexible hose to the pump (Ref. to Fig. 5).
- ▶ Insert the battery.
- ▶ Wake up the pump by pressing forward the control button (11) (display ON).



STEP 3 – Cutting operation



A protected zone must be established around the work place where entry is forbidden.

- ▶ Switch on the radio control by pressing the start ON/OFF button (1), the LED will flash green.
- ▶ In proximity of the manhole, at a safe distance, push the pump button (2) on the radio control to start the cutting operation (Ref. to Fig. 4). **The maximum distance between radio control and pump is 66 ft (20 m) if within line of sight.**




During the cutting operation the pump's LED light will flash intermittently and the buzzer emits an audible signal coordinated with the LED light (0.4s ON 0.4s OFF).

In the event that the buzzer is not heard, hold the pump button (2) for 1 minute, after 1 minute the pump button can be released to start the automatic release of the cutting blades.

STEP 4 – Checking the unit after the cutting operation

- Look the pump: at the end of the operation when the max. pressure (P_p) is reached, the pump stops. The LED light FLASH intermittently and the buzzer emit an audible signal coordinated with the LED light (4s ON 1s OFF) the display show the following flashing screen, with "OK" to confirm the correct operation.

$P_p = 729 \text{ bar}$
OK 



Before approaching the cutting area, strictly follow the safety and working procedures established by the responsible power utility.

- Access the area and remove the cutting head.



In case the blades are jammed after the cut, you can activate the FORCED RELEASE MODE by pressing the release button 3 times within 2 seconds; refer to section 6.3.1 for further details.



At the end of the operation, in the event of a very quickly flashing LED light (0.1s ON 0.1s OFF) and an intermittent buzzer coordinated with the LED light, this is to inform the operator that the maximum pressure


ERROR


has not been reached. The display will show the following flashing screen "ERROR".

In order to reset the alarm, press the pump button on the radio control once for 2 seconds. Try to repeat the cycle by holding the pump button until the motor switches off automatically.



Before approaching the cutting area to check the problem, strictly follow the safety and working procedures established by the responsible power utility.



WARNING: In case of accidentally cutting live cable, strictly follow the working procedures established by the responsible power utility.

5. INSTRUCTIONS FOR USE (Crimping operation)

The pump is suitable for use with CEMBRE KV type protected crimping heads.

The default settings of the pump are:

- Operating mode: CUTTING (Ref. to **section 6.2** to choose CRIMPING operating mode).
- Oil release mode: SMART (Ref. to **section 6.3** for further details).
- Pump control mode: RADIO ON, operated by radio remote control only (Ref. to **section 6.4** for further details).



For a crimping operation select the crimping mode via the display, before starting any crimping operations.

When the crimping mode is active, the LED light (4) and the buzzer (5) are deactivated.



When the battery is removed from the pump or after 1 hour of inactivity (display OFF), once you wake the pump up, it will always start with the default setting:

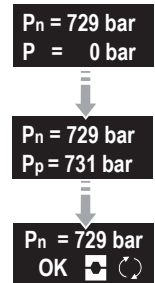
CUTTING MODE, SMART RELEASE and RADIO ON.

- ▶ Connect the flexible hose, first to the head and then to the pump.
- ▶ Press the control button (11) on the pump once to activate the pump, display ON.
- ▶ Switch on the radio control by pressing the ON/OFF button (1).
- ▶ Press the pump button (2), this activates the motor of the pump that feeds the hydraulic head connected to it, pressurizing the oil.

Once the set pressure (P_n) is reached the pump will be switched off automatically, the display will briefly show the maximum pressure reached (P_p) followed by "OK" to confirm the correct operation.

Releasing the pump button before the automatic stopping of the motor will cause the pump to stop, keeping the oil pressure stable (P_p) at its current pressure level. To complete the operation press the pump button once more until the motor stops automatically.

- ▶ At the end of the cycle, releasing the pump button will start the automatic release of the ram and will allow return of the oil to the oil reservoir in the pump (Ref. to **section 6.3** for further details).



The display "ERROR" combined with 3 beeps and the LED flashing, indicates an incorrect crimping procedure; the oil return phase occurred too early without waiting for the motor to be automatically switched off and therefore the minimum set pressure was not reached.

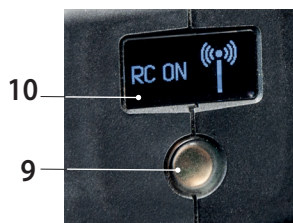
Repeat the crimping cycle by holding down the start button until the motor is automatically switched off.

When a crimping head is used, always press and hold the pump button until the motor stops automatically.

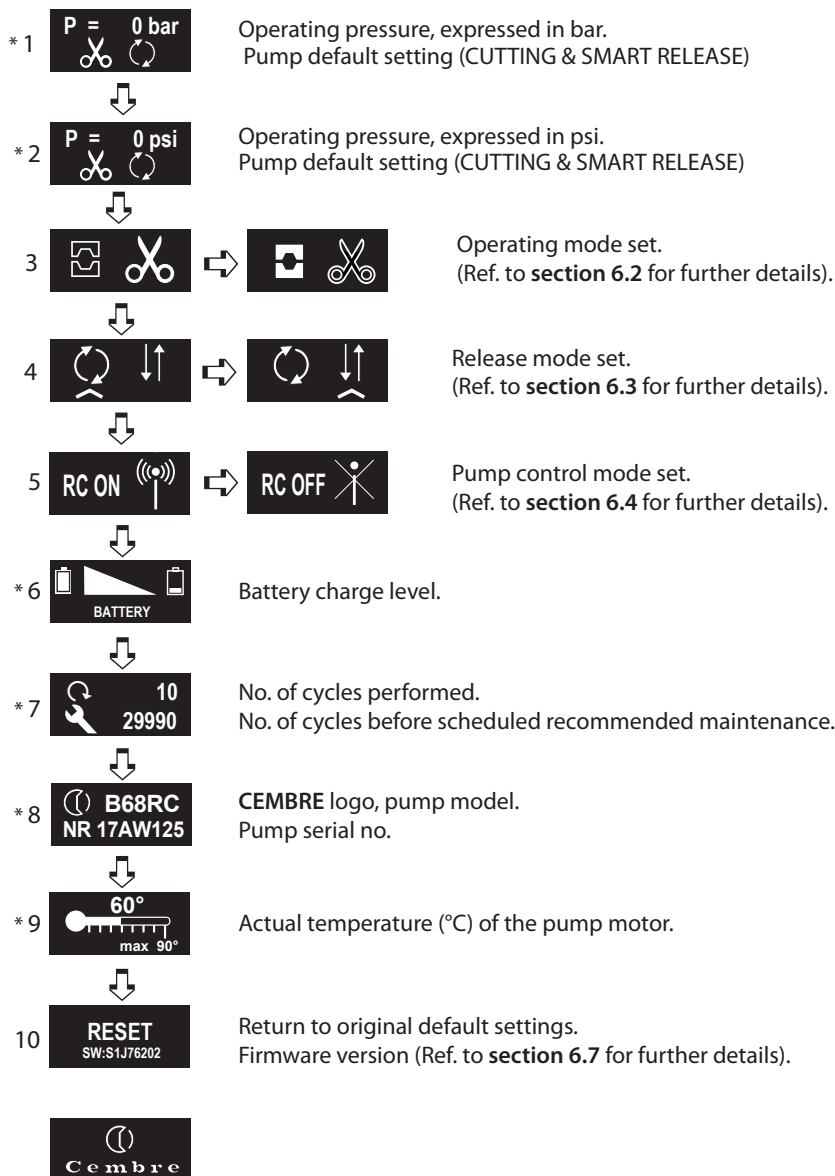


6. NAVIGATION MENU / DISPLAY

The OLED display (10) is activated with a push of the control button (11) on the pump. To navigate through the various screens in the main menu, touch the capacitive button (9) repeatedly.



6.1) Structure of the "main menu"



(*) Screens 1-2-6-7-8-9 can be set as the “main screen” which is shown on the display every time the pump is operated; to do this, when the pre-selected screen is displayed, hold the finger on the touch button (9) until a confirmation “beep” is heard.

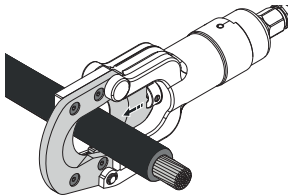


6.2) Choosing the "operating mode"

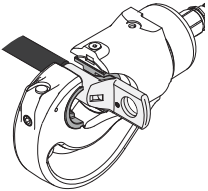
The “operating mode” allows the user to define the pump function depending on the type of hydraulic head connected. This enables the optimization of the job cycle and discharging of the battery. It is possible to choose between two different operating modes:



CUTTING (default setting)



CRIMPING



Operating mode	Associated pictogram	Function
CUTTING default setting		Specifically for using the pump with CEMBRE hydraulic heads for cutting electrical conductors where the absence of voltage cannot be guaranteed.
CRIMPING		Specifically for using the pump with CEMBRE hydraulic heads for crimping of electrical connectors. NOTE: When the crimping mode is active, the LED light and the buzzer are deactivated.

To change the desired “operating mode”, proceed as follows:



- Select screen 3 from the “main menu” (Ref. to **section 6.1**), hold the finger on the touch button (9) until a confirmation “beep” is heard, the selected operation mode is shown by filling the related pictogram.



When the battery is removed from the pump or after 1 hour of inactivity (display OFF), once you wake the pump up, it will always start with the default setting, CUTTING MODE.

6.3) Change the "release mode"

The method of discharging the oil into the pump's tank can be carried out in two different ways, depending on the mode set in the menu:

Release mode	Associated pictogram	Function
SMART default setting		By releasing the pump button the oil is returned in full to the pump reservoir only following automatic shut-off of the motor. During the return phase, pressing the buttons allows the head ram retraction to be interrupted at any point.
MANUAL		To return the oil to the pump reservoir it is necessary to press and hold the release button. During the return phase, by releasing the button it is possible for head ram retraction to be interrupted at any point.

To change the "release mode", proceed as follows:

- Select screen 4 from the "main menu" (Ref. to **section 6.1**), hold the finger on the touch button(9) until a confirmation "beep" is heard, the choice made is show by the related pictogram.



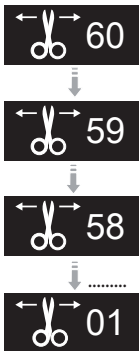
When the battery is removed from the pump or after 1 hour of inactivity (display OFF), once you wake the pump up, it will always start with the default setting, SMART mode.

6.3.1) Extended release phase

If necessary, the phase of discharging the oil into the pump's tank can be extended, leaving the release valve open for 60 seconds.



This function is useful in the event that the blades are jammed after the cutting operation. It allows the operator to work on the cutting head using both hands in case of a blade jamming.

To activate "extended release" proceed as follows:




- Press quickly (3 times within 2 seconds) the release button on the radio control RRC1 or the button (11) backward on the pump if RC mode is disabled.
The operation is then reported on the display by a counter associated with an intermittent buzzer.
- In order to stop the countdown before reaching zero, press the pump button on the radio control once for 2 seconds.

6.4) Change the "pump control mode"

Control mode	Associated pictogram	Function
RADIO ON default setting		Control of the pump by means of radio control RRC1 only. The control button (11) of the pump is disabled, except for waking up the pump.
RADIO OFF		Control of the pump by means of the control button (11) of the pump only. The radio control receiver and the radio control RRC1 are disabled.



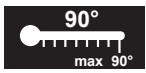


To change the "pump control mode", proceed as follows:

- Select screen 5 from the "main menu" (Ref. to **section 6.1**), hold the finger on the touch button (9) until a confirmation "beep" is heard, the choice made is shown by the related pictogram.

 **When the battery is removed from the pump or after 1 hour of inactivity (display OFF), once you wake the pump up, it will always start with the default setting, RADIO ON.**







6.5) Alarms / Warning / Notification

These appear on the display during operation or at the end of the cycle, informing the operator on the state of the pump. It can be combined with beeps.

Message	Meaning	Description
	BATTERY LOW	Replace or recharge the battery. NOTE: when the battery voltage falls below a minimum safety threshold, the pump will not start , although it is still possible to end a work cycle in progress.
	BATTERY TEMPERATURE HIGH	Remove the battery and wait until it cools down. In order to cool it faster, it is possible to insert it into the battery charger supplied, thus making use of the specific "AIR COOLED" function. Pump's LED light flashes quickly (0.1 s ON 0.1 s OFF) and the buzzer emits a coordinated audible signal.
	MOTOR-PUMP TEMPERATURE HIGH	The maximum permitted operating temperature of 194 °F (90° C) has been reached. The pump stops ; in this instance wait for it to cool down. Only when the permitted working temperature is reached will it be possible to re-use the pump.
	INSUFFICIENT OIL	This appears when the pressure of the hydraulic circuit doesn't increase but remains near to zero for a duration of 60 consecutive seconds. Check the oil level and if necessary refill (Ref. to 7.4).
	REQUEST MAINTENANCE	Number of cycle to recommended maintenance interval reached; the pump continues to work, however, it is recommended that it is sent to CEMBRE for a complete overhaul (Ref. to section 8).

6.6) Errors/Malfunctions

These appear on the display during operation, combined with a beep to notify the operator of procedural or operational errors.

Message	Error description	Solution
	<p>In CUTTING mode: The cutting phase has been intentionally interrupted by the operator. The pump has not developed the pressure needed to cut the cable</p> <p>In CRIMPING mode: Oil discharge is activated before waiting for the motor to be automatically switched off.</p>	<p>In order to reset the alarm, press the pump button on the radio control once for 2 seconds. Repeat the cycle by holding the pump button until the motor switches off automatically.</p> <p>Repeat the crimping cycle, keeping the pump button pressed down until the motor switches off automatically.</p>
	The pump has been started without the flexible hose connected or the hose is not correctly connected.	In order to reset the alarm press the release button, connect the flexible hose or check the correct connection to the pump.
	Abnormal power consumption of the motor. The pump stops.	Remove and re-insert the battery, then re-start the pump. If the error occurs frequently, contact CEMBRE.
	Output voltage of the pressure transmitter is out of the pre-set range. The pump stops and doesn't re-start.	Remove and re-insert the battery, if the error occurs, contact CEMBRE.
	Failure to reach the set pressure within 120 seconds of continuous operation of the pump.	Repeat the work cycle; if the error occurs frequently, contact CEMBRE.
	Overcharging of the battery with protection tripping. The pump stops.	Remove and re-insert the battery, then re-start the pump. If the error occurs frequently, contact CEMBRE.




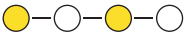













6.7) Return to original default settings / firmware version

Select screen 10 from the "main menu" (Ref. to **section 6.1**), to return the pump to its default setting hold the finger on the button (9) until a confirmation "beep" is heard.

RESET
SW: S1J76202

The RESET screen also shows the firmware version of the control board.

6.8) Acoustic and optical signalling chart (led light and buzzer) in CUTTING MODE.

Led light	Buzzer	Display	Meaning
			
flashing  0.4 s ON 0.4 s OFF	intermittent  0.4 s ON 0.4 s OFF		Cutting operation in execution, the pressure on the display gradually increases.
flashing  4 s ON 1 s OFF	intermittent  4 s ON 1 s OFF		Cutting operation concluded (Ref. to 6.5).
flashing  0.1 s ON 0.1 s OFF	intermittent  0.1 s ON 0.1 s OFF	 	The battery is low and the pump will not start (Ref. to 6.5). The maximum pressure developed from the pump has not been reached or cutting operation intentionally interrupted by the operator (Ref. to 6.6).
off 	intermittent  0.1 s ON 0.9 s OFF	 	Forced release activated (blade disengagement) release valve open for 60 s (Ref. to 6.3.1).

7. MAINTENANCE

The pump is robust, completely sealed, and requires very little daily maintenance. Compliance with the following points, should help to maintain its optimum performance:

7.1) Thorough cleaning of battery pump

Dust, sand and dirt are a danger for any hydraulic device.

Every day, after use, the pump and accessoires must be wiped with a clean cloth taking care to remove any residue. Do not use Hydrocarbons to clean the rubber parts.



After use, protect the couplers of the pump, hose and hydraulic head with their protective caps to prevent contamination.

7.2) Canvas bag

To protect the pump from accidental damage and dust, it should be stored with its accessories in the special canvas bag provided and sealed well.

Canvas bag **CVB-031**: Size 620x300x320 mm (24.4x11.8x12.6 inches), weight 2,4 kg (5.3 lbs).

7.3) Storage

Once the job has been completed **always completely release the pressure** of the oil by holding down the release button; ensure that the ram of the connected hydraulic head is completely retracted before disconnecting the head.

- ▶ Remove the battery from the pump.
- ▶ Turn off the remote controller.
- ▶ Disconnect the flexible hose; avoid folding it with tight bends or knots that may compromise its integrity.
- ▶ Store the pump and accessories in the canvas bag in a dry place.

7.4) Topping off the oil (Ref. to Fig. 7)

Periodically check, at least every 6 months, the oil level in the pump and top off if necessary:

- ▶ Position the pump without battery on its base on a flat surface.
- ▶ Completely discharge the oil pressure by pushing the pressure release button (7).
- ▶ Unscrew the filler cap (1).
- ▶ By using a funnel, **top off very slowly** to completely fill the oil reservoir to the maximum level.
- ▶ When the operation is finished replace the cap (1).

Always use clean recommended insulated oil, see section 1.



Do not use old or recycled oil. Do not use hydraulic brake fluid.
Ensure that used oil is disposed of in accordance with local regulations.

8. RETURN TO CEMBRE FOR OVERHAUL

In the case of a breakdown contact our Area Agent who will advise you on the problem and give you the necessary instructions on how to dispatch the tool to our nearest service Center; if possible, attach a copy of the Test Certificate supplied by CEMBRE together with the tool or fill in and attach the form available in the “ASSISTANCE” section of the CEMBRE website.

Following information applies in member states of the European Union:

USER INFORMATION in accordance with “Directives 2011/65/EU and 2012/19/EU.

The ‘Not in the bin’ symbol above when shown on equipment or packaging means that the equipment must, at the end of its life, be disposed of separately from other waste.

The separate waste collection of such equipment is organised and managed by the manufacturer. Users wishing to dispose of such equipment must contact the manufacturer and follow the prescribed guidelines for its separate collection. Appropriate waste separation, collection, environmentally compatible treatment and disposal is intended to reduce harmful environmental effects and promote the reuse and recycling of materials contained in the equipment. Unlawful disposal of such equipment will be subject to the application of administrative sanctions provided by current legislation.



Radio Remote Control

The pump introduces radio control to utility cable cutting operations in limited access locations, eg. in man-holes, to enable working from a safe distance.

Safe Cut Technology

Fitted with LED indicators and a buzzer to communicate during progress and at the completion of the cutting operation.

Smart Release Technology

Selecting the SMART RELEASE mode on the OLED display allows the operating pressure to be maintained until the operating button is released, thus allowing blades to open automatically at the end of the cutting cycle.

SMARTOOL Technology

Enables the user to transfer data from the integrated memory card of the pump to a computer, via USB cable.

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**DECLARATION OF CONFORMITY -
DECLARATION DE CONFORMITE - KONFORMITÄTSEKRLÄRUNG -
DECLARACIÓN DE CONFORMIDAD - DICHIARAZIONE DI CONFORMITÀ**

We Nous Wir Nos Noi: **CEMBRE S.p.A. Via Serenissima, 9 – 25135 Brescia (Italy)**

Declare under our sole responsibility that the product - *Déclarons sous notre seule responsabilité que le produit*
- Erklären in alleiniger Verantwortung dass das Produkt - *Declaramos bajo nuestra responsabilidad que el producto*
- Dichiariamo sotto nostra unica responsabilità che il prodotto:

B68M-P18-KV-RC1 B68M-P18A-KV-RC1

To which this declaration relates is in conformity with the following standard(s) or other normative document(s) -
Auquel cette déclaration se réfère est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s) -
Auf dass sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder dem/den normativen Dokument(en)
über einstimmt - *Al que se refiere esta declaración, cumple la(s) norma(s) u otro(s) documento(s) normativo(s)* -
Al quale si riferisce questa dichiarazione è conforme alla(e) norma(e) o altro(i) documento(i) normativo(i):

EN ISO 12100 EN 62841-1

Following the provisions of EU directive(s) - *Conformément aux dispositions de(s) directive(s) EU* -
Gemäß den Bestimmungen der EU Richtlinien - *De acuerdo con las disposiciones de la(s) directiva(s) EU*
Conformemente alle disposizioni della(e) direttiva(e) EU:

2006/42/EC 2011/65/EU 2014/30/EU

Person authorised to compile the technical file - *Personne autorisée à constituer le dossier technique* -
Person die bevollmächtigt ist, die technischen Unterlagen zusammenzustellen -
Persona facultada para elaborar el expediente técnico - Persona autorizzata a costituire il file tecnico:

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Brescia **13-12-2021**

 **CEMBRE**
Felice Albertazzi
CHIEF SALES & MARKETING OFFICER
Cembre S.p.A.




DECLARATION OF CONFORMITY

We: **CEMBRE S.p.A. Via Serenissima, 9 – 25135 Brescia (Italy)**

Declare under our sole responsibility that the product:

B68M-P18-KV-RC1 B68M-P18A-KV-RC1

To which this declaration relates is in conformity with the following standard(s) or other normative document(s):

EN ISO 12100 EN 62841-1

Following the provisions of the UK Legislation(s):

S.I. 2008/1597 S.I. 2012/3032 S.I. 2016/1091

Brescia **13-12-2021**

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