

ILC Srl

SB-5

Electric grease pump. Cartridge tank.

Original Instructions

*Relia***MAX**

Reliable Performance & Maximum Value



CE

All ILC products must only be used for their intended purpose as specified in this brochure and in all instructions. If the product is supplied with operating instructions, the user must read and observe them. Not all lubricants are suitable for central lubrication systems. ILC lubrication systems or their components may not be used in combination with gases, liquefied gases, pressurised gases in solution and liquids whose vapour pressure exceeds the normal atmospheric pressure (1013 mbar) by more than 0.5 bar, maximum permissible temperature +60° C. Hazardous materials of any kind, in particular those classified as such by the European Community Directive EC 67/548/EEC, Article 2 (2), may only be used in ILC central lubrication systems or their components after consultation with ILC and after receiving written consent from the company.

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1. The Small unit for Grease lubrication Systems

The electric cartridge pump SB-5 is designed to provide lubricant within a progressive central lubrication system or single lubrication points. SB-5 can be used for lubrication of small machines and systems with up to 30/35 lubrication points.

1.1 Features and benefits

- Tension 12/24 V DC
- Electric Grease Lubrication Pump With 3 different grease cartridges
- Compact Build
- Clean Re-Fill Process (no grease gun)
- Usable with many cartridge types
- Big temperature range from -40° C to 70° C
- High delivery pressure 250 bar (Progressive system at low temperatures)
- Best in Class Protection: IP6K9K „Dust tight“(6K)
- High-pressure water resistant (9K)
- One pump for 2 different voltages

1.2 Applications



Stationary machines
and systems



Construction vehicles
and machines



Agriculture and forestry



Special-purpose machines
and more

2. Technical Data

| | |
|-------------------------------|---|
| Line output connection | 1 / 8" G |
| Max operating pressure | 280 bar |
| Safety valve | set at 250 bar |
| Temperature range | from -40° C to +70° C (depending on grease used) |
| Lubricant | Grease from NLGI 000 to 2 |
| Output | Constant 0,8 cm ³ / min |
| low level indication | yes (when supplied with electronic card) |
| Materials | Housing - PA6 GF30 Mechanical parts - Steel Cartridge protection Petg |
| Drive / motor | DC Motor (12 or 24 V DC) |
| Noise Level | <70dB(A) |
| Protection class | IP6K9K (ISO 20653) |
| Function | with or without electronic card |

2.1 Drive motor

| | |
|-----------------------|---|
| Supply voltage | 12 V DC - 24 V DC |
| Current | max 5 A (incl. rev. battery protection) |

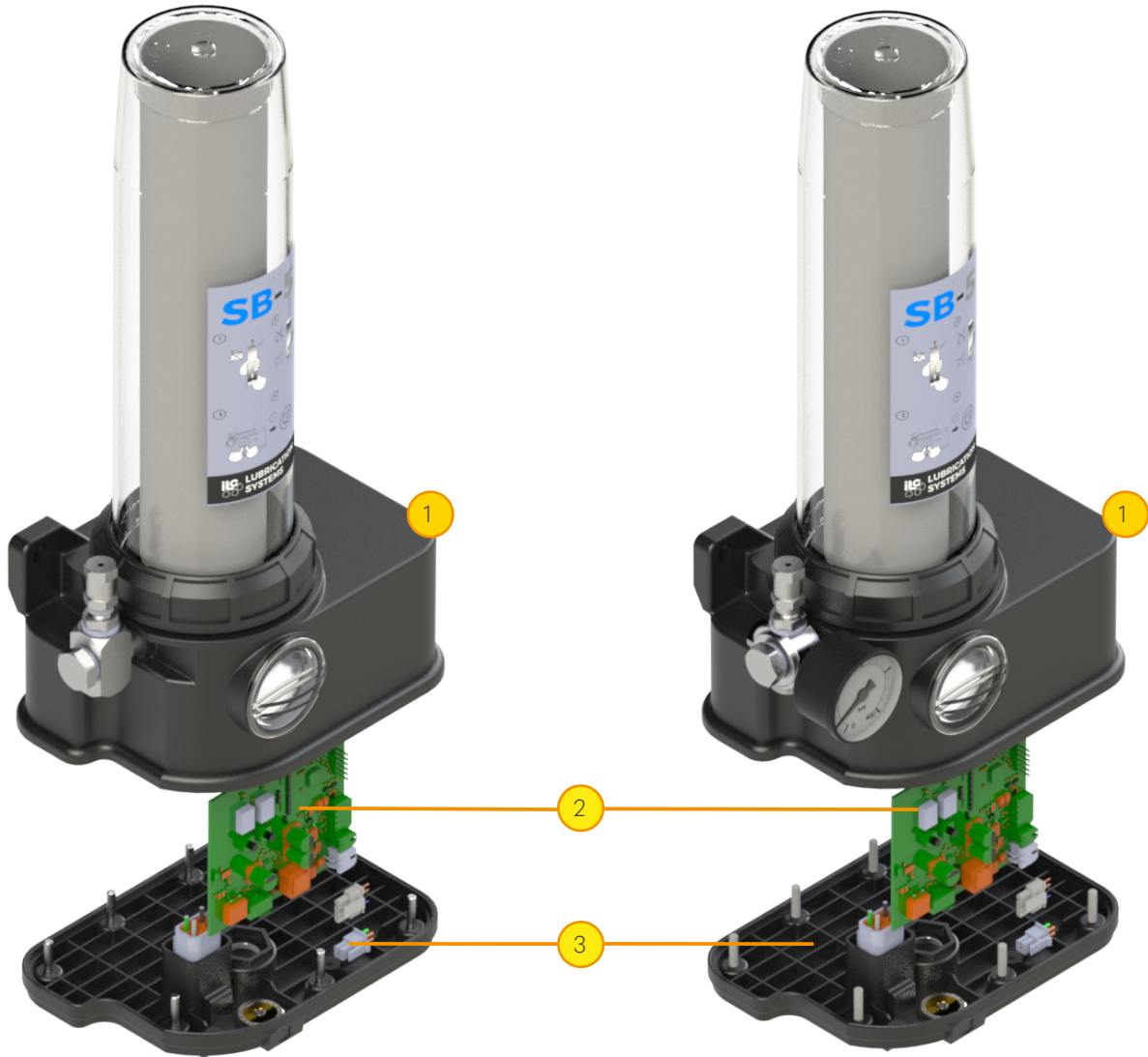
3. Pumps and components

45.12-24.DC.CT

The pump is supplied complete with electronic board - power supply and M12x1 connector for progressive sensor. The pump outlet is 1/8 "BSP and is complete with an adjustable maximum pressure valve. The factory setting is 250 bar.

45.12-24.DC.PG.CT

The pump is supplied complete with electronic board - power supply and M12x1 connector for progressive sensor, pressure gauge (0-400 bar). The pump outlet is 1/8 "BSP and is complete with an adjustable maximum pressure valve. The factory setting is 250 bar.



| Position | Part N° | Description |
|----------|-------------|--------------------------------------|
| 1 | A70.0931030 | SB-5 motor box assembly + protection |
| 2 | A91.111676 | SB-5 circuit board w/timer |
| 3 | A70.0931032 | SB-5 motor cover assembly |

4. Control unit functions

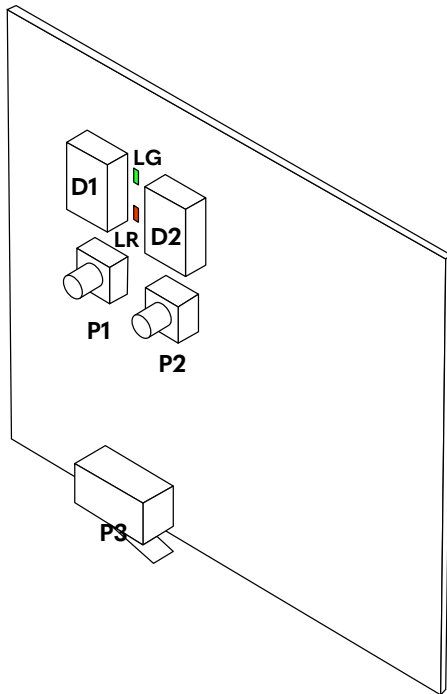
4.1 Power up

When the pump is powered up, the display (D1 and D2) blinks five times showing **C and 0**. Then the pump starts with the saved program: a working cycle (green led lit) or a pause cycle (green led blinking).

4.2 Operating mode

In operating mode, the board controls the pump by alternating working cycles and pause cycles. The pump can be set to work with pause time/working time, pause time/working cycles, pause time and working time controlled by inductive sensor installed on a progressive divider.

4.3 Electronic timer



| Display | Function |
|---------|----------|
|---------|----------|

| | |
|----|------------------------------|
| D1 | Show current program |
| D2 | Shows current program values |

| Key | Function |
|-----|----------|
|-----|----------|

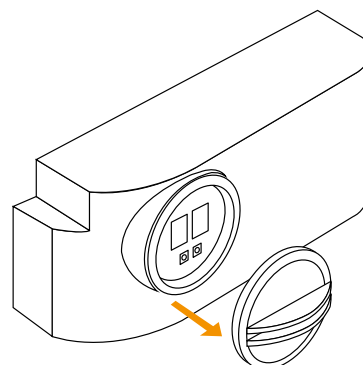
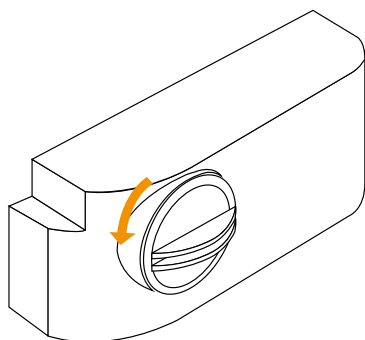
| | |
|-------|--|
| P1+P2 | access timer settings / confirm settings. |
| P1 | Cycles Display D1 functions |
| P2 | Cycles Display D2 functions |
| P3 | Immediately starts an extra duty cycle for the set time Resets all alarms |

| Led | Status | Signal |
|-----|--------|--------|
|-----|--------|--------|

| | | |
|-------|----------|---------------|
| Red | Fixed | Alarm signal |
| Green | Fixed | Working cycle |
| Green | Blinking | Pause cycle |

4.4 Accessing the electronic timer

To access the timer functions, gently screw the porthole placed on the front panel of the pump body then remove it.

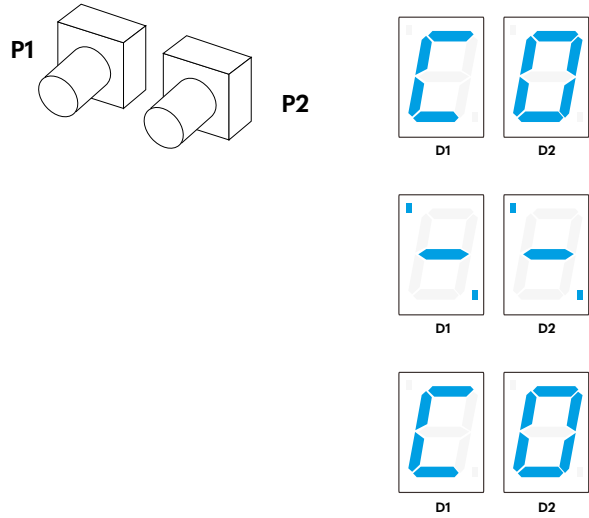


4.5 Programming mode

When the pump is powered up, D1 and D2 show the current program. Click once P1+P2 simultaneously to enter the programming mode.

Blinking lines appear for five seconds.

C0 appears. The timer is now in programming mode.

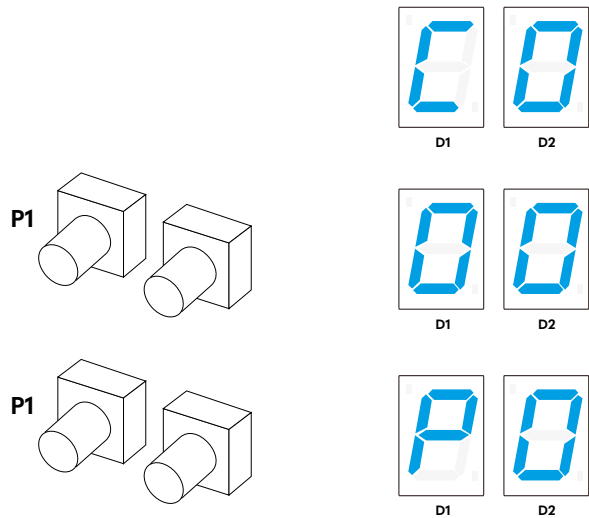


4.6 Cycling Modes (P1-D1)

Start from programming mode. D1 shows C and D2 show 0.

Click once P1, D1 will cycle up on the next menu, **O**.

Clicking again P1, D1 will cycle up through all the menus (**P, A, L, S, U**)

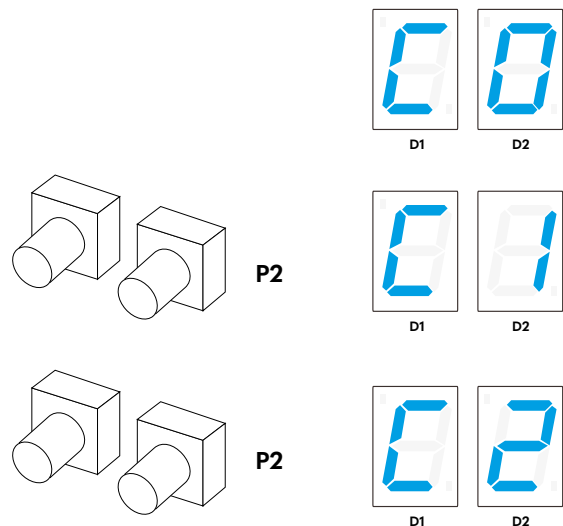


4.7 Cycling values (P2-D2)

Start from programming mode. D1 shows C and D2 show 0.

Click once P2, D2 will cycle up increasing value from 0 to 1.

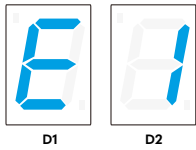
Clicking again P2, D2 will cycle up through all the values (depending on the mode, see next page).



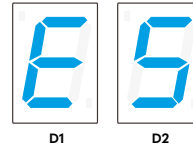
4.8 Electronic timer function and values

| C Control type | | 0: to adjust working (O) and pause (P) time | 1 to adjust pause (P) time and Number of Cycles (I) | 2 Pause and work time controlled by inductive sensor on progressive divider. |
|----------------|--|---|---|--|
| O | Working time | 0 : 30 seconds | 1 : 1 cycle | 0 : 30 seconds |
| | | 1 : 60 seconds | 2 : 2 cycles | 1 : 60 seconds |
| | | 2 : 120 seconds | 3 : 3 cycles | 2 : 120 seconds |
| | | 3 : 180 seconds | 4 : 4 cycles | 3 : 180 seconds |
| | | 4 : 240 seconds | 5 : 5 cycles | 4 : 240 seconds |
| | | 5 : 300 seconds | 6 : 6 cycles | 5 : 300 seconds |
| | | 6 : 360 seconds | 7 : 7 cycles | 6 : 360 seconds |
| | | 7 : 420 seconds | 8 : 8 cycles | 7 : 420 seconds |
| | | 8 : 480 seconds | 9 : 9 cycles | 8 : 480 seconds |
| P | Pause time | 0 : 30 minutes | 0 : 30 minutes | 0 : 30 minutes |
| | | 1 : 60 minutes | 1 : 60 minutes | 1 : 60 minutes |
| | | 2 : 120 minutes | 2 : 120 minutes | 2 : 120 minutes |
| | | 3 : 180 minutes | 3 : 180 minutes | 3 : 180 minutes |
| | | 4 : 240 minutes | 4 : 240 minutes | 4 : 240 minutes |
| | | 5 : 300 minutes | 5 : 300 minutes | 5 : 300 minutes |
| | | 6 : 360 minutes | 6 : 360 minutes | 6 : 360 minutes |
| | | 7 : 420 minutes | 7 : 420 minutes | 7 : 420 minutes |
| | | 8 : 480 minutes | 8 : 480 minutes | 8 : 480 minutes |
| A | Time to check the working cycles. (If during this time the inductive sensor will not send the signal we will have an alarm) | | 1 : 2.5 minutes | |
| | | | 2 : 5 minutes (default) | |
| | | | 3 : 7.5 minutes | |
| | | | 4 : 10 minutes | |
| | | | 5 : 12.5 minutes | |
| | | | 6 : 15 minutes | |
| | | | 7 : 17.5 minutes | |
| | | | 8 : 20 minutes | |
| | | | 9 : 25 minutes | |
| L | Low level alarm | 0 : no low level check (default) 1 : yes low level check | 0 : no low level check (default) 1 : yes low level check | 0 : no low level check (default) 1 : yes low level check |
| S | Cartridge size | 0: 400 g 1: 500 g | 0: 400 g 1: 500 g | 0: 400 g 1: 500 g |
| U | Prelube | 0: no prelube 1: yes prelube (default) | 0: no prelube 1: yes prelube (default) | 0: no prelube 1: yes prelube (default) |

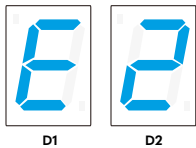
5. Error management



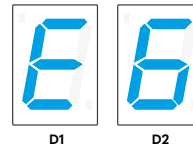
Motor Error.
Press P3 to reset the alarm.



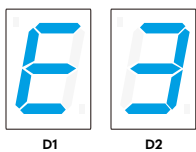
Alarm Cicle C = 1.
Press P3 to reset the alarm.



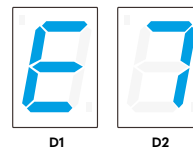
Supply overvoltage error.
Press P3 to reset the alarm.



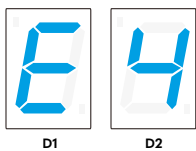
Alarm Cicle C = 2.
Press P3 to reset the alarm.



Supply undervoltage error.
Press P3 to reset the alarm.



Low level alarm.
Press P3 to reset the alarm.



Motor outlet overcurrent.
Press P3 to reset the alarm.

6. Grease Level control, Prelube, Extracycle

6.1 Grease level control (L)

Once Grease level monitoring is enabled (**L=1**) the timer sums up the SECONDS of motor activation based on the cartridge size indicated by parameter **S** . Once Grease level monitoring is enabled, two dots are lit on the two displays **D1** and **D2** when the motor is running.

The board will signal **warning level** by lighting up the red **LED LR** and the display will show **LO** when this sum reaches the value of the seconds edited according to the cartridge size indicated in parameter **S** .

The level **warning** indication can be reset by performing a counter reset by holding down the P3 button until the display shows **LL**.

In case of unexpected cartridge replacement, the counter can be reset at any stage by pressing the P3 button for at least 5 seconds until the indication **LL** appears.

6.2 Prelube

If the **prelube** function is switched off (parameter **U=0**), the system is able to manage the switching off of the board during its operation, whether it is a motor work cycle or a pause.

The next time it is switched back on, the system will restart exactly where it left off, i.e. by completing the remaining pause period or with the motor work phase.

In the event that **prelube** is enabled (**U=1**) when the board is switched back on, a lubrication cycle will always be carried out and then it will go into the pause phase.

6.3 Extracycle

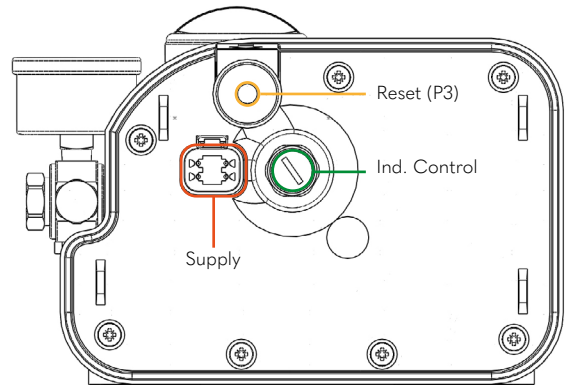
An **extracycle** function is provided which can be called up by pressing the P3 button for 1 second or by a pulse to the **release external** input. Once the function is recalled, the card will start with a complete lubrication cycle according to the edited programme.

7. Electrical connections

The electrical connection is the responsibility of the user, who must identify the power connection, minimum level alarm and/or cycle alarm.

Connect the machine to the electrical line as indicated on the pump near the connector. The power cable must be of a cross-section suitable for the machine's absorption and of a type conforming to current regulations.

Both electrical connections are located on the bottom side of the pump.



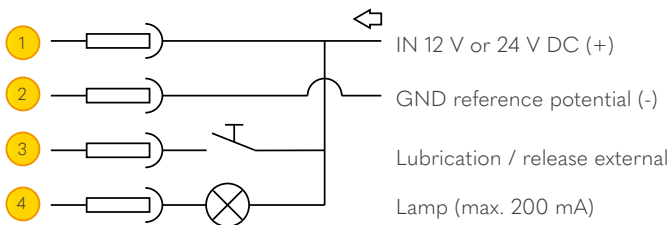
7.1 Supply connector

The SB-5 pump is supplied complete with a four-pin electrical Deutsch Stecker connector, which powers the pump and handles any alarm and level signals.

On request, it is possible to order the connector complete with four-wire cable (1 mm²) in two different lengths (5, 10).



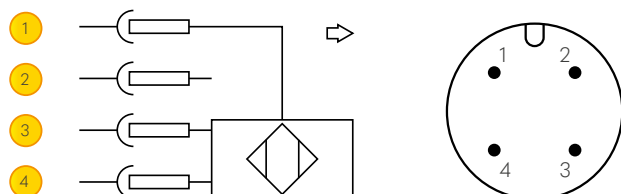
| Part n° | Cable |
|-------------|-------|
| 45.CDL.4.05 | 5 m |
| 45.CDL.4.10 | 10 m |



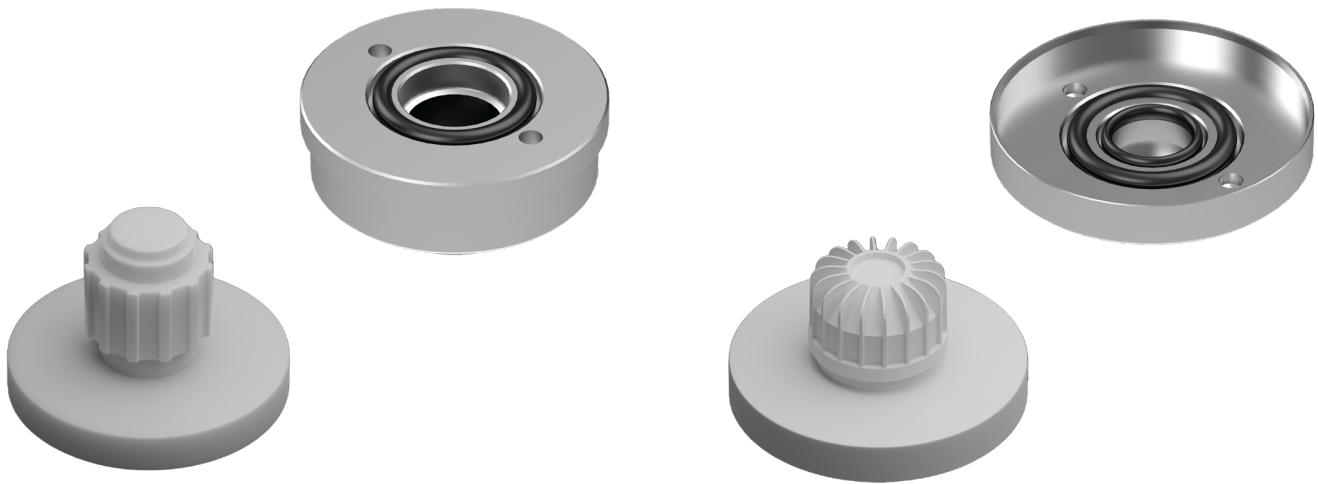
7.2 Cable with inductive control

A second connector, for the management of inductive control, can be installed on the pump. The connector complete with cable can be ordered on request.

| M12 (M)/M8X1 (F) | M12 (M)/M12 (F) | Cable |
|------------------|-----------------|-------|
| 45.CDC.3.05 | 45.CDC.4.05 | 5 m |
| 45.CDC.3.10 | 45.CDC.4.10 | 10 m |



8. Adapter for cartridge



Cartridge adaptor for sytem Ritter

Part n°

A70.0931027

Cartridge adaptor for system Reiner

Part n°

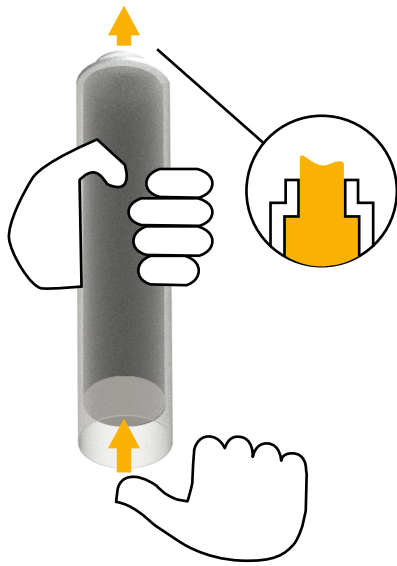
A70.0931085

9. Screwing in or changing the cartridge

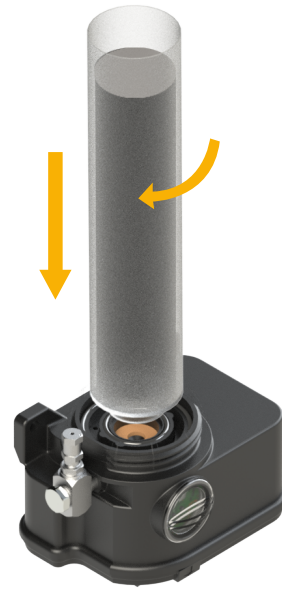


Loosen the nut (a) and remove it (b). Unscrew the cartridge protection (c). Unscrew the cartridge if present.

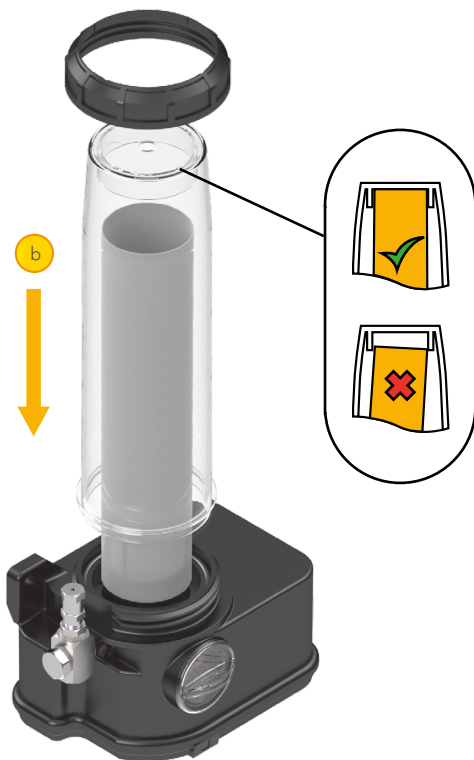
Compare the cartridge to be screwed in the existing connection thread, use an adapter if necessary or change the existing adapter.



In order to avoid air pockets, push the piston of the cartridge slightly upwards until lubricant escapes before inserting into the device.



Then screw the cartridge into the holder or into the device.

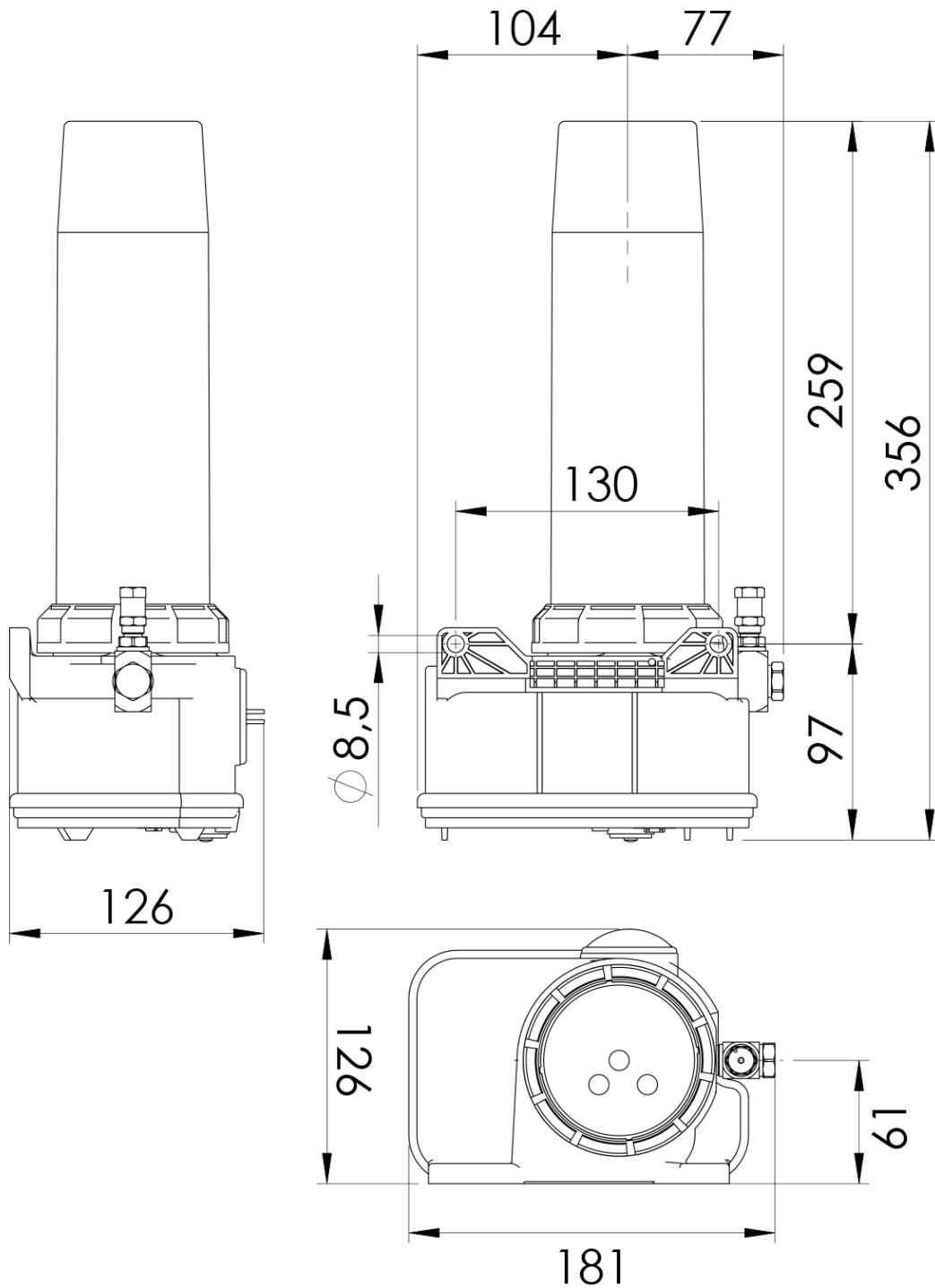


Put on the cartridge protection, making sure the cartridge fits properly in the guide of the cartridge protection (b).



Tighten the nut hand-tight.

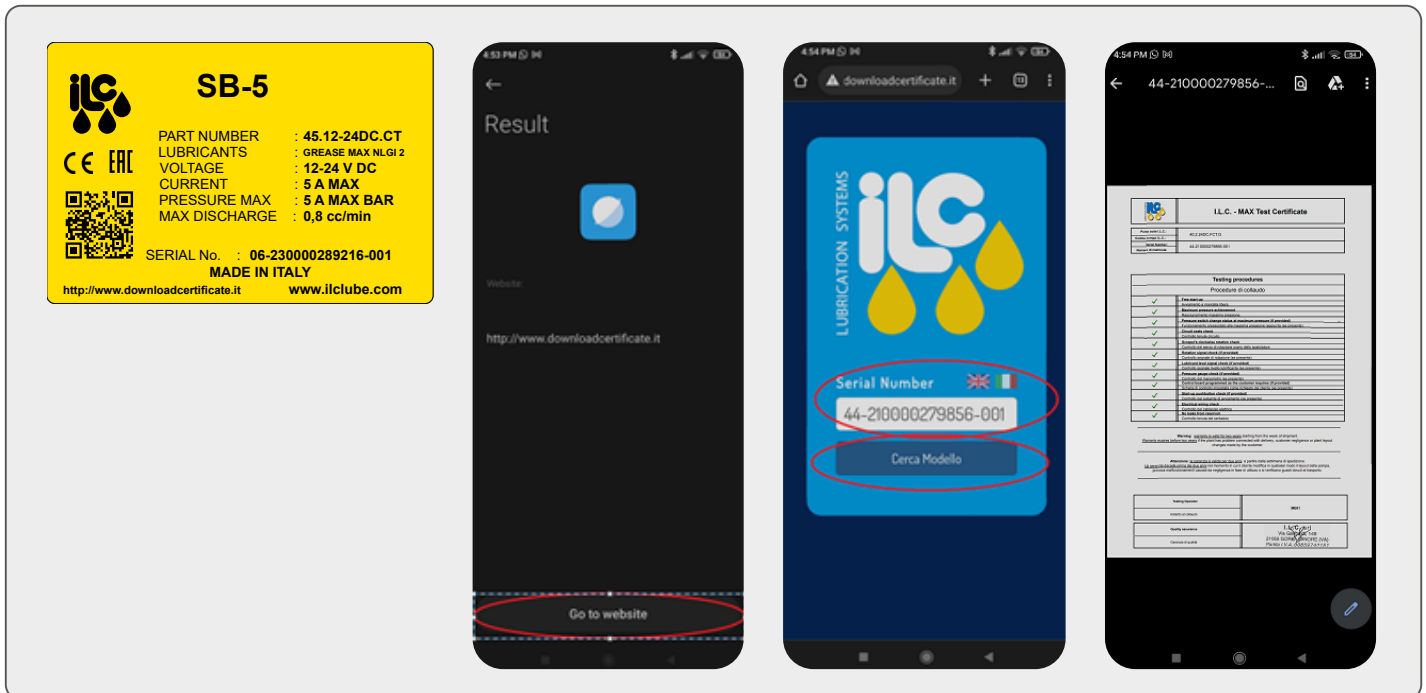
10. Dimensions SB-5



11. Download Pump Certificate

For all ILC pumps, it is possible to download the pump test certificate by scanning the QR code on the pump label. Follow the procedure below to download the certificate.

1. Scan the QR code on the pump label using your smartphone.
2. On the "Result" page press the "Go to website" button
3. In the mask enter the Serial Number, found on the pump label, and press "Search Model".
4. The PDF is displayed and is available for download.



12. Warranty

All ILC products are covered by a 12-month warranty from the date of delivery against manufacturing and material defects. 24 months extended warranty in case of system installation by ILC. 12 months from the date of installation of commercial components-electrical parts. 24 months extended warranty in case of system installation by ILC. If installation is performed more than 6 months from the date of delivery, the guarantee will cover a maximum of 18 months from the date of delivery.

In the event of malfunctioning of the equipment, it is necessary to notify us of the defect by providing the code, serial number (expressed as in fig. 1), date of delivery and installation, and the conditions of use of the product in question.

Upon receipt of this information it will be at our discretion to decide whether to: provide you with technical assistance; direct you to the nearest service centre; provide you with a return for repair authorisation number.

Upon receipt of the equipment and based on accurate analysis ILC reserves the right to choose whether to repair or replace the product. If the warranty is still valid we will repair or replace at our expense.

In the event that the product is not found to be defective, it shall be at the discretion of ILC to decide whether to charge for the costs incurred (logistics).

This warranty shall be void in the event that the product suffers

damage and injury resulting from improper use
negligence
normal wear and tear
chemical corrosion
installation not in accordance with the expressly stated instructions and use contrary to the manufacturer's recommendations
tampering

Modifications, tampering or alterations to the equipment or parts carried out without authorisation from ILC S.r.l. relieve the latter of all liability and release it from the guarantee. Parts subject to normal wear and tear and perishable parts are not covered by the guarantee. Anything not expressly stated and also damage, injury or costs resulting from defects in the product itself are excluded from the guarantee.

The conditions of validity of the guarantee shall be deemed to be implicitly accepted from the time of purchase of the

component Any modifications to this guarantee shall only be valid with the prior written approval of ILC.

ILC accepts no liability for damage to persons or property in the event of failure to observe the provisions of this manual. Any modifications to the parts making up the system or changes in the use of the system or its parts without prior written authorisation from ILC shall release the latter from all liability for damage to persons and/or property and release it from all warranty obligations.

13. Machine identification

On the front of the pump tank is a yellow label (fig.1) on which the product code and its basic characteristics are stated.

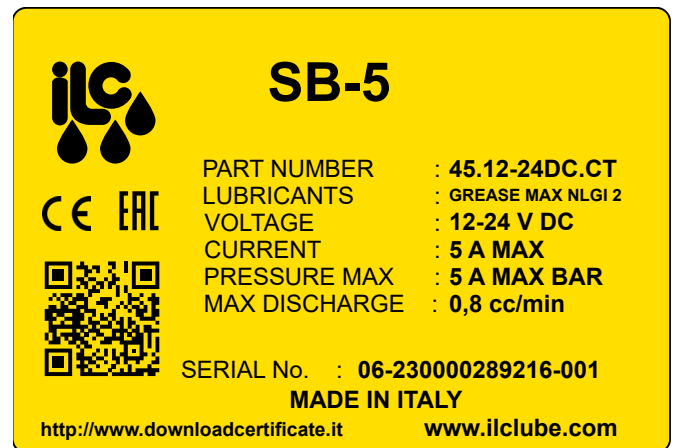


fig.1

DICHIARAZIONE DI CONFORMITÀ / DECLARATION OF COMPLIANCE WITH STANDARDS / DECLARATION DE CONFORMITE / KONFORMITÄT SERKLÄRUNG DES STANDARDS / DECLARACIÓN DE CONFORMIDAD / DECLARAÇÃO DE CONFORMIDADE

La società ILC srl, con sede legale in Gorla Minore (VA), Via Garibaldi 149 - ILC srl, registered office in Gorla Minore (VA), Via Garibaldi 149 - ILC srl, au Siège Social à Gorla Minore (VA), Via Garibaldi 149 / ILC srl Gorla Minore (VA), Sitz in Via Garibaldi 149 - La sociedad ILC srl., con sede legal en Gorla Minore (VA), Via Garibaldi 149 - A ILC srl, com sede em Gorla Minore (VA), Via Garibaldi 149

DICHIARA / CERTIFIES / CERTIFIE / ZERTIFIZIERT / DASS / DECLARA / CERTIFICA

che il prodotto denominato/that the product called/ le produit appelé/ das Produkt mit dem Namen/ el producto que se llama/ o produto chamado:

| | |
|--|--|
| Descrizione/ Description/ Description Beschreibung/ Descripción/ Descrição | ELECTRIC PUMP |
| Nome Commerciale/ Product Name/ Dénomination Handelsname/ Denominación/ Denominação | SB-5 ELECTRIC PUMP |
| Versioni/ Versions/ Versions/ Versionen/ Versiones/ Versões | ALL VERSION |
| Codici/Part Number/Codes/Teile Nummer/Codigos/Codigos | 45.12-24DC.CT |
| IT | è conforme alle condizioni previste dalle Direttive CEE |
| EN | has been constructed in conformity with the Directives of the Council of the European Community on the standardization of the legislations of member states |
| FR | a été construit en conformité des Directives du Conseil des Communautés Européennes |
| DE | Entsprechend den Richtlinien des Rates Der Europäischen Union, für die Standardisierung der Legislative der Mitgliedsstaaten, konstruiert wurde |
| ES | cumple con las condiciones establecidas por las directivas comunitarias/ foi construído em conformidade com as diretivas do Conselho das Comunidades Europeias |
| PT | foi construido em conformidade com as diretivas do Conselho das Comunidades Europeias |
| | <ul style="list-style-type: none">• 2006/42/CE Direttiva macchine /Machinery Directive/ Directive machines/ Maschinenrichtlinien/Maquinaria / Directiva Máquinas;• 2014/30/UE Compatibilità elettromagnetica/ Electromagnetic compatibility/ Compatibilité électromagnétique/ Elektromagnetische Verträglichkeit/ Compatibilidad electromagnética/ Compatibilidad eletromagnética• 2014/35/UE Bassa tensione / Low Voltage Directive / Directive Basse Tension/ Niederspannungsrichtlinien/ Directiva de baja tensión/ Directiva de Baixa Tensão;• RoHS 2011 / 65 / EU. |

La persona autorizzata a costituire il Fascicolo Tecnico presso ILC srl
The person authorized to compile the Technical File care ILC srl
La personne autorisée à constituer le dossier technique à CIT srl
Die Person, die berechtigt, die technischen Unterlagen bei ILC srl zu kompilieren
La persona autorizada para configurar el Archivo Técnico en ILC srl
A pessoa autorizada a configurar o Arquivo Técnico na ILC srl

Gorla Minore 10/01/2022

Ing. Stefano Ghiringhelli

Firmatario autorizzato/Authorized signatory/
Signataire autorisé/Zeichnungsberechtigter/
Sgnatario autorizado/ Sgnatário autorizado

Il Legale Rappresentante
Maurizio Morelli



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MADE IN ITALY