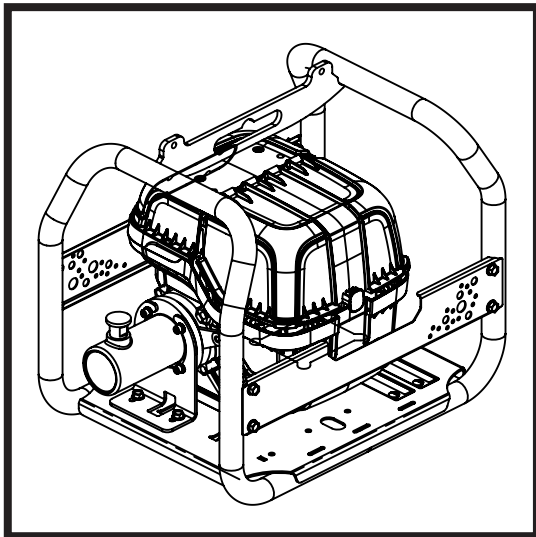


# BELLE DUX E+ DRIVE UNIT

870/20025/0  
09/24



Ⓒ Operators Manual

4

2

UKCA Declaration of Conformity

3

EC Declaration of Conformity

# Declaration Of Conformity (DOC)

We, **Altrad Belle, Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB** declare that the DoC is issued under our sole responsibility and belongs to the followings product(s):



PRODUCT TYPE .....

MODEL.....

SERIAL No.....

DATE OF MANUFACTURE

SOUND POWER LEVEL  
MEASURED /  
.....(GUARANTEED)

WEIGHT.....



## Object of the Declaration:

A portable, independent battery-powered drive system for the use of concrete vibrating pokers.

The object of the declaration described above is in conformity with the relevant **Statutory Requirements:**

- **2008 No. 1597** Supply of Machinery (Safety) Regulations 2008
- **2001 No. 1701** Noise Emission in the Environment by Equipment for use Outdoors Regulations 2001
- **2016 No. 1091** Electromagnetic Compatibility Regulations 2016

The following designated standards and technical specifications have been applied:

- **EN ISO 12100:2010** Safety of machinery
- **ISO 3744:2010** Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure

**ANP CERTIFICATION LTD. (Approved Body, number 8500) 2 Parkfield Street, Manchester, M14 4PN, UK** carried out Internal Control of Production with Assessment of Technical Documentation and Periodical Checking as per Schedule 9 of SI 2001 1701

Technical Files are held by **Ray Neilson** at the Altrad Belle address stated above:-

## Place of Declaration:-

Sheen,  
Nr. Buxton,  
Derbyshire,  
SK17 0EU,  
UK

## Date of Declaration:-

July 2024

Signed by:

Ray Neilson

**Managing Director**  
On behalf of Altrad Belle  
Sheen, Derbyshire, UK



# EC Declaration Of Conformity (DOC)



We, **Altrad Belle, Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB** declare that the DoC is issued under our sole responsibility and belongs to the followings product(s):



PRODUCT TYPE .....  
MODEL.....  
SERIAL No.....  
DATE OF MANUFACTURE .....  
SOUND POWER LEVEL  
MEASURED /  
.....(GUARANTEED)  
WEIGHT.....



Signed by:

**Ray Neilson**

**Managing Director**

*On behalf of Altrad Belle, Sheen, Derbyshire, UK*

**Place of Declaration:-**  
*Sheen, Nr. Buxton, Derbyshire, SK17 0EU, UK*

**Date of Declaration:-**  
*July 2024*

**Object of the Declaration:**

A portable, independent battery-powered drive system for the use of concrete vibrating pokers.

The object of the declaration described above is in conformity with the relevant **Union Harmonisation Legislation:**

- **2006/42/EC** - New machinery directive

- **2000/14/EC** - Noise - equipment for use outdoors

The following harmonised standards and technical specifications have been applied:

- **EN ISO 12100:2010** Safety of machinery

- **ISO 3744:2010** Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure

**VINÇOTTE nv/sa (NB0026)** located Jan Olieslagerslaan 35, 1800 Vilvoorde, Belgium, carried out Internal Control of Production with Assessment of Technical Documentation and Periodical Checking as per Annex VI of 2000/14/EC

Technical Files are held by **Hugues Menager** at the following address:-  
**Altrad (Group Holding)**, 125 Rue du Mas Carbonnier, 34000, Montpellier, France.



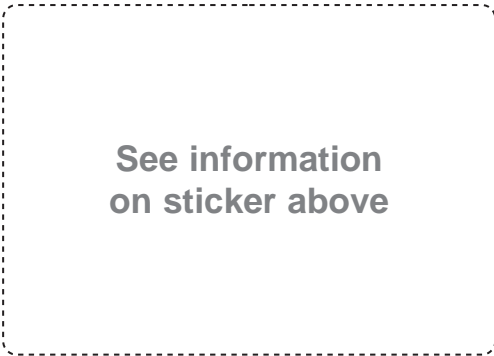
# EU Declaration Of Conformity (DOC)



We, **Altrad Belle, Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB** declare that the DoC is issued under our sole responsibility and belongs to the followings product(s):



PRODUCT TYPE .....  
MODEL.....  
SERIAL No.....  
DATE OF MANUFACTURE .....  
SOUND POWER LEVEL  
MEASURED /  
.....(GUARANTEED)  
WEIGHT.....



Signed by:

**Ray Neilson**

**Managing Director**

*On behalf of Altrad Belle, Sheen, Derbyshire, UK*

**Place of Declaration:-**  
*Sheen, Nr. Buxton, Derbyshire, SK17 0EU, UK*

**Date of Declaration:-**  
*July 2024*

**Object of the Declaration:**

A portable, independent battery-powered drive system for the use of concrete vibrating pokers.

The object of the declaration described above is in conformity with the relevant **Union Harmonisation Legislation:**

- **2014/30/EU** - EMC Directive

The following harmonised standards and technical specifications have been applied:

- **EN ISO 12100:2010** Safety of machinery

- **ISO 3744:2010** Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure

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# Contents

<b>CONTENTS</b>	<b>PAGE NUMBER</b>
<b>UKCA DECLARATION OF CONFORMITY</b> .....	<b>2</b>
<b>CE/EU DECLARATION OF CONFORMITY</b> .....	<b>3</b>
<b>INTRODUCTION</b> .....	<b>5</b>
WARNING .....	5
Serial Numbers .....	6
<b>MACHINE DESCRIPTION</b>	
General .....	6
Standard Operation .....	6
Danger Zone .....	6
Main Components Locations .....	7
Power Unit Components .....	8
Battery Pack Components .....	8
Battery Charger .....	9
<b>TECHNICAL DATA</b>	
Static Dimensions .....	10
General Data .....	11
Batteries .....	11
Battery Charger .....	11
<b>SAFETY INSTRUCTIONS</b>	
General Safety .....	12
Pre-Start Checks .....	12
Worksites .....	12
Operating the Machine .....	13
Pokers .....	13
Battery Charger .....	14
Battery Pack .....	15
Weather Conditions .....	15
During Maintenance .....	15
After Maintenance .....	15
Modifications & Replacement Parts .....	15
Safety Decals .....	16
<b>OPERATING INSTRUCTIONS</b>	
Charging the Battery Pack .....	17
Inserting the Battery Pack .....	17
Stopping the Power Unit .....	17
Starting the Power Unit .....	17
Removing the Battery Pack .....	18
Check the Charge Level of the Battery Pack .....	18
Poker Connection Procedure .....	18
Operating the Drive Unit .....	19
<b>STORAGE</b> .....	<b>19</b>
<b>TROUBLESHOOTING GUIDE</b>	
Power Unit & Operation .....	20
Battery Pack & Charger .....	20
<b>SERVICE AND MAINTENANCE</b>	
General .....	21
Cleaning .....	21
<b>ENVIRONMENT</b> .....	<b>22</b>
<b>COUPLING IDENTIFICATION</b> .....	<b>22</b>
<b>WARRANTY</b> .....	<b>23</b>
<b>REPLACEMENT PARTS</b> .....	<b>23</b>

# Introduction



The purpose of this publication is to enable the owner/operator to maintain and use the machine efficiently. If these instructions are followed carefully they will contribute to years of efficient and profitable operation of the machines in the true Altrad Belle tradition.

The variations in operating conditions make it impossible for the company to make comprehensive or definite statements in its publications regarding performance and methods of use of its machines, or to accept any liability for any loss or damage which may result from these statements, or from any errors or omissions.

When replacements are required, insist on genuine Altrad Belle parts, as extensive damage is liable to result from the use of inferior quality parts.

In accordance with the company's policy of continuous improvement to its machines, alteration to the specifications of machines may be made at any time without notice and the company accepts no responsibility for any discrepancies which may occur between the specifications of its machines and the descriptions thereof contained in this publications.

This manual has been written to include all factory fitted options and specifications for world-wide use, but this does not imply that all or any of these are included in the standard machine configuration. Therefore local Altrad Belle Dealer's must always be consulted about machine specifications.

This manual may not in part, or in whole, be copied, photocopied, reproduced, translated, or converted to any electronic or machine readable form without written consent of Altrad Belle.

## Directives with regard to the notations.

Text in this manual to which special attention must be paid are shown in the following way:



### **CAUTION**

*The product can be at risk. The machine or yourself can be damaged or injured if procedures are not carried out in the correct way.*



### **WARNING**

*The life of the operator can be at risk.*

# WARNING



### **WARNING**

*Before you operate or carry out any maintenance on this machine **YOU MUST READ** and **STUDY** this manual.*

**KNOW** how to safely use the unit's controls and what you must do for safe maintenance. (NB Be sure that you know how to switch the machine off before you switch on, in case you get into difficulty.)

**ALWAYS** wear or use the proper safety items required for your personal protection. If you have **ANY QUESTIONS** about the safe use or maintenance of this unit, ASK YOUR SUPERVISOR OR CONTACT: **Altrad Belle (UK): +44 (0) 1298 84606**

*Altrad Belle reserves the right to change machine specification without prior notice or obligation.*



## Serial Numbers

**ENSURE** you make a note of the serial numbers of your machine, power unit and accessories and always quote them in any communication with Altrad Belle or one of our dealers.

Refer to the Machine Description section of this manual to find the locations of each of the serial numbers on the items.

### **A - MACHINE SERIAL NUMBER**

### **B - POWER UNIT SERIAL NUMBER**

### **C - BATTERY PACK SERIAL NUMBER**

### **D - CHARGER SERIAL NUMBER**



## Machine Description

### **GENERAL**

A portable, robust battery-powered poker drive unit designed for heavy site and rental use providing effective air removal from concrete from a portable independent power source. Altrad Belle BGA Pokers are available in a wide range of diameters from 25 to 68mm. As with all products in the Altrad Belle 82v range the battery is interchangeable for convenience and flexibility....***Building a Sustainable Future!***

### **STANDARD OPERATION**

The machine is intended to be used for the following, in safe environmental conditions as described in this manual:-

For powering mechanical drive vibrating pokers that are used to remove air bubbles from wet concrete which in turn provides increased consistency and strength. Suitable wet concreting applications include slabs, footings, stairways, footpaths and similar.

Any other use is not deemed suitable for this machine. Altrad Belle will not be liable for any damage or injury resulting from any use other than outlined above. The operator will be liable.

Any unauthorised modifications or attachments are prohibited. They may affect the performance and safety of the machine, potentially resulting in damage to the machine or injury to the operator.

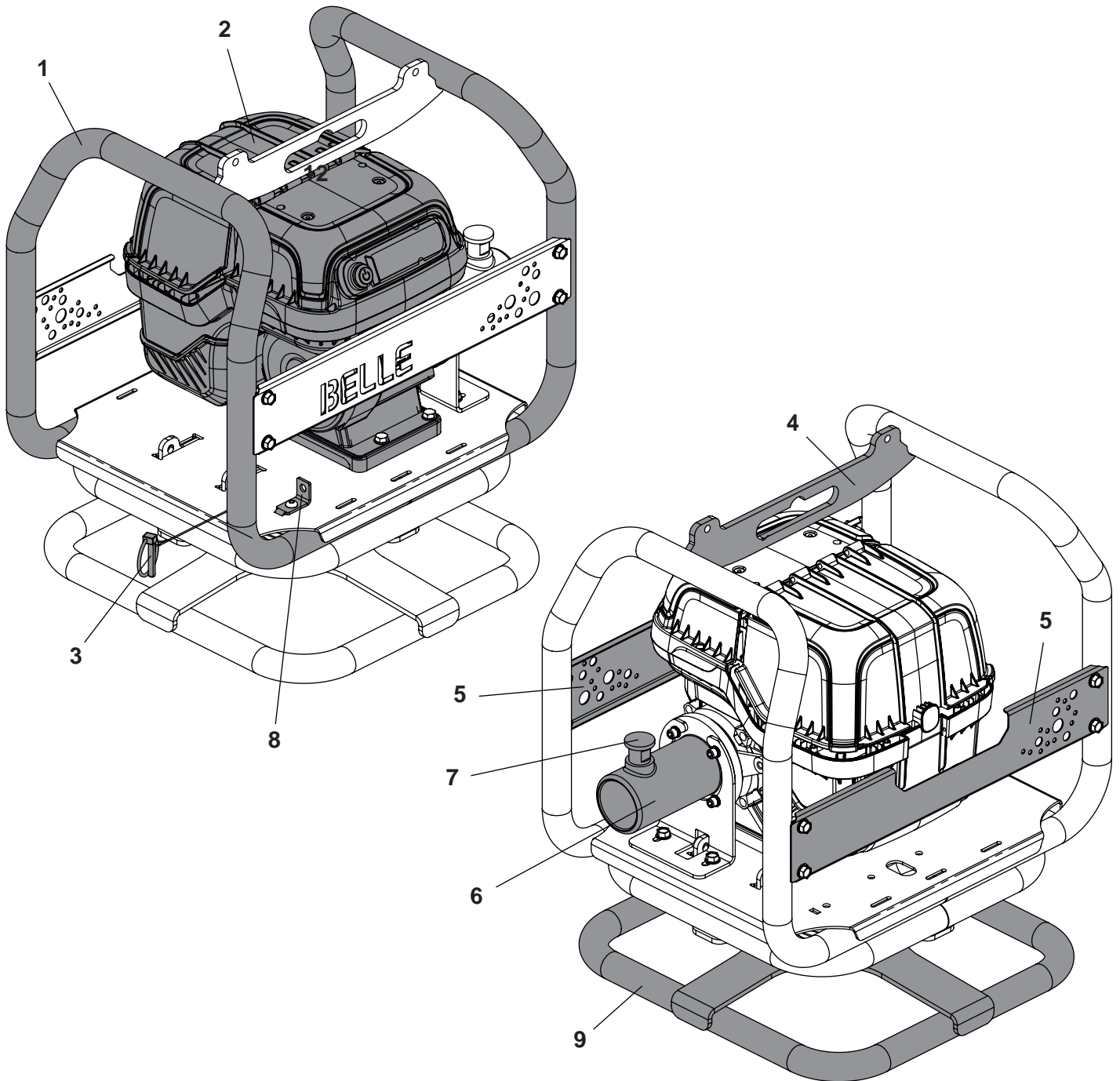
Use of non-genuine replacement parts may also affect the performance and safety of the machine. potentially resulting in damage to the machine or injury to the operator.

### **DANGER ZONE**

The danger zone is the area around the machine in which persons are endangered during standard operation as outlined above.

During operation of the machine, cordon off the work area and keep members of the public and unauthorized personnel at a safe distance away from the danger zone.

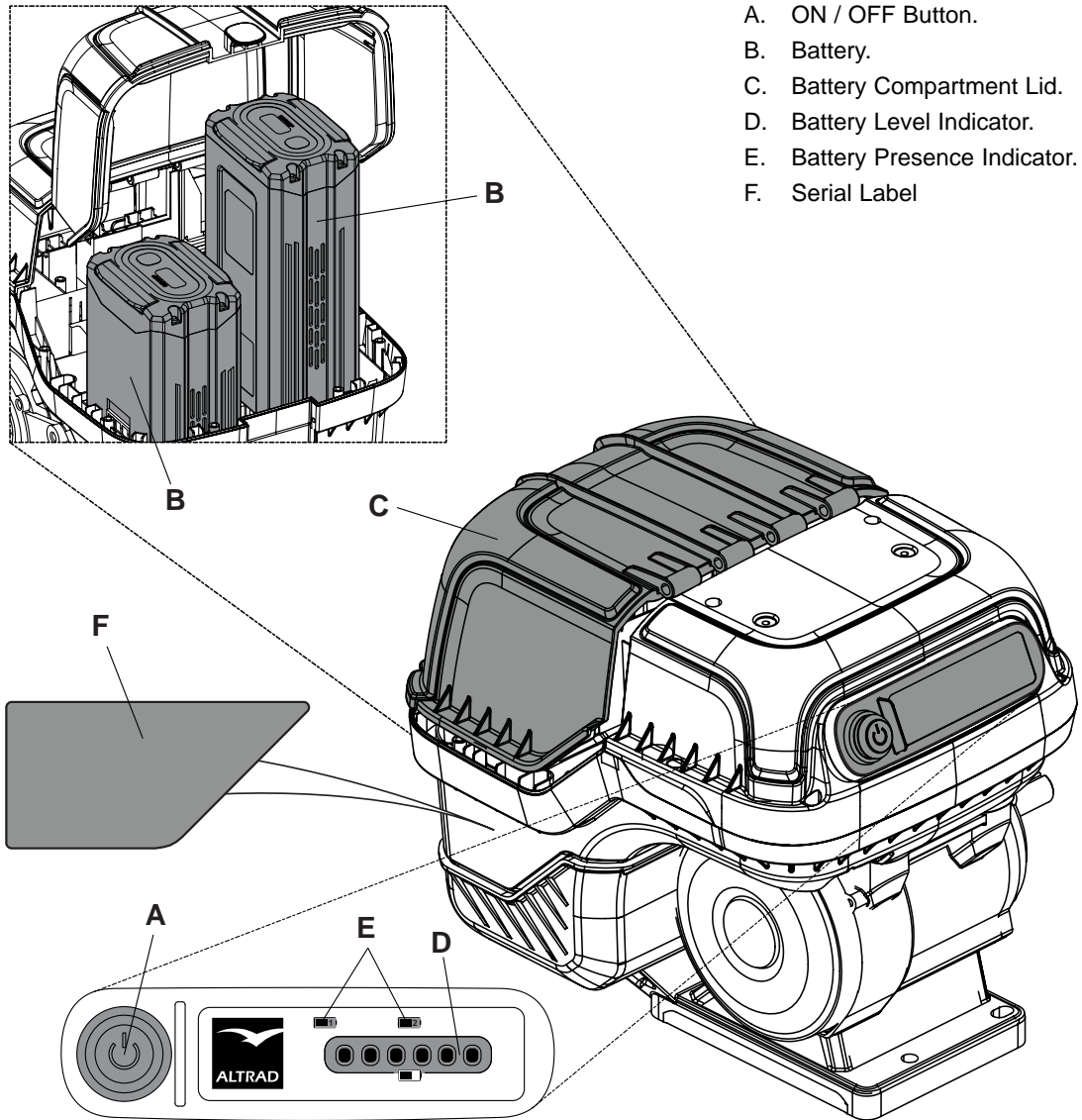
## MAIN COMPONENT LOCATIONS



1. Protection Frame.
2. Power Unit.
3. Securing Pin (for use when stacking machines)
4. Lifting Eye.
5. Side Protection Guard.
6. Drive Sleeve.
7. Shaft Retaining Plunger.
8. Securing Pin retaining bracket
9. Swivel Base (Optional)

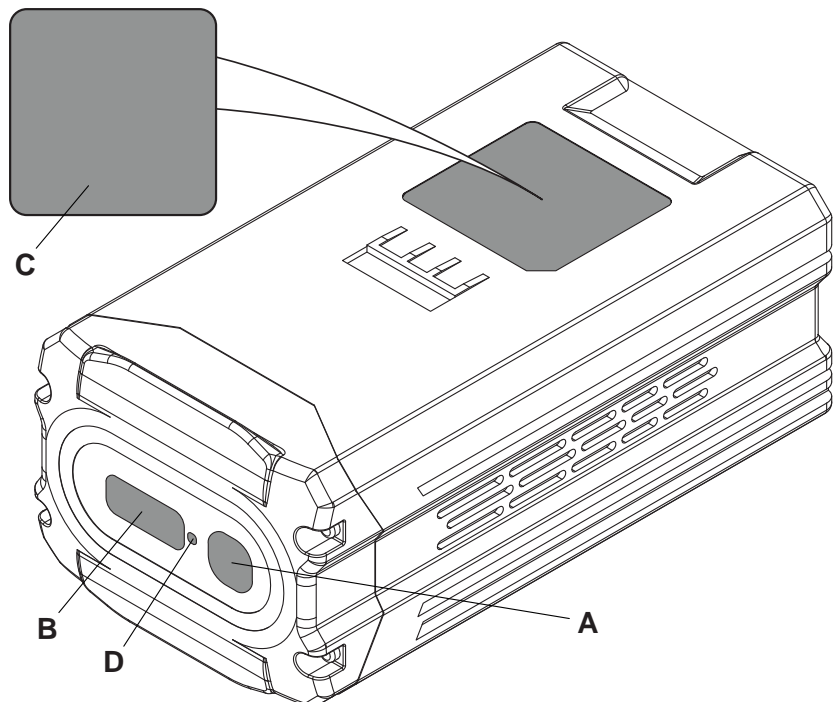
**NOTE:-** The Drive Unit shown in the diagram above includes the optional Swivel Base (Part No. OPB/05/DIO). This is not supplied with the standard machine.

## POWER UNIT COMPONENTS



- A. ON / OFF Button.
- B. Battery.
- C. Battery Compartment Lid.
- D. Battery Level Indicator.
- E. Battery Presence Indicator.
- F. Serial Label

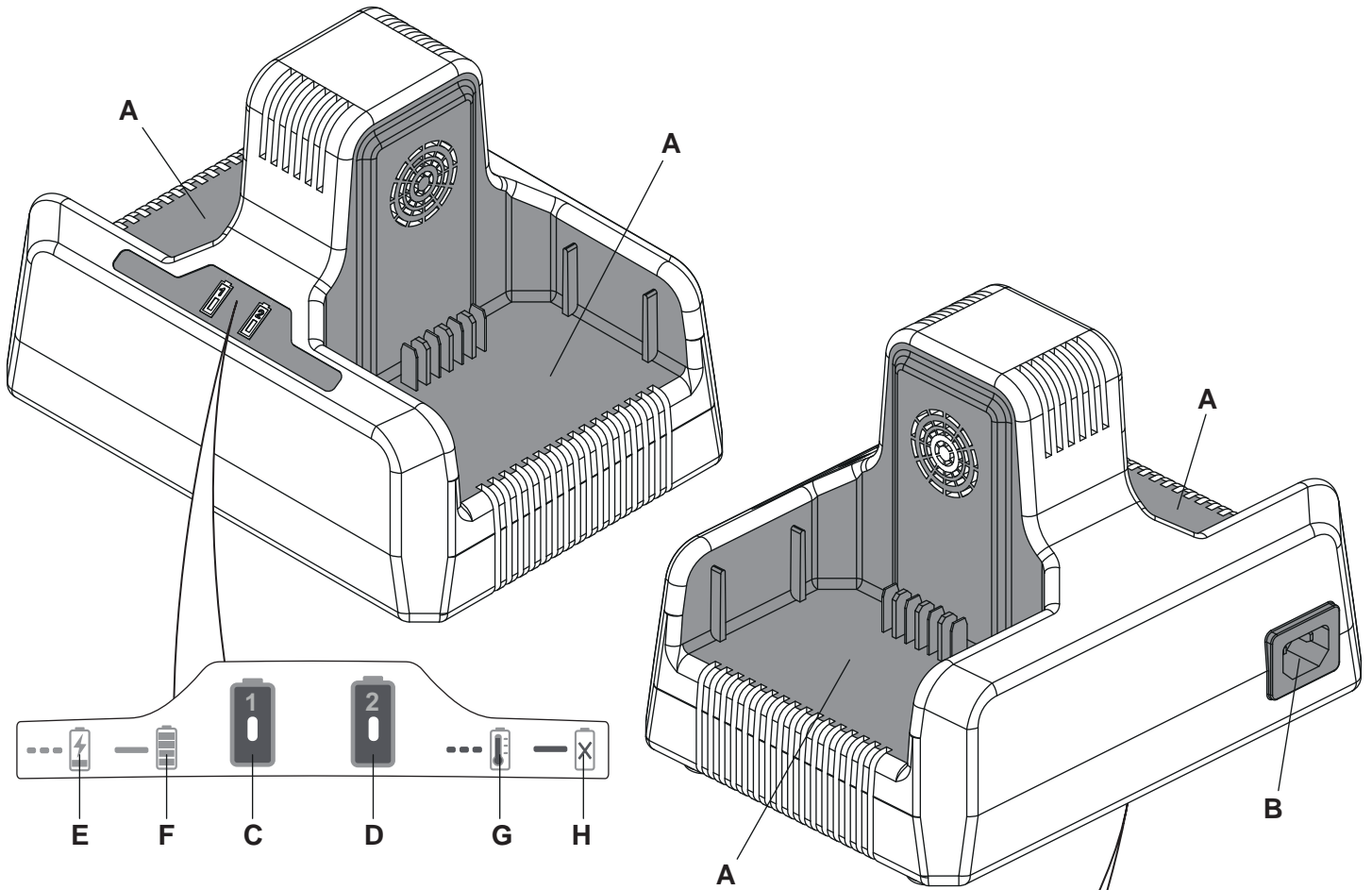
## BATTERY PACK COMPONENTS



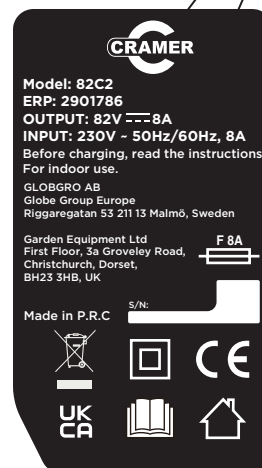
- A. Battery Charge Level Button.
- B. Battery Charge Level Display.
- C. Serial Label.
- D. Battery Caution / Over Temperature Indicator



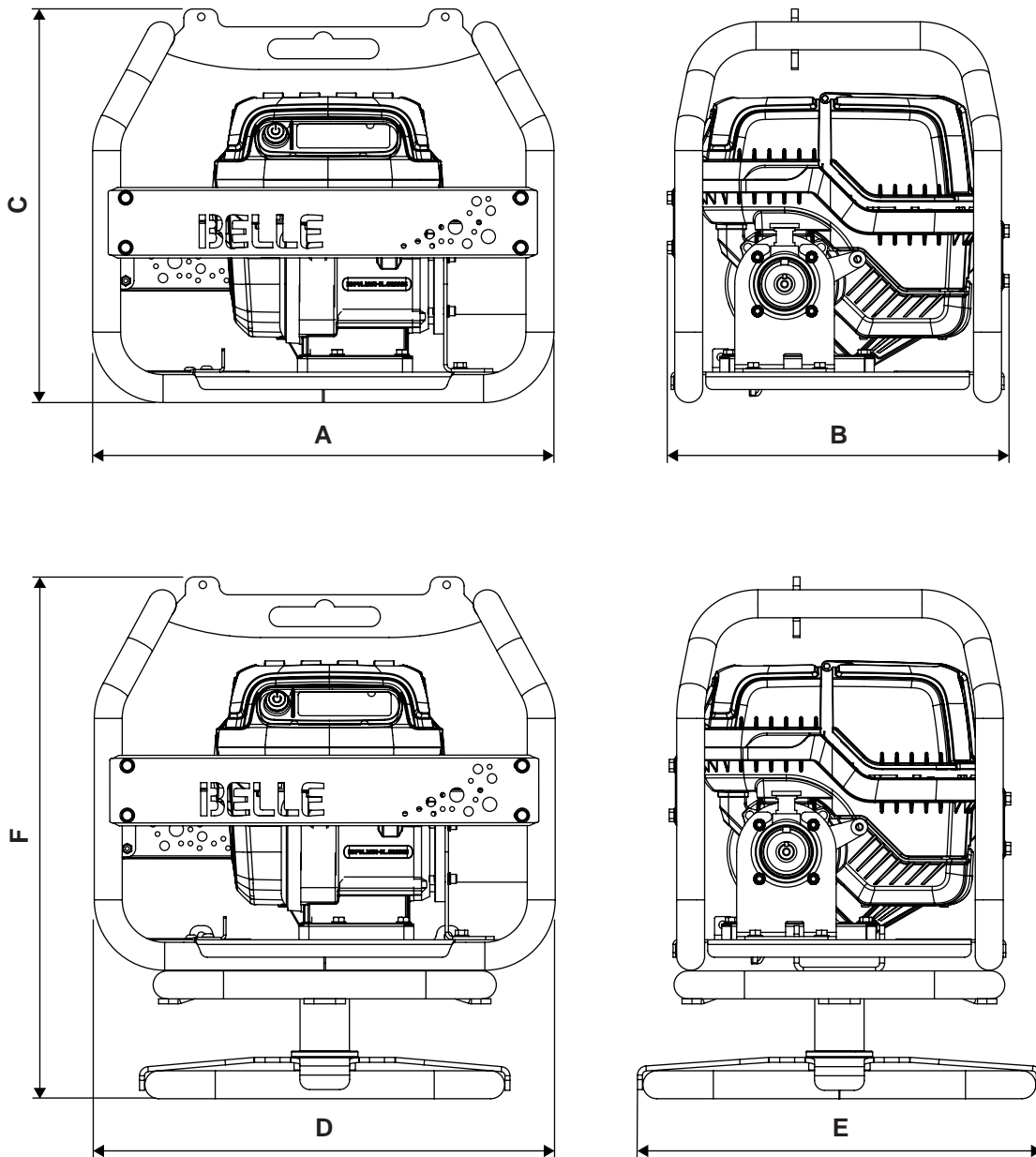
## BATTERY CHARGER



- A. Battery Pack Charging Dock
- B. AC Power Cable Socket
- C. Dock Indicator 1
- D. Dock Indicator 2
- E. Battery is Charging (Blinking Green)
- F. Battery is Fully Charged (Solid Green)
- G. Battery Over Temperature (Solid Red)
- H. Battery / Charging Fault (Blinking Red)
- J. Serial Label



## STATIC DIMENSIONS



Model	DUX E+
A - Machine Length (mm)	556
B - Machine Width (mm)	412
C - Machine Height (mm)	474
D - Machine Length with optional swivel base (mm)	556
E - Machine Width with optional swivel base (mm)	487
F - Machine Height with optional swivel base (mm)	629

## GENERAL DATA

Model	DUX E+
Motor Type	Cramer 82H360S2Q
Motor Speed (rpm)	2800
Motor Power (Hp / kW)	3.0 / 2.2
Max. Voltage (v)	82
Nominal Voltage (v)	72
*Machine Weight (kg)	26
IP Rating	IP44
Batteries	2x 8Ah or 2x 5Ah or 1x 8AH or 1x 5AH or a combination of 1x 8AH + 1x 5AH
Noise Level (dB L <sub>WA</sub> )	78

\*weight without batteries included.

## BATTERIES

Model	5Ah Battery	8Ah Battery
Model Code	OPM/13/FIO	OPM/14/FIO
Battery Type	Li-Ion	Li-Ion
Weight (kg)	2.8	3.9
Dimensions L x W x H (mm)	120 x 90 x 214	120 x 90 x 240
Max. Voltage (v)	82	82
Nominal Voltage (v)	72	72
Energy Rating (Wh)	360	580
Energy Capacity (Ah)	5	8
80% Charge Time (Mins)	28	48
100% Charge Time (Mins)	39	65

## BATTERY CHARGER

Model	Battery Charger
Model Code	OPM/16/FIO
Dimensions LxWxH (mm)	230 x 170 x 170
Weight (kg)	2.0
Input Voltage AC (v)	230v
Input Frequency (Hz)	50 / 60
Output voltage DC (v)	82
Output current (A)	8

## GENERAL SAFETY

For your own personal protection and for the safety of those around you, please read and ensure you fully understand the following safety information. It is the responsibility of the operator to ensure that he/she fully understands how to operate this equipment safely. If you are unsure about the safe and correct use of the machine, consult your supervisor or Altrad Belle.



### **WARNING**

*Improper maintenance can be hazardous. Read and Understand this section before you perform any maintenance, service or repairs.*

This machine is designed to eliminate the possible risks arising from the use of it. However, risks **DO** reside, and these residual risks are not clearly recognizable, and may cause personal injury or property damage, and possible death. If such unpredictable and unrecognizable risks become apparent, the machine must be stopped immediately, and the operator or their supervisor must take appropriate measures to eliminate such risks. It is sometimes necessary that the manufacturer must be informed of such an event for future counter measures.

**ALWAYS** keep the Operator's Manual and any other manuals that accompany this machine to hand. Immediately replace any manuals that may have been lost or are now illegible.

## PRE-START CHECKS

The following Pre-start-up inspection must be performed before the start of each work session or after every four hours of use, whichever is first. Please refer to the service section for detailed guidance. If any fault is discovered, the machine must not be used until the fault is rectified.

1. Thoroughly inspect the machine for signs of damage. Check components are present and secure.
2. **ENSURE** all packaging material has been removed before operating.
3. **ENSURE** there is no debris or excessive dirt present on the machine.
4. **DO** replace any worn/damaged warning decals.
5. **ENSURE** the battery pack(s) is securely inserted into the power unit.
6. **ENSURE** the battery pack(s) is sufficiently charged.
7. **DO NOT** use the battery if it shows signs of damage/ wear or if it is leaking fluid. In this case place the battery in a secure location away from flammable materials and arrange for safe disposal

Once all the above checks have been made, test run the machine checking that all switches function correctly and all indicators light when the power unit is turned on.

## WORKSITES

- **ENSURE** the operator is familiar with the working surroundings. Worksites can be hazardous.
- **ALWAYS** keep the work area tidy and clear of any obstructions that may lead to accidents and/or injuries.
- Cordon off the work area and keep members of the public and unauthorized personnel at a safe distance.
- This machine is heavy and must not be lifted single-handedly, either **GET HELP** or use suitable lifting equipment.
- **ALWAYS** be aware of the flexible poker shaft, this could be a trip hazard.

## OPERATING THE MACHINE

- **DO NOT** use in adversely wet conditions or in the presence of flammable liquids or gases.
- Check condition of the battery housing. Ensure that there is no residual moisture or water lying in the housing. If so remove this before inserting the battery.
- Check the battery terminals are in order and not bent, damaged or heavily corroded. If they are **DO NOT** use the drive unit.
- Check for visible damage to the switch and housing. If damaged **DO NOT** operate the drive unit and arrange for repair.
- **ENSURE** the operator has had adequate training prior to use, is familiar with all controls and knows how to safely switch the machine **OFF** before it is switched **ON** in case you get into difficulty.
- Suitable PPE **MUST** be worn when using this equipment i.e. Safety Goggles, Gloves, Ear Defenders, Dust Mask and Steel Toe capped footwear (with anti-slip soles for added protection). Wear clothing suitable for the work you are doing and **DO NOT** wear loose jewellery that could be caught in moving parts.
- Keep unauthorised persons & animals away from drive unit during operation.
- **ALWAYS** inform colleagues of what you will be doing and where you will be working.
- **DO NOT** operate the machine when you are ill, feeling tired, or when under the influence of drugs / alcohol.
- **NEVER** leave the drive unit running and unattended.
- **ALWAYS** ensure drive unit is on level ground before operating.
- **NEVER** remove or tamper with any guards fitted, they are there for your protection. Always check guards for condition and security, if any are damaged or missing, **DO NOT USE THE MACHINE** until the guard has been replaced or repaired.
- **ENSURE** extra care is taken when working near to banks or trenches where there is a danger of the material collapsing.
- If your drive unit catches fire, use a dry powder or CO<sub>2</sub> fire extinguisher to put out the fire. If the fire can not be put out, keep away and call the fire brigade. If you are in any doubt about the safety condition of your machine, please contact Altrad Belle or your local authorised dealer.
- **DO NOT** use the battery charger outdoors.
- **DO** only use the approved batteries to operate this machine
- **DO** only use the approved chargers to charge the batteries for this machine
- **DO NOT** expose the motor power unit to excessive amounts of water or pressurised jets of water
- **DO** always close the protective covers on the machine when in operation or stored outside.
- **DO NOT** obstruct any ventilation holes or vents
- **DO NOT** operate the drive unit in explosive atmospheres, such as in the presence of flammable liquids, gases or dusts
- **DO** remove the battery when storing or transporting the drive unit.
- **DO** avoid damaging the motor housing.
- **DO NOT** drop the drive unit or rest the drive unit on its side.
- **DO NOT** rest objects on the drive unit during operation.
- **DO** keep batteries away from other metal objects when storing or transporting them. Keys, tools, nails, screws and other small metal objects could cause a short circuit between the battery terminals. This could result in burns, fire or battery damage.
- **DO** maintain the drive unit in good working order. Clean regularly and ensure all covers, guards & warning decals are in place. Clean the machine with a stiff non-metallic brush and a damp cloth with mild soap. **DO NOT** use solvents or harsh chemicals for cleaning non-metallic parts of the mixer. These chemicals may weaken the materials. **DO NOT** immerse parts in water or allow water to enter the vents and openings of the motor housing.
- This drive unit is not intended for use by young children or infirm persons without supervision.
- This drive unit is not intended for use by persons (including children) suffering from diminished physical, sensory or mental abilities; lack of experience, knowledge or skills unless they are supervised by a person responsible for their safety. Children should never be left alone with this machine.

## POKERS

- **NEVER** hold the poker head in your hand whilst the drive unit is running, this can cause nerve damage in the fingers due to excessive hand arm vibration exposure.
- **ALWAYS** hold the flexible shaft of the poker approximately 1 metre behind the poker head or as close to the drive unit as possible.
- **DO NOT** run the drive unit for prolonged periods when the poker head is not submerged in wet concrete.
- **BEWARE** of the poker becoming entangled in rebar or formwork.
- **DO NOT** allow vehicles to drive over the flexible shaft of the poker as this could cause irreparable damage.
- **NEVER** insert the poker coupling into the drive unit drive whilst the drive unit is running.
- **NEVER** insert anything into the drive unit drive sleeve other than the poker coupling it was designed for.

## **BATTERY CHARGER**

- To reduce the risk of injury, **ONLY** charge Cramer 82v BAB733, BAB735 & BAB737 type rechargeable batteries. Other types of batteries may burst causing personal injury and damage.
- This Battery Charger is not intended for use by children or persons with physical, sensory or mental limitations or a lack of experience or knowledge. **DO NOT** allow children to play with this Battery Charger - **IT IS NOT A TOY!**
- Charge only Li-ion Battery Packs that do not exceed a capacity of 8AH 82v. The battery voltage must match the battery charging voltage of the Battery Charger. **DO NOT** charge non-rechargeable Battery Packs, otherwise there is danger of fire and explosion.
- Continued use of the Battery Charger under unusual conditions could result in fire or electric shock, which may kill or seriously hurt you.
- **DO NOT** modify the Battery Charger. Modifying, disassembling or repairing the Battery Charger could result in fire or electric shock, which can cause death or serious injury. Disassembly and repairs require specialised knowledge, contact your servicing dealer.
- Before using the Battery Charger / charging a Battery Pack, people who are using an electronic medical devices must confirm how their device might be affected. The electromagnetic radiation produced during charging may affect the operation of electronic medical devices, which may kill or seriously hurt you.
- If the Battery Pack leaks fluid or smells strangely, stop using it and contact your servicing dealer. Battery Pack contains combustible organic solvents as an electrolyte solution. Mistakenly handling them may result in burns or serious injuries (See Safety Data Sheet).

**DO NOT** use the Battery Charger in the following situations.

- Locations where the Battery Charger becomes unstable.
- Locations where there is flammable gas or combustible materials
- Locations that are very cold or very hot, such as in direct sunlight or near a heater
- Locations exposed to water or excessive humidity
- Locations where children or pets might play with it

**ALWAYS** follow the rules below.

- **DO NOT** charge Battery Packs if there is the risk of a lightning storm.
- **DO NOT** charge if the electric outlet is loose.
- **DO NOT** charge if the Battery Charger, AC cable, or the electric outlet is damaged or deformed, dusty, dirty, or rusty.
- **DO NOT** plug too many power cords into one electric outlet.
- **DO NOT** charge while the AC cable is wound up.
- **DO NOT** stand on or place heavy objects on the Battery Charger or AC cable.
- **DO NOT** pull or repeatedly bend the AC cable or charging cable with an excessive force.
- **DO NOT** touch the Battery Charger or AC cable if your hands are wet.
- **DO NOT** splash or submerge the Battery Charger or AC cable in water.
  - If the Battery Charger or AC cable is submerged in water while you are charging, do not touch the Battery Charger or AC cable. Contact your servicing dealer.
- **DO NOT** leave the AC plug plugged into the electric outlet after you finish charging.
- **DO NOT** pull on the cable when you pull out the AC plug.
- **DO NOT** subject the Battery Charger to excessive physical shock, such as by dropping or hitting it.
- **DO NOT** use the Battery Charger to charge anything except authentic Battery Packs. Charging a non-authentic Battery Pack could damage it and the charger because of poor protection functions, etc.
- **DO NOT** touch the Battery Pack terminals with metal. Mishandling them could result in electric shock or fire, which may kill or seriously hurt you. Follow the procedures and instructions provided in the manufacturers manual.

## **BATTERY PACK**

- **ALWAYS** use a genuine battery pack that is intended for this machine.
- **DO NOT** disassemble the battery pack.
- **DO NOT** touch the Battery Pack's connectors with metal objects or insert metal objects through openings into the Battery Pack.
- **ALWAYS** keep the battery pack clean and dry.
- **NEVER** allow the battery pack to come into contact with water.
- If the Battery Pack leaks fluid or smells strangely, **IMMEDIATELY** move it away from any heat sources or flame. There is a risk of fire or rupturing if the leaked liquid or gas ignites.
- The Battery Pack contains combustible organic solvents as an electrolyte solution. If the liquid gets into your eyes, rinse them with plenty of water. After that, **IMMEDIATELY** seek medical care. (See Safety Data Sheet).
- **DO NOT** allow children to use the Battery Pack. Store the Battery Pack out of the reach of children.
- **DO NOT** store the Battery Pack in a damp location. Doing so can cause a malfunction.
- When the Battery Pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another. Shorting the battery terminals together may cause burns or a fire.
- In case of fire, **STOP** using the machine immediately and extinguish with dry chemical, sandy soil, carbon dioxide or appropriate foam.
- The Battery Pack will deteriorate if it is repeatedly charged and discharged, as well as if it is stored and not used.
- As the Battery Pack deteriorates, its full-charge capacity decreases and the length of time it can be used shortens. Once the full-charge capacity is reduced by deterioration, it cannot be recovered and cannot reach the charging capacity of a new Battery Pack.
- **ALWAYS** remove the battery pack from the power unit when transporting or maintaining it.
- **ONLY** charge the battery pack in a recommended charging unit.
- **DO NOT** expose the battery pack to extreme temperatures (below -14°C (6.8°F) or above 40°C (104°F))
- **NEVER** attempt to service a damaged battery pack.
- **WORK ON THE BATTERY PACK OR POWER UNIT MUST ONLY BE CARRIED OUT BY SUITABLY COMPETENT & QUALIFIED PERSONNEL**

## **WEATHER CONDITIONS**

- We recommended that this machine not be used in heavy rain.
- Rain can alter the condition of the worksite surface area. **ALWAYS** be aware of the condition of the surface after it has rained.
- **NEVER** operate the machine in temperatures below 5°C (41°F) or above 40°C (104°F)

## **DURING MAINTENANCE**

- **ALWAYS** remove the battery before carrying out any maintenance on the machine.
- Carry out maintenance and repair work only if the machine is positioned on stable and level ground and has been secured against inadvertent movement.
- **NEVER** service the machine while the power unit is running, always switch **OFF** and remove the battery.
- Clean the machine before carrying out maintenance/repair.
- When dismantling assemblies containing components under pressure from springs, always wear suitable PPE. This will protect against eye injuries from accidental flying components.
- When handling oil, grease and other chemical substances, observe the product related safety regulations.

## **AFTER MAINTENANCE**

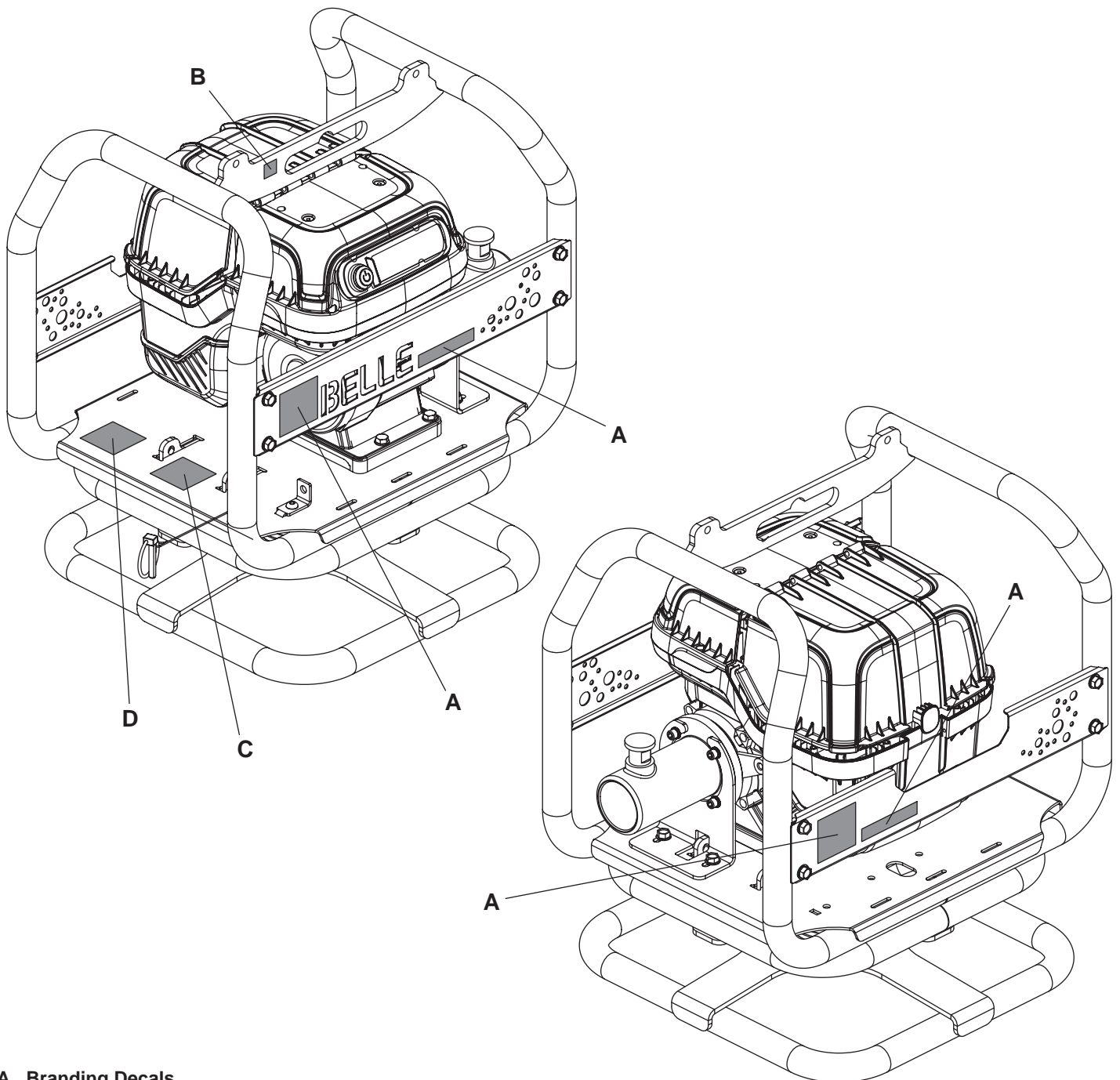
- **ALWAYS** tighten any screwed connections that have been loosened during maintenance and repair.
- Any safety devices removed for set-up, maintenance or repair purposes must be refitted and checked immediately upon completion of the maintenance and repair work.
- **ENSURE** that all consumables and replaced parts are disposed of safely and with minimum environmental impact.

## **MODIFICATIONS & REPLACEMENT PARTS**

- **NEVER** make any modifications or additions to the machine without the prior approval of Altrad Belle. Any unapproved modifications may affect the performance and safety of the machine. This may also void the Warranty.
- **ALWAYS** use genuine Altrad Belle replacement parts. Use of non-genuine replacement parts may affect the performance and safety of the machine. This may also void the Warranty.

Genuine Altrad Belle replacement parts can be purchased online at [www.Altrad-Belle247.com](http://www.Altrad-Belle247.com)

## SAFETY DECALS



- A. Branding Decals.**  
Identifies the brand and model of the machine.
- B. Lifting Point Decal.**  
Lifting point for use with a Sling or Mechanical Hoist.
- C. Noise Level Decal.**  
Indicates the noise level of the machine.
- D. General Safety Decal.**



Read the  
Operators  
Manual



Wear Ear  
Protection



Wear Eye  
Protection



Wear Protective  
Footwear



Refer to the Machine Description section to identify all components mentioned in this section.

## **CHARGING THE BATTERY PACK**



### **CAUTION**

*The battery pack is not shipped fully charged. It is recommended to fully charge before use to ensure that maximum run time can be achieved.*

- Only charge compatible batteries with the charger.

**NOTE: ALWAYS** allow the battery to complete 5 charge cycles (A cycle is defined as 100% - 0% - 100%) to enable the battery to reach its optimum capacity

1. Plug the power lead into the charger body.
2. Connect the power lead plug into a suitable rated mains power supply socket.

**NOTE:** This charger should only be used on 230v AC 50/60Hz supply with a minimum load current of 10A

3. Use the battery charger indoors only and away from any damp environments.
4. Place the charger on a flat surface and do not obstruct any ventilation slots.
5. **DO NOT** use the charger in any explosive atmospheres and keep away from combustible powders, water sprays or metallic dust or shavings.
6. Slide the battery into the slot of the charger ensuring that the battery contacts are aligned with the charging connection blades.
7. Gently push the battery firmly into the charger slot.
8. Switch the power outlet on.
9. Check the indicator LED (C or D). The approved charger is a diagnostic charger. The charger LED light will illuminate in specific order to communicate the current battery status. They are as follows:-  
**Flashing Green** = Charging (Leave battery on the charger until LED shows solid Green)  
**Solid Green** = Battery fully charged (Battery charged, remove battery from charger)  
**Solid Red** = Battery over temperature [Battery caution logo] (Leave the battery on the charger for up to 30mins until the LED flashes Green)  
**Flashing Red** = Battery charging fault (Remove battery and dispose of correctly)
10. The battery will only start charging if the charge level is below 69%.

- See also the manufacturer's instruction card supplied with the charger.

## **INSERTING THE BATTERY PACK INTO THE POWER UNIT**

1. Select a compatible battery and check that it is in good operational condition. If the battery shows signs of impact damage, emits an unusual smell, feels hot **DO NOT USE**
2. Check the charge value by pressing the 'charge indicator' button. If the battery charge is sufficient then proceed to insert the battery into the motor housing.
3. Unclip and open the battery housing cover.
4. Hold the battery with 2 hands. One hand should grab the battery from the top with the charge display facing upwards, gripping it across the 2 short sides. The second hand should hold the battery around the middle.
5. Turn the battery until the retaining lug lines up with the battery retaining clip.
6. Slide the base of the battery into its housing locating the slide rails.
7. Remove your hand from the middle keeping hold of the battery from the top and allow the battery to slide fully into the housing.
8. Once fully inserted, press lightly down on the top of the battery until the battery retaining latch, clicks into position and locks the battery in place.
9. Check that the battery isolator key is fitted.
10. Close the battery housing cover.
11. The drive unit is now ready for operation.

## **STOPPING THE POWER UNIT**

1. Press the silver **START/STOP** button on the side of the power unit and the power unit will stop.

## **STARTING THE POWER UNIT**

1. Press the silver **START/STOP** button on the side of the power unit and the power unit will start.

## REMOVING THE BATTERY PACK FROM THE POWER UNIT



**CAUTION** ENSURE the machine is switched **OFF** before removing the battery.

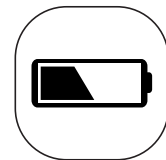
1. Stop the drive unit using the **START/STOP** button.
2. Unclip and open the battery housing cover.
3. Push down lightly onto the top of the battery, at the same time press and release the battery retaining latch. Remove your hand from the top of the battery and it should rise slightly.
4. Then grip the top of the battery with one hand across the 2 short faces and lift slowly.
5. Once the battery slides halfway out of the housing grip the middle of the battery with the second hand.
6. Lift the battery from the battery housing.
7. If the battery needs to be charged then carefully move it to the battery charger.
8. If the battery is to be stored then place the battery in a dry place away from direct sunlight or excessive temperatures. It is recommended to store the battery at between +6°C to +40°C.
9. If the battery is to be transported it should be placed into protective packaging or storage (see local regulations for the transportation of Li-ion batteries)

**NOTE: DO NOT** transport the drive unit with a battery fitted. This could lead to the battery being damaged due to knocks & shocks, vibrations, or exposure to the weather and elements.

10. Leaving the battery fitted to the drive unit during transportation may also lead to the high value battery being stolen.
11. See also the manufacturers instruction card supplied with the charger.

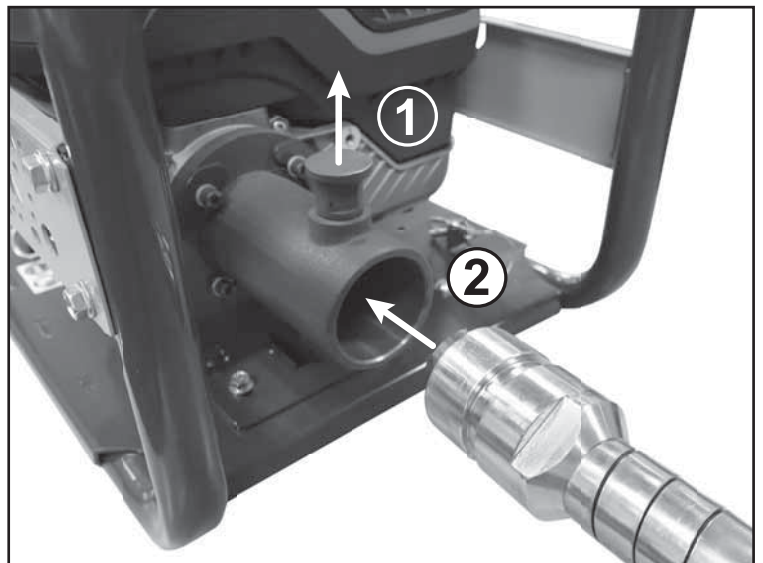
## CHECKING THE CHARGE LEVEL OF THE BATTERY PACK

Push the red battery charge level button (See adjacent image) on top of the battery whilst it is inserted into the power unit and the power level will show on the digital display in numerical format.



## POKER CONNECTION PROCEDURE

1. To connect the flexible shaft poker to the drive unit, raise the plunger knob on the sleeve and insert the flexible drive coupling.
2. On releasing the knob the plunger should locate in the groove on the flexible drive coupling.
3. If the plunger fails to locate, rotate the flexible drive coupling or rock it back and forth slightly until it locates.



## OPERATING THE DRIVE UNIT

- **Take the drive unit to where it is required.**  
If the drive unit is to be transported to another location, ensure that the power unit has been switched off. **NEVER** transport the drive unit with the power unit still running, even if it is only being moved a short distance.
- **Having carried out the checks listed in the 'pre start' section and you have connected the flexible shaft poker by following the connection procedure, you may start the power unit.**  
The power unit should now be running. **ALWAYS** check the power unit for any signs of unusual noise. If any of these occur, stop the power unit immediately and refer to the troubleshooting section in this manual.
- **The poker is now ready for insertion into the concrete.**  
Refer to the Operator's Manual provided with the poker for correct operating procedures.
- To **STOP** the power unit - refer to 'Start / Stop Procedure' in this manual.

### **Note:**

The power unit speed is factory preset to a maximum of 2800 rpm. If this speed is increased it will cause damage to the flexible shaft poker and will invalidate the Altrad Belle Warranty.

## Storage



If the drive unit is not to be used for an long period of time it must be stored correctly to prevent deterioration or damage occurring during this period.

Store the machine in a clean dry building with plenty of ventilation if possible. If you can only store outdoors, cover with a waterproof sheet / tarpaulin.

### **PREPARING THE MACHINE FOR STORAGE**

1. Clean the machine and remove all unwanted material / debris (See the Cleaning section on page 24).
2. Dry the machine to remove any moisture.
3. Apply grease to any moving parts / grease points.
4. Examine the machine for any worn / damaged parts. Replace if necessary.

### **STORING THE MACHINE**

1. Place the machine safely on stable, level ground.  
**ENSURE** there is sufficient room around the machine to be able to carry out any service or maintenance procedures during the storage period.
2. **ENSURE** the battery pack is removed and stored in a clean, dry area.
3. **ENSURE** the isolator key is removed from the power unit.

### **DURING STORAGE**

To prevent the build up of rust and to minimise the risk of seizures, periodically operate all machine functions during storage.

1. Install a fully charged battery.
2. Insert the isolator key.
2. Start the power unit.
3. Operate the machine to **ENSURE** it operates correctly.
4. Re-do storage procedure from above.

### **REMOVING THE MACHINE FROM STORAGE**

1. Install a fully charged battery.
2. Carry out the Pre-Start Check procedure
3. Operate the machine as per the operating instructions in this manual.

## POWER UNIT & OPERATION

Problem	Cause	Remedy
The power unit does not start.	The battery is not fully inserted.	Check the connection between the battery and the battery port. <b>ENSURE</b> the battery clicks into place.
	The battery is not charged.	Charge the battery.
	The Start/Stop button is faulty	*Fault find the switch and replace if necessary
	Battery may require service or replacement.	Replace the battery.
The power unit is excessively noisy and vibrates.	The motor shaft is bent.	Stop the power unit and inspect for damage.
	The drive unit is located on uneven ground.	Re-position the drive unit on level ground. If the noise and vibration persists, contact an authorised Altrad Belle dealer.
	Drive coupling has become loose.	Re-fit drive coupling. If the noise and vibration persists, contact and authorised Altrad Belle dealer.
The drive unit stops during operation and an alarm can be heard.	The motor has been overloaded.	Press the Stop button and leave the drive unit to cool for 3-4 minutes. Then restart the drive unit by pressing the Start button.
	The battery is flat.	Recharge the battery as per the instructions in the manual.

Items marked with \* should only be carried out by a competent electrician or Altrad-Belle dealer.

## BATTERY PACK & CHARGER

Problem	Cause	Remedy
Charging does not start.	The AC plug is not connected to an electric outlet.	Connect the AC plug to an electric outlet correctly.
	The charging connector is not connected to the battery connector.	Connect the charging connector to the battery connector correctly.
	Charger / battery may be too hot or too cold.	Move the charger and battery pack to a location where the ambient temperature is between 7°C and 40°C
<b>WARNING!</b> If problems persists, leave the battery on the charger for a minimum of 24 hours. This should resolve any issues. If problem still persists after this contact an authorised Altrad Belle dealer.		
Charging LED illuminates RED during charging.	Battery pack is too hot.	Remove the battery pack from the charger and allow to cool for at least 30 minutes. Re-insert battery pack once cool.
Charging LED flashes RED during charging.	Charging fault.	Remove the battery pack and unplug the charger. Wait 1 minute, plug the charger back in and re-insert the battery pack.
Charging LED still flashes RED during charging.	Faulty battery pack.	Replace battery pack. Dispose of faulty battery pack safely and correctly. See local guidance for advice on the safe disposal of Li-Ion batteries.

## GENERAL

This machine is designed to give many years of trouble free operation. It is, however, important that the simple regular maintenance listed in this section is carried out. All maintenance procedures must be carried out by a competent, suitably qualified person.

A poorly maintained machine could be a danger to the operator and the other personnel on the worksite. **ENSURE** that the regular maintenance procedures listed in this manual are performed correctly and on time to keep the machine safe and efficient.

**ALWAYS** use genuine Altrad Belle replacement parts, the use of spurious parts may void your warranty.

Before any maintenance is carried out on the machine, switch off the machine and **ALWAYS** set the machine on stable, level ground.

**ENSURE** any faults identified during maintenance procedures are addressed and corrected immediately.



### WARNING

*Before starting any maintenance or repairs, switch off the power unit and remove the battery/batteries. On completion of maintenance, check that the drive unit functions correctly and that all guards are correctly fitted.*

## CLEANING

Keeping the machine clean is an integral part of the service and maintenance program. The build-up of mud, dirt and debris could potentially affect the operating safety of the machine, exposing both the operator and other personnel to potentially hazardous situations.



### WARNING

***NEVER** use a hose or pressure washer to spray water on the machine while cleaning it. Water entering the power unit components may cause a malfunction and/or injury.*

- Wipe off any external material. **ALWAYS** wipe the battery pack clean with a dry, clean cloth. Before cleaning the battery pack, remove it from the specified device or the battery charger.
- **DO NOT** use petrol, turpentine, lacquer or paint thinner, dry cleaning fluids or similar products.
- **NEVER** let any liquids near the power unit.

After the cleaning process check that all connections and fasteners are in place and secure. Replace any if necessary. Also **ENSURE** that all safety / warning decals are present in their correct locations. Replace any if necessary.



## Environment



### Safe Disposal.

Instructions for the protection of the environment.

The machine contains valuable materials.

Take the discarded apparatus and accessories to the relevant recycling facilities.

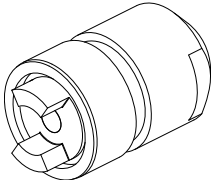
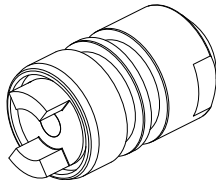
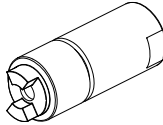
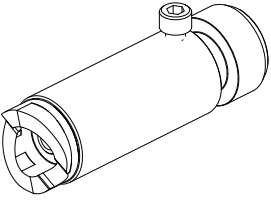
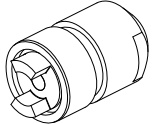
Component	Material
Frame	Steel
Side Guards	Steel
Drive Sleeve	Cast Iron
Optional Swivel Base	Steel
Power Unit	*See Below
Battery Pack	*See Below
Battery Charger	*See Below

**\*DO NOT** dispose of electric equipment together with household waste material.

If electrical appliances are disposed of in landfills or dumps, substances can leak and react and enter into the food chain, damaging your health and well-being. For further information on the disposal of this product, please contact your dealer or your nearest domestic waste collection service.



## Coupling Identification

Coupling	Manufacturer	Dia.	Part No.	Coupling	Manufacturer	Dia.	Part No.
	Dynapac, CEL, Sovemat, Winget, Wacker, GCM, Bartell	60mm	44.2.118		Errut	59.8mm	44.2.117
	Metrix	48.5mm	44.2.121		Fyne, Norton Clipper	1 7/8"	44.2.120
	Warsop	65mm	44.2.119				

# Warranty



Your new Altrad Belle 'DUX E+' drive unit is warranted to the original purchaser for a period of one year (12 months) from the original date of purchase. The motor and motor controller are warranted for a period of (3 years). The Altrad Belle warranty is against defects in design, materials and workmanship.

The following are not covered under the Altrad Belle warranty:

1. Damage caused by abuse, misuse, dropping or other similar damage caused by or as a result of failure to follow assembly, operation or user maintenance instructions.
2. Alterations, additions or repairs carried out by persons other than Altrad Belle or their recognised agents.
3. Transportation or shipment costs to and from Altrad Belle or their recognised agents, for repair or assessment against a warranty claim, on any machine.
4. Materials and/or labour costs to renew, repair or replace components due to fair wear and tear.

The following components are not covered by warranty.

- Battery Cover Damage.

**Please also consult the Power Unit, Battery & Battery Charger manuals for further information on their warranty details.**

Altrad Belle and/or their recognised agents, directors, employees or insurers will not be held liable for consequential or other damages, losses or expenses in connection with or by reason of or the inability to use the machine for any purpose.

## Warranty Claims

All warranty claims should firstly be directed to Altrad Belle, either by telephone, by Fax, by Email, or in writing.

### For warranty claims:

Tel: +44 (0)1298 84606

Fax: +44 (0)1298 84073

Email: [warranty.dept@altrad-belle.com](mailto:warranty.dept@altrad-belle.com)

### Write to:

Altrad Belle Warranty Department,  
Sheen, Nr. Buxton,  
Derbyshire,  
SK17 0EU  
England.

### Warranty Registration:

In the bid for Altrad Belle to become greener and more eco friendly, we have now introduced online Warranty registration. To access the registration page of our website, please use the following address:-

[http://www.bellegroup.com/index.php?p=warranty\\_registration](http://www.bellegroup.com/index.php?p=warranty_registration)

Alternatively, please scan the adjacent QR Code (Quick Response Code) using your smartphone to access the registration page.



# Replacement Parts



When maintaining this product only the manufacturers original, genuine replacement parts may be used.

The user will lose any possible claims if replacement parts used are other than the makers original replacement parts.

Replacement parts for this product can be ordered online 24 hours a day, 7 days a week at [www.Altrad-Belle247.com](http://www.Altrad-Belle247.com)

For more information regarding the availability of replacement parts for this product, please contact Altrad Belle using the following contact details:-

Tel:- +44 (0)1298 84606

Fax:- +44 (0)1298 84073

Email:- [sales@altrad-belle.com](mailto:sales@altrad-belle.com)

Alternatively, please scan the adjacent QR Code (Quick Response Code) using your smartphone to access the Altrad Belle online parts portal.





BELLE  
LIGHT  
CONSTRUCTION  
EQUIPMENT

### **ALTRAD BELLE**

Sheen, Nr. Buxton, Derbyshire, SK17 0EU, GB

Tel. +44 (0)1298 84606 - Fax +44 (0)1298 84722 - Email: [sales@altrad-belle.com](mailto:sales@altrad-belle.com)

[www.Altrad-Belle.com](http://www.Altrad-Belle.com)

### **EU IMPORTER ADDRESS**

*ADRESSE DE L'IMPORTATEUR - DIRECCIÓN DEL IMPORTADOR - ENDEREÇO DO IMPORTADOR - ADRES IMPORTEUR*

*IMPORTØRENS ADRESSE - IMPORTEUR ADRESSE - INDIRIZZO DELL'IMPORTATORE - IMPORTÖRENS ADRESS - IMPORTØRADRESSE*

*MAAHANTUOJAN OSOITE - ADRES IMPORTERA - IMPORTIJA AADRESS - IMPORTĒTĀJA ADRESE - IMPORTUOTOJO ADRESAS*

*ADRESA DOVOZCE - ADRESA IMPORTATORULUI - IMPORTÓR CÍME - ADRESA UVOZNIKA - İTHALATÇI ADRESİ - ADRESA DOVOZCU*

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