



# Liquid Hopper DLF

GB - Original manual

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## FOREWORD

We thank you for the confidence you have shown in AGRISEM INTERNATIONAL by purchasing this item of equipment.

This manual is provided with your machine to enable you to make best use of your equipment, and in particular in compliance with the safety requirements.

All owners are reminded that the manual is an essential accessory which must remain with the machine at all times, and that in the event of resale, article 1615 of the Civil Code requires that as such it must be handed over to the new owner.

You are also reminded that as the manual is essential to the machine, all owners must undertake to leave it physically available with the machine for all users to consult.

This manual contains details of the characteristics of your new equipment. Please read it and ensure that all users scrupulously follow the instructions contained. The following pages provide essential information on your machine, read them carefully.

Your AGRISEM INTERNATIONAL dealer will provide high quality servicing, as well as any assistance you may require. For servicing, remember that your dealer is the person who is most familiar with your machine and wishes to give you complete satisfaction.

All information and characteristics given in this manual are current at the time of publication. However, the policy of continuous improvement of our products requires us to reserve the right to make changes at any time without prior notice.

This user manual is published for wide circulation and the availability of the equipment indicated, whether on the basic machine or as accessories, may vary according to the region in which the machine is used. All combinations available at the time of publishing the manual will be described therein.

# 1. Introduction

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## 1.1. Purpose of the user manual

You have just taken ownership of your AGRISEM INTERNATIONAL machine. This machine has been designed to ensure complete satisfaction.

The equipment has been specially designed to incorporate new solutions for lowering the costs of operation.

However, for the best and most cost-effective use of your AGRISEM INTERNATIONAL machine, please read this manual carefully before starting it up and strictly follow the instructions. In particular, follow the instructions for adjusting and servicing the machine, as well as the safety precautions, very carefully.

Please contact our distributor for any information or advice.

This user manual is an integral part of the machine and must always accompany it, especially in the event of resale.

AGRISEM INTERNATIONAL is constantly seeking to improve its products and reserves the right to modify or improve its products with no obligation to apply these modifications or improvements to products already on the market.

The instructions in this manual are not exhaustive and cannot cover all eventualities. The user must comply with the applicable legislation, in particular with regard to safety, ensure that the rules of safety and caution dictated by the situation are applied, use common sense and adapt the use of the machine to the circumstances.

It is the Purchaser's responsibility to check that the AGRISEM INTERNATIONAL machine complies with the legislation and regulations applicable to its final destination.



### **DANGER**

The instructions in this user manual must be read, understood and applied by any persons who will be carrying out work on or with the machine, in particular:

- use of the machine (including preparation, repairs required during work and maintenance),
- maintenance (servicing and inspection),
- transport.

AGRISEM INTERNATIONAL cannot be held liable for personal injury or damage to equipment and malfunctions resulting from failure to comply with the instructions given by the manufacturer in this manual.



### **IMPORTANT**

AGRISEM INTERNATIONAL information

Return the warranty certificate within 15 days together with a copy of the invoice (*without these documents the warranty procedure cannot be implemented*).

## 1.2. Using the manual

### 1.2.1. Functional organisation

Wherever possible, the contents of the user manual are classed by function.

### 1.2.2. Search help

The table of contents helps you to find information.

### 1.3. Ordering the manual

You can order the user manual by sending a request to:

AGRISEM INTERNATIONAL S.A.

535 Rue Pierre Levasseur

CS 60263

44158 ANCENIS - France

Tel.: +33 (0)2.51.14.14.40 – Fax: +33 (0)2.40.96.32.36

### 1.4. Interpreting the version of the manual

The version of the manual is indicated on the cover page and consists of the following.

Description of manual version

Example: NOTT-EN-714-A

Character	Description
NOTT	User manual
FR	French
GB	English
DE	German
PL	Polish
RU	Russian
705	Type of machine
A	Version of the manual

### 1.5. Description of warning terms



#### **DANGER**

This pictogram indicates a hazardous situation for the user.

*Consequences: death or serious injury are inevitable.*



#### **WARNING**

This pictogram indicates a hazardous situation for the user.

*Consequences: death or serious injury may occur.*



#### **CAUTION**

This pictogram indicates a hazardous situation for the user and the equipment.

*Consequences: the user may suffer minor injuries, the equipment may suffer minor damage.*



#### **IMPORTANT**

This pictogram indicates required information.

*Consequences: material damage, physical risks, financial risks.*

**NOTE**

This pictogram provides advice.

*Consequences: more efficient use.*

**BARRED BIN**

Indicates that waste must not be disposed of in a conventional dustbin but collected through special channels.

**MOEBIUS LOOP**

The universal recycling symbol. It indicates that the product or its packaging is technically recyclable, not that it is or will be recycled.



The products will only be recycled under two conditions:

- the sorting and recycling channel exists in your region,
- the products have been correctly sorted.

## 2. Presentation of the machine

### 2.1. Intended use of the equipment

The AGRISEM INTERNATIONAL DLF front-mounted hopper ranges are exclusively designed for professional use in accordance with the recognised rules for the purposes of performing agricultural work.

The DLF front-mounted hoppers are designed and adapted for hitching onto the front link arm of a tractor for the purpose of:

- storing seed and solid fertiliser products,
- metering seed and solid fertiliser products,
- distributing seed and solid fertiliser products, to the seeding units. The seeding units do not form part of the machine.

The DLF front-mounted hoppers must be operated, maintained and repaired only by persons who are entirely familiar with the machine and who are aware of the possible risks.

Correct use implies strictly adhering to the instructions given in the user manual as well as the operating, servicing and repair rules defined by the manufacturer.

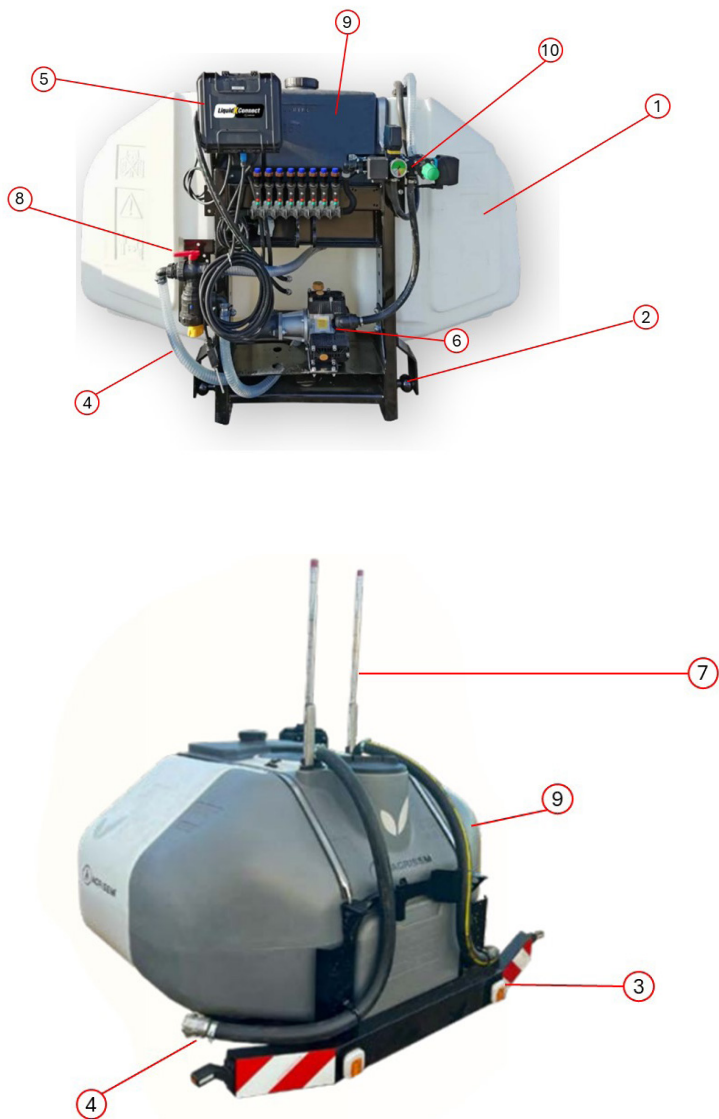
The user and the owner are responsible for complying with the specific accident prevention instructions and well as the general rules relating to safety, occupational medicine and highway legislation.

Any use other than that defined above will be deemed to be inconsistent with the intended use and will exempt the manufacturer from all from any liability in the event of damage or injury. The risks of such use shall be borne by the user alone.

#### Competencies and level of training

Activity	Person having received instruction	Person having undergone specialised training	Person specially trained for this activity
Loading/transport	-	x	x
Start-up	x	x	-
Installation and set-up of equipment	-	x	-
Operation	x	x	-
Servicing	x	x	-
Troubleshooting and resolution of faults and incidents	x	x	-
Waste reprocessing/disposal	-	-	x

**2.2. General view of the machine**



No	Description
1	Hopper
2	Hitching frame
3	Signal lights
4	Pipeline
5	Regulation electronic
6	Pump
7	Level of liquid
8	Flushing Waer control panel
9	Water Hopper
10	Regulation Hydraulic

## 3. Identification

### 3.1. Validity of the user manual

This user manual is valid for the following machines.

Machine	Type	Serial number	
		From	To
Liquid SEEDER	DLF	DLF-0010	



#### IMPORTANT

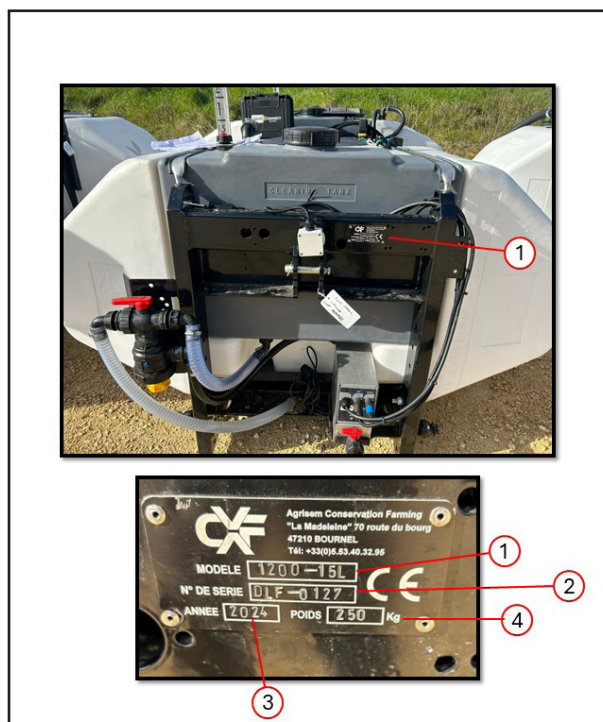
This user manual is published for wide circulation and the availability of the equipment indicated, whether on the basic machine or as accessories, may vary according to the region in which the machine is used. All combinations available at the time of publishing the manual will be described therein.

### 3.2. Location and description of data plate

The data plate is located on the lower hitching beam.

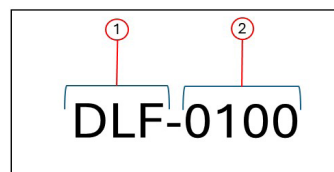
The data plate includes the following information:

No.	Description
1	Model
2	Serial number
3	Year of manufacture
4	Empty weight of the equipment



The serial number is made up as follows.

No.	Description
1	Model
2	Incremental number



### 3.3. Identification of the machine

On receipt of the machine, please enter the corresponding information below:

Information	Fill-in the column with the requested information
Type of machine	.....
Serial number	.....
Year of manufacture	.....
Date of first use	.....
Name of the dealer	.....
Dealer's address	..... ..... ..... .....
Dealer's telephone number	.....

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#### **IMPORTANT**

This document should be kept inside this user manual.



## 4. Warranty

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### 4.1. Warranty conditions

**NOTE**

Return the warranty certificate within 15 days together with a copy of the invoice (without these documents the warranty procedure cannot be implemented).

The warranty conditions applicable to machines fitted exclusively with original parts from AGRISEM INTERNATIONAL are as follows:

By selling new products to its dealers, the manufacturer provides a guarantee according to which, subject to certain conditions, the goods are free of material or workmanship defects. The purchasers of new AGRISEM INTERNATIONAL equipment shall request all necessary information from the dealer having supplied them the equipment.

As part of its policy of constant improvement of its products, the manufacturer reserves the right to change the characteristics of its equipment without notice and accepts no liability in the event of possible differences between the characteristics of its products and the description of said products in its publications.

#### 4.1.1. Duration

If a defect is observed on a structural part within a period of 12 months as from the date of delivery of the machine, and if this defect is due to faulty raw materials, or its manufacture at the factory. The parts alleged to be faulty must be returned to the Company's address for expert inspection:

AGRISEM INTERNATIONAL S.A. – 535 Rue Pierre Levasseur – CS 60263 – 44158 ANCENIS - France  
Tel.: +33 (0)2.51.14.14.40 – Fax: +33 (0)2.40.96.32.36

The following shall be considered to constitute proof of the date of delivery of the equipment:

- the date of the delivery note and the purchaser invoice date.
- the return of the warranty certificate (stamped and signed by the dealer and the purchaser) within 15 days of the delivery of the equipment.

#### 4.1.2. Machines and parts concerned

For the purposes of this warranty, the term "Machine" is exclusively used to designate machines and parts manufactured by AGRISEM INTERNATIONAL. (It does not include external components, in particular tyres, hydraulic hoses, etc. even though these parts are also supplied by the company)

**NOTE**

The warranty is void if any modifications have been made to the machine without the formal approval of AGRISEM INTERNATIONAL or if parts other than those manufactured by the company have been fitted (e.g. counterfeit wear parts).

#### 4.1.3. Scope of the warranty

The warranty is limited to the reimbursement or repair of parts accepted as faulty with regard to their raw materials or machining, in our factories and by our Technical Departments.

Any costs associated with the dismantling and replacement of the faulty part are not covered by the warranty. The costs of transporting machines or machine parts to the place of repair and their return to their owner are also not covered.

Wear parts are not covered by the warranty.

#### 4.1.4. Preconditions

The machine must be maintained and used in accordance with the instructions in this user manual.

All of the safety measures described in the user manual and in the manuals of any additional equipment must be complied with.

All protection and safety components are to be inspected regularly and replaced if necessary, including cylinders, hydraulic hoses, spring and turbo safety devices. refer to the chapters "Safety instructions", page <?> and "Servicing - Maintenance", page <?>.

The warranty is only applicable if the customer has complied with the general obligations of the contract and, in particular, the payment terms.

#### 4.1.5. Pre-delivery inspection

When supplying a machine, the dealer is required to perform a number of operations. These involve, firstly, a complete inspection of the machine prior to delivery so that the machine is supplied ready for immediate use. They also involve providing comprehensive training to the purchaser regarding the basic principles of machine operation and servicing. This training covers the instruments and controls, routing servicing and safety instructions. All those who will be involved in the use and the servicing of the machine are required to attend this training.

#### 4.1.6. Warranty exclusions

The warranty will not apply:

- If the faults are due to normal wear, incorrect use, lack of maintenance, inadequate monitoring or negligence.
- If the machine is damaged by an accident or develops a fault due to being used for purposes other than those specified by AGRISEM INTERNATIONAL.
- In the event of improper use of the machine. Please refer to the chapter "Intended use of the equipment", page 9 regarding this point.
- If the manufacturer's instructions and requirements given in this manual are not complied with, particularly those regarding safety, assembly, start-up, use, operation and servicing.
- In the event of improper handling on the part of the user.
- Causes due to the passage of foreign bodies.
- In the event of damage due to the machine being combined with other machines or instruments without the prior written agreement of AGRISEM INTERNATIONAL, and/or without complying with the instructions given by the manufacturers of the tractor and other instruments or machines.
- In the event that the machine is used with improperly attached or non-functioning protection and safety devices.
- If the machine has been modified without prior written permission from AGRISEM INTERNATIONAL, or if spare parts, accessories or equipment have been fitted to the machine which were not recommended by AGRISEM INTERNATIONAL.
- In the event of non-compliant repair.
- In the event of damage during transport or handling by a carrier. The recipient shall be responsible for taking any corrective action against the carrier.
- The harmful consequences of the immobilisation of the instrument due to a fault or incident on the machine are not covered by the warranty.
- Personal injury to the owner or a third party and the indirect consequences resulting therefrom are not covered by the warranty.

Moreover, AGRISEM INTERNATIONAL shall not be liable for the payment of compensation for any reason whatsoever in the event of the loss of crops or any damage whatsoever due to a fault, hidden defect or machine breakdown.

The purchaser is always responsible for the choice of product and the suitability of the machine for the result it is wished to obtain. The purchaser is responsible for its correct use in line with good professional practice and the regulations.

Under no circumstances will AGRISEM INTERNATIONAL have any obligation with regard to the final result.

#### 4.1.7. Limitations and liability

The warranty cannot be assigned or transferred to any other person without the prior written permission of AGRISEM INTERNATIONAL.

Under no circumstances do those selling our machines have the right or power to make any decision whatsoever, either express or tacit, in the company's name.

The technical assistance given by the company or its representatives with the repairing or operation of equipment does not make it liable for any costs and in no way alters or leads to the waiving of the conditions of this warranty.

#### 4.1.8. Warranty enforcement procedure

##### **TO BE STRICTLY ADHERED TO BY THE DISTRIBUTOR AND BY THE PURCHASER**

The warranty's enforcement is subject to strict compliance by the dealer and the user with the following requirements:

- 1 - Returning by the dealer of the warranty certificate duly completed and signed by the dealer and the purchaser.
- 2 - Claims must be made without fail using an AGRISEM INTERNATIONAL "WARRANTY CLAIM FORM" (see appendix) and sent by registered letter with acknowledgement of receipt by the dealer to the company's technical department within 10 days of the incident. This form must be completed legibly by the dealer and must include the following information:
  - Name and address of the dealer, code No.,
  - Name and address of the purchaser,
  - Type of machine,
  - Working width,
  - Machine serial number,
  - Date of delivery to purchaser,
  - Date of breakdown,
  - Precise references of the parts replaced, No. and date of invoice,
  - Make and model of tractor used,
  - Detailed description and alleged cause of the incident.
  - Surface worked with the Disc-O-Mulch,
  - Utilised agricultural area of the farm,
  - Type of soil % clay,
  - Proof of wear part invoice,
  - Stones (yes/no),
  - Parts replaced (yes/no) (send the photocopy of the invoice).
- 3 - Allegedly faulty parts are to be returned by the dealer to the company's address for an expert inspection, together with the copy of the warranty claim form provided for this purpose. The dealer must order the faulty part from the spare parts department. Any transport costs incurred by the returning of said parts are payable by the sender.
- 4 - The final decision regarding payment under the terms of the warranty shall be made by the company's technical or general management. Whatever the reason for the warranty claim, this decision is final and irrevocable and the purchaser undertakes to accept this decision both with regard to the fault and the replacement of the part or parts.

Under no circumstances are the company's salespersons authorised to make such a decision, which would be deemed null and void.



**NOTE**

In the event of refusal, the part remains at the customer's disposal for eight days. After this time it will be disposed of with no appeal possible.

Under no circumstances do those selling our machines have the right or power to make any decision whatsoever, either express or tacit, in the Company's name.

#### 4.1.9. Warranty extension

If the customer subscribes to the warranty extension, please see this agreement for the terms and conditions of the enforcement of this warranty extension.

### 4.2. Exclusive liability clause

AGRISEM INTERNATIONAL accepts no liability for damages (and any related indirect consequences) resulting from one or more of the following causes:

- Non-compliant use of the machine.
- Failure to follow the manufacturer's instructions given in this manual, particularly those regarding safety, assembly, start-up, use, operation and servicing.
- Improper assembly, start-up, use and maintenance of the machine.
- Use of the machine with faulty protection and safety devices or safety and protection devices that are incorrectly installed or not working.
- Combining of the machine with other instruments or machines without the written agreement of AGRISEM INTERNATIONAL and/or without complying with the instructions given by the manufacturers of the tractor and the other instruments or machines.
- Modifications made to the machine without the written permission of AGRISEM INTERNATIONAL.
- Fitting of spare parts, accessories or equipment on the machine which are not genuine or which have not been recommended by AGRISEM INTERNATIONAL.
- Failure to monitor the wear parts on the machine.
- Use of the machine other than for the purposes specified by the manufacturer.
- Non-compliant repair and maintenance.
- Catastrophes resulting from the presence of foreign bodies, unforeseeable circumstances and cases of force majeure.

Moreover, AGRISEM INTERNATIONAL cannot be held liable for injury to the owner or a third party or for the indirect consequences of such an injury, whether or not it results from a fault. You are also reminded that a safe distance of 50 m must be maintained around the machine.

Any claim for compensation for damage that did not occur directly on the machine is excluded.

AGRISEM INTERNATIONAL cannot be held liable for damage caused by driving or use errors.

AGRISEM INTERNATIONAL cannot be held liable for compensation for the consequences of the instrument's immobilisation due to a fault or an incident on the machine.

## 5. Safety instructions

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### 5.1. Safety instructions

#### 5.1.1. Introduction

The instructions in this user manual must be read and understood before the machine is used for the first time.

This user manual is published for wide circulation and the availability of the equipment indicated, whether on the basic machine or as accessories, may vary according to the region in which the machine is used.

Always consult the dealer/retailer if you do not understand any part of this manual. It is important that you understand and observe these instructions.

The safety instructions given in this chapter are in addition to those given in other chapters of this manual.

The machine is used in conjunction with an agricultural tractor. Only careful reading of the user manuals of both items of equipment (tractor + machine/tool) will ensure the complete safety of property and people when working.

Most accidents which occur during work, maintenance or travel from one place to another are due to a failure to observe the most basic safety rules. It is therefore essential for anyone likely to be working with this machine to strictly adhere to the basic rules set out below and to the safety instructions displayed on the stickers affixed to the machine.

This machine has been designed for a specific task. It must always be in good working order and must only be repaired using AGRISEM INTERNATIONAL OEM parts.

This machine must be used, maintained and repaired only by competent persons who are familiar with its features and its operating procedures and who are aware of the accident prevention safety rules and the hazards to which they may be exposed.

This machine must only be used in accordance with its purpose and in a condition that does not present any safety risks. Any malfunctions likely to be detrimental to safety must be corrected immediately.

The user is required to strictly adhere to the safety instructions in this manual and the stickers affixed to the machine. The safety panels and guards have been omitted from some illustrations in this manual for the sake of clarity. Never use the machine if these items are not installed. If any of these items have been removed to carry out a repair, they must be reinstalled before operation.

The user is also required to strictly comply with the current legislation with regard to accident prevention, safety at work (labour code), occupational medicine, highway legislation and waste treatment.

Before using the machine for the first time, read all of the safety instructions in this user manual carefully and familiarise yourself with the controls.

The machine must never be entrusted to a person who is not trained to use it.

#### **Liability and warranty**

In addition to the other cases mentioned in this manual, the manufacturer denies any liability for any injury or damage to equipment resulting from one or more of the following causes:

- Failure to follow the manufacturer's instructions given in this manual, particularly those regarding safety, assembly, start-up, use, operation and servicing.
- Non-compliant use of the machine.
- Improper assembly, start-up, use and maintenance of the machine.
- Use of the machine with faulty protection and safety devices or safety and protection devices that are incorrectly installed or not working.
- Combining of the machine with other instruments or machines without the written agreement of AGRISEM INTERNATIONAL and/or without complying with the instructions given by the manufacturers

of the tractor and the other instruments or machines.

List of compatible AGRISEM INTERNATIONAL machines

- Combiplow: Disc-O-Mulch / Maximulch / Actimulch
- DLF : Disc-O-Mulch / Maximulch / BOSS / Stripcat
- DSF: Disc-O-Mulch / Maximulch / Actimulch
- DSA: Disc-O-Mulch / Maximulch / Actimulch
- DS500/200: Disc-O-Mulch / Maximulch / Actimulch
- Modifications made to the machine without the written permission of AGRISEM INTERNATIONAL.
- Fitting of spare parts, accessories or equipment on the machine which are not genuine or which have not been recommended by AGRISEM INTERNATIONAL. Spare parts are available via the online spare parts catalogue (accessible via <http://parts.agrisem.com/>) or through your approved customer service network.
- Failure to monitor the wear parts on the machine.
- Use of the machine other than for the purposes specified by the manufacturer.
- Non-compliant repair and maintenance.
- Catastrophes resulting from the presence of foreign bodies, unforeseeable circumstances and cases of force majeure.

Similarly, in addition to the other cases referred to in this manual, any claim under the warranty relating to damage resulting from one or more of the above-mentioned causes shall be excluded.

#### 5.1.2. Instructions to be followed before using the machine

Wear close-fitting clothes. Loose clothing may become caught in moving parts.

Wear the appropriate personal protective equipment (PPE) for the tasks to be performed (gloves, shoes, goggles, helmet, ear protection, etc.).

Be aware that tillage equipment, even if not very wide, has very sharp parts (blades, shares, disks, etc.) which can cause serious injury in the event of an accident.

Operate the controls with care.

Before each use, check the area around the machine, no-one must be within 50 metres of the machine. Check that there is sufficient visibility to ensure this condition of use.

Before carrying out any work, ensure that weight distribution on the tractor ensures a stable assembly. The tractor must be sufficiently ballasted at the front to avoid any risk of the front lifting. If not, add weights to the front of the tractor.

Check before each use that screws, nuts and bolts are correctly tightened in accordance with the maintenance operation described in this manual. Re-tighten if necessary.

No-one must be within 50 metres of the machine during folding and unfolding operations.

Check that the machine is correctly hitched.

Always install the pins and locking systems.

Check that the machine meets personal safety requirements.

Whenever you use the machine, check that the safety and protection devices (safety devices, emergency stop, wheel chock, extinguisher) are in place and working. Replace any worn or damaged safety guards immediately.

Move any people or animals likely to be in the area where the machine is being manoeuvred or used. A 50-metre safety zone must be kept clear around the machine.

Go around the machine looking for any external damage and checking the condition of the protection devices. The protection devices must be clean, legible and in good condition. If this is not the case, contact the AGRISEM INTERNATIONAL customer service department in order to replace them.

Only persons authorised by the owner of the machine and who have been trained and instructed are allowed to work on and with this machine. The operator is liable towards third parties while working on and with the machine.

The owner of the machine must:

- Provide the operator with the user manual.
- Ensure that the operator has read it and understands it.
- Ensure that the operator knows the basic instructions regarding safety at work and accident prevention.

Immediately disinfect any cut or injury that comes into contact with the products contained in the machine.

#### 5.1.3. Instructions to be followed for hitching and unhitching

Ensure good compatibility of the tractor-to-machine hitching device. Only combine equipment that is compatible (machine and tractor). If in doubt, contact the AGRISEM INTERNATIONAL customer service network .

Check that the tractor has the characteristics necessary to hitch the machine (see "Characteristics", page <?>).

##### **WARNING**



Use of a tractor that is non-compliant with the machine to which it is attached will incur the following risks:

- Coupling failure
- Instability under load
- Instability during manoeuvring
- Insufficient braking capacity

Check that the tractor meets the necessary requirements before installing or hitching the machine.

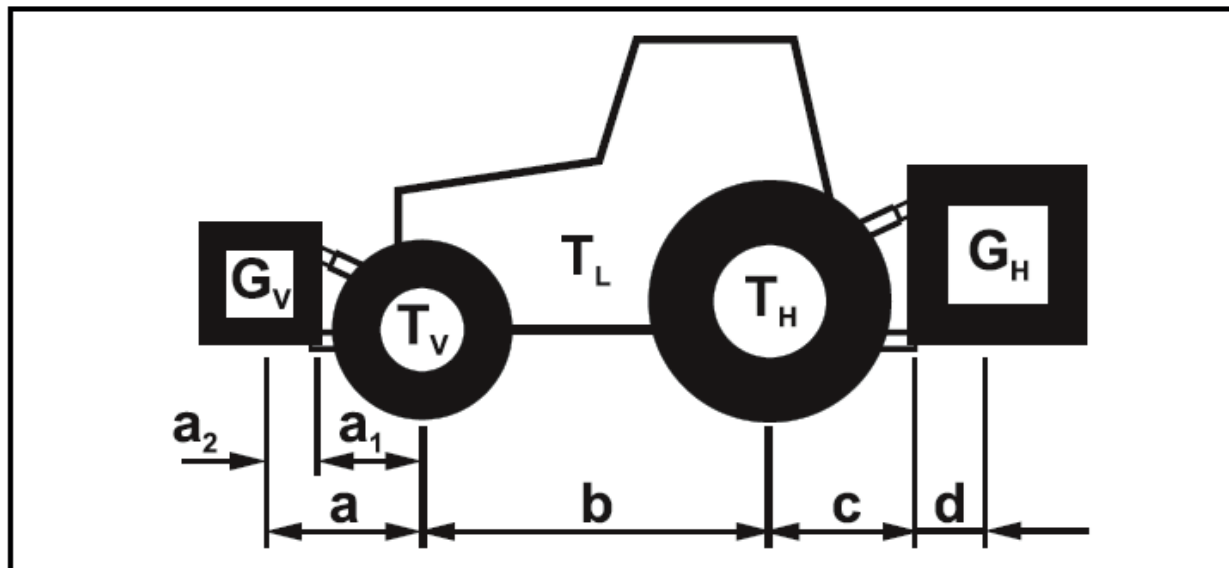
The machine must only be mounted on or hitched to a tractor that meets the necessary requirements.

Perform a braking test to check that the tractor can provide the regulatory deceleration power even with the machine mounted or hitched.

Refer principally to the tractor user manual, the reference below are for guidance only.



## Data needed for calculation



NOTT-0222

Fig. 1

No.	Unit	Description	Comment
$T_L$	[kg]	Empty weight of tractor	see the tractor's user manual or registration papers
$T_v$	[kg]	Front axle load of the empty tractor	
$T_H$	[kg]	Rear axle load of the empty tractor	
$G_H$	[kg]	Total weight of rear-mounted machine or rear ballast	See technical characteristics of the machine or the rear ballast
$G_v$	[kg]	Total weight of front-mounted machine or front weight	see technical characteristics of the front-mounted machine or front ballast
$a$	[m]	Distance between the centre of gravity of the front-mounted machine or front ballast and the centre of the front axle (sum of $a_1 + a_2$ )	see technical characteristics of the tractor and the front-mounted machine or front ballast, or measurement
$a_1$	[m]	Spacing between the centre of the front axle and the centre of lower arms' hitch point	see the tractor's user manual, or measurement
$a_2$	[m]	Distance between the centre of the lower arms' hitch point and the centre of gravity of the front-mounted machine or front ballast (distance from the centre of gravity)	see technical characteristics of the front-mounted machine or front ballast, or measurement
$b$	[m]	Wheel base of the tractor	see the tractor's user manual or registration papers or measurement



No.	Unit	Description	Comment
c	[m]	Spacing between the centre of the rear axle and the centre of lower arms' hitch point	see the tractor's user manual or registration papers or measurement
d	[m]	Distance between the centre of the lower arms' hitch point and the centre of gravity of the rear-mounted machine or rear ballast (distance from the centre of gravity)	see technical characteristics of the machine

### **Calculation of the required minimum ballasting at the front $G_{V \min}$ of the tractor to ensure manoeuvrability**

Enter the value for the calculated minimum ballast ( $G_{V \min}$ ) required on the front of the tractor in the table on page 65.

$$G_{V \min} = \frac{G_H \cdot (c + d) - T_V \cdot b + 0,2 \cdot T_L \cdot b}{a + b}$$

NOTT-0223

Fig. 2

### **Calculation of the actual front axle load of the tractor $T_{V \text{tat}}$**

Enter the value for the calculated actual front axle load and the permissible tractor front axle load specified in the tractor user manual in the table on page 65.

$$T_{V \text{tat}} = \frac{G_V \cdot (a + b) + T_V \cdot b - F_H \cdot c}{b}$$

NOTT-0224

Fig. 3

Calculation of the actual total weight of the combined tractor and machine

Enter the value for the calculated actual total weight and the authorised total tractor weight specified in the tractor user manual in the table on page 65.

Equation: Gtat = GV + TL + FH

Fig. 4

Calculation of the actual rear axle load of the tractor THtat

Enter the numeric value for the calculated actual rear axle load and the approved tractor rear axle load specified in the tractor user manual in the table page 65.

Equation: THtat = Gtat - TVtat

Fig. 5

Load capacities of the tyres

Enter the double value (two tyres) of the permissible load capacity (see for example the tyre manufacturer’s documents) and enter the result in the table on page 22.

Table

Table with 4 columns: Description, Actual value obtained by calculation, Authorised value according to the tractor user manual, Double the permissible load capacity of the tyres (two tyres). Rows include: Minimum ballast front / rear, Total weight, Front axle load, Rear axle load.


**NOTE**

Refer to the tractor's registration documents to obtain the authorised values for the total weight, axle loads and tyre load capacities.

The calculated actual values must be less than or equal to ( $\leq$ ) the authorised values.


**WARNING**

Risk of crushing, cutting, entanglement, entrapment and impact through insufficient stability of the tractor under load and insufficient tractor manoeuvrability and braking power.

It is forbidden to couple the machine to the tractor used as the basis for calculation if:

- even if one of the actual, calculated values is greater than the authorised value.
- there is no front weight (if required) attached to the tractor corresponding to the minimum required front ballast ( $G_{V \min}$ ).

Ballast the tractor with a front or rear weight when the tractor's axle load is exceeded on only one axle.

### Special cases

If the minimum required ballast at the front ( $G_{V \min}$ ) is not obtained with the weight of the front-mounted machine ( $G_V$ ), you must use ballast weights in addition to the front-mounted machine.

If the minimum required ballast at the rear ( $G_{H \min}$ ) is not obtained with the weight of the rear-mounted machine ( $G_H$ ), you must use ballast weights in addition to the rear-mounted machine.

### Immobilising the tractor / machine


**WARNING**

Accidents involving crushing, shearing, cutting, tearing, entanglement, winding, entrapment or impact may occur when working on the machine in the following cases:

- accidental lowering of a non-immobilised machine, raising of the tractor's three-point hitch via the hydraulic circuit.
- accidental lowering of raised, non-immobilised components of the machine.
- accidental start-up and movement of the combined tractor-machine.

Before carrying out any operations on the machine, take all necessary measures to prevent any accidental start-up or movement of the combined tractor-machine.

Operations performed on the machine, e.g. fitting, adjustment, troubleshooting, servicing and repair, are prohibited:

- if the machine is running,
- while the tractor's engine is running with a connected transmission shaft / hydraulic system,
- when the ignition key has not been removed and the tractor's engine with a connected transmission shaft / hydraulic system can be accidentally started,
- when the tractor and machine are not immobilised with their respective parking brakes and/or chocks,
- when moving parts are not blocked against accidental movement.

These operations in particular carry a risk of contact with non-immobilised components.

Lower the machine / parts of the machine that are raised and not immobilised.

The way to avoid any accidental lowering is as follows:

- 1 - Switch off the tractor engine,
- 2 - Remove the ignition key,
- 3 - Apply the tractor's parking brake.

4 - Immobilise the machine (only for a hitched machine):

- on a flat surface using the parking brake (where applicable) or chocks,
- on sloped or uneven ground using the parking brake and chocks.

The requirements relating to the tractor include:

- the authorised total weight (including ballasting),
- the authorised axle loads,
- the authorised vertical load on the tractor coupling point,
- the permissible load capacities of the tyres mounted on the tractor,
- sufficient authorised load on the coupling point,
- the Power Take-Off (PTO) sleeves (6/21 splines),
- the compatibilities of the hitching devices,
- the load capacities of the tyres.

This information is shown on the data plate or in the vehicle's registration papers and in the tractor user manual. If it is missing, contact the tractor customer service network in order to confirm this information.

The front axle must systematically support at least 20 % of the tractor's empty weight. Refer to the tractor user manual for further details.

**Calculating the actual values for the total tractor weight, tractor axle loads and load capacities, as well as the minimum ballast required**

The total authorised weight of the tractor indicated in the vehicle's registration papers must be greater than the sum of:

- the tractor's empty weight,
- the ballast
- the total weight of the mounted machine or the vertical load of the hitched machine.

**This instruction only applies in Germany:**

If the axle loads and/or the total authorised weight are not complied with after all the possibilities have been exhausted, the competent authority according to the law of the Land may issue a waiver based on the report of an approved expert in the field of motor vehicle circulation and with the agreement of the manufacturer, in accordance with article 70 of the German law governing the authorisation of vehicles to use the public highway, and the obligatory authorisation under the German highway code.

Combining of machines: do not combine machines that are incompatible or are incompatible with the tractor when combined.

List of compatible AGRISEM INTERNATIONAL machines

- Combiplow: Disc-O-Mulch / Maximulch / Actimulch / BOSS / Stripcat
- DSF: Disc-O-Mulch / Maximulch / Actimulch / BOSS / Stripcat
- DSA: Disc-O-Mulch / Maximulch / Actimulch

AGRISEM INTERNATIONAL accepts no liability in the event of damage resulting from a combination of machines that has not been authorised in writing by AGRISEM INTERNATIONAL.

Accidents linked to the failure of components during operation may result from unauthorised combinations of hitching equipment.

Hitching and unhitching operations involve a risk of injury.

**Before hitching or unhitching**

- Place the machine on stable ground..
- Lower the pressure in all hydraulically controlled systems.
- Before climbing down from the tractor, take all of the necessary measures to avoid the accidental movement of the tractor.
- Chock the machine and take all of the necessary measures to avoid the accidental movement of the machine.

The machine must only be hitched to the hitching points provided for this purpose and in accordance with the

applicable rules.

#### 5.1.4. Instructions to be followed when using the machine



##### **WARNING**

A failure to take movement or operating safety measures may result in accidents involving crushing, cutting, entanglement, entrapment or impact.

Before start-up, check that the machine and the tractor are able to move and operate in complete safety.

Never climb onto the machine or stand on it when it is moving.

Never work in reverse.

Never allow children to climb on the tractor or the machine, or to play near the equipment, even if the machine is stopped.

When using or manoeuvring the machine ensure that no-one is within the manoeuvring or working area. A 50-metre safety zone must be kept clear around the machine.

The elements of the machine that are controlled by an external force have crushing and shearing zones. Keep away from these hazardous areas.

Be aware of hidden obstacles (stones, roots, pipes, cables, etc.). In the event of a collision with an obstacle, you must stop the drive, switch off the tractor engine, remove the ignition key and wait for the machine to come to a complete stop. Some parts may have inertia, wait 5 minutes after switching off the ignition before working on the machine. Before resuming work, check the machine for any damage.

If the obstacle is an electric cable or gas pipe, inform the appropriate authorities.

When using the machine, stones or other foreign objects are likely to be thrown a considerable distance. A 50-metre safety zone must be kept clear around the machine.

Move any people or animals likely to be in the danger area around the machine.

Do not stand in the machine's working area nor in the machine's rotation or swivel area.

Each time the machine is used, carry out a careful visual inspection of the machine to detect any external damage and ensure the correct operation of safety and protection devices. Also carry out regular inspections of the various adjustments. The protection devices must be clean, legible and in good condition.

#### **With regard to driving**

Adapt your driving to ensure that you are in control of the tractor with the machine mounted or hitched under all circumstances.

Take into account your personal faculties, the conditions of the ground or road, the traffic, visibility and weather, the tractor's driving characteristics and the conditions of use when the machine is mounted or hitched.

Ensure that the rules of safety and caution dictated by each situation are observed in respect of the applicable regulations.

The speed and driving style must always be appropriate to the ground, roads and tracks.

Reduce your speed on uneven ground or tight corners.

On bends, take into account the overhang and the inertia of the mounted tool.

Avoid sudden changes of direction at all times.

Do not leave the driver's seat until the equipment has come to a complete stop, the engine is switched off and the parking brake is on.

Do not transport any people or animals on the machine and the additional tools during work or transport.

### **When driving on the public highway**

Observe with the highway code applicable in your country.

Before going out onto the public highway, check the dimensions of the machine and unbolt or remove elements that exceed its regulatory dimensions.

Take into account the widths authorised for transport and the transported height depending on the hitched machine, in line with current legislation.

Take account of a higher centre of gravity with a vertically folding machine. The stability of the whole unit will be different in the folded up position and the folded out position and you should adapt your driving accordingly.

Before setting off on the road, ensure that the hitched machine is fitted with the lighting and signalling devices required by the highway code and any other devices required by the current regulations.

AGRISEM INTERNATIONAL rear signalling lights and panels may be removed when working. Check that this signalling equipment has been correctly refitted before driving on the road.

Check that the equipment is clean and in good working order. Replace any missing or damaged equipment before driving on the road.

Users must not consume alcohol, medication or any other products that will affect their faculties of perception, leading to a loss of alertness or coordination. A user who takes prescription or non-prescription drugs should seek medical advice regarding their ability to safely operate a machine.

Before travelling on the road, secure all of the machine's pivoting parts in their transport position to avoid dangerous changes of position. Also check that the screws, nuts and bolts are tightened and that all of the machine parts are correctly attached and cannot move or become detached.

If the machine is a folding machine, the locking system must be engaged.

Follow the instructions in this manual on how to prepare the machine for transport.

If necessary, also check:

- the connection of the supply pipes,
- the braking system and the hydraulic circuit.

Ensure that no movement can be made involuntarily.

If the equipment does not already have them, fit signalling devices: lighting board, reflectors, reflective plates or adhesive strips. The signalling devices must be clean, legible and in good condition. If this is not the case, contact the AGRISEM INTERNATIONAL customer service department in order to replace them.

Ensure that the machine or additional equipment does not hide the tractor's lights.

Ensure that the inflation pressure of the tractor tyres is correct and suitable for the situation.

Never drive at more than 25kph when under load.

Clean off any soil stuck to the machine before taking to the road.

After using the public highway, ensure that the road is cleaned of any mud left by the tractor and tools.

The driver/owner has sole responsibility when transporting the machine on the public highway. Always abide by the applicable regulations and legislation.

#### **5.1.5. Instructions to be followed when performing operations on the machine**

These instructions in particular relate to cleaning, servicing and repair operations.

Follow the recommendations relating to the maintenance of the machine contained in this user manual.

### **Before carrying out any work on the machine**

Before carrying out any work on the machine, ensure that it cannot be accidentally started.

- Take care to ensure that the machine is placed on stable ground.

- Switch off the tractor engine, remove the ignition key, wait for all of the moving parts to come to a stop and engage the hand brake.
- Set the machine on the ground, depressurise the hydraulic circuit and allow the machine to cool down.
- Secure the machine or elements that are in a raised position to avoid any accidental lowering.
- Chock the machine.

If using a high-pressure washer or steam cleaner, it is essential to comply with the following points:

- Do not clean the electrical and hydraulic components.
- Never direct the high-pressure washer or steam cleaner nozzle directly at the lubrication points or bearings.
- Systematically keep the nozzle a reasonable distance from the machine.
- Comply with the rules for using high-pressure washers.

Wear appropriate personal protective equipment for the work to be performed. In particular, wear safety shoes and gloves to handle sharp parts.

Take all of the necessary precautions when fitting working parts that are both heavy and sharp.

The machine must be used, serviced and repaired only by competent persons who are familiar with the machine's features and operation.

The machine must only be repaired with original AGRISEM INTERNATIONAL parts.

Protect bare metal parts using either thick grease or an anti-rust product that leaves a greasy film.

According to the type of machine: before carrying out any work on the electrical circuit or before any welding operations, disconnect the wiring harnesses coming from the tractor. Disconnect the battery and alternator cables.

Do not weld or use blow torches near pressurised fluids or inflammable products.

#### 5.1.6. Instructions regarding installation

The machine may be fitted with electronic components and elements which may be affected by electromagnetic emissions from other devices. This type of interference may be a source of danger for people if the following safety instructions are not followed:

- If electrical components and/or devices are installed on the machine and connected to the on-board electrical circuit at a later date, the user must first check that installing these items will not interfere with the vehicle's electronics or other components.
- Ensure that electrical and electronic components subsequently installed comply with the current version of electromagnetic compatibility directive 2004/108/EEC and that they have a CE marking.

Before carrying out any work on the electrical system, disconnect the battery's negative terminal.

Only use the recommended fuses. Using fuses of unsuitable capacity may damage the electrical system and create a risk of fire.

Always comply with the safety rules for carrying out work on a machine fitted with a battery. Refer to the user instructions of the machine concerned for more details.

#### 5.1.7. Instructions regarding the hydraulic system

If your machine is fitted with a hydraulic circuit, the following instructions must be followed:

The machine is powered by pressurised hydraulic energy. Working on a pressurised circuit may give rise to risks of injury by contamination. All operations must be carried out by professionals trained to handle hydraulic technical equipment.

Contact the AGRISEM INTERNATIONAL customer service department for the replacement of any hydraulic components.

Mark the sockets and connectors of the hydraulic connections between the tractor and the machine to avoid handling errors. Refer to "Operation", page <?> for more details.

Before connecting a hose to the tractor's hydraulic circuit, ensure that the circuits on both the tractor side and the machine side are perfectly clean and not under pressure.

Before carrying out any work on the hydraulic circuit, lower the machine, depressurise the circuit, switch off the tractor engine, engage the parking brake and remove the ignition key.

Allow the machine to cool before carrying out any work.

Check the hydraulic hoses regularly. Damaged or worn hoses must be replaced immediately. Visually examine the hydraulic hoses to detect any signs of tear or abnormal wear.

When replacing hydraulic hoses, ensure that you only use hoses of the characteristics and quality recommended by the machine's manufacturer. If in doubt, contact the AGRISEM INTERNATIONAL customer service network .

After each use of the machine, clean the hydraulic quick connectors' end fittings and fit the protective caps. Replace connectors which do not lock correctly or which leak.

Hydraulic hoses must never trail on the ground.

If a leak is detected, take all of the necessary precautions to avoid accidents. Never try to plug the leak with your hand or fingers.

Any pressurised liquid, in particular oil in the hydraulic circuit, can penetrate the skin and cause serious injury and infection.

In the event of injury, seek immediate medical attention.

To avoid accidents caused by unexpected hydraulic movements or by third parties, the distributors on the tractor must be locked or immobilised when they are not being used or in their transport position.

#### 5.1.8. Instructions relating to the braking system

The braking system must be checked and serviced regularly. Servicing and repair work and adjustments must only be carried out by brake system specialists. Contact the AGRISEM INTERNATIONAL customer service network .

Stop the tractor immediately in the event of a brake system malfunction and have it repaired.

Before carrying out any work on the braking system, place the machine on stable ground and chock it.

For fitted machines, after carrying out any adjustment or repair operation on the braking system, perform a braking test in accordance with the appended procedure.



#### 5.1.9. Instructions specific to AGRISEM INTERNATIONAL seeders

In addition to the instructions applicable to all of machines, users of AGRISEM INTERNATIONAL seeders must comply with the following instructions:

Never climb onto the machine elsewhere than on the AGRISEM INTERNATIONAL walkway provided for this purpose.

Only climb onto the machine when it is stationary.

When operations are performed on the AGRISEM INTERNATIONAL seeder or during flow tests, the seeder must be stationary and a 50-metre safety area must be enforced around it. The hydraulic system must be depressurised (e.g. turbine stopped) and the rear window of the tractor must be shut, the tractor switched off and the ignition keys removed.

Ensure that no one is on or near the seeder when the seed is being loaded. The AGRISEM INTERNATIONAL walkway must only be used when the seeder is stationary.

Always ensure that the entire area corresponding to the seeder's overall dimensions is completely clear.

Enforce the 50 m safety zone:

- when the turbine is started up to avoid any impact due to ejected objects (e.g. soil, oil, stones, metal, etc.).
- while using the machine

Users must comply with the highway regulations applicable in their country with regard to the front hopper.

If the tractor's signalling equipment is not sufficient (or not sufficiently visible) ensure that you fit your front hopper with lighting and signalling plates.

#### 5.1.10. Instructions relating to machines fitted with spring-assembly safety systems

Safety devices with pre-compressed spring assemblies are fitted on many AGRISEM INTERNATIONAL tools. These can be very dangerous when performing technical operations on the machine if all of the necessary precautions are not taken.



#### **CAUTION**

Written authorisation must be obtained from AGRISEM INTERNATIONAL before carrying out any operations on the "Spring Assembly".

#### 5.1.11. Instructions relating to machines equipped with universal-joint transmission shafts

Consult the tractor manufacturer's instructions when performing any operations on universal-joint transmission shafts.

#### 5.1.12. Instructions relating to shipments and transport

Unless covered by a special transport contract, all shipments shall comply with the regulations applicable in the territories through which the assembly passes.

- For deliveries of less than three tonnes: the carrier is responsible for the loading, chocking, securing and unloading of the equipment from when he takes charge of it until its delivery.
- For deliveries of more than three tonnes: loading, chocking and securing on the one hand, and unloading on the other hand, are the responsibility of the contracting party or the recipient respectively. The responsibility for any equipment damage that occurs during these operations lies with the person carrying them out.

Unless there is a specific transport agreement, and for deliveries of more than 3 tonnes, the Purchaser will therefore unload the machine under his own responsibility.

Similarly, if the Purchaser sells the machine and has it delivered, as the sender, he will be responsible for the loading, chocking and securing of the equipment when it is sent.

In case of doubt regarding the unloading or loading, chocking and securing of the machine, please contact AGRISEM INTERNATIONAL.

The user shall acknowledge receipt of the machine and the official documents once handed-over by the dealer. To do this, go to <https://my.agrisem.com> and follow the instruction given on the web site.

#### 5.1.13. User's workstation

The machine must be operated by one person only, from the tractor driver's seat. Before each use, check the area around the machine, no-one must be within 50 metres of the machine. Check that there is sufficient visibility to ensure this condition of use.

### 5.2. Safety symbols on the machine



#### **DANGER**

You are the sole guarantor of safety. Correctly applying the safety instructions will not only serve to protect you but also those around you. Before using the machine, carefully study the instructions given in this manual as well as all the safety and instruction stickers affixed to the machine: consider them as an integral part of your safety programme. Also study all the usual work protection measures and above all, do not forget:

Safety depends on you. You can avoid accidents causing serious injury or death.

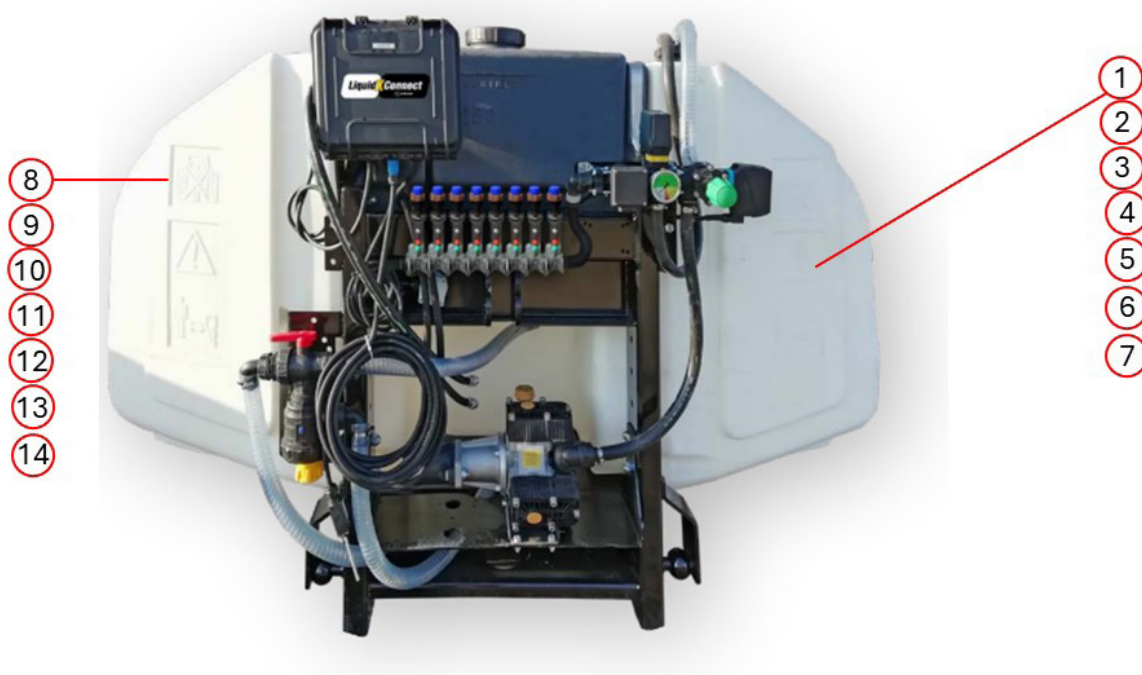
















Fig. 6

No.	Reference	Symbol	Meaning
1	ETIQ01-603		<b>WARNING: DANGER</b> Read the instruction manual and safety instructions before starting up the machine and abide by them during operation.
2	ETIQ01-611		<b>WARNING: DANGER</b> Caution: never exceed a maximum air pressure indicated in the manual at the risk of damaging the turbine.
3	ETIQ01-601		<b>WARNING: DANGER</b> Stop the engine and remove the ignition key before carrying out servicing or repair operations.
4	ETIQ01-635		<b>RISK OF EYE INJURY</b> To avoid any risk of injury to the eyes, do not stare at the surface of the radar sensor while it is in operation.

No.	Reference	Symbol	Meaning
5	ETIQ01-641		<b>RISK OF INFECTION BY INJECTION IN THE BODY</b> Follow the servicing and maintenance instructions in the user manual.
6	ETIQ01-647		<b>RISK OF CUTS</b> Do not open or remove the protective guards while the engine is running.
7	ETIQ01-649		<b>RISK OF CRUSHING</b> Never climb on the machine while the tractor engine is running.
8	ETIQ01-631		<b>RISK OF CUTS</b> Wait until all machine components have come to a complete stop before touching.

No.	Reference	Symbol	Meaning
9	ETIQ01-607		<p><b>RISK OF CRUSHING BETWEEN THE TRACTOR AND THE MACHINE</b></p> <p>Always remain outside the working area of the three-point linkage when using remote control.</p>
10	ETIQ01-633		<p><b>RISK OF CRUSHING / CUTS</b></p> <p>Keep away from the machine to avoid the risk of cuts or crushing.</p>
11	ETIQ01-627		<p><b>RISK OF CRUSHING</b></p> <p>Stay clear of swinging area of implements.</p>
12	ETIQ01-619		<p><b>RISK OF CRUSHING</b></p> <p>Moving component to be secured during servicing and maintenance.</p>

No.	Reference	Symbol	Meaning
13	13 MD173		<b>MORTAL DANGER DUE TO VAPOURS IN THE SPRAY LIQUID TANK</b> Never climb into the spray liquid tank.
14	14 MD192		<b>SEVERE INJURIES DUE TO INCORRECT HANDLING OF THE PRESSURE RELIEF VALVE</b> Have the pressure relief valve checked, adjusted, and repaired by a qualified specialist workshop only.



**IMPORTANT**

These safety symbols must be present on the machine and legible. If any symbols are missing or damaged, contact AGRISEM INTERNATIONAL.

## 6. Operation

### 6.1. Location and description of controls

#### 6.1.1. Hitch

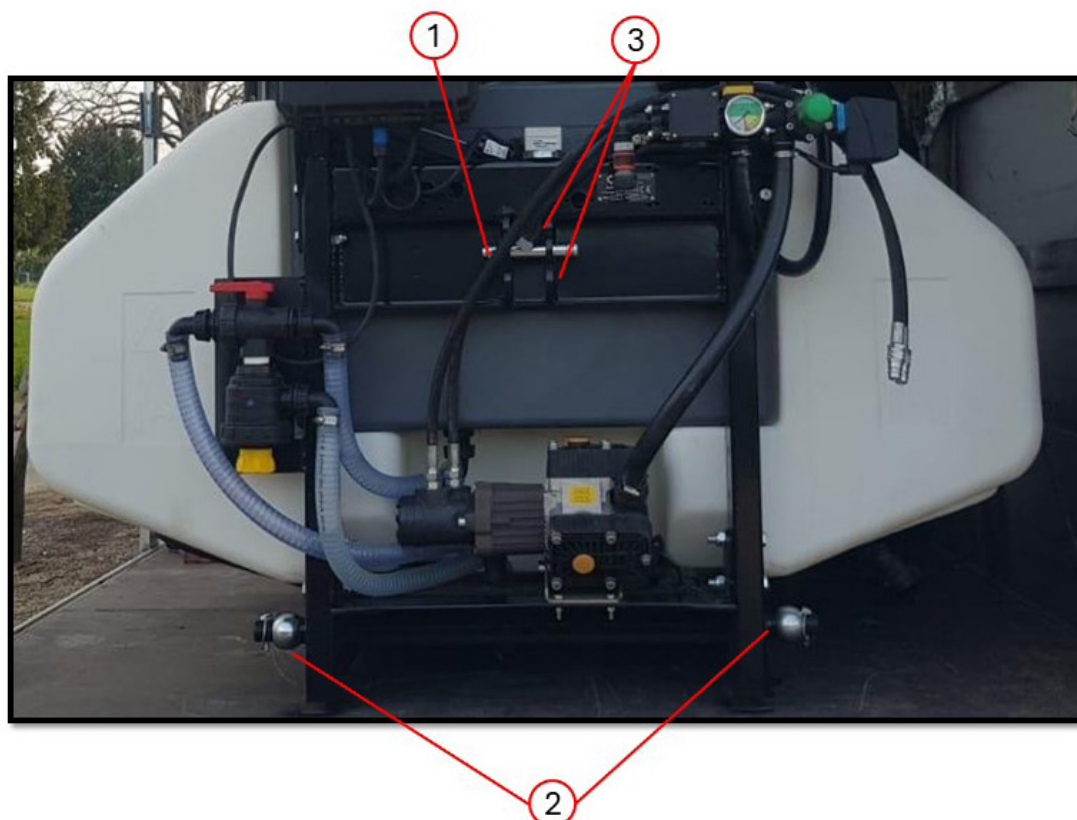


Fig. 7

No.	Description
1	Top link coupling pin
2	Lower link coupling pin
3	Fixed top link pin position

6.1.2. Hopper







Fig. 8

No.	Description
1	Cover



### 6.1.3. Drivable slope inclination

Across the slope		
On left in direction of travel	15 %	
On right in direction of travel	15 %	
Up the slope and down the slope		
Up the slope	15 %	
Down the slope	15 %	

### 6.1.4. Spray liquid pump

Hydraulic pump



Electric pump



The spray liquid pump is driven by the tractor hydraulic system or Electric motor

The pump speed can be adjusted via the tractor for the hydraulic pump

75l/min = hydraulic pump

15l/min = electric pump

### 6.1.5. Part-Width section valves



The part-width section valves distribute the spray liquid to the spreading elements of the implement coupled at the rear of the tractor. Several balls are delivered with the machine, they have specific weights. The assembly of this antigout is behind the machine.

### 6.1.6. Calculating the target rate

The column has a nozzle in order to set the rate flow needed. To calculate the flow liter by minute, you will have to take this formula:


$$\text{LMN} = (\text{L/HA} \times \text{Speed} \times \text{W} \times \text{Density}) / 60000$$

l/h

km/h

cm


d



## ABAQUES DÉBITS

### CHARTS OF FLOW CALCULATIONS


W



Pour déterminer la section des buses, le type de colonne et les billes à utiliser, utilisez la formule :  
To determine the nozzle section, the column type and the ball to use, use the formula:

$$LMN = (L/HA \times \text{Speed} \times W \times \text{Density}) / 60000$$

l/h    km/h    cm    d



Pastille débit Orifice		Pression de travail (bar) Working pressure (bar)							
		0.7	1.0	1.4	1.7	2.0	2.4	2.7	
Référence Part#	débit litre/minute/buse Flow Rate Liters/Minute/Nozzle	AR00370-V005	---	---	---	0.148	0.163	0.174	0.189
AR00371-V007	---	0.155	0.178	0.201	0.220	0.238	0.254	---	
AR00372-V01	---	0.189	0.235	0.269	0.299	0.329	0.356	0.379	
AR00373-V015	---	0.284	0.348	0.401	0.450	0.492	0.530	0.568	
AR00374-V02	---	0.394	0.481	0.556	0.621	0.681	0.734	0.787	
AR00375-V025	---	0.481	0.591	0.681	0.761	0.833	0.901	0.961	
AR00376-V03	---	0.568	0.697	0.803	0.897	0.984	1.064	1.136	
AR00377-V04	---	0.765	0.935	1.083	1.211	1.325	1.431	1.529	
AR00378-V05	---	0.961	1.177	1.359	1.522	1.666	1.798	1.923	
AR00379-V06	---	1.136	1.393	1.609	1.798	1.968	2.127	2.271	
AR00381-V10	---	1.900	2.328	2.688	3.006	3.293	3.558	3.785	
AR00382-V125	---	2.362	2.892	3.339	3.732	4.088	4.429	---	
AR00383-V15	---	2.843	3.479	4.016	4.505	---	---	---	
AR00384-V20	---	3.782	4.618	---	---	---	---	---	


Marquage colonne Column mark		U	LOW FLOW	WILGER
		Très bas débit Ultra low flow	Bas débit Low Flow	Débit standard Standard Flow
Bille Ball	Référence Part#	AR00362	AR00324	AR00323
Verte - Polypropylène* Green - Polypropylene*	AR00592	0.037-0.151	0.189-0.454	0.265-0.946
Rouge - Polymère* Red Celcon*	AR00591	0.075-0.227	0.227-0.605	0.378-1.324
Rouge - verre* Red Glass*	AR00590	0.227-0.492	0.454-0.984	0.795-2.725
Acier* 1/2" Stainless Steel*	AR00589	0.492-0.908	0.681-2.460	1.514-3.785

**LMN** Litres/minutes/buse  
Liters/Minute/Nozzle  
L/HA Litres/Hectares (l/h)  
Liters/hectares (l/h)  
Speed Vitesse (km/h)  
Speed (km/h)  
W Espacement des buses (cm)  
Nozzle spacing (cm)  
Density Densité du liquide  
Liquid density

**Densité Liquide**  
Liquid Density  
Eau Water 1  
N39 1.3  
14-48 1.4

**Exemple example**  
**LMN = 1,333**  
L/HA = 100 l/h  
Speed = 10 km/h  
W = 80 cm  
Density = 1

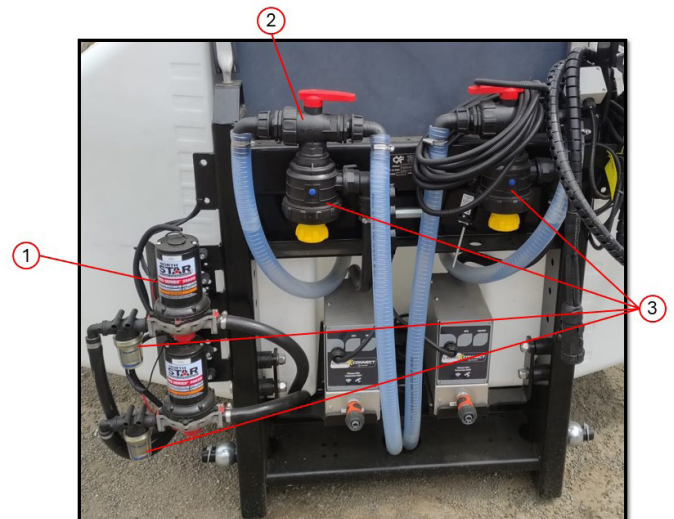
**⚠ Si 2 sorties ou rangs par colonne, alors le LMM doit être multiplié par 2**  
If 2 outlets or row per column, the LMM must be multiplied per 2

Calculez vos doses en ligne Make your setup online  
  
www.seedxconnect.com

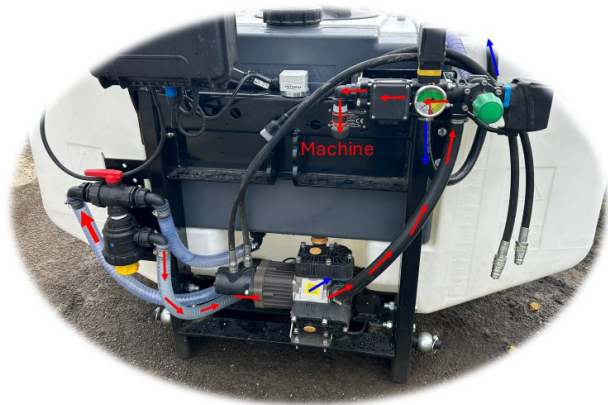
\*La densité/viscosité du liquide utilisé peut affecter la plage de fonctionnement. Dans les liquides très denses, les billes peuvent flotter.  
\*Density/Viscosity of liquid used can effect operating range. In very dense liquids, balls may float.

### 6.1.7. The components

No.	Description
1	Mixing pump
2	¼ turn valve
3	Filter







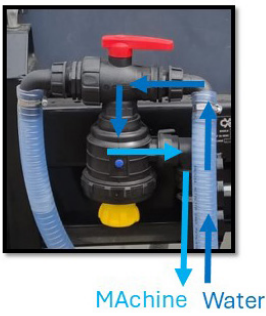
→ Liquid  
→ Return

This is the system to take the liquid from the hopper and send to the sprayer elements.

Position A



Position B



The self-cleaning pressure filter prevents the nozzle filters upstream of the spraying nozzles from

becoming blocked. The mesh size must be smaller than the mesh size of the suction filter and the nozzle filter. When the agitator is switched on, the inside surface of the pressure filter insert is constantly flushed through, and undissolved particles of spray agent as well as dirt are conveyed back to the spray liquid tank.

## 6.2. Start-up

### 6.2.1. Foreword



#### **NOTE**

When you take delivery of the seeder, check that it meets your specifications. Then carry out all of the preliminary operations prior to start-up as described in this manual.

### 6.2.2. Tractor/machine compatibility

**NOTE**

The information listed below is given for information only and is not in any way a substitute for an installation instruction manual, contact the after sales network.

**CAUTION**

Check the compatibility of the tractor and the machine.

- Front link arm of sufficient capacity
- Double-acting hydraulic control valve
- Single hydraulic line connected to the pressure-free return
- A 7-pin 12 V female connector for the tractor front lighting kit

### 6.2.3. Hitching/unhitching

**CAUTION**

Always carry out hitching and unhitching operations carefully and smoothly, without sudden movements.

**CAUTION**

Before carrying out hitching and unhitching operations, you must refer to the safety instructions.

**CAUTION**

No-one must be within 50 metres of the machine during the hitching or unhitching operation.

Before hitching or unhitching the machine, it is important to ensure that:

- The machine is on stable ground and there is no-one within a radius of 50 metres.
- The top-links of the tractor's three-point hitch are set to the same length.
- The tyres of the tractor are inflated to the same pressure.
- The tractor is suitable for the machine to which it is to be hitched and has been tested accordingly (see characteristics section).
- The tractor's hydraulic, mechanical and electrical connections are suitable for the machine to which it will be hitched.

### **Required tractor characteristics**

**CAUTION**

Check that the tractor meets the necessary requirements before hitching the machine:

- Total authorised weight
- Permissible load capacities of the tyres
- The authorised axle loads of the tractor

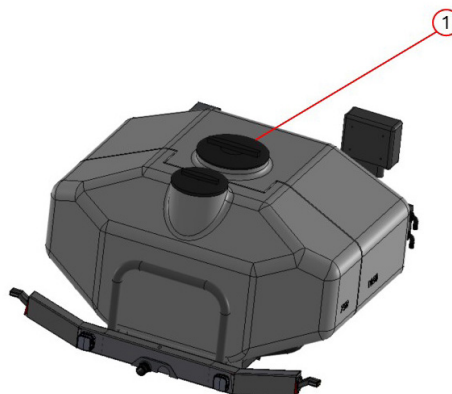


**NOTE**

The authorised values for the total weight, the axle loads and the tyre load capacities can be found in the tractor's registration papers and user manual.

#### 6.2.4. Hopper

Depending on the task to be carried out, the hopper can be divided into two separate hoppers by means of a separating panel.

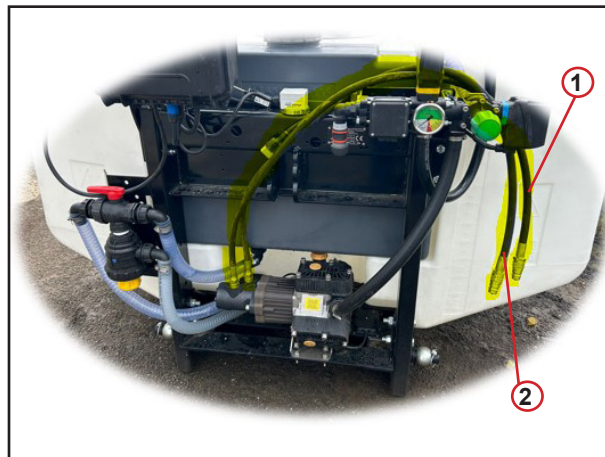


#### 6.2.5. Ventilation

##### **Connection of hydraulic hoses**

The ventilation system is driven by a hydraulic motor. It is supplied by 2 hydraulic hoses.

No.	Description
1	1/2" oil supply hose to be connected to a hydraulic control valve on the tractor side
2	3/4" oil return hose to be connected to a pressure-free return on the tractor side



**NOTE**

Identify the type of coupler used on the tractor pressure-free return (screw-on coupler, valved coupler, etc.).



**NOTE**

The free return of the turbine motor is fitted with a 3/4" hose. Adapt the tractor in order to connect the hose.

**IMPORTANT**

Check that the tractor pressure-free return does not generate a residual pressure. Otherwise, turbine operation risks to be disrupted.

**NOTE**

The turbine will not rotate if the hoses are reversed. A non-return valve incorporated within the circuit protects the motor and thus prevents reverse rotation.

## 7. Technical data

---

### 7.1. Dimensions

Nominal volume of the spray liquid tank	600 to 2100 L
Tank volume of the spray liquid tank	700 to 2200 L
Volume of the flushing water tank	125 to 250 L
Number of part-width sections	2 to 6
Filling height from the platform	1,95 cm
Total height with transport device	1 m
Total width	2,25 m
Total length	1,40 m
Centre of gravity distance	20 cm

### 7.2. Permitted mounting categories

3-point mounting frame	
Top link	Category 2
Lower link	Category 3



### 7.3. Coupling the implement

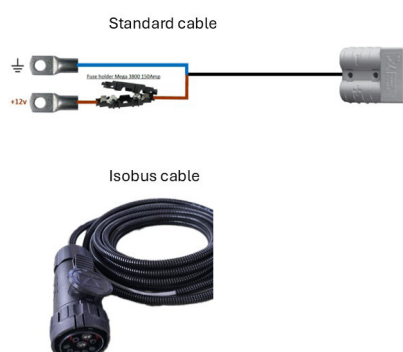
#### IMPORTANT

Implement damage due to insufficient hydraulic oil return flow

- Only use lines of size DN16 or larger for the pressureless hydraulic oil return flow.
  - Select short return paths.
  - Connect the pressureless hydraulic return flow to the intended coupling.
  - Depending on the implement equipment: couple the leakage oil line in the intended coupling.
  - Install the supplied coupling sleeve on the pressureless hydraulic oil return.
1. Depressurise the hydraulic system between the tractor and the implement using the tractor control unit.
  2. Clean the hydraulic plugs.
  3. Couple the hydraulic hose lines to the hydraulic sockets of the tractor. The hydraulic plugs lock perceptibly.
  4. Route the hydraulic hose lines with sufficient freedom of movement and without chafing points.



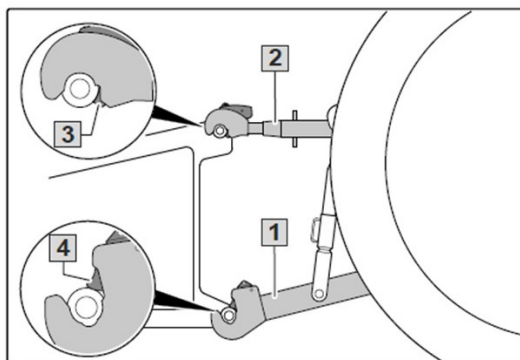
### 7.4. Coupling the power supply



1. Insert the plug for the power supply.
2. Route the power supply cable with sufficient freedom of movement and without chafing or pinching points.
3. Check the lighting on the implement for proper function.

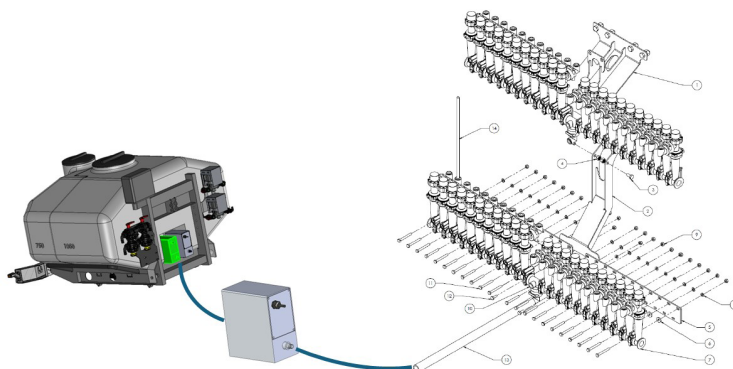
## 7.5. Coupling the three-point mounting frame

1. Set the lower link 1 at the same height.
2. Couple the lower links from the tractor seat.
3. Couple the top link 2 .
4. Check whether the top link catch hooks 3 and lower link catch hooks 4 are correctly locked.



## 7.6. Coupling the spray liquid hose lines

Couple the pipe of liquid flow from the motor to the column fix on the machine to the rear of the tractor.




## 7.7. Preparing the machine preparing the implement for operation

1. Couple the suction hose onto the suction connection and the extraction point.
2. Run the spray liquid pump.
3. Switch on the control terminal
4. Enter the rate in the Field menu on the control terminal.
5. Run the spray liquid pump at operating speed.
6. Switch on spraying operation in the Work menu on the control terminal.


## 7.8. Spraying

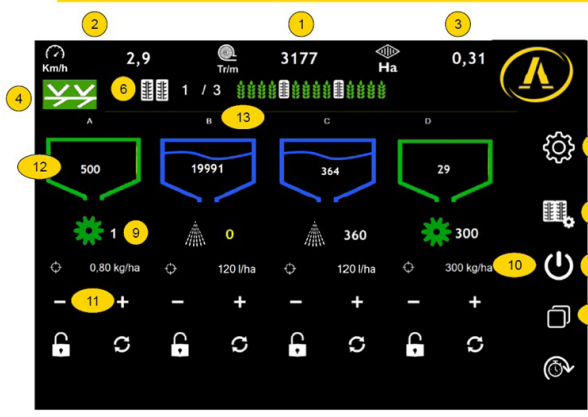


Version SXD 2.0.00.0  
(Février 2024 )







First page = Work page






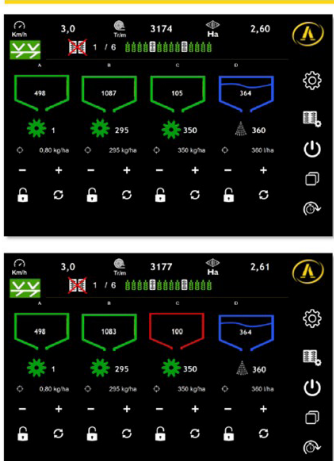
1. Turbine rpm
2. Forward speed
3. Total number of hectares
4. Hectare cut sensor
5. Tramlining menu
6. Tramlining
7. Settings menu
8. Switch off ISOBUS application
9. Rate of Spray
10. Dose per hectare
11. Modification of dose per hectare
12. Sown or hopper quantities
13. Hopper designation
14. Change page

 Button for locking the feeder by feeder.  
 Button to switch on manual dispensers and select those to be switched on.  
 This button represents the anticipation tempo, which is adjustable in the machine parameters.



Hopper configuration on the work page





1083

The number in the hopper indicates the quantity remaining or the quantity spread.

368

1945

1950

101

The green hopper contains solid and the blue contains liquid. The tanks are full.

The hopper is yellow when the top hopper sensor is uncovered.

When the hopper is red, the hopper is empty.

1 / 6

Disabled or Enabled with the number of passes performed

X

Deactivate and Reactivate buttons

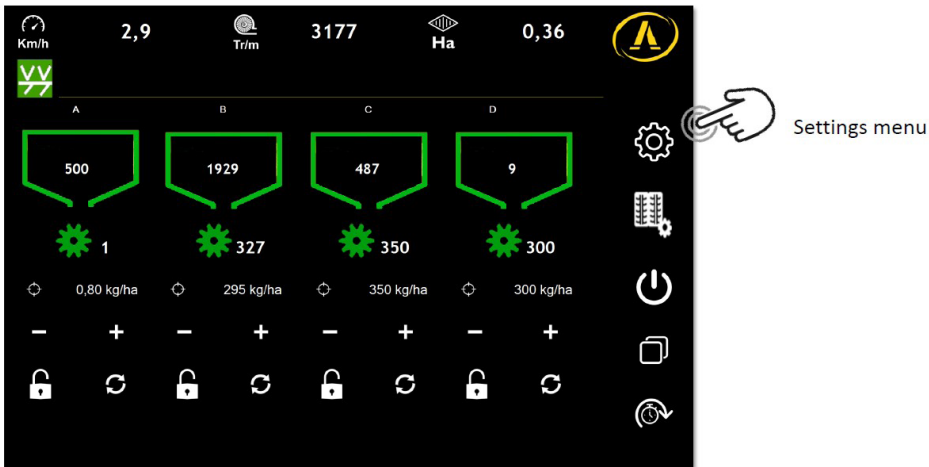
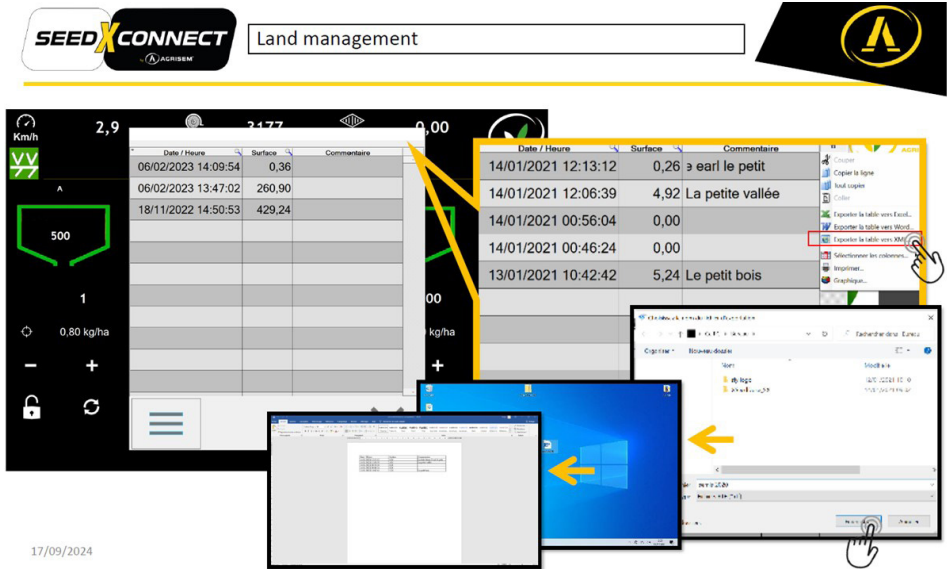
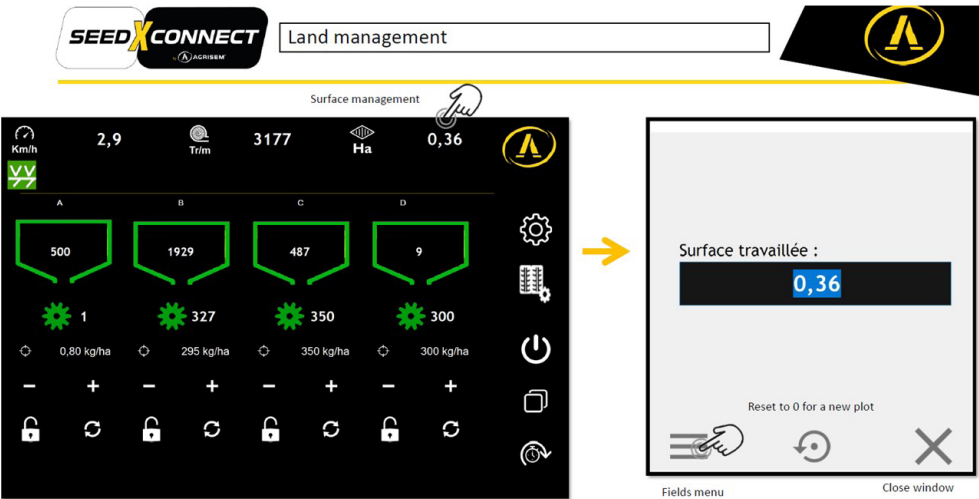
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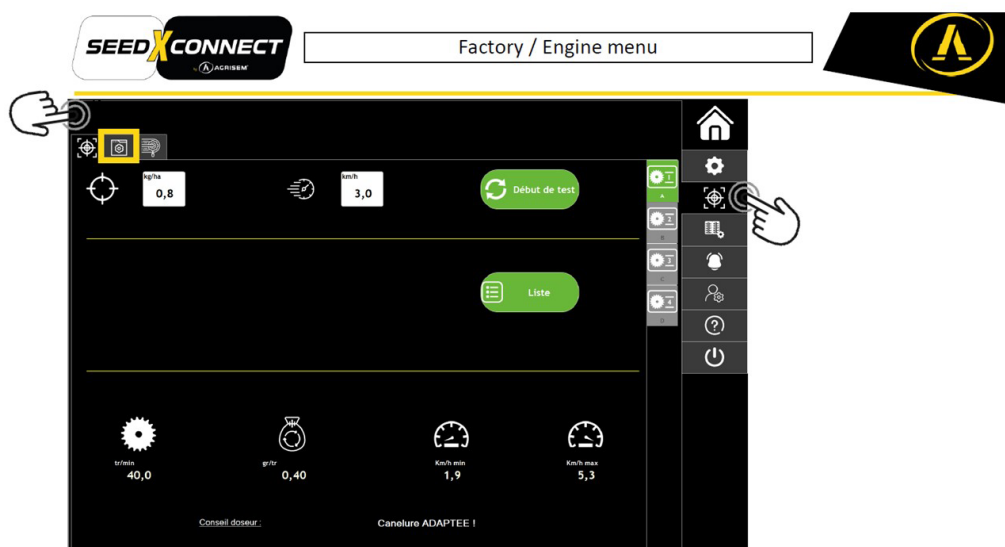
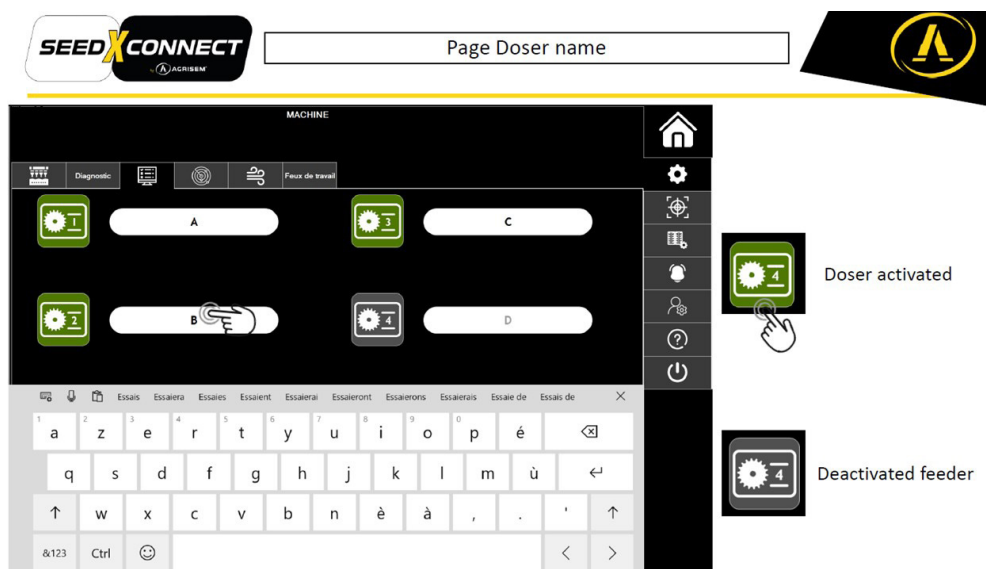
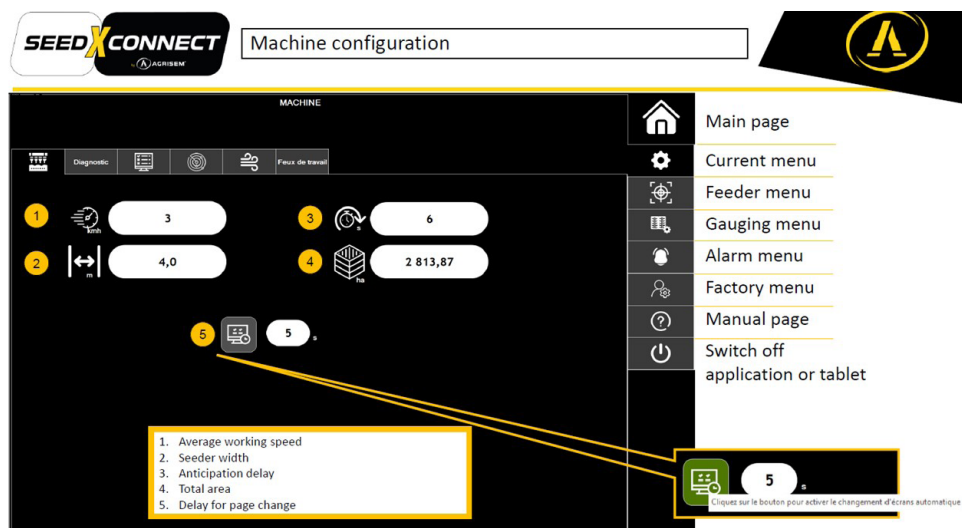
+

Changing the number of manual passes


1 / 3

The seed line for tramlining














Dosing menu























































































































1. Button to start flow test (don't need)

2. Metering number information

3. Calibration list (search for old tests)

4. Working range (don't need)


5. Number of grams per revolution  
Pump 15l/min = 80 gr/tr  
Pump 75l/min = 100 gr/tr

6. Number of doser revolutions per minute (don't need)


7. (don't need)


8. Desired quantity in liter/ha = 200


9. Working speed




Dosing menu











1,6

2413


833,40








2134


19991
























200 l/ha


200 l/ha
























200 l/ha


200 l/ha
























200 l/ha


200 l/ha







































The desired volume will be changed only in the work page




Dosing menu











1,6

2454


833,40








2134


19991
























200 l/ha


200 l/ha
























200 l/ha


200 l/ha

































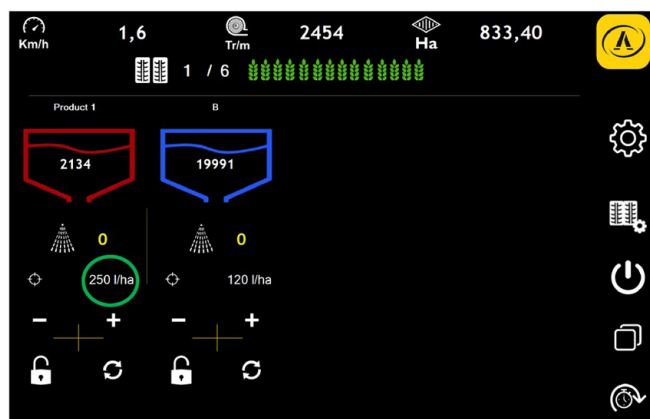


Put the right liter / hectare



Dosing menu

Pump 15L/min



Please note, do not change the liters/hectare values in the parameter menu but only on the work page



Pump 75L/min

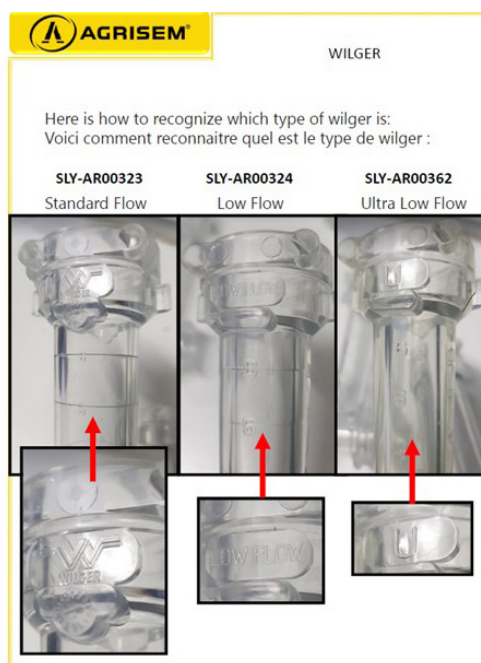
Check the pulsations on the flow meter (red circle) The green wheel is used to manage the return to the tank and prevents excess pressure in the circuit factory setting, fully loosen and tighten by one turn.

Some cases, the requested flow rate is not reached by the regulation, tighten the wheel, be careful not to exceed 4 bars in all cases!!

There is 2 flows meters

## 7.9. Column WILGER

There are 3 types of Wilger tube : Standard ; low and ultra low flow



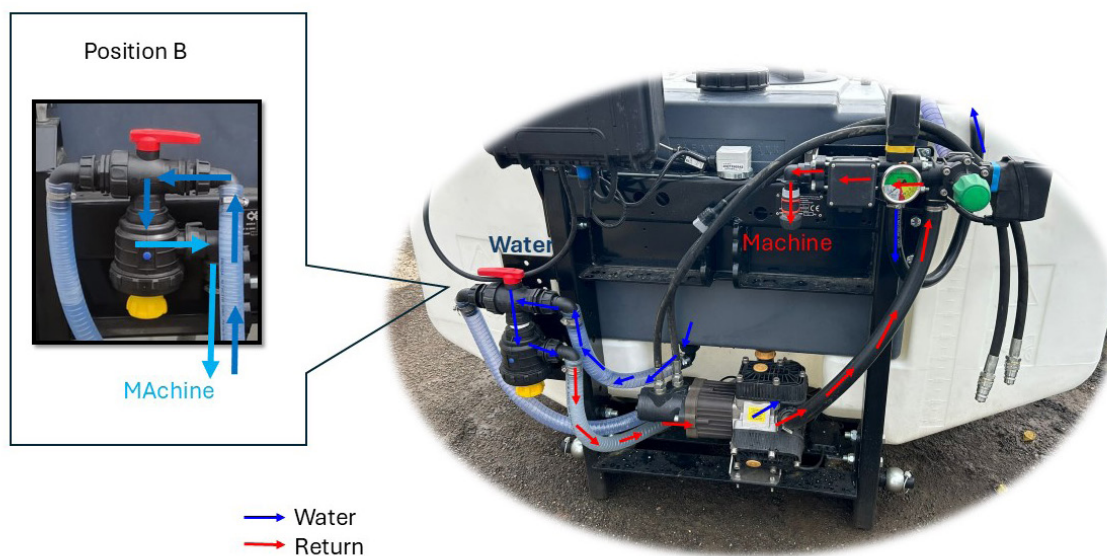
## 7.10. Cleaning the field sprayer on the field

Perform the cleaning of the spray liquid circuit, the spray lines and the nozzles while driving on the field, since cleaning water is applied intermittently. You can clean the machine in the courtyard if you have a collecting facility.

**A distinction is made between quick cleaning and intensive cleaning:**

- Quick cleaning must be performed daily.
- Intensive cleaning must be performed before critical agent changes or before the machine is out of operation for a longer period of time.

Turn the Red valve to the position B in order to clean the circuit of the machine.





## 8. Winter Storage - Handling - Transport

---

### 8.1. Storage

If the machine is not going to be used for an extended period:

- Perform the machine cleaning maintenance operation
- Store the machine away from moisture and bad weather.
- Place the machine on flat, solid, stable ground.
- Disconnect electrical control devices and store them in a dry place.
- Protect the machine against rust. Only spray with oils that are easily biodegradable, e.g. rape oil.
- Unload the wheels using lifting and wedging equipment and accessories that are in compliance with and have been checked in accordance with the applicable regulations. Use standard, secure wedging systems to avoid any risk of accident linked to unstable blocking.
- Protect the hydraulic cylinder piston rods against corrosion.
- Carry out lubrication in accordance with the maintenance plan in the user manual.



#### **IMPORTANT**

The machine should, as far as possible, be stored indoors to avoid premature ageing. However, if stored out of doors, it should be folded out to prevent moisture damage.



#### **CAUTION**

Never work on a machine that is raised off the ground without having first secured it using suitable hoisting and propping devices.



#### **CAUTION**

Do not spray plastic and rubber parts with oil or an anti-corrosion agent. Otherwise these parts may become brittle and break.

## 8.2. Handling



### CAUTION

Never stand in the handling area as this could result in serious or fatal injury.



### CAUTION

The lifting points must be used simultaneously for the safety of handling.



### CAUTION

During handling, some components may have sharp edges. Wear suitable personal protective equipment (safety gloves, goggles, safety shoes) when handling the components.

The machines are equipped with attachment points for lifting operations. Pictograms enable them to be more quickly identified.



Handling must be carried out using appropriate lifting and wedging equipment and accessories for the load to be moved, that are compliant and have been checked in accordance with the applicable regulations.

To know the approximate weight of the assembly, see page 68.

### 8.3. Transport

**CAUTION**

Firmly secure the machine on the flat-bed using straps that are compliant and have been checked in accordance with the applicable regulations.

Ensure that there are no unsecured items on the flat-bed which might be thrown against the machine during transport.

During transport, the machine must be secured as described below.



## 9. Servicing - Maintenance

### 9.1. Maintenance tips

#### 9.1.1. Introduction

Comply with the safety instructions regarding servicing and maintenance. The machine has been designed and built for maximum yield, profitability and comfort under many different usage conditions. It has been checked at the factory and by the dealer before its delivery to ensure that the machine is received in perfect condition. To maintain it in good working condition, it is important that servicing and maintenance operations are performed at the recommended frequency.

In order to ensure that the machine always operates correctly and to obtain an optimum performance, it must be cleaned and maintained at regular intervals. The hydraulic components and bearings must not be cleaned with a high-pressure washer or directly hosed down. The housings, screwed connectors and bearings are not watertight to VERY high pressure cleaning.

#### 9.1.2. Personal protective equipment (PPE)



##### **CAUTION**

The maintenance operations involve the handling of loads and materials requiring the wearing of personal protective equipment.

This personal protective equipment must be worn while performing maintenance operations.

Risk	Examples of personal protective equipment
Cuts	Gloves
Crushing	Gloves, safety shoes, safety helmet
Hydrocarbons	Gloves
Dust	Mask
Noise	Ear protection

#### 9.1.3. Shutting-down the machine



##### **WARNING**

Before performing any maintenance operation, the machine's hydraulic, mechanical and electrical power must be shut down. Chock the machine and take all of the necessary measures to avoid the accidental movement of the machine

#### 9.1.4. Cleaning the machine



##### **WARNING**

Before performing any maintenance operations, the machine must be cleaned to prevent any risk of accidental injury.

#### 9.1.5. Welding

**NOTE**

According to the type of machine: before carrying out any work on the electrical circuit or before any welding operations, disconnect the wiring harnesses coming from the tractor. Disconnect the battery and alternator cables.

**WARNING**

Do not weld or use blow torches near pressurised fluids or inflammable products.

**CAUTION**

Wear suitable personal protective equipment for welding work.

#### 9.1.6. Protection devices

**WARNING**

Go around the machine looking for any external damage and checking the condition of the protection devices. The protection devices must be clean, legible and in good condition. If this is not the case, contact the AGRISEM INTERNATIONAL customer service department in order to replace them.

#### 9.1.7. Tyres

**DANGER**

The tyres contain pressurised air. Never exceed the recommended inflation pressures.

**WARNING**

Regularly check the condition of the tyres over their entire surface.

**WARNING**

Remove all traces of oil from the tyres.

**WARNING**

The permissible load capacities of the tyres mounted on the tractor must not be exceeded.

### 9.1.8. Hydraulic system

The machine is powered by pressurised hydraulic energy. Working on a pressurised circuit may give rise to risks of injury by contamination. All operations must be carried out by professionals trained to handle hydraulic technical equipment. In the event of an injury caused by hydraulic oil, consult a doctor immediately. Risk of infection.



#### **DANGER**

Do not, under any circumstances, attempt to plug a leak in the hydraulic hoses with your hand or fingers. Use a suitable leak-detection tool.



#### **WARNING**

Depressurise the hydraulic circuit completely before working on it.

When connecting hydraulic hoses to the tractor's hydraulic circuit, ensure that the hydraulic circuits on the tractor and machine are not under pressure.



#### **NOTE**

Using lubricants and mineral products in line with the recommendations does not represent any risk to health. However, avoid prolonged contact with the skin or avoid inhaling the vapours.



#### **WARNING**

Protect against direct contact with oils by wearing gloves or protective cream. Avoid the skin coming into contact with clothes that are soaked in oil. Change clothes and rags when they are dirty. Carefully wash all traces of oil off your skin with soap and hot water. Do not clean your skin with petrol, diesel or other detergent products.

Oil is toxic. In the event of ingestion of oil, consult a doctor immediately. If oil splashes in your eyes, rinse with clean water and consult a doctor if necessary.



#### **WARNING**

Keep lubricants out of reach of children.

Never store lubricants in open containers or containers that are not labelled.



#### **WARNING**

Soak up spilt oil with a binder product and dispose of it.

Never extinguish fires caused by oil with water. Only use authorised, appropriate extinguishing products and wear breathing apparatus.



#### **WARNING**

Check that the hydraulic hoses are correctly connected.

Regularly check that the hydraulic hoses and connections are in good condition and are clean.

### NOTE



Hydraulic hoses must not be used for more than six years, including a possible storage time of two years maximum. Even under appropriate storage and usage conditions in line with permissible stresses, it is completely normal for hoses and connectors to age, which is why they have a limited storage time and service life.

Have the hydraulic hoses checked by a specialist at least once a year to ensure that they are in good condition.

Replace damaged or worn hydraulic hoses.

Only use genuine AGRISEM INTERNATIONAL hydraulic hoses.

Nevertheless, the duration of use can be established in line with empirical values, in particular taking potential risks into account. Other reference values can be taken into consideration for thermoplastic hoses and pipes.



Waste must not be disposed of in a conventional dustbin but collected through special channels in accordance with the applicable standards.

Dispose of used oil in line with current regulations. If this poses a problem, contact your oil supplier.

Dispose of shoes impregnated with oil as hazardous waste.



The product or its packaging is technically recyclable, not that it is or will be recycled.

The products will only be recycled under two conditions:

- The sorting and recycling channel exists in your region,
- The products have been correctly sorted.

Waste polluted by oil and used oil must be disposed of in line with current regulations.

Ensure that you do not contaminate the soil or water with hydraulic oil, follow the instructions indicated on the container of the consumable in accordance with current regulations.

### 9.1.9. Electrical



### WARNING

According to the type of machine: before carrying out any work on the electrical circuit or before any welding operations, disconnect the wiring harnesses coming from the tractor.



### WARNING

Before carrying out any work on the electrical system, disconnect the battery's negative terminal.



### WARNING

Ensure the battery terminals are correctly connected, starting with the positive terminal, then the negative terminal. When disconnecting the terminals, start with the negative terminal, then disconnect the positive terminal.

Systematically fit the cover provided for this purpose on the positive terminal on the battery. Beware of the risk of explosion when earthing.





**DANGER**

Risk of explosion: avoid sparks and naked flames near the battery.

### 9.1.10. Changing the oil in the spray liquid pump

Every 1000 operating hours or Every 12 months

**WARNING**

Health hazard due to contact with spray liquid

Clean all components before removal.

1. Clean the spray liquid circuit of the machine with flushing water.
2. Remove the spray liquid pump.
3. Remove the cover.
4. To drain the oil:

Place a suitable collecting vessel underneath. Turn the spray liquid pump upside down. Turn the drive shaft by hand until the oil has drained out.

**NOTE**

This procedure is recommended because the oil cannot be completely drained through the drain plug.

5. Set the spray liquid pump on a level surface.
6. Turn the drive shaft left and right alternately. While doing so, slowly fill multi-purpose oil 15W40 up to the mark.
7. Install the cover.
8. Install the spray liquid pump.
9. Check the oil level after one hour of operation.

## 9.2. Maintenance consumables

Consumable	Characteristics	Volume
Grease	lithium grease reinforced with molybdenum disulphide / Grade NLGI2	-



**NOTE**

Only use the specified consumables. AGRISEM INTERNATIONAL may not be held liable if another type of grease is used.

## 9.3. Maintenance schedule



**NOTE**

The servicing frequency is determined by many factors. Thus, different conditions of use, the weather, driving and working speeds, dust generation and the type of soil, etc. all influence the time before the next service is due, as does the quality of the lubrication and maintenance products used.




**NOTE**

The servicing frequencies indicated can therefore only serve as a guide. If you deviate from the normal conditions of use, you must adapt the frequency at which this maintenance and servicing is carried out to suit the conditions.

**Maintenance operations to be carried out prior to each use**

Check the hydraulic lines.

Check the lighting and signalling system.

Check the tyre pressure.

**Maintenance operations to be carried out prior to folding**

Clean the folding areas.

**Maintenance operations to be carried out after the first 10 hours of operation**

Check the tightness of the nuts and screws.

Check the hydraulic system (tightness and sealing).

Check the tightness of the wheel nuts.

Perform a complete diagnosis of the machine to ensure that there are no elements causing problems.

Clean the soil off the machine.

**Maintenance operations to be carried out 50 hours or every 6 months**

Check the tightness of the nuts and screws.

Check the hydraulic system (tightness and sealing).

Check the tightness of the wheel nuts.

Perform a complete diagnosis of the machine to ensure that there are no elements causing problems

Lubricate the joints with grease guns.

Clean the soil off the machine.

**Maintenance operations to be carried out every 6 years**

Replace the hydraulic hoses.

**Maintenance operations to be carried out after each pressure wash**

Lubricate the machine.

**Maintenance operations to be carried out 100 hours or every 12 months**

Wear rings

### 9.3.1. Checking the application rate INTERVAL

Every 1000 operating hours or Every 12 months

The actual application rate is checked at a standstill through the individual nozzle output.

To do so, use at least one nozzle on the left and right boom section, and one in the middle of the sprayer boom.

## 9.4. Maintenance operations

### 9.4.1. Check the hydraulic lines

#### **Inspection criteria for hydraulic hoses**



#### **CAUTION**

For your own safety, comply with the following inspection criteria.

If one of the following faults is observed, immediately change the hydraulic hose:

- Deterioration of the outer layer down to the lining (e.g. friction points, cuts, splits).
- Embrittlement of the outer layer (formation of cracks on the outer layer).
- Distortions which do not correspond to the natural shape of the hose or pipe, whether or not they are under pressure or bent (e.g. separation of the layers, bulges, crushed areas, bending).
- Areas that are leaking.
- Damaging or distortion of the end fitting (affecting its leak tightness). Slight superficial damage does not warrant replacement.
- Hose becoming detached from the end fitting.
- Corroded end fitting leading to reduced solidity and function.
- Non compliance with mounting specifications.
- Exceeding of the 6-year usage period. The following information is vital: the date of manufacture of the hydraulic hose marked on the end fitting, to which you must add 6 years. If the date of manufacture indicated on the connector is "2004" the usage period will end in February 2010.

#### **Fitting and removing hydraulic hoses**



#### **WARNING**

When fitting and removing hydraulic hoses, the following instructions must be strictly adhered to:

- Only use genuine AGRISEM INTERNATIONAL hydraulic hoses.
- Always ensure cleanliness.
- Always fit hydraulic hoses in such a way that in all operating conditions:
  - They are not subject to tension other than that caused by their own weight.
  - There is no crushing over short lengths.
  - There are no external mechanical stresses on the hydraulic hoses.
  - Avoid hoses rubbing against parts of the machine or against each other by arranging and attaching them correctly. Protect hydraulic hoses with protective sheaths if necessary. Cover parts with sharp edges.
  - The authorised bending radii are not exceeded.
- If hydraulic hoses are connected to moving parts, measure the length of the hose to ensure that the total range of movement is no less than the smallest authorised bending radius and/or that the hose is not subject to tension.
- Attach hydraulic hoses at the locations provided for this purpose. Avoid mountings that may hinder the natural movement of the hose and modifications to its length.


**WARNING**

Hydraulic hoses must not be painted.

#### 9.4.2. Check the lighting and signalling system



Fig. 9

No.	Description	Characteristics
1	Dipped-beam headlight	12 V - 21 W
2	Working light	12 V - 55 W

Always check that your lighting system is in full working order and clean before driving on the road.



**WARNING**

Never set out on the public highway if one of these elements is not in good condition.

Replacing bulbs:

- 1 - Unscrew the protective glass.
- 2 - Remove the faulty bulb.

#### 9.4.3. Check the tightness of the nuts and screws

Refer to the table.

ISO 272			Classe de qualité boulonnerie acier ISO898-1													
d mm	ISO mm	mm	5,6		5,8		6,8		8,8		9,8		10,9		12,9	
			Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo	Cs	Fo
1,6**	0,35	3,2	0,086	210	0,120	294	0,137	335	0,183	447	0,206	503	0,269	657	0,315	769
2**	0,40	4	0,183	349	0,256	488	0,293	558	0,390	744	0,439	837	0,573	1 093	0,671	1 279
2,5**	0,45	5	0,383	582	0,536	815	0,612	931	0,816	1 242	0,918	1 397	1,20	1 824	1,40	2 134
3	0,50	5,5	0,66	874	0,92	1 224	1,06	1 399	1,41	1 866	1,60	2 099	2,07	2 740	2,43	3 207
4	0,70	7	1,51	1 514	2,11	2 120	2,42	2 422	3,22	3 230	3,66	3 635	4,74	4 744	5,5	5 552
5	0,80	8	3,00	2 481	4,20	3 473	4,81	3 970	6,4	5 293	7,27	5 958	9,4	7 774	11,0	9 098
6	1	10	5,2	3 498	7,2	4 893	8,3	5 598	11,1	7 464	12,57	8 392	16,3	10 962	19,1	12 828
8	1,25	13	12,6	6 426	17,7	8 997	20	10 283	27	13 710	30,62	15 423	39	20 137	46	23 565
10	1,50	16	25	10 238	35	14 334	40	16 382	53	21 843	61	24 575	78	32 082	92	37 542
12	1,75	18	43	14 934	60	20 908	69	23 895	92	31 860	105	35 849	136	46 795	159	54 760
14	2	21	69	20 514	97	28 719	111	32 822	148	43 763	167	49 142	218	64 277	255	75 218
16	2	24	108	28 280	152	39 592	174	45 248	232	60 331	262	67 944	341	88 611	399	103 694
18	2,5	27	149	34 324	209	48 054	239	54 919	330	75 421			469	107 549	549	125 856
20	2,5	30	213	44 188	298	61 863	341	70 700	471	97 253			667	138 456	781	162 023
22	2,5	34	293	55 298	411	77 418	470	88 478	648	121 574			920	173 269	1 077	202 762
24	3	36	366	63 630	513	89 083	586	101 809	809	140 084			1 148	199 376	1 343	233 313
27	3	41	544	83 910	762	117 474	871	134 257	1 201	184 517			1 706	262 920	1 997	307 672
30	3,5	46	737	101 914	1 032	142 679	1 180	163 062	1 628	224 292			2 311	319 331	2 704	373 685
33	3,5	50	1 004	127 210	1 406	178 094	1 607	203 536	2 216	279 953			3 148	398 593	3 684	466 438
36	4	55	1 288	149 174	1 803	208 844	2 060	238 679	2 840	328 236			4 036	467 413	4 723	546 973
39	4	60	1 677	179 487	2 348	251 282	2 683	287 179	3 697	394 919			5 255	562 393	6 150	658 119
42**	4,5	65	2 070	205 323	2 898	287 452	3 312	328 516	4 554	451 710			6 486	643 344	7 590	752 849
45**	4,5	70	2 596	240 641	3 635	336 897	4 154	385 025	5 712	529 410			8 136	754 008	9 520	882 350
48**	5	75	3 130	270 321	4 383	378 449	5 009	432 514	6 887	594 706			9 809	847 006	11 478	991 177
52**	5	80	4 041	324 763	5 657	454 668	6 465	519 620	8 889	714 478			12 661	1 017 590	14 816	1 190 797
56**	5,5	85	5 034	374 739	7 048	524 635	8 054	599 582	11 075	824 426			15 773	1 174 182	18 458	1 374 043
60**	5,5	90	6 266	438 337	8 772	613 672	10 026	701 340	13 785	964 342			19 634	1 373 457	22 976	1 607 237
64**	6	95	7 533	495 676	10 546	693 947	12 052	793 082	16 572	1 090 488			23 603	1 553 119	27 620	1 817 480

\*Classe 8-8a jusqu'à d=16 mm, 8-8b à partir de d=18 mm

NOTT-0229

Fig. 10

#### 9.4.4. Check the hydraulic system (tightness and sealing)

Check that all of the hydraulic circuit's components are sealed.

If necessary, tighten screwed connectors.



Fig. 11

#### 9.4.5. Check the tightness of the wheel nuts

Refer to the instruction of the axle supplier attached.

#### 9.4.6. Perform a complete diagnosis of the machine

Carry out all the operations of the start-up section.

Carry out all the maintenance operations to be performed prior to each use.

#### 9.4.7. Clean the soil off the machine

Clean the soil on the machine with a high pressure cleaner.

##### **CAUTION**



If using a high-pressure washer or steam cleaner, it is essential to comply with the following points:

- Do not clean the electrical and hydraulic components.
- Never direct the high-pressure washer or steam cleaner nozzle directly at the lubrication points or bearings.
- Systematically keep the nozzle a reasonable distance from the machine.

Comply with the rules for using high-pressure washers.

The machine must be lubricated regularly and after each pressure wash.

#### 9.4.8. Lubricate the joints with grease guns

The lubrication points are identified by this pictogram:



Fig. 12

##### **CAUTION**



The machine must be lubricated regularly and after each pressure wash.

This keeps the machine in good working order and reduces the costs of repairs and downtime.

#### 9.4.9. Replace the hydraulic hoses

After replacing all the machine's hoses, check that all of the components of the hydraulic system are sealed, see page 65.

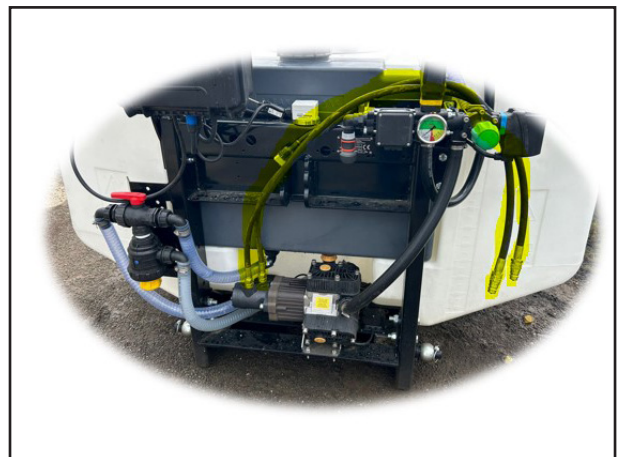


Fig. 13

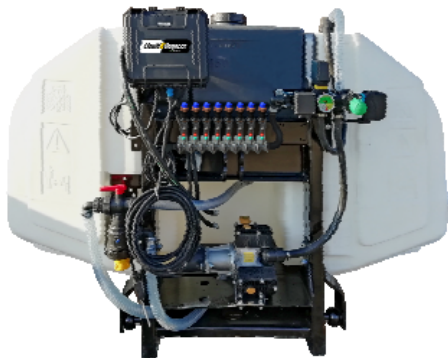


## 10. Failures

### Causes and remedies

Errors	Cause	Solution
Liquid does not emerge from the nozzles	The nozzles are clogged.	<ul style="list-style-type: none"> <li>▶ Eliminate blockages.</li> <li>▶ Eliminate the limescale in the system.</li> </ul>
Switch off nozzles that drip while spraying	Deposits on the diaphragm seat of the nozzle body, defective diaphragm	▶ see page 64
The spray liquid pump is not suctioning	Blockage on the suction side with suction filter, filter insert, and suction hose.	▶ Eliminate blockages.
	The spray liquid pump is suctioning air.	▶ Check the suction hose for leaks at the suction connection.
The spray liquid pump has no output	The suction filter with filter insert is soiled.	▶ Clean the suction filter with filter insert.
	The valves are jammed or damaged.	▶ Replace the valves.
	The spray liquid pump draws air, can be seen by air bubbles in the spray liquid tank.	▶ Check the hose connections on the suction hose for leaks.
The spray cone flutters	Spray liquid pump is conveying unevenly.	▶ Check or replace the valves on the suction and pressure sides.
The spray liquid pump is not conveying	The piston diaphragms of the spray liquid pump are defective.	▶ Replace all 6 piston diaphragms.
The application rate is not being reached	High forward speed, low pump speed	▶ Reduce the forward speed and increase the spray liquid pump speed until the error message disappears.
The set and the actual application rate are not identical	Wear on the spraying nozzles, difference between the desired and actual forward speed	▶ Check the application rate, see see page 75.
Hydraulic functions run slower	Filter in the hydraulic plug is soiled.	▶ Clean or exchange the filter in the hydraulic plug.

## 11. Characteristics



Hopper volume:	700 to 2,200 L
Distribution heads:	/
Distribution system:	Electrical
Distribution drive:	Electrical
Turbine drive:	Hydraulic
Maximum flow	15 to 75 l/min
Unladen weight (variable depending on the equipment):	132 to 395 Kg

## 12. Technical terms and abbreviations



Term	Meaning
A	ampere - unit of intensity of electrical current
bar	bar - unit of pressure
cm	centimetre - unit of length
cm <sup>3</sup>	cubic centimetre - unit of volume
PPE	personal protective equipment
ha	hectare - unit of area
ISOBUS	standard data transfer system
kg/h	kilogram per hour - unit of mass flow
kg/ha	kilogram per hectare - unit of density
km/h	kilometre per hour - unit of speed
l	litre - unit of volume
l/min	litre per minute - unit of flow
LS	load sensing - hydraulic load detection system
m	metre - unit of length
mm	millimetre - unit of length
rpm	revolution per minute - unit of speed of rotation
V	volt - unit of voltage
W	watt - unit of power



## 13. Appendices

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### DECLARATION OF COMPLIANCE WITH THE "MACHINERY" DIRECTIVE

	Agrisem Conservation Farming "La Madeleine" 70 route du bourg 47210 BOURNEL Tél: +33(0)5.53.40.32.95		
	MODELE	<input type="text"/>	
	N° DE SERIE	<input type="text"/>	
	ANNEE <input type="text"/>	POIDS <input type="text"/> Kg	

The manufacturer referred to above certifies that the new equipment described below:

#### Liquid SEEDERS

Complies with the provisions of the amended "Machinery" directive (Directive 2006/42/CE) and with the applicable national legislation.

Signed in Ancenis,

05 March 2015

*M. Garauh.*





WARRANTY CERTIFICATE No.

**TO BE RETURNED UPON RECEPTION OF  
THE MACHINE**

<b>Dealer</b>	<b>Purchaser</b>
Name	Name
Address	Address
Tel.:	Tel.:
Code no.	

Type of machine	
Working width	
Machine serial number	
Date of delivery to customer and user	
Make, model and et power of tractor used	
Type of soil - % clay	
Utilised agricultural land belonging to the farm	

Place:

date:

Purchaser's signature and stamp	Dealer's signature and stamp
---------------------------------	------------------------------

We acknowledge that we have read the whole of the user manual and the warranty terms to which we adhere.

**AGRISEM INTERNATIONAL SA - 535 rue Pierre Levasseur - CS 60263 - 44158 ANCENIS - FRANCE**  
Tel.: +33 (0)2.51.14.14.40



<b>WARRANTY CLAIM FORM No.</b>			
<b>Name of the dealer</b>		Dealer stamp	
<b>Claim managed by</b>			
Date of purchase of the machine		AGRISEM invoice number	
Name and address of user customer			
Date of delivery to user <i>(attach a copy of the invoice and the dealer's delivery slip)</i>		UAA of farm(s)	
<b>Machine serial number</b>		Working width	
Description of the equipment combination (make and type)			
Make of tractor used			
Model of tractor used		Power rating	
<b>Detailed description and alleged cause of the incident</b>			
Date of breakdown		Current date	
Part reference	Quantity	Description	
Send parts requested	<b>YES</b>	Credit note requested	<b>YES</b>
Photographs attached	<b>YES</b>	Parts returned <i>Freight costs payable by the sender</i>	<b>YES</b>
<b>Result of inspection by AGRISEM INTERNATIONAL</b>			
Comments			
Date		Signature	
Technical manager			
agrisem@agrisem.com			

