



OPERATOR'S MANUAL

3 PT MOUNTED BOOM SPRAYER



GD

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WELCOME IN CARRAROSPRAY LINE



Dear customer, we like to thank you for the purchase of this machine. We welcome you among our clients and are confident that this product will give you many years of reliable use and will fulfill your needs.

This “Use and Maintenance” manual applies to all versions of the series of mounted sprayers.

Remember that any machine can work well and profitably only if it is used correctly and kept in efficient working conditions. So please read this instructions manual carefully and check with it whenever difficulties arise.

Should you need any assistance, our technical department is at your disposal with information and service.

We remind you that, as manufacturer, we have the right to change, at any time, any part, detail or accessory of the machine, either to improve it or for marketing necessities. However, the changes made will not affect the main technical features of operation and safety.

The symbols given below are safety warnings and indicate that the instructions must be followed in order to avoid harms and/or damages to persons, animals and environment.

Failure to comply with the instructions may cause personal injury, in some cases even death.

Attached to this manual you will find also the operator’s instructions of engine, pump, pressure regulator valve, drive shaft etc. made by other manufactures, as well as the breakdown and list of parts of the machine you purchased.

INTRODUCTION



This manual provides all the necessary information concerning the use and maintenance of the machine as well the breakdown drawing and the list of spare parts.

Our sprayers can be mounted on any tractor having a three point hitch of the category 1 or 2 and an input shaft running at a maximum speed of 540 R.P.M. (revolution per minute).

The horsepower required to run the sprayer is connected to the type of pump which is mounted, the capacity of the tank and the type of the spraying boom.

The sprayers are machines to spraying the chemical for the plants protection crop, open fields, gardening and disinfestation.

All our machines have been designed and manufactured for the use in open files as well as for work between the rows of orchards, vineyards, open fields, etc... Therefore NEVER RUN THE SPRAYER INDOOR!

Regular and adequate operation of the machine depends on correct use and maintenance.

The technical instructions that are contained in this manual must be therefore strictly complied with, to prevent any problem which could obstacle the correct use of the machine and reduce its life.

Compliance to the safety requirements mentioned herein is also essential to prevent accidents or injuries to the operator and the parties.

ANY USER OF THIS MACHINE IS WARMLY REQUIRED TO READ CAREFULLY AND UNDERSTAND ALL THE INSTRUCTIONS OF THIS MANUAL BEFORE STARTING TO USE THE MACHINE.

Should these instructions, or even one of them, not be complied with, then the Manufacturer can not be held liable for any damages whatsoever that are caused to the machine itself, to things or to persons.

Please refer to the Manufacturer's Engineering Dept. should you need any technical details or any information on how to improve the machine operation and efficiency.



The sprayers have been designed and manufactured to atomize and nebulize everywhere and for the application of plant and crop protection products and disinfections.

WARNING: misuse or abuse of the equipment can cause severe damages and/or injures. It is therefore recommended to strictly follow the directions given herewith.

This handbook is part of the machines and must be carefully keep on file as long as the machine is operative.

Any repair have to be carried out only by skilled technicians, either of a dealer authorized by the manufacturer, or by the distributor.

For the repairs, only original spare parts can be used. Failing this the manufacturer shall not be held liable for incorrect operation of the machine and nor the user will then be entitled to any guarantee.

Should any doubt arise on the meaning of any part of this manual, the Italian texts shall be considered as the valid reference text.

MARKINGS AND IDENTIFICATION



On receiving the sprayer, check that the markings are identical to those shown below in fig. and applied on the frame of the machine.

On the machine the user will find the following plates or decals:

1. Marking plate containing the name of the Manufacturer, the year of construction, the model, the serial number.



2. Decals with general maintenance and lubrication instructions.
3. Decals indicating of how to engage the propeller. (turbine on mist blowers).
4. Danger, warning and marking signals.

Plates, decals and signals on the machine are parts of the machine itself and can not be removed.

The operator must comply with the instructions affixed on the machine and keep them in clean and legible condition as long as the machines is operative.

DELIVERY OF THE MACHINE



The machine must be checked immediately on delivery to ensure that it is complete with all its components; should not be the case, our competent office must be informed at once.

The sprayer is supplied either wrapped with nylon or packed in a carton and all the components are appropriately protected for shipment. In order to save space and reducing risks of damages during transportation, some parts are supplied loose and need to be assembled before using the machine. You need to follow these instructions:

- refill oil to the engine (see the manual book of engine for oil refill);
- refill fuel to the engine (see the manual book of engine for fuel refill);
- check the assembling of the hoses of suction, batch and return;
- connect the hoses of nozzles or sprayguns;

Check the correct funzionamento of the sprayers with clean water.

DESCRIPTION OF THE COMPONENTS OF THE MACHINE



PUMP

The pump is diaphragm type, it pushes the liquid to the circuit and it is of vital importance for the machine and need of particular care.

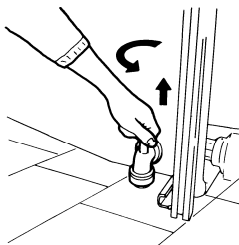
WE INVITE YOU TO READ CAREFULLY THE MANUAL BOOK OF THE PUMP WHICH IS ATTACHED TO THE PRESENT ONE.

TANK

The tank of the sprayer is made either of fiberglass or of polyethylene. Inside the tank there is a system studied for agitating the liquid and keeping the chemical product mixed uniformly. The agitation system can be either mechanical or jet. Be sure that the agitation system works always properly as it is essential for the correct use of the chemical and for avoiding possible damages to the crops or injuries to people.

DRENAGE OF THE TANK

One important operation to learn is how and where to drain the tank. All the tanks are provided with a bottom valve which can be operated in a safe way, without that the hands of the operator may get in touch with the chemical. The drained liquid has never go into the ground, but only in appropriate containers.





BOOM SPRAYERS

The sprayers can be provided of mechanical spraying boom mod. BD, BV, BI or hydraulic spraying boom mod. BDIP.

The boom is provided of painted, zinc plate or hot galvanised steel frame, stainless steel tube, nozzles with diaphragm antidrip device with cone or fan tips and filter.

SPRAYGUN

The machine can be provided of spraygun which are of different models. Every spraygun is provided of the tips which can be replaced in the time for the maintenance or to vary the delivery output of the liquid.

The delivery can vary with the pressure value of the pump, it must be changed turning the knob of the relief valve.

The tips are available with various holes which determine with the pressure the delivery of the spraygun.

Attached herewith please find the rate chart of the different tips available for sprayguns.

The tips of the sprayguns either in stainless steel or ceramic can wear out with the use and consequently need to be changed time to time because the delivery of the liquid will increase when the hole would have been enlarged by the long use.

When the delivery of the spraygun increases without a justified reason and the spraygun has a spraying not uniform, it means that the tips must be replaced.

Attached herewith please find the rate chart of the different tips available for sprayguns (see the paragraph of calibrating and rate chart).



FILTERS

The sprayer is equipped with 3 systems of filtering.

1. A large basket filter is located under the main cover, the purpose of which is to prevent that any impurity or foreign objects could get into the tank during the operation of filling it with water.
2. A main strainer is located under the tank, connected to the inlet system. The liquid is filtered before getting into the pump, which therefore will work with no risk of damages. Before the main strainer there is a shut-off valve which allows to clean the cartridge of the strainer when the tank is full.
3. More other filters are placed one for each nozzle to prevent the clogging of the tips.

All the filters are of easy access and easy to clean.

STRAINER

The sprayers is equipped with two strainers. A large filter screen is located under the tank cover and the main strainer located under the tank.

When cleaning main strainer screen, make sure to remove yellow filter shut-off valve before removing filter housing ring nut.



NOZZLES

The boom sprayer is provided of nozzles which can be adjusted to spray to different angulations.

The sprayers which are equipped with double or triple nozzles are normally used for interpolate diluted and concentrated works as are mounting one tip with large hole and one tip with smaller hole.

All the nozzles, either single, double, or triple are provided of plastic, stainless steel or ceramic tips, at cone and fan spraying: the holes and the angulations of the tips are available in different sizes.

The tips can wear out with the use and consequently need to be changed time to time because the delivery of the liquid will increase when the hole would have been enlarged by the long use.

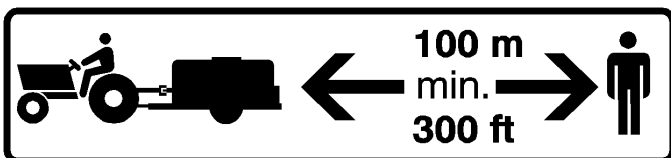
Each nozzle has a filter of stainless steel and an anti-drip device to prevent leaks at the end of the work.

DANGER AND CAUTION SIGNALS

CARRAROSPRAY
by **OXYGEN**



Please carefully read and understand the operating instruction of the operator's manual before using the machine.

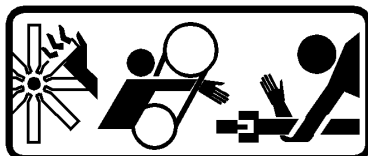


DANGER: the machine blows possibly dangerous chemical.
Keep at a safe distance from the machine.



ATTENZIONE DANGER: never get near to the PTO shaft when it is in operation.

ACCIDENTAL CONTACT COULD CAUSE DEATH !



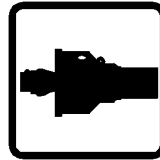
DANGER: keep hands, feet and clothes away from the moving parts.



The machine must be used only by qualified personnel.



Never run the power take-off at speed exceeding 540 R.P.M.
(revolutions per minute).

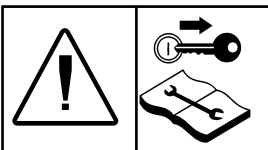


Use only drive shaft with certified safety shields.

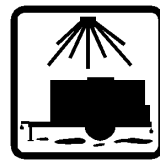


Avoid sharp angulation of drive line as this can damage the pump or the
PTO shaft of the tractor.

To stop the PTO shaft during the steering operation.



Before performing any service, stop both the machine and the tractor, verify that
both are still on the ground in a stable position and read the instructions of this
manual in the section referred to the service.



Wash the machine with plenty of water after each working phase.



If the chemical products gets in contact with eyes, hands, skin or clothes, neutralize them with suitable products and rinse with plenty of water.

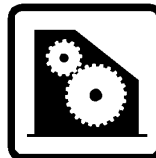


Keep clear of the machine when it is in operation.



Hitching point for lifting the machine.

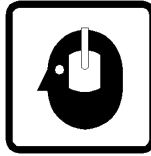
Make sure that the capacity of the vehicle used for transport is sufficient to lift the maximum weight of the machine.



Never remove safety shields when the machine is running.



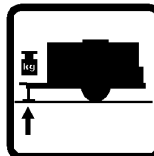
Get a thorough knowledge of the chemical products used and how it must be neutralized in case of contact with skin or eyes.



Use special goggles, boots, , overall working clothes, gloves, dust proof mask or certified helmets with filter when you spray with the sprayers.



Carry out all the maintenance operations before starting to use the machine.



Use an additional support if the stand leg of the machine lays on soft ground.

SAFETY RULES



Before using the machine, please carefully read the safety rules and the recommendations of how to prevent accidents which are described in this manual.

These rules must be strictly complied with to ensure safety of the operators and other people as well as the environment.

The Manufacturer and its Sales network will not be considered liable in the case that such rules are not complied with.

The sprayers are machines designed and built for the use of chemical products which could be very dangerous if handled or just touched by persons with no adequate skill.

Before using such chemicals, read and understand all the warnings and directions given by the manufacturer of the chemical and:

LEARN OF HOW TO ACT IF ACCIDENTALLY THE CHEMICAL WOULD BE TOUCHED BY SOMEONE OR WOULD BE SPREAD IN THE ENVIRONMENT.

BEWARE: the sprayers are machines where some parts are rotating at a very high speed, which, even if protected, are still potentially dangerous.

-Pay careful attention to warning, danger and marking signals which are both contained in this handbook and affixed to the machine.

-Any time the machine need to be serviced, the motor of the tractor must be off, the gear engaged, the hand brake pulled and the machine must be firmly parked on the ground.

-Never touch parts while they are in motion.

-It is forbidden to allow use of the machine by people under eighteen years of age or who are not competent in use of the machine.



When in operation, the sprayer blows chemical products.

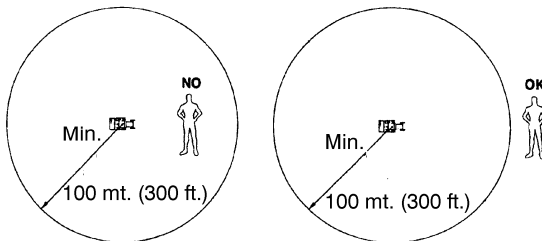
Therefore, always make sure that no persons or animals are within the reach of the machine. When making this evaluation, consider also possible wind.

Minimum distance between persons and working place: 100 Mt. (300 ft).

Never work when persons are in areas at risk.

The machine must be used by one person only who must operate it from the tractor's driver seat.

Nobody else is necessary, therefore no other persons must approach the dangerous area (Min. distance from the machine while in operation: 100 Mt. (300 ft.).



Should someone come too close to the machine, then immediately stop any operation you are carrying out and warn these persons with acoustic and light signals until they leave the dangerous area, where they could be contaminated by chemicals, overrun by the tractor or be injured by machine mechanisms. Risks due to parts that are in motion and from sudden change of the wind's direction could be unavoidable.



Warning: It is strictly forbidden to stay between the tractor and the machine when the engine is on. This can cause your death.

The operator must have a good visibility in order to check if somebody is within the dangerous area (Minimum 100 Mt.: 300 ft.).

Should this happen however, then **EVERY MACHINE OPERATION MUST BE STOPPED** until the dangerous area is free.

The spraying of chemicals need the use of: GLOVES, GOGGLES, DUST PROOF MASK OR HELMENTS, OVERALL WORKING CLOTHES.

Never wear clothes with free ends (such as belts, scarves, heads-squares, long skirts, etc.) which could drag you towards the machine parts while they are in motion.

The operator should keep all shields, of which the machine is equipped, in steady and sound conditions. After any service or repair, **all the shields must be put in the original place.**

When replacing any worn out pieces or during any other operation on the machine (which must be carried out by skilled technicians) please proceed as follows:

- make sure the engine is stopped;
- make sure that the lever of regulator valve is in by-pass position;
- in case of the need of servicing the machine from underneath, make sure that this would rest safely on proper supports, in order to prevent any accidental fall which would seriously injure someone;
- every intervention must be carried out on a clean horizontal floor.
- It is forbidden to allow use of the machine by people under eighteen years of age or who are not competent in use of the machine.
- Chemicals means danger and must be kept in containers suited for the purpose.



-Always fill the tank in the open air. Never smoke when carrying out these operations.

-Never remove caps of the tanks if the motor is running or still warm.

-If there has been any leakage of chemical, do not start the motor but shift the machine, with the motor turned off, to an area free from gas and combustible liquids before carrying out the operation.

-Never run the motor in enclosed areas. The exhaust gases contain carbon monoxide, which is an odourless and deadly poison.

-Never use the motor in thick woods, among bushes or other areas with uncultivated vegetation.

-When the machine is being used there must be no other people within a radius of 100 metres from the work area.

-Prevent involuntary switching on of the motor by removing the spark plug before carrying out maintenance jobs.

-Pull the start cord slowly until you feel a certain resistance; then pull the cord rapidly so as to avoid recoil and prevent injury to the hands and arms.

-Use freshly blended fuel. Old petrol may cause rubbery deposits in the fuel and lead to leakage.

-Check the feeding system and connections frequently to ensure there are no leaks or cracks; if necessary, replace any damaged parts.

-Never remove protection devices and guards even for a time, in particular the protective grid on the fan and protective casing on the silencer.

-Always wear suitable protective clothing, especially during preparation of the product, treatment, when cleaning the jets and filters, emptying the tank and washing the machine.



-Avoid inhaling the gases produced inside tanks.

-During treatments it is advisable to use overall working clothes, goggles, gloves, dust proof must or helmets and boots resistant to the chemicals.

-Our machines are suitable to spray the chemical to the plants and cultivations: the constant use of the chemical productsthe machine dangerous if particular care is not taken in consideration.

-Before open the package of the chemicals product to be sprayed, read carefully all the safety rules indicate in the box from the manufacturer.

GET A THOROUGH KNOWLEDGE OF THE CHEMICAL PRODUCTS USED AND HOW IT MUST BE NEUTRALIZED IN CASE OF CONTACT WITH SKIN OR EYES.

It is forbidden to touch the lever of the ii point hitch when you are sit down to the tractor's seat.

It is forbidden to operate with the lever of the II point hitch when you are in the position between the sprayers and the wheel of the tractor.

Should the machine accidentally bump into an obstacle, then proceed as follows:

-stop immediately the machine and following all the above-mentioned safety instructions.

-check the machine carefully, to be sure there are no damages.

In the case of doubts please check with the service department of an authorized dealer.

From tests made with the sprayers it resulted that the noise level close to the machine can reach 92 decibel. This means that the operator has to use appropriate noise canceling headset.

-Never use any flammable or explosive liquid, such gas or diesel fuel, oil or other hydrocarbons.



- The pump is built only for liquids foreseen for agricultural use. Running any other liquid in the pump may damage it as well as the sprayer and the environment. Refer to the manual of the pump for more information about the liquids which are allowed.

-Never exceed the maximum pressure foreseen for the pump.

-The temperature of the liquid has to be between 10 and 30 Centigrade (44° to 86° Fahrenheit).

-Before performing any service to the sprayer or to the pump, be sure to discharge all the pressure by opening the main valve so that the liquid will by-pass to the tank

-Verify that the liquid runs fluently through the by-pass hose.

-Before performing any service to the sprayer or to the pump, be sure to discharge all the pressure by opening the main valve so that the liquid will by-pass to the tank

- Verify that the liquid runs fluently through the by-pass hose.

- Never run the sprayer indoor, as both the exhaust gas of the tractor and the chemicals could pollute and poison the air, **CAUSING SEVERE INJURIES OR DEATH.**

- Any part to be replaced such hoses, valves, connectors etc. which are subject to pressure, must be original or the type approved by the manufacturer.

- Never use the pump of the sprayer for running water for human or animal use.

ATTACHMENT OF THE MACHINE TO THE TRACTOR



The attachment of the machine to the tractor is a dangerous operation.

It is recommended that such operation is carried out strictly complying with the following instructions and paying careful attention.

BEWARE: In order to attach or set the machine, any operations must be carried out with the machine laid flat, tractor on standstill, engine off, pulled parking brake and low gear inserted. Only the machine operator and the technical staff authorized by the Dealer can be there.

When working on the machine make sure nobody else is coming too close.

Make sure the tractor power is appropriate for the machine is going to be attached.

Never use tractors whose power exceeds that foreseen for the machine, as this has been tested with such power, exceeding which all machine members could suffer serious damages which are not covered by the guarantee.

The correct position of the tractor and of the machine to be attached, is established by setting the implement at such a distance from the tractor so that the PTO shaft would result extended between 5 to 10 cm (2 to 4 in.) from its maximum closed position.

Make sure that the pull capacity of the tractor, as well as its weight, are sufficient to draw the machine when this is fully loaded of liquid and ready to work. **For these important safety instructions please refer to the owner's manual of the tractor.**

Make sure that the tractor's draw hitch is provided with its original pin and that this fits perfectly in the hole of the draw bar of the sprayer. Make sure also that the pin is provided with a locking system to prevent possible disconnection of the machine from the tractor while it is operated or driven.



Consider that the mounted sprayers have a considerable weight so particular care has to be taken when driving it down hill as well if it is necessary to take a sharp curve.

In these cases the speed of the tractor has to be the lowest possible.

Check that the input shaft of the tractor would have the same size, type and number of splines as the yoke of the drive shaft on the tractor side.

Check if the RPM of the tractor's PTO are the same foreseen for the machine to be attached (normally 540 RPM).

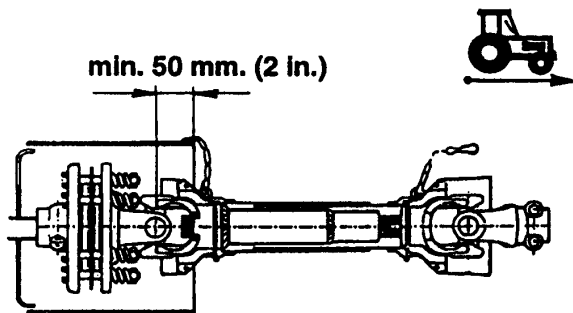
Check if the tractor's PTO rotates clockwise (please look at it from behind).



Use only the drive shaft supplied or recommended by the Manufacturer.

When mounting the drive shaft to the input shaft of the machine pay attention if there is any mark showing the tractor side and machine side (for example any limiting device like a shear bolt or a slip clutch are to be mounted on the side of the machine).

Lay the drive shaft to the appropriate holding hook to prevent that the sliding half would drop to the floor.





Link to the machine the chain which is attached to the guard of the shaft, which prevents it from rotating.

Drive the tractor close to the machine which has to be parked on flat ground, with the stand leg firmly locked and with the wheels stopped with wedges.

Check that the draw bar of the sprayer and the hitch of the tractor are on the same level.

If not, act on the handle of the stand leg to reach the same level.

(METTERE DISEGNO MANETTA GAMBA ATOMIZZATORE)

Drive the tractor on reverse until the draw bar of the sprayer and the hitch of the tractor do match.

Switch the motor off, pull the hand brake and leave a low gear engaged.

Insert the pin of the hitch into the hole of the draw bar and lock it.

Connect the drive shaft to the input shaft of the tractor, double checking again that a minimum distance of 5 to 10 cm (2 to 4 in.) is allowed to the completely closed position of the drive shaft.

Connect the anti rotation chain of the shaft guard to the tractor-side.

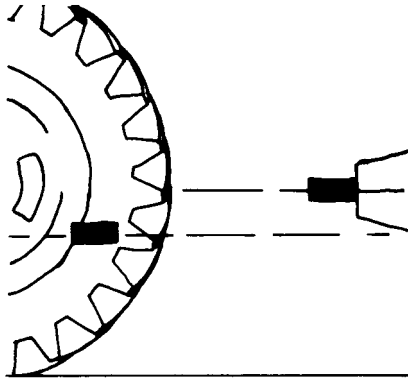
Make sure that the weight of the machine on the hitch of the tractor would not exceed the one shown on the label on the draw bar of the sprayer.

Make sure to have lifted and stored any stand leg of which the machine could be provided before moving the tractor.



CORRECT USE OF THE DRIVE SHAFT

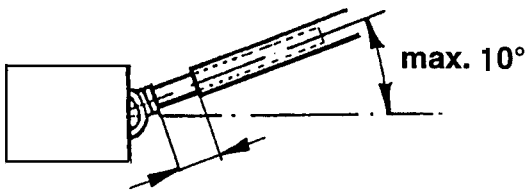
Check the working angles of the drive shaft making sure, in working position, that both input shafts of the tractor and of the machine are parallel.



Make sure that the drive shaft's angles do not exceed 10° in working position bearing in mind that wider is the angle, shorter is the life of the shaft.

In the case the sprayer needs to be used in orchards or vineyards where sharp angles have to be taken, it will be necessary to provide the machine with a constant velocity drive shaft which permits to take such sharp angles without risking to damage any transmission part..

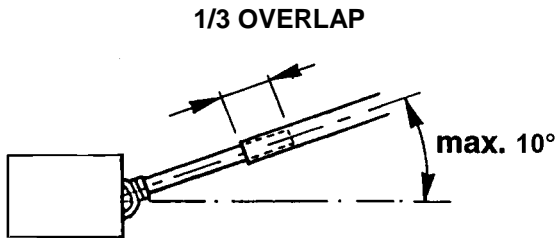
In its shortest position the shaft must allow at least 5 more cm (2 in.) to get to the completely closed position in order to avoid any possible damage.



MIN. 5 cm. (2 inch)



In its longest position the two halves of the telescoping tubes of the shaft must overlap of at least 1/3 of the their length. In the case that the drive shaft would result too short, get from an authorized dealer a new one of the same type approved by the manufacturer.



Should it be necessary to change the length of the drive shaft, it is essential, for safety reasons, that the operation is carried out by skilled technicians. Safety devices must comply with the new length.

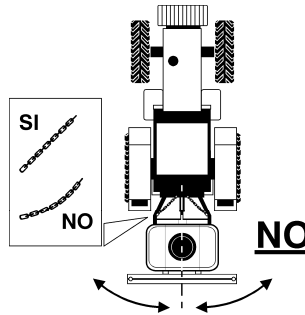
Proper equipment must be used to keep rotating parts coaxial and yokes in their original angle position.

FOR OTHER IMPORTANT INFORMATION REFERRED ABOUT THE DRIVE SHAFT, PLEASE SEE ALSO THE MANUAL SUPPLIED WITH IT BY THE SHAFT'S MANUFACTURER.

BEWARE: incorrect use of the drive shaft may cause damages to it. Such damages are excluded from warranty, event though they are caused within the warranty period. The misuse and/or abuse to the drive shaft can cause damages to the tractor, to the machine or injuries to people.



Fix lifting arms so that the machine is on the centerline and has no side oscillation.



Adjust lifting arms height: when lifted, the machine must be parallel to the ground.



Make sure at least 20% of total weight (tractor+machine working condition) lays on front axle. If not add proper ballast. However, never exceed tyres capacity.

Make sure to have lifted and stored any stand leg of which the machine could be provided.

BEFORE OPERATING WITH NEW MACHINE



1. Inspect for damage and loose or missing parts. Make sure all fittings and drive components are secure.
2. Lubricate. See Lubrication Section for details.
3. Check tank for any foreign objects.
4. Fill tank 1/2 full with clean water. DO NOT add and spray chemicals until the sprayer is started, adjusted and calibrated.

PREPARE THE SPRAYER

THE AIR BLAST SPRAYER IS A MACHINE WHICH CAN BE OPERATED ONLY BY SKILLED PEOPLE AS ARE POTENTIALLY DANGEROUS BOTH FOR THE OPERATOR AND FOR THE ENVIRONMENT IN THE CASE SOME SPECIFIC RULES WOULD NOT BE RESPECTED.

Look at the gauge placed on the pressure regulator for adjusting the pressure required.

Choose the pressure following the charts provided with the chemical and according to the quantity of product you plan to spray.

When adjusting the pressure, operate the valve very slowly to avoid possible damages on the system, like pump, hoses, connectors etc.

While using the sprayer, it could be necessary re-adjust the pressure to the required level, because some tractors may loose some power during work.

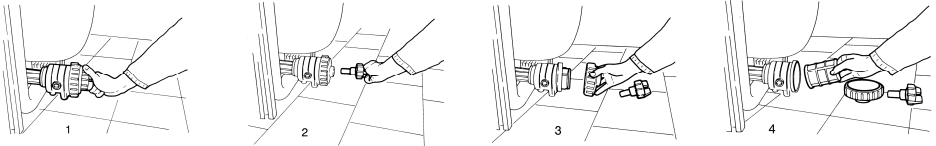
Note: the pressure varies according to the tip mounted on the nozzle



Before starting any work, it is advisable to test the unit with clean water, in order to get used to it and to the handgun and for making the fine tuning.

After having attached the machine to the tractor, make sure, once again, that the 3 Point hitch is in a vertical position and, If not, adjust it accordingly with the top link.

Close the valve (1) placed between the tank and the filter (3) and check if the cartridge (4) needs to be cleared or eventually replaced if the mesh would be damaged.



Then open the valve of the filter to allow the suction from the tank.

Do not forget to place the cartridge into its lodging after having cleaned the filter.

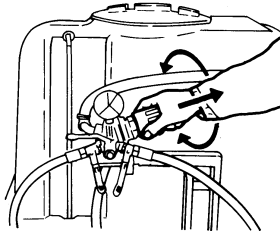
Now you can start the motor of the tractor and engage with care the PTO, accelerating slowly and being sure of not exceeding the 540 rpm.

By adjusting the pressure valve, find on the gauge the pressure you want to work with, referring to the chart herewith. It is important that the adjustment of the pressure would be made by turning the valve slowly. In fact, a sudden change of pressure could damage some component of your sprayer. once you will start to work, it may be necessary to re-adjust slightly the pressure, as some tractors, when in motion, loose some power at the PTO.

Note : the pressure varies according to the type of the tips on nozzles used.



The main valve placed by the control assembly allows either to put the system under pressure or to activate the by-pass of the liquid which will return into the tank.

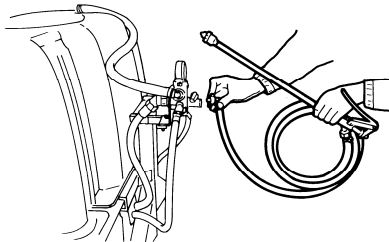


Note : Please refer also to the PUMP SECTION OF THE PUMP as the main valve may change on design.

Before using the handgun, be sure that the hose, the connectors and the handgun self, can work at the maximum pressure of the pump. The lack of respecting this rule could be very dangerous.

Check periodically the handgun, the hose and the connectors and replace immediately the parts which are defective (cracks, leaks etc.). This is very important for the safety of the operator and the environment.

It is absolutely forbidden to use hoses fixed with straps as they could easily blow out. Use only hoses with self-locking or threaded connectors. The lack of respecting these rules could cause severe damages and/or injures.





1. Ensure that the pressure regulator valve is in position of by-pass in order that the liquid return to the tank, and that the cocks valve are closed.
2. Before starting the motor, check the oil level. A sensor prevents the engine to start if the oil level is too low.
3. Ensure that the engine contains fuel for starting.
4. The sprayer must be placed on a horizontal surface.
5. Fill the tank with the chemical product compound which has been prepared beforehand, until it reaches a height about 3 cm below the bottom of the loading strainer.
6. Start the engine, following the instructions given in the chapter "Operator's instructions" on use with the engine.
7. Increase the number of motor revs by turning the throttle; for first 30 working hours do not exceed $\frac{3}{4}$ of the opening distance.
8. Lock the lever of the regulator valve at the required pressure level and check periodically if this level is maintained. Should the pressure have varied, readjust it accordingly.
9. Open the cocks valve of the nozzles or sprayguns and increase the pressure which allows perfect adjustment of the liquid flow; depending on the type of the crops: the operator must adjust the pressure in the most suitable position.
10. To stop the spraying, open the lever of the regulator valve in by-pass position and after close the cocks valves.

TEST OF USE : It is advisable spray the first treatment with clean water to check the following:

- correct work of the machine;
- correct calibration in lt/hectare of the machine;
- train yourself to become confident to all the operations you have to perform when using the machine.



FORMULA AND RATE CHART FOR CALIBRATING

The following data must be known: {

- 1) Tree spacing (swath width) in metres (m).
- 2) Tractor speed in (Km/h).
- 3) Litres per hectare desired (Lt/h).

Note: 1 hectare = 10.000 m²

[Tree spacing _ (m)] x [Speed _ (km/h) x Litres per hectare desired _ (Lt/ha)]: 600 = _ (Lt/min).

Next: _ Lt/min. _ nr. of tips = _ Lt/min each tips.

Now choose the appropriate tip and pressure setting.

• Delivery chart for single tip (Lt per minute) [Lt/min]

540 R.P.M.	CONE TIPS	Ø	BAR	3	4	5	6	10	15
	ISO ORANGE	1.0	Lt/min.	0.33	0.37	0.41	0.44	0.53	0.63
	ISO GREEN	1.2	Lt/min.	0.35	0.41	0.44	0.48	0.59	0.68
	ISO YELLOW	1.6	Lt/min.	0.47	0.53	0.59	0.63	0.76	0.89
	ISO BLUE	2.0	Lt/min.	0.72	0.82	0.91	0.98	1.3	1.5
	FAN TIPS	MOD.	BAR	1.5	2.0	2.5	3.0	3.5	4.0
	ISO YELLOW	02	Lt/min.	0.56	0.64	0.72	0.79	0.85	0.91
	ISO BLUE	03	Lt/min.	0.84	0.97	1.08	1.18	1.28	1.37
	ISO RED	04	Lt/min.	1.12	1.29	1.44	1.58	1.71	1.82

Note: any difference between values measured in the field and the values indicated in the tables may be due to various factors: viscosity of the chemical products used, differences in the tractor speed, filter not perfectly clean. It is advisable to verify capacity and consumption with clean water before the treatment. The above values are for reference only.



The tips of the spray gun, made either in ceramic or stainless steel, may wear out and need to be replaced. You have to do this when you note that the delivery has increased or the spray work is not uniform.

SPRAYGUN'S DELIVERY OUTPUT LT/MIN

CONE TIPS IN STAINLESS STEEL		PRESSURE WORKING BAR									
REF.	DIA.	5	8	10	12	15	18	20	25	30	40
0800176	1.0	1,1	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,8	3,3
0800177	1.2	1,5	1,7	2,0	2,3	2,7	3,0	3,2	3,6	3,9	4,8
0800179	1.5	2,4	2,9	3,3	3,8	4,3	4,8	5,1	5,6	6,2	7,5
0800180	1.8	4,0	4,6	5,1	5,6	6,3	6,9	7,2	8,2	8,9	10,8
0800181	2.0	5,0	5,6	6,3	6,9	7,7	8,5	8,8	10,0	11,0	13,4

SPRAYGUN'S DELIVERY OUTPUT LT/MIN

CONE TIPS IN CERAMIC		PRESSURE WORKING BAR									
REF.	DIA.	5	8	10	12	15	18	20	25	30	40
0800262	1.0	1,1	1,3	1,5	1,7	1,9	2,1	2,3	2,5	2,8	3,3
0800263	1.2	1,5	1,7	2,0	2,3	2,7	3,0	3,2	3,6	3,9	4,8
0800264	1.5	2,4	2,9	3,3	3,8	4,3	4,8	5,1	5,6	6,2	7,5
0800265	1.8	4,0	4,6	5,1	5,6	6,3	6,9	7,2	8,2	8,9	10,8
0800266	2.0	5,0	5,6	6,3	6,9	7,7	8,5	8,8	10,0	11,0	13,4
0800267	2.2	6,1	6,8	7,7	8,4	9,4	10,3	10,8	12,1	13,3	16,2
0800268	2.5	8,2	8,8	9,9	10,8	12,1	13,3	14,0	15,7	17,2	20,8
0800269	3.0	10,5	12,7	14,2	15,6	17,5	19,1	20,1	22,5	24,8	30,0

PREPARING THE CHEMICALS



WARNING: keep the products in ventilated premises with a door fitted with a lock inaccessible to children and to unauthorized persons. Place warning notices on the outside indicating the danger zone.

Before preparing the mixture to be sprayed:

1. Calculate the exact amount of the chemical product needed for the area to be treated, so as to be able to prepare the exact quantity of product to be sprayed. The chemical product must be kept in their original package, supplied with their own labels.
2. Ensure that the machine has been correctly set up and calibrated.
3. Carefully read the instruction concerning:
 - the use of the chemical product to be applied, especially as regards conditions of use and the correct preparation of the dose as shown on the package;
 - operation of the sprayer;**WARNING: when mixing the chemical products it is always necessary to check that they are physically, chemically and biologically compatible with one another;**
4. During preparation of the mixture, ensure that there are no children, unauthorized persons or animals in the vicinity, or anyone without suitable protection. Always wear protective clothing: gloves, goggles, dust proof mask or helmets, overall working clothes and boot resistant to the chemicals; do not eat, drink or smoke;
5. After preparing of the mixture, carefully wash your hand and face;
6. As soon as package that contained chemicals products have been emptied they must be washed and rinsed with clean water; the waste water must be poured into the distribution tank (tank for chemicals);
7. The empty packages must be kept inside the premises used for storing chemicals products until they can handed over the authorized collection service.

GENERAL MAINTENANCE



In order to grant a long life to the sprayer, it is very important to grant particular care to the maintenance.

The sprayer is a machine which has some components running at a very high number of revolutions per minute. The fast speed may accelerate damages if the following important points would not be respected:

- 1) DAILY check if all the bolts and nuts are tight.
- 2) DAILY check if there is any leak and repair it promptly if it is necessary.
- 3) DAILY check the tension of drive belts.
- 4) NEVER run the sprayer without having first checked that all shields are in place.
- 5) BEFORE starting to work verify if all the lubrications have been made according to the instructions.
- 6) DAILY rinse the hydraulic circuit of the sprayer with clean water to avoid sediments which could damage the pump, the valves etc.

Any of the above operations have to be performed only with the motor of the tractor off, a low gear engaged and the parking brake inserted.

CLEANING AND STORAGE

1. Wash and flush out sprayer after completion of each phase of your spraying program.
2. Flush out sprayer when changing chemicals if there is a possibility of incompatibility.



3. Clean sprayer very thoroughly before storing at the end of the spraying season. If you are in a cold climate, final rinse should be with a sufficiently concentrated antifreeze to prevent freeze-up in areas that were not thoroughly drained.
4. Check sprayer over for needed repairs before time to spray again.
5. Preparing the sprayer for use in the Spring means to complete all the needed repairs, installation of all drain plugs and checking sprayer for leaks with a tank of water.

HOW TO AVOID ICE IN THE SPRAYER

- Never leave any liquid into the sprayer during the winter.
- Empty the tank by opening the bottom plug.
- Empty the pump and the hoses by blowing air under pressure from the suction hose, to allow the liquid to get out from the side of the bottom strainer (which will have been opened before).
Alternatively, if you do not have compressed air, run the pump for a few minutes to allow any liquid to get out.
- A further step to take to prevent ice, particularly in cold regions, is to fill the pump and all the hydraulic circuit, with anti freeze fluid.

CLEAN AND MAINTENANCE OF THE MACHINE



Since the sprayer is always in contact with chemical products, **BE SURE TO USE ALWAYS APPROPRIATE GLOVES, PROTECTIVE CLOTHING AND GOGGLES** to avoid burns or injuries when doing any work on the machine.

- After any day of work, the sprayer has to be appropriately washed and rinsed inside. When doing this operation be sure of not polluting the environment with the water used for washing.

- The tank need to be rinsed inside also when it is necessary to change the type of chemical to be sprayed.

- At the end of the working season, the machine has to be cleaned throughout and any part has to be checked accurately to verify the need of any repair or maintenance.

In areas where the winter may be cold, be sure that all the parts of the sprayer are completely dry to prevent the risk that ice could damage some components, particularly the pump and the valves.

- At the beginning of the new season. double check again the need of any repair, particularly double check if everything is tight and there are no leaks. Verify if the hoses are in good sound conditions. Should you note cracks, replace immediately the hoses with new ones, to prevent the risk of possible blow up when the sprayer will go under pressure.

- All the tests at the beginning of the season have to be carried with clear water.



The pump has been tested before getting out from the line of production and therefore it is ready to work. Before starting to work, it is anyhow advisable to check the oil level and all the fittings, as well as if the bolts which hold it to the sprayer are all tight.

The oil level need to be verified daily, or more frequently if the sprayer would be working in heavy conditions.

The oil reservoir has never to be completely full. The oil level has to be about at the middle of the glass.

The oil to be used is of the type anti-foam SAE 20 W 40.

The oil of the pump needs to be replaced at the end of every season or at least every 500 hours of work.

Some pumps are provided with an accumulator to control the pressure, in order to avoid vibrations and pulsation.

The pressure of the accumulator has to be checked periodically with a gauge. The correct pressure setting of the accumulator is shown on the manual of the pump and, as reference it has to be the 10% of the pressure used for working.

For any more information about the pump, read and understand the manual of the pump.

DIAPHRAGM AND VALVE REPLACEMENT

1. Valve and O-ring Replacement.

- Occasionally debris can cause the valves to not seat properly or damage the o-ring. To check for this problem, follow these steps : remove the pump manifold (see parts list for your model), with manifold removed, valves can readily be removed and checked for debris or wear.

-To replace valves or O-rings, refer to parts list for appropriate kits.



2. Diaphragm Replacement.

-Drain the oil from the pump by removing drain plug. Rotate the shaft to remove excess oil.

-Remove the pump manifold according to step in Section 1 : valve and O-ring Replacement.

-Remove pump heads to expose the diaphragms.

-Use a 13 mm box wrench to remove the diaphragm retaining bolt, support washer and diaphragm.

To replace diaphragms order appropriate repair kit. See parts list.

-Turn the crankshaft to bring the piston to its down stroke and seat the new diaphragm into the sleeve groove. Install retaining washer and tighten nut.

-Refill crankcase with SAE 20 W 40 oil. Rotate the shaft to distribute oil and fill to proper level.

LUBRIFICATION



Particularly when the machines are used in dusty areas, it may be necessary to clean and grease again frequently the rotating parts to prevent excessive wear.

The use of some chemical products may also require a particular attention to the lubrication because the oil and grease could be degraded.

DRIVE SHAFT

Even if the drive line is lubricated at the time when it is manufactured, it is advisable to grease it again before the use. The parts which need to be greased are the spiders and the telescoping tubes.

The spiders need to be greased every 8 hours of working and before a long period of inactivity as the grease could have dried out.

Particularly when the machine is used in dusty areas, it may be necessary to clean and grease again frequently the telescoping tubes to prevent excessive wear.

The use of some chemicals may also require a particular attention to the lubrication of the drive shafts as the grease could be degraded.

For any other information about the drive shaft, please refer to the manual supplied with it.

THE GREASE USED FOR LUBRICATING THE DRIVE SHAFT IS SAE 90.

SPRAYING BOOM

The mechanical or hydraulic boom are provided of point of articulation, gear, levers, etc...which must be lubricated periodically at least every 100 hours.

THE GREASE USED FOR LUBRICATING THE BOOM IS SAE 90.



MECHANICAL AGITATION

When the sprayer is provided of mechanical agitation, it is necessary to lubricate every 8 hours, the brass nut which holds the stainless steel shaft of the agitator.

The brass nut contains a gasket which prevents leaks along the shaft which needs to be greased periodically.

Where there is a leak also after the lubrication and the nut is been fixed a little bit and there is no seal, this means that the gasket needs to be replaced.

FOR LUBRICATING USE GREASE SAE 90.



Before driving the tractor with the machine on the road, make sure there no leaks of chemical products or water and take note as follows:

- ensure on the rules in force are complied with
- total length of the convooy (sprayers and tractor);
- overall width;
- axle load;
- lifting capacity;
- rear lights and refractive signals;
- brake efficiency;
- whatever else the rules of the road provide for;

It is strictly forbidden to transport persons, animals or goods on the machine.

Operators that are: not of age, without driving license, unskilled ad not in good physical or mental health conditions, cannot drive the tractor or be entrusted with driving it.

Please consider that a 3 point mounted implement can have serious influence on readability, drive and braking efficiency of a tractor. When tractor takes a curve, the side stress varies considerably as a function of the center of gravity.

Before parking the tractor, please proceed as follows:

- lower to the ground the machine attached to the 3 point hitch;
- turn off engine;
- set on parking brake;
- take the ignition key out of the console;

Farm machines are manufactured for field work.

Should they be driven on public roads, then they must be equipped as provided for by Rules in force.

During road transportation with the machine attached to the 3 point hitch, be sure that the hydraulic lift system would be in the stable locked position.

TRANSPORT



Check if the vehicle's capacity is adequate to the weight of the machine which is indicate in the serial label fitted to the frame of the sprayer.

WARNING: the weight indictaed in the serial nr. label is referred to the machine a full load with the liquid.

Make sure to respect the limits foreseen by the rules of road circulation.

Adequately fasten the machine and detached parts.

It is advisable to transport the sprayer always with the tank completely empty and clean. Make sure of not spilling anything on the truck and/or on the road.

Make sure to respect the limits foreseen by the rules of road circulation.

When transporting the machine over short or long distances, it is advisable to drain the fuel tank and chemicals tank completely so as to avoid leakage.

During transport the machine should always be kept in a natural position, as there is always some residue of fuel in the tank which could leak out and impregnate and/or damage the components of the sprayer and in order to respect the enviroment.

WARNING: before transporting the machine, wait until the motor unit has cooled down so as to avoid burning yourself or damaging material in the vicinity of the machine.

It is advisable top avoid lifting the sprayer in other points such as the tank, pump, regulator valve or spraying units like nozzles, hoses, as this could break or damage some of the components.

Be careful to lock accurately the machine to the truck or pick-up to avoid unnecessary and/or dangerous movements during the transit. Check all the parts which may get loose and lock them accordingly.



PROBLEM	CAUSE	REMEDY
The pump does not draw water.	<ul style="list-style-type: none"> -One or more valves are seating improperly. -Suction line is plugged or collapsed. -Clogged strainer. 	<ul style="list-style-type: none"> -Examine the valve seating and clean them. -Examine suction line. -Clean strainer.
Pressure gauge fluctuates excessively.	<ul style="list-style-type: none"> -The pump is sucking in air through the suction union. -Air has not been entirely evacuated from the pump. -Locked valves. -Leaks from gasket. 	<ul style="list-style-type: none"> -Examine the suction hose and suction union, make sure they are firmly secured. -Run the pump with the outlet hose open to evacuate air from the pump. -Clean or replace the valves. -Clean or replace the gaskets.
The liquid flow is irregular.	<ul style="list-style-type: none"> -One or more valves are seating improperly. 	<ul style="list-style-type: none"> -Examine the valve seating and clean them or replace them.
Output drops and the pump is noisy.	<ul style="list-style-type: none"> -Oil level is too low. 	<ul style="list-style-type: none"> -Add oil to correct level (half way up the sight tube).
Oil comes out of the discharge port and water in the oil tank.	<ul style="list-style-type: none"> -One or more diaphragms split. 	<ul style="list-style-type: none"> -Drain the pump of oil. Dismantle the heads and fit new diaphragms. Fill to correct oil level with motor oil (SAE 20W40 See pump suction).
Water is pumped at little or no pressure.	<ul style="list-style-type: none"> -The sealing valve on the pressure control valve is worn. 	<ul style="list-style-type: none"> -Renew washer and, if necessary, the valve seat.

GUARANTEE



GUARANTEE CONDITIONS

-the manufacturer guarantees that the machine described in the guarantee certificate is free from faults and defects deriving from materials and production.

-the wrong use of the machine, any unauthorized modification of it, the use by inexperienced persons, negligence, lack of servicing, the use of non-original parts, etc..., will take off the guarantee right.

-the manufacturer guarantees the machine for 12 months from the date of delivery to the final consumer. Within this period the company undertakes to repair or replace free of charge any parts that present recognized defects in construction.

The absence of a sure demonstration of the purchase date brings the loss of the guarantee rights.

-All charges for labour and inspection are the buyer's expense, as are any costs incurred for sending spare parts. Any services requested from the manufacturer may be accepted or rejected at the company's discretion.

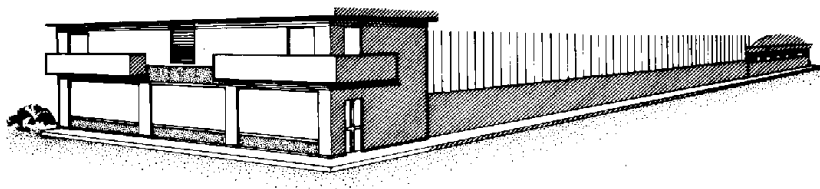
-All spare parts changed under guarantee must be sent, carriage paid, to the head office of the manufacturer within a maximum period of 30 days, on pain of invalidity of the guarantee.

-Any repairs or replacement carried out or any tampering with the machine during the guarantee period without the authorization of the manufacturer cause the guarantee to become invalid.

-The guarantee does not cover the parts which have been damaged due to insufficient maintenance or incorrect use. In no case may the buyer claim refunds for damages of any kind, arising in any way as a result of use of the machine.

-Any replaced part claimed under guarantee will be regularly invoiced. The charge sum will be then credited later, after the part considered faulty will have been inspected by our technical department or by authorized personnel.

CARRAROSPRAY
by **O.C.L.L.**



O.C.L.L. SRL

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rev. 06_11_2013

GB**WARRANTY**

Our products are guaranteed for a period of 12 months after the date of delivery. Warranty will not be acknowledged if the products are not used according to the manufacturer's instruction or are badly maintained. Always ask for original Spare-parts, otherwise warranty will not be acknowledged.

F**GARANTIE**

Nos produits sont garantis pour 12 mois à partir de la date de livraison. Aucune garantie ne sera reconnue, suite au mauvais entretien ou emploi anormal des produits. Pour tous vos besoins de pièces de rechange, demandez toujours les rechanges originaux. Au contraire, aucune garantie ne sera reconnue.

D**GARANTIE**

Die Firma gewährt eine Garantie von 12 Monaten, gerechnet vom Lieferdatum. Zweckfremder Einsatz und/oder nachlässige Wartung schließen jede Garantie aus. Im Bedarfsfall immer Original-Ersatzteile von der Firma anfordern. Anderenfalls kann keine Garantie gewährt werden.

E**GARANTIA**

Nuestros productos están garantizados por 12 meses desde la fecha de la entrega. Ninguna garantía será reconocida por malo mantenimiento o por uso incorrecto de los productos. Pidan siempre repuestos originales. En caso contrario no se reconocerá ninguna garantía.

I**GARANZIA**

I nostri prodotti sono garantiti per mesi 12 dalla consegna. La Ditta si assume la responsabilità per tutti quei particolari che presentassero difetti di materiale o di lavorazione. Non è riconosciuta la garanzia per cattiva manutenzione, anormale impiego e per quelle parti non costruite dalla Ditta. Le riparazioni dovranno essere effettuate presso la fabbrica o da personale autorizzato. Nello stesso istante in cui i prodotti saranno manomessi da terzi, ogni garanzia sarà ritenuta scaduta. Per ogni verifica i prodotti dovranno essere inviati in Porto Franco. Nel caso di effettiva necessità di sostituzione di particolari sarà addebitato il solo costo della mano d'opera. Per il vostro fabbisogno di ricambi chiedete sempre ricambi originali. In caso diverso non sarà riconosciuta alcuna garanzia.





















Numero per ordini telefonici:

(+39) 059.41.4.411

Numero per ordini con fax:

(+39) 059.253.505

Prescriptioni per Montaggio**Prescription for Assembly**

	Avvitare con Loctite 2701 Finafilletti FORTE (Verde) Screw down with Loxal 83-21 STRONG (Green) thread sealer
	Incollare con Biadesivo acrilico VHB-3M 4945 Glue with VHB-3M 4945 acrylic biadhesive
	Stigliare con Arexons MOTORSIL D Seal with Arexons MOTORSIL D
	Stigliare con Arexons Mastice Seal with Arexons Filler
	Stigliare con Arexons PIK Seal with Arexons PIK
	Spruzzare un velo di Molykote D-321R Spray Spray on a light coat of Molykote D-321R
	Incollare con Loctite 454 Glue with Loctite 454
	Avvitare con Loxal 24-18 Finafilletti DEBOLE (Porpora) Screw down with Loxal 24-18 WEAK (Purple) thread sealer
	Avvitare con Loxal 55-14 Finafilletti MEDIO (Rosso) Screw down with Loxal 55-14 MEDIUM (Red) thread sealer
	Avvitare con Loxal 83-21 Finafilletti FORTE (Verde) Screw down with Loxal 83-21 STRONG (Green) thread sealer
	Montare a caldo con RISCALDATORE Assemble hot with HEATER
	Montare con PRESSA Assemble with PRESS
	Lubrificare con GRASSO MINERALE Lubricate with MINERAL GREASE
	Lubrificare con OLIO MOTORE Lubricate with ENGINE OIL
	Coppia serraggio Tolleranza +0/-10% Nm Tightening torque tolerance +0/-10% Nm
	Lubrificare con GRASSO P40 Lubricate with P40 GREASE
	Lubrificare con GRASSO Molykote 1000 Lubricate with Molykote 1000 GREASE
	Lubrificare con GRASSO Molykote PG54 Lubricate with Molykote PG54 GREASE
	Avvitare con Loctite 5331 (Bianca) Screw down with Loctite 5331 (White)
	Lubrificare con GRASSO Molykote G807 Lubricate with Molykote G807 GREASE

Characteristics and descriptions are not binding. - Données descriptives et illustrations n'engagement pas le constructeur. - Angaben, Beschreibungen, und Illustrationen sind nicht verbindlich. - Noticias y ilustraciones no son empesativas. - Os dados, descrições e ilustrações são fornecidos a título informativo e não comprometem o fabricante. - Dati, descrizioni ed illustrazioni sono forniti a titolo indicativo e non impegnativo.



ANNOVI REVERBERI
The Power of Experience

Member of



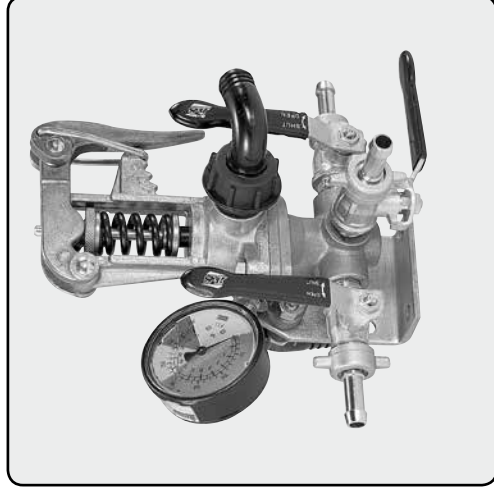
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Control Units

Groupes de commande

Bedirnungsmarmaturen

Grupo de mando

Gruppi comando

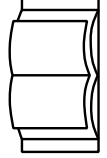
TECHNICAL DATA / DONNEES TECHNIQUES / TECHNISCHE ANGABEN

CARACTERISTICAS TÉCNICAS / CARACTERÍSTICAS TÉCNICAS / CARATTERISTICHE TECNICHE

CONTROL UNITS GROUPES DE COMMANDE BEDIENUNGSARMATUREN GRUPOS DE MANDO GRUPPI COMANDO	OUTPUT DEBIT LEISTUNG CAUDAL PORTATA		PRESSURE PRESSION DRUCK PRESION PRESSIONE		N. VALVES N. ROBINETS N. VENTILEN N. ROBINETS N. RUBINETTI	WEIGHT POIDS GEWICHT PESO PESO
	l/min	gpm (US)	bar	psi		
GI 40 RM 40	80	21,1	40	580	2 (+1) 2 (+1)	1,6 1,6
	80	21,1	40	580		



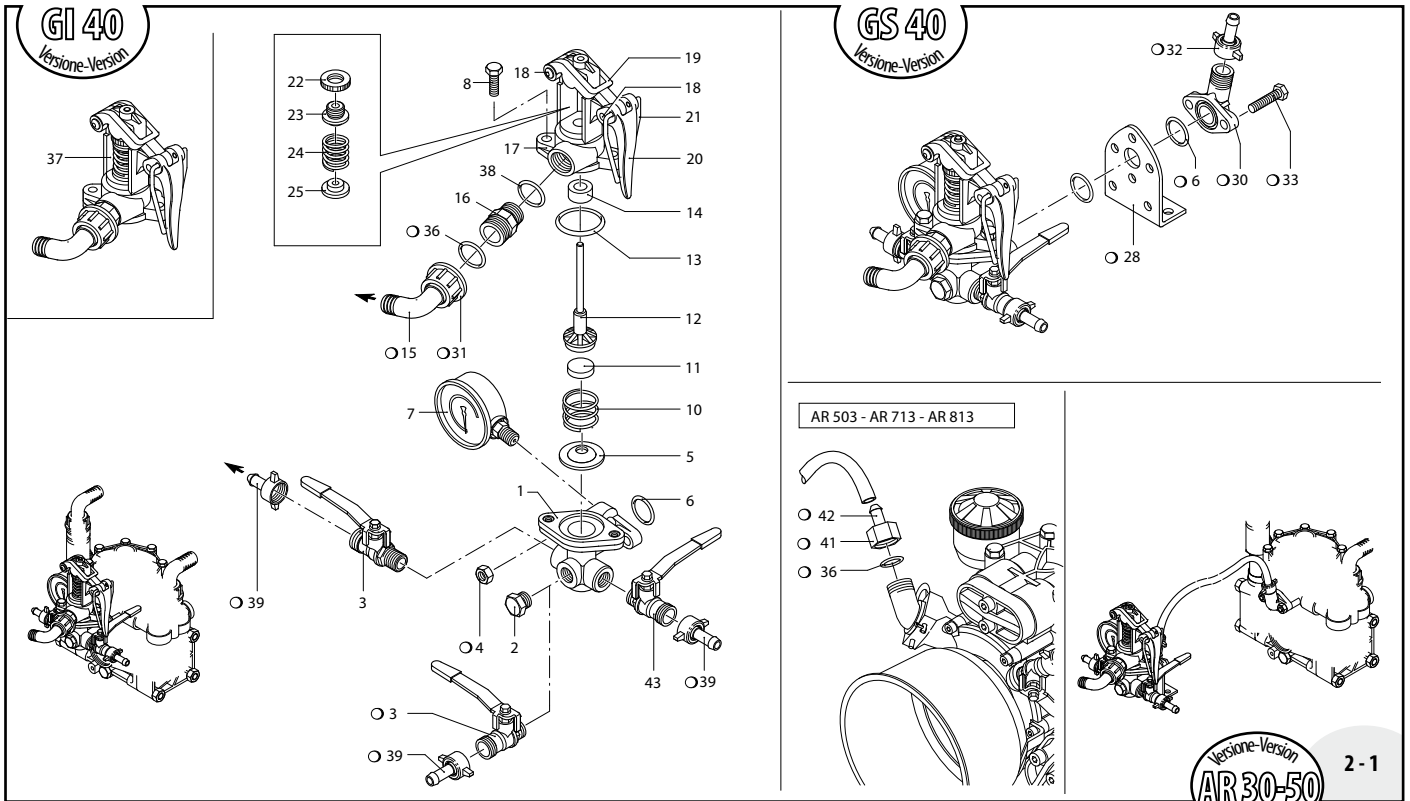
ATTENTION: This manual must be read before beginning installation of the unit.
ATTENTION: Ce livret doit être lu avant d'installer et d'employer le produit.
ACHTUNG: Das vorliegende Handbuch ist vor der Installation und dem Gebrauch des Produkts aufmerksam zu lesen.
ATENCIÓN: Este manual debe ser leído antes de proceder a la instalación y uso del producto.
ATENÇÃO: Este manual deve ser lido antes de proceder à instalação e ao uso do produto.
ATTENZIONE: Il presente libretto va letto prima di procedere all'installazione ed uso del prodotto.



ANNOVIREVERBERI

GI 40

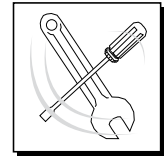
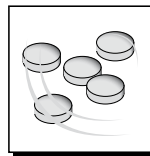
628650



SL000113-GY

Pos	Cod.	Descrizione	Description	Q.ty	Note
1	620220	Gruppo comando	Control unit	1	
2	130171	Tappo 3/8" G	Plug	1	⊕ C ₂₀
3	130491	Rubinetto 3/8" G - 1/2" G M-M DX	Cock	2	⊕
4	390270	Dado M8	Nut	2	C ₂₀
5	450110	Sede	Seat	1	
6	550350	Guarnizione OR Ø 23,81X2,62	O-ring	2	
7	550545	Manometro	Pressure gauge	1	0-80 bar ⊕
8	180370	Vite TE M8x25	Screw	2	C ₂₀
10	320420	Molla	Spring	1	
11	110121	Pastiglia	Plug	1	Vulkolan
11	110120	Pastiglia	Plug	1	Gomma
11	110122	Pastiglia	Plug	1	Viton
12	320433	Funghetto completo	Stem	1	
13	320511	Guarnizione OR Ø 37,8x4	O-ring	1	
14	390140	Guarnizione	Gasket	1	
14	390141	Guarnizione	Gasket	1	Viton
15	550460	Curva Ø 18	Elbow	1	o
16	550440	Raccordo 1/2" G - 3/4 G M-M	Fitting	1	
17	320410	Castello valvola	Body valve	1	
18	320480	Perno	Hub pin	2	
19	320460	Forcella	Fork	1	
20	320470	Leva	Lever	1	
21	320490	Supporto	Support	1	
22	320450	Piattello	Wobble plate	1	
23	320440	Ghiera	Ring nut	1	
24	110190	Molla	Spring	1	
25	230120	Piattello	Wobble plate	1	
28	320406	Staffa	Bracket	1	o
30	450145	Flangia	Flange	1	o
31	550450	Girello 3/4" G	Ring nut	1	o
32	110130	Girello 1/2"	Ring nut	1	o
33	160660	Vite TE M8x35	Screw	2	o C ₁₀
36	880830	Guarnizione OR Ø 15,54x2,62	O-ring	2	o
37	1923	Kit valvola regolazione	Valve kit adjustment	1	
38	180101	Guarnizione OR Ø 17,5x2	O-ring	1	
39	110131	Girello 1/2"	Ring nut	3	o
41	1040790	Girello 3/4" G	Ring nut	1	o
42	1150580	Portagomma Ø 13	Hose tail	1	o
43	130492	Rubinetto 3/8" G - 1/2" G M-M SX	Cock	1	⊕

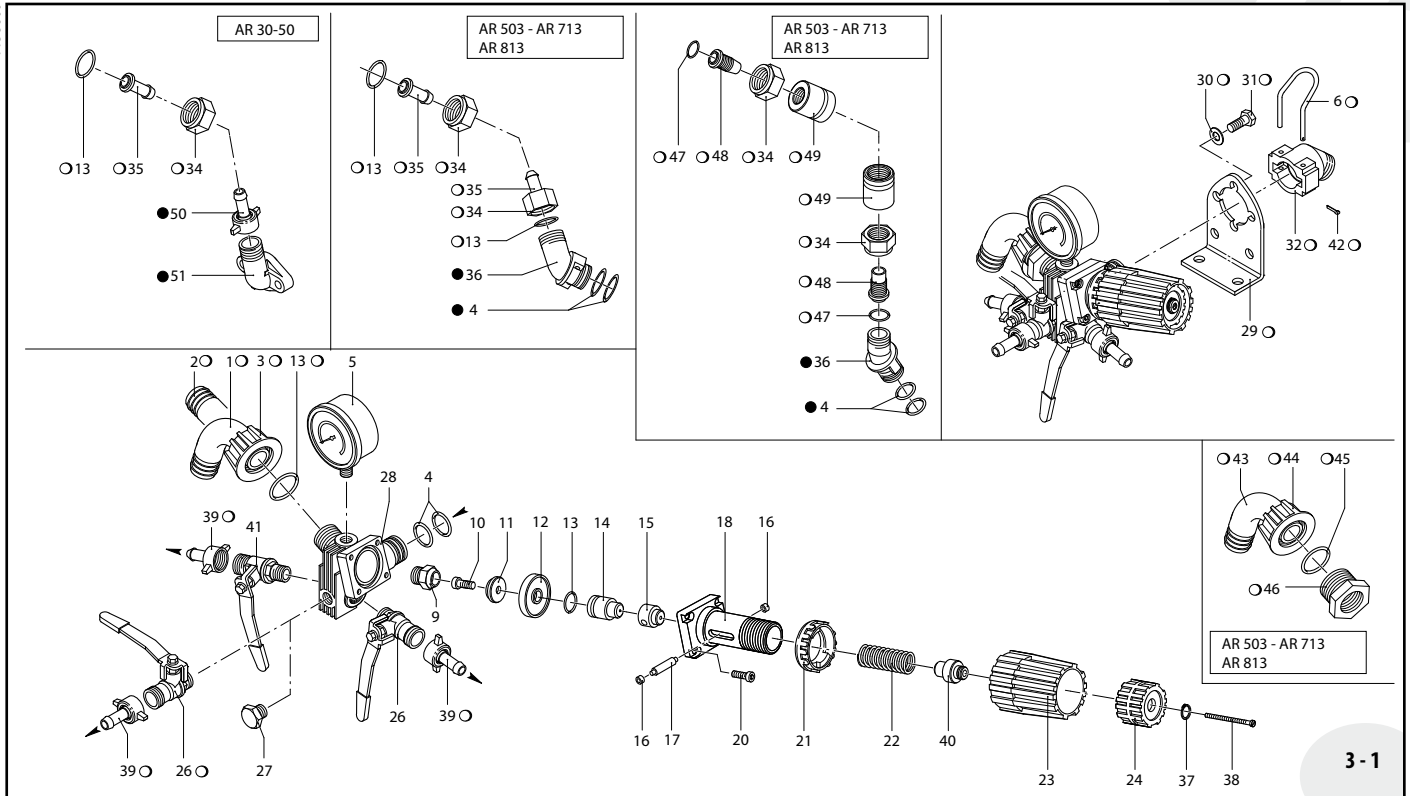
o Non compreso nel GI 40 - No part of GI 40



KIT 1921 Pastiglie gomma Buna valve seats		KIT 1922 Pastiglie Vulkolan Vulkolan valve seats		KIT 1925 Pronto intervento Maintenance repair			
Pos.	Q.ty	Pos.	Q.ty	Pos.	Q.ty	Pos.	Q.ty
11	5	11	5	5	1		
				10	1		
				11	1		
				12	1		
				13	1		
				14	1		

RM 40

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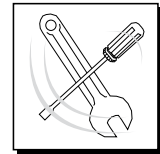
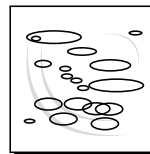
3 - 1

UN000493-GF

Pos	Cod.	Descrizione	Description	Q.ty	Note
1	550460	Curva Ø 18	Elbow	1	
2	800343	Portagomma Ø 20	Hose tail	1	Optional
	800342	Portagomma Ø 16	Hose tail	1	Optional
3	550450	Girello 3/4" G	Ring nut	1	
4	390180	Guarnizione OR Ø 18,72x2,62	O-ring	4	▶
5	550545	Manometro	Pressure gauge	1	0-80 bar ⊕
	1151010	Manometro Isometrico	Pressure gauge	1	0-50-80bar ⊕
6	1040690	Forcella	Fork	1	
9	1150520	Sede	Seat	1	■
10	680560	Vite TCEI M6x16	Screw	1	Inox ⊕ C ₁₀
11	1040640	Valvola	Valve	1	Inox
12	1040630	Membrana	Diaphragm	1	Desmopan
	1040631	Membrana	Diaphragm	1	NBR
13	880830	Guarnizione OR Ø 15,54x2,62	O-ring	4	▶
14	1040621	Pistone	Piston	1	
15	1150560	Distanziale	Spacer	1	
16	1150600	Anello	Ring	2	
17	1150540	Perno	Hub pin	1	
18	1150510	Corpo superiore	Body	1	⊗
20	780330	Vite TCEI M6x20	Screw	4	C ₁₀
21	1150530	Ghiera	Ring nut	1	⊗
22	394760	Molla	Spring	1	⊗
23	1150550	Manopola	Knob	1	
24	1150570	Ghiera	Ring nut	1	
26	130491	Rubinetto 3/8" G - 1/2" G M-M DX	Cock	2	⊕
27	130171	Tappo 3/8" G	Plug	1	■
28	1150500	Corpo valvola	Valve body	1	
29	1150590	Staffa	Bracket	1	
30	390311	Rondella	Washer	2	
31	180431	Vite TE M8x16	Screw	2	C ₂₀
32	1040770	Raccordo	Fitting	1	
34	1040790	Girello 3/4" G	Ring nut	2	
35	1150580	Portagomma Ø 13	Hose tail	2	
36	1040760	Raccordo 3/4" G M	Fitting	1	
37	480550	Anello seeger Øe 12	Ring	1	
38	1150650	Vite TCTC M3x60	Screw	1	⊕ C ₅
39	110131	Girello 1/2"	Ring nut	3	
40	1150660	Distanziale	Spacer	1	
41	130492	Rubinetto 3/8" G - 1/2" G M-M SX	Cock	1	⊕
42	1040950	Copiglia	Split pin	1	
43	550370	Curva Ø 25	Elbow	1	

Pos	Cod.	Descrizione	Description	Q.ty	Note
44	550242	Girello 1" G	Ring nut	1	
45	550350	Guarnizione OR Ø 23,81x2,62	O-ring	1	
46	800720	Raccordo 3/4" G - 1" G F-M	Fitting	1	⊕
47	960160	Guarnizione OR Ø 17,86x2,62	O-ring	2	▶
48	1040810	Portagomma	Hose tail	2	
49	1040800	Ghiera	Ring nut	2	
50	110130	Girello 1/2"	Ring nut	1	
51	450145	Flangia	Flange	1	

○ Non compreso nel RM 40 - No part of RM 40
● Compreso nella pompa - Part of pump



KIT 1988 OR O-Rings			
Pos.	Q.ty	Pos.	Q.ty
4	2		
13	4		

KIT 1989 Pronto intervento Maintenance repair			
Pos.	Q.ty	Pos.	Q.ty
4	2	23	1
6	1	24	1
9	1	37	1
11	1	38	1
12	1	40	1
13	4	42	1
15	1		
17	1		
21	1		
22	1		



DESCRIPTION AND USE

The control unit is designed for regulating working pressure in the distribution of sprayed liquids. Numbers in the text refer to the exploded view of the product.

INSTALLATION ON PUMP

1. Lubricate and install the O-rings on the body and attach the body to the pump outlet line.
2. Connect the drain port to the tank directly without intermediate flow restriction elements.
3. Connect the high pressure hoses to the outlet valves.

REMOTE INSTALLATION

1. Firmly secure the mounting bracket.
2. Lubricate and install the O-rings on the body and fit the latter to the coupling.
3. Connect the quick couplings to the high pressure line from the pump and then connect to the pump outlet.
4. Connect the drain to the tank directly, without flow restriction elements.
5. Connect the high pressure hoses to the outlet valves.

USE FOR RM 40

1. Refer to the pump user handbook.
2. Check for possible leaks in the hydraulic circuit from connections and unions by circulating water through the system.
3. Rapid drain to tanks commanded by turning the front coupling (21) to the right. Turn the coupling to the left to connect the outlets port to the users.
4. Use knob (23) to regulate working pressure: turn clockwise to increase pressure (+) / counter clockwise to decrease (-).
5. When you finish work flush the control unit with water to remove any internal deposits of aggressive products.

USE FOR GI 40

1. Refer to the pump user handbook.
2. Check for possible leaks in the hydraulic circuit from connections and unions by circulating water through the system.
3. Fit the connecting rod (21) in each of the four notches until you identify the one that gives the desired working pressure. If the pressure must be altered only slightly, use the adjustment plate (22).
4. When you finish work flush the control unit with water to remove any internal deposits of aggressive products.



SAFETY INSTRUCTIONS

This manual must be stored carefully. Read and follow the following safety instructions:

- Do not use the unit with flammable liquids, or liquids with characteristics not compatible with the correct functioning of the unit.
- The installation of the unit must be carried out by qualified staff.



DESCRIPTION ET MODE D'UTILISATION

L'unité de commande régle la pression d'utilisation dans la distribution du liquide d'arrosage. Les chiffres rappelés dans le texte correspondent aux repères sur l'état.

MONTAGE SUR LA POMPE

1. Lubrifier et monter les joints toriques sur le corps de la pompe en plaçant ce dernier dans le conduit de refoulement de la pompe.
2. Raccorder le retour directement à la citerne, sans étranglements.
3. Raccorder les tuyaux HP aux robinets en sortie.

MONTAGE A DISTANCE

1. Monter solidement la bride.
2. Lubrifier et monter les joints toriques sur le corps de la pompe en plaçant ce dernier dans la fixation.
3. Assembler les raccords rapides au tube HP de raccordement avec la pompe, puis brancher au retourment de la pompe.
4. Raccorder la décharge directement à la citerne, sans étranglements.
5. Raccorder les tuyaux HP aux robinets en sortie.

MODE D'UTILISATION POUR RM 40

1. Suivre les instructions de fonctionnement de la pompe.
2. Contrôler les fuites éventuelles du circuit hydraulique à la hauteur des jonctions et des raccords, en faisant circuler de l'eau.
3. La rotation à droite de l'accouplement frontal (21) commande le retour (ou décharge) rapide au réservoir. Vice versa, sa rotation à gauche alimente les sorties vers les utilisations.
4. La poignée (23) règle la pression d'utilisation: une rotation dans le sens des aiguilles d'une montre augmente la pression (+); une rotation dans le sens contraire diminue la pression (-).
5. Laver l'unité de commande entièrement à l'eau après le travail. Veiller à éliminer toute stagnation de produits agressifs.

MODE D'UTILISATION POUR GI 40

1. Suivre les instructions de fonctionnement de la pompe.
2. Contrôler les fuites éventuelles du circuit hydraulique à la hauteur des jonctions et des raccords, en faisant circuler de l'eau.
3. Régler la pression par l'engagement du tirant (21) dans l'une des quatre encoches jusqu'à trouver la bonne pression d'utilisation. Pour modifier légèrement la pression, agir sur le plateau de réglage (22).
4. Laver l'unité de commande entièrement à l'eau après le travail. Veiller à éliminer toute stagnation de produits agressifs.



INSTRUCTIONS DE SÉCURITÉ

Conservier ce manuel avec le plus grand soin. Lire et respecter les instructions de sécurité ci-dessous:

- Ne pas utiliser le produit avec des fluides inflammables ou ayant des caractéristiques incompatibles avec le fonctionnement correct du produit lui-même.
- L'installation du produit doit être effectuée par un personnel qualifié.



BESCHREIBUNG UND GEBRAUCH

Das Steueraggregat dient zur Einstellung des Betriebsdruckes bei der Verteilung des Sprühmittels. Die in Klammern angegebenen Zahlen beziehen sich auf die Explosionszeichnung des Produkts.

PUMPENMONTAGE

1. Die O-Ringe schmieren und an den Körper anbringen, danach den Körper druckseitig an die Pumpe anschließen.
2. Die Abfuhrleitung direkt, ohne Drosselstellen, an den Tank anschließen.
3. Die Hochdruckleitungen an die Auslaßventile anschließen.

FERNMONTAGE

1. Den Bügel fest anbringen.
2. Die O-Ringe schmieren und an den Körper anbringen, danach den Körper in den Anschluß stecken.
3. Die Schnellanschlüsse an die Hochdruckleitung zum Pumpenanschluß anbringen, danach druckseitig an die Pumpe anschließen.
4. Die Abfuhrleitung direkt, ohne Drosselstellen, an den Tank anschließen.
5. Die Hochdruckleitungen an die Auslaßventile anschließen.

GEBRAUCH FÜR RM 40

1. Siehe Betriebsanleitung der Pumpe.
2. Durch Wasserzirkulation überprüfen, ob im Hydraulikkreis an den Anschlüssen bzw. Verbindungen Leckstellen bemerkbar sind.
3. Bei Rechtsdrehung des Frontelements (21) wird der Schnellablaß in den Tank freigegeben, bei Linksdrehung werden die Verbraucher versorgt.
4. Durch den Handgriff (23) läßt sich der Betriebsdruck einstellen. Beim Drehen im Uhrzeigersinn wird der Druck erhöht (+), beim Drehen gegen den Uhrzeigersinn verringert (-).
5. Nach dem Betrieb ist das Steueraggregat mit Wasser auszuspülen, um Rückstände aggressiver Produkte zu entfernen.

GEBRAUCH FÜR GI 40

1. Siehe Betriebsanleitung der Pumpe.
2. Durch Wasserzirkulation überprüfen, ob im Hydraulikkreis an den Anschlüssen bzw. Verbindungen Leckstellen bemerkbar sind.
3. Zur Druckregelung der Zugbolzen (21) in eine der vier Kerben bis zum Erreichen des vorchriftsmäßigen Betriebsdruckes stecken. Für die Feinjustierung des Druckes ist die Regelplatte (22).
4. Nach dem Betrieb ist das Steueraggregat mit Wasser auszuspülen, um Rückstände aggressiver Produkte zu entfernen.



SICHERHEITSAHLUTUNGEN

Vorligendes Handbuch sorgfältig aufbewahren und folgende Sicherheitsanleitungen aufmerksam lesen und beachten:

- Produkt nicht mit entzündbaren oder sonstigen Flüssigkeiten verwenden, deren Eigenschaften mit einem einwandfreien Betrieb des Produkts nicht vereinbar sind.
- Die Produktinstallation ist von qualifiziertem Fachpersonal vorzunehmen.



DESCRIPCION Y MODO DE USO

El grupo de mando sirve para regular la presión de trabajo en la distribución de líquido para pulverización. Las indicaciones numéricas se refieren al gráfico de despiece del producto.

MONTAJE SOBRE LA BOMBA

1. Lubricar y montar las juntas tóricas sobre el cuerpo, introduciendo este último en el conductor de impulsión de la bomba.
2. Conectar directamente la descarga a la sistema, sin producir obstrucciones.
3. Conectar los tubos de alta presión a los grifos en salida.

MONTAJE A DISTANCIA

1. Montar el soporte firmemente.
2. Lubricar y montar las juntas tóricas sobre el cuerpo, introduciendo este último en la conexión.
3. Ensamblar los rápidos al tubo de alta presión de conexión con la bomba y, luego, conectar al conductor de impulsión de la bomba.
4. Conectar directamente la descarga a la sistema, sin producir obstrucciones.
5. Conectar los tubos de alta presión a los grifos en salida.

MODO DE USO PARA RM 40

1. Remittise a las instrucciones operativas de la bomba.
2. Controlar, haciendo circular el agua, que no haya pérdidas ni en las juntas y ni en los rápidos del circuito hidráulico.
3. Girando el frontal (21) hacia la derecha, se manda la descarga rápida en el depósito. Viceversa, girándolo a la izquierda, se alimentan las salidas.
4. Mediante la perilla (23) se regula la presión de trabajo: girando en el sentido de las manecillas del reloj, aumenta la presión (+), y en sentido contrario al de las manecillas del reloj disminuye (-).
5. Después del trabajo, lavar internamente con agua el grupo de mando y quitar eventuales restos de productos agresivos.

MODO DE USO PARA GI 40

1. Remittise a las instrucciones operativas de la bomba.
2. Controlar, haciendo circular el agua, que no haya pérdidas ni en las juntas y ni en los rápidos del circuito hidráulico.
3. Regular la presión mediante la inserción del espárrago (21) en una de las cuatro ranuras, hasta encontrar la presión de trabajo correcta. Si se quiere variar ligeramente, actuar sobre el disco de registro (22).
4. Después del trabajo, lavar internamente con agua el grupo de mando y quitar eventuales restos de productos agresivos.



INSTRUCCIONES PARA LA SEGURIDAD

Es necesario conservar con cuidado el presente manual, leer y respetar las siguientes instrucciones para la seguridad:

- No utilizar el producto con fluidos inflamables o que tengan características no compatibles con el correcto funcionamiento del producto.
- La instalación del producto debe ser efectuada por personal especializado.



DESCRIZIONE E MODO D'USO

Il gruppo comando serve per la regolazione della pressione di lavoro nella distribuzione del liquido per irrorazione. I richiami numerici fanno riferimento al disegno esploso del prodotto.

MONTAGGIO SULLA POMPA

1. Lubrificare e montare gli OR sul corpo, inserendo quest'ultimo nel condotto di mandata della pompa.
2. Collegare lo scarico alla sistema, senza strozzature, direttamente.
3. Collegare i tubi alta pressione ai rubinetti in uscita.

MONTAGGIO A DISTANZA

1. Montare saldamente la staffa.
2. Lubrificare e montare gli OR sul corpo, inserendo quest'ultimo nell'attacco.
3. Assemblare i raccordi al tubo alta pressione di collegamento con la pompa, quindi collegare alla mandata della pompa.
4. Collegare lo scarico alla sistema, senza strozzature, direttamente.
5. Collegare i tubi alta pressione ai rubinetti in uscita.

MODALITÀ D'USO PER RM 40

1. Fare riferimento alle istruzioni operative della pompa.
2. Controllare facendo circolare acqua, eventuali perdite del circuito idraulico nelle giunzioni e nei raccordi.
3. Ruotando a destra il frontale (21) si comanda lo scarico rapido in serbatoio. Viceversa ruotandolo a sinistra si alimentano le uscite agli utilizzi.
4. Mediante la manopola (23) si regola la pressione di lavoro: in senso orario aumenta la pressione (+), in senso antiorario diminuisce (-).
5. Lavare il gruppo comando internamente con acqua dopo il lavoro, togliendo eventuali ristagni di prodotti aggressivi.

MODALITÀ D'USO PER GI 40

1. Fare riferimento alle istruzioni operative della pompa.
2. Controllare facendo circolare acqua, eventuali perdite del circuito idraulico nelle giunzioni e nei raccordi.
3. Regolare la pressione mediante inserimento del tirante (21) in una delle quattro tacche, fino a trovare la giusta pressione di lavoro. Occorrendo variarla di poco, agire sul pannello registro (22).
4. Lavare il gruppo comando internamente con acqua dopo il lavoro, togliendo eventuali ristagni di prodotti aggressivi.



ISTRUZIONI PER LA SICUREZZA

È necessario conservare con cura il presente manuale, leggere e rispettare le seguenti istruzioni per la sicurezza:

- Non utilizzare il prodotto con fluidi infiammabili o aventi caratteristiche non compatibili con il corretto funzionamento del prodotto stesso.
- L'installazione del prodotto deve essere effettuata da personale qualificato.