



trailed seed drills

# NEUMASEM 901



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**INSTRUCTIONS MANUAL  
MAINTENANCE  
DOSAGE**

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read the manual before working with the machine

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*SOLÀ seed drills and fertilizer spreaders are manufactured in a factory specialized in this area. They are guaranteed by thousands of users experience.*

*They are high technology machines, planned for a long service, without breakdowns, in very different conditions and with a simple and efficient mechanism designed to do an excellent work with minimum maintenance.*

*With this information about characteristics, possibilities and adjustments, we wish to help you to obtain all that you expect from our machine.*



*Certified Quality System*

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# 1. INTRODUCTION

Before any use of the machine it is very important to read the instructions and suggestions in this booklet, in order to reduce the danger of accidents and to prevent damages to the seed-drill due to incorrect use or defective maintenance. Doing so, you will increase its performance and useful life.

This booklet must be read by any operator of the machine, during its operation, repairs, maintenance and transport. It is an integrating part of the product, and must be kept in a safe place for consultation during the whole life span of the machine.

SOLÀ will not assume any responsibility for damages or breakdowns caused by non-observance of the instructions given in this booklet.

In the first chapters you will find the Technical Data and Safety Instructions, also some Essential Sowing Concepts. In the Rules of Use and Maintenance chapters are the basic knowledges for using the machine. The booklet is completed with a seed dosage table.



SOLÀ reserves the right to modify drawings and technical data given in this manual if this can help to improve the seed-drill quality.

## 2. TECHNICAL DATA NEUMASEM 901

### 2.1 NEUMASEM-901

working width	transport width	empty weight	hopper capacity	arms number	separation between arms	minimum power	necessary flow	wheel tyres
6 m	3 m	5300 kg	5000 l	48	12,5 cm	160 CV	43 l/min	550-60-22,5 16 PR
8 m	3 m	5600 kg	5000 l	64	12,5 cm	180 CV	43 l/min	550-60-22,5 16 PR

### 2.2 STANDARD EQUIPMENT

- Electrovalves operated hydraulic installation
- Hopper seed sieve
- Hopper ladder
- Land cultivator, adjustable in working depth
- Adjustable leveller
- Adjustable sowing depth
- Spring harrow
- Lateral wheels for the control of working depth
- Hydraulic disc tracers
- Frontal adjustable support.
- Hopper cover
- Set of lights: signposting, sidelights, brake-lights, warning lights and working headlamp.
- Service drum brakes
- Parking wedge brakes
- Hectare counter
- Turbine fan revolutions counter
- Hopper seed level sensor
- Total cut of sowing
- Official traffic homologation

### 3. SAFETY INSTRUCTIONS

#### 3.1 DANGER SIGNS

In this booklet you will find three kind of safety and danger signs:



To make easier the machine operation.

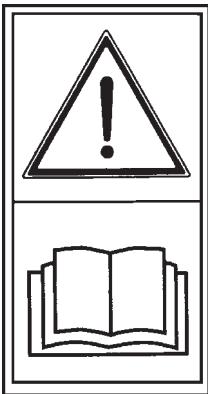


To avoid damages to the machine or its optional equipment.



To avoid personal injuries.

However, the following warnings are reproduced on the machine. Keep them clean and replace them if they should come off or become illegible. Carefully read each description and learn their meanings by heart.



Before operating, carefully read the instruction booklet.



Before carrying out maintenance, stop the machine and consult the instruction booklet.



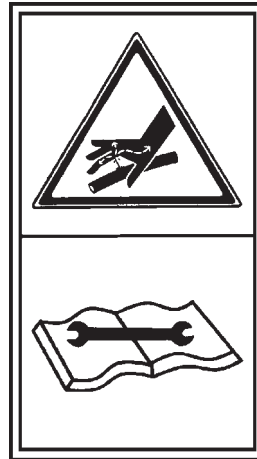
Danger of crushing when working under the machine. Secure it to avoid accidental falling.



Danger of getting squashed during closure. Keep at a safe distance from the machine.



Don't stay under the s o w i n g equipment or in its range.



Possibility of penetration by hydraulic fluid. Keep in good condition the h y d r a u l i c hosepipes.



Danger of falling. Don't ride on the machine or its o p t i o n a l equipment.



Handling point for lifting



Don't stay under the disk tracers or in its range.



## **3.2 ADEQUATE USE**

- The **NEUMASEM-901** seeder has been manufactured for agriculture works, specially for cereal and other grain sowing.
- If as a consequence of misuse or bad maintenance the machine suffers damages, the manufacturer will decline any responsibility.
- Respect always legal dispositions on machine-security, traffic, health and work-safety.
- Modifications having been carried without written authorization of the manufacturer will result in guarantee-nulity.

## **3.3 SAFETY REGULATIONS AND ACCIDENT PREVENTION**

- Before starting any use of the machine, check safety conditions concerning both work and traffic. Check also visibility around the machine: the working zone must be cleared.
- Respect traffic signs when in public thoroughfare.
- It is strictly forbidden to ride on the machine during working and transport.
- Before starting, familiarize with all activation elements, as well as with general operation.
- Pay special attention to coupling and uncoupling operations.
- Never leave the driver seat during machine operation.
- Do not place strange elements into the hopper.
- When the seed-drill is lifted, the front axle of the tractor discharges. Make sure that the tractor has enough counterweight to avoid overturn danger. Check in such situation steering and braking capabilities.

- Before working in the hydraulic installation eliminate the circuit pressure and stop the tractor engine.
- The tubes and hosepipes of the hydraulic circuits suffer, in normal conditions, a natural ageing. The useful life of these elements must not exceed six years. Observe, periodically, if they are in good conditions and replace them at the end of its useful life.
- While parking the machine, don't forget to place the shoe-brakes under the wheels to avoid displacements.
- Before starting a displacement with the sowing equipment folded, we have to secure that the fixing clamps have correctly worked.
- During transport operations, with the seed-drill lifted, block de lowering control. Before getting out the tractor, leave the machine on the floor and take out the starting key.
- During maintenance works, with the seed-drill lifted, always use enough support elements in order to avoid its accidental descent.

### **3.4 HANDLING**

For loading and unloading the machine it is necessary a loading bay or a ramp. It is also necessary coupling the machine to the tractor (see section 5.1 in this booklet).

## 4. SOWING ESSENTIAL CONCEPTS

### 4.1 SOIL

The better the soil condition is, the best quality of sowing. Over big patch or variable furrows it is not possible to do a good work. Although NARDI machines are able to take hard efforts in extreme conditions, sowing won't be of good quality if the sown land hasn't adequate conditions.

### 4.2 SEED

Always use quality and clean seed. When sowing barley, use trimmed one.

### 4.3 DEPTH

The suggested sowing depth is from 3 to 5 cm. To deepen more is an error, as the rizome could not get the surface, resulting in the plant's death. It doesn't matter if some grains are visible: the spring harrow will cover them.

Sowing depth has influence in the birth and vigour of the plant and consequently in its resistance to both frost and drought. The sprouting node will be always between 1 or 2 cm under the surface, independently of the sowing depth.

Deeper sowing doesn't mean deeper roots. Only a few roots arise from the bottom of the seed. The main root mass is born from the sprouting node, just under the ground level.

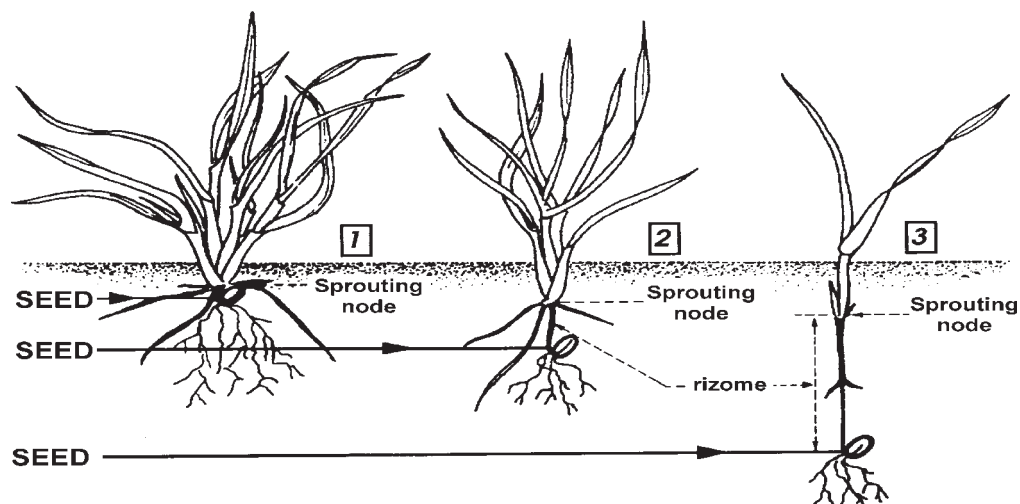


fig. 1

**1**

**Depth sow: 2 to 4 cm**

Thick stem, short rhizome, good freezing endurance.

Multiple sprouting, 3 to 6 shoots and a lot of blades (6 to 10).

Big tuft of roots, 5 cm wide and 10 to 12 cm deep.

With less grains per square meter, we obtain more ears.

**2**

**Depth sow: 5 to 6 cm**

Thin stem, rhizome exposed to freezing.

Delayed and poor sprouting, one shoot (sometimes none), not many blades (3 to 4).

Medium tuft of roots, 3 cm wide and 5 cm deep.

We need more grains per square meter to obtain the same quantity of ears as in the first case.

**3**

**Depth sow: 8 to 10 cm**

Very thin stem. No sprouting and a single blade.

The grain reserves become depleted by forming a large rhizome that can be easily cut off by ice.

Poor tuft of roots, just 1 cm wide and 3 cm deep.

We need twice the grains per square meter to obtain the same quantity of ears as in the first case.



In very cold areas, successive frosts may cause soil surface fluffing up, involving the risk of releasing the incipient plant roots and causing its death. To avoid this danger, it is recommendable to deepen more the seed or to pass a roller in order to compact the land after sowing.



Work always at a regular speed. Hard brakes and sudden accelerations result in irregular seed distribution.

## 5. RULES OF USE

### 5.1 COUPLING AND CONNECTIONS

The seed drill Neumasem-901 is supplied with a ring coupling device (fig.2).

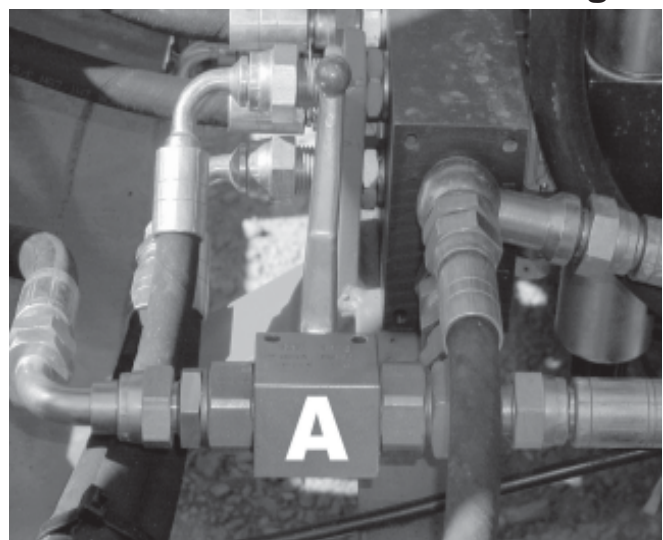


fig. 2

Once the machine is coupled, connect the hydraulic system, the service brake, the control monitors, the side- and winking lights and the working floodlight.

fig. 3

For the good operation of the electrovalves, it is very important to assembly appropriately the feed circuit. If your tractor has a «closed circuit», you must close the flow control valve (A, fig. 3). If your tractor has an «open circuit», you must open it.



When under pressure, oil can penetrate the skin and cause serious injuries. Keep the pipes in good condition.

## 5.2 WORKING AND TRANSPORT POSITION

To make easier its transport, the Neumasem 901 has its wheels assembled inside out, so the width reduces to 2,4 m. Obviously, before starting any operation, the wheels have to be placed in the correct position. In figure n. 4 a wheel is showed in transport position.

To do this, couple the machine to the tractor and, over a hard ground, lower the sowing equipment so that the wheels loss contact with the floor. Remove the wheels of its transport position and assembly them in its working position (width 3 m).



fig. 4



Secure the machine to avoid its accidental descent while changing the wheels position.



## 5.3 HYDRAULIC SYSTEM

### Flow control valves

Two flow control valves (fig. 5) are supplied with the seed drill in order to smooth the hydraulic folding and unfolding of the machine. The valves have to be adjusted depending on the hydraulic flow supplied by the tractor. It is advisable to start with the valve almost closed to avoid a fast folding that could cause damages to the seed drill.



fig. 5



Never stand under the folding sowing train range.

### Pilot operated check valve

In order to avoid accidental operation of the hydraulic system during the circulation by public thoroughfare, a pilot operated check valve is supplied. **Before disconnecting the hydraulic pipes from the tractor, it is necessary to unpressurize them to avoid the unfolding of the sowing equipment.** This operation must be done with the tractor stopped.



fig. 6

Two hydraulic safety clamps (fig. 7) are fitted to avoid the sowing equipment descent during the seed drill transport. The clamps couple and uncouple automatically each time the sowing equipment is folded or unfolded.



fig. 7



Before lowering the sowing equipment for working and after giving pressure to the system, make sure that the safety clamps are released.

## Parachute valves

The parachute valves are directly assembled on the cylinder connections of the sowing equipment. The valves mission is to avoid, in the case of tubes rupture, the uncontrolled descent of the equipment. The valves are adjusted in the factory so you must avoid any manipulation during repairs and/or maintenance work. For your own security, verify that the valves are in its place before coupling the machine to the tractor and starting to work.



When under pressure, oil can penetrate the skin and cause serious injuries. Keep the pipes in good condition.



## 5.4 DOSAGE

There are two dosage ways: for normal seed and for little seed with minimum flow.

### Normal seed

Place the red closing device of the dispenser (fig. 8, n° 3) and the bracket of the adjustment wing (fig. 8, n° 8) in the position N.



When changing the position of both the bracket of the adjustment wing and the red closing device, it is essential that the dispenser may turn and the hopper to be empty.

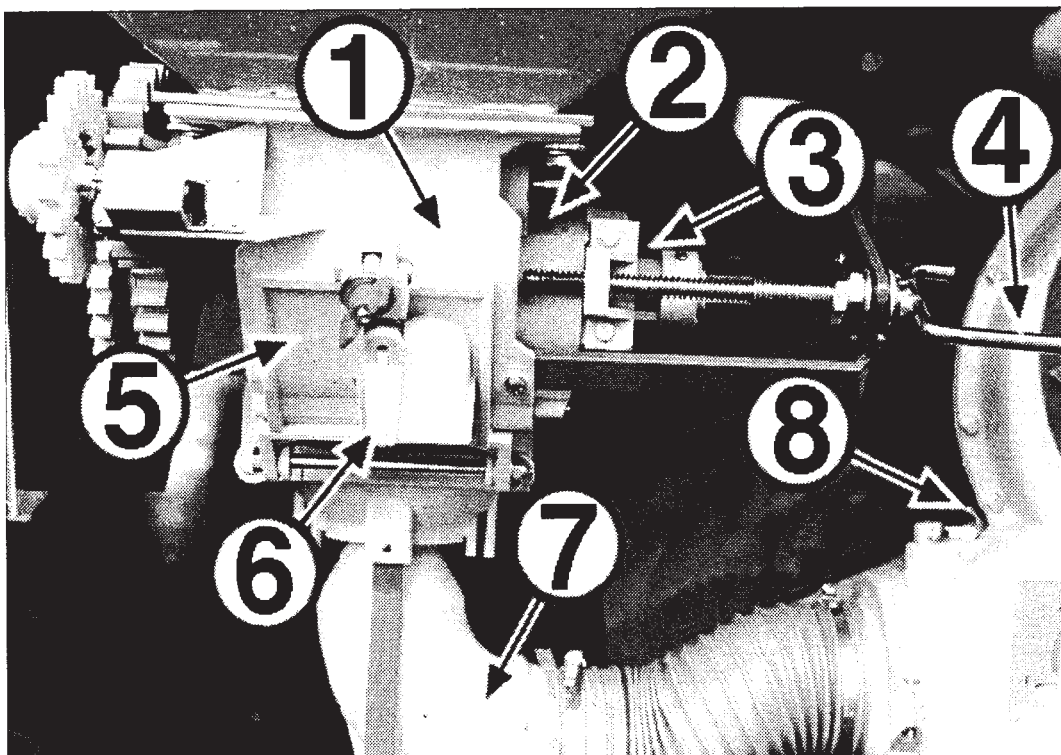


fig. 8

- 1 Casing
- 2 Dosage scale
- 3 Red closing device  
N = normal seed  
F = small seed
- 4 Dosage spindle
- 5 Emptying trapdoor

- 6 Revolving valve (not in all the machines)
- 7 Collector
- 8 Elastic bracket of the adjustment wing  
N = normal seed  
F = small seed

## Small seed

Turn the dosage spindle until the dosage scale indicates «0». Then turn the red closing device (fig. 8, n° 3) counterclockwise until it rests inserted in the slot of the hexagonal shaft. The «F» in the red closing device must be visible. Now, we can adjust the dosage spindle from 0 to 25 in the dosage scale. The bracket of the adjustment wing of the drive fan (fig. 8, n° 8) must be in «F» position.

## Flow test

To do the **flow test**, close the emptying trapdoor and fill the hopper with some seed. Dismantle the collector under the venturi, releasing the butterfly bolt (fig. 8, n° 7). Place a bag under the exit of the venturi injector that we have dismantled. Place the crank in the transmission wheel (little) and turn clockwise the following number of turns:

Neumasem-901-800/64	25 turns
Neumasem-901-600/48	33,5 turns

The hectare-counter must indicate 250 m<sup>2</sup>.

Weigh the seed in the bag. The flow in kg/ha will be the collected weight multiplied by 80.

Repeat the calibration operation as many times as necessary till the obtention of the desired flow.

Assemble the venturi injector and fasten it with the butterfly bolt.



To do the flow test is essential to stop and lower the machine. The tractor and the power shaft must be disconnected.

## Field test

If it seems that there are significant differences between the dose test and the actual dispensed dose -due to, by sample, an irregular or soft terrain- a field test can be performed to determine the real number of wheel turns for the dose test.

First, with a measuring tape, signpost the test distance (in meters) in the plot of land that is to be sowed.

Neumasem-901-800/64	31,25 m
Neumasem-901-600/48	41,67 m

Second, with the seed-drill in working position, cover that distance. Count the wheel turns needed for completing the path. Put a mark on the tyre to make this easier.

As a result of carrying out the dose test with this number of turns, we obtain the exact dose delivered by the seed-drill.

## Seed dosage adjust

With current use of high quality certificated seed, it's not enough to set the weight that has to be distributed by the seed-drill, since the success of the harvest depends on the number of plants that reach complete ripeness.

Each plant requires its living space from which feeds on. In this way, as poor could be an high plant density as a low. To decide the adequate dose, we must know the number of plants per square meter we are going to sow.

Orientatively, the plant number recommended for wheat and barley in dry land is as follows:

AUTUMN:	Early sowing	200 plants per m <sup>2</sup>
	Late sowing	265 plants per m <sup>2</sup>
SPRING:	Early sowing	310 plants per m <sup>2</sup>
	Late sowing	445 plants per m <sup>2</sup>

Notice that, in spring, sprouting is always lower and, consequently, more seed is needed to obtain the same results that in autumn.

Moreover, it must be taken into account that the maximum germinative value is variable and depends on a lot of factors. Experimentally, it can be established between 70% and 80%, that's equivalent to multiply by 1,43 and 1,25 respectively the number of grains needed. Next is the practical method to determine the dose (in kg/ha) starting from the number of plants per square meter we want to obtain.

- 1) Introduce in the seed the «grain counter». A single grain must remain in each hole, totalling 100 grains. Repeat this operation for 10 times in order to obtain a final amount of 1000 grains.

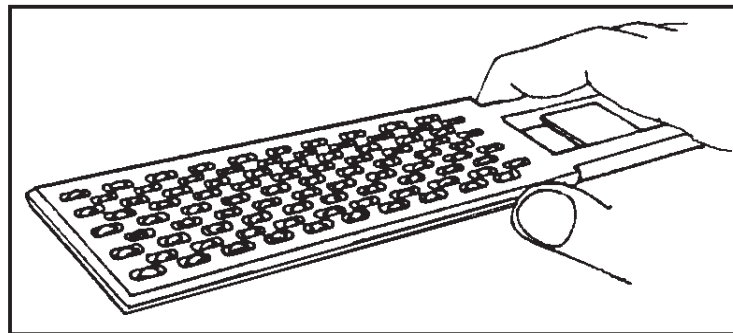


fig. 9

- 2) Weigh the 1000 grains in the precision scales. The weight in gram is called from now «OPERATIVE WEIGHT».
- 3) Knowing the grains per square meter we are going to sow, it is easy to obtain the dose in kg/ha that we must adjust in the dosage scale:

$$\text{kilos per hectare} = (\text{grains per m}^2 \times \text{OPERATIVE WEIGHT}) / 100$$



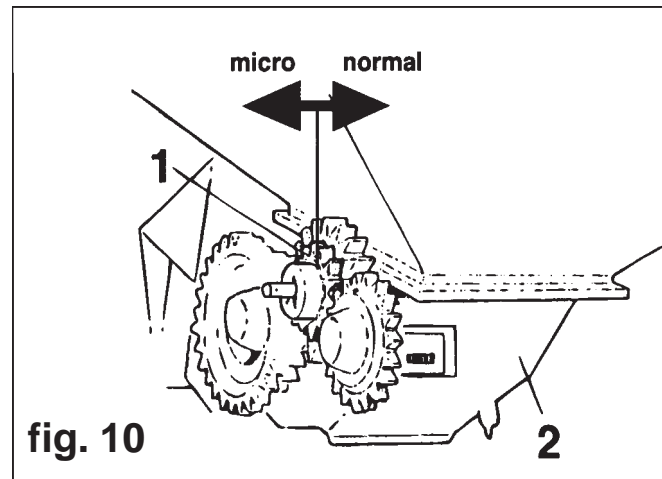
The seed dose must be adjusted to each soil depending on its texture, fertilization level, dampness and sowing time, grain quality, germinative value, etcetera.

## 5.5 MICRODOSAGE

The microdosage system is used to better distribute small seed in little amounts. With this system, a double cell width is obtained for the same seed quantity, resulting in a stronger auto-cleaning action.

Pull from the toothed wheel (fig. 10 n° 1) until it fits: the microdosage is activated. Read in the dosage table (page 32) the adequate dose value for small seed with the «M» microdosage system.

- 1 Toothed wheel
- 2 Dispenser



Check the cleaning brush condition before sowing small seed.

## 5.6 SOWING DEPTH CONTROL

The cultivator-leveler-sowing train set depth is adjusted by means of two hydraulic pistons (A, fig. 11) both fitted with descent mechanical blocks (fig. 12). **The seed drill must work horizontally, with front and rear coulters penetrating equally the soil.** For levelling, regulate the central hydraulic piston (B, fig. 11), as it was an adjustable upper link.

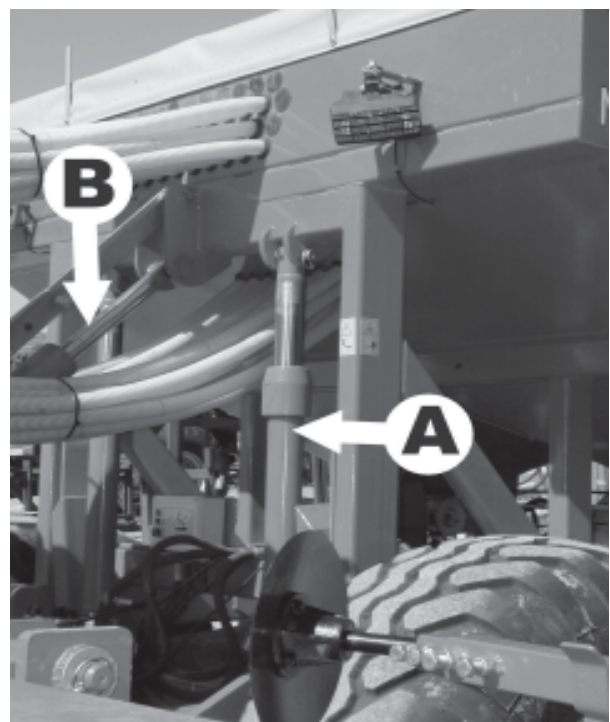


fig. 11





fig. 12

## Plough furrow opener seed drill

Once the machine is resting on the wheels, the sowing depth is regulated by means of a manual hydraulic pump (fig. 13). The descent of each section of the sowing train is achieved by alternatively opening the piston valves (fig. 14).



fig. 13

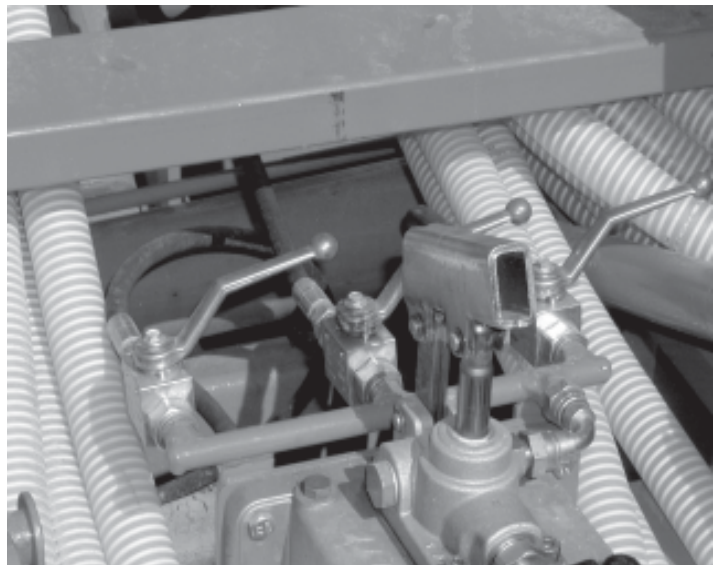


fig. 14

It is also possible to modify the sowing depth by changing the individual pressure of every arm, adjusting the springs strength. Soft springs can be supplied for soft soils.

Finally, we can modify the sowing depth adjusting both the cultivator and the leveler: deepening the cultivator work, the leveler will drag more soil, where the sowing arms will penetrate more profoundly.

## Tooth furrow opener seed drill

In the tooth furrow opener machine the profundity control is carried out changing -by means of the hydraulic manual pumps- the arms springs pressure.

Another possibility consists in changing the whole height of the sowing train by means of the two supporting turnbuckles. With the sowing train lifted, the sowing blades have a penetration angle of approximately 90 degrees. Consequently, seed is buried deeper in the soil. Working in such situation is adequate in hard soils. To do that, we must untighten the arms regulation nuts in order to lower the blades enough to copy the terrain unevennes. Tauten the pressure springs, since they'll be loose.

On the contrary, with the sowing train lowered, the blades have a smaller penetration angle and consequently seed is buried at less profundity. In this case we shall tighten each lowering arm nut in order to prevent the arms falling and the springs knocking out of place.

## Lateral wheels

Lateral wheels avoid the folding sowing equipment deformation and allow its regulation to four different heights (fig. 15).



fig. 15

## 5.7 HYDRAULIC TURBINE

Machine type	Hydraulic motor		oil supply		
	absortion capacity (cm3)	turbine speed (rpm)	minimum outlet pressure (bar)	maximum return pressure (bar)	oil flow (l/min)
600/800	8	4500	160	10	44

### Oil supply connection

Plug in the DN10 turbine hosepipe to a tractor pressure outlet and the DN16 turbine hosepipe to a tractor non-pressurized return.



Remember that the maximum return pressure is 15 bar. If this pressure is exceeded the motor can take damages.

### Turbine regulation

A three way valve in the hydraulic motor controls the oil flow consumption and allows the adjustment of the turbine rotation speed. If the tractor has its own flow regulator, it is preferable to use this regulator to adjust the turbine rotation speed, keeping the three way valve fully opened.

The turbine rotation speed must be from 4500 r.p.m.



If the oil heats up too much due to an excess of tractor-pumped oil flow or a lack of tractor oil reserve, it will be necessary to add an extra oil tank to the seed drill.



If the oil flow delivered by the tractor hydraulic pump is insufficient for feeding the turbine hydraulic motor or any other necessary element, the installation of a power shaft activated auxiliary pump with oil tank and cooler will become essential. Consult the manufacturer.



## 5.8 LAND CULTIVATOR

The land cultivator function is to prepare the soil just before sowing. Its work must be superficial, except for the cultivation tines situated over the tractor wheel tracks. This tines must be regulated in order to erase the traces.

The work profundity can be regulated by means of the two hydraulic pistons that join this equipment to the machine main body.

## 5.9 LEVELLER

The leveller work is fundamental for the obtention of an uniform depth sow. Each leveler section is adjusted in height and pressure by means of a spindle (fig. 16). The soil dragged should not overflow the leveler plate.

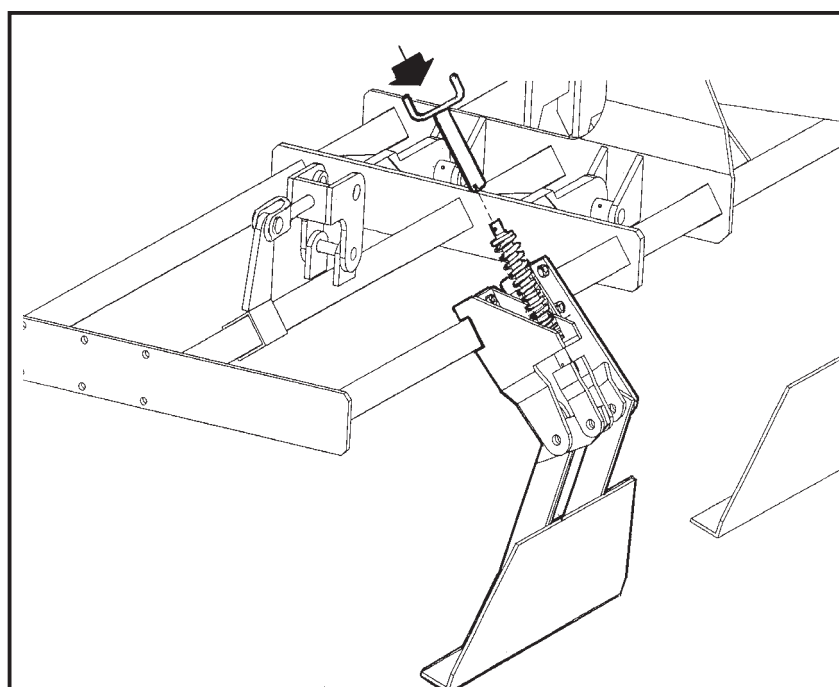


fig. 16

## 5.10 SPRING HARROW

The spring harrow has several regulations for a good adjustment to different soil types:

- 1- In height, by means of the inferior nut (1, fig. 17).
- 2- In pressure, by means of the superior nut (2, fig. 17).
- 3- Working angle, shifting between the three assembly bolt positions (3, fig. 17).

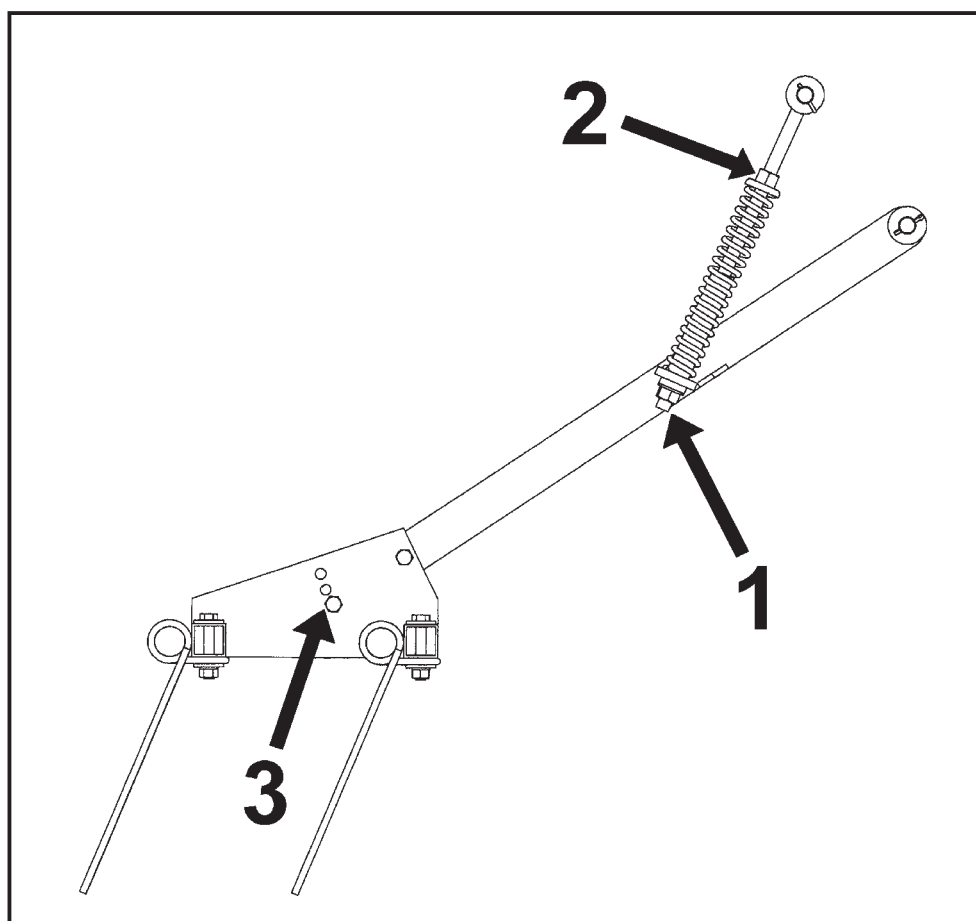


fig. 17

## 5.11 HYDRAULIC DISC TRACERS

The disc tracers are assembled in both sides of the folding sowing train. They are hydraulically activated, and they reach automatically its transport safety position when the sowing train is folded.

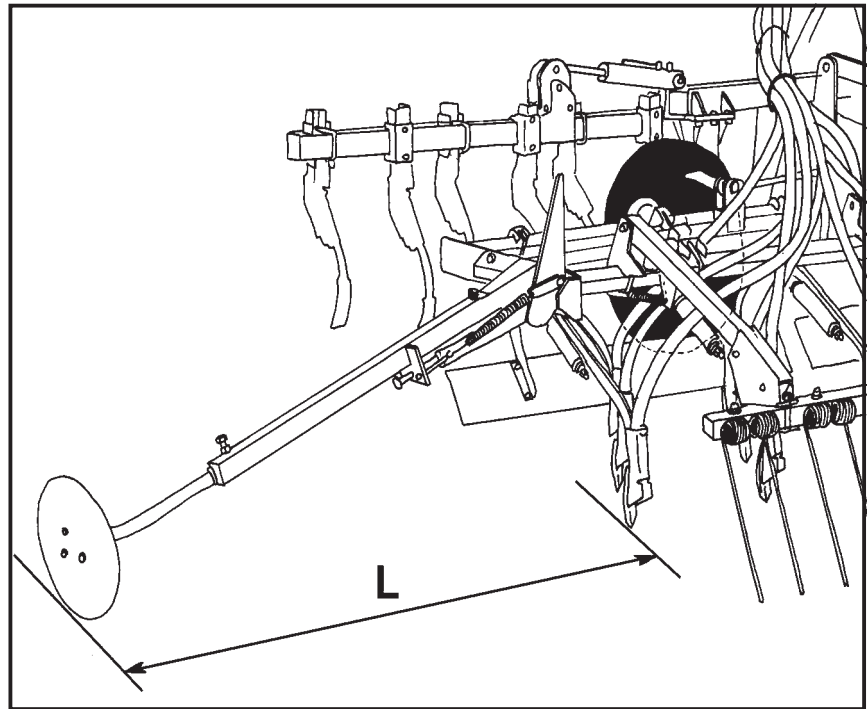


fig. 18

Its length can be adjusted and the discs oriented in order to obtain an adequate penetration angle. For calculate the horizontal distance between the disc and the outer sowing row (L, fig. 18) use the following formula:

$$L = \frac{\text{seed drill working width} - \text{tractor gauge} + 12,5}{2}$$

NOTE: make all calculations using cm as length unit



Beware of directing excessively crossways the discs, this could produce serious damages to the equipment.



Pressured oil can penetrate skin and cause serious injuries. Keep in good condition the hydraulic hosepipes.



Never place under the disc tracer or in its action range.

## 6. CONTROL MONITORS

### 6.1 MCE CONTROL MONITOR

#### Technical data

It is fitted as standard equipment. Their functions are the following:

- Instant information about advancing speed, covered distance and turbine r.p.m.
- Low seed level optic and acoustic alarm.
- Dispensers operation failure optic and acoustic alarm.
- Partial and total hectare information.
- Total sowing shutdown.
- Half-seeder sowing shutdown.
- Tramlines (optional).

#### Setting and operation

Connect the following sensors to the multiple terminal: disc tracer, turbine speed, hopper level, distributor operation and wheel turn-counter. Connect the multiple terminal to the monitor. Connect the electromagnets to the commutation box, and the monitor and the commutation box to the tractor battery (respect the correct polarity - red cable +12V). Place both in the tractor cab. Connect and disconnect the monitor multiple terminal every time the seed drill is coupled and uncoupled to the tractor.

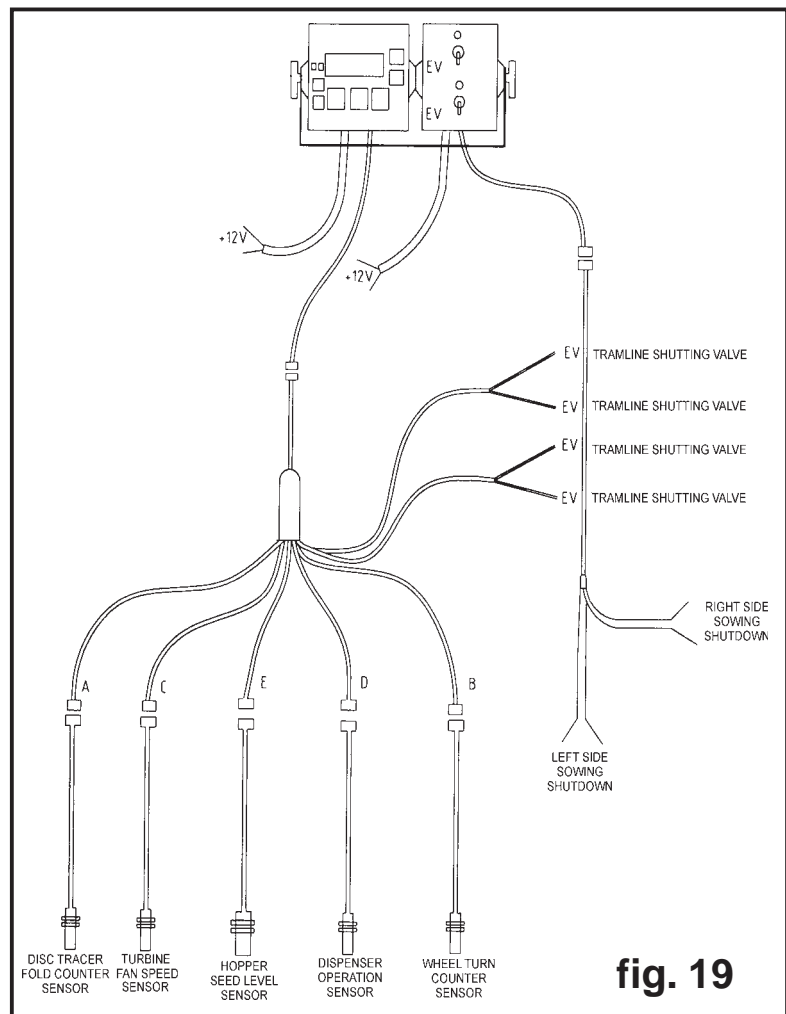


fig. 19

Remember that the turbine rotation speed must be 4500 rpm. The maximum admissible fan velocity is 5000 rpm. It is fundamental to maintain a constant rotation speed in order to guarantee a proper seed flow to all outlets.

## Programation

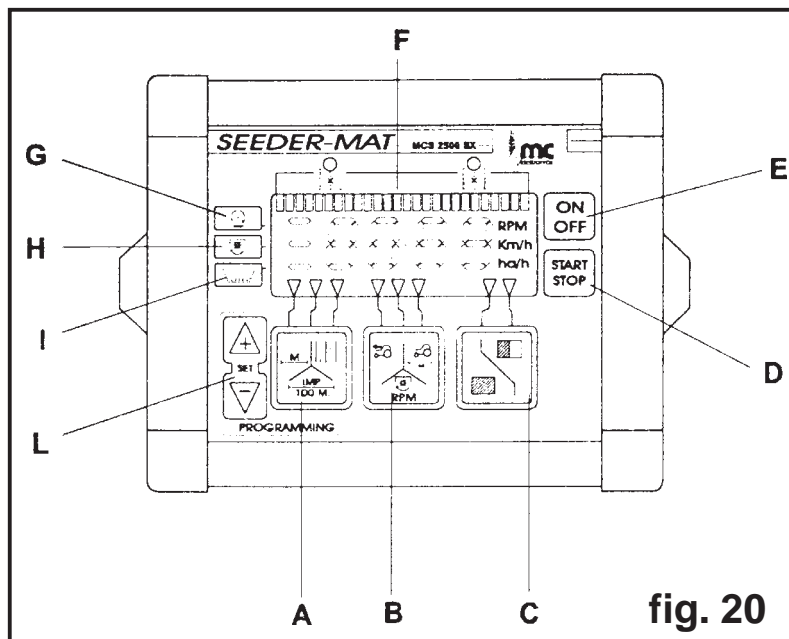


fig. 20

- A: programation button
- B: display button (advancing speed, covered distance, turbine rpm).
- C: display button (total and partial hectare).
- D: tramlines initialization button and alarms fitting.
- E: on/off button.
- F: display
- G: dispensers malfunction alarm
- H: turbine malfunction alarm
- I: low seed level alarm
- L: programming button (parameter modifying)

Working width setting: Turn «on» the monitor, press «A» until the first arrow in the left of the display lights up. Modify the working width (in meters) by pressing «+» or «-». For validate, press «A» for almost 3 seconds.

Advancing speed setting: press «A» until the second arrow in the left of the display lights up. By pressing «+» or «-» insert the velocity sensor pulse number per every 100 covered meter. Validate.

Tramlines setting: press «A» until the third arrow in the left of the display lights up. By pressing «+» or «-» insert the disc tracer pulse number needed for activate the tramlines. Validate.

## 6.2 ELECTROVALVE COMMAND

### Technical data

It is fitted as standard equipment. Its functions are the following:

- Independent folding/unfolding of the left and right sowing trains.
- Independent folding/unfolding of the disc tracers.
- Lifting up and down the sowing train.
- Shifting between the machine transport and working positions.
- Turning ON/OFF the working headlamp.

### Setting and operation

Place the command in the tractor cab, near the driver's seat. Connect the command to the electrovalves.

Each function performed has an «UP» and «DOWN» button. The hydraulic pistons run while the button is pressed. For the working headlamp there is an «ON/OFF» commuter (fig. 21).



fig. 21

## 7. MAINTENANCE

### 7.1 GREASING

Lubricate with calcic dense grease the following parts:

- Every 100 ha grease the articulations from the folding parts.
- Every 400 ha grease the wheel axles.

### 7.2 TYRE PRESSURE

The following data is corresponding with the full-load pressure prescribed by the tyre manufacturer

tyre 550/60-22,5 --- 3,00 bar

Generally, in poor prepared soils, we recommend to reduce a bit the pressure in order to overcome the terrain irregularities and achieve more sowing regularity.

### 7.3 NUTS AND BOLTS

After some working hours, all bolts must be inspected and tightened if necessary, specially those tying the coulter. For these bolts, a special tube key (1, fig. 22) is supplied with the machine.

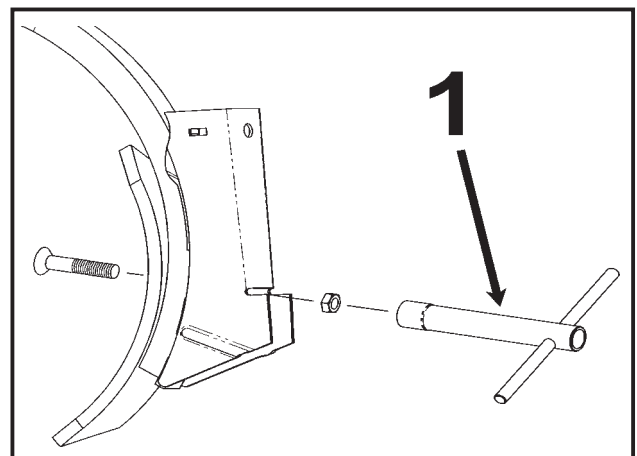


fig. 22

### 7.4 DISTRIBUTION HEAD AND HOSEPIPES

Before working, make sure that there are no obstructions in the distribution heads or in the seed transport hosepipes. In order to do that, with the turbine spinning and the hopper filled, give some turns to the transmission wheel until some seed is delivered by every arm. Stop the machine, remove both distribution head covers and check that there are no strange bodies inside.

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## 8. DOSAGE TABLE



The quantities seen in the table are for guidance only. The flow can vary due to preservation powder, seed size, density and humidity, etc.



For a precision sowing, follow the process described in sections 5.4 and 5.5 in this booklet.



seed	wheat	rye	barley	oats	beans	peas	lupin	carobs	corn	grass	specific weight (kg/l)	rape		clover		grass		turnips	
												0.65	0.8	0.8	0.39	0.7	0.7		
adjustment value	normal seed kg/ha (adjustment wing N)										adjustment value	small seed kg/ha (adjustment wing F)							
10*	33	33	32	24	23	21	28	32	8		2,5	2,2	1,1	2,3	1,15	-	-	2,5	1,25
15*	51	49	48	35	41	40	45	51	24	19	5	4,6	2,3	5,3	2,65	-	-	5	2,5
20*	69	67	64	47	61	59	61	69	47	25	7,5	6,8	3,4	8,6	4,3	2,8	1,4	7,5	3,75
25*	85	83	79	57	79	77	79	89	69	33	10	9,1	4,55	12	6	5,2	2,6	10	5
30	104	100	95	71	97	97	96	108	92	41	12,5	11,4	5,7	15,3	7,65	7,2	3,6	12,5	6,25
35	123	117	111	81	116	117	113	127	115	49	15	13,7	6,85	18	9	9,2	4,6	15	7,5
40	140	134	127	93	135	136	129	146	138		17,5	15,9	7,95	21,3	10,65	11,2	5,6	17,5	8,75
45	158	151	143	105	154	155	147	166	156		20	18,2	9,1	24	12	13,2	6,6	20	10
50	174	168	159	117	172	174	164	184	175		22,5	20,5	10,25	26,6	13,3	15	7,5	21,5	10,75
55	192	184	174	129	191	194	182	203	194		25	22,8	11,4	27,5	13,75	16,2	8,1	23	11,5
60	210	200	191	142	210	214	198	222	212		N = normal dosage				M = microdosage				
65	228	218	206	154	228	232	216	242	231		N				M				
70	247	235	222	166	247	251	234	260	250		N				M				
75	264	252	238	178	266	270	251	279	267		N				M				
80	282	270	252	190	283	288	268	298	286		N				M				
85	298	287	268	200	302	310	286	316	304		N				M				
90	316	302	284	212	320	328	302	336	323		N				M				
95	335	319	300	224	338	347	320	355	342		N				M				
100	352	336	316	236	356	366	336	374	360		N				M				
105	370	354	332	248	374	386	354	394	380		N				M				
110	387	371	348	260	394	405	371	413	398		N				M				

**FLOW TEST**

seed drill turns  
 600/48 33,5  
 800/64 25,0

Turns to the transmission wheel for simulating 250 m2 sowing. The flow is obtained multiplying the result by 80.

**550-60-22,5 TYRE**

**NEUMASEM 901**

\* When the quantities to deliver are small (dispenser cell width <= 25 mm) a more uniform sow can be achieved by means of the microdosage system, even when sowing cereal and big seeds.



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