



Cresciamo insieme | Let's grow together

## Centrifugal Fertilizer spreader P - PL - PX models



### **OWNER'S MANUAL**

Read the Operator's manual entirely before using the machine

Edizione Aprile 2019 – 900.001



# CE DECLARATION OF CONFORMITY

COSMO Srl company  
Via Laghi di Avigliana 117 12022  
Busca (CN) Italy  
Ph. +39 0171 946654 Fax +39 0171 946723 Email: imcosmo@cosmosrl.com  
Authorized representative: Mr. ....  
Technical Dept.

states under its own responsibility that the machine:

FERTILIZER SPREADER	
MODEL:	P - PL - PX
SERIAL NUMBER:	
MANUFACTURING YEAR:	

is in keeping with the European Union law:

- 2006/42/CE
- 2014/30/CE

For the machine's adjustment the following normative laws have been used: UNI  
EN 14017:2005+AI:2009  
UNI EN ISO 4254-1:2015

and also the following technical specifications:  
ISO 11684:1995  
EN ISO 3767-2:2015

...../...../.....  
Place and date of issue (Day/Month/Year)

SIGNATURE:

<b>1.</b>	<b>INTRODUCTION</b>	<b>pag. 4</b>
<b>2.</b>	<b>GENERAL INFORMATION</b>	<b>pag. 4</b>
2.1	USING THIS MANUAL	pag. 4
2.2	INFORMATION ON THE MACHINE	pag. 5
2.3	NAME PLATE	pag. 5
2.4	CHARACTERISTICS OF THE MACHINE	pag. 6
2.5	TERMINOLOGY	pag. 7
2.6	TECHNICAL DATA	pag. 7
<b>3.</b>	<b>IMPORTANT SAFETY INFORMATION</b>	<b>pag. 8</b>
<b>4.</b>	<b>SAFETY SIGNALS</b>	<b>pag. 12</b>
4.1	SAFETY SIGNALS	pag. 12
4.2	CONNECTION AND ASSEMBLING	pag. 13
4.3	CHECK THE RAISING ABILITY OF THE MACHINE	pag. 13
4.4	CONNECTION TO THE 3-POINT OF THE TRACTOR	pag. 14
4.5	DRIVELINE INSTALLATION	pag. 14
<b>5.</b>	<b>FERTILIZER SPREADER USE</b>	<b>pag. 15</b>
5.1	ADJUSTMENTS	pag. 16
5.2	ADJUST THE SPREADING VANES	pag. 16
5.3	ADJUST THE QUANTITY	pag. 17
5.4	HOPPER LOADING	pag. 18
5.5	DISTRIBUTION ON THE FIELD	pag. 19
<b>6.</b>	<b>ACCESSORIES</b>	<b>pag. 20</b>
6.1	SALT SPREADING LIMITERS	pag. 20
6.2	LATERAL CONVEYORS	pag. 21
6.3	HYDRAULIC OPENING	pag. 21
6.4	TWO WHEELS KIT	pag. 21
<b>7.</b>	<b>DISTRIBUTION MISTAKES</b>	<b>pag. 22</b>
<b>8.</b>	<b>GENERAL MAINTENANCE</b>	<b>pag. 23</b>
8.1	LUBRICATION	pag. 24
8.2	REPLACEMENT OF SPREADING VANES	pag. 24
8.3	STORAGE	pag. 25
8.4	SPARE PARTS	pag. 25
<b>9.</b>	<b>SPREADING CHARTS</b>	<b>pag. 26</b>
9.1	SPREADING CHART WITH STANDARD LIMITER	pag. 26
9.2	SPREADING CHART WITH PROFESSIONAL LIMITER	pag. 27
9.3	SPREADING CHART FOR FERTILIZERS AND SEEDS	pag. 29
<b>10.</b>	<b>WARRANTY</b>	<b>pag. 29</b>
<b>11.</b>	<b>PARTS BREAKDOWN</b>	<b>pag. 30</b>
11.1	GENERAL	pag. 30
11.2	GEAR BOX - AGITATOR	pag. 32
11.3	LIMITERS	pag. 34
11.4	ONE-ROW CONVEYOR	pag. 36
11.5	TWO-ROWS CONVEYOR	pag. 38
11.6	HYDRAULIC OPENING	pag. 40
11.7	TWO WHEELS KIT	pag. 42
11.8	REAR LIGHTS AND SUPPORTS	pag. 44
11.9	CUTTING BLADE AND ACCESSORY HOLDERS	pag. 46

### COPYRIGHT

The technical information of this manual must be considered strictly reserved.

It is forbidden text and illustrations' reproduction.

## 1. INTRODUCTION

The centrifugal fertilizer/salt spreaders are machines used for the distribution of solid, granular fertilizers and seeds in the field or salt/sand on the road. They can be used whether with tractors of small/medium power.

It is recommended to carefully read this operator's manual of use and maintenance and follow the recommendations to help ensure safe and efficient operation with and on the machine. This manual has been written, in order to give the customer all the information and safety rules on the machine, as well as use and maintenance instructions that let to make good use of the potentialities of the machine. The manual must always be handy, so as to consult it, in order to check the operational cycle. If it gets lost or damaged, it will be necessary to ask for a substitutive copy. In case of some difficulties of interpretation on texts or tables, or if the drawings/sketches are not clear enough, please get immediately in touch with the manufacturer or dealer of the machine for having all the clarifications through the experts in the working/maintenance or through the person who wrote the manual. We are completely available for a real collaboration, in order to improve the understanding of the whole manual.

## 2. GENERAL INFORMATION

### 2.1. USING THIS MANUAL

This manual gives all the information for the use and maintenance of the machine. The good working and its life depends on the good maintenance and to the attention during the use. Some pictures in this manual show details or accessories that could be different from those of your machine, some components could be removed, in order to assure the clearness of the pictures. Some signal words are put on the machine and the operator shall see to keep them in a perfect visual condition, replacing them when they are not readable anymore.



The symbol on the left, joined to the words shown here below:

**DANGER!**  
**ATTENTION!**  
**WARNING!**

are used in this manual to draw your attention on the safety and good work of the machine. Therefore, it is necessary to observe all the written rules.

**We recommended to use the original spare parts and accessories.**

**parts not original, besides to decline the guarantee, could be dangerous reducing the lenght and the performances of the machine.**

## 2.2. INFORMATION ON THE MACHINE

Models introduced in this manual have been designed and made exclusively allowing the distribution of solid, granular fertilizers and of seeds in the field. The machine is not indicated for being used in different sectors from the agricultural one.

These machines are usually used during the day. If it is required the nocturnal use or with poor visibility, it must use the lighting system of the tractor or of the equipment to which the machine is connected.

**A different use, like the above mentioned one is considered improper.**

**Any arbitrary modification made to this machine relieve the manufacturer from any responsibility for damages or lesions, also serious, that can be caused to the operators, to third parties or to things.**

## 2.3. SERIAL NUMBER

On the hopper of every machine, a name plate is fixed showing the model, the number of series and the year of construction of the machine.

When some spare parts are required, it is always necessary to refer to the type of machine, to the serial number and to the manufacturing year.



LOCATION OF THE SERIAL NUMBER ON THE MACHINE

## 2.4. CHARACTERISTIC OF THE MACHINE

The strength of the steel welded frame, together with the durability of the plastic hopper allow to obtain an highest quality level of the spreaders.

The painting is made by an epoxy varnish with successive baking at 150° C with the application of a primer, assuring a great protection and a long life of the machine.

Conical fertilizer P model has a distributor of fertilizer completely in stainless steel, the machine is equipped with a disc with four vanes to adjust in four different positions, in order to get the maximum spreading precision and uniformity in the distribution, depending on the type of material.



SPREADING DISC

The feeding of the disc is by gravity through an opening, located on the bottom of the hopper, inside of which a mix/agitator is applied, in order to prevent the fertilizer lumps formation.

A sheet case is placed in front of the disc, in order to prevent the spreading in the front side of the machine.

The fertilizer distribution is controlled by properly opening of the shutters in the hopper bottom, through lock devices operated by levers.



OPTIONAL AGITATOR



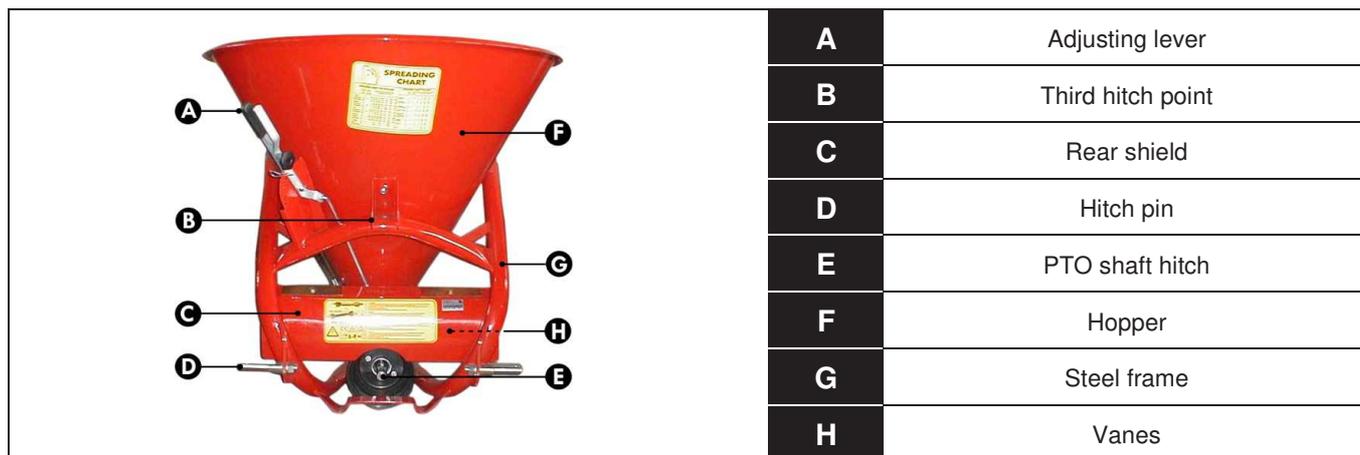
LEVERS

The fertilizer spreader is connected through a gear box (1:1) with gears module 17 in order to be resistant, absorbing possible power stress.

The PL version has a plastic hopper instead of steel, perfectly interchangeable with all the models of P version.

On demand, it is possible to equip the machine with a lateral conveyor for spreading in the orchards.

## 2.5. TERMINOLOGY



## 2.6. TECHNICAL DATA

Model	Capacity (Kg-Lt)  KG/LT	Weight w/o PTO shaft (Kg)	Dimensions (mm)	Spreading width	Required Power
P 180	200/170	54	950x950x950	8-14mt / 26.5-46 ft.	20 CV/HP
P 250	280/240	56	1000x1000x1050		
P 300	320/270	58	1050x1050x1090		
P 400	350/300	60	1080x1080x1120		
P 500	450/385	63	1110x1110x1170		
PL 180	200/170	54	950x950x950		
PL 400	350/300	60	1080x1080x1120		
PL 500	450/385	63	1110x1110x1170		
PX 180	200/170	54	950x950x950		
PX 300	320/270	58	1050x1050x1090		
PS 180	200/170	54	950x950x950		
PS 250	280/240	56	1000x1000x1050		
PS 300	320/270	58	1050x1050x1090		
PS 400	350/300	60	1080x1080x1120		
PS 500	450/385	63	1110x1110x1170		
PLS 180	200/170	54	950x950x950	1-14mt / 3-46 ft.	
PLS 400	350/300	60	1080x1080x1120		
PLS 500	450/385	63	1110x1110x1170		
P-PRO 180	200/170	54	950x950x950		
P-PRO 300	320/270	58	1050x1050x1090		

### 3. IMPORTANT SAFETY INFORMATION

**THE FOLLOWING SAFETY RECCOMENDATIONS ARE TO SAFEGUARD YOUR INCOLUMITY: THEREFORE IT IS NECESSARY TO READ THEM CAREFULLY, MEMORIZING AND ALWAYS APPLYING THEM.**

The present warnings in this manual regard exclusively the allowed uses and reasonably foreseeable.

**All below instructions must be integrated by the common sense and by the experience of who works, indispensable measures to prevent accidents.**

The machine must be used by a single operator. It is forbidden the use of the machine to under-ages. All the listed instructions must be carefully respected.

Possible changes on the machine, not preventively authorized by the manufacturer (by written copy), exclude his responsibility.

Check the correct functioning of the machine, before every use.

#### General advices

- Read carefully this manual before proceeding to start, operate, employ or maintenance on the machine.
- Watch, in addition to the warnings of this manual, all the safety, accident prevention rules and of general nature.
- The manual must always be handy, so as to consult it, in order to check working cycle and safety information. In case of loss or damage, it will be necessary to ask for a substitutive copy.



**ATTENTION!**  
**Any work of maintenance, regulation and cleaning must be done with the machine on the ground (in stable conditions), turning off the tractor engine and removing the key.**

- Read carefully the safety signal words applied on the machine and follow the instructions. In case of wear and tear or insufficient readability of the safety signal words, clean them up or replace them, placing the signal words in the right position, as shown in paragraph 4.1.



**ATTENTION! - WARNING!**  
**The operator, during the period of use, maintenance, repair, handling or storing of the machine, must wear accident-prevention shoes and safety gloves. Moreover, if it is necessary he must wear suitable hearing protections such as earmuffs or earplugs, dust masks and protective glasses.**

- During loading phase, there is the danger of powders inhalation produced by fertilizer mixing. It is suggested to use tractors with filters on the ventilation system of the cabin, to use suitable safety systems of breathing, like powder masks or masks with filter.

- The machine is designed to be used by a single operator who, during the use, must always stay in the stationing control on the tractor.
- Never work with this machine if you are tired, sick or after having took drinks, drugs or medicines.



**DANGER!**

**It is forbidden to climb or to transport somebody when the machine is in motion. Do not let inside the hopper for any reason**

- Keep the machine cleaned up from foreign bodies (detritus, tools, miscellaneous), as they could damage the operations or the operator. Generally the fertilizers are rather corrosive. For this reason, it is important that any particle of the fertilizer stay in the machine for a long period of time. Clean the hopper and the distributor after each use of the machine.
- If during cleaning operations it is used air or water with pressure, it is necessary to wear glasses and safety masks keeping away possible persons or animals from the machine.
- Before connecting the machine to the tractor or to other self-moving means check that this is in good conditions and that brakes work correctly, especially if you work on sloping grounds.
- Switch off the machine from tractor only on a compact and level ground (with empty hopper), checking that the machine is stable.



**WARNING!**

**During transport operations, stocking and employment of the fertilizers, the operators must follow all the label indications and particularly to the content of the written risks and the precaution suggestions.**



**ATTENTION!**

**The Manufacturer does not ansie to possible damages caused by an improper and unforeseen use of the machine.**

**The Manufacturer is not responsible in case of:**

- improper use of the machine, use by not trained staff;;
- serious deficiencies in the foreseen maintenance;
- changes or not allowed interventions;
- use of not original or specific spare parts;
- total or partial inobservance of the instructions;
- inobservance of the common safety rules during work;
- unusual cases.

**Connection of the machine to the tractor:**

- The third point hitch of the tractor and the fertilizer spreader must coincide or must be adapted.
- Make sure that the PTO shaft is engaged correctly after every linkage operation of the machine and that it does not come uncoupled when the machine is lowered in order to fill the hopper up.



**ATTENTION! DANGER!**  
Check that the protections of the PTO shaft are complete and in good conditions.

- In case of breaking or deterioration of the pto shaft protections, please replace them immediately.
- When the machine is not linked to the power unit, the pto shaft must be placed on the appropriate support.
- The presence of the machine can influence the manoeuvrability of the tractor, in particular during transport.



**ATTENTION!**  
Do not come, for any reason, between the tractor and the fertilizer spreader when the engine is running and the power take-off is on.

**Operation of the machine**

- Make a check of the machine before switching it on. Start to work only if the machine is in perfect conditions.
- Before using the machine, please be sure that all the safety devices are correctly placed and in good state; in case of breakdowns or damages to the protections, please replace them immediately.



**ATTENTION!**  
During work, please be sure that for a radius of 50 meters there are not any person or animals. When you work in proximity of roads or public places, it is **ABSOLUTELY OBLIGATORY** to keep away persons and to increase the precautions.



**ATTENTION!**

Anybody who comes up to the machine in a danger area, therefore he becomes “AN EXPOSED PERSON”. The operator must prevent anybody to come into the danger area and to work with the maximum caution. If somebody comes up, please stop immediately the tractor engine.

- Before every use of the centrifugal spreader, please always check the wear of the vanes and of the spreader disc. Check that all the fixing components (screws, bolts etc.) are in and fixed.
- The machine must never be unattended when it is moving.
- Keep always the machine in good operating conditions and make regularly the maintenance.

**Transfer on the road**



**ATTENTION!**

Please follow scrupulously the Highway code in force in the Country of use.

During transport on public roads, it is obligatory to empty the hopper.

- Remember that during moving on public roads, special attention must be done, besides to possible and special regulations noted on the registration book of the tractor, choosing an appropriate speed especially when the street is crowded, winding or sloping.
- If the spreader hides with its shape the back signalling lights of the tractor, it is necessary to put a lights bar and/or some back signalling signs.
- During the moving on the road, please clean tyres or the working mechanism, in order to avoid dirty the feather edge with earth or other material.



**ATTENTION!**

During the moving on the road, the warning flasher, yellow or orange, assembled on the tractor must always be in function also during the day.



**ATTENTION!**

During transport with raised machine, please always check that the control lever of the rear lifter is locked, in order to avoid the accidental lowering of the machine.

## 4. SAFETY SIGNALS

### 4.1 SAFETY SIGNALS



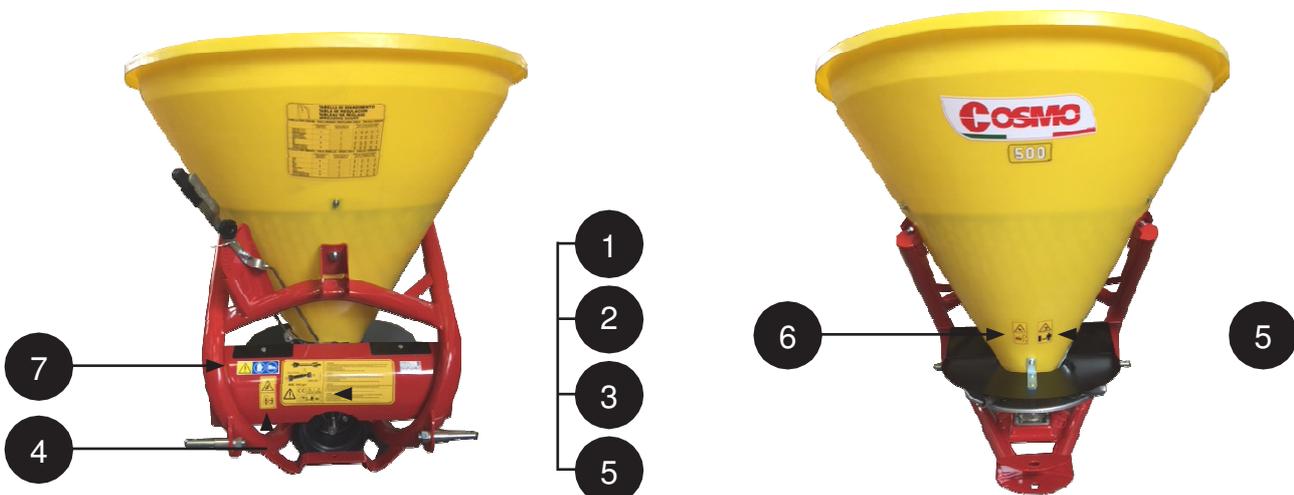
#### ATTENTION!

Be sure that the safety labels are readable. Clean them up using a cloth, water and soap. Replace the damaged labels placing them in the right position, as subsequently described.

The safety signals on the machine supply the most important indications: their observance helps your safeness.

	<p><b>1. ATTENTION!</b> Before making any operation on the machine, stop the engine of the tractor or of the self-moving means, remove the key, put on the parking brake and read carefully the operator's manual.</p>		<p><b>2. ATTENTION! DANGER</b> of entangling and dragging. Do not put hands near the running gear box.</p>
	<p><b>3. ATTENTION!</b> Check the sense of rotation and the number of revolutions (540 rpm) of the tractor power before placing the pto shaft.</p>		<p><b>4. ATTENTION! DANGER</b> of crushing. Do not stop between the machine and tractor when the tractor engine is running.</p>
	<p><b>5. ATTENTION! – DANGER!</b> Possible throwing of material and/or objects, please do not stop or come up to the machine. Keep a safety distance of 50 meters, at least, from the machine.</p>		<p><b>6. ATTENTION! DANGER</b> of shearing. Do not approach limbs to the spreader disc when the machine is running.</p>
			<p><b>7. ATTENTION!</b> Use the individual Protection Devices, as required.</p>

### Location of safety labels on the machine



## 4.2 ASSEMBLY AND SET-UP

Before coupling the machine to the 3-point hitch, positioning the safety devices to the tractor, so that it is not possible the involuntary and/or accidental raising and lowering of the arms.

The 3-point hitch of the tractor and of the machine must coincide or must be adapted.

In proximity of arms rods of the back lifter of the tractor, there is the danger of wounding, because of crushing and cutting points.

Do not use the external controls for the lifting of the machine. During transport position block the lateral stop of the rods.

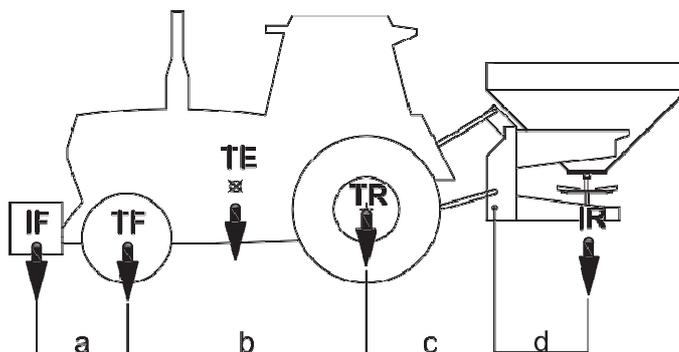
## 4.3 TRACTOR REQUIREMENTS AND 3-POINT HOOK-UP



### DANGER!

It is obligatory to check the raising ability and the stability of the tractor (before carrying out the connection with the machine) in order to avoid the overturning and/or the loss of wheels grip.

Check the raising ability and the stability of the tractor through the following formula and if it is necessary please apply some ballasts on the back.



<b>TE</b> (kg)=	Massa del trattore a vuoto Carico sull'assale posteriore della trattoria vuota
<b>TF</b> (kg)=	Rear axle load of the unladen tractor
<b>TR</b> (kg)=	Massa combinata tra attrezzatura portata posteriore Combined mass of rear mounted equipment
<b>IR</b> (kg)=	Trattore con un carico vuoto Carico sull'assale anteriore della trattoria vuota
<b>IF</b>	Front axle load of the unladen tractor
<b>a</b> (m)=	Distanza dal baricentro dell'attrezzatura portata anteriore dell'assale anteriore Distance from the wheelbase of front equipment to the cen
<b>b</b> (m)=	Interasse trattoria Wheelbase tractor
<b>c</b> (m)=	Distanza dal centro dell'assale posteriore alla sfera di collegamento inferiore lift link connecting ball
<b>d</b> (m)=	Distanza dal centro della sfera di collegamento inferiore al portata posteriore/zavorra posteriore Distance from the centre of the lift link connecting ball to the equipment wheelbase

#### 4.4. CONNECTION TO THE 3-POINT HITCH OF THE TRACTOR



##### ATTENTION!

Every time that somebody comes down from the tractor, it is necessary to disconnect the PTO shaft, stopping the engine and to put on the parking brake.

For the connection of the machine to the tractor, please operate in the following way:

- Step backwards with the tractor until arriving in proximity of the lower connections of the fertilizer spreader.
- Fix the lower connections of the tractor to the pins of the machine and lock them with the safety plugs.
- Connect the upper linkage of the machine to the 3-point hitch of the tractor putting the appropriate pin and block the anti-unscrewing device of the 3-point hitch;
- Raise the machine of some centimetres by the ground and operate on the lateral ties of the lifter bars and on the two turnbuckles, in order to block the lateral movement, so as to prevent excessive oscillations during the working phase.

The machine must be positioned, through the raising of the lower connections of the tractor, so that the land distance from the lower extremity of the distributor disc is approximately of 70 cm. To obtain a regular distribution, it is important that the distributor disc is in horizontal position compared to the land.

- After having made these operations, the pto shaft must be linked to the splined shaft of the gearbox of the machine (covered by a safety cowling) and after to the tractor power take-off.



##### ATTENTION!

The PTO shaft must always be connected to at last to the power take off and disconnected at first, when you stop working.

#### 4.5. DRIVELINE INSTALLATION

Before using the pto shaft, please consult the use and maintenance manual attached to the pto shaft.

*In case that the pto shaft, supplied with the machine, is not used, please check that the cowlings of the machines and of tractors are overlapped to the pto shaft's shield of 5 cm., at least.*

For a correct and safe operation of the machine, please use exclusively pto shafts with CE mark.

Please use pto shafts with integral shields.

- Grease periodically, the pto shaft following the instruction supplied by the pto shaft manufacturer (see the use and maintenance manual of the pto shaft).
- Observe the sense of assembly of the pto shaft, as indicated by the manufacturer and shown on the outer cover of the shield (tractor drawing on the external tube of the pto shaft towards the power take-off of the same tractor).



- Fasten the safety ant-rotation chains and make sure that the safety anti- removing block (push connecting ring nut) is correctly placed and blocked in the right lodging.



**ATTENTION!**  
Check the rotation sense and the speed regulation of the power take-off of the tractor to be at 540 rpm, as the machine is projected for this kind of speed.

The length of the pto shaft must be adapted to the type of used tractor.

When the pto shaft is released from the power take-off of the tractor must ALWAYS be laid on the appropriate support.

**COSMO Company is not responsible for the damages caused by an incorrect assembly and use of the pto shaft.**

### 5. FERTILIZER SPREADER USE



**ATTENTION!**  
Before use, please check that gears are adequately greased (see paragraph 6.1)



**ATTENTION!**  
During the use of the machine, please be sure that for a radius of 50 meters there are not any person or animals. If somebody comes up, please stop immediately the tractor engine.

---

---

#### **Recommendations for a correct distribution**

- Please test always the kg/ha that you wish to spread before starting to work.
- Use a fertilizer in perfect conditions: a humid fertilizer could not be spreaded uniformly and correctly.
- Avoid to spread the fertilizer during windy days, in order to improve the uniformity of the distribution.
- Do not connect the power take-off that operates the spreading disc when the tractor is picked up; low RPM until it idles and afterwards speed up gradually till you can achieve a speed of 540 RPM.
- Open the fertilizer shutters only when the desired speed is achieved.
- Do not spread fertilizer in windy days.

## 5.1. ADJUSTMENTS

It is not possible to have an exact spreading chart for equipments that make use of the centrifugal principle, given that the distributed quantity depends on the feed speed, on the radius of distribution, on the quality and humidity of the fertilizer and on the roughness of the land. The fertilizer must always be stored and conserved adequately, so as to keep its physical characteristics unchanged.

It is necessary to set the speed of the centrifugal spreader, before starting the operation of distribution, trying, in the possible limits, to keep it constant for all its duration.

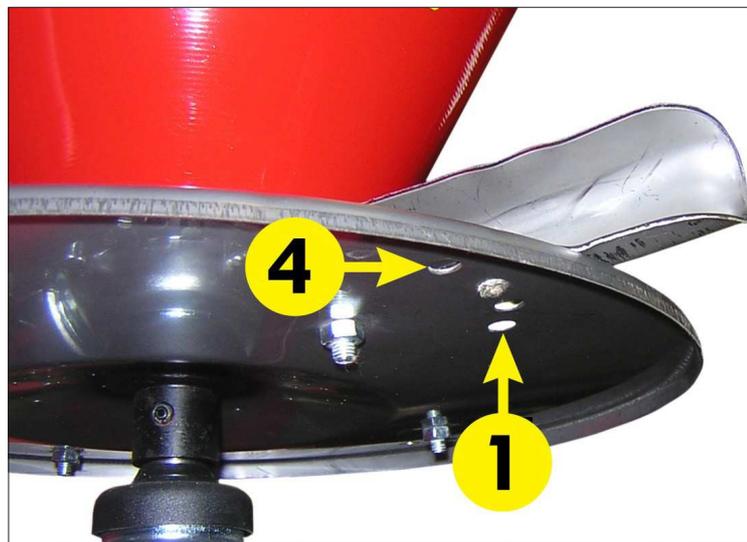
The spreading charts contain the indicative information, in order to determine the quantity to spread in the field; these must be completed by the experience and competence of the operator.

## 5.2. HOW TO ADJUST THE SPREADING VANES

In order to assure an homogenous distribution on both sides of the centrifugal spreader, depending on the different specific weight of the used fertilizer, the distributor vanes on the disc can have different positions.

When all the vanes are put in hole 1 (as shown in the picture), the distribution of the product is increased towards left, compared to the way of the tractor moving. On the contrary, if the vanes are put in hole 4, the distribution will be bigger towards right.

Moreover, moving the vanes from position 1 to position 4, at the same speed, there will be an increase of the distributing width of fertilizer distribution.



DISTRIBUTOR VANE ADJUSTMENT

### 5.3. SPREAD PATTERN

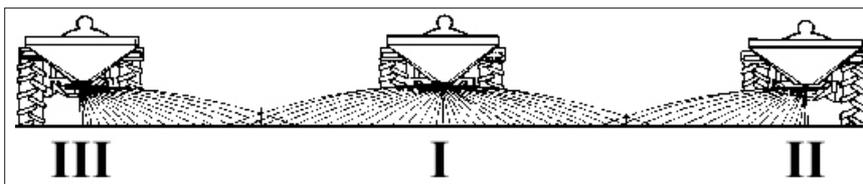
The fertilizer spreading is regulated through the regulation lever that moves the opening section on the bottom of the hopper.

In order to carry out the regulation, after having consulted the spreading table, according to the type of product to spread and to the spreader speed, it is necessary to move the lever "A" along the graduated scale "E" and blocking it in the chosen position with the pin "D". See a further table on page 28 of this manual.

DX	<b>TABELLA DI SPANDIMENTO</b> <b>TABLA DE REGULACION</b> <b>TABLEAU DE REGLAGE</b> <b>SPREADING CHART</b> TABELLA PER CONCIMI - TABLA ABONOS - FERTILIZERS TABLE - TABLEAU ENGRAIS																																							
	12 TABELLA PER SEMENTI - TABLA SEMILLAS - SEEDS TABLE - TABLEAU SEMENCES																																							
SX	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">LARGHEZZA SPANDIMENTO M. ANCHO DE FERTILIZADOR m. WORKING WIDTH m. LARGEUR DE TRAVAIL m.</th> <th rowspan="2">VELOCITA' TRATTORE km/h VELOCIDAD TRACTOR km/h TRACTOR SPEED km/h VITESSE TRACTEUR km/h</th> <th colspan="4">QUANTITA' IN kg/ha - BLS. DIVERSE APERTURE CANTIDAD kg/ha - OPORTOS DE LAS TRAMPAS QUANTITY kg/ha - OPENING SHUTTERS SEET IN kg/ha - OUVERTURES DES TRAPPES</th> </tr> <tr> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>GRANO TRIGO WHEAT BLE</td> <td>8</td> <td>8 10 12</td> <td>36 52 76</td> <td>60 87 120</td> <td>90 130 180</td> <td>120 175 240</td> </tr> <tr> <td>ORZO CEBADA BARLEY ORGE</td> <td>8</td> <td>8 10 12</td> <td>33 47 66</td> <td>55 79 108</td> <td>83 118 162</td> <td>110 155 216</td> </tr> <tr> <td>ALFALFA MEDICA ALFALFA ALFALFA LUZERNE CULTIVEE</td> <td>8</td> <td>8 10 12</td> <td>78 110 152</td> <td>130 185 258</td> <td>195 275 378</td> <td>260 365 504</td> </tr> <tr> <td>KENTUKYA BERMUDA-GRISA KENTUKYA BERMUDA-HERBA KENTUKYA BERMUDA-ORZO KENTUKYA BERMUDA-HERBE</td> <td>8</td> <td>8 10 12</td> <td>80 115 160</td> <td>135 190 260</td> <td>200 280 380</td> <td>270 375 504</td> </tr> </tbody> </table>		LARGHEZZA SPANDIMENTO M. ANCHO DE FERTILIZADOR m. WORKING WIDTH m. LARGEUR DE TRAVAIL m.	VELOCITA' TRATTORE km/h VELOCIDAD TRACTOR km/h TRACTOR SPEED km/h VITESSE TRACTEUR km/h	QUANTITA' IN kg/ha - BLS. DIVERSE APERTURE CANTIDAD kg/ha - OPORTOS DE LAS TRAMPAS QUANTITY kg/ha - OPENING SHUTTERS SEET IN kg/ha - OUVERTURES DES TRAPPES				5	6	7	8	GRANO TRIGO WHEAT BLE	8	8 10 12	36 52 76	60 87 120	90 130 180	120 175 240	ORZO CEBADA BARLEY ORGE	8	8 10 12	33 47 66	55 79 108	83 118 162	110 155 216	ALFALFA MEDICA ALFALFA ALFALFA LUZERNE CULTIVEE	8	8 10 12	78 110 152	130 185 258	195 275 378	260 365 504	KENTUKYA BERMUDA-GRISA KENTUKYA BERMUDA-HERBA KENTUKYA BERMUDA-ORZO KENTUKYA BERMUDA-HERBE	8	8 10 12	80 115 160	135 190 260	200 280 380	270 375 504
	LARGHEZZA SPANDIMENTO M. ANCHO DE FERTILIZADOR m. WORKING WIDTH m. LARGEUR DE TRAVAIL m.				VELOCITA' TRATTORE km/h VELOCIDAD TRACTOR km/h TRACTOR SPEED km/h VITESSE TRACTEUR km/h	QUANTITA' IN kg/ha - BLS. DIVERSE APERTURE CANTIDAD kg/ha - OPORTOS DE LAS TRAMPAS QUANTITY kg/ha - OPENING SHUTTERS SEET IN kg/ha - OUVERTURES DES TRAPPES																																		
		5	6	7		8																																		
GRANO TRIGO WHEAT BLE	8	8 10 12	36 52 76	60 87 120	90 130 180	120 175 240																																		
ORZO CEBADA BARLEY ORGE	8	8 10 12	33 47 66	55 79 108	83 118 162	110 155 216																																		
ALFALFA MEDICA ALFALFA ALFALFA LUZERNE CULTIVEE	8	8 10 12	78 110 152	130 185 258	195 275 378	260 365 504																																		
KENTUKYA BERMUDA-GRISA KENTUKYA BERMUDA-HERBA KENTUKYA BERMUDA-ORZO KENTUKYA BERMUDA-HERBE	8	8 10 12	80 115 160	135 190 260	200 280 380	270 375 504																																		

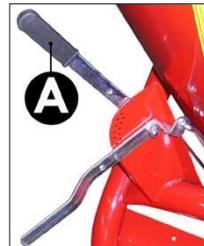
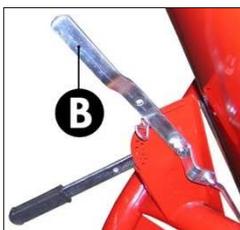
Before using the spreader make sure that the shutters could close the holes completely with lever in "closed" position. Otherwise adjust it through the nuts.

In order to spread from both sides (ref. I), "A" and "B" levers must be in the same position, connected through grip handle "C".



In order to carry out the spreading only through the left side (ref. II), it is necessary to disconnect the two levers removing the "C" grip handle, to set the lever "A" in the chosen position, given by the spreading chart, and to bring the lever "B" towards the higher part (position 1) in order to close the shutter of the right side.

In order to spread only on to the right side (ref. III) you have to move the lever "A" up, (in position 1) and regulate the quantity to spread with the lever "B".



LEFT SIDE DISTRIBUTION (RIF. II)

RIGHT SIDE DISTRIBUTION (RIF. III)

## 5.4. HOPPER LOAD

It is advised not to carry out the hopper loading manually but using a lifter or suitable mechanical means



**ATTENTION!**  
The hopper must be loaded only after having hitched the spreader to the tractor.

Do not drive for very long distances with a full load and do not put full bags on the fertiliser loaded in the hopper during the transport to the field or during the working, in order not to overload the capacity of the machine and to compress the fertilizer



**WARNING!**  
During the operations of transport, stock and use of fertilizers, the operator must be behaved in compliance with the indications on the label of the product and in particular with the content of the sentences of risk and the precaution advices.

## 5.5. FULL WIDTH SPREADING



### ATTENTION! - WARNING!

The operator, during the period of use, maintenance, repair, transport or storing of the machine, must wear accident-prevention shoes and gloves of security. If it is necessary, he will have, moreover, to wear headset, mask and glasses.

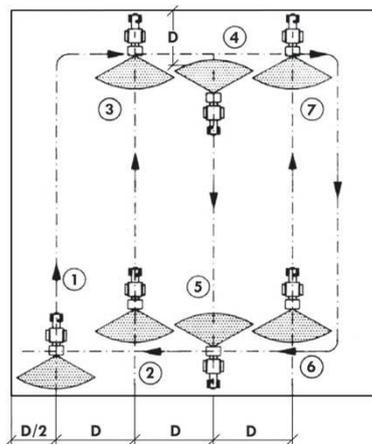
After having hitched the machine to the tractor and having carried out the necessary regulations, it is possible to begin to work.



### ATTENTION!

Before getting off the tractor and before any operation of maintenance and regulation, set in action the parking brake, turn off the engine, remove the ignition key from the dashboard and await the stop of all the moving parts.

- Engage the axle with the pin, so that the spreader can be set in action by the turning wheels, only when the spreading operation has to be carried out.
- Various ways there are to spread the fertilizer in the field. One of the simplest methods is, as follows:
- Position the spreader at the beginning of the field you intend to fertilise, to a distance ( $D/2$ ) that is the half of the working width that is used (point 1);
- Drive in the field, distributing the fertilizer on all the perimeter;
- Stop the tractor at one distance ( $D$ ) from the point 1, equivalent to the set working width (point 2);
- Begin the spreading proceeding in line, straight to point 3. Turn the tractor and drive a  $D$  distance, equal to the working width (point 4);
- Repeat such procedure until all the plot will be covered.



## 6. ACCESSORI PER MODELLI P-PL-PX-PS

### 6.1. SALT SPREADING LIMITER



**STANDARD SPREADING  
LIMITER**

#### Assembling Instructions

First you have to attach the two rods (ref. 10) on the limiter (ref. 8) using the screws and nuts (ref. 7-6) (pict. 1).

Then, install the shock-absorber (ref. 5) on the bracket (ref. 9) using the washer and nut (ref. 2-3); so, you can assemble the lever on the limiter (pict. 5).

FOTO 1



FOTO 2



Now you can assemble the bracket (ref. 11 e 12) on the frame using the screws and bolts on it (pict. 3).

Put the rods into the brackets and set the height up using the knob (ref. 1) (pict. 4).



FOTO 3



FOTO 4

To finish the assembling you have to set the bracket up (ref. 9) in order that, when the limiter is in the right position, the shock-absorber (ref. 5) has to stick on the hopper (pict. 5).



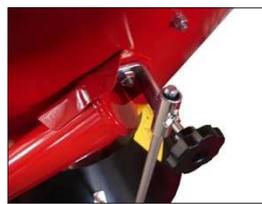
FOTO 5

As soon as the parts these parts are assembled, fix the brackets (rif. 11 e 12) on the frame, by screws and nuts (pict 3).

Insert the rods into the supports and adjust the desired height with the knobs (rif. 1) (pict 4).



PICT 3



PICT 4

Now, once the limiter position has been chosen, adjust the bracket (rif. 9) in a way that the anti-vibration mount (rif. 5) makes complete contact on the surface of the hopper (pict 5).



FOTO 5



**PROFESSIONAL SALT LIMITER**

## 6.2 LATERAL CONVEYORS



**One-row conveyor - \*A**



**Double row conveyor - \*B**

\*A – If you use this accessory place the 4 vanes on the disc in position: **2-3-2-3** - speed at 540 rpm.  
 In case of a disc with 6 vanes, put them on **2-3-2-3-2-3** - speed at 540 rpm.  
 \*B – If you use this accessory place the 4 vanes on **2-3-2-3** – speed at 540 rpm.  
 In case of a disc with 6 vanes, put them on **1-3-1-3-1-3** - speed at 540 rpm.

## 6.3 HYDRAULIC OPENING



## 6.4 WHEELS KIT



## **7. SPREADING MISTAKES**

### **Mistakes of use**

- Drive speed;
- Incorrect spreading width;
- The spreading disc is not in a horizontal position compared to the land;
- Drive speed is different to those suggested by the spreading tables, or however not suitable for that particular type of fertilizer;
- Drive mistakes (lack of superimposition of the spreading surfaces);
- Lack of cleaning of distributing discs and the gates opening;

### **Mistakes due to fertilizer**

- Fertilizer of poor quality. Wet or excessive humid fertilizer;
- Incorrect fertilizer composition or it does not correspond to what declared from the vendor;
- Presence of excessive fertilizer lumps or with particular great dimensions that influence negatively on the yield of the spreading;
- Foreign body in the fertilizer.

### **Mistakes due to the spreader**

- Spreading exits clogged.
- Parts of the spreading disc worn away or damaged.

## 8. MAINTENANCE

The ordinary maintenance criteria we suggest, are based on the company experience and on the advices and suggestions from our customers.

Such criteria are not exhaustive can be further integrated also with the collaboration of the customers that we thanks in advance.

A good ordinary maintenance keeps the operating costs of the machine low and provide an integral exploitation of its potentialities.



### ATTENTION!

Whichever work of maintenance, regulation and cleaning must be carried out with the machine on the ground (in stable conditions), engine turned off, handbrake set, key of ignition off and removed from the ignition board.

In damage case, the operator must stop the machine immediately, assess the entity of the problem and

proceed with eventual actions on the machine.

If pressure water or compressed air is used for the cleaning of the machine, it is necessary to protect oneself with proper glasses or protection masks and to remove eventual persons or animals near the machine. Do not use inflammable fluids.



### ATTENTION!

For the maintenance operations, always use the fit Individual Protection Devices (accident-prevention footwear and gloves) and to prepare all the accident- prevention steps for the type of operation in course.

Every 8 hours of effective job, control the tightness of all nuts and bolts.

In case of anomalous vibrations, verify the status of wear of the vanes of the spreading disc, the corrected tightness of all the nuts and bolts and the lubrication of the gear box.

The excessive vibration of the machine, besides the specific annoyance, is dangerous and damaging for the entire structure subjecting the mechanical parts to more and more stress cycles compared to the advice pictures.

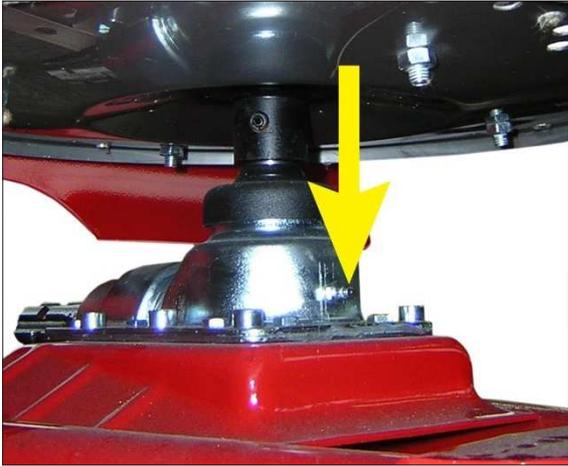
As regards particular actions that the user does not know or regarding broken parts replacing which are not shown in this manual, it is necessary to consult specialised personnel, making use of the Assistance service by the manufacturer or its distributors.

### 8.1. LUBRICATION

Before every use and after every 8 hours of effective work, carry out the greasing of the machine.

It is a good use that the greasing nipples are well cleaned up from mud or other residuals before using them for inject lubricating grease.

Lubricate with lithium grease the points, shown in the picture.



### 8.2. REPLACEMENT OF DISTRIBUTOR VANES

In case the spreading vanes are broken or damaged, it is necessary to substitute them with new ones.



Unscrew the nut and replace the damaged vane.

The fixing items (nuts and bolts) must be the same type of those prescribed by the manufacturer.

### **8.3. LONG-TERM STORAGE**

It is a good use not to wait for using the machine to carry out repairing and maintenance. To repair and to replace the parts that are broken or damaged before the storage, in order to have always the machine ready for being used.

To store the machine in a sheltered place away from atmospheric agents and protect it in order to avoid deteriorations.

The fertilizers are generally corrosive. For this reason it is important that no particles of fertiliser remains on the machine for long period of time.

Before storing the machine for long periods, it is opportune to operate as follows:

- wash accurately the machine and the inside of the hopper;
- to carry out a general control by sight of the machine in order to check eventual structural damages, to find eventual deep abrasions on the paint;
- to check that the safety signals are presents in their positions, that they are integral and readable, and in case they are deteriorated or unreadable, carry out immediately their substitution (see par.3.1);
- to grease all the mechanical parts (to see par. 6.1);
- to store, if possible, the machine in a sheltered place.

### **8.4. SPARE PARTS**

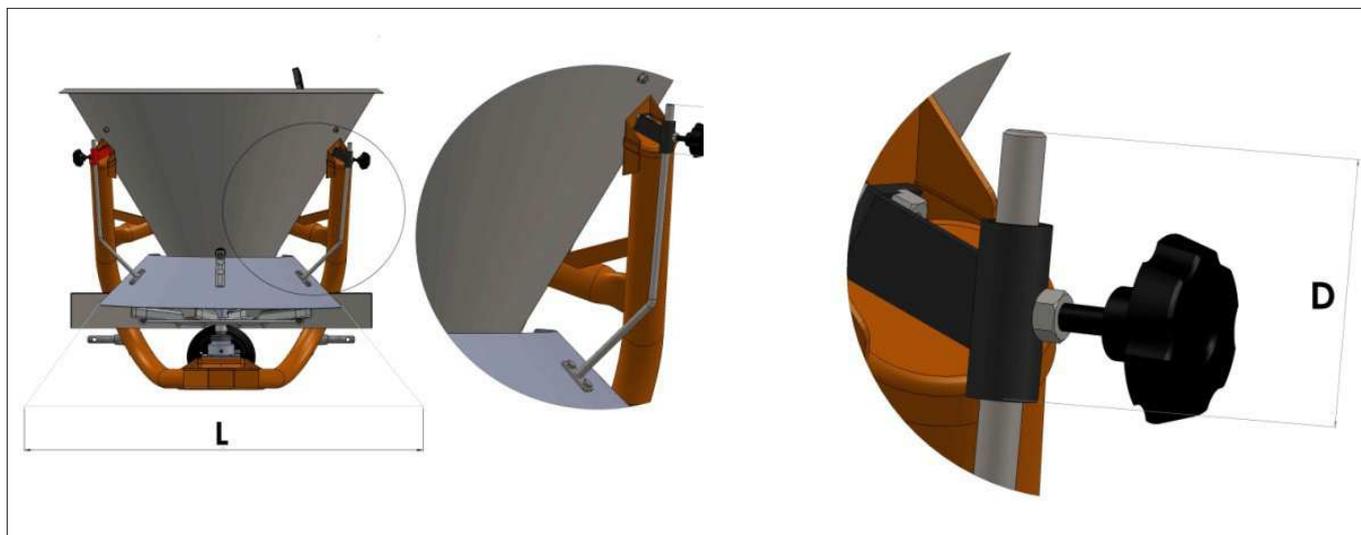
For the replacement of parts of the centrifugal spreader Mod. P-PL, the customer must use just original parts, ordering them directly to the manufacturer of the machine to authorized dealers.

Carrying out the order, it is necessary to specify what the identification label brings, in particular:

- serial number;
- model;
- manufacturing year;
- number of frame.

## 9. SPREADING CHARTS

### 9.1. SPREADING CHART AND STANDARD LIMITER SPREADING ADJUSTMENT



ADJUSTMENT D in mm.	SPREADING WIDTH
mm.40	160 mm
mm.50	240 mm
mm.60	480 mm
mm.100	Open

APERTURA LEVA SPANDICONCIME	QT.Kg/metro a velocita 6 km	QT.Kg/metro a velocita 8 km	QT.Kg/metro a velocita 12 km
4	0,148(148 for Km)	0,111(111 for Km)	0,74(74 for Km)
6	0,576(576 for Km)	0,432(432 for Km)	0,288(288 for Km)
8	0,984(984 for Km)	0,738(738 for Km)	0,492(492 for Km)

## 9.2 SPREADING CHART AND PROFESSIONAL LIMITER SPREADING ADJUSTMENT



REGOLAZIONE POSIZIONE	LARGHEZZA SPAGLIO
POS.1	2,5 m
POS.2	3,5 m
POS.3	5,0 m
POS.4	8,0 m
POS.5	Tutto aperto

APERTURA	QT.Kg/metro a velocita 6 km	QT.Kg/metro a velocita 8 km	QT.Kg/metro a velocita 12 km
4	0,148(148 Kg/Km)	0,111(111 Kg/Km)	0,74(74 Kg/Km)
6	0,576(576 Kg/Km)	0,432(432 Kg/Km)	0,288(288 Kg/Km)
8	0,984(984 Kg/Km)	0,738(738 Kg/Km)	0,492(492 Kg/Km)

### 9.3. SPREADING CHART FOR FERTILIZER & SEED

	TRACTOR SPEED Km/h	SPREAD WIDTH Mt.	QUANTITY SPREAD IN Kg/Ha AT VARIOUS GATE SETTINGS							
			1	2	3	4	5	6	7	8
MEDIUM GRANULAR FERTILIZER 12-12-12	5	16				149	372	570	818	991
	8					93	232	356	511	619
	12					62	155	237	341	413
FINE GRANULAR FERTILIZER	5	16				170	420	650	900	1100
	8					106	260	400	580	700
	12					71	180	270	390	470
NITRATO DI AMMONIO	5	16				167	418	641	920	1115
	8					105	260	400	580	700
	12					71	174	270	383	464
UREA	5	12				223	557	855	1226	1486
	8					139	348	534	766	920
	12					93	232	356	511	619
CIANNAMIDE GRANULARE	5	12				245	613	940	1349	1635
	8					153	383	587	843	1021
	12					102	255	392	562	681
	TRACTOR SPEED Km/h	SPREAD WIDTH Mt.	QUANTITY SPREAD IN Kg/Ha AT VARIOUS GATE SETTINGS							
			1	2	3	4	5	6	7	8
GRANO	5	8					36	60	90	120
	8						22	37	55	73
	12						16	26	40	52
ORZO	5	8					33	55	89	110
	8						20	33	33	65
	12						14	23	44	45
ALFA-MEDICA	5	8					78	130	195	260
	8						53	88	131	175
	12						38	63	94	125
KENTUKY & BERMUDA	5	8					80	135	200	270
	8						56	93	140	180
	12						40	70	100	135

## 10. WARRANTY

**All the manufactured machines, shown in this manual, are sold with one warranty valid for a year from the delivery date, subjected to the following clauses:**

- In case a defect in a part is found (or in some parts) during a period of a year from the delivery date of the machine to the customer, the dealer commits himself to verify the defective part and, in case in the course of this verification it is assessed a defect which is due to the materials or to the manufacturing, he will repair the defective part or, to his discretion, to replace it free of charge.
- The customer, at the delivery, must control that the machine has not got damages during the transport, that is in compliance with the one ordered and that is complete with all the accessories got from the purchase contract. On the contrary, he must send a written claim within 8 days from its reception.
- The warranty is not applied in the following cases:
  - a) normal wear;
  - b) breaches or breaks deriving from negligence or due to the use of the machine in different conditions of the ones permitted;
  - c) in case the machine has got unauthorized modifications (in written document) from the manufacturer or if unoriginal spare parts and accessories were mounted;
  - d) when the serial number of the machine has been modified, removed or cancelled.

In any case, purchaser has to face the wearable parts substitution, the labour, transport costs, the eventual customs costs and the value-added tax.

Every responsibility for direct or indirect damages is declined when they are due to breaks or to the wear of the parts, the less for those deriving from the proper or improper use of themselves.

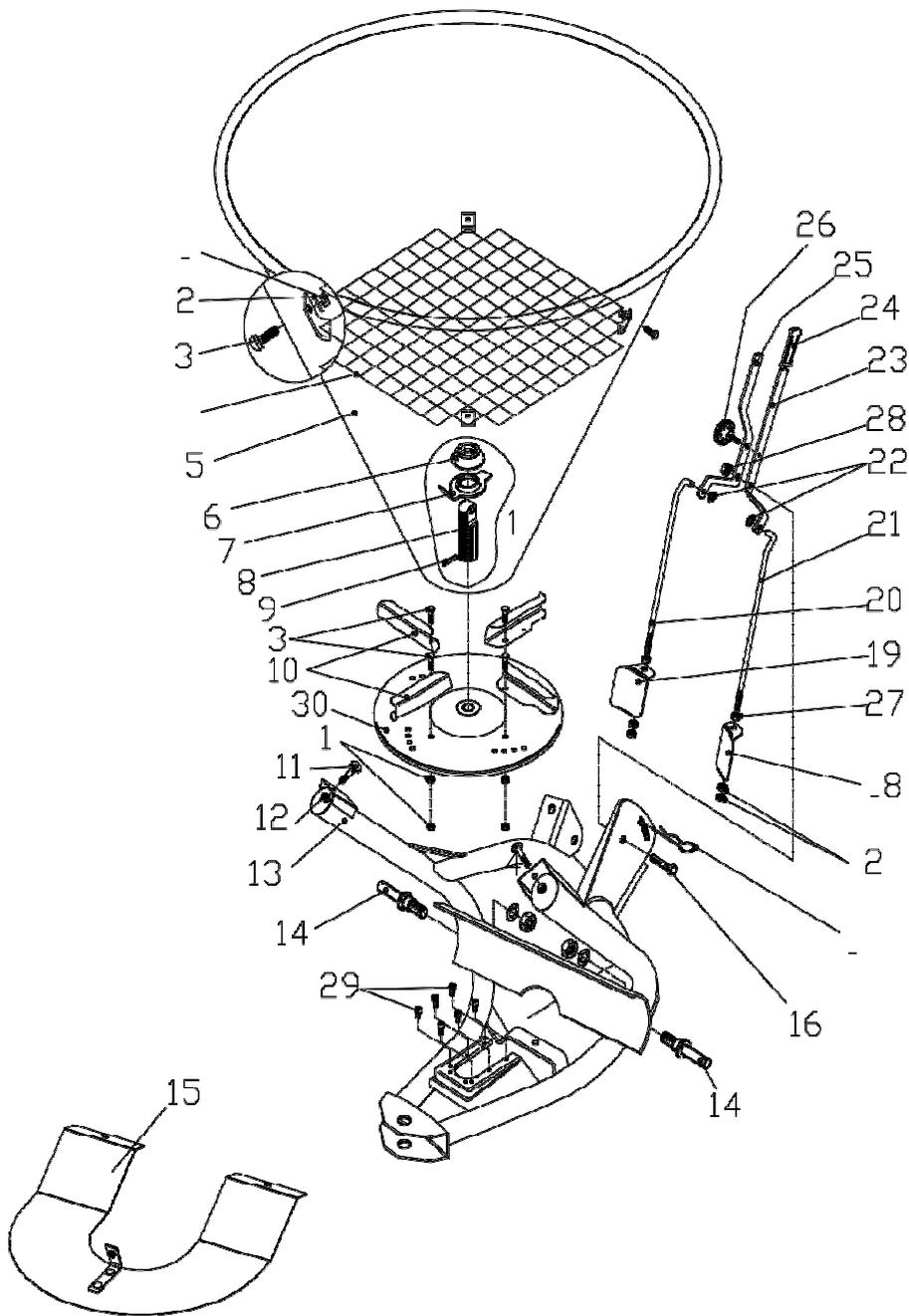
- Defects that are not clearly attributable to the material or to the manufacturing, will be checked by our Technical Attendance Centre or by our warehouse. If the claim would turn out unjustified, all the repair costs and/or substitution of the damaged parts will be debited to the purchaser.
- All the parts will be billed at the shipment time and at the eventual acknowledgment of the guarantees (previous receipt and check of the damaged parts). This will give the right to get the credit.

The manufacturer or its retailer will not be responsible of the loss, neither of the damage, whichever it is and in whichever way it happened during the transport.

The aforementioned commitment refers to the person of the customer and it cannot be yielded or be transmitted to others.

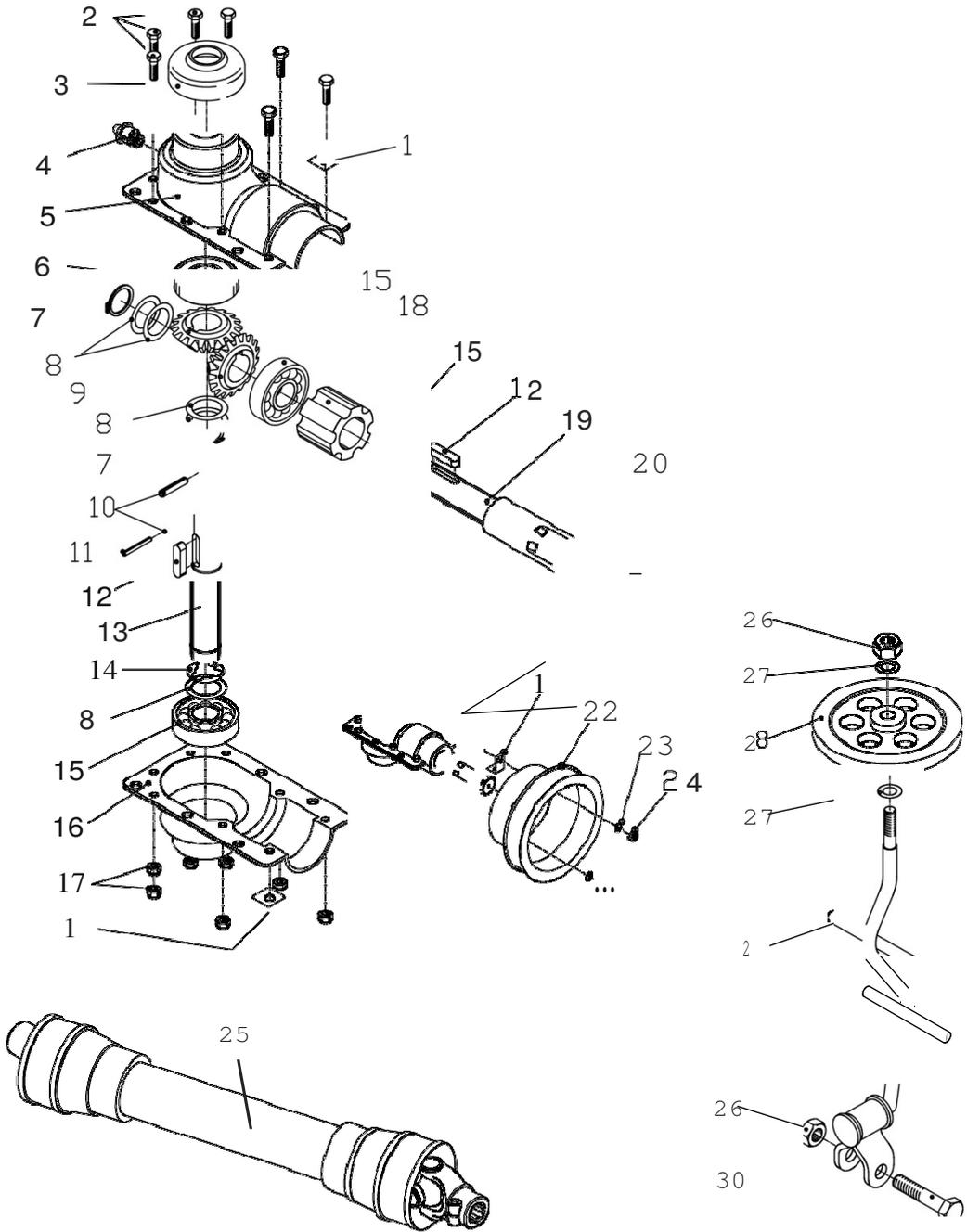
# 11. TAVOLE ESPLOSI - PARTS BREAKDOWN

## 11.1. GENERALE MACCHINA - GENERAL VIEW



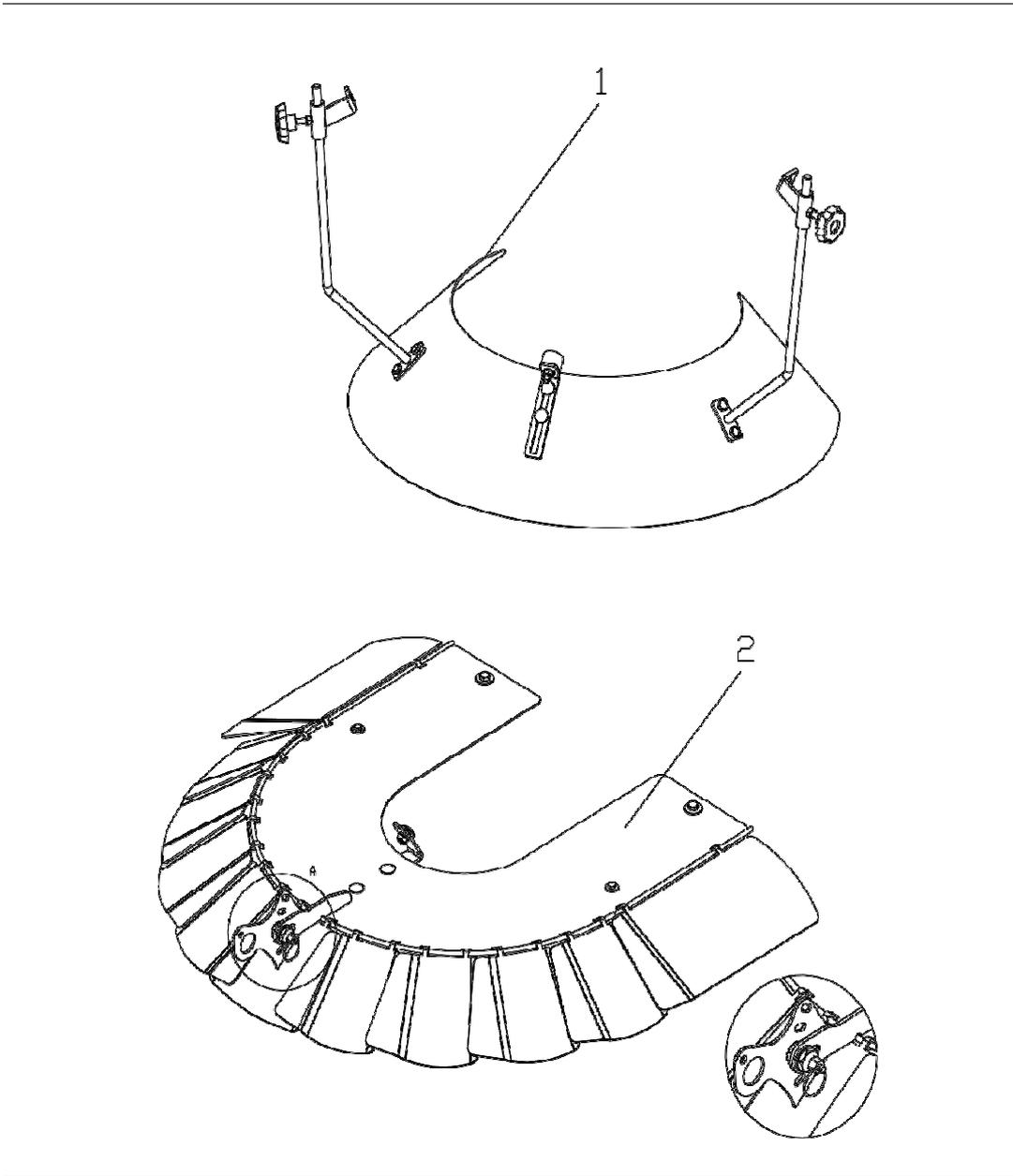
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	8	301.012	DADO MEDIO M8 UNI 5588 ZB	NUT M8 UNI 5588
2	8	303.007	RONDELLA 8X17 UNI 6592 ZB	WASHER 8X17 UNI 6592
3	8	300.030	VITE TTQST 8X16 UNI 5731 ZB	ROUNDHEADED SCREW 8X16 UNI 5731
4	1	642.001	GRIGLIA PROTEZIONE CE	PROTECTIVE GRATE
5	1	609.013	TRAMOGGIA 500	HOPPER 500
5	1	609.012	TRAMOGGIA 400	HOPPER 400
5	1	609.011	TRAMOGGIA 300	HOPPER 300
5	1	609.010	TRAMOGGIA 250	HOPPER 250
5	1	609.008	TRAMOGGIA 180	HOPPER 180
6	1	304.013	RONDELLA ASOLATA TRASCINATORE	RUBBER RING
7	1	619.002	AGITATORE INFERIORE	LOWER AGITATOR
8	1	330.001	TRASCINATORE ALLUMINIO	ENTRAINER
9	2	305.001	SPINA ELASTICA 8X40	SPRING PIN 8X40
10	4	601.001.19	PALETTA	DISTRIBUTOR VANE
11	3	300.023	VITE TTQST 10X20 UNI 5731 ZB	ROUNDHEADED SCREW 10X20 UNI 5731
12	3	301.010	DADO MEDIO M10 UNI 5588 ZB	NUT M10 UNI 5588
13	1	613.003	TELAIO "P" NUOVO senza perno sollev.	NEW FRAME "P" without lower link pins
14	2	633.001	PERNO SOLLEVAMENTO	LOWER LINK PIN
15	1	206.004	KIT PROTEZIONE ITALIA	SHEET GUARD
16	1	300.024	VITE TE 12X35 UNI 5739 ZB	HEXAGONAL-HEAD SCREW 12x35 UNI 5739
17	1	307.001	COPPIGLIA 4,5 ZB	SPLIT PIN 4,5
18	1	605.004	PORTELLINO SINISTRO	LEFT SHUTTER
19	1	605.003	PORTELLINO DESTRO	RIGHT SHUTTER
20	1	602.001	TIRANTE DESTRO	RIGHT TIE ROD
21	1	602.002	TIRANTE SINISTRO	LEFT TIE ROD
22	2	303.009	RONDELLA PIANA 10,5X21 UNI 6592 GR	WASHER 10,5X21 UNI 6592
23	1	604.002	LEVA SINISTRA	LEFT LEVER
24	1	304.008	IMPUGNATURA IN GOMMA	RUBBER GRIP
25	1	604.001	LEVA DESTRA	RIGHT LEVER
26	1	302.003	POMMELLO LEVE 8X25	LEVER LOCK KNOB
27	6	301.014	DADO MEDIO M10 UNI 5589 GR	NUT M10 UNI 5589
28	3	301.008	DADO AUT.ALTO M12 ZB	SELF LOCKING NUT M12
29	6	300.014	VITE TCE 8X16 UNI 5931 ZB	CHEESE-HEADED SCREW 8x16 UNI 5931
30	1	610.003	DISCO SPARGITORE senza palette	SPREADER DISC without distributor vanes
	1	610.001	DISCO SPARGITORE c/palette	SPREADER DISC with distributor vanes
	1	610.013	DISCO SPARGITORE INOX senza palette	STAINLESS STEEL SPREADER DISC without distributor vanes
	1	610.014	DISCO SPARGITORE INOX c/palette	STAINLESS STEEL SPREADER DISC with distributor vanes

11.2. RIDUTTORE- AGITATORE - GEAR BOX-AGITATOR



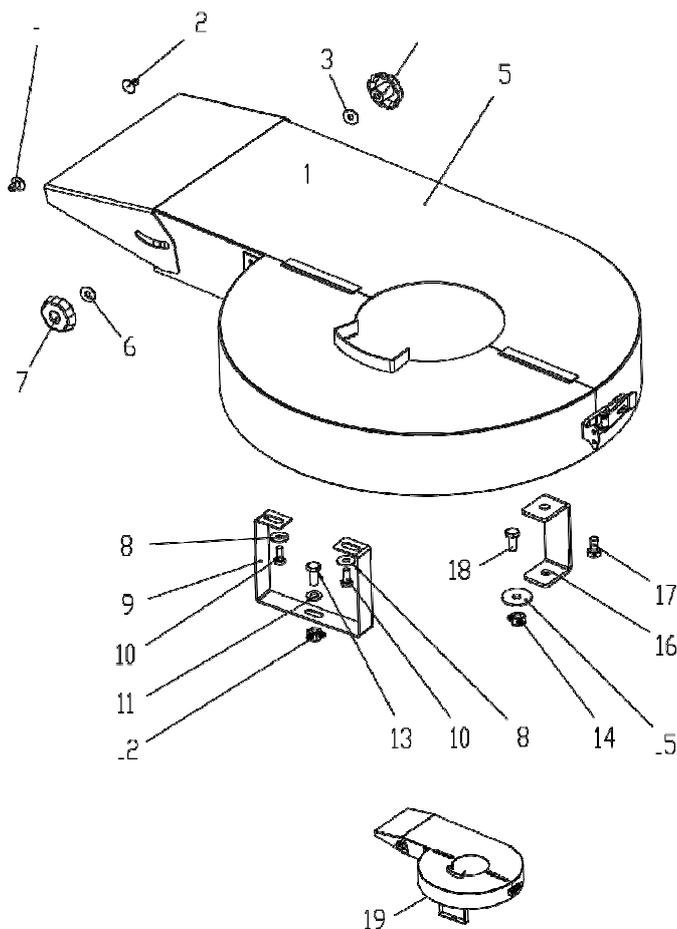
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	8	606.012	STAFFETTA PROT.RID.CEE	BRACKET FOR GEAR BOX "CE"
2	2	300.026	VITE TE 6X16 UNI 5739 ZB	HEXAGONAL-HEAD SCREW 6x16 UNI 5739
3	1	304.002	CUFFIA ALBERO USCITA RIDUTTORE	OUTPUT SHAFT COWLING
4	1	306.002	INGRASSATORE M8 ZB	GREASE NIPPLE M8
5	1	314.002	GUSCIO SUPERIORE	UPPER SHELL
6	1	310.001	CUSCINETTO 6205 2RS	BALL BEARING 6205 2RS
7	2	313.011	ANELLO D'ARRESTO 25X1,2	SPING-LOCK RING
8	5	303.011	RONDELLA PS 25X35X0,5 DIN 988 GR	WASHER 25X35X0,5 DIN 988
9	2	316.003	PIGNONE	PINION
10	2	305.001	SPINA ELASTICA 8X40	SPRING PIN 8X40
11	1	305.003	SPINA ELASTICA 5X40	SPRING PIN 5X40
12	2	326.003	CHIAVETTA 8X7X20 UNI 6604	SPLINE KEY 8X7X20 UNI 6604
13	1	323.009	ALBERO USCITA	OUTPUT SHAFT
14	1	313.010	ANELLO ELASTICO 19x1,75	SPLIT RING
15	3	310.002	CUSCINETTO 6205	BALL BEARING 6205
16	1	314.001	GUSCIO INFERIORE	LOWER SHELL
17	8	301.009	DADO AUT.ALTO M6 ZB	SELF LOCKING NUT M6
18	1	329.011	DISTANZIALE	SPACER
19	1	323.008	ALBERO ENTRATA	INPUT SHAFT
20	1	309.001	PARAOILIO	OIL SEAL
21	1	322.002	GRUPPO COMPLETO-RIDUTTORE	GEAR BOX
22	1	304.002	CUFFIA ALBERO USCITA RIDUTTORE	OUTPUT SHAFT COWLING
23	4	303.007	RONDELLA 8X17 UNI 6592 ZB	WASHER 8X17 UNI 6592
24	4	301.012	DADO MEDIO M8 UNI 5588 ZB	NUT M8 UNI 5588
25	1	311.001	ALBERO CARDANO RS1 510	PTO SHAFT RS1 510
26	3	301.008	DADO AUT.ALTO M12 ZB	SELF LOCKING NUT M12
27	2	303.026	RONDELLA 13X25 UNI 6592 ZB	WASHER 13X25 UNI 6592
28	1	304.011	RUOTINA AGITATORE	BUFFER WHEEL
29	1	613.009	TELAIO AGITATORE SUPERIORE	UPPER AGITATOR FRAME
30	1	300.025	VITE TE 12X55 UNI 5737 ZB	HEXAGONAL-HEAD SCREW 12x55 UNI 5737

### 11.3. LIMITATORE STANDARD E PROFESSIONALE - STANDARD & PROFESSIONAL LIMITER



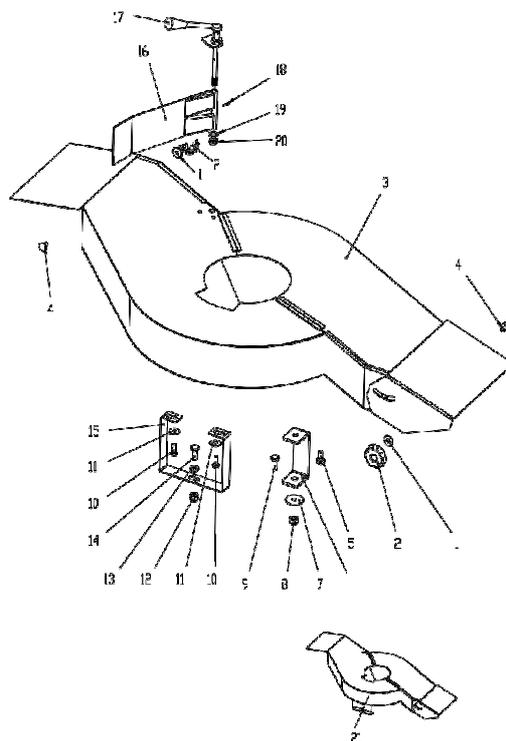
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	1	620.001	LIMITATORE STANDARD	STANDARD CONVEYOR
1	1	606.065	LIMITATORE INOX STANDARD	ST. STEEL STANDARD CONVEYOR
2	1	620.103	KIT LIMITATORE Progr.FER.P/PTP	PROFESSIONAL CONVEYOR
2	1	620.100	KIT LIMITATORE SP.PROGR.INOX P	ST. STEEL PROFESSIONAL CONVEYOR

### 11.4. CONVOGLIATORE SINGOLO - ONE SIDE CONVEYOR



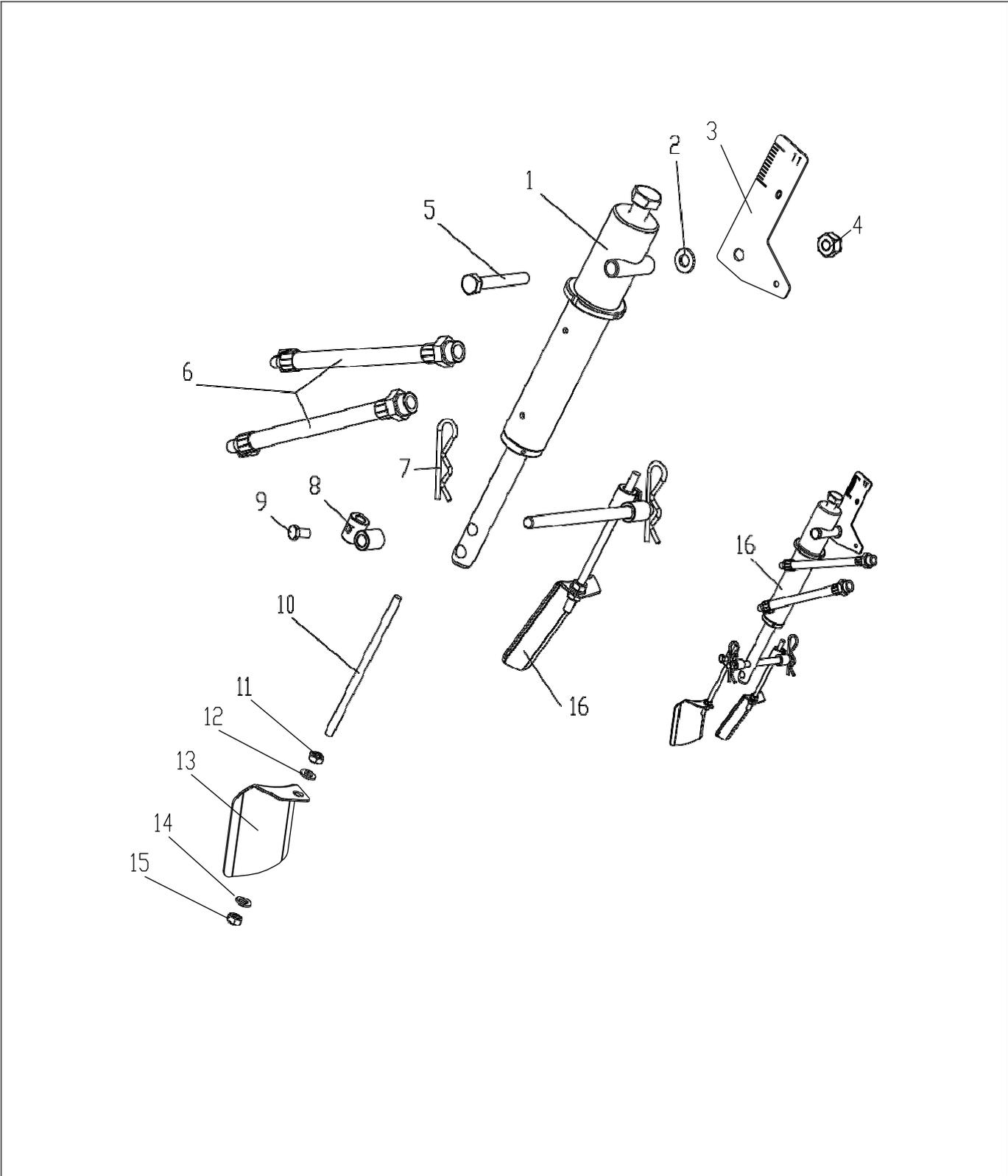
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	1	300.030	VITE TTQST M8X16	ROUND-HEAD SCREW M8X16
2	1	300.030	VITE TTQST M8X16	ROUND-HEAD SCREW M8X16
3	1	303.013	ROND. 8X24 UNI 6593 ZB	WASHER 8X24 UNI 6593
4	1	302.005	VOLANTINO FEMM. DM40 M8	KNOB DM40 M8
5	1	620.002	CONVOGLIATORE LATERALE SINGOLO	DOUBLE LATERAL CONVEYOR
6	1	303.013	ROND. 8X24 UNI 6593 ZB	WASHER 8X24 UNI 6593
7	1	302.005	VOLANTINO FEMM. DM40 M8	KNOB DM40 M8
8	4	303.013	ROND. 8X24 UNI 6593 ZB	WASHER 8X24 UNI 6593
9	1	620.223	STAFFA ASOLATA	SLOTTED SUPPORT
10	2	300.029	VITE TE M8X20 UNI 5739 ZB	HEX. HEAD SCREW M8X20 UNI 5739
11	1	303.015	RONDELLA 10X20 UNI 6591 ZB	WASHER 10X20 UNI 6591
12	1	301.013	DADO AUTOBLOC. ALTO M10 ZB	SELF-LOCKING NUT M10
13	1	300.003	VITE TE M10X25 UNI 5739 ZB	HEX. HEAD SCREW M10X25 UNI 5739
14	1	301.013	DADO AUTOBLOC. ALTO M10 ZB	SELF-LOCKING NUT M10
15	1	303.005	RONDELLA 10X40 UNI 6593 ZB	WASHER 10X40 UNI 6593
16	1	620.222	STAFFA A C SOSTEGNO CONV.	C TYPE SUPPORT BRACKET
17	1	300.016	VITE TE M10X20 UNI 5739 ZB	HEX. HEAD SCREW M10X20 UNI 5739
18	1	300.003	VITE TE M10X25 UNI 5739 ZB	HEX. HEAD SCREW M10X25 UNI 5739
19	1	620.102	KIT CONVOGLIATORE LATERALE SINGOLO P	SINGLE SIDE CONVEYOR KIT

## 11.5. CONVOGLIATORE DOPPIO - DOUBLE SIDE CONVEYOR



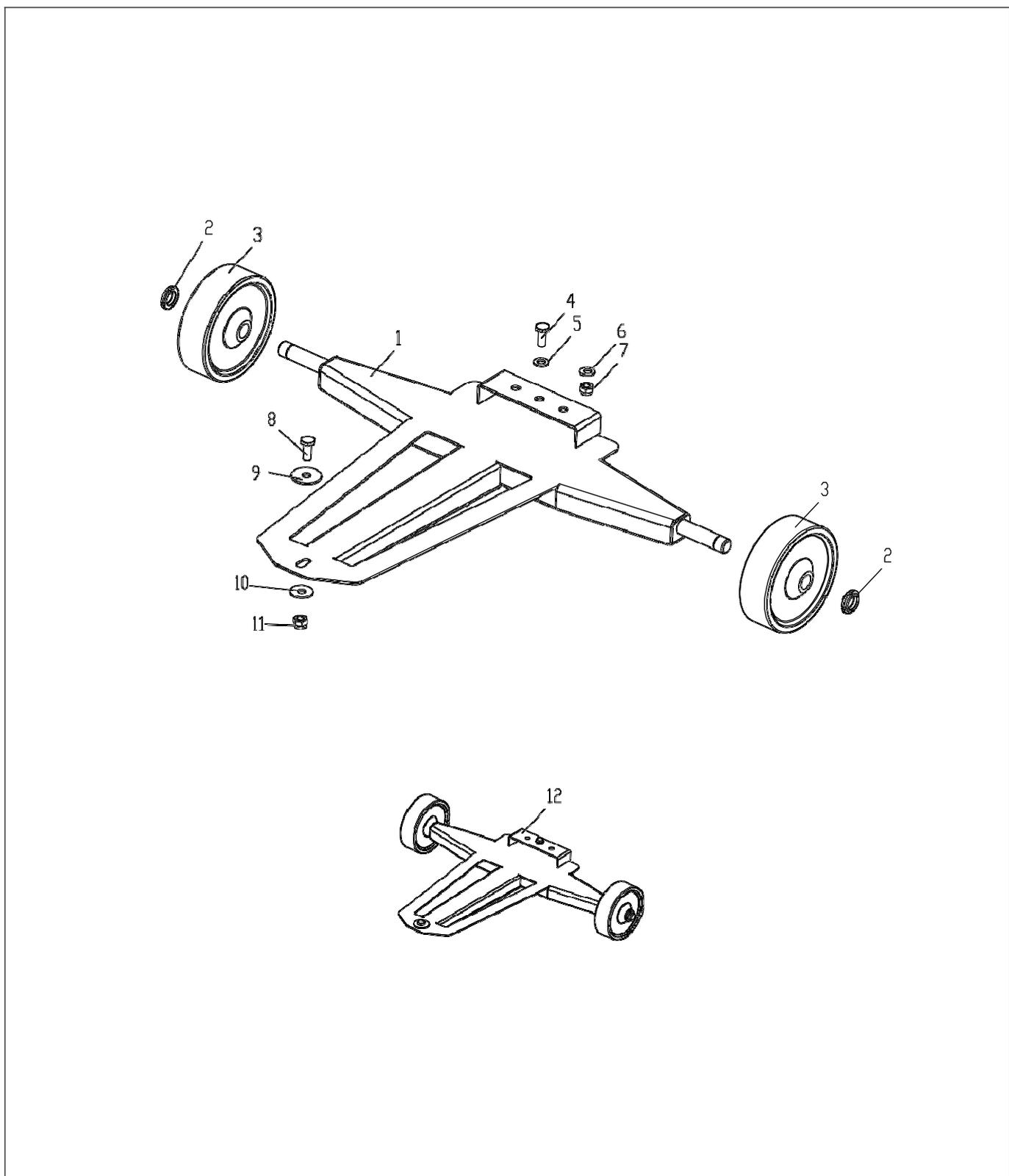
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	2	303.013	ROND. 8X24 UNI 6593 ZB	WASHER 8X24 UNI 6593
2	2	302.005	VOLANTINO FEMM. DM40 M8	KNOB DM40 M8
3	1	620.043	CONVOGLIATORE LATERALE DOPPIO	DOUBLE SIDE CONVEYOR
4	2	300.030	VITE TTQST 8X16 UNI 5731 ZB	ROUNDHEADED SCREW 10X20 UNI 5731
5	1	300.016	VITE TE M10X20 UNI 5739 ZB	HEX. HEAD SCREW M10X20 UNI 5739
6	1	620.222	STAFFA A C SOSTEGNO CONV.	C TYPE SUPPORT BRACKET
7	1	303.005	RONDELLA 10X40 UNI 6593 ZB	WASHER 10X40 UNI 6593
8	2	301.013	DADO AUT.ALTO M10 ZB	SELF-LOCKING NUT M10
9	1	300.003	VITE TE M10X25 UNI 5739 ZB	HEX. HEAD SCREW M10X25 UNI 5739
10	2	300.029	VITE TE M8X20 UNI 5739 ZB	HEX. HEAD SCREW M8X20 UNI 5739
11	2	303.013	ROND. 8X24 UNI 6593 ZB	WASHER 8X24 UNI 6593
12	1	301.013	DADO AUTOBLOC. ALTO M10 ZB	SELF-LOCKING NUT M10
13	1	303.015	ROND. 10X20 UNI 6592 ZB	WASHER 10X20 UNI 6592
14	1	300.003	VITE TE M10X25 UNI 5739 ZB	HEX. HEAD SCREW M10X25 UNI 5739
15	1	620.223	STAFFA ASOLATA	SLOTTED SUPPORT
16	1	606.385	LAMIERA PORTELLO	SHUTTER
17	1	606.387	MANIGLIA PORTELLO	DOOR HANDLE
18	1	305.020	SPINA ELASTIC 3X15	SPRING PIN 3X15
19	1	303.015	ROND. 10X20 UNI 6592 ZB	WASHER 10X20 UNI 6592
20	1	301.053	DADO AUT. BASSO M10	SELF-LOCKING NUT M10
21	1	620.106	KIT CONVOGLIATORE LATERALE DOPPIO	KIT ASSEMBLED DOUBLE SIDE CONVEYOR

11.6. APERTURA IDRAULICA - HYDRAULIC OPENING SYSTEM



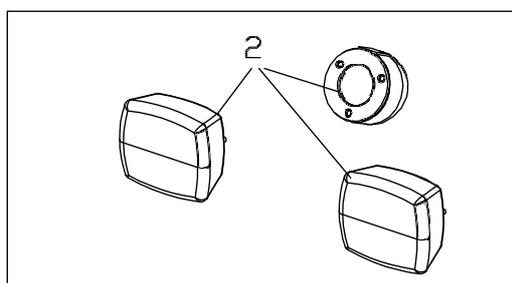
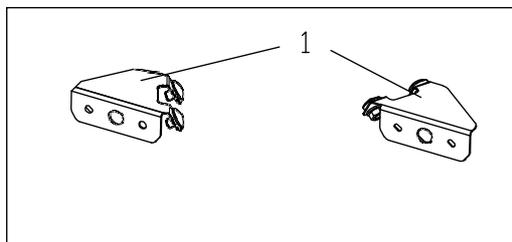
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	1	623.021	CILINDRO DOPPIO EFFETTO FER.- MECC.	HYDRAULIC CYLINDER
2	1	303.008	RONDELLA 12X24 UNI 6592 ZB	WASHER 12X24 UNI 6592
3	1	616.008	SCALA GRADUATA FERMO MECCANICO	GRADUATED RULER
4	1	301.008	DADO AUT.ALTO M12 ZB	SELF-LOCKING NUT M12
5	1	300.012	VITE TE M12X80 UNI 5739 ZB	HEX. HEAD SCREW M12X80 UNI 5739
6	2	304.023	CONDOTTA INDRAULICA	HYDRAULIC PIPE
7	2	305.008	SPINA A R D 3	SPLIT PIN D 3
8	2	325.065	BOCCOLA TIRANTE	PULL BUSHING
9	2	300.028	VITE TE M8X16 UNI 5739 ZB	HEX. HEAD SCREW M8X16 UNI 5739
10	2	602.032	TIRANTE CORTO	TIE ROD
11	2	301.012	DADO MEDIO M8 ZB	NUT M8 UNI 5588
12	2	303.007	RONDELLA 8X17 UNI 6592	WASHER 8X17 UNI 6592
13	1	604.004	PORTELLINO SINISTRO	LEFT SHUTTER
14	2	303.007	RONDELLA 8X17 UNI 6592	WASHER 8X17 UNI 6592
15	2	301.012	DADO MEDIO M8 ZB	NUT M8 UNI 5588
16	1	604.003	PORTELLINO DESTRO	RIGHT SHUTTER

### 11.7. CARRELLO - TRAILER KIT



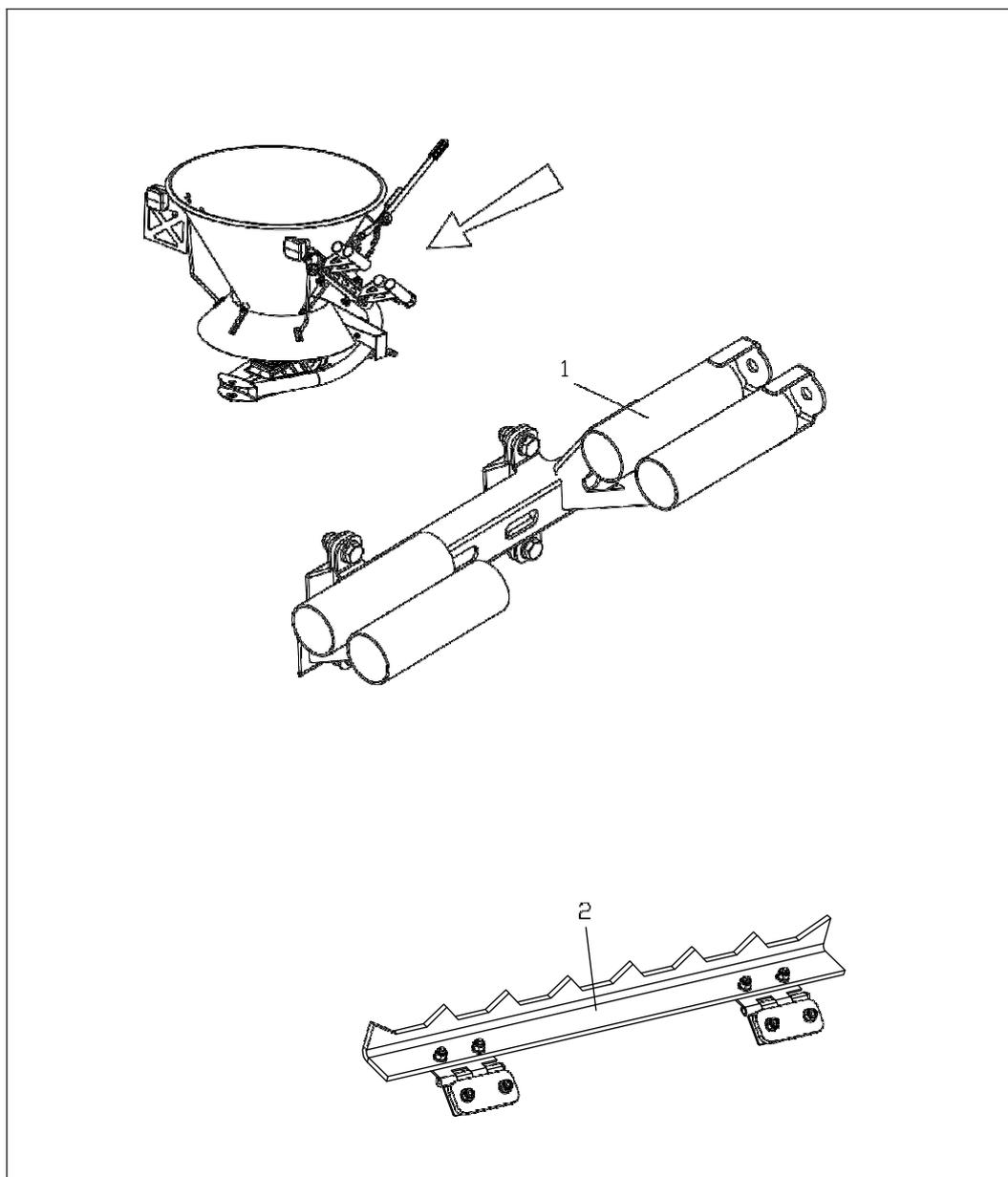
POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	1	613.300	STRUTTURA CARRELLO	CHASSIS
2	2	301.092	GHIERA AUTOBL. GUK 04 20X1 ZB	SELF-LOCKING NUT PN 5 25X1,5
3	2	304.058	RUOTA NYLON NERO	NYLON WHEEL
4	1	300.089	VITE TE 10X25 UNI5739 INOX	HEX. HEAD SCREW 10X25
5	1	303.052	RONDELLA 10X20 INOX	WASHER 10X20
6	1	303.052	RONDELLA 10X20 INOX	WASHER 10X20
7	1	301.077	DADO AUT.ALTO M10 INOX	SELF-LOCK. NUT M8
8	1	300.089	VITE TE 10X25 UNI5739 INOX	HEX. HEAD SCREW 10X25
9	1	303.116	RONDELLA 10X40 INOX	WASHER 10X40
10	1	303.053	RONDELLA 10X30 INOX	WASHER 10X30
11	1	301.077	DADO AUT.ALTO M10 INOX	SELF-LOCK. NUT M8
12	1	613.301	KIT CARRELLO P	ASSEMBLED CART

## 11.8. KIT LUCI E PORTA LUCI - LIGHTS AND SUPPORTS



POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	1	620.105	Kit staffe attacco luci mod.P	support Kit for lights
2	1	620.119	KIT LUCI C/IMPIANTO LUCI MOD.P	Lights kit
3	1	301.064	Dado medio M8 inox	nut M8 inox
4	2	303.056	Rondella 8x17 uni 6592 inox	Washer 8x17 uni 6592 inox
5	2	301.011	Dado medio M5	nut M5
6	4	300.107	Vite TTQST M8x16 QH3 inox	Roundheaded screw M8x16 inox
7	1	620.166	Staffa fissaggio presa	support bracket
8	1	613.320	Staffa porta targa	support Plate
9	2	301.011	Dado medio M5	nut M5
10	1	620.048	Staffa DX attacco luci P	Support right
11	2	301.064	Dado medio M8 inox	nut M8 inox
12	2	303.056	Rondella 8x17 uni 6592 inox	Washer 8x17 uni 6592 inox
13	1	620.187	Kit luci c/impianto luci mod P	Assembled Lights kit

### 11.9. ROMPI SACCO E PORTA ACCESSORI - CUTTING BLADE & ACCESSORY HOLDERS



POS.	QTY	CODICE	DESCRIZIONE	DESCRIPTION
1	1	613.350	SUPPORTO PORTAPALA DESTRO	TWO RINGS FOR SHOVELAND BRUSH
2	1	642.040	KIT ROMPI SACCO INOX GRIGLIA	BLADE FOR CUTTING BAG







Via Laghi di Avigliana 117 - Busca 12022 - CN - Italy  
Ph +39 0171 946654 - fax +39 0171 946723  
E-mail: [imcosmo@cosmosrl.com](mailto:imcosmo@cosmosrl.com) - [www.cosmosrl.com](http://www.cosmosrl.com)

