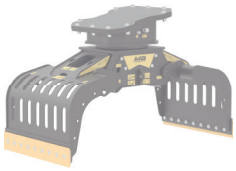


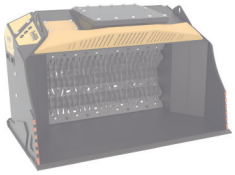

THE CRUSHING EVOLUTION

USE AND MAINTENANCE MANUAL

MB-S10 S4 • MB-S14 S4 • MB-S18 S4 • MB-S23

SERVICE ONLINE ▾

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Manual Revision 15/01

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PREAMBLE

Dear Customer,

Thank you for having chosen an **MB S.p.A.** machine. We are pleased to provide you with this manual which is aimed at allowing you to operate the Screening Bucket in the utmost safety and productivity.

We invite you to read this technical publication very carefully and to make it available for personnel who must use the Screening Bucket as well as those in charge of its maintenance.

The information contained in this manual is reserved property of **MB S.p.A.** It particularly refers to the Screening Bucket identified as:

Model:

MB-S10 S4

MB-S14 S4

MB-S18 S4

MB-S23

Serial number:

Year of Manufacture:

Manual Identification data

Revision: 16 03-2018 COD 00

Our commercial and technical offices are at your complete disposal in order to provide you with further explanations and information you may need regarding the Screening Bucket you have purchased.

1 GENERAL INFORMATION

1.1 IDENTIFICATION DATA OF MANUFACTURER

The Screening Bucket machine model: MB-S10 S4 - MB-S14 S4 - MB-S18 S4 - MB-S23 is built exclusively by:

Manufacturer: **MB S.p.A.**

Address: Via Astico, 30/A - 36030 FARA VICENTINO (VI) - Italy

Telephone: +39 0445308148
Telefax: +39 0445308179
e-mail: info@mbcrusher.com

1.2 TECHNICAL ASSISTANCE

The customer can also address his enquiries to our wide dealer network and authorized workshops closer to his facilitie, specifying ID data of the concerned unit.
It is also available the online assistance portal B2B. A tailor made multimedia platform specifically developed to provide with a quick and immediate backup to whichever doubt may arise. By way of a Through an easy and intuitive browsing platform you will access to useful documents and contents for yours and your coworkers perusal, such as:
• Specific FAQ for each MB item
• Tutorial videos (installation and maintenance)
• Spare parts chart
• Technical forms
• Exploded views, technical drawings
• Marketing section with plenty of photos and videos
This service is FREE OF CHARGE and constantly updated
Start to explore with the QR Code below.
In case you have not been assigned credentials, do not hesitate to ask for them to mbservice@mb-crusher.com

ATTENTION!

All kind of interventions not carried out by MB authorized personnel will result in immediate warranty void.

ATTENTION !

The customer is mandatory asked to purchase only genuine original parts. Assembly of unofficial components result in warranty void.

DECLARATION CE OF CONFORMITY

(Annex II, Point A)

The company: MB S.p.A.
Via Astico, 30/A
36030 - Fara Vicentino (VI)
Tel. +39 0445300972

Represented by Sig. Guido Azzolin, born in Thiene on 23/05/1970, in his capacity as acting Chief Executive Officer / Managing Director.
The person authorised to draw up the technical brief is Sig. Azzolin Diego, in his capacity as owner of MB S.p.A., at the production facility in Via Astico 30, 36030 Fara Vicentino, Italy.

DECLARES
under its own liability that the interchangeable equipment

SCREENING BUCKET

FUNCTION: selection of natural material

MODEL: ***MB-S18 S4***

SERIAL N°: ***S19544***

complies with the Machinery Directive 2006/42/EC and Directive PED 2014/68/EU (art. 4 par. 3).
It also declares that
- the following technical standards have been applied:

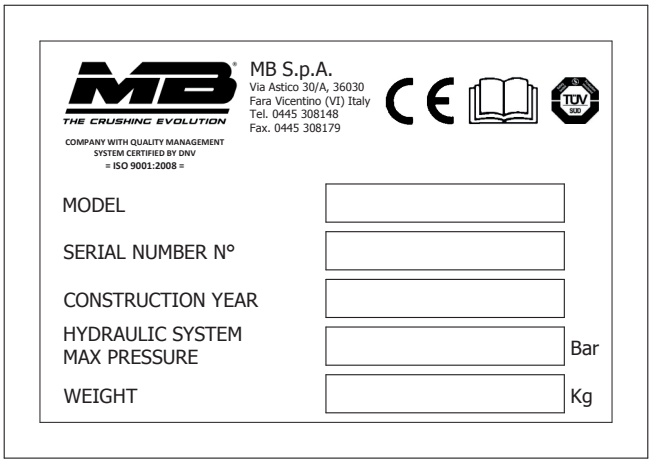
- **EN 12100:2010**

Fara Vicentino, 14/10/2019

GUIDO AZZOLIN
(CEO / Managing Director)

1.3 IDENTIFICATION AND CE MARKING OF THE MACHINE

The identification data of the machine, the CE marking and the TUV marking are present on the plate, fastened with metal rivets to the support structure.



1.4 STANDARDS OF REFERENCE

The machine has been built in compliance with the provisions of European Community Directives and the Project Standards which were pertinent and applicable at the moment it was marketed.

List of Community Directives applied:
- Directive 2006/42/CE.
- D. Lgs 17 (20/01/2010): Decree by Italian government recognizing the new machines directive.

List of some Project Standards applied:
- UNI EN ISO 12100: 2010

List of regulations concerning pressure equipment:
- Directive PED 2014/68/EU (article 4 subparagraph 3)

1.5 WARRANTY

MB S.p.A. grants the customer a warranty period of 12 months from the date appearing in the MB waybill.

MB S.p.A. therefore guarantees that this product is free from manufacturing and/or material defects. Should any component prove to be faulty, either in the manufacturing or in the material, a new one will be supplied by any authorised MB S.p.A. Faults covered by the warranty must be reported immediately to the MB SERVICE by e-mail mbservice@mbcrusher.com, fax +39 0445850335 or phone +39 0445850425 as soon as they are identified.

Claims under warranty shall only be dealt with if the manufacturer has been informed of them in writing within 5 days following their occurrence.
The information required: Unit model
Serial Number
Year of manufacture
Defective part
Photographs and/or Videos
Cause of the damage
The MB-S rotary screening bucket must undergo the programmed maintenance interventions indicated on chapter 9 of this manual.

For all that concerns interventions subject to warranty, the following conditions apply:
- All transportation expenses from and to an authorised MB S.p.A workshop will be chargeable to the petitioner.

- All travel expenses relative to requests for technical interventions at the home site will be fully charged to the petitioner.
- MB S.p.A. reserves the right to decide whether to replace a component proven to be faulty with another equal one ensuing prior assessment by the manufacturer.
- Any accidental damage to the machine must be repaired using original MB spare parts. The use of non-original parts compromises/nullifies the Warranty.
- Machine damage caused by transportation and/or handling are not included in the warranty.
- Damage to the screening bucket caused by the work vehicle operator who has not complied with the prohibitions enforced in chapter 2 of this manual are not included in the warranty.
- Damage to the screening bucket attributed to malfunctioning of the work vehicle are not included in the warranty.
- For all that is not mentioned, the “Use and Maintenance Manual” delivered together with the screening bucket will prevail.

The manufacturer reserves the right to make changes,adaptations and improvements without having an obligation to the user or the owner.

Naturally the Bucket must not be subject to improper use, must not be modified and must be correctly serviced, more information on paragraph 2.2 of this Use and Maintenance Manual

- In particular, it is forbidden to screen flammable material, explosive material or material that can generate flammable, explosive, toxic or harmful powders.
- It is forbidden to use the Screening Bucket in potentially explosive atmospheres.
- It is forbidden to hit, impact and tear off ground or surfaces with bucket’s frame.
- It is forbidden to work with the Bucket submerged in liquids with models MB-S10 S4 and MB-S14 S4.

ATTENTION!

Models MB-S18 S4 and MB-S23 are allowed to operate under water. Nevertheless, basket shall preferably not rotate when either fully or partially submerged; submerge the unit only to load or empty the material. Consider that liquids, depending on their composition, may affect the time of wear of bucket frame and components.

- It is forbidden to handle material using the outside of the Bucket, apart from the front blade.
- It is forbidden to use the Bucket to dig in muddy soil or perform any operations on material other than screening.
- It is forbidden to use the arm of the Bucket as a lever to move the excavator sideways.
- It is forbidden to use the Bucket on excavators with hydraulic systems that do not satisfy the flow and pressure requirements indicated by MB S.p.A. (chart chapter 3, paragraph 2.1.1).
- It is forbidden to screen material at temperatures higher than 100°C or lower than -20°C.

The manufacturer reserves the right to make changes, adaptations and improvements without having an obligation to the user or the owner.

In these cases, MB S.p.A. declines all liability.
Scheduled maintenance work must have been performed on the Bucket as indicated in the table of chapter 9 in this manual.
Scheduled maintenance work must have been performed on the Bucket components subject to wear as indicated in the table of chapter 9 in this manual.

- Components subject to wear and marked with the letter (C) in the attached “periodic replacement of components” diagram, are replaced at the user’s expense as the fact that they are worn does not mean the product is defective.

This manual was written in compliance with the instructions contained in:
- Directive 2006/42/EC and, within Italian borders, D.Lgs 27 Jan 2010 - Nr. 17
- UNI EN ISO 12100:2010
- Directive PED 2014/68/EU (article 4 subparagraph 3)

1.6 STRUCTURE OF THE MANUAL

1.6.1 PURPOSE OF THE MANUAL

This manual is aimed at supplying the Customer with all the information required so that, besides using the Machine properly, he is able to manage it as independently and safely as possible.

1.6.2 IMPORTANCE OF THE MANUAL

The manual contains important information concerning safety. It describes the ways to perform special operations which, if neglected, could cause personal harm and damage to objects and equipment. You will also be able to find useful information which will make it easier to know the machine as well to perform installation and maintenance.

The Manual:
- Is an integral part of the machine supply;
- Is the essential instrument for use, operation and maintenance of the machine;
- Must be kept in good conditions during the entire life span of the machine and can be eliminated only after the machine has been scrapped;
- Must be updated, should documentation be delivered for such updating;
- Must be delivered to the purchaser of the machine, should it be sold to another user;
- Reflects the status of technical standards at the time the machine was marketed.

1.6.3 CONTENTS OF THE MANUAL

This manual provides all the information required for installation and maintenance of the Screening Bucket machine. You are asked to comply with these provisions in order to obtain the best performance and correct functioning from the machine.

Indications contained in the manual:
- General information;
- Machine safety;
- Description of the machine;
- Transporting the machine;
- Operating the machine;
- Maintenance of the machine;
- Demolition of the machine.

1.6.4 ADDRESSEES

The manual in question is intended for:
- Transportation operators;
- Operators in charge of installation to connect the machine to auxiliary services (hydraulic);
- Operator in charge of functional test inspection and training personnel;
- Personnel in charge (Operator);
- Maintenance technicians;
- Operators in charge of final demolition;
- Operators in charge of personnel security.

The manual must be kept by the person in charge, in a suitable place, so that it is always available for consultation in good conditions.
In the event the manual is lost or deteriorated, documentation replacing it must be requested directly to:

MB S.p.A.
Via Astico, 30
36030 - FARA VICENTINO (VI) - ITALIA

WARNING !

Before beginning any type of work on the machine, it is compulsory to read this manual. The guarantee that the machine will function properly depends on the correct application of the instructions contained herein.

1.6.5 RESPONSIBILITY OF USER

The instructions carried in this manual do not take the place of the obligations for respecting legislation in force concerning safety and accident-prevention standards, but rather they integrate them.
Referring to all that is reported in this manual, **MB S.p.A.** will not be held liable in the event of:
- Use contrary to national laws concerning safety and accident prevention;
- Incorrect prearrangement of the structures upon which the machine will be placed;
- Failure to comply or incorrect observance of the instructions supplied in this manual;
- Unauthorised modifications to the machine;
- Exceptional events.

The manual reflects the construction of the machine at the moment it was marketed. It is an integral part of the machine and complies with all laws, directives and standards in force at that moment; it cannot be considered inadequate just because it was later updated based on new provisions of law and new experiences.
Further integrations to the manual which the manufacturer will deem opportune for the users must be keep together with the manual of which they are an integral part.

1.6.6 PRESERVATION OF THE MANUAL

It is compulsory to keep this manual and all the publications attached in an easily accessible place near the machine which is known by the users (operators in charge of running the machine and maintenance personnel).
Therefore:
- Operators and maintenance technicians must be able to have access to it quickly at all times;
- Should the manual or supplied documentation be lost or destroyed, the customer may request a copy from **MB S.p.A.**;
- It must be preserved and must follow the machine until it final demolition.

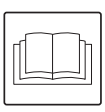
1.6.7 SYMBOLS AND DEFINITIONS USED IN THE MANUAL

The following symbols are used in the manual to highlight particularly important information:

ATTENTION - DANGER
Sign of high danger: indicates the extreme importance of the instructions to which it is matched and is carried wherever there is a danger for the safety and health of exposed persons.

INFORMATION AND PRECAUTIONS
Useful indications and advice: useful information or indications of a general character, to be observed and not neglected for personnel operating the machine.

OPERATIVE INSTRUCTIONS
Indicates a special operative sequence.



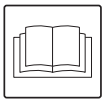
INSTRUCTION MANUAL
Read the information carried in the instruction manual carefully.

2 SAFETY ON THE MACHINE

2.1 GENERAL SAFETY WARNINGS

In order to guarantee the maximum reliability and work safety, **MB S.p.A.** has carried out a careful choice of the materials and components to be used when building the machine, having it undergo a regular test inspection before being shipped.
Good performance of the machine over time also depends on its correct use and adequate maintenance, according to the instructions carried in this manual.
The prescribed maintenance, inspection and overhaul operations must be performed regularly by trained service personnel in order to prevent faults or accidents.
For the most part, functioning anomalies are due to incorrect maintenance.
In case of doubt concerning operations, immediately stop the machine!

- The machine has been built according to the current technical level and the known technical safety rules in force.
- Failure of the operator to comply with the safety indications and carelessness in using the machine can cause serious accidents for the operator and other persons or animals. It can also cause breakage to the machine or other property.
- To this purpose, always remember that the safety devices the machine is provided with ensure protection against accidents only if used correctly and according to the safety instructions described in this manual.



BEFORE USING THE MACHINE, IT IS COMPULSORY TO CAREFULLY READ THE SAFETY INDICATIONS AND THE INSTRUCTIONS FOR USE, MAINTENANCE AND INTERVENTIONS ON THE MACHINE, IN ORDER TO PROTECT YOUR OWN SAFETY AND THAT OF OTHERS.

DANGER !

Use the machine with the utmost attention and care, because carelessness is the most frequent cause of injuries. The machine must be used by an adult and skilled person.

ATTENTION !

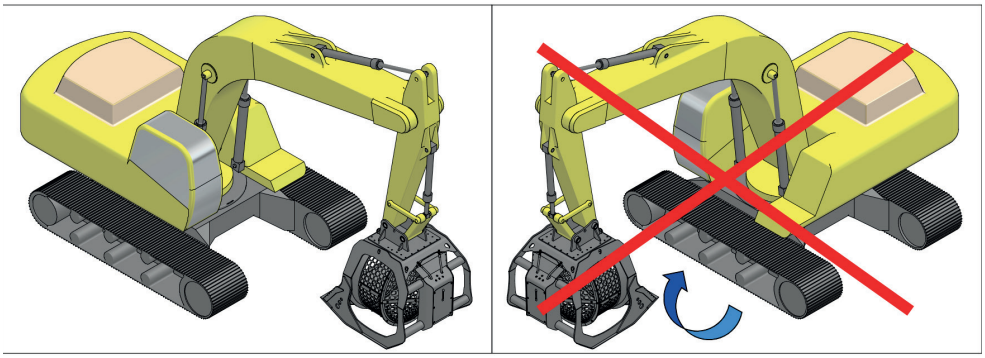
Before connecting the Screening Bucket ensure that the hosting machine complies in all fields with the due aspects and features required, with direct reference to the points indicated in the following paragraph (2.1.1)

2.1.1 ESSENTIAL FEATURES OF THE OPERATING MACHINE

Before you connect the screening bucket to the operating machine and start it up, it is recommended to make sure that the basic requirements described here below are present in order to operate safely, safeguarding people's health.

- The final user has to make sure that the total weight of the load (weight of the bucket + weight of loaded material + coupling + any optional accessories) does not exceed the arm lifting capacity of the operating machine indicated in its manual; this check must be carried out for all positions with which you can operate.
  Remember to take into account the actual conditions of the operating machine, for example: arm type, carriage, counterweights, etc...
- The final user has to verify that the overturning capacity of the operating machine is suited for using the screening bucket; this check must be carried out for all positions with which you can operate.
- To verify if your operating machines satisfies the minimum requirements, it is very important to contact the manufacturer/distributor.
- Driving the operating machine for the purpose of starting the equipment must be carried out exclusively by a competent and skilled adult, duly trained in driving site equipment.
- The activation command of the bucket can be a switch or a pedal, as long as it maintained action. To start the bucket, it is mandatory to keep the command pushed, to stop the bucket it is enough to release the command.
- The machine must be equipped with an emergency stop command capable of stopping all screening bucket movements as quickly as possible.
- Make sure the operator has fully understood the meaning of all commands and their operation.

- The operator has to be familiar with and apply the safety conditions for using the machine in the workplace, in compliance with the laws in force in the user's country.
- In reference to: right side, left side, front part and rear part, this refers to the view from the driver's seat of the excavator.
- The operator has to be familiar with and properly interpret all indications contained in the instructions manual and the signs affixed to the machine: this will help prevent damage to people, property and the operating machine.
- It is absolutely mandatory to abide by the instructions contained in the Operating and Maintenance Manual and with general EC accident-prevention standards, as well as with the national standards in force in the user's country.
- Always use the personal protection equipment required by directives EEC 89/686 and EEC 89/656; moreover, always do as instructed in the manual and according to the laws of the Country where the machine is operating.
- Carefully read all the information printed on the adhesive labels concerning safety affixed to the machine.
- The operator has to avoid using the Screening Bucket under unsuitable conditions or when under the influence of alcohol or drugs.
- It is important to organize the worksite so as to carry out the lowest number of operations, consistent with the job to be carried out.
- In order to safeguard the workers' health and safety, it is advisable to set up the worksite so as to be able to position the excavator at a higher level compared to the material to be crushed; by doing so, the load radius is reduced and you avoid reaching the maximum working radius configuration.
- For use on excavators, it is recommended to refrain from carrying out the bucket loading phase with the carriage laterally (see figure below on the right); this allows results in less stability compared to the carriage being positioned straight (see figure below on the left).
- For installation on wheeled excavators, it is mandatory to secure the stabilizers or the blade (if equipped) to the ground before you hook up and lift the equipment.
- For installation on operating machines other than wheeled or tracked excavators, please keep in mind all the indications provided here above and below for proper operation and to safeguard workers' health and safety.



VERY IMPORTANT!

REQUISITES OF EXCAVATOR

The weight of the work vehicle upon which the MB-S is installed, in order to maintain good stability and therefore manoeuvrability, is the following:

MB-S	MB-S10 S4	MB-S14 S4	MB-S18 S4	MB-S23
WEIGHT EXCAVATOR	04-09 tons	09-20 tons	20-35 tons	> 35 tons

CAUTION!

Please note that the weights considered above are intended for standard excavators. For operating machines having the weight defined in the table regardless, but with no-standard arms adapted to specific applications, it is mandatory to check the nominal loads in the user manual of the operating machine.

ATTENTION !

Before setting the machine tool, make sure that no one is near it or in its working range.

- Keep **children, people and animals** away from the machine tool while using the Screening Bucket.
- **It is forbidden to climb** the machine structure.
- **It is absolutely forbidden** to come nearer to the machine while it is functioning.

DANGER !

If the machine jams, before carrying out any operation, turn the machine tool off and secure it (excavator, etc...).

ATTENTION !

The machine must not be used in case of anomalies. All liabilities are declined in case of injuries to people and/or properties, if the operator uses the machine with anomalies.

2.2 INTENDED USE

The screening bucket is an interchangeable piece of equipment that changes the function of a machine; it is sold to be assembled on a set of different machines (excavators or similar equipment), as long as they meet the minimum requirements in terms of weight and characteristics at the hydraulic system level; it is designed for the selection of natural material; the minimum specific requirements are listed in detail on chapter 3.
The MB-S screening buckets fulfil their function through the rotating bucket. Thanks to this rotating movement, the material picked up by the bucket falls upon itself. By doing so, only those pieces of material larger than the holes of the screening basket being used will remain inside the bucket.
Be careful not to load material of size greater than 1/4 the diameter of the basket.
It is allowed to rotate the basket both clock and anti-clockwise via the gripper system (double effect-two ways oil supply) of the hosting machine; nevertheless before switching rotation's sense, pay attention to stop completely the rotation of the bucket.
Regarding the MB-S23 model ensure to provide oil to the IN line in order to grant correct speed calibration. It is strictly forbidden to provide oil to the line connected to the OUT fitting because, despite rotation of the basket will still take place, the speed isn't adjusted and significant damages may occur.

The unit It is intended exclusively for professional use, as there are no other foreseen or foreseeable situations that may vaguely suggest the use of the machine for non-professional applications; since this is a piece of equipment which, in terms of intended use and construction, can only function when coupled to an operating machine, it is expected that the machine be used only by professionally competent and specifically authorized operators.
In order to operate, the equipment does not require the presence and/or the assistance of other people in addition to the operator of the main operating machine, so it is not expected for other people to be exposed to risks and/or dangers. As regards maintenance, it must be carried out as described in the Operating and Maintenance Manual, and only by skilled personnel. The specific requirements are listed on chapter 9 below.
In case it is necessary for other people to be working or standing in proximity of the equipment while it is operating, defining the dangerous zone as the zone in which there may be dust generated by the processing activities, other people's exposure to risks and/or dangers can be limited through the use of PPE (face masks, specific filters, helmets, etc.) and according to the laws of the Country where the machine is operating.
Built in models that differ in terms of dimensions and weight, they can be fitted on excavators from 4 to 40 tons, and can be used for various types of jobs, including:
- the primary selection of material for fixed crushing plants, directly feeding them with the material that stays inside the screening bucket, thus obtaining very clean crushed material and at the same time considerably reducing the cubic meters of material to be crushed.

- the selection of demolition debris.
- the selection of river pebbles used to build large containment cages.
- land reclamation with removal of rocks.
- cleaning beaches.
- the mixing of compost.
- in channelling works, it selects the excavated material to be reused to cover ducts, etc.

2.3 UNINTENDED USE

The Screening Bucket is not intended for other use not indicated in paragraph 2.2.
Uses and/or jobs other than the ones for which the equipment was built are not foreseen:
either as instinctive reactions in connection with possible malfunctions/breakdowns/accidents or other operating anomalies (no anomaly can generate abnormal situations that cannot be dealt with by simply cutting off power to the machine);
or as a consequence of any negligence in using the machine by an incompetent or inadequate person (the equipment depends on a main operating machine whose use must be considered subject to authorization due to the use, for example, of an ignition key).
Specifically, it is forbidden to screen inflammable or explosive materials, or materials that may produce inflammable, explosive, toxic or harmful dust.
Be very careful not to damage the basket during the loading phase.

Furthermore, the equipment is NOT intended for the following uses:
- Direct extraction or excavation
- As something to lean the operating machine against
- With temperatures above 100°C or below -20°C
- To transport people, animals or objects
- In the presence of flammable or explosive materials or materials that may generated flammable, explosive, toxic or harmful dust
- For lifting operations

It is also forbidden:
- Approaching the screening bucket while it is working
- Climbing onto the frame of the equipment
- Carrying out any type of job on the screening bucket while it is working
- Carrying out any type of operation that may jeopardize the operator's safety or the safety of people or property located nearby
- The Screening Bucket should not be used in environments with potentially explosive atmospheres
- The outer part of the frame shall not be used to wreck materials/rocks.
- MB-S10 S4 and MB-S14 S4 shall not work submerged in liquids

ATTENTION!

MB-S18 S4 and MB-S23 are allowed to operate under water. Nevertheless, basket shall preferably not rotate when either fully or partially submerged; use submerged only to load or empty the material. Consider that liquids, depending on their composition, may affect the time of wear of bucket frame and components.

- The Bucket should not be used to handle materials with the outer parts of its caisson other than the front cutter
- The Bucket should not be used to lever by means of the arm for lateral movements of the excavator
- Using the bucket to hit rocks and stones to make them smaller
- Stopping with the rear of the bucket on the ground
- Knocking the Screening Bucket to the ground
- It is forbidden to use the Screening Bucket on excavators with hydraulic systems that do not satisfy the flow and pressure requirements indicated, hydraulic specifications are in the use and maintenance manual

ATTENTION !

MB S.p.A. will not be held liable for personal harm and/or damage to objects caused by unintended use of the Screening Bucket by the Customer or third parties.

2.4 USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

The operator placed in charge by the employer (customer) to use this machine, before proceeding with start-up, use, maintenance or other work on the machine, **must** wear all of the personal protective equipment (PPE) which will be necessary to ensure the protection of the operator himself, in compliance with that foreseen by the general accident-prevention standards in force in the Country where the machine operates.
The following is a list of the personal protective equipment which the operators must use:

	Wear protective clothing
	Wear protective shoes
	Wear protective gloves
	Wear protective goggles
	Wear protective earmuffs
	Wear a protective helmet

ATTENTION !

MB S.p.A. will not be held liable for accidents which occur to the operator due to failure to use the personal protective equipment.

2.5 SAFETY STICKERS

Safety stickers have been applied to the Screening Bucket.
All of the safety stickers must be always in good conditions and well visible.

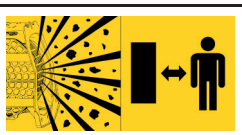
INFORMATION

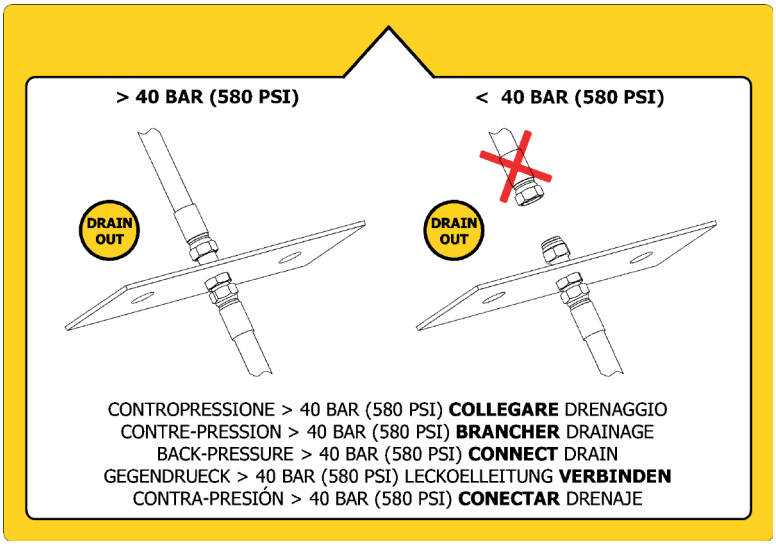
Before using the machine, the operator must read the instruction manual to find the indications relative to the area highlighted by the sticker.
If the stickers are deteriorated they must be replaced. They can be requested from **MB S.p.A.**.

ATTENTION !

The operator must know and respect the contents of the stickers applied to the Screening Bucket. Failure to comply with them could cause serious accidents.

The stickers applied to the Screening Bucket are arranged as shown in the figures listed below. They carry the progressive numbers as a reference, indicated in the key of the stickers.
Each sticker has a code which is useful for ordering them.
The stickers regarding safety are depicted and explained in the following table:

	**1. ATTENTION:** Do not approach the basket during operation.
	**2. ATTENTION:** It is prohibited to climb into the basket both during operation or while the machine is at rest.
	**3. ATTENTION:** It is forbidden for the operator or third parties to climb onto the Screening Bucket.
	**4. ATTENTION:** It is forbidden to approach or stop near the Screening Bucket. Danger of crushing.
	**5. ATTENTION:** Turn off the engine of the vehicle and remove the keys from the dashboard before working on the Screening Bucket.
	**6. ATTENTION:** Read the manual before using the Screening Bucket to learn the instructions and its operation appropriately.
	**7. ATTENTION:** Lifting Hook.
	**8. ATTENTION:** It is forbidden to approach or stop near the Screening Bucket. Danger of object expulsion.

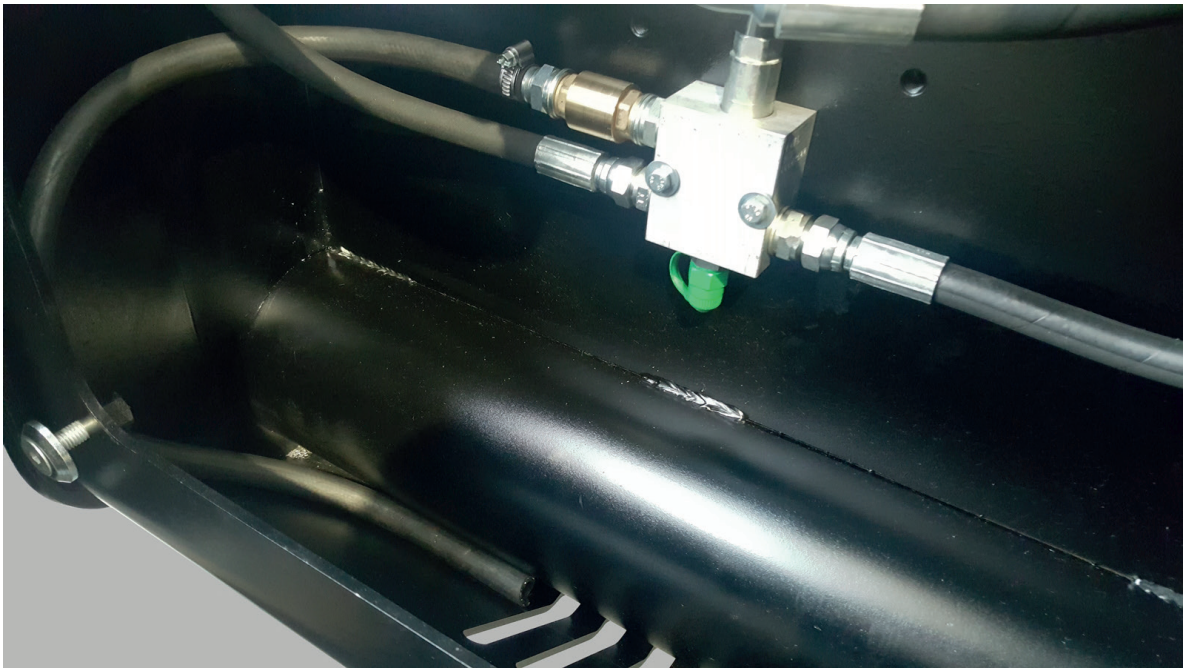


ATTENTION!

MB-S18 S4 is factory equipped with drain line (third pipe). Drain connection is mandatory when the back-pressure exceeds 40 bar. If pressure is lower than 40 bar the drain linkage is not necessary. In case pressure gets over 40 bar due to lack of drain linkage, incorrect drain connection, peaks of pressure and any other reason of clogging in the return lines a safety valve will be opening and discharging oil outside as a relief for the hydraulic components, The oil will spill from the rear side of the unit in the way that the operator can realize and prompt the due corrections accordingly.

TIP!

In the valve a pressure tester is available in order to identify, with aid of a pressure gauge, any back-pressure issue may be present in the drain line.



SAMPLE PICTURES

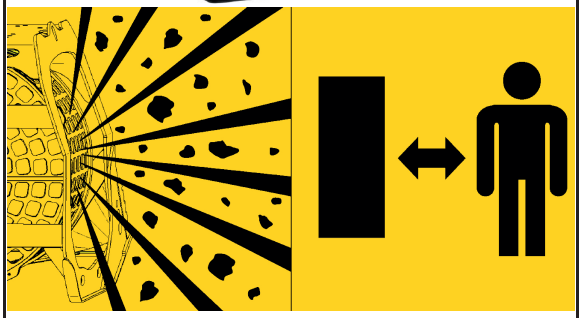
REAR SIDE

RIGHT SIDE

LEFT SIDE

2.6 RESIDUAL RISKS

<table>
<tr>
<td>Residual risks warnings

In case risks arise, despite all the due safety measurements are fulfilled and integrated in the design of the product, additional protection devices shall be present as well as the relevant safety labels</td>
<td>The concerned part is the cage/basket, the part fulfilling the rotatory movement; It can not be either shut or sheltered with devices avoiding the possibility of contact. The MB screening buckets perform their function by way of the circular movement. Thanks to this movement the material loaded by the bucket falls for gravity inside the basket and the particles smaller than the mesh will fall out whilst the bigger remain inside.
 
 
All residual risks are marked with the safety labels as well as in the Use and Maintenance manual supplied along the unit.

Please to consider that, apart from the excavator machine driver, the presence of no other person in the range of action of the excavator is required.</td>
</tr>
<tr>
<td>Risk estimation

Damage entity: Low

Likelihood : Remote</td>
<td>Risk evaluation

Negligible risk</td>
</tr>
<tr>
<td colspan="2">In order to avoid damages to persons or things, connected to the residual risk, it is important the machine is used by trained personnel, who are to read this Use and Maintenance Manual, paying attention to all safety labels (paragraph 2.5). The user, in case of maintenance intervention of the jaws, has to make sure that the machine is not working and hydraulic pipes disconnected.</td>
</tr>
</table>

3 TECHNICAL DESCRIPTION MB-S

3.1 TECHNICAL DATA MB-S

DESCRIPTION	U.M.	MB-S10 S4	MB-S14 S4
Length +/- 3 %	mm / in	1220 / 48	1700 / 70
Width +/- 3 %	mm / in	950 / 37	1400 / 55
Height (without hanger bracket) +/- 3 %	mm / in	1010 / 40	1440 / 56
Weight (excluding attachment and plate, with 50x50 mm holes basket/panel) +/- 5%	kg / lb	410 / 903	780 / 1720
Inside volume of basket +/- 2%	m^3	0,32	1,10
Work volume	m^3	0,11	0,46
Ø basket +/- 3%	mm / in	800 / 30	1200 / 47
Minimum pressure in the delivery system	bar / psi	130 / 1885	150 / 2175
Maximum pressure in the delivery system	bar / psi	150 / 2175	180 / 1610
Minimum AUX line flow	l/min / gpm	40 / 10	60 / 15
Maximum AUX line flow	l/min / gpm	60 / 15	80 / 20
Return pressure precautionary limit +/- 10 %*	bar / psi	20 / 290	20 / 290
RPM*	turn/min	25-30	15-25

DESCRIPTION	U.M.	MB-S18 S4	MB-S23
Length +/- 3 %	mm / in	2260 / 88	2840 / 112
Width +/- 3 %	mm / in	1840 / 72	2320 / 91
Height (without hanger bracket) +/- 3 %	mm / in	1870 / 73	2350 / 92
Weight (excluding attachment and plate, with 50x50 mm holes basket/panel) +/- 5%	kg / lb	2000 / 4410	3660 / 8070
Inside volume of basket +/- 2%	m^3	2,40	3,75
Work volume	m^3	1,2	1,9
Ø basket +/- 3%	mm / in	1600 / 62	1970 / 77
Minimum pressure in the delivery system	bar / psi	200 / 2900	320 / 4640
Maximum pressure in the delivery system	bar / psi	220 / 3190	350 / 5075
Minimum AUX line flow	l/min / gpm	120 / 30	160 / 42
Maximum AUX line flow	l/min / gpm	140 / 36	180 / 47
Return pressure precautionary limit +/- 10 %*	bar / psi	40* / 580	5 / 70
RPM*	turn/min	15-25	15-20

ATTENTION !

25 is the maximum rpm and cannot be exceeded on MB-S14 S4 and MB-S18 S4

3.1.1 OIL TECHNICAL SPECS

Viscosity at 100 °C	6.8 mm^2/s
Viscosity at 40 °C	45 mm^2/s
Viscosity index	100
Flash point V.A.	212 °C
Pour point	-27 °C
Mass density at 15 °C	0.880 Kg/l
Filter porosity	Max 3 micron

3.2 EXCAVATOR'S HYDRAULIC REGULATION

The excavator must be adjusted as indicated by its manufacturing company; if these indications are not followed correctly, structural failures could occur. Read also the chapter 2 of this Manual.

MODEL MB-S10 S4 - MB-S14 S4 - MB-S18 S4
The suitable oil supply system for MB-S models can be the rock-breaker system (one way) and the gripper system (double-way). MB-S units are equipped of flow-regulator valves. Drain isn't needed, oil can flow in one direction. On the MB-S18 S4 model drain linkage is necessary only if the back-pressure in the line exceeds 40 bar.

MODEL MB-S23
The hydraulic system of the hosting machine suitable for this model is the jack-hammer feed system (one way system). The excavator must be equipped of a drain plug. If the excavator is not set up for drainage, the customer must install a pipe directly to the tank (see scheme to chapter 4.3.5).

For the correct use of the bucket direct oil flow to the IN fitting of the bucket, in order to allow RPM regulation; on the other hand, it is discouraged to switch oil supply line towards the OUT fitting, because flow will not be adjusted.

MB-S14 S4, MB-S18 S3 and MB-S23 units allow both sides rotation working via gripper system (double effect); nevertheless before switching rotation's sense, pay attention to stop completely the rotation of the bucket.

NOTE

For all screening bucket models it is suggested to set the hydraulic system into one-way flow in order to maintain the lowest value of pressure in the return line. In fact the two-ways flow system increases the incidence of back pressure in the return line that will affect wearing time of the hydraulic motor.

3.4 INTERFACES

In order to function, the screening bucket requires the operator to carry out special manoeuvres; the operator interface is located on the operating machine. The operation that regulates the sending of the equipment takes place by switch or a pedal, as long as it maintained action. To start the bucket, it is mandatory to keep the command pushed, to stop the bucket it is enough to release the command; they are both located inside the control cab of the operating machine.
As regards the handling operation of the screening bucket, the operator has to use joysticks that, depending on the work machine type and model, allow movement of the excavator arm, which is in turn connected to the bucket. Movement takes place by means of hydraulic pistons managed precisely by the joysticks positioned inside the cab.
Driving the work machine for the purpose of starting the equipment must be carried out exclusively by a competent and skilled adult, duly trained in driving site equipment.

4 GENERAL PRODUCT DESCRIPTION

4.1 GENERAL DESCRIPTION

ATTENTION !

Do not allow unauthorised personnel to access the transportation and handling area.

The Screening Bucket is prepared to be delivered to the customer by MB S.p.A. which takes care of packaging and shipping.
The machine is delivered together with:
- Envelope with instruction manual and CE certificate.

4.2 TRANSPORTING THE MACHINE

Transportation must be performed by professionally qualified personnel.
The machine must be transported so as to prevent the parts from being damaged.
Before handling the machine, make sure that:
- All the protections and guards are correctly closed and secured;
- Depending on the type of transportation, the machine and its components must be protected from blows or stress.

Delivery of the machine to the user is normally entrusted to transportation in a lorry by land.

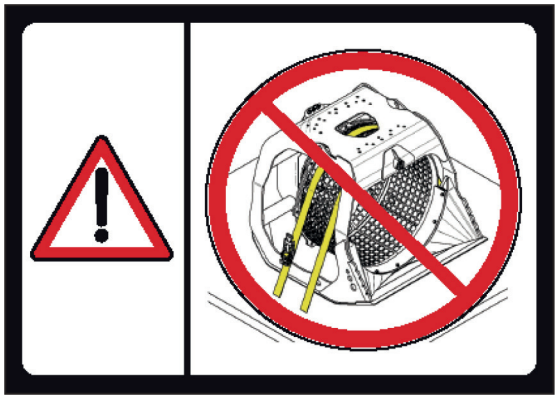
When the machine arrives, the user must:
- Control the Screening Machine, checking for possible damage (breakage or relevant dents) during transportation.
- Should damage be found, the carrier must be informed immediately and you must place the clause “I accept with reserve” on the delivery note.

In the presence of damage, notify the carrier of the fact by means of a written report within 8 days of reception of the machine.
Shall damage caused during transportation be detected at the moment of delivery, **MB S.p.A.** must be informed immediately.
It is also necessary to make sure that the material which has arrived corresponds to that carried on the detailed delivery list. In this case as well any irregularities must be communicated immediately to **MB S.p.A.**.

4.2.1 TRANSPORTING THE MACHINE: SECURING IT

Whenever the Screening Bucket is transported, it must be anchored to the flat bed of the lorry by means of ropes which pass through the anchoring points, as shown in the following photograph:

Decals
"Attaching oneself to the basket is prohibited"



ATTENTION !

IT IS STRICTLY FORBIDDEN TO HITCH TO THE BASKET ANY LIFTING DEVICE FOR LOADING / HANDLING OPERATIONS.

4.2.2 UNLOADING THE BUCKET SCREENING

ATTENTION !

When the machine reaches the user, it must be handled with the utmost care. It must be handled, both inside and outside, with equipment suitable for its weight.

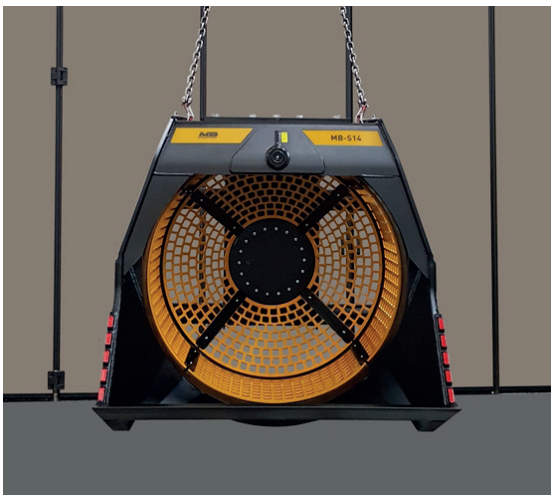
	The parts of the machine presets at the coupler for lifting and handling of the bucket are indicated on the pictogram.

OPERATIVE INSTRUCTIONS

- Operations regarding unloading, lifting and handling of the machine must be directed by just one person in charge and performed by properly trained qualified personnel. They must wear suitable protective clothing and have adequate equipment before proceeding with these operations.
- Before operations have begun, identify and control the entire area for handling the machine, including where the transportation vehicle must be positioned and that of machine installation, in order to detect the presence of damage.
- It is forbidden to climb onto the machine, to stop and/or pass below it while it is being handled.
- It is forbidden for unauthorised personnel to access the transportation and handling area.
- All operators must be at a safety distance to keep from being struck should the machine or its parts fall.
- The equipment used for lifting and transportation must have an adequate capacity for the weight to be lifted.
- Check to make sure the lifting ropes are certified and that they have the sticker which clearly states the manufacturer data and the capacity.
- Inspect the ropes before using them: they must not present damage, broken filaments or signs of wear.
- Do not twist or tie the wire ropes. Follow the instructions for use provided by the manufacturer.
- The same recommendations must be provided if chains are used.

LIFTING RULES FOR UNLOADING THE SCREENING BUCKET

- Arrange a lifting system (bridge crane, mobile crane) having a length and capacity adequate for the weight to be lifted.
- Move the lifting equipment with short shifts, until reaching the optimal condition of stability.
- Lift slowly, hooking onto the relevant lifting hooks (see following photographs) and handle with the utmost care to keep it from swaying.

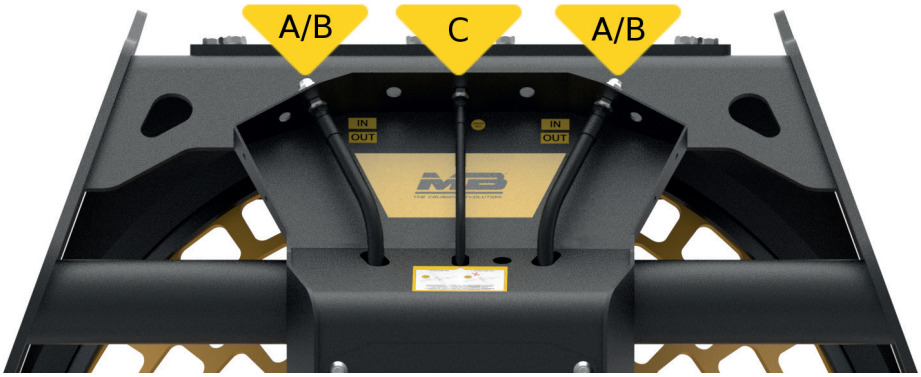


4.3 HYDRAULIC SYSTEM CONNECTION

IMPORTANT NOTICE

All flexible pipes connecting the screening bucket to the hosting machine shall be either purchased or manufactured in compliance with the pressure values declared in the present publication at chapter 3.1

MODEL	DELIVERY LINE FITTING (A)	RETURN LINE FITTING (A)	DRAIN LINE FITTING (C)
MB-S10 S4	3/4” (inches) gas (BSPP)	3/4” (inches) gas (BSPP)	absent
MB-S14 S4	3/4” (inches) gas (BSPP)	3/4” (inches) gas (BSPP)	absent
MB-S18 S4	3/4” (inches) gas (BSPP)	3/4” (inches) gas (BSPP)	1/2” (inch) gas (BSPP)
MB-S23	1” (inch) gas (BSPP)	1” (inch) gas (BSPP)	1/2” (inch) gas (BSPP)



The hydraulic system of screening bucket models MB-S10 S4, MB-S14 S4 and MB-S18 S4, is designed to allow connection of IN line either from left or right, according to the predisposition of the hosting machine, with no need of modification.
Instead, for what concerns model MB-S23 the IN line pipe coming from the hosting machine, is to be connected to the left-hand fitting (watching from cabin side) therefore the right-hand one by the rear side view. In case the IN line comes from the right side of the cabin view, (so the left-hand side from screener rear view) it is necessary to switch the position of the IN and OUT pipes coming from the feed-through to the hydraulic switch-box.

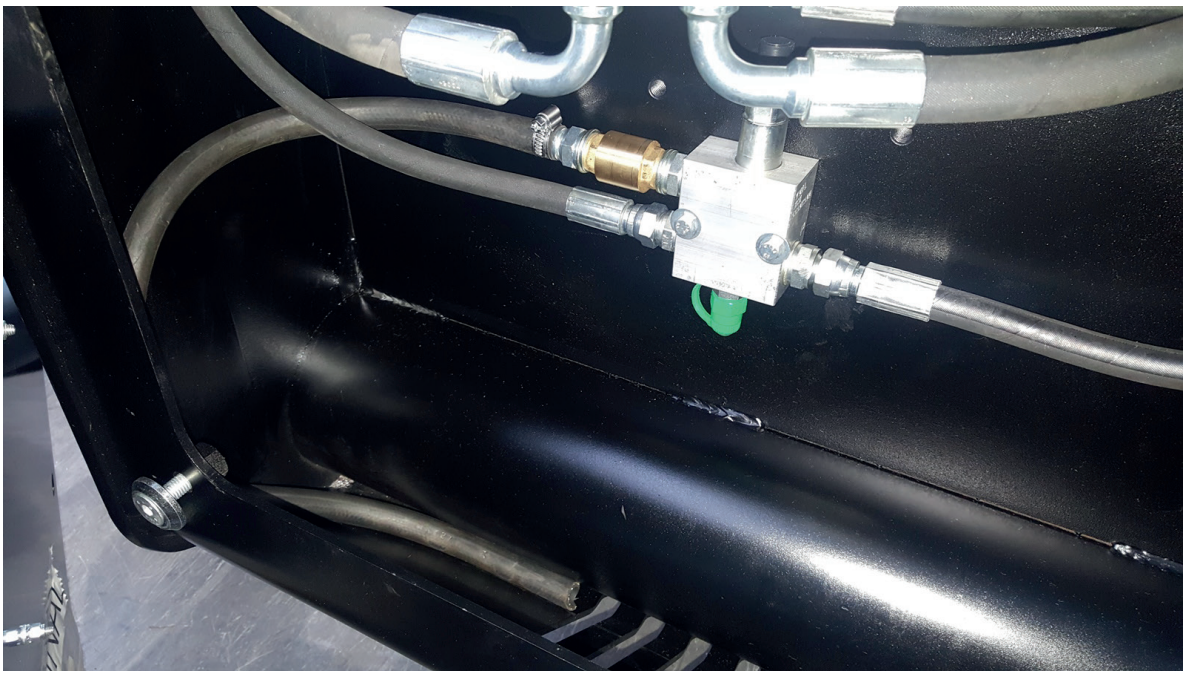
ATTENTION!

Check that the hydraulic pipes used for the connection correspond to the characteristics required by UNI EN ISO standard 4413: 2012 standard and that in any case they have suitable flow and pressure tolerance characteristics as indicated in chapter 3.1 of this manual.

The operator must tighten pipe fittings carefully and ensure the release valves in the arms’ stick are fully opened before starting the operations.
Oil supply systems in hammer mode (monodirectional), gripper mode (bidirectional) are both suitable for employ of MB screening buckets.

ATTENTION !

MB-S18 S4 is factory equipped with drain line (third pipe). Drain connection is mandatory when the back-pressure exceeds 40 bar. If pressure is lower than 40 bar the drain linkage is not necessary. In case pressure gets over 40 bar due to lack of drain linkage, incorrect drain connection, peaks of pressure and any other reason of clogging in the return lines a safety valve will be opening and discharging oil outside as a relief for the hydraulic components, The oil will spill from the rear side of the unit in the way that the operator can realize and prompt the due corrections accordingly. Drain linkage fitting is a 1/2” (inch) male GAS (BSPP).



4.3.2 DRAIN LINKAGE

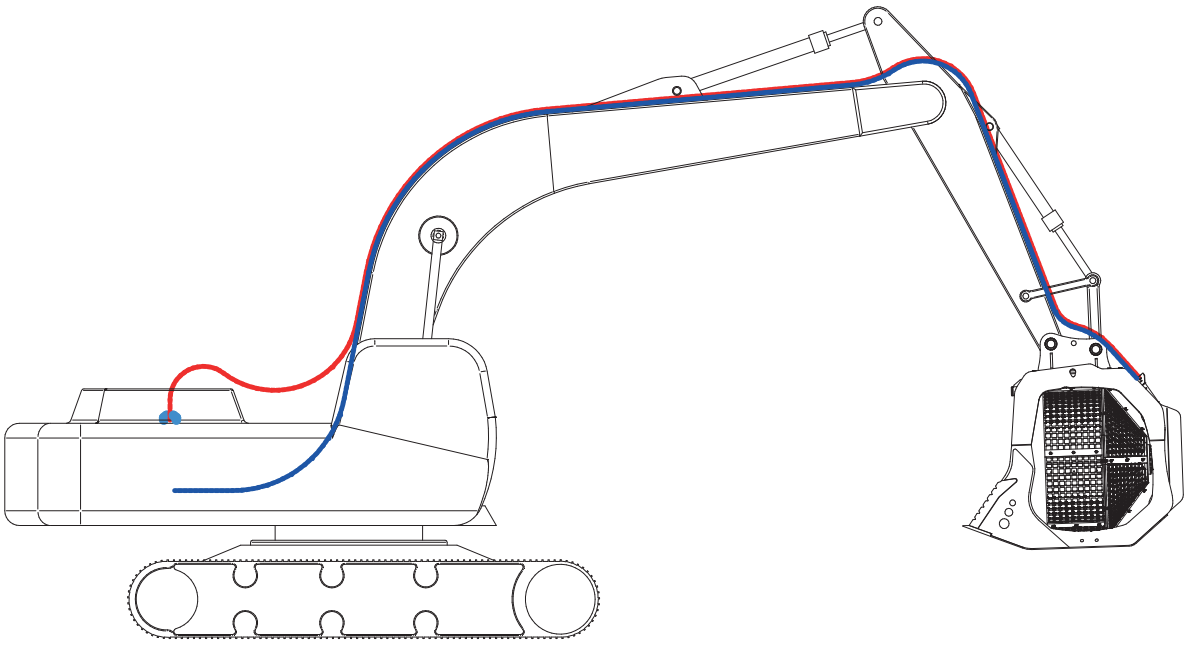
cod. 801222202
drain compulsory connec-
tion

VERY IMPORTANT !

TO CONNECT THE DRAIN HOSE IS MANDATORY FOR MB-S23 AND CAN BE NECESSARY FOR MB-S18 S4; ANY DAMAGE OCCURRING TO THE HYDRAULIC COMPONENTS DUE TO FAILURE OF DRAIN CONNECTION IS TO BE CONSIDERED OUT OF THE LIABILITY OF MB S.P.A.

ATTENTION !

Valid for MB-S18 S4 where necessary (if drain linkage necessary) and MB-S23 (always valid). The drain pipe shall not merge with the return pipe and must directly connected to the superior side of the tan. Refer to picture below.
Red= drain line - Blue= IN & OUT lines.



5 RUNNING THE MACHINE

5.1 INSTALLATION

1) READ THE MANUAL
READ CAREFULLY THE MANUAL, IN PARTICULAR READ AND FOLLOW THE CHAPTER 2 (PROPER AND IMPROPER USE)

2) CHECK OF THE EXCAVATOR'S CALIBRATION
CHECK THAT THE EXCAVATOR IS CORRECTLY CALIBRATED, WITHIN THE REQUIRED PRESSURE AND FLOW, FAS PER INSTRUCTIONS ON CHAPTER 3 (EXCAVATOR HY-DRAULIC ADJUSTMENT IS TO CONSIDER UNDER LIABILITY OF THE CUSTOMER OR THIRD PARTY ENTRUSTED BY THE END USER)

3) GENERAL CHECK OF THE BUCKET
CHECK THE FLAWLESS STATUS OF THE EQUIPMENT

4) CHECK OF THE CONNECTION OF THE FLEXIBLE HOSES
CAREFULLY LINK SUPPLY AND RETURN FLEXIBLE HOSES AS WELL AS DRAIN LINE WHERE NECESSARY

5) CHECK THE VALVE OPENING ON THE EXCAVATOR'S ARM
CHECK THAT THE SUPPLY HITCHES VALVES ON THE EXCAVATOR'S STICK ARE FULLY OPEN

6) START UP THE BUCKET EMPTY - CHECK THE SPEED OF THE BASKET ROTATION
CHECK THAT THE BASKET RUNS BETWEEN 20 - 25 RPM

8) ROUTINE MAINTENANCE AND PERIODICAL CHECKS
READ THE CHAPTER 9 OF THIS USE AND MAINTENANCE MANUAL

5.2 ACTIVATING THE MACHINE

ATTENTION !

Before hooking the Screening Bucket to the work vehicle, make sure it is suitable to support all the intended features and use functions (see chapters 2 and 3).

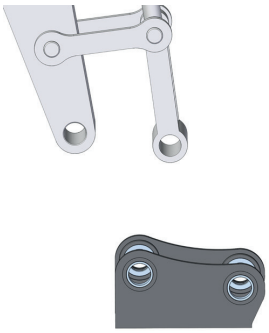
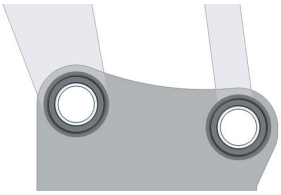
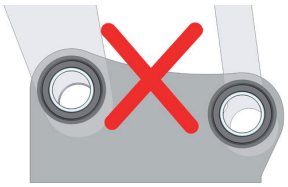
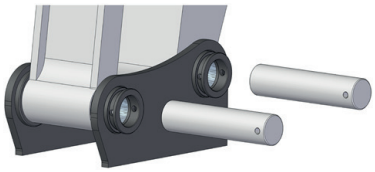
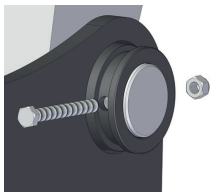
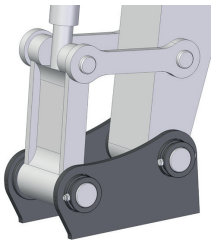
ATTENTION !

Make sure that the work vehicle which powers the Screening Bucket has a hydraulic circuit with a minimum flow rate and delivery pressure as shown on the table of chapters 3.

ATTENTION !

Except for the vehicle operator, no one else should be in its range of action.

5.2.1 CONNECTING THE MACHINE WITH A FIXED COUPLING

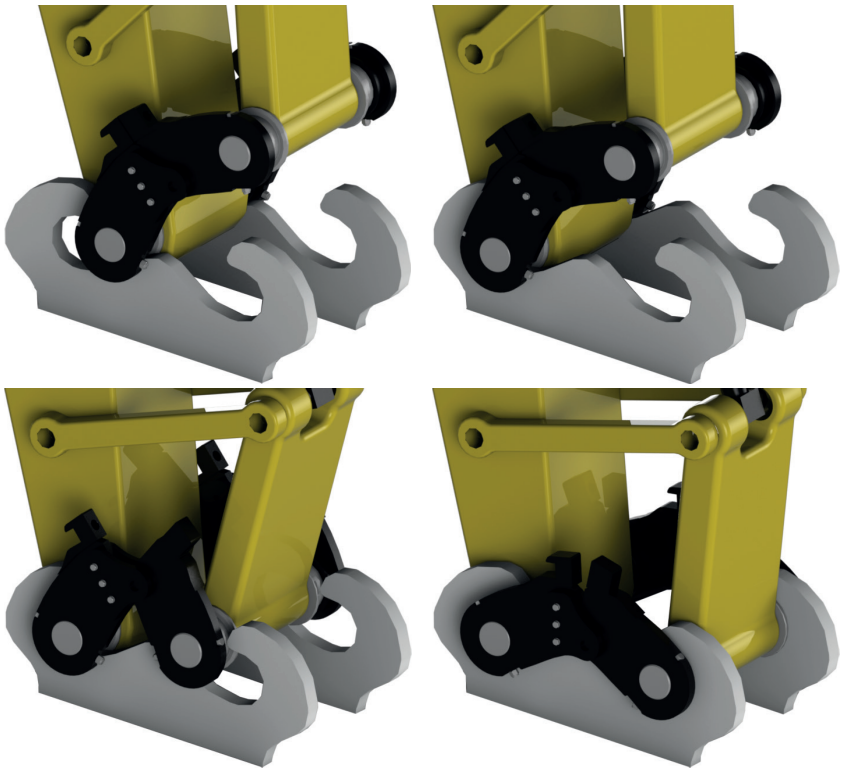
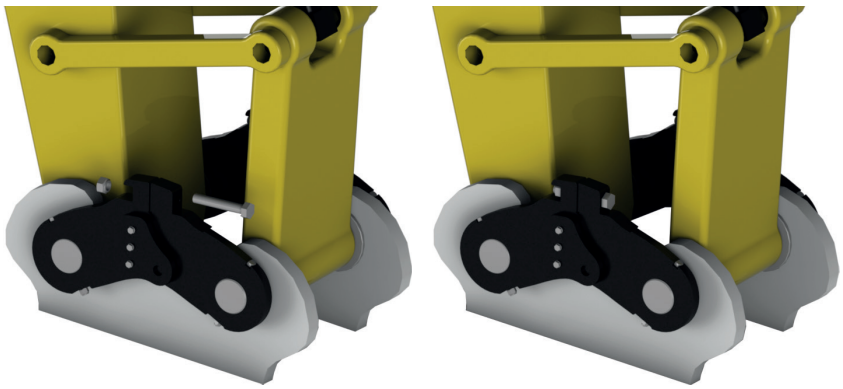
	Insert the machine tool's arm between the two brackets on the Screening Bucket, foreseen for the connection.
	Align the holes, on the end of the machine tool's arm, with the holes of the connection brackets.
	Do not misalign the pins.
	Insert the specific metal pins of the machine tool, normally provided, into the aligned holes.
	Lock the pins with the shear bolt, to prevent accidental unthreading.
	View of the complete fixed coupling.

Then, connect the hydraulic hoses according to the instructions provided in chapter 4.

IMPORTANT

Operations of connection and disconnection have to be performed by the same machine operator.

5.2.2 CONNECTING THE MACHINE WITH A QUICK COUPLING

	Approach the hanger bracket
	Hitch the coupling to the female brackets of the bucket.
	Lock the coupling with the shear bolt.

Afterwards, connect the hydraulic hoses according to the instructions provided in chapter 4.

IMPORTANT

Connection and disconnection operations have to be performed by the same machine operator.

5.2.3 STARTING THE SCREENING BUCKET

- Having finished connecting the Screening Bucket, turn the engine of the work vehicle on, keeping it at low speed.
- Activate the rotation control on the control board inside the cab slowly and gradually.
- During winter, when temperatures are low, leave the engine of the work vehicle running for about 10 minutes so that the temperature of the hydraulic oil increases by about 40° before starting to work.
- At this point, stop rotation of the Screening Bucket and proceed to fill it.
- Fill the bucket, collecting material to be selected without shaking it so that the gathered material settles. Activate the rotation control once again slowly and gradually, bringing it to the maximum speed set (see table chapter 3).
- Close the bucket until its mouth is almost horizontal and then activate rotation. In this way, the material at the edge of the mouth will be collected inside the bucket due to rotation of the basket.
- Open the bucket gradually, allowing a quick selection cycle.
- The first time you use the bucket, do not fill it completely.
- When you have finished screening the product inside the Bucket, repeat the loading operation.

The MB-S rotary screening bucket was designed and built for the selection of inert material. Therefore, due to its structure with moving parts, it must used with loose material and not for direct extraction.

5.2.4 SPEED CALIBRATION OF BASKET ROTATION

Basket rotation can be adjusted by means of a hand wheel on the valve at the delivery inlet on the screening bucket.
The number of revs of the basket must be adjusted by the operator/user. This is because he can set the right speed for the best yield depending on the material processed and the size of the basket.
If rev frequency is too high, it creates a centrifugal effect preventing the material from coming out. If the frequency is too low, there will be a small yield.

The Screening Bucket is calibrated at a rotation speed of about 20/25 rpm.
Depending on the material processed and the size of the holes in the basket, it is useful to change speed until you reach the best yield.
The adjustment hand wheel is shown in the following image.

MODEL	MB-S10 S4	MB-S14 S4	MB-S18 S4	MB-S23
RPM	25-30	15-25	15-25	15-20

ATTENTION !

25 RPM OF MB-S14 S4 AND MB-S18 S4 IS THE MAXIMUM AND **CANNOT BE EXCEEDED**.

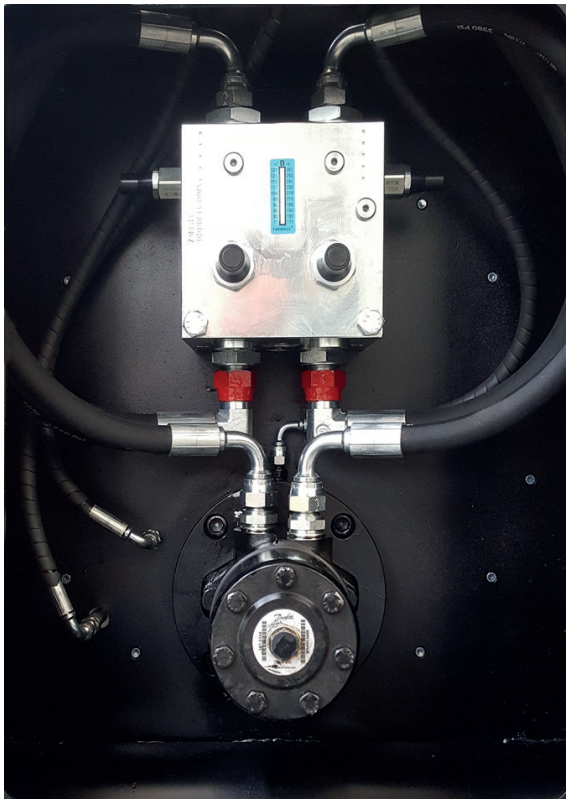
ATTENTION !

MB-S14 S4 / MB-S18 S4: The flow regulator is sealed and it is forbidden to modify it. The rpm can be modified only in the range permitted by the sealings.

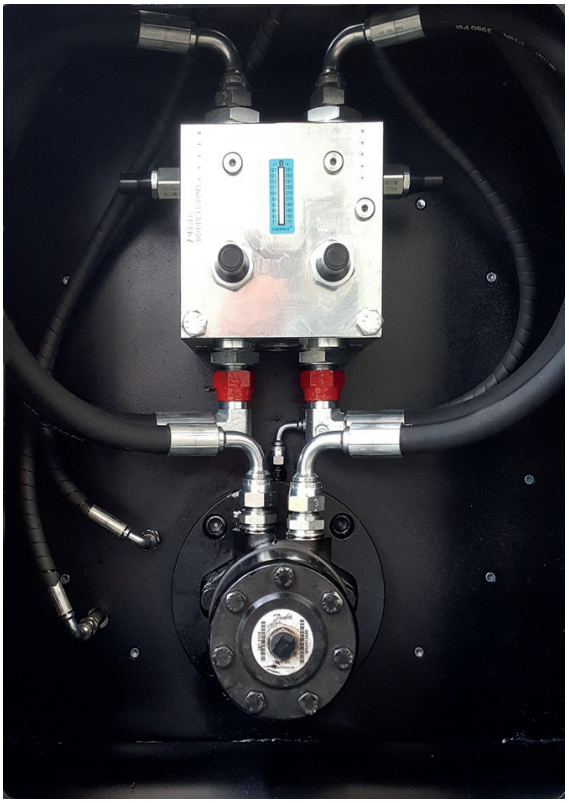
ATTENTION !

MB-S10 S4 / MB-S23: The adjustment handwheel is adjustable within the limits.

MB-S10 S4

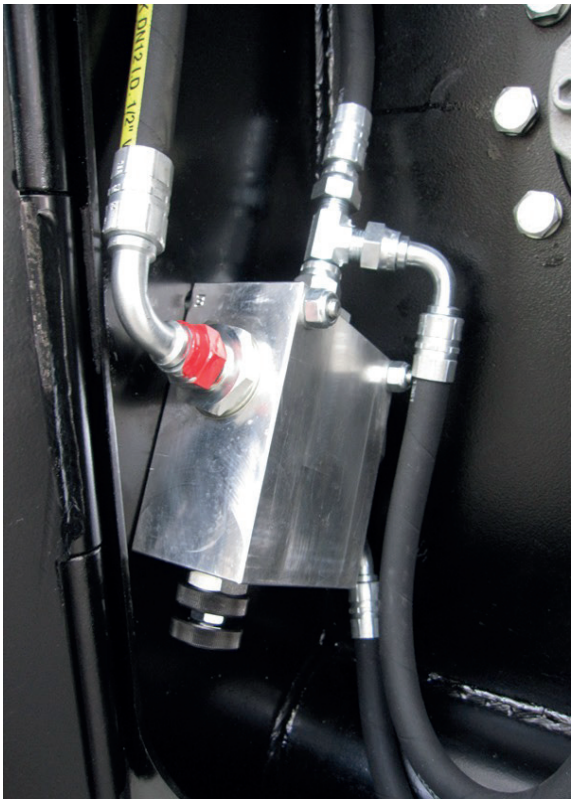


MB-S14 S4



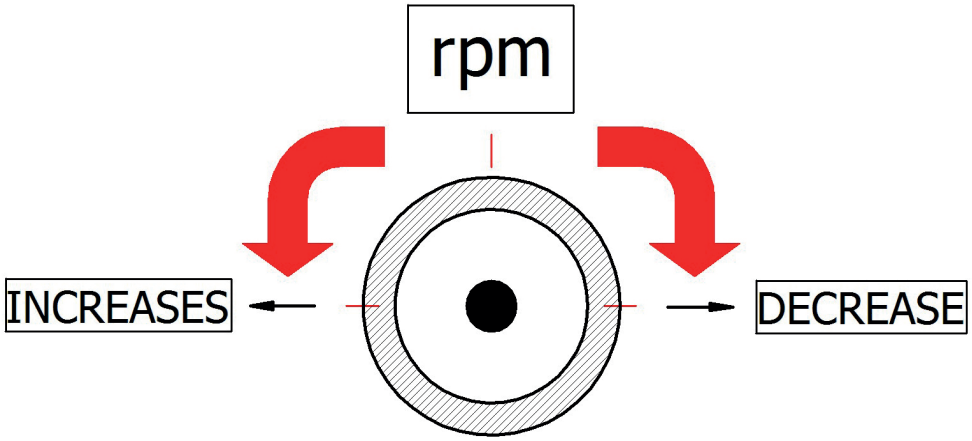
MB-S18 S4

MB-S23



In order to change the rotation speed of the basket:

• turn the hand wheel anti-clockwise to increase speed;
• turn the hand wheel clockwise to decrease speed.



5.3 JAMS

In the event of jamming it is suggest to swap rotation sense. The basket must be completely stopped before switching the rotation sese. If the hosting machine does not have the dual function system, proceed to remove the jamming parts manually.

5.4 NOISE EMITTED BY THE EQUIPMENT

The resounding power rating, produced by the equipment, has been evaluated by: STUDIO “C” with the supervision of the Technical Manager.
This assessment has been described in the report dated 07/10/2010, and has been signed by the same Technical Manager.
The measurements were taken with fully loaded machine, under normal weather conditions, without rain, with a microphone always equipped with a wind cover.
The calculation of the resounding power emitted from the source was calculated according to UNI EN ISO 3744.
The rating covered all the produced models, revealing substantially homogenous results.
Resounding power level emitted by fully loaded equipment:
LWA = 106.0 dB(A).
Resounding power level emitted by fully loaded equipment in the workplace:
LWA = 83.0 dB(A).

NOTE: wear all of the personal protective equipment (PPE) which will be necessary to ensure the protection of the operator himself, in compliance with that foreseen by the general accident-prevention standards in force in the Country where the machine operates.

5.5 BASKET LOCKING

ATTENTION !

DURING FAIR OR EXHIBITIONS, IF CONSIDERED NECESSARY IT IS WARMLY SUGGESTED TO LOCK BASKET ROTATION TO AVOID POSSIBLE UNPLEASANT EVENTS. BELOW SHOWN THE MOST COMMON METHODS, LIAISE WITH MB SERVICE FOR ADDITIONAL HELP

6 REPLACING THE BASKET ON MODEL: MB-S23

The basket is replaced to increase or decrease the piece size of the material. The operation is carried out as follows:

ATTENTION !

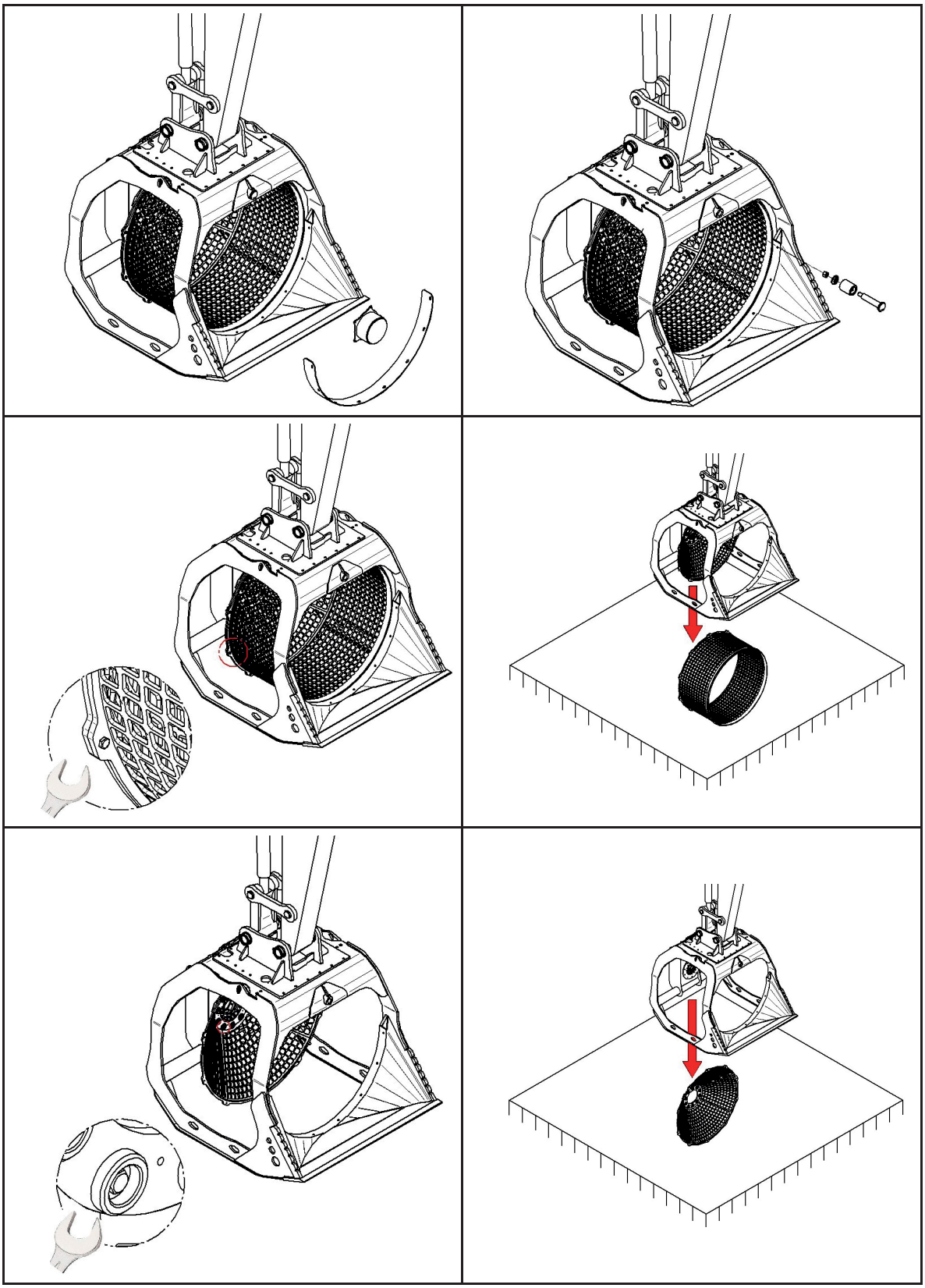
Before proceeding with any intervention on the machine, check that the connecting tubes and the working machine are disconnected.

REPLACEMENT PROCEDURE:

- Place the bucket on the ground in a straight position and possibly on a flat surface, so that the basket does not move once the bolts are removed.
- Remove the protective casing of the reducer and the basket guide.
- Loosen and remove the pin and support bushing inside the mouth of the basket on top.
- Loosen and remove the bolts which fasten cylinder A to cone B of the basket.
- Lift the bucket, keeping it upright. In this way, cylinder A will slip out below it.
- Perform the same operation for cone B.
- Position cone B1 to be inserted flat and lower the bucket onto it, performing the inverse operation. When the bucket is placed on the ground, centre the holes with the bolts and secure the cone.
- Perform the same operation for cylinder A1.
- Put the pin and bushing back in place on top of the basket mouth.
- Put the protective casing of the reducer and the basket guide back in place.

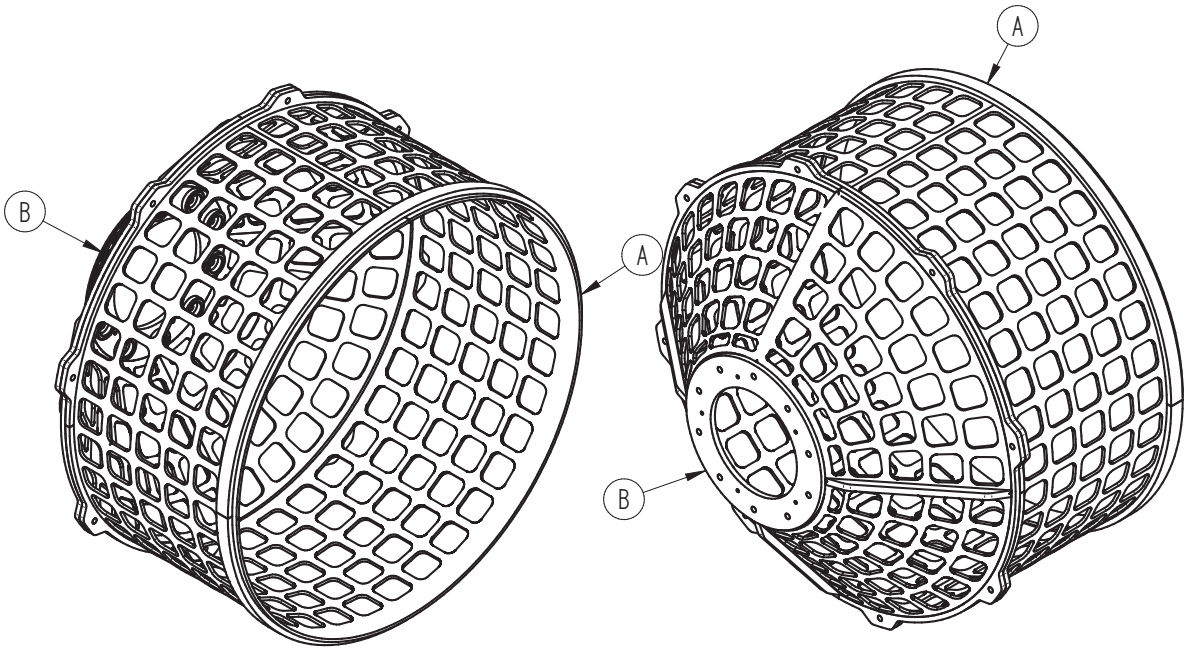
ATTENTION !

Before proceeding with any intervention on the machine, read carefully chapter 8 of the Use and Maintenance Manual for the heavy parts removal.



6.1 COMPOSITION OF THE BASKET ON MB-S23

The basket is composed by two parts (A and B in the figure) fastened one to another by a series of bolts (the number varies depending on the model of the machine).



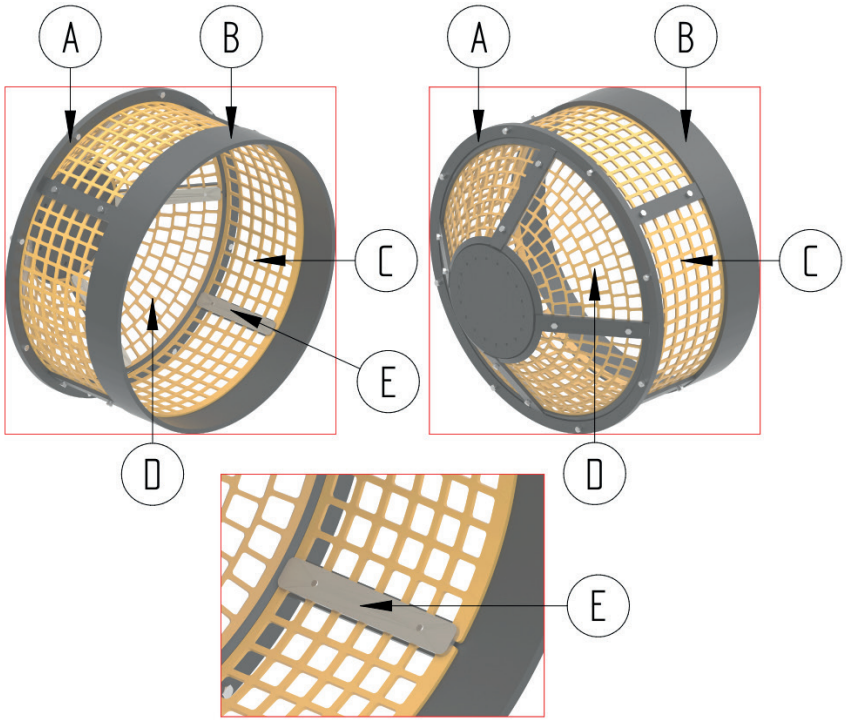
The following table indicate the codes of the basket components.

6.1.1 BASKET CODE TABLES FOR MB-S23

BASKET CODE	DESCRIPTION	A	B
SC232020	BASKET (CONE 20 / CYLINDER 20)	S20001850	S20001950
SC233030	BASKET (CONE 30 / CYLINDER 30)	S20001650	S20001750
SC234040	BASKET (CONE 40 / CYLINDER 40)	S20001350	S20001550
SC235050	BASKET (CONE 50 / CYLINDER 50)	S20001150	S20001250
SC236060	BASKET (CONE 60 / CYLINDER 60)	S20002050	S20002150
SC238080	BASKET (CONE 80 / CYLINDER 80)	S20002250	S20002350

7 COMPOSITION OF THE BASKET: MB-S10 - MB-S14 - MB-S18

On models MB-S10 S4, MB-S14 S4, MB-S18 S4 the basket is made of 5 components (A, B, C, D, E in the picture). Some of them are welded, other are fixed through bolts (bolts number varies according to the machine model).



The cage is made of two parts (A and B in the picture) fixed through them by bolts (bolts number varies according to the machine model).
C is the panel for the cylindrical sector, whereas D is the panel for the conical sector.
E is a metal plate to fix every panel to each other panel both for the cylindrical and the conical part.
Components codes list:

Model	Cage code
MB-S10 S4	MBS100024
MB-S14 S4	MBS120032
MB-S18 S4	MBS160045

The cage includes all screws to fix the panels.
Panels kit codes:

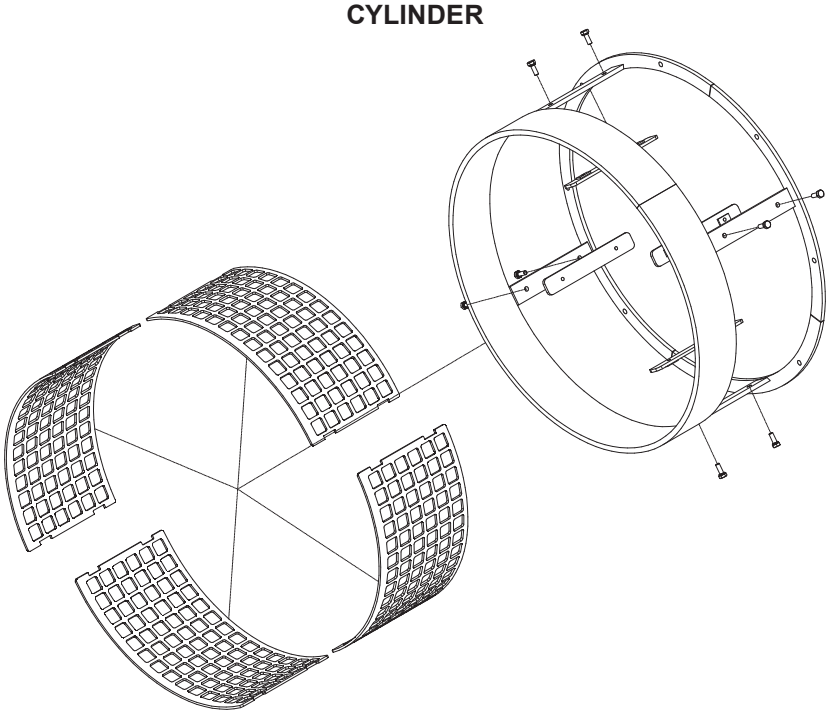
Model			Description
MB-S10 S4	MB-S14 S4	MB-S18 S4	
GS102020	GS142020	GS182020	Mesh size 20x20
GS103030	GS143030	GS183030	Mesh size 30x30
GS104040	GS144040	GS184040	Mesh size 40x40
GS105050	GS145050	GS185050	Mesh size 50x50
GS106060	GS146060	GS186060	Mesh size 60x60
GS108080	GS148080	GS188080	Mesh size 80x80

7.1 REPLACE PANELS ON MODELS MB-S10 - MB-S14 - MB-S18

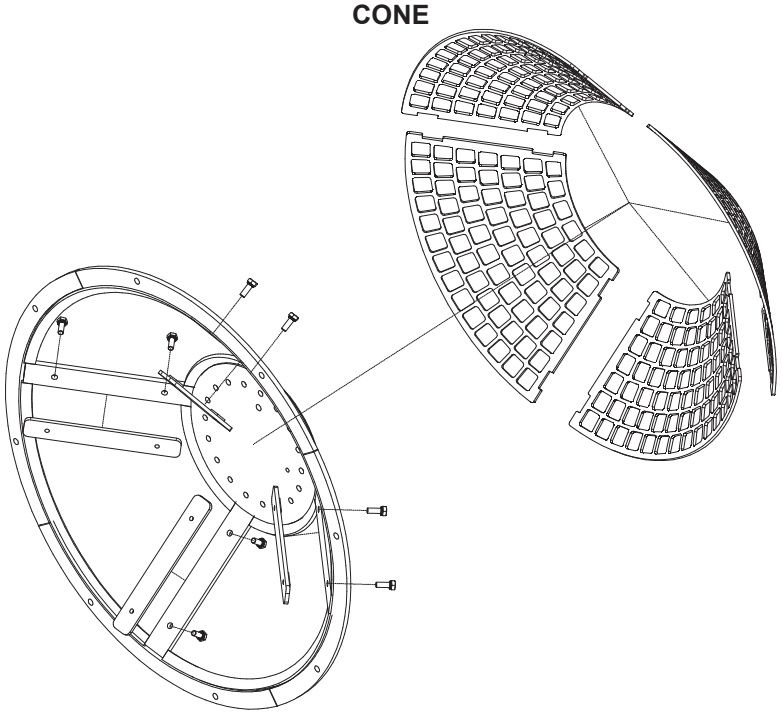
In case the customer needs to change the size of the screened material, it is enough to replace the panels mounted with the required new panels frame. This operation is easily done by undoing all the connected screws, take the panels out and replace them with the new panels.

Cage composition:
(the images are as example)

CYLINDER



CONE



ATTENTION !

IN ORDER TO GUARANTEE THE OPERATOR'S SAFETY, IT IS IMPORTANT TO PAY PARTICULAR ATTENTION TO THE REPLACEMENT PHASE OF PANELS. IT IS SUGGESTED TO BLOCK THE BASKET IN ORDER TO AVOID THIS PART TURNS SUDDENLY AND MAKES DAMAGES TO PERSONS OR THINGS. USE ALL THE POSSIBLE DISPOSITIVE OF PROTECTION IMPOSED BY THE LAW OF YOUR COUNTRY.

To replace panels, proceed as following, not before having read chapter 8:

1 Lay down the bucket on the ground, possibly on a flatten surface;

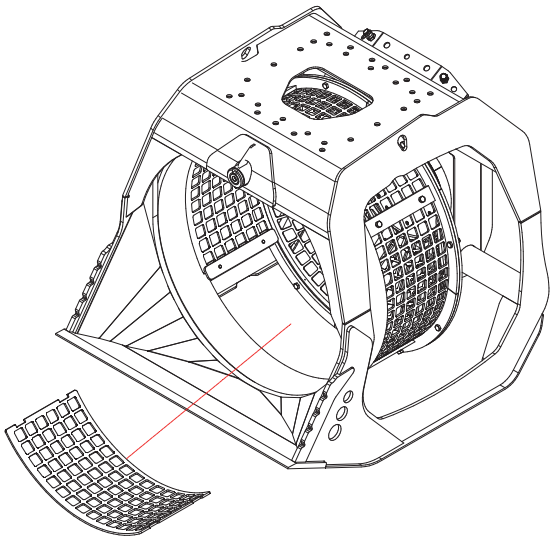
2 Untighten the bolts, so that all panels will get loosen, remove each separately;

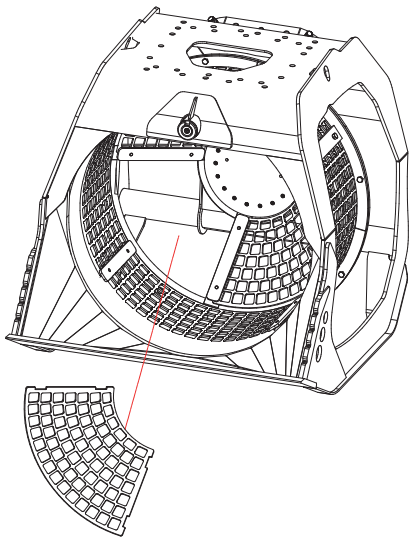
3 Whilst the intervention is performed, ensure that all safety devices are duly employed;

4 Once the previous operations are ended, rotate manually the trommel, unfit hydraulic joints lids to make it simpler;

5 Once panels are replaced, fix all screws using torque wrench In accordance of the chart present at the end of the manual.

Removal of the basket support bush is not necessary.





8 HEAVY PARTS REMOVAL

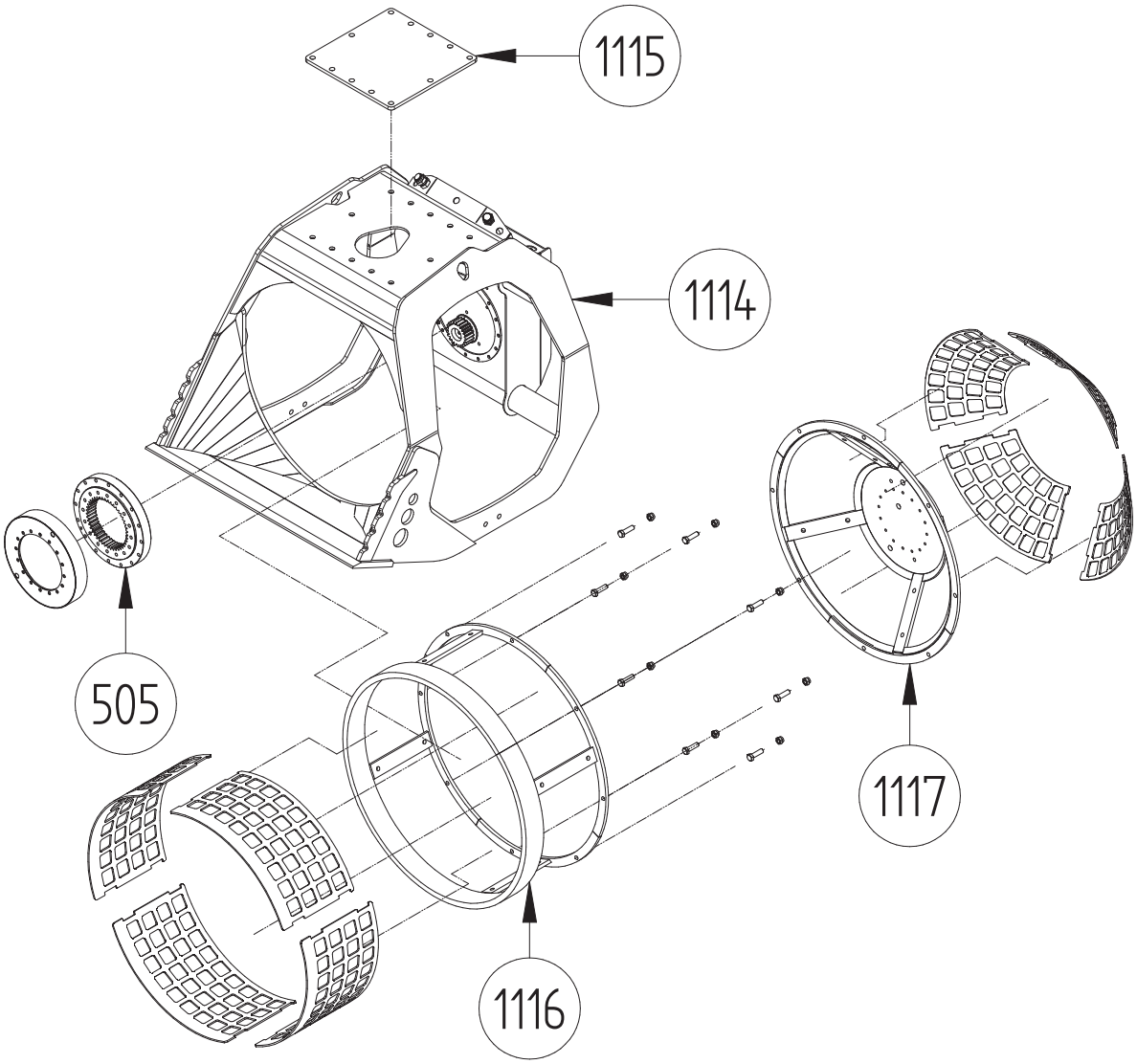
ATTENTION !

THE MACHINE IS BUILT WITH SIGNIFICANTLY HEAVY COMPONENTS. EVALUATE THE RISKS ASSOCIATED WITH MOVING EACH COMPONENT. EVERY OPERATION MUST BE CARRIED OUT BY COMPETENT PERSONS. MOVING BY HAND COMPONENTS WEIGHING 10 KG OR GREATER IS PROHIBITED.

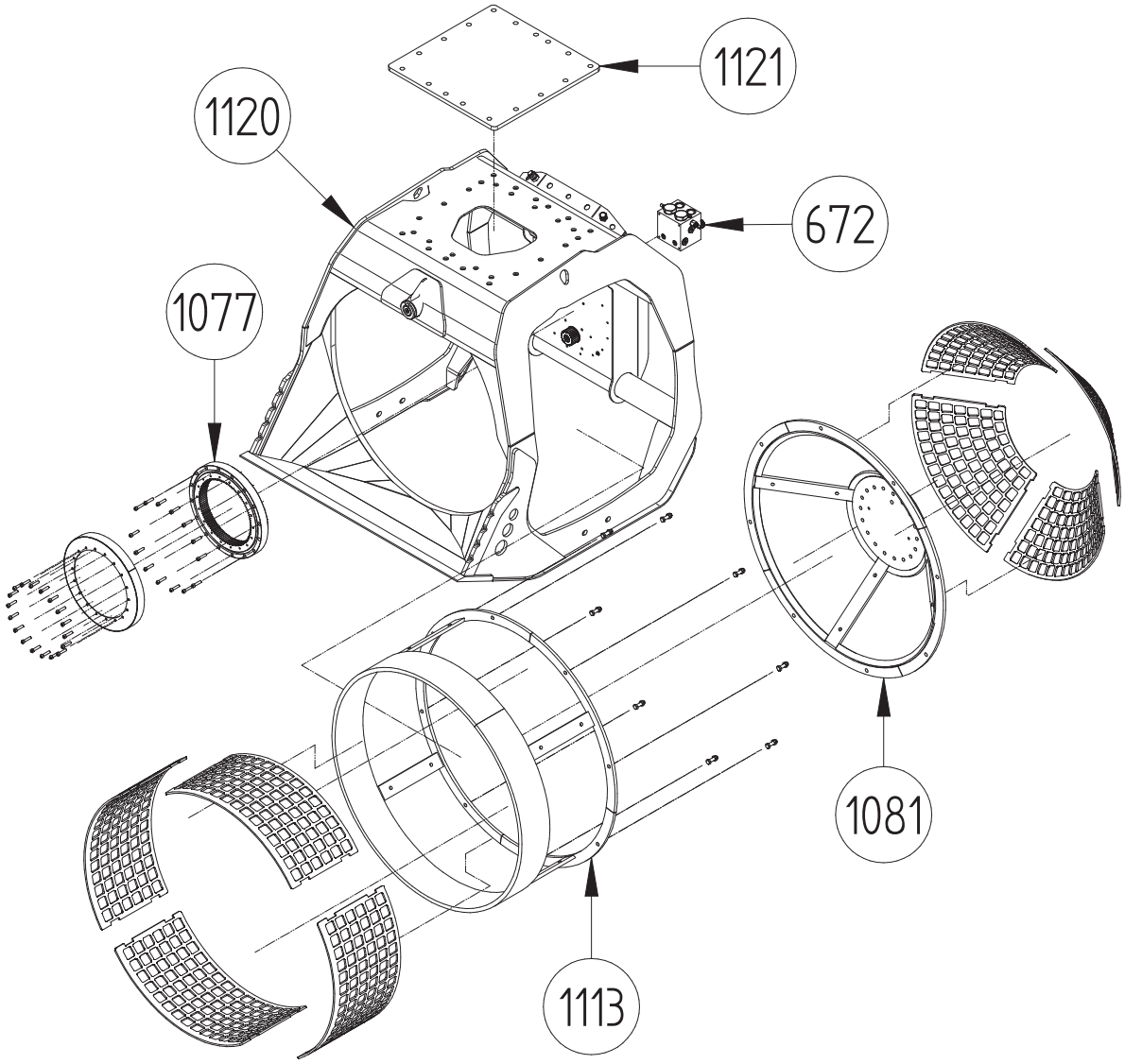
ATTENTION !

PLEASE CONTACT MB SERVICE FOR ALL COMPONENTS NOT INDICATED IN THE TABLE.

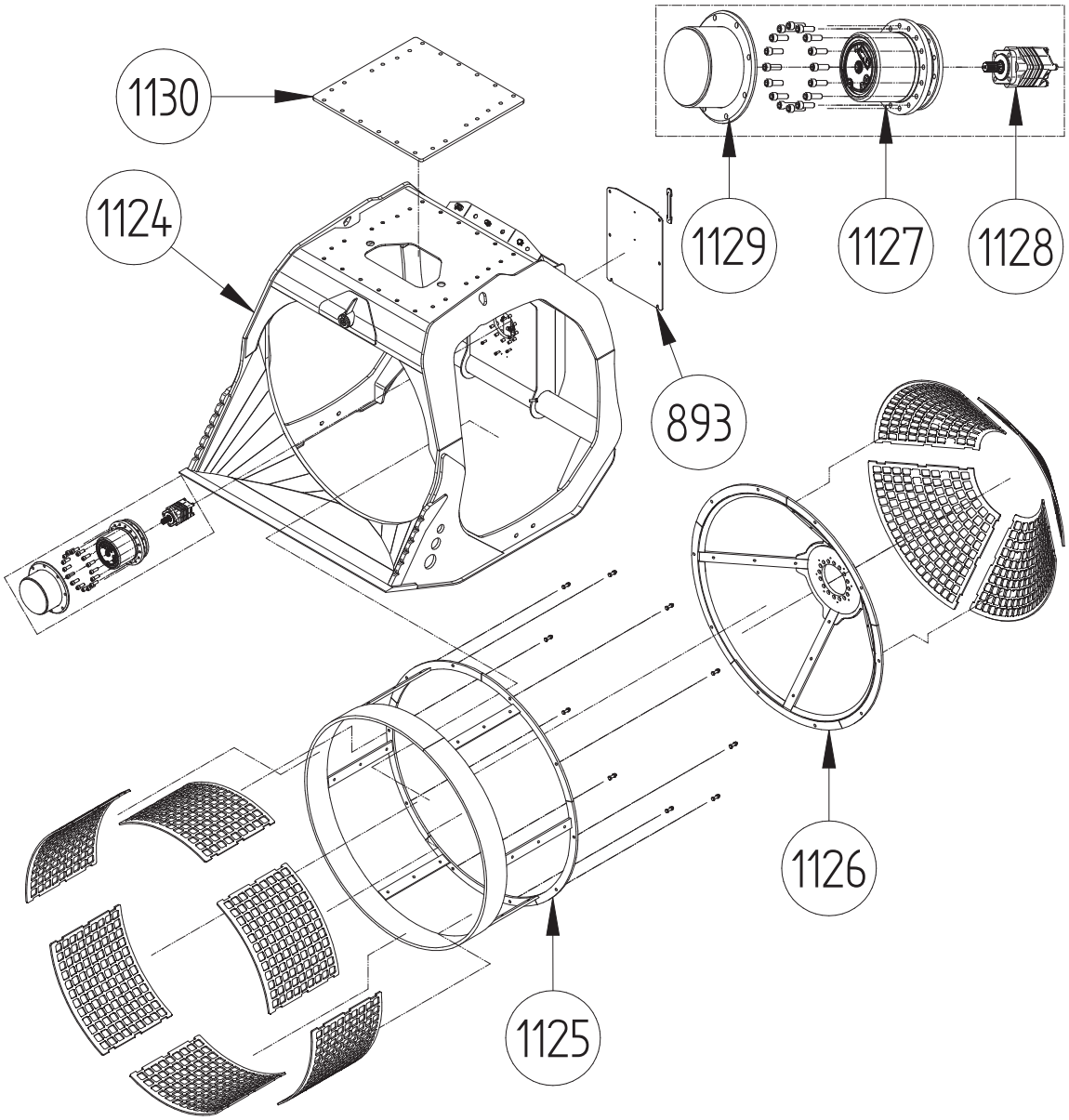
MB-S10 S4



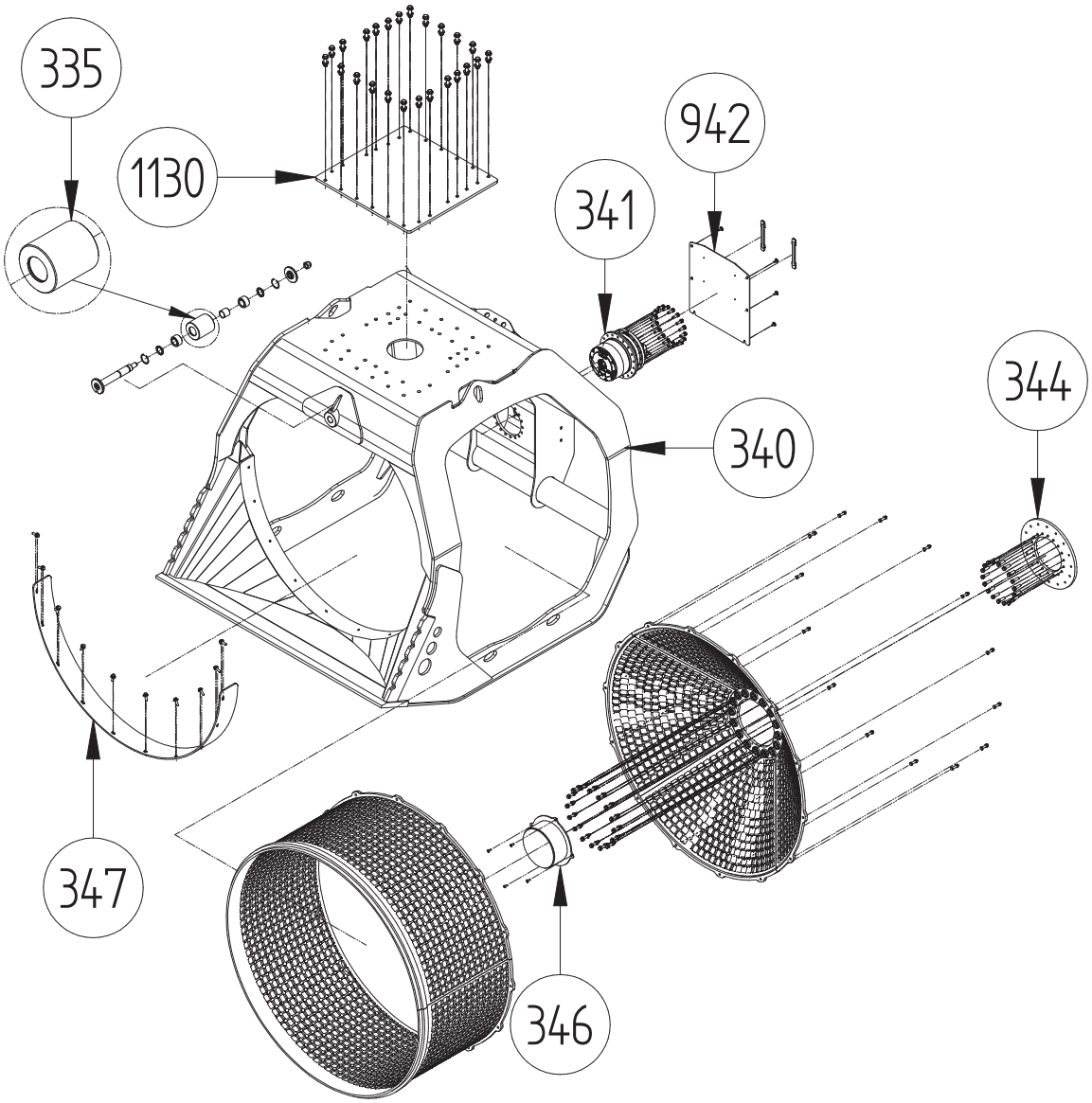
MB-S14 S4



MB-S18 S4



MB-S23



NR.	CODE	WEIGHT (KG)	MODEL
335	S20000731	15	MB-S23
340	S20000150	2500	MB-S23
341	208070601	105	MB-S23
344	S20000550	28	MB-S23
346	S20000450	346	MB-S23
347	S20000650	45	MB-S23
505	582032001	13	MB-S10 S4
672	205010004	12	MB-S14 S4
893	S16009150	14	MB-S18 S4
942	S20003450	16	MB-S23
1077	582046502	25	MB-S14 S4
1081	S12009150	70	MB-S14 S4
1113	S12010050	140	MB-S14 S4
1114	S10008050	235	MB-S10 S4
1115	S10001651	15	MB-S10 S4
1116	S10008650	32	MB-S10 S4
1117	S10008950	23	MB-S10 S4
1120	S12009050	630	MB-S14 S4
1121	S12009550	75	MB-S14 S4
1124	S16015250	1360	MB-S18 S4
1125	S16017050	200	MB-S18 S4
1126	S16013850	100	MB-S18 S4
1127	208070503	55	MB-S18 S4
1128	201012501H	10	MB-S18 S4
1129	S16013750	16	MB-S18 S4
1130	S16008550	140	MB-S18 S4 - MB-S23

ATTENTION !

BUCKETS ARE COMPOSED BY CONSIDERABLE HEAVY PARTS. EVALUATE RISKS LINKED TO HANDLING THESE PARTS. EVERY OPERATION SHALL BE CARRIED OUT BY SKILLED AUTHORIZED PERSONNEL. IT IS STRICTLY FORBIDDEN TO HANDLE ITEMS WITH WEIGHT OF 10 KGS OR MORE.

WEIGHT CHART
PANELS (MB-S10 S4 - MB-S14 S4 - MB-S18 S4)
BASKET (MB-S23)

MODEL	WEIGHT (KG)
MB-S10 S4	DA 2.5 A 6
MB-S14 S4	DA 8 A 27
MB-S18 S4	DA 17 A 35
MB-S23	DA 100 A 430

THE ABOVE WEIGHT IS VALID FOR NO. 01 PANEL OR NO. 01 BASKET

9 MAINTENANCE OF THE MACHINE

The screening bucket is an interchangeable piece of equipment that needs its routine maintenance. Below please find the basic requirements and general warnings in order to operate in the best way possible while abiding safety rules and safeguarding workers' health.






- All maintenance operations must be carried out by adult, authorized and qualified personnel after the instructions in this Use and Maintenance Manual has been read.
- The operator has to be familiar with and properly interpret all indications contained in the instructions manual and the signs affixed to the machine: this will help prevent damage to people, property and the operating machine.
- The operator cannot do any check controls, cleaning and maintenance under unsuitable conditions or when under the influence of alcohol or drugs.
- It is absolutely mandatory to abide by the instructions contained in the Operating and Maintenance Manual and with general EC accident-prevention standards, as well as with the national standards in force in the user's country.
- Always use the personal protection equipment required by directives EEC 89/686 and EEC 89/656; moreover, always do as instructed in the manual and according to the laws of the Country where the machine is operating.
- Carefully read all the information printed on the adhesive labels concerning safety affixed to the machine.
- It is important to turn off the machine and disconnect the hydraulic hoses before removing the machine protection.
- If any of the machine's safety components breaks or goes wrong, it must be replaced immediately by authorized and qualified personnel.
- All the necessary components for periodical maintenance are commercial and you will find them easily on the market in your country.

ATTENTION !

It is absolutely forbidden to wash the Screening Buckets MB-S10 S4 - MB-S14 S4 - MB-S18 S4 with a high pressure cleaner, water or any other liquid as it could damage the transmission assembly as well as other related items; if necessary, clean manually and pay attention to not wet the specified components.

ATTENTION!

MB-S23 and MB-S18 S4 are allowed to operate under water. Nevertheless, basket shall preferably not rotate when either fully or partially submerged; use submerged only to load or empty the material. Consider that liquids, depending on their composition, may affect the time of wear of bucket frame and components.

9.1 PREVENTIVE MAINTENANCE

The operator must DAILY check the conditions of use of the bucket, such as structure failures, loosening of bolted parts, welding cracks, leaking from hydraulic connections, integrity of the hydraulic piping, etc. Any faults detected must be reported to the manager in charge who will immediately communicate these failures to the MB SERVICE.

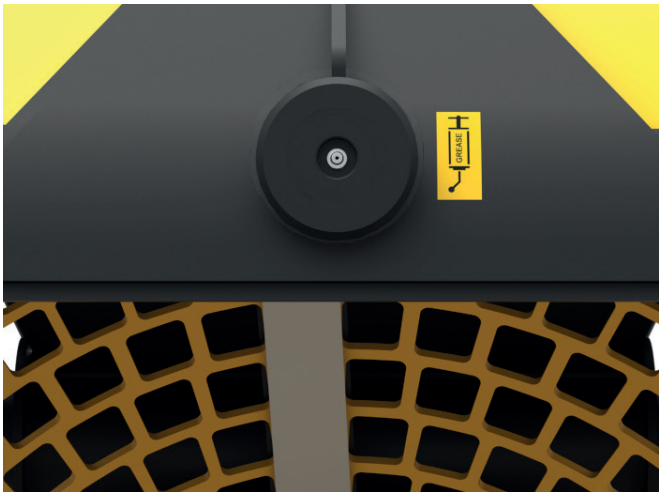
9.2 ROUTINE MAINTENANCE

<table>
<tr><th>SLEWING BEARING GREASING</th><th>MODEL</th></tr>
<tr><td>  </td><td>MB-S10 S4</td></tr>
<tr><td> 
</td><td>MB-S14 S4</td></tr>
<tr><td colspan="2">EVERY 8 HOURS

Grease the rollers of the toothed ring and the path of rotation of the pinion gear. Procedure: unplug the hydraulic hoses, hand-grease while rotating the basket manually in order to spread the grease throughout all the circumference. 20 pumps each 2 hours.

For strongly dusty environment carry out the intervention more often.</td></tr>
</table>

MOTOR BEARING GREASING	MODEL
	MB-S10 S4
	MB-S14 S4
EVERY 10 WORKING HOURS Greasing of the motor bearing, 10 pumps every 10 hours.	

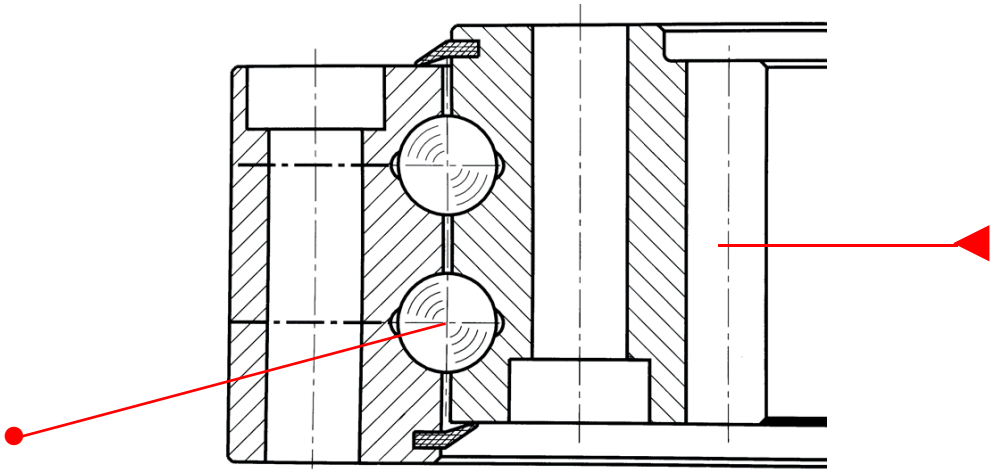
UPPER ROLLER SUPPORT GREASING	MODEL
	MB-S14 S4 MB-S18 S4 MB-S23
EVERY 20 HOURS Grease the pair of bearings inside the basket support roller . For strongly dusty environment carry out the intervention more often.	

The following lubrication specs are only valid exclusively for units equipped of slewing bearing (MB-S10 S4 and MB-S14 S4).

Suggest brand/model **AGIP GR30**

LUBRICANTS CHART			
BRAND		**GREASE**	**TEMPERATURE**
BP	●	ENERGREASE LS-ES 2	248 K / 413 K (-25°C / +140°C)
	▲	ENERGREASE LC 2	243 K / 433 K (-30°C / +160°C)
CASTROL	●	SPHEEROL EPL 2	253 K / 393 K (-20°C / +120°C)
	▲	VISCOGEN 0	253 K / 398 K (-20°C / +125°C)
ELF	●	EPEXA 2	243 K / 393 K (-30°C / +120°C)
	▲	CARDREXA DC 1	253 K / 393 K (-20°C / +120°C)
ESSO	●	BEACON EP 2	253 K / 393 K (-20°C / +120°C)
	▲	CAZAR K 2	248 K / 338 K (-25°C / +65°C)
IP	●	ATHESIA EP 2	248 K / 373 K (-25°C / +100°C)
	▲	VISCUM FLUIDS	263 K / 423 K (-10°C / +150°C)
MOBIL	●	MOBILUX EP 2	253 K / 398 K (-20°C / +120°C)
	▲	MOBILTAC 81	243 K / 393 K (-30°C / +120°C)
KLUBER LUBRIFICATION	●	CENTOPLEX 2 EP	248 K / 403 K (-25°C / +130°C)
	▲	GRAFLOSCON C-SG 0 ULTRA	243 K / 473 K (-30°C / +200°C)
SHELL	●	SHELL ALVANIA EP 2	248 K / 403 K (-25°C / +130°C)
	▲	MALLEUS GL 95	253 K / 503 K (-20°C / +230°C)

● Grease for rolling system ▲ Grease for teeth



GENERAL MANDATORY MAINTENANCE

Every 50 work hours:
- Control of conditions of bushing and inner bearings.
- Control of conditions of hydraulic system (oil leakage).
- General bolt-tightness check; it is recommended to tighten bolts with a dynamometric wrench according to the indications indicated in the chart at the end of this manual.

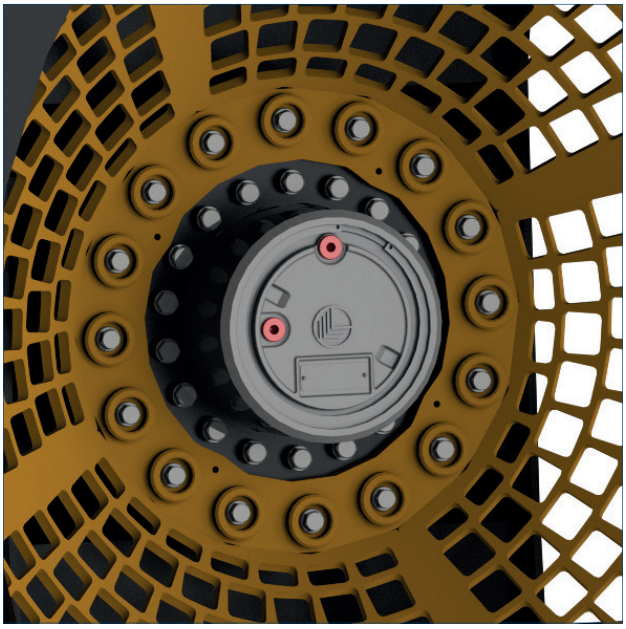
OIL REFILL

After the first 100 work hours:

- Change the oil in the planetary drive.

1: Remove the protective casing of the reducer
2: Remove the Allen lid (highlighted in below picture)
3: Empty the content of the exhausted oil. Ensure all is emptied
4: Follow the regulations for waste disposal of exhausted oil.
5: Refill

ROTRA SAE 80W/90 oil is recommended.



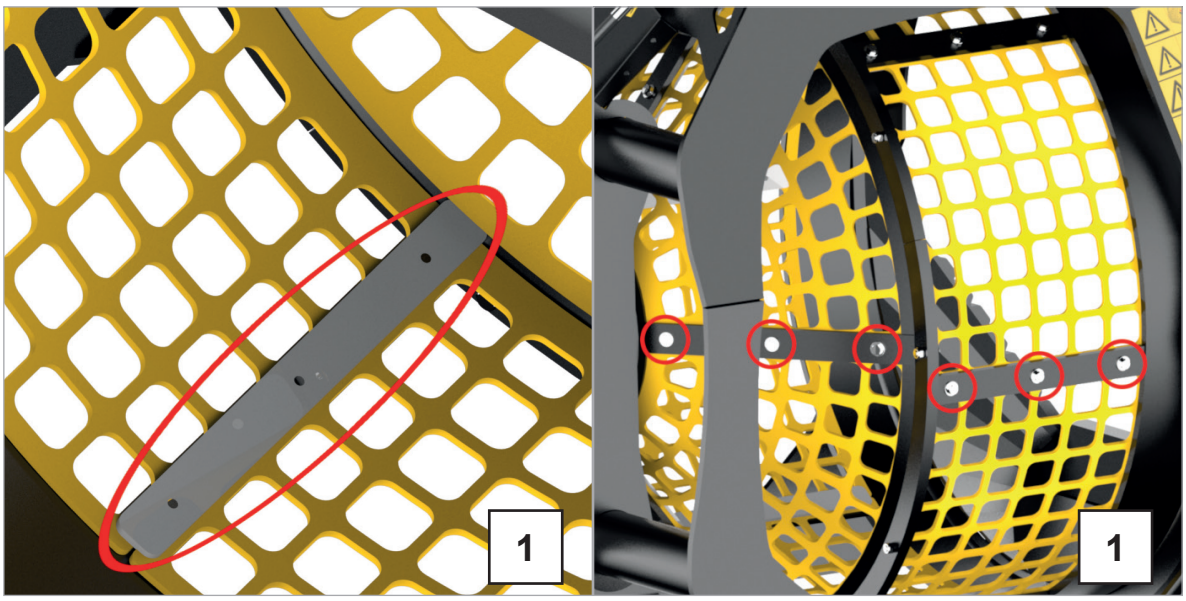
Every 1000 work hours:
- Change the oil in the reducer. **ONLY FOR MB-S23 and MB-S18 S4**

MODEL	OIL QTY NEEDED
MB-S18 S4	1.3 Liter
MB-S23	4.7 Liter

Carefully measure the quantity of oil introduced. Both less or more than the necessary liters can damage the component.

FREQUENCY	REF	PARTS TO CHECK	OPERATIONS
Every 2 work hours	See previous pages	Gear slewing bearing (MB-S10 S4 - MB-S14 S4 - MB-S18 S3)	Grease the bearing
		MB-S10 S4 - MB-S14 S4 - MB-S18 S3: the procedure relative to the gear slewing bearing: turn of the machine, grease slewing bearing and the teeth of the slewing with the manual pump, rotate manually the basket during the greasing to cover all the slewing bearing, with 20 pumps every 2 hours.	
Every 10 work hours	See previous pages	Motor support bearing (MB-S10 S4 - MB-S14 S4 - MB-S18 S3)	Grease the motor support bearing and the support motor with 30 pumps every 10 hours in order to get grease the bearings of the motor.
Every 20 work hours	See previous pages	Bushing bearings (except of MB-S10 S4)	Grease the bucket support bushing internal bearings.
Every 30 work hours	1	Panels fixing plate screws (except of MB-S23)	Check torque tightening of screws. Visual check of panels fixing plate. Tighten the bolts with the relevant tightening torque as indicated in the chart at the end of the manual.
Every 50 work hours	2	Bushing (except of MB-S10 S4)	Check wearing status of the bush.
	3	Hydraulic system	Check wearing status of the hydraulic system.
	4	Bolts	General bolt-tightness check. Screws fastening cone-cylinder. Tighten the bolts with torque wrench as per indications given in the chart at the end of the manual.
After the first 100 working hours	5	Reduction gear (MB-S18 S4 and MB-S23)	Change the oil in the reducer.
Every 1000 working hours	5	Reduction gear (MB-S18 S4 and MB-S23)	Change the oil in the reducer.

* PICTURES ARE PURELY INDICATIVE.



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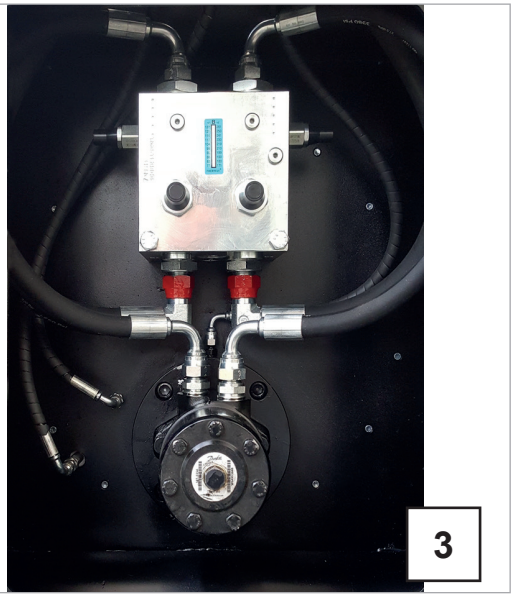
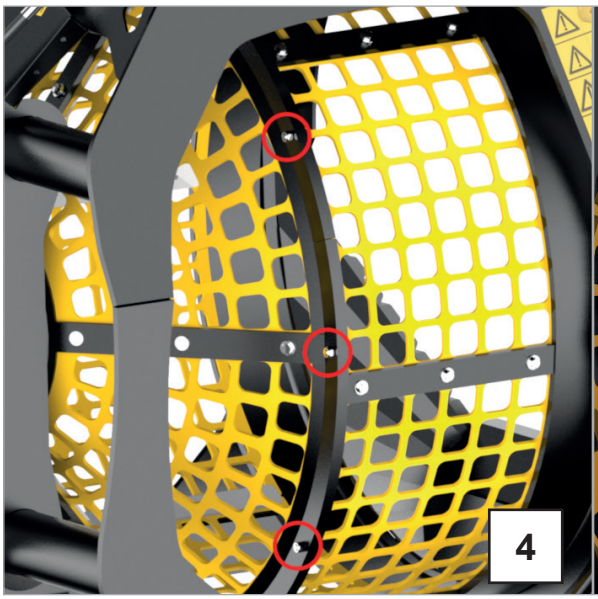


3



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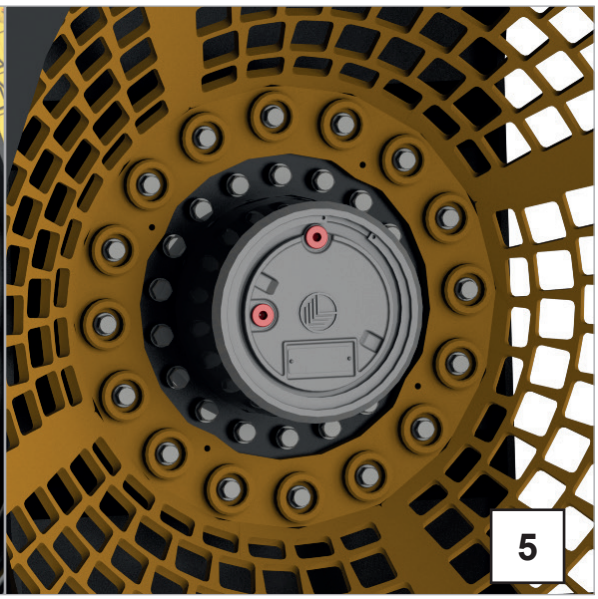


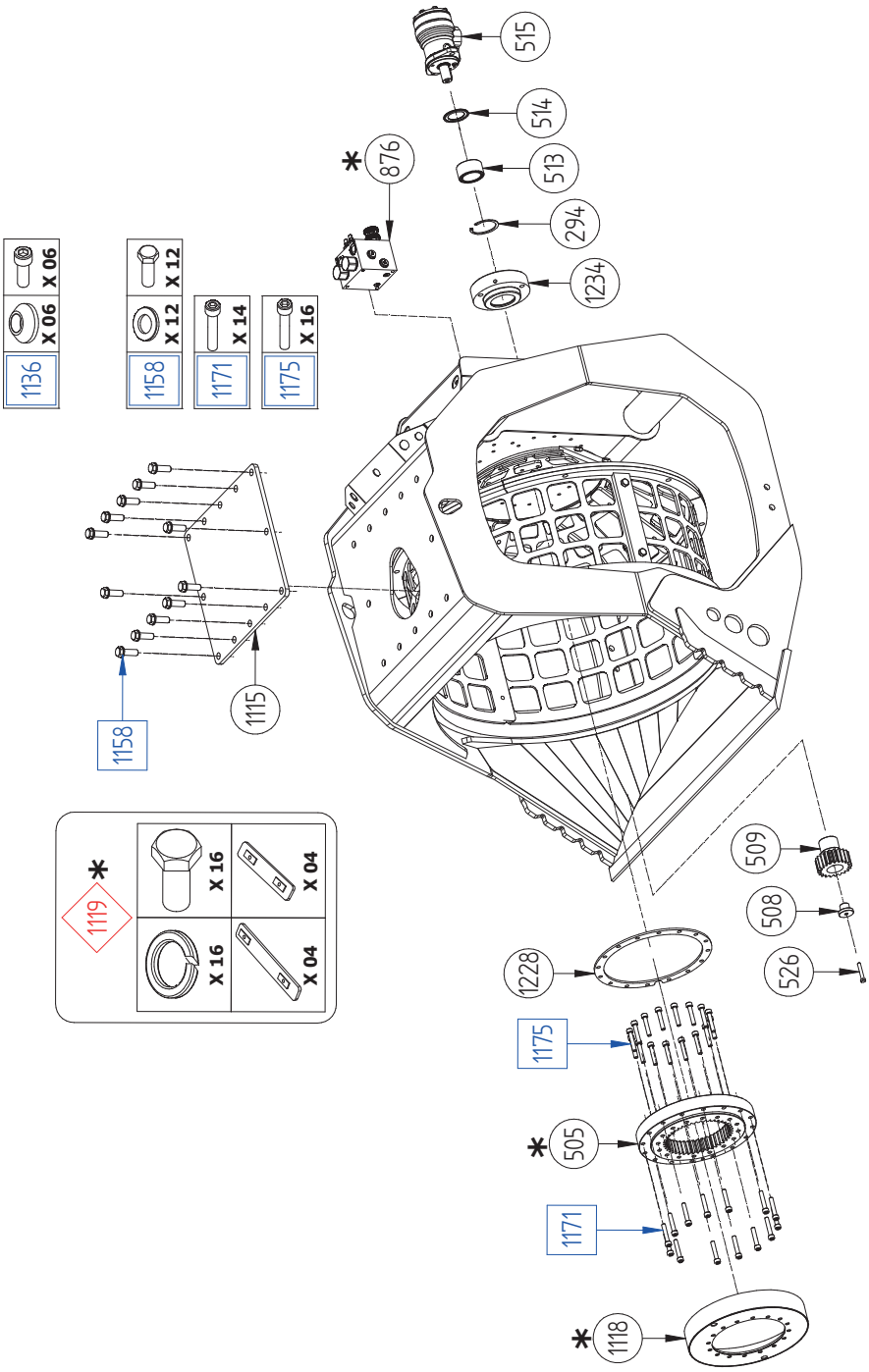
5

9.3 WEARING PARTS EXPLODED VIEWS

MB-S10 S4

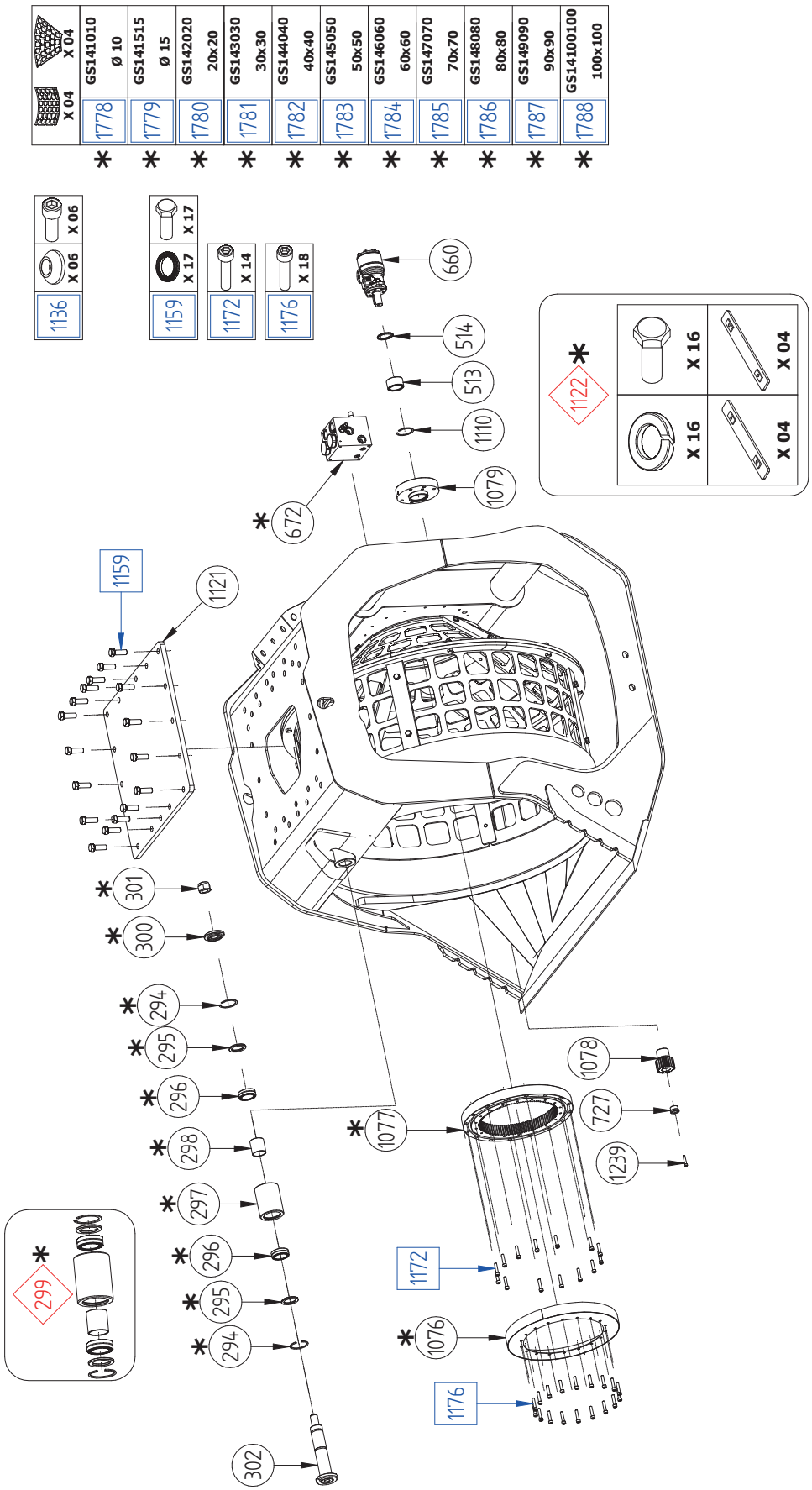
*** WEARING PART**

	GS101010 Ø 10	GS101515 Ø 15	GS102020 20x20	GS103030 30x30	GS104040 40x40	GS105050 50x50	GS106060 60x60	GS107070 70x70	GS108080 80x80
X 04 / X 04	1794	1795	1796	1797	1798	1799	1800	1801	1802
	*	*	*	*	*	*	*	*	*



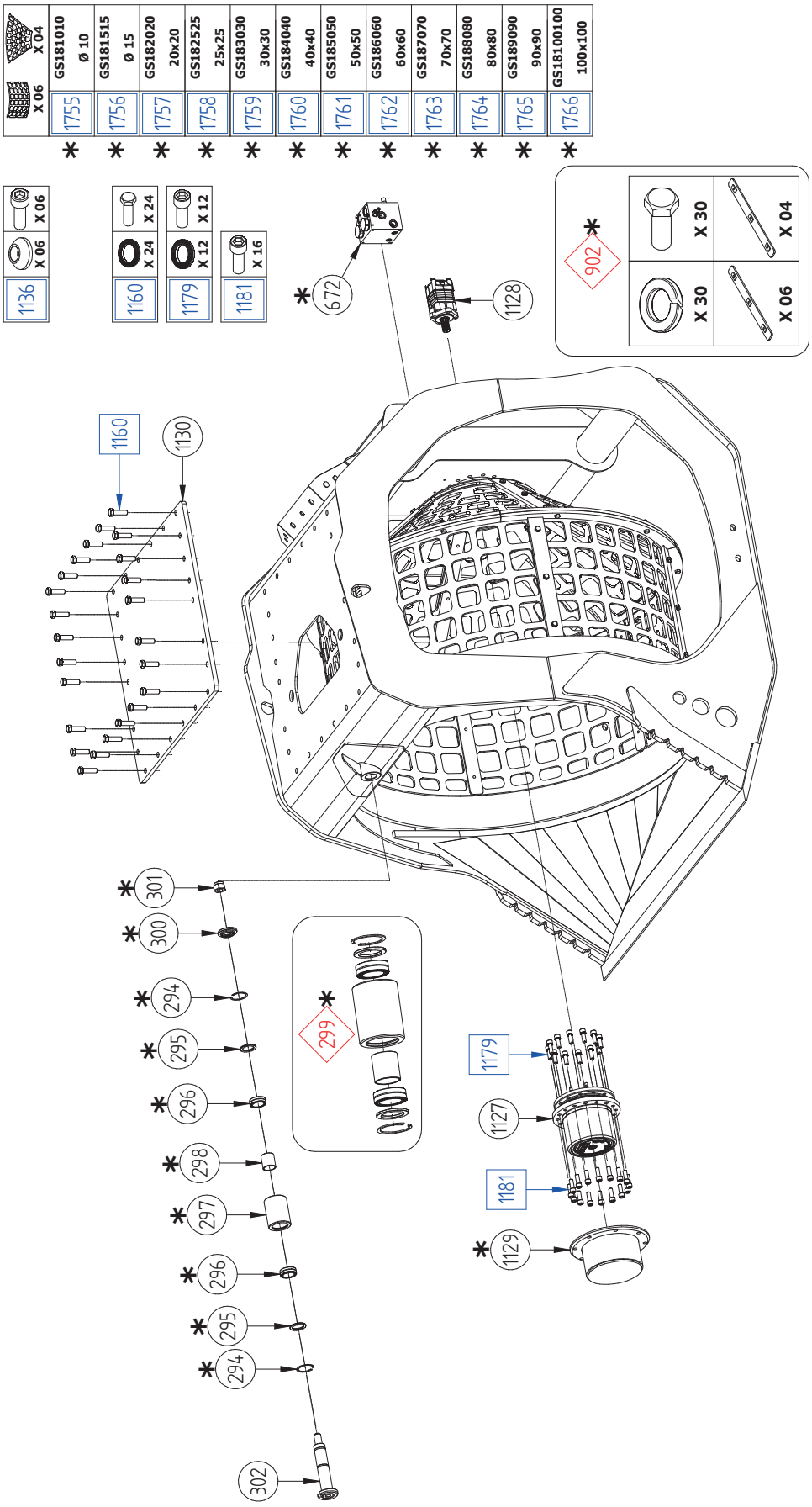
MB-S14 S4

*** WEARING PART**



MB-S18 S4

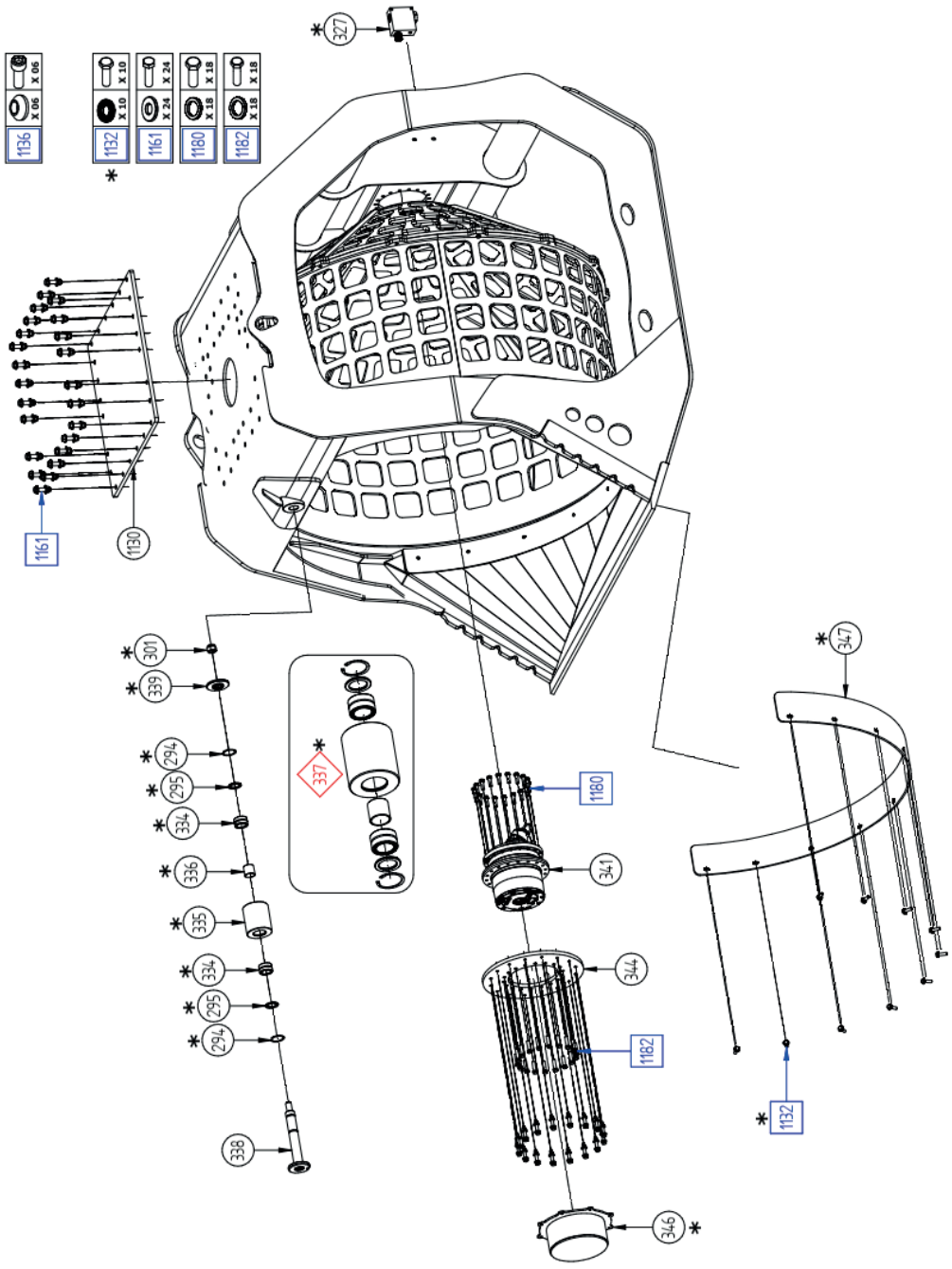
* WEARING PART



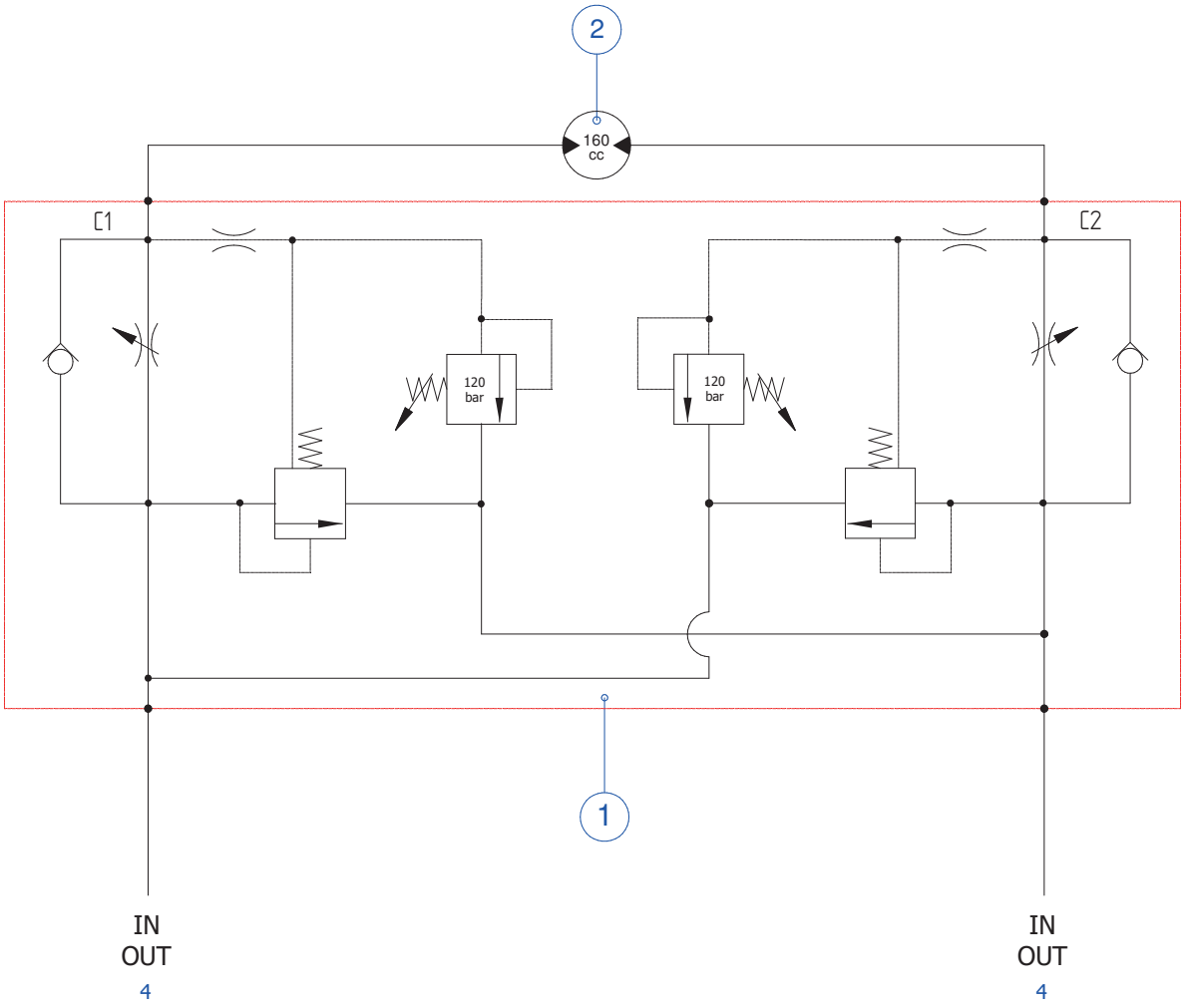
MB-S23

*** WEARING PART**

	SC232020 20x20	SC232525 25x25	SC233030 30x30	SC234040 40x40	SC235050 50x50	SC236060 60x60	SC237070 70x70	SC238080 80x80	SC23100100 100x100
	1803	1804	1805	1806	1807	1808	1809	1810	1811
	*	*	*	*	*	*	*	*	*

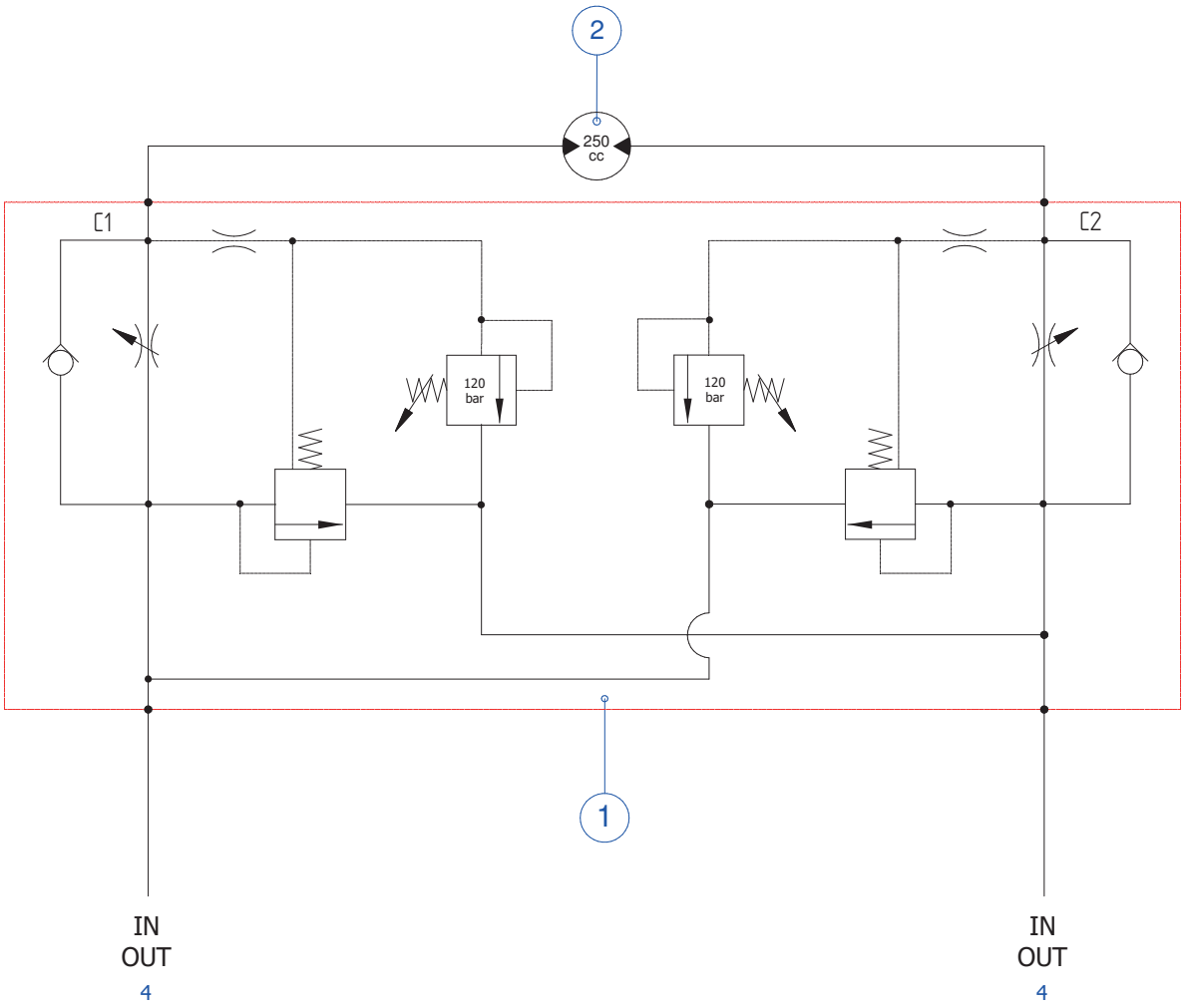


MB-S10 S4
HYDRAULIC LAYOUT COD. MBS10S002



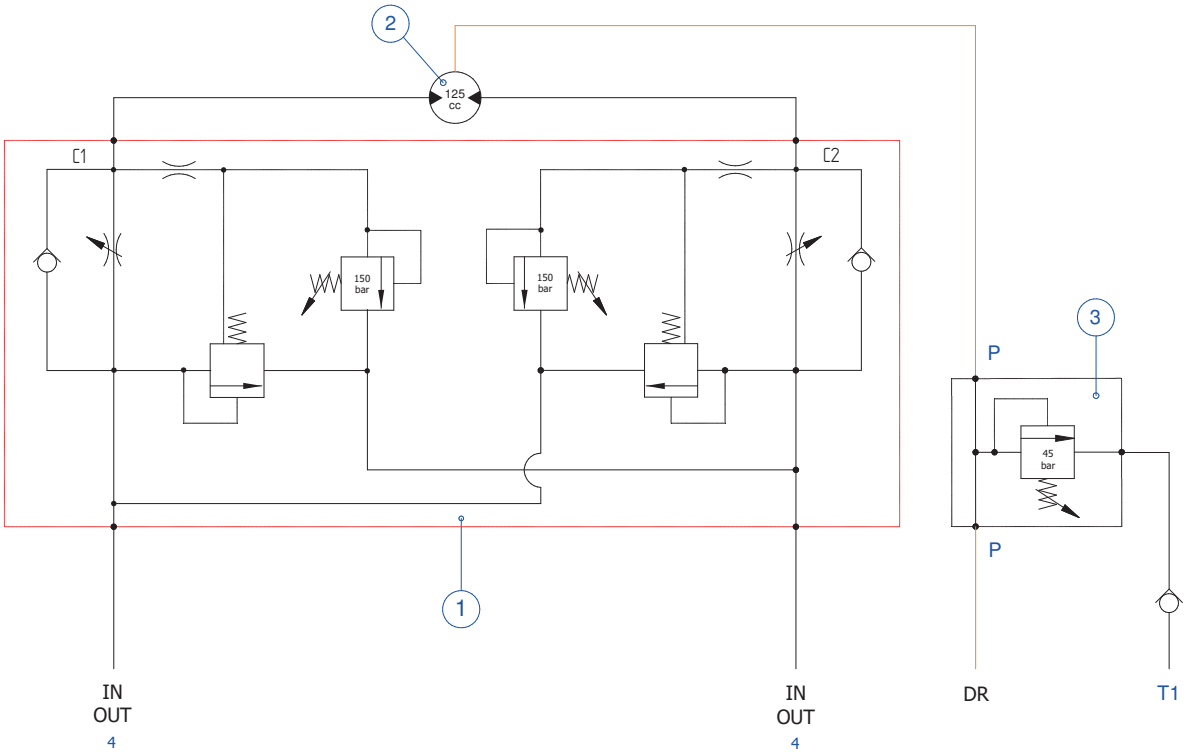
REF.	DESCRIPTION
1	FLOW ADJUSTMENT SET - SWITCHBOX PRESSURE MAX. 200 BAR - INLET VALVE SETTING MAX. 120 BAR - MAX FLOW. 80 LITERS/MINUTE - OPERATING FLOW MIN. 40 LITERS/MINUTE
2	HYDRAULIC MOTOR 160 CC
4	RETURN LINE BACK-PRESSURE MAX. 20 BAR

MB-S14 S4
HYDRAULIC LAYOUT COD. MBS14S003



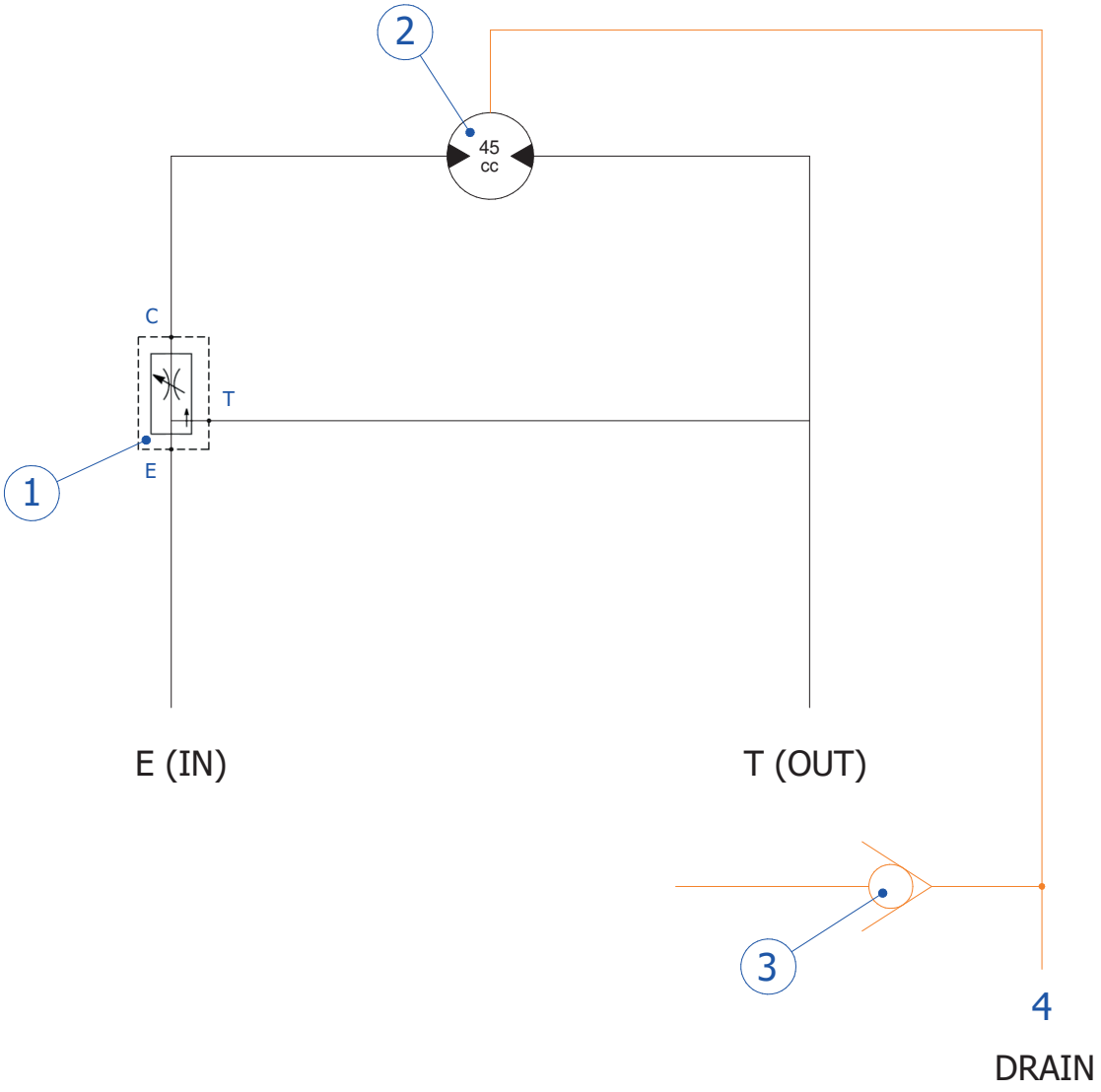
REF.	DESCRIPTION
1	FLOW ADJUSTMENT SET - SWITCHBOX PRESSURE MAX. 250 BAR - INLET VALVE SETTING MAX. 120 BAR - MAX FLOW. 80 LITERS/MINUTE - OPERATING FLOW MIN. 40 LITERS/MINUTE
2	HYDRAULIC MOTOR 160 CC
4	RETURN LINE BACK-PRESSURE MAX. 20 BAR

MB-S18 S4
HYDRAULIC LAYOUT COD. MBS18S004



REF.	DESCRIPTION
1	FLOW ADJUSTMENT SET - SWITCHBOX PRESSURE MAX. 250 BAR - INLET VALVE SETTING MAX. 150 BAR - MAX FLOW. 180 LITERS/MINUTE - OPERATING FLOW MIN. 120 LITERS/MINUTE
2	HYDRAULIC MOTOR 315 CC
3	MOTOR SAFETY VALVE
4	RETURN LINE BACK-PRESSURE MAX. 20 BAR
DR	DRAIN LINE - MAX BACK-PRESSURE 40 BAR
T1	SAFEGUARD OIL DISCHARGE

MB-S23
HYDRAULIC LAYOUT COD. MBS23S001



REF.	DESCRIPTION
1	FLOW ADJUSTMENT SET - SWITCHBOX PRESSURE MAX. 350 BAR - INLET VALVE SETTING MAX. 320 BAR - MAXIMUM FLOW. 180 LITERS/MINUTE - OPERATING MINIMUM FLOW 160 LITERS/MINUTE
2	HYDRAULIC MOTOR 45 CC
3	RESTRAINT VALVE (MAX. 5 BARS OF BACK-PRESSURE)
4	DRAIN LINE. MAXIMUM BACK PRESSURE ALLOWED 5 BAR

11 SCRAPING AND WASTE DISPOSAL

For scrapping and waste disposal, comply with the standards in force in the country here this occurs. Contact the local competent authorities so that the separate waste disposal of the various components of the equipment is carried out in compliance with standards in force.

First of all, collect:
- Residual oils and grease in the various hydraulic and mechanical components.
- Rubber parts such as hydraulic hoses, gaskets, etc.

The MB-S rotary screening bucket is mainly composed of carbon steel. There are small amounts of aluminium, copper and cast iron.

ATTENTION !

Any irregularity committed by the customer before, during or after the machine's components scrapping and disposal phases, with regard to the interpretation and application of the current laws in force, is of exclusive responsibility of the same.

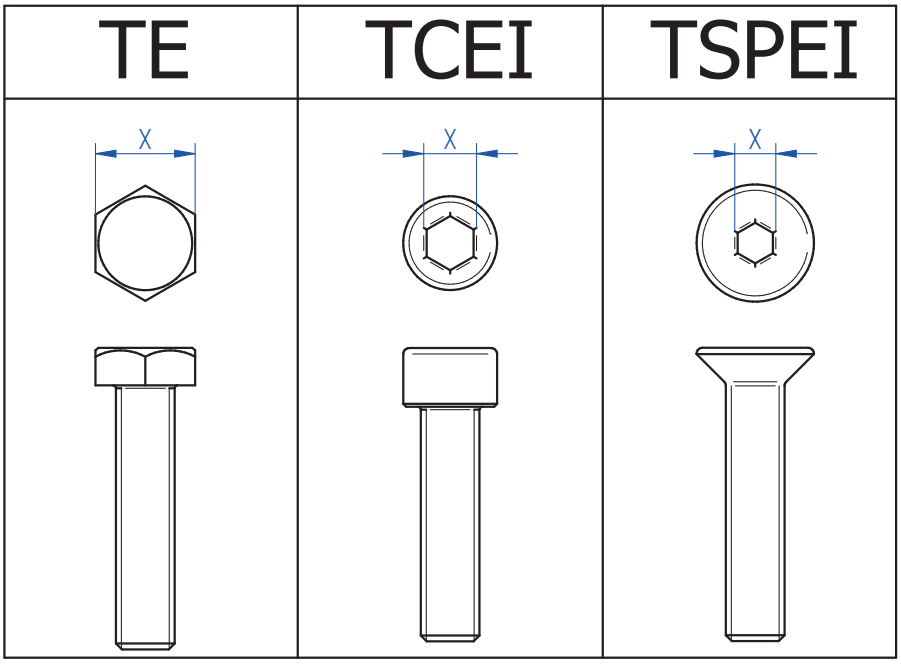
ATTENTION !

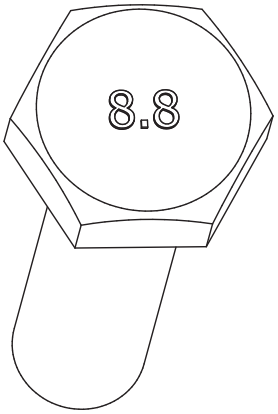
MB S.p.A. declines all liability in case the customer does not use authorized centres for the machine's equipment disposal.

The tightening torque of screw and nuts in the table is valid approximately for the following conditions:

The tightening torque must be applied slowly with dynamometric wrenches.

1) identify the bolt type and strenght class





2) measure the quota (x, mm) and based on it find the diameter of the bolt

3) Check in the following chart the relevant tightening torque to be applied (value expressed in Nm)

BOLT TYPE	Ø TE	Ø TCEI	Ø TSPEI		8.8	10.9	12.9
	mm	mm	mm		Nm	Nm	Nm
M8	13	6	5		25	35	42
M10	16	8	6		50	70	84
M12	18	10	8		85	119	143
M14	21	12	10		135	190	228
M16	24	14	10		212	298	357
M18	27	14	12		290	402	490
M20	30	17	12		413	580	697
M22	34	17	-		568	798	958
M24	36	19	14		714	1004	1204
M27	41	19	-		1050	1477	1772
M30	46	22	-		1429	2009	2411
M33	50	24	-		1941	2729	3275
M36	55	27	-		2497	3511	4213

SERVICE
ONLINE ▼

THE CRUSHING EVOLUTION

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