TESMEC

Installation, operation and maintenance

Handbook

Puller-Tensioner Model: AFS303

ATTENZIONE

Per motivi di sicurezza durante il trasporto la macchina è fornita senza olio idraulico e senza carburante. Nel presente fascicolo troverete informazioni sulle caratteristiche e le quantità richieste. In caso di dubbio consultare la TESMEC.

WARNING

The machine is supplied without hydraulic oil and fuel during transport for precautionary measures. Please refer to this manual for all information regarding the characteristics and quantities required. Should you have any doubt, please get in touch with TESMEC.

ATTENTION

Pour mesures de sécurité, pendant le transport la machine est livrée sans huile hydraulique et sans carburant.
Référez-vous à ce manuel pour renseignements nécessaires sur les caractéristiques et quantités. En cas de doute veuillez contacter TESMEC.

ATENCION

Por motivos de seguridad la máquina se transporta sin aceite hidráulico y sin combustible.
En el presente fascículo encontrarán informaciones acerca de las características y de las cantidades requeridas. En caso de dudas, consultar a TESMEC.

ATENÇÃO

Por razões de segurança durante o transporte, a máquina é fornecida sem óleo hidráulico e combustível. No presente folheto poderão encontrar as informações sobre as características a as quantidades requeridas.
Caso tenham alguma dúvida, rogamos-lhes pôr-se em contacto com a TESMEC.

ACHTUNG

Aus Sicherheitsgründen während des Transportes, wird die Maschine ohne Öl und Kraftstoff geliefert. Im vorliegenden Gebrauchsanweisungsheft werden Sie Informationen über die Eigenschaften und Mengen des Öls finden.
Wenn Sie im Zweifel sind, fragen Sie TESMEC um Rat.

ПРЕДУПРЕЖДЕНИЕ

Из соображений безопасности, при поставке машина транспортируется без рабочей жидкости в гидравлической системе и топлива.
Пожалуйста, пользуйтесь настоящим руководством для получения любых сведений, касающихся характеристик и заправочных емкостей.
В случае каких-либо сомнений, пожалуйста, свяжитесь с компанией ТЕСМЕК.

- 24050 Grassobbio (Bg) via Zanica, 17/O
Tel. 0039 / 035 / 4232911
Telefax 0039 / 035 / 4522445
E-mail: info@tesmec.it

- 24060 Endine Gaiano (Bg) via Pertegalli
Tel. 0039 / 035 / 825024
Telefax 0039 / 035 / 826375
E-mail: info@tesmec.it

PULLER-TENSIONER

Model: AFS303

Serial number

.....

Manufacturing year

.....

Working order

.....

USE AND MAINTENANCE INSTRUCTIONS

CE

1. GENERAL INDEX

Page

2. GENERAL DATA AND PRESCRIPTIONS

2.1 MANUFACTURER

TESMEC S.p.A.

Via Zanica, 17/O
24050 - GRASSOBBIO
BG - ITALY
tel. (+39)-035-4232911
fax (+39)-035-4522445
e-mail: info@tesmec.it

Via Pertegalli, 2
24060 - ENDINE GAIANO
BG - ITALY
tel. (+39)-035-825024
fax (+39)-035-826375
e-mail: info@tesmec.it

2.2 COMMUNICATIONS WITH THE MANUFACTURER

For any information related to the machine (use, maintenance, spare parts) always state Model, Serial Number, Manufacturing Year and Order. These data can be found in the machine-identifying table.

2.3 TYPOLOGY AND USING FIELD

Puller-tensioner mod. AFS303 is suitable for stringing one bundled conductor with max. diameter of 36 mm and for recovering one rope with 10 mm in diameter with a connector with max. diameter of 28 mm.

The machine is controlled by a hydraulic system that allows the machine to automatically work in PULLER or in TENSIONER mode.

The power transmission to the large groove bull-wheels is transmitted through a closed hydraulic circuit with a variable delivery pump and fixed displacement motor, with the possibility to change continuously the speed in both rotating directions.

A hydraulic vacuum brake stops automatically the two bull-wheels should the work be interrupted and a damage in the hydraulic circuit occur.

The machine is equipped with rapid couplers for connection to all types of reel winders and reel elevators made by Tesmec; the frame is complete with a rigid axle for towing at max. 30 km/h.

2.4 PERFORMANCES

PULLER PERFORMANCES

Max. pull	25 kN
Speed at max. pull	2,5 km/h
Max. speed	4,5 km/h

TENSIONER PERFORMANCES

Max. tension	25 kN
Max. speed	5 km/h

ATTENTION: the use with rope or conductor with diameter smaller than the max. admitted one, will reduce the max. applicable pull in accordance with the min. granted working load of the rope or of the conductor.

Performances are referred to the machine without optional, at sea level and at 20°C.

2.5 TECHNICAL CHARACTERISTICS

Bull-wheels diameter:	1500 mm with interchangeable nylon sectors
Diesel engine:	37,5 kW – 3000 rpm – KOHLER KDW 2204
Electric system:	12 V
Transmission:	closed hydraulic circuit with hydraulic oil cooling
Safety brake:	negative and self-acting type
Dynamometer:	hydraulic with set-point and automatic control of maximum pull
Axle:	rigid type with mechanical parking brake for towing at a max. speed of 30-km/h
Dimensions:	length - 3680 mm width - 1730 mm height - 2770 mm
Mass without oil:	2600 kg
Mass with oil:	2740 kg

2.6 ACOUSTIC EMISSION

Level of continuous sound pressure to the operator seat (UNI 9432) Lep = 85 dB(A)

2.7 GENERAL INFORMATION FOR THE MACHINE USE

a. Only employed and qualified operators must use the machine.
   Qualified operators is intended to be the person who has received a qualified training from the using Company or, as alternative, from the manufacturer.
b. Machine must be used **only** for the work it was designed for.
c. Machine cannot be used with non-authorised personnel on the working site.
d. For safety reasons, during transport machine comes without hydraulic oil and fuel.
   Characteristics and required quantities are listed in the present manual.
e. For any doubt concerning use, functioning, maintenance or everything else, contact the After-sales Service of the manufacturer.

2.8 GENERAL PRESCRIPTIONS FOR THE OPERATOR CHARGED OF THE MACHINE USE

a. Operator **has** to know safety directives for accident prevention in force in the machine using country, for a correct use of the same.
b. The operator in charge with the installation and maintenance of the machine must use **suitable clothes** to the working site and to the situation where he finds himself; in particular he must avoid the use of very large clothes, chains, bracelets, rings or whatever can get entangled with moving parts.
c. The operator has to use the necessary protecting devices (i.e. gloves, boots, helmet, etc.).
   It is compulsory the use of personal protecting devices for hearing.
d. The operator must not carry out on his own initiative operations or interventions that are not up to him.
e. The operator must carefully follow danger and/or prohibition prescriptions contained in the instruction manual or indicated on the machine.
f. The working area of the operator has to be cleaned from possible oil or liquids wastes and free of materials or equipment that may be considered as on obstacle for the operator work.
g. The operator **must absolutely avoid** the direct inhalation of the exhaust gas of the endothermic engine.

2.9 GENERAL PRESCRIPTIONS FOR THE OPERATOR CHARGED OF THE MACHINE MAINTENANCE

a. **It is absolutely forbidden** to carry out any work of maintenance, adjustment or setting on units while stringing (except for the operations indicated in the present manual).
b. Before carrying out any maintenance operations, **stop** the energy feeding (except for the cases indicated in the present manual) and wait till the cooling of the elements subjected to heating.
c. All the maintenance operations of the machine must be carried out with machine on a level surface and not under load.
d. Authorised and trained personnel must do all the maintenance operations, ordinary and not ordinary. Trained personnel are intended to be the person who has received a qualified training from the using Company or, as alternative, from the manufacturer.
e. The operator in charge with the machine maintenance must use suitable clothes to the working site and to the situation where he finds himself; in particular he must avoid the use of very large clothes, chains, bracelets, rings or whatever can get entangled with moving parts.
f. The operator has to use the necessary protecting devices (i.e. gloves, boots, helmet, etc.).
g. All the maintenance operations, ordinary and not ordinary, must be effectuated respecting the prescriptions included in the present manual or following technical indications written by the manufacturer. The non-respect of the prescribed restrains relieves the manufacturer from any responsibility causing also the loss of warranty.

2.10 KNOWLEDGE AND CARE OF THE INSTRUCTION MANUAL

a. The information contained in the instruction manual applies to all the operators charged with the use and/or the maintenance of the machine.
b. The instruction manual **is not** a training manual.
c. Before using the machine the chief of the job site and the operator **must** read the instruction manual.
d. The chief of the job site **is obliged** to inform all the operators about the instructions contained in the manual.
e. The user **must** carefully follow the instructions listed in the present manual.
f. Before using the machine, the operator **must** be able to use it and **has** to exactly know the positions and the operations of all the controls.
g. The chief of the job site must verify that the instructions contained in the manual are applied.
h. The instruction manual must be kept, in order to be consulted, for all the life of the machine and also when it is given to another user.
i. The instruction manual must be kept in a sheltered and dry place.

ATTENTION: present manual belongs exclusively to the manufacturer.
The reproduction, event partial, of the text is forbidden.

2.11 CONDITION OF USE

a. Temperature: from -10°C to +40°C.
b. Relevant moisture: from 30% to 90% ± 5%.
c. Weather conditions: any (in line with working conditions).
d. Natural and/or artificial lighting of the working site.

NOTE: the machine using and stocking is allowed till -20°C with preheating kit.

2.12 TEMPERATURE LIMITS FOR HYDRAULIC OIL

When using the machine, always remember to respect the following temperature limits that can be reached with hydraulic oil as function of the working condition.

TEMPERATURE LIMITS FOR HYDRAULIC OIL (°C)				
Working condition	**Hydraulic oil viscosity**			
	VG 22	**VG 32**	**VG 46**	**VG 68**
Minimum temperature running in neutral position	-21	-14	-7	-1
Minimum temperature running in full load	8	16	24	32
Maximum temperature running in full load	48	57	67	76
Maximum temperature running in neutral position	63	73	83	93

For additional information concerning the hydraulic oil, see chapter "Maintenance" and the attached comparative table of the oils used on the machine.

2.13 USE NOT ALLOWED

The machine **must not be used**:

a. for lifting persons and/or goods
b. in grounds on which the machine cannot be positioned and anchored in a proper way
c. in areas with brushwood or other materials presence that can be easily set on fire
d. in closed/unventilated sites or, however, not sufficiently airy (tunnel or similar)
e. in sites with presence of gas that can be easily set on fire or explosives
f. in sites with presence of explosive materials
g. on aircraft, crafts, floating platforms and similar
h. for structure demolition, shafts felling or similar
i. for pulling flexible elements that can be highly lengthening, which allow elastic power accumulation
j. with ropes or joints having a bigger diameter than the one specified in present manual
k. when engine is off and adherence units are moving
l. with inhibited and broken safety devices installed on the machine
m. when winding on the bull-wheels ropes and/or conductors having a smaller diameter as a succession of ropes and/or conductors having a bigger diameter
n. for handling trucks or other moving equipment.

PROHIBITION: is not allowed to install on board radio equipments. These could create electronic equipment malfunctions, putting the personnel at serious risk.

2.14 RESPONSIBILITY

The use of the machine for scopes different from those foreseen on paragraph 2.3 (Typology and using field), even if not well described in this manual, has to be considered extremely **dangerous** and then **forbidden.**

The non-respect of the prescribed restrains causes a situation of improper use for technical and persons safety purposes and relieve the manufacturer from any responsibility, civil or penal, in case of accidents to persons or damages to things, causing the loss of warranty.

The manufacturer responsibility declines even when one of the following situations happens:

a. for the consequences caused by tampering and/or modifications carried out without the manufacturer's written acceptance (in this case the operator becomes the manufacturer with relevant obligations and responsibilities, both civil and penal)
b. for the use of not original spare parts
c. or bad maintenance
d. for the use with disconnected safety devices
e. for the connection to machine and/or plans not produced and not directly authorised by the manufacturer in a written acceptance.

2.15 APPLIED NORMS

If the machine is commercialized in C.E. responds to the following regulatory framework:

2006/42/CE Norm of the European Parliament and Council referring to the laws of the machines member States.

2004/108/CE Norm of the European Council referring to the laws of the electromagnetic compatibility member States.

If the machine is commercialized outside the C.E. was made reference to the following regulatory framework:

2006/42/CE Norm of the European Parliament and Council referring to the laws of the machines member States.

2004/108/CE Norm of the European Council referring to the laws of the electromagnetic compatibility member States.

3. TRANSPORT AND POSITIONING INSTRUCTIONS

3.1 MACHINE LIFTING

For the machine lifting use only devices as overhead travelling cranes or lift trucks, with a capacity equal to the mass to be lifted.

The instruments used for the machine lifting (ropes, cables, hooks, etc.) have to be exactly dimensioned as compared to the mass to be lifted and have to be connected to the proper elements foreseen on the machine (table 1, pos. 2).

During machine lifting operations, the presence of persons on the machine is strictly forbidden.

⚠ **DANGER:** the non-respect of the above mentioned conditions may cause dangerous situations as well as damages to the machine with the consequent decline of any warranty condition.

3.2 TRANSPORT TYPOLOGIES AND PACKAGE

Transport by land by truck
The machine comes without all the liquids that can be set on fire and protected in the most exposed and delicate parts by means of cardboard and/or plywood and/or polyethylene extensible film.
To fix the machine on the platform of the transporting unit, use nailed wedges and/or metal brackets and/or tie rods.

Transport by sea in wooden cases or container
The machine comes without all the liquids that can be set on fire; metal parts are protected with waterproof wax.
To fix the machine on the package, use nailed wedges and/or metal brackets and/or tie rods.
At the inside, the wooden case foreseen a protection with tarpaper.

Materials usually used for the package are:
⇒ wooden
⇒ nails and/or steel screws
⇒ cardboard and/or paper
⇒ polyethylene extensible film
⇒ adhesive tape.

3.3 UNPACKING

When receiving the machine verify the integrity of the package; advise immediately the manufacturer and the person in charge of the transport (even with photos) when possible damages due to transport or tampering with removal, even partial, of the content happen.

Verify if the supplied material corresponds to the ordered one; immediately advise the manufacturer if there are some discrepancies.

In case of transportation on wooden case, take away, in sequence, the upper cover and lateral panels, before removing the machine.

During unpacking operations, avoid any shock to the structure or to the machine units, in order to avoid any damage to the machine itself.

⚠ **ATTENTION:** the elimination of packaging materials must be effectuated in conformity with the norms in force in the relevant country.

3.4 ASSEMBLING OPERATIONS

Mount the tyres in the suitable holes.

3.5 TRANSPORT ON TRAILER

Machine is not suitable for road towing.

Possible displacements on trailer in the working site must be carried out by a connection to the towing unit by means of the towing eye on the drawbar (table 1, pos. 6) and in the respect of the speed limits of the axle. The used towing unit must be homologated for towing trailers with mass and dimensions as per the described machine.

Before transporting operation, lift the rear stabiliser (table 1, pos. 11) and the front plough (table 1, pos. 5) acting on the lever (table 3, pos. 29) (NOTE: during this operation the diesel engine has to be always started-up).

Check the inflation pressure of tyres (5 bars).

During trailer machine transport operations is nobody must stay in the machine itself.

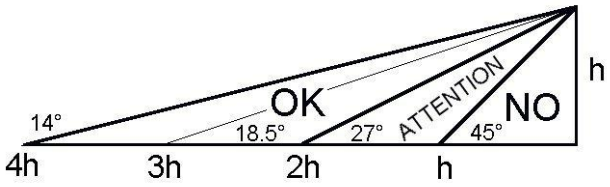
ATTENTION: dangerous situations during towing if the tyres inflation pressure and the speed limit are not respected may happen.

When transporting on truck or trailer, verify if the machine has been fixed on the platform with nailed wedges and/or metal brackets and/or tie rods.

3.6 POSITIONING AND ANCHORING

Positioning and anchoring of the machine have to be carried out only by trained personnel, verifying if the ground grants the foreseen stability, support and anchoring.

The machine has to be placed in a distance from the first pylon or trestle for the rope passage (or conductor) included between 2 and 4 times the height h of the pylon itself (see diagram here below).



It is possible to use the machine at a distance from the pole included between 1 and 2 times the height of the pole itself. In this case, the anchorage described thereafter must be over dimensioned of 125% compared to the reported data and some moorings must be provided on the front side of the machine.

PROHIBITION: when the distance between the machine and the pole is lower than the height of the pole itself, the machine use is not possible.

Machine anchoring sequence is the following:

a. machine must be aligned as much as possible with the pull direction.
b. position the rear stabiliser (table 1, pos. 10) and then load properly the plough (table 1, pos. 5) operating on the lever (table 3, pos. 29) (NOTE: during this operation the diesel engine has to be always started-up).
c. anchor the machine to the ground by means of 2 stakes with min. granted load equal to 130% of the machine max. pull, connecting the foreseen connections (table 2, pos. 3) with the anchoring stakes and respecting the described scheme and angles (table 2).
d. recover the clearance on the anchoring stakes without tensioning them.
e. test the machine pull (see use instructions on the following chapter) to allow the machine to freely align as regards as the pull itself.
f. tension the anchoring stakes in a uniform way.
g. block the machine brakes acting on the special hand-wheel (table 1, pos. 9).

ATTENTION: the non-respect of the foreseen anchoring operations may cause dangerous situations during machine use.

Around the machine must be a free space of at least 2-m to make easier the operations of use, adjustment, maintenance, etc.

Be sure that around the radiator (endothermic engine, hydraulic oil) cooling air can freely circulate. Otherwise overheating situations with damage for the installed components may happen.

DANGER: machine has not a proper grounding device; for the system machine-rope-conductor in the job site must foreseen a grounding device on the towing rope or on the conductors.

4. INSTRUCTION FOR USE

4.1 PRESCRIPTIONS FOR THE OPERATOR

PROHIBITION: it is forbidden to walk or stop in front or backward the machine and/or under the towing rope due to a constant residual risk of crushing in case of a possible giving in of the rope or of the anchoring.

Daily, before starting the work, check:
a. if the protection and safety devices are activated and functioning
b. if the connections with power unit are in good conditions
c. if the machine liquids levels are in conformity with the indications in maintenance chapter
d. if the anchoring conditions are in conformity with the indications of present manual.

NOTE: when using the machine at room temperature between -10°C and -20°C it is necessary to carry out the preheating sequence as indicated at paragraph 4.10 and 4.11.

4.2 CONTROLS

Position and meaning of the elements on the control board are described on table 3 enclosed.

4.3 PRELIMINARY OPERATIONS

a. Load the conductors or the cables on the bull-wheels as shown on tables 2 and 4 positioning the entering guide-rope rollers in the proper position.

ATTENTION: do not use excessively lubricated or greased ropes because possible adherence problems on the bull-wheels with a consequent sliding of the ropes themselves may arise.

b. Lubricate the gears before each starting of the machine using the proper greasers (table 2, pos. 2).
c. Position the lever of mechanical transmission (table 2, pos. 9) into the proper ratio in accordance with the job to do:
   ⇒ pos. C: high pull (tension higher than 4kN) (normal braking)
   ⇒ pos. B: low pull (tension lower than 4kN) (fine braking)

NOTE: the stringing speed can be read on the manometer scale relevant to the selected reduction ratio.

ATTENTION: this operation must be made only with stopped machine and without applied loads.

PROHIBITION: when you position the mechanical transmission control lever on the low pull (table 2, pos. 9B) on the panel switch on the red light (table 3, pos. 23), which advise that the machine cannot absolutely be used as puller but only as tensioner.

DANGER: please pay attention to the risk to be squeezed during the operations above described.

4.4 MACHINE SET-UP

Before the use, the machine must be set in stand-alone using mode, operating on the control panel (table 3).

a. insert and turn the ignition key (table 1, pos. 14) in "1" position
b. wait up to the multifunction display switch on
c. on the electronic multifunction display press the (✱) key
d. on the screen page “MACHINE ID:” set the number “1” by using the up (▲) or down (▼) key press the return key (↵) to save the settings

NOTE: in case of stand-alone using mode the ID of the machine must always be set at 1

When the machine is used in stand-alone configuration the two plug connectors must be closed with the related caps

4.5 ELECTRONIC MULTIFUNCTION DAVICE PAGES

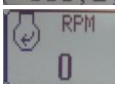
The electronic multifunction display shows 4 working pages:

1. METER COUNTER & SPEED PAGE

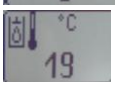
This page shows the speed and the meter counter for each independent circuit

speed of capstan nr.1

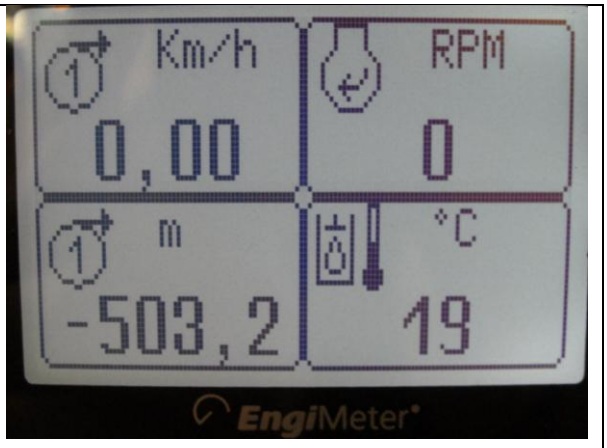
meter counter of capstan nr.1



RPM diesel engine



hydraulic oil temperature



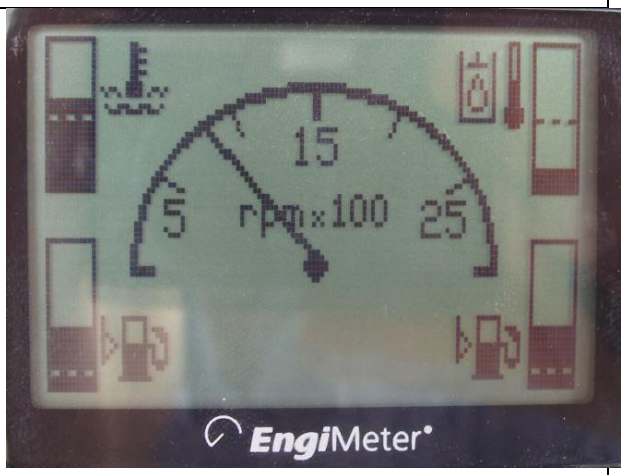
2. RPM & DIESEL ENGINE PAGE

This page shows the rpm of the diesel engine in the center and 4 percentage check icons on the edges:


diesel engine water cooling temperature


hydraulic oil temperature


diesel engine fuel level



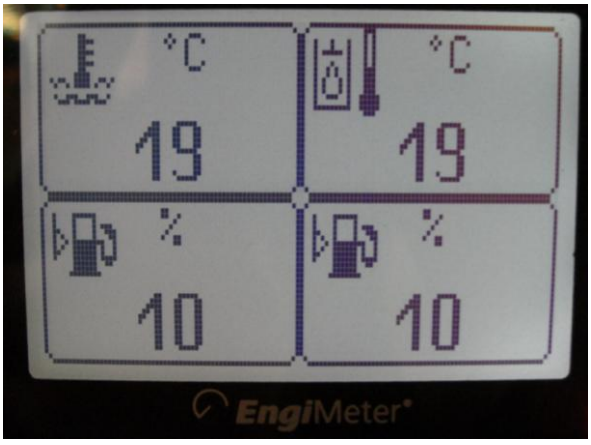
3. DIESEL ENGINE DATA PAGE

This page shows 4 percentage check icons of diesel engine data:

diesel engine water cooling temperature

hydraulic oil temperature

diesel engine fuel level



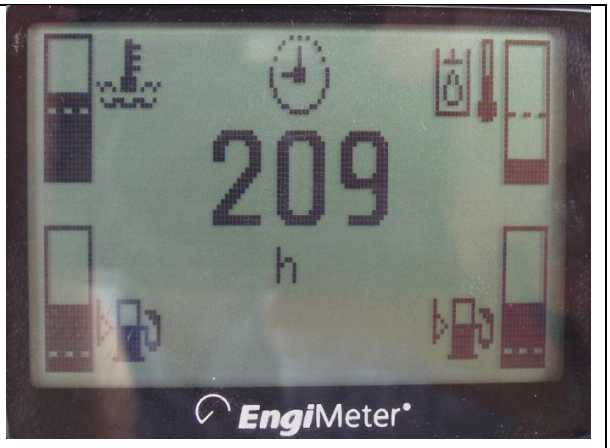
4. HOUR COUNTER PAGE

This page shows the working hour of the diesel engine in the center and 4 percentage check icons on the edges:

 diesel engine water cooling temperature

 hydraulic oil temperature

 diesel engine fuel level



Switch from one page to the other one by using the up (▲) or down (▼) key.

4.6 STARTING OF THE MACHINE

a. Operate from the principal control panel (table 1).
b. Position to centre the control lever of the variable delivery pump.
c. Turn of one point the starting key (table 1, pos. 14).
d. Push and turn up to starting the starting key (table 1, pos. 14) and simultaneously keep the lever (table 1, pos. 4) lowered.
   The lever (table 1, pos. 4) must be lowered for a few seconds after the engine start-up.
e. Regulate the rpm with the accelerator (table 1, pos. 12).
f. Verify that the pressure indicate on the feeding manometer (table 1, pos. 7) is more than 20 bars with minimum rpm; on the contrary stop the machine.

⚠ **ATTENTION: when starting a cold machine, after heating the hydraulic oil as previously described, begin stringing operations limiting the maximum working performances for at least the first 15 minutes, that means to keep at half accelerator the Diesel rpm and don't exceed the 30% of the maximum stringing speed.**

4.7 PULL CONTROL

The machine is equipped with two pull control devices for the control of the max. pull value on the line:
1. PULL LIMITING DEVICE that stops the machine when reaching the max. pull
2. PULL PROGRAMMING DEVICE that stops only the bull-wheels rotation keeping the diesel engine turned-on when reaching the max. pull.

4.7.1 PULL LIMITING DEVICE SETTING

- Completely turn right the knob (table 1, pos. 6).
- With the suitable pawl, connected to the dynamometer move the red arrow in correspondence of the max. pulling value that has not to be exceeded.
  When the pre-set pull value is reached, the machine stops automatically and the diesel engine turns off while the negative brakes automatically insert with the consequent stop of the bull-wheels rotation. When the pull value is exceeded the warning light (table 1, pos. 20) on the control panel turns on.

⚠ **DANGER: when using a machine as tensioner, position the pull limiting device (table 1, pos. 20) on the maximum scale, to avoid dangerous stopping.**
This operation <u>is absolutely indispensable</u> when the machine "tensioner" works with a puller without pull limiting device.

4.7.2 PULL PROGRAMMING DEVICE SETTING

ATTENTION: THE OPERATIONS TO SET THE PULL MUST BE CARRIED OUT WITH STARTED DIESEL ENGINE BUT WHEN THE MACHINE IS TURNED OFF.

- Start the diesel engine and set the engine at about 1600 rpm.
- Move the selector (table 1, pos. 5) on position ◎ (rightwards).
- Gently move towards  (downwards) the lever (table 1, pos. 4).
- Turn the knob (table 1, pos. 6) till on the manometer ring nut (table 1, pos. 1) can be read the pull value that must not be exceeded.

ATTENTION: the red arrow of the pull limiting device has to be positioned at a higher value than the one pre-set with the PULL PROGRAMMING DEVICE to avoid the machine stop.

DANGER: when using a machine as tensioner, position the pull limiting device on the maximum scale, to avoid dangerous stopping.
This operation <u>is absolutely indispensable</u> when the machine "tensioner" works with a puller without pull limiting device.

- Gently move the lever (table 1, pos. 4) to central position (neutral position).
- Re-place the selector (table 1, pos. 5) on position ⓘ (leftwards).
  Once reached the set pull the bull-wheels automatically stop without the diesel engine turning off with the consequent machine stop. The bull-wheels will remain stopped till when the cause which tried to raise the pull over the imposed value is removed (line obstacles, increase of friction on the pulleys, braking mistakes, etc.).

ATTENTION: after finishing the above mentioned operations and beginning stringing operations, it is important not to touch the knob (table 1, pos. 6).
In fact, should the knob be rotated while the machine is stringing, this operation cancels the previous carried out calibration and the systems set on the new values congruent with new position of the knob.
Then, avoid this operation, using it only in emergency situations.

ATTENTION: before starting the work, check if the selector (table 1, pos. 5) is on position ⓘ. It is forbidden to move the selector (table 1, pos. 5) during working operations because dangerous situations because the machine immediately stops may happen.

ATTENTION: the dynamometer is calibrated with 3 scales: puller, tensioner and fine braking. Read the desired values in function of the operations to be carried out (pulling or tensioning).

4.8 CONNECTION MACHINE-HYDRAULIC HEAD OF THE REEL ELEVATOR OR REEL WINDER

Each hydraulic head (or each reel-winder) has a connecting kit consisting of two pipes.
Each of these pipes has to be connected at the proper rapid connection taking care to connect them properly (otherwise the installation will not work).

⚠ **ATTENTION: it is important that, before connecting the rapid connections, the operator has checked their cleanliness as the introduction of dirt into the hydraulic circuit can create very serious damages.**

⚠ **ATTENTION: the rapid connections must be connected before to put in pressure the circuit.**

⚠ **ATTENTION: the cocks must be opened when connecting the hydraulic heads (or reel winders).**

4.9 PULLING OPERATIONS

⚠ **ATTENTION: before carrying out any operation it is necessary to verify if the selectors (table 1, pos. 5 and 27 – optional) are turned towards leftwards Ⓘ .**

a. Adjust the rpm of the diesel engine using the accelerator (table 1, pos. 12): puller – 2600-rpm max., tensioner – 1800/2000 rpm. The number of rpm can be read on the instrument on the panel (table 1, pos. 17).
b. Adjust the feeding pressure of the hydraulic heads connected to the machine by the valve (table 1, pos. 10) and read the correspondent value on the manometer (table 1, pos. 11).
   When using the machine as puller, the pressure of the hydraulic heads will be from 60 bars (reels with few turns) till a max. value of 120-130 bars (full reel).
   Using the machine as tensioner, the pressure of the hydraulic heads can be set at 60-70 bars.

⚠ **NOTE: the adjusting valve (table 3, pos. 10) regulates the pressure of the two circuits of the reel elevators/reel winders, at the same time.**

⚠ **ATTENTION: it is important that this value is regulated at the minimum necessary value in function of the operations that we must carried out (recovery or stringing).**
In particular, during the final regulation of the bull-wheels, it is necessary to raise the pressure when we recover and lower it when we string: on the contrary, due to the mechanical and hydraulic efficiency, with the same set pressure we will have very different pulls back.

c. Gently move the control lever of the pump (table 1, pos. 4) towards downwards  .

Now the machine is ready to work: if the tension is higher than the set working value, the machine operates as tensioner. If the tension is lower than the set working value, the machine operates as puller. The machine is completely automatic, for this reason when setting a pulling value, the machine works as puller or as tensioner following the motions of the opposite machine.

⚠ **ATTENTION: the red arrow of the dynamometer (table 1, pos. 1) has to be positioned at a value higher than the one set with the knob (table 1, pos. 6).**

⚠ **ATTENTION: after starting stringing operations, it is important not to turn the knob (table 1, pos. 6). In fact, should the knob be rotated while the machine is stringing, this operation cancels the previous carried out calibration and the systems set on the new values congruent with new position of the knob.**

d. To stop the bull-wheels rotation, move the lever towards centre position (table 1, pos. 4).

ATTENTION: do not quickly move the lever (table 1, pos. 4) towards centre position because a fast connection of the negative brakes that might produce dangerous damages to the disks mounted inside the brakes may happen.

During stringing operations, the strung meters can be read on the relevant indicator.
The indicator can be set to zero by pressing the push-button “RESET”.

During functioning operations, verify that:
a. the hydraulic oil temperature, shown on the thermometer (table 1, pos. 16), doesn’t exceed 80°C. This is the maximum acceptable value for the hydraulic components in case the oils suggested by Tesmec are used. If other kinds of oils are used, the maximum acceptable working temperature depends on their characteristics in relation also to the viscosity limits imposed by the hydraulic pumps and motors.
b. the warning lights of the electric clogging indicators mounted on the control board (table 1, pos. 24 and 25) don’t switch on when the hydraulic oil reaches the working temperature. However, it may happen that the lights indicate clogging even if it doesn’t occur (especially at very low outside temperatures). In this case, see point e) paragraph 4.4 and wait for the lights to turn off before making the bull-wheels run.

4.10 RELEASING THE ROPE

The rope or the conductor can be released, not under load, moving the lever (table 1, pos. 4) upwards  .

4.11 COMPRESSOR CONNECTION (OPTIONAL)

The machine has been studied to be connected to a Tesmec compressor.
a. Connect the rapid couplers (table 6, pos. 5 and 6).
b. Start the machine, turn the selector (table 1, pos. 27) towards right position ◎ and close the valve (table 1, pos. 8).
c. Lower the lever (table 6, pos. 4) in "A" position.
d. Adjust the functioning pressure of the compressor using the valve (table 6, pos. 1). The pressure can be read on the manometer (table 6, pos. 2).

Once ended the compressing operations, to use the machine act as follows:
a. turn the valve (table 6, pos. 1) and lower the pressure in the compressor.
b. lift the lever (table 6, pos. 4) in "B" position.
c. open the valve (table 1, pos. 8).
d. turn the selector (table 1, pos. 27) towards left position ①
e. remove the rapid couplers (table 6, pos. 5 e 6).

ATTENTION: the connection of the rapid couplers has to be effectuated with the lever (table 6, pos. 4) in "B" position to discharge the pressure in the hydraulic circuit.
If there is residual pressure in the hydraulic circuit, it is not possible to connect and disconnect the rapid couplers.

4.12 PREHEATING KIT (OPTIONAL)

The machine is equipped with a preheating kit to be used when room temperatures are included between -10°C and -20°C.
This kit is composed by a gas-oil burner and by an heating circuit that uses the cooling liquid of the diesel engine: the consumption heated by the preheating kit are the diesel engine block, the hydraulic oil tank, the diesel engine gas-oil tank and the delivery of the gas-oil to the diesel engine.

The gas-oil for the preheating kit burner has to have the following technical specifications (DIN 51601):
- 70% winter gas-oil
- 30% petroleum or kerosene

In case of temperatures higher than -10°C, or whatever when the preheating system is not used, set the two cocks for the preheating circuit cut out (table 8, pos. 3-5) on SUMMER position, while when the preheating system is used, set the cocks on WINTER position.

ATTENTION: before starting the preheating system, check if the two cocks are on WINTER position. On the contrary, the preheating system doesn't work and may be damaged.

To start the preheating system, push the push-button on the control panel: the system starts automatically.

ATTENTION: when the diesel engine is working, the preheating kit has to be switched off.

ATTENTION: for using the heater, the pump blow-by selector has to be on automatic position (leftwards).

Once stopped the preheating system and with functioning diesel engine, if the operator wishes to heat the gas-oil and hydraulic oil tanks, it is possible to activate the liquid blow-by pump acting on the selector – manual position (rightwards).

Please consider that the heater liquid reaches the service temperatures in about 20 functioning minutes, while after 30 functioning minutes of the heater, the temperature of the hydraulic oil in the relevant tank increases of about 10°.

4.13 PREHEATING CONTROL PANEL PROGRAMMING (OPTIONAL)

4.13.1 GENERAL (OPTIONAL)

The standard digital timer/combination timer enables to pre-set the start of the heater operation up to 7 days in advance. It is possible to program 3 different starting times, only one of which can be activated. The standard digital timer features a wakeup alarm function.
When the ignition switched on, the timer displays the current time and the day of the week.
When the heater is switched on, the display and the buttons are illuminated.
After the power supply has been connected, all symbols on the display will flash.
The current time and weekday must be set.

4.13.2 OPERATION (OPTIONAL)

The timer can be operated so that all flashing symbols can be adjusted by means of the and

buttons. If the buttons are not pressed within 5 seconds, the time displayed will be stored.

If the and buttons are pressed for more than 2 seconds, the fast time-setting mode is activated.

If the ignition is switched off while the heater is operating in the continuous mode, the remaining operating time of 15 minutes is displayed and the heater continues to operated for this period of time.

4.13.3 SWITCHING THE HEATER ON (OPTIONAL)

Manually: by pressing the button (continuous heating mode).
Automatically: by programming the heater starting time.

4.13.4 SWITCHING THE HEATER OFF (OPTIONAL)

Manually: by pressing the button .
Automatically: after the programmed operating time has elapsed.
With the heater running: by programming the remaining operating time.

4.13.5 SETTING TIME/DAY OF THE WEEK (OPTIONAL)

Press the button for more than 2 seconds – time of the day is flashing.

Set the clock using the and buttons – day of the week is flashing – adjust the day of the week.

4.13.6 VIEWING THE TIME (OPTIONAL)

With the ignition switched off: press the button.

4.13.7 PROGRAMMING HEATER STARTING TIME (OPTIONAL)

Press the button – the memory location is flashing – using the and buttons set start of the heater operating time. Day of the week is flashing – set the day of the week.

By repeatedly pressing the button, memory locations 2 and 3 can be programmed or the time display mode can be reached.

4.13.8 RECALLING/ERASING PRE-SET TIMES (OPTIONAL)

Repeatedly press the button until the desired memory location is displayed.

To erase the pre-set time, press the button several times until the time of the day is displayed instead of the memory location.

4.13.9 PROGRAMMING DURATION OF OPERATING TIME (OPTIONAL)

The heater must be switched off. Press the button for 3 seconds – operating times is flashing – and set the desired operating time (10 to 120 minutes) using the and buttons.

4.13.10 SETTING THE REMAINING OPERATING TIME (OPTIONAL)

Set the desired remaining operating time (1 to 120 minutes) using the and buttons.
The remaining operating time refers to the time the heater still continues to remain in operation.
It can only be changed while the heater is in operation and the ignition switched off.

4.13.11 SETTING THE WAKEUP TIME (OPTIONAL)

A wakeup time can only be programmed on the standard digital timer.

The wakeup time is not bound to a specific day of the week.

Repeatedly press the P button until the bell symbol appears on the display.

Set the desired wakeup time using the ◁ and ▷ buttons.
The alarm clock turns off after 5 minutes or when one of the buttons is pressed.

4.13.12 RECALLING/ERASING THE WAKEUP TIME (OPTIONAL)

Repeatedly press the P button until the bell symbol appears on the display – read off wakeup time. To erase the wakeup time: press the P button until the bell symbol is no longer visible on the display.

4.14 ROPE LOCKING CLAMP (OPTIONAL)

The rope locking clamp allows blocking the rope end towards the reel winder and therefore the operations for removing the reel are speed up.
The rope locking clamp can be connected acting on the selector (table 3, pos. 30).

To engage the rope locking clamp, turn the selector (table 3, pos. 30) on →|← position (blocked).

When the machine is working the selector has to be turned on ←|→ position (free).

4.15 POINTS TO REMEMBER

a. The pressure of feeding circuit (table 1, pos. 7) must be more than 20 bars: otherwise, the stationary brakes could be damaged.
b. Adjust the pull of reel elevators with hydraulic head (table 1, pos. 10) at minimum indispensable value: otherwise, the hydraulic oil could be heated and dangerous counter pulls may arise.
c. In hot climates, during the stoppages, let running the Diesel engine with the radiator fan connected (table 1, pos. 8) at maximum speed.
d. Before beginning the works, check the levels.
e. Respect the temperature limits for the hydraulic oil as indicated at paragraph 2.12.
f. Check the condition of the discs in the emergency brakes after any emergency intervention.
g. Remember to use the values indicated on the scale “puller” for the recovery phases and those indicated on the scale “tensioner” for the stringing phases.
h. When we use the machine as tensioner, position the pull limiting device – red arrow (table 1, pos. 20) on the minimum scale, to avoid dangerous stopping.
   This operation is absolutely indispensable when the tensioner machine work with a puller without automatic limiting pull device.
i. The connecting operations of the mechanical reduction gear (table 2, pos. 9) must be made only with stopped machine and not under charge.

4.16 END OF THE OPERATIONS

At the end of the operations, discharge the ropes-conductors tension using the control lever (table 1, pos. 4). Then stop the engine operating on the starting key.

5. INSTRUCTION FOR USE – CONNECTED MACHINES

5.1 GENERAL ASPECTS

This machines could be equipped with an electronic connection package as an optional device.

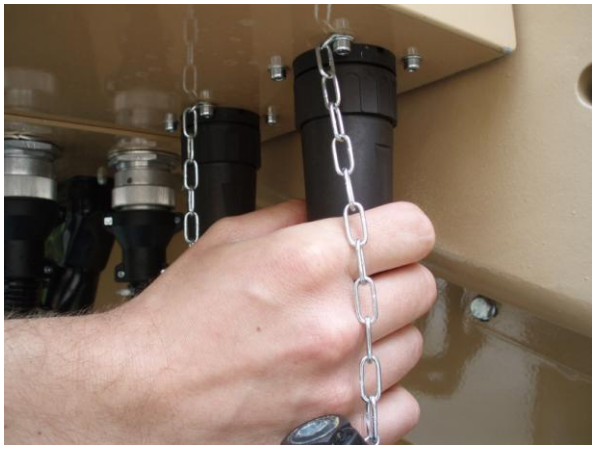
This device allow to use multiple machines connected between them, controlled and operated by a single operator for the main working parameters (basically speed, pull, diesel engine rpm).

Is possible to connect a maximum 12 machines between them, with the possibility to work with 12 independent ropes configurations.

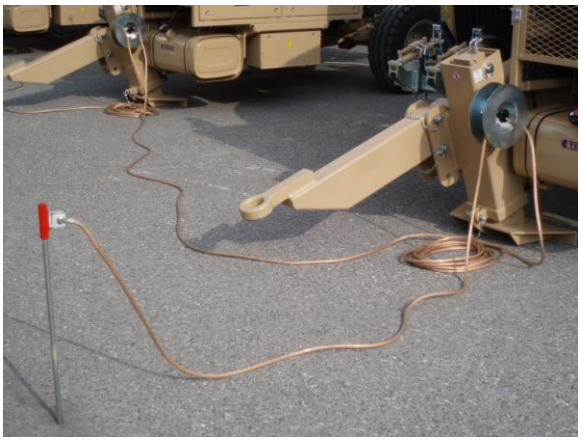
Tesmec suggest to use this configuration device on machine working at the puller station, to allow to recover multiple ropes or conductors with the same speed.

The machines must be numbered with ID number (see next chapter) from 1 to the number of total connected machines starting from right to left, looking at the machines from the back (reel-winder position). The last machine, positioned on the right, is the master machine. See table 10 as example.

The machines must be connected through a special connecting cable; the un-used plugs on the first and on the last machine (right and left) must always be closed with the related caps.
To grant the continuous connection of the machines, a special protection device must be provided for the connection cables, to avoid accidental disconnection of the communication between the machines.



It is necessary to provide a correct grounding of each machine, to avoid trouble at the electronic devices. For this reason each machine is equipped with a special grounding device that must be connected prior to switch on each machine.
The correct grounding configuration is realized with a grounding stakes (see table 9) to be placed on the ground in front at the machine, and a connecting ground cable, that must connect all the ground stakes between them.



Prior to operate the set-up of the machines, check that:

- The machines are connected through the special connecting cable
- The ground devices are installed and connected
- The gear-box configuration is HIGH-PULL in each machine (optional)

5.2 MACHINES SET-UP

Before the use the machine must be set in connected mode by assign to each machine the correct ID number, starting from left to right, as described in the previous chapter.

a. insert and turn the ignition key (table 3, pos. 14) in “1” position
b. wait up to the multifunction display switch on (table 3, pos. 17)
c. on the electronic multifunction display press the (✱) key
d. on the screen page “MACHINE ID:” set the correct number by using the up (▲) or down (▼) key
e. press the return key (↵) to save the settings

NOTE: the ID of the machines must be set from 1 to the total number of connected machines starting from left to right (looking at the machines from the back – reel-winder position)

e. set each machine in connection configuration, except the final one, by turning rightwards the selector (table 3, pos. 3).

5.3 CONNECTED MACHINES OPERATIONS

When using connected machines, the following controls effect on all machines when operated from the master machine:

- Speed control (joy-stick)
- Pull-adjusting control (potentiometer)
- Negative brake open – close selector
- Diesel engine accelerator
- Rope-clamp selector

When using connected machines, the following controls must be operated on each single machine:

- Reel-winder working pressure
- Reset of meter counter
- Pull limiting device in the dynamometers
- Main front plough position

5.4 PULL CONTROL SETTING

5.4.1 PULL LIMITING DEVICE SETTING

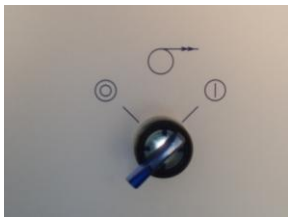
With the suitable pawl, connected to the dynamometers (table 3, pos. 12), move the red arrow in correspondence of the max. pulling value that has not to be exceeded.
The pre-set value must be the same for all the machines connected, and must be set on each single machine.

5.4.2 PULL PROGRAMMING DEVICE SETTING

The setting must be operated at the circuit of the last connected machine and will effect on all the machines.
The operation sequence is the same described on the stand alone using mode chapter 4.7.2.

5.5 USING OF ELECTRONIC SPEED SYNCHRONIZER DEVICE (OPTIONAL)

The machine could be provided with an electronic speed synchronizer device as a optional package; to activate operate on the selector (table 3, pos. 9) (rightwards) on the master machine.



This device allow to have the same recovering speed of each connected machines.

5.6 ROPE LOCKING CLAMP (OPTIONAL)

When the machine are connected the proper selector on the master machine operate on all the clamps of the connected machines.

To engage the rope locking clamp, turn the proper selector on the master machine (table 3, pos.30) on position (leftwards - blocked – no light) and keep it in position for a few second to allow the complete closing of the clamp.

To dis-engage the rope locking clamp, turn the proper selector on the master machine (table 3, pos.30) on position (rightwards – free – green light) and keep it in position for a few second to allow the complete opening of the clamp.

5.7 ALARM CONDITION WHEN USING CONNECTED MACHINES

When using connected machines some situation generate alarm condition with switch on of the alarm light on the main control panel of the machine where the alarm is generated.

5.7.1 STRINGING LENGTH ERROR

When the electronic speed synchronizer system is active, an eventual difference of stringing length on the independent ropes larger than a default value programmed (generally 6 m) generate an error and the stringing operations stops on all the connected machines.
To reset the alarm move the joy-stick to neutral on the master machine and dis-engaged the speed synchronized selector; check the cause of the alarm on the line (ex. Operation of the pull programming system and arrest of one rope line) before to re-start.

5.7.2 SWITCH ON THE MACHINE WITH CONTROL NOT IN NEUTRAL

When the machine is switched on with joy-stick not in neutral position, an alarm is generated and the capstans don’t move.

5.7.3 EMERGENCY STOP

Pressing the emergency stop in one of the connected machines generate the stop of the engine of the single machine where the stop has been activated and the stop of the movement of all the remaining connected machines, where the diesel engine remain switched on.
To reset the alarm move the joy-stick to neutral on the master machine before to dis-engaged the emergency stop on the machine in emergency situation.

5.7.4 CAN-BUS DIS-CONNECTION BETWEEN THE MACHINES

In case the connection cables between the machine may disconnect (ex. removing plugs, accidental cutting of one cable, …), the stringing operations stops on all the connected machines.
To reset the alarm move the joy-stick to neutral on the master machine and check the cause of the fault.

5.7.5 ROPE-CLAMP POSITION

In case one of the rope-clamp is not completely open (electrical switch pressed and green light switched on), none of the ropes can moves on all the connected machines.

5.7.6 GEAR-BOX LOW-PULL POSITION

In case one of the gear-boxes is in a low-pull position, (electrical switch pressed and green light switched on), none of the ropes can moves on all the connected machines.

5.7.7 CONNECTION MACHINE SELECTOR

In case one of the connection machine selector is changed to off (leftwards) while connected machine are running, all the machines will stop.

5.7.8 COMPONENT FAULT

In case of fault in one of the joy-stick & potentiometers component, the system switches on default parameters with alarm indicator on control panel (L1 or L2).
In case of fault on pull adjusting solenoid valve the system only shows alarm indicator on control panel (L1 or L2).

6. SAFETY CONDITIONS

6.1 SAFETY DEVICES

Machine has been equipped with the following safety devices:
1. load-limiting device with automatically stop of the endothermic engine once the max. pre-set load value has been exceeded
2. mechanical negative safety brake for movement stop in case of lack of hydraulic pressure
3. timing case and protections on moving parts, where technologically possible.

⚠ **DANGER: it is absolutely forbidden the use of the machine without protecting timing cases or with damaged/disconnected safety devices.**

⚠ **ATTENTION:** after a serious emergency use of the negative safety brake, check the wear condition of the discs and the efficiency of the brake itself; if necessary, replace the brake discs before re-using the machine.

6.2 EMERGENCY STOP DEVICE

The machine is equipped with an emergency stop device (table 3, pos. 2) that directly acts on the Diesel engine.
The power generator locking causes the intervention of the vacuum brakes and, consequently, the complete machine stop.

⚠ **ATTENTION:** use the emergency stop device **ONLY** in danger situations for the operators' safety.

⚠ **NOTE: for restoring the machine it is necessary to unlock the emergency device with a deliberate manoeuvre (turn for a quarter, in clockwise direction, the push-button).**

⃠ The emergency stop device for stopping the machine while working must only be used in emergencies.

6.3 PERIODIC OPERATIONS

Daily, before starting the work, the operator **has** to verify the functionality of the machine safety devices.

⚠ **ATTENTION:** do not modify for any reason safety devices of the machine because the manufacturer declines any responsibility as consequence of the non-functioning of the same.

6.4 RESIDUAL RISKS

In the machine there are still the following residual risks:

1. **Sudden break of the rope-conductor.** The break of the rope causes sudden movements of the machine and of the rope or conductor connected to the machine.
   To reduce to min. the risks the operator has to:
   ⇒ check the rope and replace it as soon as appear some defects or wear signs
   ⇒ respect the working positions indicated in the manual.

2. **Sudden break of the anchoring stakes.** The sudden break of the anchoring stakes causes the machine instability and sudden movements of the same.
   To reduce to min. the risks the operator has to:
   ⇒ periodically check the anchoring stakes and replace them as soon as appear some defects or wear signs
   ⇒ follow the anchoring indications described in the present manual
   ⇒ respect the working positions indicated in the manual.

3. **Entangling or dragging of the accessible rotating units.** It is not technologically possible to foreseen covering in correspondence of some rotating units (i.e. winding of the rope or of the conductor on the bull-wheels or on the driving gears), due to an excessive restriction of the machine functionality and operative functions.
   To reduce to min. the risks the operator has to:
   ⇒ avoid any possible contact with the machine rotating units except for the control devices
   ⇒ respect the prescriptions indicated in the present manual concerning wearing and the necessary safety devices.

4. **Limbs crushing during loading or removal of the reel and during rope-conductor loading.** These operations have a large risk margin due to the use of mechanical parts to be moved.
   To reduce to min. the risks the operator has to:
   ⇒ know the directives for accident prevention and apply them.

5. **Electrostatic discharges.** The machine has not a proper grounding device for this reason during stringing operation it is possible to have dangerous electrostatics discharges on ropes and conductors.
   To reduce to min. the risks the operator has to:
   ⇒ know the directives for accident prevention and apply them
   ⇒ check if the job site has a suitable grounding device for the machine-rope-conductors system.

6. **Inhalation of the endothermic engine exhausting gas.** The machine discharge exhausting gas of the endothermic engine combustion.
   To reduce to min. the risks the operator has to:
   ⇒ respect the working positions indicated in the manual
   ⇒ respect the indications of attention and prohibition indicated in the present manual
   ⇒ if necessary, use safety devices for the respiratory tracts.

7. **Control lever that can be locked in working position.** For functional reasons and comfort in the use the control lever does not foresees the return to zero when released; anyway the machine is equipped with two security devices which prevent the creation of dangerous situations: electric limiting device of the pull on the dynamometer, which stops the power station when the stated value is reached, and load pre-setting device, which maintains the settled pull adjusting automatically the speed of the work.
   To reduce to the minimum the risks the operator must:
   ⇒ put the electric limiting device of the pull on a value just superior of the regulating valves of the pull (see par. 4.5)
   ⇒ plan the desired pull as described in the manual (see par. 4.5).

7. MAINTENANCE

7.1 GENERAL PRESCRIPTIONS

ATTENTION: possible repairs not carried out by the manufacturer and not allowed by a written authorisation relieve the manufacturer for any responsibility in case of accidents to persons or damages to things and/or to the machine, causing also the loss of warranty.

7.2 LEVELS CONTROL

For safety reasons, during the transport machine comes without hydraulic oil and fuel.
Fill the levels as per the following table:

	Quantity
a. Hydraulic oil level (table 1, pos. 1)	*150 l*
b. Reduction gear oil level (table 2, pos. 13)	*1.6 l*
c. Parking brake oil level (table 2, pos. 10)	*0.3 l*
d. Engine oil level (see enclosed engine booklet)	
e. Fuel level (table 1, pos. 4)	*95 l*

ATTENTION: the non-respect of the correct levels causes serious damages to the installed components.

DANGER: do not ingest hydraulic liquids, fuels and cooling liquids because injurious to health and potentially lethal.

7.3 TYRES INFLATION PRESSURE

Tyres inflation pressure has to be 5 bars.

ATTENTION: the non-respect of tyres inflation pressure causes dangerous situations during transport operations.

7.4 SUGGESTED LUBRICANTS

The manufacturer tests the machine with the following oils and lubricants:
a. hydraulic circuit and stationary brake: IP HYDRUS OIL 46 (ISO HM 46)
b. mechanical reduction gear: IP MELLANA-220 (ISO CKC 220).

Possible different trademarks must be chosen based on the enclosed table "SUGGESTED LUBRICANTS". It is possible to use different trademarks but with same characteristics and ISO specifications.

When using oil with characteristics and ISO specifications different from the ones declared during test, completely empty out the hydraulic circuit.

ATTENTION: the use of lubricants not in conformity with the technical specifications indicated in the present manual seriously damages the machine components and, consequently, the warranty conditions are not valid.

7.5 ENDOTHERMIC ENGINE MAINTENANCE

For the specific maintenance of the engine, see the enclosed use and maintenance booklet.
For filling the fuel, use the filling cap on the tank (table 1, pos. 4).

DANGER: to fill the fuel turn off the engine; before carrying out any operation let the engine be cooled.

7.6 HYDRAULIC CIRCUIT MAINTENANCE

a. Change the hydraulic oil after 500 working hours and, then, every 1500 hours (or in any case every year).
b. To discharge the exhaust hydraulic oil, use the suitable tap (table 1, pos. 13) on the bottom of the tank.

⚠ **DANGER:** let the hydraulic oil be completely cooled before removing it and always use the suitable safety wears (gloves, etc.).

⚠ **ATTENTION:** the discharge of the exhaust oils has to be effectuated in conformity with the laws in force in the relevant country.

c. Fill the oil in the tank by means of the suitable filler (table 1, pos. 8).

⚠ **ATTENTION:** make maximum care when filling to make sure no foreign matter, which could cause irreparable damages to the circuit's components, enters along with the oil; if possible filter the oil with a 10 μm filter.

d. Replace the filter cartridges (table 2, pos. 5 and 6 and 16 – optional) after 500 working hours and, then, every 1500 hours (or every year at least).
e. Daily check the clogging of the oil filters by means of the suitable indicators (table 3, pos. 24 and 25) on the control panel. If necessary replace the cartridges taking care of the following filtering grade:
   ⇒ intake filter (table 2, pos. 5): 10 μ (nominal values)
   ⇒ intake filter (table 2, pos. 6): 90 μ (nominal values)
   ⇒ intake filter (table 2, pos. 16): 25 μ (nominal values) (optional)

For further maintenance operations of installed hydraulic components (pumps and motors), refer to the enclosed documentation.

7.7 REDUCTION GEAR MAINTENANCE

a. Change the oil of the reduction gear after 50 working hours and, then, every 500 hours (or every year at least).
b. To discharge the exhaust oil of the reduction gear, use the suitable caps on the lower part of the casing of the same.

⚠ **DANGER:** let the hydraulic oil be completely cooled before removing it and always use the suitable safety wears (gloves, etc.).

⚠ **ATTENTION:** the discharge of the exhaust oils has to be effectuated in conformity with the laws in force in the relevant country.

c. Fill the oil of the reduction gear by means of the suitable caps on the upper part of the casing of the same.

⚠ **ATTENTION:** make maximum care when filling to make sure no foreign matter, which could cause irreparable damages to the circuit's components, enters along with the oil.

For further maintenance operations of installed hydraulic components (pumps and motors), refer to the enclosed documentation.

7.8 RADIATOR'S MAINTENANCE

At least once a year, or more in case of use in dusty places, is foreseen a blowhole with compressed air of the radiant mass of the radiators.

⚠ **ATTENTION:** in order to make this operation the one in charge of maintenance, besides wearing all the protection devices already shown in this manual, must also wear a device for protecting respiratory organs.

7.9 GREASING

Grease 2-3 times per day the crown gear of the bull-wheels using the suitable greaser (table 2, pos. 2).

Weekly grease all the other parts subjected to rotation or translation and that not foreseen a forced lubrication or an automatic greasing.
Use IP ATHESIA GR2 (ISO XBCEA 2) grease or equivalent of another trademark based on the enclosed "SUGGESTED LUBRICANTS" table.

7.10 OTHER PERIODIC OPERATIONS

When cleaning the machine, avoid direct jets of water or steam on the components of the electric system of the machine and on the control panel.

For the other periodic operations, refer to the summary table for the ordinary maintenance (see next paragraph).

7.11 SUMMARY TABLE FOR ORDINARY MAINTENANCE

In this card are listed main operation of periodic maintenance and relevant intervals.

Part	Object	Interval				
		Daily	50 h	250 h	500 h	1500 h
Diesel engine (***)	Engine oil	**CL**		**ST**		
	Oil filter			**ST**		
	Cooling liquid	**CL**				**ST**
	Air filter			**VF**		**ST**
	Fuel	**CL**				
	Fuel filter				**ST**	
Hydraulic circuit	Hydraulic oil	**CL**			**ST1**	**ST(*)**
	Filters	**VF**			**ST1**	**ST(*)**
Negative brake	Discs	**(**)**				
Reduction gear	Oil	**CL**	**ST1**		**ST(*)**	
Bull-wheels	Gears	**GR**				
Front plough	Rod		**GR**			
Axle	Tyres pressure		**VF**			
	Stationary brake		**GR**			

Legend:
CL Check the level (and possible filling up)
GR Grease
ST Replace
ST1 Replace (only for the first intervene)
VF Check
(*) Or in any case every year
(**) Check the discs wear condition after an emergency stop
(***) For further information see the engine booklet

8. HOW TO DISABLE THE MACHINE

8.1 TRANSPORT

Before transporting the machine, empty any liquid that can be set on fire contained in the machine (oils and fuels).

Transport must be effectuated as per the specifications described in chapter 3 (Transport and positioning instructions).

8.2 EXTENDED SERVICE STOP

When foreseeing an extended service stop (two months at least) protect the external parts with waterproof wax and empty the fuel tank.

During service stop, start the machine at least once every two months and let the machine idle for one hour at least, so that the oil enters in the hydraulic system and to prevent the gaskets drying.

We recommend stocking the machine under a roof; do not cover the machine with pieces of cloth and/or plastic materials that cause an excessive increase of the temperature and humidity.

If the machine does not work for a year or more, before re-starting the machine it is necessary to replace the hydraulic oil and filters of the hydraulic circuit.

8.3 STRIPPING

Machine stripping has to be carried out by the manufacturer or by a specialised factory.

All the stripping operations have to be effectuated in conformity with the norms in force for accident prevention.

Waste materials have to be divided for typology (i.e. iron scrap, aluminium, plastic, rub, etc.) and disposed of by means of authorised structures in conformity with the laws in force.

Exhausted oils and polluting substances have to be disposed of by means of authorised structures in conformity with the laws in force.

9. ENCLOSED DOCUMENTS

9.1 TABLES

TABLE 1.3 Control panel
TABLE 2.1 General assembly – Lateral view
TABLE 3.1 General assembly – Upper view
TABLE 5.1 Hydraulic heads connection
TABLE 6.1 Compressor connection (optional)
Comparative table of suggested oils and greases

9.2 SYSTEMS

A10-00036 Frame assembly drawing
A12-00016 Reduction assembly drawing
A13-00005 Coverings assembly drawing
A14-00042 Feeding system assembly drawing
A15-00023 Control panel assembly drawing
A17-00029 Nylon roller assembly drawing
A25-00062 Engine covers assembly
S01-00013 Electric system
S02-00020 Functional hydraulic system

9.3 OTHER DOCUMENTS

Manual for engine use and maintenance mod. KOHLER KDW 2204


TESMEC

PULLER-TENSIONER MOD. AFS303

TABLES

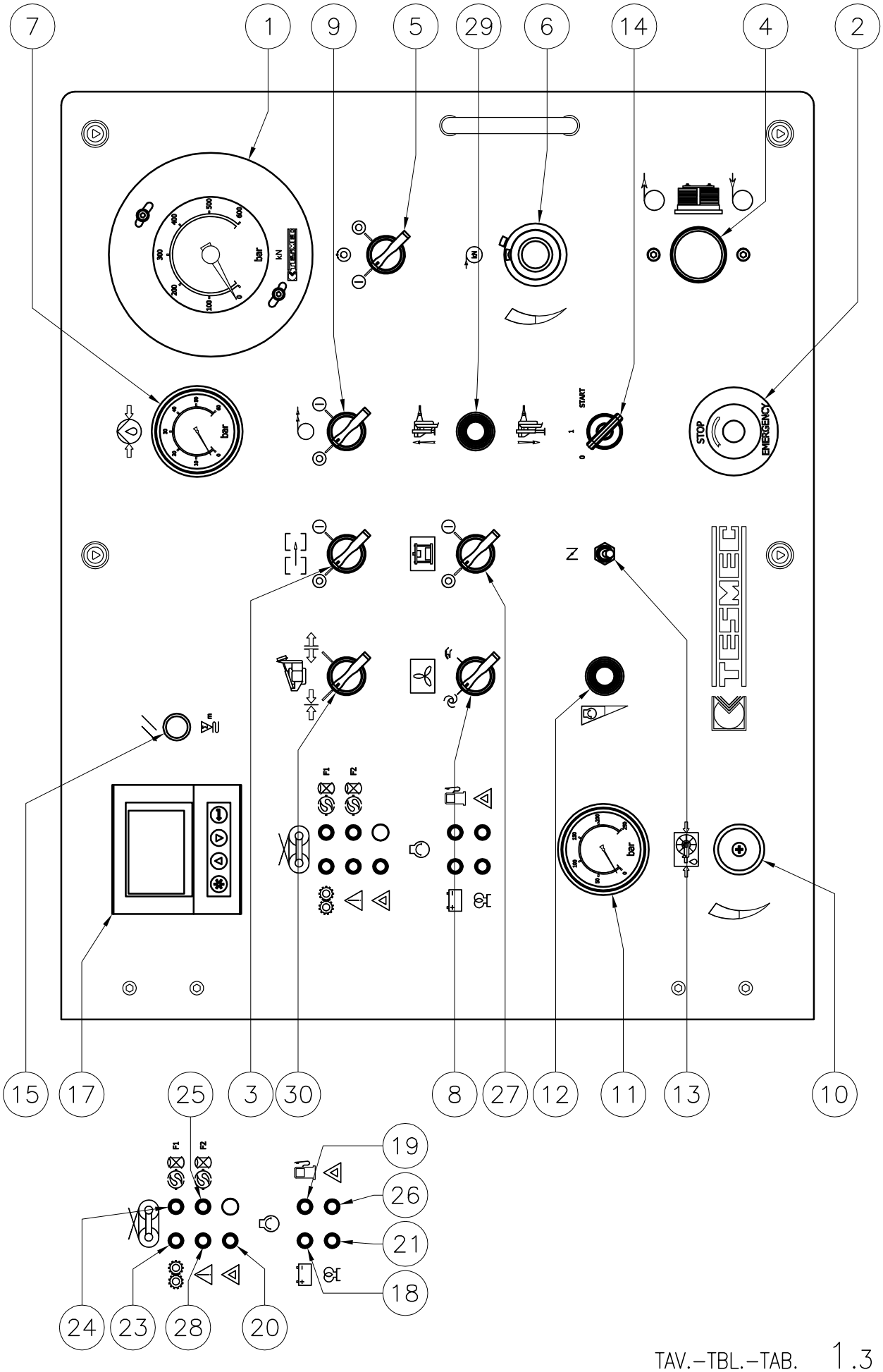
- 24050 Grassobbio (Bg) via Zanica, 17/O
Tel. 0039 / 035 / 4232911
Telefax 0039 / 035 / 4522445
E-mail: info@tesmec.it

- 24060 Endine Gaiano (Bg) via Pertegalli
Tel. 0039 / 035 / 825024
Telefax 0039 / 035 / 826375
E-mail: info@tesmec.it

TABLE 1.3

1) Manometer with graduated ring nut.
2) Emergency stop push button.
3) Connected machines selector (optional)
4) Bull-wheels control lever.
5) Pull value setting device.
6) Pull value setting knob.
7) Manometer for overfeeding pressure.
8) Fan function selector.
9) Speed synchronizer selector (optional).
10) Adjusting valve for reel elevator/reel winder pressure.
11) Manometer for reel elevator/reel winder pressure.
12) Diesel engine accelerator.
13) IPO push button.
14) Diesel engine ignition key.
15) Meter-counter capstans reset push-button.
16)
17) Multi-functional display.
18) Generator lamp.
19) Fuel pilot lamp.
20) Pilot lamp for electric pull limiting device exceeding.
21) Pre-heating glow plugs lamp.
22)
23) Fine braking pilot lamp.
24) F1 filter pilot lamp.
25) F2 filter pilot lamp.
26) Engine ALARM pilot light
27) Selector for compressor connection (optional).
28) Alarm lamp card.
29) Lever for front plough movement.
30) Rope locking device selector (optional).

ARGANO FRENO – PULLER TENSIONER – TREUIL FREINEUSE – Mod. AFS 303 AFS303_1_3



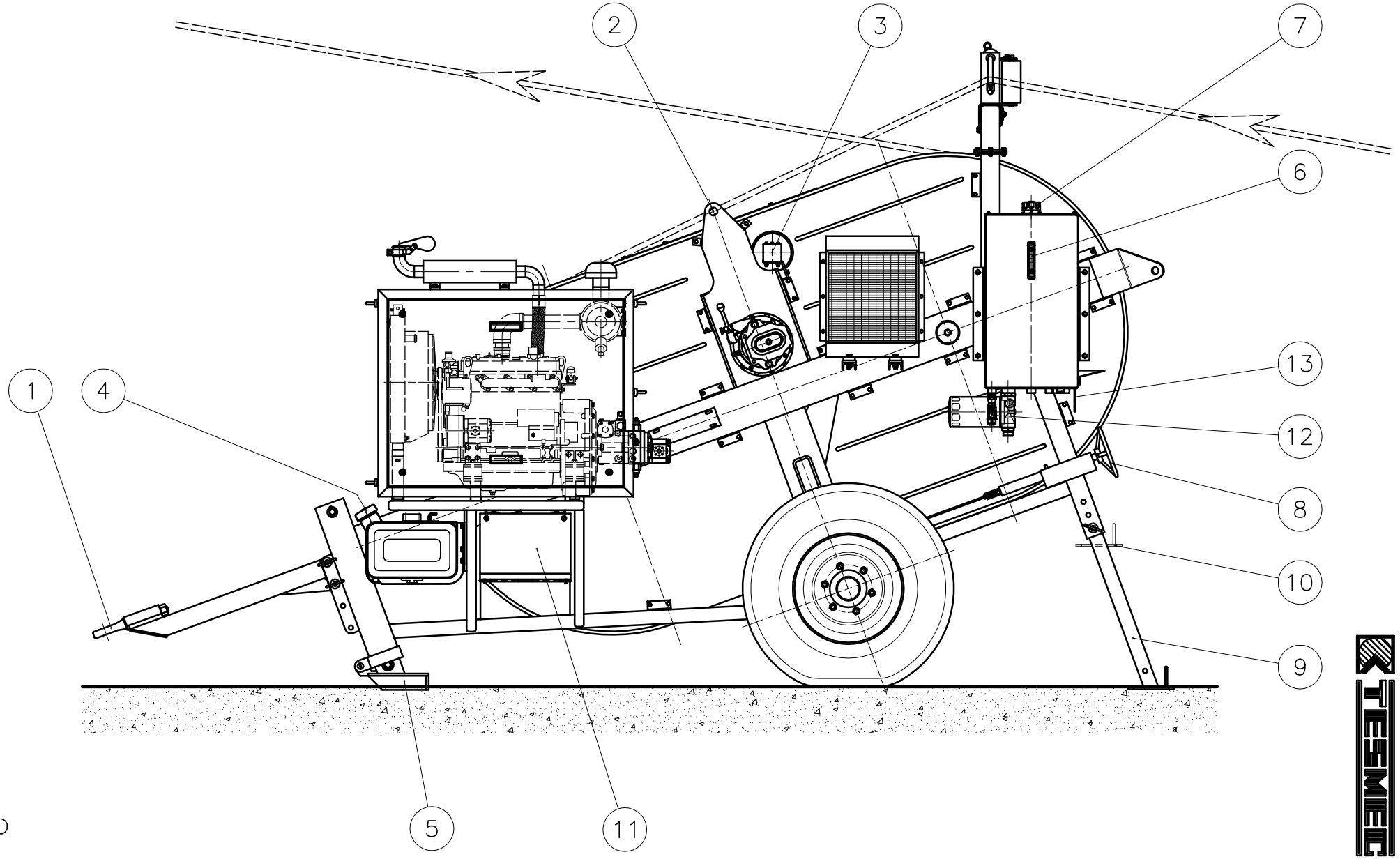
TAV.–TBL.–TAB. 1.3

TABLE 2.1

1) Towing eye.
2) Lifting ear.
3) Encoder.
4) Fuel filling cap.
5) Front plough.
6) Hydraulic oil level indicator.
7) Hydraulic oil filling cap (IP HYDRUS OIL 46, qty 140 liters).
8) Hand-wheel for parking brake.
9) Rear stabilizer in working position.
10) Rear stabilizer in transport position.
11) Tools/battery box.
12) Hydraulic oil draining cock.
13) Rapid couplers (see table 5) (optional 010).

ARGANO FRENO – PULLER TENSIONER – TREUIL FREINEUSE – Mod. AFS 303

AFS303_2_1

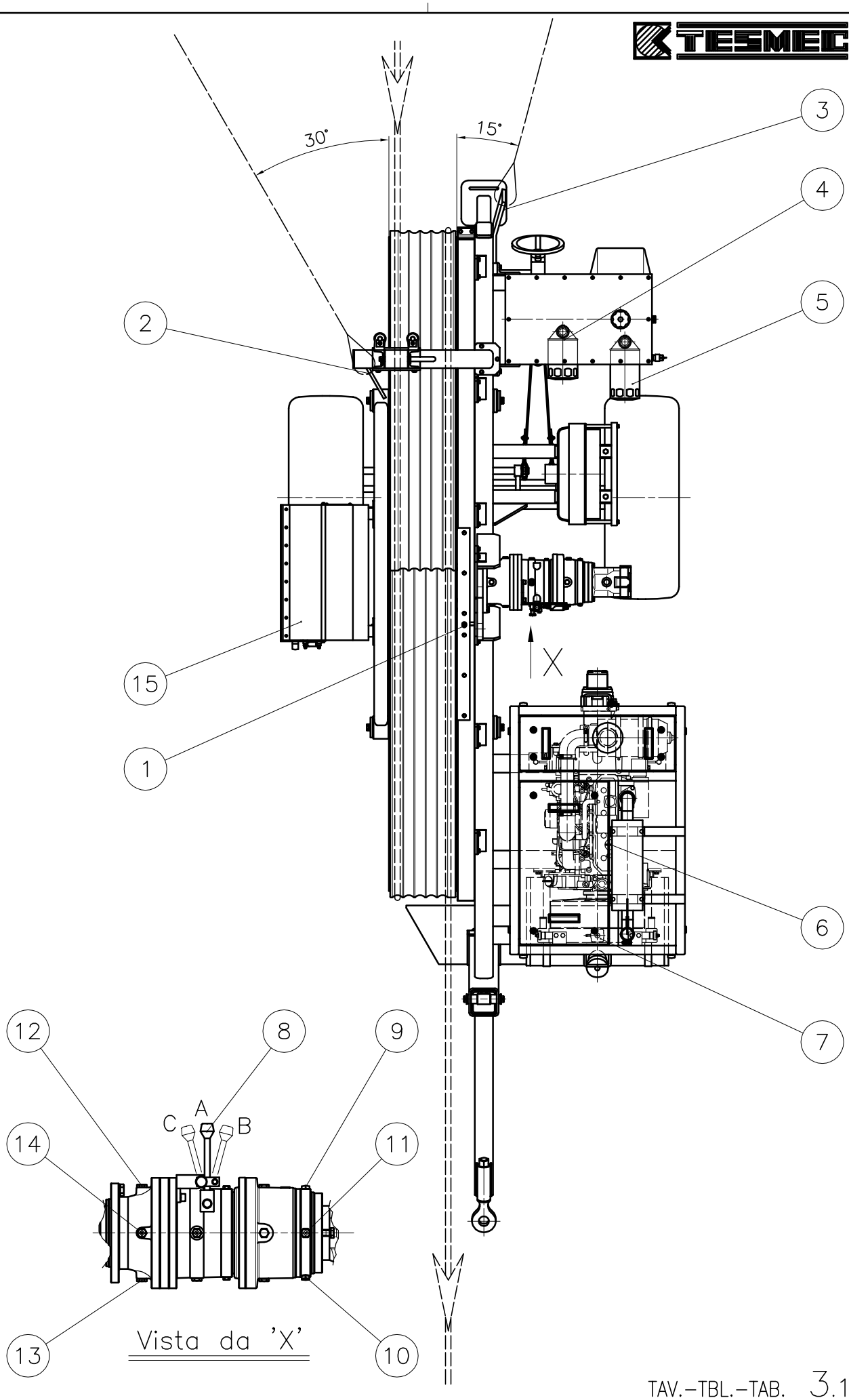


TAV.-TBL.-TAB. 2.1

TABLE 3.1

1) Crown-pinion lubricator.
2) Anchoring ears.
3) Anchoring ears.
4) Hydraulic oil filter.
5) Hydraulic oil filter.
6) Oil filling cap for diesel engine.
7) Liquid filling cap for diesel engine radiator.
8) Lever for reduction gear speed change.
   - pos. C: high pull (normal braking)
   - pos. A: idle bull-wheels
   - pos. B: low pull (fine braking).
9) Negative brake oil filling cap (IP HYDRUS OIL 46, qty 0.3 liters).
10) Negative brake oil draining plug.
11) Negative brake oil level.
12) Reduction gear oil filling cap (IP MELLANA-220, qty 1.6 liters).
13) Reduction gear oil draining plug.
14) Reduction gear oil level.
15) Control panel.

ARGANO FRENO – PULLER TENSIONER – TREUIL FREINEUSE – Mod. AFS 303 AFS303_3_1



TAV.–TBL.–TAB. 3.1

TABLE 5.1

1) Rapid coupler for high pressure.
2) Valve for reel rotation stop.
3) Rapid coupler for draining (eventual).
4) Rapid coupler for low pressure.

ARGANO FRENO – PULLER TENSIONER – TREUIL FREINEUSE – Mod. AFS 303 AFS303_5_1

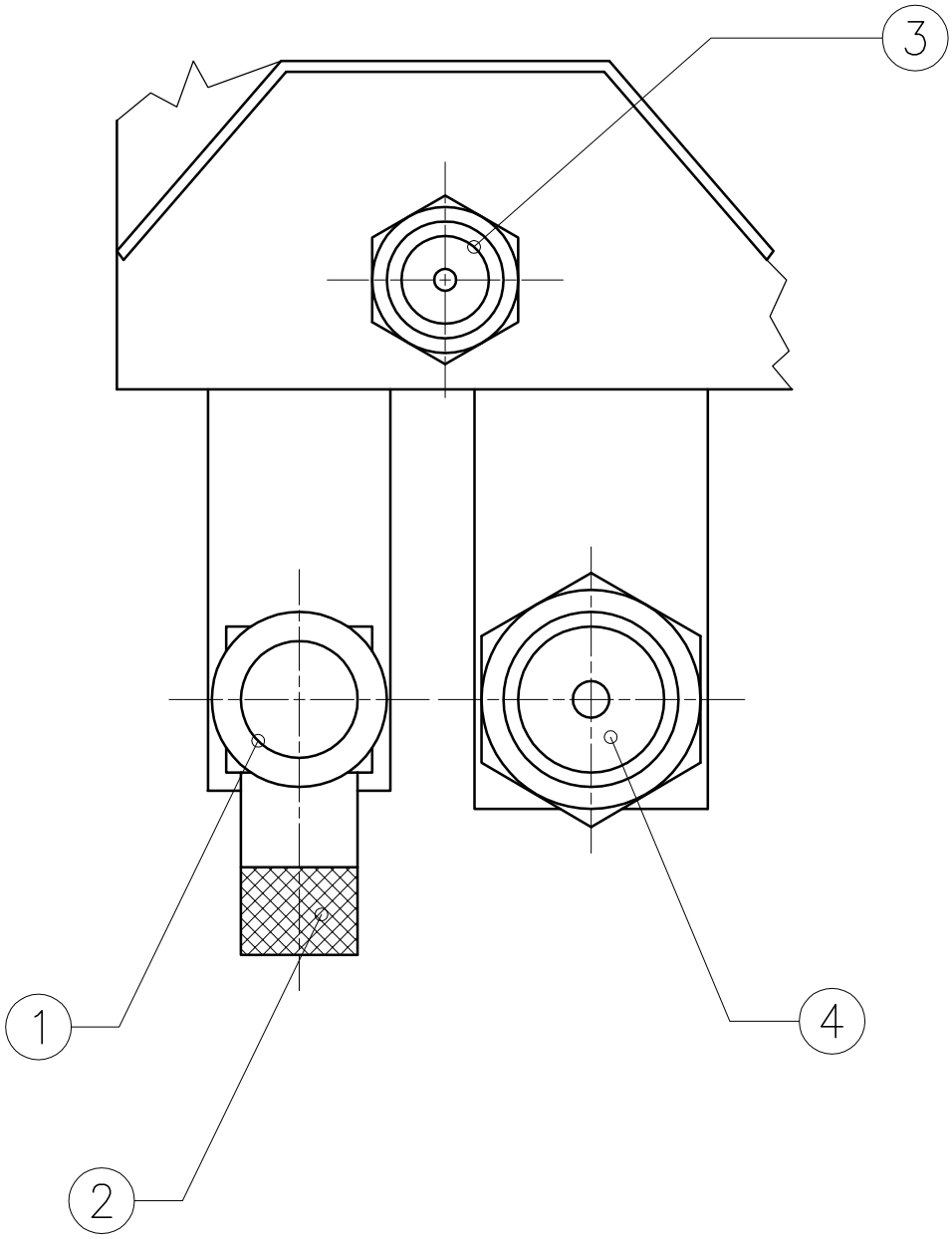
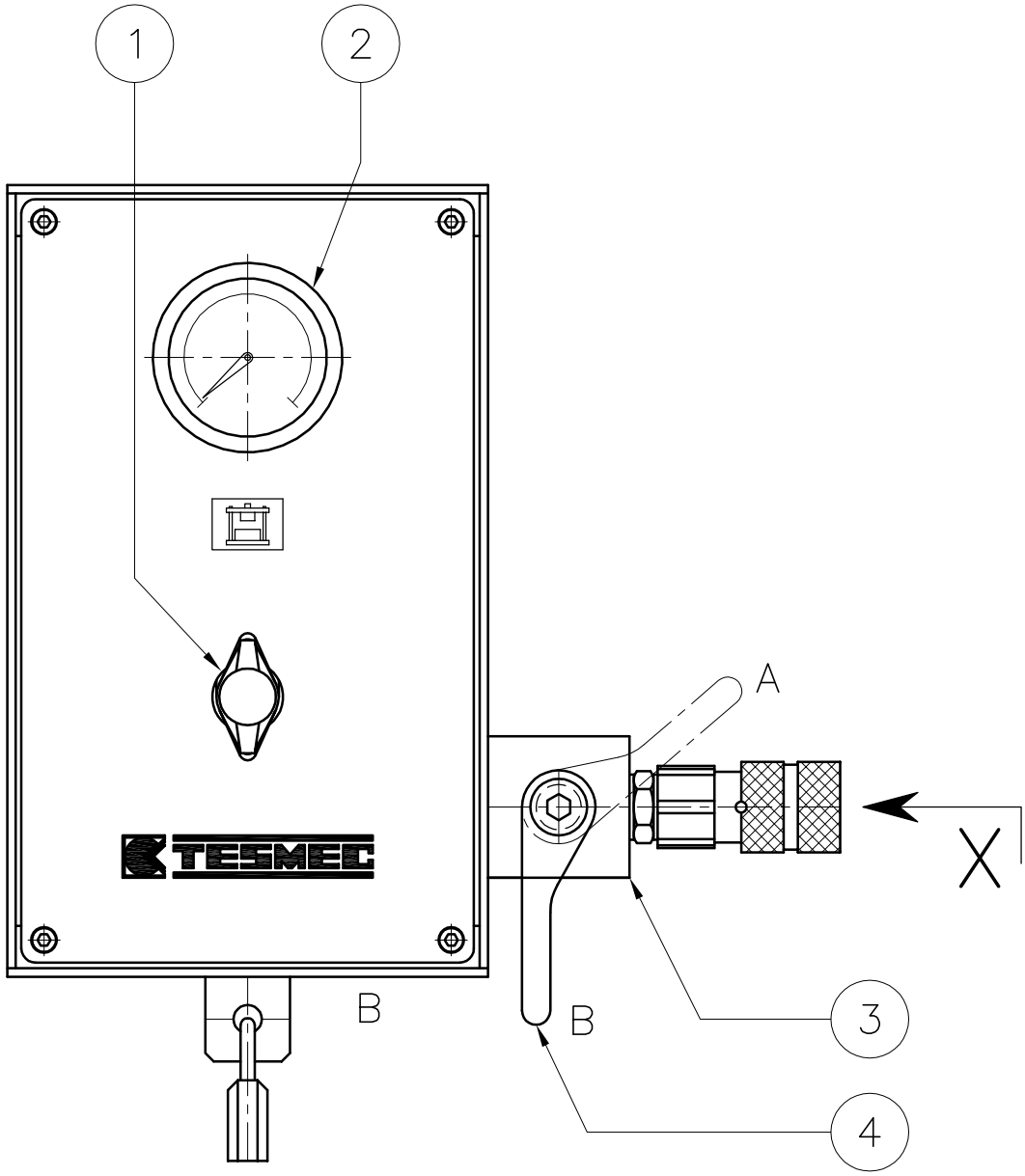


TABLE 6.1 (OPTIONAL)

1) Pressure adjusting valve.
2) Manometer.
3) Valve block.
4) Opening/closing lever for compressor feeding (pos. A: compressor connection, pos. B: compressor release).
5) Rapid coupler for high pressure.
6) Rapid coupler for low pressure.

ARGANO FRENO – PULLER TENSIONER – TREUIL FREINEUSE – Mod. AFS 303 AFS303_6_1



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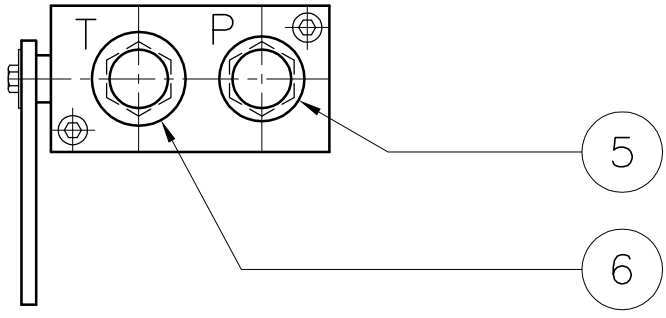

TAV.–TBL.–TAB. 6.1

Comparative table of suggested oils and greases

TYPE	HYDRAULIC CIRCUIT OIL FOR ENVIROMENTAL CONDITION:				REDUCTION UNIT - COUPLERS REDUCTION UNIT OIL FOR ENVIROMENTAL CONDITION:				GREASING GREASE FOR EACH AMBIENT
	ARTIC	WINTER	SUMMER	TROPICAL	ARTIC	WINTER	SUMMER	TROPICAL	
VISCOSITY (ISO 3448)	VG 22	VG 32	VG 46	VG 68	VG 100	VG 150	VG 220	VG 320	NLGI 2
AGIP	OSO 22	OSO 32	OSO 46	OSO 68	BLASIA 100	BLASIA 150	BLASIA 220	BLASIA 320	GR MU EP 2
API	APILUBE CIS 22	APILUBE CIS 32	APILUBE CIS 46	APILUBE CIS 68	DT 100	DT 150	DT 220	DT 320	PGX 2
ARAL	ARAL VITAM GF 22	ARAL VITAM GF 32	ARAL VITAM GF 46	ARAL VITAM GF 68	DEGOL BG 100	DEGOL BG 150	DEGOL BG 220	DEGOL BG 320	ARALUB HL 2
AVIA	AVILUB RSL 22	AVILUB RSL 32	AVILUB RSL 46	AVILUB RSL 68	AVILUB RSX 100	AVILUB RSX 150	AVILUB RSX 220	AVILUB RSX 320	-
BP	ENERGOL HLP 22	ENERGOL HLP 32	ENERGOL HLP 46	ENERGOL HLP 68	ENERGOL GR-XP 100	ENERGOL GR-XP 150	ENERGOL GR-XP 220	ENERGOL GR-XP 320	GREASE LTX 2
CASTROL	HYSPIN AWS 22	HYSPIN AWS 32	HYSPIN AWS 46	HYSPIN AWS 68	ALPHA SP 100	ALPHA SP 150	ALPHA SP 220	ALPHA SP 320	SUPERGREASE 2
CHEVRON	EP HYDRAULIC 22	EP HYDRAULIC 32	EP HYDRAULIC 46	EP HYDRAULIC 68	COMPOUND GEAR 100	COMPOUND GEAR 150	COMPOUND GEAR 220	COMPOUND GEAR 320	DURALITH EP 2
ELF	ELFOLNA DS 22	ELFOLNA DS 32	ELFOLNA DS 46	ELFOLNA DS 68	REDUCTELF SP 100	REDUCTELF SP 150	REDUCTELF SP 220	REDUCTELF SP 320	ROLEXA 2
ESSO	NUTO H 22	NUTO H 32	NUTO H 46	NUTO H 68	SPARTAN EP 100	SPARTAN EP 150	SPARTAN EP 220	SPARTAN EP 320	BEACON 2
FINA	HYDRAN 22	HYDRAN 32	HYDRAN 46	HYDRAN 68	GIRAN 100	GIRAN 150	GIRAN 220	GIRAN 320	MARSON EP L2
FUCHS	RENOLIN MR 5	RENOLIN MR 10	RENOLIN MR 15	RENOLIN MR 20	-	RENEP COMPOUND 104	-	RENEP COMPOUND 108	-
GULF	HARMONY 22 AW	HARMONY 32 AW	HARMONY 46 AW	HARMONY 68 AW	-	EP LUBRICANT HD 150	EP LUBRICANT HD 220	EP LUBRICANT HD 320	CROWN EP 2
IP	HYDRUS OIL 22	HYDRUS OIL 32	HYDRUS OIL 46	HYDRUS OIL 68	MELLANA 100	MELLANA 150	MELLANA 220	MELLANA 320	ATHESIA EP GR 2
KLUBER	LAMORA 22	LAMORA 32	LAMORA 46	LAMORA 68	LAMORA 100	LAMORA 150	LAMORA 220	LAMORA 320	CENTOPLEX 2 EP
MOBIL	DTE 22	DTE 24	DTE 25	DTE 26	-	MOBILGEAR 629	MOBILGEAR 630	MOBILGEAR 632	MOBILUX EP 2
Q8	HAYDIN 22	HAYDIN 32	HAYDIN 46	HAYDIN 68	GOYA 100	GOYA 150	GOYA 220	GOYA 320	REMBRANDT EP 2
ROLOIL	LI 22	LI 32	LI 46	LI 68	EP 100	EP 150	EP 220	EP 320	LITEX EP 2
SHELL	TELLUS 22	TELLUS 32	TELLUS 46	TELLUS 68	OMALA 100	OMALA 150	OMALA 220	OMALA 320	SUPERGREASE EP2
SYNECO	-	PACEMAKER 32	PACEMAKER 46	PACEMAKER 68	-	PACEMAKER RODI 12	-	PACEMAKER RODI 24	SINT GREASE EP 2
TAMOIL	HYDRAULIC OIL 22	HYDRAULIC OIL 32	HYDRAULIC OIL 46	HYDRAULIC OIL 68	CARTER EP 100	CARTER EP 150	CARTER EP 220	CARTER EP 320	TAMLITH GREASE EP2
TEXACO	RANDO HD 22	RANDO HD 32	RANDO HD 46	RANDO HD 68	MEROPA 100	MEROPA 150	MEROPA 220	MEROPA 320	MULTIFAK EP 2
TOTAL	AZOLLA ZS 22	AZOLLA ZS 32	AZOLLA ZS 46	AZOLLA ZS 68	CARTER EP 100	CARTE EP 150	CARTER EP 220	CARTER EP 320	MULTIS EP 2
VALVOLINE	ELIOS HVI 22	ELIOS HVI 32	ELIOS HVI 46	ELIOS HVI 58	ELIOS EP 100	ELIOS EP 150	ELIOS EP 220	ELIOS EP 320	LITHIUM BASE EP 2

PULLER-TENSIONER MOD. AFS303

ENCLOSED DOCUMENTS

- 24050 Grassobbio (Bg) via Zanica, 17/O
Tel. 0039 / 035 / 4232911
Telefax 0039 / 035 / 4522445
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Tel. 0039 / 035 / 825024
Telefax 0039 / 035 / 826375
E-mail: info@tesmec.it

IMPORTANTE

Per qualsiasi informazione riguardante questa macchina/attrezzatura (utilizzo, manutenzione, ricambi) citare sempre Modello, Numero di matricola, Commessa, Anno di fabbricazione rilevabile nella targa d'identificazione della macchina.
Questo manuale non descrive le procedure di tesatura, né si è cercato di dare istruzioni all'utilizzatore sui metodi di tesatura.
Il contenuto di questo manuale prevede unicamente un testo di base per l'uso, manutenzione e l'elenco dei pezzi di ricambio della macchina stessa e come s'intende e si suggerisce di utilizzarla. Saranno graditi suggerimenti da parte degli Utilizzatori per migliorare questa pubblicazione.
Scriveteci all'indirizzo sottoindicato.

IMPORTANT NOTE

State always "Model, Serial Number and Manufacturing Year" of the machine/equipment in case you need information on use, maintenance and spare parts. The a/m data can be found on the identification plate of the machine itself.
This is not a stringing procedures manual, and no attempt is made or implied herein to instruct the user in stringing methods.
The contents of this manual are intended as base line for operation, maintenance and part list of the unit as it stands alone and as it is intended and anticipated to be used. Recommendation by the individual user for improving this publication is encouraged and should be forwarded to the address on this page.

IMPORTANT

Indiquer toujours le modèle, le numéro de série et l'année de fabrication de la machine/équipement même, en demandant à TESMEC renseignements sur l'utilisation, l'entretien et les pièces de rechange. Ces informations se trouvent sur la plaque d'identification de la machine.
Ce manuel ne décrit pas les procédures de déroulage, ni on a tache de donner instructions à l'Utilisateur sur les méthodes de déroulage.
Le contenu de ce manuel prévoit seulement un texte pour l'utilisation, l'entretien et la liste de pièces de rechange et comme TESMEC conseille d'utiliser la machine même. Pour chaque suggestion pour améliorer cette machine, écrire à l'adresse au-dessous.

IMPORTANTE

Para cualquier información relativa a esta máquina/equipo (utilización, mantenimiento, repuestos) citar siempre Modelo, Número de serie, Orden de compra, Año de fabricación que se hallan en la tarjeta de identificación de la máquina.
Este manual no describe los procedimientos de tensado y tampoco se ha tratado de dar instrucciones al utilizador acerca de los métodos de tensado. El contenido de este manual prevé únicamente un texto básico para el uso, mantenimiento y el listado de repuestos de la misma máquina y cómo se pretende y se sugiere utilizarla. Se apreciarán sugerencias por parte de los utilizadores para mejorar esta publicación.
Nos pueden escribir a la dirección indicada abajo.

IMPORTANTE

Para qualquer informação a respeito desta máquina/equipamento (utilização, manutenção, peças sobresselentes) citar sempre o Modelo, o Número de Série, a Encomenda, o Ano de fabrico,dados que podem ser encontrados na placa de identificação da máquina.
Este manual não descreve os procedimentos de entesadura, tão pouco foi nossa intenção dar instruções ao utilizador sobre os métodos de entesadura. O conteúdo deste manual de instruções prevê unicamente um texto básico para o uso, a manutenção e a lista das peças sobresselentes da mesma máquina e como se entende e se sugere utilizá-la.
Serão muito bem aceitas sugestões por parte dos Utilizadores, no intento de melhorar esta publicação.
Escrevam-nos no endereço abaixo indicado.

WICHTIG

Geben Sie für alle Informationen über diese Maschine/Ausrüstung (Verwendung, Wartung, Ersatzteile) immer Modell, Matrikelnummer, Bestellung und Baujahr an, was Sie dem Identifizierungsschild der Maschine entnehmen können.
Dieses Handbuch beschreibt nicht die Verfahren des Spannens, und es wurde auch nicht versucht, dem Verwender Anleitungen über die Methoden des Spannens zu geben. Der Inhalt dieses Handbuchs enthält allein einen Basistext für den Gebrauch und die Wartung, die Ersatzteilliste der Maschine und außerdem, welche Verwendung für sie bezweckt und empfohlen wird.
Wir freuen uns über Tipps von Seiten der Verwender, um diese Veröffentlichung zu verbessern.
Schreiben Sie uns an unten angegebene Adresse.

ВАЖНОЕ ПРИМЕЧАНИЕ

Всегда следует указывать «модель, серийный номер и год выпуска» машины/оборудования в случае, если вам необходима информация по эксплуатации, техническому обслуживанию и запасным частям. Вышеупомянутые данные можно найти на паспортной табличке на самой машине.
Руководство по эксплуатации не является руководством по методикам натяжения, и в нем не делается никаких попыток инструктирования пользователя способам натяжения, и они не подразумеваются.
Цель настоящего руководства состоит только в том, чтобы дать описание эксплуатации и технического обслуживания, а также список запасных частей машины, и указать ее назначение и рекомендуемое использование. Рекомендации отдельных пользователей по улучшению данной публикации приветствуются, и их следует направлять по адресу, указанному в руководстве.

- 24050 Grassobbio (Bg) via Zanica, 17/O
Tel. 0039 / 035 / 4232911
Telefax 0039 / 035 / 4522445
E-mail: info@tesmec.it

- 24060 Endine Gaiano (Bg) via Pertegalli
Tel. 0039 / 035 / 825024
Telefax 0039 / 035 / 826375
E-mail: info@tesmec.it

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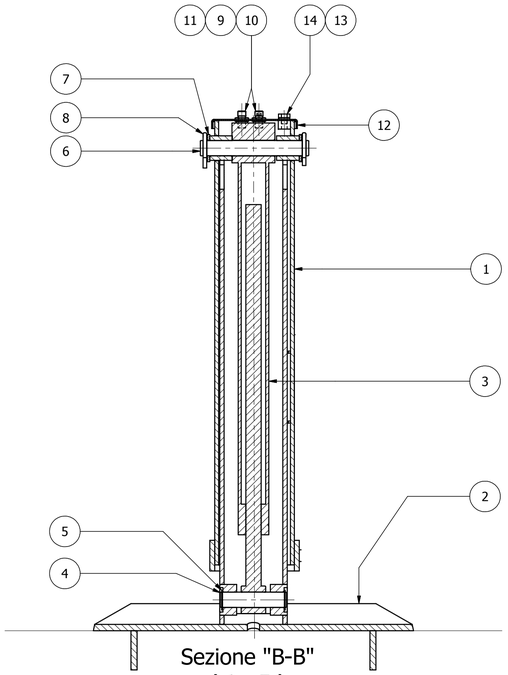
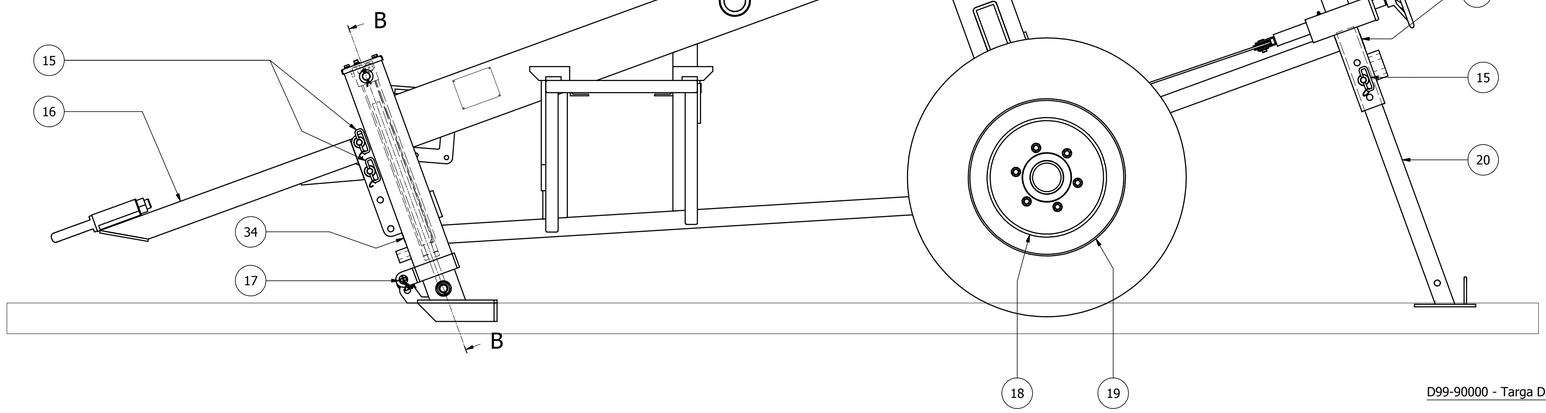
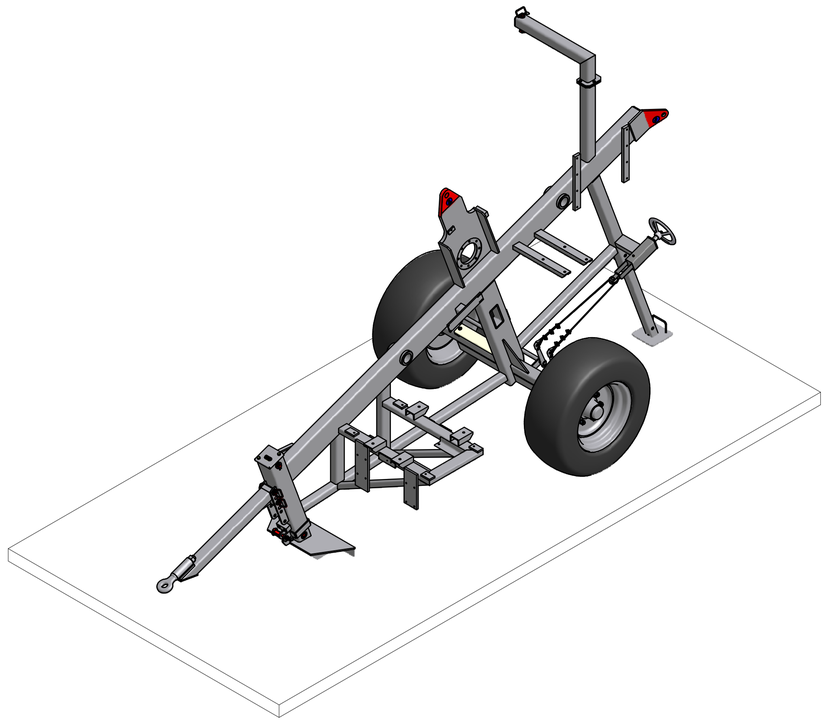
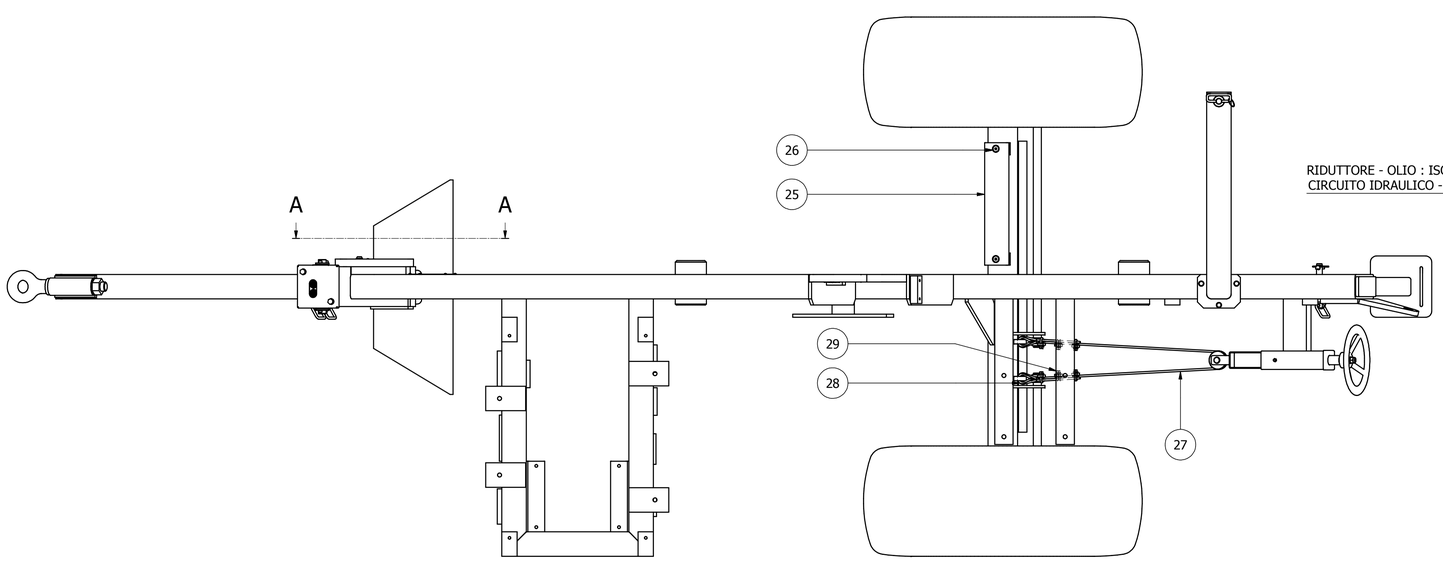
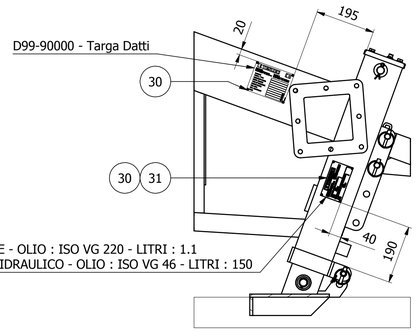


Sezione "B-B"
(1 : 5)









RIDUTTORE - OLIO : ISO VG 220 - LITRI : 1.1
CIRCUITO IDRAULICO - OLIO : ISO VG 46 - LITRI : 150

Sezione "A-A"
(1 : 10)

ITEM	CODE	DESCRIPTION	QTY	WEIGHT
34	V00-9800-024	ADESIVO T. 60 MESSA A TERRA GENERALE [] STICKER	2	0 kg
33	V00-9800-007	ADESIVO D. 50 PUNTO DI STROPPAGGIO [] STICKER	1	0 kg
32	V00-9800-006	ADESIVO D. 50 PUNTO DI SOLLEVAMENTO MACCHINA [] STICKER	1	0 kg
31	D99-90149	TARGA OLIO CIRCUITO IDRAULICO / RIDUTTORE 1.5 x 70 x 120 [] PLATE	1	0 kg
30	V00-9050-003	RIVETTO UNI 9200 - A D. 3.2 x 9 - P-AlMg 2.5 [] RIVET	8	0 kg
29	V00-9000-014	MORSETTO A CAVALLOTTO D. 5-6 - AMA : Art.564 [] CLAMP	6	0 kg
28	V00-9000-015	REDANCIA PER FUNE - DIN 6899B X FUNE D. 7 [] THIMBLE	2	0 kg
27	V00-9000-029	FUNE ACCIAIO ZINCATO 114 FILI - D. 6 mm CR= 21.92 kN [] CABLE	1	0.4 kg
26	H58-0010-025	VITE - ISO 10642 - M 10 x 25 - 10.9 - TSEI - PG [] BOLT	2	0 kg
25	D00-00316	PROTEZIONE ASSALE 15 x 80 x 400 [] GUARD	1	0.5 kg
24	H77-1008-011	DADO - UNI 7473 - M 8 - GR. 8 - Z - AUTOB. [] LOCKNUT	3	0 kg
23	H81-1008-002	ROSETTA - ISO 7089 - TE - 8 - 100 HV - Z [] WASHER	6	0 kg
22	H50-1008-030	VITE - M 8 x 30 - ISO 4017 - 8.8 - Z [] BOLT	3	0 kg
21	D00-00311	SUPPORTO RULLI 140 x 500 x 705 [] SUPPORT	1	17.4 kg
20	D00-01804	STABILIZZATORE POSTERIORE - Tubo Quadro 60 - I=20° 200 x 200 x 965 [] STABILIZER	1	12.3 kg
19	V00-2130-001	PNEUMATICO - 30 Km/h - 13.0/65-18 PR:16 - PORTATA: 3330 Kg - 5.00 bar [] TYRE + AIR TUBE	2	33.4 kg
18	V00-2160-001	CERCHIONE - N° 6 Fori - 30 Km/h - 11.00x18 - SPOSTAMENTO: 0 - INTERGOMMA [] TIRE RIM	2	30.4 kg
17	V00-9020-010	PERNO x TERZO PUNTO - AMA : Art.178 D. 19 x lg. 120 - CATENELLA E SPINA A SCATTO [] PIN	1	0.4 kg
16	D00-00310	TIMONE 80 x 138 x 1071 [] RUDDER	1	19.8 kg
15	V00-9020-001	SPINOTTO - AMA : Art.1 D. 19 x lg. 110 - CON CATENELLA E SPINA A SCATTO [] PIN	4	0.4 kg
14	H50-1010-010	VITE - ISO 4017 - M 10 x 10 - 8.8 - Z - TE - PG - I.FIL [] BOLT	2	0 kg
13	H88-1010-002	ROSETTA - UNI 1751 - A - 10 - Z [] WASHER	2	0 kg
12	D00-01805	COPERCHIO VOMERE 15 x 140 x 140 [] COVER	1	0.4 kg
11	D99-10017	GRANO FORATO - 8x12 - FORO ø1 [] DOWL	2	0 kg
10	D99-10006	NIPPLO FORATO - 1/4" Gas - FORO M8 [] NIPPLE	2	0 kg
9	F11-0003-003	RONDELLA RAME D. 1/4" x 3 [] WASHER	2	0 kg
8	V00-9030-021	COPIGLIA - ISO 1234 D. 6.3 x 40 - St [] COTTER PIN	2	0 kg
7	H81-1024-004	ROSETTA - ISO 7089 - TE - 24 100 HV - Z [] WASHER	2	0 kg
6	D00-00313	PERNO D. 25 x lg. 177 - FORO COPIGLIE [] PIN	1	0.7 kg
5	V00-9010-013	ANELLO - UNI 7435 - 25 - E (SEEGER) [] RING	2	0 kg
4	D00-00314	PERNO D. 25 x lg. 108 - SEDE SEEGER [] PIN	1	0.4 kg
3	V00-6500-061	CILINDRO A: 40 S: 25 - C: 500 - CHIUSO: 700 - APERTO: 1200 - CON VALVOLA [] CILYNDER	1	9 kg
2	D00-00312	STABILIZZATORE ANTERIORE 290 x 700 x 907 [] STABILIZER	1	33.8 kg
1	D00-01835	TELAIO COMPLETAMENTO - AFS 303 310 [] FRAME	1	428.6 kg

TESMEC
GRASSOBBIO (BG) Tel.035/4232911 - Fax 035/4522445
ENDINE G (BG) Tel.035/825024 - Fax 035/826375

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE.
SALDATURE IN ACCORDO CON – WPS 1÷9
GRADO DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE
LAV.MECCANICHE UNI EN 22768-f H
CARPENTERIA UNI EN 22768-c K

DIS. VISTO	
DATA	Foresti P.
PESO	23/09/2011
SCALA	653,77 kg
	1:10

DENOMINAZIONE: ARGANO FRENO SINGOLO
AFS 303 310 - PULL 25 kN
ASSIEME MONTAGGIO TELAIO

FOGLIO 1 / 1
NUMERO DISEGNO A10-00036

DATE	SYM	REVISION RECORD	DR	CK
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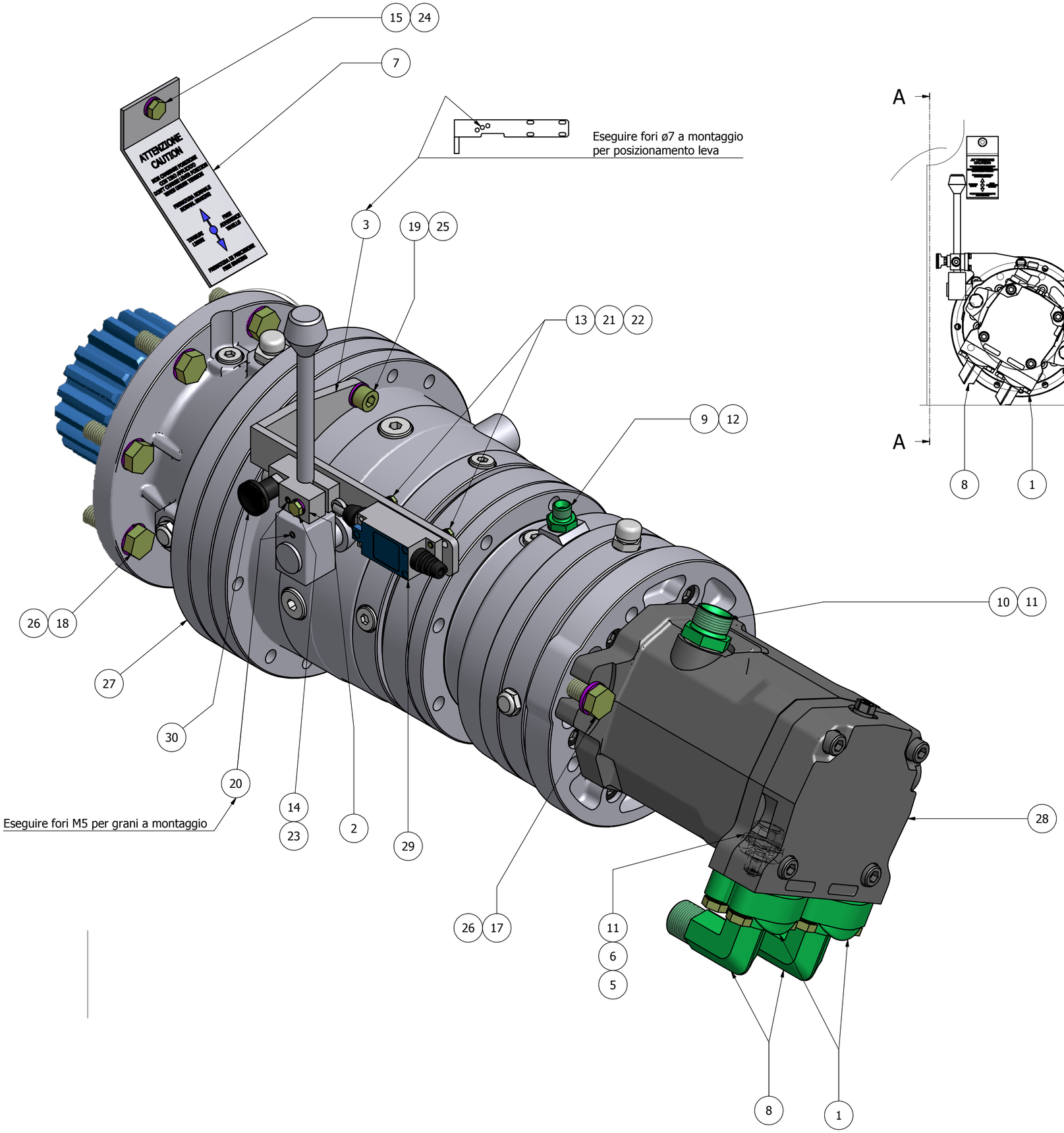

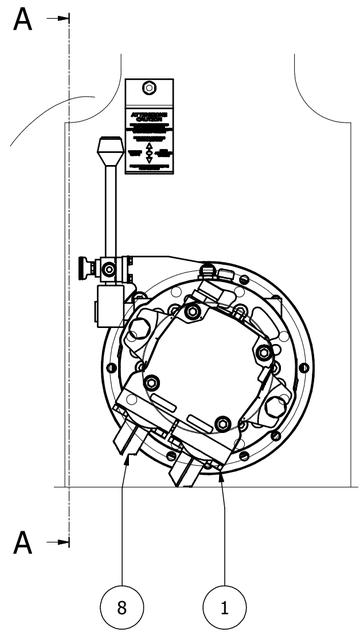

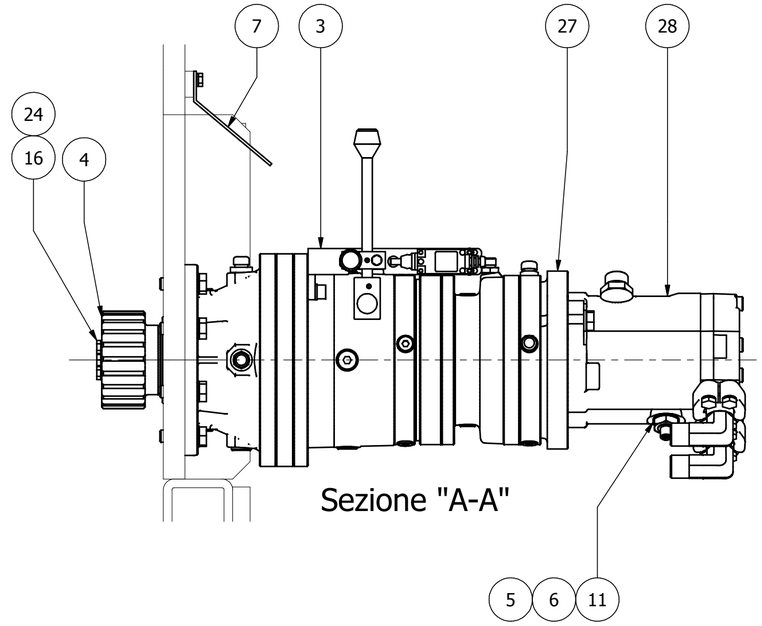

Sezione "A-A"

ITEM	CODE	DESCRIPTION	QTY	WEIGHT
30	V00-9040-027	OTTURATORE PISTONCINO A MOLLA - ELESA : GN 617-6-A-NI [] SHUTTER	1	0 kg
29	V00-8510-036	FINECORSA A PULSANTE CON ROTELLA - 1 N.A + 1 N.C - 5A-250 VAC [] LIMIT SWITCH	1	0.1 kg
28	V00-6050-024	MOTORE IDRAULICO 50CC - LINDE HMF 50 - 02 [] MOTOR	1	3.3 kg
27	V00-5702-024	RIDUTTORE RR 510 MS - R: 7 + CAMBIO - RFF 5/43 - SAE 'C' - FF. 12001 [] GEARBOX	1	84 kg
26	H88-1014-003	ROSETTA - UNI 1751 - A - 14 - Z [] WASHER	10	0 kg
25	H88-1010-002	ROSETTA - UNI 1751 - A - 10 - Z [] WASHER	2	0 kg
24	H88-1008-002	ROSETTA - UNI 1751 - A - 8 - Z [] WASHER	5	0 kg
23	H88-1006-002	ROSETTA - UNI 1751 - A - 6 - Z [] WASHER	1	0 kg
22	H88-1005-001	ROSETTA - UNI 1751 - A - 5 - Z [] WASHER	4	0 kg
21	H81-1005-001	ROSETTA - ISO 7089 - TE - 5 - 100 HV - Z [] WASHER	4	0 kg
20	H61-0005-012	VITE - UNI 5927 - M 5 x 12 45H (12.9) - GRANO ESTEMITÀ CONICA [] BOLT	2	0 kg
19	H56-1010-060	VITE - M 10 x 60 - ISO 4762 - 8.8 - Z [] BOLT	2	0.1 kg
18	H50-1014-045	VITE - M 14 x 45 - ISO 4017 - 8.8 - Z [] BOLT	8	0.1 kg
17	H50-1014-040	VITE - M 14 x 40 - ISO 4017 - 8.8 - Z [] BOLT	2	0.1 kg
16	H50-1008-025	VITE - M 8 x 25 - ISO 4017 - 8.8 - Z [] BOLT	4	0 kg
15	H50-1008-012	VITE - M 8 x 12 - ISO 4017 - 8.8 - Z [] BOLT	1	0 kg
14	H50-1006-030	VITE - ISO 4017 - M 6 x 30 - 8.8 - Z - TE - PG - I.FIL [] BOLT	1	0 kg
13	H50-1005-016	VITE - ISO 4017 - M 5 x 16 - 8.8 - Z - TE - PG - I.FIL [] BOLT	4	0 kg
12	F11-0003-003	RONDELLA RAME D. 1/4" x 3 [] WASHER	1	0 kg
11	F11-0001-023	RONDELLA - BONDED - M 22 Sp. 2 [] WASHER	2	0 kg
10	F04-0006-022	NIPPLO 3/4 " GAS - M22x1.5 [] NIPPLE	1	0.1 kg
9	F04-0001-003	NIPPLO - 1/4" GAS - 1/4" GAS [] NIPPLE	1	0 kg
8	F02-0049-008	RIDUZIONE 90° - 3/4" SAE 6000 FL - 3/4" GAS [] FITTING	2	0.4 kg
7	D99-90180	TARGA CAMBIO RIDUTTORE 3 x 55 x 150 [] PLATE	1	0.1 kg
6	D99-10057	NIPPLO FORATO - M 1/4" Gas - M22x1.5 - FORO M8 [] NIPPLE	1	0 kg
5	D99-10034	GRANO FORATO - M 8x12 - FORO ø1.5 [] DOWL	1	0 kg
4	D00-01813	PIGNONE D. 112.5 x 67 - Z= 21 - M= 5/3.75 [] SPROKET	1	2.6 kg
3	D00-00328	STAFFA CAMBIO RIDUTTORE 59 x 107.5 x 200 [] MOUNTING	1	0.5 kg
2	D00-00327	BLOCCHETTO CAMBIO RIDUTTORE 20 x 30 x 50 [] MANIFOLD	1	0.2 kg
1	A99-10061	ASSIEME SEMIFLANGIE SAE 6000 3/4" [] ASSEMBLY	2	0.5 kg

TESMEC
GRASSOBBIO (BG) Tel.035/4232911 – Fax 035/4522445
ENDINE G (BG) Tel.035/825024 – Fax 035/826375

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE.

SALDATURE IN ACCORDO CON – WPS 1±9

GRADO DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE

LAV.MECCANICHE UNI EN 22768–f H

CARPENTERIA UNI EN 22768–c K

VISTO	
DIS.	Foresti P.
DATA	28/09/2011
PESO	93,69 kg
SCALA	1:2.5

DENOMINAZIONE

ARGANO FRENO SINGOLO

AFS 303 310 - PULL 25 kN

ASSIEME MONTAGGIO RIDUTTORE

FOGLIO 1 / 1

NUMERO DISEGNO

A12-00016

A2

DATE	SYM	REVISION RECORD	DR	CK
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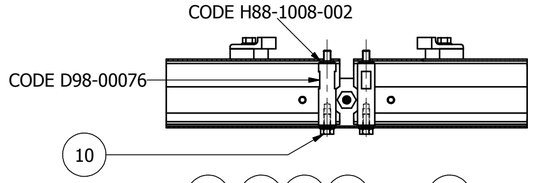
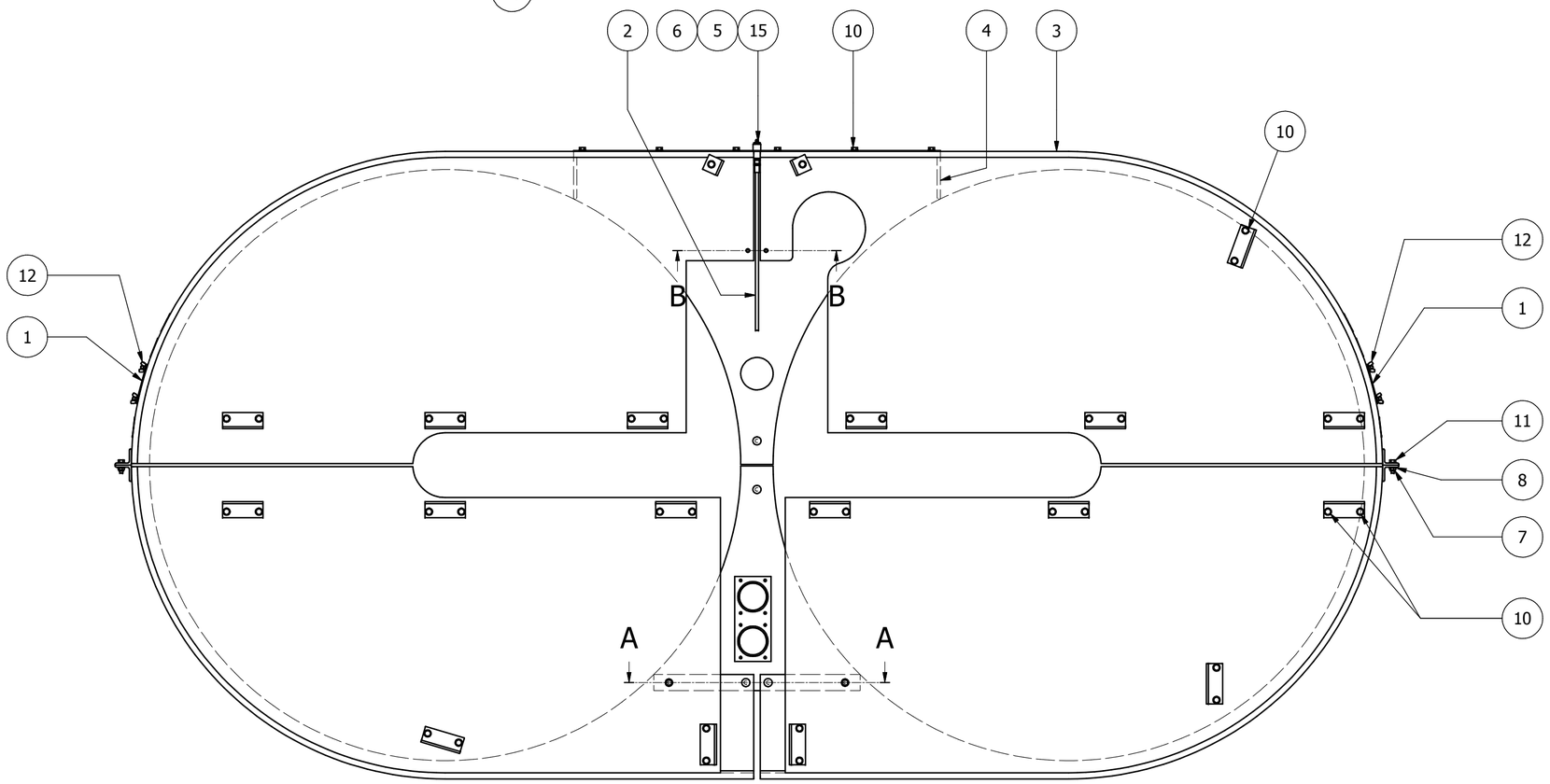
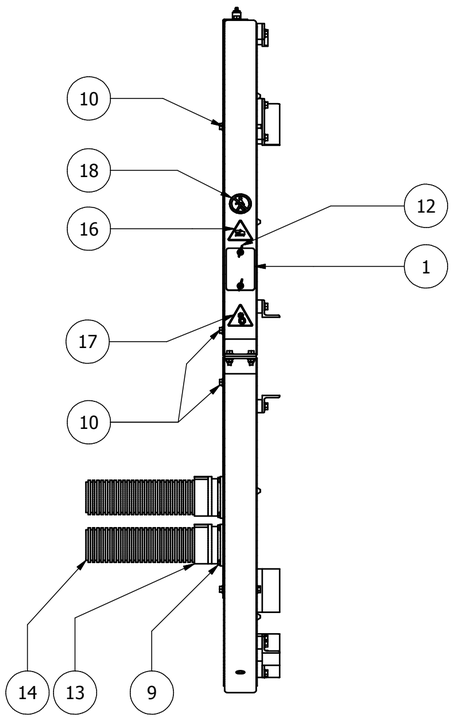
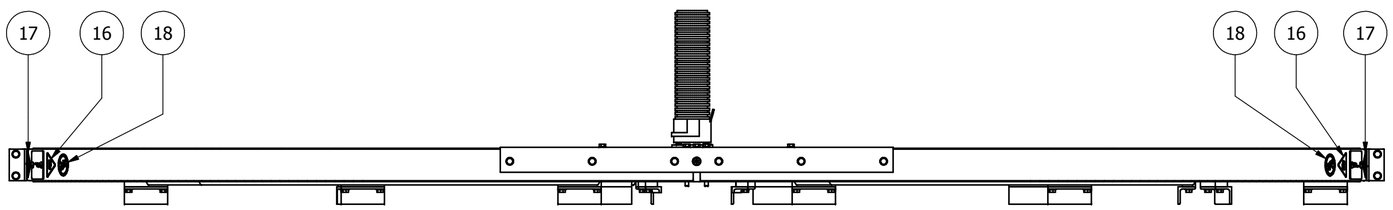
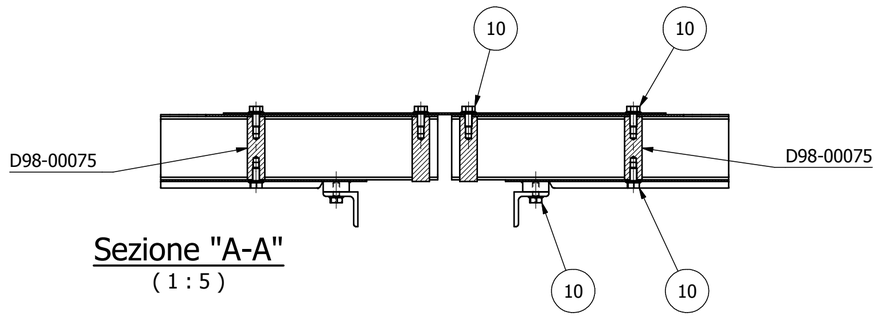


Sezione "B-B"
(1 : 5)









Sezione "A-A"
(1 : 5)

ITEM	CODE	DESCRIPTION	QTY	WEIGHT
18	V00-9800-021	ADESIVO D. 50 DIVIETO DI PASSAGGIO [] STICKER	2	0 kg
17	V00-9800-011	ADESIVO T. 60 ORGANI IN MOTO [] STICKER	2	0 kg
16	V00-9800-008	ADESIVO T. 60 ATTENZIONE SCHIACCIAMENTO [] STICKER	2	0 kg
15	V00-5303-007	INGRASSATORE UNI 7663 - A - DIRITTO G 1/4" [] GREASE FITTING	1	0 kg
14	V00-2231-059	TUBO CORRUGATO MULTI PA 6 ID70 NERO - D. 70 mm - FLEXA [] PIPE	2	1 kg
13	V00-2231-058	RACCORDO IN PLASTICA FLANGIATO - MULTI-GFP ID70 - NERO - IP 54 [] FITTING	2	0.1 kg
12	H99-8900-072	DADO - UNI 5448 - AM 6 4A - AD ALETTE [] NUT	4	0 kg
11	H99-8900-006	VITE 0274 08 25 - M 8 x 25 - 8 - Z - WURTH [] BOLT	4	0 kg
10	H99-8900-004	VITE 0274 08 16 - M 8 x 16 - 8 - Z - WURTH [] BOLT	52	0 kg
9	H99-8900-002	VITE 0274 06 16 - M 6 x 16 - 8 - Z - WURTH [] BOLT	8	0 kg
8	H81-1008-002	ROSETTA - ISO 7089 - TE - 8 - 100 HV - Z [] WASHER	4	0 kg
7	H77-1008-011	DADO - UNI 7473 - M 8 - GR. 8 - Z - AUTOB. [] LOCKNUT	4	0 kg
6	F99-0001-001	RACCORDO - 1/4" GAS M - TUBO D.8 mm - RASTELLI : TN 92 - 8 SR [] FITTING	1	0.1 kg
5	F11-0003-003	RONDELLA RAME D. 1/4" x 3 [] WASHER	1	0 kg
4	D00-01817	CARTER PIGNONE 57 x 906 x 1334 [] CASE	1	8 kg
3	D00-01816	CARTER CORONE 77 x 1550 x 3170 [] CASE	1	95.7 kg
2	D00-00309	TUBO D. 8 x 1 x lg. 400 [] PIPE	1	0.1 kg
1	D00-00097	COPERCHIO SPIA ISPEZIONE 2 x 65 x 100 [] COVER	2	0 kg

TESMEC
GRASSOBBIO (BG) Tel.035/4232911 – Fax 035/4522445
ENDINE G (BG) Tel.035/825024 – Fax 035/826375

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE.

SALDATURE IN ACCORDO CON – WPS 1÷9

GRADO DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE

LAV.MECCANICHE UNI EN 22768–f H

CARPENTERIA UNI EN 22768–c K

DIS. VISTO: Foresti P.

DATA: 26/09/2011

PESO: 105,71 kg

SCALA: 1:10

DENOMINAZIONE:

ARGANO FRENO SINGOLO

AFS 303 300 - PULL 25 kN

ASSIEME COPERTURE

FOGLIO 1 / 1

NUMERO DISEGNO A13-00005

A2

DATE	SYM	REVISION RECORD	DR	CK
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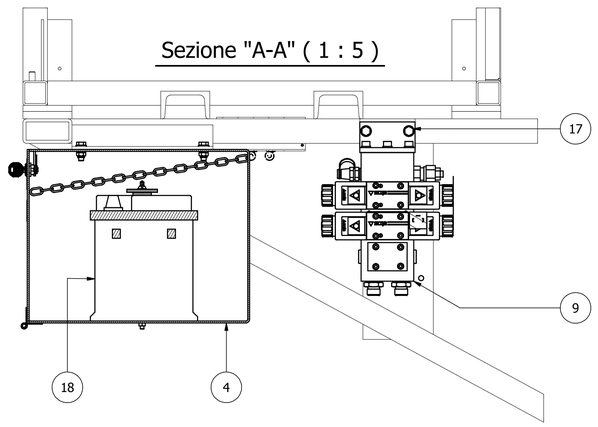
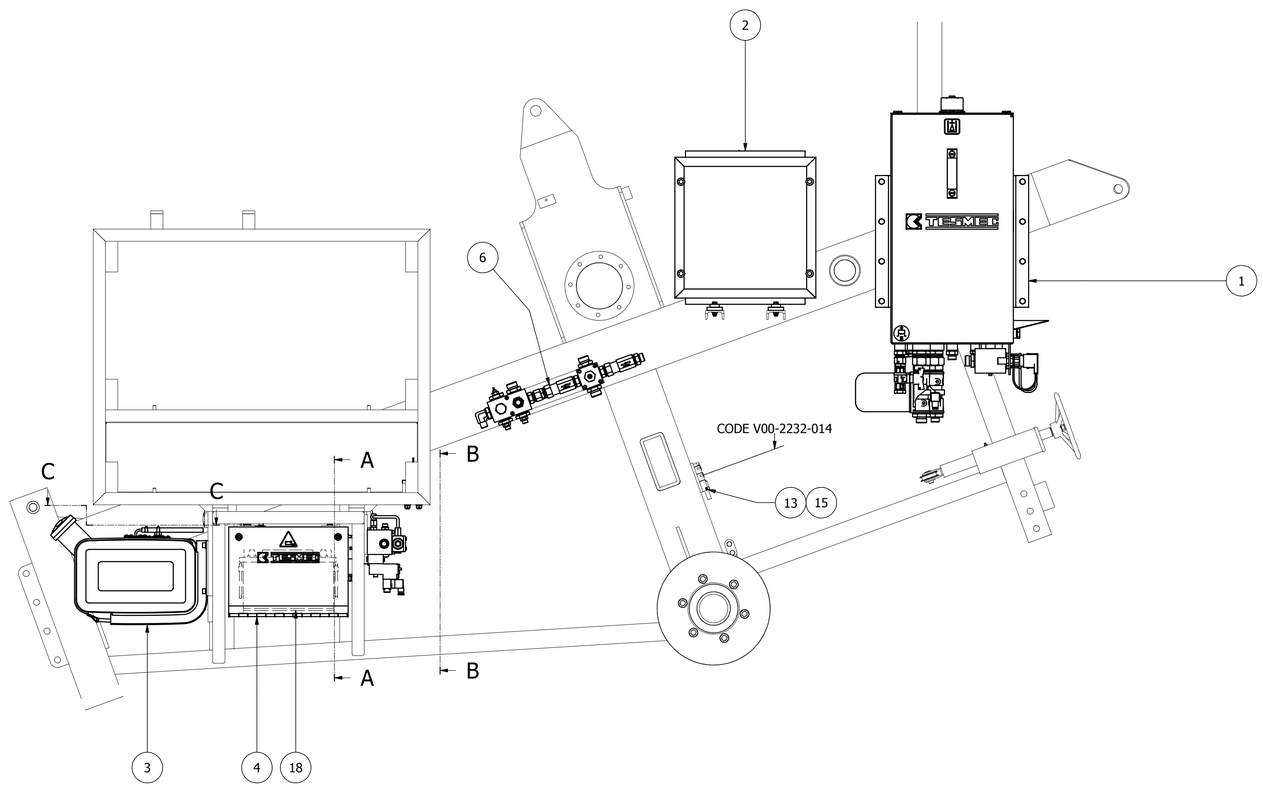
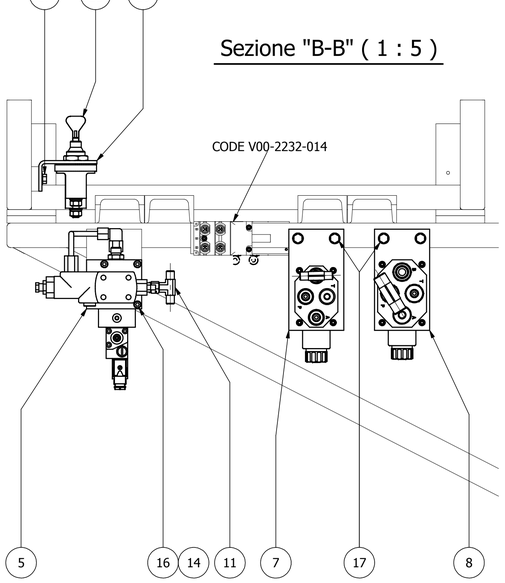
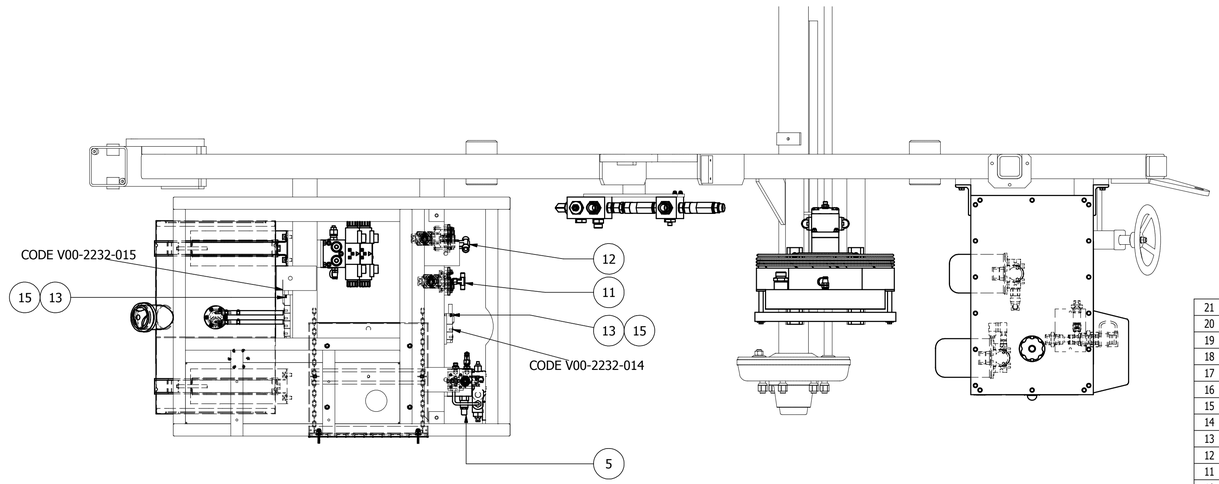
Sezione "A-A" (1 : 5)

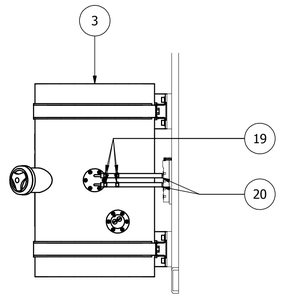




Sezione "B-B" (1 : 5)







Sezione "C-C" (1 : 10)

ITEM	CODE	DESCRIPTION	QTY	WEIGHT
21	V00-8401-038	INTERRUTTORE STACCABATTERIA - 12-24 V - 250 A - IP 65 - COBO : 13.007.000.01 [] SWITCH	1	0.3 kg
20	V00-7150-024	TUBO GASOLIO D. 14 / 6 CARBOPRES NL20 - LANZAGOMMA [] PIPE	2	0 kg
19	V00-7050-042	FASCETTA SERRATUBO D. 12 / 20 - ABA : 9751 [] CLAMP	4	0 kg
18	V00-1500-003	BATTERIA 100 Ah 12 V - EN 760 A -B.325-L.175-H POLI 205-EXIDE:600/0 [] BATTERY	1	9.7 kg
17	H99-8900-004	VITE 0274 08 16 - M 8 x 16 - 8 - Z - WURTH [] BOLT	8	0 kg
16	H88-1006-002	ROSETTA - UNI 1751 - A - 6 - Z [] WASHER	3	0 kg
15	H88-1004-001	ROSETTA - UNI 1751 - A - 4 - Z [] WASHER	9	0 kg
14	H56-1006-090	VITE - M 6 x 90 - ISO 4762 - 8.8 - Z [] BOLT	3	0 kg
13	H56-1004-020	VITE - M 4 x 20 - ISO 4762 - 8.8 - Z [] BOLT	9	0 kg
12	F05-0019-006	RACCORDO A T - 1/2" GAS - M - F GIREVOLE - M [] FITTING	1	0.3 kg
11	F05-0019-003	RACCORDO A T - 1/4" GAS - M - F GIREVOLE - M [] FITTING	2	0.1 kg
10	D00-00129	SUPPORTO STACCABATTERIE 50 x 70 x 95 [] SUPPORT	1	0.1 kg
9	A99-10373	ASSIEME BASE MULTIPLA CETOP 03 (3) V00-7200-016 - N°1 EV-V00-6100-206 - N°1 EV-V00-6100-207 - N°1 PIASTRA CHIUSURA [] ASSEMBLY	1	14 kg
8	A99-10372	ASSIEME PIASTRA - BA 302 - ELETTRO-VALVOLA V00-6100-211 - PORTAPIASTRA D99-10027 [] ASSEMBLY	1	5.2 kg
7	A99-10371	ASSIEME PIASTRA - BA 202 - ELETTRO-VALVOLA V00-6100-212 - PORTAPIASTRA D99-10033 [] ASSEMBLY	1	3.6 kg
6	A99-10140	ASSIEME BLOCCHETTO - D99-10002 - D99-10094 - IN - OUT RADIATORE OLIO [] ASSEMBLY	1	6.7 kg
5	A99-10006	ASSIEME BLOCCO REGOLAZIONE TIRO - CON VALVOLA HAWE PMVP4-43/12 [] ASSEMBLY	1	7 kg
4	A26-00003	ASSIEME CASSETTA 1 BATTERIA - Larg.390 - Prof.360 - Alt.283 [] ASSEMBLY	1	17.9 kg
3	A14-00024	ASSIEME SERBATOIO CARBURANTE 50 L - Pescante Recupero ø6x1 [] ASSEMBLY	1	22.3 kg
2	A14-00023	ASSIEME RADIATORE OLIO x AFS 303 300 [] ASSEMBLY	1	34.2 kg
1	A14-00022	ASSIEME SERBATOIO OLIO x AFS 303 300 [] ASSEMBLY	1	96.4 kg

TESMEC
GRASSOBBIO (BG) Tel.035/4232911 – Fax 035/4522445
EDINE G (BG) Tel.035/825024 – Fax 035/826375

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE.

SALDATURE IN ACCORDO CON – WPS 1÷9

GRADO DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE

LAV.MECCANICHE UNI EN 22768-f H

CARPENTERIA UNI EN 22768-c K

DIS. VISTO	
DATA	Foresti P.
	30/06/2014
PESO	217,98 kg
SCALA	1.10

DENOMINAZIONE

ARGANO FRENO SINGOLO

AFS 303 320 - PULL 25 kN

ASSIEME ALIMENTAZIONE .

FOGLIO 1 / 1

NUMERO DISEGNO A14-00042

A1

DATE	SYM	REVISION RECORD	DR	CK
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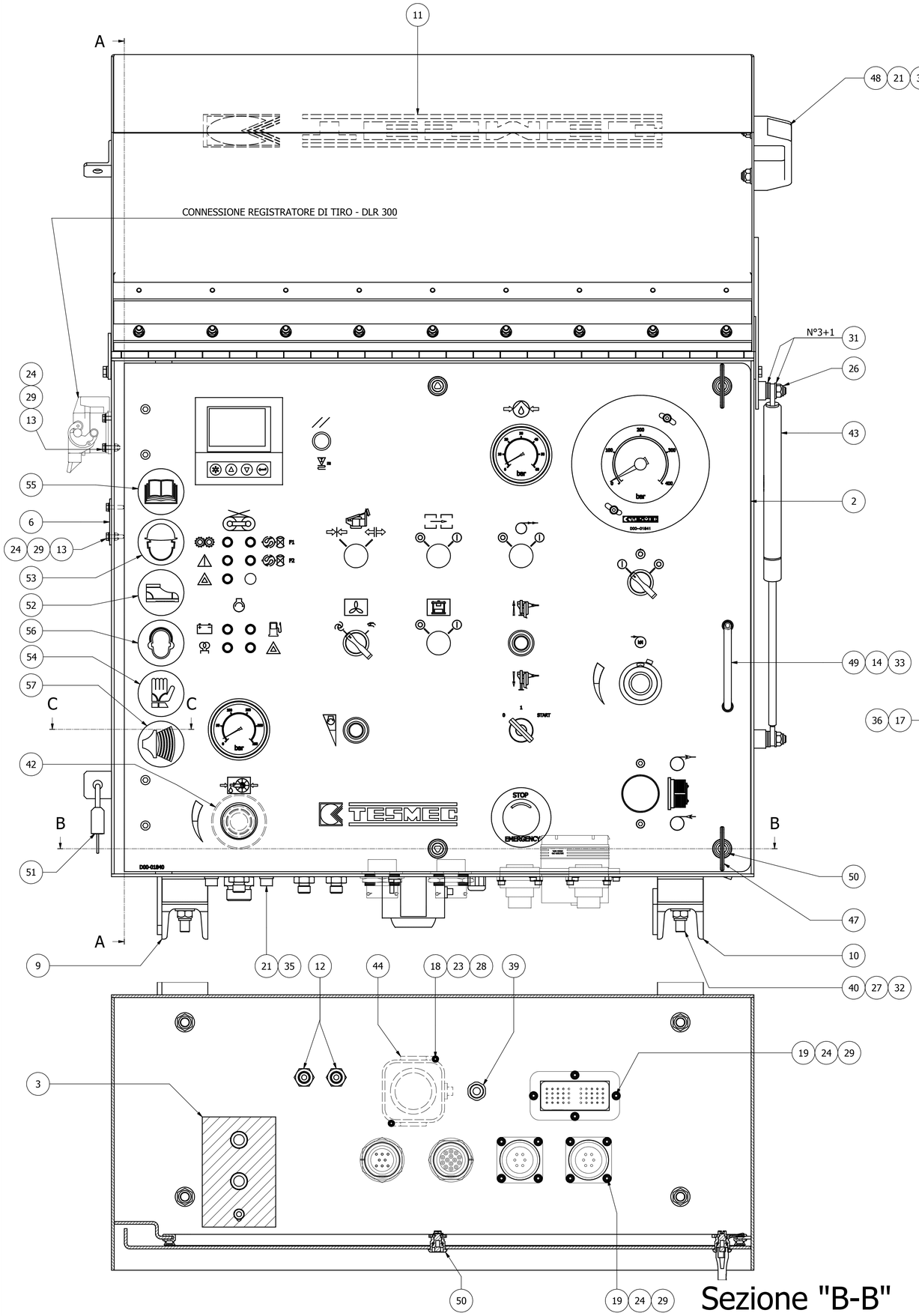
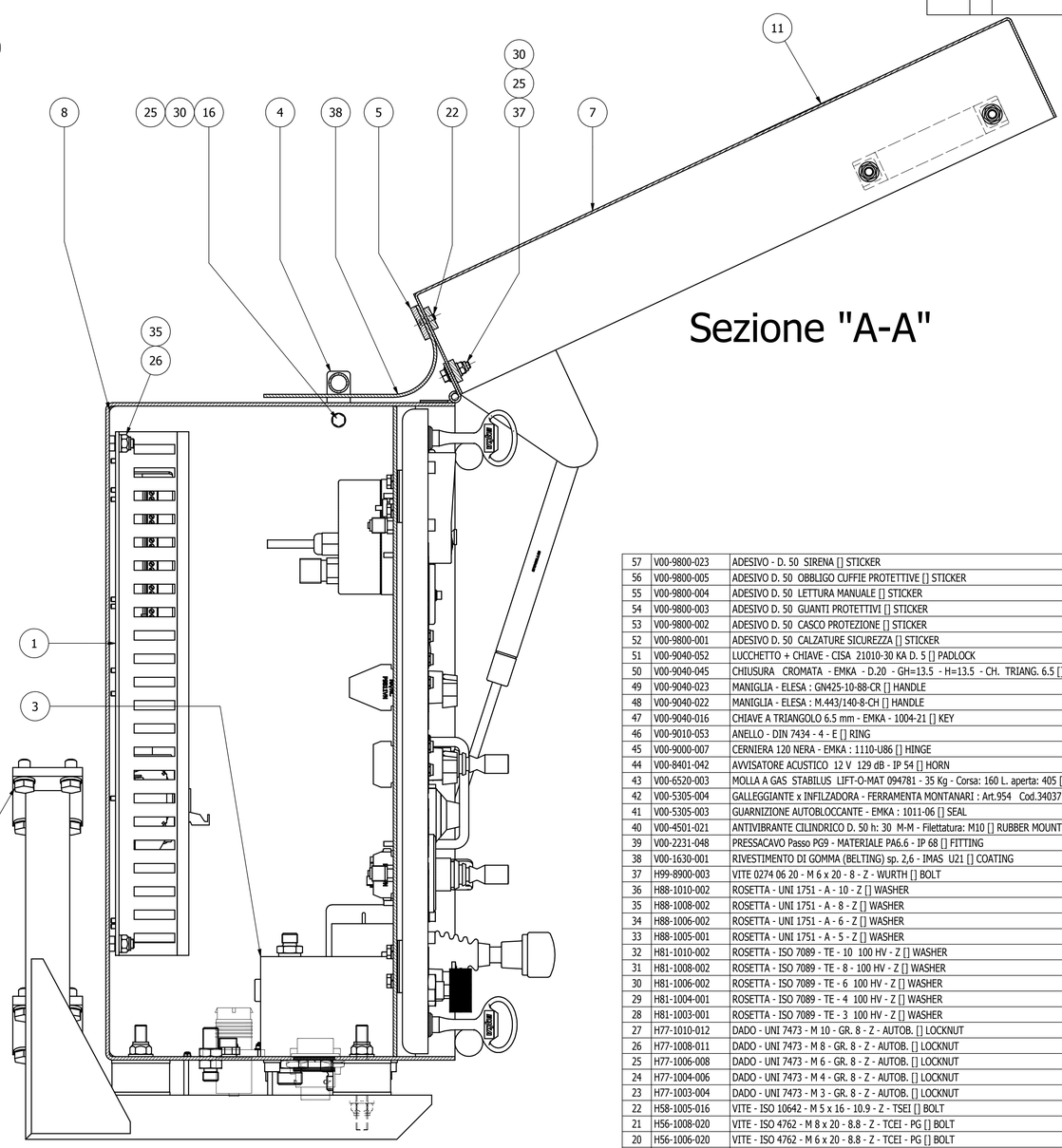
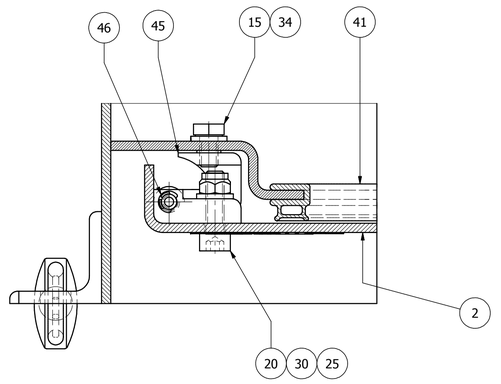


Sezione "B-B"



Sezione "A-A"



Sezione "C-C"

ITEM	CODE	DESCRIPTION	QTY	WEIGHT
57	V00-9800-023	ADESIVO - D. 50 SIRENA [] STICKER	1	0 kg
56	V00-9800-005	ADESIVO D. 50 OBBLIGO CUFFIE PROTETTIVE [] STICKER	1	0 kg
55	V00-9800-004	ADESIVO D. 50 LETTURA MANUALE [] STICKER	1	0 kg
54	V00-9800-003	ADESIVO D. 50 GUANTI PROTETTIVI [] STICKER	1	0 kg
53	V00-9800-002	ADESIVO D. 50 CASCO PROTEZIONE [] STICKER	1	0 kg
52	V00-9800-001	ADESIVO D. 50 CALZATURE SICUREZZA [] STICKER	1	0 kg
51	V00-9040-052	LUCCHETTO + CHIAVE - CISA 21010-30 KA D. 5 [] PADLOCK	1	0.1 kg
50	V00-9040-045	CHIUSURA CROMATA - EMKA - D.20 - GH=13.5 - H=13.5 - CH. TRIANG. 6.5 [] LOCKING	4	0 kg
49	V00-9040-023	MANIGLIA - ELESA : GN425-10-88-CR [] HANDLE	1	0.1 kg
48	V00-9040-022	MANIGLIA - ELESA : M.443/140-8-CH [] HANDLE	1	0 kg
47	V00-9040-016	CHIAVE A TRIANGOLO 6.5 mm - EMKA - 1004-21 [] KEY	2	0 kg
46	V00-9010-053	ANELLO - DIN 7434 - 4 - E [] RING	2	0 kg
45	V00-9000-007	CERNIERA 120 NERA - EMKA : 1110-U86 [] HINGE	2	0.1 kg
44	V00-8401-042	AVVISATORE ACUSTICO 12 V 129 dB - IP 54 [] HORN	1	0.2 kg
43	V00-6520-003	MOLLA A GAS STABILUS LIFT-O-MAT 094781 - 35 Kg - Corsa: 160 L. aperta: 405 [] SPRING	1	0.1 kg
42	V00-5305-004	GALLEGGIANTE x INFILZADORA - FERRAMENTA MONTANARI : Art.954 Cod.34037 [] FLOAT	1	0 kg
41	V00-5305-003	GUARNIZIONE AUTOBLOCCANTE - EMKA : 1011-06 [] SEAL	2.3	0.2 kg
40	V00-4501-021	ANTIVIBRANTE CILINDRICO D. 50 h: 30 M-M - Filettatura: M10 [] RUBBER MOUNT	4	0.2 kg
39	V00-2231-048	PRESSACAVO Passo PG9 - MATERIALE PA6.6 - IP 68 [] FITTING	1	0 kg
38	V00-1630-001	RIVESTIMENTO DI GOMMA (BELTING) sp. 2,6 - IMAS U21 [] COATING	1	0.4 kg
37	H99-8900-003	VITE 0274 06 20 - M 6 x 20 - 8 - Z - WURTH [] BOLT	9	0 kg
36	H88-1010-002	ROSETTA - UNI 1751 - A - 10 - Z [] WASHER	8	0 kg
35	H88-1008-002	ROSETTA - UNI 1751 - A - 8 - Z [] WASHER	8	0 kg
34	H88-1006-002	ROSETTA - UNI 1751 - A - 6 - Z [] WASHER	4	0 kg
33	H88-1005-001	ROSETTA - UNI 1751 - A - 5 - Z [] WASHER	2	0 kg
32	H81-1010-002	ROSETTA - ISO 7089 - TE - 10 100 HV - Z [] WASHER	8	0 kg
31	H81-1008-002	ROSETTA - ISO 7089 - TE - 8 - 100 HV - Z [] WASHER	10	0 kg
30	H81-1006-002	ROSETTA - ISO 7089 - TE - 6 100 HV - Z [] WASHER	17	0 kg
29	H81-1004-001	ROSETTA - ISO 7089 - TE - 4 100 HV - Z [] WASHER	40	0 kg
28	H81-1003-001	ROSETTA - ISO 7089 - TE - 3 100 HV - Z [] WASHER	2	0 kg
27	H77-1010-012	DADO - UNI 7473 - M 10 - GR. 8 - Z - AUTOB. [] LOCKNUT	8	0 kg
26	H77-1008-011	DADO - UNI 7473 - M 8 - GR. 8 - Z - AUTOB. [] LOCKNUT	8	0 kg
25	H77-1006-008	DADO - UNI 7473 - M 6 - GR. 8 - Z - AUTOB. [] LOCKNUT	15	0 kg
24	H77-1004-006	DADO - UNI 7473 - M 4 - GR. 8 - Z - AUTOB. [] LOCKNUT	20	0 kg
23	H77-1003-004	DADO - UNI 7473 - M 3 - GR. 8 - Z - AUTOB. [] LOCKNUT	2	0 kg
22	H58-1005-016	VITE - ISO 10642 - M 5 x 16 - 10.9 - Z - TSEI [] BOLT	9	0 kg
21	H56-1008-020	VITE - ISO 4762 - M 8 x 20 - 8.8 - Z - TCEI - PG [] BOLT	6	0 kg
20	H56-1006-020	VITE - ISO 4762 - M 6 x 20 - 8.8 - Z - TCEI - PG [] BOLT	4	0 kg
19	H56-1004-016	VITE - ISO 4762 - M 4 x 16 - 8.8 - Z - TCEI - PG [] BOLT	12	0 kg
18	H56-1003-010	VITE - ISO 4762 - M 3 x 10 - 8.8 - Z - TCEI - PG [] BOLT	2	0 kg
17	H50-1010-020	VITE - M 10 x 20 - ISO 4017 - 8.8 - Z [] BOLT	8	0 kg
16	H50-1006-020	VITE - ISO 4017 - M 6 x 20 - 8.8 - Z [] BOLT	2	0 kg
15	H50-1006-010	VITE-ISO 4017-M6x10-8.8-Z [] BOLT	4	0 kg
14	H50-1005-012	VITE-ISO 4017-M5x12-8.8-Z [] BOLT	2	0 kg
13	H50-1004-016	VITE - M 4 x 16 - ISO 4017 - 8.8 - Z [] BOLT	8	0 kg
12	F14-0001-003	PASSAPARETE DIRITTO 1/4" GAS - 1/4" GAS [] BULKHEAD CLASS	2	0 kg
11	E10-9800-108	TARGA ADESIVA CANTAMESSA TESMEC L500 [] PLATE	1	0 kg
10	D00-00469	SUPPORTO CRUSCOTTO 118 x 123 x 360 [] SUPPORT	1	2.7 kg
9	D00-00468	SUPPORTO CRUSCOTTO 118 x 320 x 360 [] SUPPORT	1	4 kg
8	D00-00466	CRUSCOTTO 300 x 575 x 700 - AFS 404 600 [] PANEL	1	29.1 kg
7	D00-00446	COPERCHIO CRUSCOTTO 195 x 565 x 730 [] COVER	1	11.4 kg
6	D00-00114	PIASTRA CHIUSURA 2 x 50 x 120 [] PLATE	1	0.1 kg
5	D00-00111	FERMO PROTEZIONE BELTING - Allum. - 5 x 30 x 700 [] RETAINER	1	0.3 kg
4	D00-00110	FERMO CERATA BELTING 20 x 50 x 706.5 [] RETAINER	1	0.5 kg
3	A99-10147	ASSIEME BLOCCHETTO CRUSCOTTO - D99-10003 [] ASSEMBLY	1	2.8 kg
2	A15-00040	ASSIEME PANNELLO STRUMENTI x AFS 303 300 [] ASSEMBLY	1	8.2 kg
1	A15-00024	ASSIEME PIASTRA P/COMPONENTI x AFS 303 300 [] ASSEMBLY	1	9.6 kg

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ENDINE G (BG) Tel.035/825024 – Fax 035/826375

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE.

SALDATURE IN ACCORDO CON — WPS 1÷9

GRADO DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE
LAV.MECCANICHE UNI EN 22768-f H
CARPENTERIA UNI EN 22768-c K

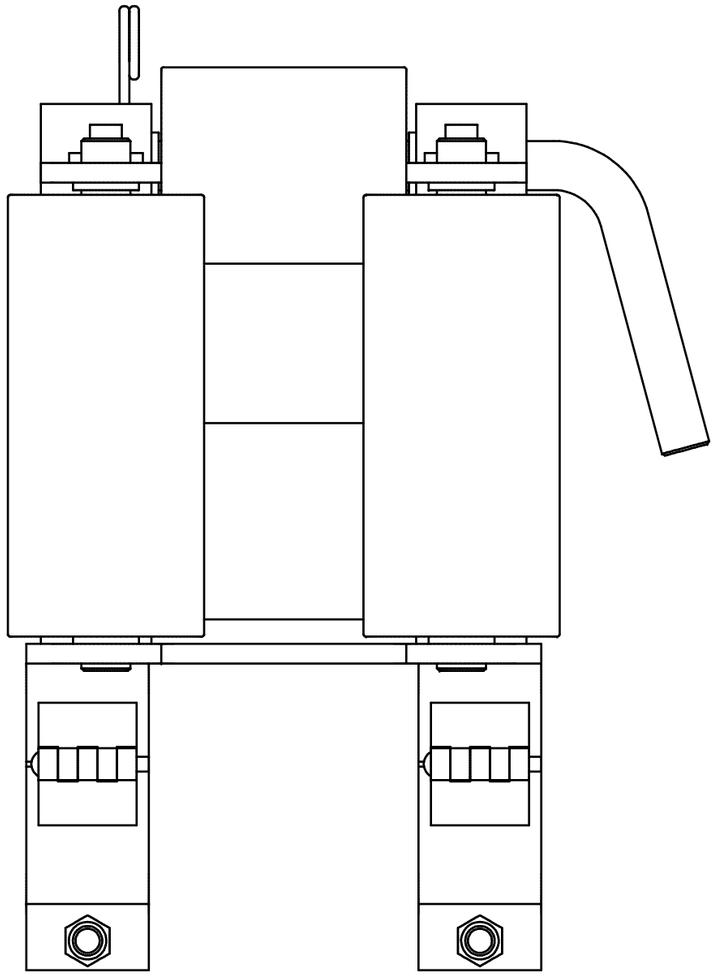
DISEGNATO: Foresti P.
DATA: 29/09/2011
PESO: 71,88 kg
SCALA: 1:2.5

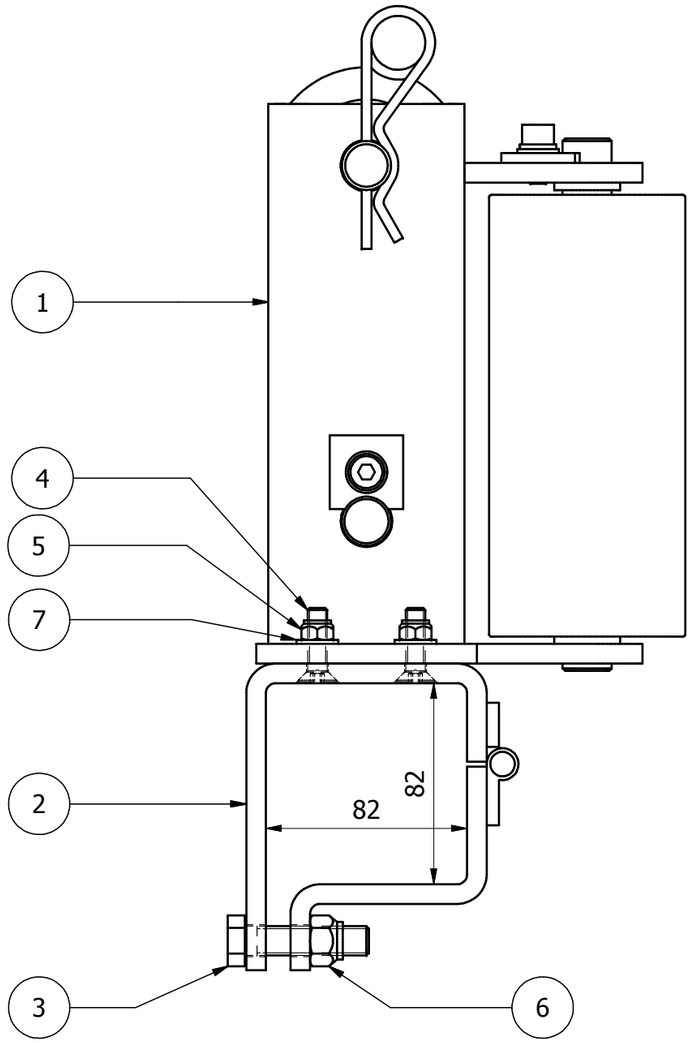
DENOMINAZIONE:
ARGANO FRENO SINGOLO
AFS 303 300
ASSIEME MOMTAGGIO CRUSCOTTO

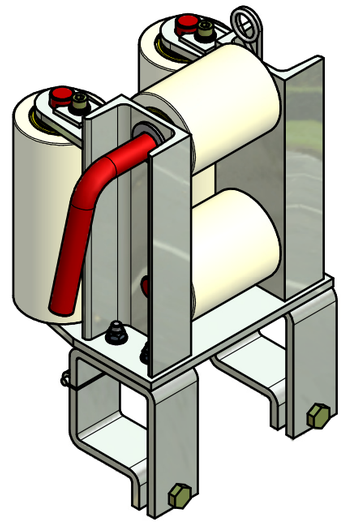
FOGLIO 1 /1
NUMERO DISEGNO A15-00023

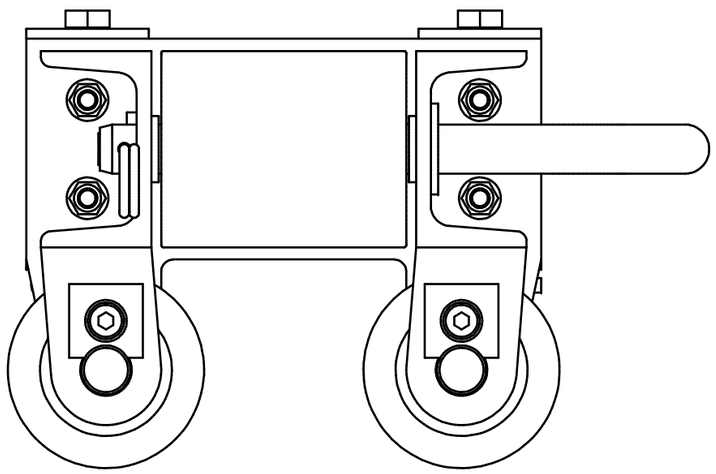
A1

DATE	SYM	REVISION RECORD	DR	CK
				·
				·
				·









ITEM	CODE	DESCRIPTION	QTY	WEIGHT
7	H81-1008-002	ROSETTA - ISO 7089 - TE - 8 - 100 HV - Z [] WASHER	4	0 kg
5	H77-1008-011	DADO - UNI 7473 - M 8 - GR. 8 - Z - AUTOB. [] LOCKNUT	4	0 kg
4	H58-1008-030	VITE - M 8 x 30 - ISO 10642 - 10.9 - Z - TSEI [] BOLT	4	0 kg
6	H77-1012-015	DADO - UNI 7473 - M 12 - GR. 8 - Z - AUTOB. [] LOCKNUT	2	0 kg
3	H50-1012-050	VITE - M 12 x 50 - ISO 4017 - 8.8 - Z [] BOLT	2	0.1 kg
2	D00-02445	COLLARE SUPPORTO RULLI 50 x 98 x 125 [] CLAMP	2	1.3 kg
1	A17-00027	ASSIEME RULLIERA SINGOLA - NYLON [] ASSEMBLY	1	11.2 kg

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ENDINE G (BG) Tel.035/825024 – Fax 035/826375

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE.

SALDATURE IN ACCORDO CON – WPS 1÷9

GRADO DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE

LAV.MECCANICHE UNI EN 22768–f H

CARPENTERIA UNI EN 22768–c K

VISTO

DIS. Foresti P.

DATA 12/10/2012

PESO 14.04 kg

SCALA

DENOMINAZIONE

ARGANI FRENI - FRENI

VARI - ASSIEME

RULLIERA SINGOLA NYLON QUADRO 80

FOGLIO 1 / 1

NUMERO DISEGNO A17-00029

Table Of the board

Nominal Tension : Vn =

Frequency : f =

Powers, Currents, Protections And Type Lines Feeding :

Reference Line	*Origin Protection Line*	*Powers And Currents Line*	*Notes*
+1	-F1		
+2	-F2		
+3	-F3		
+4	-F4		
+5	-F5		
+6	-F6		
+7	-F7		
+8	-F8		
+9	-F9		
+10	-F10		
+11	-F11		
+12	-F12		

Structure oF the Board :

Minimal Degree oF the Protection :

Notes:

10			
09			
08			
07			
06			
05			
04			
03			
02			
01			
REV	REVIEW	DATE	SIGN

SERIES :

WORKING ORDER : S01-00013

CUSTOMER : AFS 303 300

	DATE	SIGNATURE
DRAFTSMAN	25/03/2011	Facoetti
VERIFIED		
APPROVED		Ing. Oscar
LOG. PROD.		

TESMEC

AFS 303 300

PRESETTINGS :

☐ ... ...
☐ ... ...
☐ ... ...
☐ ... ...
☐ ... ...
☐ ... ...

EQUIPMENT :

☐ ... ...
☐ ... ...
☐ ... ...
☐ ... ...
☐ ... ...
☐ ... ...

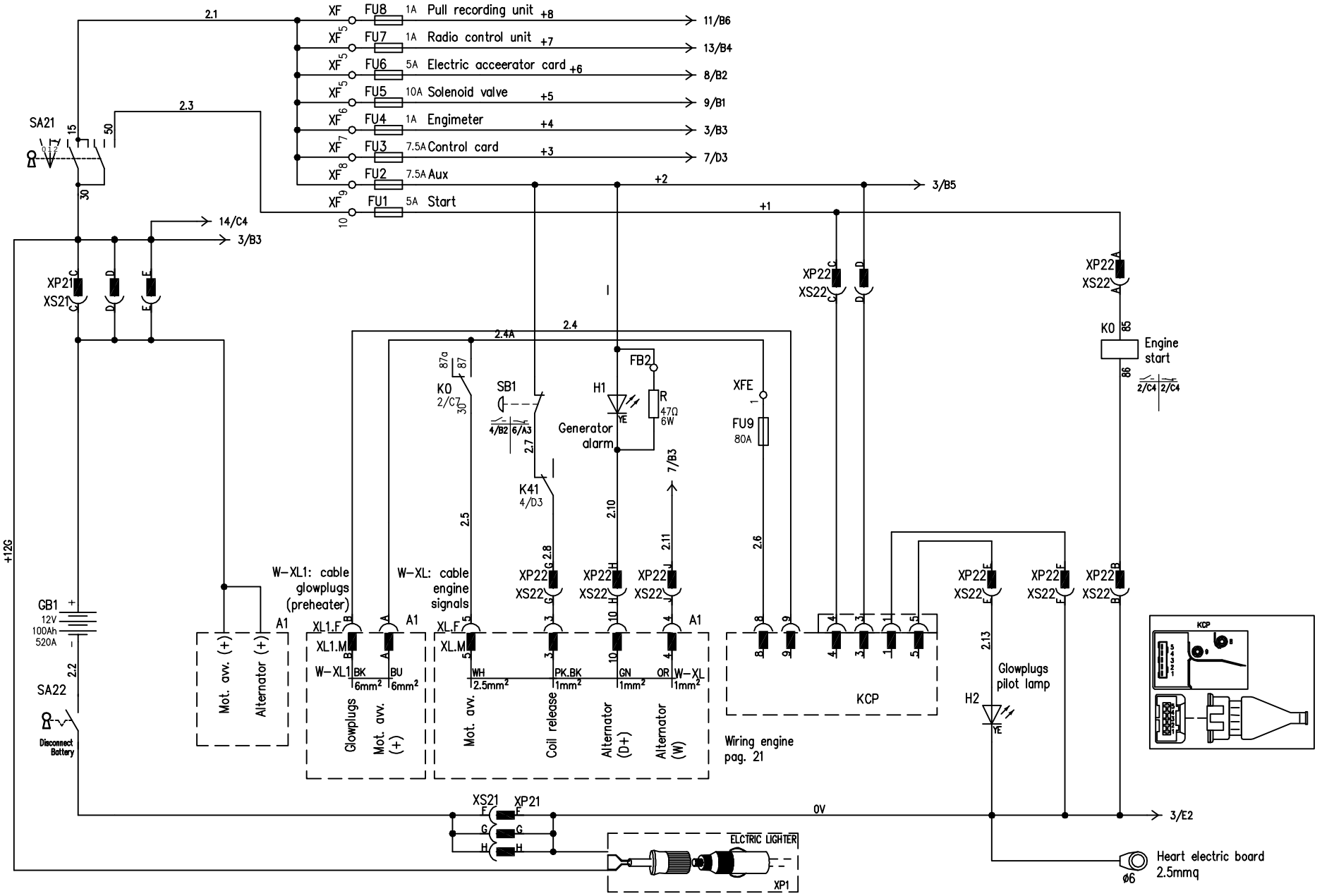
ARCHIVES FILES:

\\ TESMEC5 \ EGPSchemiElettrici \
\\ TESMEC5 \ TES.PLOT \ 40000 \

S01-00013.DWG

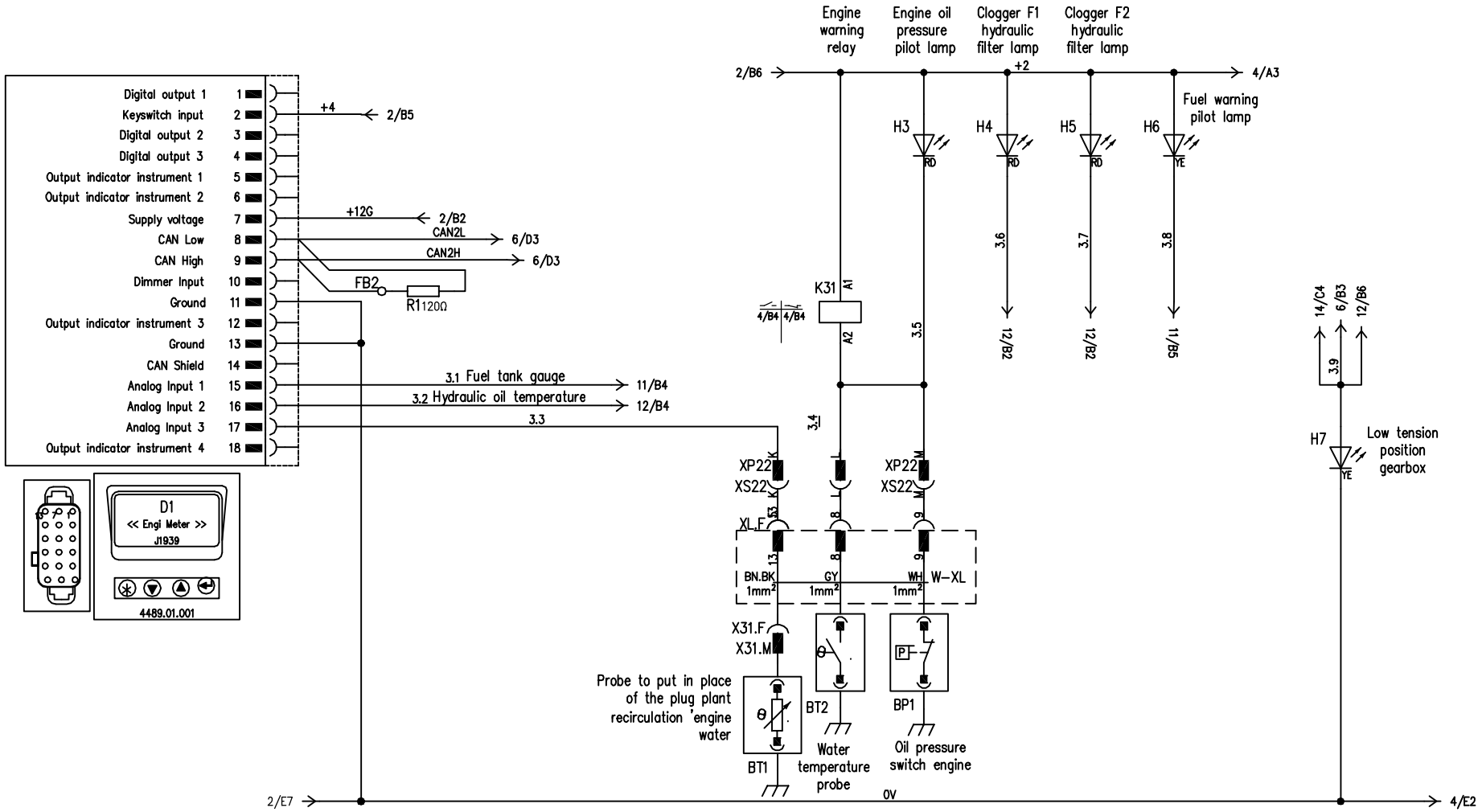
SHEET 1

TOTAL SHEET 31



Grassobbio BG via Zanica, 17/o – Italy – Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	ENGINE INTERFACE	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011



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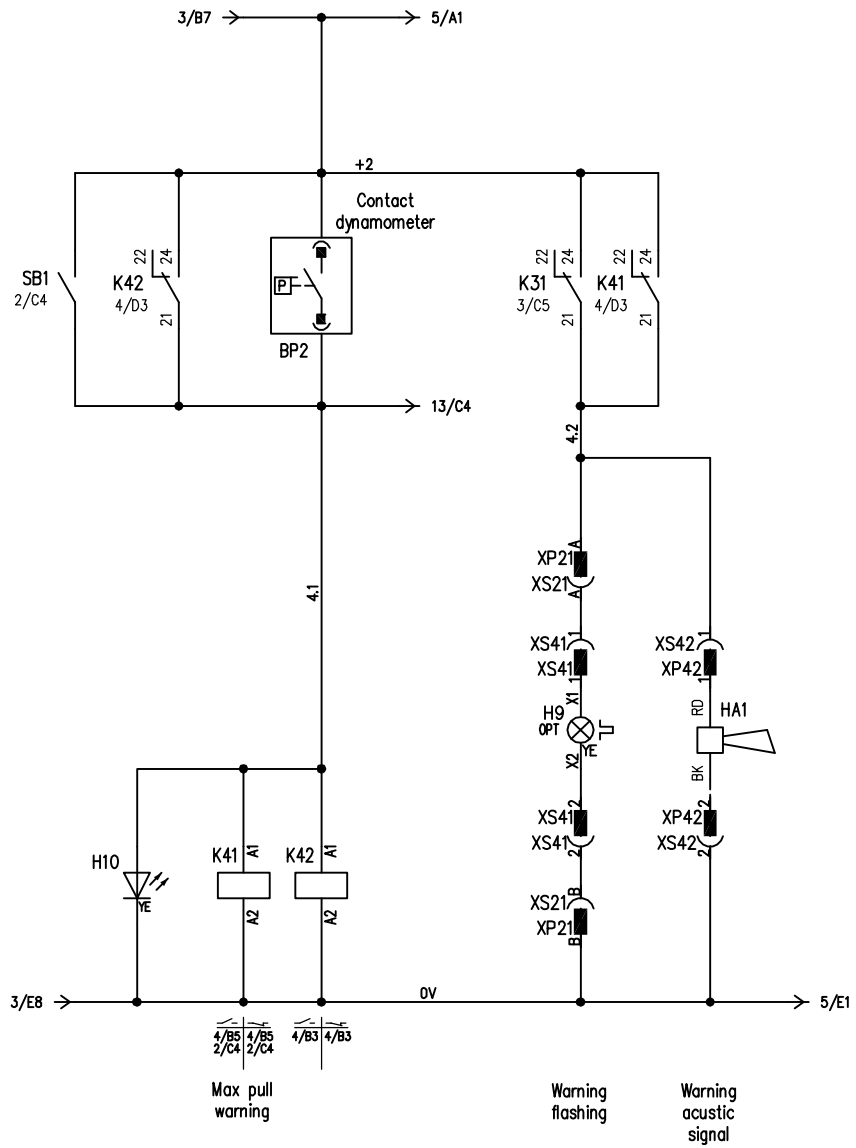
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	ENGINE INTERFACE	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 3 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 4



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Grassobbio BG via Zanica, 17/o – Italy – Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme

ALARM

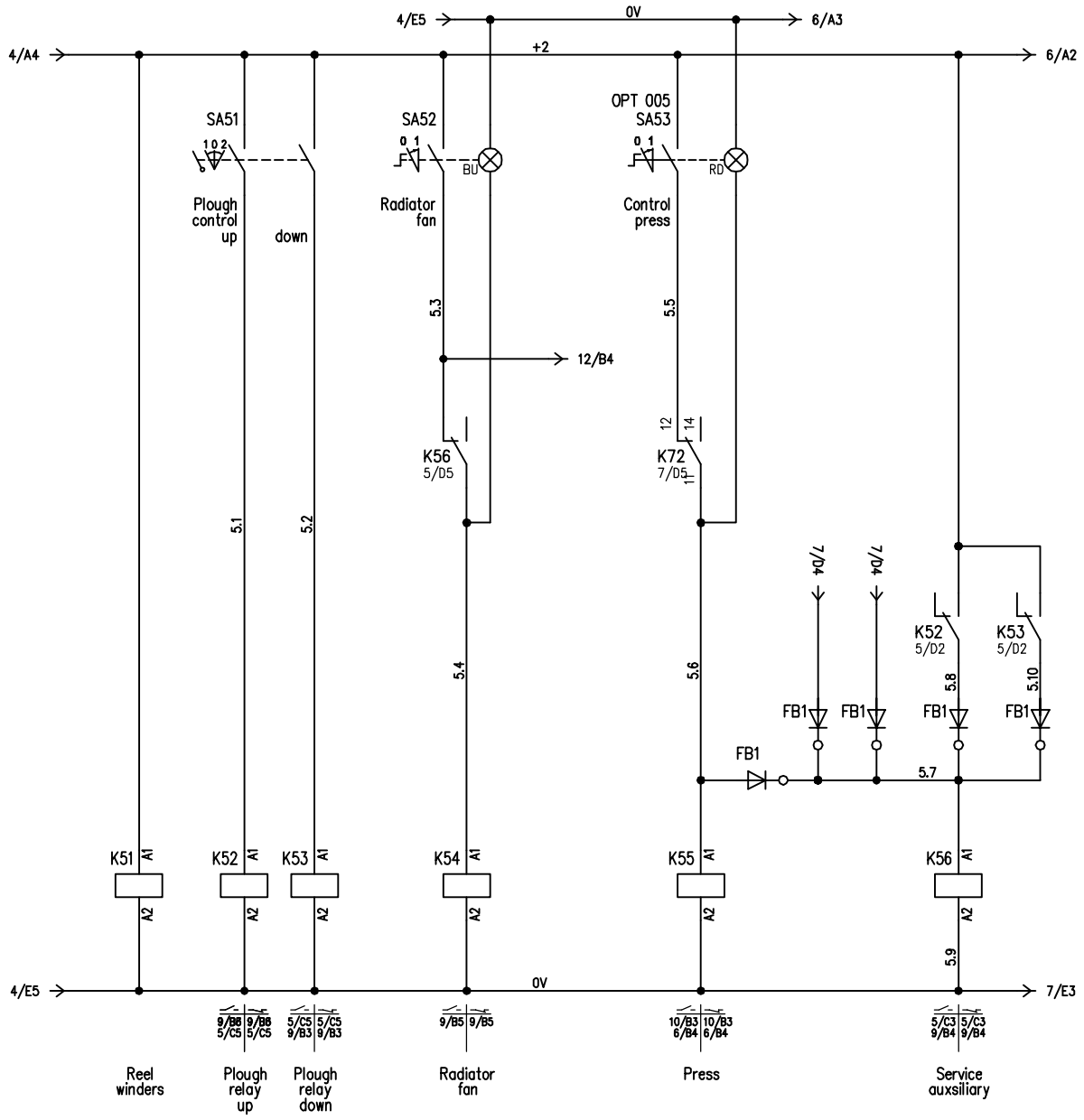
Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01–00013
Archive Nr. S01

Date: 18/03/2011



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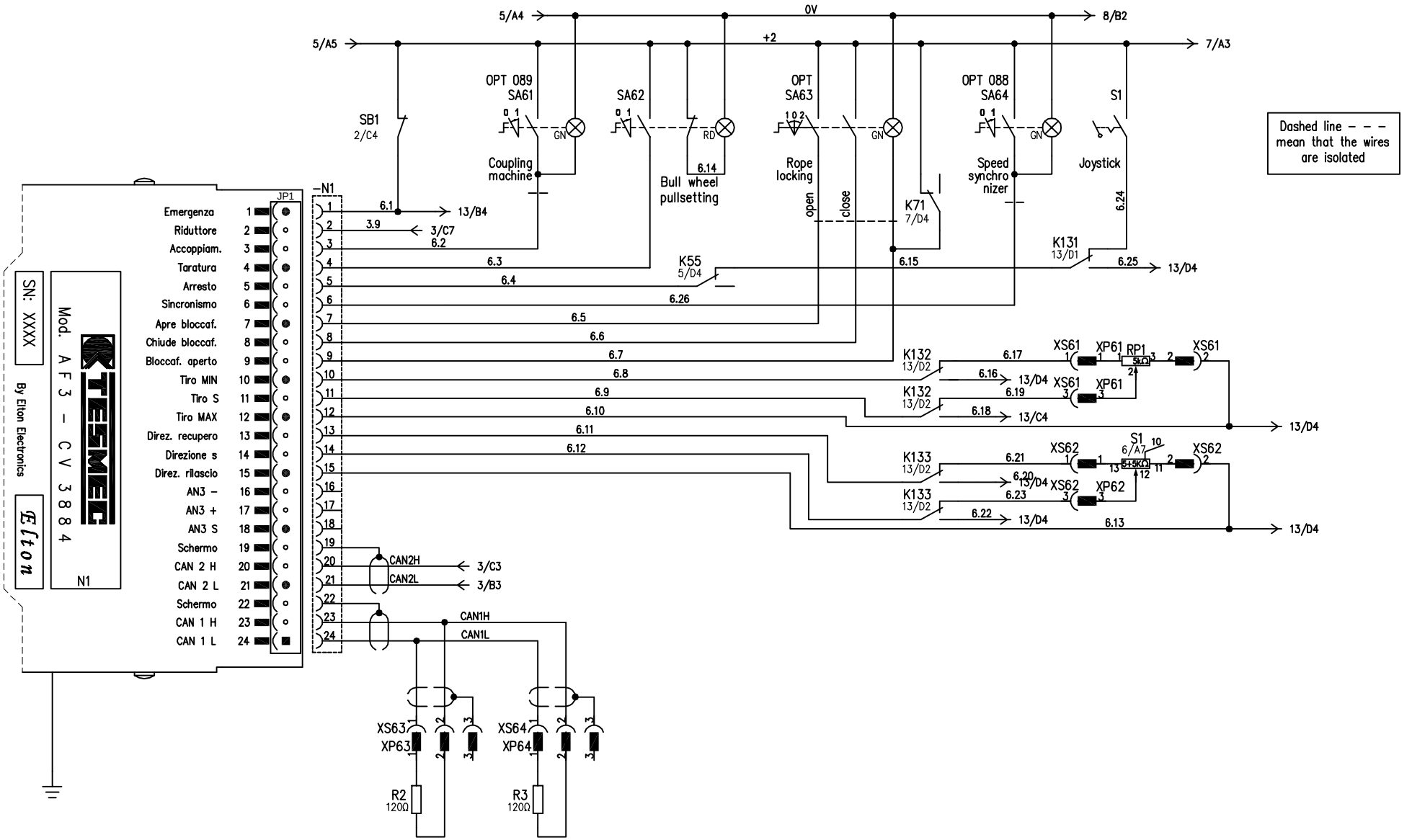
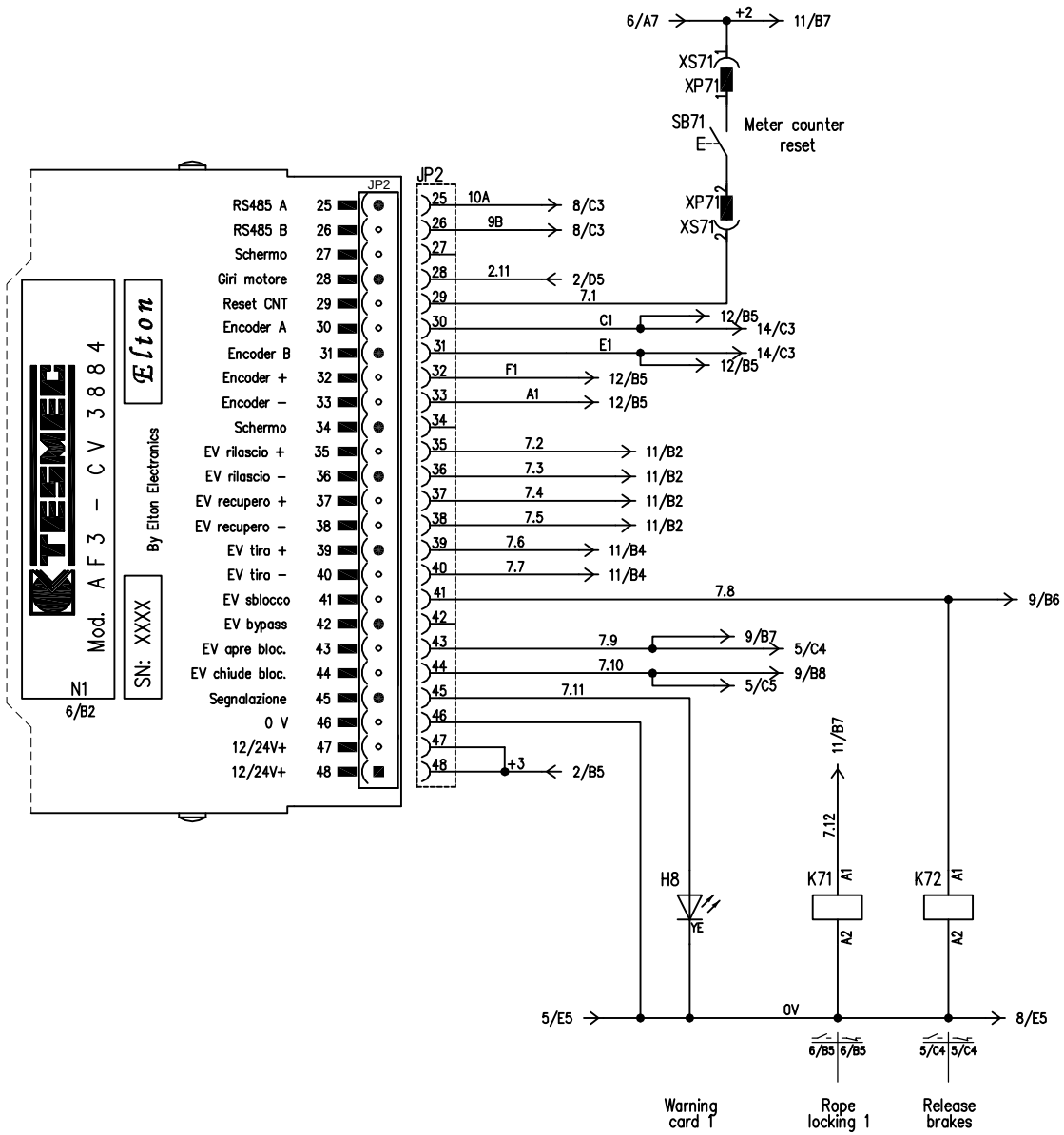
Electric scheme	CONTROL	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 5 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 6



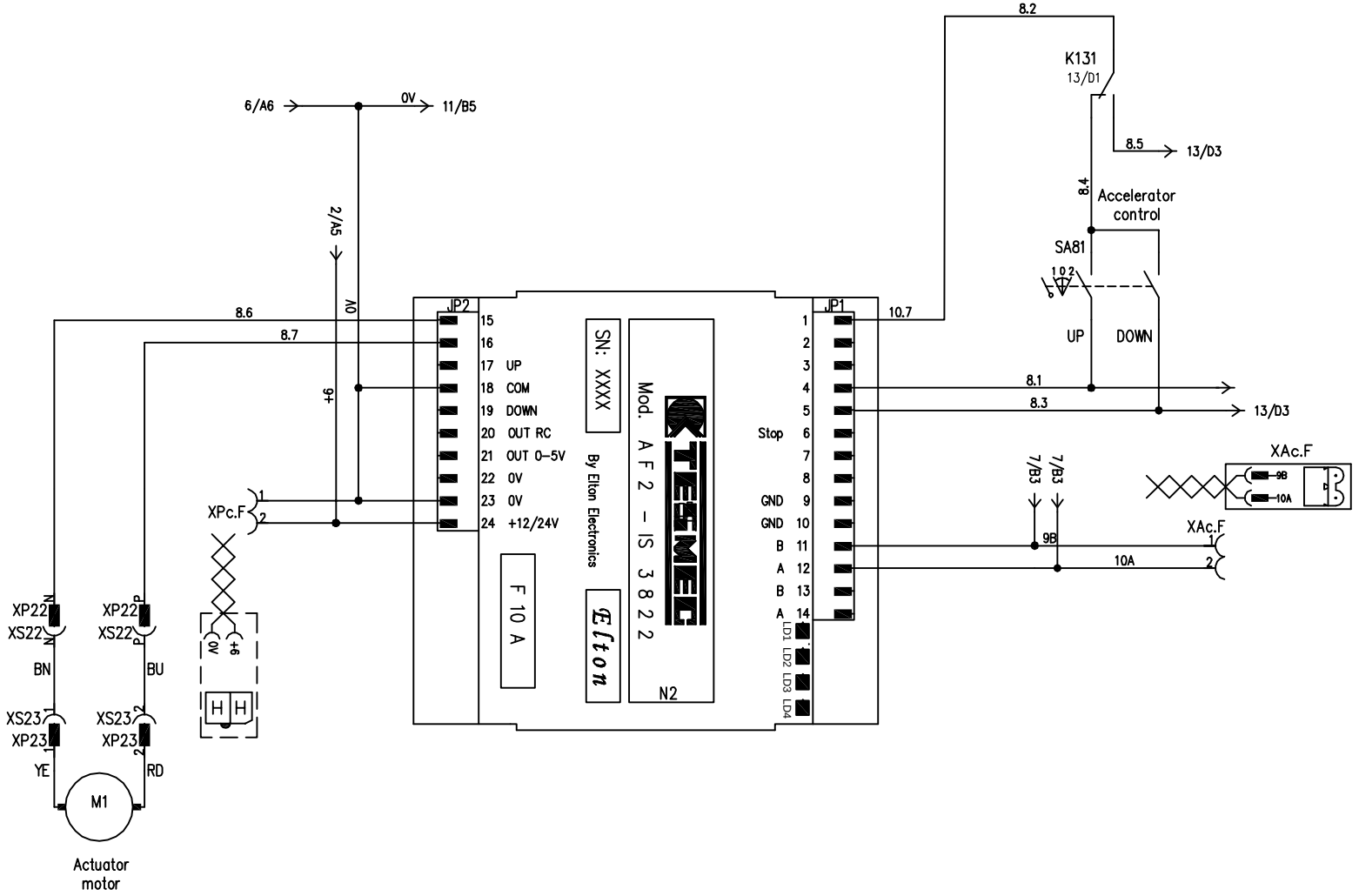
Grassobbio BG via Zanica, 17/o – Italy – Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	ELECTRONIC CONTROL: INPUT	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 6 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 7

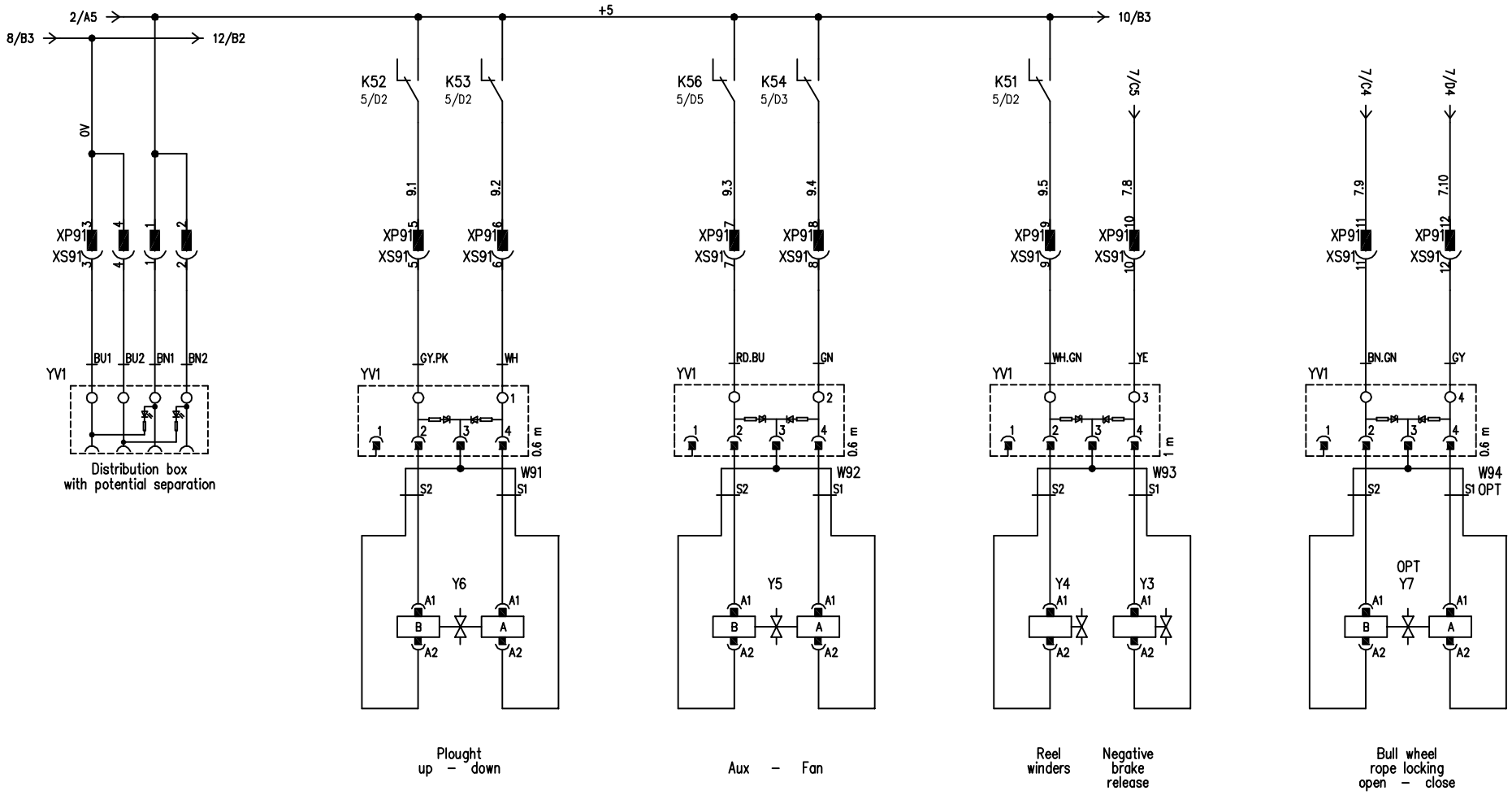


Grassobbio BG via Zanica, 17/o – Italy – Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	ELECTRONIC CONTROL: OUTPUT	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 7 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 8



TESMEC	The design and drawings are property of Tesmec SpA, copying and unauthorized disclosure are forbidden	Electric scheme	ELECTRONIC ACCELERATOR	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01
Grassobbio BG via Zanica, 17/o – Italy – Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445 Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375			Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011



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Electric scheme

SOCKET 1

Design : AFS 303 300

Drawn: Facoetti

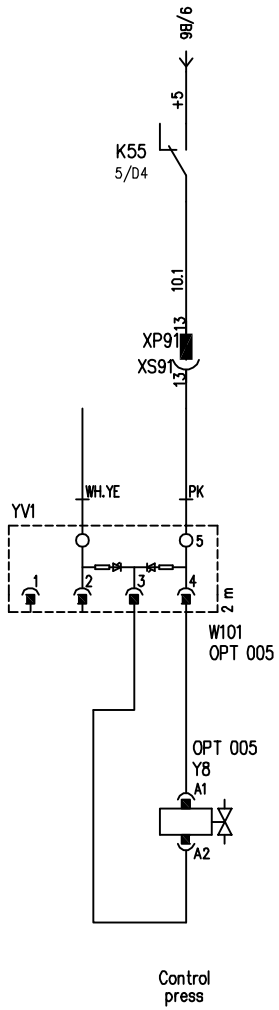
Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011

Sheet 9 of 31

Following 10



Control
press

Grassobbio BG via Zanica, 17/o – Italy – Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445
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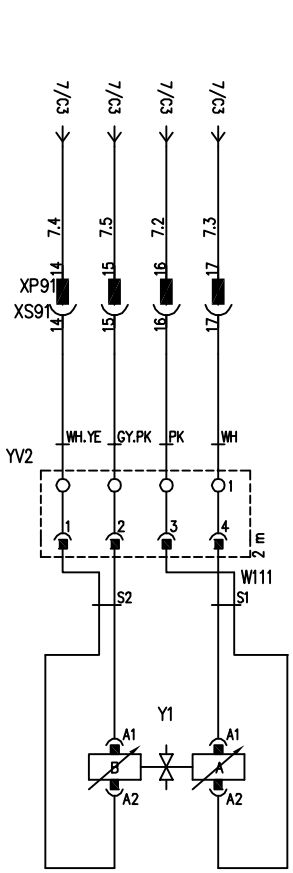
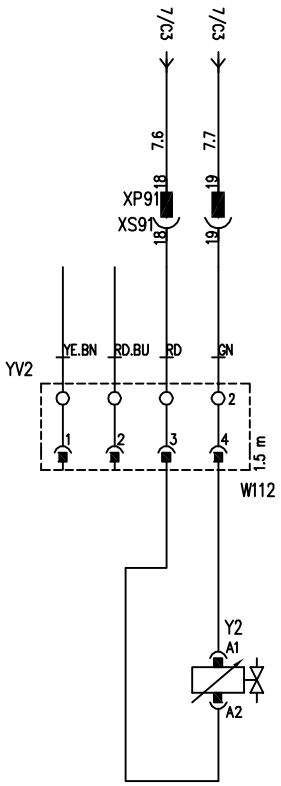
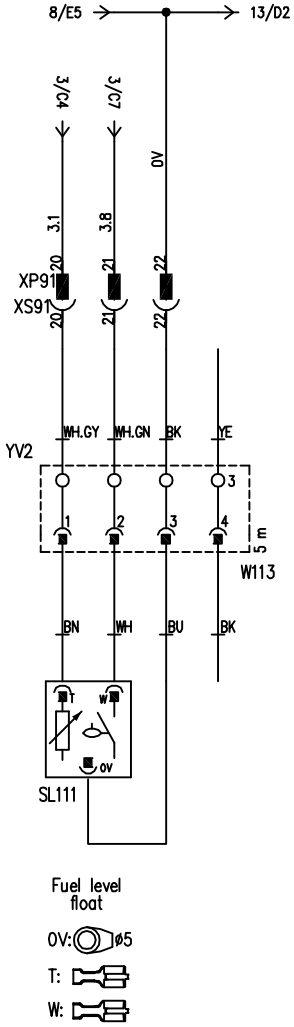
Electric scheme	SOCKET 1	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 10 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 11



Bull wheel
rec – ril



Bull wheel 2
pull setting

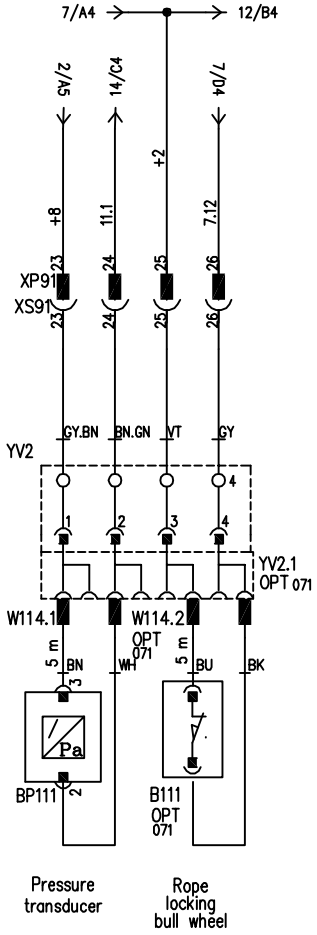


Fuel level
float

OV: ø5

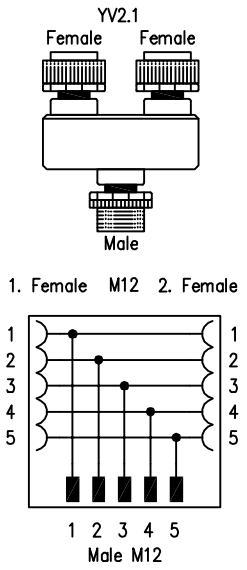
T:

W:



Pressure
transducer

Rope
locking
bull wheel



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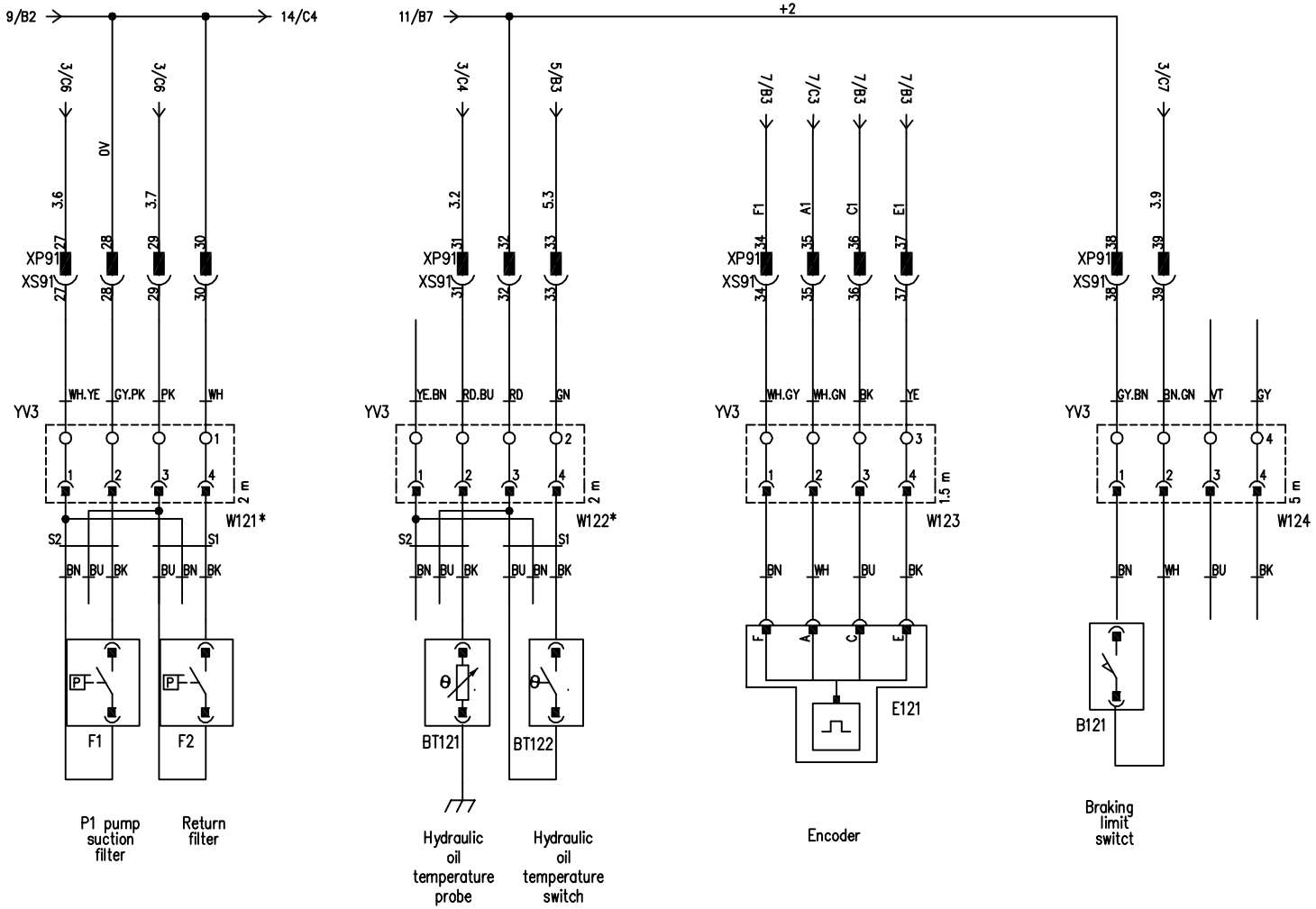
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	SOCKET 2	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 11 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 12



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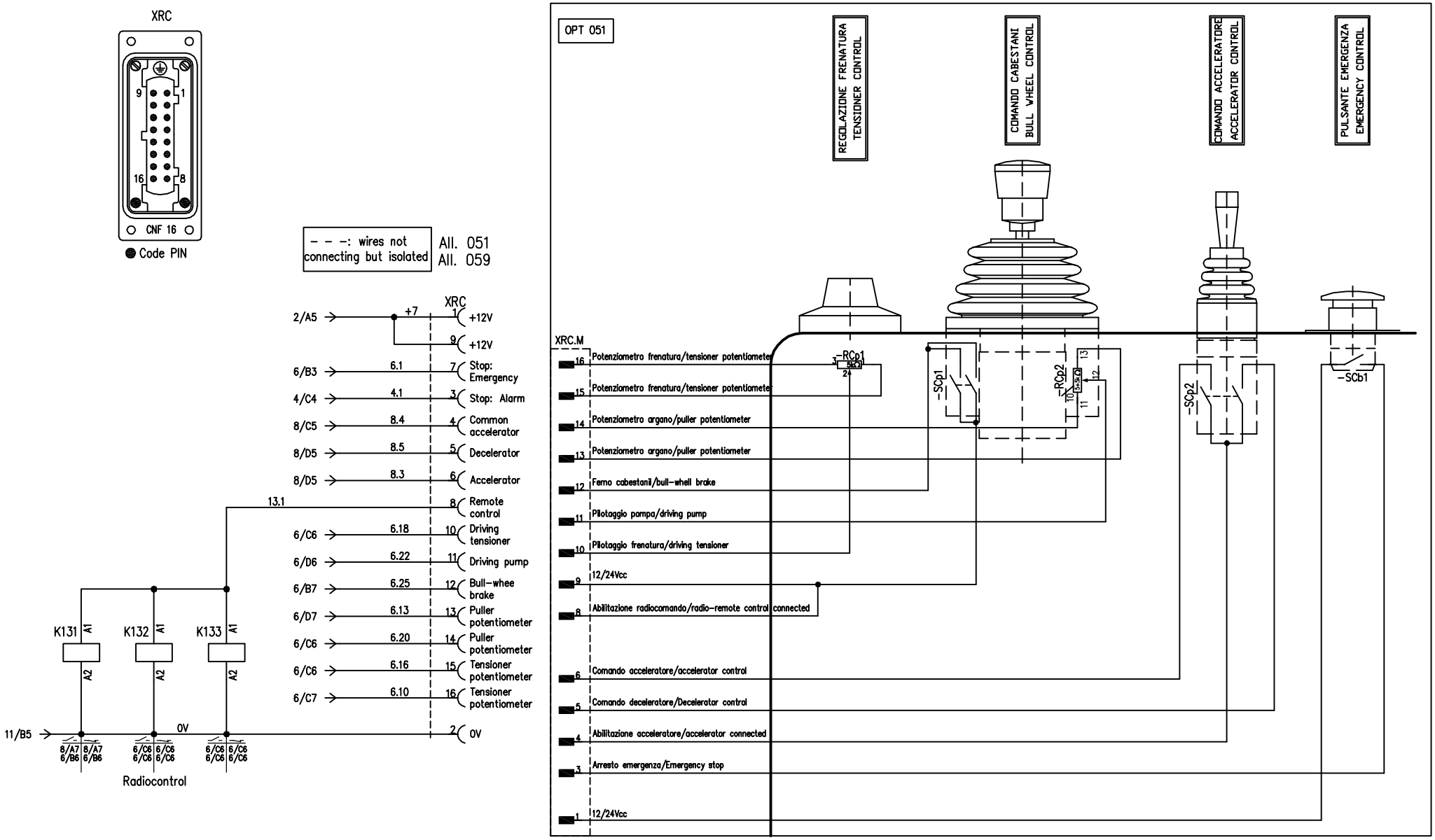
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	SOCKET 3	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 12 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 13



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Electric scheme

REMOTE AND RADIO CONTROL: OPT MACHINE

Design : AFS 303 300

Drawn: Facoetti

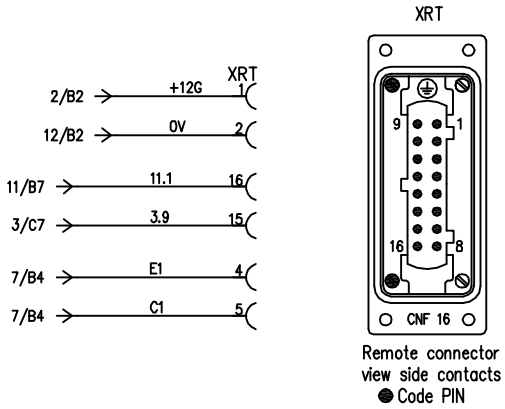
Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011

Sheet 13 of 31

Following 14



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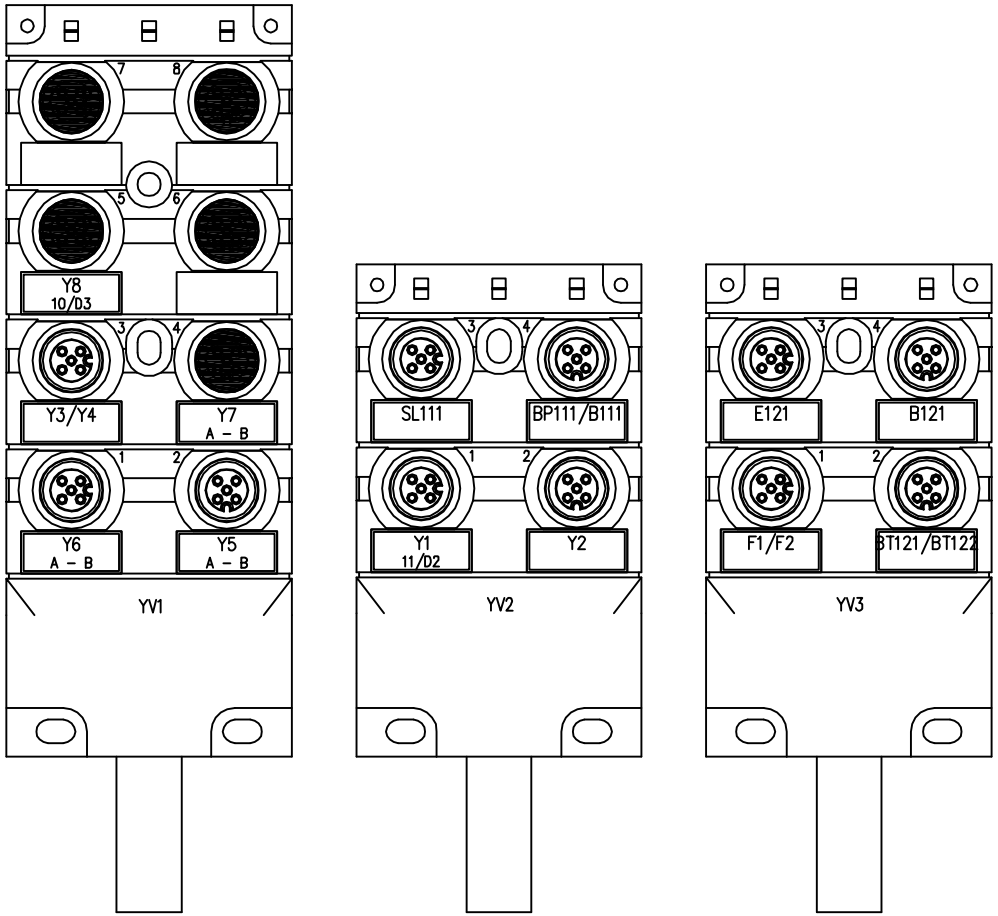
Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme	RECORDING PULL CONTROL	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 14 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 15



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Sede di Endine Gaiano BG via Pertegalli – Italy – tel: +39 035 825024 fax: +39 035 826375

Electric scheme

OUT SOCKET

Design : AFS 303 300

Drawn: Facoetti

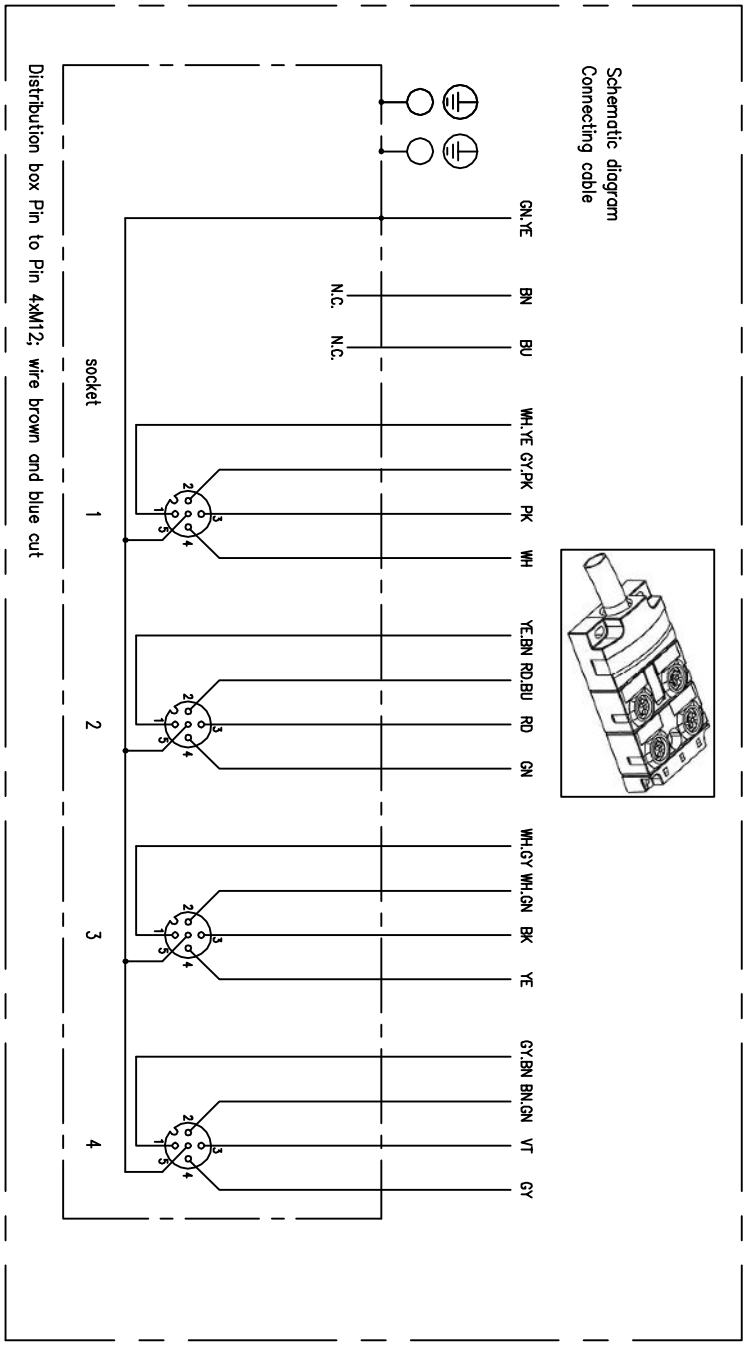
Checked : Ing. Oscar

Drawing Nr. S01–00013
Archive Nr. S01

Date: 18/03/2011

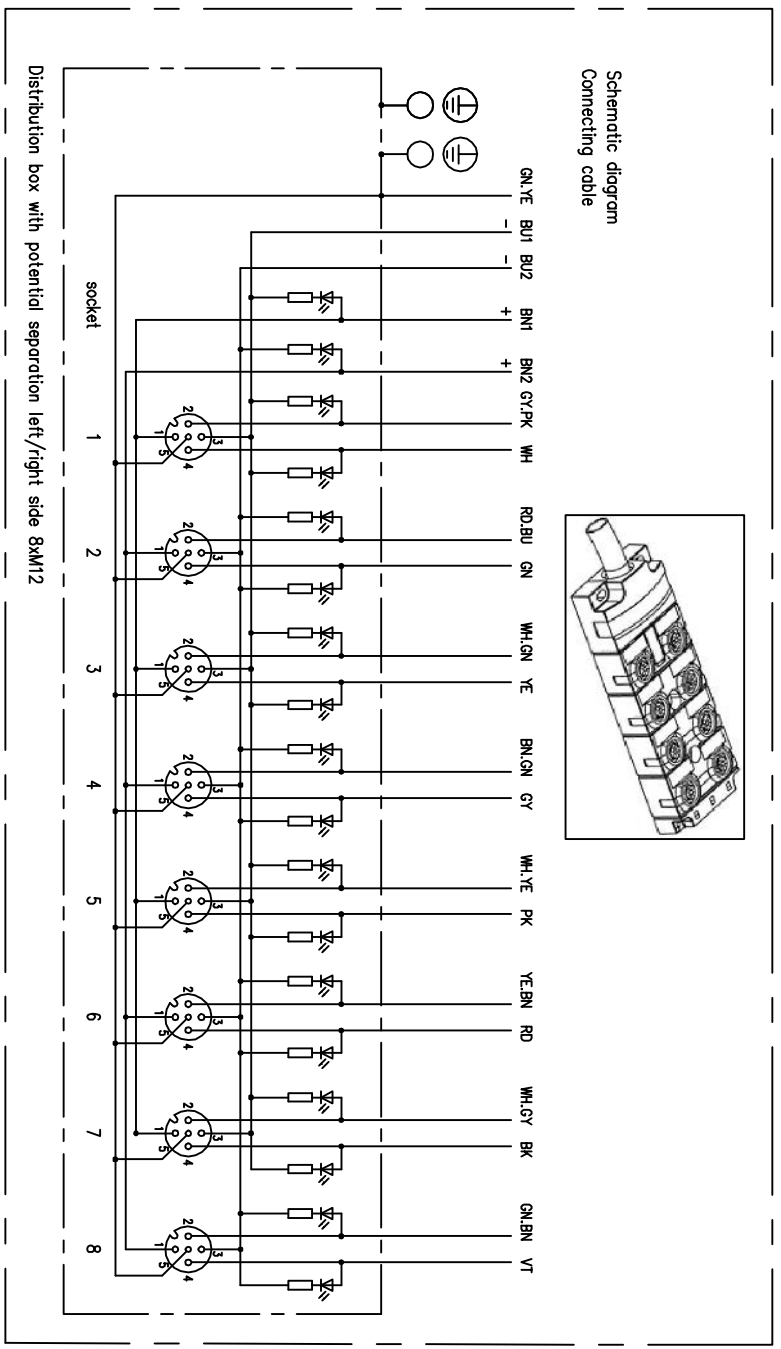
Schematic diagram
Connecting cable

Distribution box Pin to Pin 4xM12; wire brown and blue cut



Schematic diagram
Connecting cable

Distribution box with potential separation left/right side 8xM12



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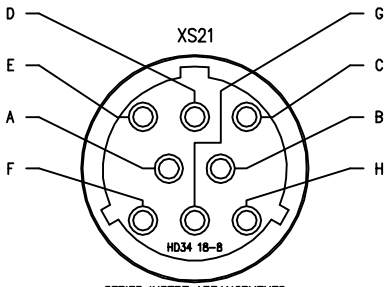
Electric scheme

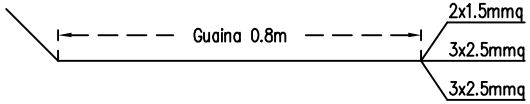
WIRING SOCKET	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 16 of 31
Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 17

XS21
CONNETTORE POTENZA MACCHINA
FEMALES-HOLDER JOINT 8-WAYS
Tipo HD 34 18-8PN

Pin	Wire	Position	N°/color	Cable	Designation	Length cable	Guaina
A	4.2	4/C4		2x1.5mmq	H9	3m	0.8m
B	0V	4/E4		2x1.5mmq	H9		
C	+12G	2/C2		3x2.5mmq	Power	3.3m	
D	+12G	2/C2		3x2.5mmq	Power		
E	+12G	2/C2		3x2.5mmq	Power		
F	0V	2/E4		3x2.5mmq	Power	2.4m	
G	0V	2/E4		3x2.5mmq	Power		
H	0V	2/F4		3x2.5mmq	Power		

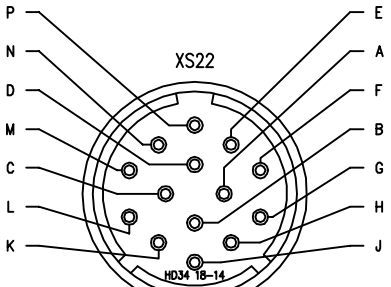


SERIES INSERT ARRANGEMENTS
Polarità Vista Lato Contatti
CONNETTORE POTENZA MACCHINA
FEMALES-HOLDER JOINT 8-WAYS

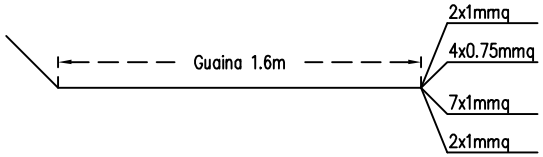


XS22
CONNETTORE INTERFACCIA MOTORE
FEMALES-HOLDER JOINT 14-WAYS
Tipo HD36 18-14SN

Pin	Wire	Position	N°/color	Cable	Designation	Length cable	Guaina
A	+1	2/B7	BN	2x1mmq	Avv.	2.9m	1.6m
B	0V	2/D7	BU	2x1mmq	Avv.		
C	+1	2/B6	BN	4x0.75mmq	Glowplougs	2.9m	
D	+2	2/B6	YE	4x0.75mmq	Glowplougs		
E	2.13	2/D7	GN	4x0.75mmq	Glowplougs		
F	0V	2/D7	WH	4x0.75mmq	Glowplougs		
G	2.8	2/D4	1	7x1mmq	Engine signals	2.6m	
H	2.10	2/D4	2	7x1mmq	Engine signals		
J	2.11	2/D5	3	7x1mmq	Engine signals		
K	3.3	3/D5	4	7x1mmq	Engine signals		
L	3.5	3/D5	5	7x1mmq	Engine signals		
M	3.5	3/D5	6	7x1mmq	Engine signals		
N	8.6	8/D6	BN	2x1mmq	Acc.	3.5m	
P	8.7	8/D7	BU	2x1mmq	Acc.		



SERIES INSERT ARRANGEMENTS
Polarità Vista Lato Contatti
CONNETTORE INTERFACCIA MOTORE
FEMALES-HOLDER JOINT 14-WAYS



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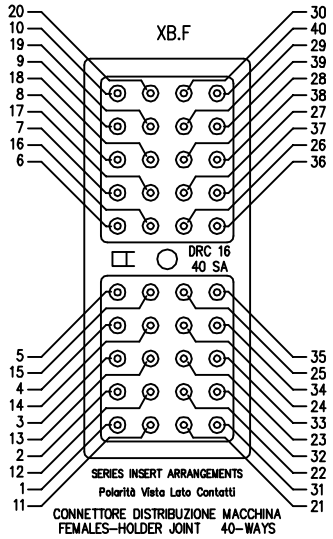
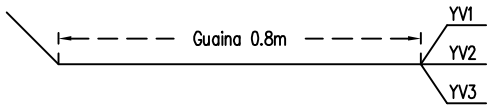
Electric scheme	XS21-XS22 WIRING CONNECTOR	Drawn: Facoetti	Drawing Nr. S01-00013 Archive Nr. S01
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011

XS91
PRESA INTERFACCIA ELETTROVALVOLE
FEMALES–HOLDER JOINT 40–WAIS
Tipo DRC 12 40P

Pin	Wire	Position	Socket	Color	Designation	Length cable	Guaina
1	+5	9/C1	YV1	BN1	Power		
2	+5	9/C1	YV1	BN2	Power		
3	0V	9/C2	YV1	BU1	Power		
4	0V	9/C2	YV1	BU2	Power		
5	9.1	9/C3	YV1	GY.PK	Y6–B		
6	9.2	9/C3	YV1	WH	Y6–A		
7	9.3	9/C4	YV1	RD.BU	Y5–B	2.8m	
8	9.4	9/C5	YV1	GN	Y5–A		
9	9.5	9/C6	YV1	WH.GN	Y4		
10	7.8	9/C6	YV1	YE	Y3		
11	7.9	9/C7	YV1	BN.GN	Y7–B		
12	7.10	9/C8	YV1	GY	Y7–A		
13	10.1	10/C3	YV1	PK	Y8		
14	7.4	11/C2	YV2	WH.YE	Y1–B		
15	7.5	11/C2	YV2	GY.PK	Y1–B		
16	7.2	11/C2	YV2	PK	Y1–A		
17	7.3	11/C2	YV2	WH	Y1–A		
18	7.6	11/C4	YV2	RD	Y2		
19	7.7	11/C4	YV2	GN	Y2		
20	3.1	11/C5	YV2	WH.GY	SL111–T	2.3m	0.8m
21	3.8	11/C5	YV2	WH.GN	SL111–W		
22	0V	11/C5	YV2	BK	SL111–(–)		
23	+8	11/C6	YV2	GY.BN	BP111		
24	11.1	11/C6	YV2	BN.GN	BP111		
25	+2	11/C7	YV2	VT	B111		
26	7.12	11/C7	YV2	GY	B111		
27	3.6	12/C2	YV3	WH.YE	F1		
28	0V	12/C2	YV3	GY.PK	F1		
29	3.7	12/C2	YV3	PK	F2		
30	0V	12/C2	YV3	WH	F2		
31	3.2	12/C3	YV3	RD.BU	BT121		
32	+2	12/C4	YV3	RD	BT122		
33	5.3	12/C4	YV3	GN	BT122	1.3m	
34	F1	12/C5	YV3	WH.GY	E121		
35	A1	12/C5	YV3	WH.GN	E121		
36	C1	12/C5	YV3	BK	E121		
37	E1	12/C5	YV3	YE	E121		
38	+2	12/C6	YV3	GY.BN	B121		
39	3.9	12/C6	YV3	BN.GN	B121		
40							





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Electric scheme

XS91 WIRING CONNECTOR

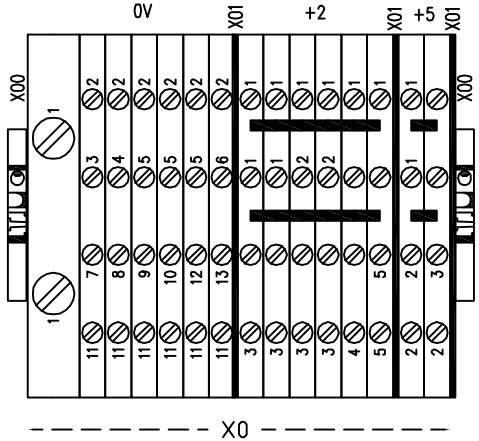
Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01–00013
Archive Nr. S01

Date: 18/03/2011



X0: 0V terminals

	User	N° wires x section(mmq)
1	XS21	3x2.5
2	Panel	12
3	XS22	2x1
4	XS21 (H9)	1x1
5	XS91	5x1
6	XRT/XRC	2x1
7	N1	1x1.5
8	N2	1x1.5
9	XS81+HA1	2x1
10	El. lighter	1x1.5
11	Relays	15x0.5
12	Heart el. board	1x2.5
13	CAN plug	2x1

X0: +2 terminals

	User	N° wires x section(mmq)
1	Panel	15
2	XS91	3x1
2	XS22	1x1
3	Relays	8x0.5
4	FB2	1x1
5	FU2	2x1.5

X0: +2for relays terminals
K51: coil
K31: coil
K42: contact
K31: contact
K41: contact
K52: contact
K53: contact
K71: contact

X0: +5 terminals

	User	N° wires x section(mmq)
1	FU5	2x1.5
2	Relays	6x0.5
3	XS91	2x1

X0: +5 for relays terminals
K52: contact
K53: contact
K56: contact
K54: contact
K51: contact
K55: contact

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Electric scheme

TERMINALS

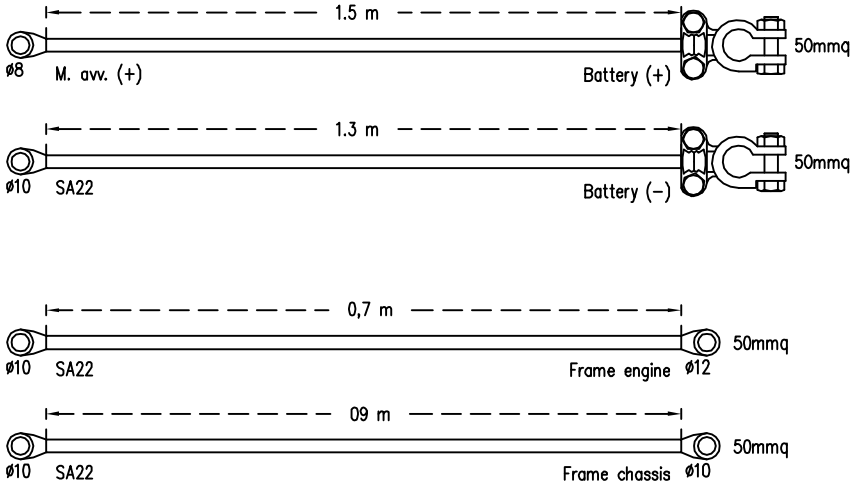
Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011



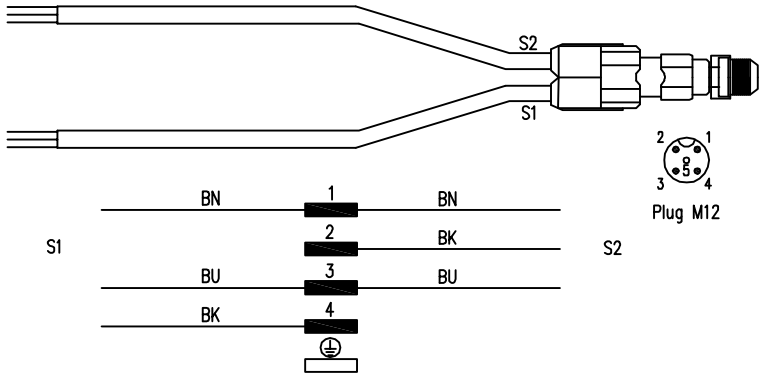
All cables are in the protective covering red

From	To	Section	hLegt
XL1(A) F*1	F9 ø5	6mmq	1.3m
XL1(A) ø5	KCP(8) ø6	6mmq	0.3m
KCP1(9) ø5	XL1(B) M*1	6mmq	1m
F9 ø5	K0 F*2	2.5mmq	0.5m
K0 F*2	XL(5A) F*1	2.5mmq	1m

*1: pins provided with the connector engine

*2: faston with tooth

Cables: W121 W122
Electric scheme



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Electric scheme

WIRING CABLES

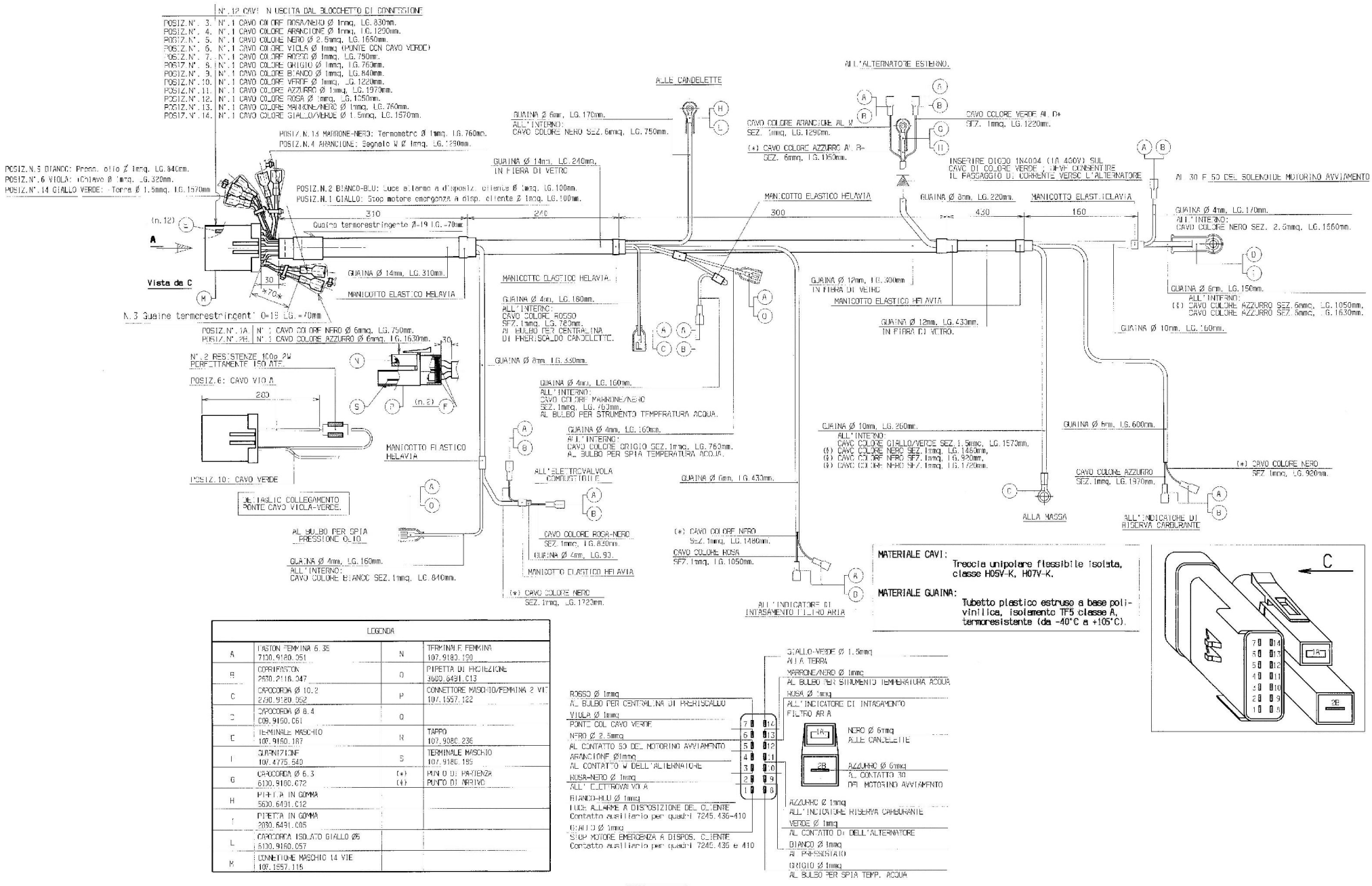
Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011



LEGENDA			
A	FASTON FEMMINA 6.35 7100.9180.051	N	TERMINALE FEMMINA 107.9180.130
B	CORRIFASTON 2630.2116.047	O	PIPETTA DI PROTEZIONE 3600.6491.C13
C	CAPOCORDA Ø 10.2 2230.9120.052	P	CONNETTORE MASCHIO/FEMMINA 2 VIE 107.1557.122
D	CAPOCORDA Ø 8.4 C09.9150.051	Q	
E	TERMINALE MASCHIO 107.9150.187	R	TAPPO 107.9080.236
F	GUARNIZIONE 107.4775.540	S	TERMINALE MASCHIO 107.9180.189
G	CAPOCORDA Ø 6.3 6130.9100.C72	(*)	MINIMO DI PARTENZA
		(+)	PUNTO DI ARRIVO
H	PIPETTA IN GOMMA 5630.6491.C12		
I	PIPETTA IN GOMMA 2030.6491.C05		
L	CAPOCORDA ISOLATO GIALLO Ø5 6130.9160.057		
M	CONNETTORE MASCHIO 14 VIE 107.1557.115		

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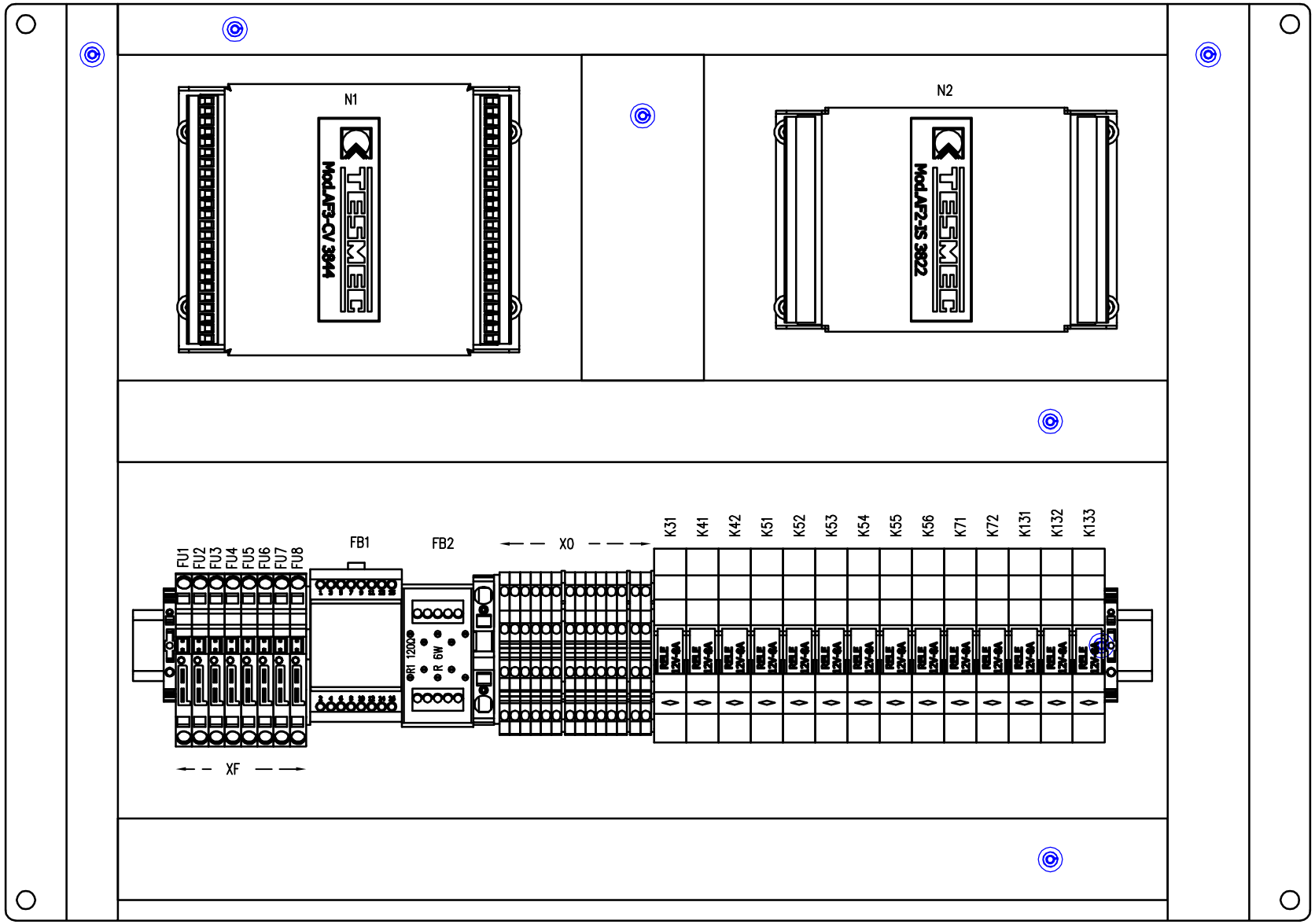
Electric scheme	WIRING ENGINE	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 21 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 22



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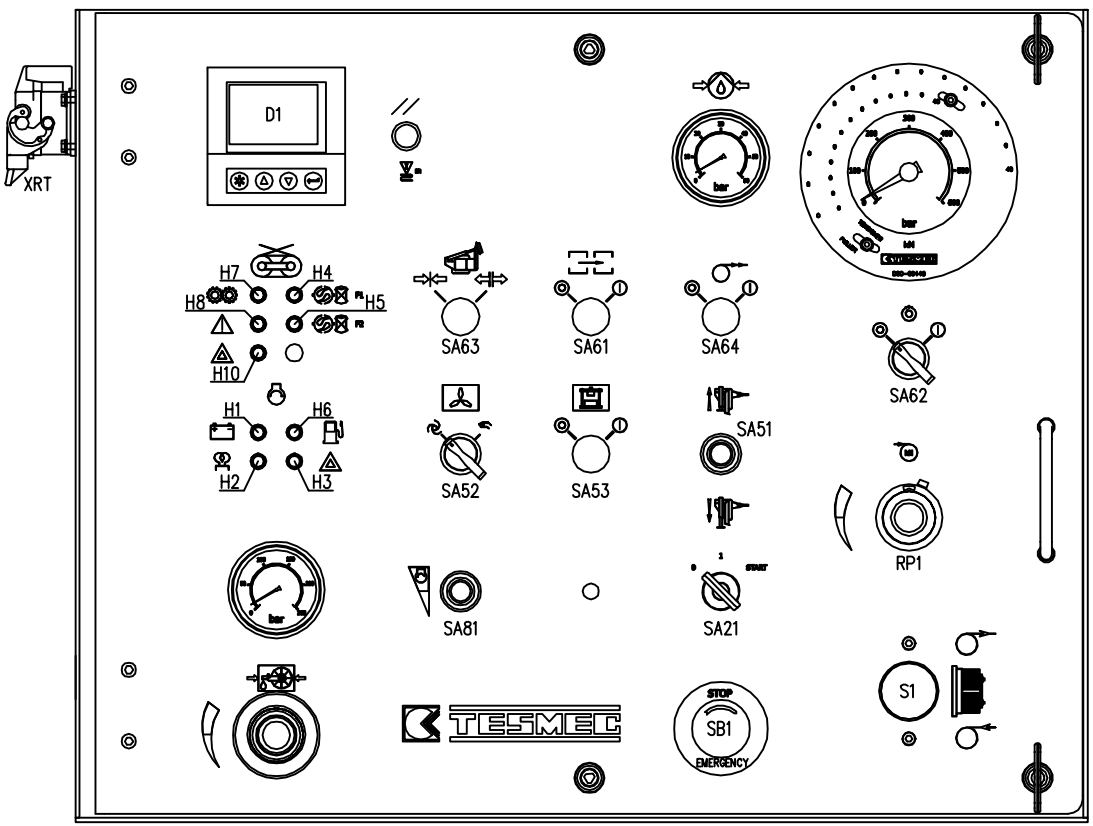
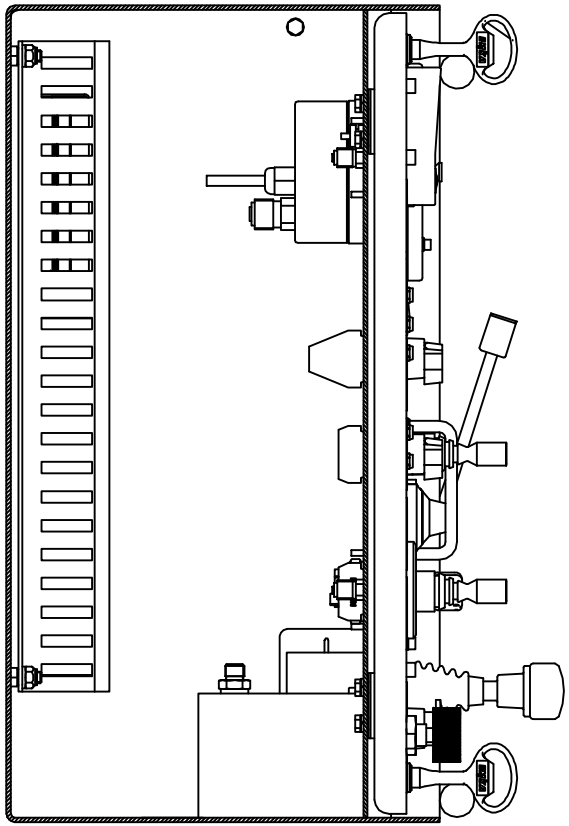
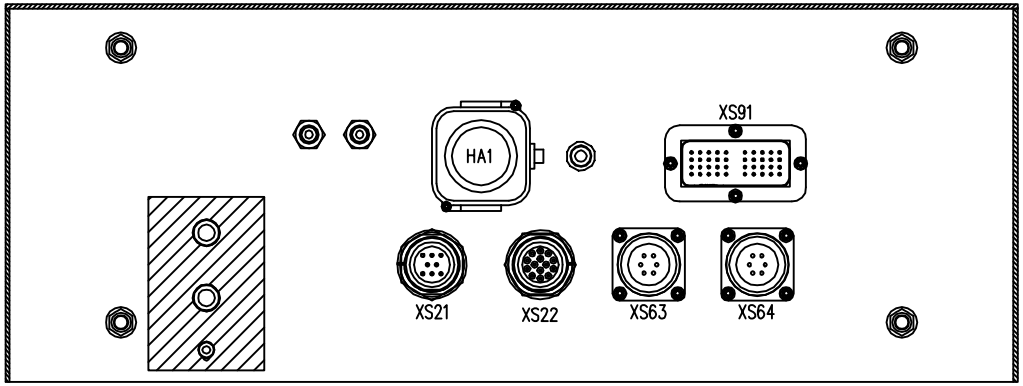
Electric scheme	ELECTRIC BOARD	Drawn: Facoetti	Drawing Nr. S01–00013 Archive Nr. S01	Sheet 22 of 31
	Design : AFS 303 300	Checked : Ing. Oscar	Date: 18/03/2011	Following 23







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Electric scheme

CONTROL PANEL

Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011

Sheet 23 of 31

Following 24

Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
A1	00000000	2/D2	ENGINE.PART.....(CODICI MOTORE)	MOTORE LOMBARDINI	
B111	09102727	11/D6	FINECORSA VL AZ8111 1NA+1NC MATSUSHITA	FINECORSA BLOCCAFUNE CABESTANO 1	
B121	09102727	12/D6	FINECORSA VL AZ8111 1NA+1NC MATSUSHITA	FINECORSA DI FRENATURA	
BP1	00000000	3/D5	ENGINE.PART.....(CODICI MOTORE)	CONTATTO PRESSIONE OLIO MOTORE	
BP2	99999999	4/B3	IDRAULIC.PART.....(CODICE IDRAULICO)	CONTATTO DINAMOMETRO	
BP111	V00-8510-072	11/D6	TRASDUTTORE PRESSIONE 0-400 BAR - 8-24 V	TRASDUTTORE DI PRESSIONE	
BT1	V00-8510-057	3/E5	TRASMETTITORE TEMPERATURA 12 / 24 V - FA	SONDA TEMPERATURA ACQUA MOTORE	
BT2	00000000	3/D5	ENGINE.PART.....(CODICI MOTORE)	Contatto temperatura acqua motore	
BT121	99999999	12/D4	IDRAULIC.PART.....(CODICE IDRAULICO)	SENSORE TEMPERATURA OLIO IDRAULICO	
BT122	99999999	12/D4	IDRAULIC.PART.....(CODICE IDRAULICO)	CONTATTO TEMPERATURA OLIO IDRAULICO	
D1	V00-8600-008	3/D2	DISPLAY GRAFICO 9 - 32 V - DSF : J1939 E	DISPLAY MULTIFUNZIONE "ENGI METER"	
	- V00-2225-045	3/D2	CONNETTORE + PIN - X ENGIMETER - DSF : D		
E121	V00-8510-033	12/D5	ENCODER ASSOLUTO - D.ALBERO 8 MM - FLANG	ENCODER	
F1	99999999	12/D2	IDRAULIC.PART.....(CODICE IDRAULICO)	FILTRO IDRAULICO F1 INTASATO	
F2	99999999	12/D2	IDRAULIC.PART.....(CODICE IDRAULICO)	FILTRO IDRAULICO F2 INTASATO	
FB1	V00-8400-016	5/D4	MODULO PORTADIODI 8 - PHOENIX CONTACT :	MODULO PORTA DIODI	
FB2	V00-8400-018	2/C5	MODULO PORTACOMPONENTI 5 - WEIDMULLER :	MODULO PORTA ELEMENTI	
FU1	V00-8401-036	2/B3	FUSIBILE A LAME 5 A BEIGE INTERASSE LAME	FUSIBILE	
FU2	V00-8401-037	2/B3	FUSIBILE A LAME 7.5 A MARRONE INTERASSE	FUSIBILE	
FU3	V00-8401-037	2/B3	FUSIBILE A LAME 7.5 A MARRONE INTERASSE	FUSIBILE	
FU4	09104157	2/B3	FUSIBILE A LAME....1A.....UNIVAL	FUSIBILE	
FU5	V00-8401-020	2/A3	FUSIBILE A LAME 10 A ROSSO INTERASSE LAM	FUSIBILE	
FU6	V00-8401-036	2/A3	FUSIBILE A LAME 5 A BEIGE INTERASSE LAME	FUSIBILE	
FU7	09104157	2/A3	FUSIBILE A LAME....1A.....UNIVAL	FUSIBILE	
FU8	09104157	2/A3	FUSIBILE A LAME....1A.....UNIVAL	FUSIBILE	
FU9	09104187	2/C5	FUSIBILE 80A MIDIVAL	FUSIBILE	
GB1	48100003	2/D2	BATTERIA 12V 100AH 520A	BATTERIA DI AVVIAMENTO	
	- V00-2229-006	2/D2	COPRIMORSETTO POLO NEGATIVO BATTERIA NER		

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Electric scheme

COMPONENTS LIST

Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011

Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
H1	V00-8400-023	2/C5	DIODO A LED - GIALLO 12 V DC - 8 MM - IP	SPIA ALLARME GENERATORE	
H2	V00-8400-023	2/E7	DIODO A LED - GIALLO 12 V DC - 8 MM - IP	SPIA PRERISCALDO MOTORE	
H3	V00-8400-022	3/B5	DIODO A LED - ROSSO 12 V DC - 8 MM - IP	LED PRESSIONE OLIO MOTORE (24V)	
H4	V00-8400-022	3/B6	DIODO A LED - ROSSO 12 V DC - 8 MM - IP	LED FILTRO IDRAULICO F1 INTASATO (24V)	
H5	V00-8400-022	3/B6	DIODO A LED - ROSSO 12 V DC - 8 MM - IP	LED FILTRO IDRAULICO F2 INTASATO (24V)	
H6	V00-8400-023	3/B7	DIODO A LED - GIALLO 12 V DC - 8 MM - IP	LED RISERVA CARBURANTE (24V)	
H7	V00-8400-023	3/C7	DIODO A LED - GIALLO 12 V DC - 8 MM - IP	SPIA RIDUTTORE FRENATURA RIDOTTA	
H8	V00-8400-023	7/D3	DIODO A LED - GIALLO 12 V DC - 8 MM - IP	SPIA ALLARME SCHEDA 1	
H9	V00-2200-029	4/D4	LAMPADA ROTANTE 9/32 V - XENON REVOLUX :	LAMPEGGIATORE	
	- V00-2200-030	4/D4	SUPPORTO TUBOLARE - XENON : 35.001.520		
H10	V00-8400-023	4/D3	DIODO A LED - GIALLO 12 V DC - 8 MM - IP	SPIA ALLARME TIRO MASSIMO	
HA1	V00-8401-042	4/D5	AVVISATORE ACUSTICO 12 V 129 DB - IP 54	SEGNALAZIONE ACUSTICA	
K0	V00-8402-043	2/C7	Codice non valido	RELE AVVIAMENTO MOTORE	
K31	V00-8402-035	3/C5	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE ALLARME MOTORE	
	- V00-8402-020	3/C5	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	3/C5	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K41	V00-8402-035	4/D3	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE ALLARME TIRO MAX	
	- V00-8402-020	4/D3	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	4/D3	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K42	V00-8402-035	4/D3	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE ALLARME TIRO MAX	
	- V00-8402-020	4/D3	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	4/D3	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K51	V00-8402-035	5/D2	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE RIAVVOLGITORI	
	- V00-8402-020	5/D2	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	5/D2	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K52	V00-8402-035	5/D2	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE VOMERE - SALITA	
	- V00-8402-020	5/D2	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	5/D2	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		

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Electric scheme

COMPONENTS LIST

Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011

Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
K53	V00-8402-035	5/D2	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE VOMERE - DISCESA	
	- V00-8402-020	5/D2	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	5/D2	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K54	V00-8402-035	5/D3	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE VENTOLA RADIATORE	
	- V00-8402-020	5/D3	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	5/D3	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K55	V00-8402-035	5/D4	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE PRESSA	
	- V00-8402-020	5/D4	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	5/D4	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K56	V00-8402-035	5/D5	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE SERVIZI AUSILIARI	
	- V00-8402-020	5/D5	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	5/D5	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K71	V00-8402-035	7/D4	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE BLOCCAFUNE 1 CHIUSO	
	- V00-8402-020	7/D4	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	7/D4	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K72	V00-8402-035	7/D5	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE SBLOCCO FRENI	
	- V00-8402-020	7/D5	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	7/D5	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K131	V00-8402-035	13/D1	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE ABILITAZIONE RADIOCOMANDO	
	- V00-8402-020	13/D1	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	13/D1	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K132	V00-8402-035	13/D2	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE ABILITAZIONE RADIOCOMANDO	
	- V00-8402-020	13/D2	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	13/D2	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
K133	V00-8402-035	13/D2	RELE MINI 12 V 2 SC - 8 A - FINDER : 40.	RELE ABILITAZIONE RADIOCOMANDO	
	- V00-8402-020	13/D2	MODULO DIODO + LED 6-24 V DC/AC - FINDER		
	- V00-8402-036	13/D2	ZOCCOLO RELE MORSETTO A VITE MONTAGGIO S		
KCP	V00-8500-026	2/D5	MODULO CENTRALINA MOTORE 12 V - BOSCH :	CENTRALINA PRERISCALDO MOTORE	

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COMPONENTS LIST

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Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
M1	V00-8500-019	8/E2	ATTUATORE LINEARE LA1 24 V - 3 A - FORZA	MOTORE ATTUATORE	
N1	V00-8500-025	6/B2	SCHEDA CONTROLLO TIRO AF3-CV - ELTON : 3	SCHEDA COMANDO POMPA CABESTANO	
	- V00-2227-046	6/B2	CONNETTORE MSTB 2.5/24-ST5-5.08 - Nø 24		
N2	V00-8500-041	8/C3	SCHEDA CONTROLLO VELOCITA CON INTERFACCI	SCHEDA ACCELERATORE	
R	V00-8400-047	2/C5	RESISTENZA 47 OHM 6 W - RS : 485-2754	RESISTENZA SPIA MOTORE	
R1	V00-8400-034	3/C3	RESISTENZA 120 OHM 1/4 W - RS : 135-780	RESISTENZA CANBUS	
R2	V00-8400-034	6/E3	RESISTENZA 120 OHM 1/4 W - RS : 135-780	RESISTENZA CANBUS	
R3	V00-8400-034	6/E3	RESISTENZA 120 OHM 1/4 W - RS : 135-780	RESISTENZA CANBUS	
RP1	V00-8500-016	6/C6	POTENZIOMETRO ROTATIVO - Nø 3 GIRI 5 KOH	POTENZIOMETRO CONTROLLO TIRO	
	- V00-8500-012	6/C6	MANOPOLA GRADUATA POTENZIOMETRO D. 46 -		
S1	V00-8500-027	6/A7	MANIPOLATORE SEMPLICE - KIEPE : ST011B9P	COMANDO POMPA CABESTANO	
SA21	V00-8401-015	2/B2	CHIAVE AVVIAMENTO MOTORE - COBO : 14.134	INTERRUTTORE AVVIAMENTO MOTORE	
SA22	V00-8401-038	2/E2	INTERRUTTORE STACCABATTERIA 12-24 V - 25	STACCABATTERIA	
	- V00-8401-039	2/E2	CHIAVE PER INTERRUTTORE STACCABATTERIA :		
SA51	V00-8410-011	5/A2	MANIPOLATORE Nø 3 POS. TEMPORANEE NERO -	MANIPOLATORE VOMERE	
	- V00-8410-006	5/A2	CONTATTO NA - CEMA : P9B10VN		
SA52	V00-2200-017	5/A3	LAMPADA BA 9S 12 V 3 W - OSRAM : 3894	LAMPADINA PER SELETTORE	
SA52	V00-8410-015	5/A3	SELETTORE A LEVA LUNGA - Nø 2 POS.FISSE	SELETTORE VENTOLA-RADIATORE	
	- V00-8410-005	5/A3	ALIMENTAZIONE - CEMA : P9PDNV0		
	- V00-8410-006	5/A3	CONTATTO NA - CEMA : P9B10VN		
SA53	V00-2200-017	5/A4	LAMPADA BA 9S 12 V 3 W - OSRAM : 3894	LAMPADINA PER SELETTORE	
SA53	V00-8410-008	5/A4	SELETTORE A LEVA LUNGA - Nø 2 POS.FISSE	SELETTORE PRESSA	
	- V00-8410-005	5/A4	ALIMENTAZIONE - CEMA : P9PDNV0		
	- V00-8410-006	5/A4	CONTATTO NA - CEMA : P9B10VN		
SA61	V00-2200-017	6/A4	LAMPADA BA 9S 12 V 3 W - OSRAM : 3894	LAMPADINA PER SELETTORE	
SA61	V00-8410-009	6/A3	SELETTORE A LEVA LUNGA - Nø 2 POS.FISSE	SELETTORE ACCOPPIAMENTO MACCHINE	
	- V00-8410-005	6/A3	ALIMENTAZIONE - CEMA : P9PDNV0		
	- V00-8410-006	6/A3	CONTATTO NA - CEMA : P9B10VN		

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Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
SA62	V00-2200-017	6/A4	LAMPADA BA 9S 12 V 3 W - OSRAM : 3894	LAMPADINA PER SELETTORE	
SA62	V00-8410-004	6/A4	CONTATTO NC - CEMA : P9B01VN		
SA62	V00-8410-008	6/A4	SELETTORE A LEVA LUNGA - Nø 2 POS.FISSE	SELETTORE IMPOSTAZIONE TIRO CABESTANO	
	- V00-8410-005	6/A4	ALIMENTAZIONE - CEMA : P9PDNV0		
	- V00-8410-006	6/A4	CONTATTO NA - CEMA : P9B10VN		
SA63	09103115	6/A5	SELETTORE LEVA VERDE 3P.INST. ZB4-BK1533	SELETTORE BLOCCAFUNE 3	
	- 09103106	6/A5	CONTATTO NA ZBE-101		
	- 09103109	6/A5	BASE FISSAGGIO ZB4-BZ009		
SA63	V00-2200-017	6/A5	LAMPADA BA 9S 12 V 3 W - OSRAM : 3894	LAMPADINA PER SELETTORE	
SA64	V00-2200-017	6/A6	LAMPADA BA 9S 12 V 3 W - OSRAM : 3894	LAMPADINA PER SELETTORE	
SA64	V00-8410-009	6/A6	SELETTORE A LEVA LUNGA - Nø 2 POS.FISSE	SELETTORE SINCRONISMO DI VELOCITA	
	- V00-8410-005	6/A6	ALIMENTAZIONE - CEMA : P9PDNV0		
	- V00-8410-006	6/A6	CONTATTO NA - CEMA : P9B10VN		
SA81	V00-8410-011	8/B6	MANIPOLATORE Nø 3 POS. TEMPORANEE NERO -	MANIPOLATORE ACCELERATORE	
	- V00-8410-006	8/B6	CONTATTO NA - CEMA : P9B10VN		
SB1	V00-8410-001	2/C4	PULSANTE EMERGENZA - D. FUNGO: 40 ROSSO	PULSANTE DI EMERGENZA	
	- V00-8410-003	2/C4	TARGHETTA STOP - D 22 - D. TARGHETTA 59		
	- V00-8410-004	2/C4	CONTATTO NC - CEMA : P9B01VN		
SB1	V00-8410-006	4/B2	CONTATTO NA - CEMA : P9B10VN	CONTATTO AUSILIARIO	
SB71	T008400059	7/A4	Codice non valido	PULSANTE DI RESET SCHEDA	
SL111	V00-8510-074	11/D5	GALLEGGIANTE A LEVA REGOLABILE - L. 110ö	GALLEGGIANTE RISERVA CARBURANTE	
W91	V00-2232-057	9/D3	CAVO M12 DIRITTO - L. 0,6 M - A Y - 2 CO	CONNETTORE ELETTROVALVOLE	
W92	V00-2232-057	9/D5	CAVO M12 DIRITTO - L. 0,6 M - A Y - 2 CO	CONNETTORE ELETTROVALVOLE	
W93	V00-2232-053	9/D6	CAVO M12 DIRITTO - L. 1 M - A Y - 2 CONN	CONNETTORE ELETTROVALVOLE	
W94	V00-2232-057	9/D8	CAVO M12 DIRITTO - L. 0,6 M - A Y - 2 CO	CONNETTORE ELETTROVALVOLE	
W101	V00-2232-004	10/D3	CAVO M12 DIRITTO - L. 2 M - CONNETTORE A	CONNETTORE ELETTROVALVOLE	
W111	V00-2232-003	11/D2	CAVO M12 DIRITTO - L. 2 M - A Y PIN TO P	CONNETTORE ELETTROVALVOLE	
W112	V00-2232-063	11/D4	CAVO M12 DIRITTO - L. 1,5 M - CONNETTORE	CONNETTORE ELETTROVALVOLE	

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COMPONENTS LIST

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Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
W113	V00-2232-019	11/D5	CAVO M12 DIRITTO - L. 5 M - 4 FILI PVC -	CONNETTORE M12 + 4 FILI	
W114.1	V00-2232-019	11/D6	CAVO M12 DIRITTO - L. 5 M - 4 FILI PVC -	CONNETTORE M12 + 4 FILI	
W114.2	V00-2232-019	11/D6	CAVO M12 DIRITTO - L. 5 M - 4 FILI PVC -	CONNETTORE M12 + 4 FILI	
W121	V00-2232-002	12/D3	CAVO M12 DIRITTO - L. 2 M - A Y - 3+3 FI	CONNETTORE A Y / M12 PRESA DIRETTA	
W122	V00-2232-002	12/D4	CAVO M12 DIRITTO - L. 2 M - A Y - 3+3 FI	CONNETTORE A Y / M12 PRESA DIRETTA	
W123	V00-2232-005	12/D6	CAVO M12 DIRITTO - L. 5 M - 4 FILI + SCH	CONNETTORE M12 + 4 FILI + SCH	
W124	V00-2232-019	12/D7	CAVO M12 DIRITTO - L. 5 M - 4 FILI PVC -	CONNETTORE M12 + 4 FILI	
W124.1	V00-2232-019	11/D6	CAVO M12 DIRITTO - L. 5 M - 4 FILI PVC -	CONNETTORE M12 + 4 FILI	
W124.2	V00-2232-019	11/D7	CAVO M12 DIRITTO - L. 5 M - 4 FILI PVC -	CONNETTORE M12 + 4 FILI	
X0	V00-2229-044	19/B3	MORSETTO PASSANTE A MOLLA ZDK 2.5 SEZION	MORSETTO	
X0	V00-2229-062	19/B2	MORSETTO DI TERRA PASSANTE A MOLLA ZDK 2	MORSETTO	
X0	V00-2229-064	19/B2	MORSETTO DI TERRA PASSANTE A MOLLA ZPE 1	MORSETTO	
X00	V00-2229-051	19/B2	TERMINALE DI FISSAGGIO ZEW 35 - WEIDMULL	TERMINALE DI FISSAGGIO MORSETTIERA	
X01	V00-2229-045	19/B3	PIASTRA TERMINALE ZAP/TW ZDK2.5 2,5 MMQ	PIASTRA TERMINALE MORSETTO	
X31.F	09100446	3/D5	CONNETTORE 1 VIA PORTAFEMMINE 0024-0001	CONNETTORE SEGNALI MOTORE	
X31.M	09100445	3/D5	CONNETTORE 1 VIA PORTAMASCHI 0024-0018	CONNETTORE SEGNALI MOTORE	
XAc.F	V00-2227-058	8/D7	CONNETTORE MSTB 2.5/2-ST5-5.08 - Nø 2 PO	CONNETTORE IMPOSTAZIONE SCHEDA	
XF	V00-2229-028	2/A3	MORSETTO PORTAFUSIBILE A LAME LED 12 V -	MORSETTO PORTA FUSIBILE	
XFE	09104189	2/C5	PORTAFUSIBILE MTA 01.00360 MIDIVAL	PORTAFUSIBILE	
XL1.F	00000000	2/D3	ENGINE.PART.....(CODICI MOTORE)	CONNETTORE MOTORE LOMBARDINI	
XL1.M	00000000	2/D3	ENGINE.PART.....(CODICI MOTORE)	CONNETTORE MOTORE LOMBARDINI	
XL.F	00000000	2/D4	ENGINE.PART.....(CODICI MOTORE)	CONNETTORE MOTORE LOMBARDINI	
XL.M	00000000	2/D4	ENGINE.PART.....(CODICI MOTORE)	CONNETTORE MOTORE LOMBARDINI	
XP1	V00-2227-030	2/F4	PRESA ACCENDISIGARI VOLANTE	ACCENDISIGARI	
XP21	V00-2225-003	2/E4	CONNETTORE - Nø 8 POLI - MASCHIO SIZE 12	CONNETTORE POTENZA MACCHINA	
	- V00-2225-004	2/E4	CONTATTO MASCHIO TORNITO SEZIONE FILO: 1		
	- V00-2225-005	2/E4	RONDELLA PER CONNETTORI HD 34 - DEUTSCH		
	- V00-2225-007	2/E4	DADO PER CONNETTORI HD 34 - DEUTSCH : 11		

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COMPONENTS LIST

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Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
XP22	V00-2225-006	2/B7	CONNETTORE - Nø 14 POLI - MASCHIO SIZE 1	CONNETTORE INTERFACCIA MOTORE	
	- V00-2225-002	2/B7	CONTATTO MASCHIO TORNITO SEZIONE FILO: 1		
	- V00-2225-005	2/B7	RONDELLA PER CONNETTORI HD 34 - DEUTSCH		
	- V00-2225-007	2/B7	DADO PER CONNETTORI HD 34 - DEUTSCH : 11		
XP23	V00-2225-027	8/D2	CONNETTORE - Nø 2 POLI - MASCHIO - GRIGI	CONNETTORE SEGNALI MOTORE	
	- V00-2225-002	8/D2	CONTATTO MASCHIO TORNITO SEZIONE FILO: 1		
	- V00-2225-028	8/D2	BLOCCACONTATTI MASCHIO VERDE - Nø 2 POLI		
XP42	V00-2227-001	4/D5	CONNETTORE - Nø 2 POLI - M - MTA : 44101	CONNETTORE SIRENA	
XP61	V00-2227-023	6/C6	CONNETTORE PORTAMASCHIO - Nø 3 POLI - MO	CONNETTORE POTENZIOMETRO	
XP62	V00-2227-023	6/C6	CONNETTORE PORTAMASCHIO - Nø 3 POLI - MO	CONNETTORE POTENZIOMETRO JOYSTICK	
XP63	V00-2227-062	6/E3	CONNETTORE - Nø 5 + PE POLI - MASCHIO VO	CONNETTORE CAN 1	
XP64	V00-2227-062	6/E3	CONNETTORE - Nø 5 + PE POLI - MASCHIO VO	CONNETTORE CAN 2	
XP71	V00-2227-001	7/A4	CONNETTORE - Nø 2 POLI - M - MTA : 44101	CONNETTORE PULSANTE RESET	
XP91	V00-2225-001	9/C1	CONNETTORE - Nø 40 POLI - MASCHIO FISSAG	CONNETTORE INTERFACCIA MACCHINA	
	- V00-2225-002	9/C1	CONTATTO MASCHIO TORNITO SEZIONE FILO: 1		
XPc.F	V00-2227-021	8/C3	CONNETTORE PORTAFEMMINA - Nø 2 POLI - MO	CONNETTORE ALIMENTAZIONE PC	
XRC	V00-2227-026	13/C3	FRUTTO PRESA 16 P + T - 400 V - 16 A - A	CONNETTORE RADIOCOMANDO	
	- V00-2227-029	13/C3	CUSTODIA DA INCASSO - CON 1 LEVA E SPORT		
	- V00-2227-069	13/C3	PERNO SEMPLICE DI CODIFICA - ILME : CR 2		
XRT	V00-2227-026	14/C4	FRUTTO PRESA 16 P + T - 400 V - 16 A - A	CONNETTORE REGISTRATORE DI TIRO	
	- V00-2227-029	14/C4	CUSTODIA DA INCASSO - CON 1 LEVA E SPORT		
	- V00-2227-069	14/C4	PERNO SEMPLICE DI CODIFICA - ILME : CR 2		
XS21	V00-2225-025	2/E4	CONNETTORE - Nø 8 POLI - FEMMINA SIZE 12	CONNETTORE POTENZA MACCHINA	
	- V00-2225-026	2/E4	CONTATTO FEMMINA TORNITO SEZIONE FILO: 1		
	- V00-2225-046	2/E4	ADATTATORE PER CONNETTORI - MATERIALE PA		
XS22	V00-2225-020	2/B7	CONNETTORE - Nø 14 POLI - FEMMINA SIZE 1	CONNETTORE INTERFACCIA MOTORE	
	- V00-2225-010	2/B7	CONTATTO FEMMINA TORNITO SEZIONE FILO: 1		
	- V00-2225-046	2/B7	ADATTATORE PER CONNETTORI - MATERIALE PA		

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Sigla	Codice	Pos.	Descrizione da Archivio Materiali	Funzione Componente	Function Component
XS23	V00-2225-012	8/D2	CONNETTORE - Nø 2 POLI - FEMMINA - GRIGI	CONNETTORE SEGNALI MOTORE	
	- V00-2225-010	8/D2	CONTATTO FEMMINA TORNITO SEZIONE FILO: 1		
	- V00-2225-013	8/D2	BLOCCACONTATTI FEMMINE ARANCIO - DEUTSCH		
XS41	V00-2225-027	4/D4	CONNETTORE - Nø 2 POLI - MASCHIO - GRIGI	CONNETTORE LAMPEGGIANTE	
	- V00-2225-002	4/D4	CONTATTO MASCHIO TORNITO SEZIONE FILO: 1		
	- V00-2225-028	4/D4	BLOCCACONTATTI MASCHIO VERDE - Nø 2 POLI		
XS42	V00-2227-021	4/D5	CONNETTORE PORTAFEMMINA - Nø 2 POLI - MO	CONNETTORE SIRENA	
XS61	V00-2227-022	6/C6	CONNETTORE PORTAFEMMINA - Nø 3 POLI - MO	CONNETTORE POTENZIOMETRO	
XS62	V00-2227-022	6/C6	CONNETTORE PORTAFEMMINA - Nø 3 POLI - MO	CONNETTORE POTENZIOMETRO JOYSTICK	
XS63	V00-2227-061	6/E3	CONNETTORE - Nø 5 + PE POLI - FEMMINA FI	CONNETTORE CAN 1	
XS64	V00-2227-061	6/E3	CONNETTORE - Nø 5 + PE POLI - FEMMINA FI	CONNETTORE CAN 2	
XS71	V00-2227-021	7/A4	CONNETTORE PORTAFEMMINA - Nø 2 POLI - MO	CONNETTORE PULSANTE RESET	
XS91	V00-2225-009	9/C1	CONNETTORE - Nø 40 POLI - FEMMINA SIZE 1	CONNETTORE DISTRIBUZIONE MACCHINA	
	- V00-2225-010	9/C1	CONTATTO FEMMINA TORNITO SEZIONE FILO: 1		
	- V00-2225-011	9/C1	COPERTURA POSTERIORE - DEUTSCH : DRC 40-		
XT	V00-2232-012	15/C3	TAPPO DI CHIUSURA M12 - X MULTIPRESE - M		
Y1	99999999	11/D2	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA PROPORZIONALE CABESTANO 1	
Y2	99999999	11/D4	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA REGOLAZIONE TIRO CABESTANO 2	
Y3	99999999	9/D6	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA FRENO NEGATIVO CABESTANO	
Y4	99999999	9/D6	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA RIAVVOLGITORE	
Y5	99999999	9/D4	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA RADIATORE/SERVIZI	
Y6	99999999	9/D3	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA ABILITAZIONE VOMERE	
Y7	99999999	9/D7	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA BLOCCAFUNE CABESTANO	
Y8	99999999	10/D3	IDRAULIC.PART.....(CODICE IDRAULICO)	ELETTROVALVOLA PRESSA	
YV1	V00-2232-015	9/C1	MULTICONNETTORE CON CAVO FISSO - 8 X M12	MULTIPRESA X8 ELETTROV. 2 SOL. L=5M MURR	
YV2	V00-2232-014	11/D2	MULTICONNETTORE CON CAVO FISSO - PIN TO	MULTIPRESA X4 ELETTROV. 1:1 MURR	
YV2.1	V00-2232-047	11/D7	CONNETTORE A T 5 POLI - 1 X M12M + 2 X M	CONNETTORE M12 A 'T'	
YV3	V00-2232-014	12/D3	MULTICONNETTORE CON CAVO FISSO - PIN TO	MULTIPRESA X4 ELETTROV. 1:1 MURR	

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Grassobbio BG via Zanica, 17/o - Italy - Email: info@tesmec.it tel: +39 035 4232911 fax: +39 035 4522445
Sede di Endine Gaiano BG via Pertegalli - Italy - tel: +39 035 825024 fax: +39 035 826375

Electric scheme

COMPONENTS LIST

Design : AFS 303 300

Drawn: Facoetti

Checked : Ing. Oscar

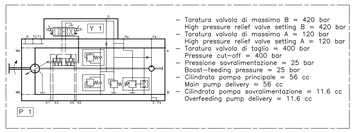
Drawing Nr. S01-00013
Archive Nr. S01

Date: 18/03/2011

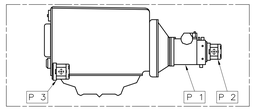
Sheet 31 of 31

Following

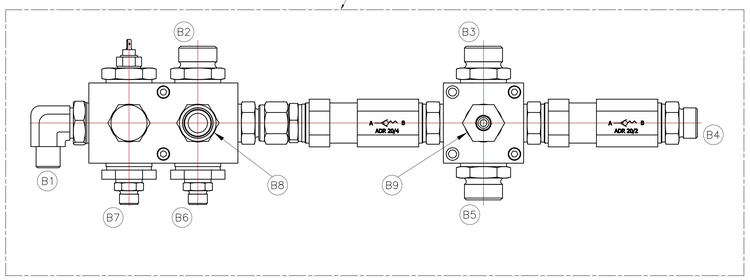
F 1	V00-6600-010	Filtro completo Hydraulic filter	1 Pz.
	V00-6600-011	Cartuccia Disposable filter	1 Pz.
	V00-8510-008	Intasatore Clogging filter	1 Pz.
F 2	V00-6600-013	Filtro completo Hydraulic filter	1 Pz.
	V00-6600-024	Cartuccia Disposable filter	1 Pz.
	V00-8510-039	Intasatore Clogging filter	1 Pz.

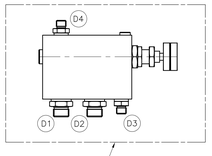


- Taratura valvola di massima B = 420 bar
  High pressure relief valve setting B = 420 bar
- Taratura valvola di massima A = 120 bar
  High pressure relief valve setting A = 120 bar
- Taratura valvola di taglio = 400 bar
  Pressure cut-off = 400 bar
- Pressione sovralimentazione = 25 bar
  Boost-feeding pressure = 25 bar
- Cilindrata pompa principale = 56 cc
  Main pump delivery = 56 cc
- Cilindrata pompa sovralimentazione = 11.6 cc
  Overfeeding pump delivery = 11.6 cc



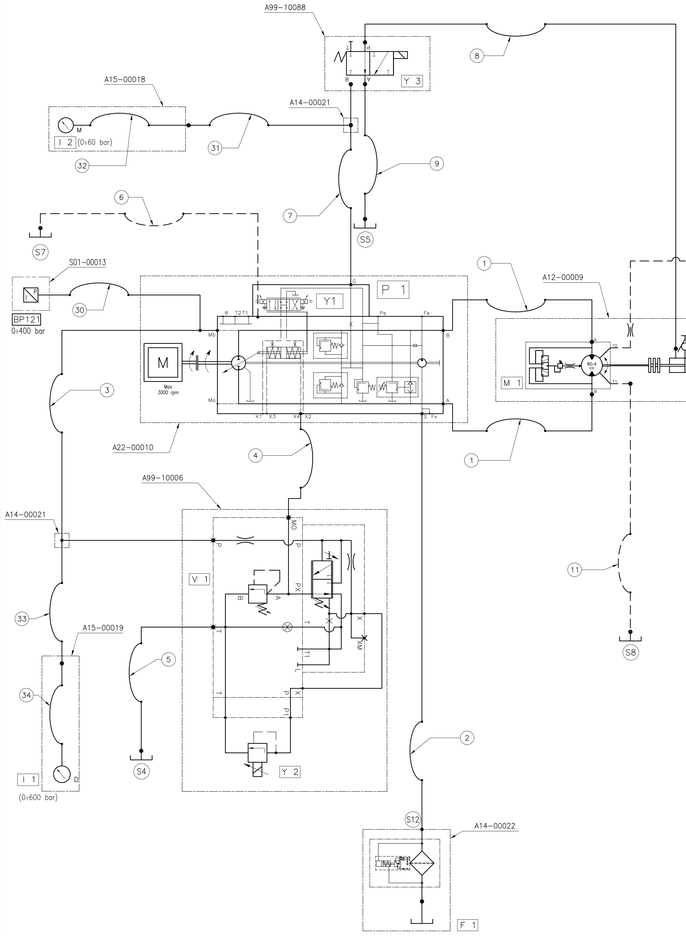
A99-10140

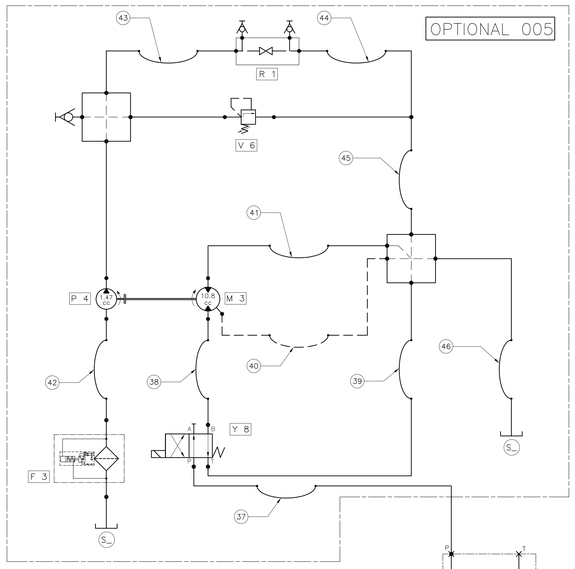


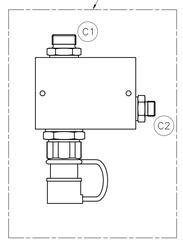


A99-10102

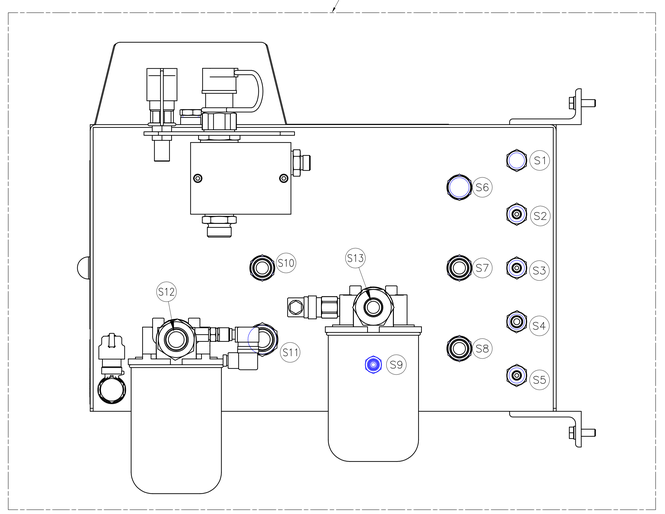
A99-10088



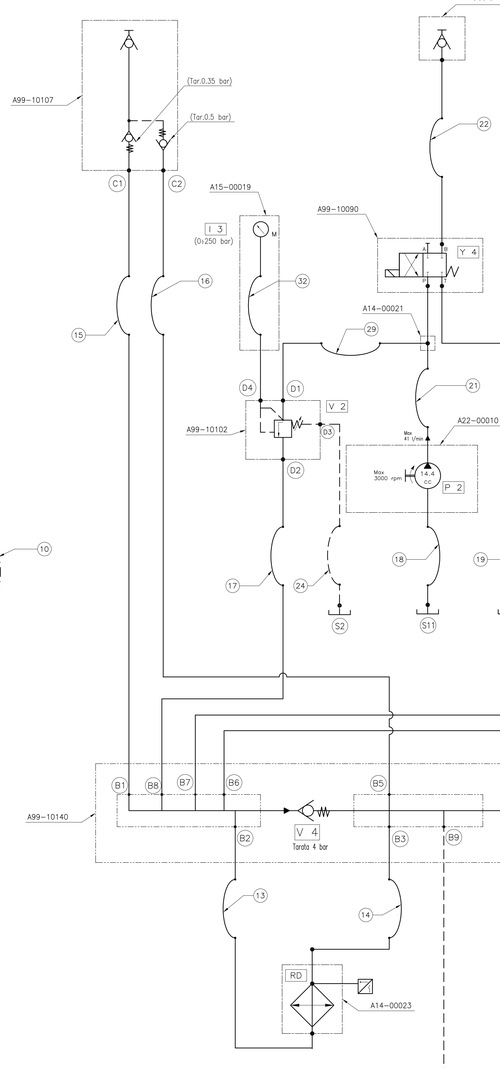




A99-10107



A14-00022



46		TUBO FLEX – R1 13x – x 1/2" GAS – y 1/2" GAS	1
45		TUBO FLEX – R1 6x – x 1/4" GAS – y 1/4" GAS	1
44		TUBO FLEX – R1 6x – x 1/4" GAS – y 1/4" GAS	1
43		TUBO FLEX – 352–04 x – x 1/4" GAS – y 1/4" GAS 700 BAR	1
42		TUBO FLEX – R1 19x – x 3/4" GAS – y 3/4" GAS	1
41		TUBO FLEX – R1 13x – x 1/2" GAS – y 1/2" GAS	1
40		TUBO FLEX – R1 6x – x 1/4" GAS – y 1/4" GAS	1
39		TUBO FLEX – R1 10x – x 3/8" GAS – y 3/8" GAS	1
38		TUBO FLEX – R2 13x – x 1/2" GAS – y 1/2" GAS	1
37		TUBO FLEX – R2 13x – x 1/2" GAS – y 1/2" GAS	1
		OPTIONAL 005	
36		TUBO FLEX – R2 6x – x 1/4" GAS – y 1/4" GAS	2
35		TUBO FLEX – R2 6x – x 1/4" GAS – y 1/4" GAS	2
		OPTIONAL 071	
34	L07-0000-003	TUBO MCS 6400 – 50.208 – 60.204 – 1000	1
33	L07-0000-004	TUBO MCS 6400 – 60.204 – 60.204 – 2500	1
32	L07-0000-002	TUBO MCS 6400 – 50.204 – 60.204 – 1000	2
31	L07-0000-001	TUBO MCS 6400 – 60.204 – 60.204 – 2000	1
30	L04-1104-005	TUBO FLEX – 4SP 6 x 400 – A 1/4" GAS – A 1/4" GAS CALZA TELATA	1
29		TUBO FLEX – R2 13x – x 1/2" GAS – y 1/2" GAS	1
28		TUBO FLEX – R2 10x – x 3/8" GAS – y 3/8" GAS	1
27		TUBO FLEX – R2 10x – x 3/8" GAS – y 3/8" GAS	1
26		TUBO FLEX – R2 10x – x 3/8" GAS – y 3/8" GAS	1
25		TUBO FLEX – R1 19x – x 3/4" GAS – y 3/4" GAS	1
24		TUBO FLEX – R1 6x – x 1/4" GAS – y 1/4" GAS	1
23	L02-0004-009	TUBO FLEX – R2 6x900 – K 1/4" GAS – K 1/4" GAS – 1.0"	2
22	L02-0008-009	TUBO FLEX – R2 13x2800 – K 1"/2" GAS – K 1"/2" GAS – 1.0"	1
21	L02-0008-008	TUBO FLEX – R2 13x500 – A 1"/2" GAS – K 1"/2" GAS	1
20	L01-0006-006	TUBO FLEX – R1 10x1300 – A 3/8" GAS – A 3/8" GAS	1
19	L01-0004-023	TUBO FLEX – R1 6x2270 – K 1/4" GAS – K 1/4" GAS – 1.0"	1
18	L01-0016-011	TUBO FLEX – R1 25x2300 – K 1" GAS – K 1" GAS – 1.0"	1
17	L01-0012-011	TUBO FLEX – R1 19x1400 – K 3/4" GAS – K 3/4" GAS – 1.0"	1
16	L01-0016-010	TUBO FLEX – R1 25x1720 – A 1" GAS – K 1" GAS	1
15	L01-0008-025	TUBO FLEX – R1 13x2150 – A 1"/2 GAS – K 1"/2 GAS	1
14	L01-0016-009	TUBO FLEX – R1 25x1170 – A 1" GAS – K 1" GAS	1
13	L01-0016-008	TUBO FLEX – R1 25x1500 – K 1" GAS – K 1" GAS – 1.0"	1
12	L01-0012-010	TUBO FLEX – R1 19x1500 – A 3/4" GAS – K 3/4" GAS	1
11	L01-0012-009	TUBO FLEX – R1 19x1700 – K 3/4" GAS – K 3/4" GAS – 1.0"	1
10	L01-0004-022	TUBO FLEX – R1 6x700 – K 1/4" GAS – K 1/4" GAS – 1.0"	1
9	L01-0004-021	TUBO FLEX – R1 6x2180 – K 1/4" GAS – K 1/4" GAS – 1.0"	1
8	L01-0004-020	TUBO FLEX – R1 6x1800 – K 1/4" GAS – K 1/4" GAS – 1.0"	1
7	L01-0004-019	TUBO FLEX – R1 6x550 – K 1/4" GAS – K 1/4" GAS – 1.0"	1
6	L01-0012-008	TUBO FLEX – R1 19x2200 – A 3/4" GAS – K 3/4" GAS	1
5	L01-0006-005	TUBO FLEX – R1 10x2550 – K 3/8" GAS – K 3/8" GAS – 1.0"	1
4	L01-0004-011	TUBO FLEX – R1 6x850 – K 1/4" GAS – K 1/4" GAS – 1.0"	1
3	L04-1104-003	TUBO FLEX – 4SP 6x400 – A 1/4" GAS – K 1/4" GAS CALZA TELATA	1
2	L01-0016-007	TUBO FLEX – R1 25x2250 – K 1" GAS – K 1" GAS – 1.0"	1
1	L03-1112-003	TUBO FLEX – 4SH 19x800 – A 3/4" GAS – K 3/4" GAS CALZA TELATA	2
POS	CODICE	DESCRIZIONE	N° PEZZI

Y7	V00-6100-071	ROPE LOCKING CYLINDER SOLENOID VALVE CONTROL
OPT	OPTIONAL 071	OPTIONAL 071

Y8	V00-6100-021 + V00-7200-015	COMPRESSOR SOLENOID VALVE CONTROL
V6	.	COMPRESSOR REGULATION VALVE
R1	.	COMPRESSOR HYDRAULIC OIL DRAIN PLUG VALVE
P3	.	COMPRESSOR FEED PUMP
M3	V00-6052-008	COMPRESSOR HYDRAULIC MOTOR
F3	.	P1 PUMP SUCTION FILTER
OPT	OPTIONAL 005	OPTIONAL 005

Y6	V00-6100-071 + V00-6204-019	HYDRAULIC PLUG CYLINDER SOLENOID VALVE CONTROL
Y5	V00-6100-051	HYDRAULIC FAN SOLENOID VALVE CONTROL
Y4	V00-6100-052 + V00-7200-015	REELWINDERS SOLENOID VALVE CONTROL
Y3	V00-6100-050 + V00-7200-014	VACUUM–BRAKE BULL WHEEL OPENING SOLENOID VALVE
Y2	V00-6203-002	PULL REGULATION PROPORTIONAL VALVE
Y1	V00-6001-012	P1 PUMP PROPORTIONAL SOLENOID VALVE CONTROL
V4	V00-6204-010	RADIATOR BY–PASS CHECK VALVE
V3	V00-6204-011	CHECK VALVE
V2	V00-6209-001	REELWINDERS REGULATION PRESSURE VALVE
V1	V00-6200-014	PULL REGULATION SEQUENCE VALVE
Rd	V00-6610-006	HYDRAULIC OIL RADIATOR
P3	V00-6004-024	FAN RADIATOR MOTOR AND AUXILIARY EQUIPMENT FEEDING PUMP
P2	V00-6004-025	REELWINDERS EQUIPMENT FEED PUMP
P1	V00-6001-023	M1 FEED PUMP
M2	V00-6052-006	FAN RADIATOR MOTOR
M1	V00-6050-024	BULL WHEELS MOTOR
I3	V00-6300-010	REELWINDERS WORKING PRESSURE MANOMETER
I2	V00-6300-006	P1 PUMP BOOST FEEDING PRESSURE MANOMETER
I1	V00-6300-020	P1 WORKING PRESSURE MANOMETER
FR1	V00-5702-024	VACUUM–BRAKE BULL WHEEL
F2	V00-6600-013	RETURN FILTER
F1	V00-6600-050	P1 PUMP SUCTION FILTER
C1	V00-6500-061	FRONT STABILIZER CYLINDER
BP12	V00-8510-072	PRESSURE TRANSDUCER
POS	DESCRIZIONE	DESCRIPTION

TESMEC
GRASSOBBIO (BG) Tel.035/4523911 – Fax 035/4522445
ENDINE G. (BG) Tel.035/825024 – Fax 035/826375

DISEGNATO	Ing. Oscar
CONTROLLATO	Locatelli
DATA	28–09–2011
SCALA	~000.0 Kg
FORMATO	A0

TUTTE LE NORME RICHIAMATE SI INTENDONO NELLA LORO ULTIMA EDIZIONE
SALDATURE IN ACCORDO CON – WPS 1 ÷ 9
GRADI DI PRECISIONE PER QUOTE LINEARI, ANGOLARI, GEOMETRICHE NON TOLLERATE
LAV.MECCANICHE UNI EN 22768–mH
CARPENTERIA UNI EN 22768–cK

MACCHINA ARGANO FRENO
MODELLO AFS 303 310
GRUPPO IMPIANTO OLEODINAMICO
DISEGNO SCHEMA IDRAULICO
NUMERO DISEGNO S02–00020