PIATTAFORME AEREE SEMOVENTI
SELF-PROPELLED WORK-PLATFORMS
PLATEFORMES DE TRAVAIL AUTOMOTRICES
SELBSTFAHRENDE HUBARBEITSBÜHNEN
PLATAFORMAS ELEVADORAS AUTOPROPULSADAS
ZELFRIJDENDE HOOGWERKERS
SJÄLVGÅENDE ARBETSPLATTFORMAR
SAMOKRETNE RADNE PLATFORME
ÖNHAJTÁSÚ MUNKAÁLLVÁNYOK

„*XL* “*SERIES*
XL11 XL14 XL16 XL19

USER'S MANUAL
ENGLISH TRANSLATION OF THE ORIGINAL USER MANUAL

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Review date	Modifications Log
01-2010	• Update to the new Machine Directive 2006/42/EC. • Model name update.
11-2010	• Biodegradable oil instructions introduced. • Temperatures and oil list updated.
05-2011	• Amended information on “Commissioning and first inspection, subsequent inspections and title transfer report”. • Additions to the Technical Data: “Total quantity of battery electrolyte” • Corrected "Max. power" diesel engine and inserted "Adjusted Power"
08-2011	• Further to replacement the 48V-12V converter of XL E installations, some diagrams and electrical wiring have been upgraded and moved to the second part of the manual.
04-2012	• Parking brakes removed from electric versions XL16 and E16 XXL; descriptions and electric diagrams upgraded.
08-2012	• "Maximum load with stabilizer" has been added to the technical specifications.
11-2012	• Parking brakes removed from electric versions XL19 E; descriptions and an electric diagram changed.
07-2013	• The new model XL14 E 6P has been added.
2013-10	• Details added to the instructions on harness anchoring points
2014-09	• Added information on the maximum manual forces. • Changed name CEO.
2015-01	• EC Statement of Compliance updated • Additional instructions on hand position have been added.
2015-10	• The list of recommended hydraulic oils was updated. • A paragraph was added stating strictly original spare parts should be used or alternatively the approval of the manufacturer should priory obtained. • The whole paragraph “Deboarding the platform off the ground ”is new. • The activation procedure for the battery charger has been updated.
2015-12	• Electric connections changed (the SPI was replaced).
2017-02	• A new load control system has been installed and additions have been made in the manual.

Tigieffe thanks you for purchasing a product of its range, and invites you to read this manual. Here you can find all the necessary information for a correct use of the purchased machine; therefore, you are advised to follow the instructions carefully and to read the manual thoroughly. The manual should be kept in a suitable place where no damage can occur to it. The contents of this manual may be modified as a result of any change or improvement done by the manufacturer. This will involve no prior notice and no other obligations of the manufacturer to make any upgrade, change, or improvement of the units already in the market. The reproduction or translation of the whole manual or parts thereof is strictly forbidden without prior written approval of the owner.

Contents:

1. INTRODUCTION

This Use and Maintenance Manual provides general instructions concerning the complete range of machines indicated on the cover. Therefore the description of their components, as well as control and safety systems, may include parts not present on Your machine since supplied on request or not available. In order to keep pace with the technical development, **AIRO-Tigieffe s.r.l.** reserves itself the right to modify the product and/or the user's manuals as needed and without any obligation to prior updates of already existing manuals.

1.1 Legal mentions

1.1.1. Handover of deliveries

Within EU (European Union) member countries the machine is delivered complete with:
- Use and Maintenance manual in your language
- CE mark applied on the machine
- EC Statement of Compliance
- Warranty certificate

If the machine is destined for Italy the following additional documents will be available:
- Notification to INAIL (Italian Health Insurance Company) of successful commissioning.
- List of local INAIL departments
- Statement of in-house testing

It is to be noted that the Use and Maintenance Manual is an integral part of the machine and a copy of this, together with copies of the documents certifying that the periodical checks have been carried out, must be kept on board in its suitable container. Should you sell, lease or elsehow transfer the ownership the machine, make sure that a copy of the manual is handed over with the machine.

1.1.2. Statements of successful commissioning, first installation test, periodical functional tests and property transfers.

The legal obligations of the owner of the machine vary according to the country of commissioning. It is therefore recommended to inquire about the procedures in force in your country from the boards responsible for industrial safety. This manual contains a final section called "Check register" for a better filing of documents and recording of any modifications.

1.1.1.1 Statements of successful commissioning, and first installation test.

In ITALY the owner of the Aerial Platform must notify the user of the machine to the local competent INAIL and submit it to periodical compulsory checks. The first of such checks is performed by the INAIL within sixty days from a request being made. In the event of such time passing without the inspection being made, the employer can call in the ASL (Local Health Unit) or qualified public or private services. Subsequent checks are made by the already-mentioned parties within thirty days from a request being made. In the event of such time passing without these checks being made, the employer can call in qualified public or private services. The employer (machine owner) is to bear all costs of the aforementioned checkups and tests. The local inspection Authorities (ASL/USL, ARPA and INAIL) may appoint any other qualified public or private service to carry out the test. In this case, the appointed private Authorities will act on behalf of Inail (State Authority) by the same powers and qualification of the latter.

Italian Customers using the machine in Italy: please notify successful commissioning of the machine to the competent INAIL department using the special form found with the other delivery documents and send it by registered letter with bill of receipt.

INAIL will assign the machine a serial number and fill out a "Technical Data Sheet "on the day of the first installation test. The Data Sheet will exclusively contain the main details of the equipment as-is that will be checked off against the information contained in the instruction manual. The "Technical Data Sheet "will form an integral part of the machine.

1.1.1.2 Periodical Functional Tests.

Yearly overhauls are compulsory. In Italy, the owners of an Aerial Platform must apply for a periodical check by sending a registered letter to the local competent inspection board (ASL/USL or other qualified public or private services) at least twenty days before the expiry of the year from the last check.

PLEASE NOTE: If a machine without a valid control document should be moved into an area outside the competence of the usual inspection board, the owner of the machine must ask the inspection board, competent for the new territory where the machine is to be used, for the annual check.

1.1.1.3 Transfers of ownership

If the machine is transferred in Italy, the new owner is to notify the ownership of the machine to the local competent Authorities (ASL/USL or other qualified public or private services) by supplying a copy of:

- Declaration of conformity issued by the manufacturer.
- Statements of successful commissioning carried out by the first owner.

1.1.3. Operators training and information.

The employer must ensure that the workers appointed to use the equipment are adequately and specifically trained so they are able to use the Mobile Elevating Work Platform in a proper and safe way and also avoid the risks caused by other people.

1.2 Tests performed before delivery.

Before being placed on the market, each MEWP undergoes the following tests:

- Braking test
- Overload test
- Operating test

1.3 Intended use

The machine described in this use and maintenance manual is a self-propelled aerial platform intended for lifting persons and materials (equipment and work materials) in order to carry out maintenance, installation, cleaning, painting, de-painting, sand-blasting, welding operations, etc.
The max. capacity allowed (which varies according to the model –see paragraph “Technical features”) is divided as follows:

- 80 Kg for each person on board
- 40 Kg for equipment
- any remaining load is represented by the material being worked.

In any case NEVER exceed the maximum capacity allowed as indicated in paragraph "Technical features”. Persons, tools and work materials can be loaded on the platform only from the initial boarding position (platform lowered). It is absolutely forbidden to load persons, tools and work materials on the platform when it is not in the boarding position.
All loads must be positioned inside the platform. Do not lift loads (even if complying with the maximum capacity allowed) hanging from the platform or lifting structure.
Do not carry large-sized panels since they increase the resistance to wind force thus causing the machine to overturn.
Do not load anything on the platform while the platform is up and the machine travels (operators on board are not allowed to pull wires or ropes, etc.).
An overload controller stops the operation of the machine if the load on the platform exceeds by 30% approx. the nominal load (see chapter "General use rules”) and platform is lifted.
The machine cannot be used in areas where road vehicles operate. Always surround the working area by means of suitable signs when the machine is used in public areas.
Do not use the machine to tow trucks or other vehicles.
Any other use different than those for which it was designed must be approved in writing by the manufacturer following a specific request on the part of the user.

Do not use the machine for purposes other than those for which it was designed, except after making a request and having obtained written permission in this sense from the manufacturer.

1.4 Unboarding the platform off the ground

The risk of deboarding the Aerial Work Platform when the platform is off the ground has not been accounted in our design safety because the only possible deboarding configuration is the one with the platform completely lowered on ground. For this reason deboarding or leaving a raised platform is absolutely prohibited.
However, operators do happen to incur certain situations where they need to leave or access the platform in different positions than the initial boarding one. These situations are commonly referred to as "Deboarding the platform off the ground".

The risks relative to "deboarding a platform off the ground "depend on the configuration of the platform, but also from the risk assessment analysis carried out by the employer before authorizing any such condition. However, the following circumstances should always be taken in due account;

- site/area characteristics;
- use of the machine as an anchoring point for other operators and other applications, which should be prevented and never be possible for no reasons;
- use of the machine at xx% of the its performance to prevent additional stress resulting from specific operations, or flexural bending of the chassis which may force the platform away from the landing area. In this case, it is recommendable to perform a few trials and define these limit conditions;
- implementation of a special emergency evacuation procedure (for instance having a man on the platform; another one at the control station on ground, while a third one leaves a raised platform);
- administration of extensive training of the persons involved (both operators and passengers);
- installation of all implements needed at the point of deboarding to prevent falling of the persons leaving the platform.

This paragraph should not be interpreted as a formal approval by the manufacturer to deboard the platform off-the-ground, which remains a strictly prohibited action. The Employer is the ultimate person responsible for making any such decision and this paragraph is merely meant to supply additional informations and help.

1.5 Description of the machine

The machine described in this use and maintenance manual is a Mobile Elevating Work Platform equipped with:

- Motorised chassis equipped with wheels and, on request, with levelling outriggers (optional);
- Vertical lifting structure, scissors type, activated by one or several hydraulic cylinders (the number of cylinders depends on the model of the machine);
- Operator platform which can be of two types (the max. capacity varies according to the model - see chapter "**Technical features**"):
    - Manual extension in both directions.
    - Hydraulic extension in both directions.

The chassis is motorised to allow the machine to move (see "General use instructions"). On 2 wheel drive models the chassis is equipped with two rear driving wheels and two front idle steering wheels. On 4 wheel drive models the chassis is equipped with two rear driving wheels and two front driving and steering wheels. All driving wheels are equipped with hydraulic parking brakes, positive logic type (when drive controls are released brakes are automatically activated). On request the machine may be equipped with levelling outriggers to operate on inclined grounds (but sufficiently firm). Even in this case the machine is steady enough to operate on horizontal and sufficiently firm grounds and the platform can be lifted with the chassis resting on the four puncture-proof tires without using the levelling outriggers. These must be used when operating on uneven but sufficiently firm grounds. The levelling outriggers are controlled from the platform control panel, where machine levelling and operations in progress can be checked by means of a spirit level. The machine is also equipped with an inclinometer, a device that stops lifting in the event that the platform is lifted at a height from the ground, which varies from model to model (the stability limits of each model are indicated in paragraph "Technical Features").
The hydraulic cylinders which move the articulated structure and the levelling outriggers are provided with solenoid valves or safety valves directly flanged on the same. This enables the machine to be held in position also in the event of an accidental breaking of the supply pipe.
The platform can be of two types:

- The fixed platform is fitted with two manual slide-out extension decks which extend the operator's work surface.

- The fixed platform is fitted with two hydraulic slide-out extension decks which extend the operator's work surface.

The platform is equipped with guardrails and toe-boards of a predefined height (the height of the guardrail is ≥ 1100 mm; the height of the toe-boards is ≥150 mm).
When no motive power is available, the manual emergency lowering can be controlled by means of the manual pump and knob indicated by the instruction plates.

1.6 Operator's Stations

The machine is equipped with two operator stations:
- On the platform for normal use of the machine
- On the chassis you can find: the emergency controls to lower or stop the platform and the emergency stop button, a key-selector to select the control panel and to start the machine.

1.7 Power supply

The machines can be powered by:
- An electric-hydraulic system composed of rechargeable batteries and electrical pump;
- An engine (diesel engine models are identified by the abbreviation "D"; gasoline engine models are identified by the abbreviation "B");
- A combination-power system (Electric/Diesel models are identified by the abbreviation "ED"; Combi models with electric/gasoline power are identified by the abbreviation "EB").

In any case, both the hydraulic and the electric systems are equipped with all necessary protections (see wiring and hydraulic circuit diagrams annexed to this manual).

1.8 Machine life, decommissioning and disposal.

The machine has been designed to last for 10 years in normal operating environments, if properly used and serviced. Within this period, the manufacturer must carry out a complete inspection/overhaul.
If the disposal of the unit is necessary, comply with current local regulations.
In Italy, the demolition/decommissioning must be notified to the local ASL / USL or ARPA.
The machine consists mainly of metal parts which are easy to be identified (steel for the most parts, and aluminium for the hydraulic blocks); thus, we can state that the machine can be recycled at 90%.

European standards and those transposed by the member countries relating to respect for the environment and the disposal of wastes envisage heavy administrative and penal fines in case of infringement.
In case of demolition/decommissioning, carefully keep to the provisions of applicable regulations, especially as regards materials such as hydraulic oil and batteries.

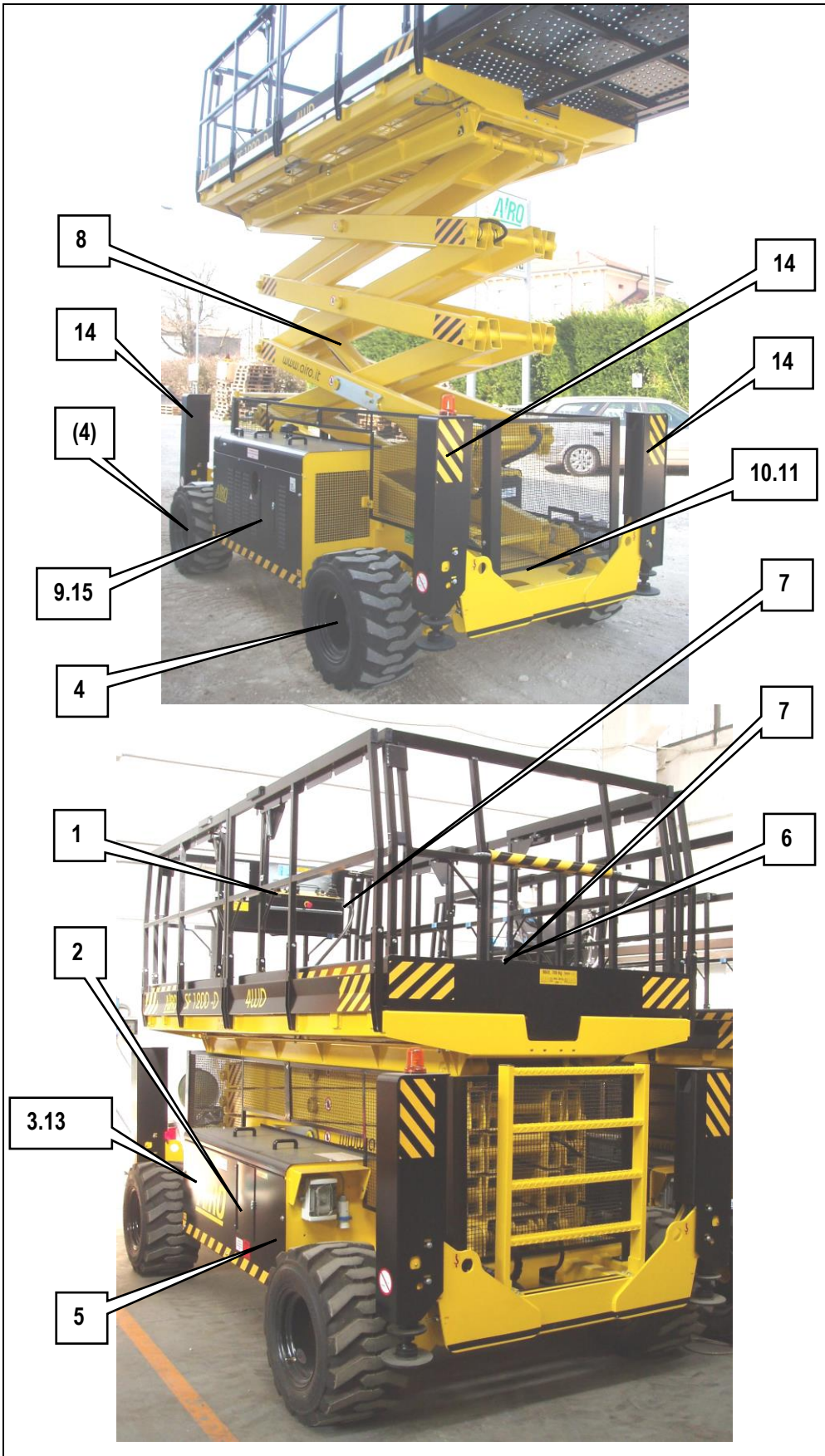
1.9 Identification

In order to identify the machine, when spare parts and service are required, always mention the information given in the serial number plate. Should this plate (as well as the various stickers applied on the machine) be lost or illegible, it is to be replaced as soon as possible. In order to identify the a machine without a plate or a label, please check the production number punched underneath the chassis. To locate the plate and the stamp of the serial number, see the following picture. It is recommended to copy such data in the following boxes.

MODEL: _____	**CHASSIS: _____**	**YEAR: _____**

Fig. 1

1.10 Location of main components



The picture shows the machine and its own components.

1) Control panel
2) Switchboard (on-ground control panel);
3) Hydraulic power unit;
4) Hydraulic drive engines;
5) Drive control hydraulic assembly (drive plate)
6) 230V plug (optional)
7) Spirit level (standard for models with levelling outriggers; optional for the other models) for visual check of machine levelling
8) Lifting cylinders
9) Battery;
10) Power steering
11) Inclinometer
12) 230V/380V electric control unit for pump control (optional on models D and ED)
13) Emergency manual pump
14) Levelling outriggers (optional)
15) Heat engine (models “ED”, “D”, EB”)
16) Pump 230V/380V (option only on models "D" and "ED")
17) 230V/ 380V socket and switches (optional only on models D and E/D)

2. TECHNICAL FEATURES OF THE STANDARD MACHINES

THE TECHNICAL FEATURES OF THE PRODUCTS IN THE FOLLOWING PAGES CAN BE MODIFIED WITHOUT PRIOR NOTICE

2.1 Model XL11 E

		XL11 E	
Dimensions:			
	Maximum working height	11.2	m
	Max. height of the platform floor	9.2	m
	Ground clearance	255	mm
	Max. height of the platform floor, safety valve activation	2	m
	Internal steering radius	3.3	m
	External steering radius	5.8	m
	Maximum capacity (m)	700	Kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	460	Kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	460	Kg
	Maximum slide-out extension deck	1.17 / 1.17	m
	Maximum capacity with platform extended	700	Kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	Max	
	Maximum dimensions with platform extended	1.74 x 5.835	m
	Maximum hydraulic pressure	210	Bar
	Max. pressure of lifting circuit	140	Bar
	Min. pressure of braking circuit	50 ÷ 60	Bar
	Tire dimensions (****)	Ø 730 x 265	mm
	Tire type (****)	10 x 16.5	
	Transport dimensions with removable rails installed	3.75 x 1.8 x 2.53	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	3.75 x 1.8 x 1.81	m
	Machine weight w. no load (*)	4850	Kg
Stability limits:			
	Longitudinal inclination	3	°
	Lateral inclination	2	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	1940	Kg
Specifications:			
	Driving wheels	2	N
	Max. drive speed	4	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	85 / 80	Sec.
	Oil tank capacity	40	l
	Maximum admissible gradient	25	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C

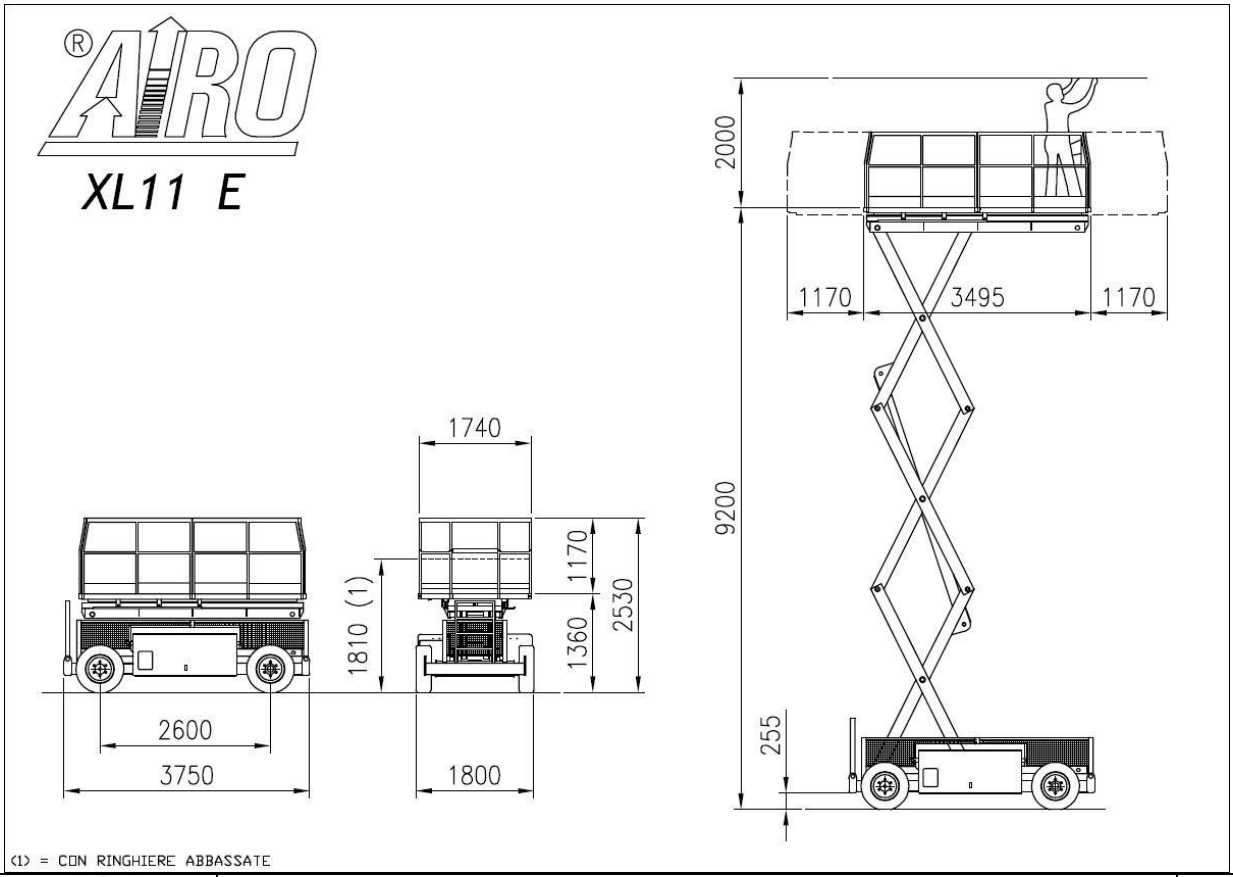
Battery power:			
	Battery capacity and voltage	2 x 24 / 325	V/Ah
	Total electrolyte quantity in the battery	2 x 54	l
	Battery weight	2 x 220	Kg
	Single phase battery charger (HF)	48 / 45	V/A
	Max. current absorbed by the battery charger	15	A
	Maximum installed power	4.5	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY. For **XL11E** it is possible to increase the max. allowed wind speed to 17 m/s by placing a ballast on the chassis of 300 kg. (****) Standard:

(****) tyres filled with puncture-proof polyurethane foam; Optional: extra flexible black tyres 250-15; Optional: extra flexible no-marking tyres 250-15.



2.2 Model XL14 E.

		XL14 E	
Dimensions:			
	Maximum working height	13.8	m
	Max. height of the platform floor	11.8	m
	Ground clearance	255	mm
	Max. height of the platform floor, safety valve activation	2.3	m
	Internal steering radius	3.3	m
	External steering radius	5.8	m
	Maximum capacity (m)	500	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	260	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	260	kg
	Maximum slide-out extension deck	1.17 / 1.17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	8	m
	Maximum dimensions with platform extended	1.74 x 5.835	m
	Maximum hydraulic pressure	210	bar
	Max. pressure of lifting circuit	180	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tire dimensions (****)	Ø 730 x 265	mm
	Tire type (****)	10 x 16.5	
	Transport dimensions with removable rails installed	3.75 x 1.8 x 2.73	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	3.75 x 1.8 x 2.01	m
	Machine weight w. no load (*)	5150	kg
Stability limits:			
	Longitudinal inclination	3	°
	Lateral inclination	2	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	2060	Kg
Specifications:			
	Driving wheels	2	n
	Max. drive speed	4	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	85 / 80	Sec.
	Oil tank capacity	40	l
	Maximum admissible gradient	22	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	2 x 24 / 325	V/Ah
	Total electrolyte quantity in the battery	2 x 54	l
	Battery weight	2 x 220	kg
	Single phase battery charger (HF)	48 / 45	V/A
	Max. current absorbed by the battery charger	15	A
	Maximum installed power	4.5	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

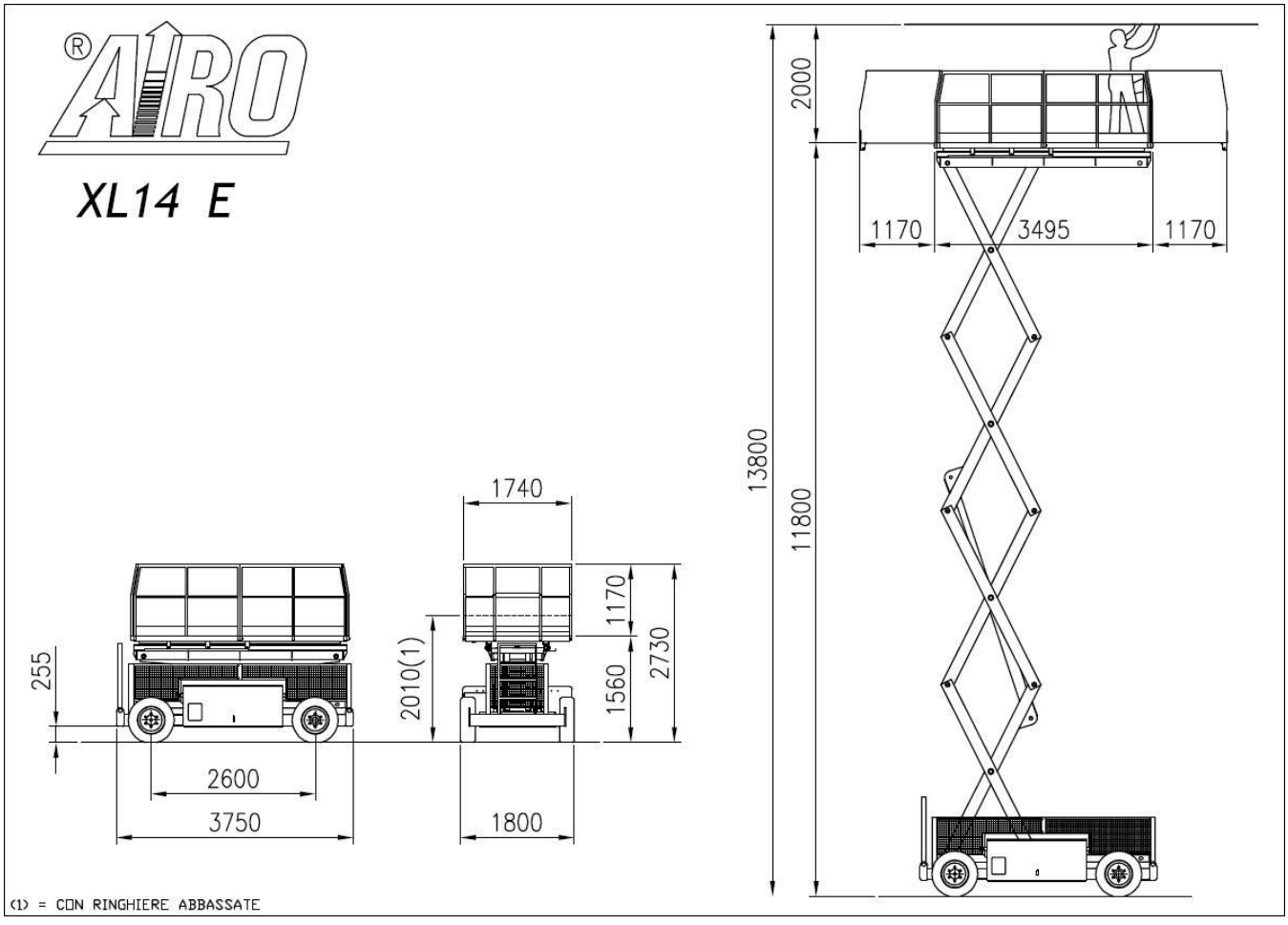
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) tyres filled with puncture-proof polyurethane foam; Optional: extra flexible black tyres 250-15; Optional: extra flexible no-marking tyres 250-15.



2.3 Model XL14 E 6P

		XL14 E 6P	
Dimensions:			
	Maximum working height	13.8	m
	Max. height of the platform floor	11.8	m
	Ground clearance	255	mm
	Max. height of the platform floor, safety valve activation	2.3	m
	Internal steering radius	3.3	m
	External steering radius	5.8	m
	Maximum capacity (m)	520	kg
	Max. number (n) of people on the platform –indoors	6	
	Mass weight of tool and material (me) (**) –outdoors	40	kg
	Max. number of people on the platform (n) –outdoors	0	
	Tool and material mass weight (me) (**) –outdoors	0	kg
	Maximum slide-out extension deck	1,17 + 1,17	m
	Maximum capacity with platform extended	520	kg
	Max. No. of people with platform extended	6	
	Maximum height during drive	7	m
	Maximum dimensions with platform extended	1.74 x 5.835	m
	Maximum hydraulic pressure	210	bar
	Max. pressure of lifting circuit	180	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tire dimensions (****)	Ø 730 x 265	mm
	Tire type (****)	10 x 16.5	
	Transport dimensions with removable rails installed	3.75 x 1.8 x 2.73	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	3.75 x 1.8 x 2.01	m
	Machine weight w. no load (*)	5150	kg
Stability limits:			
	Longitudinal inclination	3	°
	Lateral inclination	2	°
	Maximum wind speed (***)	0	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	2060	Kg
Specifications:			
	Driving wheels	2	n
	Max. drive speed	4	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	85 / 80	Sec.
	Oil tank capacity	40	l
	Maximum admissible gradient	22	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	2 x 24 / 325	V/Ah
	Total electrolyte quantity in the battery	2 x 54	l
	Battery weight	2 x 220	kg
	Single phase battery charger (HF)	48 / 45	V/A
	Max. current absorbed by the battery charger	15	A
	Maximum installed power	4.5	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

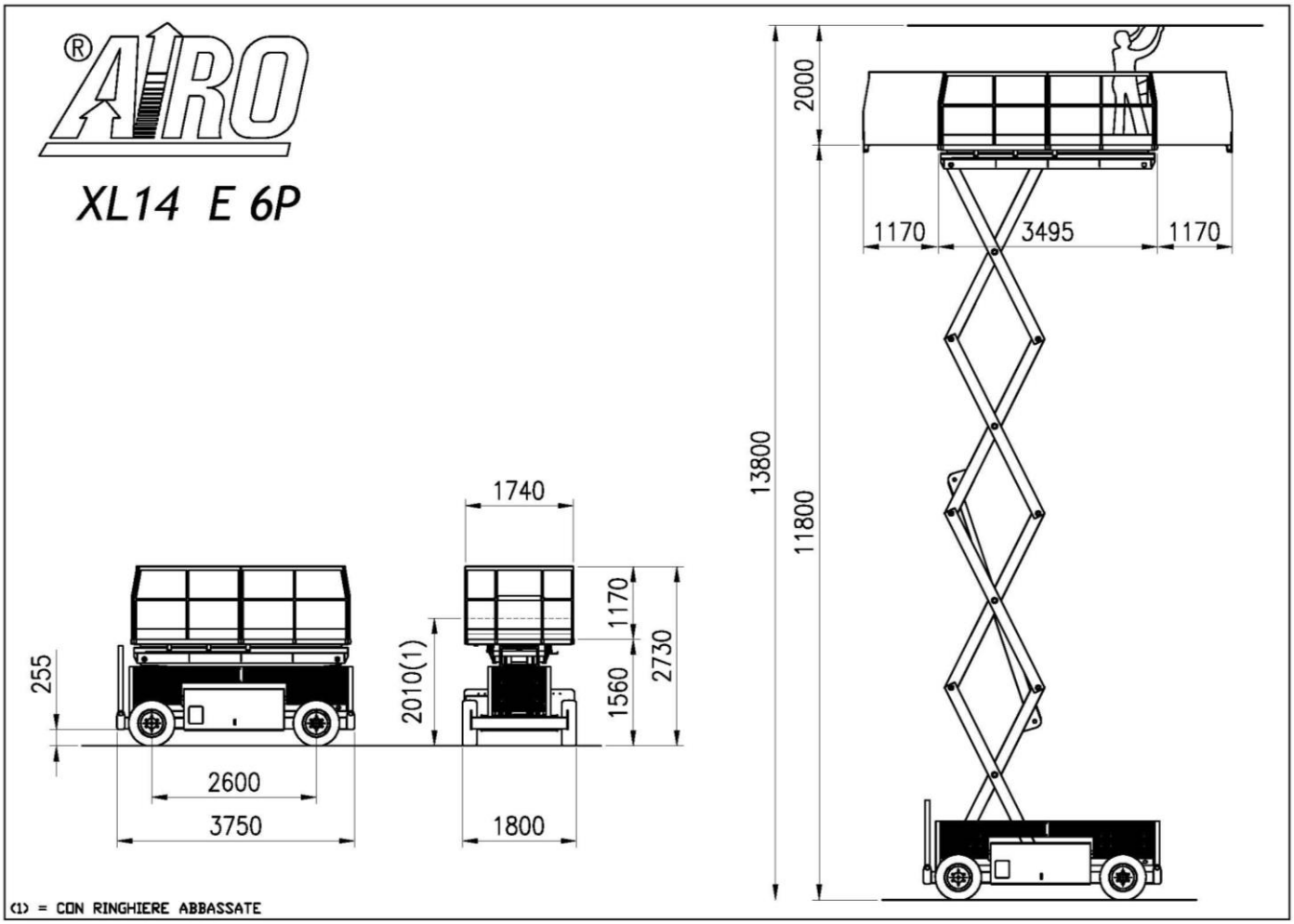
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) tyres filled with puncture-proof polyurethane foam; Optional: extra flexible black tyres 250-15; Optional: extra flexible no-marking tyres 250-15.



2.4 Model XXL14 E.

		XXL14 E	
Dimensions:			
	Maximum working height	13.8	m
	Max. height of the platform floor	11.8	m
	Ground clearance	255	mm
	Max. height of the platform floor, safety valve activation	2.3	m
	Internal steering radius	3.3	m
	External steering radius	5.8	m
	Maximum capacity (m)	500	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	260	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	260	kg
	Maximum slide-out extension deck	1.17 / 1.17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	8	m
	Maximum dimensions with platform extended	1.74 x 5.835	m
	Maximum hydraulic pressure	210	bar
	Max. pressure of lifting circuit	180	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tire dimensions (****)	Ø 730 x 265	mm
	Tire type (****)	10 x 16.5	
	Transport dimensions with removable rails installed	3.84 x 1.8 x 2.73	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	3.84 x 1.8 x 2.01	m
	Machine weight w. no load (*)	5400	kg
Stability limits:			
	Longitudinal inclination	3	°
	Lateral inclination	2	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	2160	Kg
	Max. load with levelling outrigger	2950	Kg
Specifications:			
	Driving wheels	2	n
	Max. drive speed	4	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	85 / 80	Sec.
	Oil tank capacity	40	l
	Maximum admissible gradient	22	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	2 x 24 / 325	V/Ah
	Total electrolyte quantity in the battery	2 x 54	l
	Battery weight	2 x 220	kg
	Single phase battery charger (HF)	48 / 45	V/A
	Max. current absorbed by the battery charger	15	A
	Maximum installed power	4.5	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

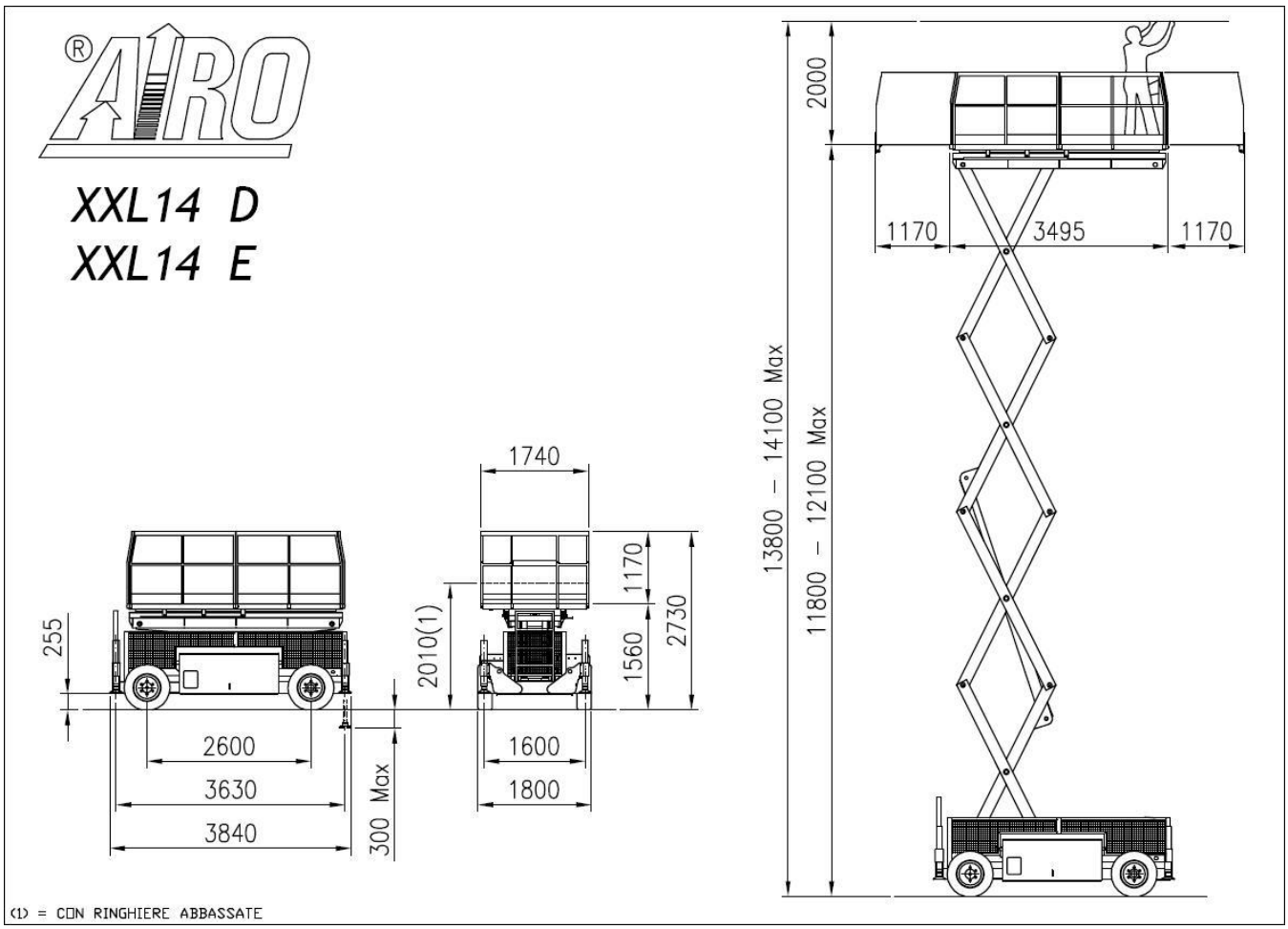
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) tyres filled with puncture-proof polyurethane foam; Optional: extra flexible black tyres 250-15; Optional: extra flexible no-marking tyres 250-15.



2.5 Model XL14 RTD

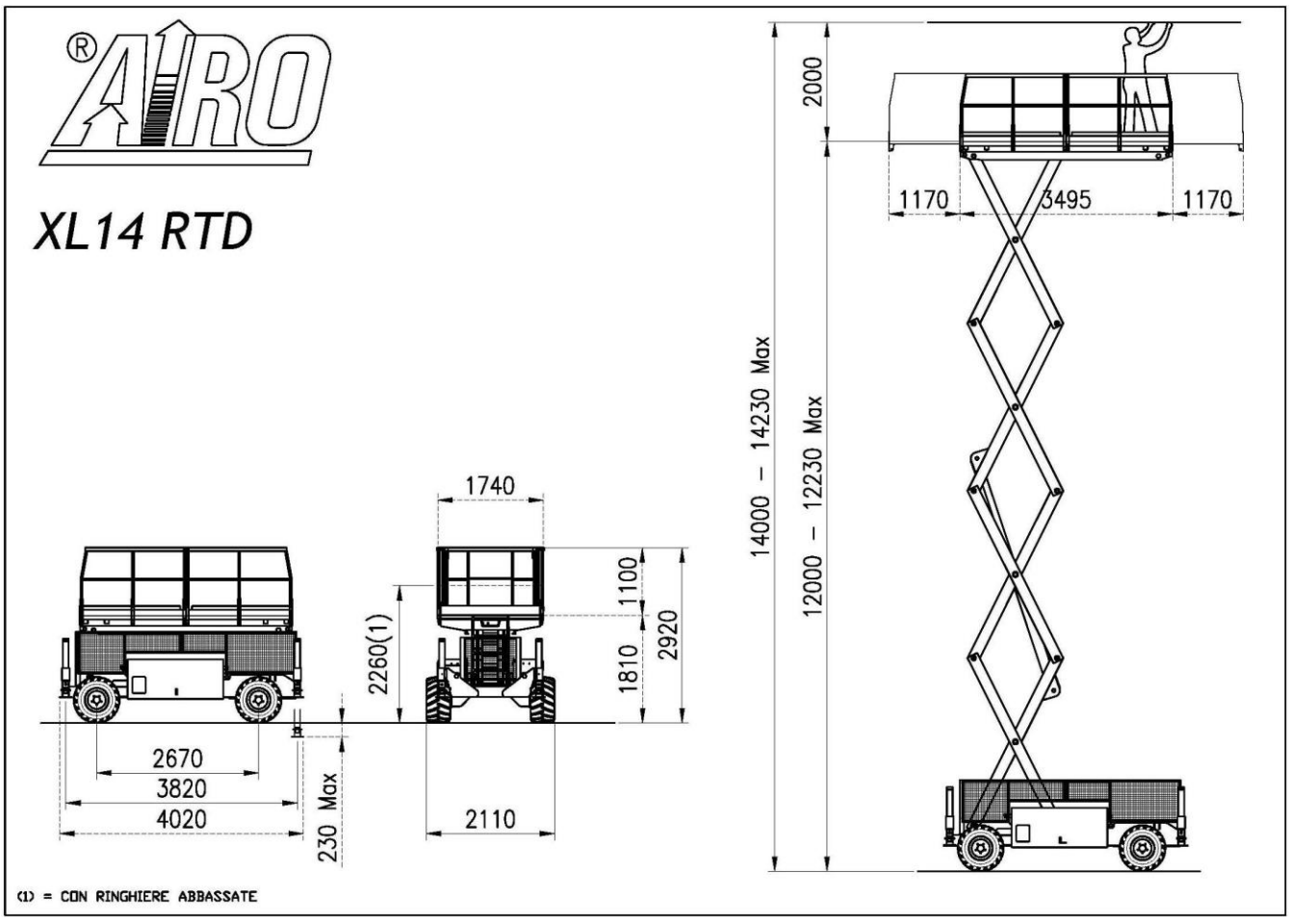
		XL14 RTD	
Dimensions:			
	Maximum working height	14	m
	Max. height of the platform floor	12	m
	Ground clearance	370	mm
	Max. height of the platform floor, safety valve activation	2.6	m
	Internal steering radius	4.2	m
	External steering radius	7.2	m
	Maximum capacity (m)	700	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	460	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	460	kg
	Maximum slide-out extension deck	1.17 / 1.17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	8	m
	Maximum dimensions with platform extended	1.74 x 5.835	m
	Maximum hydraulic pressure	190	bar
	Max. pressure of lifting circuit	190	bar
	Min. pressure of braking circuit	45 ÷ 60	bar
	Tyre dimensions	Ø 760 x 390	mm
	Type of tyres	31 x 15.50 x 15	
	Transport dimensions with removable rails installed	4.02 x 2.11 x 2.92	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	4.02 x 2.11 x 2.26	m
	Machine weight w. no load (*)	5870	kg
Stability limits:			
	Longitudinal inclination	3	°
	Lateral inclination	2	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	2350	Kg
	Max. load with levelling outrigger	3285	Kg
Specifications:			
	Driving wheels	4	n
	Max. drive speed	4.7	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	40 / 50	Sec.
	Oil tank capacity	145	l
	Maximum admissible gradient	35	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	NA	V/Ah
	Battery weight	NA	kg
	Single phase battery charger (HF)	NA	V/A
	Max. current absorbed by the battery charger	NA	A
	Maximum installed power	NA	kW
	Power electrical pump 1	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

Diesel Power			
	Diesel engine type	Isuzu 3CD1	
	Max. engine power	24.6	kW
	Rated Power	24	kW
	Starter battery	12/135	V/Ah
	Total electrolyte quantity in the battery	7	l
	Diesel tank capacity	45	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.



2.6 Model XL16 E

		XL16 E	
Dimensions:			
	Maximum working height	15.8	m
	Max. height of the platform floor	13.8	m
	Ground clearance	255	mm
	Max. height of the platform floor, safety valve activation	2.5	m
	Internal steering radius	4	m
	External steering radius	6.9	m
	Maximum capacity (m)	500	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	260	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	260	kg
	Maximum slide-out extension deck	1.17 / 1.17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	MAX	
	Maximum dimensions with platform extended	1.87 x 6.38	m
	Maximum hydraulic pressure	190	bar
	Max. pressure of lifting circuit	180	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tire dimensions (****)	Ø 730 x 265	mm
	Tire type (****)	10 x 16.5	
	Transport dimensions with removable rails installed	4.32 x 2.12 x 2.83	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	4.32 x 2.12 x 2.12	m
	Machine weight w. no load (*)	7050	kg
Stability limits:			
	Longitudinal inclination	2	°
	Lateral inclination	2	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	2820	Kg
Specifications:			
	Driving wheels	2	n
	Max. drive speed	4	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	85 / 80	Sec.
	Oil tank capacity	110	l
	Maximum admissible gradient	22	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	2 x 24 / 450	V/Ah
	Total electrolyte quantity in the battery	2 x 84	l
	Battery weight	2 x 400	kg
	Single phase battery charger (HF)	48 / 45	V/A
	Max. current absorbed by the battery charger	15	A
	Maximum installed power	9	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

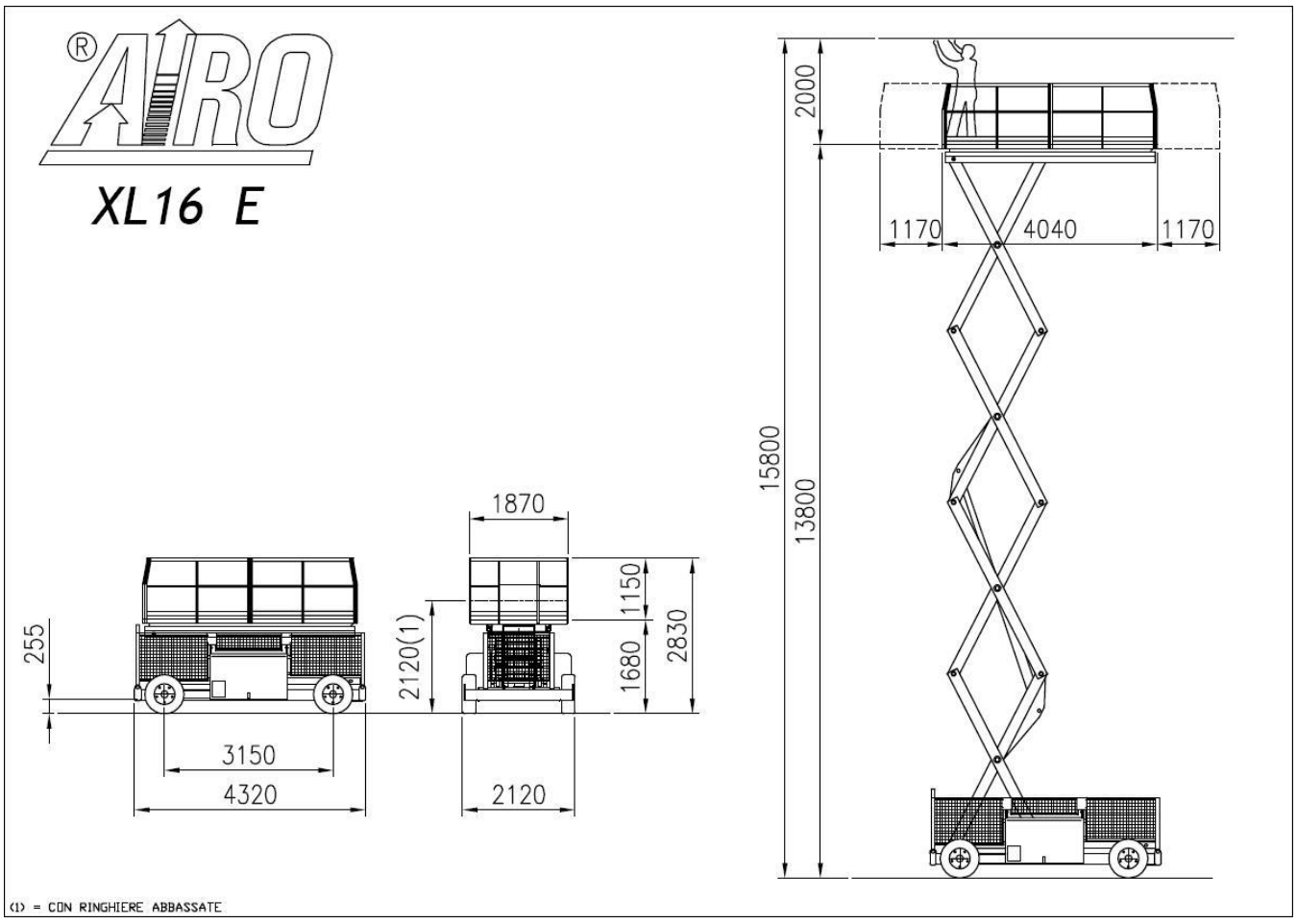
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) tyres filled with puncture-proof polyurethane foam; Optional: extra flexible black tyres 250-15; Optional: extra flexible no-marking tyres 250-15.



2.7 Model XXL16 E

		XXL16 E	
Dimensions:			
	Maximum working height	15.8	m
	Max. height of the platform floor	13.8	m
	Ground clearance	255	mm
	Max. height of the platform floor, safety valve activation	2.5	m
	Internal steering radius	4	m
	External steering radius	6.9	m
	Maximum capacity (m)	500	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	260	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	260	kg
	Maximum slide-out extension deck	1.17 + 1.17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	MAX	
	Maximum dimensions with platform extended	1.87 x 6.38	m
	Maximum hydraulic pressure	190	bar
	Max. pressure of lifting circuit	180	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tire dimensions (****)	Ø 730 x 265	mm
	Tire type (****)	10 x 16.5	
	Transport dimensions with removable rails installed	4.4 x 2.12 x 2.83	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	4.4 x 2.12 x 2.12	m
	Machine weight w. no load (*)	7125	kg
Stability limits:			
	Longitudinal inclination	2	°
	Lateral inclination	2	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	2850	Kg
	Max. load with levelling outrigger	3813	Kg
Specifications:			
	Driving wheels	2	n
	Max. drive speed	4	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	85 / 80	Sec.
	Oil tank capacity	110	l
	Maximum admissible gradient	22	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	2 x 24 / 450	V/Ah
	Total electrolyte quantity in the standard battery	2 x 84	l
	Battery weight	2 x 400	kg
	Single phase battery charger (HF)	48 / 45	V/A
	Max. current absorbed by the battery charger	15	A
	Maximum installed power	9	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

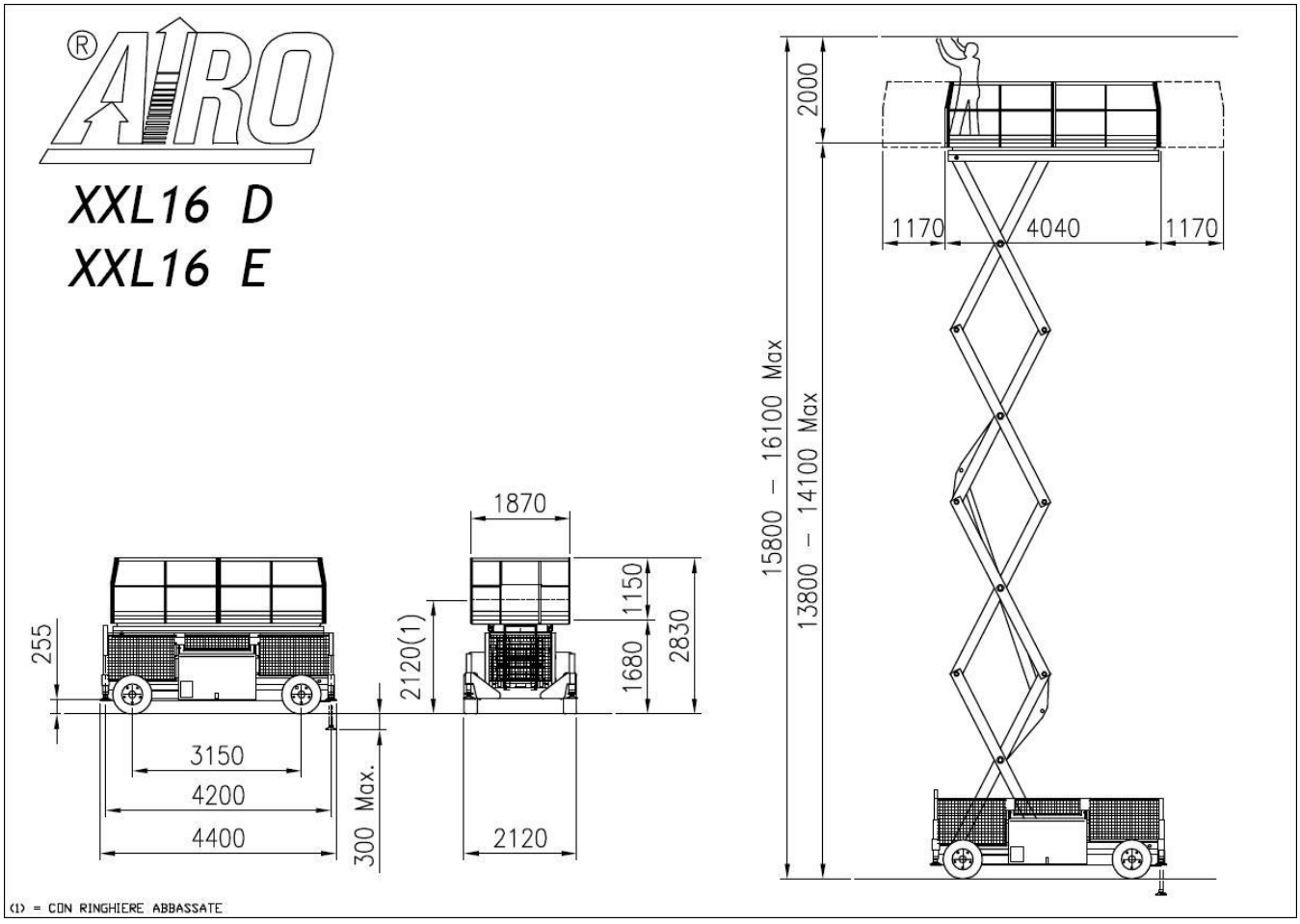
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) tyres filled with puncture-proof polyurethane foam; Optional: extra flexible black tyres 250-15; Optional: extra flexible no-marking tyres 250-15.



2.8 Model XL16 RTD

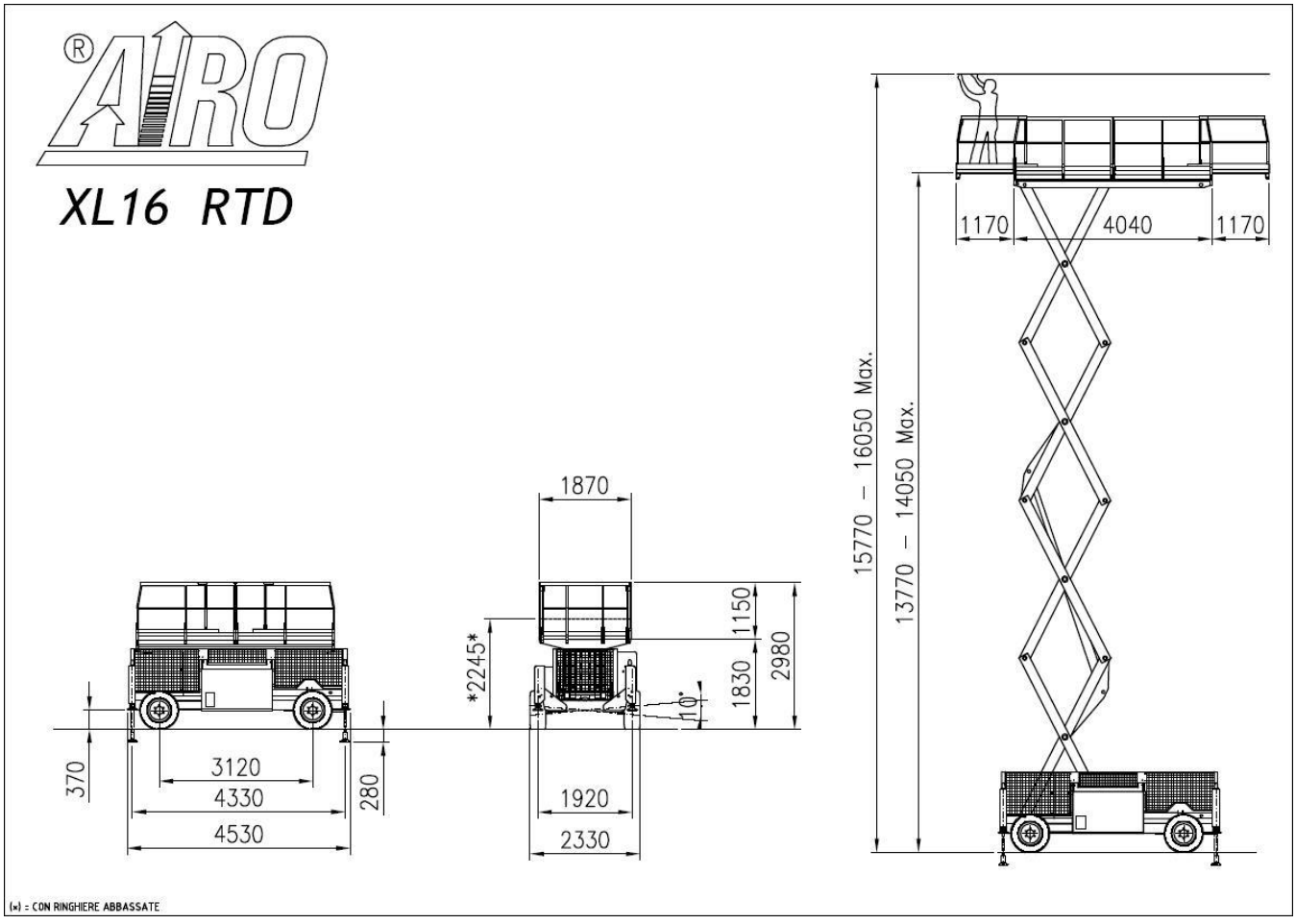
		XL16 RTD	
Dimensions:			
	Maximum working height	16	m
	Max. height of the platform floor	14	m
	Ground clearance	370	mm
	Max. height of the platform floor, safety valve activation	2.7	m
	Internal steering radius	4	m
	External steering radius	6.9	m
	Maximum capacity (m)	700	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	460	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	460	kg
	Maximum slide-out extension deck	1,17 + 1,17	m
	Maximum capacity with platform extended	700	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	MAX	
	Maximum dimensions with platform extended	1.87 x 6.38	m
	Maximum hydraulic pressure	190	bar
	Max. pressure of lifting circuit	190	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tyre dimensions	Ø 800 x 320	mm
	Type of tyres	12 x 16.5	
	Transport dimensions with removable rails installed	4.53 x 2.33 x 2.98	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	4.53 x 2.33 x 2.245	m
	Machine weight w. no load (*)	8000	kg
Stability limits:			
	Longitudinal inclination	4	°
	Lateral inclination	3	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	3200	Kg
	Max. load with levelling outrigger	4350	Kg
Specifications:			
	Driving wheels	4	n
	Max. drive speed	5	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	65 / 75	Sec.
	Oil tank capacity	150	l
	Maximum admissible gradient	40	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	NA	V/Ah
	Battery weight	NA	kg
	Single phase battery charger (HF)	NA	V/A
	Max. current absorbed by the battery charger	NA	A
	Maximum installed power	NA	kW
	Power electrical pump 1	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

Diesel Power			
	Diesel engine type	Hatz 3L41C - Isuzu 4LE1	
	Max. engine power	38.8 - 39	kW kW
	Rated Power	35.5 - 35	kW kW
	Starter battery	12/135	V/Ah
	Total electrolyte quantity in the battery	7	l
	Diesel tank capacity	45	l
380V three-phase electrical pump (optional)			
	Diesel engine power	7.5	kW
	Max. absorbed current	15.6	A
	Max. drive speed	2.2	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.



2.9 Model XL19 E

		XL19 E	
Dimensions:			
	Maximum working height	19.3	m
	Max. height of the platform floor	17.3	m
	Ground clearance	290	mm
	Max. height of the platform floor, safety valve activation	3.3	m
	Internal steering radius	4	m
	External steering radius	6.9	m
	Maximum capacity (m)	500	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	260	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	260	kg
	Maximum slide-out extension deck	1,17 + 1,17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	14	M
	Maximum dimensions with platform extended	1.87 x 6.38	m
	Maximum hydraulic pressure	190	bar
	Max. pressure of lifting circuit	150	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tire dimensions (****)	Ø 710 x 230	mm
	Tire type (****)	300-15	
	Transport dimensions with removable rails installed	4.53 x 2.21 x 3.21	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	4.53 x 2.21 x 2.5	m
	Machine weight w. no load (*)	9645	kg
Stability limits:			
	Longitudinal inclination	1.5	°
	Lateral inclination	1.5	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	3860	Kg
	Max. load with levelling outrigger	5073	Kg
Specifications:			
	Driving wheels	2	n
	Max. drive speed	4.3	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	105 / 80	Sec.
	Oil tank capacity	150	l
	Maximum admissible gradient	20	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	48 /750	V/Ah
	Total electrolyte quantity in the battery	168	l
	Battery weight	1275	kg
	Three-phase battery charger (HF)	48 / 80	V/A
	Max. current absorbed by the battery charger	16 (380 V)	A
	Maximum installed power	13.5	kW
	Power electrical pump 1	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 2	4.5	kW
	Max. absorbed current	160	A
	Power electrical pump 3	4.5	kW
	Max. absorbed current	160	A

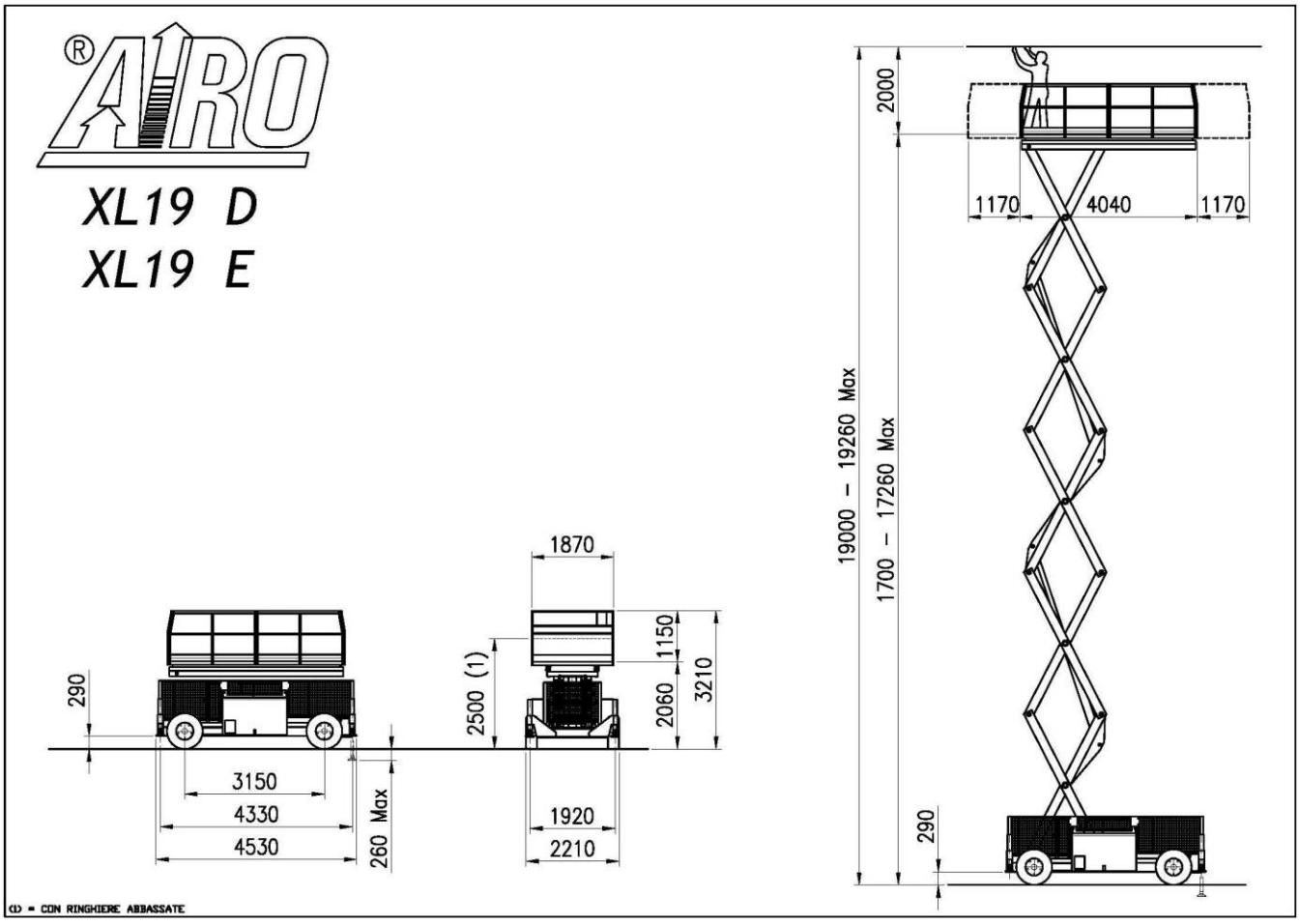
Diesel Power			
	Diesel engine type	NA	
	Diesel engine power	NA	kW
	Starter battery	NA	V/Ah
	Diesel tank capacity	NA	l
380V three-phase electrical pump (optional)			
	Diesel engine power	NA	kW
	Max. absorbed current	NA	A
	Max. drive speed	NA	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.

(****) Standard extra flexible no-marking tyres 300-15; Optional tyres filled with polyurethane foam 12x16.5.



2.10 Model XL19 RTD

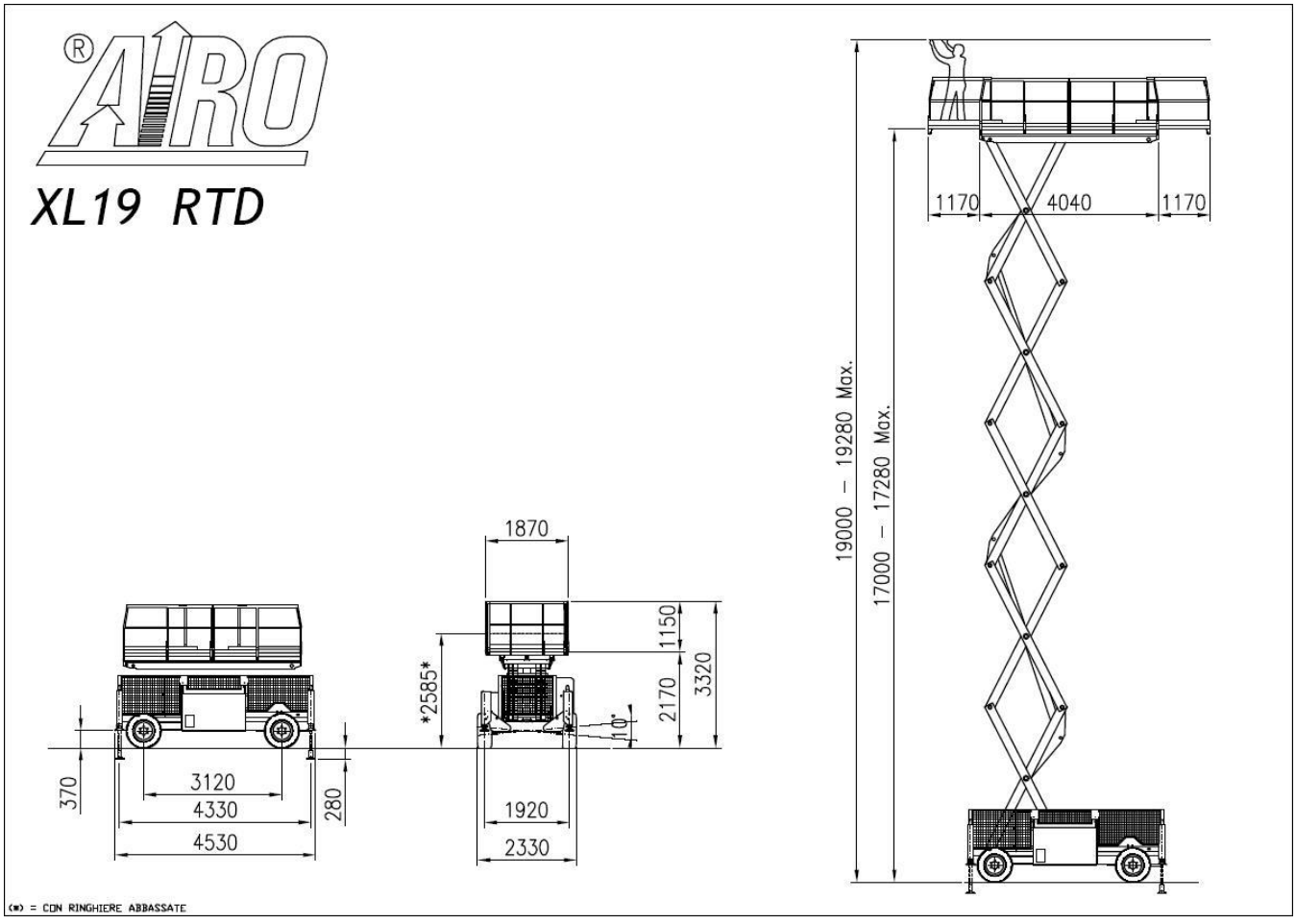
		XL19 RTD	
Dimensions:			
	Maximum working height	19.3	m
	Max. height of the platform floor	17.3	m
	Ground clearance	370	mm
	Max. height of the platform floor, safety valve activation	3.3	m
	Internal steering radius	4	m
	External steering radius	6.9	m
	Maximum capacity (m)	500	kg
	Max. number (n) of people on the platform –indoors	3	
	Mass weight of tool and material (me) (**) –outdoors	260	kg
	Max. number of people on the platform (n) –outdoors	3	
	Tool and material mass weight (me) (**) –outdoors	260	kg
	Maximum slide-out extension deck	1,17 + 1,17	m
	Maximum capacity with platform extended	500	kg
	Max. No. of people with platform extended	3	
	Maximum height during drive	10	M
	Maximum dimensions with platform extended	1.87 x 6.38	m
	Maximum hydraulic pressure	190	bar
	Max. pressure of lifting circuit	160	bar
	Min. pressure of braking circuit	50 ÷ 60	bar
	Tyre dimensions	Ø 800 x 320	mm
	Type of tyres	12 x 16.5	
	Transport dimensions with removable rails installed	4.53 x 2.33 x 3.32	m
	Transport dimensions without removable rails	N.A.	m
	Transport dimensions with rails folded down	4.53 x 2.33 x 2.585	m
	Machine weight w. no load (*)	9520	kg
Stability limits:			
	Longitudinal inclination	1.5	°
	Lateral inclination	1.5	°
	Maximum wind speed (***)	12.5	m/s
	Maximum stress by hand	400	N
	Max. load per wheel	3810	Kg
	Max. load with levelling outrigger	5010	Kg
Specifications:			
	Driving wheels	4	n
	Max. drive speed	5	km/h
	Safety drive speed	0.36	km/h
	Descent/lifting time (without load)	65 / 75	Sec.
	Oil tank capacity	150	l
	Maximum admissible gradient	40	%
	Max. operating temperature	+50	°C
	Min. operating temperature	-15	°C
Battery power:			
	Battery capacity and voltage	NA	V/Ah
	Battery weight	NA	kg
	Three-phase battery charger (HF)	NA	V/A
	Max. current absorbed by the battery charger	NA	A
	Maximum installed power	NA	kW
	Power electrical pump 1	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 2	NA	kW
	Max. absorbed current	NA	A
	Power electrical pump 3	NA	kW
	Max. absorbed current	NA	A

Diesel Power			
	Diesel engine type	Hatz 3L41C - Isuzu 4LE1	
	Max. engine power	38.8 - 39	kW kW
	Rated Power	35.5 - 35	kW kW
	Starter battery	12/135	V/Ah
	Total electrolyte quantity in the battery	7	l
	Diesel tank capacity	45	l
380V three-phase electrical pump (optional)			
	Diesel engine power	7.5	kW
	Max. absorbed current	15.6	A
	Max. drive speed	2.2	km/h

(*) In some cases different limitations may apply Please comply with the data and instructions given on the machine plate.

(**) me = m –(n x 80)

(***) Wind speeds higher or equal to 12.5 m/s indicate that the machines can be also used outdoors; Wind speeds equal to 0 m/s indicate that the machines can be used INDOORS ONLY.



2.11 Vibrations and noise.

Noise tests have been carried out under the most unfavourable conditions to study the effects on the operator. The level of acoustic pressure weighed (A) at work places does not exceed 82dB (A) for each electrical model.

For models with diesel engine the level of continuous acoustic pressure (A) measured at the place of work does not exceed 110 dB(A).

As to vibrations in ordinary working conditions:

- The average weighted quadratic value in the frequency of the acceleration which the upper members have to withstand is below **2.5 m/sec²** for each of the models to which this Use and Maintenance manual refers.
- The average weighted quadratic value in the frequency of the acceleration which the body has to withstand is below **0.5 m/sec²** for each of the models to which this Use and Maintenance manual refers.

3. SAFETY SIGNS

3.1 Personal protection devices (PPE).

- Always wear personal protective equipment according to current regulations concerning industrial health and safety (in particular, hard hat and safety shoes are **COMPULSORY**).
- It is the operator or safety manager's responsibility to choose the personal protective equipment (PPE) depending on the activity to be carried out. For their correct use and maintenance, refer to the equipment manuals themselves.
- The use of safety harness is not compulsory except in certain countries with specific regulations. In Italy, the consolidation act on safety, Law Decree 81/08, has made the use of a safety harness mandatory.
- The harness attaches to one of the anchors shown by the labels, as in the following picture.

Fig. 3

3.2 General safety norms.

- Only adults (18 years old), after carefully reading this manual, are allowed to use the machine. The employer is responsible for training.
- The platform is designed to carry persons on board; therefore, compliance with the current local regulations relevant to this class of machines (see paragraphs 1) must be ensured.
- The machine is a two-man operation unit. This means at least one man must be on the ground and assigned to all emergency operations as described in this handbook.
- Always keep the machine at a safety distance from the power lines as indicated in the following chapters.
- Never exceed the capacity ratings shown in this manual under "machine technical specifications". The identification plate shows the maximum number of people allowed on the platform, the maximum capacity and the mass weight of tools and ancillary materials. Never exceed these figures.
- Do NOT use the platform steelwork or any of its parts for grounding applications while welding on the platform.
- NEVER board/deboard passengers and NEVER load/unload any materials if the platform is not in the initial boarding position.
- The owner and/or safety manager are liable and responsible for due maintenance and repair operations to be carried out strictly by skilled and qualified labour.

3.3 General

3.3.1. Operating tips and instructions

- The electric and hydraulic circuits are provided with safety devices, calibrated and sealed by the manufacturer:

DO NOT TAMPER WITH AND MODIFY THE CALIBRATION OF ANY COMPONENT OF THE ELECTRIC AND HYDRAULIC SYSTEMS.

- The machine must be used only in areas well lit up, checking that the ground is flat and firm. The machine may not be used if the lighting conditions are not sufficient. The machine is not equipped with any lightening system.
- Before using the machine check its integrity and good, functional preservation state.
- During maintenance operations do not dispose of any waste materials in the environment, but comply with current regulations.
- Do not carry out any service or maintenance operations when the machine is connected to the mains supply. Follow the instructions given in the following paragraphs.
- Do not approach the electric and hydraulic system components with sources of heat or flames.
- Do not increase the max. allowed height by means of scaffolds, ladders or other.
- With the machine elevated, do not fasten the platform to any structure (beams, pillars or wall).
- Do not use the machine as a crane, hoist or lift.
- Protect the machine (in particular the platform control panel by means of the specially provided cover - optional) and the operator when working in adverse environmental conditions (painting, de-painting, sand-blasting, washing, etc.).
- Using the machine in bad weather conditions is forbidden; in particular, wind speeds must not exceed the limits indicated in the technical specifications (to measure speeds, see following chapters).
- Machines with a wind speed limit of 0 m/s are to be used indoors only.
- In the event of rain or when the machine is parked, always cover the platform control panel by means of the special hood or guard (optional).
- Do not use the machine in areas where risks of fire or explosion exist.
- Do not use pressurized water jets (high-pressure cleaners) to wash the machine.
- Overloading the work platform is forbidden.
- Avoid knocks and/or contacts with other vehicles and fixed structures.
- Leaving or accessing the work platform is forbidden unless this is in the position required for access or leaving (see the "Accessing the platform "chapter).

3.3.2. Handling

- Before moving the machine make sure that all connections are disconnected from the power supply source.
- To avoid any instability, strictly use the machine on regular and firm grounds. To prevent the machine from overturning, comply with the max. gradeability values indicated in the Technical data section under paragraph "Stability limits". However, movements on inclined grounds are to be carried out with the utmost caution.
- As soon as the platform is lifted (the tolerance varies from model to model) the safety drive speed is automatically activated (all models of this handbook have passed the stability tests in compliance with standard EN280:2001).
- Drive the machine with lifted platform only on flat grounds, verifying the absence of holes or steps on the floor and bearing in mind the overall dimensions of the machine.
- Backward drive (in the direction of the fixed wheels) does not allow the operator on the control panel a complete visibility. Use extreme care for this operation.
- While the machine is being displaced with lifted platform, no horizontal loads can be loaded onto the platform (operators on board are not allowed to pull wires or ropes, etc.).
- The machine must not be used directly for road transport. Do not use it for material transport (see chapter "Intended use").

- Do not operate the machine if components boxes are not properly closed.
- Check that in the operating area there are not obstacles or other dangerous elements.
- Pay particular attention to the area above the machine during lifting to avoid any crushing and collisions.
- While handling or operating, make sure your hands never infringe a dangerous area. Drivers should keep their hands as shown in picture A or B, whilst passengers should hold their hands as in C.

Fig. 4

3.3.3. Operating procedures

- The machine is equipped with an inclination control system to disable lifting operations in case of unstable positioning. Working operations can be resumed only after placing the machine in a steady position. Should the audible alarm and the red light on the platform control panel turn on, the machine is not correctly positioned (see paragraphs relevant to “Use instructions ”). Bring it to safety rest position before starting operations again. If the platform inclination is activated with platform raised, the only possible platform operation is lowering.
- The machine is equipped with a control load system at platform to stop lifting and lowering of the platform when it is overloaded. In case of platform overloading when lifted, also drive is disabled. Platform operation can be resumed only after removing the exceeding load. Should the alarm and the red light located on the platform control panel turn on, then the machine is overloaded (see chapter "Red warning light overload"). Remove the exceeding load before starting operations again.
- The machine can be equipped with a device to avoid the risk of shearing and crushing in the lifting structure in compliance with PrEN280:2009. With this device, the lowering movement is automatically stopped in position when the vertical distance between the scissor ends exceeds 50 mm. In this condition the audible movement alarm signals the danger by increasing its frequency. The operator on the platform must release the lowering control and wait until the alarm stops (about 3 sec.), then he can resume the lowering control (see chapter "Lifting and lowering").
- Electric power machines are fitted with a device for checking the state of battery charge (battery protection). When the battery charge is as low as 20%, a red flashing light goes on to alert the operator on the platform of the low-battery status. In this condition, lifting is disabled, and the battery should be immediately recharged.
- Do not lean over the platform rails.
- During operations in public areas surround the working area by means of barriers or other suitable signs.
- Do not use diesel or gasoline powered engines indoors or in insufficiently ventilated areas.
- Make sure that no people, apart from the operator, are in the area where the machine is operating. While moving the platform or operating the outriggers, the operator should pay particular attention to avoid any contact with the personnel on the ground.
- Specially provided micro-switches located on the (optional) levelling outriggers control their position. When the cylinders are lowered, drive is disabled. In order to carry out the drive, lift the pads completely.
- To avoid any improper use, machines with (optional) levelling outriggers are equipped with a suitable microswitch that checks the position of the platform. When the platform is at a height above 3 meters from the ground the levelling outriggers cannot be operated.
- Lift the platform only if the machine is resting on solid and horizontal surfaces.
- Drive the machine with lifted platform only if the ground is solid and horizontal.
- Always place working tools in a steady position to prevent them from falling and hurting the operators on the ground.
- After each work session, always take the keys out of the control panels and keep them in a safe place to prevent unauthorized people from using the machine.

When choosing the positioning point of the chassis, to prevent unexpected possible contacts with obstacles, always observe the figures carefully as these make it possible to identify the range of action of the platform (chap.2).

3.3.4. Wind speed according to BEAUFORT SCALE

You can use the table below for a simple assessment of the wind speed. We remember that the max. limit for each machine model is indicated in the table TECHNICAL FEATURES OF STANDARD MACHINES.

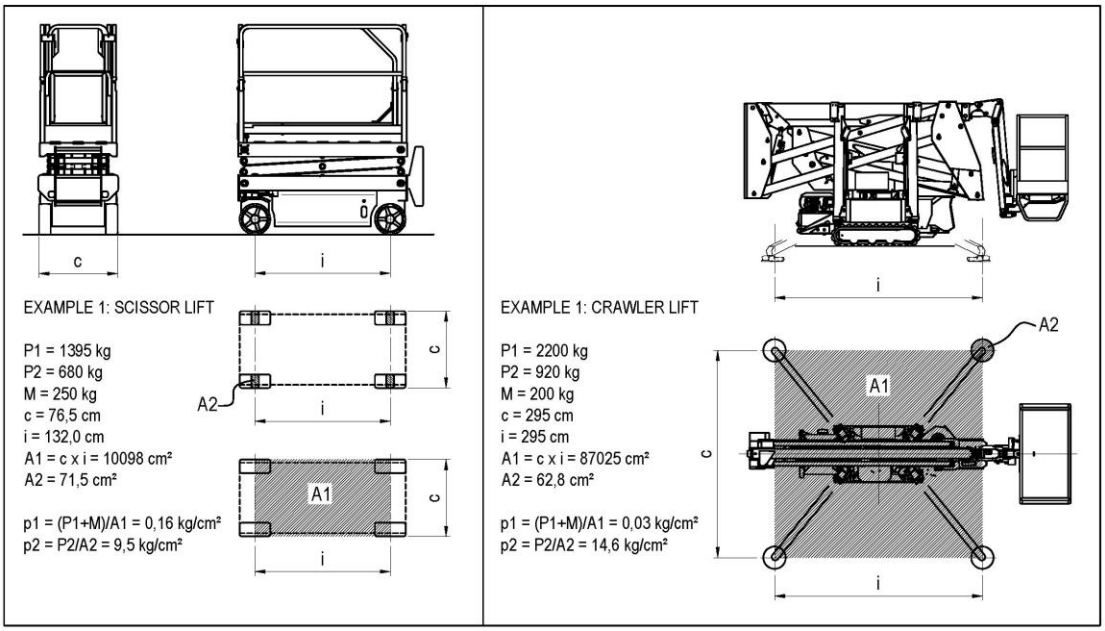
The machines for which the max. wind limit is 0 m/s must be used indoors only. These machines cannot be used outdoors even with no wind.

Beaufort Number	Wind speed (km/h)	Wind speed (m/s)	Wind Rating	Sea/ocean conditions	Land conditions
0	0	<0.28	Flat	Calm.	Smoke rises vertically.
1	1-6	0.28–1.7	Light air	Ripples without crests. Wind motion visible in smoke.	Light Breeze
2	7-11	1.7-3	Light breeze	Tiny, short but visible wavelets. No breaking water waves, crests foam with glassy appearance.	Wind perception on bare skin The leaves rustle
3	12-19	3-5.3	Gentle breeze	Water waves start to break: the crest foam looks glassy "Whitecaps" of bubbles and streaks on breaking crests	Leaves and small twigs constantly moving
4	20-29	5.3-8	Moderate breeze	Small waves becoming longer, Numerous whitecaps	Dust, leaves, and loose paper lifted Small tree branches move
5	30-39	8.3-10.8	Fresh breeze	Moderate waves taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway, small waves start to form on inland waters.
6	40-50	10.8-13.9	Strong breeze	Long waves begin to form. White foam crests are very frequent. Some sprays.	Whole trees in motion. Effort needed to walk against the wind.
7	51-62	13.9-17.2	High wind	Sea heaps up with moderately high waves of greater length. The edges of crests begin to break into spindrift, foam blown in streaks in the same wind direction.	Larger tree branches moving, whistling in wires Strong resistance felt walking against wind.
8	63-75	17.2-20.9	Gale	High waves, Sea begins to roll, dense streaks of foam, spray may reduce visibility	Twigs breaking off trees, generally impedes progress Walking against the wind is impossible.
9	76-87	20.9-24.2	Whole gale	Very high, heavy rolling waves Foam blown into thicker streaks	Slight structural damage occurs (slate blows off roofs)
10	88-102	24.2-28.4	Storm	Very high waves with overhanging crests, Sea white with densely blown foam, the water has a white appearance, heavy rolling, and reduced visibility.	Trees broken or uprooted, considerable structural damage
11	103-117	28.4-32.5	Strong storm	Exceptionally high waves hiding average size vessels from the sight. Foam patches cover sea, Air filled with foam, completely white with driving spray, visibility greatly reduced.	Heavy structural damage.
12	117	32.5	Hurricane	Exceptionally high waves, sea completely white with driving spray.	Heavy structural damage.

3.3.5. Ground Pressure and load-bearing capacity .

Before using the machine, the operator must make sure the floor is suitable for withstanding the specific loads and pressures on the ground with a certain safety margin.
The following chart provides the parameters in play and two examples of calculation of the average pressure on the ground below the machine and max pressure underneath the wheels or stabiliser outriggers (p1 and p2).

SYMBOL	U.M.	DESCRIPTION	EXPLANATION	FORMULA
P1	Kg	Total machine weight	Represents the weight of the machine, not including nominal load. Note: always refer to the details indicated on the plates affixed to the machine.	-
M	Kg	Nominal Load	The max. load allowed for the work platform.	-
A1	cm²	Ground area occupied by the machine	Surface area under the machine determined by multiplying TRACK x WHEEL BASE	A1 = c × i
c	cm	Track	Out-to-out width of machine measured outside the wheels. or: Out-to-out width of machine measured between outrigger centres.	-
i	cm	Wheel base	Front-to-back length of machine measured between wheel centres. or: Front-to-back length of machine measured between outrigger middle lines.	-
A2	cm²	Wheel or outrigger surface	Wheel or outrigger foundation The operator is to check the foundation area under each wheel; the outrigger foundation will depend on the shape of the floor plate.	-
P2	Kg	Max. load on wheels or outriggers	This is the max. load transferred to the ground by a wheel or by an outrigger with the machine in the worst position and load condition. Note: always refer to the details indicated on the plates affixed to the machine.	-
p1	Kg/cm²	Pressure on ground	Average pressure placed on the ground in idle conditions and supporting the nominal load. p1 = (P1 + M) / A1	p1 = (P1 + M) / A1
p2	Kg/cm²	Max specific pressure	Max. pressure which a wheel or a levelling outrigger can apply to the ground when the machine is in the worst position and load conditions.	p2 = P2 / A2



The table below shows the load-bearing capacity of the ground split up by ground type.
For the max pressure on the ground by the single wheel, please refer to the data contained in the specific tables of each model (chapter 2, TECHNICAL FEATURES OF STANDARD MACHINES).

Using the machine is forbidden if the max pressure on the ground per wheel is above the load-bearing capacity of the specific type of ground on which the machine is to be used.

TYPE OF GROUND	BEARING CAPACITY IN Kg/ cm²
Non compact filling earth	0 –1
Mud, peat, etc.	0
Sand	1.5
Gravel	2
Friable earth	0
Soft earth	0.4
Rigid earth	1
Semi-solid earth	2
Solid earth	4
Rocks	15 - 30

Should you have any doubts, verify the load-bearing capacity with specific tests.
In case of constructed surfaces (concrete floors, bridges, etc.) the load-bearing capacity must be provided by the builder.

3.3.6. High-voltage lines

The machine is not electrically insulated and is not protected in case of contact with or proximity to power lines.
A minimum distance must be kept from power lines according to applicable laws and the following table

Type of power lines	Voltage (KV)	Minimum distance (m)
Light poles	1	3
	1-10	3.5
	10 - 15	3.5
	15 - 132	5
	132 - 220	7
	220 - 380	7
High-voltage pylons	380	15

3.4 Hazardous situations and/or accidents.

- If, during Preliminary Operation Checks or when using the machine, the operator discovers a defect that could produce a hazardous situation, the machine must be placed in **safety condition** (isolate it and affix a notice) and the employer must be notified about the fault.
- If, during use, an accident occurs, with injury to the operators, caused by operating errors (e.g., collisions) or any structural yielding, the machine must be placed in **safety condition** (isolate it and affix a notice) and the employer must be notified about the fault.
- In case of an accident with injuries to one of more operators, the operator on the ground (or on a platform not involved in the accident) must:
  - **Seek help immediately.**
  - Perform the operation to return the platform to the ground **only if he is certain this will not make the situation worse.**
  - Place the machine in safety condition and notify the fault to the employer.

4. INSTALLATION AND PRELIMINARY CHECKS

The machine is supplied completely assembled, therefore it can perform all functions in safety as provided for by the manufacturer. No preliminary operation is required. To unload the machine, follow the instructions in chapter "handling and carrying".
Place the machine on a sturdy enough surface (see paragraph **3.3.5**) and with a gradient below max. allowed gradient (see technical features "**Stability limits**").

4.1 Familiarizing with the machine.

Anyone wishing to use a machine with weight, height, width and length characteristics that significantly differ from the training received must be updated in order to cover the differences.
The employer shall be responsible for ensuring that all operators working with the equipment are adequately trained and aware of the applicable health and safety legislation.

4.2 Preliminary controls.

Before using the machine read the instructions in this manual and the short instructions reported on the manufacturer's plate on the platform.
Visually check for perfect integrity of the machine and read the plates showing machine operating limits.
Before using the machine the operator is to carry out a visual inspection to ensure that:

- Make sure the battery is fully charged and the fuel tank is full.
- The oil level ranges between the min. and max. value (with platform lowered and outriggers lifted).
- The ground is sufficiently horizontal and solid.
- The machine carries out all operations in safety.
- The wheels and drive engines are properly fixed.
- The wheels are in good condition.
- The rails are fastened to the platform and the gate/s are in automatic reclosing mode.
- The structure does not show clear faults (visually check welding of lifting structure).
- The instructions plates are perfectly readable.
- The platform control panel and the ground emergency control panel, dead-man detector included, are perfectly efficient.
- The anchoring points for the harness are in perfect state of conservation.

Do not use the machine for purposes different from those it was intended for.

5. USE INSTRUCTIONS

Before using the machine read this chapter thoroughly.

PLEASE NOTE!

Follow exclusively the instructions given in the next paragraphs and the safety rules described both hereafter and in the previous paragraphs. Read the next paragraphs carefully in order to properly understand the starting/stopping procedures as well as all other functionalities of the machine and their correct use.

5.1 Platform control panel

The control panel is located on the platform. The control panel is fixed to the front rail and is used to:

- Turn the machine on/off.
- Move the platform during ordinary working procedures.
- Display some operating parameters (alarms, Deadman's working, etc...).

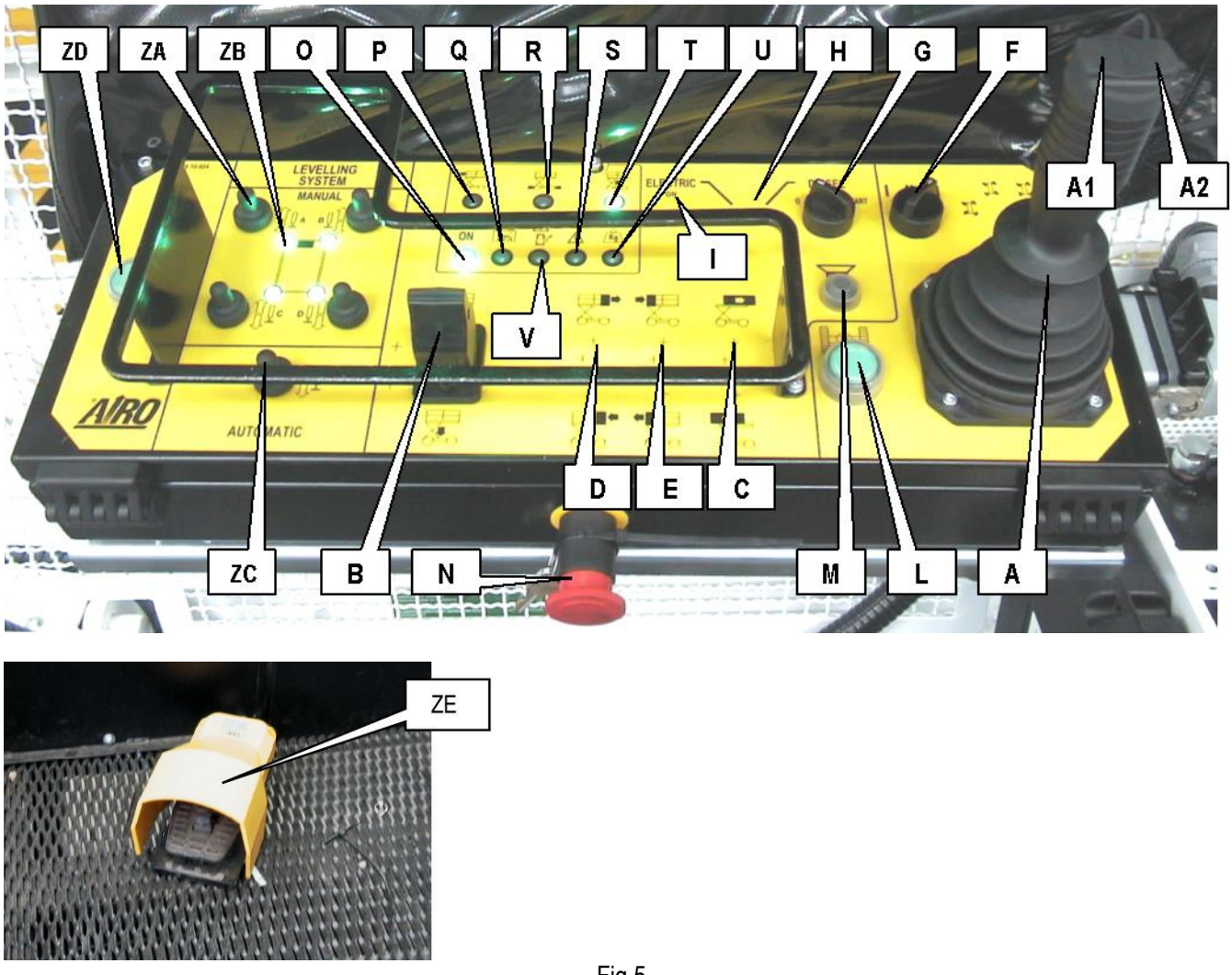


Fig.5

A) Drive and steering proportional joystick control
A1) Left steering control switch
A2) Right steering control switch
B) Lifting/lowering control proportional lever
C) Sliding platform extraction/retraction control proportional lever (optional)
D) Front extension deck extraction/retraction control proportional lever (optional)
E) Rear extension deck extraction/retraction control proportional lever (optional)

F) Drive speed selector
G) Diesel engine starting switch
H) Diesel/electric drive power selector (optional)
I) Single-phase/three-phase electrical pump start/stop button (optional)
L) Differential lock button (series/parallel connection drive motors)
M Manual horn
N) Emergency STOP button
O) Enabled control panel warning light
P) Sliding platform position warning light (only for machines with sliding platform)
Q) Flat battery warning light –Electric models
R) Drive enable warning light
S) Danger warning light (unsteady position and faults indicator)
T) Lifting enable warning light
U) Overload alarm warning light
V) Diesel engine fault / low fuel level warning light –Thermic models
ZA) Manual levelling outriggers control switches (optional)
ZB) Levelling outriggers position warning lights (optional)
ZC) Automatic levelling control switch (optional)
ZD) Dead-man button
ZE) Dead-man pedal

Drive, lifting and (optional) platform extraction/retraction operations are controlled by the proportional joysticks **A-B-C-D-E**; it is therefore possible to adjust movement speed by means of the relative controls. To avoid sudden shakes during movements, it is advisable to operate the proportional joystick controls gradually.

For safety reasons, to operate the machine, it is necessary to press and hold down dead-man pedal **ZE** or press dead-man button **ZD** at platform before operating the controls.. If the dead-man pedal is accidentally released, the movement is immediately stopped

PLEASE NOTE!

Holding down the dead-man pedal for over 10 seconds without carrying out any operation will disable the control panel. Once the dead-man button is pressed, you have 2 seconds to activate the controls. If no operation is performed after 2 seconds, the control panel is disabled.
The flashing green pilot lamp indicates that the operator's station is disabled (see paragraph "Warning lights"). To restart the machine, you need to release the "dead-man" pedal and repress it, or alternatively press the dead-man button down.

5.1.1. Travelling and steering .

Before carrying out any travel, make sure that no people are in the proximity of the machine and in any case proceed with the utmost caution.

IT IS FORBIDDEN to drive the machine when the platform is lifted unless the chassis is flat and steady with no holes and steps.

The travel procedure is the following:

a) Press and hold down dead-man pedal **ZE** or press and release dead-man button **ZD** located on the platform; the green led **O** will light up steady indicating its enabling;

b-1) If the pedal is engaged within **10** seconds from the green steady led **O** lighting up, engage the proportional joystick **A** to the front or to the back to respectively start forward or reverse drive.

b-2) If the **push-button** is engaged within **2** seconds from the green steady led **O** lighting up, engage the proportional joystick **A** to the front or to the back to respectively start forward or reverse drive.

PLEASE BEWARE!!
Drive and steering controls can take place at the same time but they are interlocked with the platform movement controls (lifting/lowering/rotation).

Drive control is active only if drive enable green warning light (R) is ON. If it is OFF, drive control is stopped. See paragraph "Warning lights".

With platform completely lowered, operating the drive speed selector **F**, and/or differential lock button **L**, different drive speeds can be selected. Due to the rigid frame of the machine, when driving on uneven grounds, one of the two driving wheels may be lifted thus absorbing all oil capacity and idling. In this condition the machine cannot move. To overcome this condition, press the differential locking button **L**.

BEAWARE: To achieve **maximum drive speed**, set speed selector **F** to position **III,** hold down the differential locking button **L**, and press down the proportional joystick **A**.
To operate on **high ascending slopes** (e.g. while loading the machine onto a truck) set speed selector **F** to position **I** (**electric models**) or **II** (**gasoline models**).
To operate on **high descending slopes** (e.g. while unloading the machine from a truck) set speed selector **F** to position **I** (**all models**).

With lifted platform, safety drive speed is automatically enabled, therefore neither speed selector **F** nor differential lock button **L** are active.

PLEASE BEWARE!! The differential lock button (L) is to be used by the operator to drive the machine on uneven grounds, if one of the driving wheels is lifted and absorbs the whole drive power and to perform rapid straightforward movements. Do not hold down this press-button while steering.

To steer, press buttons **A1** or **A2** located on the drive proportional joystick control (press the right button for right steering and vice versa). Also the steering control is enabled by the dead-man pedal or dead-man button and is possible only if:

- The green warning led **O** is ON when the control panel is enabled;
- The green warning led **R** is ON when the Drive mode is ready.

5.1.2. Drive with operator on the ground.

If drive operations are to be carried out not from the preset control position on the platform (e.g. transit through doors where the machine height is too high) you can proceed as follows:

- Lower the machine completely.
- Remove the platform control panel.
- If necessary, remove or fold down the rails to further reduce the overall height.
- Select the slow drive speed, as indicated in ("Snail").
- Carry out the movements at a safety distance from the machine of at least 1 metre.
- Pay attention to the directions of drive and steering, keeping in mind that the indications on the "platform control panel "refer to its preset position (fixed to the guardrails).

DO NOT
lift/lower the machine using the "platform control panel "on the ground.

5.1.3. Platform positioning

To carry out all movements, except for drive, use proportional levers C-D-E. To achieve the movement the following operations are to be carried out in sequence:

a) Press and hold down dead-man pedal **ZE** or press and release dead-man button **ZD** located on the platform; the green led **O** will light up steady indicating its enabling;

b-1) in case of use of the **pedal** within **10** seconds from the green pilot lamp **O** lighting up, set the proportional joystick or the desired switch in the direction shown by the label screen-printed on the control panel.

b-2) In case of use of the **pedal within 2** seconds from the green pilot lamp **O** lighting up, set the proportional joystick in the direction shown by the label screen-printed on the control panel.

5.1.3.1 Platform Lifting / Lowering

To lift/lower the platform, use the proportional lever B. Set the proportional lever forward for lifting or backward for lowering.

By operating the joystick control gradually smooth accelerations and decelerations can be achieved during platform lifting. Platform lowering is performed at one speed only.

PLEASE BEWARE!!
Control the platform lifting movement only on sufficiently solid and flat surfaces.

Lifting control is active only if lifting enables green warning light (T) is ON. If it is OFF, lifting control is stopped. See paragraph "Warning lights".

BEAWARE:
The machine is equipped with a device to avoid the risk of shearing and crushing in the lifting structure in compliance with "PrEN280:2009". With this device, the lowering movement is automatically stopped in position when the vertical distance between the scissor ends exceeds 50 mm. In this condition the audible movement alarm signals the danger by increasing its frequency. The operator on the platform must release the lowering control and wait until the alarm stops (about 3 sec.), then he can resume the lowering control (see chapter "Lifting and lowering").

5.1.3.2 Platform extraction/retraction (optional)

5.1.3.3 Sliding platform extraction/retraction (optional)

For machines with platform which can slide on both sides, to extract/retract the sliding platform, use the proportional lever **C**. Set the proportional lever forward for forward sliding; set the proportional lever backward for backward sliding.

By operating the joystick control gradually smooth accelerations and decelerations can be achieved during platform sliding.

PLEASE BEWARE!!
Special microswitches under the platform stop all machine movements (except platform extraction/retraction) if platform is not in central position (green warning light P ON).

The control for sliding the sliding platform forward/backward is fully active only if the instability alarm is not present (warning light S ON in case of alarm). In case of instability alarm (warning light S ON) only the controls allowing the platform to be positioned within its shape are active.
The sliding platform has successfully reached its position within the shape when the green warning light P turns on. See paragraph "Warning lights".

5.1.3.4 Extension deck extraction/retraction (optional)

In dual slide-out extension deck machines, the STANDARD control to extract/retract the double slide-out extension decks is of manual type (it is manually operated by the operator).
Upon REQUEST the electro-hydraulic control can be supplied with the platform. With this control (OPTIONAL) the space for the operators on the platform can be increased by sliding the slide-out extension decks.

To achieve extraction/retraction of the front slide-out extension deck, use the proportional lever **D**; for rear slide-out extension deck, use the proportional lever **E.** Set the proportional lever forward for sliding the slide-out deck forward; set the proportional lever backward for sliding the slide-out deck backward.

By operating the joystick control gradually smooth accelerations and decelerations can be achieved during platform lifting. Platform lowering is performed at one speed only.

PLEASE BEWARE!!
The control for sliding the slide-out extension decks is active only if the instability alarm is not present (warning light S ON in case of alarm). In case of instability alarm (warning light S ON) only the controls allowing the slide-out extension decks to be retracted within the platform shape are active.
The sliding platform has successfully reached its position within the shape when the green warning light P turns on. See paragraph "Warning lights".

5.1.4. Levelling outriggers control (OPTIONAL)

Some models are fitted with four levelling outriggers to allow the machine to be positioned on inclined grounds. To activate the levelling outriggers it is necessary to:

a) Press and hold down dead-man pedal **ZE** or press and release dead-man button **ZD** located on the platform; the green led **O** will light up steady indicating its enabling;

b-1) In case of use of the pedal within 10 seconds from the green steady led **O** lighting up set the desired switch.

b-2) In case of use of the **push-button** within **2** seconds from the green steady led **O** lighting up set the desired switch.

⚠

PLEASE BEWARE!!
Always check the firmness of the ground before lifting the platform. Place strong wooden boards under the outriggers pads so as to spread the load on a wider surface.
While using the outriggers, an automatic system stops platform lifting in the event that one of the pads does not rest perfectly on the ground. The levelling outrigger pads are resting on the ground when all warning lights ZB are ON.
Specially provided microswitches located on the levelling outriggers control their position. With lowered outriggers –even if not resting on the ground –drive is stopped. If the pads are neither resting on the ground nor completely lifted, the warning lights ZB are flashing. In order to carry out the drive, lift the pads completely. When warning lights ZB turn off, pads are completely lifted.
To avoid any improper use, machines with levelling outriggers are equipped with a suitable microswitch that checks the position of the platform. When the platform is at a height above 3 meters (approx.) from the ground the levelling outriggers cannot be operated.
The levelling outriggers operation is signalled by warning lights ZB. See paragraph "Warning lights".

5.1.4.1 Levelling outriggers manual control (OPTIONAL)

To lift/lower the levelling outriggers it is necessary to operate one or more of the four control levers **ZA**.
If you set levers ZA downwards, the levelling pads extract; vice versa, if you set the levers upwards, they retract.
The location of the control levers **ZA** and relevant warning lights **ZB** corresponds to the arrangement of the levelling outriggers:

- Lever/Warning light **A** = Front left levelling outrigger
- Lever/Warning light **B** = Front right levelling outrigger
- Lever/Warning light **C** = Rear left levelling outrigger
- Lever/Warning light **D** = Rear right levelling outrigger

5.1.4.2 Levelling outriggers automatic control (OPTIONAL)

The machine can be supplied with an optional automatic levelling system. The system has two operating modes:

- **manual mode** (see previous paragraph)
- **automatic mode**

For AUTOMATIC LEVELLING set the control lever **ZC** downwards. The control system will independently control the levelling outriggers until the machine is levelled.
Levelling is correct when:

- All four warning lights **ZB** are turned on;
- Inclination alarm warning light **S** turns off (if an alarm condition due to instability was present before levelling control) and lifting enable warning light **T** turns on at the same time.

For **AUTOMATIC RETRACTION** of all pads, set the control lever **ZC** upwards. The control system will retract all pads up to the upper stop. Retraction is complete when all warning lights **ZB** turn off.

During the automatic levelling, the system aims to level the machine within an allowance of 0.4° both longitudinally and transversely. The system continues the pad control until levelling within this tolerance is reached. If the automatic system is unable to obtain levelling within the expected allowance, yet the four pads are firmly resting on the ground and the machine is within the stability limits controlled by the inclinometer, the lifting enables green warning light T will still light up and lifting can be carried out.
Excessive longitudinal and/or transversal inclinations may prevent the automatic levelling from being reached.

5.1.5. Other functions of the platform control panel

5.1.5.1 Selection of electric or gasoline/diesel power

On some models the type of propulsion can be selected using selector **H**. Set it to position **ELECTRIC** to use the electric propulsion (battery or mains power); set it to position **THERMIC** to use the engine (Diesel engine for ED models; gasoline engine for EB models).

5.1.5.2 Electrical pump start/stop button (OPTIONAL)

Diesel power models can be equipped, on request, with a working pump (230V single-phase or 380V three-phase) as an alternative to gasoline power for short works indoors.
If the machine is correctly connected to the mains power (230 V or 380V depending on the available function), and selector **H** is in position **ELECTRIC**, by pressing the button **I** –before operating the dead-man pedal **ZE** or dead-man button **ZD** –the pump is turned on (if off) or turned off (if on).
The electric pump is on when the green led close to button I is lighting up.

In the event of a 380V three-phase electric pump, the machine controls are enabled only after 3 Sec. after pump starting.

PLEASE NOTE!

Always check the position of the power cable during transfers and operating motions.

5.1.5.3 Heat engine starting switch (models "D", "ED", "B", EB").

It starts the heat engine (Diesel or gasoline) on combination-power models (ED or EB) and on gasoline models (D or B). With selector H in position THERMIC operating the switch G:

- The engine starts in the "Start "position;
- In position **3 sec**, the plugs are pre-heated (only for engines with plugs).
- the gasoline engine stops in position 0.

5.1.5.4 Manual horn

It warns that the machine is moving. It is manually operated by means of the button **M**.

5.1.5.5 Emergency stop button

By pressing the red emergency STOP button **N** all machine control functions are stopped. Normal functions are enabled by rotating the button of 1/4 turn clockwise.

5.1.5.6 Warning lights

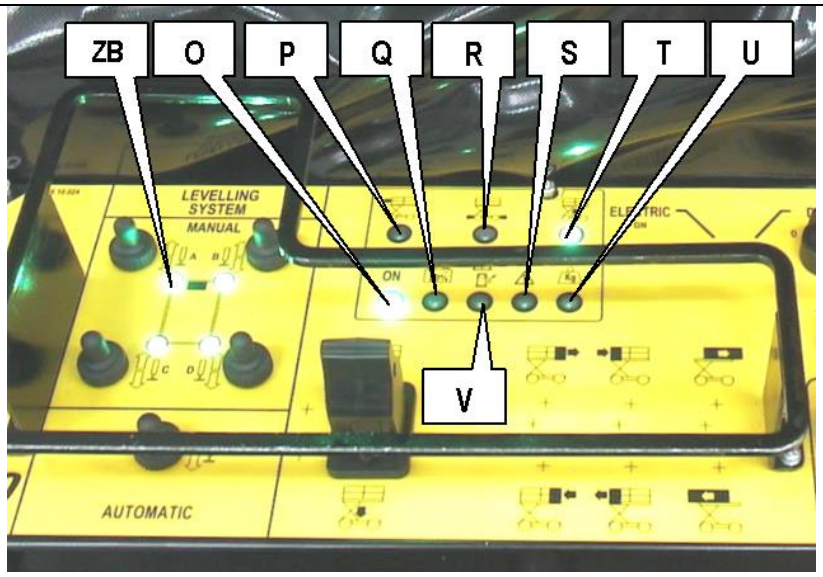


Fig. 6

5.1.5.7 Green pilot (O) on the control panel enabled

On with flashing light when the machine is turned on. If the platform control panel has been selected and this light flashes the controls are not enabled because the dead-man pedal is not pressed or it was pressed for more than 10 seconds and no operation was performed or dead-man button was not pressed or more than 2 seconds went by since its release and no operation was performed

On with steady light with machine on and dead-man pedal pressed for less than 10 seconds; or dead-man button pressed and released for less than 2 seconds. With platform controls, all controls are enabled (unless triggering of other alarms –see next paragraphs).

5.1.5.8 Sliding platform position green warning light (P - only for machines with sliding platform)

This light is present on machines fitted with sliding platform (the whole platform can slide longitudinal).
When the sliding platform is not in central position, the warning light is OFF, and only platform extraction/retraction is possible.
When it is ON, the sliding platform is in a central position, and the machine operation can be resumed (unless other warnings –see next/previous paragraphs).

5.1.5.9 Flat battery red warning light (Q –only Electric and Electro/diesel models)

Flashing when the battery charge is at 20% (only models "E" or "ED" with current continuous electrical pump). In this condition, platform lifting is disabled. Batteries should be immediately recharged.

5.1.5.10 Drive enable green warning light (R)

This light is ON when drive can be carried out. Drive movement is stopped (green light OFF) when:

a) One or more levelling outriggers are not completely retracted (did not reach the upper stop). See also warning lights **ZB** – only machines with levelling outriggers.
b) Platform is above the maximum drive height (see paragraph “Technical features”).
c) Sliding platform is “out of center”. See also green warning light **P** –only machines with sliding platform.
d) With lifted platform the machine is on a ground inclined over the max. allowed inclination. See warning lights **S** and **T**.
e) With lifted platform, the platform is overloaded. See warning lights **S** and **T**.

5.1.5.11 Danger red warning light (S)

It flashes quickly for 4 seconds together with the alarm at the machine start-up in case of fault during safety test on controls (pedal, joystick control, switches, etc) during machine start-up.
It is lit up steady together with an acoustic alarm when the chassis inclination exceeds the allowed angle. Lifting and platform extractions are disabled (in case of electric control). If platform is lifted, drive is also disabled. It is necessary to lower the platform completely and then place the machine onto a flat surface.

PLEASE NOTE!

The activation of this indicator warns of a dangerous situation since the machine has reached a dangerous inclination level for the machine stability.

5.1.5.12 Lifting enable green warning light (T)

This light is ON when lifting can be carried out, i.e. when:

a) All or none of the pads are resting on the ground (no pads resting means that the machine rests on its wheels). See also warning lights **ZB** –only machines with levelling outriggers.
b) Sliding platform is in retracted position. See also warning light **R** –only machines with sliding platform.
c) Machine is in levelled position. See also warning light **S**.
d) Overload alarm is not present. See also warning light **U**.
e) Flat battery alarm is not present. See also warning light **Q** –only models "E "and "ED".

5.1.5.13 Overload red warning light (U)

On steady and activation of audible alarm with a platform overload exceeding 20% the rated load. If the platform is lifted, the machine is completely locked. If the platform is completely lowered all driving/steering operations are still possible but lifting is stopped. Remove the excess load before reusing the machine again.
Fast flashing in case of fault in the overload control system. With lifted platform the machine is completely deactivated and stopped.

PLEASE NOTE!

The activation of this indicator is a synonym of danger since the load at the platform is exceeding or no load control is active upon signal.

For adjustment or activation in emergency situations read the MAINTENANCE chapter.

5.1.5.14 Diesel engine fault / low fuel red warning light (V)

This warning light indicates malfunctioning of the diesel engine or low fuel.
On with steady light when: the machine is on; platform controls are activated and Diesel power is selected. Diesel engine off, ready for start-up. Insufficient engine oil pressure.
Slow flashing in the event of the engine head overheating (optional function). If on, it stops the diesel engine; if off, it prevents the diesel engine from starting.
Quickly flashing when the fuel is running low. This warning is active only when the engine is running.
Double fast flashing when the fuse on the electric fan of the air/oil exchanger (if present) is burnt out. PLEASE NOTE! Change the fuse. Danger of overheating of hydraulic oil.

5.2 Ground control panel and electric control unit

The ground control panel (or electric central unit - fig. 6) contains the main electronic boards necessary to operate the machine and to carry out safety checks.

The ground control panel is located on the chassis (see paragraph "Location of main components") and is used to:

- Turn the machine on/off.
- Select the control panel (ground or platform).
- Operate the platform in emergency cases.
- Display some operation parameters (working hours; Diesel engine operational faults; battery charger operation; etc.).

DO NOT
use the on-ground control panel as a workstation when personnel is on the platform.

Strictly use the on-ground control panel to start/stop the machine, to select the control panel or in emergency situations to allow the platform to be recovered.

Give the keys to authorized persons only and keep a duplicate in a safe place.
Always remove the on/off key at the end of work shifts.

Access to the controllers is allowed to specialized personnel only for maintenance and/or repair purposes. Access the electric control unit only after the machine has been disconnected from any 230V or 380V power sources.

Fig. 7

A) ON-OFF key and control panel selector (ground/platform)
B) Emergency STOP button
C) DIESEL/ELECTRIC drive power selector
D) Heat engine starting button (models “D ”and “ED”)
E) User interface display
F) Battery charger warning light (models “E ”and “ED”)
G) Enabled control panel warning light
H) Alternator warning light (models “D ”and “ED”)
L) Oil warning light (models “D ”and “ED”)
M Air filter warning light (models “D ”and “ED”)

N) Motor head temperature warning light (models “D ”and “ED”)
O) Lifting/lowering lever
P) Front slide-out extension deck extension/retraction lever (OPTIONAL)
Q) Rear slide-out extension deck extension/retraction lever (OPTIONAL)
R) Sliding platform extension/retraction lever (OPTIONAL)

5.3.1. On-off key and control panel selector (A)

The on-off key located on the ground control panel is used to:

- start the machine by selecting one of the two control panels:
  - platform control panel enabled with locking key switch set to the "platform" icon. Stable key position with possibility to extract the key.
  - Ground controls enabled (for emergency operations) with key switch set to “chassis ”symbol. Press-and-hold function When the key is released the machine is off.
- Turn OFF the control circuits by turning it to OFF.

5.3.2. Emergency stop button (B)

By pressing this button the machine (as well as the heat engine on models "D", "ED" and "EB") is completely stopped. By rotating it of 1/4 turn (clockwise) the machine can be turned ON by means of the ON-OFF key.

5.3.3. Diesel/electric power selector (C)

Holding the ON-OFF key in position “ground controls ”it is possible to select the type of power for the ground controls:

- If ELECTRIC is selected and the ON-OFF key is kept active in position “ground controls ”the electrical pump is started while operating the ground controls.
- If DIESEL is selected and the ON-OFF key is kept active in position “ground controls ”the Diesel engine can be started.

5.3.4. Gasoline engine switch (D)

Holding the ON-OFF key in position “ground controls ”after selecting the DIESEL power, the diesel engine can be started by means of the relevant switch.

- In “0 ”position the Diesel engine is off.
- In “3 sec ”position the plugs pre-heating takes place (only for engines with plugs).
- In the “Start ”position the engine starts.

5.3.5. User interface display (E)

The multifunction display for machine/user interface is used to:

- Display the operation parameters of the machine during normal functioning or in the event of a fault.
- Working hours of Diesel engine (when Diesel power is selected the working hours are displayed in the format HOURS: MINUTES and final letter D).
- Working hours of the work pump (when electric power is selected the working hours are displayed in the format HOURS:MINUTES and final letter E).
- Charge level of the battery (only electrical models E).

The user interface display is also used during any interventions by specialized personnel to adjust the working parameters of the machine. This function is not available to the user.

5.3.6. Battery charger warning light (F)

Electric power and bi-fuel models ("E", "ED "and "EB"), equipped with a built-in high frequency battery charger, are provided with this warning light indicating the operation of the battery charger (for more detailed information read the paragraph "Battery charge").

5.3.7. Enabled control panel warning light (G)

The green warning light ON indicates that the machine is ON and the ground control station is enabled (main key should be kept in "chassis "position).

5.3.8. Diesel engine warning lights (G-H-L-M-N)

These warning lights warn the user of any Diesel engine operational faults (models "D "and "ED"). One of these warning lights turns ON when the engine is stopped. A "fault "message is sent to the operator on the platform (see paragraph "Platform control panel"). Once the Diesel engine has stopped due to a problem signalled by one of these warning lights, the engine can no longer be re-started until such problem has been solved.

5.3.9. Platform control levers (O-P-Q-R)

The various levers shown in the figure allow the platform to be operated. According to the various signs the corresponding movements are activated. These controls can be operated only if the on-off key is set to ON down (ground control panel selected). Please be reminded that the on-ground controls are to be used to operate the platform only in emergency situations and should not be used for any other purpose.

Use the ground controls only in emergency situations to allow the platform to be lowered.
IT IS FORBIDDEN to use the ground control station as a workstation when personnel is on the platform.

5.4 Boarding the platform

The "boarding position "is the only position from which loading or unloading of persons and materials is allowed. The "boarding position "is with the platform completely lowered.

To board the platform:

- climb the ladder holding on to the steps, the ladder uprights or the entry rail uprights;
- Raise the bar and get on board.

Check that, once you are on the platform, the bar falls down closing the access. Fasten the safety harness to the special hooks provided for this purpose.

Fig. 8

⚠ **To board the platform strictly use the special facilities installed on the platform. When moving up or down, always keep your eyes on the machine and hold onto the entry stringers.**

⚠ **DO NOT**
lock the closing bar so as to keep the platform boarding gate open.

⚠ **DO NOT**
leave or board the work platform if this is not in the position required for boarding or leaving.

5.5 Machine start-up

To start the machine the operator shall:

- Release the emergency stop button on the ground control panel by rotating it of 1/4 turn clockwise.
- Turn the on-off key on the on-ground control panel to the "Platform" position.
- Remove the starting key and hand it over to a person in charge on ground, properly informed of the use of the emergency controls.
- Close the protection cover (if available).
- Board the platform.
- Release the stop button on the platform control panel (see previous paragraphs).

For ELECTRIC propulsion machines (models "E"), at this point the various functions can be performed by thoroughly following the instructions given in the previous paragraphs. The machine won't start until the battery charger is disconnected from the power supply. While the battery is being charged, the machine is off and cannot be operated.

On dual propulsion models (Electric/Diesel) (models "ED "or "EB"), it is necessary to select the power supply type by means of the selector. To use the electric propulsion once this option has been selected the operator can start performing the various functions by following the instructions given in the previous paragraphs. To use the thermic propulsion read the next paragraphs to start the heat engine.

For DIESEL propulsion machines (models "D") read the following paragraphs concerning the heat engine start-up procedure.

5.5.1. Heat engine start-up

By turning the starting key on the platform control panel:

- To “0 ”position the Diesel engine stops (models “D ”and “ED”).
- To “3 sec ”position the plugs pre-heating takes place (only engines with plugs) (models “D ”and “ED”).
- In the “Start ”position the engine starts.

Never hold the starting position longer than 3 seconds. In the event of failed start, check the fuel level by means of the relevant indicator and read the user manual of the Engine.

Do not try to start the engine if it is already running. This operation may cause the pinion of the starter to break (under normal conditions the control system blocks this operation).
In the event of a malfunction, check the pilot lamps and read the user manual of the engine.

BEAWARE: The Diesel engine can be started only if the dead-man pedal is neither pressed nor enabled. This means that the engine can be started only if the platform green pilot lamp ON is flashing.

5.5.2. Starting the 230V single-phase electric pump (OPTIONAL)

Diesel powered models can be equipped, on request, with a 230V electrical pump.

To start the electric pump:

1) Insert the 230 V plug of the power cable into the socket (**A**).
2) Set the switch (**B**) shown in figure to ON position.
3) To start the electrical pump with the platform controls:
   - Select the on-platform control panel by means of the key-switch located on the electric control unit of the chassis.;
   - Unlock the push-button turning by a ¼ of a turn clockwise.
   - Set the power selector at the platform to "Electric" position.
   - Set the power selector at the platform (if any) to "230V" position.
   - Operate the machine.

Please note: The operations carried out with 230V electric pump are considerably slower than those with diesel engine.

Fig. 9

PLEASE BEWARE!! Always check the position of the power cable during transfers and operating motions. Disconnect all power ports before you open any box.

5.5.3. Starter for the 3-phase electric pump (OPTIONAL).

Diesel powered models can be equipped, on request, with a 380V three-phase electrical pump.

To start the three-phase electrical pump:

1) Insert the 380 V plug of the power cable into socket (**A**) on the chassis.
2) Set the switches (**C**) shown in figure to ON position.
3) Set the angular red switch (**F**) to ON turning it downwards or upwards. If the connection has been successfully carried out it is possible to start the electrical pump as indicated in next paragraphs. On the contrary, in the event of a phase fault in the electric power the alarm is automatically enabled, and the electrical pump cannot be started. In this case it is possible to compensate the power phases by turning the angular red switch (**F**) on the electric case by 90°.
4) To start the electrical pump with the platform controls:
   - Select the on-platform control panel by means of the key-switch located on the electric control unit of the chassis;
   - Unlock the push-button turning by a ¼ of turn clockwise.
   - Set the power selector to "Electric" position.
   - Select the 380V power with selector.
   - Press the push-button (**H**). When on, the green pilot indicates that the three-phase electrical pump is turned on.
   - Wait 5 seconds before moving the machine.
5) To stop the electrical pump press button (**H**) again.

Fig. 10

Please note: The platform with 380V three-phase power can be operated only from the platform.
The operations carried out with 380V electrical pump are considerably slower than those with diesel engine.

BEAWARE: The electric pump can be started only if the dead-man pedal and button are neither pressed nor enabled. This means that the electrical pump can be started only if the platform green warning light ON is flashing.

PLEASE BEWARE!! Always check the position of the power cable during transfers and operating motions. Disconnect all power ports before you open any box.

5.6 Stopping the machine

5.6.1. Normal stop

In normal operating conditions:

- Release the controls to discontinue the operation and stop the machine. The machine will come to a complete stop occurs within a default time set by the factory in order to ensure smooth braking.
- By releasing the dead-man pedal located on the platform, the operation is immediately stopped. In the event of an immediate stop, braking is sudden.

5.6.2. Emergency stop button

If needed, the operator may stop all machine functions at once using either the controls on the platform or those on-ground (control board).

From the control station on board on the platform:

- Press the emergency stop button on the control panel to turn the machine off;
- By releasing the dead-man pedal, the operation is immediately stopped. Braking may cause some sudden and jerky motion in case of safety immediate stops.

From the control board on ground:

- Press the emergency stop button and the machine (all models) and the heat engine (models “D”, “ED”, “EB”) are stopped;
- Press the power stop button (if available “ –E ”models), thus cutting out machine power (power circuit cut-out).

To retrieve normal operation:

On the platform control panel turn the stop button by a ¼ of a turn clockwise.

From the control board on ground:

- Turn the stop button (if available) of 1/4 turn clockwise.
- Pull out the mushroom button on the power circuit (if available) until it locks in position to power the unit again.

5.6.3. Stopping the diesel engine

To stop the diesel engine:

From the control station on board on the platform:

- Turn the starting key anti-clockwise to "0" position.
- Otherwise, press the emergency stop button (mushroom).

From the control board on ground:

- Turn the starter key to position “0”.
- Otherwise, press the emergency stop button (mushroom).

Do not stop the engine when the r.p.m. is high. Before stopping the engine wait until the r.p.m. is at the lowest.

5.6.4. Stopper of the 380V three-phase or 230V single-phase electrical pump (optional)

To stop the electrical pump (optional):

From the control station on board of the platform:
- Press the switch-off button;
- Otherwise, press the emergency stop button (mushroom).

From the control board on ground:
- Press the emergency stop button (mushroom).

5.7 Emergency manual pump

This function is to be used only in emergency situations when no other source of supply is available.

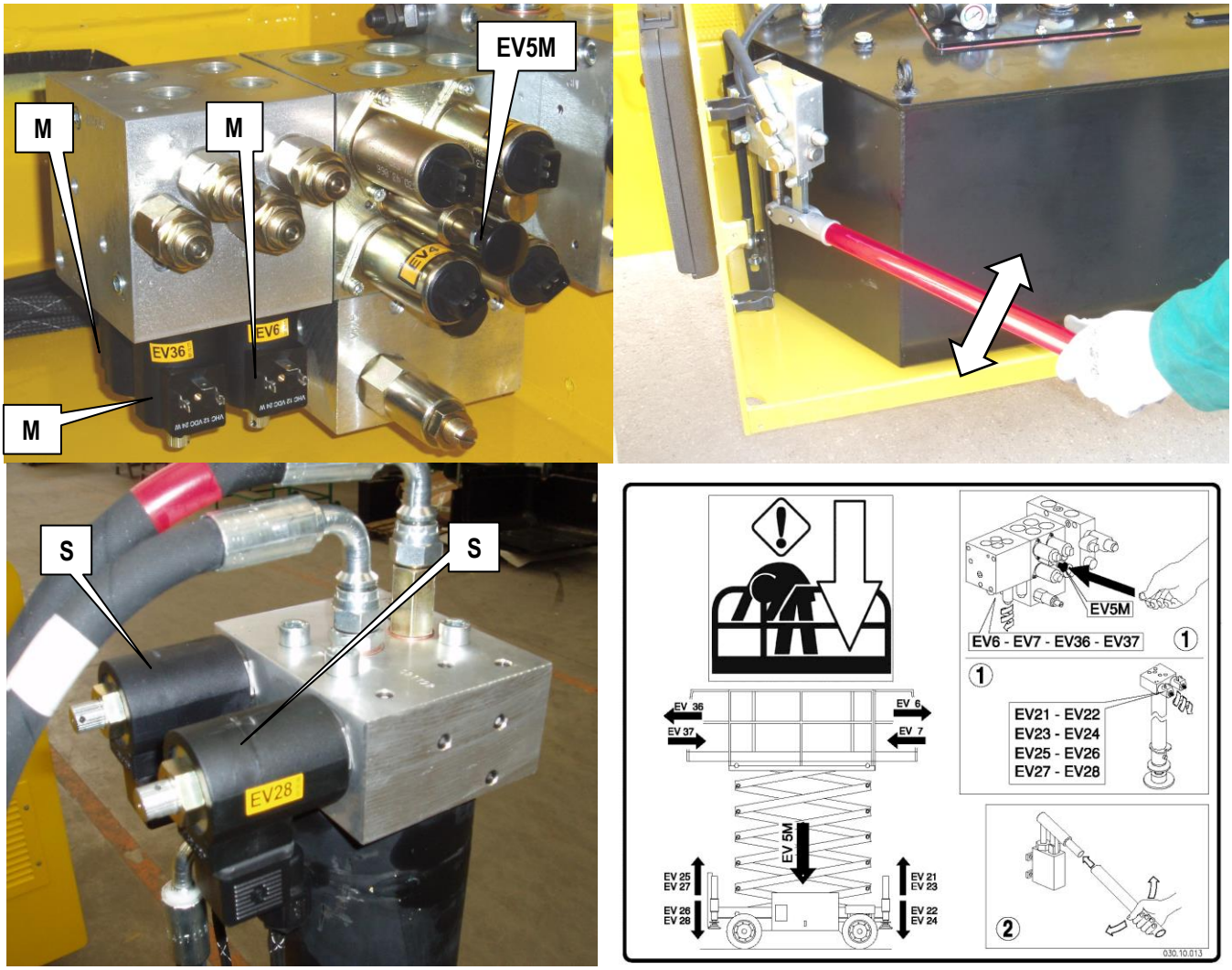


Fig. 11

In case of fault in the electric or hydraulic system, carry out the following emergency procedures.

5.7.1. Platform emergency descent

- Open the cowling and locate the components shown in the previous figure.
- Insert the specially provided lever on the manual pump handle.

For platform EMERGENCY LOWERING operate the manual pump and simultaneously the manual operator marked with EV5M.

THE EMERGENCY LOWERING CONTROL CAN BE STOPPED AT ANY TIME BY RELEASING THE MANUAL OPERATOR MARKED WITH EV5AM.

5.7.2. Other emergency operations

For OTHER EMERGENCY OPERATIONS:

- Open the cowling and locate the components shown in the above figure.
- Insert the specially provided lever on the manual pump handle.
- Completely unscrew the knurled knob of the solenoid valve corresponding to the desired movement according to the following table.
- Activate the emergency pump.
- Check the correct execution of this procedure.

Solenoid valve abbreviations (**M**) and relevant platform operations:

EV6 = Front platform extraction (or forward sliding of sliding platform)
EV7 = Front platform retraction (or backward sliding of sliding platform)
EV36 = Rear platform extraction
EV37 = Rear platform retraction

Following the same sequence previously described, also the pads of the levelling outriggers can be operated manually. Such procedure shall be carried out only with platform completely lowered and with no operators on board.

Solenoid valve abbreviations (**S**) and relevant levelling outriggers operations:

EV21 front left levelling outrigger pad lifting
EV22 front left levelling outrigger pad lowering
EV23 front right levelling outrigger pad lifting
EV24 front right levelling outrigger pad lowering
EV25 rear left levelling outrigger pad lifting
EV26 rear left levelling outrigger pad lowering
EV27 rear right levelling outrigger pad lifting
EV28 rear right levelling outrigger pad lowering

⚠ **PLEASE NOTE!**
IT IS ABSOLUTELY FORBIDDEN TO ACTIVATE THE EMERGENCY CONTROLS OF THE LEVELLING OUTRIGGERS WITH PLATFORM NOT IN REST POSITION. RISK OF MACHINE OVERTURN!

⚠ **Once the emergency manoeuvres have been carried out, the knurled knobs must be set to their initial position again in order to resume the operations (in normal position the knobs are completely screwed).**

5.8 Socket for electric tool connection (optional)

The work platform can be equipped with a socket (230V Ac) allowing the attachment of any electric tool needed to carry out the various operations.

To activate the electric line (see pictures above) introduce a cable into the plug connected to the 230V AC 50 Hz mains, with all protections according to the current standards in force. If there is the circuit breaker switch (optional), to activate the electric line set the switch to ON position. It is advisable to check the earth-leakage circuit breaker by means of the specially provided TEST button.

The plugs and sockets equipped on standard machines comply with EC standards and can therefore be used in EU member countries. On request the machine can be equipped with plugs and sockets in compliance with local standards or with particular needs.

Fig. 12

⚠ Connect to power supplies of the following type:

- Power voltage 230V ± 10%
- Frequency 50÷60 Hz
- Earthing
- Safety and protection devices according to current standards in force.
- Do not use extension cables exceeding 5 m length.
- Use a cable of a suitable section (min 3x2.5 mm2).
- Do not use rolled-up cables.

5.9 Fuel level and re-fuelling (models "ED", "D")

Before using the diesel engine check the fuel level in the tank.

This operation is to be carried out by visually checking the fuel level after unscrewing the filling cap.

- Visually check the fuel level before starting to work.
- Keep the fuel tank and the engine clean.

5.10 End of a work day

After stopping the machine according to the instructions given in the previous paragraphs:

- Always set the machine to rest position (platform completely lowered).
- Press the emergency Stop button on the on-ground control panel.
- Remove the keys from the control panel to prevent unauthorized people from using the machine.
- Recharge the battery according to the instructions given in section "Maintenance" (models “E ”and “ED ”only).
- To fill the tank (if it applies).

6. HANDLING AND TRANSPORTATION

6.1 Handling

To handle the machine in normal operating conditions follow the instructions given in chapter "USE INSTRUCTIONS" under paragraph "Drive and steering".

When the platform is completely lowered (or up to a height set according to different needs and tests) the machine can be handled (i.e. drive can be performed) at different speeds to be freely selected by the user.
With platform at a given height, the drive speed is automatically limited, and cannot be changed.
The section TECHNICAL FEATURES indicates the limits concerning drive for each model.

PLEASE NOTE!

Driving with the lifted platform may be subject to different restrictions according to the country where the machine is used. Find out about the legislative limits concerning this operation from Health and Safety Authorities at your place.

It is absolutely forbidden to travel with the machine when the platform is lifted unless the ground is horizontal, flat and solid.

Before carrying out any travel, make sure that no people are in the proximity of the machine and in any case proceed with the utmost caution.

Backward drive (in the direction of the fixed wheels) does not allow the operator on the control panel a complete visibility. Use extreme care for this operation.

Before moving the machine make sure that all connections are disconnected from the power supply source.

Check that there are no holes and/or steps on the floor and bear in mind machine overall dimensions.

Do not use the machine to tow other vehicles.

Do not load anything on the platform while the platform is up and the machine travels (operators on board are not allowed to pull wires or ropes, etc.).

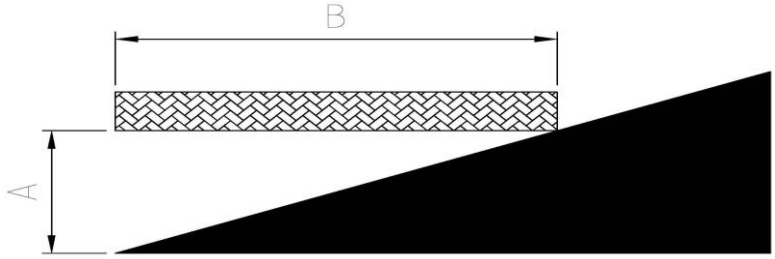
6.2 Transportation.

In order to move the machine to a different working site, follow the instructions given below.
Considering the large size of some models, check the minimum rolling dimensions allowed in your country for road transportation.

⚠ **Before carrying the machine, turn it off and remove the keys from the control panels. No people are allowed in proximity to or on the machine to avoid any risks resulting from sudden movements.**
For safety reasons never lift or tow the machine by its booms or platform.
Loading operations are to be carried out on a flat surface with a suitable capacity, after setting the platform to the rest position.

To transport the machine, load it on a vehicle of a suitable size as following:

- **By means of loading ramps and translation controls** located on the platform to load it directly onto the vehicle (if ramp slope is within the gradeability described in paragraph "TECHNICAL FEATURES "and the ramp capacity is adequate to weight) according to the instructions given in paragraph "USE INSTRUCTION "under paragraph "Drive and steering "for correct operation of drive controls.. If the slope exceeds the maximum admissible one, the machine must be winched and in this case the operator on the platform needs to activate the drive controls and release the parking brakes. The slope can be determined using an electronic level or empirically as described below: position a wood board of known length on the gradient to be measured. Position a spirit level on the wood board and lift the downstream extremity of the latter until it is level. Now measure the distance between the board and the ground (**A**), divide this by the length of the board (**B**) and multiply by 100. The following image sums up the method.



- **Through the 4 fastening holes** located on the 4 angles of the machine, it can be lifted by means of **hooks and steel ropes** (with safety factor = 5, see machine weight in Technical Data) connected to the provided holes as indicated in the picture.

- **Through a lift truck** of a suitable capacity (see machine weight in table "Technical features "at the beginning of this manual) equipped with forks having at least the same length as the machine width. Insert the forks as indicated by the stickers on the machine. Should these stickers be not available, DO NOT lift the machine by means of a lift truck. Lifting the machine by means of a lift truck is a dangerous operation, which must be carried out by qualified operators only.

Fig.13

After placing the machine onto the carrying vehicle, fasten it by means of the same holes used for lifting. To avoid breaking the platform overload controller, thus causing the machine to stop, DO NOT fix the machine onto a vehicle platform by tying-up the platform or the last lifting boom. PLEASE MIND THIS INSTRUCTION FOR ALL MODELS

Before transporting the machine its stability. The platform must be fully lowered and the platform extension must be in retracted position to ensure adequate stability during the entire operation.

6.2.1. Fold-down rails

The machine is equipped with rails which can be folded down to the inside of the platform. Folding down the rails it is possible to reduce the height of the machine for:

- Transport.
- Passage through lowered areas (e.g. doors)

To fold down the rails follow this procedure:

1) Remove the control panel from the front rail.
2) Unlock the two locks of the front rail by pulling the knob **A** to the inside.
3) Fold down the front rail to the inside and repeat steps 2) and 3) for the rail of the entrance area.
4) Lift and turn the side rails **B** with a coupling pin to the inside.;
5) Lift and turn the side rails **C** to the inside.

PLEASE BEWARE!!
The sole purpose of this operation is to reduce the height of the closed machine to facilitate transport operations.
IT IS ABSOLUTELY FORBIDDEN to lift the platform when personnel is on board if rails are not raised and locked by their relevant latches.

PLEASE BEWARE!!
On machines with dual slide-out extension deck it is ABSOLUTELY FORBIDDEN to control the extraction / retraction of the platforms if rails are not raised.

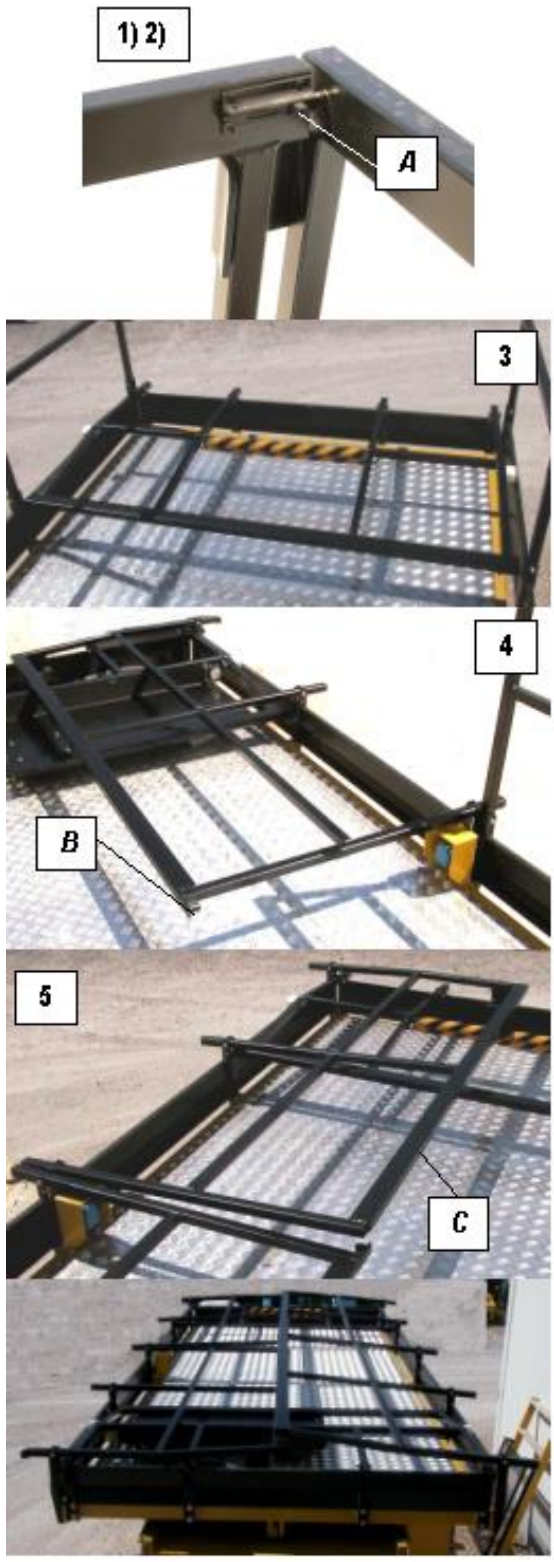


Fig. 14

6.3 Emergency tow-away of the machine

In the event of a fault, carry out the following operations to tow the machine:

A) FOR **XL11 and XL14**:

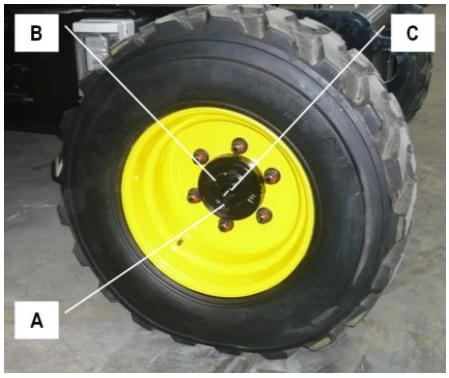
- Hook the machine to the provided holes.
- Completely screw the threaded dowels at the centre of the drive reduction gears by means of a 6 mm hexagonal wrench.
- Tow at a very slow speed (remember that when the machine is being towed, brakes are out of service).

Fig.15

B) FOR **XL16 and XL19** :

- Hook the machine to the provided holes.
- Disengage the drive wheels (2 or 4) by acting on drive reduction gears in the following manner:
  Reduction gear Type 1: - Loosen the two screws (A) in the centre with a 10 mm wrench for hex head and slide on the slots the cover (B) of the reduction gears; then remove the pin (C) placed at the centre of the reduction gears; - Reposition the pin in the reduction gears in the reverse order in their seat; - Restore the cover and tighten the screws;
  Reduction gear Type 2: - Remove the centre cover with a ¾ " hex key; - Remove the centre pin with the help of an M6 screw ; - Replace the cover.
- Tow at a very slow speed (remember that when the machine is being towed, brakes are out of service).

Type 1



Type 2

Fig.16

PLEASE NOTE! THIS OPERATION MAY CAUSE OIL LEAKAGE FROM THE DRIVE REDUCTION GEARS.

To restart normal operation, set the machine back to the initial conditions and, if necessary, top up the oil level inside the drive reduction gears (XL16 XL19).

⚠

Tow at a very slow speed (remember that when the machine is being towed, brakes are out of service).

Tow only on a flat ground.

Do not park the machine without brakes on. Should the brakes be completely out of order put wedges under the wheels to prevent the machine from moving accidentally.

7. MAINTENANCE

- **Always carry out maintenance operations with machine at standstill, after having removed the key from the control panel, and with the platform in rest position.**
- **The maintenance operations described here below refer to a machine in ordinary working conditions. In case of difficult operating conditions (extreme temperatures, corrosive environments, etc.) or following long non-use, contact AIRO customer service to adjust the maintenance schedule.**
- **Repairs and maintenance operations are to be carried out by trained and authorised personnel only. All maintenance operations should be carried out in compliance with the actual work safety regulations (safety at work places, personal protection equipment, etc...).**
- **Carry out only the maintenance and adjustment operations described in this user manual. In emergency situations (e.g. breakdown, wheels replacement) contact our Technical Service**
- **During maintenance interventions, the machine must be completely locked. Before carrying out maintenance operations inside the lifting equipment, check that this is off-line in order to avoid accidental lowering of the booms (chapter "Safety lock").**

- **Remove the battery cables and provide batteries with a suitable protection during welding operations.**
- **Carry out maintenance operations on the heat engine only when it is not running and sufficiently cool (except for those operations, such as oil change, which must be performed when the engine is hot). Risk of burns in contact with hot parts.**
- **Do not use petrol or other flammable materials to clean the heat engine.**
- **For maintenance operations on the heat engine, read the manufacturer's manual of the engine supplied on machine purchase.**
- **In case of replacement, use original spare parts only. For parts that are not original please ask the manufacturer for prior approval.**
- **Disconnect the 230V AC and/or 380V AC sockets, if any.**
- **The lubricants, hydraulic oils, electrolytes and all detergent products should be handled with care and disposed of in safety according to the current regulations. Prolonged contact with the skin may cause forms of irritation and skin diseases; wash with water and soap and rinse well.**
  Also contact with the eyes, especially with the electrolytes, is dangerous; wash with water and see a doctor.

PLEASE NOTE!
NEVER MODIFY OR TAMPER WITH MACHINE PARTS TO IMPROVE THE MACHINE PERFORMANCE AS THIS MAY AFFECT ITS SAFE OPERATION.

7.1 Safety lock for maintenance operations

Before carrying out any maintenance or repairs to it, activate the lifting structure locking system (by placing safety lock as shown in figure).

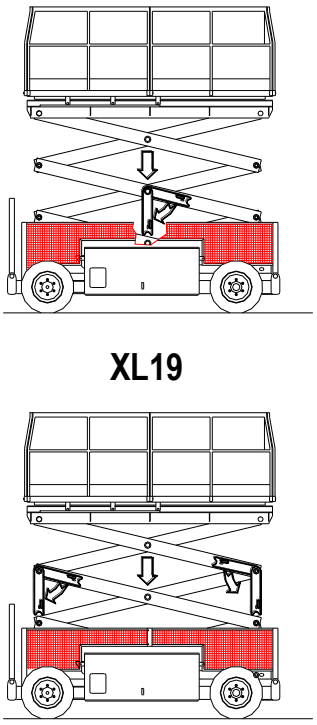


Fig. 17

7.2 Machine cleaning

To clean the machine use non-pressurized water jets after properly protecting the following parts:

- The control panel (both platform and ground);
- The electric ground control unit and all electric boxes in general;
- The electric motors.

Do not use pressurized water jets (high-pressure cleaners) to clean the machine.

After washing the machine, always:

- Dry the machine.
- Check integrity of plates and stickers.
- Lubricate the articulated joints equipped with greaser and the sliding ways.

7.3 General maintenance

Below are listed the main maintenance jobs to be done and the relevant schedule (the machine features an hour counter).

Operation	Frequency
Tightening of the hardware (see "Various adjustments")	after the first 10 operation hours
Check the oil level in the hydraulic tank	after the first 10 operation hours
Check of the battery state (charge and liquid level)	Every day
Check of deformation of tubes and cables	Every week
Checking stickers and code plates	Every month
Greasing joints and sliding pads	Every month
Check the oil level in the hydraulic tank	Every month
Checking fixation the engine on the elastic supports	Every month
Checking the efficiency fiof the emergency devices	Every year
Checking all electric connections	Every year
Checking the hydraulic couplings	Every year
Periodic operation check and structure visual check	Every year
Tightening of the hardware (see "Various adjustments")	Every year
Check of drive reduction gear oil change	Every year
Adjustment check of main relief pressure valve	Every year
Calibration check of pressure relief valve in the lifting circuit.	Every year
Checking the efficiency of the brake system	Every year
Air purging from oscillating axe cylinders	Every year
Operation check of inclinometer	Every year
Platform overload controller operation check and adjustment Every year	Every year
Operation check of Microswitch M1	Every year
Operation check of Microswitch M1S (if available)	Every year
Operation check of Microswitch M3 (if available)	Every year
Operation check of Microswitches M5A+M5B (if available)	Every year
Operation check of Microswitches ST1A÷ST4A and STP1÷STP4 (machines with levelling outriggers)	Every year
Operation check of dead-man pedal and button safety system	Every year
Platform extraction clearance adjustment	Every year
Hydraulic filter replacement	Every two years
Drive reduction gear oil change	Every two years
Total oil change in hydraulic tank	Every two years

⚠ **DIESEL (D) AND ELECTRIC-DIESEL MODELS (E/D): As it is possible to install different types of diesel engines, refer to the instructions manual of the engine manufacturer for all maintenance operations.**

⚠ **IT IS NECESSARY**

TO SEND THE MACHINE TO THE MANUFACTURER WITHIN 10 YEARS OF WORK FOR A COMPLETE CHECK.

7.3.1. Adjustments

Check the conditions of the following components and, if necessary, tighten after the first 10 working hours and, afterwards, at least once a year:

1) Wheel screws
2) Drive engine, fixation screws
3) Steering cylinder fixing screws
4) fixing screws of platforms and rails;
5) Hydraulic fittings
6) Lock pins and safety dowels of boom pins
7) Elastic supports of heat engine
8) Sliding platform counter bearings

For torque. please refer to the table below.

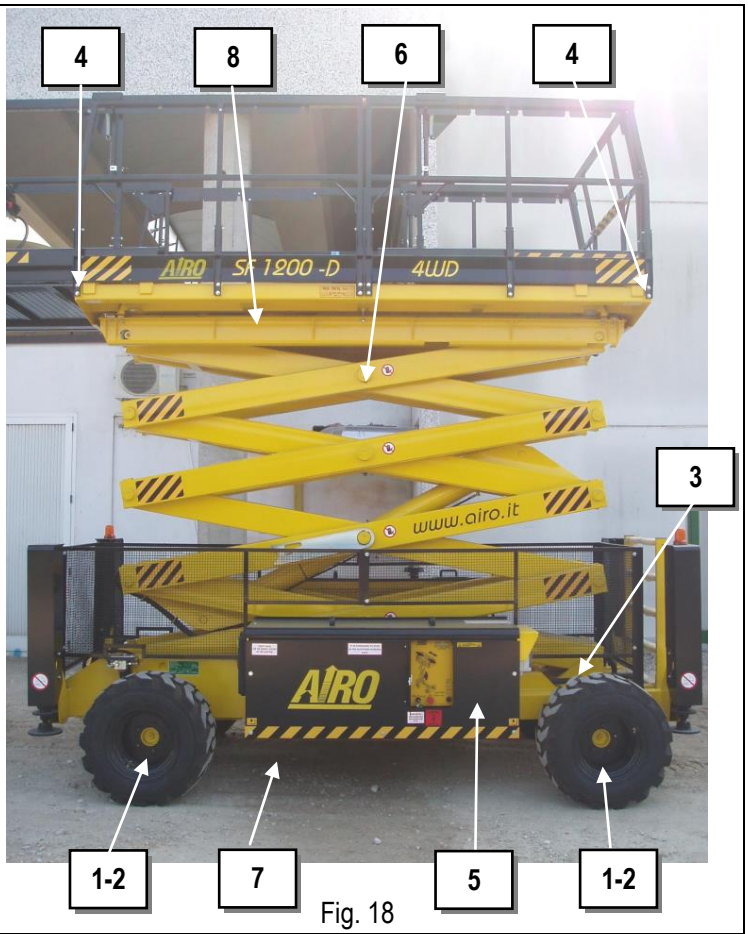


Fig. 18

SCREW TORQUE (metric thread, normal pitch)						
Class	**8.8 (8G)**		**10.9 (10K)**		**12.9 (12K)**	
Diameter	**kgm**	**Nm**	**kgm**	**Nm**	**kgm**	**Nm**
M4	0.28	2.8	0.39	3.9	0.49	4.9
M5	0.55	5.5	0.78	7.8	0.93	9.3
M6	0.96	9.6	1.30	13.0	1.60	16.0
M8	2.30	23.0	3.30	33.0	3.90	39.0
M10	4.60	46.0	6.50	65.0	7.80	78.0
M12	8.0	80.0	11.0	110	14.0	140
M14	13.0	130	18.0	180	22.0	220
M16	19.0	190	27.0	270	33.0	330
M18	27.0	270	38.0	380	45.0	450
M20	38.0	380	53.0	530	64.0	640
M22	51.0	510	72.0	720	86.0	860
M24	65.0	650	92.0	920	110	1100

7.3.2. Greasing

Grease all articulated joints equipped with greaser (or provision for greaser attachment) at least every month.

At least once a month with a spatula or a brush, it is recommended to lubricate the sliding guides:

a) Sliding blocks/rolls of the extension structure on the chassis.
b) Sliding blocks/rolls of the extension structure under the platform.
c) Counter-pressure sliding blocks/rolls of the mobile platform.

Moreover, remember to grease the articulated joints in the following cases:

- After washing the machine
- Before using the machine again after a long time-interval.
- After using the machine in adverse environmental conditions (high humidity levels; presence of dust; coastal areas, etc).

Before greasing clean properly with a wet cloth. Grease all points indicated in the picture aside (and all articulated joints equipped with greaser) with grease type

ESSO BEACON-EP2 or similar.

(OPTIONAL BIODEGRADABLE OIL KIT)
PANOLIN BIOGREASE 2

Fig. 19

7.3.3. Checking and changing the hydraulic oil

After the first 10 working hours and, afterwards, at least once a month, check the level by means of the provided cap (**A**) equipped with a dipstick; always make sure that the level lies between the max. and min. values. If necessary top up until max. level is reached. The oil check should be carried out when platform is completely lowered, with sliding platform in central position (if present) and with outriggers completely retracted (if present).

Completely change the hydraulic oil at least every two years.

To empty the tank:

- Lower the platform completely.
- Place sliding platform in central position (if present).
- Retract the outriggers completely (if present).
- stop the machine by pressing the emergency stop button on the ground control panel
- place a container under cap (**B**), under the tank, and unscrew it.

Use only the oil types and quantity indicated in the table below.

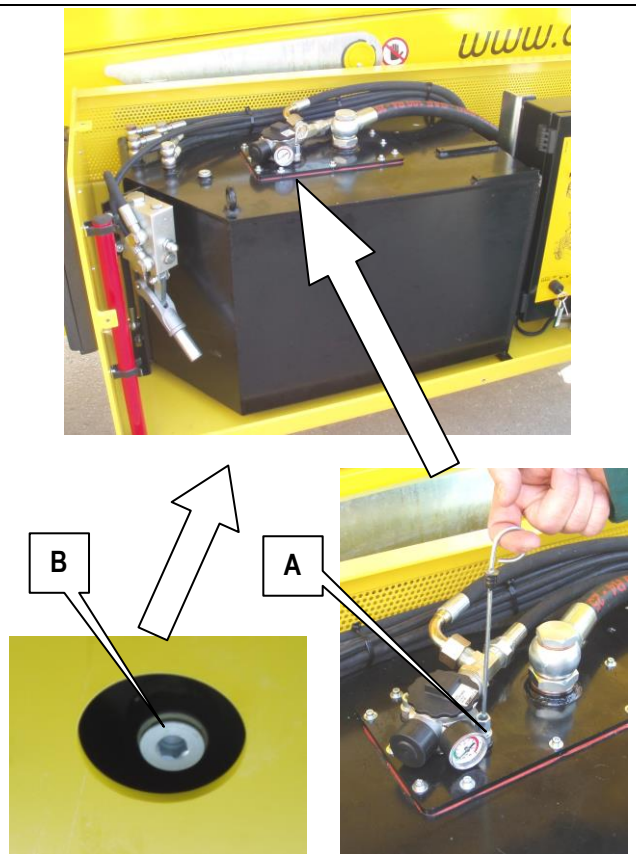


Fig. 20

HYDRAULIC SYSTEM OIL			
BRAND	**TYPE** -20°C +79°C	**TYPE** -30°C +48°C	**REQUIRED QUANTITY**
SYNTHETIC OILS			**See chapter "Technical features".**
ESSO	Invarol EP46	Invarol EP22	
AGIP	Arnica 46	Arnica 22	
ELF	Hydrelf DS46	Hydrelf DS22	
SHELL	Tellus SX46	Tellus SX22	
BP	Energol SHF46	Energol SHF22	
TEXACO	Rando NDZ46	Rando NDZ22	
Q8	LI HVI 46	LI HVI 22	
PETRONAS	HIDROBAK 46 HV	HIDROBAK 22 HV	
BIODEGRADABLE OILS - OPTIONAL			
PANOLIN	HLP SINTH E46	HLP SINTH E22	

Do not dispose of used oil in the environment. Comply with the current local standards.

The lubricants, hydraulic oils, electrolytes and all detergent products should be handled with care and disposed of in safety according to the current regulations. Prolonged contact with the skin may cause forms of irritation and skin diseases; wash with water and soap and rinse well. Also contact with the eyes, especially with the electrolytes, is dangerous; wash with water and see a doctor.

7.3.3.1 Hydraulic bio-oil (optional).

At the request of the customer, the machines can be supplied with biodegradable hydraulic oil compatible with the environment. Biodegradable hydraulic oil is completely synthetic, without zinc, non-polluting and highly efficient with saturated ester base, combined with special additives. The machines with biodegradable oil use the same component parts as standard machines, but the use of such type of oil is best taken into account from machine construction.
In case of wanting to change from mineral-oil based hydraulic oil to "bio "oil, the following procedure must be followed.

7.3.3.2 Emptying

Empty the hot hydraulic oil for entire system operation (oil tank, cylinders, large-volume pipes).

7.3.3.3 Filters

Change all filter cartridges Use standard filters as indicated by the manufacturer.

7.3.3.4 Washing

After completely emptying the machine, fill with a nominal quantity of "bio "hydraulic oil.
Start the machine and perform all work movements at low revs for at least 30 minutes.
Empty the liquid inside the systems as indicated at 7.2.3.1.1.
Warning: During the entire washing procedure, avoid air entering the system.

7.3.3.5 Filling

After washing, fill the hydraulic circuit, bleed and check the level.
Bear in mind that contact of fluid with the hydraulic pipes can cause swelling.
Also remember that contact of fluid with the skin can cause reddening or irritation.
Also use suitable PPE during these operations (e.g., protective eyewear and gloves).

7.3.3.6 Commissioning / check

"Bio "oil behaves regularly, but it must be checked by taking a sample at set intervals according to the indications provided below:

CHECK FREQUENCY	NORMAL DUTY	HEAVY DUTY
1st CHECK AFTER	50 OPERATION HOURS	50 OPERATION HOURS
2nd CHECK AFTER	500 OPERATION HOURS	250 OPERATION HOURS
3rd CHECK AFTER	1000 OPERATION HOURS	500 OPERATION HOURS
FOLLOWING CHECKS	1000 HOURS OR 1 OPERATION YEAR	500 HOURS OR 1 OPERATION YEAR

This schedule allows consistent monitoring of the oil grade so that it can be reused as much as possible before its properties are lost. Normally, in the absence of contaminating agents, the oil is never completely changed, but only occasionally topped-up.

The oil samples (at least 500ml) must be taken with the system at operating temperature.
It is recommended to use new and clean containers.

The samples must be sent to the "bio "oil supplier.
For more details, contact your nearest distributor.

Copies of the analysis report must be kept in the check register. This is mandatory.

7.3.3.7 Mixing

Mixtures with other biodegradable oils are not allowed.
The remaining amount of mineral oil must not exceed 5% of total filling quantity as long as the mineral oil is suitable for the same use.

7.3.3.8 Micro-filtration

When making the conversion on second-hand machines, always take into account the high dirt dissolution power of biodegradable oil.
After conversion from one oil to another, a certain amount of deposits may be dissolved in the hydraulic system. In extreme cases, washing the seal housings can cause greater leaks.
To prevent faults as well as avoid any negative effect on the oil quality, clean the hydraulic system using a micro-filtration system after each system conversion to a new oil type.

7.3.3.9 Disposal

The biodegradable oil, inasmuch as saturated ester, is suitable for both thermal and material re-use.
It therefore provides the same disposal / re-use options as mineral based old oil.
Such oil can be incinerated whenever local laws allow.
Recycling the oil is preferable to disposal on dumps or incineration.

7.3.3.10 Topping up

The oil must ONLY EVER be topped up with the same product.

Note: Max water contamination is 0.1%.

During oil change or topping up, do not discard the hydraulic oil in the environment.

7.3.4. Hydraulic filter replacement

7.3.4.1 Suction filters

All models are equipped with suction filter. It is best to replace it at least every two years. Suction filters can be placed:

- Outside the tank (XL11 E - XL14 E).
- Inside the tank (XL14RTD - XL16 E –SL16 RTD - XL19 E –XL19 RTD).

MODELS XL11 E- XL14 E:

The suction filter directly flanged to the tank is equipped with a clogging indicator **E** indicates the moment when the filtering cartridge is to be cleaned.. When the clogging indicator is in the red zone, the filtering cartridge is to be cleaned or replaced. To dismount the filtering cartridge from the suction filter the operator shall (see picture aside):

- Stop the machine by pressing the push-button of the power line.
- Remove the cover **A** of the filter unscrewing the four hexagonal nuts **B** (13mm wrench) keeping one hand under the bowl **C** of the filter to prevent it from detaching.
- Extract the bowl with the cartridge **D**.
- Remove the cartridge **D** and check its condition.
- If necessary, clean the filter by means of compressed air paying attention not to alter the filtering surface. Otherwise replace the cartridge.
- Fit the new cartridge paying attention to the correct positioning of the retaining spring **F** and place the bowl.

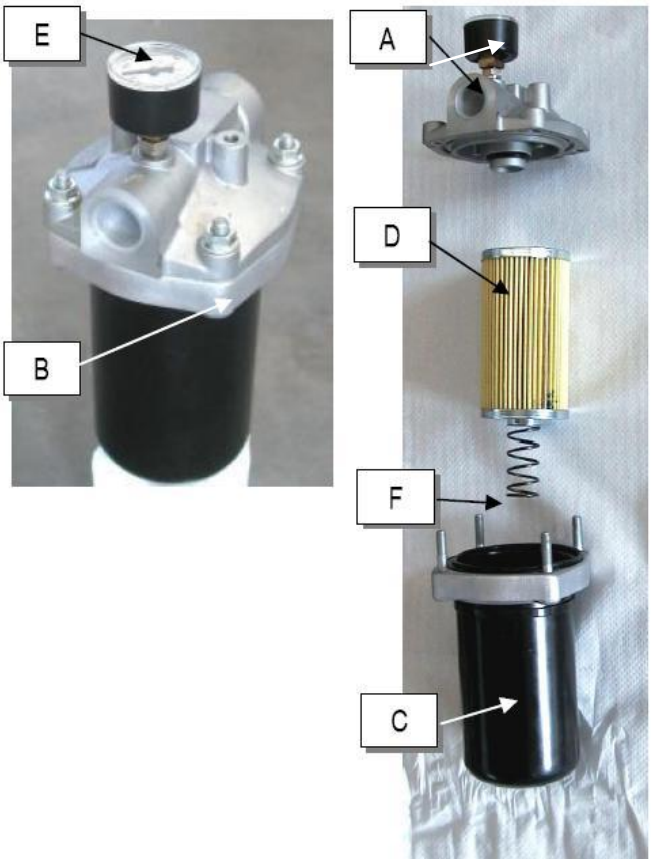


Fig. 21

It is to be noted that the bowl containing the filtering cartridge is full of oil. Therefore, during these operations a quantity of oil may leak out onto the side floor of the machine. In this case, remove the oil by means of cloths or the outlet holes by placing a suitable container under it.

MODELS XL16 E - XL19 E:

To replace the suction filters installed inside the tank the operator has to (see picture aside):

- Stop the machine by pressing the push-button of the power line.
- Disconnect the power cords of the electrical pumps **A** (XL16 E).
- Unscrew the coupling flange **B** unlocking the screws (5mm Allen wrench) XL16 E
- Unscrew the cover of the tank on which the suction tubes are flanged.
- Lift the electrical pump and remove it from the tank (the weight of the electrical pump is 25 Kg) XL16 E
- Unscrew the filters **C** from the suction tubes.
- To restore the initial condition, carry out the above-mentioned operation in reverse order.

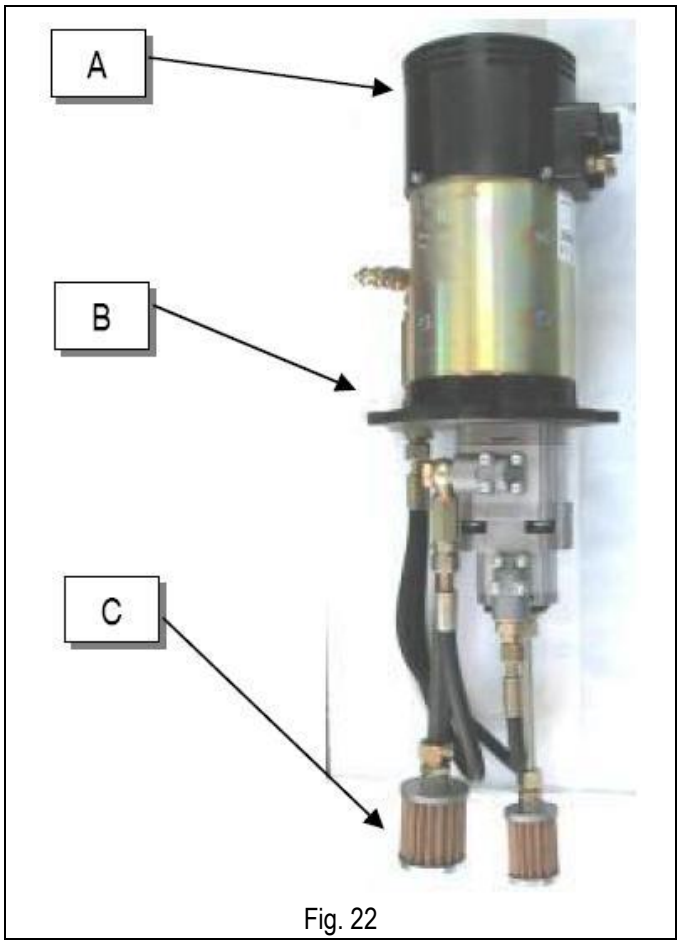


Fig. 22

7.3.4.2 Return filters (XXL14 D - XL14 RTD - XL16 E –XL16 RTD - XL19 E –XL19 RTD).

The return filter directly flanged on the tank is equipped with a visual clogging indicator. During normal operation, the visual indicator is in the green zone. When the indicator is in the red zone, the filtering cartridge is to be replaced. However, the filtering cartridge should be replaced at least every two years. To replace the filter cartridge:

- Stop the machine by pressing the mushroom button on the ground power unit;
- Remove the cover of the filter unscrewing the four hexagonal screws (10mm wrench).
- Remove cartridge;
- Fit the new cartridge paying attention to the correct position of the retaining spring and place the cover back on again.

⚠ **IT IS FORBIDDEN to start the machine when the filter cover is missing or not properly tightened.**

Replace the filters using only original accessories available at our Technical Service.
Do not re-use used oil and do not leave it in the environment, but dispose of in compliance with local standards in force.
Once the filters have been replaced, check the hydraulic oil level in the tank.

7.3.5. Drive reduction gear oil level check and change.

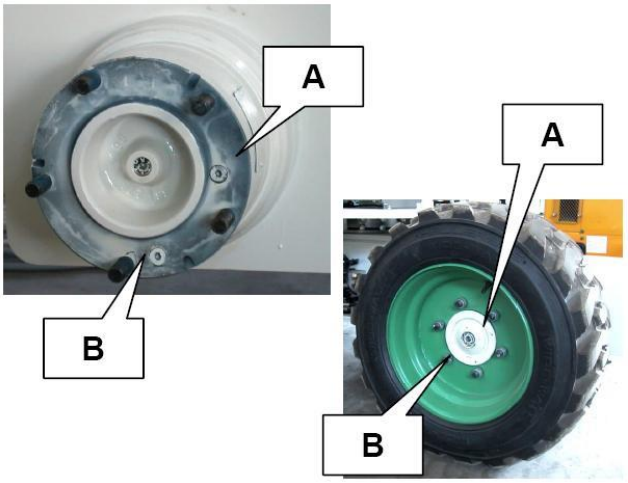


Fig. 23

The oil level should be checked at least once a year. Remove the driving wheels (only for models XL11 and XL14) and place the reduction gears so as to have the two caps **A** and **B** in the position shown in the picture aside. The level must be checked by means of cap **A**. Oil check must be carried out when the oil is hot. The level is correct when the reduction gear body is full of oil up to the cap limit **A**. Should a lubricant volume higher than 10% be topped up, check that there is no leakage in the group. Do not mix different types of oil, of the same or of different brands. Do not mix mineral oils and synthetic oils. The oil must be changed the first time after 50-100 working hours, and afterwards after every 2500 working hours or at least every two years. Depending on the actual working conditions, these periods may be modified according to the single case. While changing the oil, wash the internal parts of the casing with the fluid recommended by the lubricant producer. To avoid sludge deposits, the oil must be changed when the reduction gear is hot. To change the oil unscrew cap B , and place a container of a 2-litre capacity under it. Empty the reduction gear bodies completely, clean it as described above and then fill it up to the limit level of the cap **A** through the same hole.

LUBRICATING OIL FOR DRIVE REDUCTION GEARS			
BRAND	**ISO 4438 VG 150-200**	**REQUIRED QUANTITY**	
		XL11 ...XL14...	**XL16 ...XL19...**
SYNTHETIC OILS		1 litre for each reduction gear	1 litre for each reduction gear
ESSO AGIP ELF CASTROL	Compressor oil LG 150 Blasia S 220 Oritis 125 MS Alpha SN 6		
IP	Telesia oil 150		
BIODEGRADABLE OILS - OPTIONAL			
PANOLIN	Biogear 80W90		

7.3.5.1 Checks in the use of synthetic biodegradable oil in the main reduction gears

Quarterly or every 500 hours check the oil level. In case of need top up. If you notice that more than 10% of oil lacks in the reduction gear, check if there are any leaks.
Change the oil in the slewing reduction gear after the first 100 hours of operation and then every 6000 hours or every 3 years.
Depending on the actual operating conditions, these intervals may change.
When changing the oil, run a wash cycle inside the casing.
Change the oil when the reduction gear is hot.
Mixtures of different oils (either biodegradable or mineral) even of the same brand are not allowed.

During oil change or topping up, do not discard the hydraulic oil in the environment.

7.3.6. Air purging from oscillating axle locking cylinders

Once drive has been stopped, the axle locking cylinders are locked in position thus increasing the machine stability.
Check that no air is present inside the oscillating axle cylinders every year. To carry out this check it is necessary to:

- Remove the protection cylinder crankcases (**A**) of the oscillating axle.
- Unscrew cap (B) of one of the two cylinders of the oscillating axle.
- Carry out the drive operation by bringing the two oscillating axle cylinders to end stop several times, until there is only oil leaking out of the cap of the locking valve.
- Once purging has been completed, screw cap (B) and check the oil level in the tank.

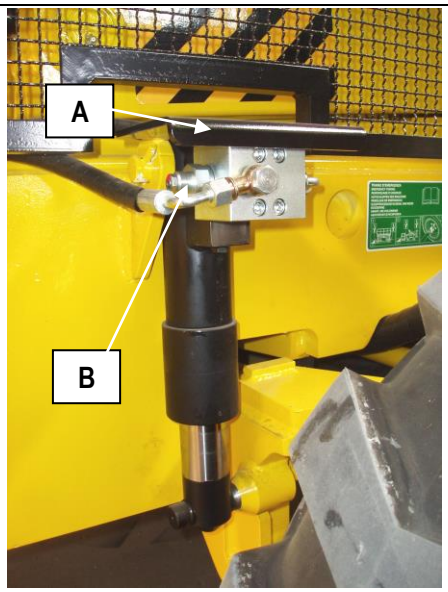


Fig.24

PLEASE NOTE!

THIS OPERATION OUGHT TO BE CARRIED OUT SIMULTANEOUSLY BY TWO OPERATORS: ONE IS TO DRIVE THE MACHINE, THE OTHER IS TO CHECK THE OPERATION AND COLLECT THE LEAKING OIL.

THIS OPERATION OUGHT TO BE CARRIED OUT IN ROOMS THAT ALLOW THE OIL LEAKING FROM THE CYLINDERS TO BE LOWERED.

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.3.7. Pressure relief valve adjustment and operation check.

The pressure relief valve controls the maximum pressure of the hydraulic circuit. Normally, this valve does not require any adjustment, since it is calibrated at the factory before the machine is delivered.

The settings of the main pressure relief valve must be checked:

- after replacement of the hydraulics
- after replacemente of the pressure relief valve

Perform one functional check a year.

To check the operation of the main pressure relief valve (see figure aside):

- Disconnect the power cords of the electrical pumps **EV2** and **EV3** (**A** and **B**).
- Introduce a pressure gauge with full scale of at least 250 bar in the special quick coupling (1/4 "BSP) **D**
- Using the platform control panel drive the machine forward and backward. Initially carry out the manoeuvre softly to check that the above mentioned valves have been disconnected properly (the machine should not move).
- Check the detected pressure value. The correct value is indicated in the chapter "**Technical features**".

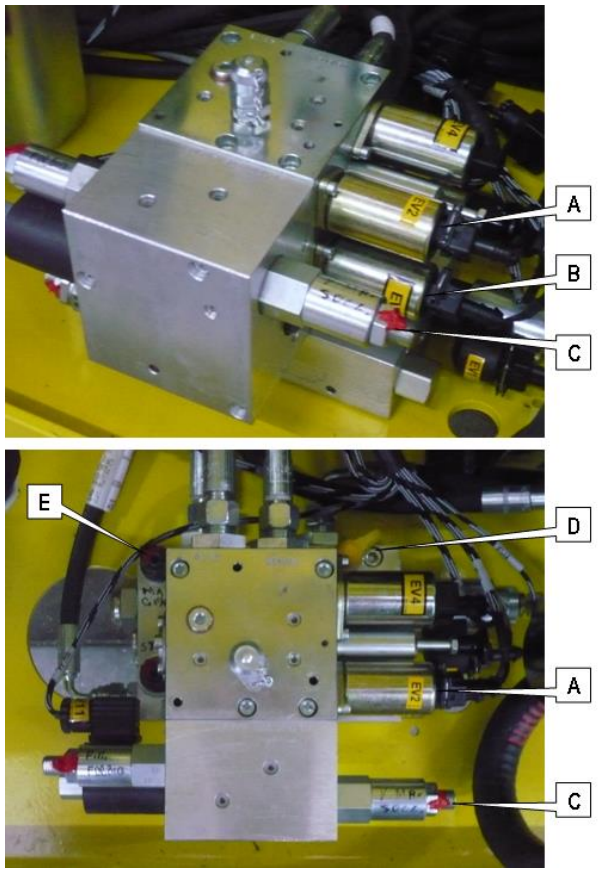


Fig. 25

To calibrate the pressure relief valve:

- Disconnect the power cords of the electric pumps **EV2** and **EV3** (**A** and **B**).
- Introduce a pressure gauge with full scale of at least 250 bar in the special quick coupling (1/4 "BSP) **D.**
- Locate the main pressure relief valve **E.**
- Unscrew the adjusting dowel lock-nut.
- Using the platform control panel, drive the machine forward or backward, and adjust the pressure relief valve by means of the adjusting dowel so as to reach the pressure value indicated in chapter "**Technical Features**". Initially carry out the manoeuvre softly to check that the above mentioned valves have been disconnected properly (the machine should not move).
- Once calibration has been carried out, lock the adjusting dowel by means of the lock-nut.

⚠

PLEASE NOTE!
THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.3.8. Lifting circuit pressure relief valve adjustment

The self-propelled platforms, XL series, have a relief pressure valve on the lifting circuit to avoid dangerous overpressure values. Normally, this valve does not require any adjustment, since it is calibrated at the factory before the machine is delivered.

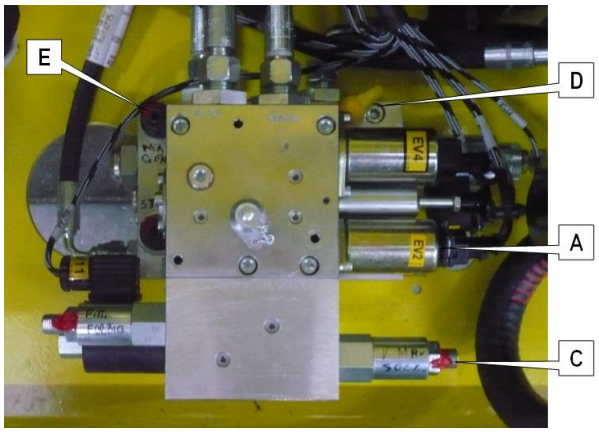


Fig. 26

The adjustment of the system is required:
- after replacement of the hydraulics
- In case of replacement of the pressure relief valve only:

Perform a functional control at least once a year.

To check the pressure relief valve on the lifting circuit :
- Introduce a pressure gauge with full scale of at least 250 bar in the special quick coupling (1/4 ”BSP) **D**
- Using the ground control panel lift the pantograph (lower boom) up to the end stop.
- Check the detected pressure value. The correct value should be as stated in the “**Technical Data**".

To calibrate the pressure relief valve on the lifting circuit:
- Introduce a pressure gauge with full scale of at least 250 bar in the special quick coupling (1/4 ”BSP) D.
- Locate the pressure relief valve of the lifting circuit C.
- Unscrew the adjusting dowel lock-nut.
- Perform lifting from the control panel on ground. Keep on lifting up to stroke-end and force a bit.
- Adjust the pressure relief valve by means of the adjusting dowel so as to reach the pressure value indicated in "**Technical Data**".
- Once calibration has been carried out, lock the adjusting dowel by means of the lock-nut.

⚠

PLEASE NOTE!
THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.3.9. Braking system efficiency check

These valves check the minimum operating pressure during drive (in both running directions) and affect the dynamic braking and the drive speed. These valves do not usually need any adjustment as they were previously calibrated in the workshop before the delivery of the machine. The braking systems stop the machine when the drive controls are released. Once the machine has stopped, the automatic intervention of the parking brakes keeps the machine in position.

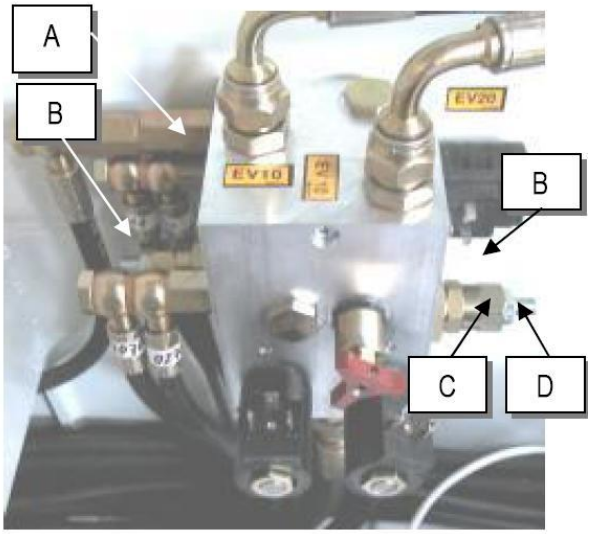


Fig. 27

Perform a functional control at least once a year.

To check the operation of the braking system:

- With platform completely lowered place the machine on a flat ground, free of obstacles, operate the drive control and when the max. speed is reached, release the control immediately.
- The correct operation of the braking system allows the machine to stop in a space lower than 100 cm;
- However, the braking system can stop and hold the machine on the slopes indicated in chapter **"Technical Features "**(the braking space on descents is obviously longer; descend at minimum drive speed).

The calibration of both braking valves is necessary:

- In case of replacement of the hydraulic unit **A**.
- If one or both braking valves are to be replaced.

To calibrate the braking valves:

- Locate the hydraulic unit called "drive plate".
- Locate the braking valves B (one for each running direction).
- Connect a pressure gauge of at least 250-bar scale to the provided quick coupling in the hydraulic control unit (1/4" BSP).
- Select the minimum drive speed on the platform control box;
- Unscrew the lock-nuts C of the adjusting dowels.
- Using the platform control station drive the machine (in the direction influenced by the action of the valve) on a flat ground and straight running, and adjust the braking valve (concerning that direction of running) acting on the adjusting dowel D to obtain the required pressure value (call the nearest Customer Service to request this information)
- Once the required pressure value has been achieved, check that the valve controlling the braking in the opposite direction has maintained its adjustment.
- Once the adjustments have been completed (the pressure values in the two directions should not vary from each other by ±5 bar) lock the adjusting dowel by means of the lock nut.

⚠

PLEASE NOTE!

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.3.10. Slide-out extension deck clearance adjustment

Every year check the clearance of the nylon counter-pressure rolls of both slide-out extension decks.

To adjust:

- Remove the side rails.
- Extract the platform completely using the ground controls and turn off the machine.
- Unscrew dowel A.
- Screw in the adjusting dowel **B** unscrewing or screwing depending on the case.
- Once the desired clearance is achieved, reposition dowel A.

PLEASE BEWARE!! SOME CLEARANCE IS NECESSARY FOR THE GOOD OPERATION OF THE MECHANISM. DO NOT TIGHTEN THE ADJUSTING DOWEL COMPLETELY.
BEFORE USING THE MACHINE, TEST THE PLATFORMS BY MEANS OF THE GROUND CONTROLS (IF AVAILABLE) OR MANUALLY AND WITH UNLOADED PLATFORM.

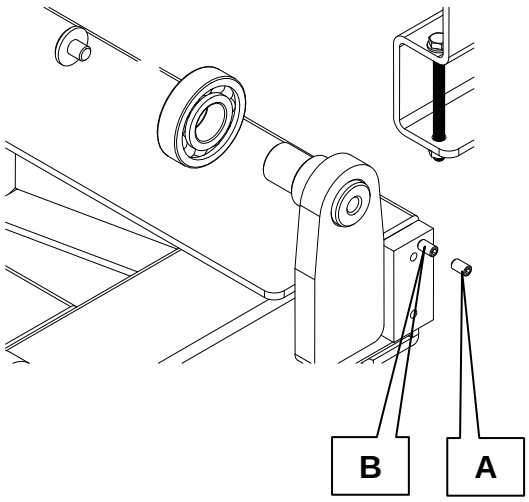


Fig. 28

PLEASE NOTE!

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

7.3.11. Inclinometer operation check

PLEASE NOTE!
Usually the inclinometer does not need to be adjusted unless the electronic control unit has been replaced. The equipment needed for the replacement and adjustment of this component requires skilled personnel.

THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

The inclinometer does not require any adjustment since it is calibrated in the factory before the machine is delivered. The inclinometer controls the chassis inclination and stops further lifting when the maximum admissible

- lifting inclination of the chassis is reached.
- It disables drive when platform exceeds a given height (varying according to model).
- It warns the user of the instability condition by means of the alarm and the platform warning light (see chapter 5).

The inclinometer checks the inclination against two axes (X; Y). On machine models that have the same lateral and longitudinal inclination limits, the control is carried out against one axis only (X-axis).

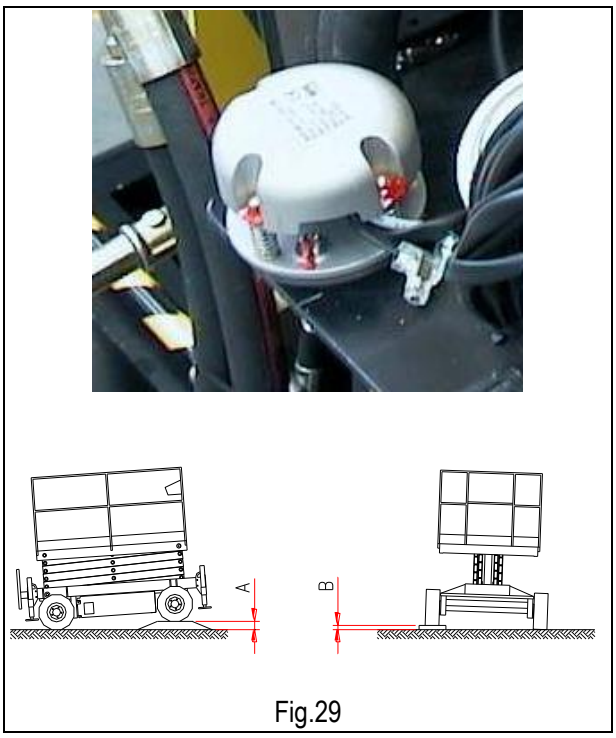


Fig.29

Perform a functional control at least once a year.

To check the inclinometer operation against **longitudinal axis** (generally **X-axis**):

- Using the controls of the control panel set the machine so as to place a shim of dimension (A+10 mm) under the two rear or front wheels (see following table).
- Wait for three seconds (operation lag set at factory) until the red pilot and the acoustic alarm turn on.
    - If the alarm doesn't go on, please CALL FOR TECHNICAL SERVICE.

To check the inclinometer against the **lateral axis** (normally **Y-axis**):

- Using the controls of the control panel set the machine so as to place a shim of dimension (B+10 mm) under the two side right or left wheels (see following table).
- Wait for three seconds (operation lag set at factory) until the red pilot and the acoustic alarm turn on.
- If the alarm doesn't go on, please CALL FOR TECHNICAL SERVICE.

	MODELS					
THICKNESS	**XL11**...	**XL14**...	**XL14 RTD**	**XL16**...	**XL16 RTD**...	**XL19**...
A [mm]	135	135	140	110	220	85
B [mm]	65	65	65	75	95	50

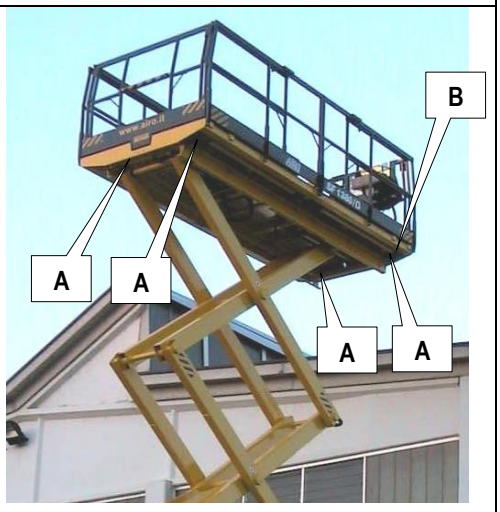
PLEASE NOTE! The thickness of shims A and B refers to the max. inclination as indicated in table "TECHNICAL FEATURES". To be used during the inclinometer calibration.

7.3.12. Operation check and adjustment of platform overload controller.

AIRO self-propelled aerial platforms, XL series, are equipped with a sophisticated overload controller.

Normally the overload controllers do not require any adjustments, since they are calibrated in the factory before the machine is delivered.
This device checks the load on the platform and:

- Stops all movements if platform is overloaded by 20% compared to the rated load (drive and steering stopped with platform lifted).
- With platform in transport position and overloaded by 20% compared to the rated load, it stop lifting only.
- Overload controllers warn the user when overloading occurs by means of an acoustic alarms and a pilot light on the platform.
- By removing the exceeding load, the machine can be operated again.



<u>Perform a functional control at least once a year.</u>

The overload controller consists of:

- Deformation transducer (A) (load cells).
- Electronic board (B) for the device adjustment located inside the control panel on the platform.

Functional check of the overload controller:

- When the platform is completely lowered and with extension retracted, load a charge evenly distributed equal to the max. rated load allowed by the platform (paragraph "Technical features"). In this condition all manoeuvres should be possible both on platform control panel and ground control panel.
- With platform completely lowered, add to the rated load an overload of 25% of the rated load and carry out the lifting operation. In this condition the red pilot light and the acoustic alarm will turn on.
- If the platform is at a height from the ground higher than that indicated in chapter "Technical features", the alarm condition blocks the machine completely. To operate the machine again, remove the excessive load.

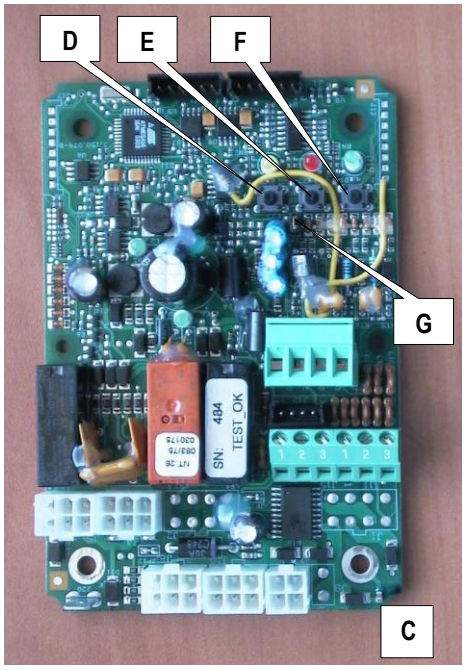


Fig.30a

<u>The system needs calibration:</u>

- In case of replacement of one of the items composing the system.
- When, following an excessive overload, even after removing the excessive load, the danger condition is signalled anyway.

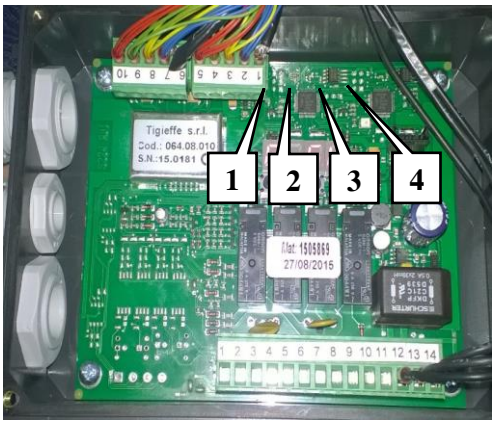


Fig.30b

The settings depends on the type of controller used.
If your electronic board is the same as in picture **fig.31a**:

- Switch the machine off
- Open the case containing the electronic board **C**;
- with no load on the platform, insert a jumper in connector **G**;
- Switch the machine on.
- press the button **D** (wait for both yellow and red pilots to switch on);
- Press button **E** (the luminosity of the red light increases a few seconds), and the overload controller will be reset.;
- Place a load at the centre of the platform equal to the rated load + 20%.
- Press button **F** (the green light turns on a few seconds) to store the overload condition;

- Press button **D** again to exit the calibration procedure (the yellow light turns off and if the procedure has been carried out correctly, the red light stays on signalling the overload);
- Switch the machine off
- open the jumper on connector **G**;
- Switch the machine on.
- Check that after removing the 20% overload (only the rated load remains on the platform) the alarm condition does not occur in any of the platform positions (platform down, up, driving, rotated).
- Once the adjustment has been completed, close the box which contains the board.

If your electronic board is the same as in picture **fig.31a**:

- Switch the machine off
- Open the case containing the electronic board;
- Switch the machine on.
- without load on the platform, press and hold buttons 1 and 4 until the **CONS** is displayed;
- press **4** to enter **CAP** and **4** again to display the value;
- enter the right value = **4000** using the keys **1**, **2** and **3**. Press **4 to save and exit.**
- press **2** and **2** again to move to **J01J**, and press **4** to display the value;
- enter the right value = **1** using the keys **1**, and 2. Press **4 to save and exit.**
- press **3** and then **2** to move to **CALB**. Press **4** to move to **CAL**;
- check that no load is on the platform, and press **1** to perform zero-setting;
- place a load same as the design load, and check the reading on the display. If the value is ok, press **4** to save and exit; otherwise press **2** and then use the numeric keys **1**, **2** and **3** to enter the new correct figure. Press **4** and then **4** to move to **CALB**.
- Press **2** and then **2** again to move to **ALAR**, then press **4** and **2** again to move to **BLOC**;
- press **4** to enter and then enter the alarm settings using the numeric figures **1**, **2** and **3**. The right alarm settings is same as for design load + 20% safety factor. Press **4** to save;
- Press **2** to move to **DIFF** and then **4** to enter. Set the figure = **0080** using the keys **1**, **2** and **3**; then press **4 to save**;
- Press **2** to move to **TEST** and then **4** to run the test. When **PASS** is displayed, press **3** for three time and exit the setting function.
- Check the reading on the display and make sure it shows the amount of the actual load on the platform;
- Try a load ≤the design load + 20% safety factor and make sure that the alarm goes off; then remove the extra 20% safety load and make sure that the alarm goes off.
- Once the adjustment has been completed, close the box which contains the board.

⚠ **THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.**

7.3.13. Overload controller by-pass –ONLY FOR EMERGENCY OPERATIONS

In case of faults and impossibility to calibrate the device, a by-pass of the system is possible by means of key switch (**A**) under the control panel. Keep the key switch active for 5 seconds and release it to shift to the BY-PASSING condition.

PLEASE BEWARE!! IN THIS CONDITION THE MACHINE CAN CARRY OUT ANY OPERATION, ALTHOUGH THE RED FLASHING LED AND THE AUDIBLE ALARM SIGNAL A DANGEROUR OCCURRENCE. TURNING OFF THE MACHINE WILL RESET THE SYSTEM, AND WHEN RESTARTING, THE OVERLOAD CONTROLLER OPERATES AGAIN SIGNALLING THE PREVIOUS OVERLOAD CONDITION.
THIS OPERATION IS ONLY ALLOWED FOR EMERGENCY TRASNFERS OF THE MACHINE. DO NOT USE THE MACHINE IF THE OVERLOAD CONTROLLER IS NOT EFFICIENTLY OPERATING.

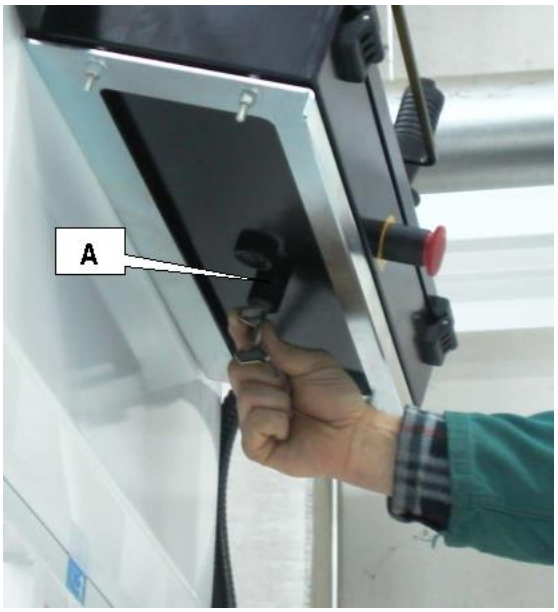


Fig.31

⚠

PLEASE NOTE!
THIS OPERATION IS ALLOWED ONLY FOR EMERGENCY HANDLING OF THE MACHINE OR IN THE EVENT OF A FAULT OR IMPOSSIBILITY TO CALIBRATE THE SYSTEM.
DO NOT USE THE MACHINE IF THE OVERLOAD CONTROLLER IS NOT EFFICIENT.

7.3.14. Operation check of safety microswitches

Some microswitches are placed in strategic positions to check the different configurations of the machine and activate safety functions. Their activation implies visual indication through the warning lights located on the platform control panel (see relevant chapter).
The check of the actual operation of the microswitches should be carried out at least every year.

7.3.14.1 Microswitch M1

The microswitch M1 on the chassis checks the position of the lifting structure. With platform completely lowered the microswitch M1A is not activated.
With lifted platform (with some tolerance due to the type of activation of the microswitch), the microswitch M1 is activated and:

- If the chassis is inclined over the max. allowed inclination the lifting and drive controls are stopped and:
  - The danger warning light and danger alarm turn on.
  - The drive enable warning light turns off.
  - The lifting enable warning light turns off.
  - The safety drive speed is automatically activated.
- When platform is overloaded ALL operations until removal of overload are stopped and:
  - The overload warning light and danger alarm turn on.
  - The drive enable warning light turns off.
  - The lifting enable warning light turns off.
  - The levelling outriggers control is stopped (if available).

7.3.14.2 Microswitch M1S (if available)

The microswitch M1S on the chassis checks the position of the lifting structure. The activation of the microswitch M1S stops the drive control at a given platform height from the ground and turns off the drive enable warning light.
Not all machines mentioned in this manual have a microswitch M1S; check in the chapter "TECHNICAL FEATURES "if the maximum drive height is different from the maximum height that the platform can reach.

7.3.14.3 Microswitch M3 (OPTIONAL)

The microswitch M3 on the chassis checks the position of the lifting structure. The activation of the microswitch M3 stops the lifting movement (lifting microswitch) before reaching the lifting cylinder end stop and turns off the lifting enable warning light.

7.3.14.4 Microswitches M5A-M5B (if available)

The microswitches M5 are under the platform (if available) and check its position.

7.3.14.5 Microswitch M5A-M5B for machines with sliding platform

With platform outside the central position (moved forward or backward) one of the microswitches M5A-M5B is activated and:

- Drive/lifting/lowering movements are stopped and:
- The drive enable warning light turns off.
- The lifting enable warning light turns off.
- The platform position warning light turns off.
- On machines with variable capacity (see chapter "TECHNICAL FEATURES") the overload controller is activated.

The condition of platform within its shape (central position) is signalled by the platform position warning light.

7.3.14.6 Microswitches M5A and M5B for machines with dual slide-out extension deck (if available)

The machines with dual slide-out extension deck can have two microswitches M5A (on the front deck) and M5B (on the rear deck). With one (or both) slide-out extension deck not fully retracted, the microswitch M5A (or M5B or both) is activated and:

- On machines with variable capacity (see chapter "TECHNICAL FEATURES") the overload controller is activated.

The microswitches M5A and M5B are available only on machines with dual slide-out extension deck and variable capacity (see chapter "TECHNICAL FEATURE "for capacity changes).

7.3.14.7 Microswitches ST1A-ST1B-ST1C-ST1D (machines with levelling outriggers)

The microswitches ST1A-ST1B-ST1C-ST1D on the chassis near the levelling outriggers check the position of the pads of the levelling outriggers.
With pads completely lifted all microswitches ST1…are activated and:

- Drive can be controlled –drive enable warning light is on.
- All levelling outriggers position warning lights are off.

With at least one pad not completely lifted one or more microswitches ST1…is activated and:

- Drive is stopped –drive enable warning light is off.
- The levelling outriggers position warning lights concerning the levelling outriggers that have not retracted are flashing.

7.3.14.8 Microswitches STP1-STP2-STP3-STP4 (machines with levelling outriggers)

The microswitches STP1-STP2-STP3-STP4 on the chassis near the levelling outriggers check the position of the pads of the levelling outriggers.
With all pads not resting on the ground (the machine rests on its wheels) all microswitches STP …are not activated and:

- Lifting can be controlled (unless other alarms) –the lifting enable warning light is on.

With all pads resting on the ground (the machine rests on the levelling outriggers) all microswitches STP …are activated and:

- Lifting can be controlled (unless other alarms) –the lifting enable warning light is on.
- Drive is stopped –drive enable warning light is off.

When the machine is resting on both pads/ wheels:

- Lifting is stopped –lifting enable warning light is off.
- Drive is stopped –drive enable warning light is off.
- The levelling outriggers position warning lights concerning the levelling outriggers that have not retracted are flashing.

7.3.15. Dead-man safety system operation check

The dead-man pedal and button at platform are for enabling the operation controls of the machine from the platform control panel. The operator can choose to use the most convenient enable device depending on the real position of the platform control panel.

Perform a functional control at least once a year.

PLEASE NOTE!
IN CASE OF NO OPERATION, CONTACT THE AFTER-SALES SERVICE

7.3.15.1 Dead-man detector pedal

To check the dead-man detector PEDAL:

- Move the drive joystick forward and backward in sequence, WITHOUT PRESSING THE dead-man PEDAL.
- Make sure that the machine does not perform any movement.

- Hold the dead-man pedal down for more than 10 seconds.
- With the pedal pressed, move the joystick forward and backward in sequence.
- Make sure that the machine does not perform any movement.

If this safety works properly, no machine movement is possible on the platform control panel unless you press the dead-man pedal beforehand. If this is pressed for more than 10 seconds and no operation is performed, all movements are disabled; to operate the machine again, release the dead-man pedal and press it again.
The condition of the switch is indicated by the green led in the platform:

- green led lit up steady function enabled
- green led lit up flashing position disabled

7.3.15.2 Dead-man Button

To check the dead-man BUTTON:

- Move the drive, joystick forward and backward in the sequence, WITHOUT PRESSING THE dead-man BUTTON.
- Make sure that the machine does not perform any movement.

- Press dead-man button, release it and wait more than 3 seconds.
- Move the joystick forward and backward in the sequence.
- Make sure that the machine does not perform any movement.

If this function works properly, no machine manoeuvre is possible from the platform control panel unless you press the dead-man button beforehand. If this is pressed for more than 3 seconds and no operation is performed, all movements are stopped; to operate the machine again, release the dead-man button and press it again.
The condition of the switch is indicated by the green led in the platform:

- Green led lit up steady function enabled
- Green led lit up flashing position disabled

7.4 Starter battery

The battery is one of the most important elements of the machine. It is recommended to keep it in an efficient condition to increase its useful life, to avoid faults and to reduce the management costs of the machine.

7.4.1. Starter battery models "D" "ED"

On machines with a gasoline/diesel engine the starter battery is for:

- Powering the machine control circuits.
- Starting the engine.

7.4.2. Starter type battery for models "E"

On machines with batteries the starter battery is for:

- Powering the control circuits of the machine.

7.4.3. Starter battery maintenance

The starter battery does not require any special maintenance:

- Keep terminals clean by removing any oxidation residues.
- Check correct terminal tightening.

7.4.4. Starter battery recharge

Starter batteries do not require any recharge.
During normal operation of the Diesel engine an alternator recharges the battery (machines "D", "ED"). On those machines equipped with a 380 three-phase electrical pump, the electrical pump control system keeps the starter battery charged. On machines with battery a DC-DC converter keeps the starter battery charged.

7.5 "DRIVE "battery for models "E "and "ED"

The battery is one of the most important elements of the machine. It is recommended to keep it in an efficient condition to increase its useful life, to avoid faults and to reduce the management costs of the machine.

7.5.1. General instructions for the MAIN DRIVE BATTERY

- In case of new batteries do not wait for the flat battery warning before recharging; recharge the batteries after 3 or 4 working hours for the first 4/5 times.
- In case of new batteries full performance is achieved after approx. ten discharge/charge cycles.
- Charge the battery in airy rooms and open the caps to allow the outflow of gas.
- Do not use extension leads exceeding 5 metres to connect the battery charger to the power supply.
- Use a cable of a suitable section (min 3x2.5 mm2).
- Do not use rolled-up cables.
- Do not approach the battery with flames. Risk of explosion due to the formation of explosive gases.
- Do not carry out temporary or irregular electric connections.
- The terminals must be tightened and without deposits. The cables must be provided with a good insulation.
- Keep the battery cleaned, dry and free of oxidation products by using antistatic cloths.
- Do not place tools or any other metal object on the battery.
- Check that the electrolyte level is 5-7 mm higher than the splash guard level.
- During charging operations check that the electrolyte temperature is not higher than 45°C max.
- If the machine is equipped with an automatic topping up device, follow the instructions described in the battery user manual carefully.

7.5.2. DRIVE battery recharge.

- For normal water operating conditions, water topping up is to be carried out every week.
- Top up using distilled or demineralized water.
- Top up after battery charging. After this operation, the electrolyte level must be 5-7 mm higher than the splash guard level.
- For machines equipped with automatic topping up device, follow the instructions given in the battery user manual.
- Battery discharge must be stopped when 80% of the battery rated capacity has been used. An excessive and prolonged discharge irreversibly damages the battery. The machine is equipped with a device that, when the battery is discharged by 80%, lifting operations are disabled. The battery needs to be recharged. This condition is signalled by a flashing light of the relevant led on the platform control panel.
- Battery charge is to be carried out according to the instructions given in the next paragraphs.
- Keep caps and connections covered and dry. A careful cleaning allows electric insulation protection, good operation and useful life of the battery.
- In case of faulty operations due to the battery, avoid any direct intervention and call the Customer Service.
- When the machine is not being used the batteries will run down automatically (automatic discharge). To avoid the battery operation from being compromised charge it at least once a month. This has to be done even if the density values of the electrolyte are high.
- To limit automatic battery discharge during periods of inactivity store the machine in environments with temperatures lower than a 30°C.

7.5.3. DRIVE battery recharge.

PLEASE NOTE!
EXPLOSIVE gas is originated during battery charging process. Therefore, charging must take place in airy rooms where no risks of fire and explosion exist and in the presence of fire extinguishers.

Connect the battery charger to a power supply having all protections according to the current standards and with the following features:

- Power voltage 230V ± 10%
- Frequency 50÷60 Hz
- Activated grounding line
- Magneto-thermal protection switch and residual current device ("circuit breaker")

Moreover:

- Do not use extension leads exceeding 5 metres to connect the battery charger to the power supply.
- Use a cable of a suitable section (min 3x2.5 mm2).
- Do not use rolled-up cables.

DO NOT
to connect to power networks that do not comply with the above mentioned features.
Failure to observe the above mentioned instructions may result in malfunctioning of the battery charger with consequent damage not covered by the guarantee.

PLEASE NOTE!
After charging and with the battery charger is still connected to power supply, the electrolyte density values should range from 1.260 g/l to 1.270 g/l (at 25thC).

To use the battery charger follow this procedure:

- Connect the battery charger by means of plug **A** to a current socket with the a.m. features.
- Check the connection state of the battery charger through led **B**. If it is on, connection has taken place and charging has started. The colour and enable mode of the led indicate the charging phase (refer to table below).

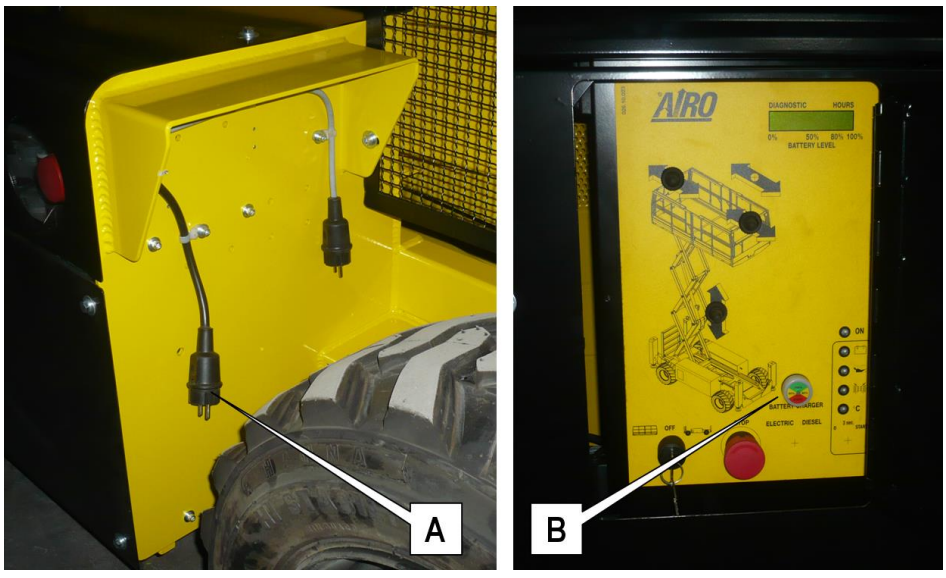


Fig.32

WARNING	DESCRIPTION
Red **led** flashing for a few seconds	Battery charger self-diagnostic phase
Red **led** on	Show that the first and second charging phase are accomplished
Yellow led on	Shows that charge equalization is in progress
Green led on	Shows that charging is over; buffer charge active.

With the battery charger ON, the machine is automatically off.

To disconnect the battery chargers from the power source, disconnect the machine from the electric line.

PLEASE NOTE!

Before using the machine check that the power cord of the battery charger is disconnected.

7.5.4. Battery charger trouble-shooting

An intermittent alarm and the flashing LED on the battery charger indicator described in the previous paragraph indicate that a warning situation has occurred:

Alarm	Type of alarm	Description and troubleshooting
Alarm+ flashing RED	Battery presence	Battery is disconnected or faulty (check connection and the rated voltage of the battery).
Alarm+ flashing YELLOW	Thermal probe	Thermal probe is disconnected during charging or outside working range (check probe connection and measure battery temperature).
Alarm+ flashing GREEN	Timeout	Phase 1 and/or Phase 2 of duration higher than the max. allowed value (check battery capacity).
Alarm+ flashing RED	Battery Current	Loss of output current control (fault in control logic).
Alarm+ flashing RED-GREEN	Battery Voltage	Loss of output voltage control (battery disconnected or fault in the control logic).
Alarm+ flashing RED-YELLOW-GREEN	Thermal	Over temperature of semiconductors (check the fan operation).

PLEASE NOTE!

In presence of alarm the battery charger stops the current delivery.

7.5.5. Battery replacement

Replace the old batteries only with models of the same voltage, capacity, dimensions and mass. Batteries must be approved by the manufacturer.

Do not dispose of used oil in the environment. Comply with the current local standards.

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THIS OPERATION IS VERY IMPORTANT AND MUST BE CARRIED OUT BY SPECIALIZED TECHNICIANS ONLY.

CALL FOR TECHNICAL SERVICE

8 . MARKS AND CERTIFICATIONS

The models of self-propelled aerial platform described in this manual were subjected to the CE type testing according to the Directive 2006/42/EC. The certification was issued by:

ICE Spa **Via Garibaldi, 20** **40011 Anzola Emilia –BO (Italia)**	CE

Test carrying out is shown by the above plate with CE mark applied on the machine and by the statement of compliance enclosed in this user manual.

9. PLATES AND STICKERS

DATE

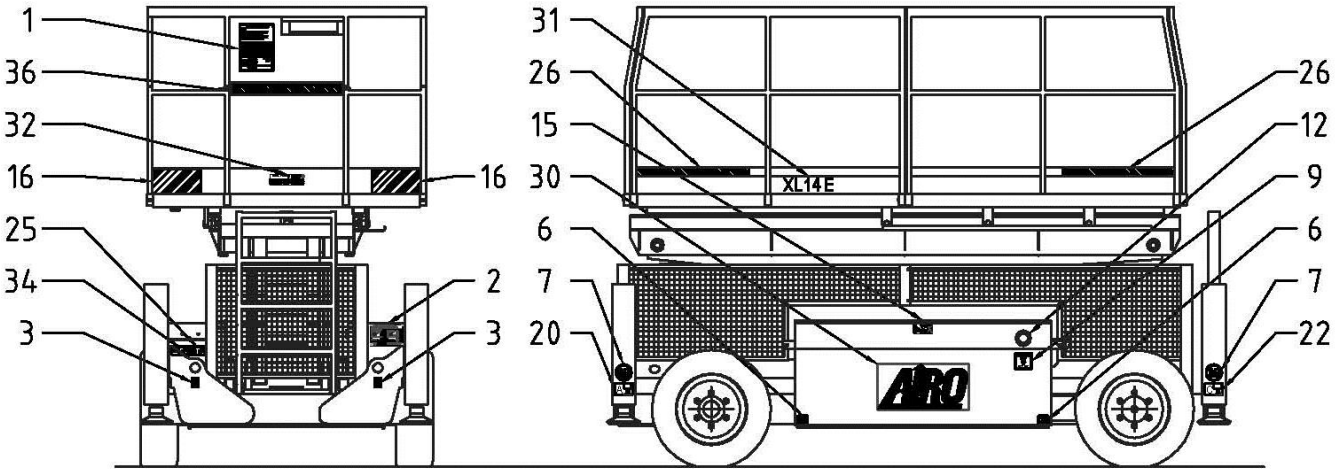
	CODE	DESCRIPTION	QUANTITY	
			ELECTRIC	DIESEL
1	001.10.001	AIRO warnings plate	1	
2	001.10.024	AIRO serial number plate	1	
3	001.10.031	Towing hook sticker	4	
4	001.10.057	General warnings sticker	1	
5	001.10.059	Wheels torque label	1	
6	001.10.060	Lifting point sticker	4	
7	001.10.076	Feet danger sticker	4*	
8	001.10.088	Document holder sticker	1	
9**	001.10.098	STOP sticker I-D-F-NL-B-GB	2**	1
10	001.10.150	“46”oil type label I-D-F-NL-B-G-PL	1	
11	001.10.180	"Next check" Label	1	
12	001.10.242	Emergency stop button yellow sticker	1	-
13	001.10.243	“Max. Load per wheel ”Label	4	
14	001.10.259	IPAF emergency lowering sticker	1	
15	001.10.261	Symbol articulated no stopping sticker	2	
16	010.10.010	Black-yellow line sticker <150X300>	4	
17	021.10.017	Emergency towing sticker XL16 –XL19	2	4
	023.10.006	Emergency towing sticker XL14 (CWD)	2	4
18	030.10.013	Emergency manual sticker SF large	1	
19	035.10.007	"Safety belts hooking" Label	12	
20*	043.10.013	“A ”levelling outrigger retraction	1*	
21*	043.10.014	“B ”levelling outrigger retraction	1*	
22*	043.10.015	“C ”levelling outrigger retraction	1*	
23*	043.10.016	“D ”levelling outrigger retraction	1*	
24	045.10.003	Pinched hands danger sticker + no stopping (symbols)	4	
25	045.10.011	Battery charger plug sticker	1	-
26	012.10.007	Yellow-black line sticker for platform L=800	4	
27	008.10.020	"Hot parts Danger" label	-	1
28	029.10.005	Fuel tank sticker	-	1
29	030.10.008	Sound power level sticker 105 dB XL16 –XL19	-	1
	030.10.009	Sound power level sticker 110 dB XL14	-	1
30	001.10.173	AIRO pre-spaced yellow sticker <300x140>	-	1
	001.10.175	AIRO pre-spaced yellow sticker <530x265>	2	1
31	028.10.006	Pre-spaced yellow sticker XL11 E	2	
	027.10.007	Pre-spaced yellow sticker XL14 E 6P	2	
	034.10.007	Pre-spaced yellow sticker XL14 RTD	2	
	021.10.025	Pre-spaced yellow sticker XL16 E	2	
	021.10.026	Pre-spaced yellow sticker XL16 RTD	2	
	030.10.020	Pre-spaced yellow sticker XL19 E	2	
	030.10.016	Pre-spaced yellow sticker XL19 RTD	2	
32	021.10.002	Capacity sticker 500kg (3 pers) XL14 E / XL16 E / XL19 E / XL19 RTD	1	
	034.10.001	Capacity sticker 700kg (3 pers) X14 RTD	1	
	028.10.004	Capacity sticker 700kg (3 pers) XL11 E / XL16 RTD	1	
33	020,077	25mm non-slip band sticker	1.2 mt	
34***	045.10.010	(Optional) electric line plug sticker	1	
35***	001.10.021	(Optional) ground symbol sticker	1	
36***	001.10.244	(Optional) entrance bar black-yellow line sticker	1	

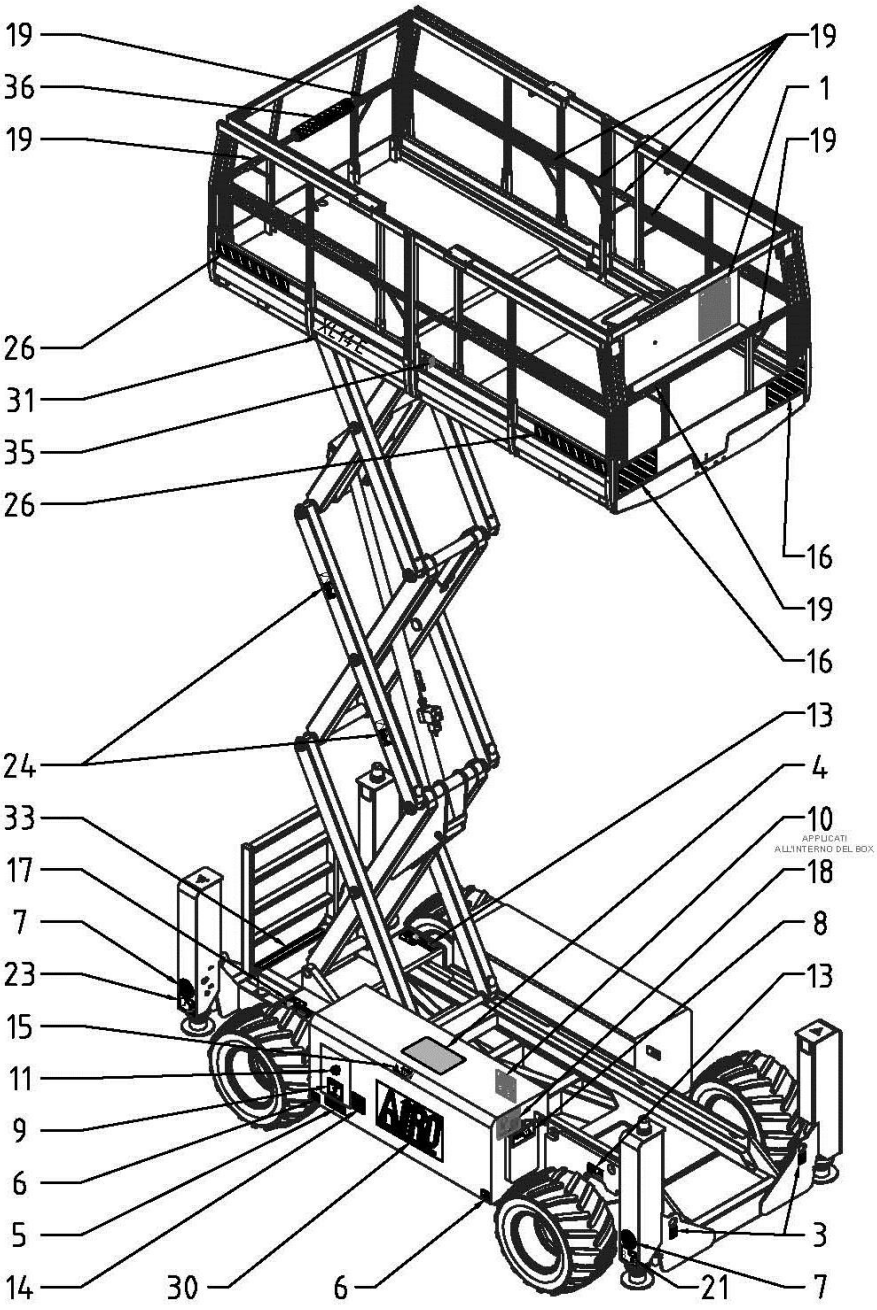
models with levelling outriggers

** No. 2 only models XL11 E - XL14 E –XXL14 E (No. 1 models XL16E –XL19E and ALL DIESEL models) optional features

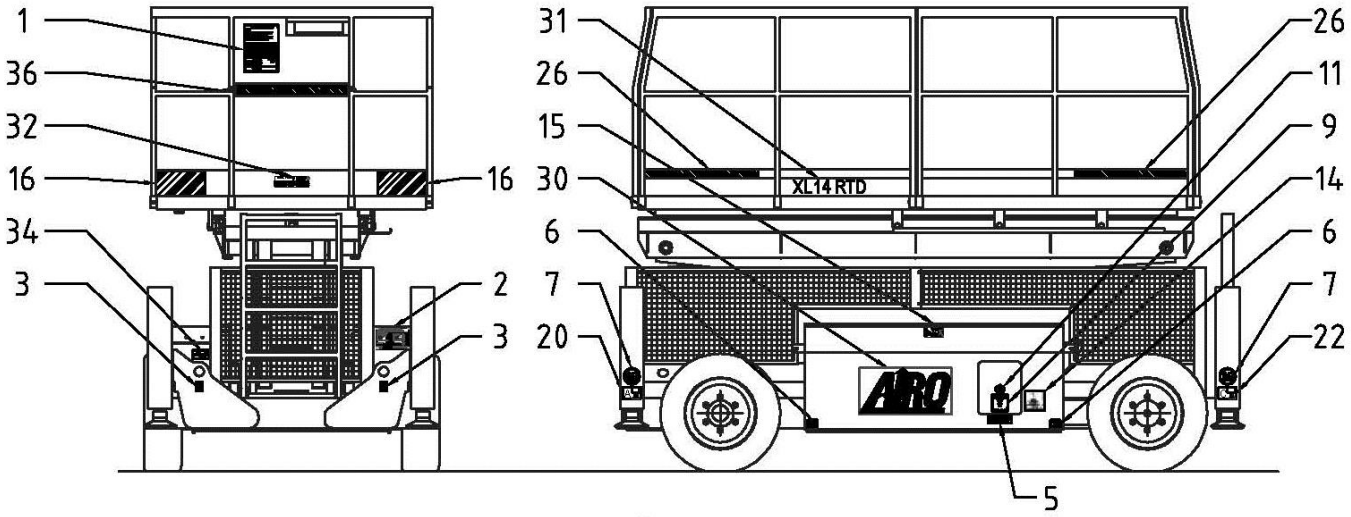
*** optionals

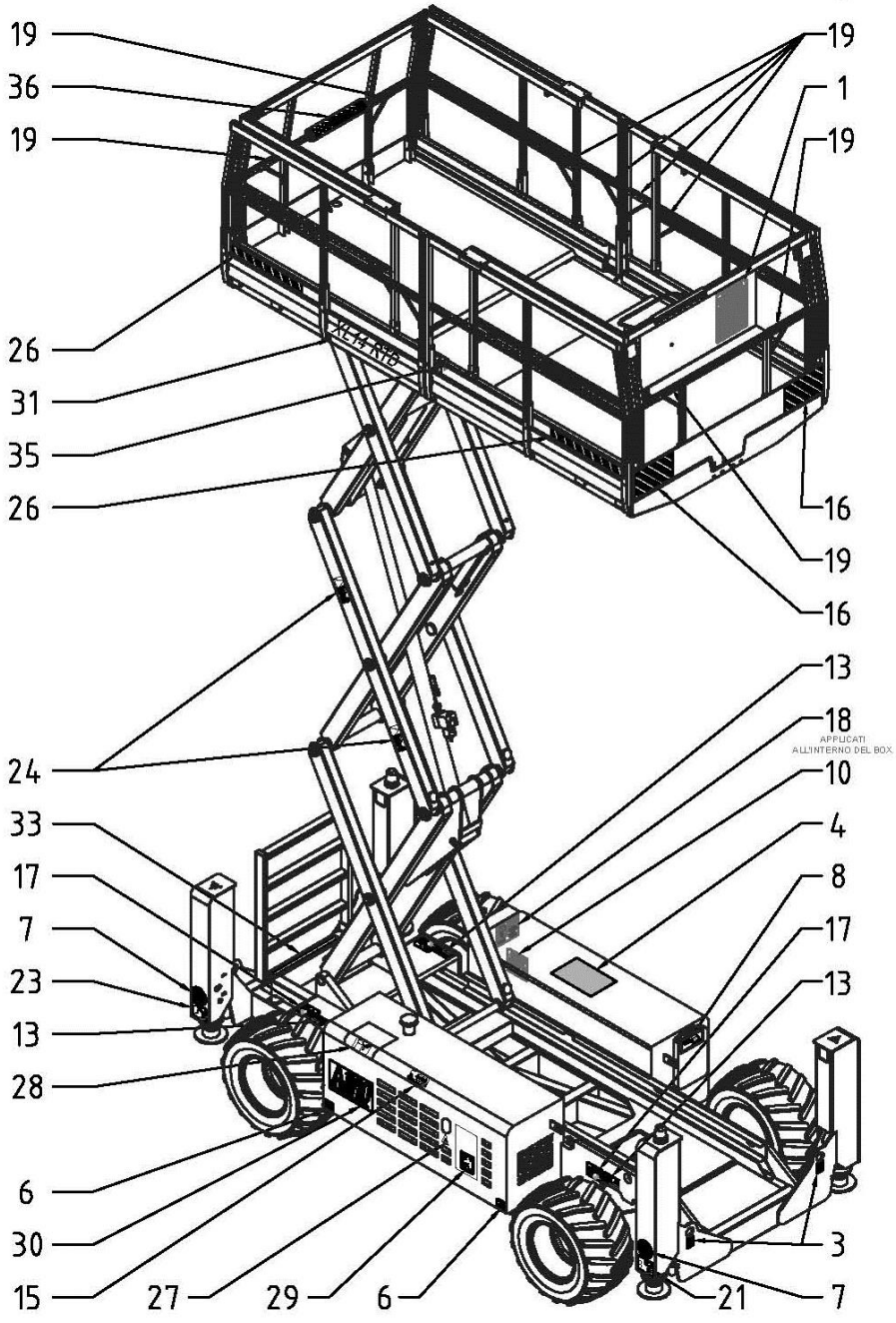
XL11 E -XL14 E -XXL14 E -XL16 E -XL19 E





XL14 RTD -XL16 RTD -XL19 RTD





10. CONTROL LEDGER

A control ledger is supplied to the user of the platform in conformance with Attachment 1 of Directive 2006/42/EC.
This ledger is to be considered an integral part of the equipment and must accompany the machine for its entire life until its final disposal.

The ledger is provided for the notation, according to the proposed format, of the following events that regard the life of the machine:

- Periodic mandatory inspections by the competent Control Authorities (in Italy, ASL or ARPA).
- Mandatory periodic inspections to assess the structure, proper machine operation and safety systems. Such inspections are the responsibility of the safety manager of the company that owns the machine and must occur with **frequency indicated**.
- Transfers of ownership In Italy, the purchaser must notify the INAIL department responsible that the installation of the machine has occurred.
- Extraordinary maintenance work and replacement of important elements of the machine.

REQUIRED PERIODIC INSPECTIONS BY THE REGULATORY AGENCY		
Date	**Observations**	**Signature + Stamp**

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

STRUCTURAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
VISUAL CONTROLS	Check the integrity of the guardrails; the harness anchoring points; the status of the lifting structure; access ladders; rust; state of the tyres; oil leaks; locking pins on the structure.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

DEFORMED HOSES AND CABLES	Most of all, check that tubes and cables do not show any evident defects at the joints. Monthly maintenance Monthly entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

STRUCTURAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
VARIOUS ADJUSTMENTS	See Chapter 7.3.1

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

GREASING	See chapter 7.3.2 Monthly maintenance Monthly entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
HYDRAULIC TANK OIL LEVEL CHECK	See chapter 7.3.3 Monthly maintenance Monthly entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

OIL LEVEL CHECK IN THE MAIN DRIVE GEARS	See chapter 7.3.5

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
ADJUSTMENT CHECK OF MAIN RELIEF PRESSURE VALVE	See chapter 7.3.7

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

ADJUSTMENT CHECK OF LIFTING CIRCUIT RELIEF PRESSURE VALVE	See chapter 7.3.8

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
BATTERY STATE	See chapter 7.4 and 7.5 Daily operation. Daily entries are not needed. Enter details once a year when the other operations are carried out.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

PLATFORM EXTRACTION CLEARANCE ADJUSTMENT	See chapter 07.03.10

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

FUNCTIONAL CHECK	DESCRIPTION OF OPERATIONS TO BE PERFORMED
TOTAL OIL CHANGE IN HYDRAULIC TANK AND DRIVE REDUCTION GEARS (EVERY TWO YEARS)	See chapters 7.3.3 and 7.3.5

	DATE	REMARKS	SIGNATURE + STAMP
2nd YEAR			
4th YEAR			
6th YEAR			
8th YEAR			
10th YEAR			

HYDRAULIC FILTER REPLACEMENT (EVERY TWO YEARS)	See chapter 7.3.4

	DATE	REMARKS	SIGNATURE + STAMP
2nd YEAR			
4th YEAR			
6th YEAR			
8th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER			
FUNCTIONAL CHECK		DESCRIPTION OF OPERATIONS TO BE PERFORMED	
AIR PURGING FROM THE CYLINDERS OF THE OSCILLATING AXLES		See chapter 7.3.6	
	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CHECKS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
INCLINOMETER OPERATION CHECK	See chapter 07.03.11

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

EFFICIENCY CHECK OF PLATFORM OVERLOAD CONTROLLER	See chapter 07.03. 12

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CHECKS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
BRAKING SYSTEM EFFICIENCY CHECK	See chapter 7.3.9

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

OPERATION CHECK MICROSWITCHES MICROS	See chapter 7.3.14

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

SAFETY SYSTEM CHECKS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
STICKERS AND PLATES CHECK	See chapter 9 See Chapter 9. Check the legibility of the aluminium plate on the platform where the main instructions are summarised; that the capacity labels are on the platform and that they are legible; that the labels on the ground and platform controls are legible.

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

SAFETY SYSTEM CHECKS	DESCRIPTION OF OPERATIONS TO BE PERFORMED
DEAD-MAN CONTROL	See chapter 07.03.2015

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

REQUIRED PERIODIC INSPECTIONS BY THE OWNER

CHECK OF EMERGENCY DEVICES	DESCRIPTION OF OPERATIONS TO BE PERFORMED
MANUAL EMERGENCY LOWERING CHECK	See chapter 5.6

	DATE	REMARKS	SIGNATURE + STAMP
1st YEAR			
2nd YEAR			
3rd YEAR			
4th YEAR			
5th YEAR			
6th YEAR			
7th YEAR			
8th YEAR			
9th YEAR			
10th YEAR			

TRANSFERS OF OWNERSHIP

FIRST OWNER

COMPANY	DATE	MODEL	SERIAL NUMBER	DELIVERY DATE

AIRO –Tigieffe S.r.l.

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

SUBSEQUENT TRANSFERS OF OWNERSHIP

COMPANY	DATE

We affirm that, as of the date quoted above, the technical, dimensional and functional features of this machine were in conformance with what was originally required and that any changes have been recorded in this Register.

SELLER **BUYER**

MAJOR TROUBLES

DATE	TROUBLE DESCRIPTION	REMEDY

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE SAFETY MANAGER

DATE	TROUBLE DESCRIPTION	REMEDY

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE SAFETY MANAGER

MAJOR TROUBLES

DATE	TROUBLE DESCRIPTION	REMEDY

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE SAFETY MANAGER

DATE	TROUBLE DESCRIPTION	REMEDY

SPARE PARTS USED		DESCRIPTION
CODE	QUANTITY	

SERVICE SAFETY MANAGER

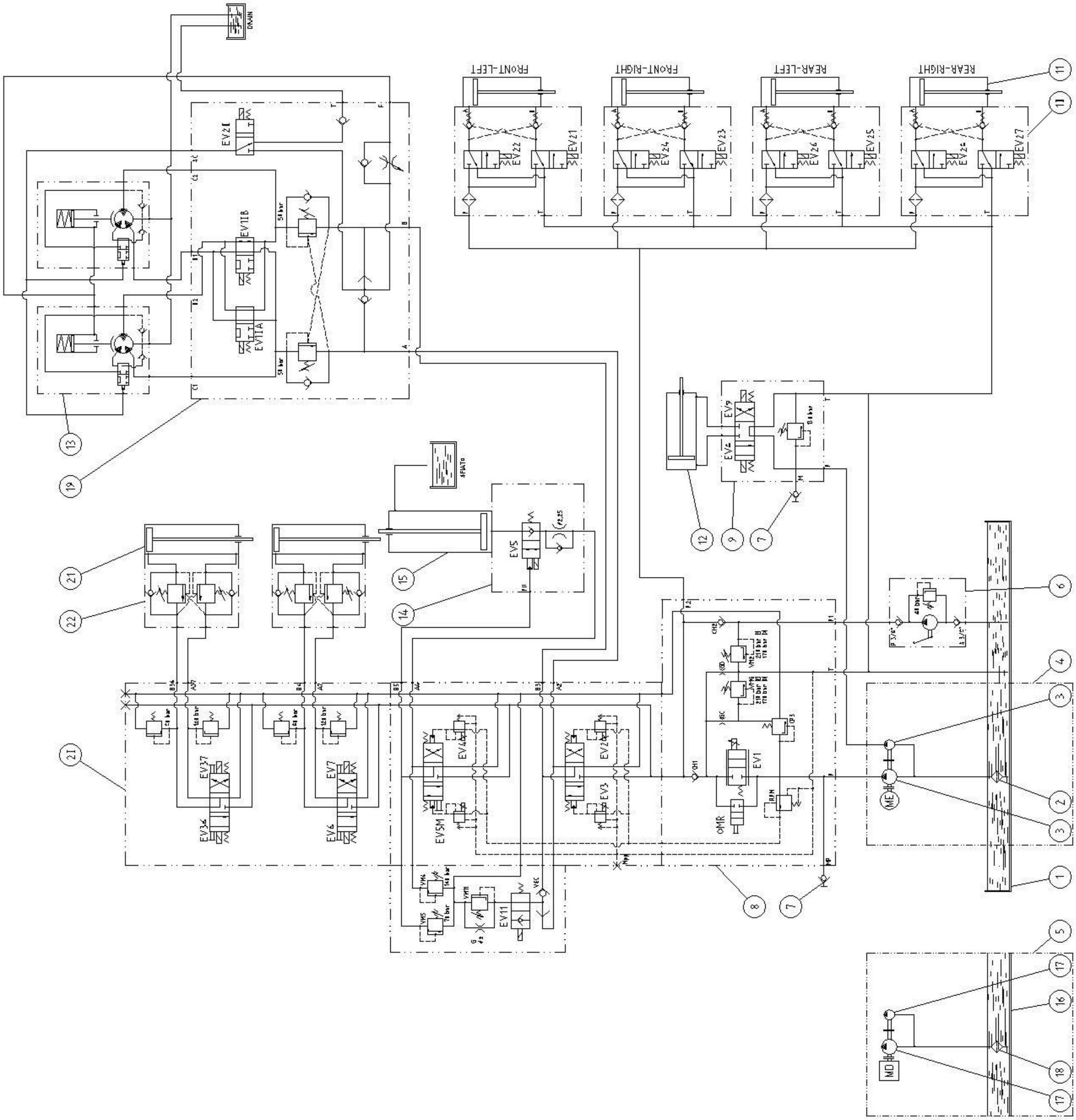
11. HYDRAULIC DIAGRAM - STANDARD MACHINES

XL11 E XL14 E XL14 E 6P

N° 027.07.048

EV1	PROPORTIONAL FLOW ADJUSTER
EV2	FORWARD DRIVE SOLENOID VALVE
EV3	BACKWARD DRIVE SOLENOID VALVE
EV4	LIFTING SOLENOID VALVE
EV5A/B	LOWERING SOLENOID VALVE
EV5M	EMERGENCY LOWERING MANUAL CONTROL
EV6	FRONT PLATFORM EXTENSION SOLENOID VALVE (OPTIONAL)
EV7	FRONT PLATFORM RETRACTION SOLENOID VALVE (OPTIONAL)
EV8	LEFT STEERING SOLENOID VALVE
EV9	RIGHT STEERING SOLENOID VALVE
EV10A/B	DRIVE MOTOR SERIES SOLENOID VALVE
EV11	BY-PASS SOLENOID VALVE
EV20	DISPLACEMENT EXCHANGE SOLENOID VALVE
EV21÷28	LEVELLING JACK CYLINDER SOLENOID VALVES
EV36	REAR PLATFORM EXTENSION SOLENOID VALVE (OPTIONAL)
EV37	REAR PLATFORM RETRACTION SOLENOID VALVE (OPTIONAL)
ME	ELECTRIC MOTOR
MD	DIESEL MOTOR
1	TANK
1a	TANK COVER
2	SUCTION FILTER
3	DOUBLE PUMP
4	ELECTRIC PROPULSION
5	DIESEL PROPULSION
6	MANUAL PUMP
7	PRESSURE GAGE CONNECTION
8	SF CONTROL HYDRAULIC BLOCK
9	STEERING CONTROL HYDRAULIC BLOCK
10	STABILIZATION CONTROL HYDRAULIC BLOCK
11	LEVELLING JACK CYLINDER
12	STEERING CYLINDER
13	DRIVE REDUCTION GEAR
13a	DRIVE HYDRAULIC MOTOR
14	LOWERING CONTROL INTEGRATED ASSEMBLY
15	LIFTING CYLINDER
16	TANK
17	PUMP
18	SUCTION FILTER
19	DRIVE PLATE
20	DOUBLE EXTENSION CONTROL HYDRAULIC BLOCK (OPTIONAL)
21	PLATFORM EXTENSION CYLINDER (OPTIONAL)
22	OVER-CENTER VALVE (OPTIONAL)

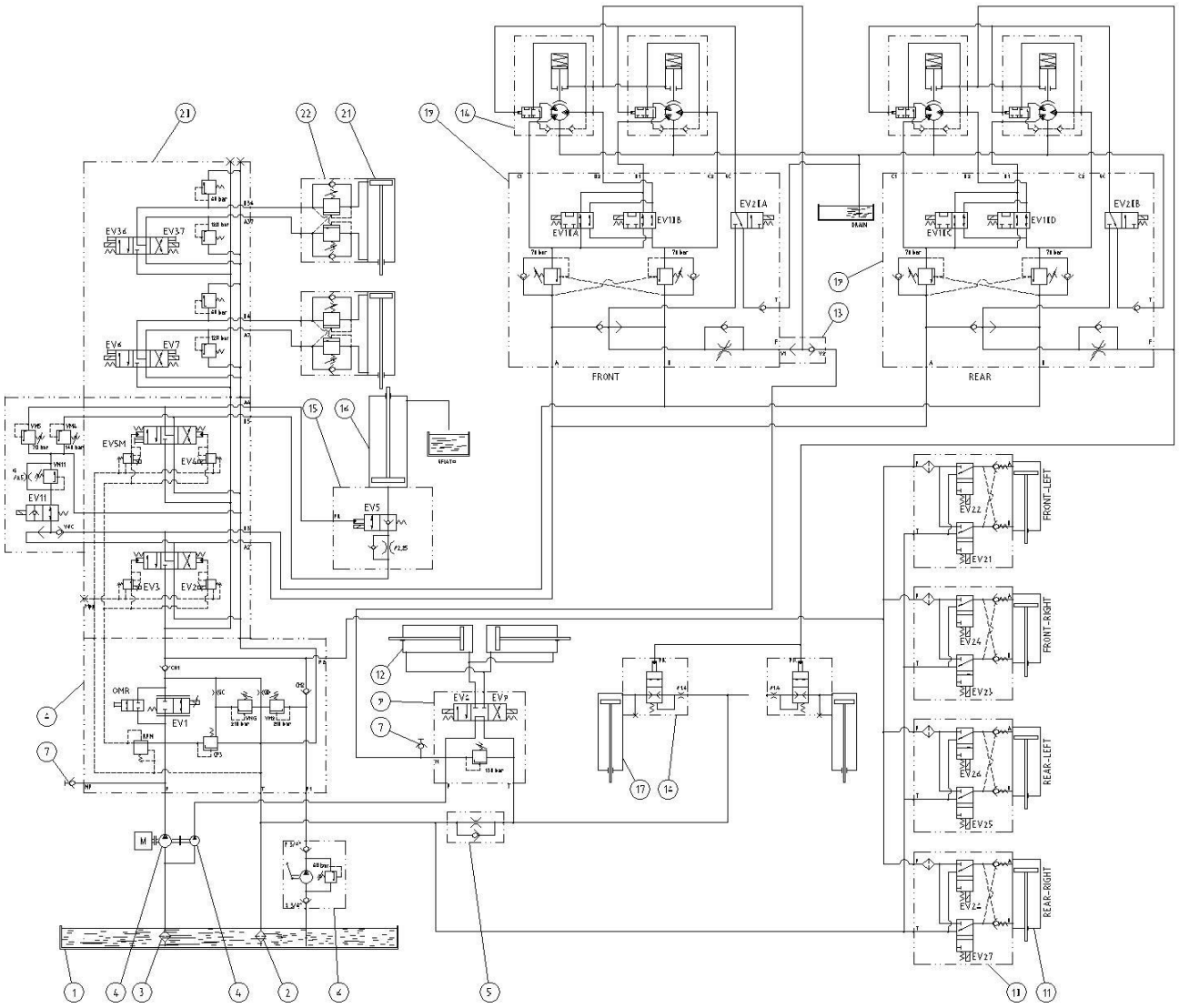
027.07.048



HYDRAULIC DIAGRAM - STANDARD MACHINES
XL14 RTD
N° 034.07.060

EV1	PROPORTIONAL FLOW ADJUSTER
EV2	FORWARD DRIVE SOLENOID VALVE
EV3	BACKWARD DRIVE SOLENOID VALVE
EV4	LIFTING SOLENOID VALVE
EV5A/B	LOWERING SOLENOID VALVE
EV5M	EMERGENCY LOWERING MANUAL CONTROL
EV6	FRONT PLATFORM EXTENSION SOLENOID VALVE (OPTIONAL)
EV7	FRONT PLATFORM RETRACTION SOLENOID VALVE (OPTIONAL)
EV8	LEFT STEERING SOLENOID VALVE
EV9	RIGHT STEERING SOLENOID VALVE
EV10A/B	FRONT MOTOR SERIES SOLENOID VALVE
EV10C/D	REAR MOTOR SERIES SOLENOID VALVE
EV11	BY-PASS SOLENOID VALVE
EV20	DISPLACEMENT EXCHANGE SOLENOID VALVE
EV21÷28	LEVELLING JACK CYLINDER SOLENOID VALVES
EV36	REAR PLATFORM EXTENSION SOLENOID VALVE (OPTIONAL)
EV37	REAR PLATFORM RETRACTION SOLENOID VALVE (OPTIONAL)
M	DIESEL MOTOR
1	TANK
1a	TANK COVER
2	DISCHARGE FILTER
3	SUCTION FILTER
4	DOUBLE PUMP
5	UNIDIRECTIONAL FLOW RESTRICTOR
6	MANUAL PUMP
7	PRESSURE GAGE CONNECTION
8	SF HYDRAULIC BLOCK
9	STEERING HYDRAULIC BLOCK
10	LEVELLING JACK HYDRAULIC BLOCK
11	LEVELLING JACK CYLINDER
12	STEERING CYLINDER
13	SELECTOR VALVE
14	DRIVE REDUCTION GEAR
14a	DRIVE HYDRAULIC MOTOR
15	LOWERING CONTROL INTEGRATED ASSEMBLY
16	LIFTING CYLINDER
17	SWING AXLE CYLINDER
18	BLOCK VALVE
19	DRIVE PLATE
20	DOUBLE EXTENSION CONTROL HYDRAULIC BLOCK (OPTIONAL)
21	PLATFORM EXTENSION CYLINDER (OPTIONAL)
22	OVER-CENTER VALVE (OPTIONAL)

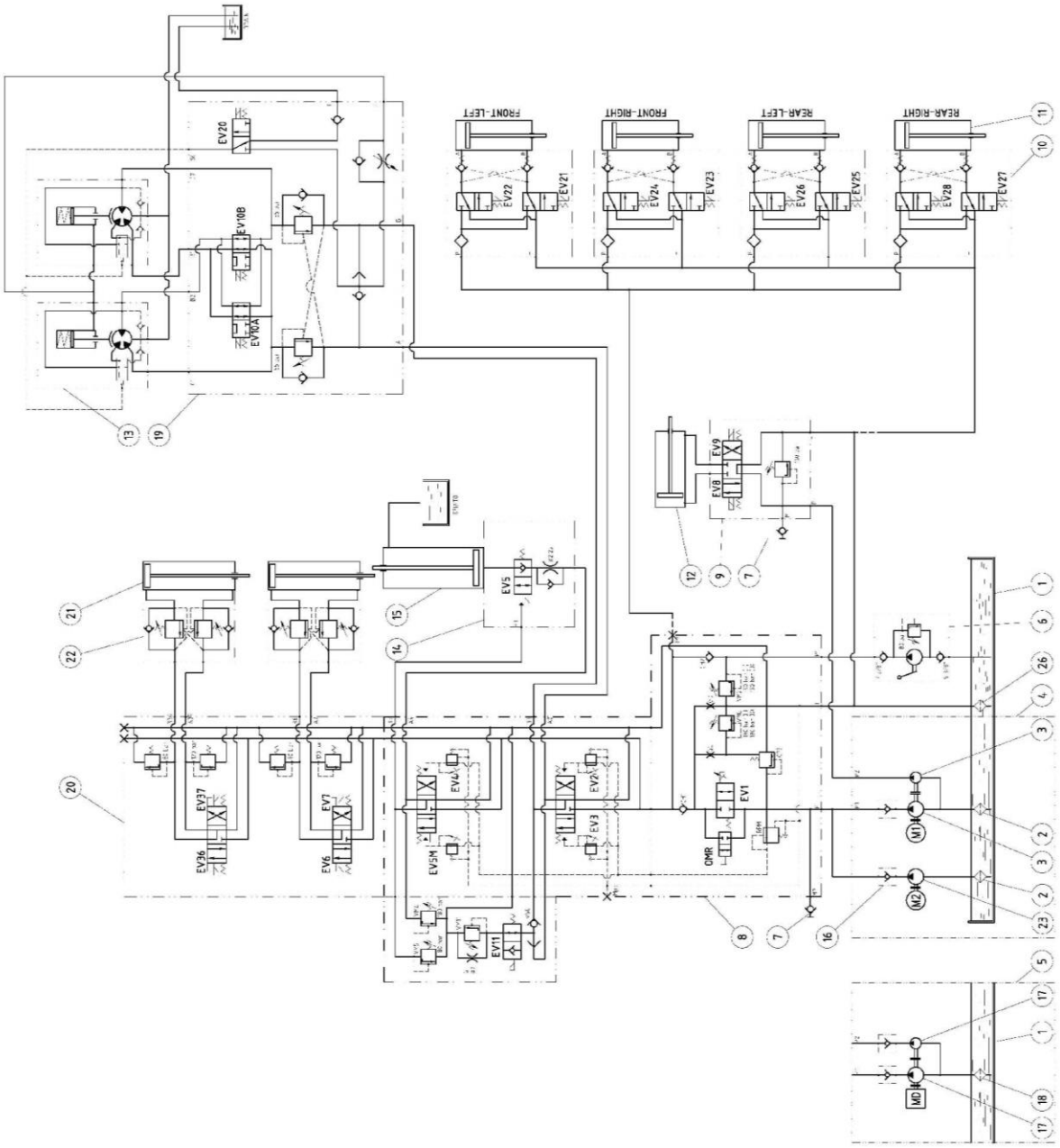
034.07.060


FRONT
REAR
EV1
EV2
EV3
EV4
EV5
EV7
EV9
EV11
EV21
EV22
EV23
EV24
EV25
EV26
EV27
FRONT-LEFT
FRONT-RIGHT
REAR-LEFT
REAR-RIGHT

SCHEMA HYDRAULIQUE MACHINES STANDARDS
XL16 E XXL16 E XXL16 D
021.07.044

EV1	REGOLATORE DI FLUSSO PROPORZIONALE
EV2	ELETTROVALVOLA TRAZIONE AVANTI
EV3	ELETTROVALVOLA TRAZIONE INDIETRO
EV4	ELETTROVALVOLA SOLLEVAMENTO
EV5A/B	ELETTROVALVOLA DISCESA
EV5M	COMANDO MANUALE DISCESA EMERGENZA
EV6	ELETTROVALVOLA SFILO PIATTAFORMA ANTERIORE (OPZIONALE)
EV7	ELETTROVALVOLA RIENTRO PIATTAFORMA ANTERIORE (OPZIONALE)
EV8	ELETTROVALVOLA STERZO SINISTRA
EV9	ELETTROVALVOLA STERZO DESTRA
EV10A/B	ELETTROVALVOLA SERIE MOTORI TRAZIONE
EV11	ELETTROVALVOLA BY-PASS
EV20	ELETTROVALVOLA SCAMBIO CILINDRATA
EV21÷28	ELETTROVALVOLE CILINDRI LIVELLATORI
EV36	ELETTROVALVOLA SFILO PIATTAFORMA POSTERIORE (OPZIONALE)
EV37	ELETTROVALVOLA RIENTRO PIATTAFORMA POSTERIORE (OPZIONALE)
M1, M2	MOTORI ELETTRICI
MD	MOTORE DIESEL
1	SERBATOIO
1a	COPERCHIO SERBATOIO – MODELLI ELETTRICI
1b	COPERCHIO SERBATOIO – MODELLI DIESEL
2	FILTRO DI ASPIRAZIONE
3	POMPA DOPPIA
4	PROPULSIONE ELETTRICA
5	PROPULSIONE DIESEL
6	POMPA MANUALE
7	ATTACCO MANOMETRO
8	BLOCCO IDRAULICO COMANDO
9	BLOCCO IDRAULICO COMANDO STERZO
10	BLOCCO IDRAULICO COMANDO STABILIZZAZIONE
11	CILINDRO STABILIZZATORE
12	CILINDRO STERZO
13	RIDUTTORE TRAZIONE
13a	MOTORE IDRAULICO TRAZIONE
14	GRUPPO INTEGRATO CONTROLLO DISCESA
15	CILINDRO SOLLEVAMENTO
16	VALVOLA UNIDIREZIONALE
17	POMPA DOPPIA – MODELLI DIESEL
18	FILTRO ASPIRAZIONE – MODELLI DIESEL
19	PIASTRA TRAZIONE
20	BLOCCO IDRAULICO COMANDO DOPPIO SFILO (OPZIONALE)
21	CILINDRO SFILO PIATTAFORMA (OPZIONALE)
22	VALVOLA OVER-CENTER (OPZIONALE)
23	POMPA – MODELLI ELETTRICI
26	FILTRO IN RITORNO

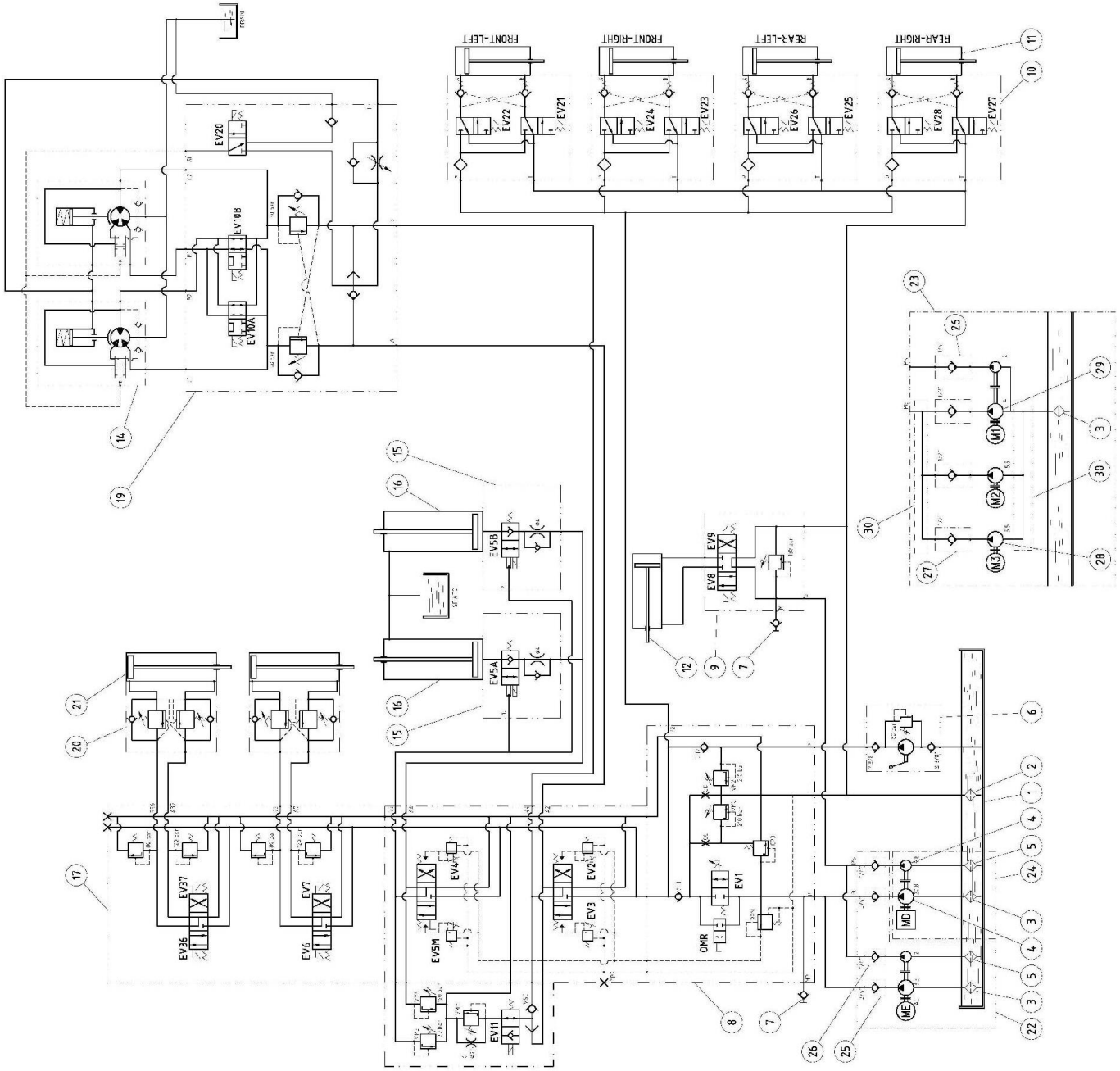
021.07.044


FRONT-LEFT
FRONT-RIGHT
REAR-LEFT
REAR-RIGHT
EV20
EV10B
EV10A
EV21
EV22
EV23
EV24
EV25
EV26
EV27
EV28
EV9
EV8
EV5
EV37
EV36
EV7
EV6
EV4
EV5M
EV2
EV3
EV1
EV11
OMR
M1
M2
MD

SCHEMA HYDRAULIQUE MACHINES STANDARDS
XL19 E
N° 030.07.099

EV1	REGULATEUR DE FLUX PROPORTIONNEL
EV2	ELECTROVANNE TRACTION AVANT
EV3	ELECTROVANNE TRACTION ARRIERE
EV4	ELECTROVANNE SOULEVEMENT
EV5A/B	ELECTROVANNE DESCENTE
EV5M	COMMANDE MANUELLE DESCENTE D'URGENCE
EV6	ELECTROVANNE EXTRACTION PLATE-FORME AVANT (OPTIONEEL)
EV7	ELECTROVANNE RENTREE PLATE-FORME AVANT (OPTIONEEL)
EV8	ELECTROVANNE DIRECTION GAUCHE
EV9	ELECTROVANNE DIRECTION DROITE
EV10A/B	ELECTROVANNE SERIE MOTEURS TRACTION
EV11	ELECTROVANNE BY-PASS
EV20	ELECTROVANNE CHANGEMENT CYLINDREE
EV21÷28	ELECTROVANNES CYLINDRES NIVELEURS
EV36	ELECTROVANNE EXTRACTION PLATE-FORME ARRIERE (OPTIONEEL)
EV37	ELECTROVANNE RENTREE PLATE-FORME ARRIERE (OPTIONEEL)
MD	MOTEUR DIESEL
ME	ELECTRO-POMPE
M1-2-3	MOTEUR ELECTRIQUE
1	RESERVOIR
1a	COUVERCLE RESERVOIR
2	FILTRE VIDANGE
3	FILTRE ASPIRATION
4	POMPE DOUBLE
5	FILTRE ASPIRATION
6	POMPE MANUELLE
7	CONNEXION MANOMETRE
8	BLOC HYDRAULIQUE SF
9	BLOC HYDRAULIQUE DIRECTION
10	BLOC HYDRAULIQUE STABILISATEUR
11	VERIN STABILISATEUR
12	VERIN DIRECTION
14	REDUCTEUR TRACTION
14a	MOTEUR HYDRAULIQUE TRACTION
15	GROUPE INTEGREE CONTROLE DESCENTE
16	VERIN SOULEVEMENT
17	BLOC HYDRAULIQUE COMMANDE EXTRACTION DOUBLE (OPTIONEEL)
19	PIASTRA TRAZIONE
20	VANNE OVER-CENTER (OPTIONEEL)
21	VERIN EXTRACTION PLATE-FORME (OPTIONEEL)
22	GROUPE PROPULSION ELECTRO-POMPE
23	GROUPE PROPULSION ELECTRIQUE
24	GROUPE PROPULSION THERMIQUE
25	VANNE UNIDIRECTIONNELLE
26	VANNE UNIDIRECTIONNELLE
27	VANNE UNIDIRECTIONNELLE
28	POMPE
29	POMPE
30	COLLECTEUR ASPIARTION ET REFOULEMENT

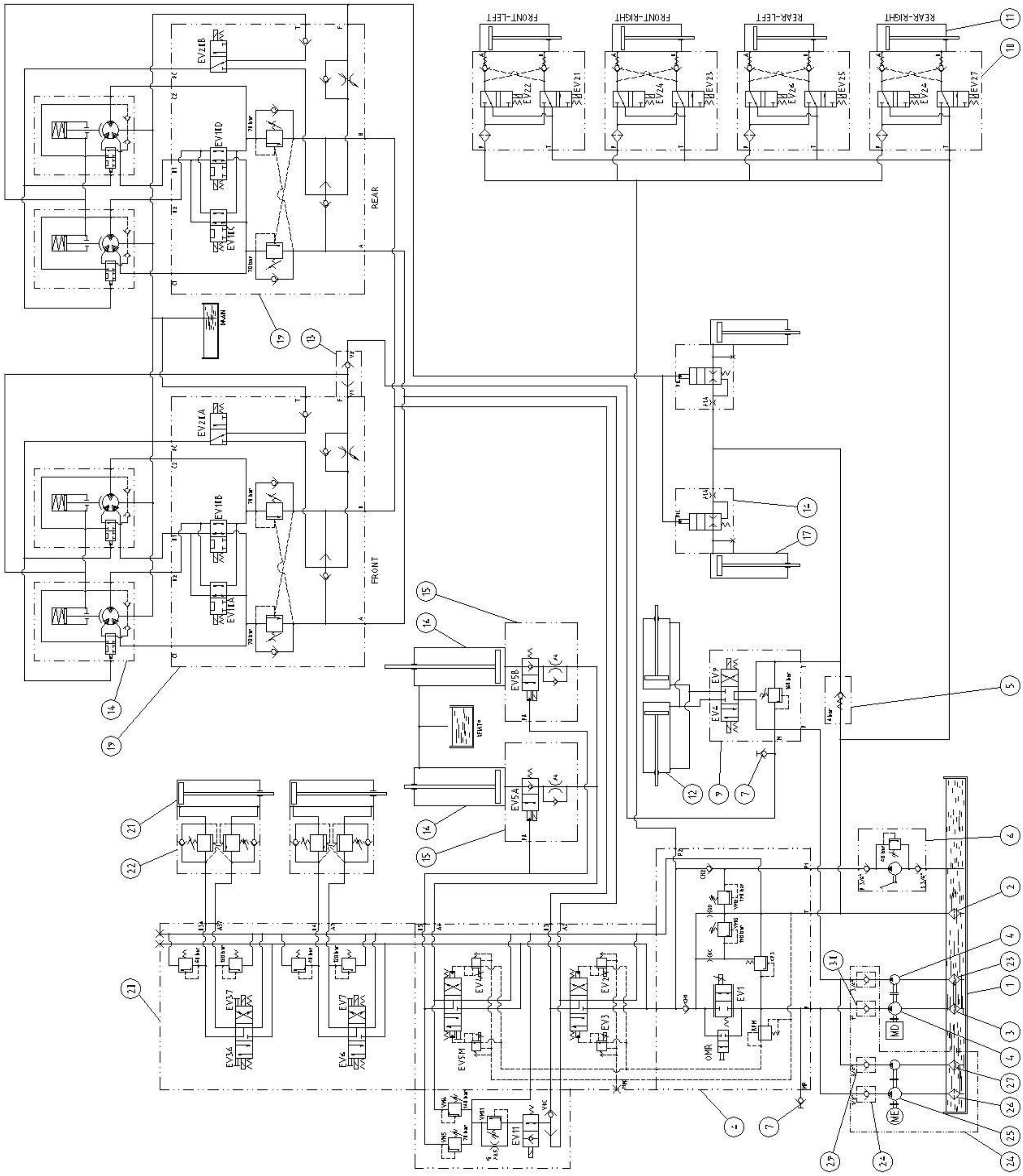
030.07.099


FRONT-LEFT
FRONT-RIGHT
REAR-LEFT
REAR-RIGHT
EV20
EV10B
EV10A
EV22
EV21
EV24
EV23
EV26
EV25
EV28
EV27
EV5B
EV5A
EV9
EV8
EV37
EV36
EV7
EV6
EV4
EV5M
EV2
EV3
EV1
EV11
OMR
M1
M2
M3
MD
ME

HYDRAULIC DIAGRAM - STANDARD MACHINES
XL16 RTD XL19 RTD
N° 030.07.082

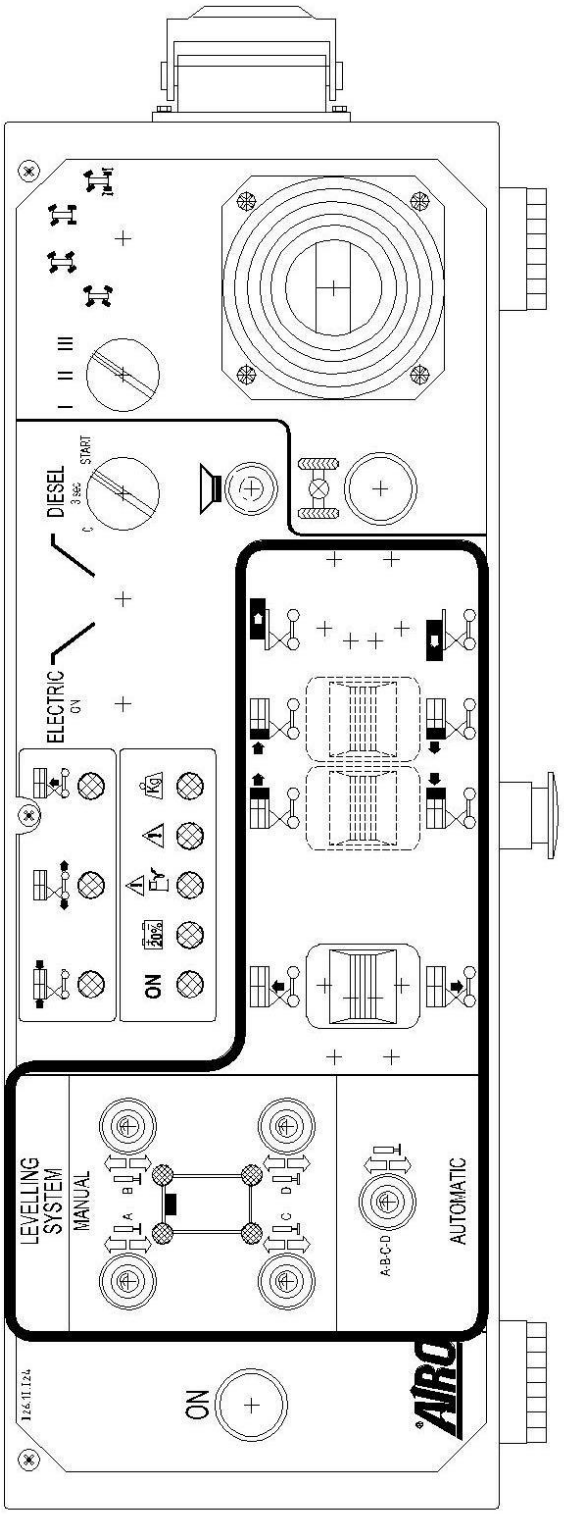
EV1	PROPORTIONAL FLOW ADJUSTER
EV2	FORWARD DRIVE SOLENOID VALVE
EV3	BACKWARD DRIVE SOLENOID VALVE
EV4	LIFTING SOLENOID VALVE
EV5A/B	LOWERING SOLENOID VALVE
EV5M	EMERGENCY LOWERING MANUAL CONTROL
EV6	FRONT PLATFORM EXTENSION SOLENOID VALVE (OPTIONAL)
EV7	FRONT PLATFORM RETRACTION SOLENOID VALVE (OPTIONAL)
EV8	LEFT STEERING SOLENOID VALVE
EV9	RIGHT STEERING SOLENOID VALVE
EV10A/B	FRONT MOTOR SERIES SOLENOID VALVE
EV10C/D	REAR MOTOR SERIES SOLENOID VALVE
EV11	BY-PASS SOLENOID VALVE
EV20	DISPLACEMENT EXCHANGE SOLENOID VALVE
EV21÷28	LEVELLING JACK CYLINDER SOLENOID VALVES
EV36	REAR PLATFORM EXTENSION SOLENOID VALVE (OPTIONAL)
EV37	REAR PLATFORM RETRACTION SOLENOID VALVE (OPTIONAL)
MD	DIESEL MOTOR
1	TANK
1a	TANK COVER
2	DISCHARGE FILTER
3	SUCTION FILTER
4	DOUBLE PUMP
5	UNIDIRECTIONAL VALVE
6	MANUAL PUMP
7	PRESSURE GAGE CONNECTION
8	SF HYDRAULIC BLOCK
9	STEERING HYDRAULIC BLOCK
10	LEVELLING JACK HYDRAULIC BLOCK
11	LEVELLING JACK CYLINDER
12	STEERING CYLINDER
13	SELECTOR VALVE
14	DRIVE REDUCTION GEAR
14a	DRIVE HYDRAULIC MOTOR
15	LOWERING CONTROL INTEGRATED ASSEMBLY
16	LIFTING CYLINDER
17	SWING AXLE CYLINDER
18	BLOCK VALVE
19	DRIVE PLATE
20	DOUBLE EXTENSION CONTROL HYDRAULIC BLOCK (OPTIONAL)
21	PLATFORM EXTENSION CYLINDER (OPTIONAL)
22	OVER-CENTER VALVE (OPTIONAL)
23	SUCTION FILTER
24	ELECTRIC PUMP KIT
25	ELECTRIC PUMP
26	SUCTION FILTER
27	SUCTION FILTER
28	VALVE
29	VALVE
30	VALVE

030.07.082


FRONT-LEFT
FRONT-RIGHT
REAR-LEFT
REAR-RIGHT
REAR
FRONT
EV21B
EV21A
EV1D
EV1C
EV1B
EV1A
EV5B
EV5A
EV9
EV1
EV37
EV36
EV7
EV6
EV5M
EV3
EV11
OMR

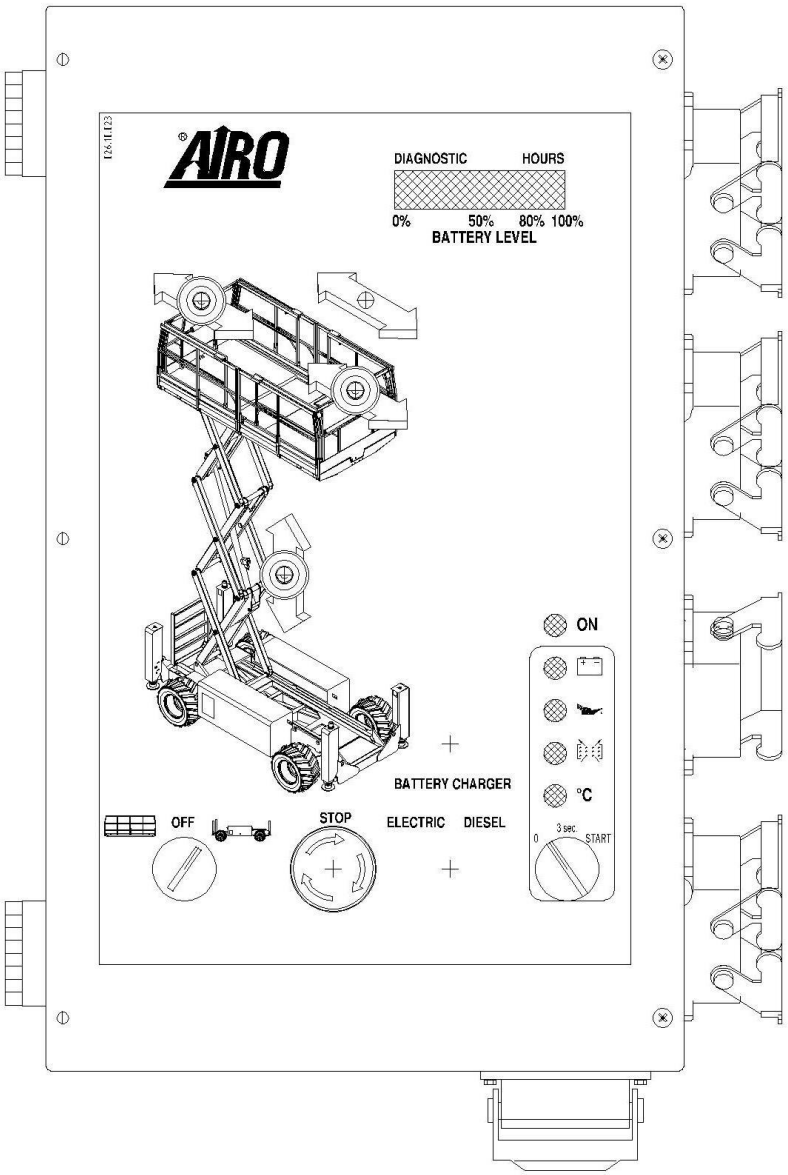
12. WIRING DIAGRAM

STANDARD MACHINES WIRING DIAGRAM
XL14 RTD XL16 RTD XL19 RTD
N° 026.08.026



CE2 connector	
1	Serial transmission A
2	Serial transmission B
3	Battery voltage by fuse (5A) (+)
4	Main mass (-)
5	Emergency stop button
6	Emergency stop button
7	/
8	/
9	Load cell power (+)
10	Load cell signal
11	Load cell signal
12	Load cell mass (-)
13	Dead-man pedal (+)
14	Dead-man pedal (signal)
15	/
16	/
17	M5A (+) = Microswitch to reduce the max. allowed load on the platform
18	M5A (signal) = Microswitch to reduce the max. allowed load on the platform
19	M5B (+)
20	M5B (signal)
21	/
22	/
23	/
24	/

STANDARD MACHINES WIRING DIAGRAM
XL14 RTD XL16 RTD XL19 RTD
N° 026.08.027



CA1 connector
CA2 connector
MO connector
CA3 connector
CE connector

CA1 Connector			
1	EV1 (+): proportional movements	22	EV1 (-): proportional movements
2	EV2 (+): backward drive	23	EV2 (-): backward drive
3	EV3 (+): forward drive	24	EV3 (-): forward drive
4	EV4 (+): UP	25	EV4 (-): UP
5	EV5 (+): DOWN	26	EV5 (-): DOWN
6	EV6 (+)	27	EV6 (-)
7	EV7 (+)	28	EV7 (-)
8	EV8 (+): steering	29	EV8 (-): steering
9	EV9 (+): steering	30	EV9 (-): steering
10	EV10A and EV10B (+): series	31	EV10A and EV10B (-): series
11	EV10C and EV10D (+): series	32	EV10C and EV10D (-): series
12	/	33	/
13	EV11 (+): anti-step	34	EV11 (-): anti-step
14	EV20A and EV20B (+)	35	EV20A and EV20B (-)
15	EV36 (+)	36	EV36 (-)
16	EV37 (+)	37	EV37 (-)
17	/	38	/
18	/	39	/
19	/	40	/
20	/	41	/
21	Rotating beacons (+)	42	Rotating beacons (-)

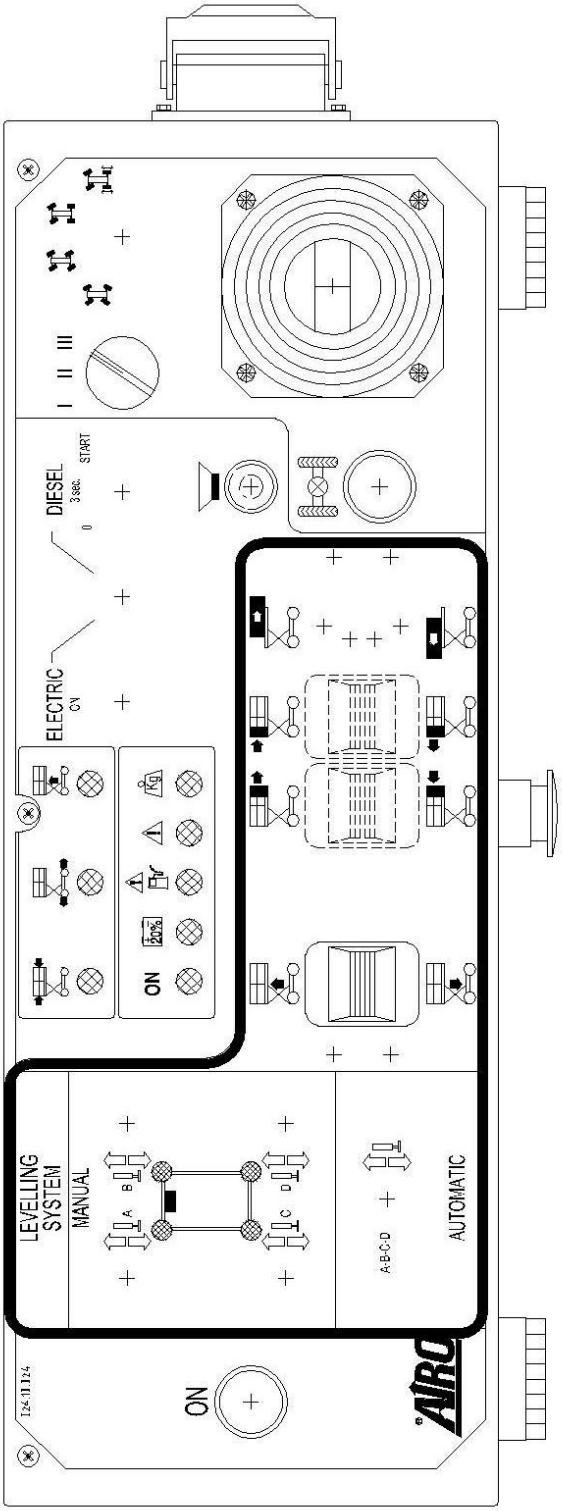
CA2 connector			
1	/	22	/
2	/	23	/
3	Horn (+)	24	/
4	M1 (+): anti-step microswitch	25	/
5	M1S (+): drive disable microswitch	26	/
6	/	27	/
7	/	28	/
8	PQ (signal): inclinometer	29	/
9	/	30	/
10	/	31	AM (signal)
11	Horn (-)	32	AM (+)
12	M1 (-): anti-step microswitch	33	AM (-)
13	M1S (-): drive disable microswitch	34	/
14	/	35	/
15	/	36	/
16	/	37	Fuse (+)
17	/	38	Fuse (+)
18	PQ (+): inclinometer	39	Fuse (+)
19	PQ (-): inclinometer	40	Battery (-)
20	/	41	Battery (-)
21	/	42	Battery (-)

MO Connector			
1	Alternator alarm	13	Motor electrostart
2	Oil pressure alarm	14	Motor electrostop
3	Air filter alarm	15	Motor preheating
4	Head overheating alarm	16	Motor electroaccelerator
5	/	17	/
6	/	18	/
7	/	19	/
8	/	20	Fuel alarm
9	/	21	/
10	/	22	/
11	/	23	/
12	/	24	/

CA3 connector			
1	ST1A (Signal): lower outrigger microswitch	22	STP2 (+): upper outrigger microswitch
2	ST2A (Signal): lower outrigger microswitch	23	STP3 (+): upper outrigger microswitch
3	ST3A (Signal): lower outrigger microswitch	24	STP4 (+): upper outrigger microswitch
4	ST4A (Signal): lower outrigger microswitch	25	EV21 (+): outrigger up
5	STP1 (Signal): upper outrigger microswitch	26	EV22 (+): outrigger down
6	STP2 (Signal): upper outrigger microswitch	27	EV23 (+): outrigger up
7	STP3 (Signal): upper outrigger microswitch	28	EV24 (+): outrigger down
8	STP4 (Signal): upper outrigger microswitch	29	EV25 (+): outrigger up
9	EV21 (+): outrigger up	30	EV26 (+): outrigger down
10	EV22 (+): outrigger down	31	EV27 (+): outrigger up
11	EV23 (+): outrigger up	32	EV28 (+): outrigger down
12	EV24 (+): outrigger down	33	INCLINOMETER Y+
13	EV25 (+): outrigger up	34	INCLINOMETER Y-
14	EV26 (+): outrigger down	35	INCLINOMETER X+
15	EV27 (+): outrigger up	36	INCLINOMETER X-
16	EV28 (+): outrigger down	37	/
17	ST1A (+): lower outrigger microswitch	38	/
18	ST2A (+): lower outrigger microswitch	39	/
19	ST3A (+): lower outrigger microswitch	40	/
20	ST4A (+): lower outrigger microswitch	41	/
21	STP1 (+): upper outrigger microswitch	42	/

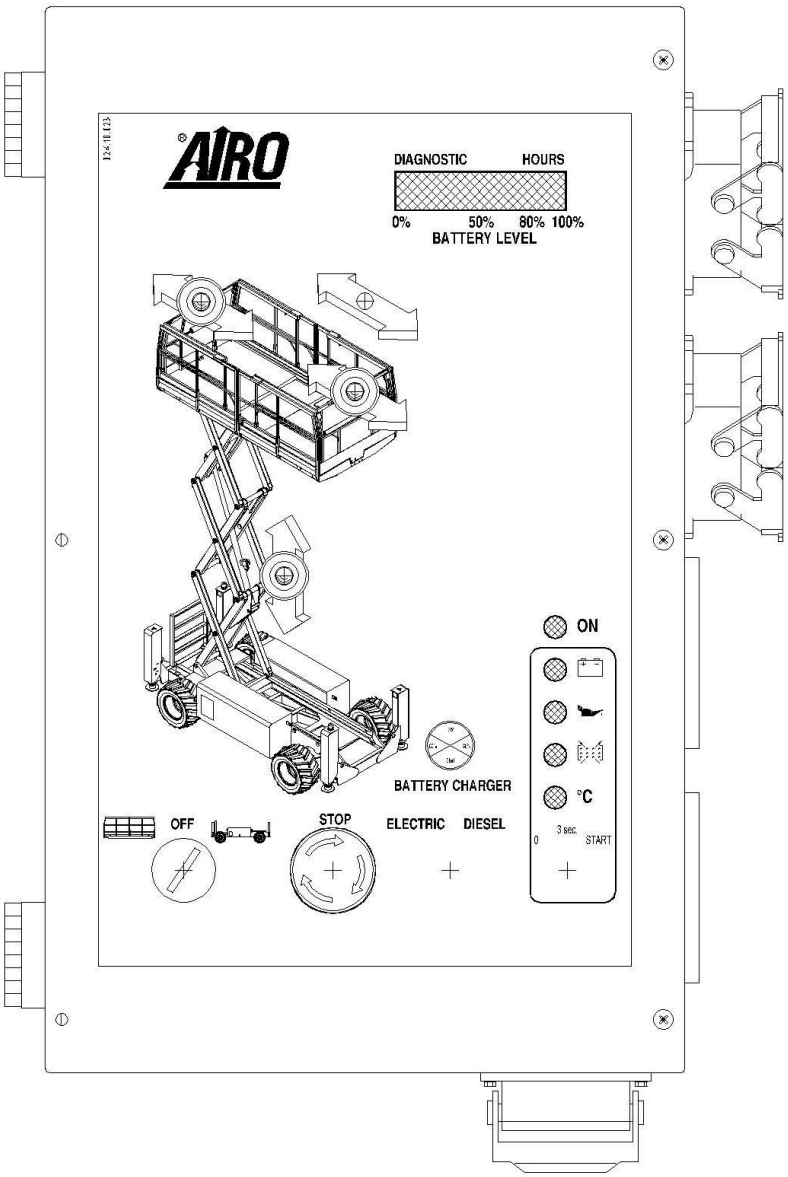
CE connector			
1	Serial transmission A	13	/
2	Serial transmission B	14	/
3	Battery voltage by fuse (5A) (+)	15	/
4	Main mass	16	/
5	Emergency stop button	17	/
6	Emergency stop button	18	/
7	/	19	/
8	/	20	/
9	/	21	/
10	/	22	/
11	/	23	/
12	/	24	/

STANDARD MACHINES WIRING DIAGRAM
XL11 E XL14 E XL14 E 6P XL16 E
N° 026.08.025



CE2 connector	
1	Serial transmission A
2	Serial transmission B
3	Battery voltage by fuse (5A) (+)
4	Main mass (-)
5	Emergency stop button
6	Emergency stop button
7	/
8	/
9	Load cell power (+)
10	Load cell signal
11	Load cell signal
12	Load cell mass (-)
13	Dead-man pedal (+)
14	Dead-man pedal (signal)
15	/
16	/
17	M5A (+) = Microswitch to reduce the max. allowed load on the platform
18	M5A (signal) = Microswitch to reduce the max. allowed load on the platform
19	M5B (+)
20	M5B (signal)
21	/
22	/
23	/
24	/

STANDARD MACHINES WIRING DIAGRAM
XL11 E XL14 E XL14 E 6P XL16 E
N° 026.08.024



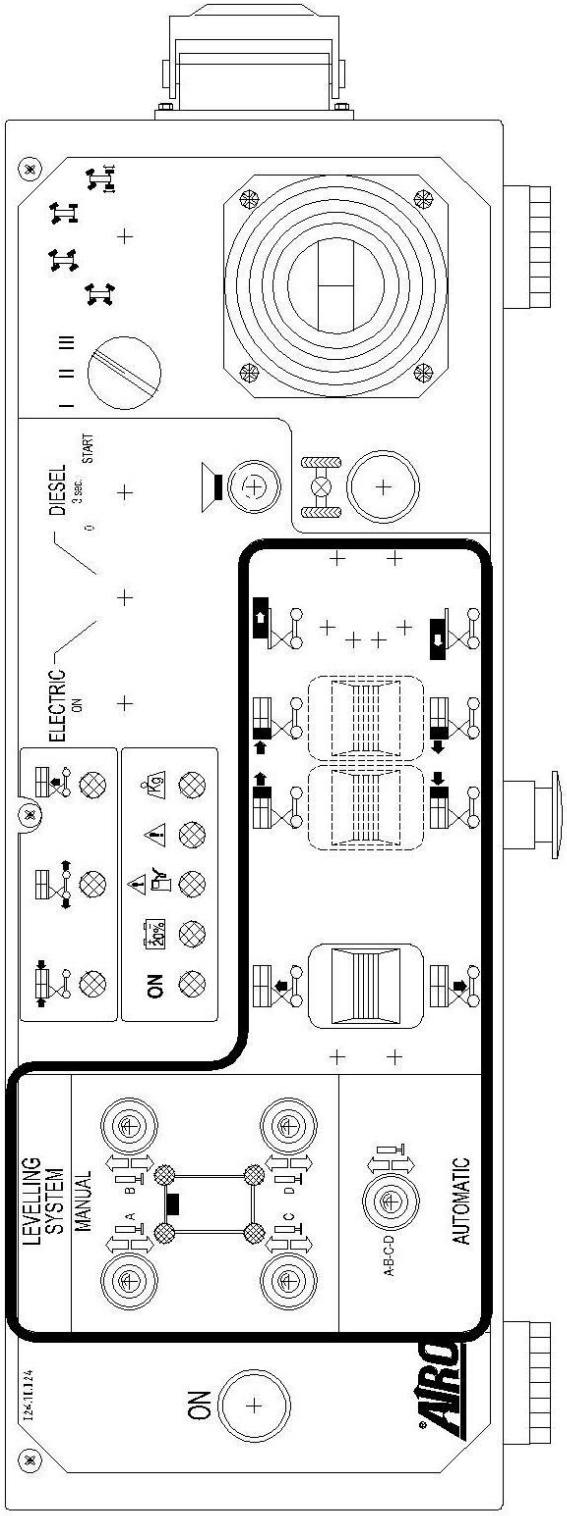
CA1 connector
CA2 connector
X
X
CE connector

CA1 Connector			
1	EV1 (+): proportional movements	22	EV1 (-): proportional movements
2	EV2 (+): backward drive	23	EV2 (-): backward drive
3	EV3 (+): forward drive	24	EV3 (-): forward drive
4	EV4 (+): UP	25	EV4 (-): UP
5	EV5 (+): DOWN	26	EV5 (-): DOWN
6	EV6 (+)	27	EV6 (-)
7	EV7 (+)	28	EV7 (-)
8	EV8 (+): steering	29	EV8 (-): steering
9	EV9 (+): steering	30	EV9 (-): steering
10	EV10A and EV10B (+): series	31	EV10A and EV10B (-): series
11	EV10C and EV10D (+): series	32	EV10C and EV10D (-): series
12	/	33	/
13	EV11 (+): anti-step	34	EV11 (-): anti-step
14	EV20A and EV20B (+)	35	EV20A and EV20B (-)
15	EV36 (+)	36	EV36 (-)
16	EV37 (+)	37	EV37 (-)
17	/	38	/
18	/	39	/
19	/	40	/
20	/	41	/
21	Rotating beacons (+)	42	Rotating beacons (-)

CA2 connector			
1	TLR1 (+)	22	Battery Charger indicator - brown
2	/	23	Battery Charger relay
3	Horn (+)	24	Battery Charger relay
4	M1 (Sign): anti-step microswitch	25	SPI power supply (+48V)
5	M1S (Sign): drive disable microswitch	26	SPI power supply (-Batt)
6	/	27	SPI Signal
7	/	28	+12V Sic
8	PQ (signal): inclinometer	29	+48V from Battery
9	TLR1 (-)	30	/
10	/	31	AM (signal)
11	Horn (-)	32	AM (+)
12	M1 (+): anti-step microswitch	33	AM (-)
13	M1S (+): drive disable microswitch	34	/
14	/	35	/
15	/	36	/
16	/	37	Fuse (+)
17	/	38	Fuse (+)
18	PQ (+): inclinometer	39	Fuse (+)
19	PQ (-): inclinometer	40	Battery (-)
20	Battery Charger indicator - green	41	Battery (-)
21	Battery Charger indicator - white	42	Battery (-)

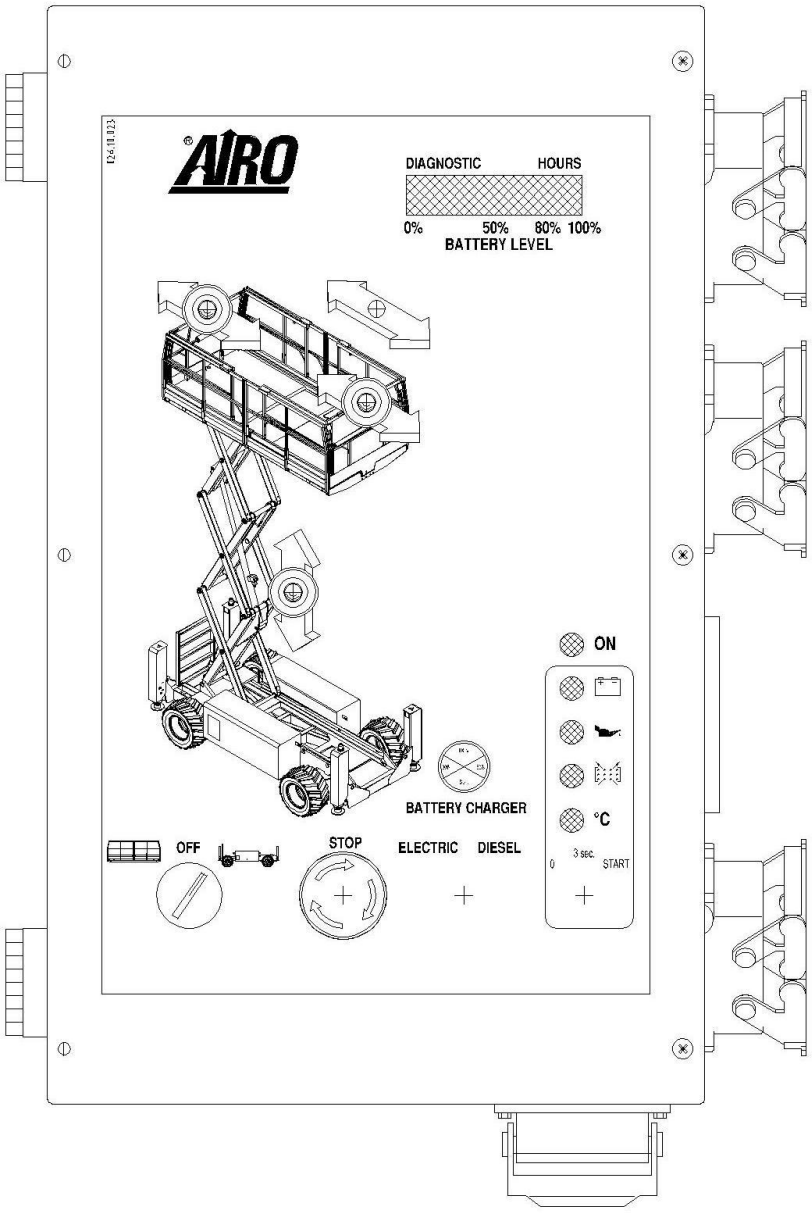
CE connector			
1	Serial transmission A	13	/
2	Serial transmission B	14	/
3	Battery voltage by fuse (5A) (+)	15	/
4	Main mass	16	/
5	Emergency stop button	17	/
6	Emergency stop button	18	/
7	/	19	/
8	/	20	/
9	/	21	/
10	/	22	/
11	/	23	/
12	/	24	/

STANDARD MACHINES WIRING DIAGRAM
XXL14 E XXL16 E XL19 E
N° 026.08.029



CE2 connector	
1	Serial transmission A
2	Serial transmission B
3	Battery voltage by fuse (5A) (+)
4	Main mass (-)
5	Emergency stop button
6	Emergency stop button
7	/
8	/
9	Load cell power (+)
10	Load cell signal
11	Load cell signal
12	Load cell mass (-)
13	Dead-man pedal (+)
14	Dead-man pedal (signal)
15	/
16	/
17	M5A (+) = Microswitch to reduce the max. allowed load on the platform
18	M5A (signal) = Microswitch to reduce the max. allowed load on the platform
19	M5B (+)
20	M5B (signal)
21	/
22	/
23	/
24	/

STANDARD MACHINES WIRING DIAGRAM
XXL14 E XXL16 E XL19 E
N° 026.08.030



CA1 connector
CA2 connector
X
CA3 connector
CE connector

CA1 Connector			
1	EV1 (+): proportional movements	22	EV1 (-): proportional movements
2	EV2 (+): backward drive	23	EV2 (-): backward drive
3	EV3 (+): forward drive	24	EV3 (-): forward drive
4	EV4 (+): UP	25	EV4 (-): UP
5	EV5 (+): DOWN	26	EV5 (-): DOWN
6	EV6 (+)	27	EV6 (-)
7	EV7 (+)	28	EV7 (-)
8	EV8 (+): steering	29	EV8 (-): steering
9	EV9 (+): steering	30	EV9 (-): steering
10	EV10A and EV10B (+): series	31	EV10A and EV10B (-): series
11	EV10C and EV10D (+): series	32	EV10C and EV10D (-): series
12	/	33	/
13	EV11 (+): anti-step	34	EV11 (-): anti-step
14	EV20A and EV20B (+)	35	EV20A and EV20B (-)
15	EV36 (+)	36	EV36 (-)
16	EV37 (+)	37	EV37 (-)
17	/	38	/
18	/	39	/
19	/	40	/
20	/	41	/
21	Rotating beacons (+)	42	Rotating beacons (-)

CA2 connector			
1	TLR1 (+)	22	Battery Charger Led - brown
2	/	23	Battery Charger relay
3	Horn (+)	24	Battery Charger relay
4	M1 (signal): anti-step microswitch	25	SPI (+) +48V
5	M1S (signal): drive disable microswitch	26	SPI (-) –batt.
6	/	27	SPI (signal)
7	/	28	+12V sic
8	PQ (signal): inclinometer	29	+48V batt.
9	TLR1 (-)	30	/
10	/	31	AM (signal)
11	Horn (-)	32	AM (+)
12	M1 (+): anti-step microswitch	33	AM (-)
13	M1S (+): drive disable microswitch	34	/
14	/	35	/
15	/	36	/
16	/	37	Fuse (+)
17	/	38	Fuse (+)
18	PQ (+): inclinometer	39	Fuse (+)
19	PQ (-): inclinometer	40	Battery (-)
20	Battery Charger Led - green	41	Battery (-)
21	Battery Charger Led - white	42	Battery (-)

CA3 connector			
1	ST1A (Signal): lower outrigger microswitch	22	STP2 (+): upper outrigger microswitch
2	ST2A (Signal): lower outrigger microswitch	23	STP3 (+): upper outrigger microswitch
3	ST3A (Signal): lower outrigger microswitch	24	STP4 (+): upper outrigger microswitch
4	ST4A (Signal): lower outrigger microswitch	25	EV21 (+): outrigger up
5	STP1 (Signal): upper outrigger microswitch	26	EV22 (+): outrigger down
6	STP2 (Signal): upper outrigger microswitch	27	EV23 (+): outrigger up
7	STP3 (Signal): upper outrigger microswitch	28	EV24 (+): outrigger down
8	STP4 (Signal): upper outrigger microswitch	29	EV25 (+): outrigger up
9	EV21 (+): outrigger up	30	EV26 (+): outrigger down
10	EV22 (+): outrigger down	31	EV27 (+): outrigger up
11	EV23 (+): outrigger up	32	EV28 (+): outrigger down
12	EV24 (+): outrigger down	33	INCLINOMETER Y+
13	EV25 (+): outrigger up	34	INCLINOMETER Y-
14	EV26 (+): outrigger down	35	INCLINOMETER X+
15	EV27 (+): outrigger up	36	INCLINOMETER X-
16	EV28 (+): outrigger down	37	/
17	ST1A (+): lower outrigger microswitch	38	/
18	ST2A (+): lower outrigger microswitch	39	/
19	ST3A (+): lower outrigger microswitch	40	/
20	ST4A (+): lower outrigger microswitch	41	/
21	STP1 (+): upper outrigger microswitch	42	/

CE connector			
1	Serial transmission A	13	/
2	Serial transmission B	14	/
3	Battery voltage by fuse (5A) (+)	15	/
4	Main mass	16	/
5	Emergency stop button	17	/
6	Emergency stop button	18	/
7	/	19	/
8	/	20	/
9	/	21	/
10	/	22	/
11	/	23	/
12	/	24	/

13. CE DECLARATION OF CONFORMITY

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *EC* 2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product:	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Type – Modelo-МОДЕЛЬ	Chassis no. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL11 E	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיותCE/2006/42 , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE SPA VIA GARIBALDI, 20 40011 ANZOLA EMILIA - BO (ITALIA)
LICENSE NO. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate no. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5813

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), date -תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

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2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product:	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis no. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL14 E	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , ו- 2014/30/CE ואת הדגם 2005/88/CE שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивам 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE No. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificato no. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5814

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-Date-Datum-fecha-Дата

.....
Wang Kai
(Legal representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL14 E 6P	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיותCE/2006/42, 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивам 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENCE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate no. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5815

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product:	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XXL14 E	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by::	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивам 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5822

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *הצהרה על תאימות CE* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product:	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XXL14 D	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENCE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5821

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *הצהרה על תאימות CE* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product:	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL14 RTD	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивам 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENCE No. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5816

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

Wang Kai (Legal Representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *הצהרה על תאימות CE* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product:	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No.–מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL16 E	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE No. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5817

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
Tel. +39 0522 977365 Fax +39 0522 977015

EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XXL16 E	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

XXXXXXXXXXXXXXXX

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

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EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL16 RTD	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5818

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

AIRO è una Divisione TIGIEFFE SRL - Via Villa superiore, 82 -42045 Luzzara (RE)
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EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL19 E	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивам 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5819

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

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EC STATEMENT OF COMPLIANCE - *CE הצהרה על תאימות* - DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС*

2006/42/CE

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

Hereby we declare and attest that the following product	מצהירה בזאת, באחריותה הבלעדית, כי המוצר:	Declarons sous notre responsabilitè exclusive que le produit:	Erklaren hiermit unter Übernahme der vollen Verantwortung für diese Erklärung , daß das Produkt:	Declaramos bajo nuestra exclusiva responsabilidad que el producto:	Под нашу исключительную ответственность заявляем, что изделие:

Self-Propelled Lifting Platform
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XL19 RTD	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивами 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE no. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5820

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)

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EC STATEMENT OF COMPLIANCE - הצהרה על תאימות ***CE*** **- DECLARATION *CE* DE CONFORMITE' - *EG* KONFORMITÄTSERKLÄRUNG - DECLARACION *CE* DE CONFORMIDAD- ЗАЯВЛЕНИЕ О КОНФОРМНОСТИ *ЕС* 2006/42/CE**

Original Declaration	הצהרה מקורית	Déclaration Originale	Originalerklärung	Declaración Original	Оригинальная декларация

Noi - We - Nous - Wir – Nosotros- мы

Tigieffe s.r.l. - Via Villa Superiore N.° 82 - Luzzara (Reggio Emilia) - ITALIA

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Self-Propelled Lifting Platform v
במת עבודה מתרוממת ניידת
Plates-forme Elévatrice Mobiles de Personnel
Fahrbare Hubarbeitsbühnen
Plataforma Elevadora Móvil de Personal
Платформа для высотного работ

Model - Model - Modèle Typ – Modelo-МОДЕЛЬ	Chassis No. –מס' שלדה N° Chassis - Fahrgestellnr - N° Chassis - НомерРама	Anno - Year - Année Baujahr – Ano -Год
XXL19 D	***XXXXXXXXXX***	***XXXXXXXXXX***

Is covered by this statement of compliance and is conformant with EC/2006/42, EC2014/30, EC2005/88. Compliance was assessed by:	שעבורו ניתנת הצהרה זו תואם את ההנחיות2006/42/CE , 2014/30/CE ו- 2005/88/CEואת הדגם שאושר ע"י:	Faisant l'objet de la présente déclaration est conforme aux directives 2006/42/CE, 2014/30/CE, 2005/88/CE, et au modéle certifié par	Auf das sich die vorliegende Erklärung bezieht, den 2006/42/CE, 2014/30/CE, 2005/88/CE, Richtlinien und dem von:	Al cual esta declaración se refiere cumple las directivas 2006/42/CE, 2014/30/CE, 2005/88/CE, y el modelo certificato por:	К которой это заявление относится, соответствует директивам 2006/42/CE, 2014/30/CE, 2005/88/CE, и сертифицированной модели из:

ICE Spa Via Garibaldi, 20 40011 Anzola Emilia - BO (Italia)
LICENSE No. 0303

Approval no.:	בעל מספר האישור הבא:	avec le numèro de certification suivant:	Zertifizierten Modell mit folgender Zertifizierungsnummer:	con el siguiente número de certificación:	со следующим сертифицированным номером:

Certificate No. –מס' אישור - N° du certificat - Bestätigungnummer - N° de certificado – НомерСертификата

M.0303.15.5823

Furthermore, the product is compliant with the following Standards:	וכן את התקנים הבאים:	et aux normes suivantes:	die Erklärung entspricht den folgenden Normen:	y a las siguentes normas:	и со следующими нормами:

EN 280:2013 EN ISO 12100:2010 EN ISO 60204-1:2006

The person signing this certificate is also the person responsible for the Technical Report.	הגורם החתום על הצהרת תאימות זו מוסמך לפתוח את התיק הטכני.	Le signataire de cette déclaration de conformité est autorisé à constituer le Dossier Technique.	Der Unterzeichner dieser Konformitätserklärung ist autorisiert, das technische Unterlagen abzufassen.	El firmante de esta declaración de conformidad está autorizado a crear el Expediente Técnico.	Лицо, подписавшее это заявление о соответствии, уполномочено составить техническую документацию оборудования.

Luzzara (RE), data-תאריך-date-Datum-fecha-Дата

.....
Wang Kai
(Legal Representative - הנציג החוקי)