MANUAL OF INSTRUCTIONS

FOR

INSTALLATION

USE

MAINTENANCE

VISION AS 300

CE

LIFT

Dear Customer,

*We want to thank you for choosing one of **SAFI** machines, and we are glad to give this manual to you to enable you to safely operate the machine. We suggest you to read carefully this manual before operating the lift in the various phases of installation, use, maintenance, repair, and dismantling. We are at your disposal for any further information you might have to ask and for any idea or suggestion of improvement to the manual to be the most complete as possible and to meet the safety requirements for which it has been written.*

Best regards

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1 GENERAL INFORMATION

1.1 Documentation supplied

Instruction manual (this booklet).

1.2 Manual data

Edition	0001
Year and month of printing	MAY 2012
language	ENGLISH

1.3 Customer data

Customer	TRADEHOUSE A/S
address	POPPELGAARDVEJ 7, 2860 DK
Date of delivery of the machine	08.06.2012

1.4 Information property rights

Permission to use this documentation has only be given to the customer to whom the manual has been supplied as part of the machine's equipment and only for the purpose of installation, operation and maintenance of the machine to which the manual refers.
SAFI S.r.l. declares that the information contained in this manual complies with the technical specifications and safety regulations of the machine which this manual concerns about. The manufacturer declines any responsibility for direct or indirect damages to things or injuries to people or domestic animals arising from the use of this documentary material or of the machine in conditions which differ from those allowed.
Due to a constant and continuous effort made by the manufacturer to improve the product, the machine supplied -in some of its components- could differ from what described in this manual. Any alteration anyway will always be accompanied by specific enclosures which will illustrate functionalities and characteristics. In case of differences from the basic content of the manual ask immediately the manufacturer for the supplementary technical sheet. SAFI S.r.l. reserves the right to update its production and according instructions manuals consequently to the technique evolution, the acquisition of new experiences and/or laws modifications without for this having any obligation to intervene on the previous commercialized machines and on their relevant manuals. The information contained in this manual is specifically referred to the machine specified in “Machine identification details”.

Main data of the machine

Type of machine	CRANE OPERATOR HOIST
Model	VISION AS 300
Manufacturer	SAFI
Registration No.	002003
Year of Manufacture	2012
Place of Manufacture	ITALY
EC control Certificate No.	??
Date of EC control Certification	??

1.5 Identification Serial No.

Description	No.	Date
Motor unit Serial No. (#1)	??	??
Gear-motor/s Serial No.	??	
Parachute brake Serial No. (if present)	??	

1.6 Markings

Tables must be easily read and fixed to the machine in a permanent way. Here to follow the list of the provided tables and pictures with indications of their positioning on the machine.

- Number plate (Fig. 1-1).
- Table of loads (Fig. 1-1).

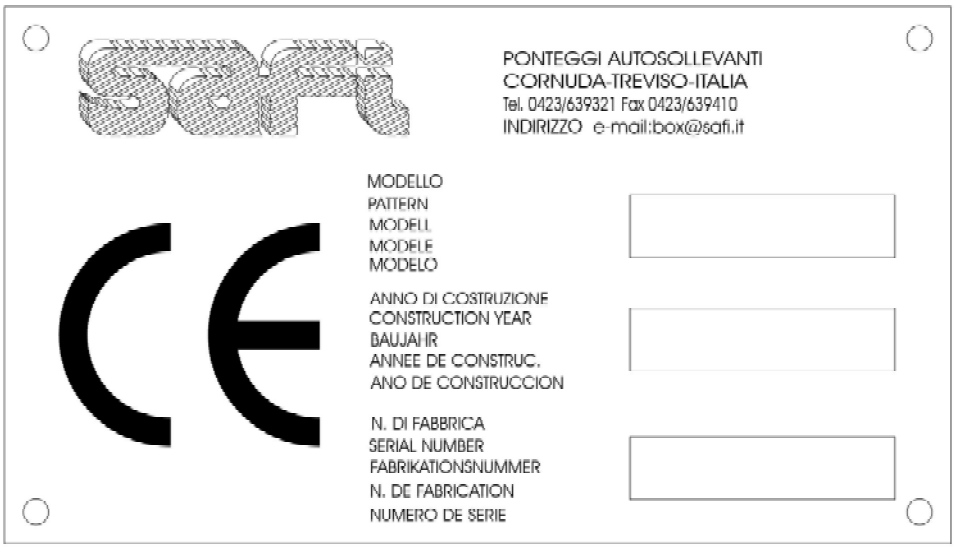

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Fig. 1-1 : Number plate

PS: Maximum travel speed: 22 m/min (to be corrected on table of loads)

Fig. 1-2 : Table of loads

1.7 Use of the manual

Read the following chapters carefully: INFORMATION ON SAFETY AND DEVICES AND OPERATORS .
For any operation of installation, use, maintenance and dismantling consult the according chapter.
The manufacturer declines any responsibility for inconveniences arising from the non-observance of the above mentioned rules and of all the prescriptions contained in this manual.

NOTE: This manual must be kept within reach in case of need for the whole technical life of the machine. "CE" declaration of compliance

NOTE: See “CE” Declaration Enclosed.

1.8 Description

The builder's yard lift model VISION AS 300 is a tower type of hoisting equipment whose transmission system is obtained by means of a rack and an electric motor-driven pinion. It hoists an elevator car along a supporting mast - tied to the wall or to suitable scaffolds- up to the maximum capacity load of 300 daN.
(Following in red to be deleted, no sale promotion in a technical manual)
The builder's yard lift VISION AS 300 is a machine which allows a relevant reduction in management costs of a modern builder's yard.
The lift offers many advantages to the user such as for instance:

- the possibility of hoisting materials to higher floors, therefore to leave the crane free for other uses;
- personnel can easily reach the various level floors for finishing or control purposes;
- safety and time saving are granted while personnel and materials are displaced;
- easy use and maintenance;
- possibility of assembly inside lift wells (even in small ones).

Moreover, as far as the technical/organizational aspect is concerned, this platform enhances the image of the building contractors which are using it.
Its compact design is the reason for its peculiar characteristics as it allows to make good use of all the available spaces.
To ease the carrying and loading/unloading operations the elevator car and the base fence can be demounted.
The motor unit, the elevator car and the base can be supplied either as an assembled unit or separately for transport and bulk reasons.
The assembly of the parts will be carried out in the building yard at the time of installation. Even the elevator car -either to allow the assembly inside a building or to be loaded and transported in a container- can be supplied demounted.

2 SAFETY PLAN FOR BUILDING SITE LIFTS

2.1 Identification, analysis and evaluation of possible risks

The list here below (EN 12159/2000) contains a list of risks to eliminate or reduce as they could come up during the various installation stages of the equipment operating life:

1. Fall of a worker from height to ground
2. Fall of material from height to ground
3. Electric shock from bad wiring
4. Mechanical risks
    - Clamping
    - Cutting off
    - Impact
    - Expulsion of parts
    - Losing of steadiness
    - Sliding, tripping and fall
5. Risk caused by electrical failure
6. Electric contact
7. Risks generated by the non-observance of the ergonomic principles while projecting the machine
8. Dangerous postures or excessive physical efforts
9. Human error
10. Combination of risks
11. Electric power failure
12. Overturning, unexpected lose of the machine steadiness
13. Risks caused by a lack of the safety devices or by their improper positioning
14. Safety guards improper position
15. Start and stop devices improper function
16. Safety warnings posts and signaling problems
17. Energy supply disconnecting devices improper function
18. Emergency devices in improper function
19. Equipment and accessories necessary for setting up and maintenance in safety conditions
20. Risks generated by the movement
21. Unsuitable lighting in the working/maneuvering zone
22. Risks generated by sudden movements, by lack of steadiness etc. during the maneuver
23. Insufficient visibility from the operator position

Special risks generated by the hoisting of people

- Excessive speed
- Fall of people from the elevator car

- Fall or overturning of the elevator car
- Excessive acceleration or braking of the elevator car
- Imprecise signaling

2.2 Preventive measures and protection from risks

- The erection and use of the lift must be assigned to qualified and trained personnel only who must be informed of the specific risks.
- Before the erection verify the soil pressure and provide for load distribution elements in each case.
- Follow all the indications given in the manual for the use and maintenance supplied by the manufacturer.
- Delimit the zone underneath the platform so to avoid the transiting or stopping of people.
- Delimit the zone underneath the lift so to avoid the transiting or stopping of people.
- Check that the installation connections electrical to earth and of protection against the atmospherically discharges have been made properly.
- Paths and access zones must be accessed in safety and protected against the risk of fall.
- Check that the lift is working minimum 5m distance from electric cables and that there are no hindrances to lift cage.
- Check the safety devices.
- Personnel must access the working deck with the safety harness hooked to fix parts of the structure.
- All the equipment parts must be protected against the corrosion.
- The capacity load on top of the lift is equal to 300kg
- Steadiness against the overturning of the equipment must be assured.
- The maximum lifting speed of the hoist is 22 m/min.
- Floorings must be kept antislip.
- Safety parapets are 1.100 mm high not to be removed.
- The electric equipment protection level corresponds to IP55, to be kept.
- In case of cut in the electric energy supply, the lift must be taken back to ground level acting on the manual brake release.
- It is necessary to take back the lift to the ground level when the wind blowing speed is faster than 101,8 km/h. ??????

2.3 Personal safety equipment

- Operators charged with the erection, dismantling and use of the lift must necessarily use: helmet, gloves, safety boots without non-pierce able soles, safety harness to access the working deck.

2.4 Accomplishment

- Check periodically the lifting organs, bolts and anchorages, every three months to be made by the user.
- Lubricate and greasing of the lifting organs.

- Obligation to charge the maintenance of the equipment to a person formed and responsible for this.

2.5 Rules references

- D.L. 19.09.94, N. 626 - Actuation of the 89/391/CEE, 89/654/CEE, 89/655/CEE, 89/656/CEE, 90/269/CEE, 90/270/CEE, 90/394/CEE and 90/679/CEE directives concerning the improving of the workers' safety and health conditions on the working place.
- D.P.R. 07.01.56, N.164 - Rules for the accidents prevention at work in the building sector.
- D.P.R. 27.04.55, N.547 - Rules for the accidents prevention at work.
- Pr EN 12159 - Building hoists for persons and materials.
- EN 292-1, Machinery safety - Fundamental concepts, general principles of projecting - Part 1: Terminology, basic methodology.
- EN 292-2:1991 + A1:1995, Machinery safety - Fundamental concepts, general principles of projecting - Part 2: Specifications and technical principles
- EN 294:1992, Machinery safety - Safety distances to keep in order preventing the reach of dangerous zone with the upper limbs.
- EN 349, Machinery safety - Minimum room to avoid the squashing of parts of the body.
- EN 418: 1992, Machinery safety - Emergency stop devices, functional aspects - Principles of projecting.
- EN 811, Machinery safety - Safety distances to keep in order to prevent the reach of dangerous zone with the lower limbs
- EN 894 -1, Machinery safety - Ergonomic requirements for the information and control devices projecting - Part 1: General principles for human interactions with information and control devices.
- EN 953, Machinery safety - Safety guards - General requirements for the projecting and construction of fix and movable guards.
- EN 954-1:1996, Machinery safety - Parts of the control system connected to safety - Part 1: General principles of projecting.
- EN 1037 Machinery safety - Prevention of unexpected starts.
- EN 1088, Machinery safety - Interlocking devices combined to safety guards. projecting and choice principles.
- EN 60204-1:1997, Machinery safety - Electric equipment of machines - Part 1: General rules (IEC 60204-1:1997).
- EN 60204-32, Machinery safety - Electric equipment of machines - Part 32: Requirements for hoisting devices 1 (EC 60204-32:1998).
- EN 60529, Guide on wraps protection (IP Code) (IEC 60529:1989).
- EN 60947-4-1, Low-voltage equipment - Part 4-1: Counters and starters - Electromechanical counters and starters (IEC 60947-4-1:1990).
- EN 60947-5-1:1997, Low-voltage equipment - Part 5-1: Control circuit devices and maneuver elements - Electromechanical devices for control circuits (IEC 60947-5-1:1997).
- ISO 3864, Safety colors and safety symbols.
- ISO 4302, Hoisting equipment. Wind loads.

- ISO 6336-1-2-3-5, Calculation of the load capacity of the cylindrical and helicoidally gears -Part 1: General principles, introduction and general factors of influence 1. Part 2: Calculation of the resistance of the surface to the pitting. Part 3: Calculation of the resistance of flexion of the gear tooth 1. Part 5: Resistance and quality of materials 1.

3 INFORMATION ON SAFETY AND DEVICES

3.1 Safety criteria

For the projecting and construction of this machine all the criteria and details meeting the main safety requirements requested by the Machines Directive 98/37/CE, Low Voltage Directive 73/23/CEE, modified by the directive 93/68/CEE, and by the Electromagnetic Compatibility Directive 89/336/CEE and following modifications have been used. The harmonized rule EN 12159 has been applied.
An accurate analysis from the manufacturer has allowed the avoidance of the main part of both the foreseen and the reasonably foreseeable risks related to the conditions for the machine use.
A complete documentation of the safety precautions taken is given in the technical handbook of the machine, deposited at **SAFI** premises.
The manufacturer recommends to follow the instructions given in this manual carefully and to keep to the safety regulations at work in force. This recommendation is extended to the use of the safety guards provided, both those integrated and those added to the machine.

ATTENTION: Do not wear large clothes, ties, neck laces, watches which might get entangled in moving parts of the machine.

NOTE: SAFI S.r.l. does not assume the responsibility for any damages to properties nor injuries to people or domestic animals arising from the non-observance of the safety rules and recommendations contained in the documentation provided.

The user, for his/her safety and for those who are working in the vicinity, must respect the safety rules required by the type of equipment used, by the working environment and by the effective operating conditions.
The use is subordinated to the respect of the following safety standards.

The basement must be installed on a sufficiently load-bearing supporting plane, according to loads specifications.

- The whole ground area of the equipment must be adequately fenced.
- Access to the operating zone must be strictly reserved to the personnel in charge only.
- Operating personnel must wear the safety helmet.

Check the stability of the wall before securing the mast to it, according to the loads specifications given in chapter. Make sure that the access to loading and unloading floors is adequately fenced and that those fences can be removed only after the elevator has reached the level floor.

- The machine must be erected in the definitive position by the yard foreman who must verify the respect of all the safety rules.
- Check and verify the load bearing of the machine supporting plane and the distance from the wall before the erection.
- All the operations of mounting, dismantling, use and maintenance outside the elevator car must be carried out by personnel specifically authorized.
- Access to the ground area -reserved to assembly operations of the equipment- must be precluded and signaled by means of adequate no admittance warning signs.
- Install special warning signs.
- Carry out routine and scheduled maintenance operations on a regular basis.

- During the erection, dismantling and maintenance the 6P multiple connector of the supply cable must be disconnected so as to prevent the push-buttons fitted at the floors doors being operated.
- Make sure that no object hang over the building so as to prevent the elevator run from being hindered.
- Respect the rules about the load.
- Do not remove the mechanical or the electrical safety systems.
- Any mechanical or electrical intervention must be carried out by personnel authorized by the yard foreman, who must be informed about the type of operation to carry out.
- Do not make sudden maneuvers of reverse.
- Make sure that the elevator car is not in motion before pressing the push-button of summoning to the floors.
- In case of unsuitable weather conditions, lead the elevator to the ground.
- Make the earth connection of the machine and of the base fence and check that the resistance won't exceed 2 Ohm.
- In case of emergency press the mushroom-head push-button and turn the main cut-out switch to the "0" position.
- All the staff that operate the elevator must necessarily be informed about the instructions and rules contained in this manual. The use of the machine to any person not authorized by the foreman is strictly forbidden.
- Do not overload the elevator; see the indications provided in the technical features.

- Do not concentrate the load into a unique point of the elevator car but try to distribute it on all the available surface.
- Lead the lift to the ground again in the presence of wind force higher than 20 m/s.
- Do not carry out operations of assembly/disassembly in the presence of wind force higher than 12.5 m/s.

3.2 Personnel qualification

Three different figures can intervene on the machine:

6. **Mechanical maintenance man:** this qualified operator is able to operate the machine in normal conditions and with the guard's open, to intervene on the mechanical members to make settings, maintenance and repair. He/she is not allowed to make electrical interventions when voltage is on.
7. **Electrical maintenance man:** qualified operator able to operate the machine in normal conditions and with guard's open, to make any electrical intervention for settings, maintenance and repair. He/she is enabled to perform electrical interventions when the electric cabinet is lived.
8. **Builder technician:** technician qualified sent on purpose by SAFI S.r.l. for any complicated repair to perform in particular situations, as per what agreed with the customer.

3.3 Safeguards

Safeguards are any safety measures which involve the application of specific technical mechanisms (guards, safety devices) to protect people from dangers which cannot be made sufficiently harmless through design.

Fixed and moveable guards

The machine is equipped with fix and moveable guards for the operator's safety and more precisely, it is equipped with:

- Base Fence (see Fence at the base).
- Side overturning gate for masts assembly: during the erection/dismantling phase of the trestles it allows the operators to approach the mast. During the operation a mechanical lock keeps it fastened to the elevator car.

Passive safety devices

With passive safety devices are meant those devices or tricks which eliminate or reduce the risks for the operators without requiring any active interventions of them.

The lift is equipped with the following limit switches:

- **Rise/descent and rise-descent extra-stroke electric limit switch:** the rise and descent limit switches get tripped when the elevator car arrives in correspondence of the relative limit switch sliding blocks secured in position at the time of the erection.
  Up electric limit switch**:** it limits the maximum up travel of the lift.
  Down electric limit switch**:** it limits the maximum down travel of the lift.
  "Up-down" extra stroke limit switch**:** it is a further safety device in case of fault of the previously described limit switches.
  It is possible (when the machine is new in particular) that frequent use of the machine requires the adjustment of the position of the limit switch sliding blocks.This is due to the run-in wear of the braking devices. The limit switch tripping prevents electrically the correspondent maneuver only. It is in fact possible to make the opposite one.
- **Overrun safety limit switch:** The overrun safety limit switch is positioned on the motor group and is equipped with a roller in contact with the vertical tube of the trestle to prevent the escape of the motor from the vertical trestle in case of an erroneous maneuver. During the erection phase, when the rise limit switch and the terminal trestle have not yet been fitted, it prevents the rise once the summit has been reached. It must not be considered as a working limit switch but as an emergency limit switch, therefore the operator who controls the elevator car must operate from the roof keeping the trestle in sight.

Terminal mast fitted with half rack: *The top mast is supplied complete with half rack so in case of an overrun of the rise limit switch sliding block, the hoisting group cannot overrun from the top mast, even in case the rise limit switch were not in working condition. (See Vertical and terminal elements)*

- **Automatic tripping parachute brake:** The automatic tripping parachute brake is a braking device which gets activated automatically, then independent from mechanical and power-driven hoisting devices.
- **Motor connected with parachute brake activated by limit switch:** The motor connected to the limit switch is to avoid activation of the electric motor, until the activation of the parachute brake has been found out, and the normal operating condition restored.

- **Flashing lamp signaling parachute brake activated:** The activation of the parachute brake causes the flashing of the lamp fitted on the control electric panel.
- **Lifting motor:** A self-braking electric motor.
- **Emergency lamp:** The emergency light is a lamp situated inside the elevator car which switches on in case of a current supply failure. This is controlled by a switch fitted on the electric panel to prevent it from staying lighted when the elevator is not in use.
- **Siren:** On the under part part of the elevator car an acoustic alarm - which must be audible from a distance not inferior to 100 m - is fitted to signal when the elevator car is out of order, to call for help.
- **Fix signal to indicate the level floor:** colored bands located halfway the doors height to give indication to the operator in charge of the movement of the level floor reached. SECTION TO CANCEL

Interlocking devices

Interlocking devices are those switches which stop the machine or prevent the machine from starting up if this is not within certain safety conditions. An example of interlocking devices are the key micro switches which detect the opening of the moveable guards.

The machine is equipped with the following interlocking devices:

- **Limit switch fitted on elevator car access doors and exits:** the doors of the elevator car are equipped with an electric limit switch to prevent the movement of the car in case a door was not shut completely.
- **Mechanical lock fitted on the elevator car doors and on the floor landing doors:** The mechanical lock the elevator car sash doors are equipped with is a mechanical device which prevents the opening of the doors when the floor double door is not present.
- **Access door to level floors mechanical interlock:** A device which locks the sliding door when closed. The unlocking is automatic and carried out by means of a slide the elevator car is provided with.
- **Limit switch fitted on access doors to level floors:** The limit switch at the door to a level floor is fitted to check if the door is completely closed. If not, the limit switch does not give the signal to the elevator car to start.
- **Locking system for an elevator car exit is equipped with limit switch:** The elevator car exit can be equipped with a mechanical locking system controlled by an electric limit switch. This is to guarantee that the exit is closed and locked before giving the signal to the elevator for moving. The standard locking system guarantees only that the elevator door is closed.

DANGER: Erection mode overruling door limit switches: The limit switches positioned at the doors and floor doors will allow to the elevator car to operate freely.

DANGER: Fiddle the guards and micro switches causes risks to the operator and to any other people around.

NOTE: **The manufacturer will not be liable for injury or damage to persons, animals or things caused by fiddle with the machine's safety devices.**

Active safety devices

Active safety devices are those devices or safeguarding techniques which eliminate or reduce potential hazards and which require active and conscious intervention by the operator in order to activate their accident preventative action.

3.3 Manual brake disengaging device for emergency descents: The manual disengaging device for emergency descents consists in a threaded bar which causes the approaching of the anchor to the electromagnet and therefore the loosening of the brake. The manual descent must be carried out only in case of a power supply current failure, following the procedure described in paragraph

- Emergency manual descent.
- **Lockable main cut-out switch:** The main cut-out switch is lockable in order to allow the locking of the machine at the end of a working shift. The key must be kept by authorized personnel (in charge of the building site).
- **Virtual force:** a mechanical system simulates the application of a force in order to stop the elevator car 1.8 m high from the ground and allow operators to carry out maintenance operations.
- **Emergency stop**: the emergency button, situated on the main control panel of the machine, allows the operator to stop the machine in an emergency.

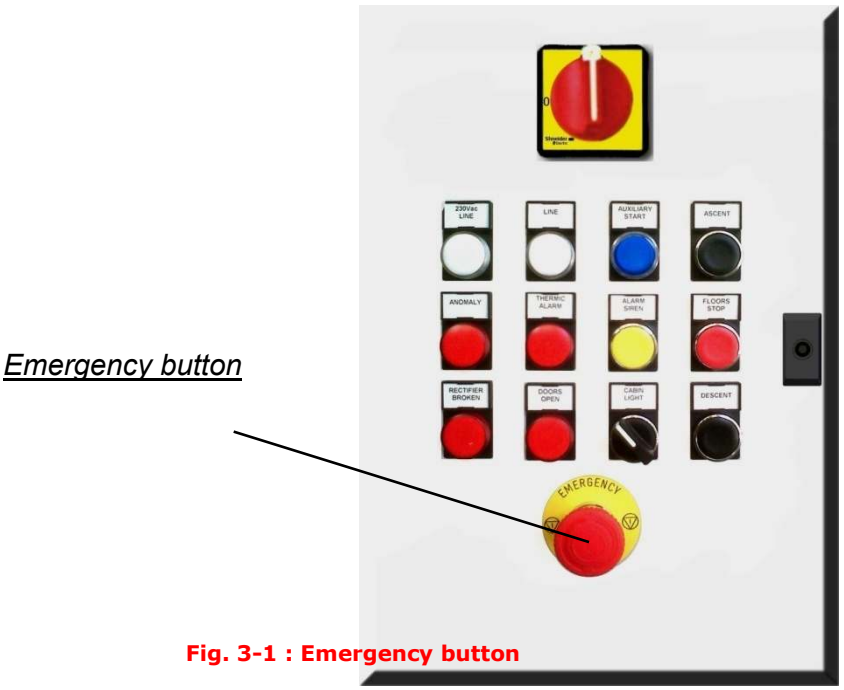


Fig. 3-1 : Emergency button

Safeguarding

- The electrical equipment offers protection against personal injury caused by electrical discharge due to direct and indirect contract in compliance with the CEI EN 60204-1 standard.
- All the electrical power parts and those with dangerous voltage are contained in the electrical cabinet protected to IP54, in compliance with the CEI EN 60204-1 standard. The control and power supply voltages for all the accessible machine parts are 110V; moreover both these lines are protected against short-circuiting and accidental contact to earth.

3.4 Noise

Machine emitted level of noise, gauged according to the indications of the Machines Directive (98/37/CE and following modifications).

- Noise level Leq: 60dB(A)
- The acoustic power level emitted by the machine is under the levels allowed, therefore no protection is required to be worn by the operator.
- Acoustic data gauged in accordance with the UNI 7712 rule.

4 TECHNICAL CHARACTERISTICS

4.1 Technical features – Dimensions

MODEL	VISION AS 300
Capacity load daN	300
Maximum No. of persons allowed on board	3
Highest speed in operation	20 m/min
Mast maximum height	93.5 m
Height of lifting	86 m
Maximum height reachable without anchorages during mounting/dismantling operations	6m
Distance between two following points of anchorage	6m
Maximum wind force tolerated while operating	72Km/h
Maximum wind force tolerated during mounting/dismantling operations	45Km/h
Maximum wind force tolerated with the machine disabled	164Km/h
Motor power KW	1x4,0KW
Supply voltage	230/400V
Exhaust brake power supply voltage	230V
Secondary circuit voltage	110V
Normal absorption	8,5A
Breakaway current absorption	48,5A
Number of self-braking motors	1
Weight at the base (fence included)	600 kg
Rack module	8
Leq noise level:	60daB(A)

Table 1 : General features

DETAIL	HEIGHT m	LENGTH m	WIDTH m
Vertical element dimensions	1,482	0,368	0,258
Elevator car overall dimensions	2,3	1,3	0,95
Base dimensions		1,05	1,0
Fence overall dimensions		1,58	1,73

Table 2 : Dimensions

DESCRIPTION	AVAILABILITY
Elevator car call from the base level	YES
Call from level floors	YES
Sliding access door to level floors	YES
Swing access door to level floors	NO
Access door to level floors electric control	YES
Access door to level floors mechanical interlock	YES
Exit mechanical interconnection	YES

Table 3 : Elements

COMPONENTS	KG
Base unit	35
Cabin	620
Vertical element	40.5
End vertical element	39.5
Fence door-frame equipped with gate and counterweights	115
Rear fence panel	45
Side fence panel	75
Access door-frame	70
Exit door-frame	70
Electric panel	22
Gear motor	55
Centrifugal brake	36
Fence door opening slide	110
Mobile limit stop pad for end of stroke	1,4
Cable trolley	60
Cable guiding device	0
Anchoring rod	20

Table 4 : Weights **1.414 kg**

5 LIFT COMPONENTS

For installing the machine, you must first know the parts composed by:

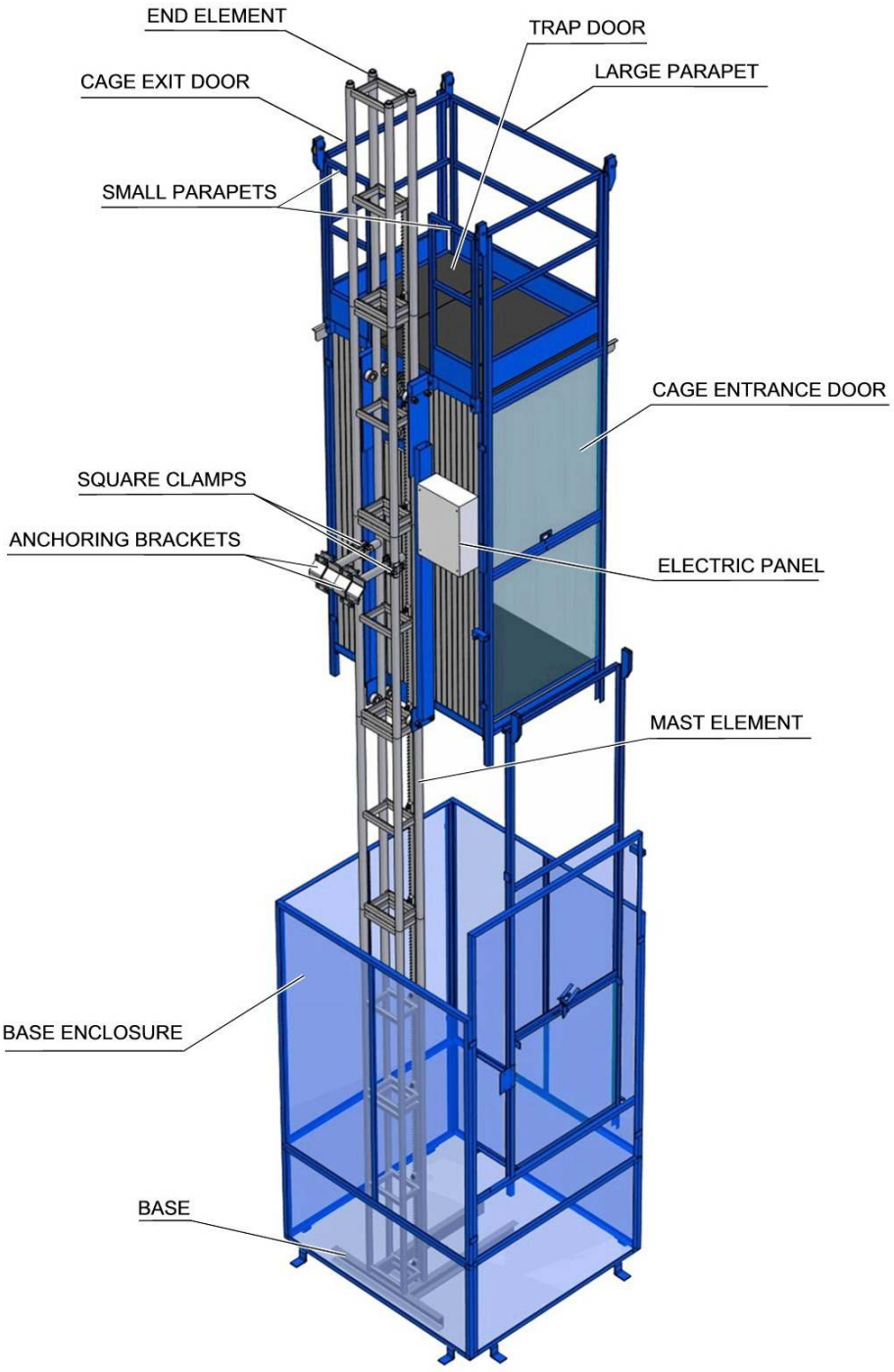


Fig. 5-1 : General view

5.1 Base

The elevator base is made up of a frame in steel sections with the purpose of positioning and securing the vertical mast to the ground. For the base assembly it is necessary to prearrange a foundation in reinforced concrete with two steel reinforcement layers. The pad and the first trestle of the vertical mast are secured to the basement.
The load transmitted by the base to the foundation depends on the height of the mast.

ELEVATOR WEIGHT

Height:_____86 _____ m Weight at the base:_____100_____ kg

DESCRIPTION	N°	WEIGHT kg(component)	TOTAL WEIGHT
Vertical elements	58	40.5	2.350
End vertical elements	1	39.5	40
Anchoring rod	20	20	400
Anchoring fixing rod	60	2	120
Orthogonal clamps	160	1	160
Electric cable (weight per metre)	8	100	800
TOTAL ADDED WEIGHT (kg)			3.870

Table 5 : Weights

LIFT TOTAL WEIGHT =___5.284_____ kg
(Weight at the base + Additional weight)

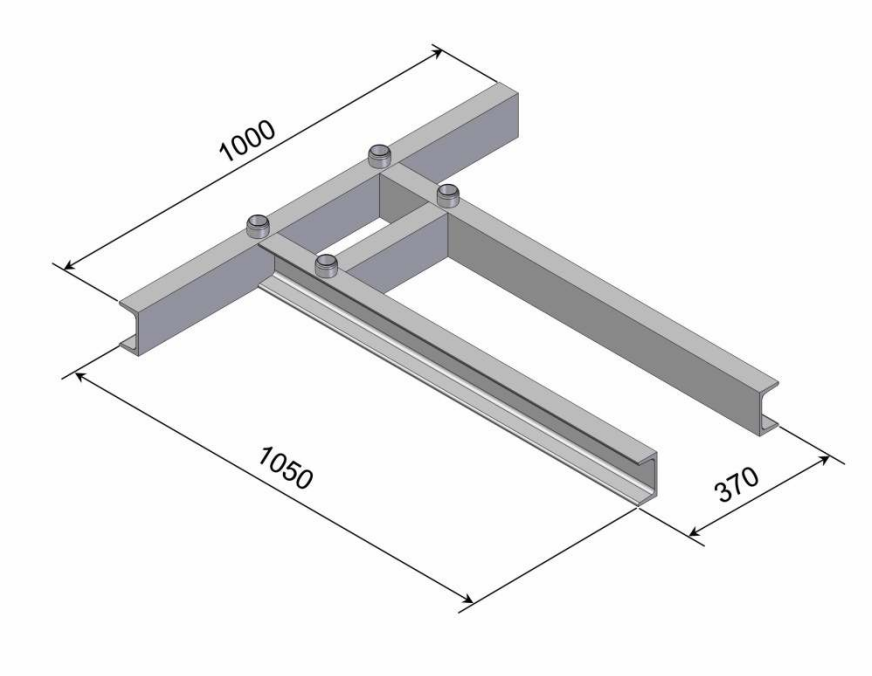


Fig. 5-2 : Base

5.2 Vertical mast and terminal mast

A single modular component forms a vertical mast. Each mast is 1482 mm high. The vertical masts are joined together by means of galvanized steel screws + nut + elastic washer.

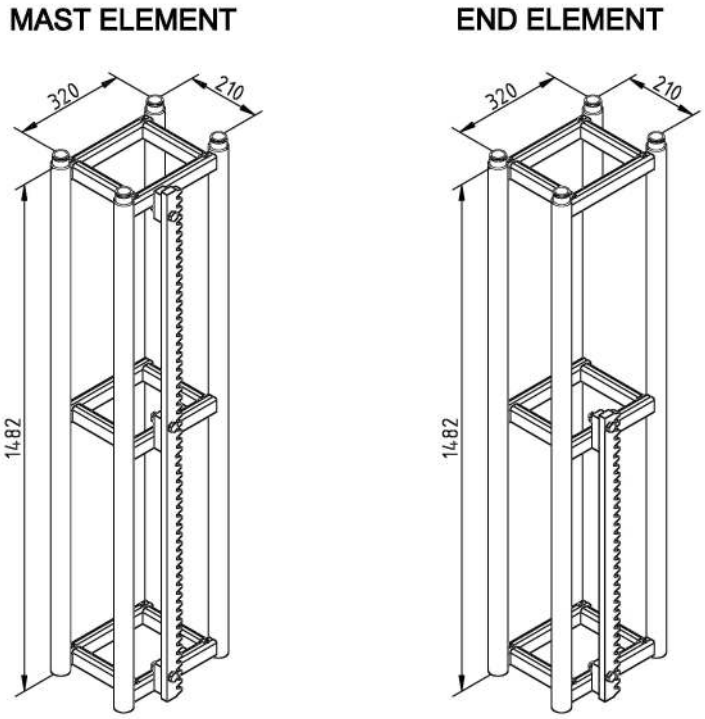


Fig. 5-3 : Mast elements

5.3 Fence at the base

The fence at the base is made from angle panels and steel mesh. The connection of the various different panels between one another and to the basement is connected by means of steel bolts and nuts. A mechanical safety device prevents the base door from opening if the elevator car's door is not present. A button panel -for calling the lift- is positioned close to the door and it is used to call the elevator car to the ground.

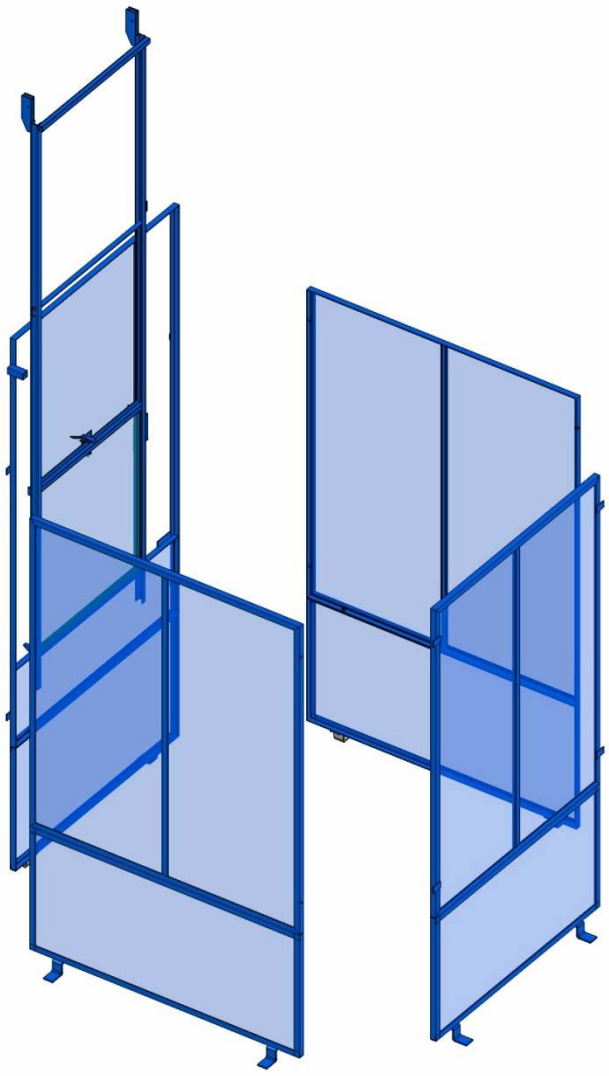


Fig. 5-4 : Fence

5.4 Hoisting devices and elevator car support

They are the main component part of the machine. They include the following elements:

- LIFTING GROUP WITH CABIN
- ELECTRICAL EQUIPMENTS
- SLIDE GUIDING AND CONTRASTING ROLLERS

The **lifting group** is composed by a frame in high resistance steel sections welded to the motor flange. The motor flange has the task of supporting the gear-motor and the parachute brake that intervenes in case of emergency, when the rated speed is exceeded in descent.

The **electrical equipments** are micro-switches and PLC which control the rise and the descent of the gear motor and the activate of the parachute.

The **slide guiding rollers** guide the whole lifting group along the three stanchions of the mast and are made in steel. They are mounted on bearings.

The **contrasting rollers** consist of four steel rollers they engage the pinion of the gear motor to the rack and as well the centrifugal brake.

5.5 Cabin with lifting motor and fork

The cabin is welded to the lifting group that is driven by one self-braking alternating current gear motor and includes the carring frame, the sliding parts (gear motors), the safety device (parachute), the sliding and contrasting rollers and the forks.

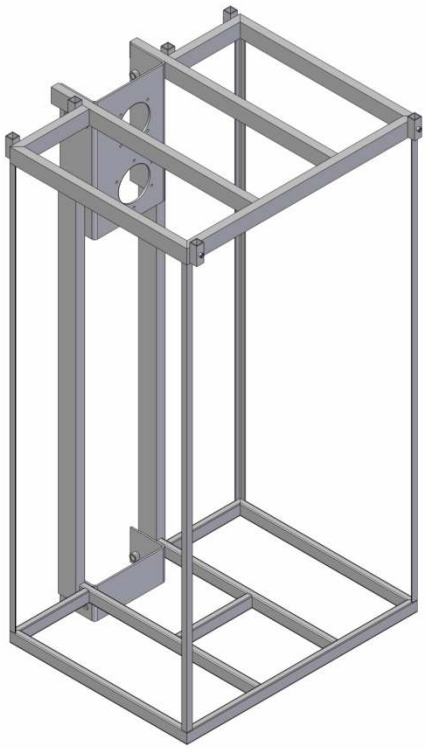


Fig. 5-5 : Cabin Frame

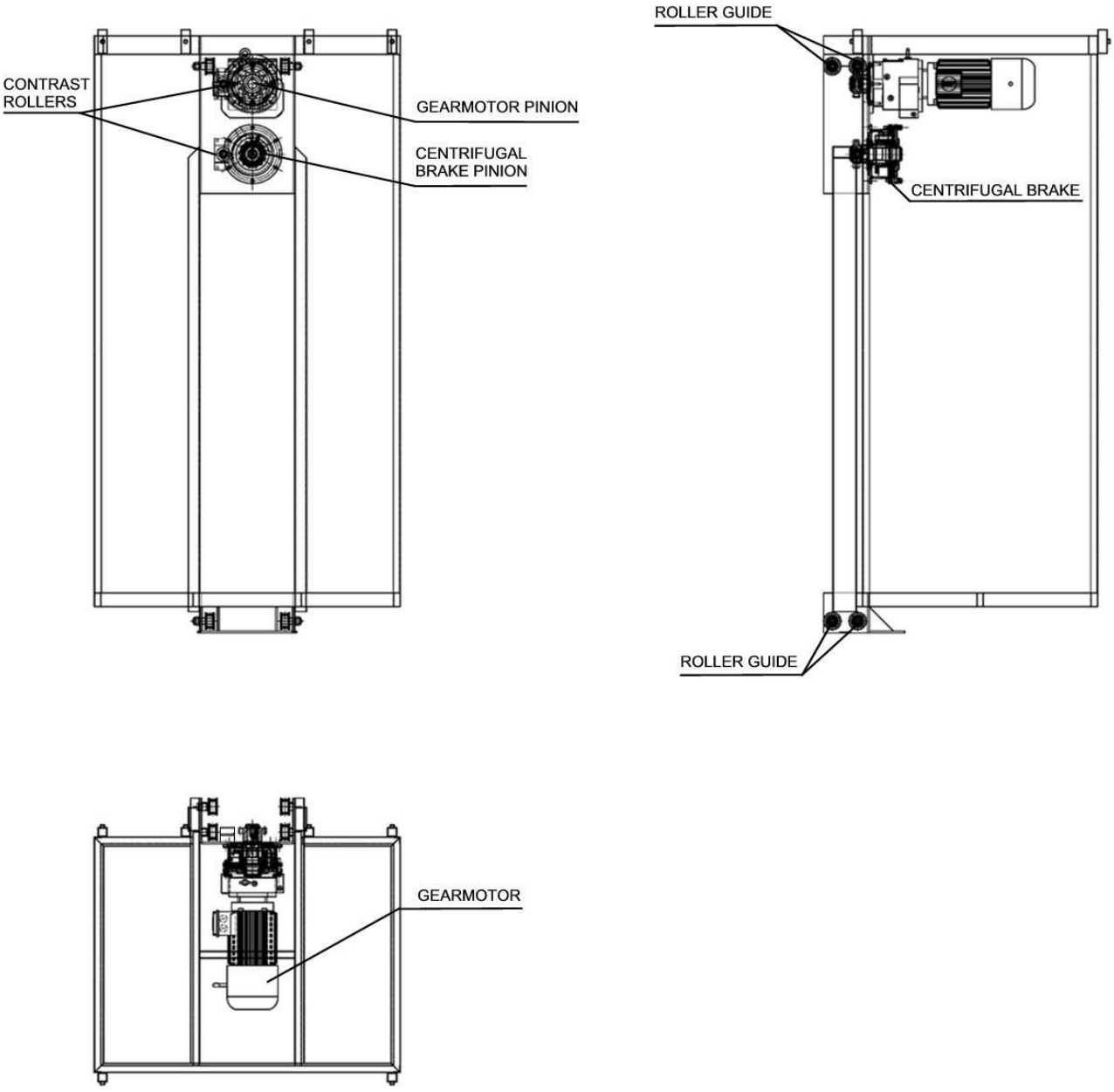


Fig. 5-6 : Cabin

5.6 Elevator car with guardrail

It is made up of a framework where the mechanical and electrical parts -necessary for the lifting- and the safety devices are positioned. The elevator car frame consists in a structure made of steel tubes and panelled with steel net and vertical sliding doors equipped with an electro-mechanical locking system. The stamping floor and the roof are made up of multilayered resin-bonded anti slip panels. The electric panel is positioned inside. The elevator car is equipped with a hatch in top of the cabin for the trestles assembly, a gate, an exit to the opposite side.

LONG PARAPET

SMALL PARAPET

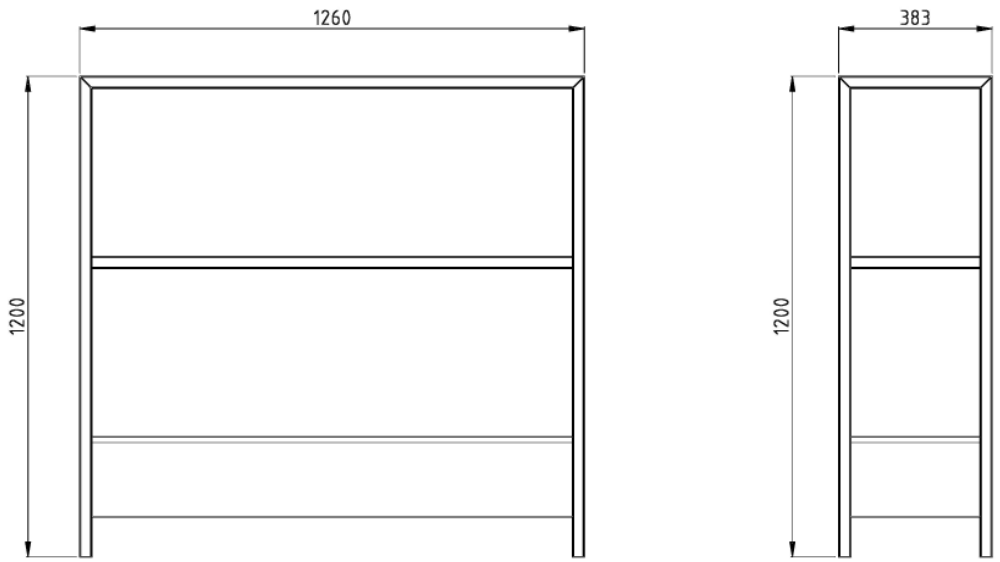


Fig. 5-7 : Guard rails

5.7 Rollers

The rollers guide the elevator along the column.
Here below the types of rollers mounted on the machine.

Contrasting roller

Slide guiding roller

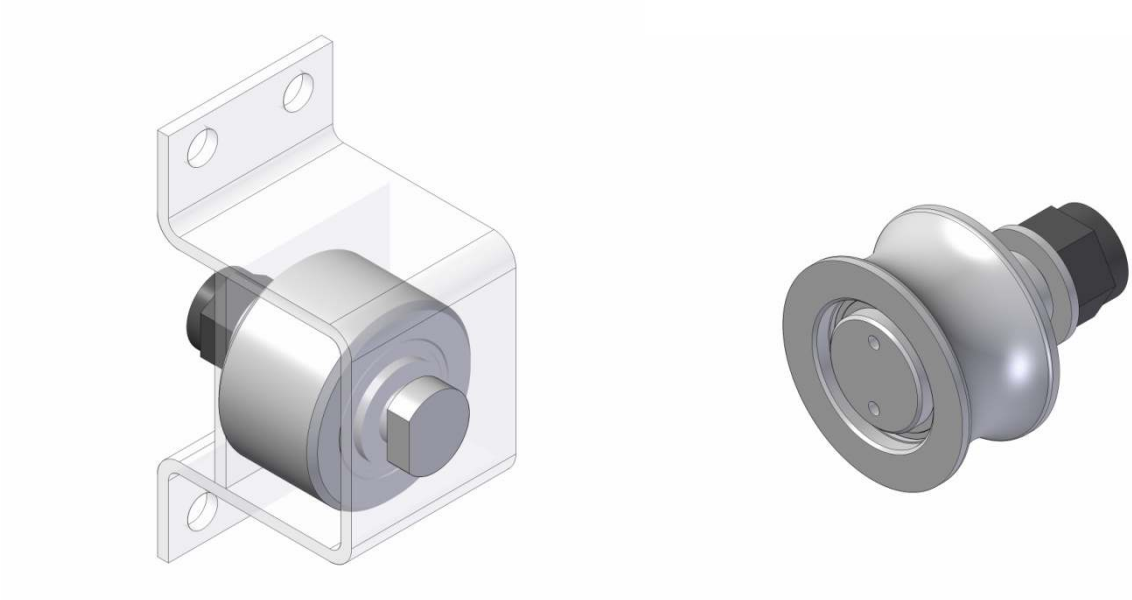


Fig. 5-8 : Rollers

5.8 Anchorages

The fixing to the structure of the column is effected by means of a pair of anchorages every 4,5 m maximum.
The adjustable clamp allows attachment to the structure and the connecting pipe-joint allows locking to the mast element.

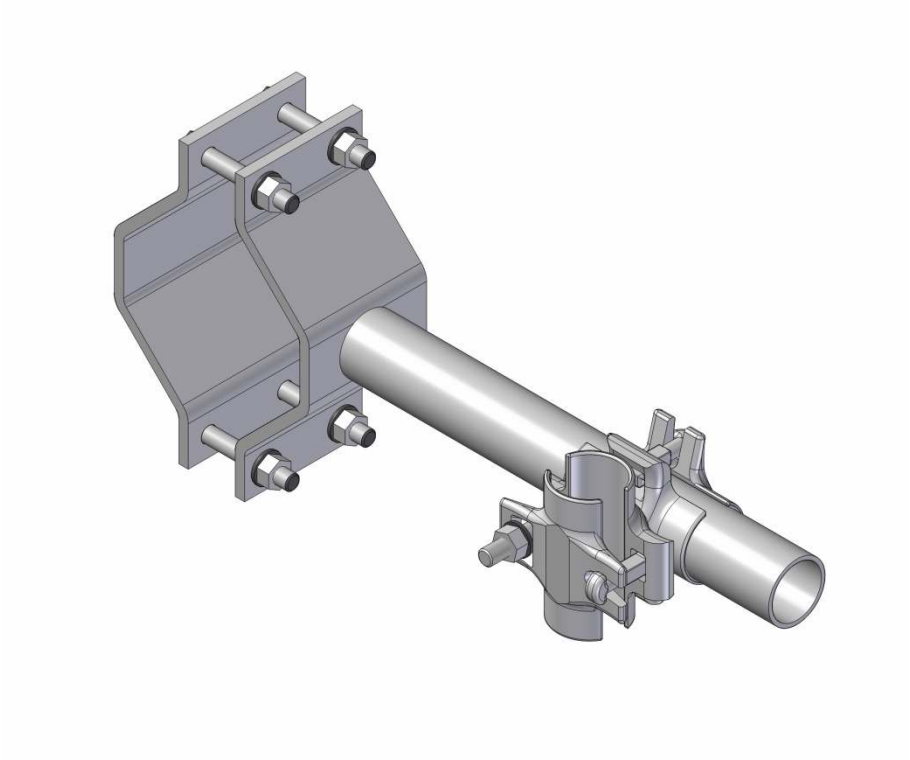


Fig. 5-9 : Anchorage

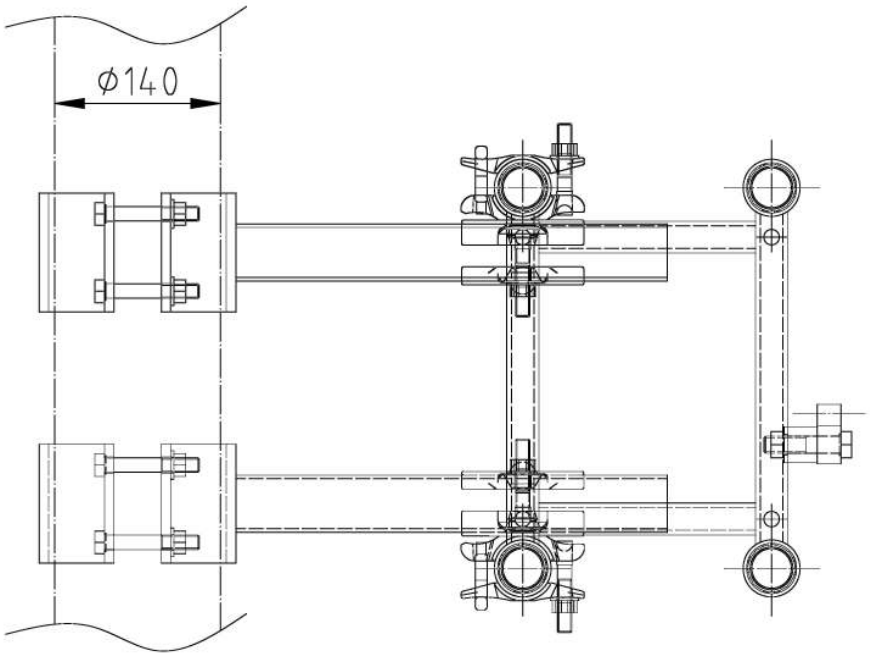


Fig. 5-10 : Anchorages - Lay-out NEW DRAWEING WITH ANGEL TUBES !!!

ATTENTION: **a test of the anchorages screw-anchors extraction strength -using the adequate equipment- is rigorously required !**

ATTENTION: **NOT RELEVANT FOR THIS HOIST!!**

ATTENTION: **the terminal vertical element must be anchored to the summit; where it might result impossible, do not rise with more than one element after the last anchorage!**

ATTENTION: **Check once a month at least that screws and element junctions are well closed!**

5.9 Electric cables

Made in rubber and insulated. The power supply cable consists of three-core cables for three-phase line in 16 square mm of section. The earth conductor has section adequate to the machine installed while the lines which control the access doors to floors are made up of a neutral cable, and five-core cables in 1.5 square mm of section. Finally, a cable coaxial steel rope is equipped to prevent the stretching of the cable during the lifting travel.

5.10 Cable-holding arm

It is made up of a tubular section whose shape is adequate to the weight of the cable. The cable-holding arm is equipped with a seat suitably rounded in order to prevent the breakage or the escape of the cable. It is welded on the cabin.

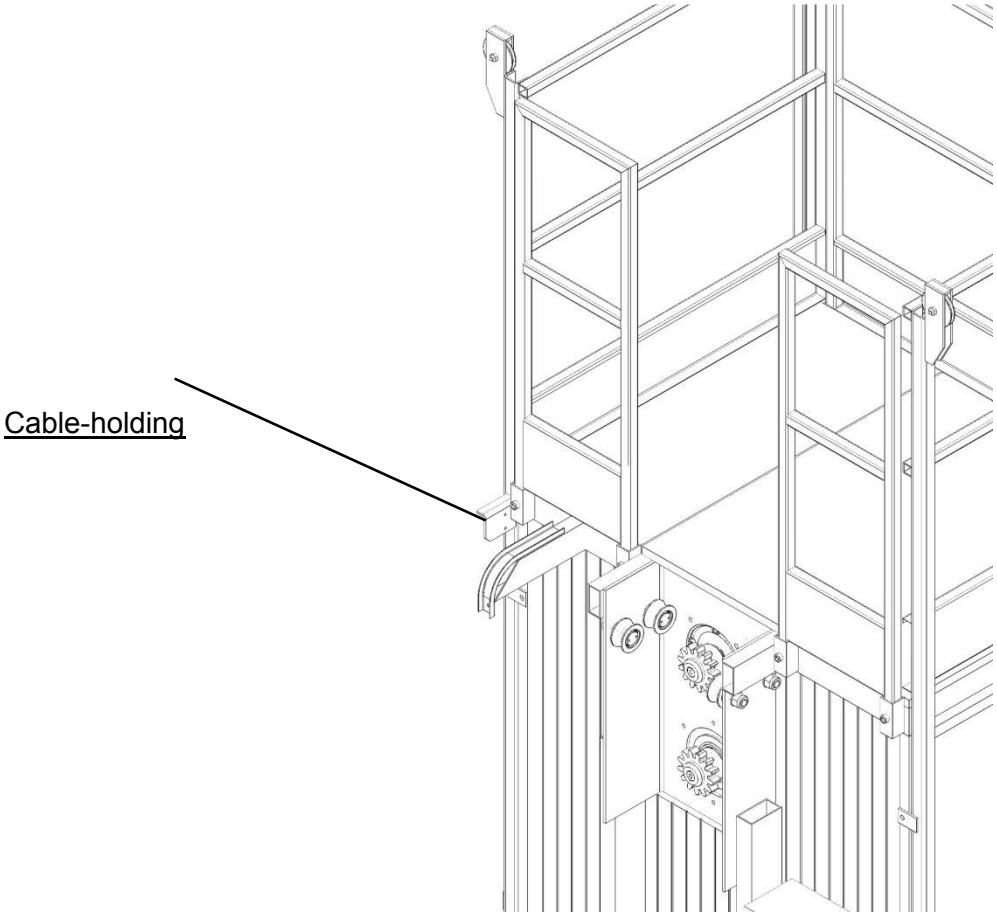


Fig. 5-11 : Cable-holding arm

5.11 Cable-guiding arm

This is a device to keep and guide the electric cable vertical.
They are mounted vertically depending on required internal distance
Mount the cable guiding devices so that the cable-holder arm and the trolley pre-tensioning device can ensure good function; check always their working order.

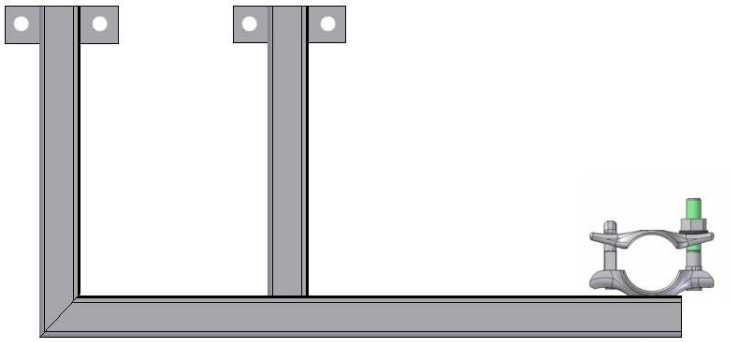


Fig. 5-12 : Cable guiding arm

5.12 Trolley

In order to guarantee a correct usage of the power cable, the machine is supplied with a trolley (pre-tensioning device) installed under the cabin.
One end of the cable to the cabin and the other end to the electrical box (in the mid height).
The trolley guides the cable through a wheel installed on a frame which is free to move along the hoist mast.

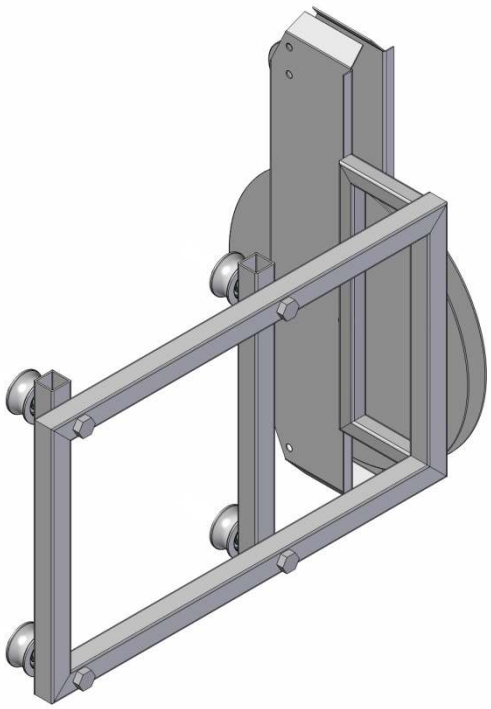


Fig. 5-13 : Trolley pre-tensioning device

ATTENTION: **The two movements (motor unit and trolley) are independent. The wheel is driven by the motor group.**

5.13 Door of access to a floor

The door of access to the floor is used during the stop to the floors in order to protect the elevator car transit zone to the landing floors. Every door is equipped with an electro-mechanical lock which prevents its opening when the elevator car is not present. During the door mounting take care to check that it is close and well lined up with the elevator door. A correct mounting contributes to saving time during the use. The choice for the type of fastening to use varies for every building yard; anyway, for the most common applications tubes in 48mm of diameter and orthogonal clamps are adopted. The doors are equipped with "hold-to-run" RISE/DESCENT controls.
The access door to level floors can be equipped with an electric limit switch to inspect if the door is closed or open. When the door is open the limit switch cuts the power supply and prevent the car from starting.

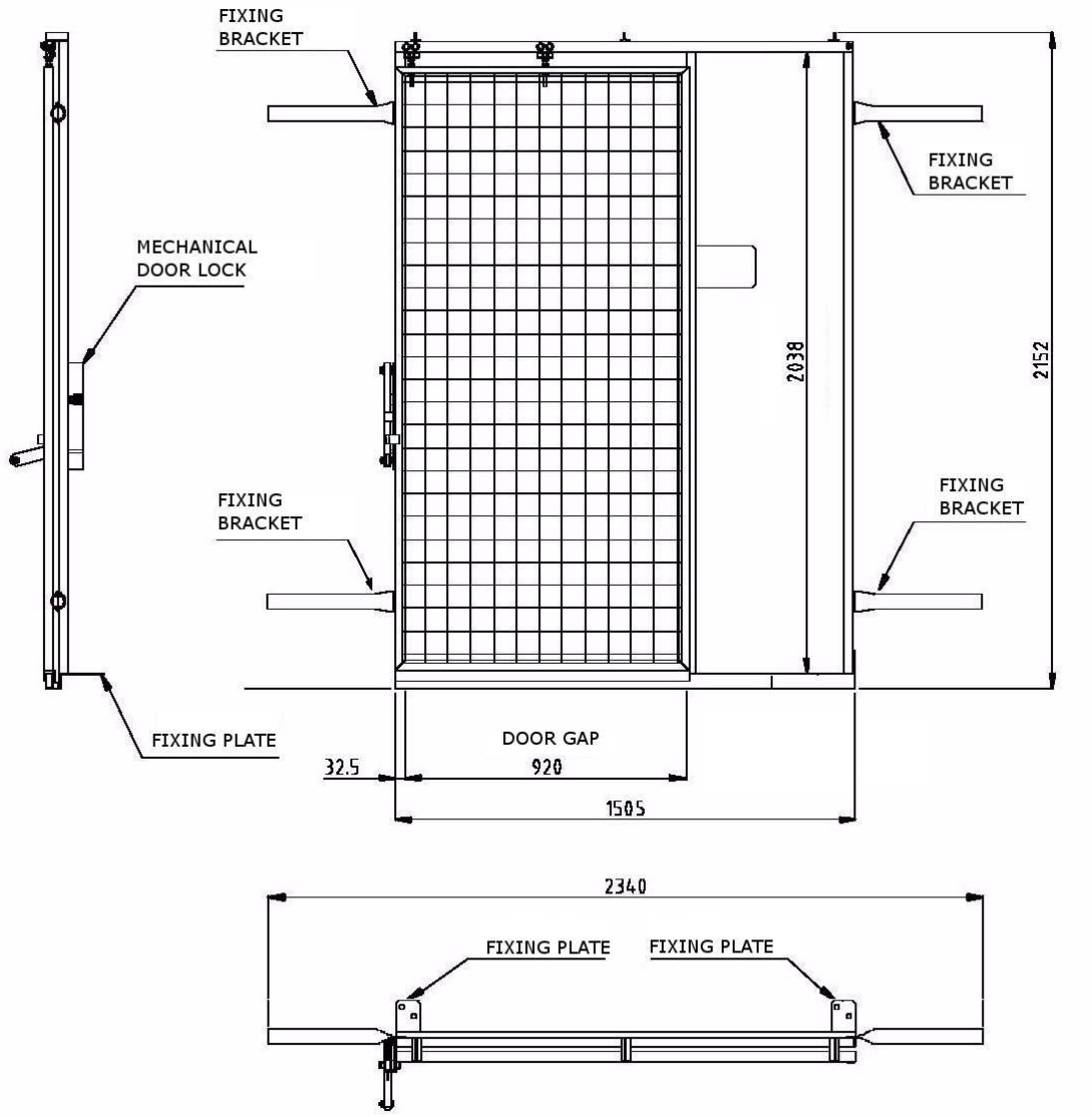


Fig. 5-14 : Door to acess on the floor

9.

6 OPERATORS CONTROL PANEL

6.1 Electric panel

The electric control panel is the "semi-automatic" type to allow the operator to manage rise and descent operations.

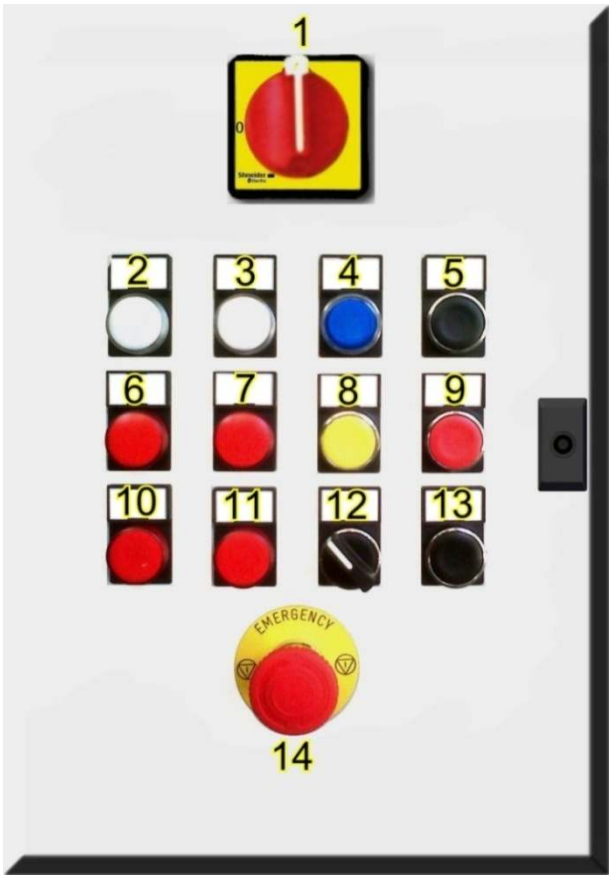
It means that to move the car is NOT necessary to hold the button (“UP” or “DOWN”) pushed.

The electric panel consists of a cabinet with door, fitted with internal hinges and lock.
The on/off switch may be padlocked and has a door-lock system which prevents the door from being opened before the power supply has been cut off to all the circuits inside the control panel.
All connection points of the other equipment (remote-control devices, protective relays, transformer) are in any case protected against direct or indirect accidental contact.

6.2 Electrical connections

- Take care of the electric panel mounted inside the elevator.

10. Check the value of the supply voltage and the available power.
11. Check the voltage of the electric motors and of the control-panel transformer. If necessary change voltage.
12. Connect the installation to the ground.
13. Connect the electric panel to the power supply.



14. Set the cut-out switch to the "I" position.

Fig. 6-1 : Main electrical box – Lateral and control panel view

15. 1 - Main cut-out switch
16. 2 - 230 Vac line light (it is always on *even if the switch is turned off, indicates that the resistors that heat the main electrical box are active)*
17. 3 - Line Light
18. 4 - Auxiliary start button
19. 5 - Ascent button
20. 6 - Anomaly light
21. 7 - Thermic alarm light
22. 8 - Alarm siren button
23. 9 - Floor stop button
24. 10 - Rectifier broken light
25. 11 - Doors open light
26. 12 - Cabin light switch
27. 13 - Descent button
28. 14 - Emergency stop button
29. 15 – Buzzer (push in case of emergency if help is needed)
30. 16 – Push-button panel for installation and maintenance plug
31. 17 – Power and calling plug

32.

6.3 Description of control panel (inside the cabin)

Inside the cabin, a control panel is installed in order to allow the operator to manage rise and descent operations.

This system is a semi-automatic one. It means that to move the cage is NOT necessary to hold the button (“UP” or “DOWN”) pushed.

Use

To rise and descend the cabin is necessary activate the main cut-out switch (**1**).

Then push the auxiliary START (**4**) to allow the machine movements.

Push the ASCENT button (**5**) or DESCENT button (**13**) to goes up or down respectively.

When the operator wants to stop the cage, he only has to push the floor STOP (**9**) button before reaching the desired floor.

If the floor STOP button is not pressed the machine continues run up to the last floor.

6.4 Calling at floor control panel

In the landing door there is a calling floor control panel.
The call floor system is a semi-automatic one.

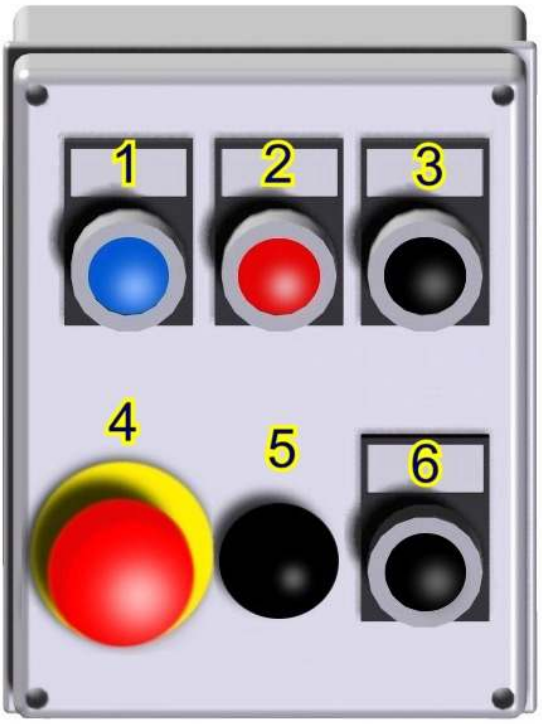


Fig. 6-2 : Calling floor control panel

33. 1 – Auxiliary start button
34. 2 – Stop at floor button
35. 3 – Ascent button
36. 4 – Emergency Stop button
37. 5 – Control panel activator (selector)
38. 6 – Descent button

Use

To rise and descend the cabin it is necessary activate the calling floor control panel by selector(**5**).

Then push the auxiliary START (**1**) to allow the cabin to move.

Push the ASCENT button (**3**) or DESCENT button (**6**) to go up or down respectively.

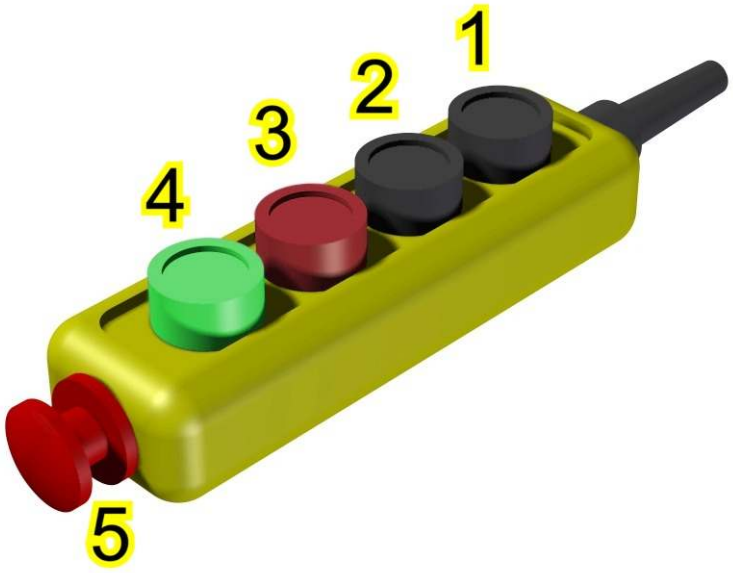
When the operator wants to stop the cabin, he only has to push the floor STOP (**2**) button before reaching the desired floor.

If the floor STOP button is not pressed the machine continues run up to the last floor.

NOTE: When the cabin is at a floor and remains inactive for 30 seconds, the cabin automatically descent to the ground.

6.5 Push-button panel for installation and maintenance

During installation or maintenance, the machine is moved by the push-button panel.
It must be connected to the connecting plug that is located on the main control panel positioned inside the cabin.
The push-button panel must be used only and exclusively for the assembling and, by maintenance.
The push-button panel is “dead man” type, in fact it is necessary to hold the ascent or descent buttons to allow the cabin movements.



39. 1 – Ascent button
40. 2 – Descent button
41. 3 – Stop button
42. 4 – Auxiliary start button
43. 5 – Emergency stop button

Use

To rise and descend the cabin it is necessary push the auxiliary START (**4**) to allow the cabin to move.

Hold the ASCENT button (**1**) or DESCENT button (**2**) to go up or down respectively.

If the rise or descent button is released, the cabin stops.

For stop the cabin at the floor, push the floor STOP (**2**) button before reaching the desired floor.

NOTE: during the maneuvers of rise and descent keep the relative buttons pressed.

7 ERECTION AND DISMANTLING

7.1 Dangerous zones and residual risks during the erection and dismantling

It is a dangerous zone any zone in the proximity to the platform where a person is exposed to the risk of injuries and damages to his/her health.

During the erection and dismantling of the lift there are some residual risks for the operator. The residual risks can be eliminated by following carefully the procedures indicated in this manual and adopting the personal safety devices indicated.


Protective gloves must be worn.


Safety shoes must be used.


The working and safety overalls must be worn.


The safety helmet must be worn.


In case of need safety belts must be used.

Hazardous zones and residual risks during the erection/dismantling
Zone of dismantling/erection of the lift. The following risks are present here:

- Collision hazard for operator.
- Risk of squashing.
- Falling risk

The operator must use the following DPI:

- Safety helmet.
- Safety shoes.
- Protective gloves.
- Safety belts in case of necessity.

ATTENTION: **SAFI does not assume the responsibility for any injuries to people and domestic animals nor for any damage to properties which arise from the non-observance of the precautions given or from the non-use of the DPI specified.**

ATTENTION: **To mount elements having heavier weight than 30 kg per person use a lifting device.**

ATTENTION: **During the erection and the dismantling stages the wind blowing speed cannot be higher than 45,7km/h (12,7m/s).**

7.2 Safety prescriptions

- The erection and disassembly of lift must always be done under the strict supervision of one of the yard technicians and performed by competent and specifically trained personnel only.
- During the erection, dismantling and use, the transiting and waiting under or in the nearby of the lift will have to be forbidden by using special signaling and fence
- The lift will never have to be loaded with heavier weight than those specified in this manual.
- All the erection/dismantling, safety, maintenance and electric rules established in this manual must not be broken nor the laws in force.
- Every elevator is provided with its relative manual which must be kept in the same place where the elevator is used.
- During the erection and the dismantling stages the wind blowing speed cannot be higher than 45,7km/h (12,7m/s).
- To mount elements having heavier weight than 30kg per person use a lifting device.
- Follow carefully the instructions and use the same sequence given here to follow.

7.3 Machine transport

The motor group, the cabin and the base with the first mast element of the lift can be supplied together or separately, in case of problems with the dimensions during transport and erection.
The assembly of the parts will be carried out in the building yard at the time of installation.

7.4 Unpacking

The machine is packed and strapped up; electric and fragile parts can be protected by a sheet in nylon until the delivery.
Remove the nylon sheet, if present, taking care to keep it out of reach of children; dispose of the packing using the special containers for the differentiated refuse collection.
Remove the iron strings, wrap them up before eliminating them, and do not leave pieces of strings around, especially in the vicinity of the place of use of the machine.
After the machine unpacking, check that:

- the machine has not been damaged before the delivery, advice immediately the seller before use of the machine;
- all the parts of the machine are present (bolts and nuts, electric installation, etc.) and according to the specifications of the supply;
- if any missing parts from the order placed; In case of modifications, these must not preclude the use or modify the criterion of use of the machine, and must have been agreed by the manufacturer and specified in the manual of use.

While using the elevator, it is ABSOLUTELY FORBIDDEN:

to carry:	unauthorised persons overhanging loads material not adequately fastened loose material
to use it in conditions of:	wind force higher than 20 m/s
to use it in case of:	limit switches stop devices lacking scheduled maintenance not carried out precarious condition of the mast anchorage tampering or transformation not authorised by the manufacturer use of non original spare parts machines in explosive environments immersion into liquids presence of flames

7.5 Preliminary prescriptions

In the event that during the use, rising or descending, some abnormal noises were heard block immediately the machine and ask for the intervention of a qualified technician.

The manufacturer declines any responsibility for inconveniences arising from the non-observance of the above mentioned rules and prescriptions contained in this manual.

7.6 Vision AS 300 lift

The model **Vision AS 300** is a tower lift that works with the principle of the coupling of a pinion, driven by a gear-motor, with a fixed rack and live up to 93,5 m.
The column is vertical and it is composed of a series of vertical elements that are anchored to the structure every 3 m. The cabin is driven by a pinion and rack.
This lift can carry a load of 300 kg.

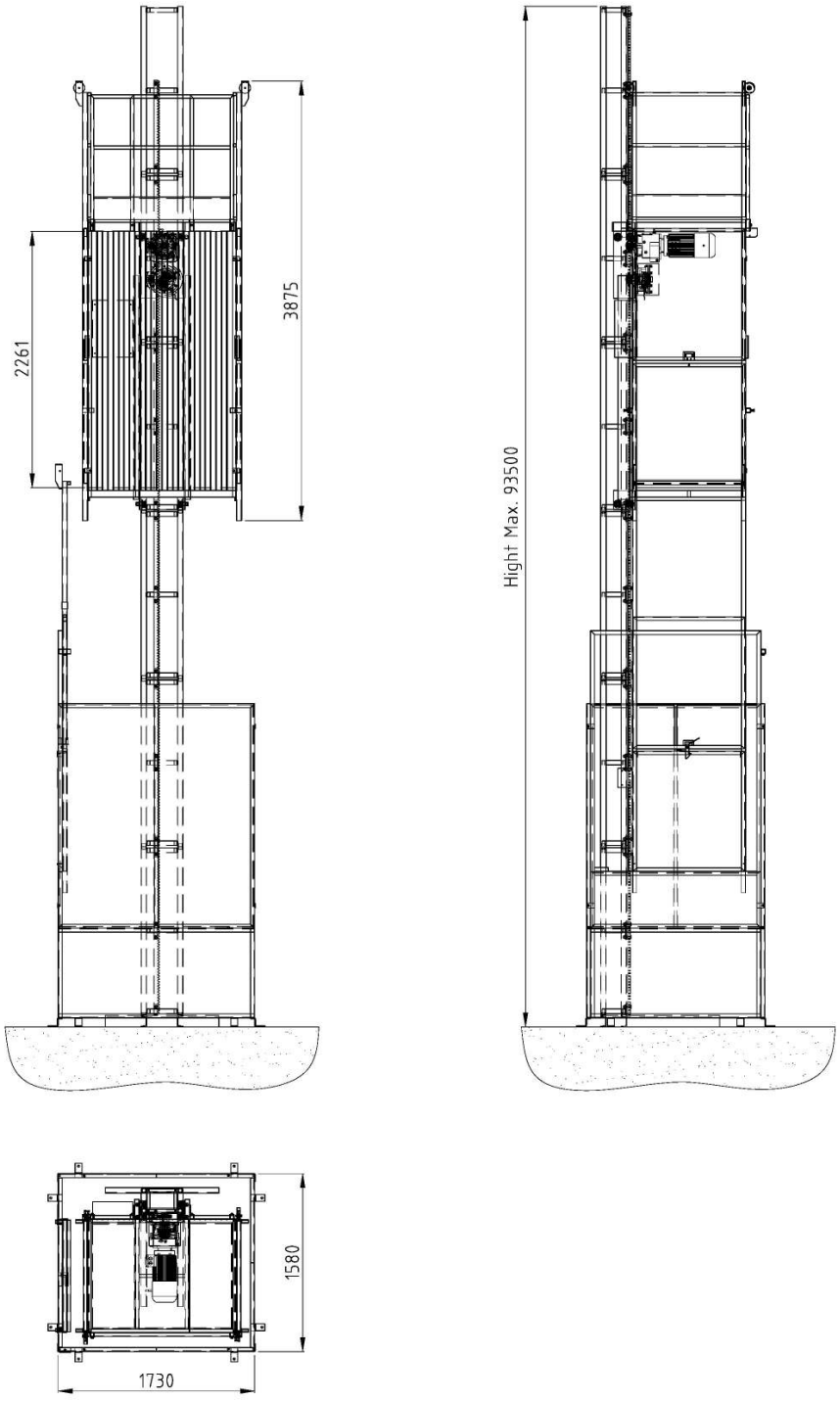
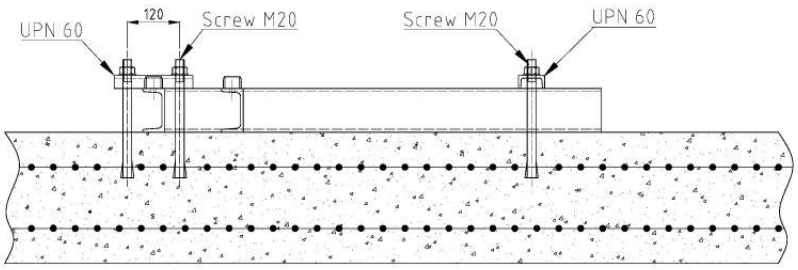
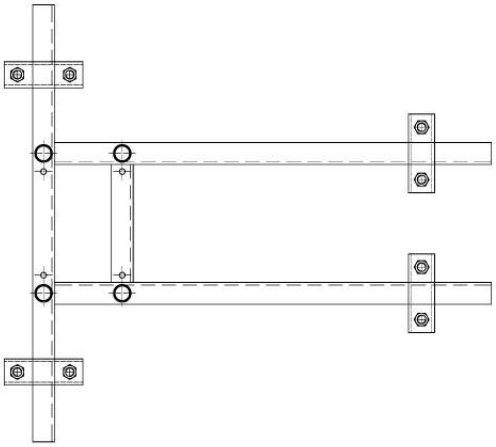


Fig. 7-1 : Dimension

7.7 Assembly

1. Preparing the concrete surface in position of the landing door. Verify that the distance of the base frame from the structure is compatible to the landing door. The machine must be installed on a bearing platform made in concrete with two steel net of reinforcement able to bear the load from the base frame. The M20 bolts must be cast into the concrete.





2. Once the base frame has been positioned on the ground, insert the vertical element in the special seats and lock it with M12 screws. Make sure that the mast locking bolts and nuts at the base are tightened. In the opposite case tighten them properly. Then fix the junction box to the vertical element.

44. Mount another two vertical elements and lock them with the screws.
45. Insertion of the cabin group. Raise the motor group along the trestle previously mounted. Verify that the hoisting gears are in phase with the rack teeth. To that extent the parachute emergency brake must be open. Also release necessarily the electromagnetic brakes of the motors through the special knob.
46. Connect the power supply cable to the electric panel, after fasten the cable to the cable holder arm on the motor drive and make sure that there is at least 0.5m of cable which is left for any possible adjustment.
47. Connect the other end of the electrical cable on the junction box and make sure the cables are not going to interfere with the moving parts. Subsequently connect the junction box to the electricity net.
48. Remove the wheel cable guide and two roller of the trolley.
49. Fit the trolley in the mast, then remount the two roller to fix the frame to the column.
50. Insert the wheel into the housing, making sure that the cable runs as in picture.

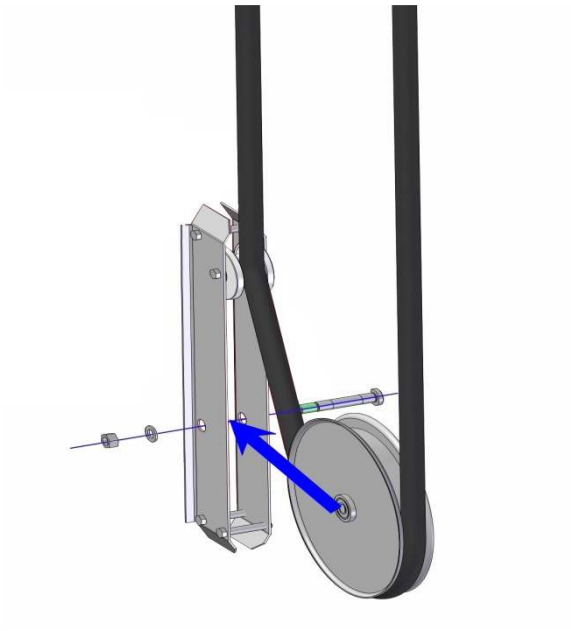
51. 

Fig. 7-2 : Trolley wheel

52. Verify that the trolley is at least 10 cm up from the base when the cable is stretched. On the contrary you must adjust the positioning of the trolley by shortening or extending the cable from the cable holding arm.
53. Mount the rubber shock absorber;
54. Secure the door-frame of the cabin access and exit doors to the cabin itself, then mount the parapets on the top of the cabin

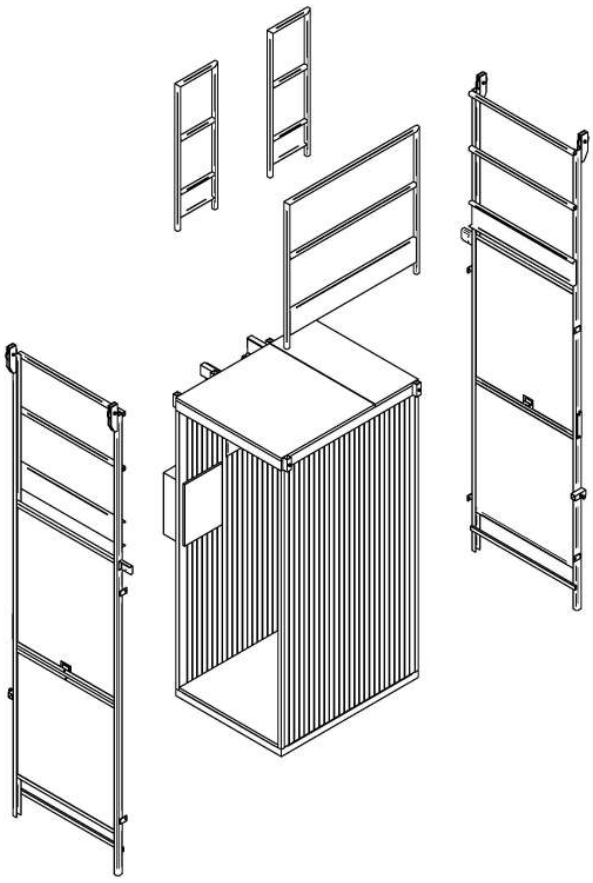
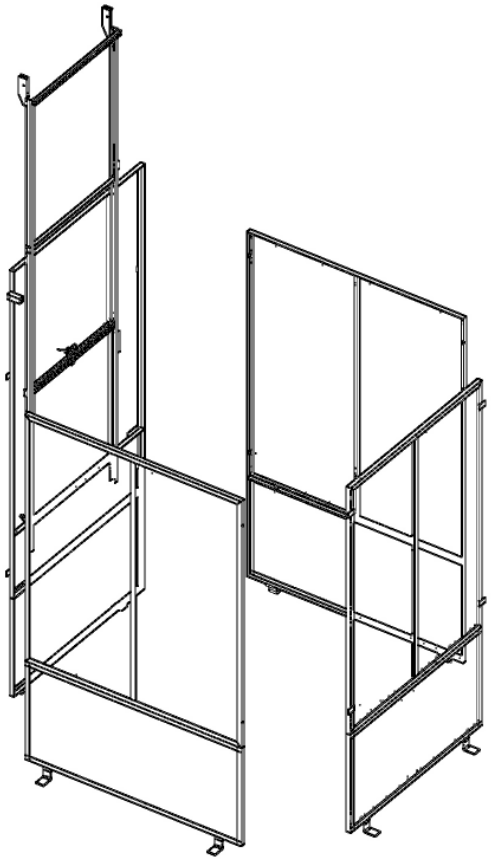
55. 

Fig. 7-3 : Mounting - Doors and parapets

56.

57. Mount the base fence; the connection of the various panels is effected by means of special screws.



58.

Fig. 7-4 : Mounting – Fence

59.

7.8 Operation of the elevator car door opening and lift door

When the cabin is not at ground level, the fence door cannot raise as it is locked by the mechanical door lock.
When the cabin is at ground level, the door disengaging slide mounted on the cabin door acts on the door locking device disengaging the holdfast and allowing the fence door to open.
In such situation the weight of the fence door added to the cabin door's is perfectly balanced by the counterweights system. Therefore, to open the fence door from outside just raise it by a minimum effort.
It is likewise easy to open the cabin door from inside the cabin, as the hoisting thrust is helped by the fence door.
When the cabin rises the doors must be shut completely.
While rising, the cabin rises too. As a result the fence door climbs. The holdfast intervention will prevent the fence door from rising further.
When the cabin is not at ground level, the cabin door cannot be opened as it isdisconnected from the counterweights system, it will be very heavy.
The exit of the cabin is divided into two parts. One half gets opened sliding vertically upwards, the other half sliding downwards. The closing of the two parts is ensured by a mechanical door lock.

Before power is connected to the hoist **MAKE SURE** that:

- no wire is broken and that all the guards have been mounted;
- the descent limit switch slide is properly mounted;
- the feeding cable is free to move;
- the earth connection is functioning (R lower than 2ohm)
- all the switches inside the panel are activated.

CHECK also:

- ajusting of the switches of the motors, according to the motors rating-plate data.
- ajusting of the motor brakes switch, 6 A approx.

7.9 Preliminary checks

ATTENTION: **During the mounting (and dismantling) operations of the mast, two authorized persons must always be present, provided with safety helmet, safety boots, protective gloves and quick fastening safety harness on. The harness should be hitched to a supporting rode descending from the summit of the building.**

- Check that all the switches inside the panel are activated. Check the calibration of the motor switch according to the motor rating-plate data, check the calibration of the switch of the motor brake, 1 A approx. Press the resetting buttons of the two switches.
- Connect power to the cable and the control panel by operating the main switch. Verify that the emergency push-button has not been pressed. Unlock it in case, by turning one fourth turn. Test the switching of the lamp -which lightens the cabin and the acoustic alarm.
- Operate the push-button panel. As a test, carry out a maneuver of descent in order to make sure that the cabin does not collide with the base pads. If the cabin rises instead of descending, invert two phases of power supply so as to invert the direction of motion; this way, the proper correspondence of push-buttons with movement is determined. Make sure of the descent limit switch working order.
- Move the cabin to a position suitable for the insertion of another trestle.
- Verify the adjustment of the control unit inside the control panel. This unit is to be calibrated by adjusting the duration of time from the moment the descent button is pressed -and therefore the brake opens- to the moment when the intervention of the electric motors is required. This adjustment must be carried out so as to prevent the motor from receiving shocks. Anyway, durations of time too long must be avoided (longer than two seconds) otherwise the emergency brake gets activated and the cabin blocked.
- The crane tower must be able to transfer the load.
- Make sure that the admittances to the floors are adequately fenced.
- Warning signs, applied inside the hoist way, to avoid the possibility of falling into the hoist way.

7.10 Masts and doors assembly

ATTENTION: **During the mounting (and dismantling) operations of the mast, two authorized persons must always be present, provided with safety**

helmet, safety boots, protective gloves and quick fastening safety harness on. The harness should be hitched to a supporting rode which descends from the summit of the building.

ATTENTION: **Load the mast elements inside the cabin taking care not to exceed the nominal capacity load of the hoist. From this phase on, the operators on board of the cabin must work with the safety harness on and hitched!**

Once the preliminary checks have all been carried out, proceed with the assembly of the mast. Mount the push-button panel -which allows the control of the cabin during the mounting and dismantling- on to the six-pole socket in the main control panel.
On the top of the cabin a working platform is created -to be used during the mast erection only. Insert the mast into the special guiding bushes. Insert an M12 screw into the four holes provided, taking care to position the hexagonal head on the upper part and the elastic washer and the nut on the lower part. Tighten the four nuts.

ATTENTION: **Do not operate the cabin before all the four bolts of the mast have been tightened definitively!**

Once the maximum height of 6 m has been reached, make the first anchorage.

ATTENTION: **proceed with the erection of an anchorage and a cable-guiding every 3m!**

Proceed with the assembly of a mast at a time fitting four screws + four spring washers and four nuts.
Once that 3m of mast has been assembled, arrange for the anchorage mounting, making sure every time that the bearing is able to support the forces.
Once the summit of the hoist reached, mount the terminal element as the last part (the one provided with half rack).
Apply the limit switch slide to the vertical element in correspondence to the last exit to the floors.
Make a complete rise and descent travel, as a general check on the installation and limit switches and to find out any inferences to the elevator operation made by hindrances along its travel. Remove the plug which connects the push-button panel of control and plug in the six-pole plug which connects the line of control of the doors to a floor.
At this point proceed with the assembly of the floor landing doors distributing them at each landing agreed.
The preliminary mounting and the lining up with the cabin door must be done.
The floor landing doors must be mounted 50mm distant from the elevator door. During the mounting of a door be sure it is perfectly lined up with the elevator door.

Att: Verify that the mechanical lock is in working order on all the doors!

After the assembly of all the floor landing doors, it is necessary to proceed with the electric connection among their button panels (for all of them) and with the cable collecting basket plug through the RISE - DESCENT control cable.

7.11 In case of electric power supply failure during the mounting dismantling phases of the mast, with a consequent stop of the elevator with personnel on board high from the ground, it is possible to descent to the floor or to the nearest point by operating the gear motor brake.

ATTENTION: **Emergency manual descent.**

ATTENTION: **Now the elevator is ready to regular use for serving persons and material according to the characteristics of use described in chapter *USE*!**

ATTENTION: **Test every 15 days the tightening of the mast bolts and of the anchorages clamps!**

7.12 Dismantling

ATTENTION: **Check the tightening of mast bolts and anchorages clamps rising upward until reaching the summit!**

ATTENTION: **Make sure that during the dismantling stages of the mast the working deck underneath is absolutely free from people and properties who/which would be injured/damaged in case of fall of parts of the machine!**

1 Remove the multiple six-pole plug of the floor landing doors line and insert the plug of the push-button panel, which allows the control of the lift during the mounting and dismantling.

60. Remove the electric installation of the call to the floors.
61. Once the summit is reached, proceed in sequence to the dismantling of the mast and the floor landing doors. The mast must be loaded into the cabin, taking care not to exceed the nominal capacity load of the hoist

ATTENTION: **the operators on top of the hoist must work with the safety harness on and hitched!**

62. Proceed in sequence to the dismantling of the floor landing doors.
63. Make sure that the access to the floors have been adequately fenced.
64. Go down to ground level for the unloading phase of the mast, of the floor landing doors (if any) and of the anchorages.
65. Reach to the highest point of the mast to start the disassembly.
66. During the mounting and dismantling operations Signal by means of adequate warning signs, applied inside the hoist way, the admittance to an elevator and the possibility to fall into the hoist way.

NOTE: **of the mast modules, it is recommendable to lash them to a safety rope and to release them only after the fastening of the bolts and nuts.**

67. Remove other mast and load them in the cabin, then go down to ground level for the unloading phase.
68. Rise up again and remove the anchorage and other masts. Repeat this sequence of operations until reaching the base with the elevator car and until the first mast only remains.
69. Once arrived to ground level cut off the power to the hoist.
70. Demount the fence doors with their counterweights.

71. Demount the base fence.
72. Disconnect the feeding cable -coming from trolley- from the electric panel.
73. Remove the cable from the holder cable arm.
74. Remove the trolley.
75. Demount the frames of the access and exit doors of the cabin.
76. Take out the motor group.
77. Remove the remaining mast and the nuts of the lag bolt and clear the base frame.

8 USE

The use of the lift must follow an accurate reading of the following paragraphs; in case of doubts on how the lift operates or for any fault found consult immediately, before the use, the assistance service or the manufacturer!
The elevator must be used in conformity with the prescriptions provided by this manual - any other way of use is not allowed.
The elevator can be used to lift persons and materials until the maximum weight, uniformly distributed onto the elevator, equals to 300 kg.

ATTENTION: **The use of the elevator is forbidden to load unauthorized persons, overhanging loads, material not properly secured and loose material.**

ATTENTION: **The elevator cannot be used in unsuitable and adverse weather conditions.**

ATTENTION: **The lift cannot be tampered, spare parts must be original.**

DANGER: **The elevator cannot be used if the stop safety devices have not been fitted (limit switches), scheduled maintenance have not been carried out and when the anchorages are precarious.**

ATTENTION: **SAFI does not assume responsibility for any injury to people or domestic animals or damage to properties arising from the non-observance of the precautions given.**

Responsibilities of the user

a) – Use of the lift is allowed only to qualified personnel trained on its use and informed about safety devices and regulations.

b) – The operators should act with the maximum attention, to be physically fit and not under the influence of alcohol or drugs/sedatives which could compromise hearing, sight and attention level and/or reaction time.

c) - The operators should give priority to the safety and refuse to operate when they think the safety conditions do not correspond to what stated in the directives.

d) - Operators should verify and prohibit the presence of persons, animals, devices or materials from being in dangerous zones or in the lift operating area.

Safety rules

The lift must be well anchored to the ground, follow the erection operations description in chapter **ERECTION AND DISMANTLING**.

A- Maneuvering of the platform is allowed to personnel expressly trained and entrusted with this task only.

B- The lift use must be forbidden to unauthorized personnel, acting on the padlock of the cut-out switch on the control board.

C- The elevator must never be overloaded, respect the loads allowed specified in this manual.

D- When an imminent or actual danger arises, press immediately the emergency button on the control panel. Lift movement will stop immediately.

E- In case of a sudden storm, the lift should be stopped immediately.

F- To move the lift from one zone of the site to another, dismantle masts and anchorages completely and disconnect the platform from the power supply before.

G- At the end of each working day, the lift is to be placed on the lower possible position and any possible maneuvers extraneous people can make must be precluded disconnecting the electric supply and removing the control board

- During all the operating phases it is forbidden to sit or climb onto the upper parapets of the cabin or to adopt other ways to reach heights exceeding those allowed.
- Before using the elevator check that the working area is free from any hindrance which could engender conditions of danger.
- Carry out a complete inspection of the machine and verify the correct functioning of all the controls and safety devices.
- Please check that all plates and stickers can be easily understood and visible. Please consult chapter M of the present manual to know exact placing and contents of the plates.
- Check the conditions of all the electric wires, limit switches and anchorages.
- Keep the lift free from litter, building materials, snow and so on.

8.1 Obligations and ban

Obligations

- The lift has been designed and calculated to work with a maximum wind speed of 72 Km/h.
- The lift may be erected or dismantled only when the wind speed is less than 45km/h.
- Under no circumstances may the lift be used when wind speed exceeds the above values.
- Use of the safety belts and helmet is compulsory.
- The daily visual control of possible leakages of oil is compulsory.
- It is compulsory to check that the bolts of the machine structure are well tightened.
- It is compulsory to remove the key from the control board inside the cabin whenever the hoist is not used.

Bans

- During work, when maneuvering to reach the point of work and to return, it is forbidden to climb the parapets or to use any other means or ways to gain higher positions (such as ladders, stools etc.).
- The lift has been made to lift loads vertically and under no circumstances should it therefore be used to push or pull horizontally or laterally.
- Under no circumstances may the installed safety devices be bypassed or tampered with.
- Do not throw tools up or down.
- Do not use the lift as earth when welding.
- Do not position the machine less than 5m from electric lines up to 50.000V and 10m for over 50.000V.
- Do not stabilize the lift on crumbly ground.
- Under no circumstances may unauthorized personnel use the machine.
- Do not overload the lift.

- It is forbidden to carry out any operation of repair or replacement of structural components without the manufacturer prior authorization.

8.2 Hazardous zones and residual risks during the use

Hazardous zones and residual risks during the use

Zones of lift use. The following risks are existing:

- Risk of collision for the operator.
- Risk of fall

All the operators must use the following DPI:

- Safety helmet.

- Protective gloves

ATTENTION: SAFI does not assume the responsibility for any injury to people or domestic animals or damage to properties arising from the non-observance of the precautions given or from the failure in using the DPI required.

8.3 Operator instructions

Be positioned in such a way that complete and full visibility on the whole mast and in particular on the floors access is granted.

Always wear safety helmet.

Be sure that all the operations of loading/unloading are properly carried out and in conformity with the prescriptions of use.

8.4 Setting to work

Preliminary checks

The working zone must be properly fenced.

access to level floors must be properly fenced with removable fences.

current must be supplied (cabin lamps switching on test).

the cable must be well collected.

all the safety devices must be active.

the anchorages must be intact and efficient.

the mast elements connecting screws must be tightened.

that no overhanging object can interfere with the cabin hoist way.

that the material has been symmetrically positioned and as closest as possible to the mast.

that the material is properly secured.

that no tampering to the lift has been effected.

the electric connections are regularly inspected.

the environmental conditions must be good (max wind speed lower than 20m/s).

Setting to work

To operate the lift see the chapter of OPERATION

Load the elevator car making sure that:

- loads are compatible to the of use of the lift
- the load has been firmly secured and uniformly distributed in the cabin
- the load has been firmly secured in the cabin
- after the operations of loading, the access doors must be regularly closed

ATTENTION: In case of an emergency, for which the immediate stop of the lift were required, press the red STOP push-button fitted on the control panel!

Rise with cabin to the desired floor then open the first door of the cabin and next the landing door to access at the floor

NOTE: when the door is open, the elevator cannot be operated because the electric limit switch prevents its starting.

When the height required is reached, carry out the operations of loading and unloading.

Close the sliding doors.

The elevator is free to move.

NOTE: Be sure not to carry out maneuvers of sudden reverses in order to avoid useless stresses to the mechanical parts.

8.5 Disabling of the hoist

Lower the cabin to ground level.

disconnect the main cut-out switch fitted on the panel (turn into the "0" position).

remove the feeding cable.

adopt all the precautions to preclude the use of the elevator to unauthorised persons.

NOTE: In all these cases, when the use of the hoist is forbidden, at the end of the working time and anyway, during the periods of non-use (with the structure mounted), the elevator must necessarily be disabled following the procedure here below.

8.6 Centrifugal parachute brake

ATTENTION: The parachute brake is supplied by the manufacturer with its protection sealed which for any reason must not be tampered!

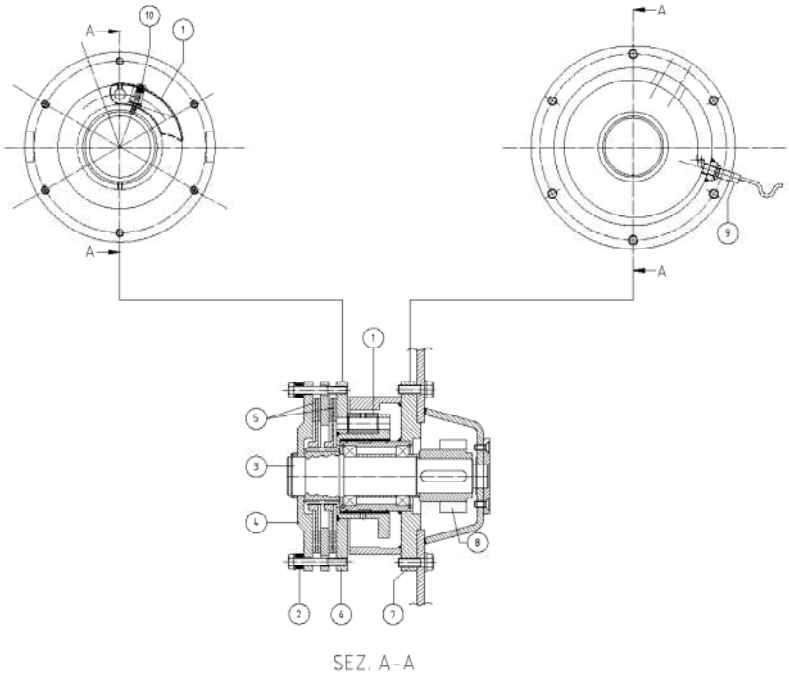


Fig. 8-1 : Parachute brake

Operating

Every motor group is equipped with a parachute which gets tripped downwards when the machine (very exceptional case) exceeds its nominal speed: this happens only and necessarily in the event that the motors driving parts are broken. When -during the descent- the nominal speed is exceeded, the centrifugal mass expands (1). As a result, the support flange holdfast (7) gets hooked and the mass holding flange (6) together with the closing up flange (4) will stop. The pads (5), being coupled to the shaft (3) through a groove profile, keep on turning until the compression between the mass holding flange and the closing up flange, created by the springs (2), stops the shaft where the pinion (8) which engages the rack is splined. The stop distance is regulated by the compression of the Belleville washers (2). The strength which contrasts the expansion at the nominal speed of the counter-weight is generated by a spring (10) adjustable by means of a screw.

ATTENTION: **The annual test is compulsory in order to test the efficiency of the parachute brake and it must be required by the user to the manufacturer or to the mandatory!**

ATTENTION: **Grease the parachute brake every 3-4 months!**

Parachute brake resetting

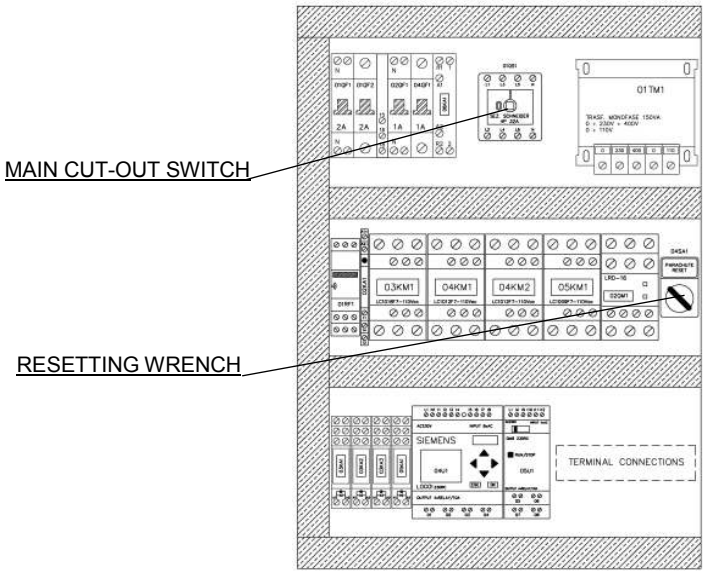
The parachute brake resetting can be carried out:

- After the individuation and elimination of the causes for the brake engagement.
- If the machine is regularly powered.

RESETTING PROCEDURE

8.7 Parachute brake resetting

1) Turn the main cut-out switch to the "0" position and open the control panel
2) By means of the special handle and operating the main cut-out switch, from inside the panel, turn power supply on
3) Turn the key resetting switch and hold it in to position. While doing this press the start button. The equipment start rising and as a result of this the parachute brake get reset. After a short rise (of approximately 200mm) release the start button.
4) Turn the main gut-out switch inside the panel to the"0" position again.
5) Close the control panel
6) Operate as usual for the lift using



8.8

8.9 Emergency manual descent

ATTENTION: the emergency descent maneuver is dangerous and consequently:
- should only be carried out when truly necessary
- should only be carried out by trained personnel

Manual descent should only be carried out if there is a power failure.
Wrenches to operate when electric power is disconnected must always be kept on board!

8.9.1 Maneuver for emergency manual descent

In case of need of a manual descent follow the procedure described here below:

Operate the release lever mounted on the self-brake gear-motor until the cabin starts a slowly descend.

maintain a constant descent speed releasing gradually the levers in case the speed increases.

If the descent speed exceeds the set speed, the parachute brake safety system will be automatically activated in order to block the cabin and cut off the current supply to the structure.

78.

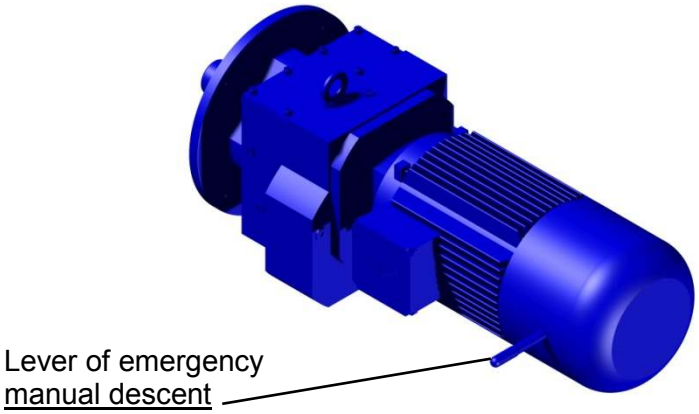


Fig. 8-2 : Lever of emergency manual descent

9 MAINTENANCE

9.1 Information regarding safety

- Maintenance operations must be carried out with the lift set into the lowest position.
- During the servicing the feeding cable must be disconnected and the main cut-out switch turned to the "O" position.
- Do not station under the lift.
- When carrying out maintenance, pay great attention to objects (tools, etc.) that are left on the machine without being suitably secured.
- Maintenance operations should be carried out by suitably trained personnel, who have experience of similar types of lifts and who can operate in total safety because they know the risks associated with such machines. If there are any doubts regarding operations to be carried out, contact the technical office of SAFI.
- For whatsoever is not mentioned in this section on maintenance operations and their accomplishment under conditions of safety, contact SAFI.
- It is compulsory to render a broken or faulty lift inoperable immediately.
- It is compulsory to repair all failures or malfunctioning before using the lift
- The operator should report any trouble found on the machine to the person assigned to control and maintenance of the same and should there be a change in operator, the substitute should be warned accordingly.

9.2 Preliminary and periodic checks

During the designing, particular care has been paid to reduce the maintenance the elevator requires for its standard use, but notwithstanding this, for its perfect operating and for its long lasting, it is necessary to proceed with periodical checks, verifications and maintenance as listed here to follow:

1 Before starting to work sight check (daily if the machine is used every day):

- stopping electric devices
- good working order of the braking devices
- anchorages fastening
- fastening of the mast sections.
- verify mast verticality
- check for loosening of other fastening components.
- check the stability of the base where the mast is secured
- verify the working order of the limit switches and of the other safety devices.
- inspect the conditions of all the electric wires, the connection plugs and of the electric board.
- inspect the conditions of drive rolls, pinions, racks and plugs for structural connection
- make sure of the gear-motors working order
- check for possible leakages of oil.
- check for obstacles in the machine's working areas.

weekly (and before every reassembly)

- first of all, carry out the controls as per point 1.

- Lubricate racks and pinions: in presence of sand or other impurities, clean the parts before the lubrication (for lubrication see the table 8).

ATTENTION: carry out this operation only after the first 100 working hours of the hoist.

- inspect the level of oil of the speed reducers, eliminate possible leakages and verify the efficiency of the springs and of the disks

ATTENTION: do not mix synthetic lubricants with mineral oils: use, if possible, always the same lubricant.

- Check the status of the surface wear of pinions and racks teeth.
- visual check the rise and the descent limit switches and carry out a locking test of the limit switch sliding blocks
- check the cabin doors limit switches
- verify the condition of the ground and floors doors. Clean and lubricate with grease the trolleys and mechanical locking device, in case.

Monthly

- first of all, carry out the controls as per point 2
- verify that tubes and racks of the mast are intact, cleaned and well greased, check the elements to be well tightened.
- sight check the guides and drive rolls wear conditions.
- verify that all the connecting screws of the mast elements are in place and properly locked.
- check all the anchorages and tighten the connections that have become loose
- verify the correct functioning of all the limit switches.

Every three months

- first of all, carry out the controls as per point 3
- Check the self-braking groups
- Check the clearance between drive rolls and guides
- inspect teeth, rollers, bearings, pins, pinion and the electromagnetic brake
- check welded parts along the vertical mast
- make an overall checking on the electric installation

ATTENTION: This operation must be carried out by adequately formed personnel only!

- Check and clean in case, to guarantee a correct functioning, the breather caps on the lifting reducers
- test the centrifugal brake working order

annually

- first of all, carry out the controls as per point 4
- check the conditions of the warning signs
- carry out a complete checking on the elevator

ATTENTION: **This operation must be carried out by adequately formed personnel only.**

- carry out an accurate sight check of the conditions of: painted parts, zinc-plated parts, welding and verify possible traces of corrosion
- check pinions and drive rolls fastenings, tighten them if loose.
- Check for traces of corrosion on the fixing screws of the first mast to their bases: replace the screws in case
- every two years
- first of all, carry out the checks stated at point 5
- Replace the lubricant in the lifting reducers (for the lubricant to use see at table 8: Lubrification)

ATTENTION: **for the oil replacement, use always the same type of oil used the previous time: it is not recommended to mix different type of oils. Do not mix synthetic lubricants with mineral oils.**

during storing of the machine

- carry out a careful and complete inspection of the machine
- check the conditions of all the parts relevant for the safety
- clean and grease pinions and racks
- check the status of the single masts -the connection zones in particular- and the relevant bolts.
- Check for traces of corrosion on the fixing screws of the first trestles to their bases: replace the screws in case.
- Store the lift possibly inside or in a covered area: if impossible, preserve at least the motors and the electric parts with a tarpaulin.

PART	EVERY WEEK	EVERY 8 MONTHS	PRODUCT
Speed reducer	Check the level	Replace the oil	????
Braking unit reducer	Check the level	Replace the oil	????
Pinion and racks	Lubricate		Normal grease
Doors mechanical locking system	Lubricate		Normal grease
Doors pulleys	Lubricate		Normal grease
Trestles tube plus rack	Lubricate		Normal grease
Lifting pinions	Lubricate		Normal grease

Table 6 : Parts to lubrificate

9.3 Maintenance of the self-braking unit

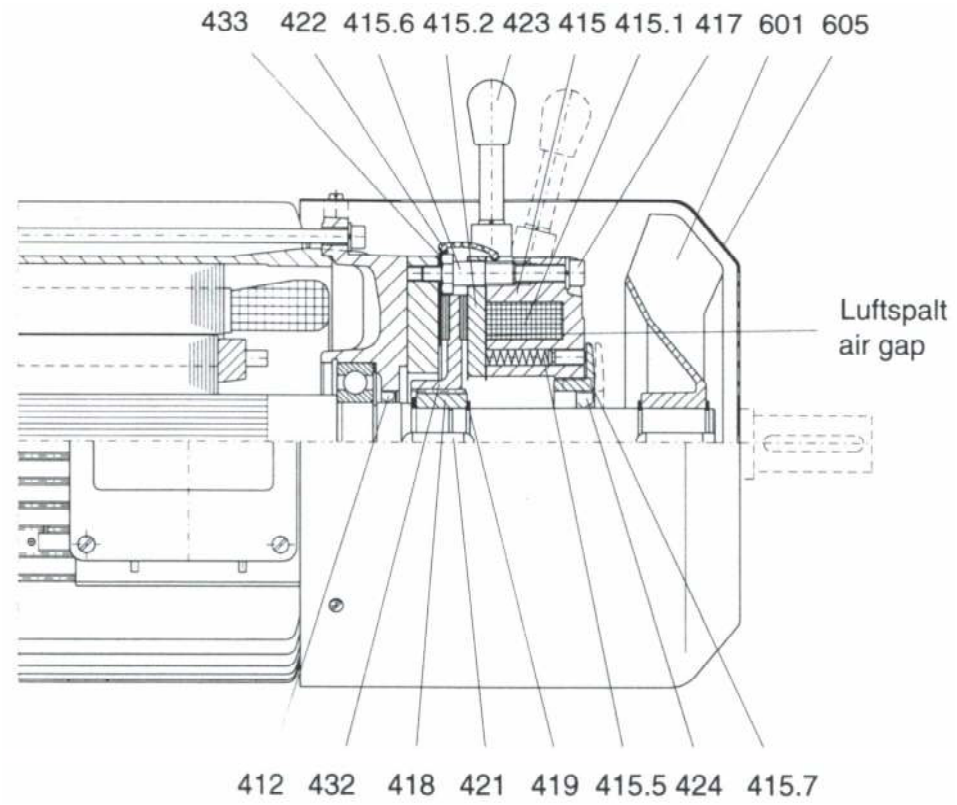


Fig. 9-1 : Electric motor self-braking unit

Components of the self-braking unit

N.	DESCRIPTION
412	Snap ring
415	Field magnets
415.1	Brake coil
415.2	Brake cap
415.5	Brake springs
415.6	Adjustment ring nut
415.7	Adjustment ring
417	Fixing screw
418	Broached hub

N.	DESCRIPTION
419	Dust cover ring
421	Coupling key
422	Snap ring
423	Manual release lever
424	Snap ring
432	Pad (rotor)
433	Clutch sheet-steel
601	Fan
605	Fan cover

Table 7 : Components of the self-braking unit

Controlling, adjusting and replacing the brake

When the brake disk has been worn down to a minimum thickness of 9 mm, it must be replaced.
If the minimum air gap between the electromagnet and the disk pusher, is shorter than the minimum value allowed (acceptable values: 0,25mm min. - 0,6mm max) and if the brake disk is replaced, the brake will have to be adjusted following this procedure:

ATTENTION: The new brake disk should not come into contact with grease or oil!

Disassemble the casing, move aside the protective band and remove any dusty deposit. Tighten the hexagonal nuts to restore the minimum indicated air gap evenly between the electromagnet and the disk pusher. Using a thickness gauge, check regularity of the air gap near the fixing screws. Put the protective metal band back in place and reassemble the casing.

Maintenance

It is sufficient to keep the cooling air circulating channels clean and to check the bearings. Should the bearings be replaced, only use grease that is resistant to high temperatures (Esso Unirex N 3).

APPLICATIONS	TYPE OF LUBRICANT	AMBIENT TEMPERATURE	KINEMATIC VISCOSITY AT 40ûC cST mm2/5	AGIP	BP	ESSO	MOBIL	IP	TEXACO	FIAT
REDUCERS	Oil	+40 a 0	748 a 612	Blasia 680	BP Energol GR-XP 680	Spartan EP 680	Mobilgear 636	IP Mellana Oil 680	Meropa 680	EPZ 680
		+25 a -15	242 a 198	Blasia 220	BP Energol GR-XP 220	Spartan EP 220	Mobilgear 630	IP Mellana Oil 220	Meropa 220	EPZ 200
		+10 a -30	165 a 90	Blasia 150	BP Energol GR-XP 100	Spartan EP 150	Mobil D.T.E. 18	IP Mellana Oil 150	Meropa 100	EPZ 125
		-20 a -50	16.5 a 13.5	Arnica 22	BP Energol LPT 22	Univis J13	Mobil D.T.E. 11	Aero Shell Fluid 4	Aircraft Hydraulic Oil	----
	Grease	+40 a -15		GR MU EPO	BP Energol HT-EP 00	Fibrax EP370	Mobilplex 44	IP Athesia Grease EPO	Multifak EPO	Jota 0

Table 8 : Lubrification

9.4 Modification of the braking torque

The braking torque can be modified by using different quantity and types of springs. Proceed as follows :

Remove the casing, the fan and the protective band.

Dismount the release lever, if present.

Unscrew the hexagon nuts and move the electromagnet backward of approximately 50 mm.

Modify the combination of the springs and verify their symmetrical arrangement.

Reassemble the brake keeping a minimum interfere, according to what indicated in paragraph Controlling, adjusting and replace the brake.

Reassemble the release lever, if any, (see Assembly of the manual releasing device)

9.5 Assembly of the manual releasing device

Screw the two stud bolts tight into the disk pusher by gluing them, in case, with Loctite. Insert the elastic plug into the electromagnet.

Arrangement of the release lever. If the manual releasing device is provided with the stopping device, insert the straight roller. This roller is not present in the manual release with automatic return pattern.

Screw the adjustment nuts until the end play between the flat conical springs and the release lever is between 1.5 and 2mm.

Reassemble the fan and the casing. Screw either the hand lever of the release device with automatic return or the grub screw of the release device equipped with stopping device.

ATTENTION: **With the stopping device, the rotor gets engaged when a certain resistance to the screwing of the grub screw is sensed (2). In the automatic return system, to release the rotor, just operate with your hand the lever towards the fan. In both cases do not force, otherwise the disengaging lever could be damaged.**

9.6 Replacement of the braking disc

When the brake disk has been worn down to a minimum thickness of 9 mm, it must be replaced. The new brake disc must by no means get in contact with grease or oil!

9.7 Speed reducer

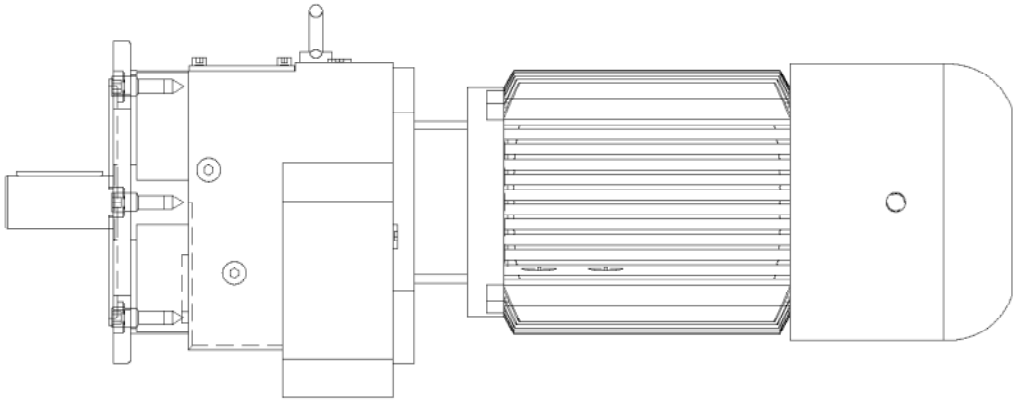


Fig. 9-2 : Speed reducer

DESCRIPTION	DESCRIPTION
Coaxial Gear motor	Three phased self-braking motor 4,0KW power
type ZF68-M112MB4-L60GH	Voltage - Frequency 230/400V 50Hz
Shape B5	Single-phase brake voltage 230V
Reduction ration 17,82	Service factor 1,77
Outside flange diameter 300mm	Brake with HR manual release and automatic reversal
Speed 81revs/min	Brake type: L60GH
Slow shaft diam. 40mm	Gear motor weight = 55daN

Table 9 : Speed reducer

Maintenance operations

With regard to maintenance of the provided speed reducer, take into account that:

- After starting the reducer for the first time, the oil should be changed approx. every 10,000 hours of operation or at least once every 2 years. Subsequent oil changes should always be carried out with these same time intervals.
  Check the oil level inside the reducer at least once a month, thereby ensuring normal operating conditions for this component.

ATTENTION: **For the oil change it is very important to use the same type of oil used the previous time. Different kind of oils cannot be mixed up. In particular synthetic oils cannot be mixed with mineral oils or with other synthetic oils. To change from mineral oil to synthetic oil or from synthetic oil of a certain type to another, wash the gear drive with accuracy!**

- Clean the blow-off plug at least once every 3 months to ensure that it works properly.

10 Problem and solution

Before the delivery the lift is usually tested with its electric panel. Notwithstanding this, during the first assembly there could be some inconveniences. Here to follow the main problems, based on our experience, are indicated together with their suggested possible remedies.
HAVING VERIFIED THAT:

a) the voltage is known;
b) the power in kW is sufficient;
c) the power supply cable has a suitable cross section;
d) the control panel on/off switch is on "I" and the start push button has been pr½essed;

WHAT CAN HAPPEN IS:

PROBLEM	OPERATIONS TO PERFORM IN THEIR PROGRESSIVE ORDER OF PROBABILITY:	REMEDY
The lift does not give any sign of operating.	*A) Check the integrity of all the thermo-magnetic switches.*	Eliminate the cause for the thermo-magnetic switches tripping.
	B) Verify that a phase has not been exchanged.	Invert the phase on the supply plug.
	C) Check for wires being damaged during loading and unloading operations.	
	D) Check for the thermo relay tripping.	Select the reset button.
	E) Check that the panel transformer is not burnt.	Replace with an equivalent device.
	F) Check for the motor group's limit stop and - at the same time- for two phases inverted.	Remove the slides from the base temporarily to test the lift
	G) Check that due to vibrations in the connector block of the motor group no wire is disconnected or unfastened.	Reestablish the contact.
The motor is noisy and it is not strong enough for the lifting.	A) Make sure that the lift has not been overloaded.	Remove the reason and follow the load rules.
	B) Check for the lacking of a supply phase.	Verify the cause and take action (thermo-magnetic switches, cable cut, error of connection).
	C) Check that brake is not burnt or wet	Replace the solenoid and/or the pad, adjust the air gap between the armature and the field magnets-.
	D) Emergency brake activated	Verify what the causes are and after the resetting of the safety conditions reset it.
By pressing the rise/descent push-button the elevator does not move but a hum emitted by the electric motors is heard	A) Poor voltage	A) Increase power at the source.
	B) Two-phases supply instead of three	B) Verify the electric connection

By pressing the rise/descent push-button the elevator does not move	The phases have been inverted	Invert the phase by operating on the plug fitted on the electric panel
	Total current failure	Check and be sure that the control electric panel is live
	Some limit switches have tripped	Inspect the following limit switches: a) rise limit switch b) descent limit switch c) door closing control limit switch d) vertical element presence controlling limit switch
During the rise/descent you can hear hum emitted by the electric motors	Humidity in the safety system electro-magnet	Operate repeatedly the rise/descent lever. If the problem persists replace the electro-magnet.
When the push-button during the descent is no longer pressed the elevator does not stop immediately and instead the emergency brake gets activated)	The electro-magnetic brake of the electric motor is worn or it has lost power	Call immediately the closer assistance point in your area or the manufacturer
During the rise the machine does not stop, but instead, by pressing the descent lever descends	The limit switch which controls the vertical	element presence has been activated. Set the limit switch appropriately

Table 10 : Inconveniences to the electric installation

ATTENTION: **All intervention on the electric installation must be carried out by qualified personnel only obeying the safety rules over the electric installations, in order to avoid accidents and injuries to the operators!**

11 TRANSPORT

The transportation of the machine from one site to another can be effected using a proportioned in dimensions truck.
The motor unit, forks and cabin can be supplied all together or separately, in case of problems with the dimensions during transport and erection. The assembly of the parts will be carried out at site at the time of installation. Even the cabin -either to allow the assembly inside the hoist way to be loaded and transported in a container- can be supplied demounted
The elevator transport can be done only after the dismantling of the hoist according to the prescriptions contained in chapter "**ERECTION AND DISMANLING**"

Procedures for transport

Load the vertical elements first. Then the cabin, the fence and last, the base. All the material must be arranged with accuracy and adequately fastened in order to avoid useless risks during transport.
The whole operation must be effected in compliance with the rule of road of the relevant Country.

The Company who will use the elevator must appoint a person in charge of it, who must know this manual in all its parts. The person in charge of the elevator must also supervise all the operations of elevator management made by authorized personnel.
Before starting to work make sure that all the safety systems are in working order and in good conditions, that all the bolts, pin jacks, screws and anchor screws fit their housing and are well fastened. Check the braking system of the motor unit working order.

12 WIRING DIAGRAMS

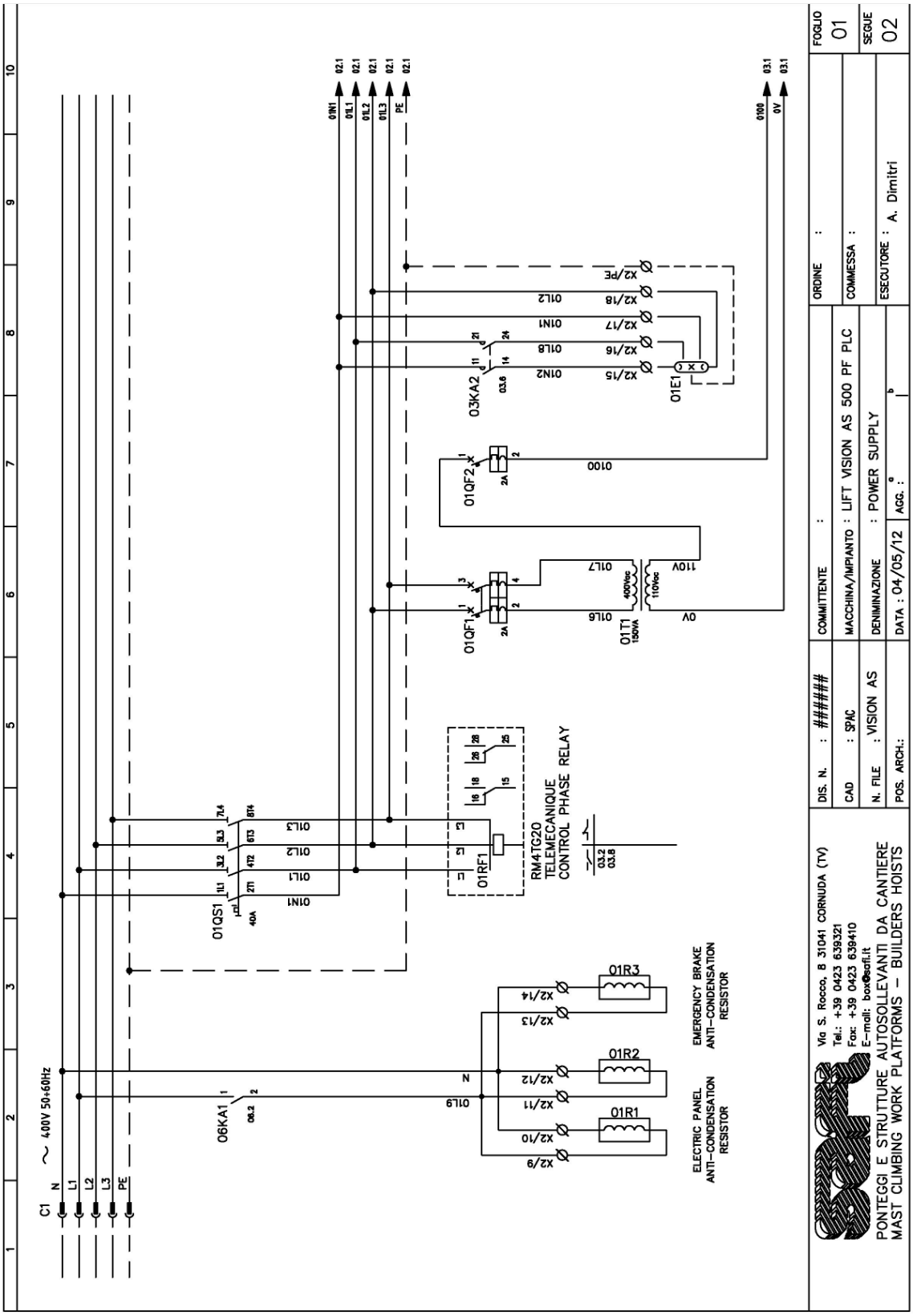


Fig. 12-1 : Wiring diagram - Power supply

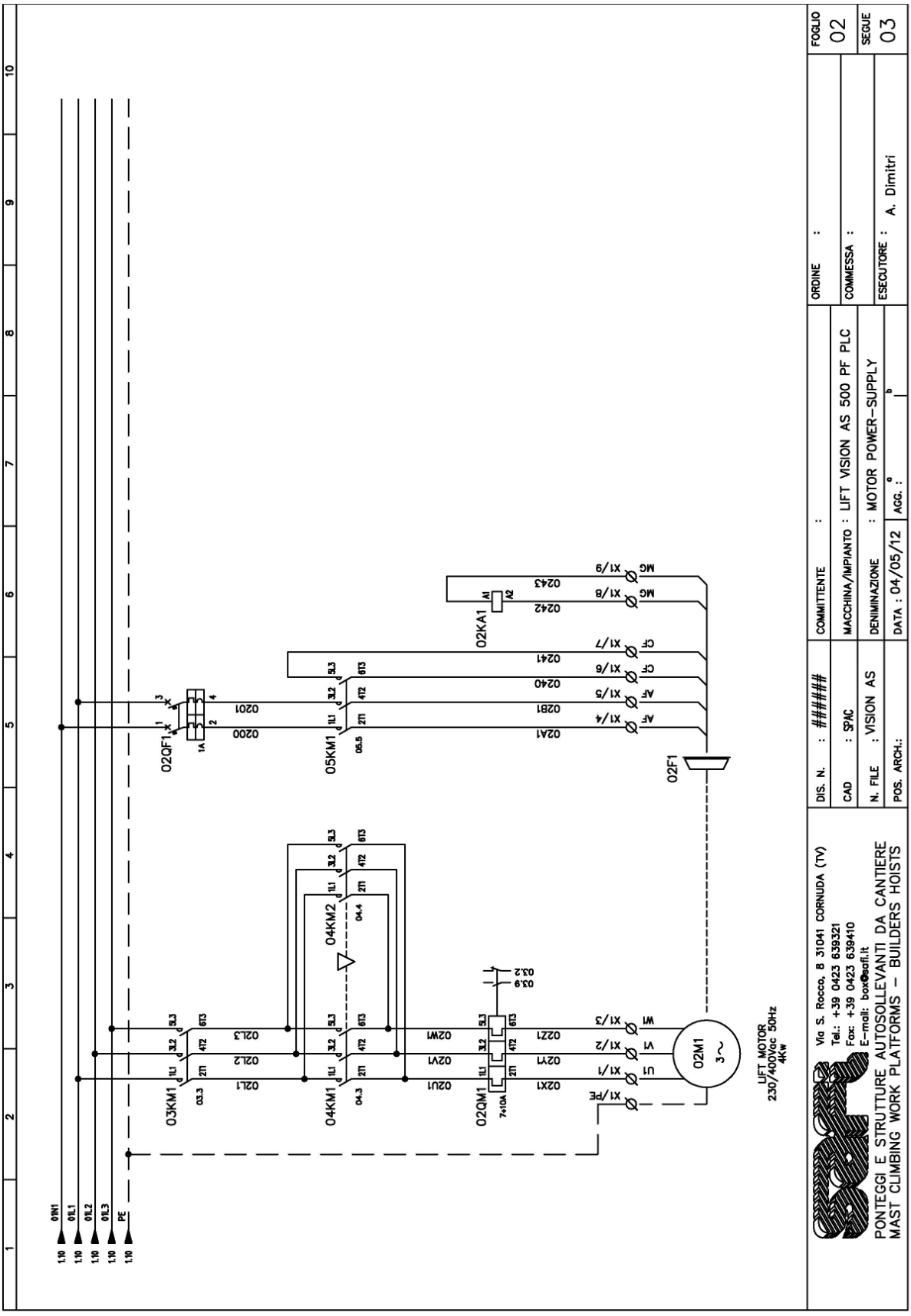


Fig. 12-2 : Wiring diagram – Motor power supply

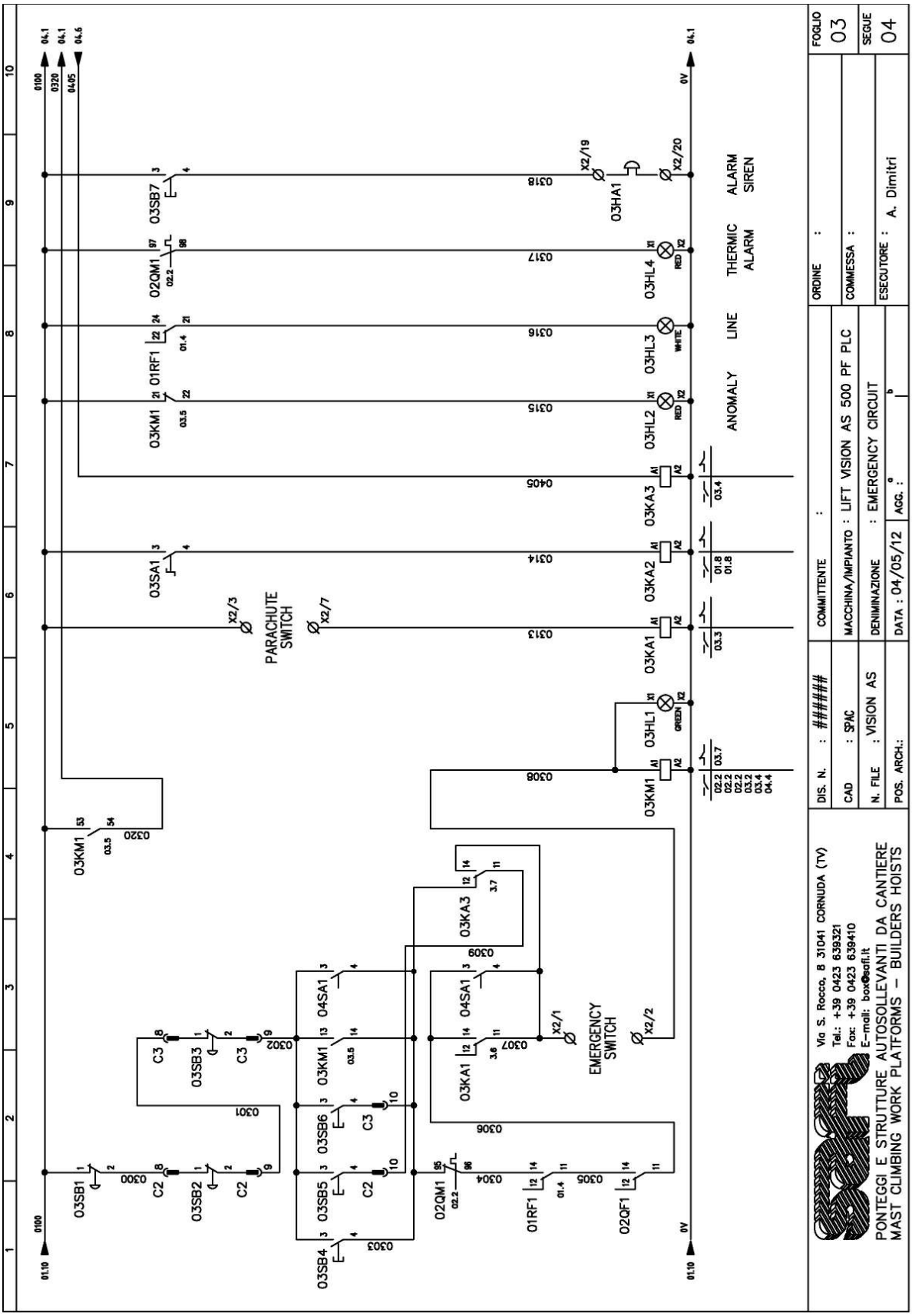


Fig. 12-3 : Wiring diagram – Emergency circuit

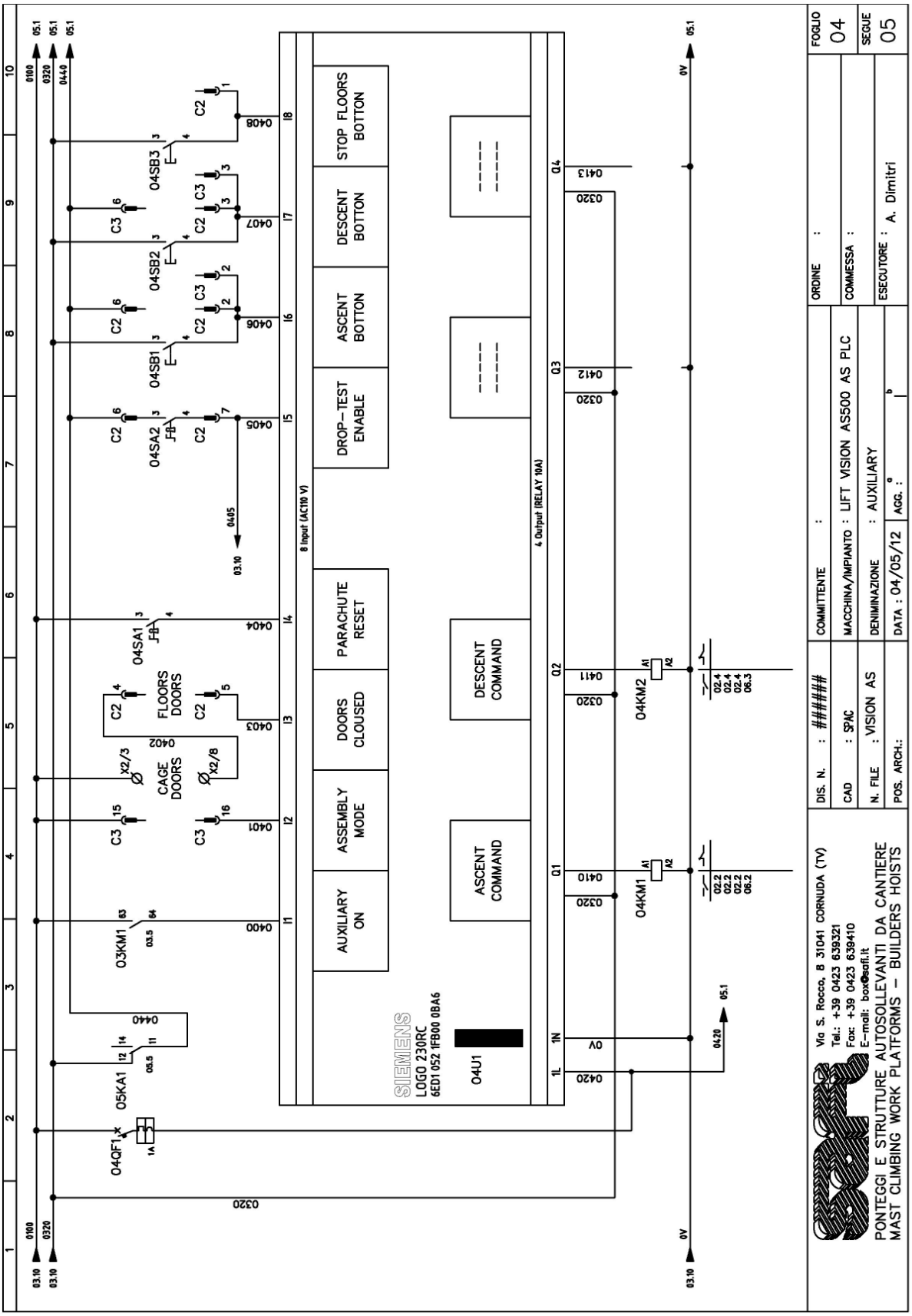


Fig. 12-4 : Wiring diagram – Auxiliary

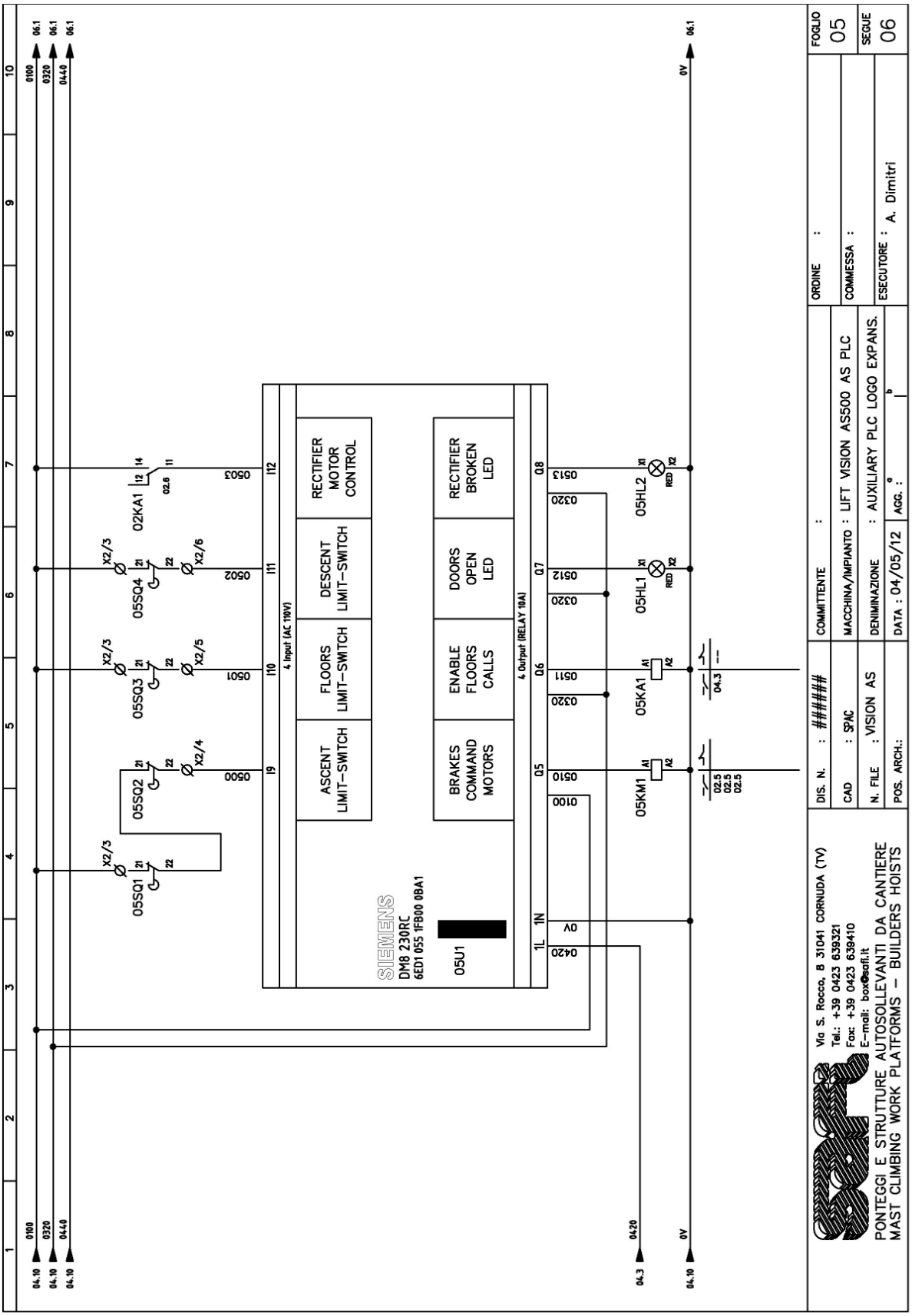


Fig. 12-5 : 4 : Wiring diagram – Auxiliary PLC logo expans.

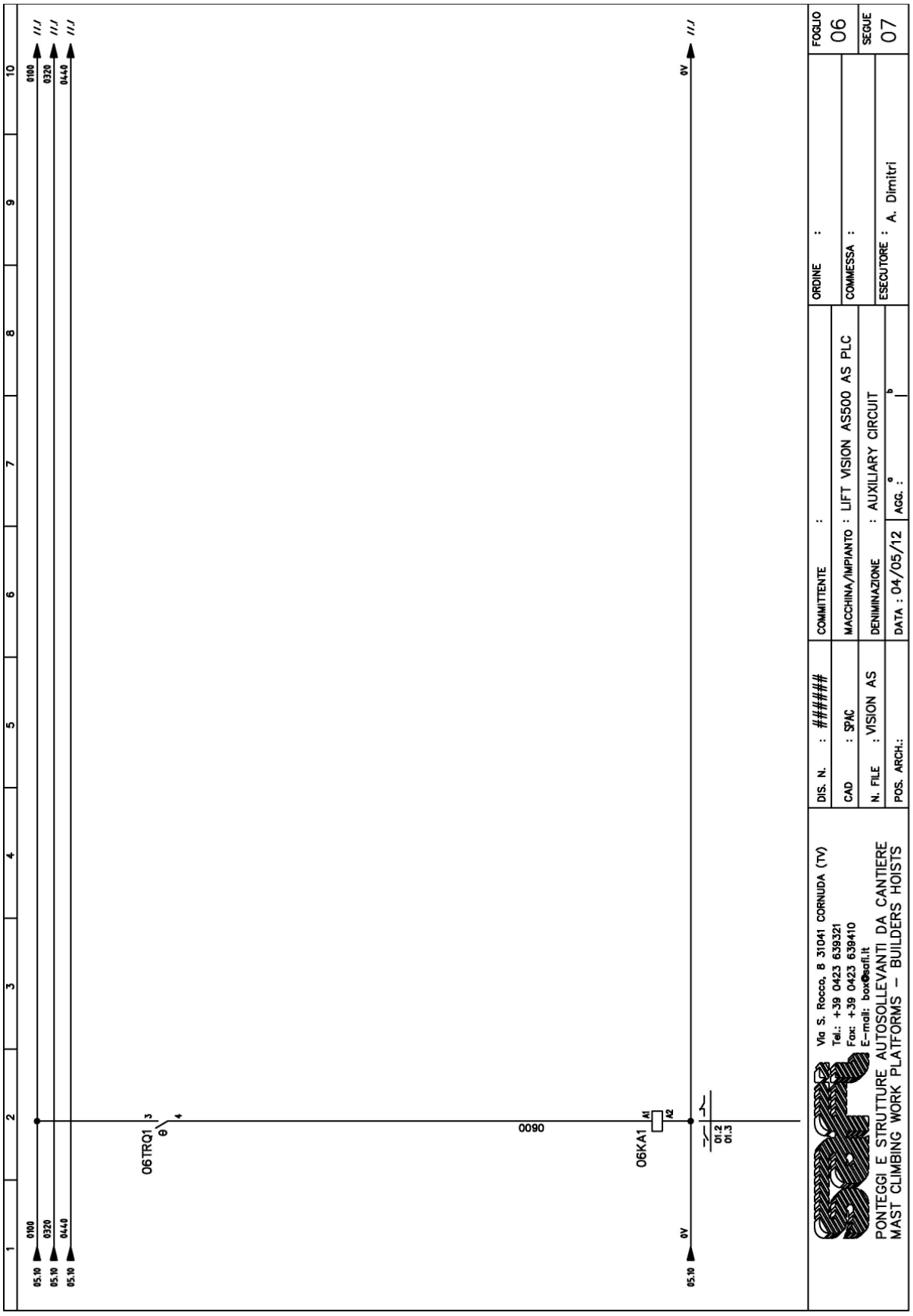


Fig. 12-6 : Auxiliary circuit

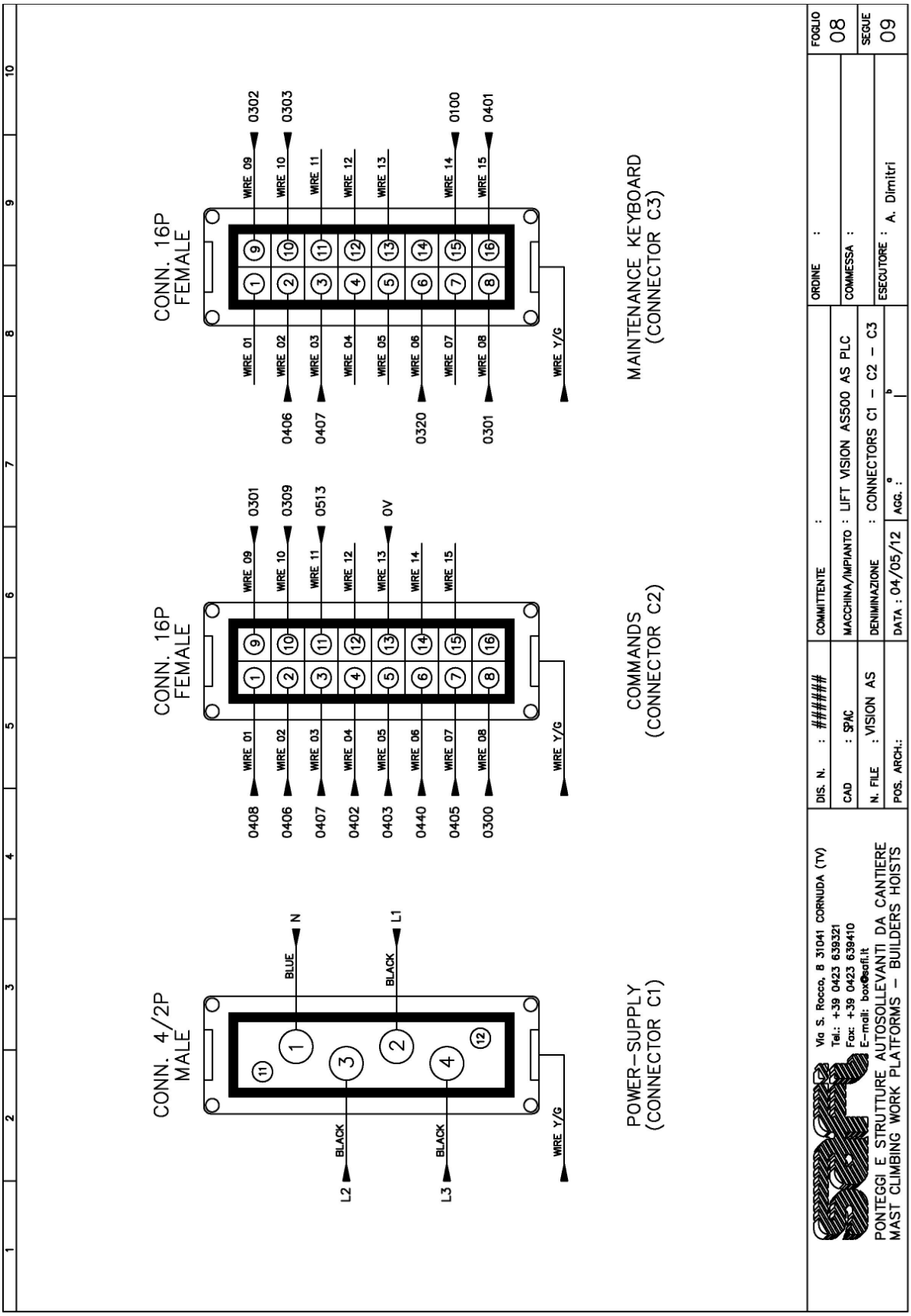


Fig. 12-7 : Wiring diagram – Connectors C1, C2, C3

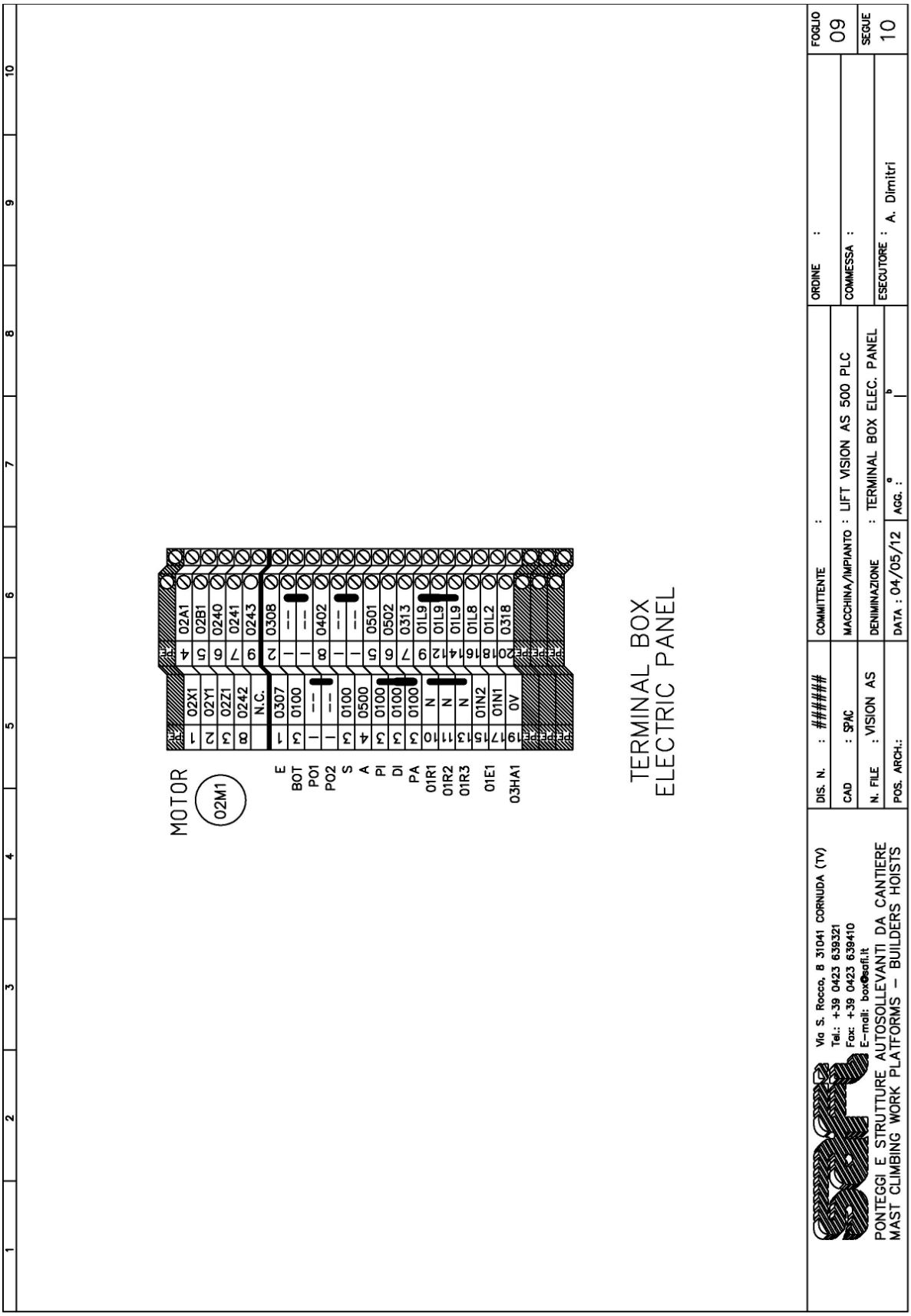


Fig. 12-8 : Wiring diagram – Terminal box electric panel

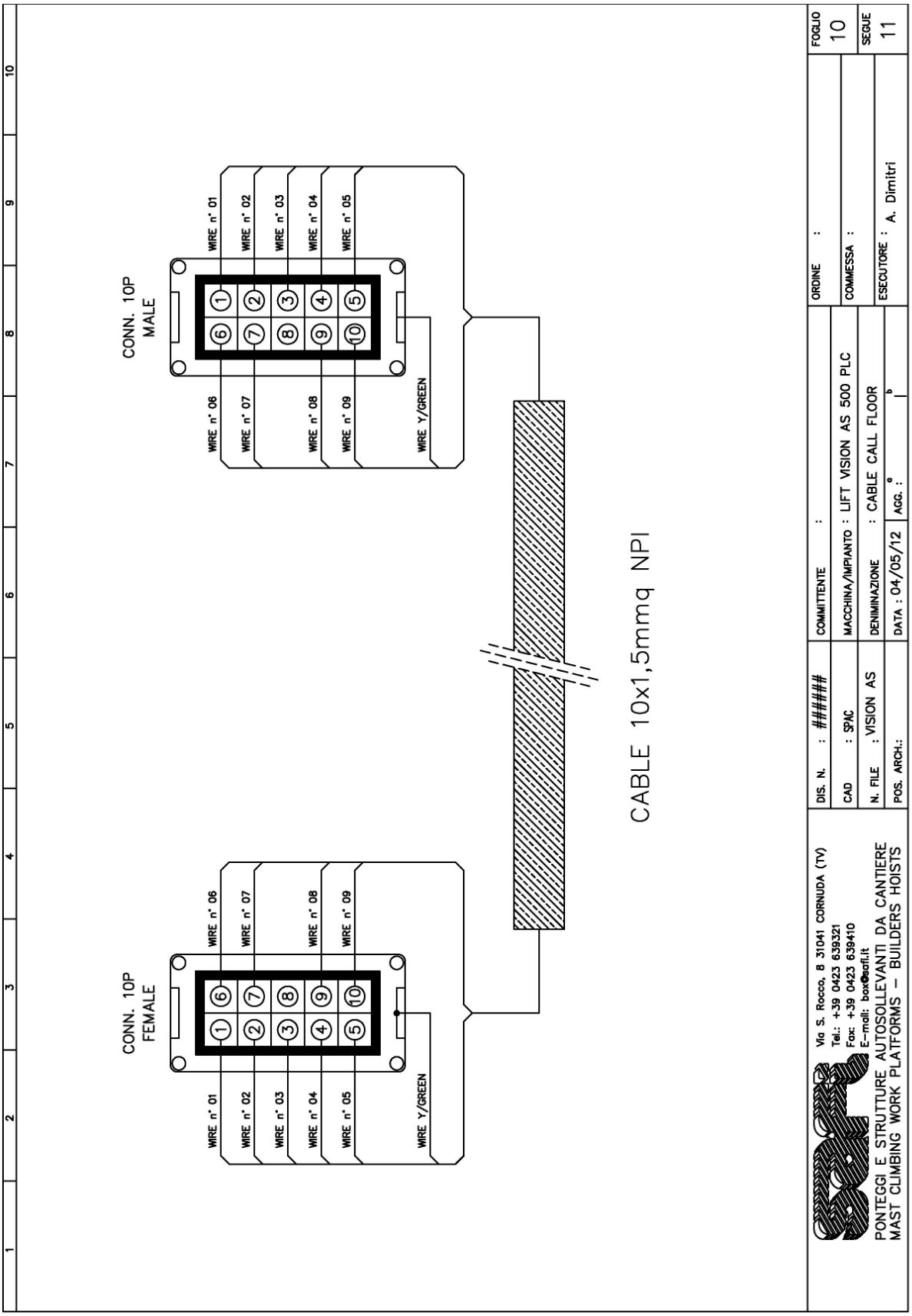


Fig. 12-9 : Wiring diagram – Cable call floor

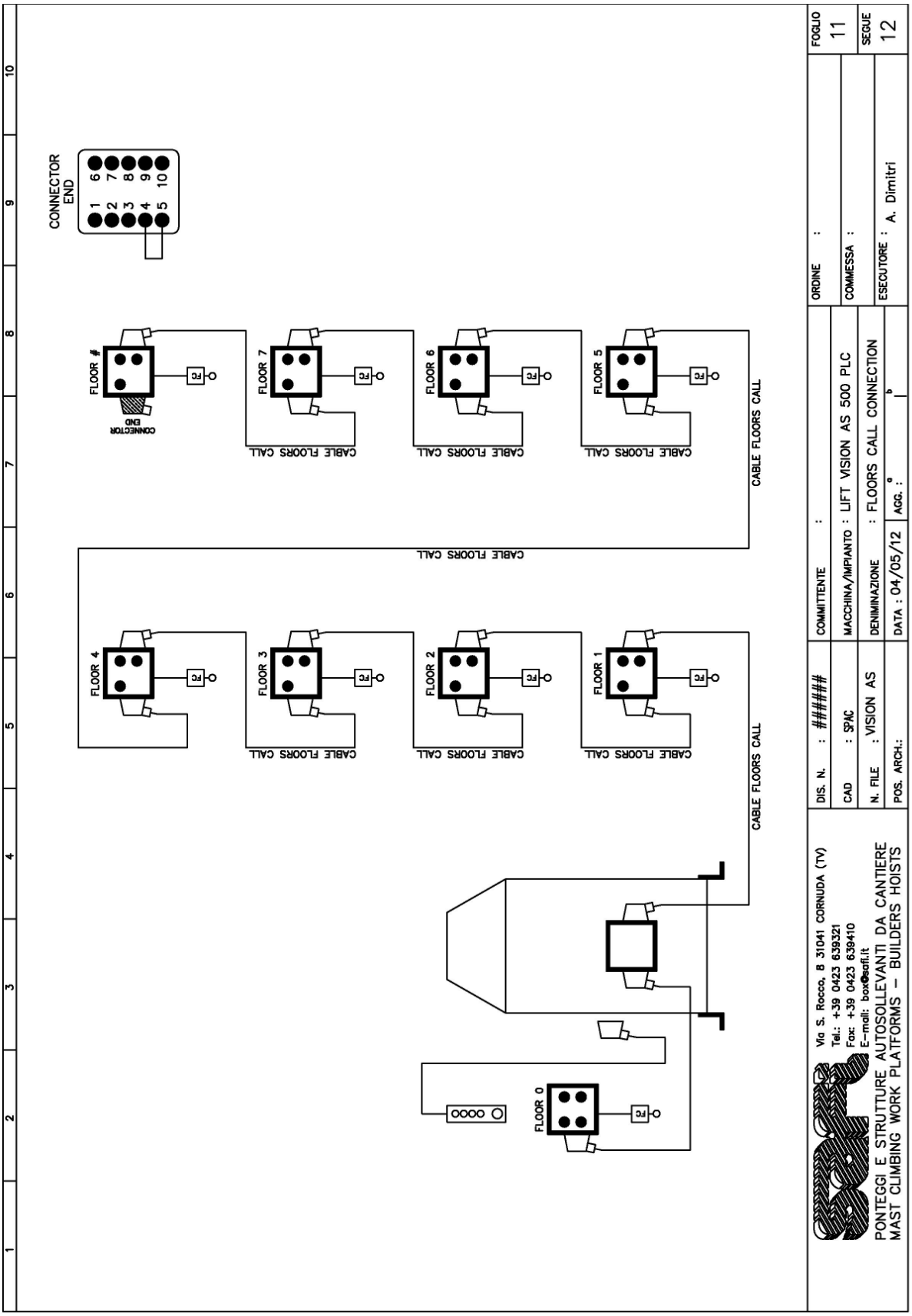


Fig. 12-10 : Wiring diagram – Floors call connection

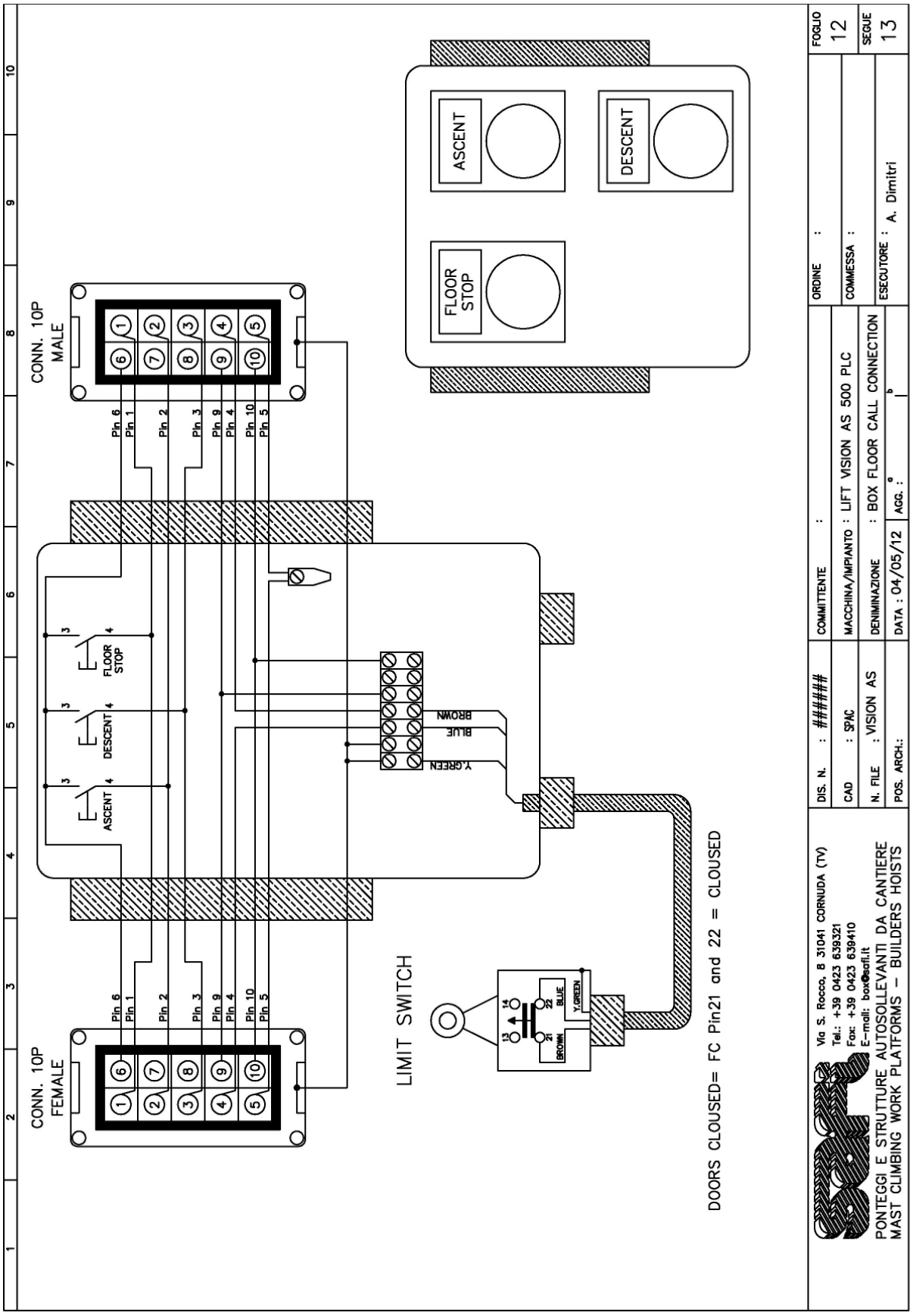


Fig. 12-11 : Wiring diagram – Box floor call connection

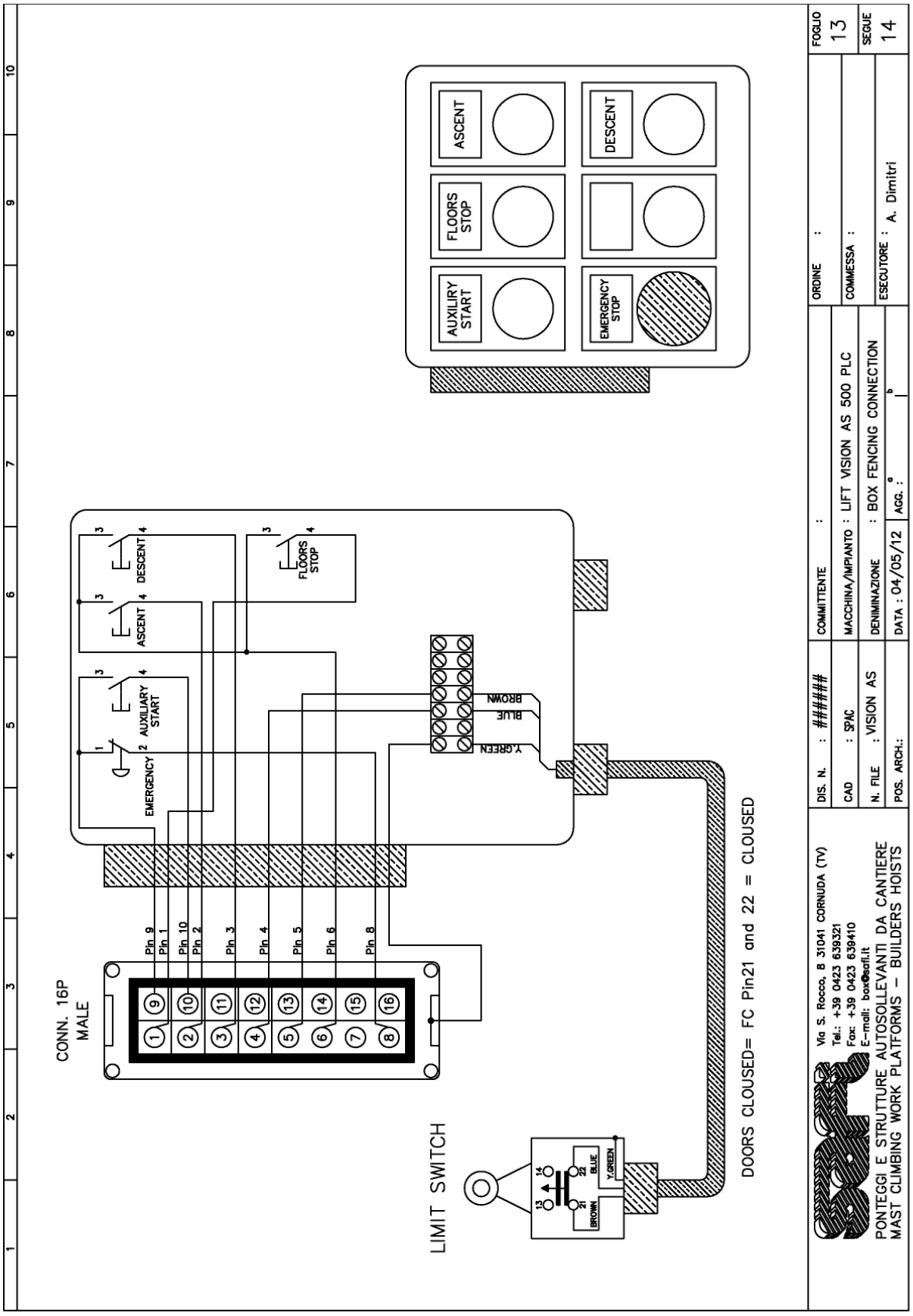


Fig. 12-12 : Wiring diagram – Box Fencing connection

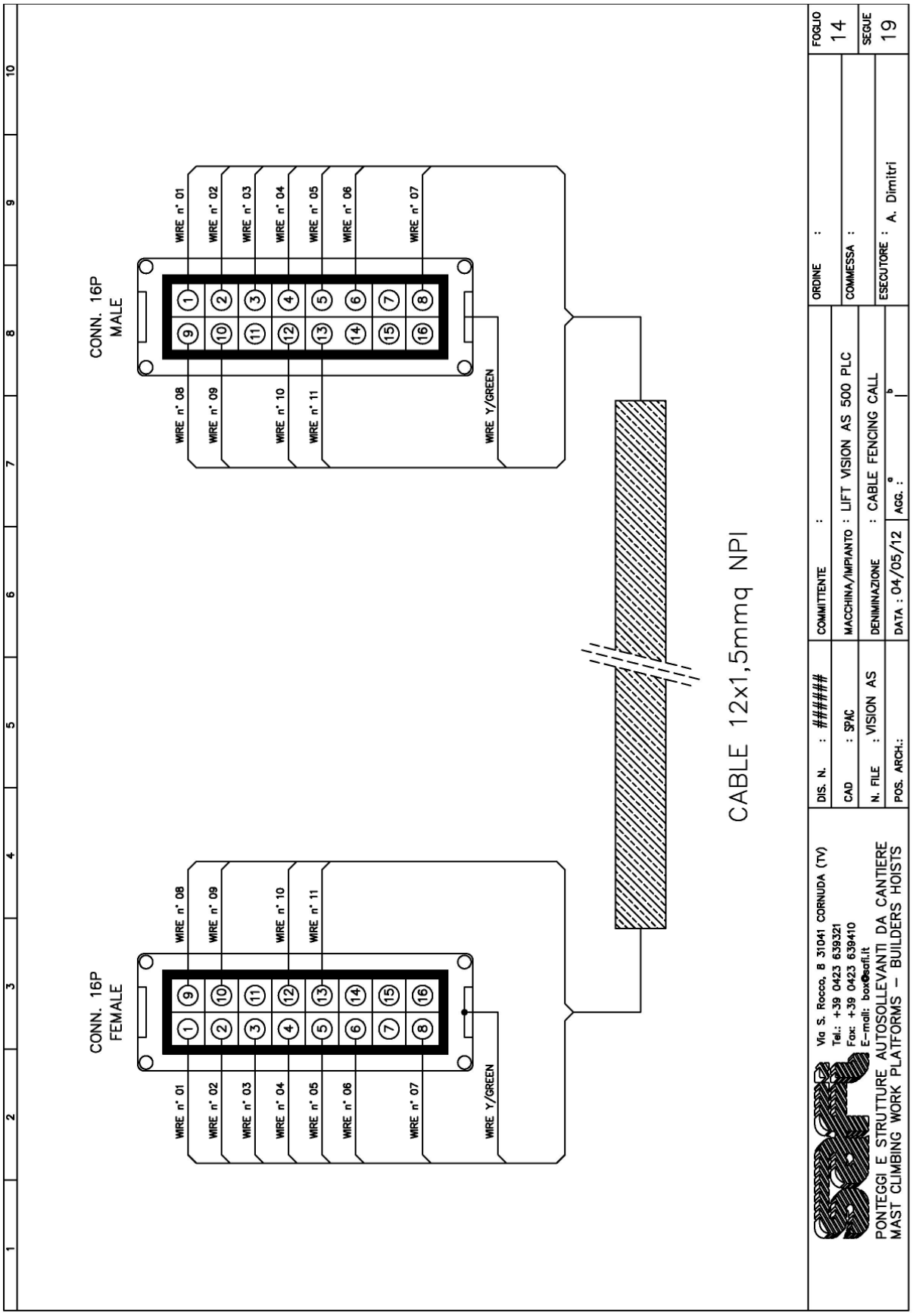


Fig. 12-13 : Wiring diagram – Cable fancing call

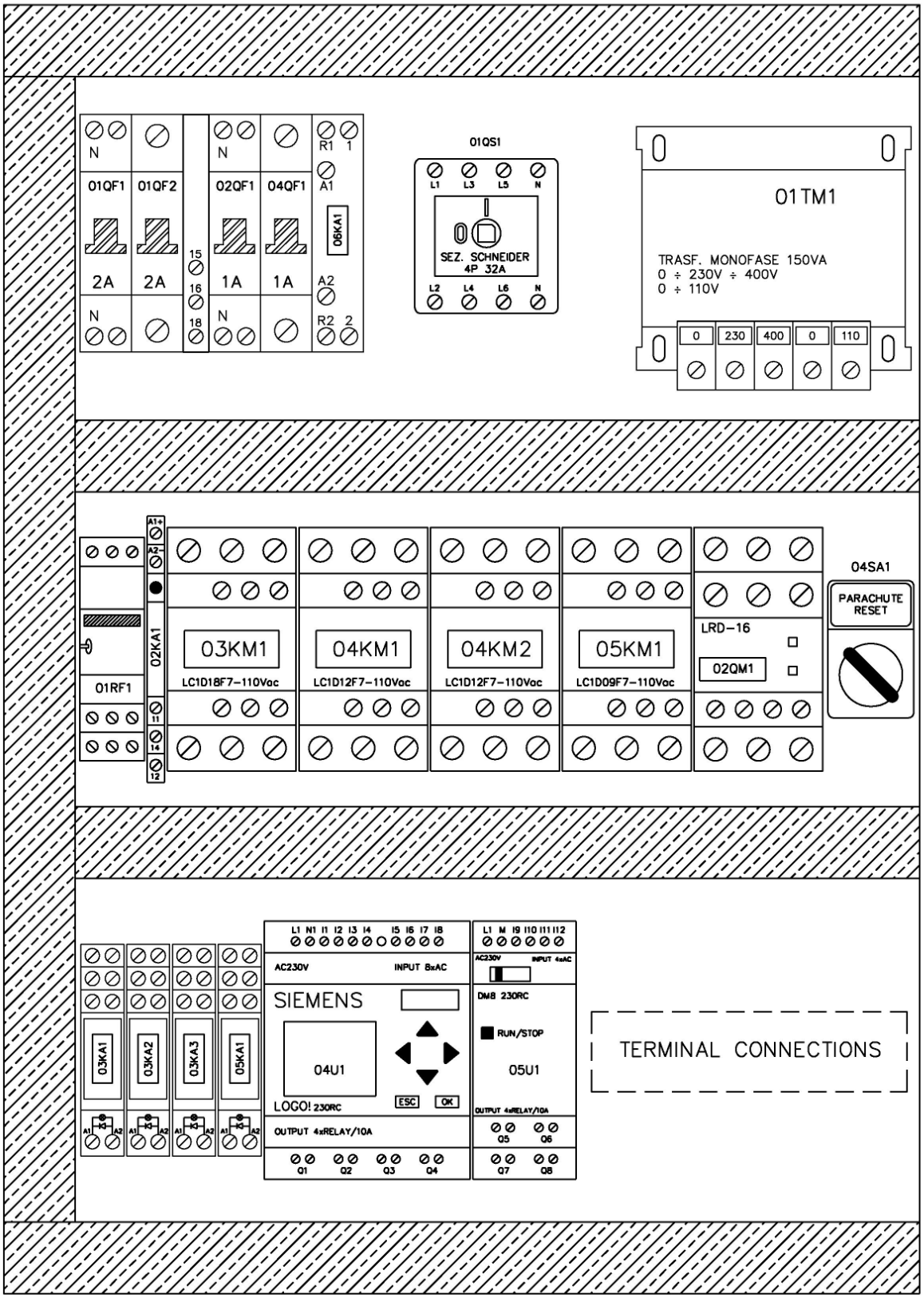


Fig. 12-14 : Main electrical box components

1	2	3	4	5	6	7	8	9	10

Nome/Item	Tipo/Type	Descrizione/Description	Costruttore/Marke	Quadro/Board	Fg/Sh	Q.ta/Q.ty
01E1	8W-SA-1h-NiCd-IP40	EMERGENCY LAMP	BEGHELLI	QG	1	1
01QF1	1P+N C40a 2A - 17504	AUTOMATIC BIPOLAR MAGNETO-THERMIC BREAKER	SCHNEIDER	QG	1	1
01QF2	1P C60N 2A - 24236	AUTOMATIC MONOPOLAR MAGNETO-THERMIC BREAKER	SCHNEIDER	QG	1	1
01QS1	V2 + KCF1PZ	THREE POLES MAIN SWITCH WITH ADDITIONAL CONTACTS	SCHNEIDER	QG	1	1
01R1	FL253Z - 30W	ANTI-CONDENSATION RESISTOR	HAGER	QG	1	1
01R2	FL253Z - 30W	ANTI-CONDENSATION RESISTOR	HAGER	QG	1	1
01R3	FL253Z - 30W	ANTI-CONDENSATION RESISTOR	HAGER	QG	1	1
01RF1	RM3-TG201MS7	CONTROL PHASE RELAY		QG	1	1
01T1	TCN160061	SINGLE PHASE TRASFORMER	TECNOCABLAGGI	QG	1	1
02KA1	RS30 - 115211001 - 115Vdc	INTERFACE MINI RELAY	WEIDMULLER	QG	2	1
02F1		SINGLE PHASE MAGNETIC BRAKE	SIEMENS	QG	2	1
02M1	ZF68-LA112MB4I-L60GH	THREE-PHASE COAXIAL GEARMOTOR	SIEMENS	QG	2	1
02QF1	1P+N C40a 2A - 17504 + 26924	AUTOMATIC BIPOLAR MAGNETO-THERMIC BREAKER	SCHNEIDER	QG	2	1
02QM1	LRD16 + LAD7B106	THERMIC RELAY	SCHNEIDER	QG	2	1
03HL1	ZBV-G6	WARNING LED	SCHNEIDER	QG	3	1
03HL2	ZB4-BV043 + ZB4-BVG4	WARNING LED	SCHNEIDER	QG	3	1
03HL3	ZB4-BV013 + ZB4-BVG4	WARNING LED	SCHNEIDER	QG	3	1
03HL4	ZB4-BV043 + ZB4-BVG1	WARNING LED	SCHNEIDER	QG	3	1
03KA1	40.52.8.110.0000 + 99.02.0.230.98	INTERFACE MINI RELAY	FINDER	QG	3	1
03KA2	55.34.8.110.0000 + 94.04.SMA	INTERFACE MINI RELAY	FINDER	QG	3	1
03KA3	40.52.8.110.0000 + 99.02.0.230.98	INTERFACE MINI RELAY	FINDER	QG	3	1
03KM1	LC1D18F7 + LADN31	THREE-POLE CONTACTOR	SCHNEIDER	QG	3	1
03SA1	ZB4-BD2 + ZB4-BZ101	KEY SELECTOR SWITCH - 2 POSITIONS WITH RETURN TO ZERO	SCHNEIDER	QG	3	1
03SB1	ZB4-BS54 - ZB4-BZ102	MANUAL MUSHROOM-HEAD PUSH BUTTON	SCHNEIDER	QG	3	1
03SB2	ZB4-BS54 - ZB4-BZ102	MANUAL MUSHROOM-HEAD PUSH BUTTON	SCHNEIDER	QG	3	1
03SB3	ZB4-BS54 - ZB4-BZ102	MANUAL MUSHROOM-HEAD PUSH BUTTON	SCHNEIDER	QG	3	1
03SB4	ZB4-BA6 + ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	3	1
03SB5	ZB4-BA6 + ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	3	1
03SB6	ZB4-BA6 + ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	3	1
03SB7	ZB4-BA5 + ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	3	1
03HA1	G75-110	ALARM SIREN	GIOVENZANA	QG	3	1
04KM1	LC1D12F7	THREE-POLE CONTACTOR	SCHNEIDER	QG	4	1
04KM2	LC1D12F7	THREE-POLE CONTACTOR	SCHNEIDER	QG	4	1
04QF1	1P C60N 1A - 24235	AUTOMATIC MONOPOLAR MAGNETO-THERMIC BREAKER	SCHNEIDER	QG	4	1
04SA1	ZB4-BG2 - ZB4-BZ101	KEY SELECTOR SWITCH - 2 POSITIONS	SCHNEIDER	QG	4	1
04SA2	ZB4-BG4 - ZB4-BZ101	KEY SELECTOR SWITCH - 2 POSITIONS	SCHNEIDER	QG	4	1
04SB1	ZB4-BA2 - ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	4	1
04SB2	ZB4-BA2 - ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	4	1
04SB3	ZB4-BA4 - ZB4-BZ101	GENERAL PUSH-BUTTON	SCHNEIDER	QG	4	1
04U1	6ED1 052-1FB00-0BA6	PLC LOGO - CPU	SIEMENS	QG	4	1
05SQ1	ZCK M1 + ZCK D16	MECHANICAL LIMIT SWITCH SHORT LEVEL	SCHNEIDER	QG	5	1
05SQ2	ZCK M1 + ZCK D16	MECHANICAL LIMIT SWITCH SHORT LEVEL	SCHNEIDER	QG	5	1
05SQ3	ZCK M1 + ZCK D16	MECHANICAL LIMIT SWITCH SHORT LEVEL	SCHNEIDER	QG	5	1
05SQ4	ZCK M1 + ZCK D16	MECHANICAL LIMIT SWITCH SHORT LEVEL	SCHNEIDER	QG	5	1
05U1	6ED1 055-1FB00-0BA1	PLC LOGO - EXPANSION	SIEMENS	QG	5	1

Via S. Rocco, 8 31041 CORNUDA (TV)
Tel.: +39 0423 639321
Fax: +39 0423 639410
E-mail: box@safi.it

PONTEGGI E STRUTTURE AUTOSOLLEVANTI DA CANTIERE
MAST CLIMBING WORK PLATFORMS - BUILDERS HOISTS

DIS. N. : ######	COMMITTENTE :	ORDINE :	FOGLIO 19
CAD : SPAC	MACCHINA/IMPIANTO : LIFT VISION AS 500 PLC	COMMESSA :	
N. FILE : VISION AS	DENIMINAZIONE : MATERIALS LIST	ESECUTORE : A. Dimitri	SEGUE 20
POS. ARCH.:	DATA : 04/05/12 AGG. : a b		

Fig. 12-15 : Material list #1

1	2	3	4	5	6	7	8	9	10

Nome/Item	Tipo/Type	Descrizione/Description	Costruttore/Marke	Quadro/Board	Fg/Sh	Q.ta/Q.ty
05KM1	LC1D09F7	THREE-POLE CONTACTOR	SCHNEIDER	QG	5	1
05KA1	40.52.8.110.0000 + 99.02.0.230.98	INTERFACE MINI RELAY	FINDER	QG	5	1
05HL1	ZB4-BV043 + ZB4-BVG1	WARNING LED	SCHNEIDER	QG	5	1
05HL2	ZB4-BV043 + ZB4-BVG1	WARNING LED	SCHNEIDER	QG	5	1
06TR1	A/2000 (-30° ÷ + 30°C)	THERMOSTAT	PRODIGY	QG	6	1
06KA1	GC1611F5 + GAC0521	AUXILIARY RELAY	SCHNEIDER	QG	6	1
C1	CHO32 + CNEF16TX + CXM4/2	presa-spina	ILME	QG	1	1
C2	CNEF16TX + CHI16	presa-spina	ILME	QG	3	1
C3	CNEF16TX + CHI16	presa-spina	ILME	QG	4	1

Fig. 12-16 : Material list #2

Via S. Rocco, 8 31041 CORNUDA (TV)
Tel.: +39 0423 639321
Fax: +39 0423 639410
E-mail: box@safi.it
PONTEGGI E STRUTTURE AUTOSOLLEVANTI DA CANTIERE
MAST CLIMBING WORK PLATFORMS – BUILDERS HOISTS

DIS. N. : ######	COMMITTENTE :		ORDINE :	FOGLIO	
CAD : SPAC	MACCHINA/IMPIANTO : LIFT VISION AS 500 PLC		COMMESSA :	20	
N. FILE : VISION AS	DENIMINAZIONE : MATERIALS LIST		ESECUTORE : A. Dimitri	SEGUE	
POS. ARCH.:	DATA : 04/05/12	AGG. : a b		//	

13 LOG BOOK

Directive references

This Log book is issued by SAFI to the lift user, in accordance with annex I of the amended directive 98/37/CE.

Instructions for safe-keeping

This Log book should be considered an integral part of the VISION AS 300 and must accompany the same for its entire life until final disposal.

Instructions for filling in the log book

These instructions are given according to known provisions and norms at the date the lift is first sold. New provisions or norms may be issued thereafter which affect the user's obligations.
The log book is designed for noting, according to the proposed charts, the following events regarding the useful life of the lift:

- transfers of ownership
- replacement of motors, mechanisms, structural elements, electrical components, safety devices and relative components;
- breakdowns of a certain importance and relative repairs;
- periodic checks.

NOTE: Should the sheets of this register be insufficient, add the necessary sheets prepared according to the various charts indicated here below. The user should indicate on the additional sheets the type of lift, the factory serial numbers and the year of manufacture. The additional sheets become an integral part of this Register!

13.1 Record book cards

Ownership of the lift model VISION AS 300

DELIVERY OF THE HOIST TO THE FIRST OWNER:
The VISION AS 300 , serial No ....., year of manufacture ..... specified in this Control Register, has been delivered by SAFI, on ....., to the company
.....
.....
.....in compliance with the contract conditions agreed, having the technical characteristics, dimensions and functions specified in the instructions manual and in the abridgement contained in this Register.

SAFI

SUBSEQUENT TRANSFERS OF OWNERSHIP
As of .....the ownership of the above VISION AS 300 has been transferred to the company.....
.....
.....
It is certified that as at the above date the technical, dimensional and functional characteristics of the above VISION AS 300 are in conformity with those provided for originally and that any alterations have been transcribed into this Register.

The seller The buyer

_____ _____

SUBSEQUENT TRANSFERS OF OWNERSHIP
As of .....the ownership of the above VISION AS 300 has been transferred to the company.....
.....
.....
It is certified that as at the above date the technical, dimensional and functional characteristics of the above VISION AS 300 are in conformity with those provided for originally and that any alterations have been transcribed into this Register.

The seller The buyer

_____ _____

Replacement of mechanisms

REPLACEMENT OF MECHANISMS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF MECHANISMS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF MECHANISMS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

Replacement of structural elements: bases, trestles…

REPLACEMENT OF STRUCTURAL ELEMENTS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF STRUCTURAL ELEMENTS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF STRUCTURAL ELEMENTS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF ELECTRICAL COMPONENTS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF ELECTRICAL COMPONENTS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

REPLACEMENT OF ELECTRICAL COMPONENTS

Date..... Description of element.....

Manufacturer..... Supplied by.....

Reason for replacement.....

.....

.....

.....

The person assigned by the company carrying out the replacement The user

_____ _____

Replacement of safety devices and relative components see INFORMATION ON SAFETY AND DEVICES

REPLACEMENT OF SAFETY DEVICES AND RELATIVE COMPONENTS

Date... Description of element..

Manufacturer............................... Supplied by...

Reason for replacement..

....

....

....

The person assigned by the company carrying out the replacement The user

______________________________________ ____________

REPLACEMENT OF SAFETY DEVICES AND RELATIVE COMPONENTS

Date... Description of element..

Manufacturer............................... Supplied by...

Reason for replacement..

....

....

....

The person assigned by the company carrying out the replacement The user

______________________________________ ____________

REPLACEMENT OF SAFETY DEVICES AND RELATIVE COMPONENTS

Date... Description of element..

Manufacturer............................... Supplied by...

Reason for replacement..

....

....

....

The person assigned by the company carrying out the replacement The user

______________________________________ ____________

Faults of a certain relevance and according repair

FAULTS OF A CERTAIN RELEVANCE AND ACCORDING REPAIR

Fault description...

....

Causes..

....

Repair effected

....

....

Signature of the SAFI responsible for repair person The user

___________________________ ________

Place, Date

___________________________ ________

FAULTS OF A CERTAIN RELEVANCE AND ACCORDING REPAIR

Fault description...

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Causes..

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Repair effected

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Signature of the SAFI responsible for repair person The user

___________________________ ________

Place, Date

___________________________ ________

FAULTS OF A CERTAIN RELEVANCE AND ACCORDING REPAIR

Fault description...

....

Causes..

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Repair effected

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....

Signature of the SAFI responsible for repair person The user

___________________________ ________

Place, Date

___________________________ ________

FAULTS OF A CERTAIN RELEVANCE AND ACCORDING REPAIR

Fault description...

....

Causes...

....

Repair effected

....

....

Signature of the SAFI responsible for repair person The user

_______________________________ _______________

Place, Date

_______________________________ ______________

FAULTS OF A CERTAIN RELEVANCE AND ACCORDING REPAIR

Fault description...

....

Causes...

....

Repair effected

....

....

Signature of the SAFI responsible for repair person The user

_______________________________ _______________

Place, Date

_______________________________ ______________

FAULTS OF A CERTAIN RELEVANCE AND ACCORDING REPAIR

Fault description...

....

Causes...

....

Repair effected

....

....

Signature of the SAFI responsible for repair person The user

_______________________________ _______________

Place, Date

_______________________________ ______________

12.2 Periodic checks

The user is obliged to observe the maintenance and control schedule described in this instruction booklet.

N°	DATE	DESCRIPTION OF WORK	SIGNATURE
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Table 11 : Table of periodic checks

14 SERVICING

With respect to the maximum performance obtainable from the machine and to extraordinary maintenance operations, this manual cannot replace the experience of trained and qualified installers, operators and maintenance engineers. The After Sales Service will supply information by telephone and by mail as well as training and maintenance interventions.

Request of assistance interventions

For the Technical Assistance Service contact:

SAFI, Via S. Rocco - 31041 Cornuda - TV - **Italy**
tel. 0423 - 639321 **fax** 0423 - 639410
http://www.safi.it **e-mail**: box@safi.it

When requesting service visits, please state the type, model and serial number of the machine.

14.1 Requests for spare parts

When requesting spare parts please state the following information:

- Type of machine.
- Spare part code.
- Year of manufacture.