



# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual

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## Section 1: Introduction

### 1.1 Consulting the Manual

This manual is divided into chapters and sections, which are numbered to make them easier to consult. Each page features:

- The manufacturer's logo
- Number and title of the chapter it belongs to
- Document text
- Pictograms
- Page number

#### 1.1.1 Pictograms relating to "Operator Qualification"



Generic unskilled worker (operator): operator with no specific skills, capable of performing only simple tasks following instructions from qualified technical personnel



Operator of lifting and handling equipment: operator qualified to use equipment to lift and handle materials and units (following the manufacturer's instructions to the letter), in compliance with current code in the system user's country



Maintenance mechanic: qualified technical personnel who can operate the system under normal conditions, make it work using controls with latching action with safety devices/guards disabled, and perform work on mechanical parts for necessary adjustment, maintenance and repair purposes. This person is not usually qualified to carry out work on live electrical systems



Maintenance electrician: qualified technical personnel who can operate the system under normal conditions, make it work using controls with latching action with safety devices/guards disabled; this person is tasked with performing adjustment, maintenance and repair work of an electrical nature. This person is qualified to perform work inside electrical enclosures and junction boxes with the power on.



Maintenance electrician: qualified technical personnel who can operate the system under normal conditions, make it work using controls with latching action with safety devices/guards disabled; this person is tasked with performing adjustment, maintenance and repair work of an electrical nature. This person is qualified to perform work inside electrical enclosures and junction boxes with the power on.

#### 1.1.2 Pictograms relating to "Manual Consultation"



##### IMPORTANT

Text marked by this symbol indicates a potential hazard and is designed to draw the attention of operators to avoid them running into a series of consequences that could result in damage to the system and/or injury to the operators in question.



##### REMINDER TO RESPECT THE ENVIRONMENT

Text marked by this symbol contains warnings regarding the environment



##### NOTE

Text marked by this symbol contains additional information





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## 1.1.3 Safety Related Mandatory Pictograms



Hard hat must be worn

Where this symbol is displayed, operators are required to wear suitable hard hats



Safety gloves must be worn

Where this symbol is displayed, operators are required to wear electrical/heat-insulating gloves



Safety footwear must be worn

Where this symbol is displayed, operators are required to wear suitable safety footwear



Safety overalls must be worn

Where this symbol is displayed, operators are required to wear approved safety clothing (e.g. overalls).



Safety eyewear must be worn:

Where this symbol is displayed, operators are required to wear eye protection.



Ear protection must be worn:

Where this symbol is displayed, operators are required to wear safety earmuffs as there is an implicit noise pollution hazard.

## 1.1.4 Safety Related Hazard Warning Pictograms



Flammability Hazard

Where this symbol is displayed, operators are required to exercise special care due to the implicit danger associated with explosive material



Hot Hazard

Where this symbol is displayed, operators are required to exercise special care as it indicates a risk of coming into contact with hot parts



Crushing Hazard to Upper and Lower Limbs

Where this symbol is displayed, operators are required to exercise special care around all mechanical parts that could result in the operators' upper limbs or lower limbs being crushed as a result of carelessness or unexpected movement of said parts



Dragging Hazard

Where this symbol is displayed, operators are required to exercise special care around all mechanical parts that could result in entanglement and subsequent injury as a result of carelessness or unexpected movement of said parts.



Danger Overhead Loads

This symbol is displayed to warn operators of the danger of overhead loads due to parts of the system being lifted.



Electrocution Hazard

Warns the personnel in question that the operation described can involve the risk of electric shock if not carried out according to safety rules



Slipping Hazard

This symbol is displayed to warn operators of the danger of slipping on oil or grease stains on the floor near the system.



Danger! Look out for lift trucks:

This symbol is displayed to warn operators of the danger associated with vehicles operating near the system



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## 1.2 General Information



### IMPORTANT

BEFORE PERFORMING ANY WORK ON THE SYSTEM, THE APPOINTED OPERATORS AND TECHNICAL PERSONNEL ARE REQUIRED TO READ THE INSTRUCTIONS HEREIN AND FOLLOW THEM. IF IN ANY DOUBT AS TO THE CORRECT INTERPRETATION OF ANY INSTRUCTIONS, GET IN TOUCH WITH OUR CUSTOMER SERVICE DEPARTMENT WHO WILL ANSWER ANY QUERIES YOU MAY HAVE.

This instruction manual refers to: MCA

This operating manual contains the main information required to store, move, install, use, monitor, service and dismantle the system.

This manual is an integral part of the system and must be kept safe for future reference until the system is dismantled at the end of its service life. In the event the copy of the manual in your possession becomes damaged, making it unusable, you can order a new copy from:

Remember to quote the type of system and serial or order number featured on the nameplate of the system in question.

We do not accept responsibility for translations into other languages that do not convey the original meaning.

This manual reflects the state of the system at the time it is supplied and cannot be deemed inadequate merely on the grounds of it being subsequently updated based on new developments. The Manufacturer reserves the right to upgrade its products and update its manuals, and is under no obligation to upgrade and update previous products and manuals, or to advise users of previously supplied equipment of any such upgrades or updates. Please understand that any notification you receive of proposed manual updates and/or system upgrades is given out of courtesy. Nonetheless, you can contact the customer service department for information on what upgrades have been made to the system.

### 1.2.1 General Information on Using the System

- This manual has been produced in order to provide the user with general information on the system and maintenance instructions deemed necessary for the system to operate properly.
- Before performing any work on the system, read the Manual carefully as it contains all the information required to use the system correctly and avoid accidents.
- The checking and maintenance intervals given in the manual are always meant as minimum intervals required to ensure the system operates efficiently and safely and has a long service life under normal operating conditions. Nonetheless, constant attendance is required and any trouble encountered must be dealt with promptly.
- All routine maintenance, checks and general cleaning must be carried out with the system stopped and disconnected from power supplies (mains electricity and other power sources).

## 1.3 Warranty

A full warranty is given (covering everything except parts subject to normal wear and tear) for 12 months from the date the system is received (the date given on the system's delivery slip will be effective for the purpose of warranty claims). The warranty includes the replacement or repair FREE OF CHARGE of defective parts (acknowledged as such by ASG) not including the cost of installation. Warranty service is provided on an ex-works basis from our facility, with packaging and transport costs to be borne by the customer



### IMPORTANT

- Any unauthorized changes to or tampering with the system or its safety systems shall relieve the manufacturer of all liability in terms of warranty and safety.
- Any work the manufacturer is asked to perform as a result of the system in its original as-delivered state being tampered with, without written permission, shall be at the expense of the customer alone

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## Section 2: General Features

### 2.1 Intended Use



- The partly completed machinery MCA is a self-feeding tightening system: a powerful and versatile tool designed to meet self-feeding tightening requirements.
- The system is intended for use in the industrial sector under normal environmental conditions.
- Only personnel who have been trained on the features of the system and who are familiar with the contents of this manual should be allowed to operate the system.
- The system operates in semiautomatic mode.

#### 2.1.1 Unpermitted Use

It is prohibited to use the system, or any part thereof:

- With guards removed and/or with safety devices disabled, faulty or missing;
- If it has not been installed correctly;
- Where it poses a hazard or is malfunctioning;
- For any use for which it was not intended or for use by untrained personnel;
- For use that is not in compliance with the specific regulations;
- In the event the power supply is defective;
- In the event maintenance is seriously lacking;
- Unless wearing the PPE prescribed for the specific operation;
- Unless the operator has been suitably trained and instructed as laid down by directive 89/391/EEC (as subsequently supplemented and amended) on workplace safety;
- Following unauthorized changes or work;
- With material and/or tools other than those prescribed for the system's normal operation;
- With operating temperatures over 75°C;
- In environments where salt mist is present;
- When failing to comply, wholly or in part, with the instructions

The system is not intended to be used under any of the following conditions:

- In environments where the average temperature over the 24-hour period is over +40°C or below +2°C;
- With relative humidity exceeding 70%;
- At altitudes more than 3000 m above sea level;
- In an explosive atmosphere or in any place where there is a risk of fire.



#### IMPORTANT

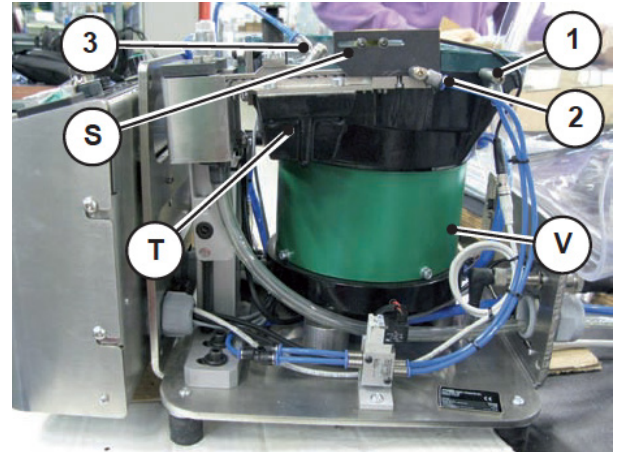
- No departure from the above-mentioned rules is permitted without a specific written statement from the manufacturer.
- Any change that is not authorized by the Manufacturer and that affects the system's prescribed functions, altering the risks and/or generating new ones, will be the sole responsibility of the person performing said changes.
- Said changes, where made without the Manufacturer's permission, shall also void all form of warranty issued and shall render invalid the declaration of conformity prescribed by the Machinery directive 2006/42/eC.

## 2.2 Main Components List

The system is made up of the following main components:

Screw feeding: comprises:

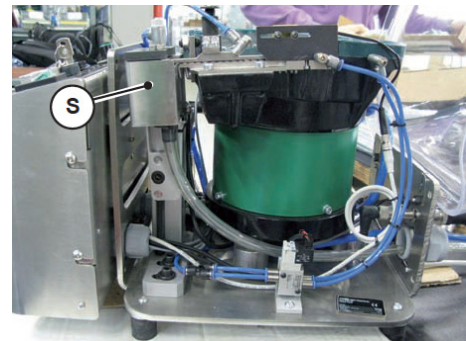
- Circular vibratory feeder (V)
- Tooled bowl (T): fastened with 3 screws to the vibrating base and fitted with three flow regulators designed to:
  1. Allow the screws to fall into the bowl if the overflow sensor detects the presence of a screw; the regulator stays active until the screw clears the sensor
  2. Allow screws that are misoriented when they arrive to fall into the bowl (this regulator is an optional extra)
  3. Push the screws forwards so as to ensure the shooting unit is fed correctly.
- Overflow sensor (S)



Screw selector and shooting unit (s):

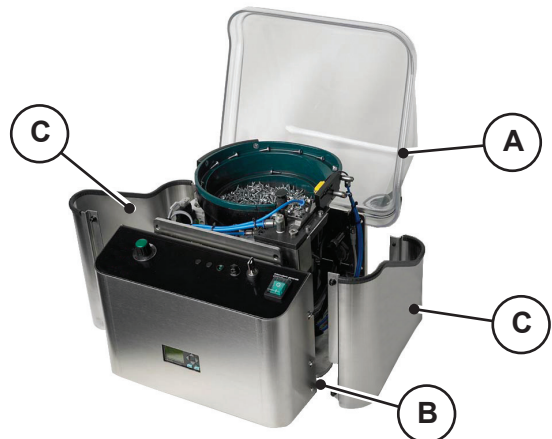
System that uses a carriage driven by a pneumatic cylinder to separate the screws and convey them individually inside a tube, in which a blast of compressed air provides the thrust required to send the screw into the tightening head.

To encourage separation of the screws lined up by the vibratory feeder, there is a slide fitted with a blade that is activated at each cycle to separate the screw from the screws pushing behind it.



Base and enclosure:

Made up of a metal base (B) fitted with feet for positioning on level surfaces, on which two right and left side slot-in enclosure panels (C) are fastened along with an opening top guard (A).



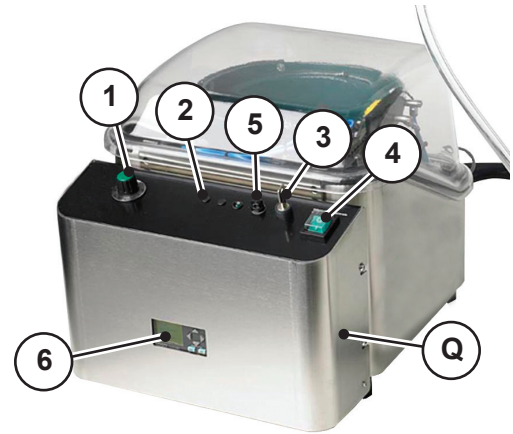


## 2.2 Main Components List

Electrical enclosure (Q) and controls:

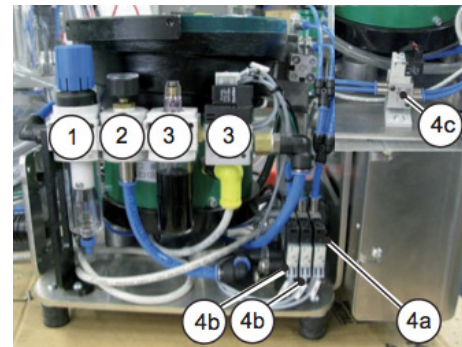
Sitting on the load-bearing frame and covered by a guard fastened by 4 screws, with the following items located on its top:

1. Vibration control
2. 3 indicator LEDs that change color depending on the type of tool and device
- S1= (green) mains power ON
- S2= not used
- S3= not used
3. Key-operated selector for switching between tightening program 1 and 2 (optional in some cases);
4. I/O (ON/OFF) switch
5. 24V fuse
6. Operator panel for setting certain parameters (e.g. times, etc.).



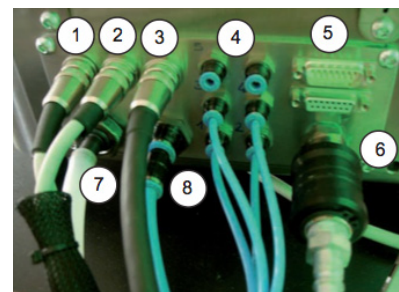
Compressed Air (air treatment) unit: comprises:

1. Regulator filter
2. Module for non-lubricated air delivery with pressure indicator
3. Oil feeder with lubricated air delivery valve
4. (Optional extra only with auto-fed tool)
- 4a. Solenoid valve unit:
- 4b. Manages operation of selector and screw feeding for auto-feed management (optional extra only with auto-fed tool)
- 4c. Regulates the flow regulator blast for non-tip system (optional extra fitted with non-tip system to reduce air consumption).



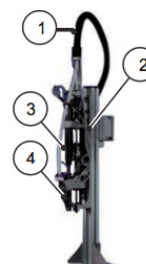
Rear interface: comprises:

1. EC1 EMERGENCY interface
2. EC2 I/O interface with client
3. EC3 fastening slide interface
4. Fastening slide movement hoses interface
5. Interfacing with MCB electric tightening system
6. Air inlet slider valve
7. Screw shooting tube
8. Air motor supply hose



Tightening system: comprises:

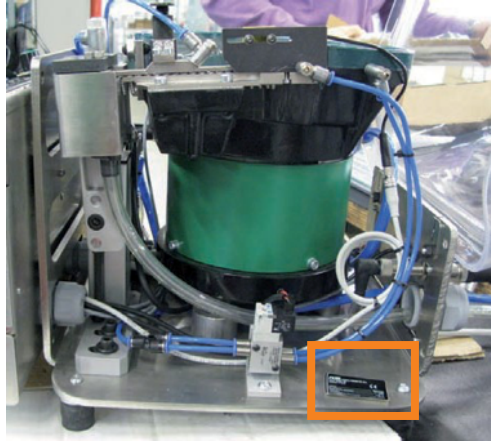
1. Tube carrying hoses and cables to tool
2. Hook for balancer
3. Tool with quick release
4. Screw head



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## 2.3 Nameplate



The system's identification data are found on the plate installed on the actual system.



### IMPORTANT

- The data given on the nameplate cannot be changed for any reason.



### NOTE

You must quote the serial number whenever you contact the manufacturer for information or to order spare parts.

The nameplate features the following data:

<b>Code</b>	XXXXXXXX	
<b>Serial Number</b>	XXXXXXXX	
<b>Year of Manufacture</b>	2010	
<b>Voltage</b>	110/220V	
<b>Frequency</b>	50/60 Hz	
<b>Compressed Air Supply</b>	0,6 MPa (6 bar)	
<b>Guaranteed Rate</b>	1000nl/min.	
<b>Weight</b>	Unit body	approx 36kg
	Tool	approx 1.3kg



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## 2.4 Technical Specifications

### 2.4.1 System Specifications

See cap. 2.3 "Nameplate"

### 2.4.1 Information on Airborne Noise

Sound pressure level: less than 80 db(A) (with upper guard closed)

### 2.4.3 Electromagnetic Compatibility

The measures taken to minimize the effects of interference from other sources on the system in question are described below:

- All metal parts are earthed;
- Wires carrying signals with a voltage below 30 volts are shielded;

To ensure that the devices adopted at the manufacturing stage work as intended, the end user is required to see that the electrical enclosure is earthed correctly and that the wires carrying signals with a voltage below 30 volts are shielded correctly. All wires are made from flame-retardant insulating material type N03V-k and have an insulation rating of at least 300 volts.

Cable raceways are also made from flame-retardant insulating material

### 2.4.4 Products that can be Handled

Screw specifications:

- Head diameter: from 4.5 up to 13.5mm
- Shank diameter: from 2 up to 6 mm
- Total length: 8 to 35 mm



#### NOTE

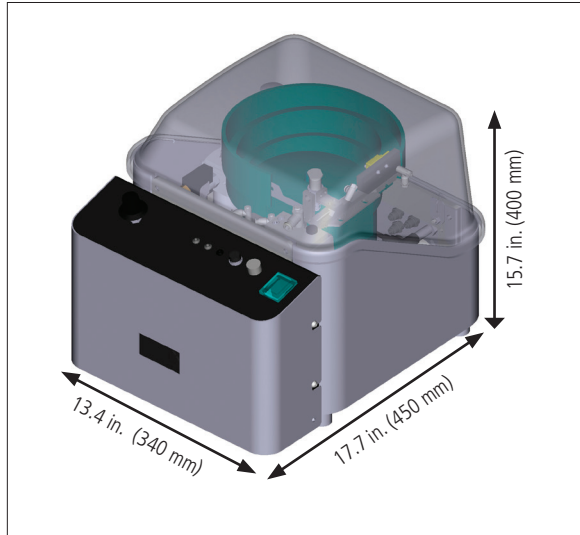
Whatever the case, make sure the total length of the screws is at least 1.5 times the maximum diameter of the head or, if they do not fall within the ranges given, that they have at least been approved by ASG for the system to which this manual refers



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## 2.4.5 General Dimensions



Typical Application:

Length of Tool: approx.  
20 in. (500mm)

Length of Hose Bundle:  
approx. 11.5 ft. (3500mm)





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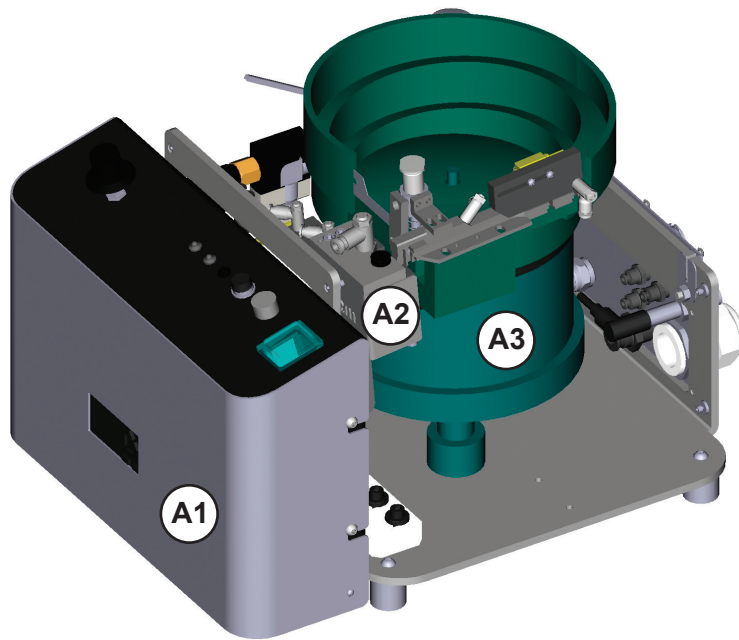


## Section 3: Safety Standards



### IMPORTANT

- Starting up or using the system with the guards or safety devices removed is strictly prohibited



### 3.1 Guards

Fixed Guards: Fixed panels attached to protect areas of the system to which access is not required while the system is operating.



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## 3.2 Residual Risks



**Personal Protective Equipment (PPE):** Where work must be carried out by hand for operating or maintenance purposes, the required PPE must be worn at all times, namely:

- Overalls
- Ear Protection
- Heat Resistant Gloves
- Hard Hat
- Non-slip Footwear
- Protective Eye Wear



**Unexpected/Accidental Machine Starting:** This is avoided by instructing the operator to remain alert and be prepared for this type of event:

- Switch off the power supply with the master switch and padlock it in the OFF position;
- When work is to be performed, advise the direct supervisor so that nobody can start the unit up inadvertently.



**Tightening Head:** During the tightening stage, the blade comes out of the head and poses a hazard due to its high-speed spinning: do not touch it and do not use clothing or objects that may become entangled in the moving part

**Sudden Start of Tightening Cycle:**

- Never leave the tool unattended with the switch ON
- Keep at a safe distance from the tool - keep away from your body
- Make sure that there is nobody in the work area when using the tool

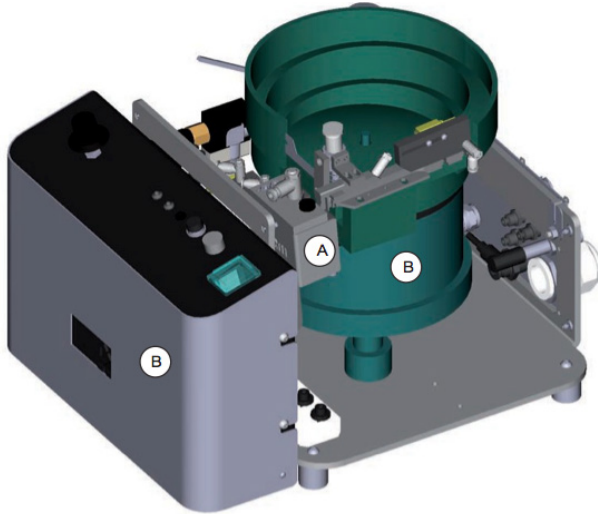
**Breakage of Feeding Tube:** Should the feeding tube accidentally break during screw feeding, there is a residual risk due to the speed at which the screw is shot out. To avoid this hazard, check the tube for wear regularly. At the same time, check that it is firmly fastened to the head, screw selector and feeding unit. If you notice even minor tears, inform authorized personnel that it needs to be replaced immediately. In this event, **DO NOT** use the machine. During operation, wear eye protection



**Pinching Hazard:** If the top shield is left open while the machine is operating, there is a risk of pinching; to avoid this hazard, simply switch off the machine whenever the top shield has to be opened to remove jammed screws.

**Rotation:** The air inlet slider valve can be used to exhaust air from the compressed air circuit. Nonetheless, there may still be pressure in the tool supply hose (where applicable). Therefore, the motor should be allowed to keep running until it stops on its own.



## 3.3 Location of Pictograms



A		Moving Parts in Maintenance Areas Warns that there are moving parts present and not to perform maintenance while parts are moving.
B		Electrocution Hazard Located on enclosures containing cables and electrical equipment, warns that there is hazardous voltage.

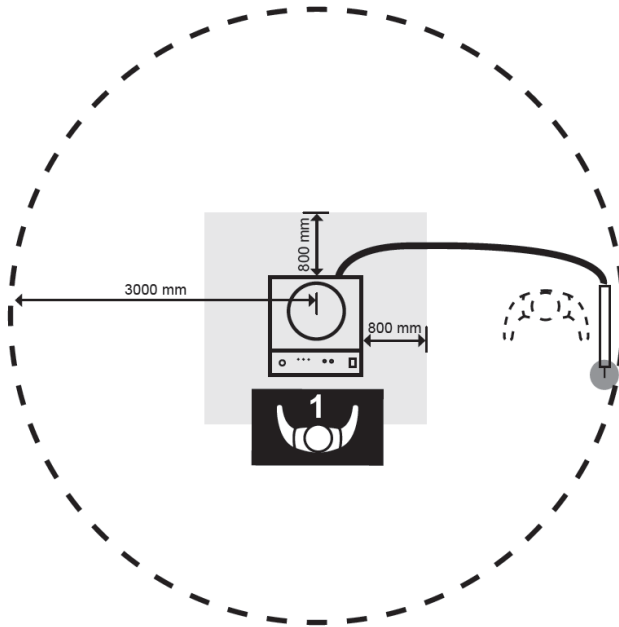


### IMPORTANT

- Pictograms located on the system cannot be changed or removed for any reason: they must be visible and legible at all times.
- If pictograms are damaged and/or missing, have them replaced.



## 3.4 Operator Work Station



1

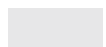
### Unit operating zone

Area designated for unit operator. While the unit is operating, the operator must stay in this zone, which affords an excellent view of the unit's production cycle and provides the means for controlling or stopping the unit. This zone is located in front of the control and command panel



### Work Zone

Work area in which the operator performs routine manual operations required for the unit's normal operation. This zone must be free of any kind of permanent or temporary risk that could expose the operator to injury (tripping, knocks, slipping, etc.).



### Unit Maintenance Zone

Work area in which the operator performs manual operations only for maintenance and/or adjustment purposes. It is strictly prohibited to enter this zone while maintenance is in progress (MOVING PARTS). Only qualified personnel are allowed to enter and only when all forms of power are cut off to the unit. Cordon off the zone when said work is in progress.



### Danger Zone

This is the area in which the unit performs its job. It is strictly prohibited to enter this zone while work is in progress and/or while the unit is switched on (MOVING PARTS). Crushing/entanglement hazards for the operator are associated with entering this zone. Only qualified personnel are allowed to enter and only when the unit is switched off.



### IMPORTANT

- Stop people entering or passing through the above-mentioned zones to protect the safety of personnel



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## 4 Putting Into Service



### 4.1 General Warnings



#### IMPORTANT

- Before putting the unit into service, make sure you have understood the contents of this manual.
- Do not point the shooting tube at yourself or others as there is a chance a screw might shoot out accidentally, posing a very high risk of personal injury



#### NOTE

The unit has been designed to be used by a single operator.

- You are advised to contact the manufacturer if you have queries or require further details.
- Operators given the task of operating or performing maintenance on the unit must have the specific skills as specified herein, and must also meet the physical and mental requirements to perform work on the unit.
- The following sections cover the procedures for putting the unit into service.
- Duties of unskilled worker (operator): Load the screws in the auger, remove screw jamming under the top shield, switch the unit on/off, where applicable select program 1 or 2 and adjust auger vibration intensity

### 4.2 Operation

The operator fills the bowl with screws manually, lifting the cover

Check that the tool is fitted with the right blade. Press the I/O key so that it is set to ON.

Adjust vibratory bowl feeder intensity where necessary (default setting "5").

At this point, the unit is ready to operate; quickly pumping the tightening cycle start lever twice or simulating tightening against a surface draws in the screw. Keep the lever pressed or push the tool to perform tightening.

During operation, it is up to the operator to keep the vibratory bowl unit loaded with screws with suitable specifications. To do this, lift the top Plexi-glas guard and pour screws into the bowl



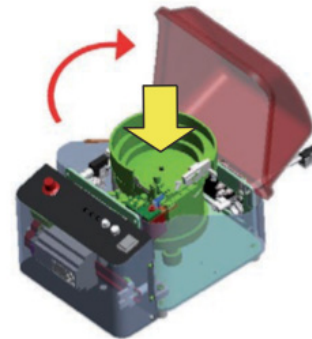
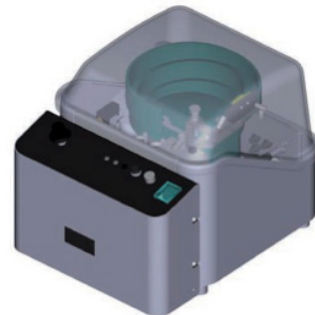
#### NOTE

Load only with screws of a size that the unit can handle, see "specifications"



#### IMPORTANT

- Take care while loading the screws not to touch the vibratory bowl as it will be operating





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## 4.3 Size Change

The operator fills the bowl with screws manually, lifting the cover

When changing to a different size, you will need to remove all screws from the vibratory bowl and fill it with the new ones. Where necessary, replace the blade (see "Adjustments" chapter).

## 4.4 Command and Control Panels

Under normal conditions, the panel will appear as illustrated:

Where:

<b>1000:</b>	This is the number of tightenings performed, in thousands
<b>CiCL:</b>	This is the number of tightenings performed; as soon as it reaches one thousand, the above value is increased and this value is reset to zero

From this screen, by pressing the cursor at the bottom the clock is displayed, pressing ESC a menu with 4 options appears, select "Set Param..." press OK and then, scrolling up, you will find these options:

<b>T_SELEZ:</b>	It is the time that includes screw shooting, screw feed blasting (in the slides) and selection time.
<b>RiT_SPAR:</b>	It is the time that elapses from when motor torque (or tightening simulation) takes place and screw shooting starts.
<b>MIN_AVVÈ:</b>	It is the minimum tightening time that prevents a screw from being sent while there is an ongoing tightening (if calibrated exactly it prevents a screw from being sent if the previous one has not been tightened properly).
<b>T_ViB:</b>	This gives duration of the vibrations (it is advisable never to go below 5-6 seconds because it could condition screw loading).
<b>TP_ON and TP_OFF:</b>	These are the times that control the "overflow" blast; when the screws break the sensor's beam for a set time (TP_ON), the side expulsion blast is switched on; as soon as the sensor no longer detects screws, the second time (TP_OFF) starts, after which the blast is switched off



### Adjusting operating parameters:

To alter the times, choose the parameter to be edited and press OK and change the value with the up/down cursor; with the right/left cursor select the unit to be edited



#### NOTE

The system is delivered factory set for optimum use with the screws previously supplied to ASG by the customer for the system's production.



#### IMPORTANT

If inappropriate changes are made to the times, this may result in jamming or system malfunctioning. ASG declines all responsibility for any consequences as a result of inappropriate changes.

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## 4.5 Description of Starting and Stopping Procedures



### NOTE

This manual contains only basic information, see the ELECTRICAL ENCLOSURE MANUAL attached for more detailed information



### Normal Start

Set the ON/OFF switch to 1 (ON)  
Switch on air using the manual slider valve (see section 6.6.2).

### Normal Stop

Set the ON/OFF switch to 0 (OFF).  
Switch off air using the manual slider valve (see section 6.6.2).



# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual

## 5 Transporting and Handling



### IMPORTANT

All handling and lifting operations must be carried out according to current safety and accident-prevention rules.



### 5.1 Lifting and Transporting Packaging

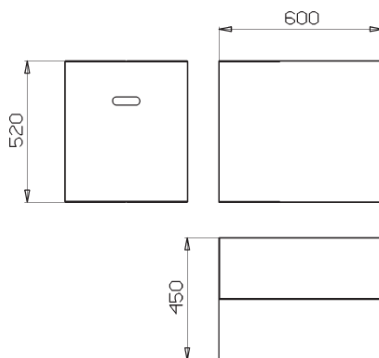


### IMPORTANT

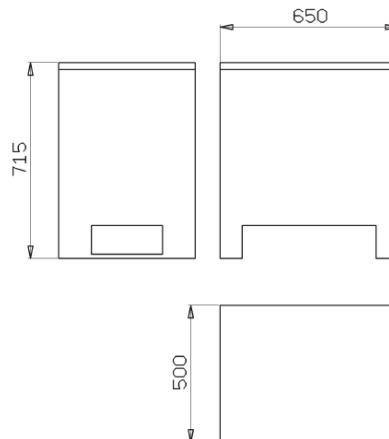
Nobody must be allowed to linger within range of lifting equipment while the system is being handled except for the operator authorized to use the equipment



Before starting to lift the system, you should check that the lift truck's capacity is high enough to take the system's gross weight. Depending on the type of shipment, the system may be supplied in two different types of packaging



Cardboard packaging: total weight 40 kg.  
Can be lifted manually by two operators  
using the relevant openings in the sides.



Wooden packaging: total weight 55 kg.  
Can be lifted with a lift truck using the  
relevant opening in the base.





# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual



## 5.2 Unpacking



### ENVIRONMENTAL RESPECT

All waste must be collected up and placed in the relevant bins for source-separated waste: littered waste can constitute a source of pollution and danger



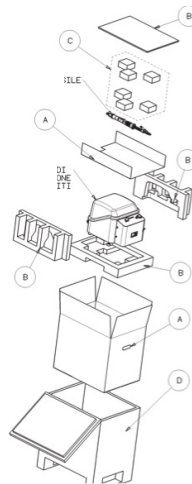
### IMPORTANT

Check the system and all its parts for any sign of breakage as a result of knocks suffered during transit. If you notice damage, advise the manufacturer and insurance company immediately, leaving everything as you found it



### Packaging Contents

A	Cardboard Box
B	Polystyrene products
C	Protective polystyrene material
D	Wooden packing case
E	Tool
F	Screw feeding unit
G	Operating and maintenance manual
H	Accessories kit: comprising HAND SCREWDRIVER for adjusting air blast, HOSE ADAPTER for inserting unit supply hose, SOCKET WRENCH for aligning bowl with selector, 6mm ALLEN KEY for blade change and 4 spare blades)



Once you have opened the packaging, remove the unit, holding it at the base: this is a 2-person job to be carried out by maintenance personnel

## 5.3 Storage Conditions

In the event the unit and its components are to be mothballed out of their original packaging, you are advised to place the unit indoors or under shelter, preferably where temperatures remain in the 0 °C to +40 °C range and where humidity levels do not encourage rusting of the unit's untreated metal parts.

You will also need to protect all unpainted parts of the unit with rust-inhibiting oils and suitably grease all sliding parts. Lastly, cover the unit with a waterproof plastic tarpaulin.

The unit must be kept in its transport position without stacking other material on top to avoid damaging the unit's parts, which could affect its operation and safety.



### NOTE

Should you need to move the unit from its original installation site, contact ASG.

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## 6 Installation



### IMPORTANT

Installation must be carried out only by the manufacturer's skilled technical personnel in compliance with current safety and accident-prevention rules



## 6.1 Environmental Operating Conditions



The unit has been designed to operate in industrial environments, in a non-explosive atmosphere, with temperature and humidity values within the ranges given below:



Temperature	min +2°C	max +40°C
Humidity	min 10%	max 80%



Also make sure that the following environmental conditions are met:



### Lighting



The unit's installation site must have adequate natural and/or artificial lighting in compliance with current code in the country where the unit is installed: we recommend an average light level of 300-500 lux.

Lighting must be even, must assure good visibility across the whole unit and must not create hazardous reflections or stroboscopic effects.

### Location

The unit must be placed on a work bench with sufficient load capacity and adjustable feet so that the resulting workstation allows the operator to work safely, in a comfortable position, and have full control of the unit.

### Power sources

Power sources (electricity, compressed air...) must be direct and easily accessible.

## 6.2 Duties of the User

The user is responsible for preparing:

- Installation sites as laid down by current local code regulating health and safety in the workplace.
- Electricity supply in compliance with current code where the unit is installed.
- An earth system in efficient working order.
- A circuit breaker to protect against short-circuits, residual currents and leakage between the unit's mains power supply line.
- The work bench on which the unit will sit and anchoring of the unit by means of relevant fastening feet

## 6.3 Clearance

Minimum clearance around the unit: 800 mm (each side)



### IMPORTANT

Check that there is sufficient clearance around the unit for all adjustment and maintenance operations to be performed easily.



# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual



## 6.4 Positioning



### IMPORTANT

Positioning the unit on the work bench is a 2-person job to be performed by maintenance personnel.



1. Position the unit so as to provide the user with easy access to the control panel and to the cover for the operator to load screws.



### IMPORTANT

- Make sure that the operator's work zone is safe and free of obstacles or other hazards likely to cause accidents
- Once The unit is in place, make sure that cables and/or Hoses belonging to the systems on the unit have not been crushed

1. To keep the unit stable, you will need to choose a support that is strong enough to take the weight of the unit and able to dissipate any residual vibrations. As an additional safety measure, we recommend fastening the unit to the surface it sits on with at least two screws in the feet



### NOTE

Performing this adjustment correctly will give the unit improved rigidity, avoiding excessive vibrations



1. Once you are happy with alignment, level the unit using the work bench's feet: place a spirit level on the unit's horizontal work surface and adjust the bolts at the base of each foot the work bench stands on



### IMPORTANT

The manufacturer declines all responsibility for damage to property or injury in the event the guards and/or safety devices originally fitted on the unit have been changed, tampered with or removed



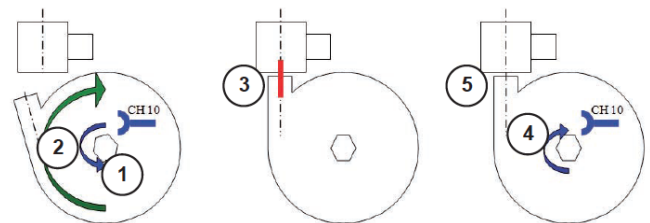
## 6.5 Assemblies



### 6.5.1 Bowl Selector Alignment Procedure



1. Unscrew the bowl fastening nut and open the rotating top shield
2. Turn the bowl, aligning the channels between the bowl and selector
3. Insert the alignment block included in the kit provided
4. Fasten the bowl nut
5. Remove the block and close the rotating top shield





# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual

## 6.6 Connections

### 6.6.1 Electrical Connection



#### IMPORTANT

All operations involved in connecting the unit to the main power supply must be performed by qualified and explicitly authorized personnel, with power cut off to the mains power line and in full compliance with current code whatever the case. If the unit is not in a safe condition, it must not be connected to power sources (electrical and compressed air) or at least not to both at the same time!

- Make sure that mains voltage and frequency match the ratings indicated on the unit and on the wiring diagram.
- Mains voltage must deviate from the rated value declared by the manufacturer by no more than 5%.
- The ON/OFF switch must be set to 0 (OFF).
- Shape-Plug the power cable into the power outlet. Check that there are no objects or foreign matter within the unit's work zones then turn on the unit's power by setting the ON/OFF switch to I (ON). The ON/OFF switch lights to indicate that the power is on



### 6.6.2 Electronic Connection

Connect according to the technical specifications given in the electrical manual attached: EC1 EMERGENCY interface ShapeEC2 i/o interface with client.



## 6.6 Connections

### 6.6.3 Compressed Air Connection



#### IMPORTANT

Hook up to the compressed air supply with the unit unplugged from the mains and with the facility's air supply circuit shut off.



Using appropriate hosing, connect the compressed air supply to the filter-regulator unit's inlet by attaching a supply hose with an inside diameter of 12 to the fitting and using a hose clamp to secure it. Pressure must be in the range 6 to 7 bar.

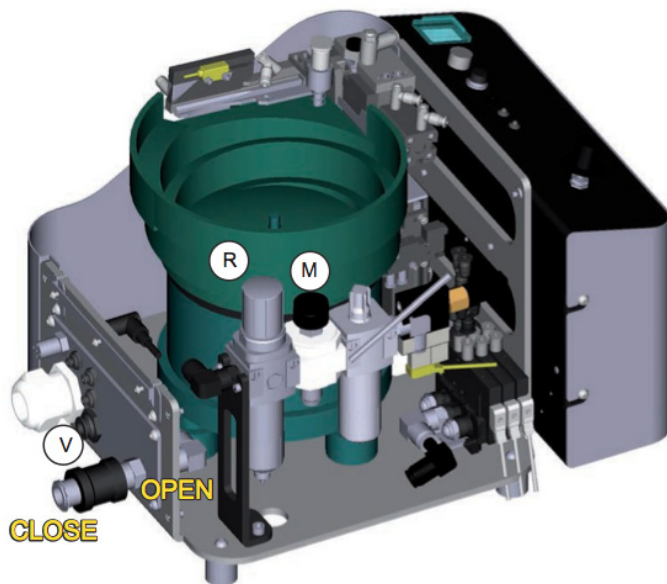


Open the supply system valve, once you have checked that the manual slider valve (V) is closed (pulled in the opposite direction to the unit's housing); open the manual slider valve by pulling it towards the unit's housing and check the pointer on the pressure gauge (M) to ensure that there is air in the unit, increasing pressure to 6 bar by adjusting the air filter regulator (R)



#### IMPORTANT

The supply line must be fitted with a filter and shutoff valve so that the system can be isolated from the supply for the purpose of performing maintenance or work on the unit that is not directly linked to normal use. If the unit is not in a safe condition, it must not be connected to power sources (electrical and compressed air) or at least not to both at the same time!





# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual

## 7 Adjustments



### IMPORTANT

Unit adjustments must be made in compliance with current safety rules.

Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.



### Adjusting Vibration Intensity

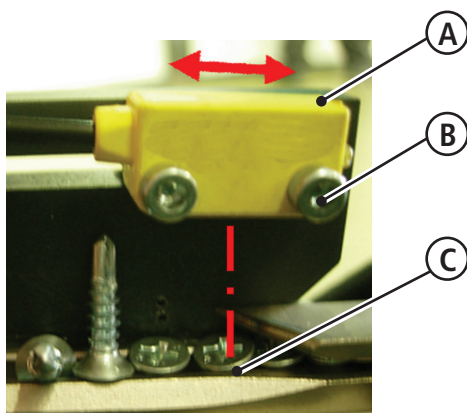
The potentiometer can be used to adjust vibration intensity so that screws climb in a linear manner and not too quickly.



### Setting the Photocell along Sidewall Slot

To set the photocell (A) along the sidewall slot, proceed as follows:

- Loosen the two fastening screws (B) so that the photocell is allowed to slide along the slot.
- Fill the queuing channel so that just one screw (C) is still outside the rotating top shield.
- Centre the photocell's beam to hit the middle of the last screw (C).
- Make sure the LED on the sensor lights and stays steadily lit.
- If the operation is successful, tightening the fastening screws (B)



## 7 Adjustments

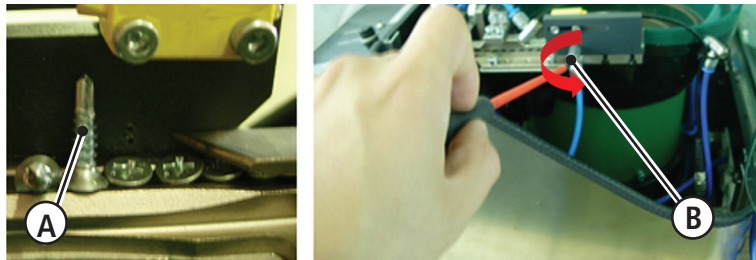


Adjusting the Screw Tipping Blast (optional extra)

The factory setting leaves the flow regulator fully closed. In the event screws appear as illustrated (A), i.e. not hanging by their heads, adjust the blast by proceeding as follows:



- Using a flat-blade screwdriver, turn the blast regulator screw (B) counter-clockwise slightly.
- Make sure that screws in an incorrect position are removed from the track.



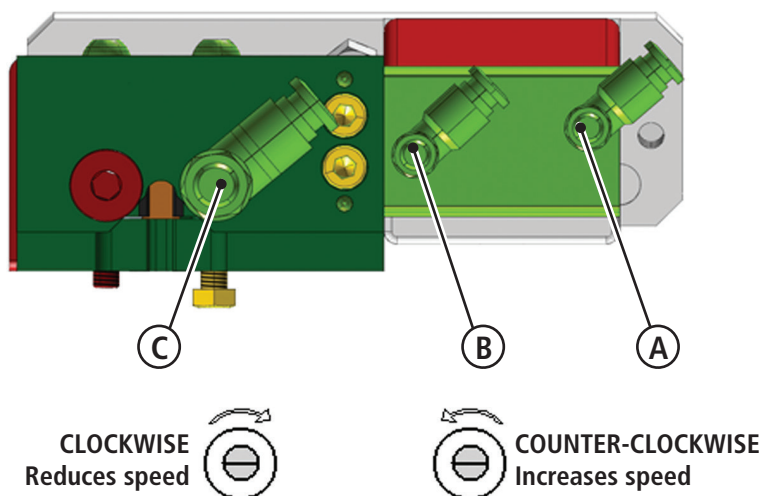
### Setting Screw Selection and Shooting Flow Speed

You can adjust the opening and/or closing speed of the container cylinder using the relevant flow regulator screws illustrated below.

With the aid of a 3mm Ø flat-blade screwdriver, turning the right-hand regulator (A) clockwise slows down the speed at which screws are discharged into the tube. Turning the left-hand regulator (B) clockwise slows down movement towards the center (screw loading).

Vice versa, turning the regulators counter-clockwise increases the speed of the relevant movements. The same principle applies to shooting (C).

Mechanical speed adjustment is inversely proportional to the time settings in the PLC. Therefore, if you increase speed, you must reduce the times and, vice versa, if you reduce speed, you will need to increase the times





## 7.1 Tightening Head



### Adjusting the Head Position

The position of the head can be adjusted by proceeding as follows:



- Hold the head in your hand and use your thumb and forefinger to turn the grooved ring so that it slides approx. 3 mm.
- Turn the head until you reach the correct position (with 120° angles), until the latching balls are allowed to enter the relevant slots in the bushing.
- Make sure that coupling has been successful by checking that the ring has clicked into place completely and that the head does not turn (see section on head disassembly in maintenance chapter).



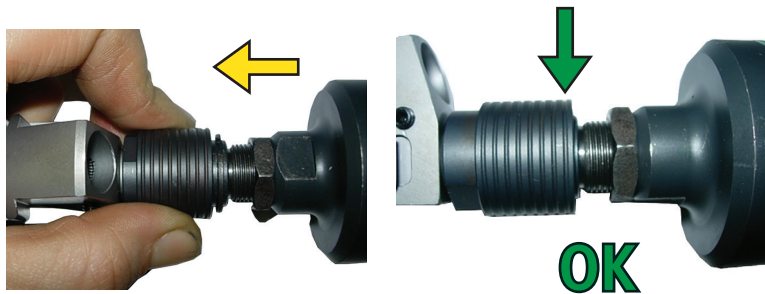
### NOTE

Avoid routing the tube in such a way as to cause possible jamming



### IMPORTANT

Perform the operation with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed)







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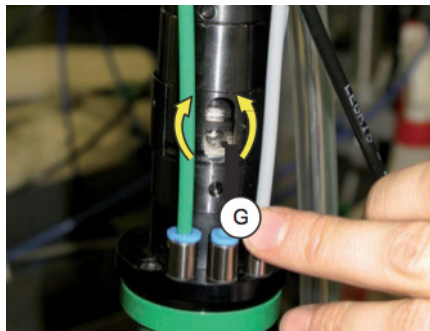
## Tightening Torque Adjustment (Only with Air Tool)

- Disconnect any hoses around the spring-loaded cover band, marking them first to avoid errors when it comes to refitting (where necessary).
- Disconnect the head by means of the quick- connect coupler.
- Set in sync position by turning the blade until the recess (G) is not visible.
- Insert the screwdriver and adjust tightening torque: increase torque by turning the screwdriver counter-clockwise; decrease by turning it clockwise.
- Repeat the procedure in reverse to refit.
- Make sure that coupling has been successful by checking that the ring has clicked into place completely and that the head does not turn (see G section on head disassembly in maintenance chapter).



### IMPORTANT

Perform the operation with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed)



## Setting the Pressure Switch (Only with Air Tool)

In the event no screw is shot into the head when an attempt is made to draw the screw or at the end of tightening, one of the reasons could be that the tool's pressure switch is out of setting. Perform setting by proceeding as follows:

- Activate the tool with no load
- Press the edit key (E) and the sensor will flash; when it stops, it means setting is complete

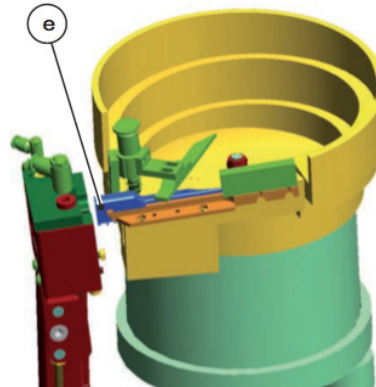
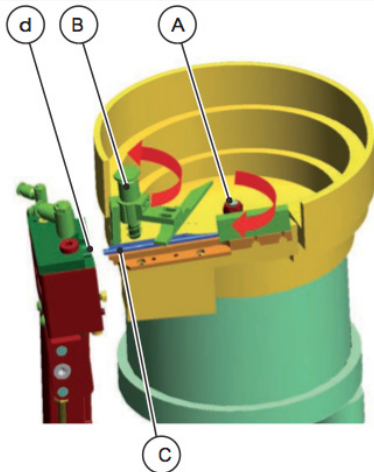




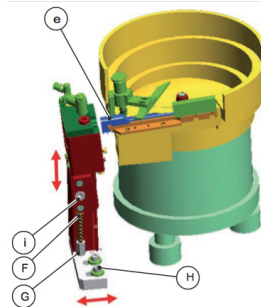
## Bowl and Selector Alignment



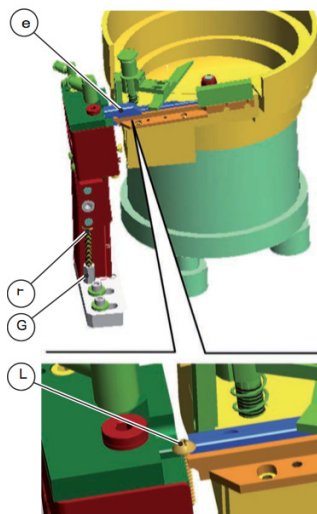
- Loosen the bowl fastening nut (A) using a 13mm socket wrench.
- Turn the rotating top shield (B) to free the fork (C) from obstructions.
- Turn the bowl until the fork (C) is aligned with the opening in the selector that the screw goes through (D)
- Insert the alignment block (E) on the bowl's fork, making sure it is inserted hard up against the raised edges



- Using two 10mm open-end spanners, loosen the hex head screw (F) and locknut (G).
- Using a 6mm Allen key, loosen the selector fastening screws (H).
- Using a 6mm Allen key, loosen the selector height adjustment screw (I).
- Adjust the selector in height and longitudinally so that it sits hard up against the alignment block (E).
- Using a 6mm Allen key, tighten the selector adjustment screws (F - G)



- Remove the alignment block (E) and insert a screw (L) on the fork, making it slide between the bowl and selector to check that the selector's height is set correctly, hence make sure that there are no jumps in height. Where necessary, set the height of the selector again.
- Tighten the hex head screw (F) under the bracket as far as it will go and tighten the locknut (G) using two 10mm open-end spanner





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## 8 Maintenance



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.



1. Only qualified and explicitly authorized personnel must be allowed to carry out unit maintenance. All maintenance work must be directed by a supervisor.
2. Before performing any repairs or other work on the unit, always let the other operators involved in the operation know what you plan to do.
3. To avoid the unit being started up inadvertently while replacement, cleaning, maintenance or repair work is in progress:
  - Unplug the unit from the mains.
  - Close the manual slider valve to cut off the compressed air supply, close the air filter and make sure the pressure gauge indicates that there is no pressure.
  - Press the tightening cycle start lever to use up all air still inside the tool.
  - In the event you need the unit to be operating while maintenance work is in progress, plug the unit into the mains only for as long as strictly necessary.
4. In the event you need to perform maintenance work in poor lighting conditions, you must procure a portable lighting system, being careful to avoid cones of shadow that impede or reduce visibility at the point being worked on or in surrounding areas.
5. Do not wear rings, wrist watches, jewelry, unfastened or dangling clothing, such as ties, torn clothing, scarves, unbuttoned or unzipped coats or jackets that could get caught in moving parts.
6. Do not perform maintenance work if there is water about.
7. Avoid work in areas with a high level of humidity. The area where maintenance work is performed must be kept clean and dry at all times. Remove any oil stains without delay.
8. Do not perform any machining, such as drilling, cutting etc., on the units' frame as you run the risk of damaging electric cables and weakening the structure.
9. While arc welding is being performed, isolate the unit from the metal parts affected as the welding unit's earthing can damage electrical equipment.
  - The unit must be used only for the purposes for which it was designed, as laid down in the relevant supply agreement.
  - For any other use, consult the manufacturer.
  - Spraying, washing or otherwise wetting the unit with jets of water is strictly prohibited.
  - Tampering with safety devices is strictly prohibited.
10. When replacing spare parts, use ASG original spare parts only.
11. It is advisable to keep a daily or weekly register to record readings taken during the unit's operation (pressures, temperatures, current demands...) in addition to any trouble encountered, maintenance and repair work performed, spare parts and anything else you think is worth remembering. To keep your unit running at peak efficiency, maintenance must be performed correctly on a regular basis.
12. In addition to routine maintenance on the unit's various components, you are advised to keep the whole unit clean along with the surrounding area in which it is installed.



### IMPORTANT

- Before starting the unit, make sure that:
  - a. Any guards that may have been removed during maintenance work have been refitted correctly and are in proper working order;
  - b. All spare parts are fitted correctly and secured in place;
  - c. All foreign objects (cloths, tools, etc.) have been removed from the unit.
- Do not perform work on the unit with tools, cleaning utensils, etc. while the unit is operating. Never place your hands or fingers inside the unit's openings or cavities while it is operating. (Crushing hazard).



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## 8.1 Scheduled Maintenance



Type of Work	Interval	Reference
Check safety devices	120 hours	par. 3.1 - 3.2
Clean the unit	120 hours	par. 8.2
Lubricate moving parts	600 hours	par. 8.3
Check pneumatic system for wear	600 hours	par. 8.4
Drain condensate on air treatment unit	600 hours	par. 8.4.1
Drain oil removal filter oil	600 hours	par. 8.4.2
Top up motor oil	600 hours	par. 8.4.3
Overhaul motor	every 1.000 hours	--
Tighten nuts and bolts	every 1.000 hours	--

## 8.2 Cleaning



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool

It is good practice to keep the unit clean to avoid deterioration in product quality, as well as premature wear and damage to the unit's movable or moving parts.

- Remove dust from all surfaces with a soft-bristled brush and a clean cloth.
- Use water and, where necessary, non-toxic commercial solvents to clean the unit; Never use petrol or flammable solvents to clean the unit.
- Use an industrial-grade vacuum cleaner to clean the more awkward areas effectively. Clean thoroughly and dry with a clean, dry cloth.
- Remove dust from transparent surfaces with a powerful blast of compressed air.
- Clean them with a clean, soft sponge soaked with mild soapy water, or spray them with suitable antistatic products that help dislodge dust, and dry thoroughly.

Cleaning when production ends

In addition to normal cleaning, perform the following operations:

- Remove dust and any residual processing materials (metal burrs, etc.) from all exposed parts and from the unit's internal compartments, opening the access doors.

### 8.2.1 Cleaning the Tightening Head

It is advisable to check and clean the tool every three months, based on one shift of use per day. You are advised to clean the filter in the tool's inlet fitting at regular intervals to avoid clogging and a resulting reduction in motor performance. Clean the screw container at regular intervals (once a week) with alcohol so as to assure correct screw delivery.

### 8.2.2 Cleaning the Sorting Unit Bowl

Clean the bowl at the end of each work shift by removing any residues and clean with a rag soaked with alcohol and clean with basic household surface cleaner. Be sure to test first on a small, inconspicuous area to ensure coating is not removed by selected cleaner.

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## 8.3 Lubrication



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.



### NOTE

Routine and non-routine maintenance must be carried out by **TRAINED SKILLED TECHNICAL PERSONNEL**

The unit is fitted with an automatic lubrication system. The only part not covered by the lubrication system is the cone unit relating to the opening and closing system in the sliding areas (S).

The most important properties of the oil to be used for lubricating gears are:

- Oxidation stability.
- Oil film's resistance to pressure.
- Wear resistance and rust inhibiting properties.

The properties that grease must have are:

- Ease of injection.
- Excellent adhesion.
- Resistance to centrifuging.
- Resistance to moisture.

Bear the above-mentioned essential requirements in mind when choosing which lubricants to use, opting for lubricant brands appropriate to the task in hand.



### NOTE

Only perform routine lubrication once the unit has been disconnected from the mains and compressed air supply.

### 8.3.1 Lubrication Points

The greasing points on the unit are:

- Vibratory bowl unit screw selector

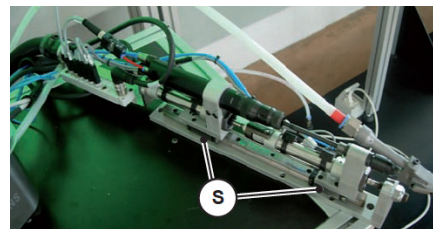
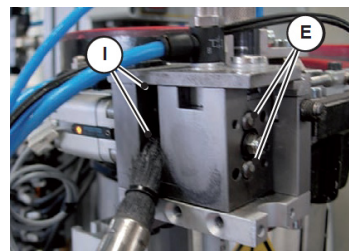


### NOTE

All lubrication work on the technological systems fitted must be carried out with the unit disconnected from all power sources.

We recommend greasing the selector carriage guide rails with graphite-filled grease:

- Grease the outer end of the guide rails (E)
- Grease the inner part of the guide rails after first moving the carriage along the rails (I)
- Lubricate the slide (S)



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## 8.4 Pneumatic Devices



Maintenance on pneumatic devices must be performed only once the unit has been disconnected or isolated from all power sources (electricity, compressed air). Pressure in pneumatic systems must be lowered to “zero” to avoid danger.

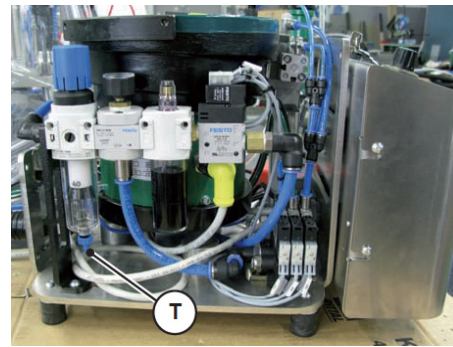


At the end of each maintenance job:

- Make sure that all screws are properly tightened
- Make sure the cable ducts and sheathing are closed and perfectly waterproof
- Check that covers are closed and that any guards removed have been refitted

### 8.4.1 Draining Condensate

Press the key (T) under the filter to drain condensate from the system

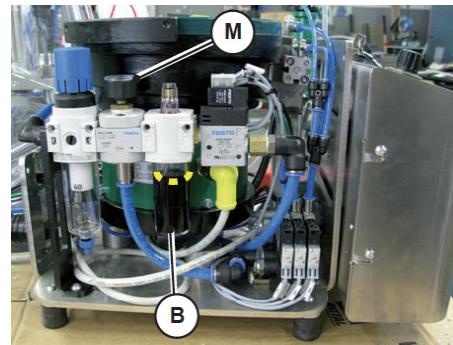


### 8.4.2 Topping Up Lubricator Oil

Perform this operation with the manual slider valve closed (pull away from the unit's housing) and tighten the regulator on the filter: you can check that this condition has been met by making sure that the reading on the pressure gauge (M) is “0”. Press the tightening cycle start lever to use up all air still inside the tool.

To top up the lubricator's oil, you need to:

- Remove the bowl (B) by unscrewing it
- Top up the bowl to the  $\frac{3}{4}$  level with oil 699011008B
- Refit the bowl
- Turn the air back on



## 8.5 Routine Maintenance Work



### IMPORTANT

- Unit maintenance must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply and compressed air supply.



### NOTE

Routine and non-routine maintenance must be carried out by TRAINED SKILLED TECHNICAL PERSONNEL

### 8.5.1 Removing Vibratory Bowl Jamming

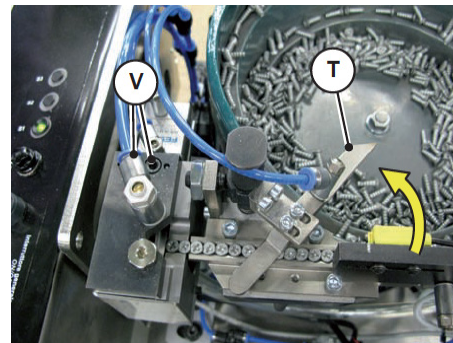


### IMPORTANT

- Unit maintenance must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply and compressed air supply.
- There is a risk of pinching when the top shield is opened while the machine is operating

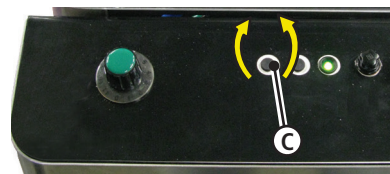
When jamming is encountered in the vibratory bowl unit, you need to:

- Turn the top shield (T) and remove the screw that caused the jamming (this is usually a screw with macroscopic defects (e.g. pan head amongst countersunk heads, machining burrs, or less visible defects, such as size outside tolerance). Proceed as follows only in the event this fails to solve the problem:
- Unscrew the two screws securing the fixed plate (V) and lift it
- Fix and remove the jamming
- Restore everything to its original position



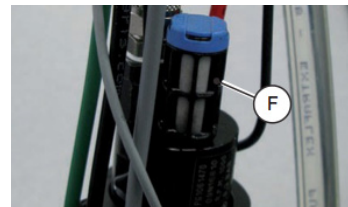
### 8.5.2 Replacing the Fuses (24V)

- Unscrew the cap (C)
- Remove the damaged fuse and replace it with the new 24V fuse.
- Screw the cap back on



### 8.5.3 Replacing the Noise Reduction Filter (only with air tool)

- Unscrew the worn filter (F)
- Replace with the new one



## 8.5.4 Removing Tightening Head Jamming

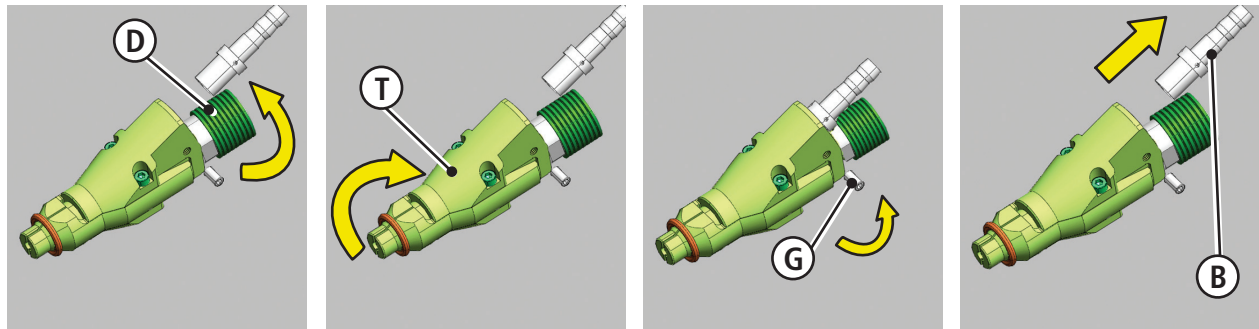


### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool

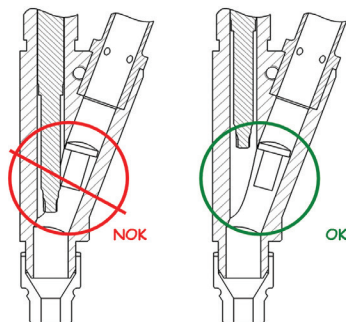
In the event you encounter screw jamming in the head, proceed as follows:

- Unscrew the hex socket grub screw (G)
- Remove the bushing (B)
- Disconnect the quick-connect coupler by pulling the grooved ring (D) downwards
- Pull out the head (T):
- Unjam the head
- Repeat the procedure in reverse to restore operation
- Make sure that coupling has been successful by checking that the ring has clicked into place completely and that the head does not turn (see section on disassembling the head body in maintenance chapter).



### NOTE

If for any reason the carriage head comes unscrewed, you must make sure the channel the screw is carried through into the head is not occupied by the bit; if this happens to be the case, you will need to unscrew the head until it is in the condition described.





## 8.5.5 Replacing the Tool Accessory Bit



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.

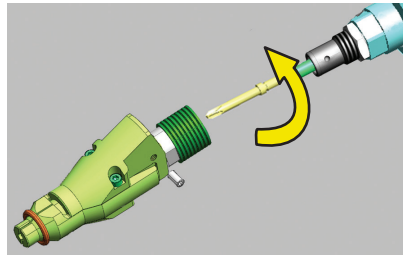
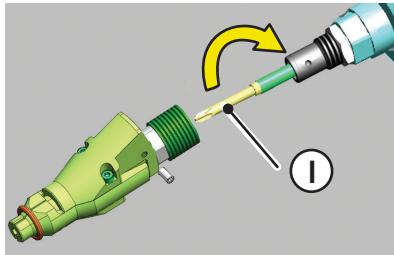


### NOTE

- Following any maintenance work, tools must be tested to make sure they are operating correctly. The spare parts list is to be managed by trained and skilled personnel.
- Use only original ASG spare parts

In the event the bit needs replacing, proceed as follows:

- Unscrew the hex socket grub screw (see section 8.5.3)
- Remove the bushing (see section 8.5.3)
- Disconnect the quick-connect coupler by pulling the grooved ring downwards (see section 8.5.3)
- Pull out the head (see section 8.5.3)
- Unscrew the bit (I) and screw in the new one
- Repeat the procedure in reverse to restore operation (see section on replacing the tightening head body)



## 8.5.6 Replacing the Bushing



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.



### NOTE

- Use only original ASG spare parts

In the event the bushing needs replacing, proceed as follows:

- Unscrew the hex socket grub screw (see section 8.5.3)
- Remove the bushing (see section 8.5.3) and insert the new bushing
- Repeat the procedure in reverse to restore operation (see section on replacing the tightening head body)

## 8.5.7 Replacing the Complete Tightening Head



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.

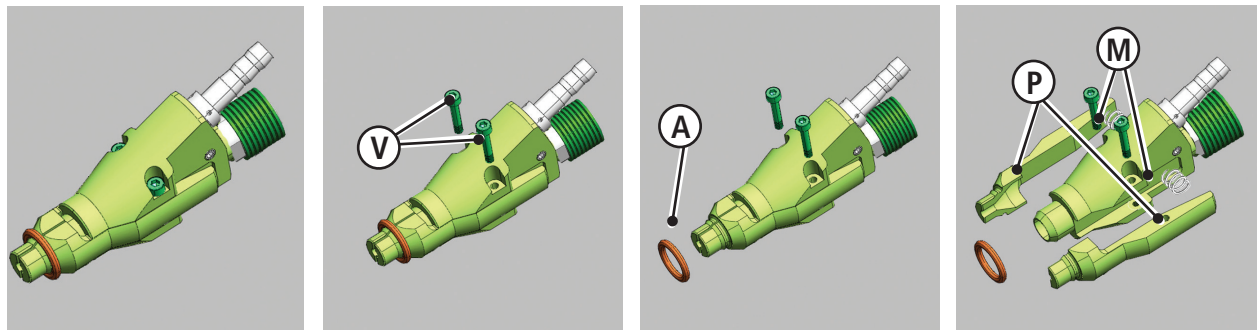


### NOTE

- Use only original ASG spare parts

In the event the tightening head needs replacing, proceed as follows:

- Unscrew the hex socket grub screw (see section 8.5.3)
- Remove the bushing (see section 8.5.3)
- Disconnect the quick-connect coupler by pulling the grooved ring downwards (see section 8.5.3)
- Unscrew the head (see section 8.5.3) and screw in the new tightening head
- Repeat the procedure in reverse to restore operation (see section on replacing the tightening head body).



## 8.5.8 Replacing the Tightening Head Jaws



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool.



### NOTE

- Use only original ASG spare parts

In the event the tightening head needs replacing, proceed as follows:

- Remove the two screws securing the jaws (V)
- Remove the locking ring (A) (if there is one)
- Remove the jaws (P), carefully salvaging the springs (M), if any, and fit the new jaws
- Repeat the procedure in reverse to restore operation

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## 8.5.9 Replacing the Springs on Jaws



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool



### NOTE

- Use only original ASG spare parts

In the event the springs need replacing, proceed as follows:

- Remove the two screws securing the jaws (V) (see section 8.5.6)
- Remove the locking ring (A) (if there is one) (see section 8.5.6)
- Remove the jaws (P) (see section 8.5.6)
- Remove the springs (M) (see above), if any, and fit the new ones
- Repeat the procedure in reverse to restore operation

## 8.5.10 Replacing the Tightening Head Body



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool



### NOTE

- Use only original ASG spare parts

In the event the head's body needs replacing, proceed as follows:

- Unscrew the hex socket grub screw (see section 8.5.3)
- Remove the bushing (see section 8.5.3)
- Disconnect the quick-connect coupler by pulling the grooved ring downwards (see section 8.5.3)
- Unscrew the head (see section 8.5.3)
- Remove the two screws securing the jaws (V) (see section 8.5.6)
- Remove the locking ring (A) (if there is one) (see section 8.5.6)
- Remove the jaws (P) (see section 8.5.6)
- Remove the springs (M), if any (see section 8.5.7)
- Replace the head's body
- Before reconnecting, check that the quick-connect coupler's contact areas are clean: dirt can result in incorrect coupling.
- Gripping the head in your hand and holding the ring pulled, insert the head in the relevant coupling bushing.
- Once it has been pushed all the way into the bushing, release the ring and rotate the head to allow the latching balls to enter the relevant slots in the bushing.
- Make sure that coupling has been successful by checking that the ring is in its slot as shown in the figure and try to pull the head out to make sure that it does not disconnect accidentally.



### IMPORTANT

Every time the head is disconnected and reconnected, it is absolutely compulsory to check that:

- The head has been coupled successfully
- The screw shooting bushing and relevant shooting tube are fastened correctly
- The screw shooting tube is intact and head components have not been damaged (springs, jaws, etc...).



## 8.5.11 Replacing the Threaded Bit Holder



### IMPORTANT

- Unit adjustments must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply (unplugged) and compressed air supply (manual slider valve closed). Press the tightening cycle start lever to use up all air still inside the tool

In the event the threaded bit holder needs replacing (the bit's threaded shank could break off in the bit holder), proceed as follows:

- Unscrew the hex socket grub screw (see section 8.5.3)
- Remove the bushing (see section 8.5.3)
- Disconnect the quick-connect coupler by pulling the grooved ring downwards (see section 8.5.3)
- Disconnect any hoses around the spring-loaded cover band, marking them first to avoid errors when it comes to refitting (where necessary).
- Set in sync position by turning the blade until the recess (G) is not visible.
- Insert a screwdriver in the slot and lift the clutch by 3-5mm
- Pull the bit holder in the opposite direction until it comes out
- Repeat the procedure in reverse to restore operation (see section on replacing the tightening head body)



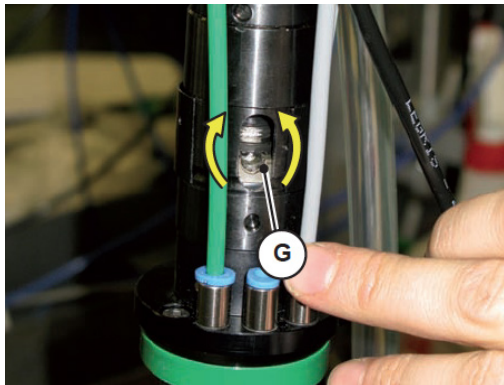
### IMPORTANT

WARNING: drawing screws while the metal bushing is disconnected from the head is VERY dangerous (screw shooting speed is very high)



### NOTE

The bit's item number is marked on the nameplate on the front of the unit



## 8.6 Non-Routine Maintenance Work



### IMPORTANT

- Unit maintenance must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply and compressed air supply.



### NOTE

Routine and non-routine maintenance must be carried out by **TRAINED SKILLED TECHNICAL PERSONNEL**

Non-routine maintenance work is usually carried out by the manufacturer's skilled technical personnel.

### 8.6.1 Replacing Shooting Tubes



### IMPORTANT

- Unit maintenance must be made in compliance with current safety rules.
- Any work must only be carried out with the unit stopped and disconnected from the electricity supply and compressed air supply.



### NOTE

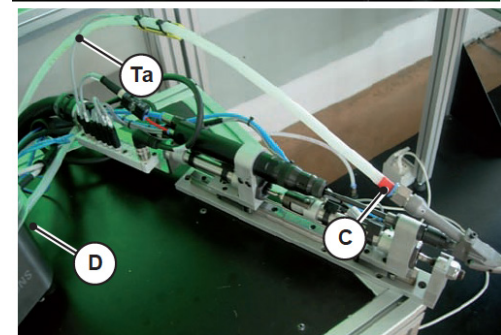
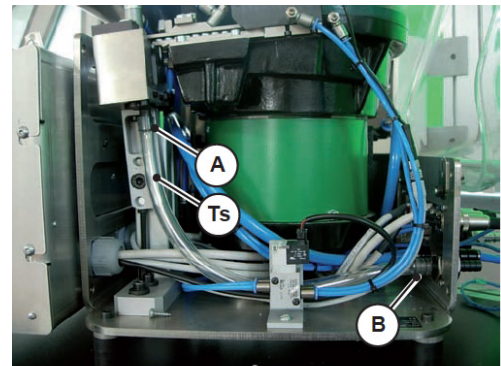
Use only original ASG spare parts

In the event the tightening system's tube needs replacing, proceed as follows: Internal tube

- Remove the side guard on the right hand side (C) (looking from the operator's station); this involves pressing on the rear of the guard and sliding it outwards, then pulling the guard backwards so that the front pins slip out
- Remove the tube (Ts) from the shooting unit fitting (A)
- Disconnect the tube from the outlet fitting (B)
- Remove the old tube
- Connect the new tube to the tightening head and to the fitting, making extra sure it is inserted correctly.
- Refit the previously removed guard.

External tube

- Disconnect the tube (Ta) from the tightening head (C)
- Disconnect the tube from the outlet fitting (D)
- Remove the fastenings
- Remove the old tube
- Fasten the tube to the tightening head and outlet fitting
- Route the tube correctly, taking care to avoid sharp bends that would inhibit correct screw flow
- Restore the fastenings

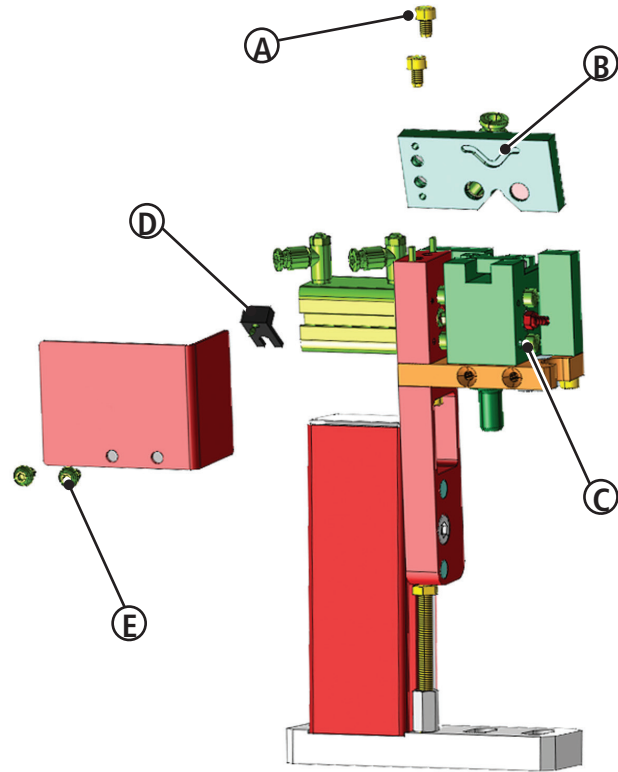




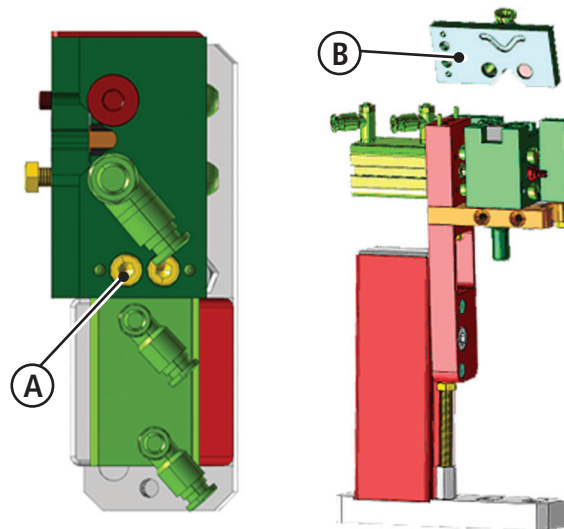
## 8.6.2 Selector Maintenance

Every 500 thousand cycles, use a brush to grease the parts indicated below with grease containing graphite:

- A. 2 x cam fastening screws (Item n° 511005008 UNI 5931 - M5x8)
- B. Cam
- C. Selector body sliding rails (slide the selector body along the greased guide rails by hand to distribute the grease evenly)
- D. Selector key (Item n° 525903011 UNI 6325 - Ø3x10)
- E. 2 x cover fastening screws (Item n° 511005009 UNI 7380 - M5x8)



- Using a 4mm Allen key, unscrew the 2 screws (A) fastening the cam (B).
- Slide the cam up and off, releasing it from the relevant locating pins.

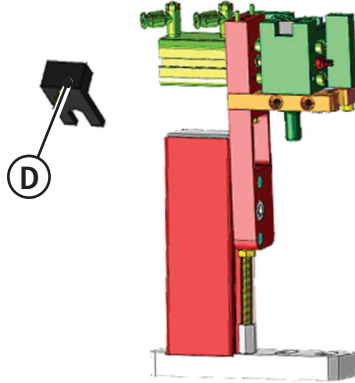






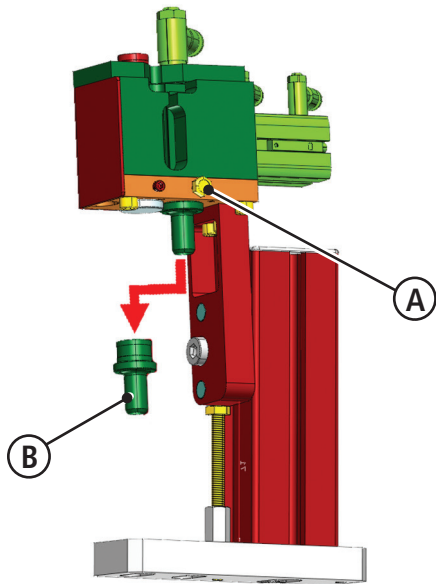
# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual

- Remove the selector's key (D), being careful not to pull out the pulling pin.



## Removing the Shooting Bushing

- Using a 10mm open-end spanner, unscrew the screw (A) fastening the shooting bushing (B) by a half turn.
- Remove the shooting bushing (B) by pulling it downwards.



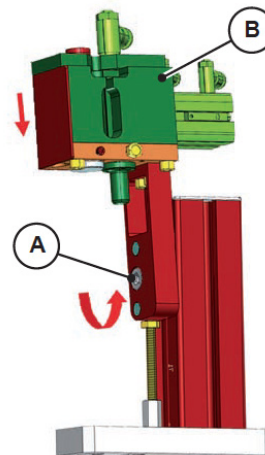
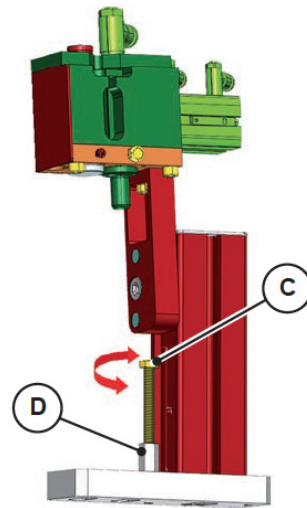
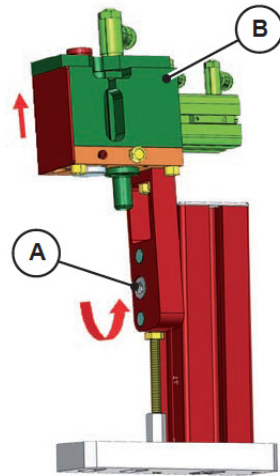




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## Setting Selector Height

- Using a 6mm Allen key, loosen the selector height adjustment fastening screw (A).
- Lift the moving part of the selector (B) and retighten the screw (A).
- Using two 10mm open-end spanners, hold the screw (C) while you unscrew the nut (D).
- Unscrewing the screw (C) raises the point at which the bracket sits on the screw, screwing it in lowers this point.
- Using a 6mm Allen key, loosen the selector height adjustment fastening screw (A).
- Lower the moving part of the selector (B) as far as it will go and retighten the screw (A).

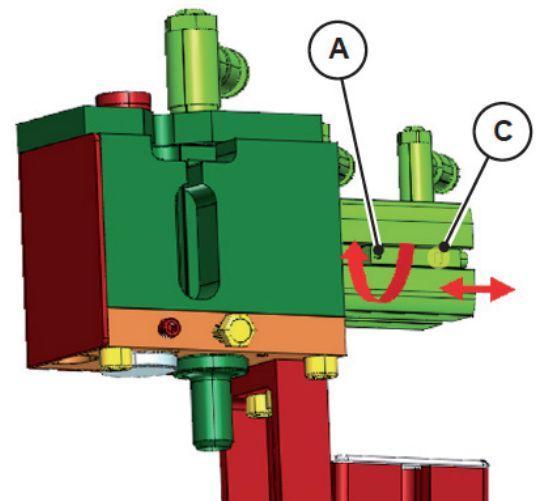
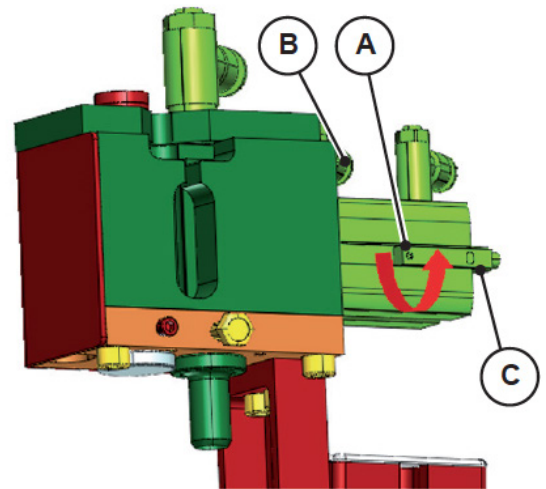




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## Setting the Cylinder Sensor

- Using a 0.9 mm Allen key, loosen the sensor fastening screw (A).
- Supply air to the cylinder back regulator (B).
- Slide out the sensor (C) and refit it in the recess in the cylinder until the detection LED (D) lights, then stop.
- Using a 0.9 mm Allen key, tighten the sensor fastening screw (A) fully.



## 8.7 Troubleshooting

Trouble	Cause	Solution
Nothing happens when the air is turned on	No pressure in line <ul style="list-style-type: none"> <li>• Supply hose not connected</li> <li>• Knob has not been operated to turn on air</li> </ul>	Check compressors or supply hose <ul style="list-style-type: none"> <li>• Connect supply hose properly</li> <li>• Press and turn the knob clockwise</li> </ul>
Nothing comes on when the unit is plugged in	A mains supply switch may be open <ul style="list-style-type: none"> <li>• knob on panel is set to OFF (0).</li> <li>• One or more fuses in the electrical enclosure are not working</li> <li>• One or more cables are disconnected</li> </ul>	Locate the switch and make sure it is closed <ul style="list-style-type: none"> <li>• Turn the knob clockwise until it clicks</li> <li>• Unplug the unit, open the enclosure and replace the fuse that is not working</li> <li>• Unplug the unit, open the enclosure and check</li> </ul>

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## 9 Taking Out of Service

### 9.1 Dismantling and Disposal



#### IMPORTANT

Operations involved in dismantling the unit and disposing of its parts must be entrusted to trained technical personnel.

When the unit is taken out of service and needs to be disposed of, there are no major problems with hazardous components or materials.

Unplug the unit from the mains once you have made sure that all switches upline and downline have been set to "0". Disconnect the unit from the compressed air supply.

Once the individual modules have been removed, start separating components into like materials: Ferrous material: module frame, etc. Plastic: hoses, top guard, etc. Electrical material: motors, cables, etc.



#### REMINDER TO RESPECT THE ENVIRONMENT

Remove oil and place in suitable containers to be handed in to specialist disposal firms according to current regulators in the user's country.

During the dismantling process, recover any components that can be reused or recycle

All unit components, once separated into like materials, must be disposed of through specialist firms who operate in accordance with current law in the user's country. Dispose of waste responsibly. Do not litter.



# MCA: Integrated Feeder with Pneumatic Slide Instruction Manual

## 10 Appendices

### 10.1 List of Appendices



#### IMPORTANT

These documents are an integral part of the instruction manual and must be kept safe for future.

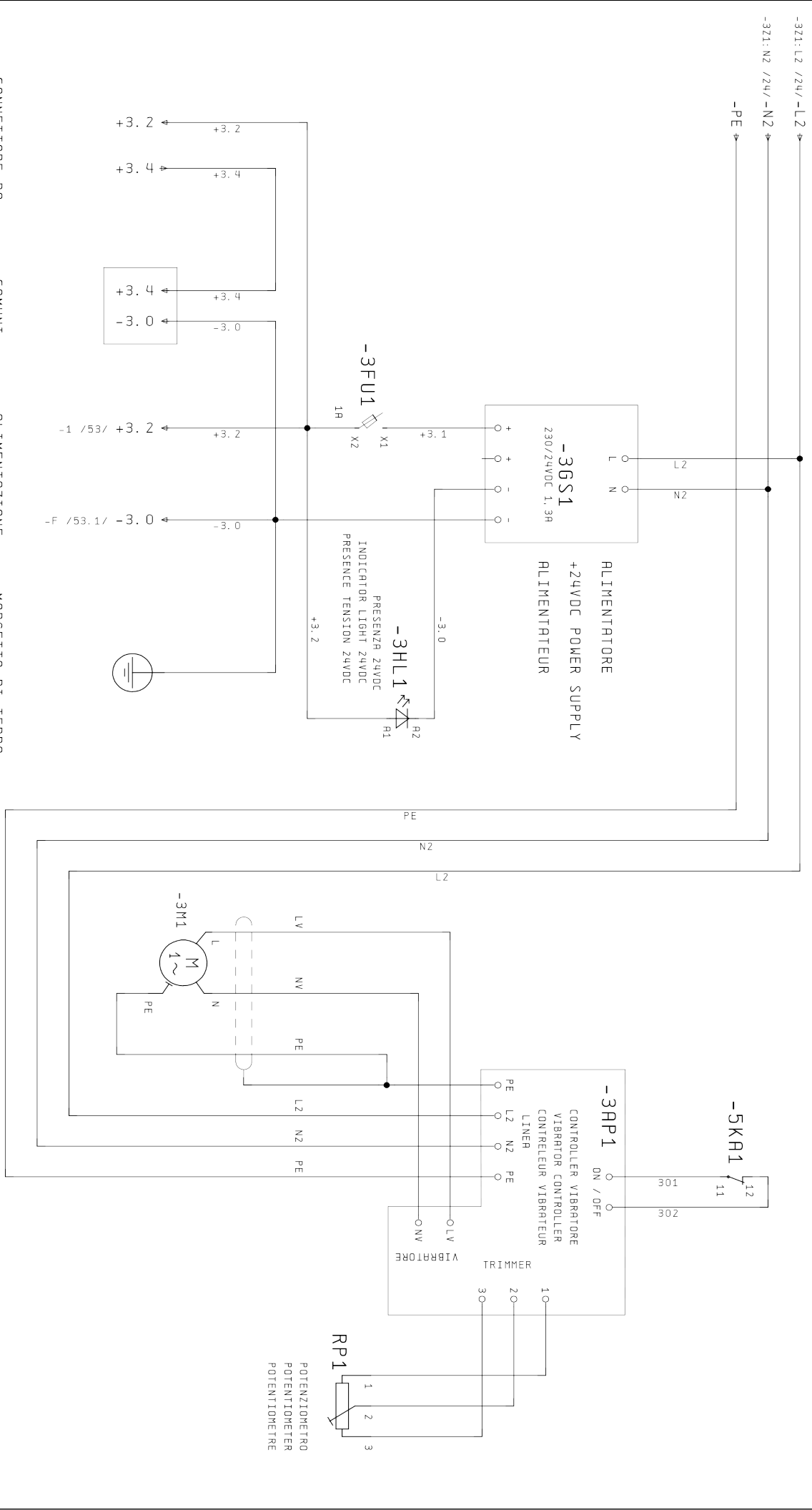
Wiring Diagram  
Pneumatic Diagram











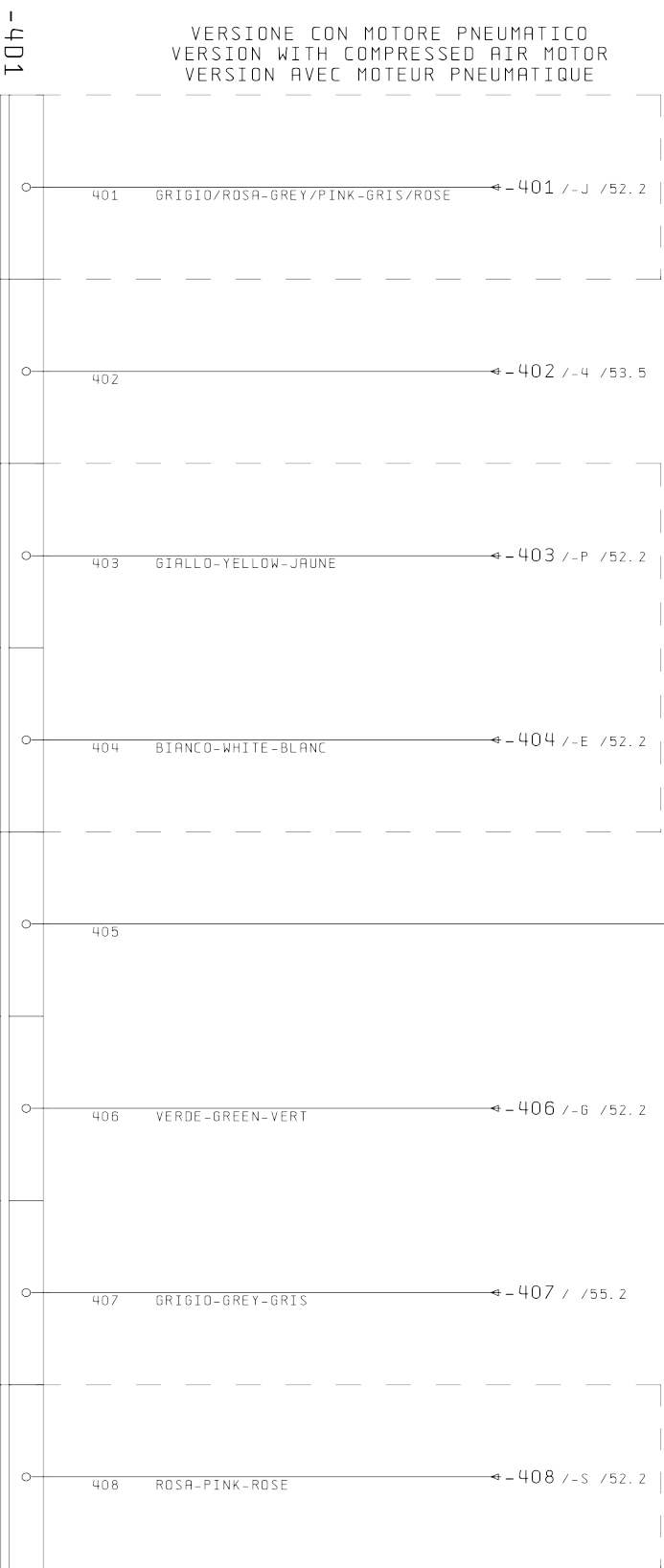
CONNETTORE DA PANNELLO EC1	COMUNI	ALIMENTAZIONE PLC	MORSETTO DI TERRA FONDO QUADRO
SOCKET ON PANEL EC1	COMMONS	PLC POWER SUPPLY	GROUND TERMINAL
CONNECTEUR SUR TABLEAU EC1	COMMON	ALIMENTATION API	BORNE DE TERRE



$+3.7$

4S11-4

VERSIONE CON MOTORE PNEUMATICO  
VERSION WITH COMPRESSED AIR MOTOR  
VERSION AVEC MOTEUR PNEUMATIQUE



VERSIONE CON SLITTA A 2 MOVIMENTI  
VERSION WITH 2-MOVEMENT SLIDE  
VERSION AVEC CHARIOT A 2 MOUVEMENTS

VERSIONE CON SLITTA A 3 MOVIMENTI  
VERSION WITH 3-MOVEMENT SLIDE  
VERSION AVEC CHARIOT A 3 MOUVEMENTS

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Modifica Data	Nome Norma	Orig.	Sost. il	 <b>ENEL</b>	MCA 2014				8.2 Fg.
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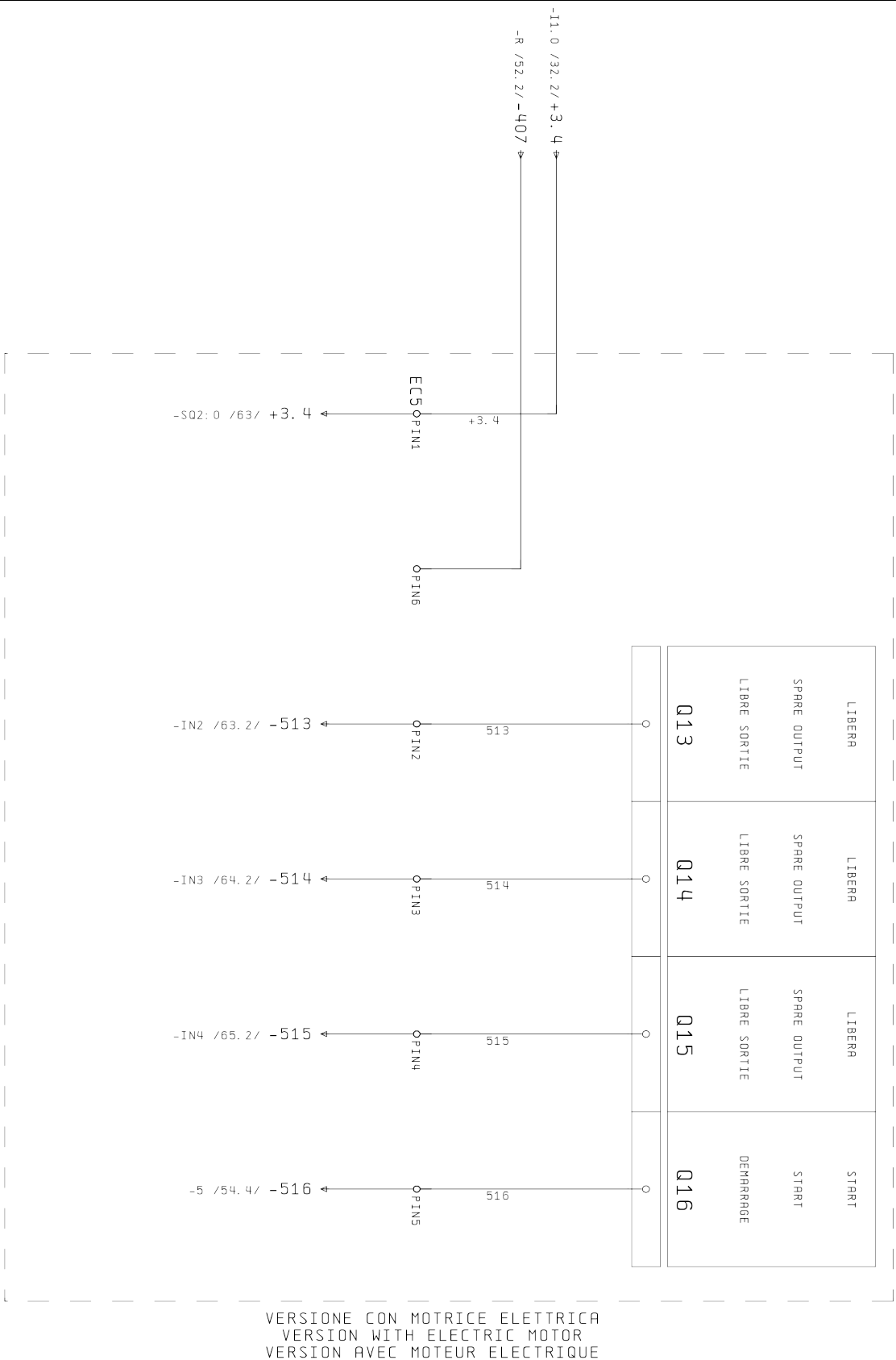






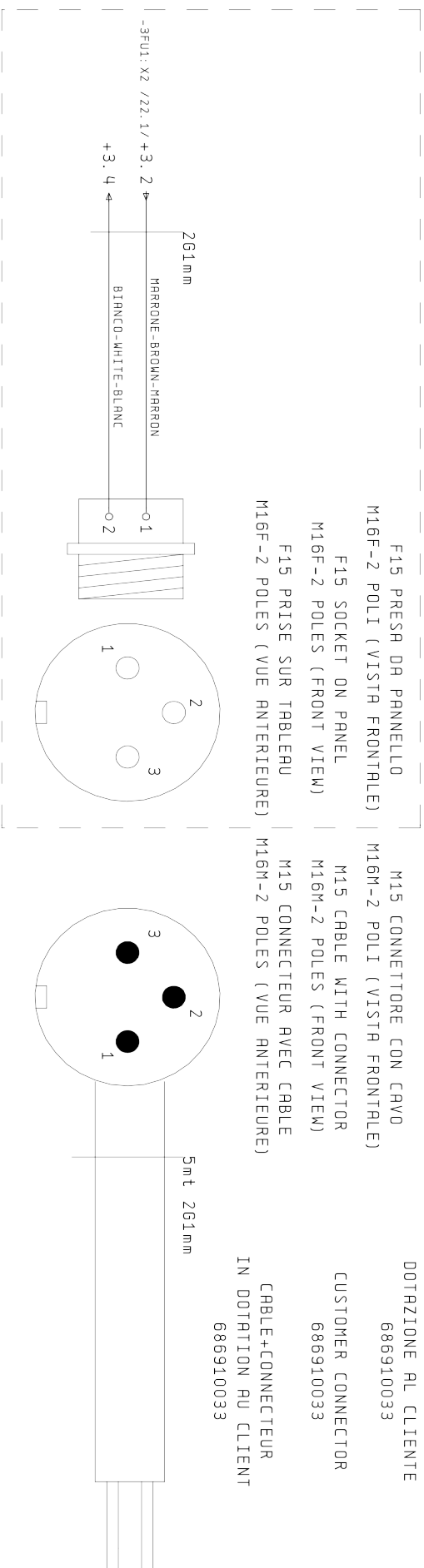


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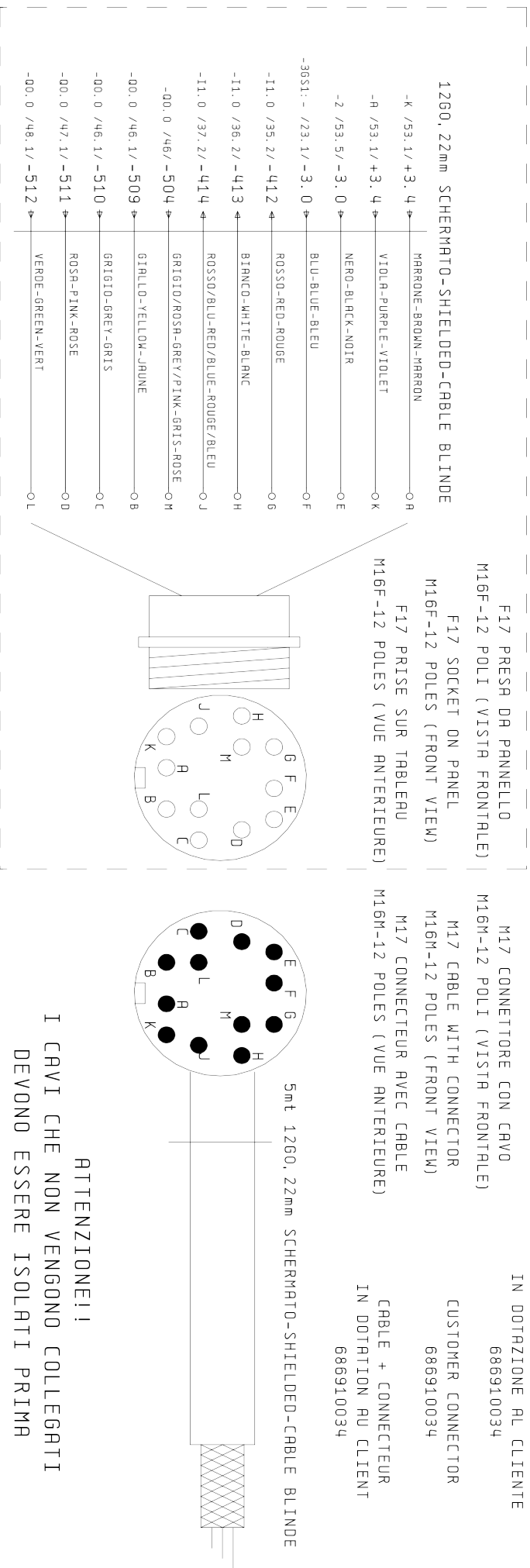
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PRESA DA PANNELLO EC1  
 SOCKET ON PANEL EC1  
 PRISE SUR TABLEAU EC1



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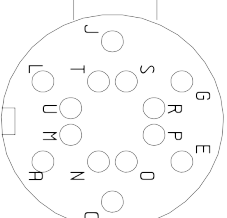
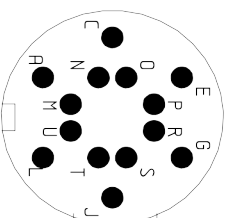
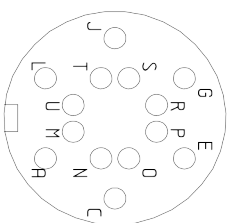
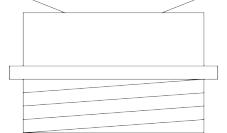
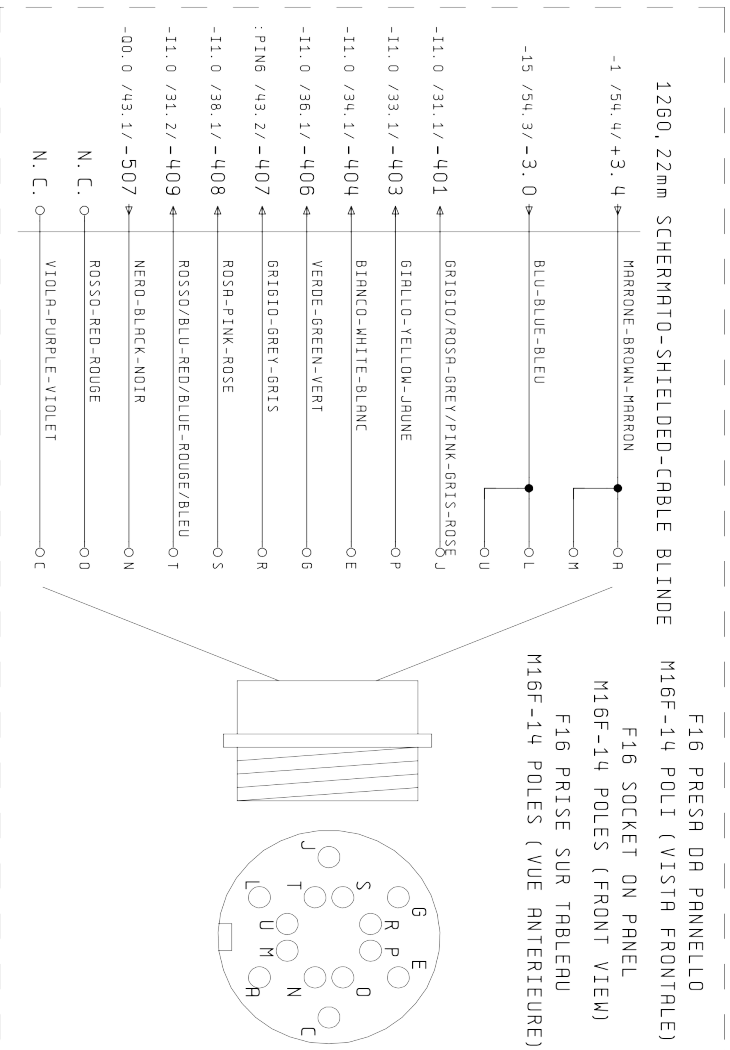
PRESA DA PANNELLO EC2  
 SOCKET ON PANEL EC2  
 PRISE SUR TABLEAU EC2



ATTENZIONE!!  
 I CAVI CHE NON VENGONO COLLEGATI  
 DEVONO ESSERE ISOLATI PRIMA  
 DI ACCENDERE LA MACCHINARI!  
 WARNING!!  
 ELECTRIC WIRES THAT ARE NOT CONNECTED  
 MUST BE ISOLATED BEFORE STARTING THE UNIT!!

ATTENTION!!  
 LES FILS ELECTRIQUES QUI NE SONT PAS  
 BRANCHES DOIVENT ETRE ISOLEES AVANT  
 DU FAIRE DEMARRER L'UNITE!!

PRESA DA PANNELLO EC3  
 SOCKET ON PANEL EC3  
 PRISE SUR TABLEAU EC3



F16 PRESR DA PANNELLO  
M16F-14 POLI (VISTA FRONTALE)  
F16 SOCKET ON PANEL  
M16F-14 POLES (FRONT VIEW)  
F16 PRISE SUR TABLEAU  
M16F-14 POLES (VUE ANTERIEURE)

C18 CONNECTEUR  
M16M-14POLI (VISTA FRONTALE)  
C18 CABLE WITH CONNECTOR  
M16M-14 POLES (FRONT VIEW)  
C18 CONNECTEUR AVEC CABLE  
M16M-14 POLES (VUE ANTERIEURE)

CONNECTORE M16F-14 POLI 90°  
(VISTA FRONTALE)  
CONNECTOR M16F-14 POLES  
90° (FRONT VIEW)  
CONNECTEUR M16F-14 POLES  
90° (VUE ANTERIEURE)

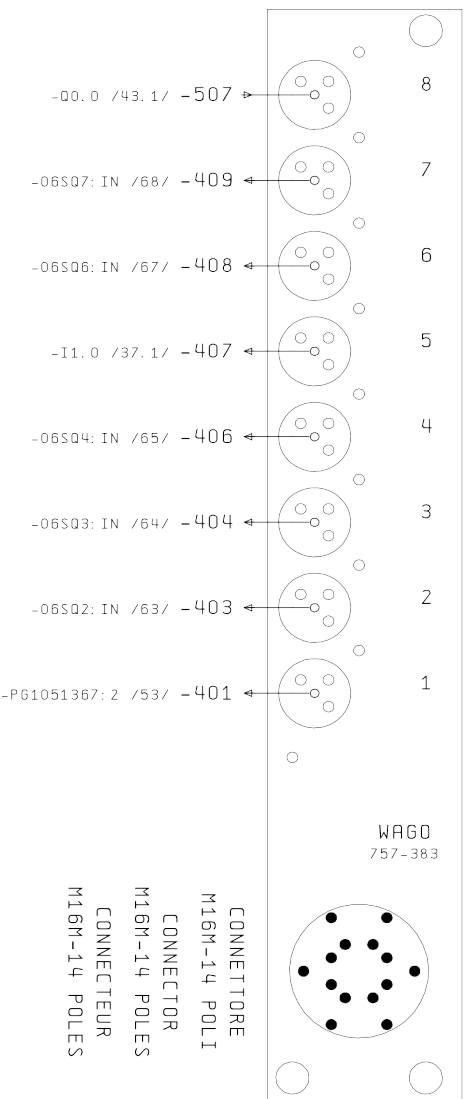
5mt 1460, 22mm SCHERMATO-SHIELDED-CABLE BLINDE

CAVO+CONNETTORE A BASETTA WAGO  
686910035

CABLE+CONNECTOR TO WAGO SIDEBOARD  
686910035

CABLE+CONNECTEUR A M60 SIDEBBOARD  
686910035

C19 Basetta WAGO 686909001  
C19 WAGO SIDEBORD 686909001



WAGO  
757-383

CONNECTORE  
M16M-14 POLI  
CONNECTOR  
M16M-14 POLES  
CONNECTEUR  
M16M-14 POLES



50.4	51.4	52.4	53.4	54.4	55.4	56.4	57.4	58.4	59.4
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PRESA DA PANNELLO EC5  
 SOCKET ON PANEL EC5  
 PRISE SUR TABLEAU EC5

OPZIONALE-OPTIONAL

1660, 22mm SCHERMATO-SHIELDED-CABLE BLINDE

-A /52.2/ +3.4	VIOLA-PURPLE-VIOLET	01
N. C. O	NERO-BLACK-NOIR	02
N. C. O	ROSSO-RED-ROUGE	03
N. C. O	BLU-BLUE-BLEU	04
: PINS /46.2/ -516	ROSA-PINK-ROSE	05
-06505: IN /66/ -407	GRIGIO-GREY-GRIS	06
N. C. O	GIALLO-YELLOW-JAUNE	07
N. C. O	VERDE-GREEN-VERT	08
N. C. O	ROSSO/BLU-RED/BLUE-ROUGE/BLEU	09
N. C. O	BIANCO/GIALLO-WHITE/YELLOW-BLANC/JAUNE	010
N. C. O	BIANCO/VERDE-WHITE/GREEN-BLANC/VERT	011
N. C. O	GRIGIO/ROSA-GREY/PINK-GRIS/ROSE	012
N. C. O	BIANCO-WHITE-BLANC	013
-15 /54.4/ -3.0	MARRONE/VERDE-BROWN/GREEN-MARRON/VERT	014
-14 /54.4/ -3.0	MARRONE-BROWN-MARRON	015

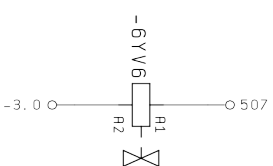
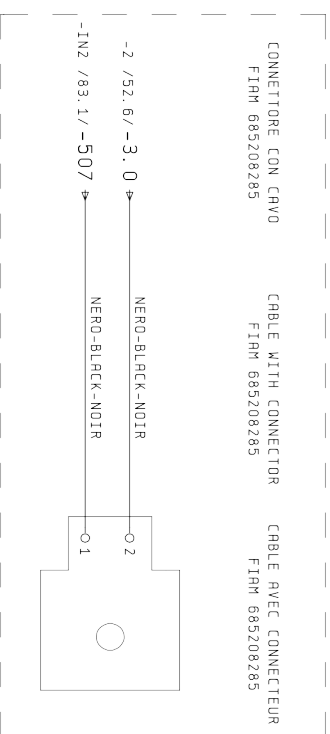
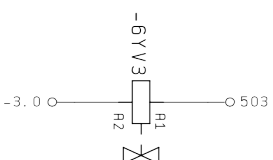
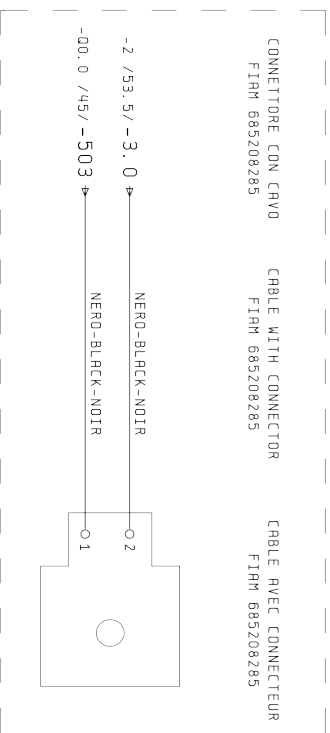
CONNECTORE SUB-D 15P FEMMINA  
CONNECTOR SUB-D 15 POLES FEMALE  
CONNECTEUR SUB-D 15 POLES FEMELLE

	Data			CONNETTORE EC5;		= 001	
	EIab.	FAR		EC5 CONNECTOR;		+	
	Rppr.	23. Gen. 2014		CONNECTEUR EC5			Fg. 6.4
Modifica	Data	Nome Norme	Orig.	Sost. di		Sost. da	8.2 Fg.

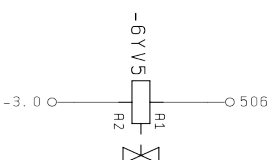
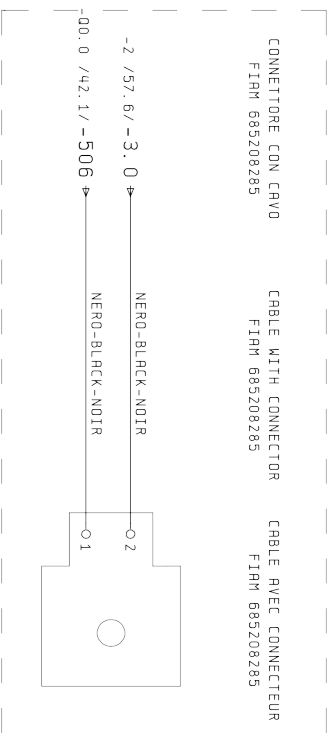
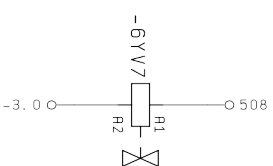
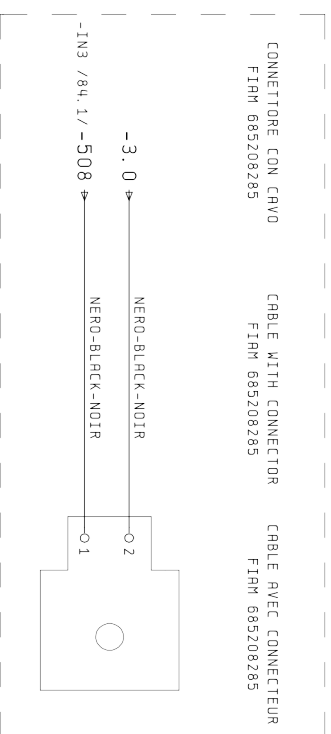
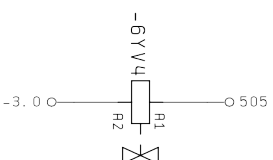
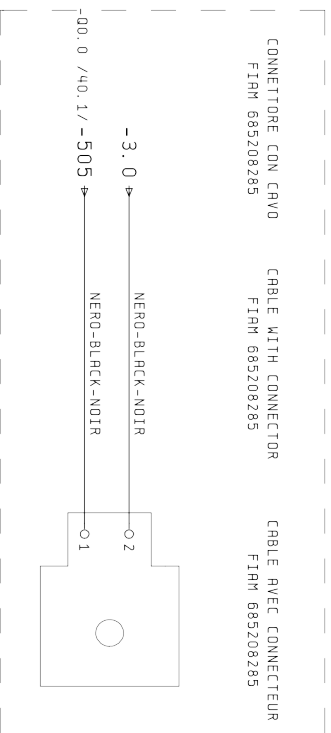




50.6	51.6	52.6	53.6	54.6	55.6	56.6	57.6	58.6	59.6
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VERSIONE CON SLITTA A 2 MOVIMENTI  
VERSION WITH 2-MOVEMENT SLIDE  
VERSION AVEC CHARIOT A 2 MOUVEMENTS



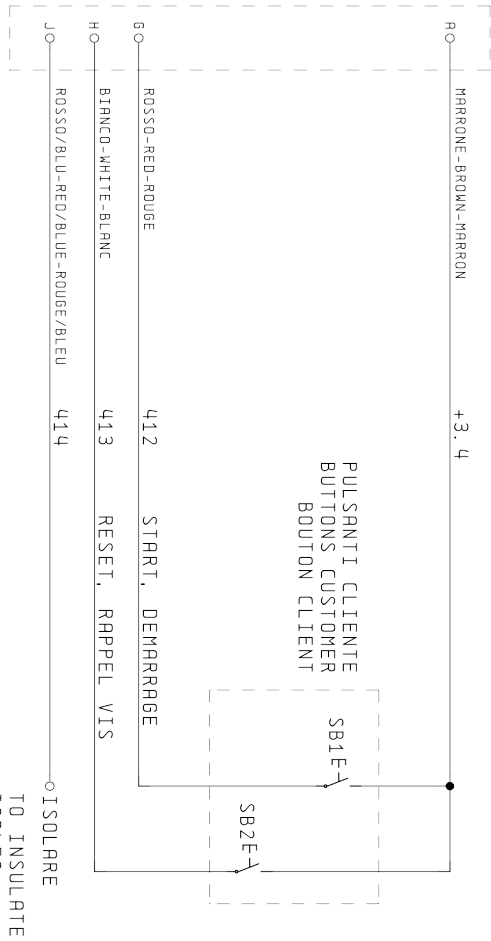
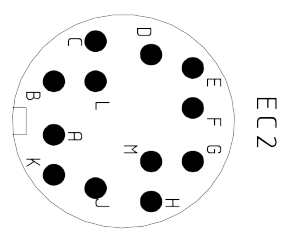
	Data			CONNETTORI; CONNECTORS; CONNECTEURS	= 001 +	Fg. 6.6 8.2 Fg.
	Elab.	FAR				
	Rappr.	23. Gen. 2014		MCA 2014		
Modifica	Nome Norma	Orig.	Sost. di	 <b>ENEL</b>	Sost. da	







INGRESSI INPUT  
ENTREES

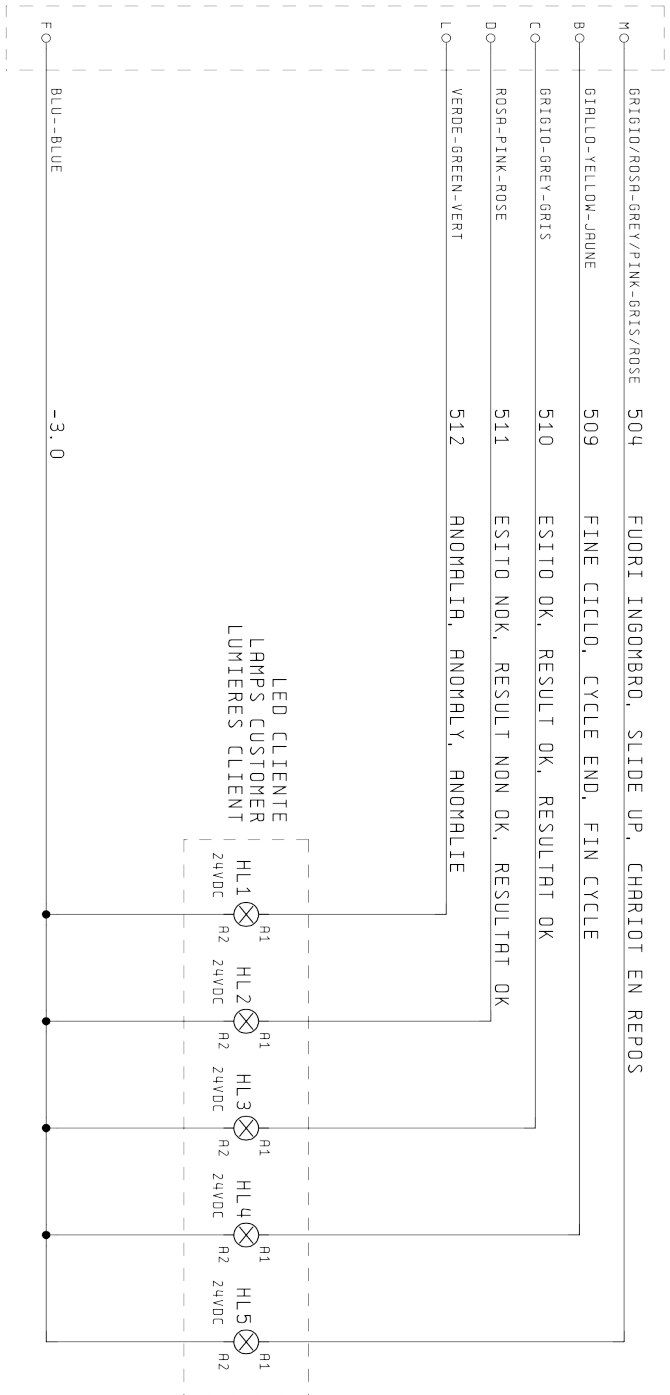
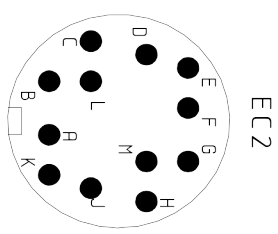


ATTENZIONE!!  
I CAVI CHE NON VENGONO COLLEGATI  
DEVONO ESSERE ISOLATI PRIMA  
DI ACCENDERE LA MACCHINA!!

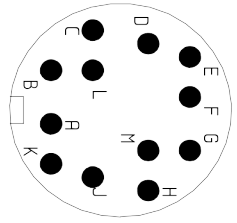
WARNING!!  
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BEFORE STARTING THE UNIT!!

ATTENTION!!  
LES FILS ELECTRIQUES QUI NE SONT PAS  
BRANCHES DOIVENT ETRE ISOLEES AVANT  
DU FAIRE DEMARRER L'UNITE!!

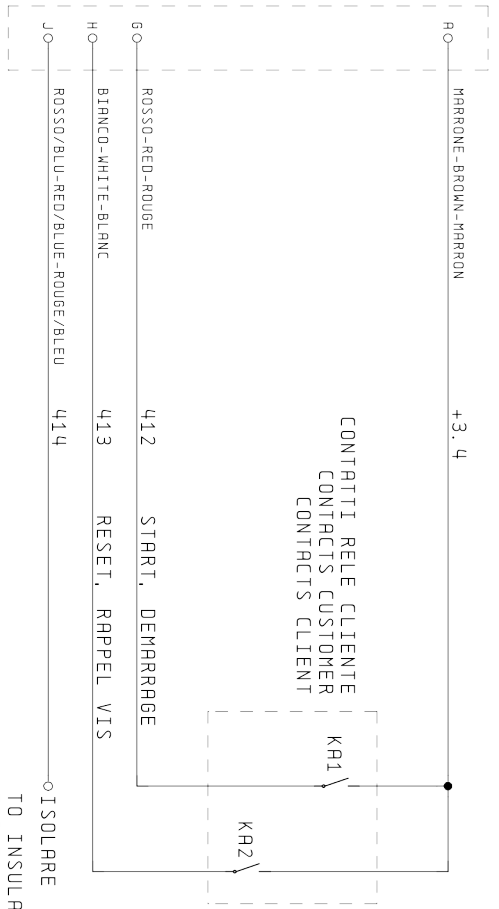
USCITE -> +24VDC  
OUTPUT -> +24VDC  
SORTIES -> +24VDC



INGRESSI INPUT  
ENTREES



EC2



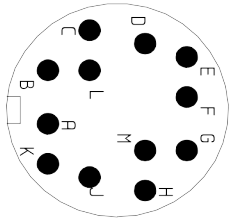
ATTENZIONE!!  
I CAVI CHE NON VENGONO COLLEGATI  
DEVONO ESSERE ISOLATI PRIMA  
DI ACCENDERE LA MACCHINA!!

WARNING!!  
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BEFORE STARTING THE UNIT!!

TO INSULATE  
ISOLER

ATTENTION!!  
LES FILS ELECTRIQUES QUI NE SONT PAS  
BRANCHES DOIVENT ETRE ISOLEES AVANT  
DU FAIRE DEMARRER L'UNITE!!

USCITE OUTPUT  
SORTIES -> +24VDC



EC2

