



2510-M001-04_B

**BUWS101 - BUWS101I
BUWS102 - BUWS102I
BUWS103 - BUWS103I
BUWS101U - BUWS101IU
BUWS102U - BUWS102IU
BUWS103U - BUWS103IU**

INSTRUCTION MANUAL



TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

For spare parts drawings refer to the document "LIST OF COMPONENTS" to be requested from the manufacturer.

- For any further information please contact your local dealer or call:

VEHICLE SERVICE GROUP ITALY S.r.l

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2510-M001-04_B - Rev. n. 04 (01/2024)

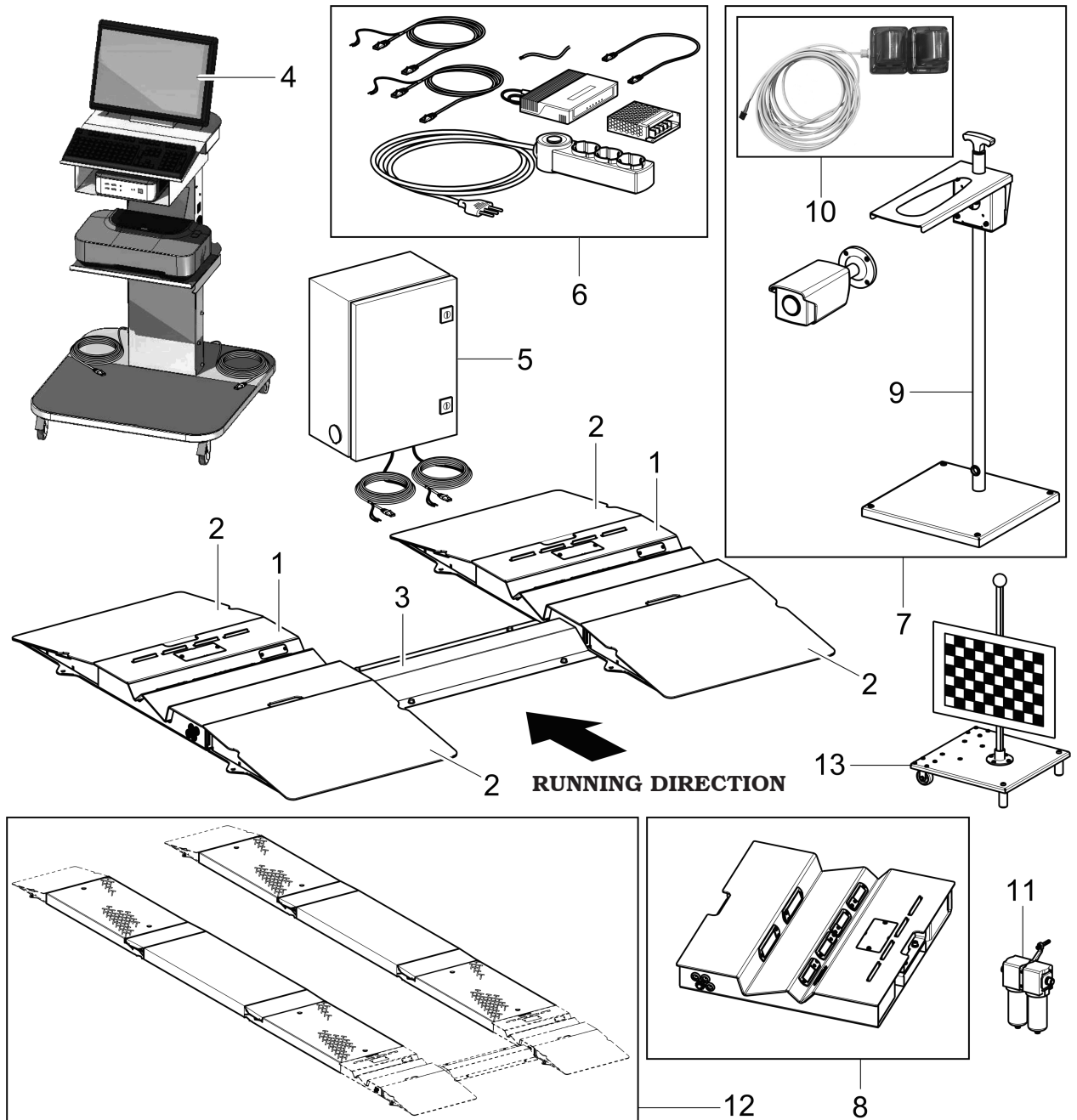
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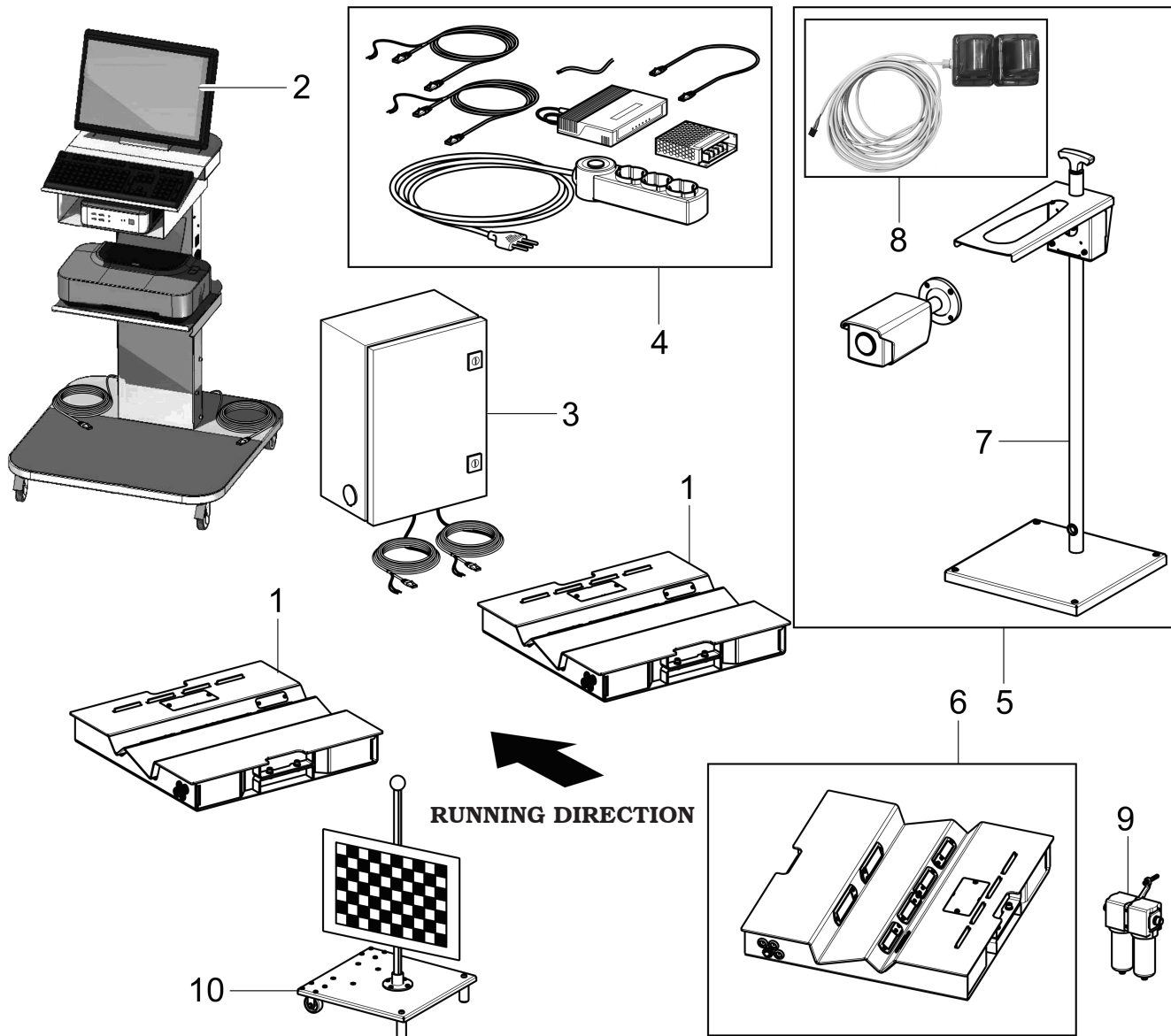
Fig. 1 - BUWS101 - BUWS102 - BUWS103 - BUWS101U - BUWS102U - BUWS103U



KEY

- 1 - Profilometer central platform
- 2 - Profilometer ramp
- 3 - Cable cover tray
- 4 - Console (only for BUWS101 - BUWS101U)
- 5 - Electric panel (only for BUWS102 - BUWS102U)
- 6 - Extension kit for connection with wheel alignment device and overhaul line (only for BUWS103 - BUWS103U)
- 7 - Signal pilot lights kit and number plate detection camera kit (SWS102A2) (optional)
- 8 - System for automatic glass cleaning (VARWS101PULAUTO) (optional)
- 9 - Stand for camera (SWS102A2S)
- 10 - "Traffic light" kit for profilometer (SWS102A3) (optional)
- 11 - Air filtering unit (SWS101PULAUTO) (optional)
- 12 - Platform kit (SWS102A1) (optional)
- 13 - Profiler calibration kit (SWS101TARATORE) (optional)

Fig. 2 - BUWS101I - BUWS102I - BUWS103I - BUWS101IU - BUWS102IU - BUWS103IU











KEY

- 1 - Profilometer central platform
- 2 - Console (only for BUWS101I - BUWS101IU)
- 3 - Electric panel (only for BUWS102I - BUWS102IU)
- 4 - Extension kit for connection with wheel alignment device and overhaul line (only for BUWS103I - BUWS103IU)
- 5 - Signal pilot lights kit and number plate detection camera kit (SWS102A2) (optional)
- 6 - System for automatic glass cleaning (VARWS101PULAUTO) (optional)
- 7 - Stand for camera (SWS102A2S)
- 8 - "Traffic light" kit for profilometer (SWS102A3) (optional)
- 9 - Air filtering unit (SWS101PULAUTO) (optional)
- 10 - Profiler calibration kit (SWS101TARATORE) (optional)

SYMBOLS USED IN THE MANUAL

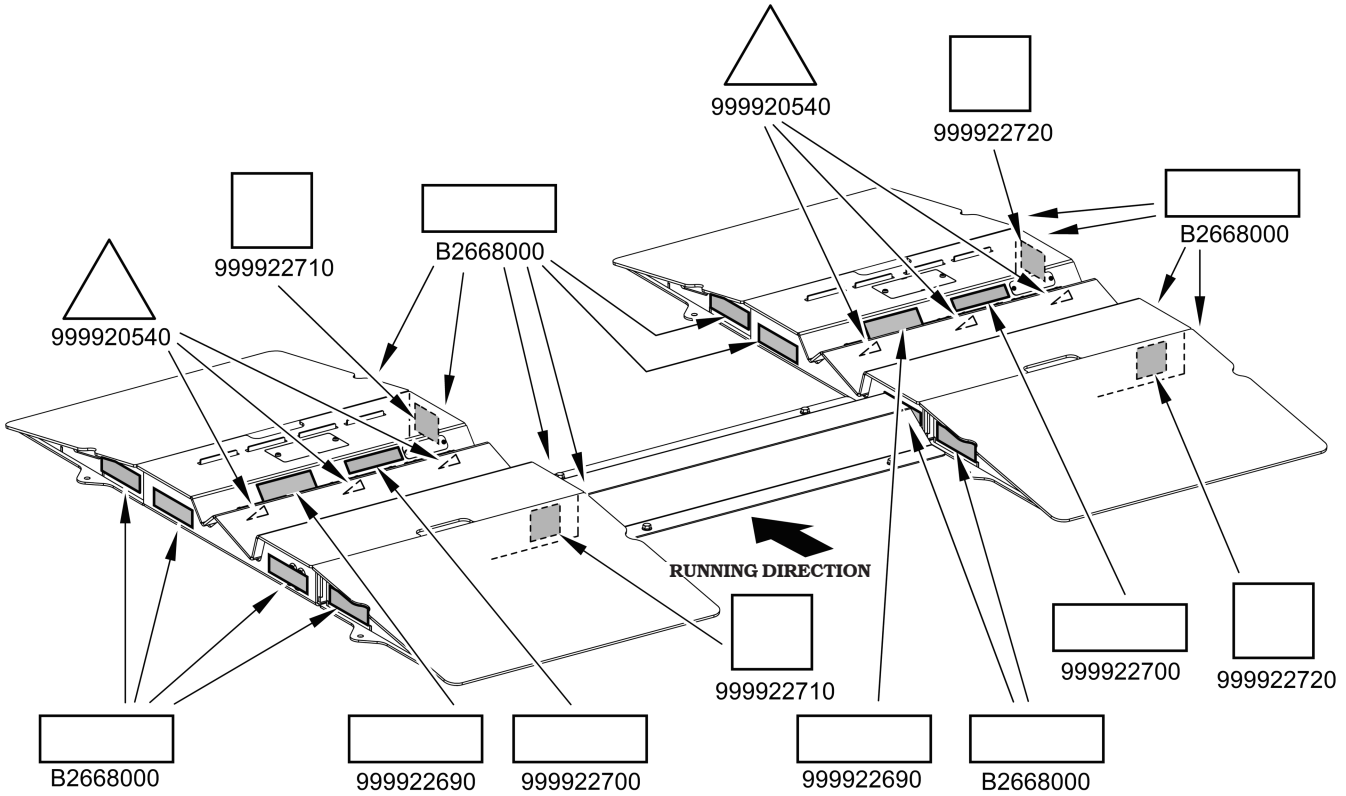
Symbols	Description
	Read instruction manual.
	FORBIDDEN!
	Wear work gloves.
	Wear work shoes.
	Wear safety goggles.
	Wear safety earcaps.
	Shock hazard.
	Warning. Be particularly careful (possible material damages).

Symbols	Description
	Mandatory. Operations or jobs to be performed compulsorily.
	Danger! Be particularly careful.
	Move with fork lift truck or pallet truck.
	Lift from above.
	Caution: hanging loads.
	Technical assistance necessary. Do not perform any intervention.
	Note. Indication and/or useful information.
	Danger! Laser presence.

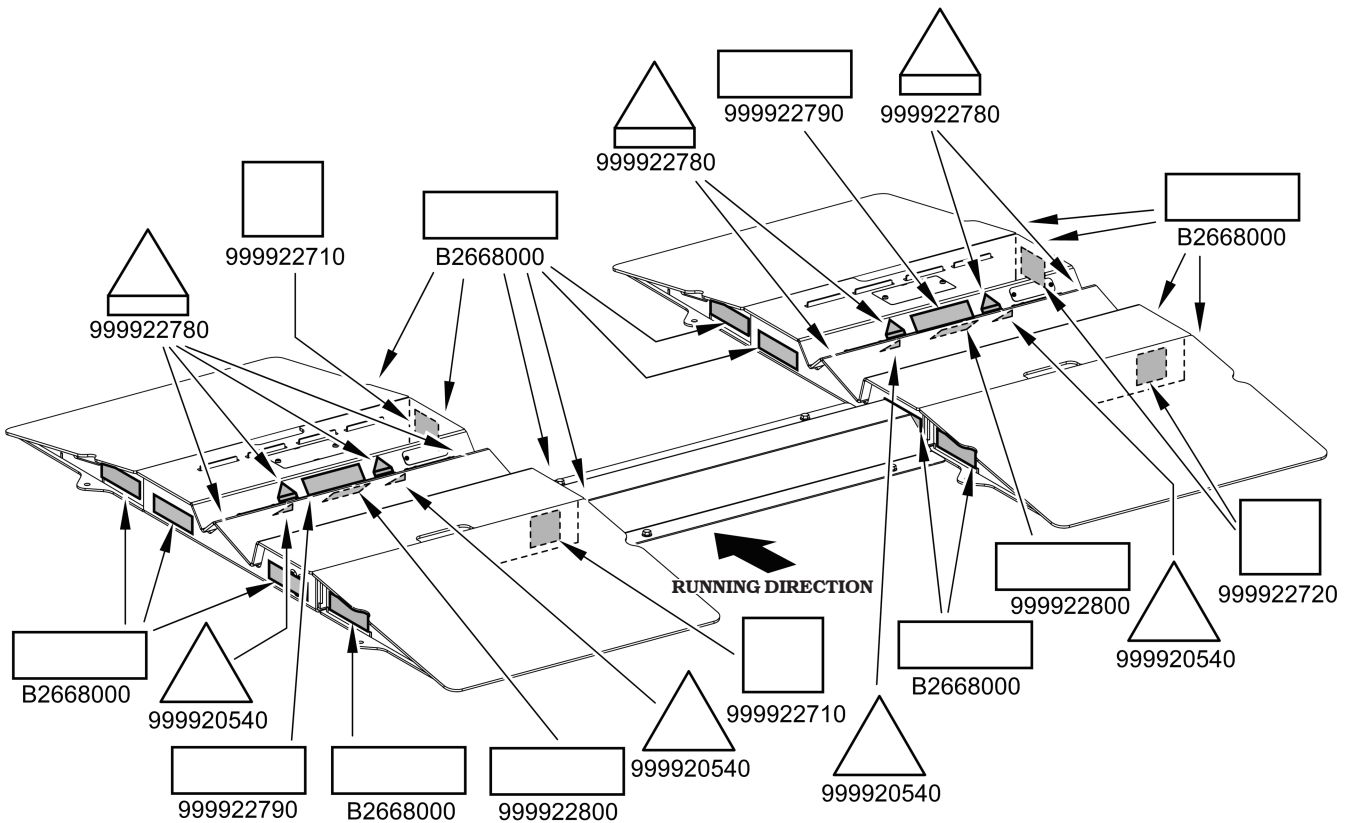
BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU

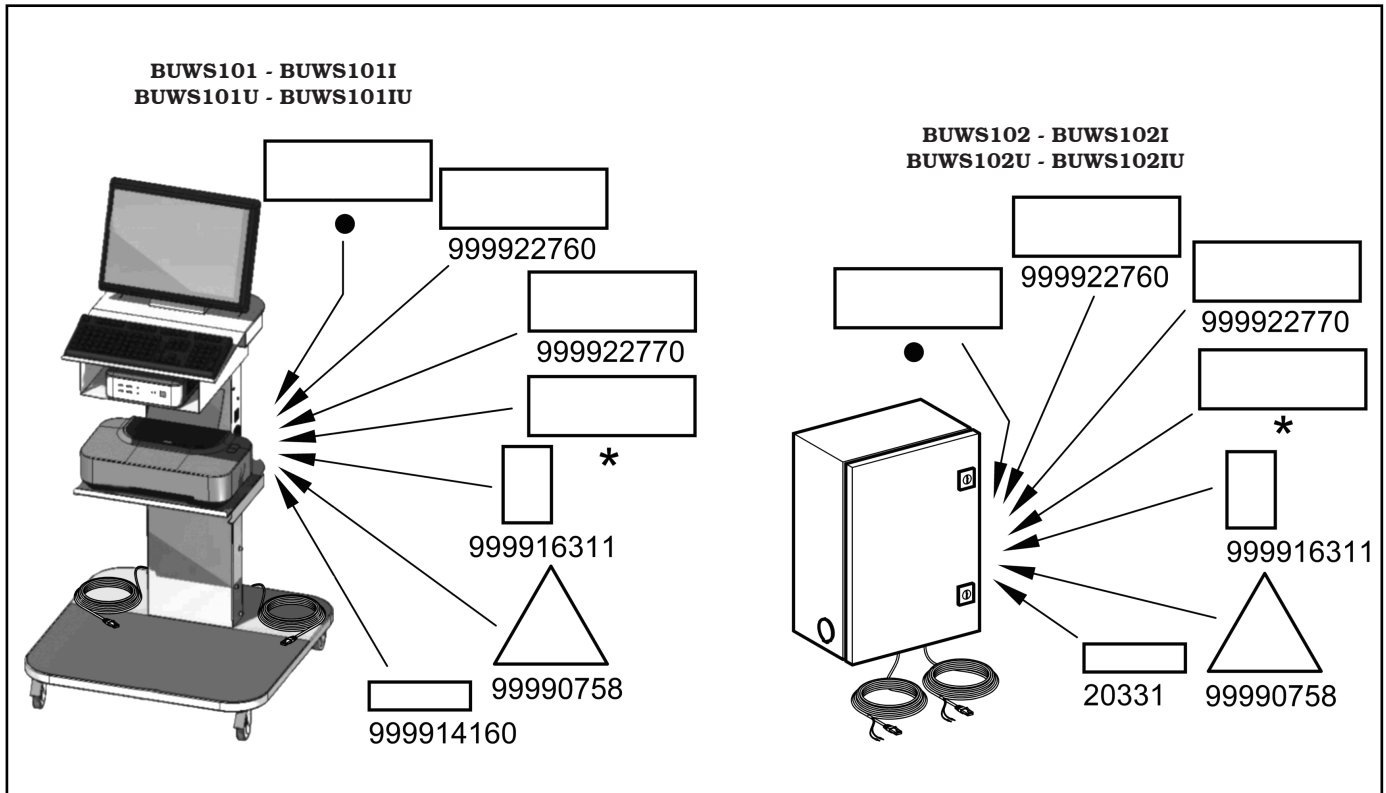
INFORMATION PLATE LOCATION TABLE

Only for BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I



Only for BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU





Code numbers of plates

20331	230V 50Hz 600W label
B2668000	Wheel lifting device danger plate
99990758	Electricity danger plate
999914160	Voltage 230V 50/60 Hz 1 Ph plate
999916311	Rubbish skip label
999920540	Laser point danger plate
999922690	Logo plate for laser warning (only for "NON-U" versions)
999922700	Class 2 laser warning plate (only for "NON-U" versions)
999922710	Left/sx plate
999922720	Right/dx plate
999922760	Logo plate for laser warning (only for "U" versions)
999922770	Laser certification plate (only for "U" versions)
999922780	Laser opening plate (only for "U" versions)
999922790	3R laser warning plate (only for "U" versions)
999922800	3R laser warning plate (only for "U" versions)
*	Manufacturer plate
•	Serial number plate



IF ONE OR MORE PLATES DISAPPEAR FROM THE MACHINE OR BECOMES DIFFICULT TO READ. REPLACE IT AND QUOTE ITS/THEIR CODE NUMBER/S WHEN REORDERING.



SOME OF THE PICTURES AND/OR DISPLAY SCREEN PAGES PRESENT IN THIS MANUAL HAVE BEEN OBTAINED FROM PICTURES OF PROTOTYPES, THEREFORE THE STANDARD PRODUCTION EQUIPMENT AND ACCESSORIES CAN BE DIFFERENT IN SOME COMPONENTS/DISPLAY SCREEN PAGES.

1.0 GENERAL INTRODUCTION

This manual is an integral part of the product and must be retained for the whole operating life of the equipment.

Carefully study the warnings and instructions contained in this manual. It contains important instructions regarding **FUNCTIONING, SAFE USE and MAINTENANCE.**



KEEP THE MANUAL IN A KNOWN, EASILY ACCESSIBLE PLACE FOR ALL EQUIPMENT OPERATORS TO CONSULT IT WHENEVER IN DOUBT.



THE MANUFACTURER DISCLAIMS ALL RESPONSIBILITY FOR ANY DAMAGE OCCURRED WHEN THE INDICATIONS GIVEN IN THIS MANUAL ARE NOT RESPECTED: AS A MATTER OF FACT, THE NON-COMPLIANCE WITH SUCH INDICATIONS MIGHT LEAD TO EVEN SERIOUS DANGERS.

1.1 Introduction

Thank you for preferring the equipment described here. We feel sure you will not regret your decision. This equipment stands out for its reliability and easy, safe and rapid operation. With just a small degree of maintenance and care, this equipment will give you many years of trouble-free service and lots of satisfaction.

2.0 INTENDED USE

The equipments covered by this manual and their different versions, are intended to detect automatically, on vehicle's passing onto the platform (speed not exceeding 8 Km/h), tyre's tread profile.



USING THESE EQUIPMENTS OUTSIDE OF THE INTENDED USE (INDICATED IN THIS MANUAL) FOR WHICH THEY HAVE BEEN DESIGNED IS INAPPROPRIATE AND DANGEROUS.



THE MANUFACTURER CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED BY IMPROPER, ERRONEOUS, OR UNACCEPTABLE USE.



AN INTENSIVE USE OF THE EQUIPMENTS IN INDUSTRIAL ENVIRONMENT IS NOT RECOMMENDED.

2.1 Training of personnel

The profilometer may be operated only by suitably trained and authorized personnel.

Given the complexity of the operations necessary to manage the equipment and carry out the operations safely and efficiently, the personnel must be trained in such a way that they learn all the information necessary to operate it as intended by the manufacturer.



A CAREFUL READING OF THIS INSTRUCTION MANUAL FOR USE AND MAINTENANCE AND A SHORT PERIOD OF TRAINING WITH SKILLED PERSONNEL CAN BE AN ENOUGH PREVENTIVE PREPARATION.

3.0 SAFETY DEVICES



PERIODICALLY, AT LEAST MONTHLY, CHECK THE INTEGRITY AND THE FUNCTIONALITY OF THE SAFETY AND PROTECTION DEVICES ON THE EQUIPMENTS.

• Main switch placed on the equipment

Its function is to disconnect machine electric supply, when switched on “0” position.

Only for BUWS101 - BUWS103 - BUWS101U - BUWS103U



Only for BUWS102 - BUWS102U



3.1 Residual risks

The machine was subjected to a complete analysis of risks according to reference standard EN ISO 12100. Risks are as reduced as possible in relation with technology and product functionality.

Possible residual risks have been emphasized through pictorial representations and warnings which placing is indicated in “PLATE POSITIONING TABLE” at page 7.

THIS DEVICE IS EQUIPPED WITH A LASER BAR, A TOOL THAT USES LASER BEAMS, PROPERLY INTERFACED WITH THE SOFTWARE THE DEVICE IS EQUIPPED WITH, TO ENSURE ABSOLUTE PRECISION MEASUREMENTS OF THE SHAPE AND SIZE OF THE TYRE’S TREAD, WHICH IS PASSED ONTO IT. THIS DEVICE IS EQUIPPED WITH A CLASS 2 LASER BAR. WARNING AND INFORMATION PLATES HAVE BEEN APPLIED OUTSIDE THE DEVICE (AS ILLUSTRATED BELOW), IN ORDER TO INDICATE THE PRESENCE AND EMPLOYMENT OF LASER MEASURING INSTRUMENTS. DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.



Only for BUWS101U - BUWS101IU - BUWS102U
- BUWS102IU - BUWS103U - BUWS103IU

WARNING AND INFORMATION PLATES HAVE BEEN APPLIED OUTSIDE AND INSIDE THE DEVICE (AS ILLUSTRATED BELOW), IN ORDER TO INDICATE THE PRESENCE AND EMPLOYMENT OF LASER MEASURING INSTRUMENTS.



THIS PRODUCT COMPLIES WITH 21CFR1040.10/.11 EXCEPT FOR DEVIATIONS PURSUANT TO LASER NOTICE NO 50, JULY 24, 2007



ONTO EACH DEVICE THERE'S A LED-LIGHT INDICATOR, WHICH LIGHTS UP DURING TYRES' SCAN, TO INDICATE THAT THE LASER BEAM HAS BEEN SWITCHED ON AND TO WARN THE OPERATORS ABOUT THE CONSEQUENT DANGER SITUATION.

For all versions



THIS PRODUCT COMPLIES WITH IEC 60825-1:2014 STANDARD (THIRD EDITION).

4.0 GENERAL SAFETY RULES






- Any tampering with or modification to the equipment not previously authorized by the manufacturer exempts the latter from all responsibility for damage caused by or derived from said actions.
- Removing of or tampering with the safety devices or with the warning signals placed on the equipment leads to serious dangers and represents a transgression of European safety rules.
- Use of the equipment is only permitted in places free from **explosion** or **fire hazard** and in **dry places under cover**.
- Original spare parts and accessories should be used.




THE MANUFACTURER DENIES ANY RESPONSIBILITY IN CASE OF DAMAGES CAUSED BY UNAUTHORIZED MODIFICATIONS OR BY THE USE OF NON ORIGINAL COMPONENTS OR EQUIPMENT.

- Such equipment must be used by qualified and authorized personnel, according exactly to the instructions that are given below.
- Ensure that there are no dangerous situations during the machine operating manoeuvres. Immediately stop the equipment if it malfunctions and contact the assistance service of the authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, disconnect all supplies to the equipment by using the main switch, placed on the equipment itself, and unplugging the power supply.
- Equipment's electrical supply system must be equipped with an appropriate earthing, to which the yellow-green machine protection wire must be connected.
- Ensure that the work area around the equipment is free of potentially dangerous objects and that there is no oil since this could damage the tyre. Oil on the floor is also a potential danger for the operator.





- The workshop must be kept clean and dry. Make sure that the working premises are properly lit. Unauthorized personnel must remain outside the working area, as shown in **Fig. 4**. Avoid any hazardous situations. Do not use air-operated or electrical equipment when the shop is damp or the floor slippery and do not expose such tools to atmospheric agents.

  	<p>OPERATORS MUST WEAR SUITABLE WORK CLOTHES, PROTECTIVE GLASSES, GLOVES AND SHOES MUST BE APPROPRIATE FOR THE TYPE OF OPERATION TO BE CARRIED OUT.</p>
---	--

- When operating and servicing this equipment, carefully follow all applicable safety and accident-prevention precautions. The equipment must not be operated by professionally unskilled persons.



	<p>DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.</p>
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5.0 PACKING AND MOBILIZATION FOR TRANSPORT

   	<p>HAVE THE MACHINE HANDLED BY SKILLED PERSONNEL ONLY. THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE PACKED EQUIPMENT (SEE PARAGRAPH "TECHNICAL SPECIFICATIONS").</p>
---	---

The equipment is packed in a cardboard box, completely assembled in its main units. Movement must be by pallet-lift or fork-lift trolley.

6.0 UNPACKING

 	<p>DURING UNPACKING, ALWAYS WEAR GLOVES TO PREVENT ANY INJURY CAUSED BY CONTACT WITH PACKAGING MATERIAL (NAILS, ETC.).</p>
---	---


The cardboard box is supported with plastic strapping. Cut the strapping with suitable scissors. Use a small knife to cut along the lateral axis of the box and open it like a fan.

It is also possible to unnailed the cardboard box from the pallet it is fixed to.

After the different components have been unpacked, make sure they are undamaged and verify if any fault is present.

If in doubt **do not use the equipment** and refer to professionally qualified personnel (to the seller).

The packing (plastic bags, expanded polystyrene, nails, screws, timber, etc.) should not be left within reach of children since it is potentially dangerous. These materials should be deposited in the relevant collection points if they are pollutants or non biodegradable.

	<p>THE BOX CONTAINING THE FIXTURES IS CONTAINED IN THE WRAPPING. DO NOT THROW IT AWAY WITH THE PACKING.</p>
---	--

6.1 Fixtures contained in the packing

The packing case contains also the fixtures box.
Check that all the parts listed are there.

For **BUWS101 - BUWS103 - BUWS101U - BUWS103U** models

Code	Description	N.
905178	Nylon M8x40 small block	4
905177	M8x75 small block with nut and washer	16
238006	Elastic washer 8,4	16
20256	Ethernet cable 10 m	2

For **BUWS102 - BUWS102U** models

Code	Description	N.
905178	Nylon M8x40 small block	4
905177	M8x75 small block with nut and washer	16
238006	Elastic washer 8,4	16
20330	Ethernet wiring 15 m	2

For **BUWS101I - BUWS103I - BUWS101IU - BUWS103IU** models

Code	Description	N.
905177	M8x75 small block with nut and washer	8
238006	Elastic washer 8,4	8
20256	Ethernet cable 10 m	2

For **BUWS102I - BUWS102IU** models

Code	Description	N.
905177	M8x75 small block with nut and washer	8
238006	Elastic washer 8,4	8
20330	Ethernet wiring 15 m	2

7.0 MOBILIZATION

If the equipment has to be moved from its normal work post, the transport must be conducted by following the instructions listed below.

- Make sure that the electricity supply is not connected.

8.0 WORKING ENVIRONMENT CONDITIONS

The equipment must be operated under proper conditions as follows:

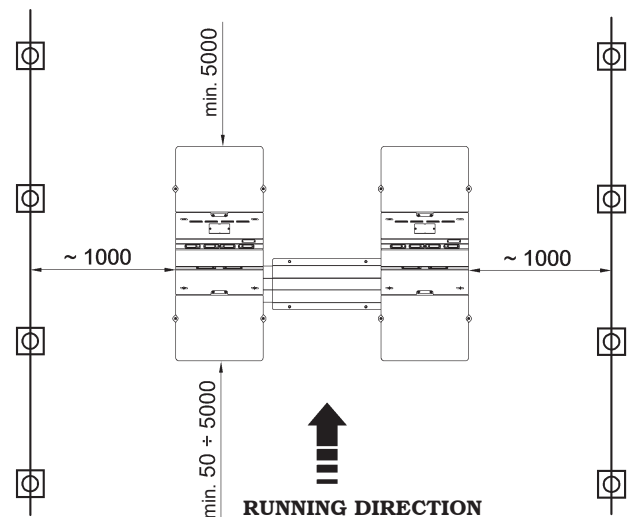
- temperature: 0° + 45° C
- relative humidity: 30 - 90% (dew-free)
- atmospheric pressure: 860 - 1060 hPa (mbar).

The use of the equipment in ambient conditions other than those specified above is only allowed after prior agreement with and approval of the manufacturer.

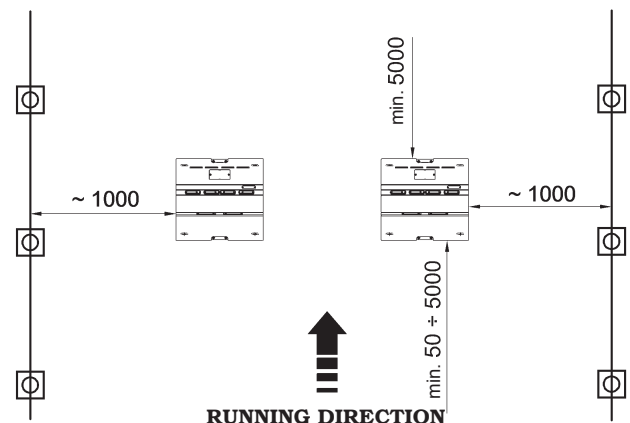
8.1 Working area

BUWS101 - BUWS102 - BUWS103
BUWS101U - BUWS102U - BUWS103U

Fig. 4



BUWS101I - BUWS102I - BUWS103I
BUWS101IU - BUWS102IU - BUWS103IU



USE THE EQUIPMENT IN A DRY AND ADEQUATELY LIT PLACE, POSSIBLY INDOORS OR ANYWAY IN A ROOFED AREA, THIS PLACE MUST BE IN COMPLIANCE WITH APPLICABLE SAFETY REGULATIONS.

Equipment's utilization requires a usable space as indicated in **Fig. 4**. The positioning of the equipment must be executed according to the distances shown. From the control position the operator is able to observe all the machine and surrounding area. He must prevent unauthorized personnel or objects that could be dangerous from entering the area. The equipment must be used on a preferably cement or tiled flat floor. Avoid yielding or irregular surfaces. The base floor must be able to support the loads transmitted during operation.

This surface must have a capacity load of at least 500 kg/m². The working area must be cordoned off, as indicated in **Fig. 4**, in order to avoid the presence of unauthorised personnel in the immediate vicinity of equipment during working phases.

8.2 Lighting

The equipment does not require its own lighting for normal working operations. However, it must be used in an adequately lit environment.

In case of poor lighting use lamps having total power of 800/1200 Watt.

9.0 EQUIPMENT ASSEMBLY



WHILE INSTALLING THE PROFILOMETER, MAKE SURE THAT THE MEASURING CAMERAS ARE ALWAYS DIRECTED TOWARDS THE WORKSHOP INNER AREA.

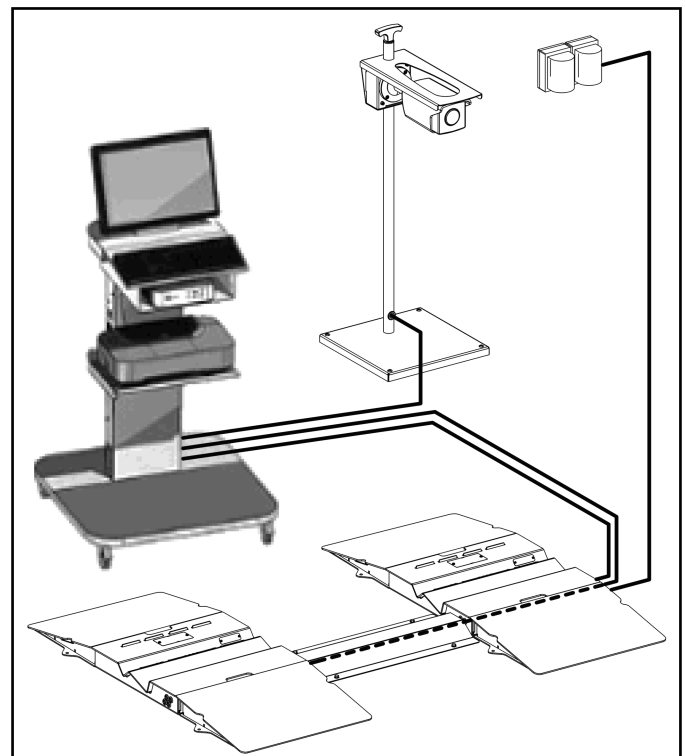


THE DIRECT LIGHT TOWARDS THE CAMERAS SHOULD BE AVOIDED AS MUCH AS POSSIBLE, THEREFORE PROFILOMETER'S COMPLETELY OUTDOORS INSTALLATION IS NOT POSSIBLE, AND AT LEAST IT MUST BE COVERED BY A PENTHOUSE.

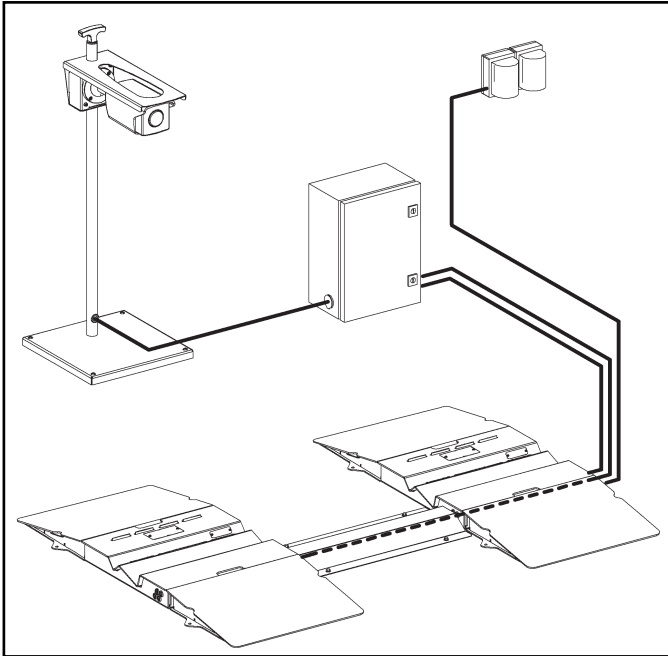
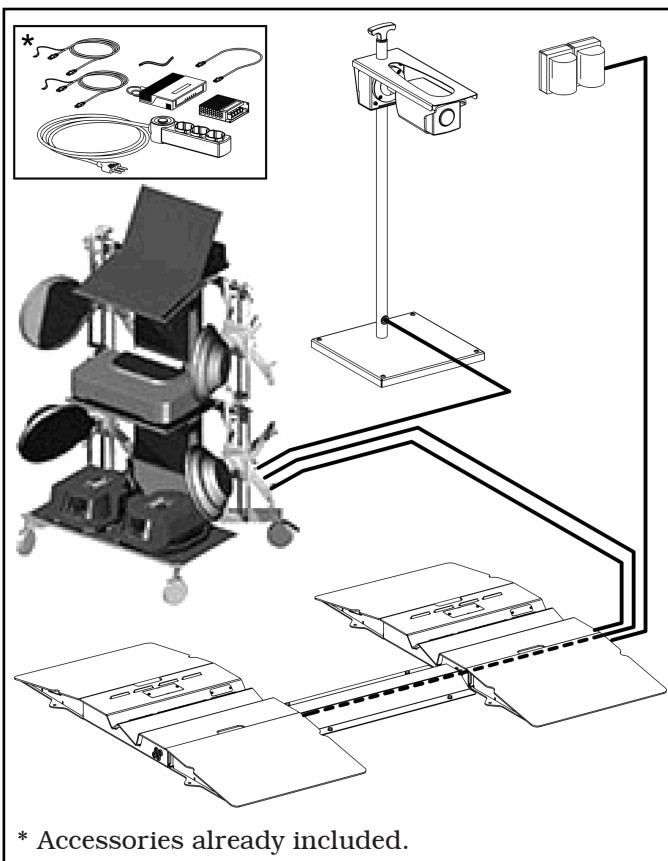
After having freed the various components from the packing check that they are complete, and that there are no anomalies, then comply with the following instructions for the assembly of the components making use of the attached series of illustrations.

9.1 Profilers' connections **(power supply and electrical signals)**

BUWS101 - BUWS101I - BUWS101U - BUWS101IU



BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU

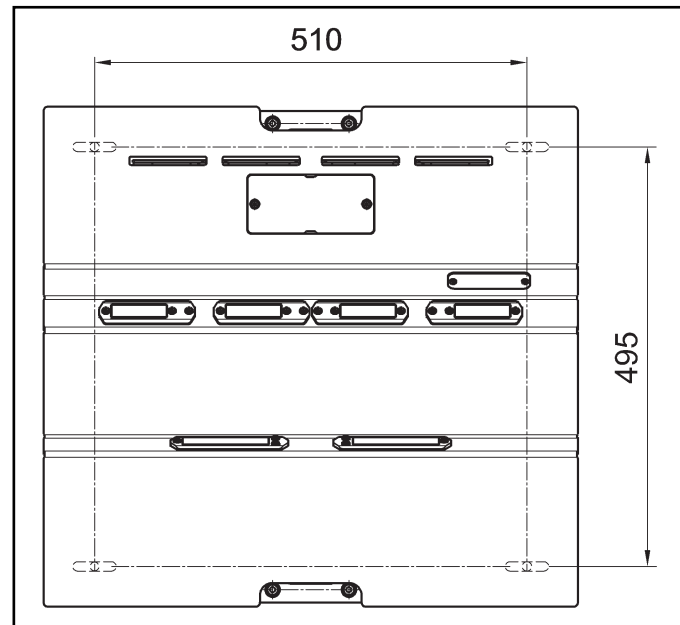
**BUWS102 - BUWS102I - BUWS102U -
BUWS102IU****BUWS103 - BUWS103I - BUWS103U -
BUWS103IU**

**FOR WHAT CONCERNS CONNEC-
TIONS' DETAILED DESCRIPTION,
SEE "FUNCTIONAL DIAGRAMS"
CHAPTER.**

**9.2 Anchoring system (to the ground
through small blocks)**

The equipment must be fixed to the floor using the special provided small blocks.

BUWS101 - BUWS102 - BUWS103 - BUWS101U - BUWS102U - BUWS103U models must be fixed directly to factory's floor, while for what concerns BUWS101I - BUWS102I - BUWS103I - BUWS101IU - BUWS102IU - BUWS103IU models, special masonry works must be prepared, according to the indications in the attached document supplied with the same equipment.



9.3 Assembly procedures

**BUWS101 - BUWS102 - BUWS103 - BUWS101U
- BUWS102U - BUWS103U**



WHILE PERFORMING THE NEXT ASSEMBLY AND FLOOR FIXING OPERATIONS, REFER TO FIG. 22 AND TO THE CORRESPONDING DIMENSIONS.



IF THE PROFILOMETER IS INSTALLED IN A DIAGNOSIS LINE, WE RECOMMEND TO POSITION IT AT THE END OF THE SAME LINE, AT A MINIMUM DISTANCE OF 5 M FROM THE EQUIPMENT COMING BEFORE IN THE LINE.

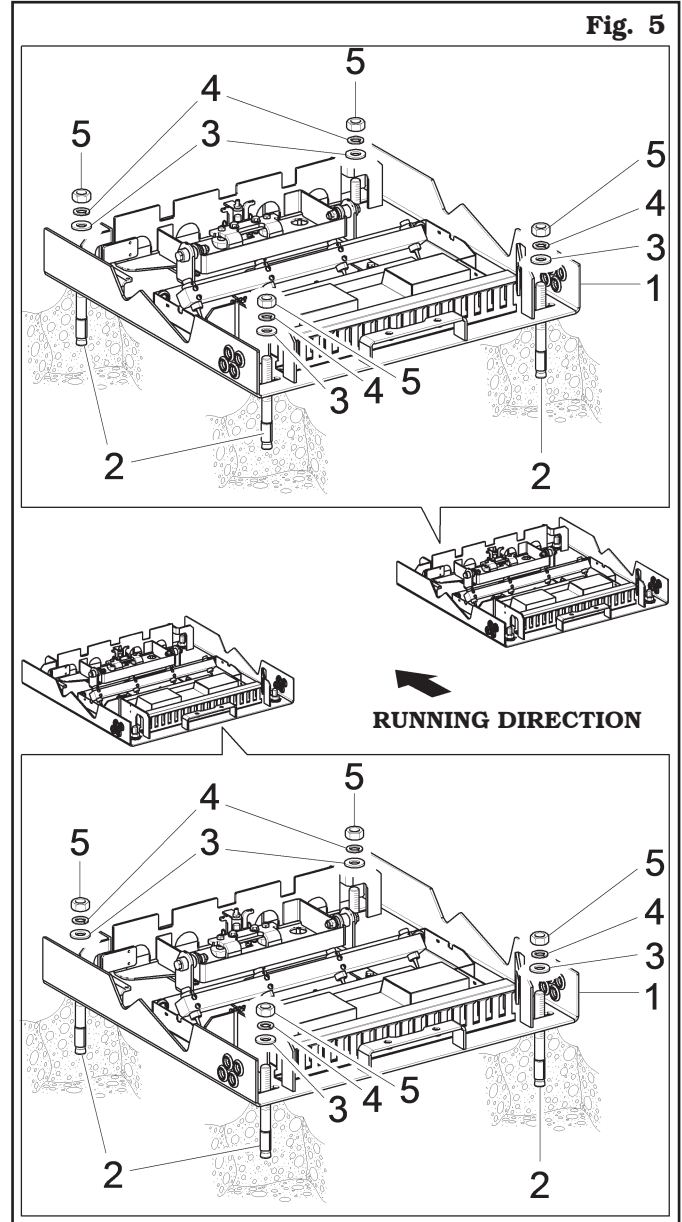


IF YOU WISH TO INSTALL THE PROFILOMETER IN END-OF-LINE AREA, AT A DISTANCE LOWER THAN 5 M AND/OR NEXT TO THE EQUIPMENT BEFORE IT, BUWS102 - BUWS102U VERSION MUST BE USED.



DURING ASSEMBLY OPERATIONS, REFER TO THE LABELS PLACED ONTO THE PLATFORMS OF EACH VERSION, INDICATING THE RH AND LH POSITIONING SIDE OF THE SAME PLATFORMS (SEE "INFORMATION PLATE LOCATION TABLE").

1. Following RH - LH correct positioning, fix the platforms (**Fig. 5 ref. 1**) to the plant's floor using the supplied small blocks (**M8**) (**Fig. 5 ref. 2**), washers (**D8**) (**Fig. 5 ref. 3-4**) and nuts (**M8**) (**Fig. 5 ref. 5**).



2. Fix the ramps (**Fig. 6 ref. 1**) to factory's floor using the supplied small blocks (M8) (**Fig. 6 ref. 2**), washers (D8) (**Fig. 6 ref. 3-4**) and nuts (M8) (**Fig. 6 ref. 5**).

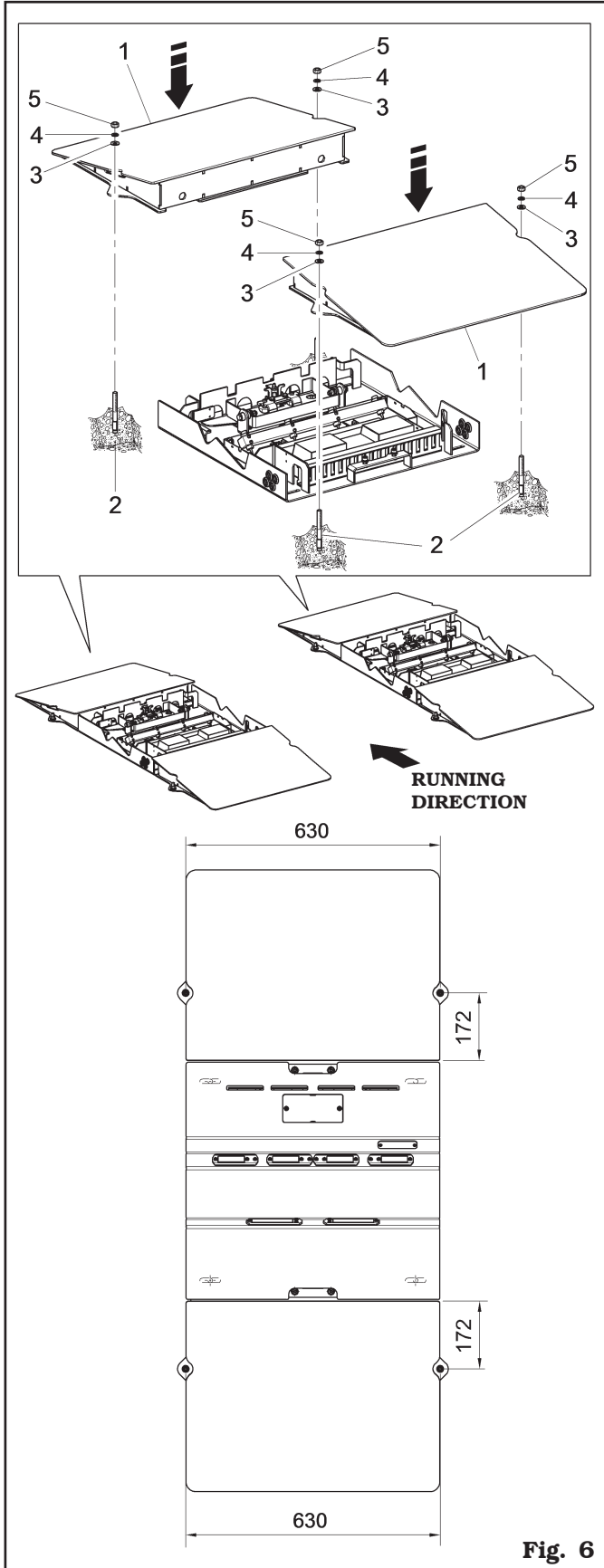


Fig. 6



TO INSTALL NETWORK CABLES AND THE "TRAFFIC LIGHT" CABLE (IF SWS102A2 OR SWS102A3 ACCESSORIES PRESENT) CARRY OUT THE OPERATIONS DESCRIBED HEREAFTER IN SEQUENCE.

3. Remove the protection cage (**Fig. 7 ref. 1**).
4. Install the cameras network cables (refer to **Table A** of "Functional diagrams").
5. Install the "traffic light" cable (if SWS102A2 or SWS102A3 accessories present) (refer to **Table B** of "Functional diagrams").
6. After connecting the cables as described before, refit the protection cage (**Fig. 7 ref. 1**) by fixing it with all the 13 screws (**Fig. 7 ref. 2**), on issue.



THE NETWORK CABLES ARE FASTENED TO RJ45 ETHERNET SOCKET, IN THE CARD INSIDE EACH PLATFORM (REFER TO TABLE A OF "FUNCTIONAL DIAGRAMS"). THEIR JOB IS TO PERMIT COMMUNICATION BETWEEN THE DETECTORS AND THE PC AS WELL AS POWER THE SAME DETECTORS.

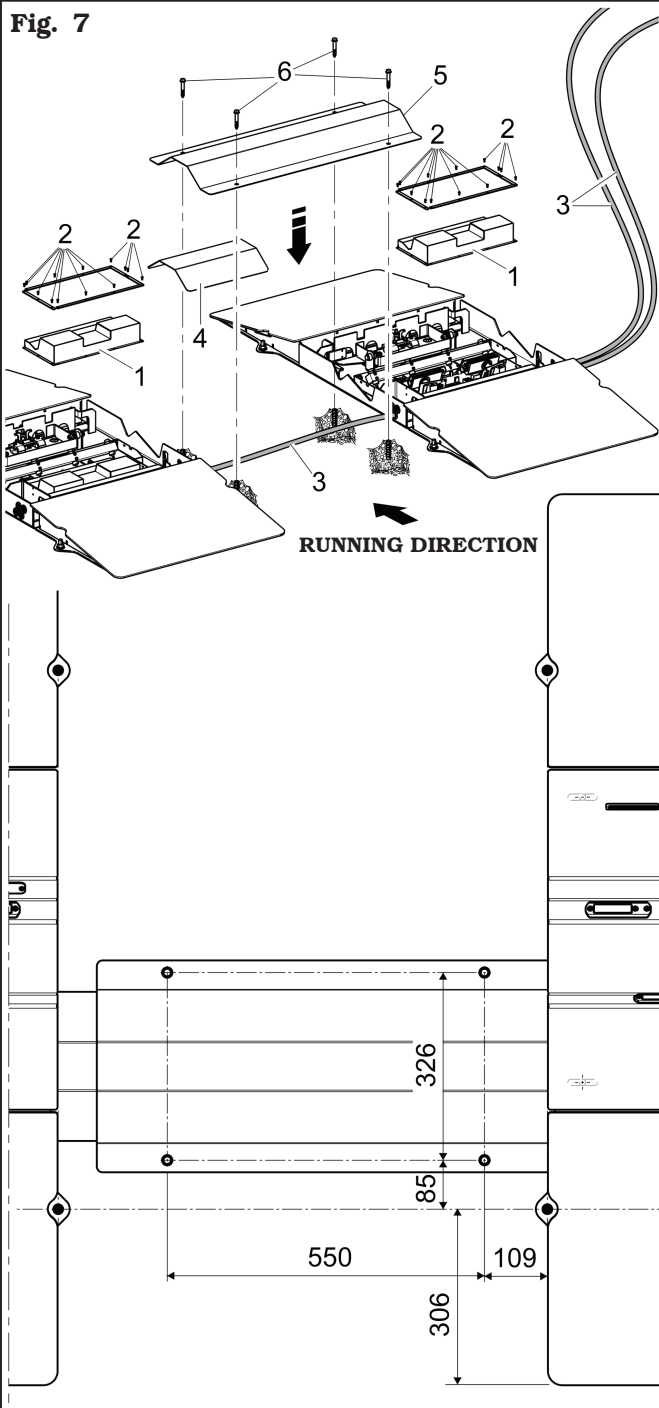
7. Fit the network cables (**Fig. 7 ref. 3**) to the platforms and connect them to the PC (for BUWS101 - BUWS103 - BUWS101U - BUWS103U models) or to the electrical panel (for BUWS102 - BUWS102U models).



THE "TRAFFIC LIGHT" CABLE (IF SWS102A2 OR SWS102A3 ACCESSORIES PRESENT) MUST BE FIXED TO THE CARD PJ15 CONNECTOR INSIDE ONE OF THE TWO PLATFORMS (REFER TO "TABLE A" OF "FUNCTIONAL DIAGRAMS"). IT ALLOWS THE COMMUNICATION BETWEEN CARD AND "TRAFFIC LIGHT" AND ITS SUPPLY.

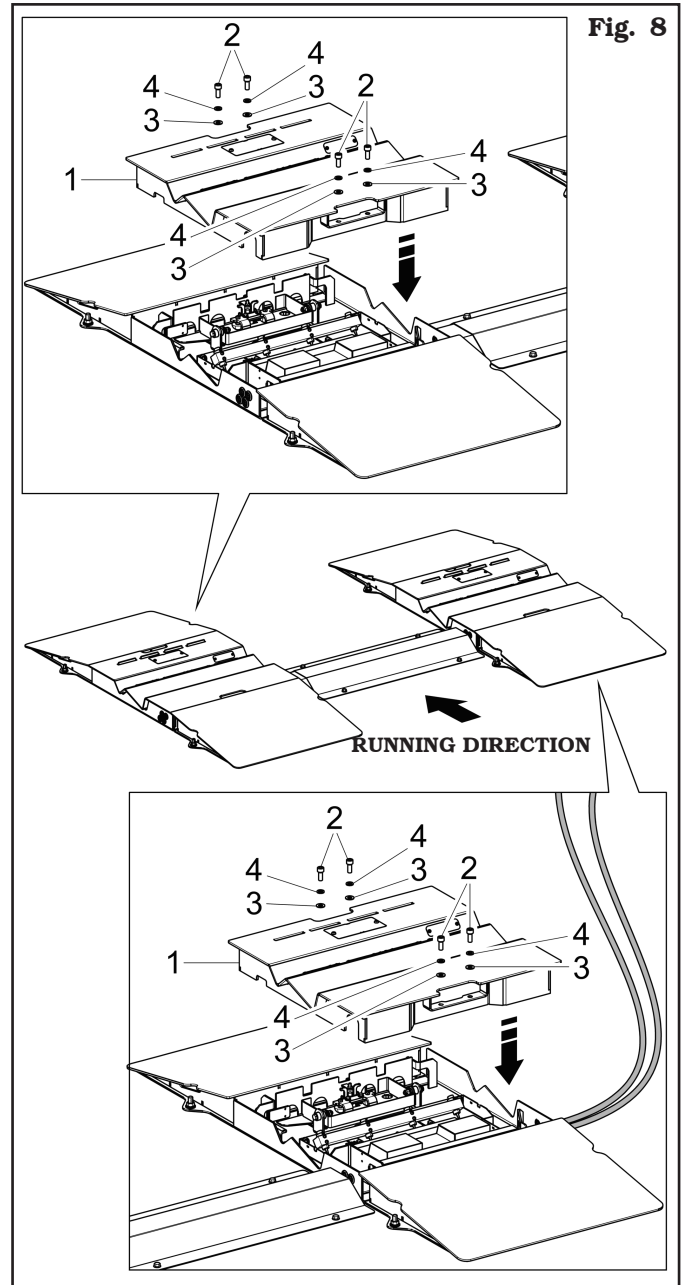
Only for BUWS101 - BUWS102 - BUWS103 - BUWS101U - BUWS102U - BUWS103U

- Place the tray extension (**Fig. 7 ref. 4**) and then the tray (**Fig. 7 ref. 5**) on the floor of the installation and fasten everything using the supplied small blocks (M8) (**Fig. 7 ref. 6**).



For all the models

8. Following RH - LH correct positioning, mount platform covers (**Fig. 8 ref. 1**) using the supplied screws (M8) (**Fig. 8 ref. 2**) and washers (D8) (**Fig. 8 ref. 3-4**) on issue.



BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU

BUWS101I - BUWS102I - BUWS103I
BUWS101IU - BUWS102IU - BUWS103IU

WHILE PERFORMING THE NEXT ASSEMBLY AND FLOOR FIXING OPERATIONS, REFER TO FIG. 23 AND TO THE CORRESPONDING DIMENSIONS.



IF THE PROFILOMETER IS INSTALLED IN A DIAGNOSIS LINE, WE RECOMMEND TO POSITION IT AT THE END OF THE SAME LINE, AT A MINIMUM DISTANCE OF 5 M FROM THE EQUIPMENT COMING BEFORE IN THE LINE.



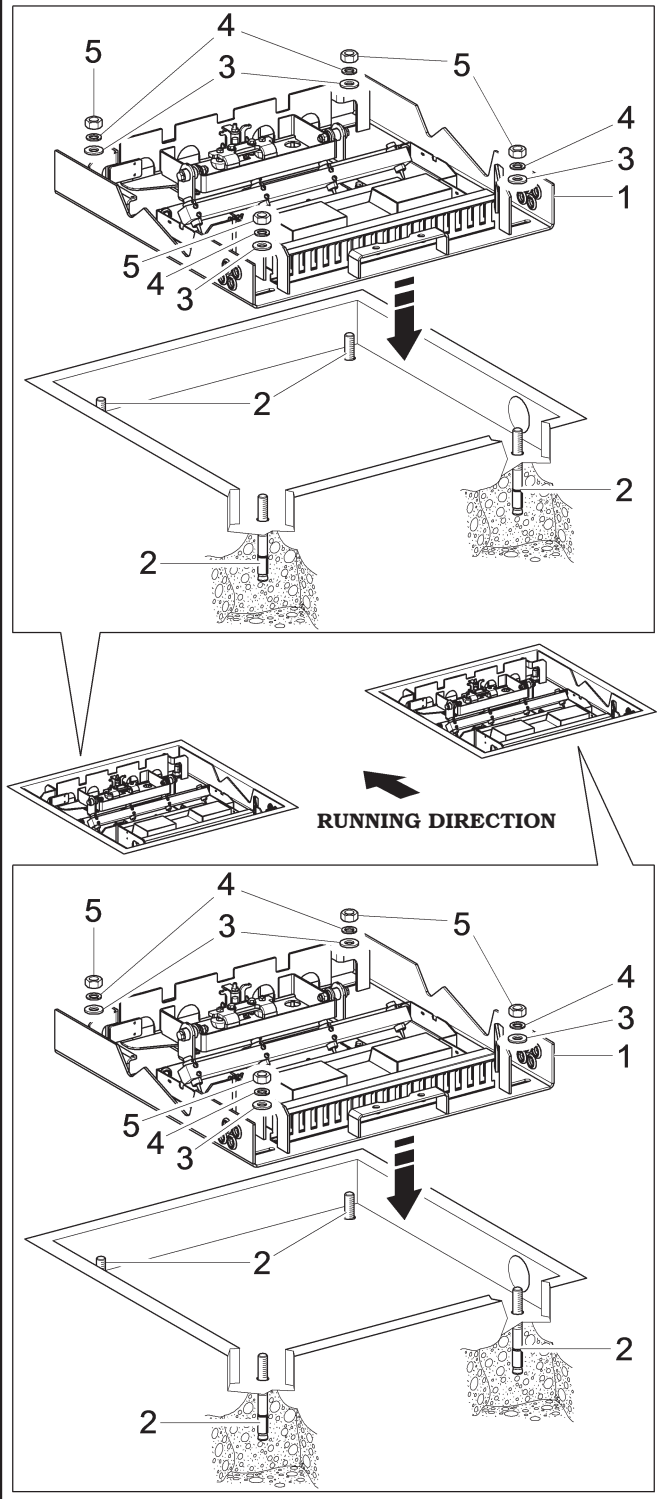
IF YOU WISH TO INSTALL THE PROFILOMETER IN END-OF-LINE AREA, AT A DISTANCE LOWER THAN 5 M AND/OR NEXT TO THE EQUIPMENT BEFORE IT, BUWS102 - BUWS102U VERSION MUST BE USED.

1. Following RH - LH correct positioning, fix the platforms (**Fig. 9 ref. 1**) into the pit that has been prearranged in the factory, using the supplied small blocks (M8) (**Fig. 9 ref. 2**), washers (D8) (**Fig. 9 ref. 3-4**) and nuts (M8) (**Fig. 9 ref. 5**).



THE MASONRY WORKS HAVE BEEN DEPICTED IN APPROPRIATE DRAWINGS THAT MUST BE REQUIRED FROM THE SELLER.

Fig. 9





TO INSTALL NETWORK CABLES AND THE "TRAFFIC LIGHT" CABLE (IF SWS102A2 OR SWS102A3 ACCESSORIES PRESENT) CARRY OUT THE OPERATIONS DESCRIBED HEREAFTER IN SEQUENCE.

3. Remove the protection cage (**Fig. 10 ref. 1**).
4. Install the cameras network cables (refer to **Table A** of "Functional diagrams").
5. Install the "traffic light" cable (if SWS102A2 - SWS102A3 accessories present) (refer to **Table B** of "Functional diagrams").
6. After connecting the cables as described before, refit the protection cage (**Fig. 10 ref. 1**) by fixing it with all the 13 screws (**Fig. 10 ref. 2**), on issue.

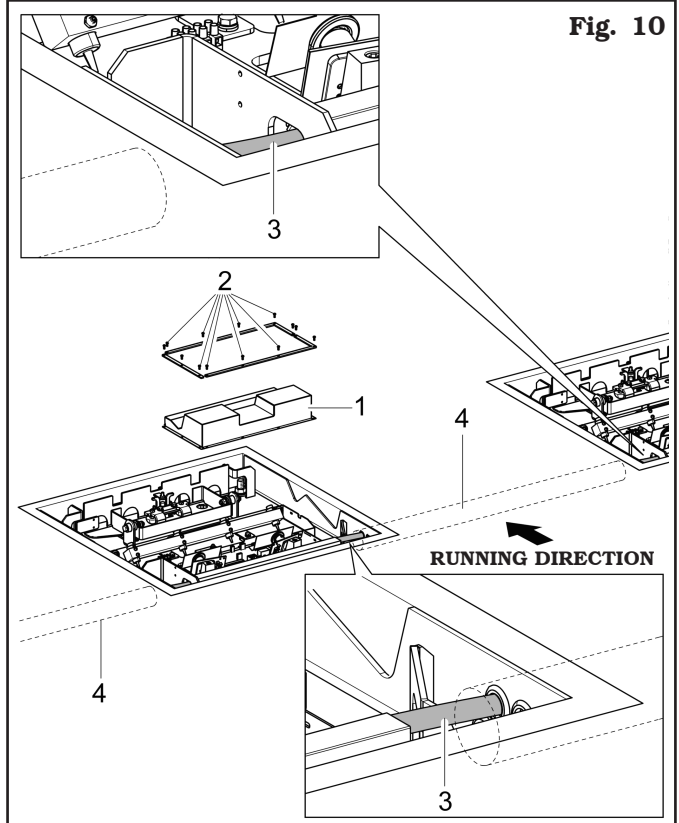


THE NETWORK CABLES ARE FASTENED TO RJ45 ETHERNET SOCKET, IN THE CARD INSIDE EACH PLATFORM (REFER TO TABLE A OF "FUNCTIONAL DIAGRAMS"). THEIR JOB IS TO PERMIT COMMUNICATION BETWEEN THE DETECTORS AND THE PC AS WELL AS POWER THE SAME DETECTORS.

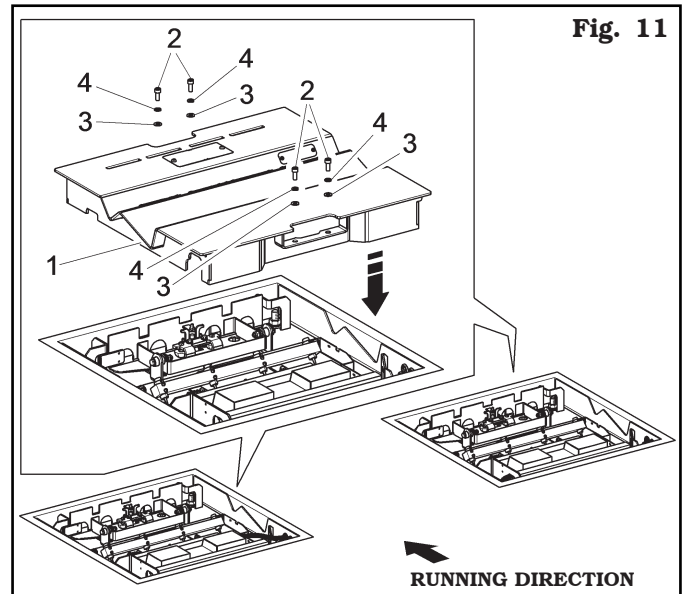
7. Fix the cables (**Fig. 10 ref. 3**) to the platforms, by letting them pass through the PVC pipes (**Fig. 10 ref. 4**) (or steel pipes, if positioned in vehicles' transit area), prearranged during the masonry works, and connect them to the PC (for BUWS101 - BUWS103 - BUWS101U - BUWS103U models) or to the electrical panel (for BUWS102 - BUWS102U models).



THE "TRAFFIC LIGHT" CABLE (IF SWS102A2 - SWS102A3 ACCESSORIES PRESENT) MUST BE FIXED TO THE CARD PJ15 CONNECTOR INSIDE ONE OF THE TWO PLATFORMS (REFER TO "TABLE A" OF "FUNCTIONAL DIAGRAMS"). IT ALLOWS THE COMMUNICATION BETWEEN CARD AND "TRAFFIC LIGHT" AND ITS SUPPLY.



8. Following RH - LH correct positioning, mount platforms covers (**Fig. 11 ref. 1**) using the supplied screws (M8) (**Fig. 11 ref. 2**) and washers (D8) (**Fig. 11 ref. 3-4**) on issue.



9.4 Installation of Kit for license plate recognition and of "traffic light" system (SWS102A2)

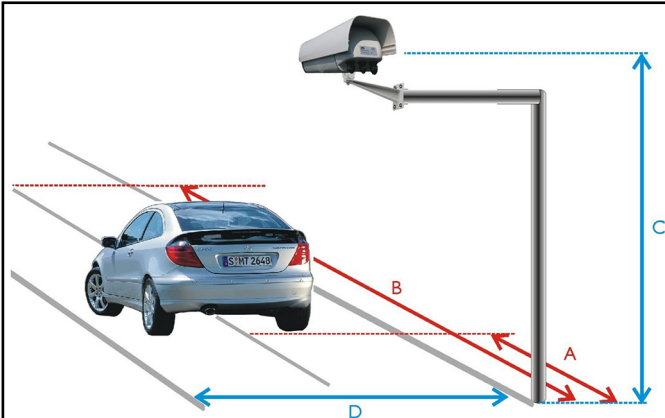
Vehicle's license plate reading with vertical "gate" or wall station.



FRAMING INCLINATION TOLERANCE COMPARED TO LICENSE PLATE'S PLANE MUST BE +/- 30°.

The cable supplied with the camera has a length of 10 m.

If installation should require a longer cable, a PoE feeder should be employed (ref. Code 20423).



KEY

- A - Minimum horizontal distance between the camera and the plate to be read: **2 m**
- B - Maximum horizontal distance between the camera and the plate to be read: **6 m**
- C - Camera height positioning: **from 1 to 3 m**
- D - Gate's width: **up to 3 m**

Example of framing:



10.0 ELECTRICAL CONNECTIONS



EVEN THE TINIEST PROCEDURE OF AN ELECTRICAL NATURE MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.



BEFORE CONNECTING THE EQUIPMENT MAKE SURE THAT:

- THE MAIN POWER RATING CORRESPONDS TO THE MACHINE RATING AS SHOWN ON THE MACHINE PLATE;
- ALL MAIN POWER COMPONENTS ARE IN GOOD CONDITION;
- THE ELECTRICAL SYSTEM IS PROPERLY GROUNDED (GROUND WIRE MUST BE THE SAME CROSS-SECTION AREA AS THE LARGEST POWER SUPPLY CABLES OR GREATER);
- MAKE SURE THAT THE ELECTRICAL SYSTEM FEATURES A CUTOUT WITH DIFFERENTIAL PROTECTION SET AT 30 mA.

Connect the equipment up to the mains by means of the 3-pole plug provided (230 V single-phase).

If the plug supplied is not suitable for the wall socket, provide the equipment with a plug complying with the local laws and with the applicable rules and regulations. This operation must be performed by expert and professional personnel.



FIT A TYPE-APPROVED (AS REPORTED BEFORE) PLUG TO THE EQUIPMENT CABLE (THE GROUND WIRE IS YELLOW/GREEN AND MUST NEVER BE CONNECTED TO ONE OF THE TWO PHASE LEADS). MAKE SURE THAT THE ELECTRICAL SYSTEM IS COMPATIBLE WITH THE RATED POWER ABSORPTION SPECIFIED IN THIS MANUAL AND APT TO ENSURE THAT VOLTAGE DROP UNDER FULL LOAD WILL NOT EXCEED 4% OF RATED VOLTAGE (10% UPON START-UP).

Connect the camera kit (if present) to one of the free sockets of the switch and connect it to the electric supply of the electrical panel (for BUWS102 - BUWS102U model) or to the console (for BUWS101 - BUWS103 - BUWS101U - BUWS103U models).



FAILURE TO OBSERVE THE ABOVE INSTRUCTIONS WILL IMMEDIATELY INVALIDATE THE WARRANTY.



DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.

10.1 Electrical checks



BEFORE STARTING UP THE EQUIPMENT, BE SURE TO BECOME FAMILIAR WITH THE OPERATION MODES OF ALL CONTROL ELEMENTS.

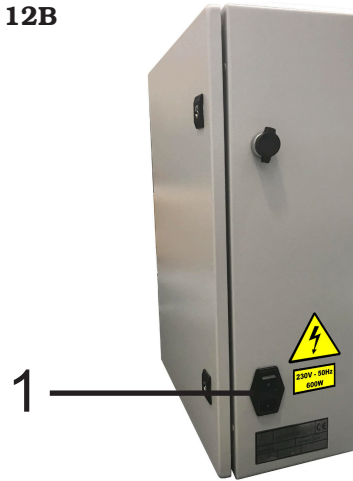
Once the plug/socket connection has been made, turn the equipment on using the master switch (**Fig. 12A - 12B ref. 1**).

Only for BUWS101 - BUWS103 - BUWS101U - BUWS103U



Only for BUWS102 - BUWS102U

Fig. 12B



10.2 Specifications of supply air of "System for automatic glass cleaning" (on demand) and relevant connection

VARWS101PULAUTO system for automatic glass cleaning must be supplied with pure pneumatic air, free of any impurity (such as dirt, dust, rust or solid particles), wet and oil. The air quality required, according to ISO-DIN 8573-1, is 2-3-2. To this end, an appropriate air treatment unit must be installed on the pneumatic supply line (upstream profilometer's automatic cleaning system); such unit must consist of a filtering element (equipped with filtering cartridge with filtering degree of 5 micron), of an oil-separator (with filtering degree of 1 micron) and of a drier (with a dew point not below -20°C). Such unit must be kept efficient and effective over time: to this end, we recommend the use of a unit with automatic discharge of the intercepted impurities. The installed unit must also ensure a pressure value not below the 8 bar and an air flow rate value not below 2500 NI/min at the outfeed area (to this end, the use of a 3/4 inch size unit should be normally enough). Finally, the aforementioned filtering unit must be connected to the system for automatic glass cleaning installed on the profilometer, using an hose with a diameter not below 12 mm (free of chokes or of any element which could cause pressure falls or a reduction of its flow rate).

SWS101PULAUTO accessory satisfies supply air parameters if the characteristics described above should not be ensured.

11.0 KIT FOR LICENSE PLATE AUTOMATIC RECOGNITION AND FOR PROCEEDING "TRAFFIC LIGHT" SYSTEM (SWS102A2 OR SWS102A3) (OPTIONAL)

The camera (only for SWS102A2) automatically recognizes cars' license plates, thus the data present in the page make it possible to insert the vehicle in the data bank (see Par. 14.5), preparing test end report's print. The "traffic light" system scans test's (measuring) progress, the colours indicate the following conditions:

GREEN TRAFFIC LIGHT: device ready for scanning.

RED FIXED TRAFFIC LIGHT: device processing data (max. 15 sec.).

RED FLASHING TRAFFIC LIGHT: a problem is being signalled.

**Only for BUWS103 - BUWS103I -
BUWS103U - BUWS103IU
(version/extension for wheel alignment)**

Take a picture of the number plates of the motor vehicle with a smartphone, connected to the trim to activate the "Shoot&Go" system.

This system, connected to the Internet, retrieves in a few seconds and automatically the car data (brand, model, etc...) and displays them on monitor of the trim, and it enters the data in the system database.

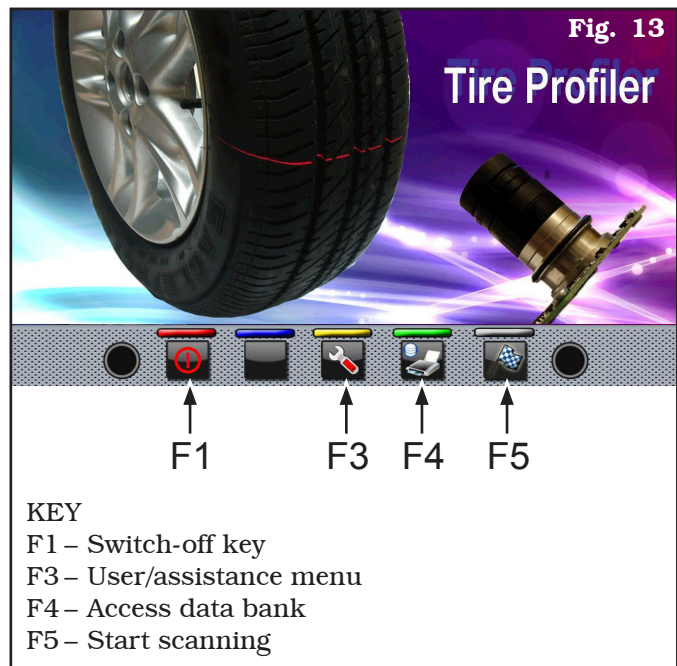


12.0 CONTROL PANEL

The equipment is provided with a keyboard to interact/operate the controls present in graphical form on the monitor.

This monitor indicates all the information necessary for the correct tyres' diagnosis.

It also gives further indications on any possible intervention (tyres' inflation, need of a more careful check of vehicle's tyre alignment, and so on) and, when coupled with a plate detection system, it can be connected to the workshop's management programme, in order to keep track of vehicle's traceability.



12.1 Management PC

The management PC contains the software for profilometer's control and check.

The management PC has the following minimum specifications:

- 1.6GHz processor;
- RAM 1 Gb;
- Smart card reader;
- 4 USB; 1 LAN Ethernet 10/100Mb;
- Keyboard and PS2 mouse input; Windows 7 Embedded Standard operative system in English;
- Video output 1366x768 Pixels HD Ready;
- Hard Disk \geq 160 Gb.

**12.2 Activation smart card (only for
BUWS101 - BUWS101I - BUWS102 -
BUWS102I - BUWS101U - BUWS101IU
- BUWS102U - BUWS102IU models)**

The equipment is provided with a Smart card (Fig. 14 ref. 1) equipped with serial number allowing the activation of the same equipment (**WARNING: DO NOT THROW AWAY!**).

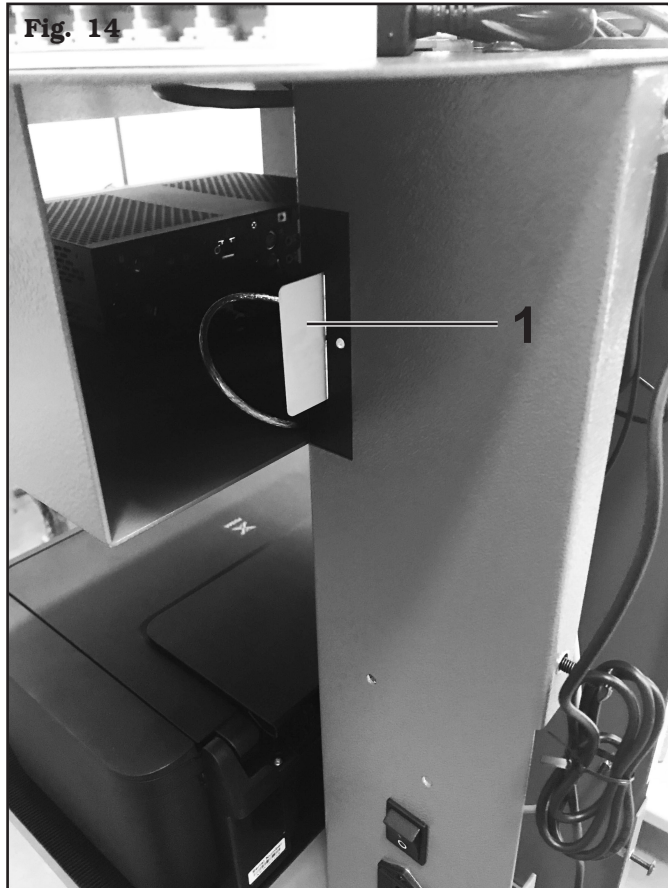


Fig. 14



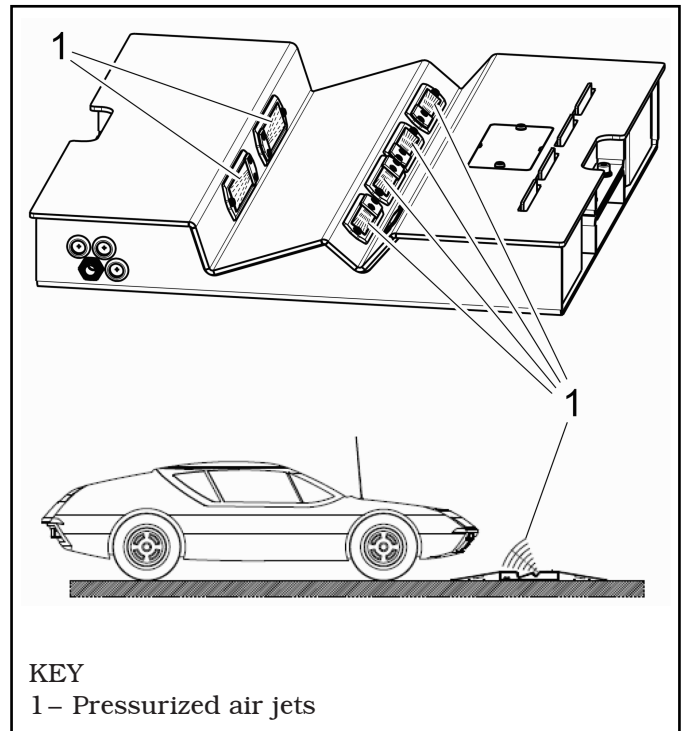
CAREFULLY KEEP THIS MATERIAL AS IT WON'T BE SUPPLIED AGAIN AS A SPARE PART.



THE MANUFACTURER DENIES LIABILITY FOR THE LOSS OF THE CARD.

13.0 DEVICE FOR AUTOMATIC GLASS CLEANING (ON DEMAND)

The system is activated by an optical proximity switch, which detects a car approaching, operating a high-speed air pneumatic jet, which skims the surface of all profilometer's glasses (in the outside area of the corresponding frames). Such jet cleans (removing any water or dirt settled onto the glass surface before its intervention) and (acting as air curtain) prevents water and dirt from settling onto the glass surface (throughout car's passage onto the profilometer).



KEY

1 - Pressurized air jets



FOR THE CONNECTION OF THE ELECTRICAL CABLES AND THE PNEUMATIC PIPES, REFER TO CHAPT. 23 "FUNCTIONAL DIAGRAMS".

13.1 Cover air mounting (LH)

To mount the cover, follow the mounting procedure hereafter:

1. Place the cover (**Fig. 15 ref. 1**) on the base (**Fig. 15 ref. 2**).
2. Fix the cover (**Fig. 15 ref. 1**) using the supplied screws (**Fig. 15 ref. 3**) and washers (**Fig. 15 ref. 4**).
3. Connect the pneumatic pipe (**ref. 1** of "Table D" of "Functional diagrams", see Chapt. 23) and the extension cable (**ref. 2** of "Table D" of "Functional diagrams", see Chapt. 23) to the cover (**Fig. 15 ref. 1**).
4. Mount the cap (**Fig. 15 ref. 5**), as indicated in the lens (phase a, b, c), and fix it to the cover using the supplied screws (**Fig. 15 ref. 6**).

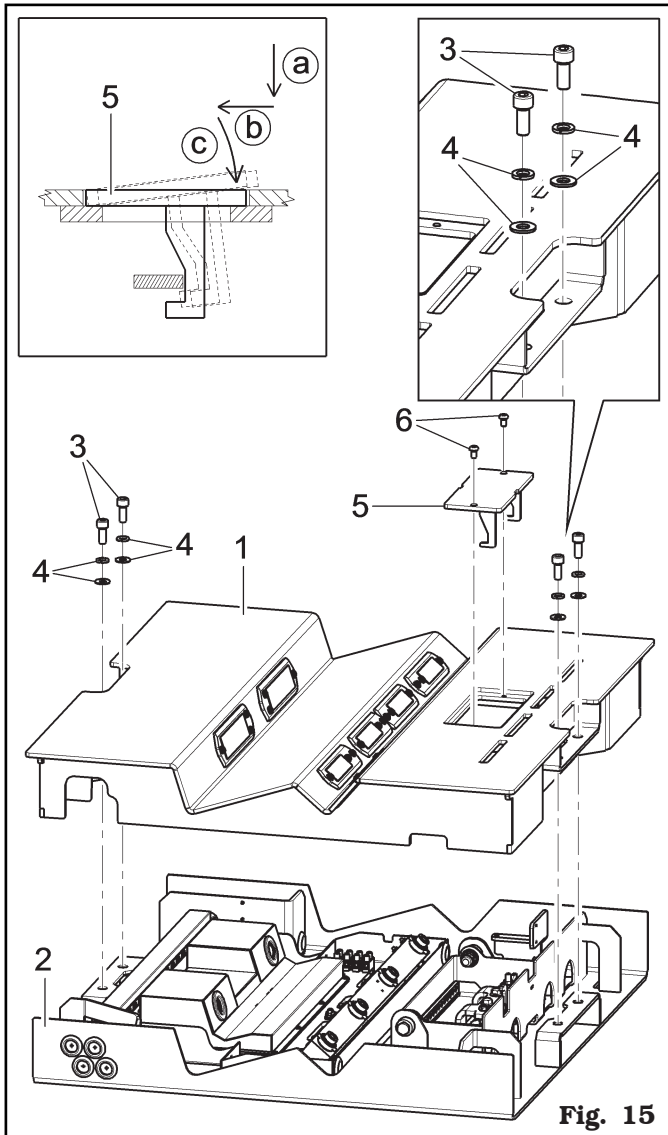


Fig. 15

13.2 Cover air mounting (RH)

Repeat the same operations described in Par. 13.1 for air cover RH (**ref. 1** of "Table E" of "Functional diagrams", see Chapt. 23).



THE RH COVER AIR HAS NO ELECTRICAL CONNECTION.

14.0 SWITCHING THE MACHINE ON AND OFF



BEFORE SWITCHING THE MACHINE ON, MAKE SURE THAT THE SMART CARD FOR PROGRAMME ENABLING IS IN THE SPECIAL READER ON THE LATERAL SIDE OF PC SUPPORT COLUMN.



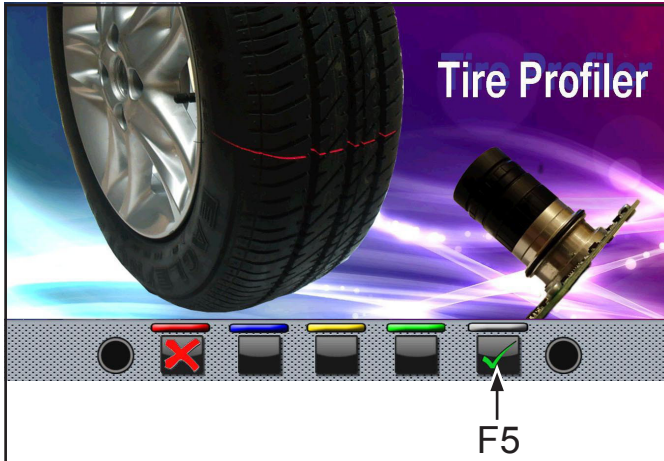
DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.

14.1 Switching the machine on

To switch the equipment on and to gain access to the programme, turn the special main switch (see **Fig. 12A - 12B ref. 1**). Once PC initialisation is completed by Windows operating system™, the programme will be automatically enabled and the monitor will display "Home" presentation page (see **Fig. 13**), where You can activate all profilometer functions.

14.2 Switching the machine off

From “Home” presentation page (see **Fig. 13**) You can switch the profilometer off by selecting the corresponding “F1” key. Wait for the following screen page to be displayed:



Confirm PC switching-off by pressing “F5” key.



DO NOT TURN THE PC, INSIDE THE EQUIPMENT, BY DISCONNECTING THE PC PLUG OR BY ACTIVATING THE SWITCH OF THE SAME PC, INSTEAD KEEP TO THE PREVIOUSLY DESCRIBED PROCEDURE. PC WRONG SWITCHING OFF COULD LEAD TO HARD-DISK FILES “CORRUPTION”.

Wait for the screen page on the video to become completely black.

Now switch the equipment off by pressing the main switch (see **Fig. 12A - 12B ref. 1**).

15.0 VEHICLE TYRE DIAGNOSIS

15.1 Preliminary operations



BEFORE STARTING CHECKING TYRES' TREAD PROFILE IN A VEHICLE, ADJUST THE PRESSURE OF THE SAME TYRES ACCORDING TO THE VALUES ESTABLISHED BY THE MANUFACTURER.



THE SUCCESS OF TREAD MEASURING MIGHT BE JEOPARDIZED BY SOME FACTORS, SUCH AS MUD, STONES, SNOW BETWEEN THE TYRE CHANNELS. INDEED, ALL TYRES HAVE WEAR INDICATORS, PLACED BETWEEN TYRE'S MAIN CHANNELS. IF THE DETECTION TOOK PLACE ON ONE OR MORE OF THESE CHANNELS, ON AVERAGE, THE MEASURING RESULT COULD BE NEGATIVE.

Take into account the following considerations while using the profilometer:

- It is advisable to keep a crossing speed between 5 and 8 km/h.
- It is advisable to keep a crossing speed coherent with the value set upon installation phase.
- It is advisable to keep the vehicle as centred as possible onto the platforms.
- License plate's recognition takes place when the plate crosses the detection area set in the camera, if the vehicle has stopped near the detection area, it must be moved away and it will be necessary to wait for a few seconds before going towards the profilometer.
- It is advisable to prevent the vehicle from passing or stopping into water puddles in the areas before the profilometer.

15.2 Operations for tread profile's diagnostic with stand-alone profilometer (BUWS101 - BUWS101I - BUWS101U - BUWS101IU)



DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.

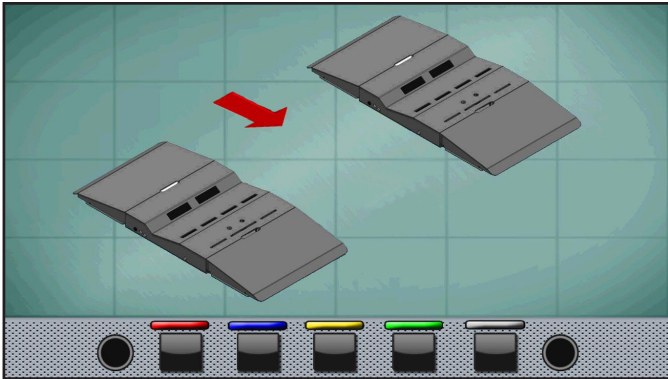
Upon profilometer's switching on, the monitor will display programme start screen page (see **Fig. 13**), where You can select different functions.



IF THE DEVICE IS EQUIPPED WITH SIGNAL PILOT LIGHTS (FIG. 1 REF. 7 OR FIG. 2 REF. 5), WAIT FOR THE FIXED GREEN LIGHT SWITCHING ON ON THE LATTER.

Press "F5" (see **Fig. 13 ref. F5**) or drive the vehicle onto the platform.

On the monitor the next screen page will be displayed:



The vehicle must pass onto the platform with all 4 wheels. While performing this, the red fixed light of the signal pilot light (if present) turns on, to indicate that the measuring operations are underway.

Only for BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



ONTO EACH DEVICE THERE'S A LED-LIGHT INDICATOR, WHICH LIGHTS UP DURING TYRES' SCAN, TO INDICATE THAT THE LASER BEAM HAS BEEN SWITCHED ON AND TO WARN THE OPERATORS ABOUT THE CONSEQUENT DANGER SITUATION.

When detection has been completed, the screen page below, showing the diagnosis of the 4 tyres, will be displayed, and the green fixed pilot light (if present) turns on, to indicate the end of the automatic operations and the possibility to operate with another car.



THE FLASHING LIGHT OF THE RED PILOT LIGHT INDICATES THE PRESENCE OF A FAULT (REFER TO THE SERVICE).

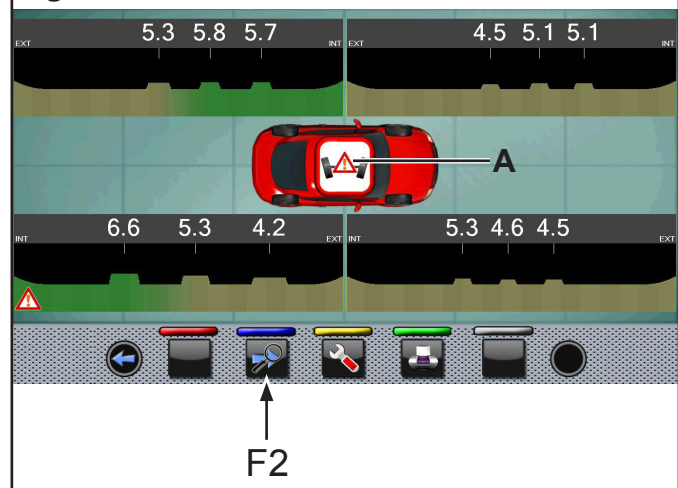
The coloured areas indicate tyre's wear level:

GREEN: tyre in good conditions;

YELLOW: the tyre is worn but it does not need replacement;

RED: worn tyre, to be replaced.

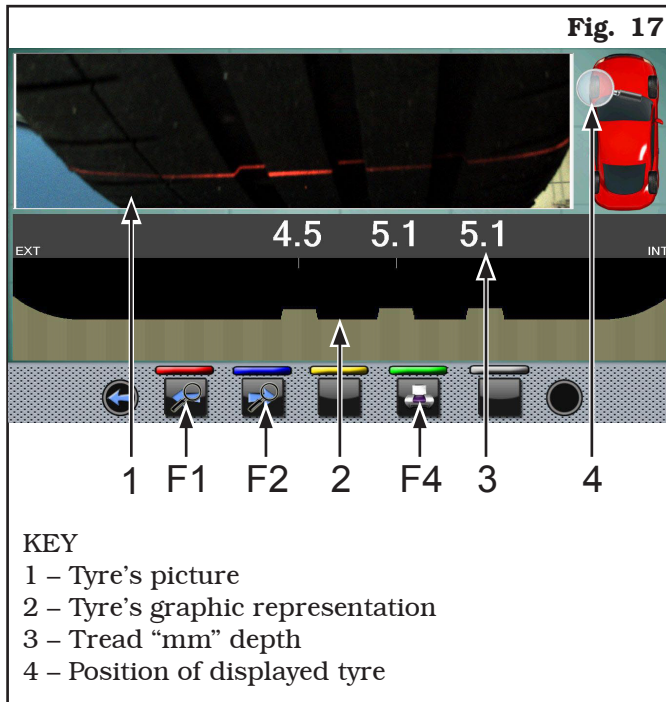
Fig. 16



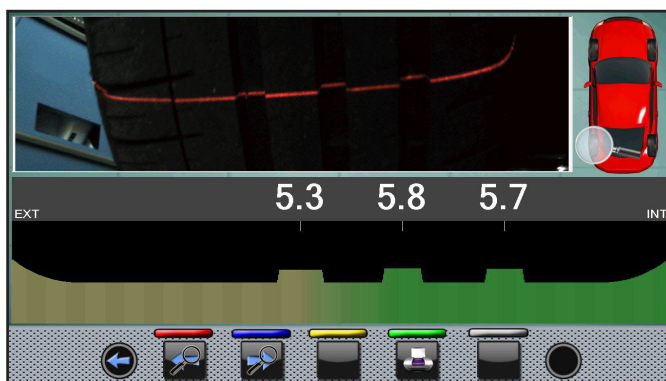
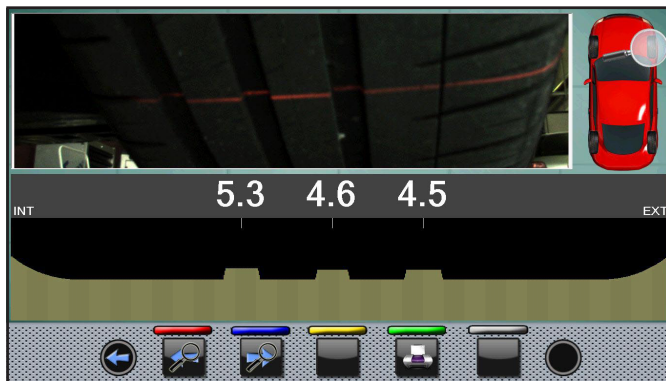
The symbol displayed in the centre of car picture (**Fig. 16 ref. A**) summarizes any detected fault (see **Fig. 17**). "EXT" and "INT" abbreviations, displayed on the picture, indicate respectively the outer and inner area of the tyre displayed. The numerical values displayed on the screen page indicate tread's depth, expressed in "mm".

Press "F2" key (see **Fig. 16**) to select the detail of the single tyre.

The following screen page will be displayed.



By pressing "F1" or "F2" keys (see **Fig. 17**) You can change the selection of the wheel to be displayed (see examples showed below).



15.3 Operations for tread profile's diagnostic with profilometer in reception mode (BUWS102 - BUWS102I - BUWS102U - BUWS102IU)



DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.



WHEN USED IN RECEPTION MODE, THE PROFILOMETER SHALL BE CONFIGURED TO FILE THE RESULTS ON A SERVER/PC IN THE FACTORY.

Switch profilometer on. Wait for the green light on the signalling pilot light to turn on (**Fig. 1 ref. 7** or **Fig. 2 ref. 5**).

The green fixed light indicates that the profilometer is ready for detection.

The vehicle must pass onto the platform with all 4 wheels. While performing this, the red fixed light of the signal pilot light turns on, to indicate that the measuring operations are underway.

When detection has been completed, the green fixed pilot light turns on, to indicate the end of the automatic operations and the possibility to operate with another car.



THE FLASHING LIGHT OF THE RED PILOT LIGHT INDICATES THE PRESENCE OF A FAULT (REFER TO THE SERVICE).

At the end of the operation, the profilometer automatically saves a PDF and XLM file with the test data in a PC folder, to which the box of the same device is connected. The file will be named with the number of vehicle's license plate and formatted for the print.

15.4 Operations for tread profile's diagnostic with profilometer connected to car diagnosis line (BUWS103 - BUWS103I - BUWS103U - BUWS103IU)



DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.

Upon profilometer's switching on, the monitor will display programme start screen page (see figure illustrated below), where You can select different functions.



IF THE DEVICE IS EQUIPPED WITH SIGNAL PILOT LIGHTS (FIG. 1 REF. 7 OR FIG. 2 REF. 5), WAIT FOR THE FIXED GREEN LIGHT SWITCHING ON ON THE LATTER.

The test and data are managed inside the specific programme, present in "Car diagnosis line".

The screen pages and controls can be assimilated to the descriptions of Paragraph 14.2, concerning Stand-Alone profilometer version.



IF THE PROFILOMETER SHOULD BE COUPLED WITH A "NET 2 ITALIA" DIAGNOSIS LINE, THE DATA DETECTED DURING THE TEST CORRESPOND TO THE MINIMUM VALUE FOUND ON THE TREAD.

15.5 Data bank

From the "Home" page (see **Fig. 13**) press "F4" key to enter data bank.

The following screen page will be displayed:



KEY

F1 – Press to vertically scroll the selection

F2 – Press to select the file to be arranged

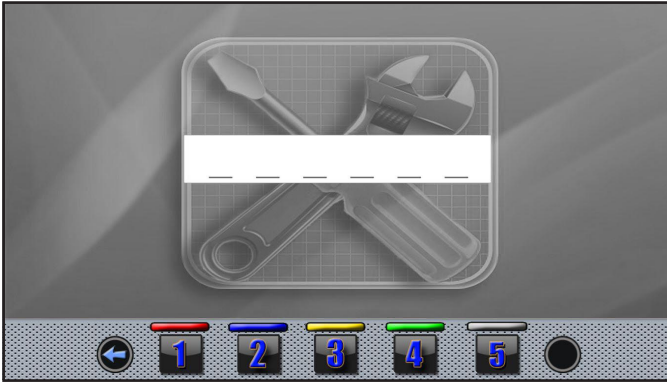
F3 – Press to search for the data of a customer saved in data bank

F5 – Press to call up the test of the customer selected. The saved data of the test selected will be displayed

15.6 User menu

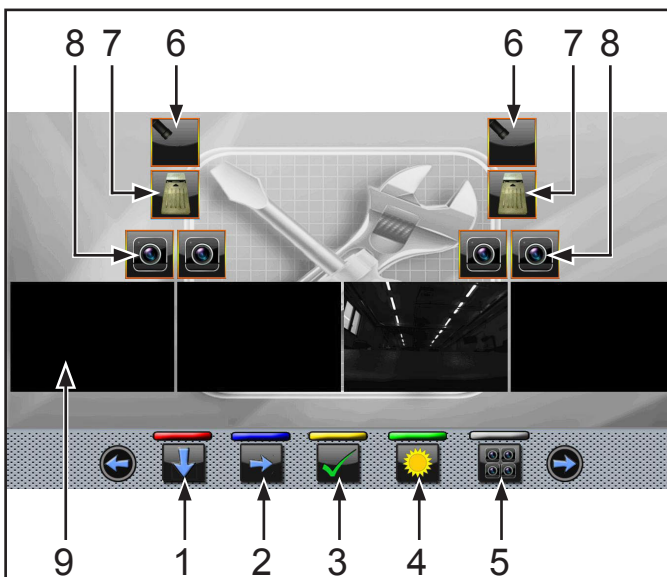


From the “Home” page (see **Fig. 13**) press key to enter user menu. On the monitor, the following screen appears where you can enter the password.



The user login password is: **1234**.

After entering the correct password you will see the following screen:



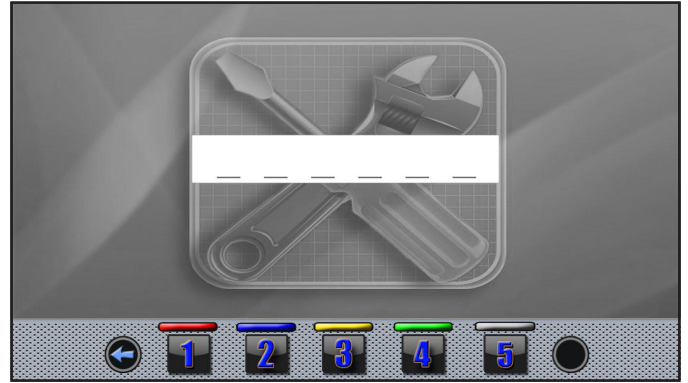
KEY

- 1 – Selection’s vertical shifting
- 2 – Selection’s horizontal shifting
- 3 – Takes a photo from the cameras
- 4 – Adjustment of automatic exposure gain (only in the course of test)
- 5 – The pictures can be taken from all the 4 cameras at the same time
- 6 – Laser condition display (switched on/off)
- 7 – Passage sensor display
- 8 – Cameras
- 9 – Camera picture display

15.7 Assistance menu

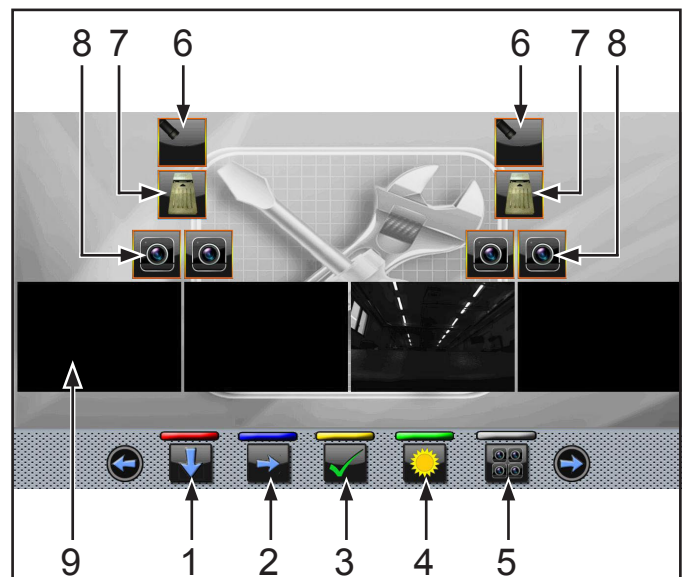


From the “Home” page (see **Fig. 13**) press key to enter assistance menu. On the monitor, the following screen appears where you can enter the password.



The service login password is: **4324**.

After entering the correct password you will see the following screen:



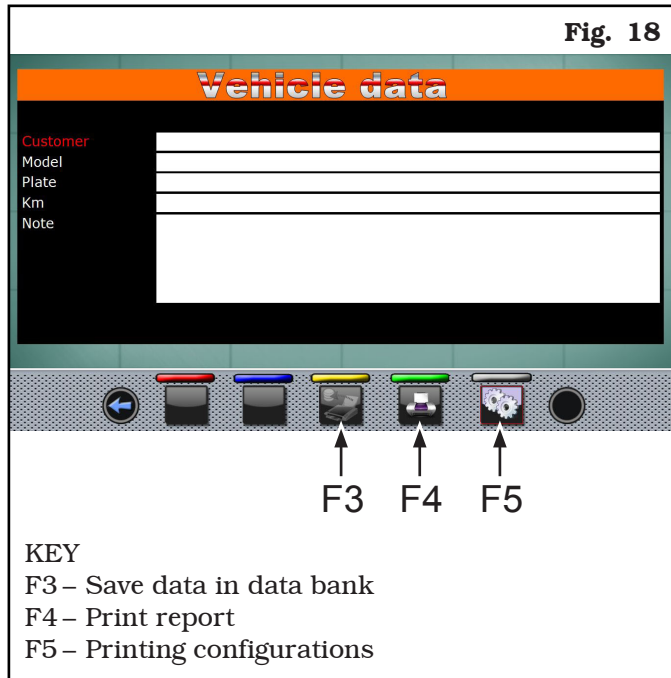
KEY

- 1 – Selection’s vertical shifting
- 2 – Selection’s horizontal shifting
- 3 – Laser switching on/off or take a picture from the cameras
- 4 – Adjustment of automatic exposure gain (only in the course of test)
- 5 – The pictures can be taken from all the 4 cameras at the same time
- 6 – Laser condition display (switched on/off)
- 7 – Passage sensor display
- 8 – Cameras
- 9 – Camera picture display

16.0 REPORT PRINTING

16.1 Test report printing

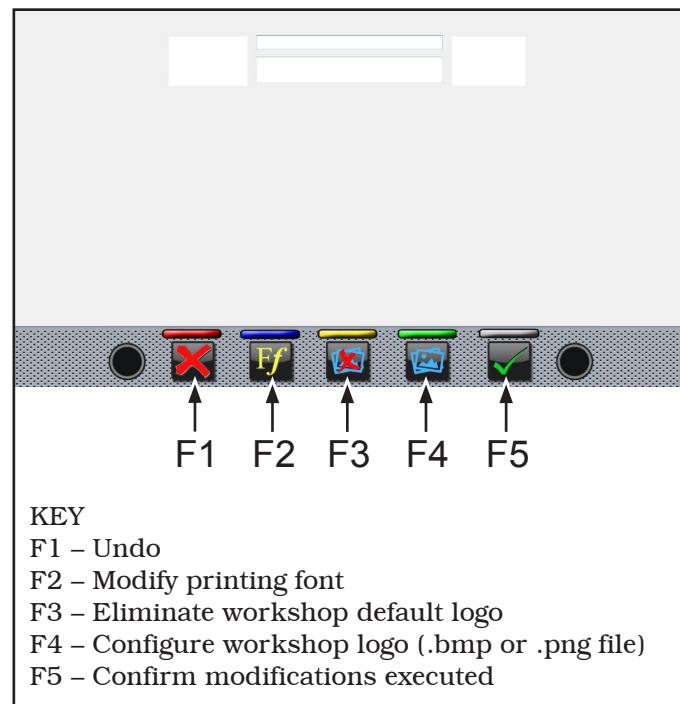
From test display page (**Fig. 17**), by pressing “F4” key, You can print the values detected by the device. The page illustrated below will be displayed, here You must enter the data concerning the customer and the corresponding motorcar:



IF THE DEVICE IS EQUIPPED WITH CAMERA, “PLATE” FIELD WILL BE FILLED OUT AUTOMATICALLY.

After all the fields have been filled, by pressing “F3” key (see **Fig. 18**) the data concerning the executed test will be saved in the bank, associated to customer data/license plate/motor car.

The data bank can be consulted only by PC (only for BUWS101 - BUWS101I - BUWS101U - BUWS101IU). By pressing “F5” key (see **Fig. 18**) it's possible to modify printing configurations through the screen page below:



By pressing “F4” key (see **Fig. 18**) the page for the complete printing is displayed (see **Fig. 19**).

16.2 Complete printing

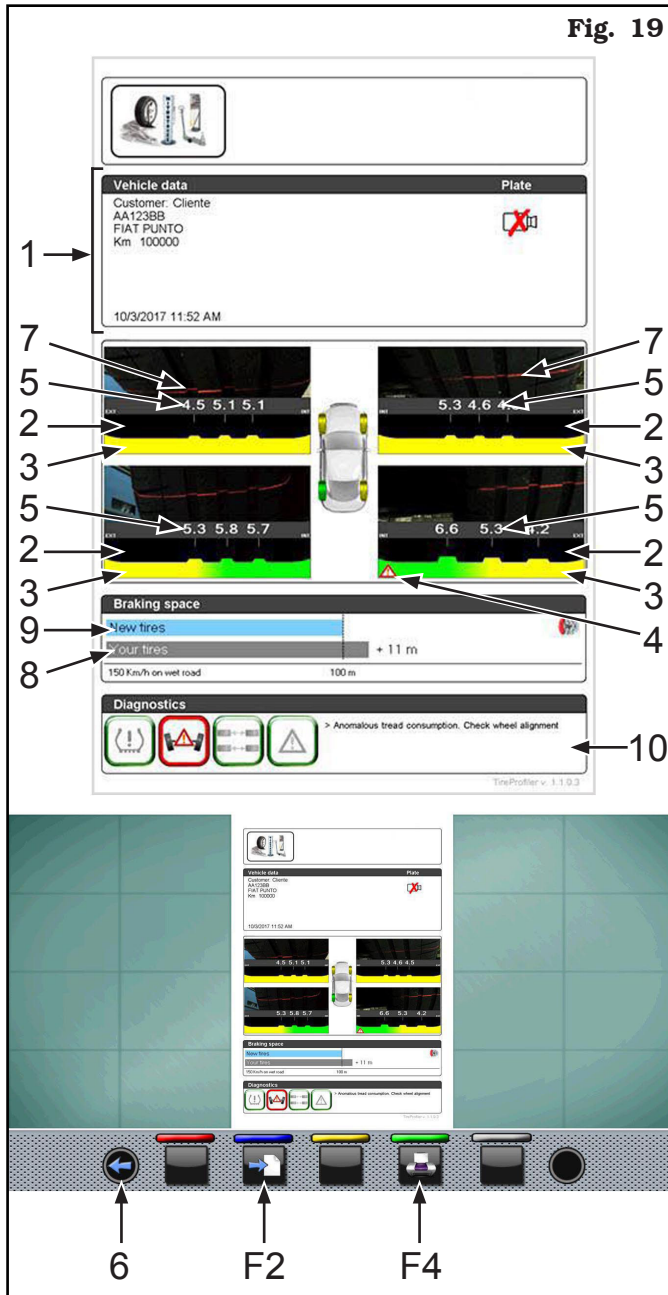



Fig. 19

The page of test complete printing shows the data of the customer and of the machine covered by the test (Fig. 19 ref. 1) in addition to the graphic representation of the detection performed on the 4 tyres (Fig. 19 ref. 2).

The coloured bands pictured under tread's profile (Fig. 19 ref. 3) indicate the wear condition of the same tread, in particular:

- GREEN: tyre in good conditions;
- YELLOW: the tyre is worn but it does not need replacement;
- RED: worn tyre, to be replaced.

If any anomalous measure should be detected in the tread, these will be signalled by the programme's logic,

that displays symbol  (Fig. 19 ref. 4) in the coloured band of the relevant tyre.

The numerical values (Fig. 19 ref. 5) indicated on the tread's profile indicate its "mm" depth in that point. "EXT" and "INT" abbreviations, displayed on the picture, indicate respectively the outer and inner area of the tyre displayed.

Moreover, the page of test complete printing also shows tyre's picture in laser working point (Fig. 19 ref. 7), the braking distance estimated as necessary to stop at 150 km/h on wet asphalt with worn tyres (Fig. 19 ref. 8), the comparison with the braking distance with new tyres (Fig. 19 ref. 9) and the display/description of the faults detected during the scanning (Fig. 19 ref. 10).

By pressing "F2" key, You will display test report printing simplified version (see Fig. 20).

By pressing "F4" key You can print test report on the default printer.



By pressing "ESC" key (Fig. 19 ref. 6) the previous page is displayed. By pressing it many times, the start page is displayed.

Fault description:



Inflation pressure problems



Wheel alignment fault



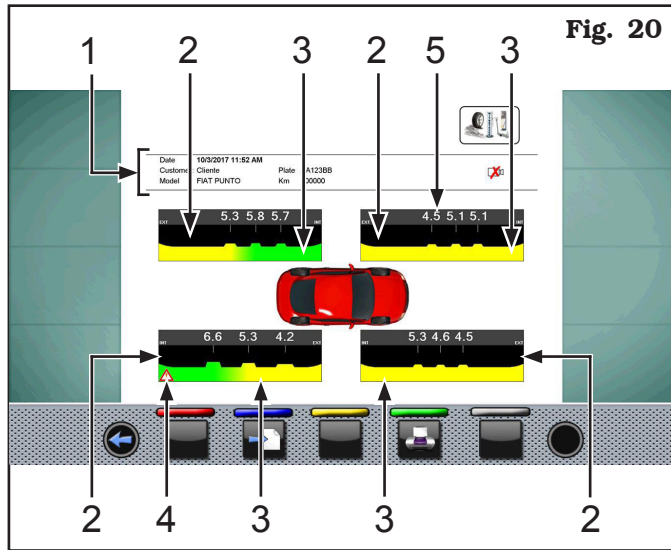
Exchanging front tyres with rear tyres recommended



High tread's wear (change tyre)

Faults can be displayed even more than once. A short fault's description is reported next to the icon.

16.3 Simplified printing




The simplified printing shows the data of the customer and the machine covered by the test (**Fig. 20 ref. 1**) in addition to the graphic representation of the detection performed on the 4 tyres (**Fig. 20 ref. 2**).

The coloured bands pictured under tread's profile (**Fig. 20 ref. 3**) indicate the wear condition of the same tread, in particular:

- GREEN: tyre in good conditions;
- YELLOW: the tyre is worn but it does not need replacement;
- RED: worn tyre, to be replaced.

If any anomalous measure should be detected in the tread, these will be signalled by the programme's logic,

that displays symbol  (**Fig. 20 ref. 4**) in the coloured band of the relevant tyre.

The numerical values (**Fig. 20 ref. 5**) indicated on the tread's profile indicate its "mm" depth in that point. "EXT" and "INT" abbreviations, displayed on the picture, indicate respectively the outer and inner area of the tyre displayed.

16.4 Saving of test report



IF THE DEVICE IS EQUIPPED WITH CAMERA, "PLATE" FIELD WILL BE FILLED OUT AUTOMATICALLY.

After all the fields have been filled, by pressing "F3" key (see **Fig. 18**) the data concerning the executed test will be saved in the bank, associated to customer data/license plate/motor car.

The data bank can be consulted only by PC (only for BUWS101 - BUWS101I - BUWS101U - BUWS101IU).

17.0 TROUBLESHOOTING TABLE

The possible troubles which might occur during equipment's operation are listed below. The manufacturer disclaims all responsibility for damages to people, animals or objects due to improper operation by non-authorized personnel. In case of trouble, call Technical Service Department for instructions on how to service and/or adjust the machine in full safety to avoid any risk of damage to people, animals or objects.

In an emergency and before maintenance on tyre-changer, set the main switch to "0" and lock it in this position.



CONTACT AUTHORIZED TECHNICAL SERVICE

do not try and service alone

Problem	Possible cause	Remedy
No operation.	<ol style="list-style-type: none"> 1. No net voltage. 2. Protection fuses interrupted. 	<ol style="list-style-type: none"> 1. Check net voltage. 2. Check protection fuses.
Monitor out of order.	<ol style="list-style-type: none"> 1. No supply voltage. 2. No video signal. 	<ol style="list-style-type: none"> 1. Check supply cable connection. 2. Check connection of video signal cable between PC and monitor.
The PC does not switch on.	<ol style="list-style-type: none"> 1. No supply voltage. 	<ol style="list-style-type: none"> 1. Check PC ON/OFF switch. 2. Check supply cable connection.
Printer out of order (see also printer's user manual).	<ol style="list-style-type: none"> 1. No supply voltage. 2. No signal. 	<ol style="list-style-type: none"> 1. Check ON/OFF switch. 2. Check supply cable connection. 3. Check connection of printer signal cable with PC.

18.0 ROUTINE MAINTENANCE



BEFORE CARRYING OUT ANY ROUTINE MAINTENANCE OR ADJUSTMENT PROCEDURE, TURN OFF THE EQUIPMENT AS DESCRIBED IN CHAPT. 14.2, DISCONNECT THE MACHINE FROM THE ELECTRICITY SUPPLY USING THE SOCKET/PLUG COMBINATION AND CHECK THAT ALL MOBILE PARTS ARE AT A STANDSTILL.

To guarantee the efficiency and correct functioning of the machine, it is essential to carry out daily or weekly cleaning and weekly routine maintenance, as described below.

Cleaning and routine maintenance must be conducted by authorized personnel and according to the instructions given below.

- To clean plastic panels or surfaces use alcohol (**ANYHOW AVOID USING LIQUIDS CONTAINING SOLVENTS**).
- The DISPLAY must be cleaned with a dry cloth; if it is very dirty, clean with a damp cloth and then dry. Do not spray the alcohol directly on the control panel and do not clean using strong jets of compressed air.
- Cleaning, cartridge replacement and any other maintenance operation on printer are described in the manual supplied with the printer itself. Always refer to this manual before carrying out any maintenance operation on printer.



ANY DAMAGE TO THE MACHINE DEVICES RESULTING FROM THE USE OF LUBRICANTS OTHER THAN THOSE RECOMMENDED IN THIS MANUAL WILL RELEASE THE MANUFACTURER FROM ANY LIABILITY!!



THE GLASSES PROTECTING THE CAMERAS (FIG. 20 REF. 1) AND THE LASERS (FIG. 20 REF. 2) MUST BE KEPT CLEANED, WITHOUT ANY TYPE OF DIRT (DIRT HALOS, DROPS, DUST, MUD, ETC...). WHENEVER YOU USE THE EQUIPMENT, MAKE SURE THE GLASSES ARE FREE OF DIRT, AND, IF NECESSARY, CLEAN USING A CLOTH MOISTENED WITH WATER.



DO NOT STARE THE LASER BEAM DIRECTLY AT CLOSE RANGE WHILE THE EQUIPMENT IS OPERATING.

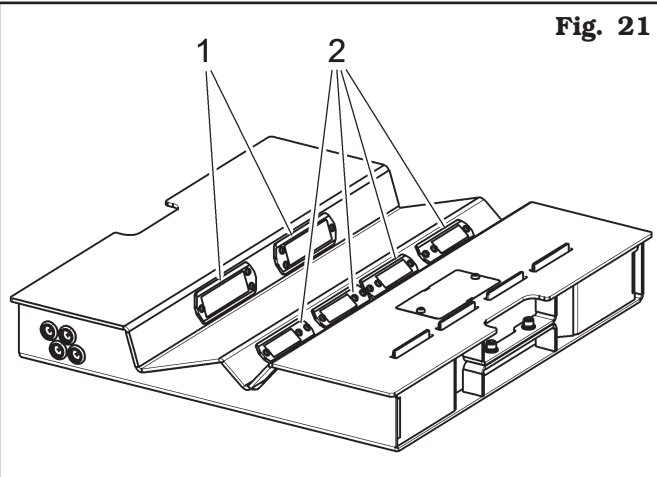


Fig. 21

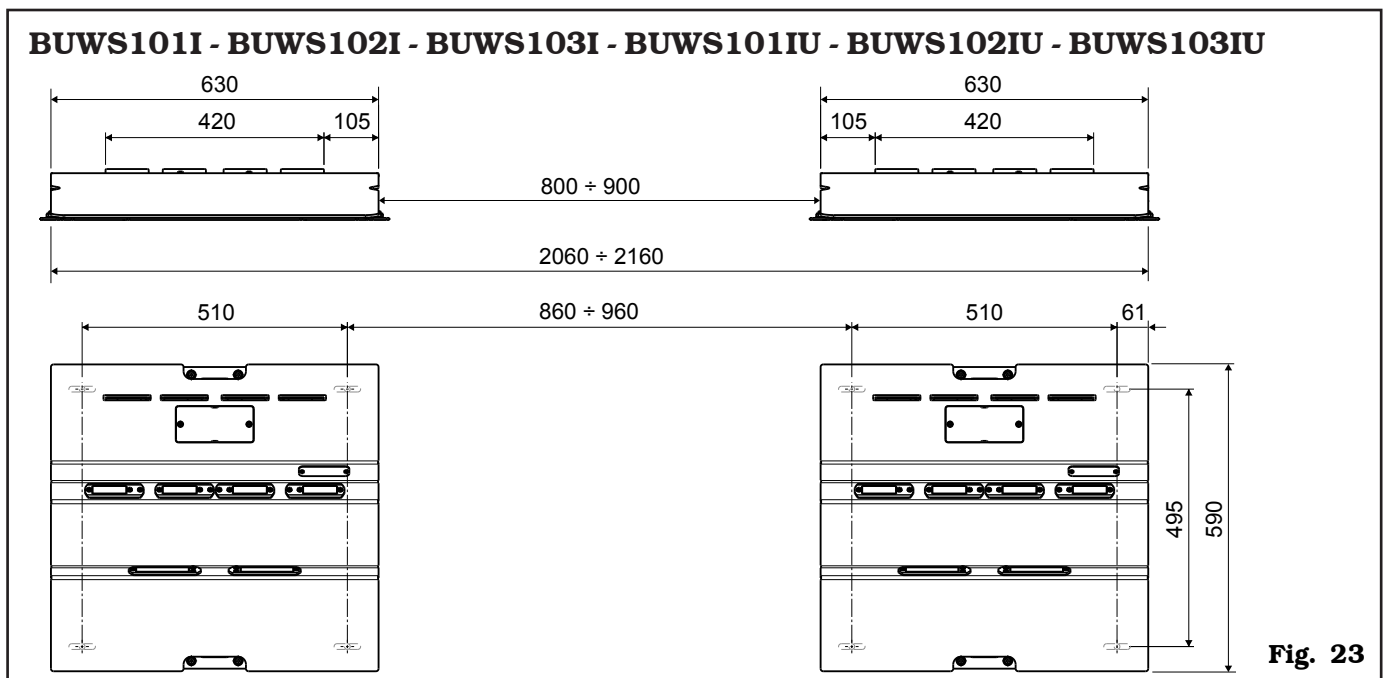
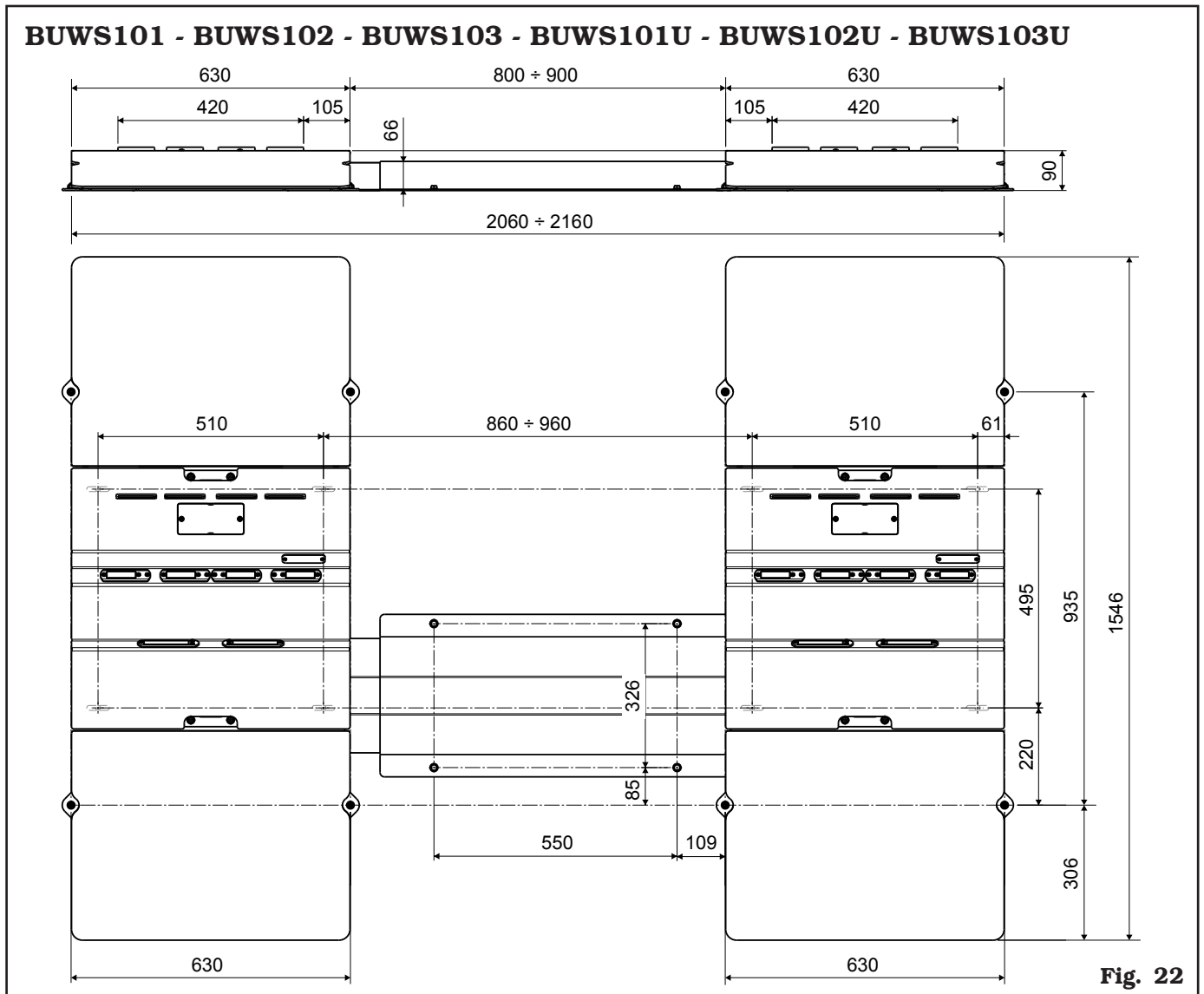


THE AIR FILTERING UNIT FOR AUTOMATIC GLASS CLEANING SYSTEM (ON DEMAND) MUST BE KEPT EFFICIENT AND EFFECTIVE OVER TIME. TO THIS END, IT IS ADVISABLE TO PERIODICALLY CHECK ITS FUNCTIONING, BY MAKING SURE THAT THE INTERCEPTED IMPURITIES ARE CONSTANTLY DISCHARGED. IF THE FILTERING UNIT SHOULD NOT BE EQUIPPED WITH AUTOMATIC DISCHARGE DEVICE, THE MANUALLY INTERCEPTED IMPURITIES MUST BE DAILY DISCHARGED.

19.0 TECHNICAL DATA

Measuring precision:.... **summer wheels +/- 0,4 mm**
winter wheels +/- 0,8 mm
 Tyre max. width: **600 mm**
 Maximum speed:..... **8 Km/h (5 mph)**
 Power supply:..... **100-230 VAC 50-60 Hz 1 Ph**
 Maximum weight per axis:..... **4 t**
 Use temperature:..... **0-40 °C**
 Protection degree:..... **IP65**

19.1 Dimensions



20.0 STORING

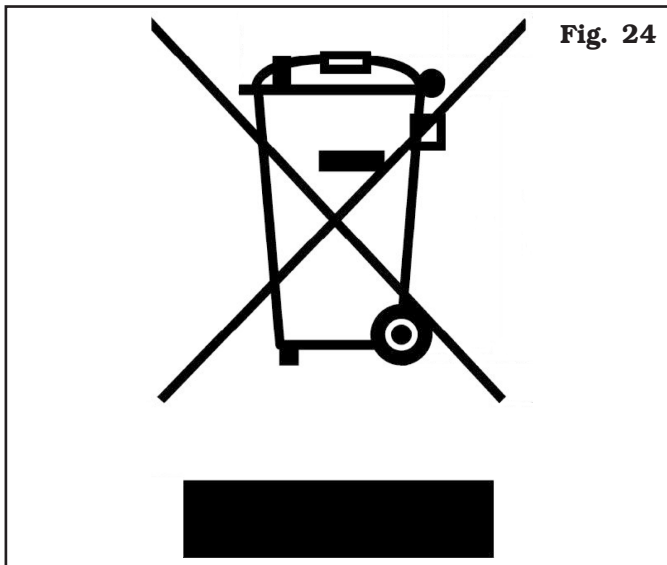
If storing for long periods disconnect the main power supply and take measures to protect the machine from dust build-up. Lubricate parts that could be damaged from drying out.

21.0 SCRAPPING

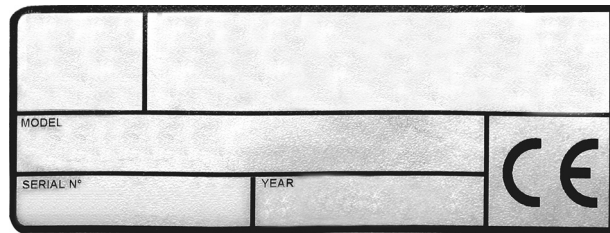
When the decision is taken not to make further use of the machine, it is advisable to make it inoperative by removing the connection pressure hoses. The machine is to be considered as special waste and should be dismantled into homogeneous parts. Dispose of it in accordance with current legislation.

Instructions for the correct management of waste from electric and electronic equipment (WEEE) according to the Italian legislative decree 49/14 and subsequent amendments.

In order to inform the users on the correct way to dispose the product (as required by the article 26, paragraph 1 of the Italian legislative decree 49/14 and subsequent amendments), we communicate what follows: the meaning of the crossed dustbin symbol reported on the equipment indicates that the product must not be thrown among the undifferentiated rubbish (that is to say together with the "mixed urban waste"), but it has to be managed separately, to let the WEEE go through special operations for their reuse or treatment, in order to remove and dispose safely the waste that could be dangerous for the environment and to extract and recycle the raw materials to be reused.



22.0 REGISTRATION PLATE DATA



The validity of the Conformity Declaration enclosed to this manual is also extended to products and/or devices the machine model object of the Conformity Declaration can be equipped with.



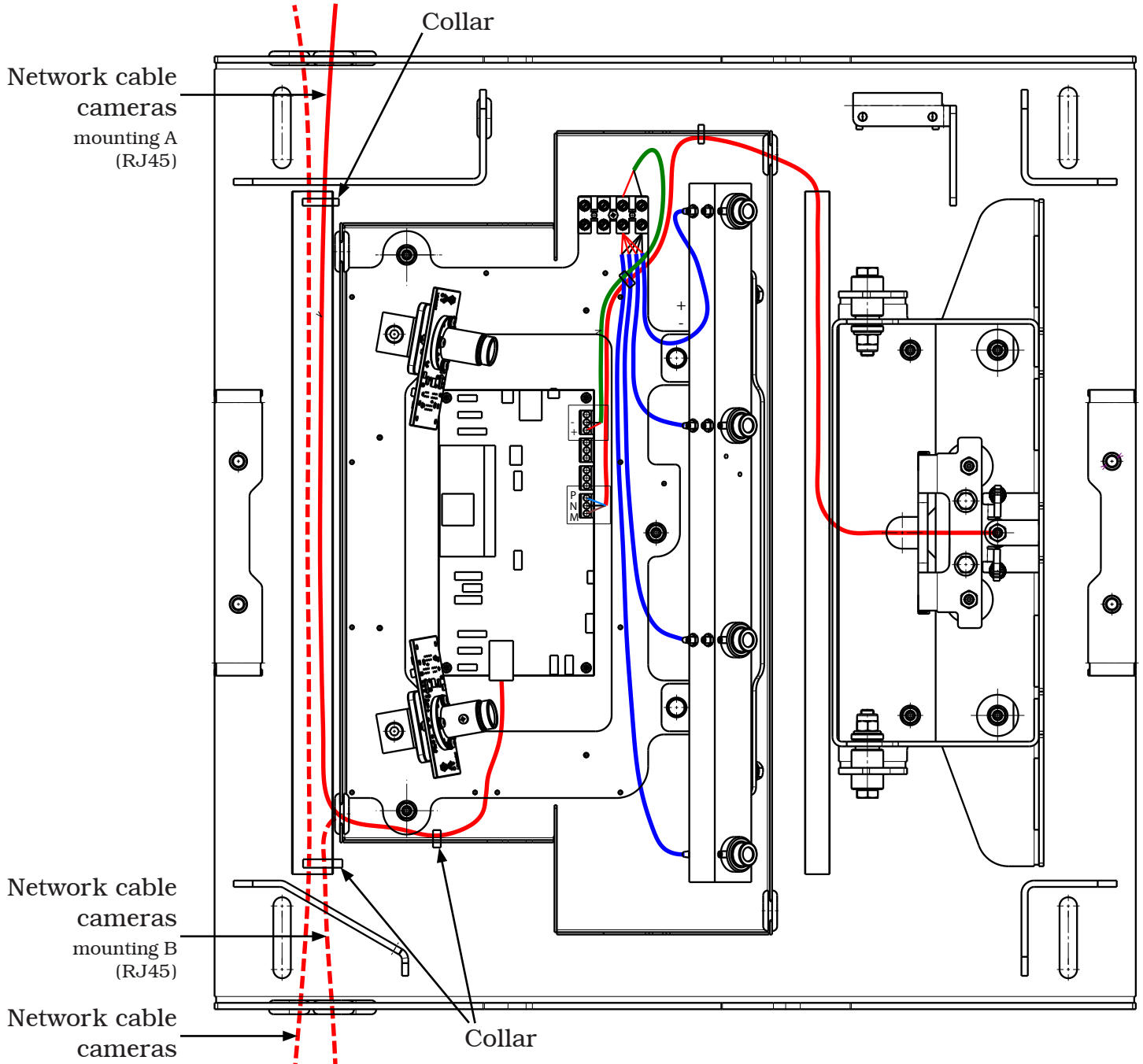
ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING MACHINE IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.

Said plate must always be kept clean from grease residues or filth generally.

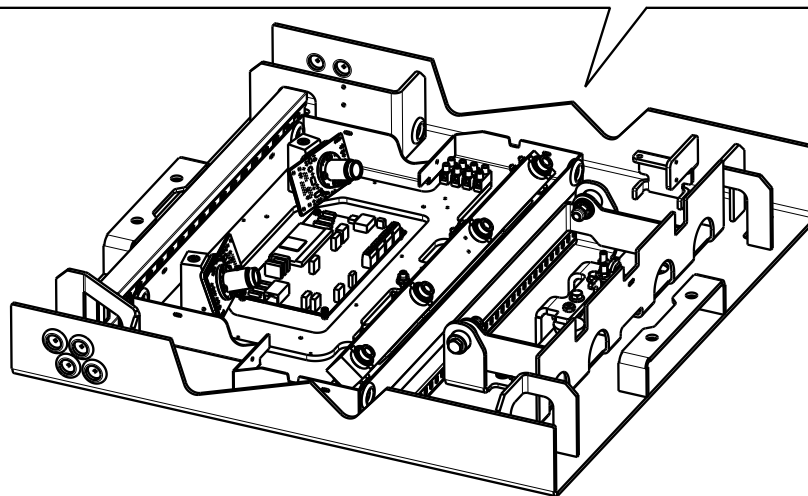
WARNING: Should the plate be accidentally damaged (removed from the machine, damaged or even partially illegible) inform immediately the manufacturer.

23.0 FUNCTIONAL DIAGRAMS

Here follows a list of the machine functional diagrams.



Network cable cameras for the most distant base from the console (only in the base closest to the console) (RJ45)



BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



**BASE INSTALLATION DIAGRAM
NETWORK CABLE**

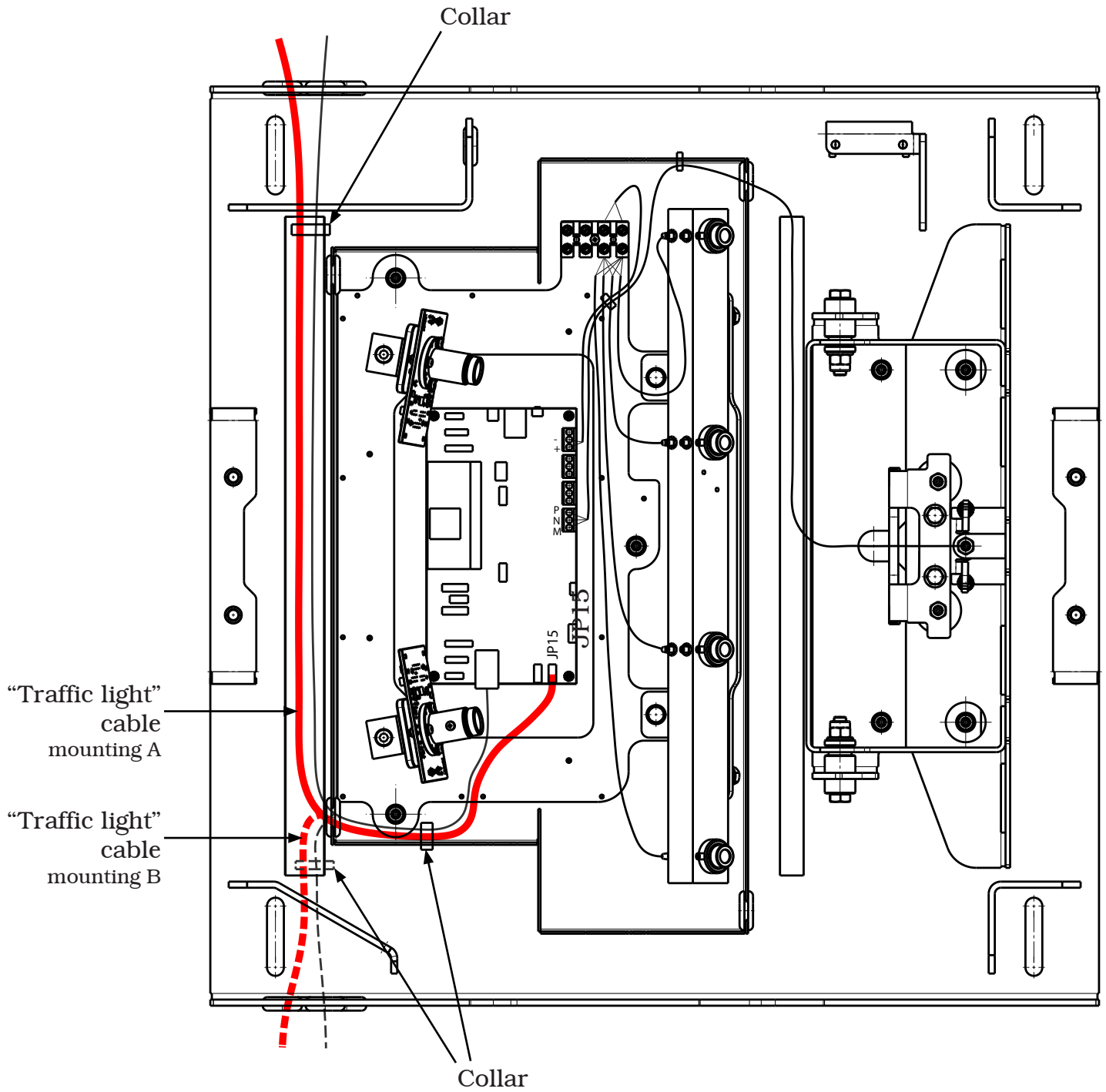
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BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



TRAFFIC LIGHT CABLE LAYING

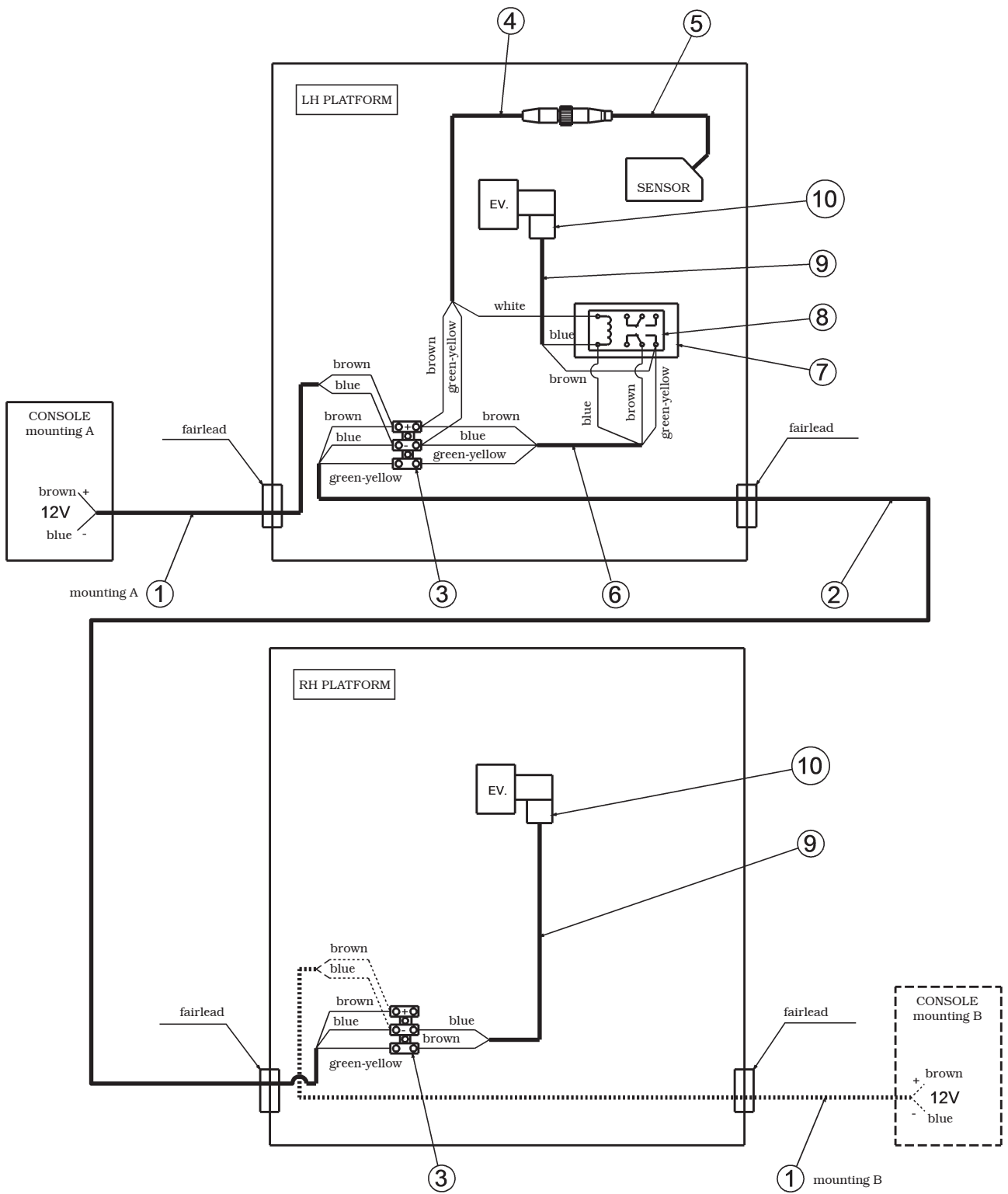
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KEY

- 1 - 2P Console-mamut cable
- 2 - 3P Mamut-mamut cable
- 3 - 3P Mamut terminal board
- 4 - 3P sensor extension cable
- 5 - Sensor assembly
- 6 - Base-mamut cable
- 7 - Base with terminal boards
- 8 - Mini relay
- 9 - 2P solenoid valve cable
- 10 - Connector

BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



**CONNECTION DIAGRAM
VARWS101PULAUTO ELECTRICAL CABLES**

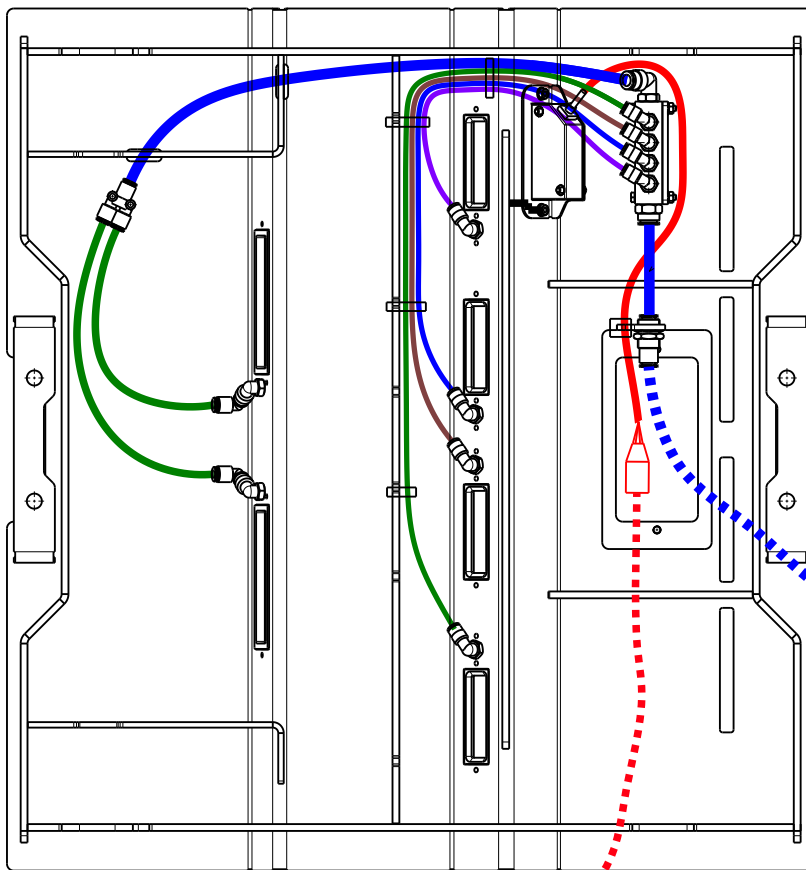
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* NOTE:
the components indicated must be laid down during profilometer installation

1

2

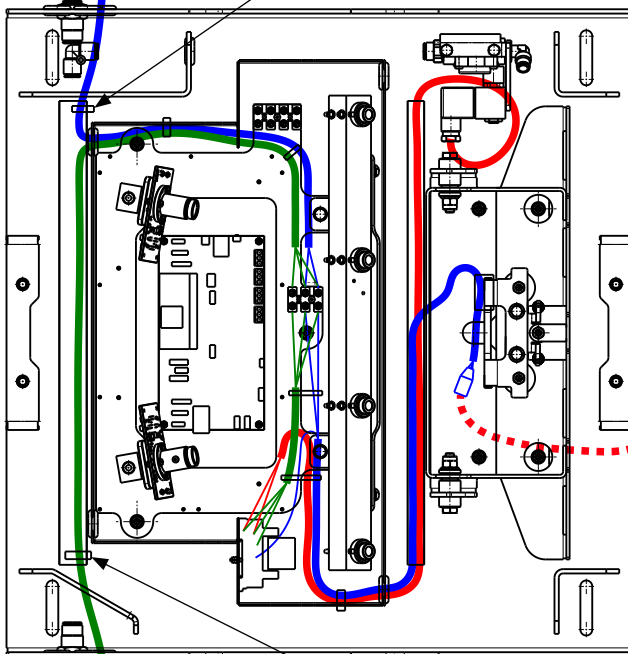
Direction
CONSOLE
mounting A

* 2P Console-mamut cable
mounting A

* Collar
mounting A

Compressed air network
only mounting A

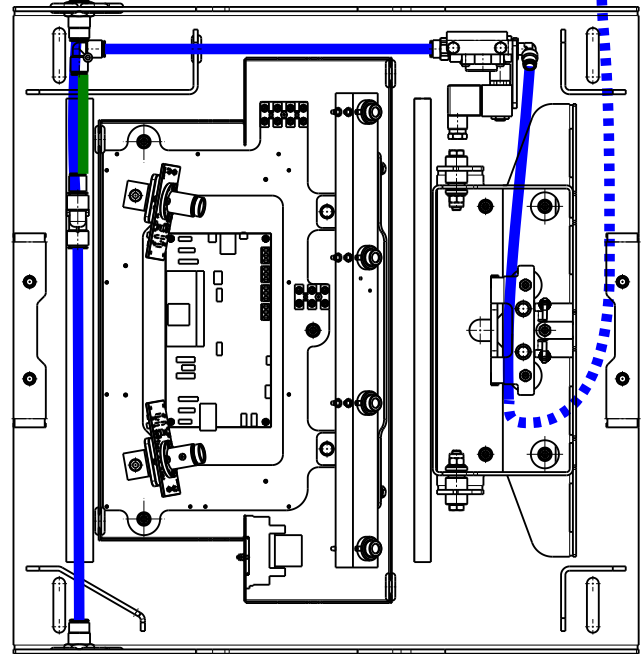
Remove when installing
the profilometer
only mounting A



Towards RH BASE
ASSEMBLY WITH AIR

* Collar

* 3P Mamut-mamut cable



Remove when installing the
profilometer

Towards RH BASE
ASSEMBLY WITH AIR

BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



INSTALLATION DIAGRAM
LH BASE WITH AIR

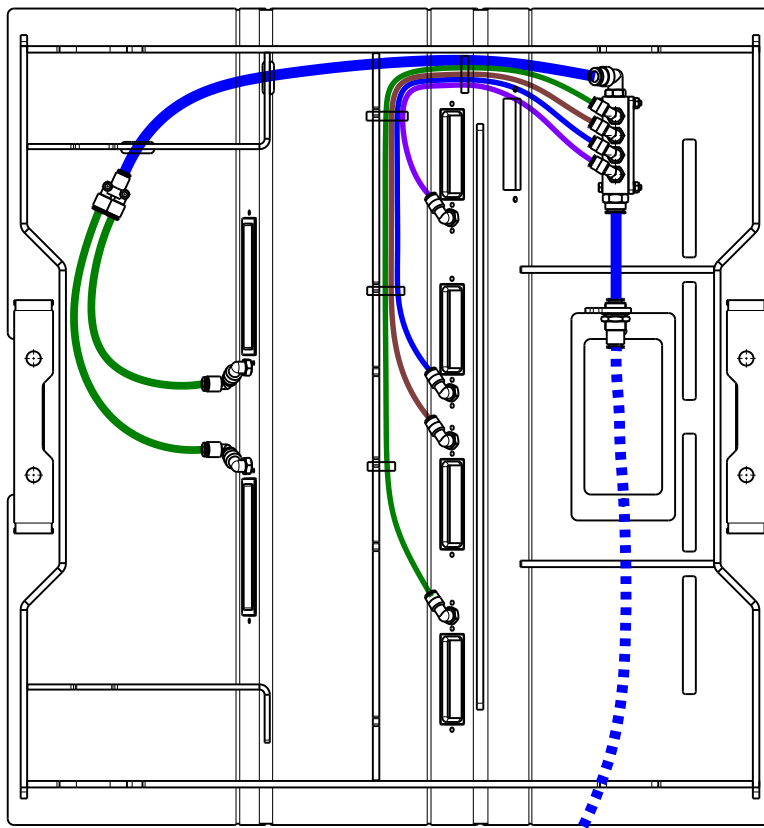
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Table N°D - Rev. 0

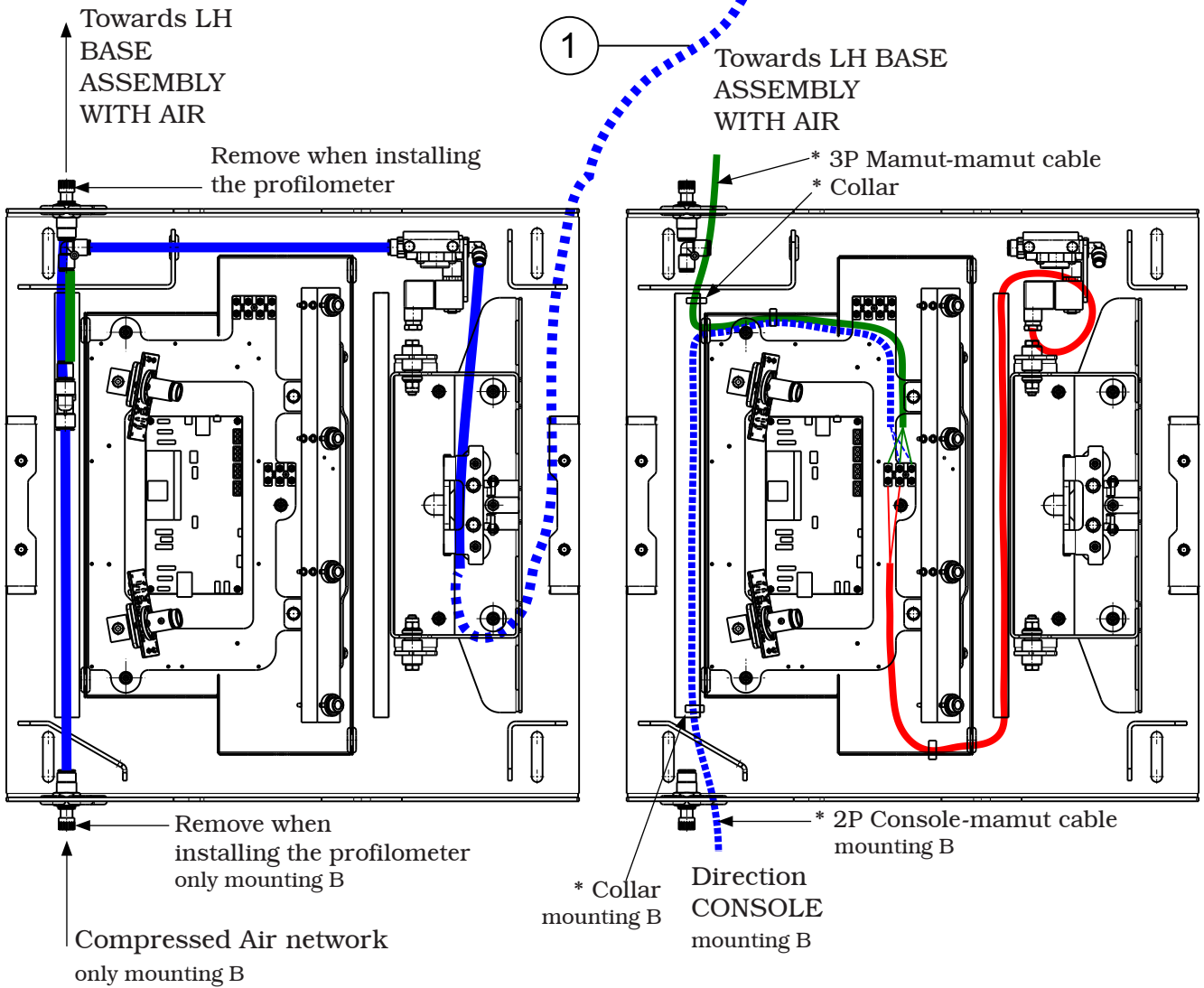
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* NOTE:
the components indicated must be laid down during profilometer installation



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INSTALLATION DIAGRAM
RH BASE WITH AIR

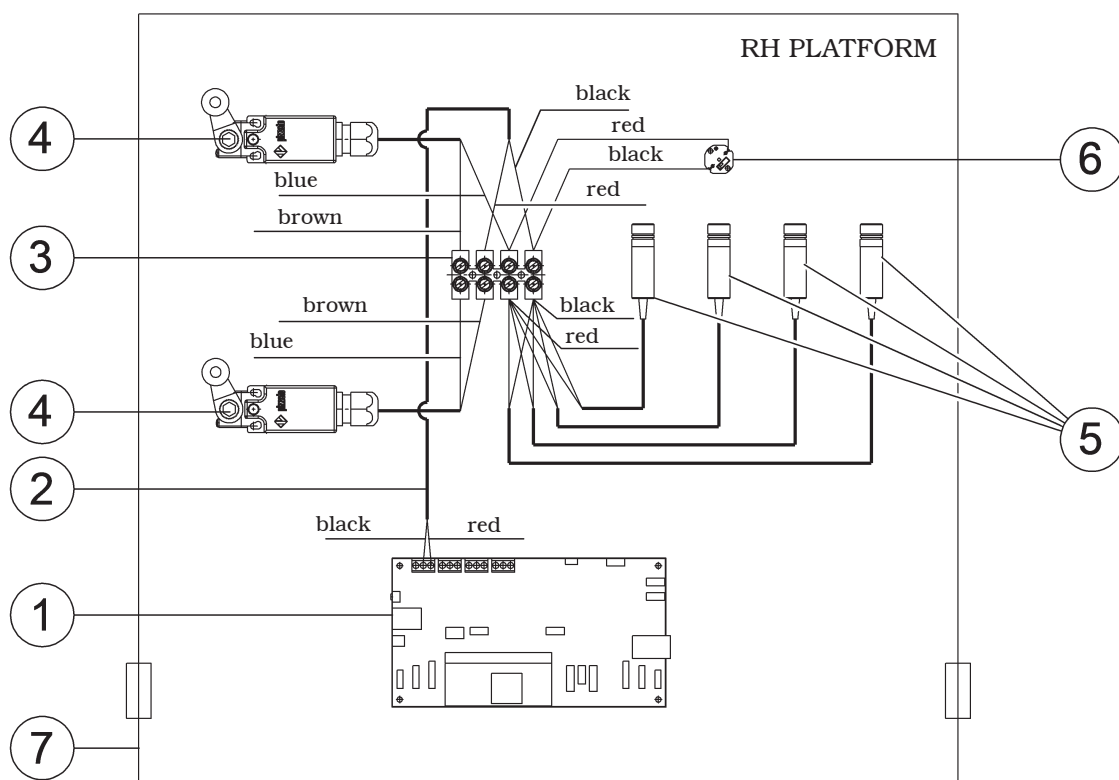
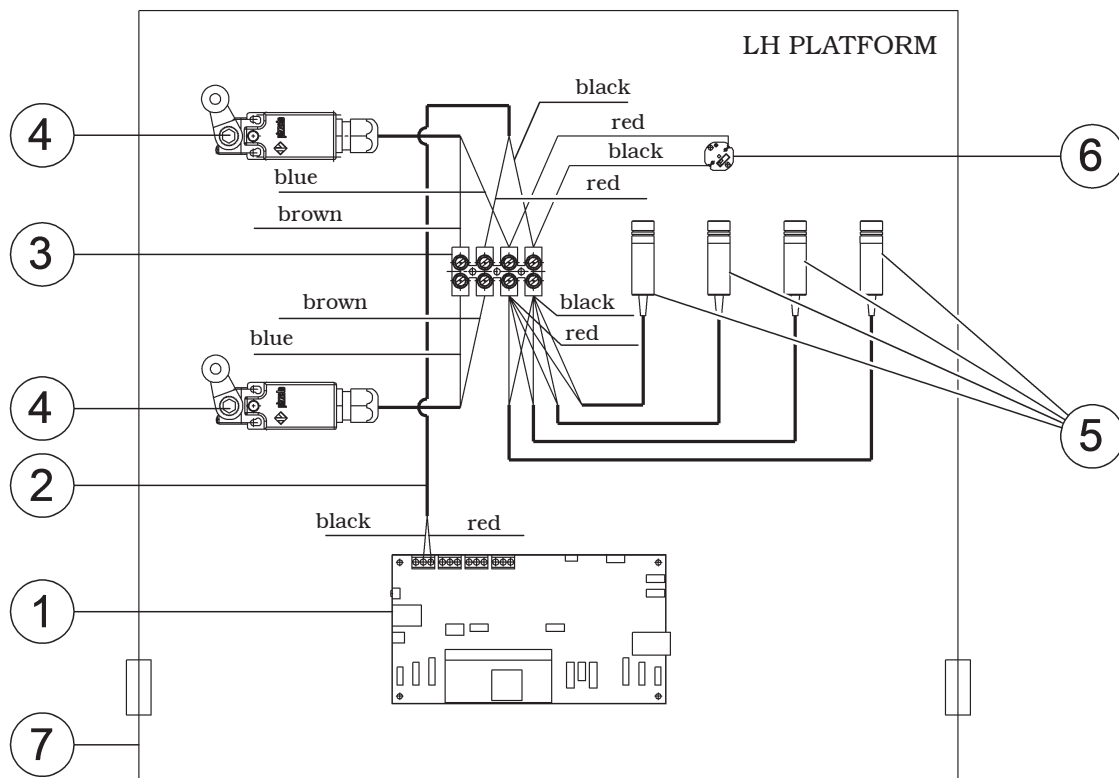
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KEY

- 1 - Profilometer card kit
- 2 - Laser extension cable
- 3 - 4P Mamut terminal board
- 4 - Micro assembly
- 5 - Laser
- 6 - Profilometer's LED
- 7 - Base assembly

BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



**CONNECTION DIAGRAM
ELECTRICAL CABLES**

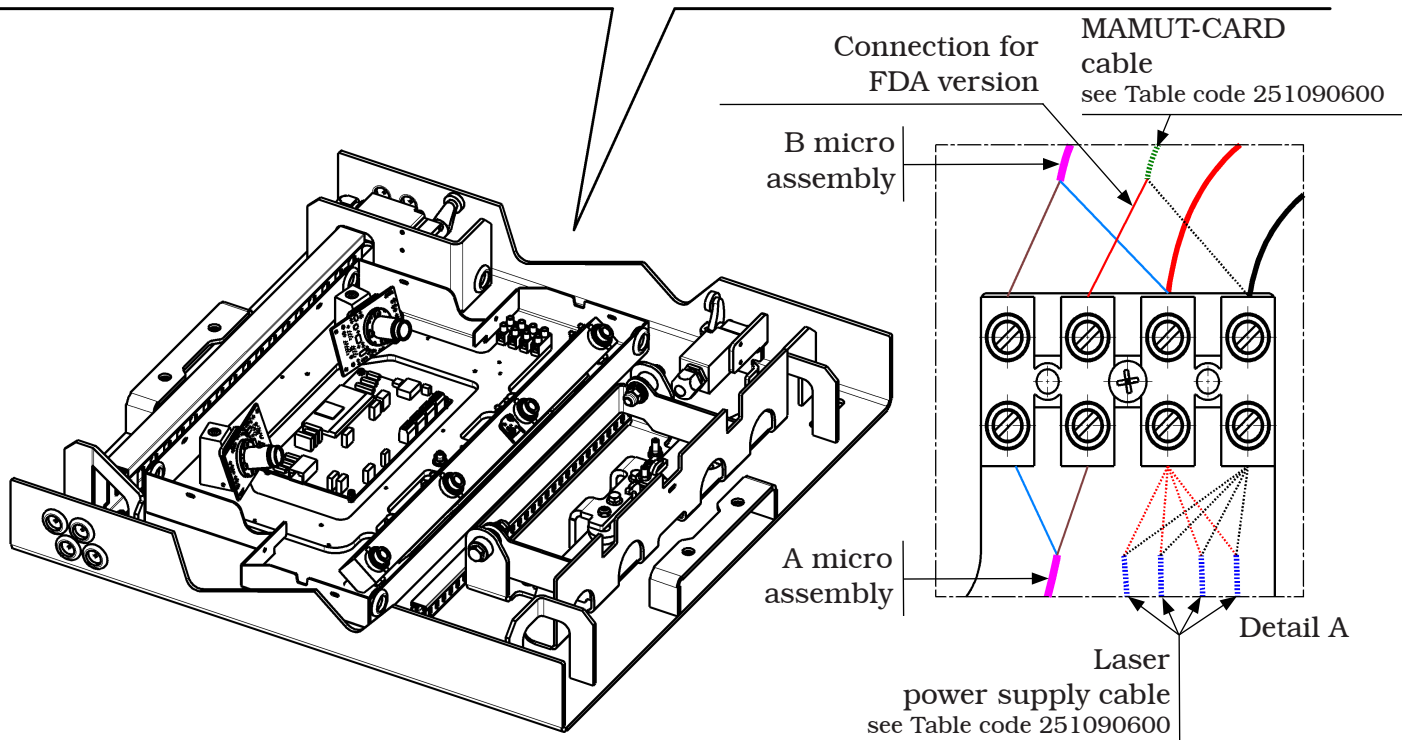
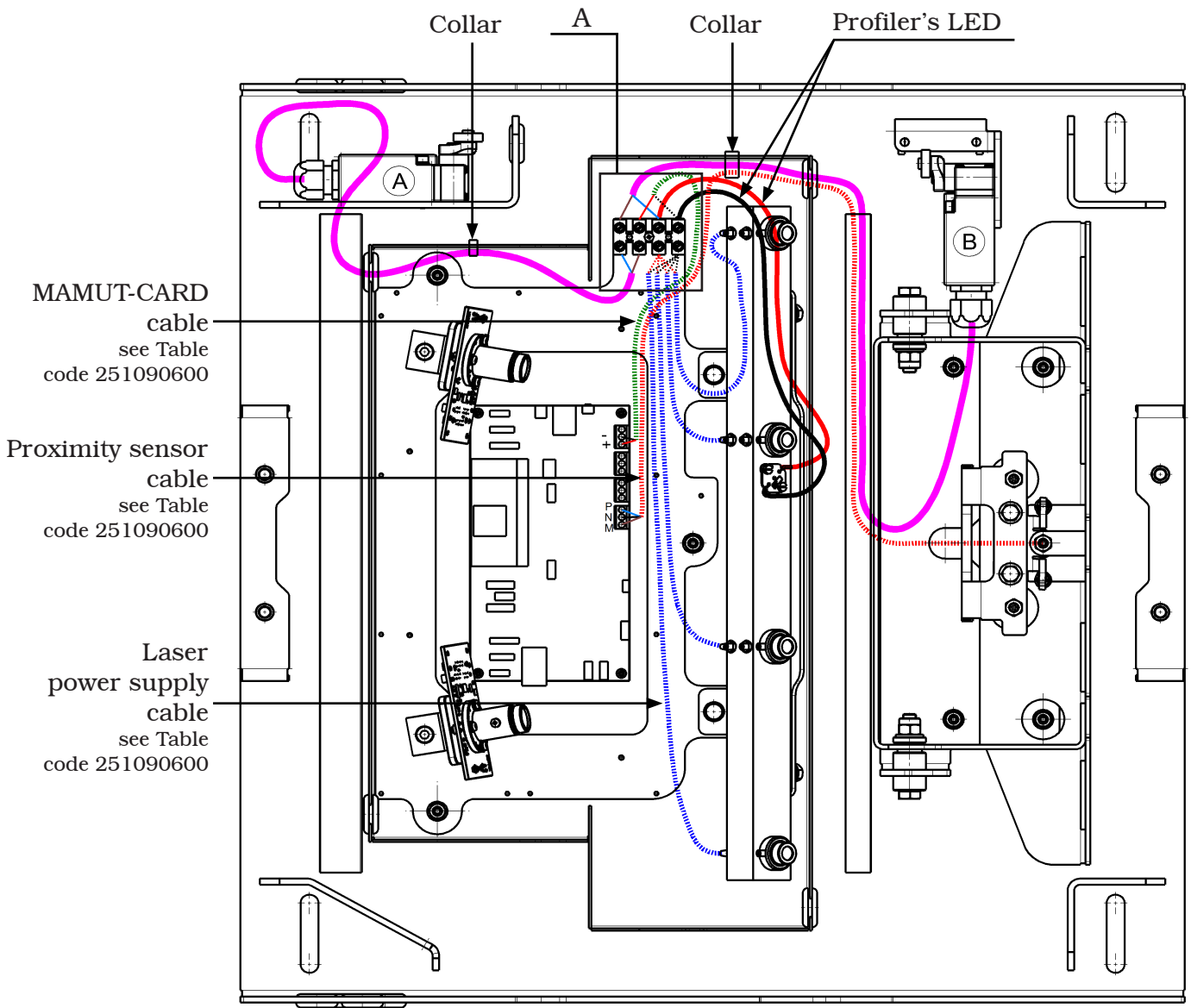
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BUWS101 - BUWS101I - BUWS102 - BUWS102I - BUWS103 - BUWS103I - BUWS101U - BUWS101IU - BUWS102U - BUWS102IU - BUWS103U - BUWS103IU



**CONNECTION DIAGRAM
ELECTRICAL CABLES FOR FDA**

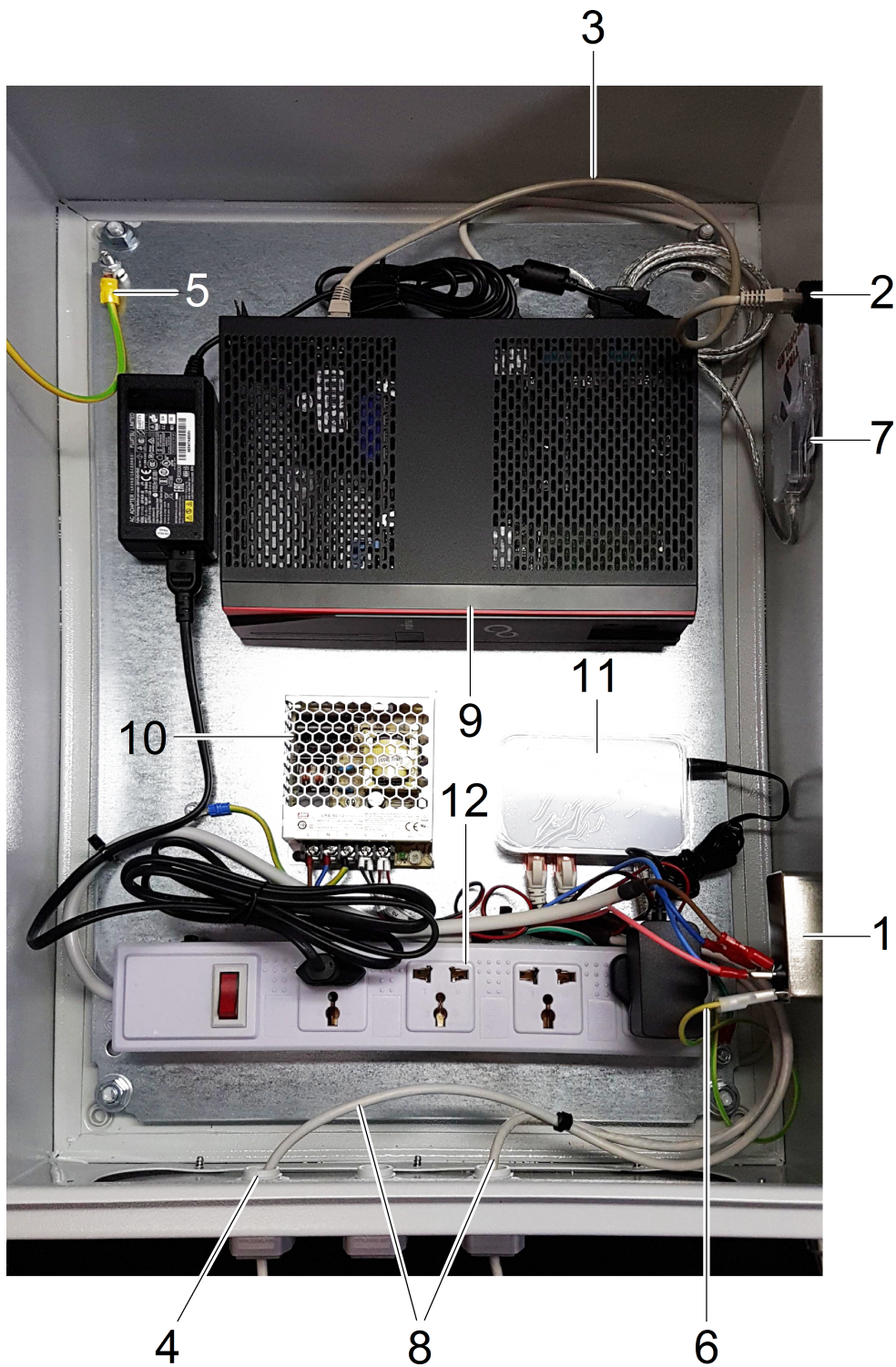
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KEY

- 1 – ON-OFF switch
- 2 – RJ45 interface
- 3 – Ethernet wiring
- 4 – Cable press
- 5 – Ground cable
- 6 – Ground cable
- 7 – Smart card
- 8 – Ethernet wiring
- 9 – Pc
- 10 – Feeder
- 11 – 5 doors switch
- 12 – Multiple socket

BUWS102 - BUWS102I - BUWS102U - BUWS102IU

ELECTRICAL PANEL

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