

User manual

# SCREW FEEDER BY VIBRATING BOWL

## BSF 300 SERIES



EN

60203-08/22

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## REMARKS ABOUT THE MANUAL

### Symbols



#### Information

This warning statement indicates important information (for example: damage to property), but no hazard



#### Information

Information to view in your customer area on the [www.doga.fr](http://www.doga.fr) web site.



#### Caution

This warning statement indicates a low risk that may lead to minor or moderate injuries if not avoided.



Wear personal protective equipment.



#### Warning

This warning statement indicates a moderate risk that may lead to severe or fatal injuries if not avoided.

# 1 INFORMATIONS

## 1.1 IMPORTANT

The equipment supplied with this manual may have been modified to meet specific needs.

If this is the case, when ordering replacement or spare parts, please quote the serial number on the nameplate.

This will ensure that you get the tool and/or part you require.

## 1.2 Product references

|                    |                                |
|--------------------|--------------------------------|
| <b>Designation</b> | Automatic screw feeding system |
| <b>Type</b>        | BSF300                         |

## 1.3 General equipment descriptions

This equipment has been designed to automatically feed screws into a nose and then perform a tightening operation.

It has been designed for the field of application described above and cannot be used for any other purpose. In particular, the following should be avoided :

- Handling of parts and materials other than those intended.
- Inappropriate or risky working speed.
- Lack of protective and safety measures.
- Poor or absent maintenance.
- Insecure or unsafe fixing of the machine or its parts.



### Caution

The use of inappropriate screws can be dangerous and cause jamming during the feeding process. The system is not able to detect and eliminate non-conforming screws. It is essential to select the screws before use to ensure consistency and to avoid any defective parts in the feeder bowl. **DO NOT USE MAGNETIC SCREWS.**

## 1.4 Glossary

|                      |  |
|----------------------|--|
| <b>Bowl</b>          | Screw orienting device   |
| <b>Rail</b>          | The end part of the bowl. It is straight and serves as a screw accumulator.                  |
| <b>Separator</b>     | Device for selecting and blowing out the screws.   |
| <b>Delivery hose</b> | Flexible plastic hose. Used to transport the screws from the separator outlet to the nozzle. |
| <b>Nozzle</b>        | Screw receiving and positioning device.  |
| <b>tool</b>          | Device consisting of the screwdriver and the bit advance system.                             |
| <b>Screwdriver</b>   | Torque producing element.  |
| <b>Bit</b>           | Interchangeable element mounted on the bit holder used to turn the screw.                    |
| <b>Auto-advance</b>  | Automatic bit feed system after pressing the start lever.                                    |

## 1.5 Characteristics

|                                   |   |
|-----------------------------------|---|
| Total weight (bowl and tool) (Kg) | 52,6  |
| Ambient operating temperatures    | +10° to 40°C  |
| Electric power supply             | 230V Ac / 50 Hz   |
| Auxiliary voltage                 | 24 Vdc  |
| Intensity maxi                    | 2.5 A   |
| Protection class                  | IP 40   |
| Pressured air quality             | Dry air   |
| Operating pressure                | 6.3 bars  |
| Air consumption                   | Depend on the screwdriver:<br><br>With pneumatic: Max 10 Lt/Sec<br>With electric: Max 1 Lt/sec  |
| Maximum rate                      | 50 vis/min  |
| Noise                             | Depends on the screwdriver:<br>With pneumatic : Max 80 DBA<br>(operator location )<br>With electric: Max 60 DBA<br>(operator location ) |

## 2 SÉCURITÉ

### 2.1 General dispositions



This manual should be carefully stored in a place known and easily accessible to potential users of the product.

**Caution**

Read and have each operator read this manual carefully before installing, using or repairing the product.

Make absolutely sure that the operator has fully understood the rules of use and the meaning of any symbols on the product.

Most accidents could be avoided by following the instructions in the user manual.

These instructions have been drawn up with reference to the European directives and their various amendments, as well as to the product standards.

In each case, respect and comply with the national safety regulations. Do not remove or damage the labels and markings on the product, especially those required by law.

### 2.2 Contraindications


The unit has been designed for the field of application described above and may not be used for any other purpose. In particular, the following must be avoided

- Handling of parts and materials other than those intended.
- Inappropriate or risky working speed.
- Lack of protective and safety measures.
- Poor or absent maintenance.
- Uncertain or insecure fixing of the machine or its parts.

## 2.3 Déclaration of incorporation



### DECLARATION OF INCORPORATION (ORIGINAL)

|  |   |
|--|---|
| Company                                      | <p><b>DOGA - 8, avenue Gutenberg - CS 50510<br/>78317 MAUREPAS CEDEX - FRANCE</b></p> <p>Herewith declare that the partly complete machine designated below complies as far as it is concerned, with the provisions of the aforementioned EC Machine Directive.</p> <p>The partly complete machine shall not be put into service before the final machine in which it is to be incorporated has been declared to comply with the provisions of the EC Machine Directive by a certificate of conformity corresponding to Annex II, Part A. We declare that the technical documentation of the quasi-machine is constituted in accordance with Annex VI, Part B, and we undertake to transmit, following a duly reasoned request from the national authorities, the information concerning the partly complete.</p>   |
| Designation of the partly complete machinery | <b>Screw feeding system</b>   |
| Type   | <b>BSF 300</b>  |
| Relevant EC Directives                       | <ul style="list-style-type: none"> <li>• <b>Machinery Directive: 2006/42/EC</b></li> <li>• <b>Low Voltage Directive: 2006/95/CE</b></li> </ul>  |
| Observed Machinery directives specifications | <p>1.1.2 Principles of safety integration / 1.1.3 Materials and products / 1.1.5 Design of machinery to facilitate its handling / 1.2.1. Safety and reliability of control systems / 1.2.4 Stopping / 1.2.4.1 Normal stop/ 1.2.4.2. Operational stop / 1.2.4.3 Emergency stop/ 1.2.5 Selection of control or operating modes / 1.2.6. Failure of the power supply / 1.3.2. Risk of break-up during operation / 1.3.7 Risks related to moving parts / 1.3.8.2 Moving parts involved in the process / 1.3.9 Risks of uncontrolled movements / 1.4.1 General requirements / 1.5.1 Electricity supply / 1.5.4 Errors of fitting / 1.5.6 Fire / 1.5.7 Explosion / 1.5.8 Noise / 1.5.15. Risk of slipping, tripping or falling / 1.6.1 Machinery maintenance / 1.6.4 Operator intervention / 1.7.1 Information and warnings on the machinery / 1.7.2 Warning of residual risks / 1.7.3 Marking of machinery / 1.7.4 Instructions/ 1.7.4.1 General principles for the drafting of instructions/ 1.7.4.2 Contents of the instructions</p> |
| Authorized Signature                         | <p><b>Jean-Airy AUGSBURGER – CEO of DOGA</b></p>  <p><b>Maurepas, 14/02/2022</b></p>   |



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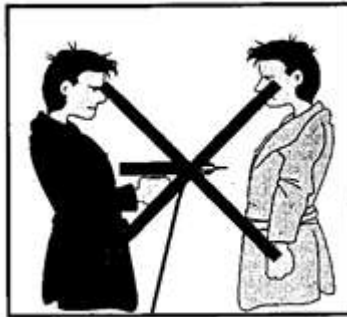
© DOGA - DOC.00112-02/22

Nous travaillons constamment à l'amélioration de nos produits. De ce fait, les dimensions et indications portées dans cette brochure peuvent parfois ne pas correspondre aux dernières exécutions. De convention expresse, nos ventes sont faites sous bénéfice de réserve de propriété (les dispositions de la loi du 12/05/1980 trouvent donc toute leur application).

[www.doga.fr](http://www.doga.fr)

## 2.4 Residual risks

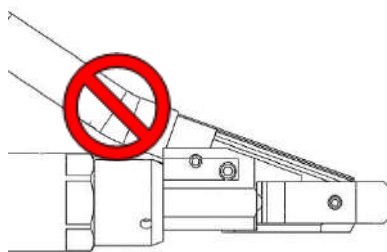
- Never point the tool at a person !



- Never point the screwdriver at yourself !



- Never remove the feed tube from the nose while the machine is running! The parts in the feed tube can act as a ball! The feed tube must never be disconnected during operation !



- Maintenance work must be carried out by qualified operator !
- The power and air supply must be disconnected during maintenance !
- No changes, extensions or conversions to the machine may be carried out without the manufacturer's approval. This also applies to the welding of load-bearing parts.
- During maintenance work, put up a warning sign for use.
- Machine parts that are not in perfect condition must be replaced immediately.
- Use only original spare and wearing parts !



## 2.5 Protective actions to be taken by users.

Ensure that the work area is clean and free of liquids, small pieces, rags and cleaning materials.

Excessive hose on the work area or floor is a potential fall, slip or trip hazard.

Do not smoke in or near the work area.

Beware of noise hazards. Using a compressed air jet to clean gaps on components/couplings can cause high frequency sounds. Wear hearing protection and reduce exposure.

Beware of dermatitis. When cleaning parts or handling oil, protect your hands with cream or gloves.

Wear eye protection. Make sure that anyone in the vicinity wears eye protection.

Keep away from Rotating drive parts.

Do not wear jewellery, scarves, ties or loose clothing to avoid the risk of strangulation. Keep long hair out of the way when using the machine.

The machine may only be used in its field of application, following the indications given in this manual, and strictly within the functional limits indicated.

Any other use of the machine or the exceeding of even one limit will engage the user in case of breakdowns, or damage to things or persons.

We recommend the operator to follow what is indicated in this manual regarding safety and injury prevention. In case of doubt, ask the manufacturer before acting.

It is forbidden to modify the machine (even partially) without the prior agreement of the manufacturer. If this is not observed, we cannot be held responsible for any damage.

This machine may not be used in an environment where there is a risk of explosion.

## 3 SETTING UP

### 3.1 Installation and connexion

Before proceeding with the installation, it is necessary to carry out a general check to identify whether any damage has occurred during the handling operations. In case of damage, it is forbidden to start the installation.

#### 3.1.1 Installation

In order to proceed with the installation, it is necessary to prepare and check the following conditions:

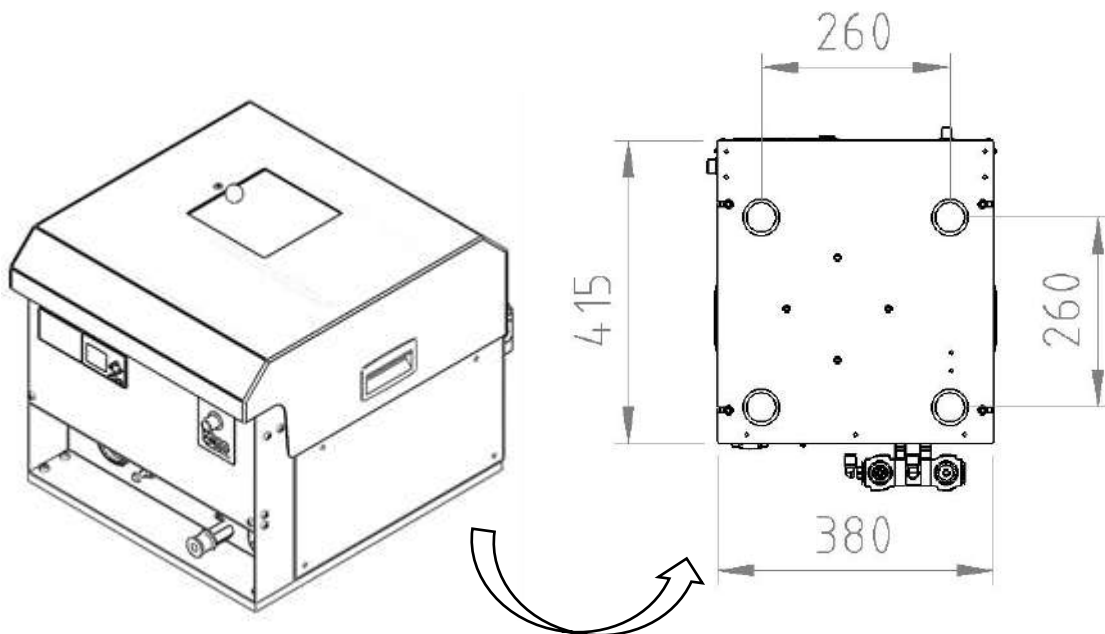
- The workstation must be able to withstand the weight of the machine.
- The room where the machine will be installed must be well lit and ventilated to ensure good working conditions for the operator.
- The temperature of the room must be between +5°C and 50°C.
- The humidity must be between 30% and 90% (without condensation).

#### Positioning & Preparation

The unit is supported by 4 feet mounted on 4 anti-vibration rubber mounts as shown in figure 2.

Once positioned on the work bench, check the levelling and, if necessary, make the required corrections by acting on the nuts of the feet.

figure 2

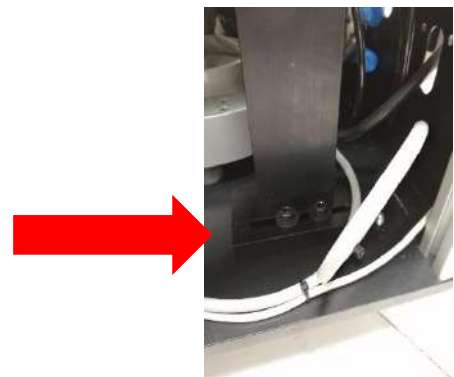
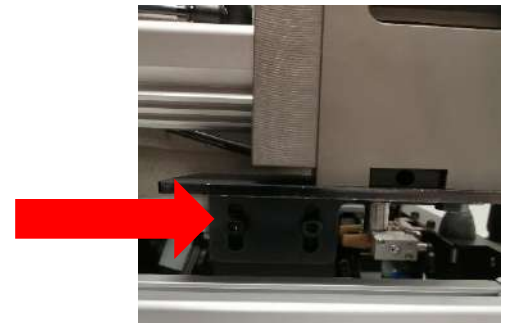
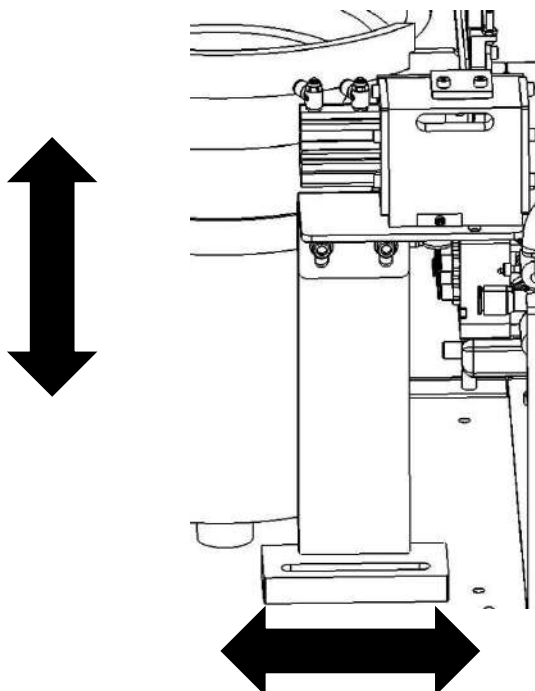
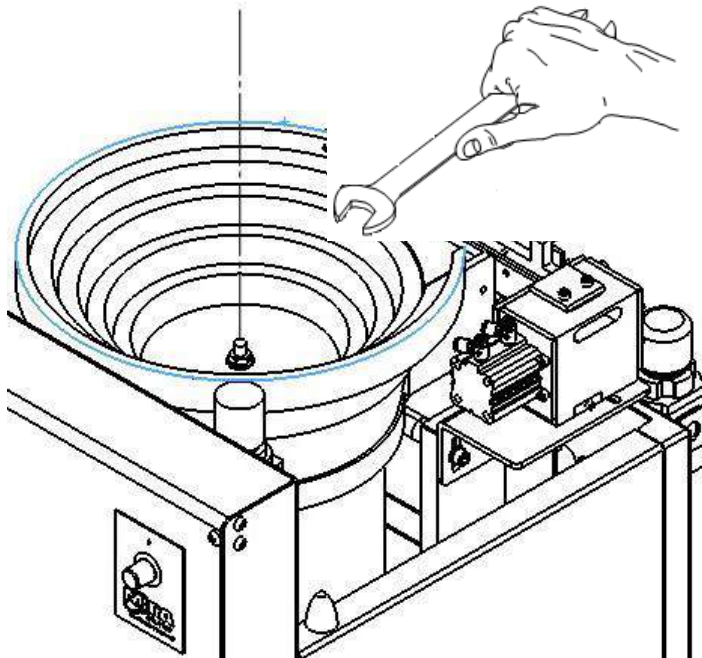


Remove the cover between the end of the rail and the divider and align the divider as shown below.

### Separator alignment

The entrance to the separator must be correctly aligned with the rail to allow the screws to come out easily, without jamming. The distance between the rail and the divider inlet should be approximately 1 to 1.5 mm.

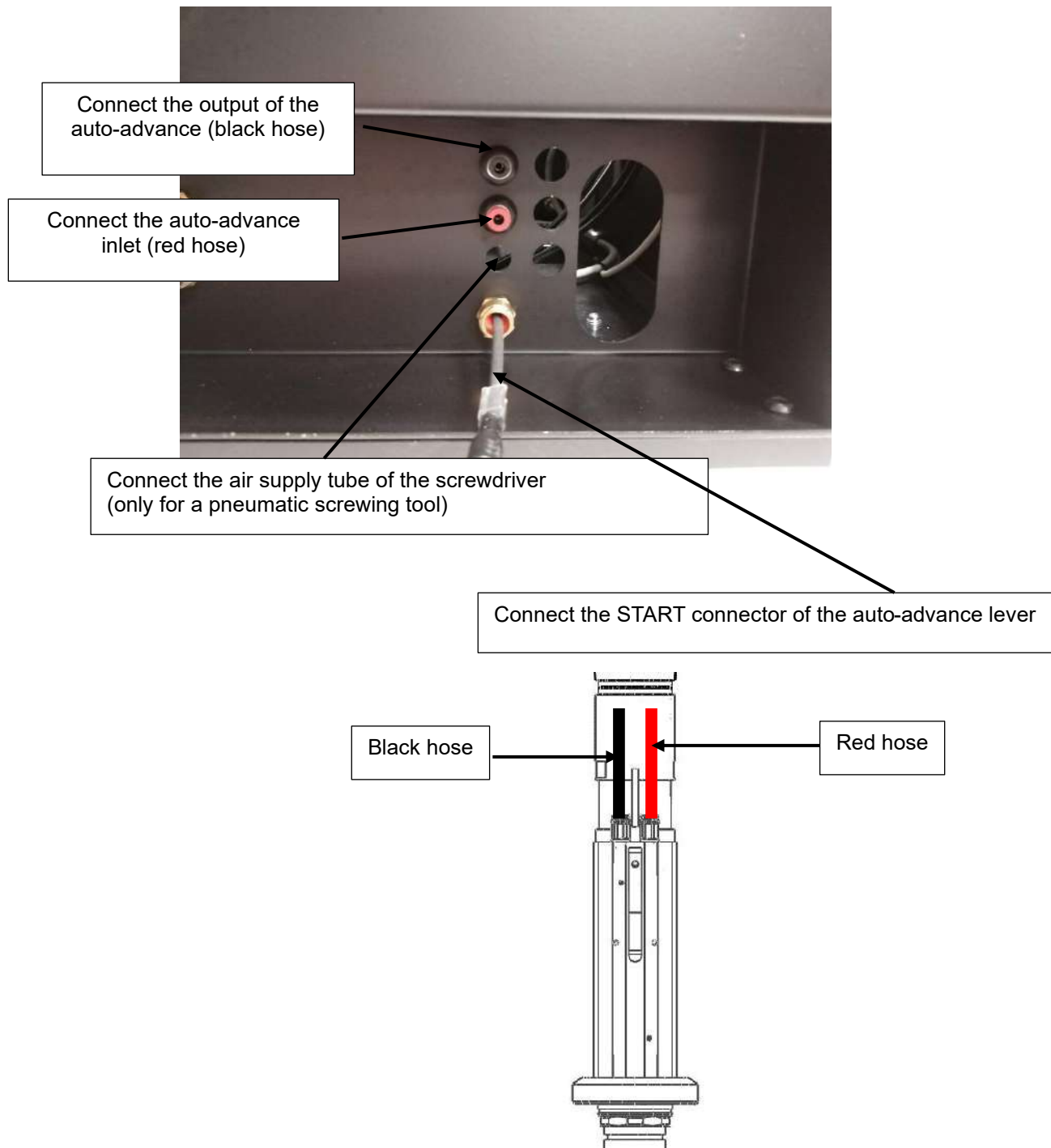
1. Loosen the safety nut of the bowl in the vibrating bowl as shown in the picture and adjust the position of the bowl to align the rail outlet and the separator inlet, with a clearance of 1 to 1.5 mm. If necessary, use the clearance of the separator holder lights as shown below.



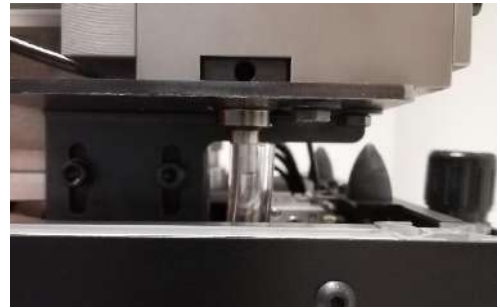
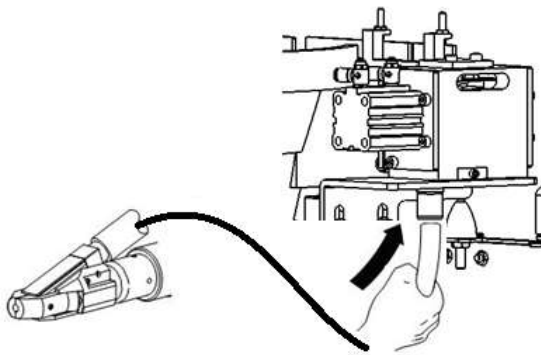
2. Try to pass the screws manually through the gap between the rail and the gate to check for possible causes of jamming. Make sure there is no vertical movement of the screws. Check the vertical alignment of the separator if necessary.

### **Tool Connexion**

1. Connect the hoses, ensuring that the hose and fitting are the same colour.



Connect the screw delivery hose firmly to the tube door outlet.



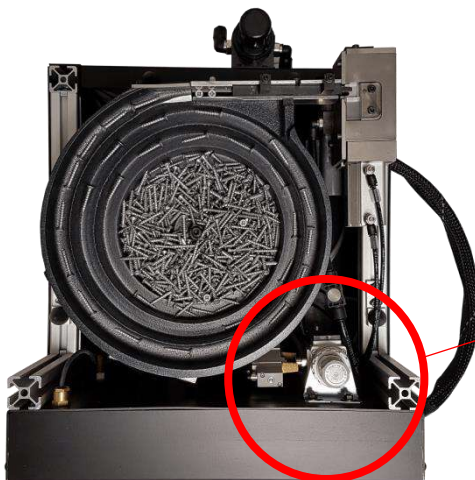
**Ensure that the tube is properly connected at both ends.**

Inside the distributor is an air pressure regulator that acts on the power of the auto-advance cylinder to block the screw in the screw nose after the screw has been blown into the feed tube.

This is the "PNEUMATIC RETENTION SYSTEM".

Do not increase this value too much! If you do, the jaws will not be able to hold the screw before the tightening cycle and the screw will be lost.

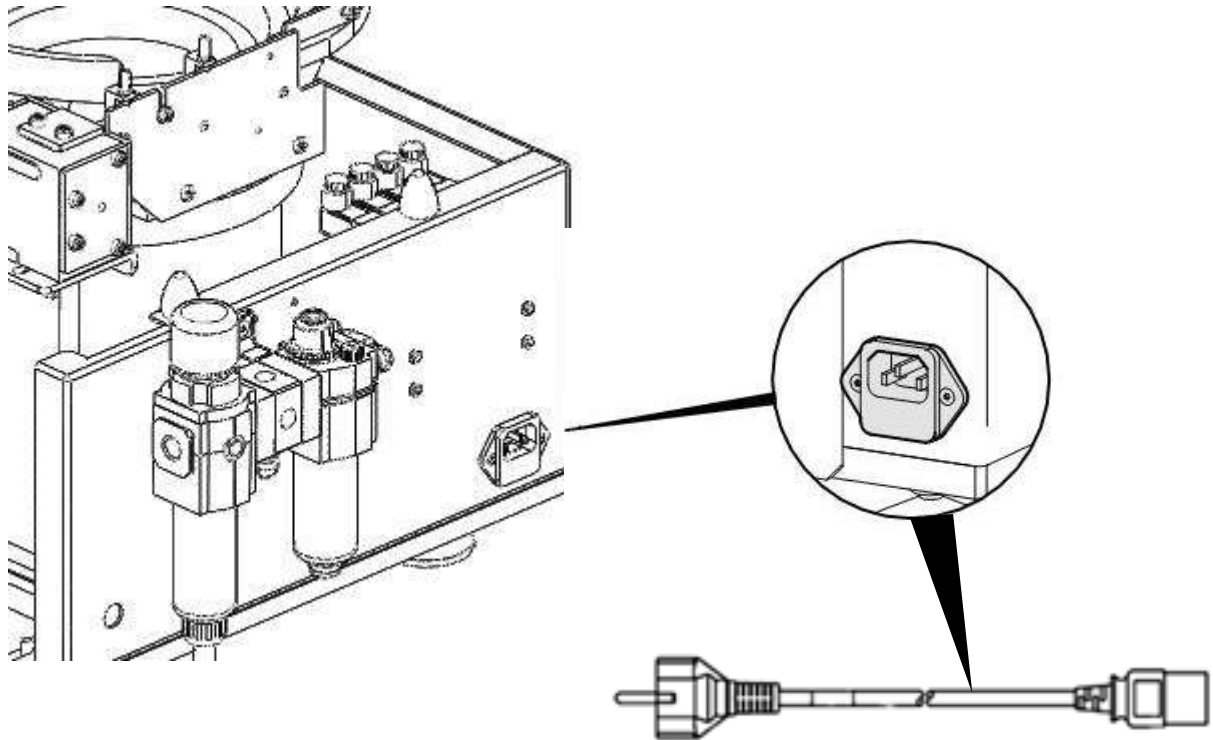
This pressure regulator is not present when the PNEUMATIC RETENTION SYSTEM is not required.



### 3.1..2 Connections

To connect the power supply to the unit, it is necessary to insert a SCHUKO type cable and to have a CEE22 socket in the indicated position.

The electrical wiring of the machine is designed to operate with a single-phase voltage of 230 V and a frequency of 50 Hz; variations are tolerated at +/- 10% and the frequency variation at +/- 1% of the respective nominal values.



## 3.2 Commissioning

### ➤ 1st using.

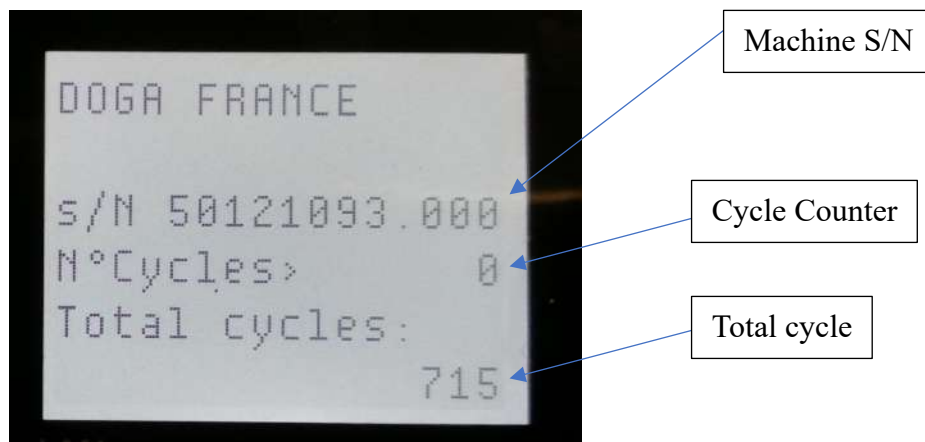
The machine, unless otherwise stated, is delivered ready for production. However, it is possible that some adjustments are necessary or that the procedure for the first use has to be carried out.

After performing the operations listed in the assembly chapter, it will be possible to use the unit.

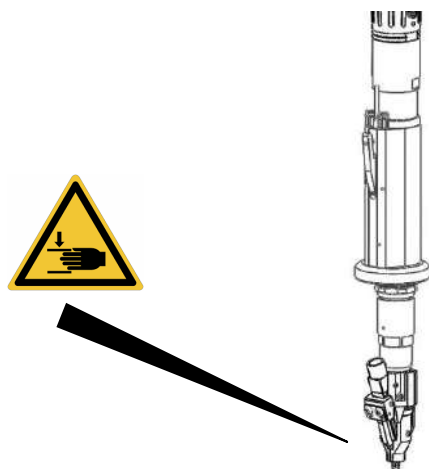
1. Turn on the power using the switch on the panel.



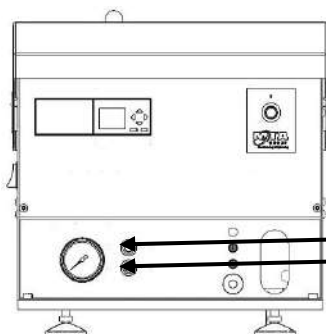
2. Open the air supply and adjust the pressure by acting on the FRL until the 6.3 bars indicated on the pressure gauge is reached. The pressure value must be between 5 and 6.3 bars.
3. Make sure that the PLC displays the information as shown below. If not, check the power supply.



4. Lift the protective cover and fill the vibratory trough with the screws. Fill it 3/4 of the way.
5. Let the vibrating bowl run until the screws fill all the spirals before reaching the separator.
6. Take the tool and place it on the clamping point, press the START lever.



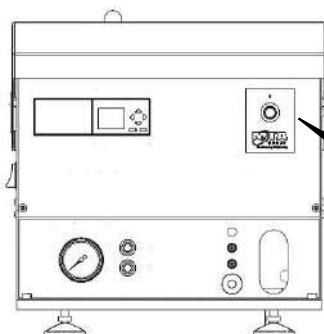
7. Keep the start lever pressed down during the entire clamping phase !
8. When the tool stops rotating, the clamping phase is over. The lever can be released.
9. The speed of descent of the self-advance can be regulated by the flow control.



Flow regulator for the downstroke of the auto-advance



10. The vibration intensity of the tank can be adjusted with the potentiometer



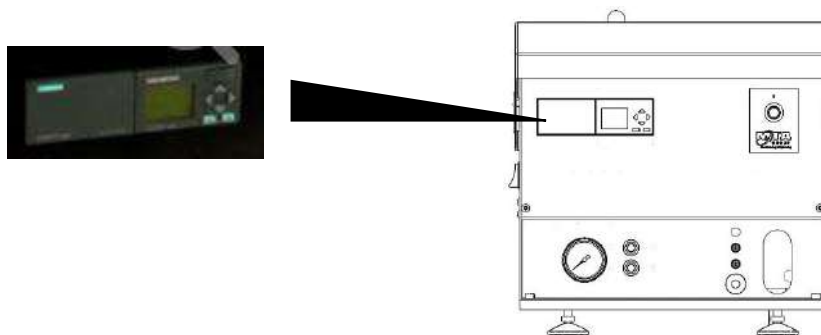
Bowl vibration level





### 3.3 Micro PLC parameter

It is possible to interact with the PLC in order to modify the time values that operate during the dispensing cycle. These values can be modified from the display and button on the front panel.



#### Information

Changing the programme and time values preset on the machine may cause the machine to stop working. It is strongly recommended that this operation be carried out by authorised and trained personnel.

#### 3.3..1 Table of accessible timers and parameters

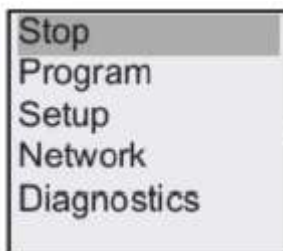
| Name                   | Description   | Value (sec)  |
|------------------------|---|--|
| <b>T. Inib-cycle</b>   | Inhibition time in order to avoid an unintentional double start   | T0 : 0,2 à 0,5<br>TA : 00 : 00   |
| <b>T.Escapment</b>     | Gate selection time   | T0 : 0,55<br>TA : 00 : 00  |
| <b>T-Feedingdly</b>    | Blow delay time.(Set "0" with pneumatic retaining system)   | T0 : 0,1<br>TA : 00 : 00<br>(0 in case of pneumatic retaining system)                                  |
| <b>T. Feeding</b>      | Duration of blow in the feed tube.  | TA : 0,5 à 0,7<br>T0 : 00 : 00   |
| <b>T. vibStopDelay</b> | Duration vibration bowl when there isn't the start signal from the screwdriver.   | T0 : 04 : 00<br>TA : 00 : 00   |
| <b>C-Cnt cicli</b>     | Counter of screw delivered.   | In normal cycle indicates the number of screws dispensed since commissioning.<br>Can be reset to zero. |
| <b>B14</b>             | Software switch in order to escape bit and bit holder from the nozzle. This is particularly useful for maintenance operation. | <b>On</b> : Cycle stopped, bit out of jaws.<br><b>Off</b> : Normal cycle.                              |

### 3.3..2 Parameters setting

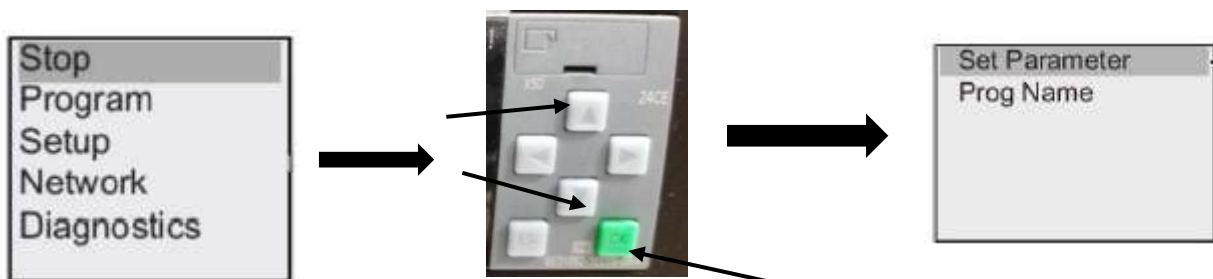
- Press Down Arrow  $\nabla$  for standard screens changing (Date and time, Inputs state etc...).



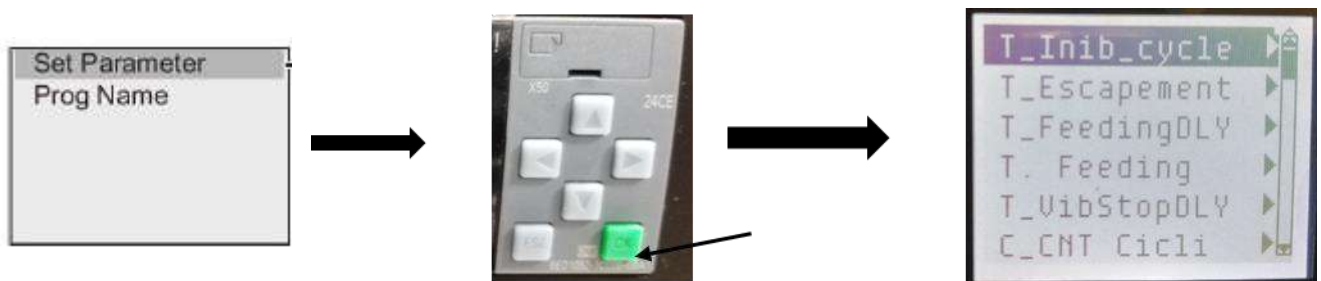
- Press ESC button for LOGO menu entering.



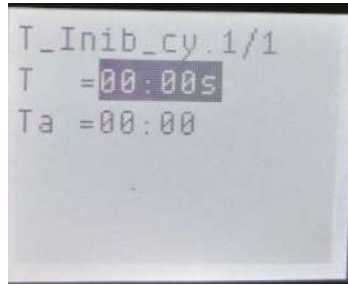
- With arrows button, select menu "Program". Then press OK.



- Select menu "SET parameters". Then press OK.



- Then select desired parameter by using up/down arrows  $\nabla \wedge$  then press OK.



- Select the desired parameter using the arrows  $\wedge \nabla$  then press OK to enter the modification mode.
- Change the value by pressing the arrows  $\nabla \wedge$ .
- Press OK to validate.
- Press ESC successively until the following screen appears.

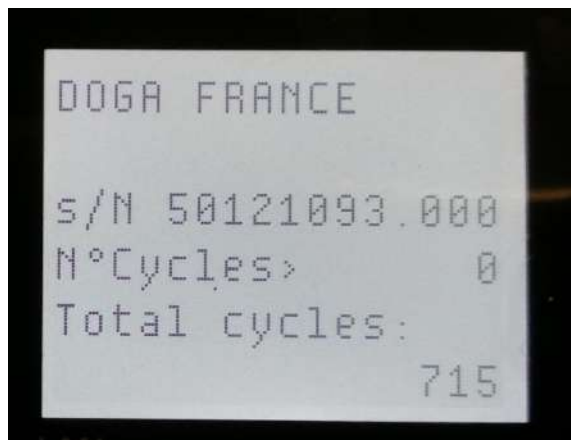


- Press  $\wedge$  to return to the home screen.



### 3.3..3 Display

During the normal cycle the display shows the message below :



## 4 USING



### Information

Make sure you have carried out all the preparatory steps described in the commissioning chapter before use.

### 4.1 Operating procedure

Put the feeder into operation.

- Check that the PLC is in service and that the red light is on. If this is not the case, have the fuses checked by an authorised person.
- Put the screwing assembly into operation.
- Check the presence of screws in the bowl and in the dispensing nose.
- If not, load screws in the bowl and pull the start trigger once to start the dispensing cycle.
- Place the tool on the component to be screwed in opposite the screw location.
- Press and hold the start lever for the entire screwdriving cycle.

Once the screwdriver has stopped :

- Release the start lever
  - A screw dispensing cycle takes place.
    - A screw is delivered into the nose.

## 5 SETTINGS

### 5.1 Feeder

See sections on commissioning and parameters of the micro PLC.

### 5.2 Screwdriver

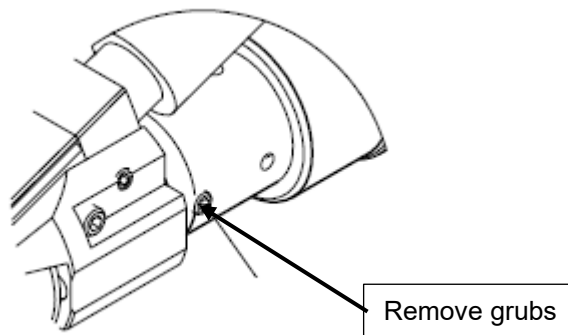
See the user manual of the screwdriver used.

## 6 MAINTENANCE

### 6.1 Bit substitution

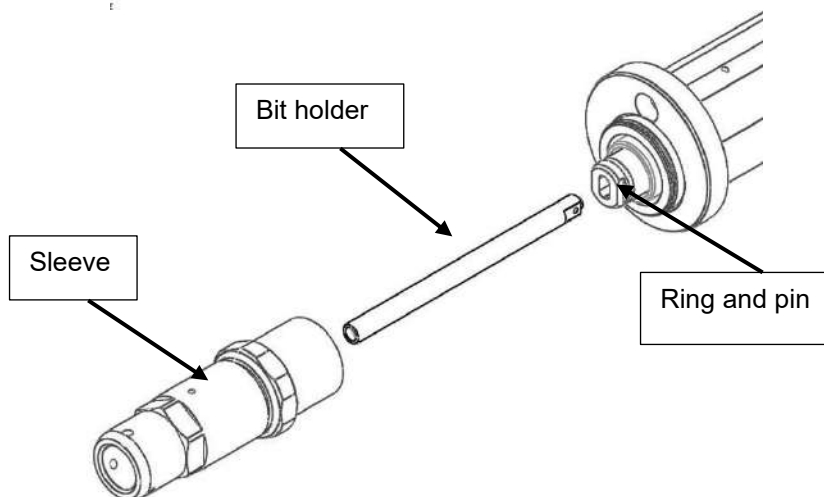
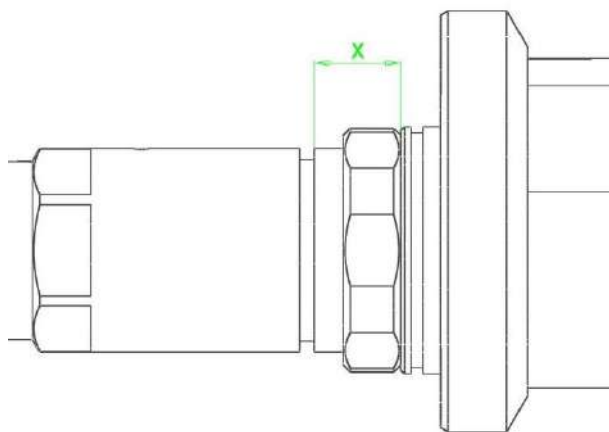
Bit is a wearing part which is most frequently changed because is always in contact on the screw. Maintenance operation should be done following the indication below.

1. Go into the PLC menu and change on state "ON" the software switch.  
(be careful, bit will be released out of jaws immediately!).
2. Remove the bit.
3. Insert the new bit.
4. Go into the PLC menu and change on state "OFF" the software switch.



## 6.2 Bit holder substitution

1. Go into the PLC menu and change on state "ON" the software switch. (be careful, bit holder will be released out of jaws immediately !)
2. Take the measure "X" before the next operations
3. Unlock the Hexagonal nut (Left hand threaded !).
4. Completely dismount of the sleeve (Left hand threaded !).
5. Remove the seal and the pin.
6. Change the bit holder.
7. Reassembly the sleeve and lock the nut at correct distance "X".
8. Go into the PLC menu and change on state "OFF" the software switch.



### 6.3 Daily maintenance

- Check the air connections.
- Check if filters are clean and the oil level.
- Lubricate the air screwdriver as indicated on the instructions.
- Remove defective screws and foreign bodies in the bowl.

### 6.4 Weekly maintenance

- Check fluid levels and losses.
- Check losses in the air tube.
- Check the wearing of the gate and the hose feed screw and substitute if necessary.
- Check the wearing of all the hoses substitute them if necessary.

### 6.5 Annual maintenance

- Check the whole gate.
- Check the nozzle and check the wearing status.

### 6.6 Troubleshooting

| Failure  | Cause  |
|--|--|
| The gate does not move   | Return delay time on the gate too high.<br>Screw jam in to the gate.<br>Air regulators on gate cylinder not correctly set.<br>Failure in the control circuit.            |
| The gate moves too fast  | Return delay time on the gate too low.<br>Air regulators on gate cylinder not correctly set.   |
| Screw jam in the gate  | Screws not ok for this unit.<br>Return delay time on the gate too low.   |
| The screw does not arrive in the nozzle                              | Screws not ok for this unit.<br>Air blast time value too low.<br>Air blast power not sufficient.<br>Feed hose damaged.<br>Piston not in completely in backward position. |
| Screws are ejected from the nozzle when blown                        | Air blast pressure too strong.<br>Spring jaws broken.  |
| Jaws are not properly retaining the screw                            | Spring jaws broken.<br>Jaws extremely worn out.  |
| The screw feeder does not work when the screwdriver tool is actioned | Control hose not properly connected.<br>Failure on the control circuit.  |
| The piston does not work   | Delay on forward movement too high.<br>Air not provide.<br>Control hoses not properly connected.<br>Seals worn out.  |
| The piston goes too slow   | Low pressure.<br>Seals worn out.   |
| The tool does not work   | Air not present.<br>Piston not completely in backward position.<br>Screw jam in the nozzle.<br>Blade rotor worn out.   |

|  |  |
|--|--|
| <b>Forward movement too noisy</b>                | Shaft extension or bit broken.<br>Spring on jaws broken or not well regulated.   |
| <b>Too much oil exhaust from the screwdriver</b> | Lubricator not well regulated (too high).  |
| <b>Air tool too slow</b>                         | Air regulator set too low.<br>Not sufficient lubrication on the screwdriver.<br>Blade rotor worn out.  |
| <b>Screws not correctly tightened</b>            | Shaft extension or bit broken.   |
| <b>The screws do not move into the gate</b>      | Check the distance between the gate and the rail.<br>Check the screw dimension.  |
| <b>The screws do not move around the bowl</b>    | Check the vibration level.<br>Vibration level too low.<br>Damaged valve.<br>Failure on the control circuit.  |
| <b>The screws do not fill properly the rail</b>  | Few screws in the bowl.<br>Vibration level too low.<br>Vibration level too high.<br>(if present) air blast on the rails too high.<br>Slow vibrations.<br>Roof not correctly regulated. |
| <b>Screw jam on the rail</b>                     | Screws not ok for this unit.<br>Air blast on the rail too low.<br>Roof not correctly regulated.  |

## 6.7 Helpline

### 6.7..1 For information on the use of the device

Please contact your technical sales representative.

### 6.7..2 For troubleshooting information

Please contact your service contact.

If our technician can determine the cause of the fault remotely, he will tell you what to do so that you can carry out the repair yourself as far as possible.

## 6.8 Return for after sales service

All equipment must be returned with an after-sales service return form which you must complete and enclose with your package.

The repair, maintenance, calibration or adjustment service will only be able to start once this form has been received.

### 6.8..1 Download the after-sales service return form

You can download the form by following one of the following links :

<http://service.doga.fr/syst/dogatech.nsf/liste/00182>

<https://www.doga.fr/nos-services/maintenance-industrielle>



### 6.8..2 Send your material

The returned package(s) must be sent postage paid to the following addresses depending on your mode of transport :

| Postal parcel  | Transportation parcel                                     |
|--|---|
| DOGA - Service SAV<br>8, avenue Gutenberg - CS 50510<br>78317 MAUREPAS Cedex | DOGA - Service SAV<br>11, rue Lavoisier<br>78310 MAUREPAS |

## 6.9 On-site troubleshooting

Although attractive, on-site repair is rarely the best solution for transportable equipment. The working conditions for the repairer are not as good as in our workshops and the travel costs for a technician are high.

If you need on-site service, please contact your service contact.

## 6.10 Warranty

DOGA guarantees its products against defects in parts and workmanship for a period of 12 months.

To benefit from the parts and labour warranty, the following conditions must be met :


- The appliance must have been used for professional purposes and in accordance with the normal conditions of use described in this manual.
- The appliance must not have been damaged by storage, maintenance or mishandling.
- The appliance must not have been adapted or repaired by unqualified persons.

## 7 PART LIST AND EXPLODED VIEWS

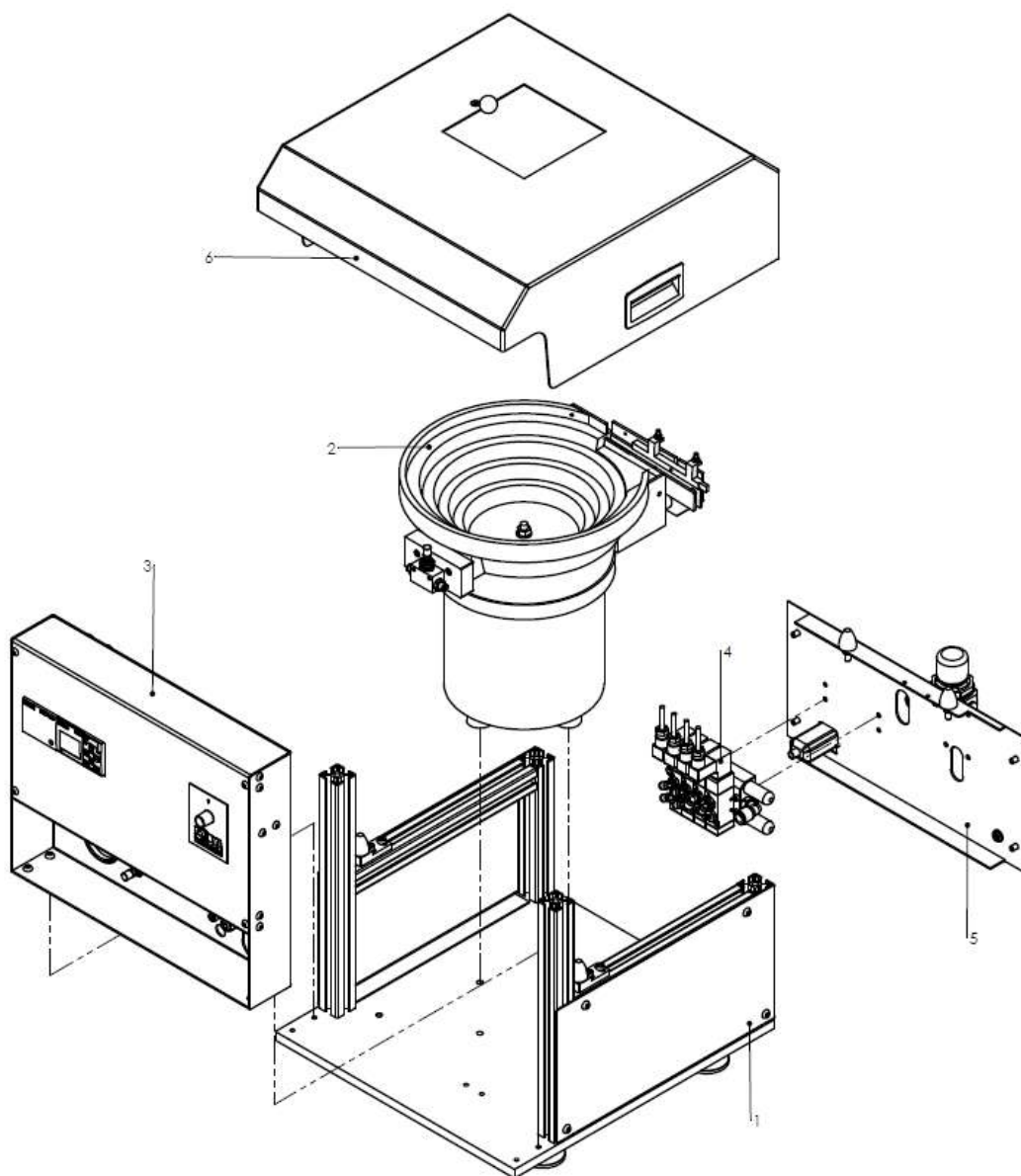


For any spare part quotation, please specify in your request :

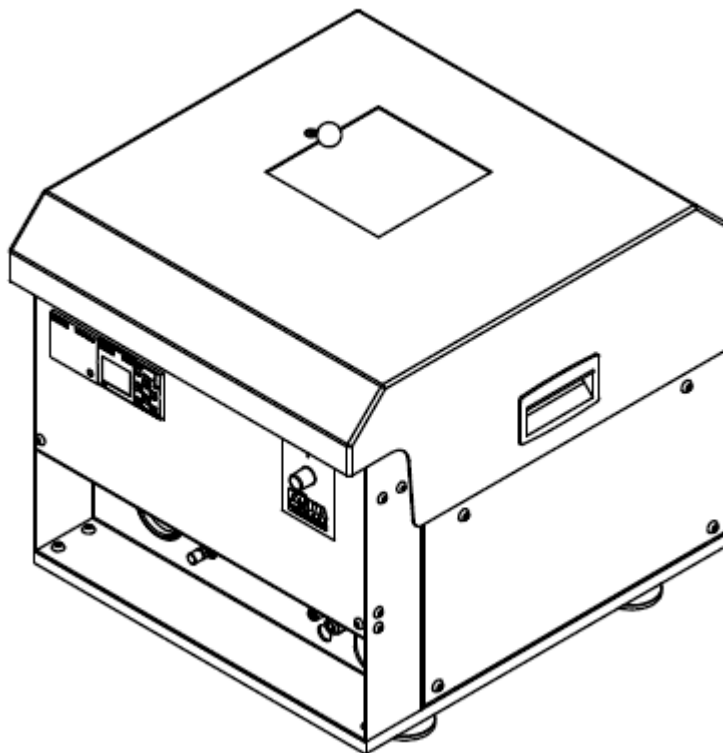
- The serial number of your machine (see CE plate)
- The part number(s).

Customised parts for your application are identified by a .

### 7.1 Feeder

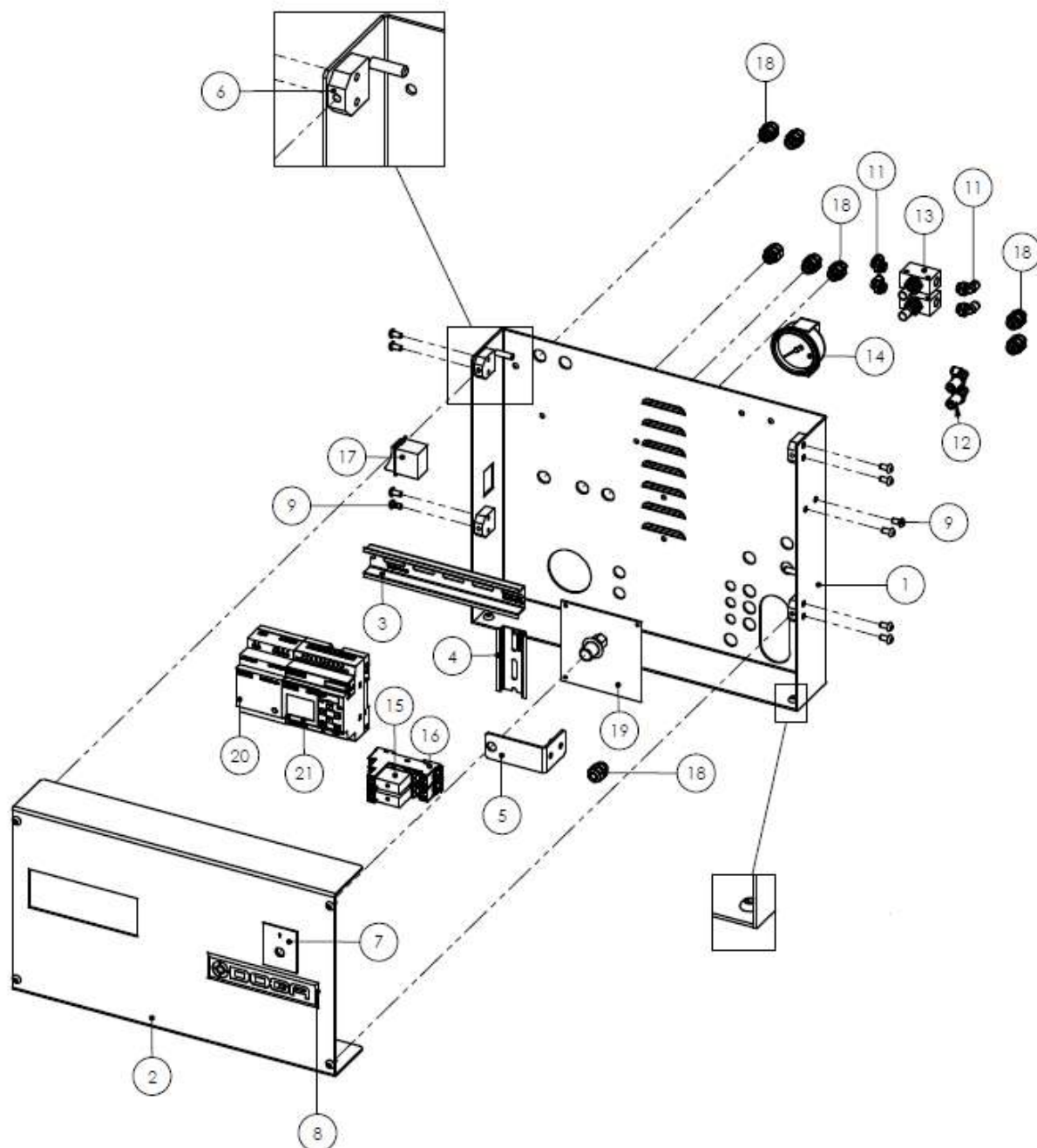


### 7.1..1 General view



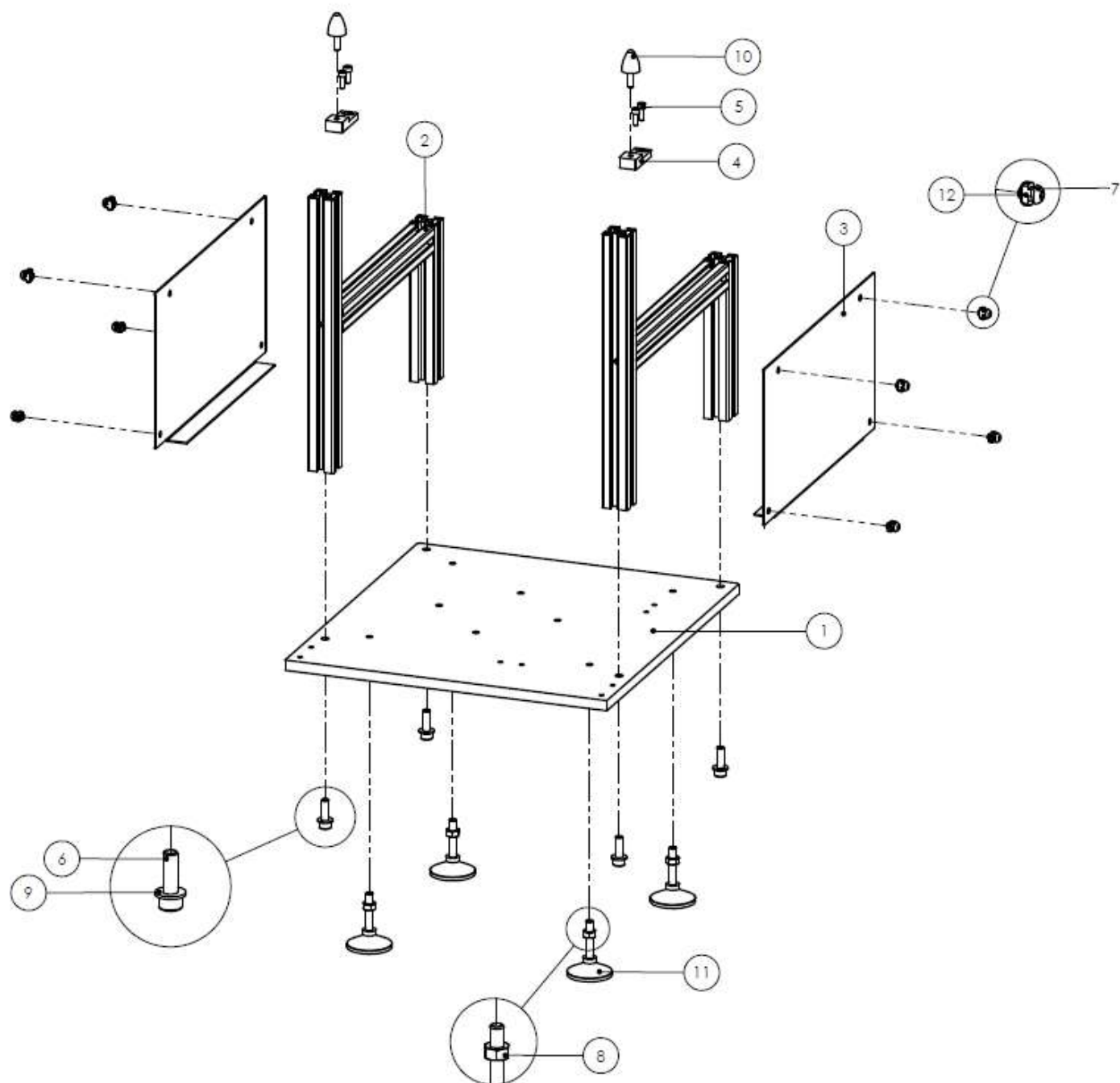
| Rep/pos | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---------|----------------------------|--|----------|
| 1       | 30518003-01                | Sous ensemble structure pour BSF300V09P / Sub assembly<br>structure for BSF300V09P | 1        |
| 2       | 30518003-02                | Sous ensemble bol BSF300 / Sub assembly bowl BSF 300                               | 1        |
| 3       | 30518004-01                | Sous ensemble platine électrique BSF300 / sub assembly electric<br>plate BSF300    | 1        |
| 4       | 30518003-04                | Sous ensemble électrovanne / sub assembly solenoid valve                           | 1        |
| 5       | 30518004-0                 | Sous ensemble platine pneumatique / Sub assembly pneumatic plate                   | 1        |
| 6       | 30518003-06                | Sous ensemble couvercle / sub assembly cover                                       | 1        |

7.1..2 Plan / drawing : 30121093-02\_01



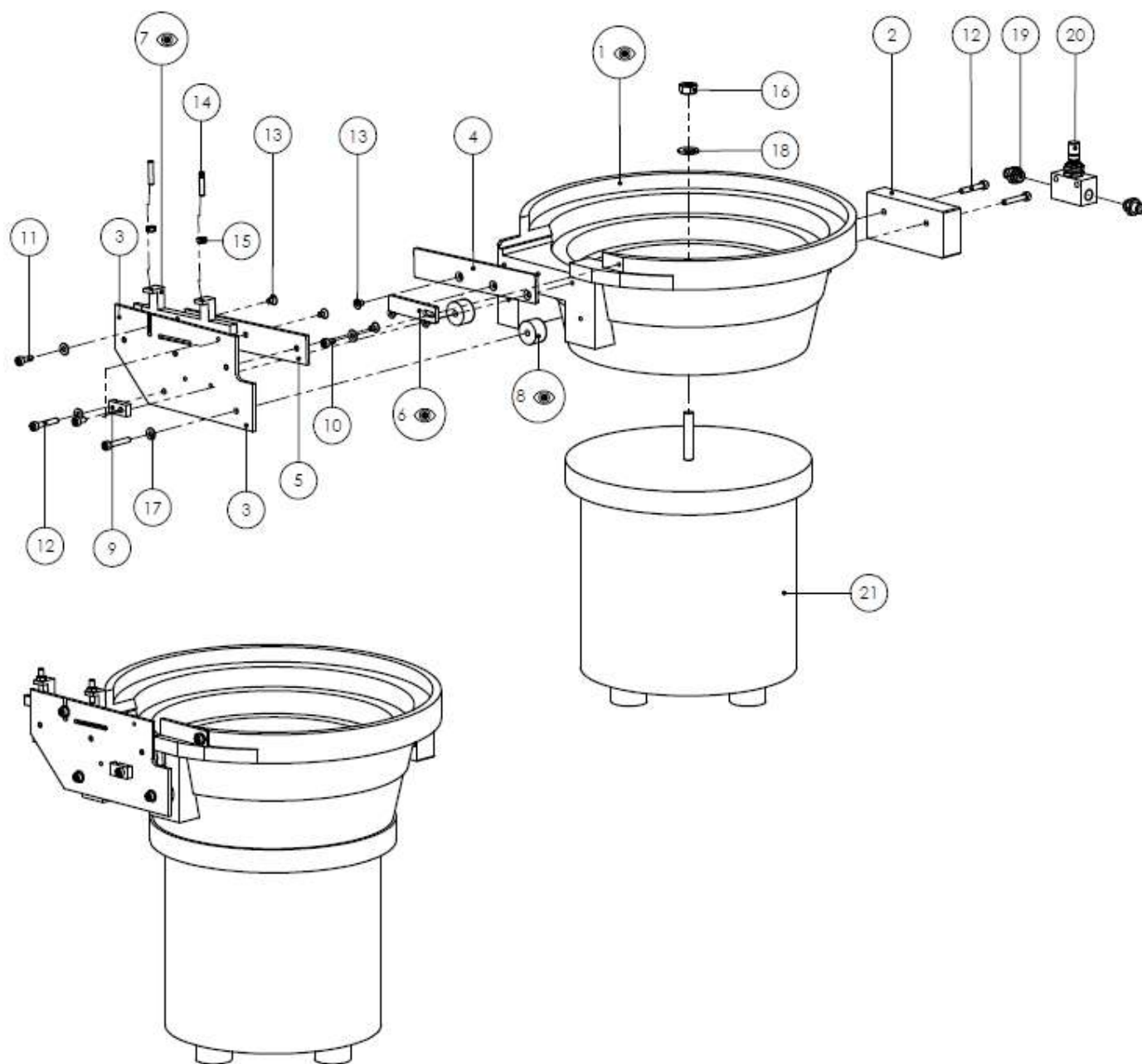
| Rep/pos | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---------|----------------------------|--|----------|
| 1       | 10518003-14                | Panneau électrique / Electric panel  | 1        |
| 2       | 10518003-15                | Façade avant / front panel   | 1        |
| 3       | 10518003-16                | Rail oméga / Omega rail  | 1        |
| 4       | 10518003-17                | Rail oméga / Omega rail  | 1        |
| 5       | 10518003-18                | Support de carte de réglage des vibrations / Vibration control card holder | 1        |
| 6       | 10518003-19                | Fixation panneau électrique / Electric panel fixing                        | 4        |
| 7       | 10121093-05_01             | Adhésif pour potentiomètre / Adhesive for potentiometer                    | 1        |
| 8       | 10121093-06_01             | Etiquette / label  | 1        |
| 9       | 110-010-300                | Vis tête bombée M5x10 / domed head screws M5x10                            | 14       |
| 10      | 110-011-400                | Vis tête bombée M6x10 / domed head screws M6x10                            | 4        |
| 11      | 305-010-002                | Raccord pneumatique G1/8 Ø 4 / Pneumatic connection G1/8 Ø 4               | 4        |
| 12      | 305-020-016                | Raccord vissé ø4 / Screw connector ø4                                      | 2        |
| 13      | 305-050-011                | Régulateur de débit ATT. F.F. G1/8"/ ATT. Flow regulator G1/8" F.F.        | 2        |
| 14      | 305-070-000                | Manomètre intégré Ø50 / Integrated pressure gauge Ø50                      | 1        |
| 15      | 410-020-000                | Relais 24VDC / 24VDC Relay   | 2        |
| 16      | 410-020-001                | Embase support relai / Relay support baseplate                             | 2        |
| 17      | 410-040-000                | Interrupteur 230 Vac / 230 Vac switch                                      | 1        |
| 18      | 410-090-000                | Presse-étoupe métallique 1/4"/ 1/4" Metal cable gland                      | 8        |
| 19      | 20010503                   | Carte de contrôle des vibrations / Vibration control card                  | 1        |
| 20      | SIE<br>6EP33326SB000AY0    | Logo power 24 V/2,5 A  | 1        |
| 21      | SIE<br>6ED10521CC080BA0    | Logo ! 24CE, 8DI(4AI)/4DO, 400 Blocks                                      | 1        |

### 7.1..3 Plan / drawing 30518003-01







| Rep/pos | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---------|----------------------------|--|----------|
| 1       | 10518003-01                | Plaque de base / Base plate  | 1        |
| 2       | 10518003-02                | Structure / Framework  | 2        |
| 3       | 10518003-03                | Carter latéral / Side housing  | 2        |
| 4       | 10518003-04                | Support amortisseur / Bumper Bracket   | 2        |
| 5       | 100-011-325                | Vis M5 X 14 UNI5931 / Screw M5 X 14 UNI5931  | 4        |
| 6       | 100-012-330                | Vis M8 X 25 UNI5931 / Screw M8 X 25 UNI5931  | 4        |
| 7       | 110-011-400                | Vis tête bombée M6x10 / domed head screws M6x10  | 8        |
| 8       | 150-010-150                | Ecrou M8 / Bolt M8   | 4        |
| 9       | 165-012-150                | Vis M8 (Ø8.4xØ17xSp.1.6) / Screw M8 (Ø8.4xØ17xSp.1.6)  | 4        |
| 10      | 501-010-001                | Plot conique M6x18 Ø20 L.24mm DVA.6-20-24-M6-18-55 / Bumper<br>M6x18 Ø20 L.24mm DVA.6-20-24-M6-18-55 | 2        |
| 11      | 502-010-020                | Pied Ø50 M8 L.43mm / Adjustable foot Ø50 M8 L.43mm   | 4        |
| 12      | DRR<br>CDDCU0000027        | Ecrou Marteau 8 M5 7,7x16 / Nut 8 M5 7,7x16 ø4   | 8        |

**7.1..4 Plan / Drawing 30518003-02**





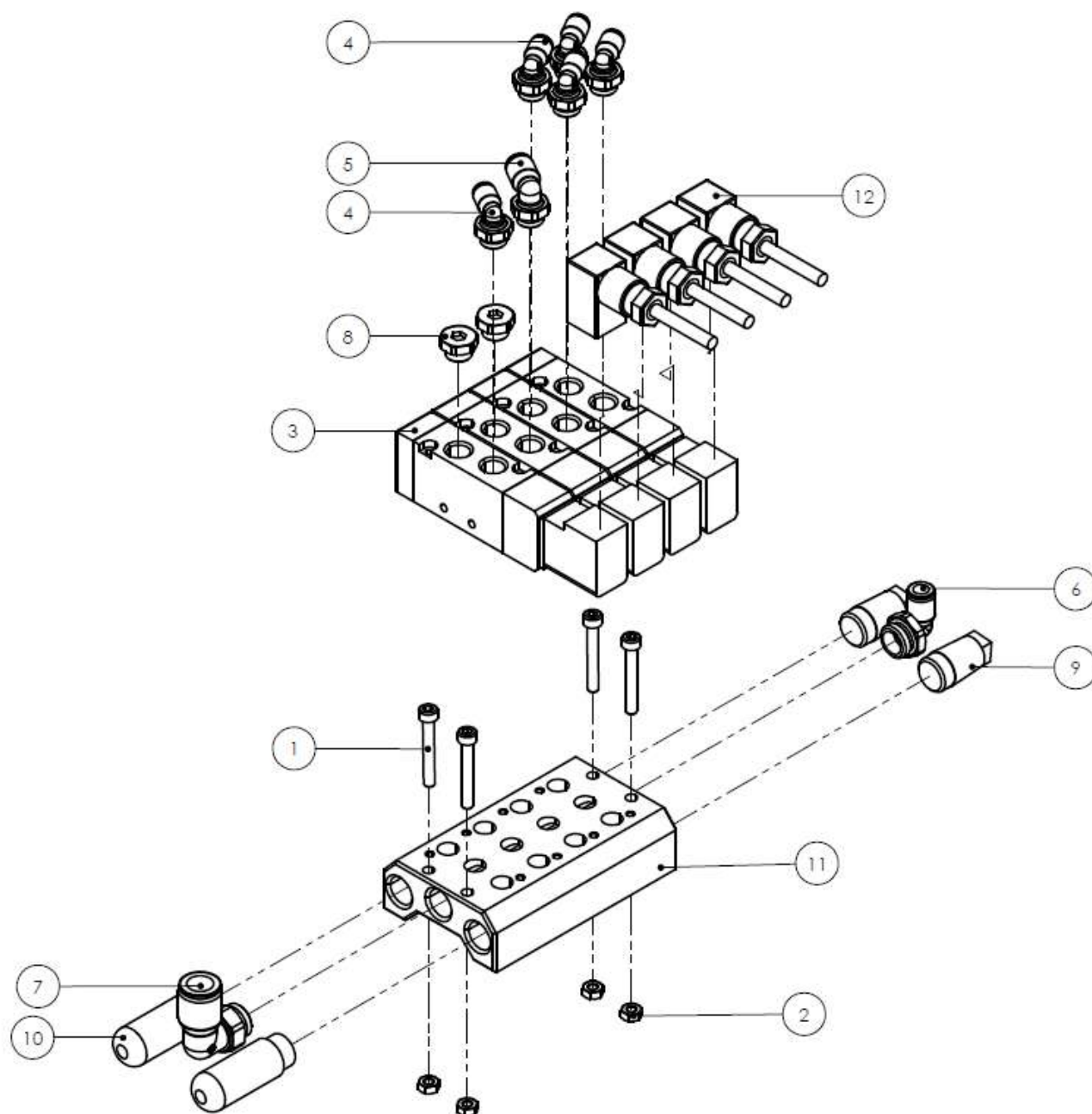
| Rep/pos   | N° pièce / part<br>Numbers | Désignation   | Qté /Qty |
|---|----------------------------|---|----------|
| 1  | SC                         | Cuve / Bowl   | 1        |
| 2   | 10518003-06                | Bloc du contrepoids / Counterweight block   | 1        |
| 3   | 10518003-07                | Rive /Bank  | 1        |
| 4   | 10518003-08                | Plaque de guidage / Guide plate   | 1        |
| 5   | 10518003-09                | Plaque de guidage / Guide plate   | 1        |
| 6  | SC                         | Rive vibrante / Vibrating bank  | 1        |
| 7  | SC                         | Guidage supérieur / Upper containment   | 1        |
| 8  | SC                         | Entretoise / Spacer   | 2        |
| 9   | 10518003-13                | Bloc de fixation du soufflage / Blower mounting block   | 1        |
| 10  | 100-011-210                | Vis TCEI M4 X 8 UNI5931 / screw TCEI M4 X 8 UNI5931   | 2        |
| 11  | 100-011-230                | Vis TCEI UNI 5931 M4x12 / Screw TCEI UNI 5931 M4x12   | 1        |
| 12  | 100-011-260                | Vis TCEI M4 x 25 UNI5931 / Screw TCEI M4 x 25 UNI5931   | 4        |
| 13  | 105-010-200                | Vis tête hexagonale M4 X 6 - UNI 5933 / Hexagon head screw M4 X 6 - UNI 5933  | 6        |
| 14  | 140-011-290                | Goujon à pointe plate M4 X 20 / Flat tip dowel M4 X 20  | 2        |
| 15  | 150-010-110                | Ecrou M4 UNI 5588 / Nut M4 UNI 5588   | 2        |
| 16  | 150-010-150                | Ecrou M8 / Nut M8   | 1        |
| 17  | 165-012-110                | Rondelle M4 (Ø4,3xØ9xSp.0,8) / Washer M4 (Ø4,3xØ9xSp.0,8)   | 4        |
| 18  | 165-012-150                | Rondelle M8 (Ø8,4xØ17xSp.1,6) / Washer M8 (Ø8,4xØ17xSp.1,6)   | 1        |
| 19  | 305-010-031                | Raccord pneumatique G1/8" tube Ø4/ Pneumatic coupling G1/8" tube Ø4   | 2        |
| 20  | 305-050-011                | Régulateur de débit F.F. G1/8" / G1/8" F.F. flow regulator  | 1        |
| 21  | 715-100-000                | BASE VIBRANTE 6000 VIBR. /MIN Ø180 – Ø plateau 205 - H 196mm – rotation horaire / VIBRANT BASE 6000 VIBR /MIN Ø180 - Ø plate 205 - H 196mm - clockwise rotation | 1        |



Pièces personnalisées pour votre application / Customised parts for your application

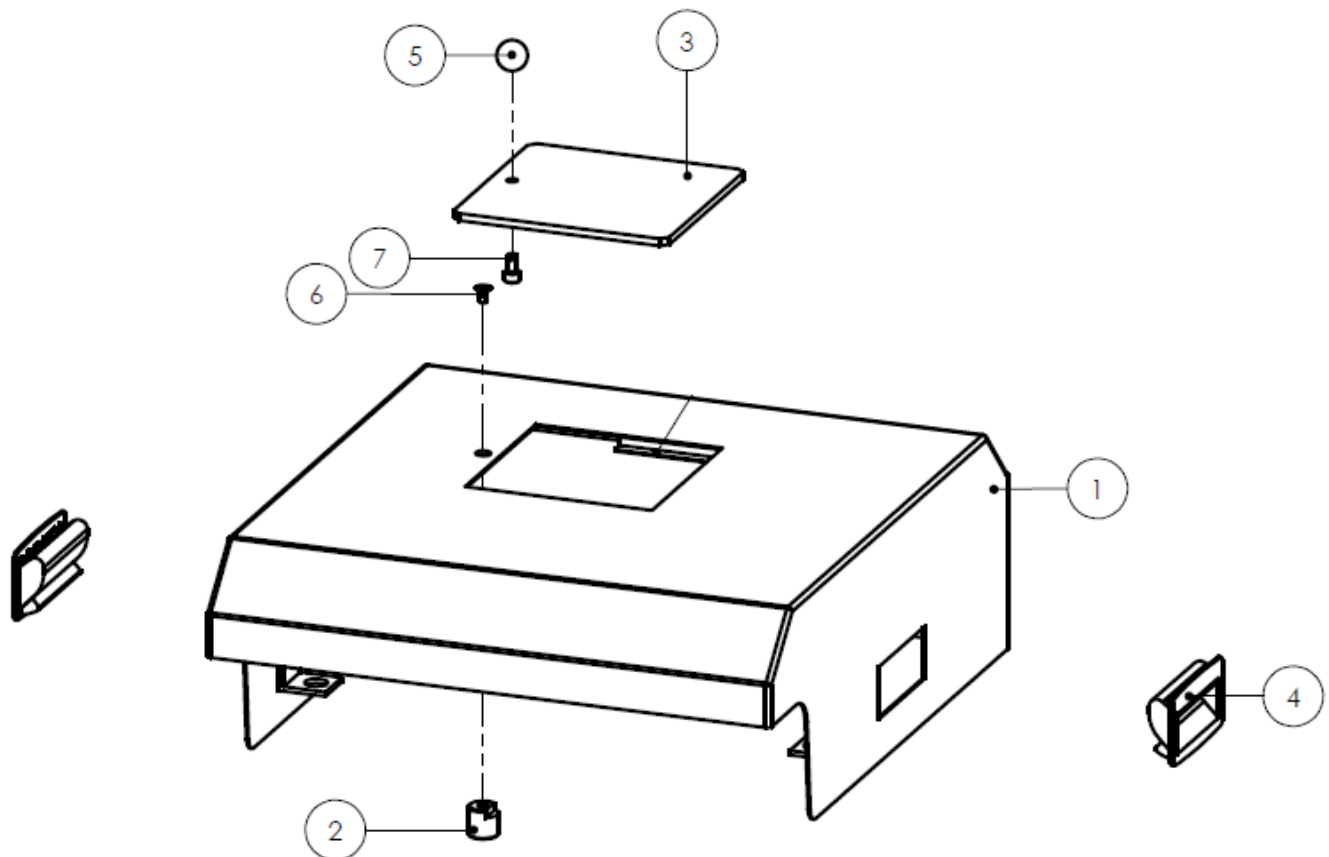
Précisez le repère, le N° de série / Specify the marker and the S/N

**7.1..5 Plan / drawing 30518003-04**



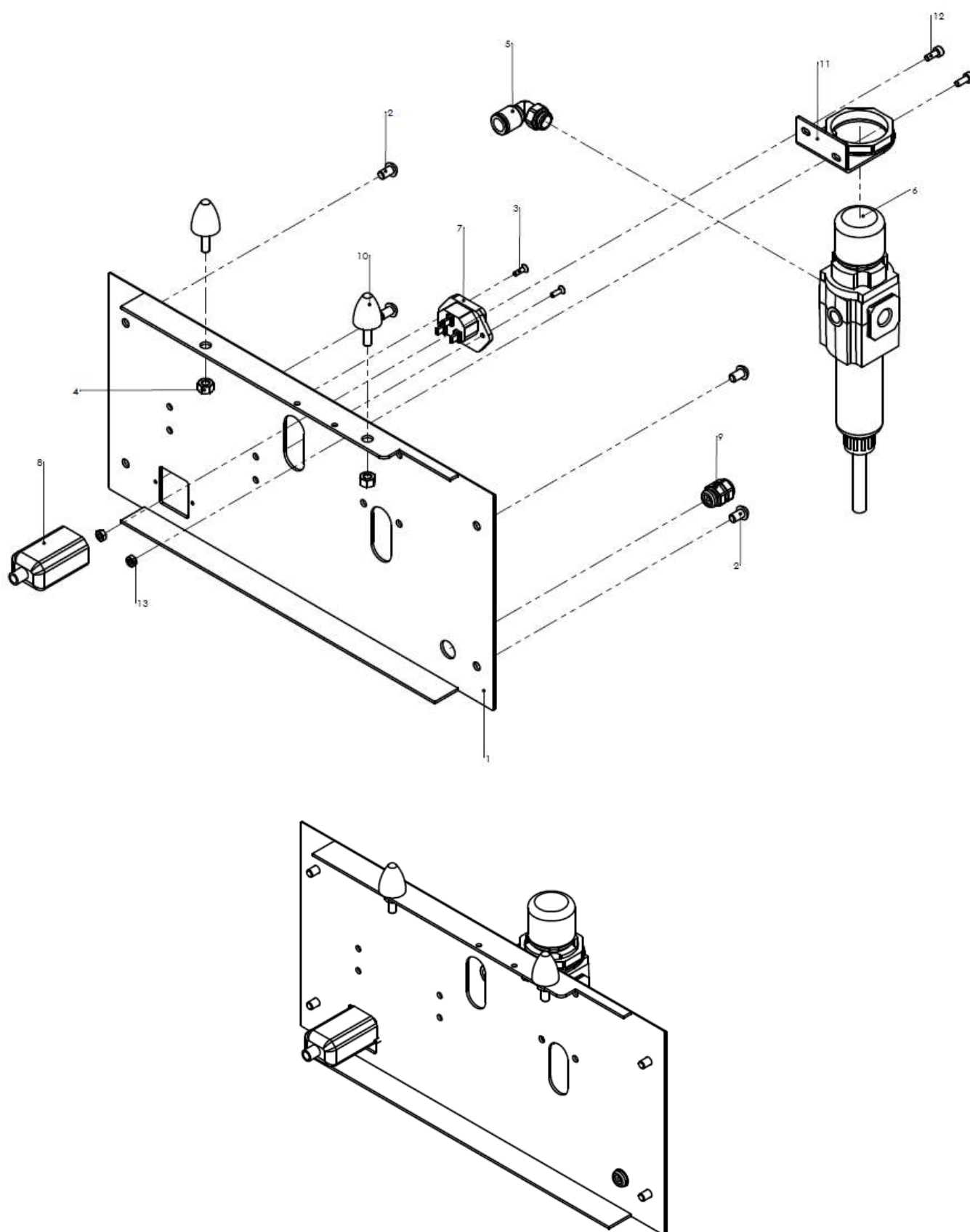
| Rep/pos | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---------|----------------------------|--|----------|
| 1       | 100-011-270                | Vis M4 x 30 UNI5931 / screw M4 x 30 UNI5931  | 4        |
| 2       | 150-010-110                | Ecrou M4 / Nut M4  | 4        |
| 3       | 325-010-010                | Electrovanne 5/2 1/8" MONOST. SERIE V50 24Vdc / Solenoid valve<br>5/2 1/8" MONOST. SERIE V50 24Vdc | 4        |
| 4       | 305-010-002                | Raccord pneumatique G1/8 ø 4 / Pneumatic coupling G1/8 ø 4   | 5        |
| 5       | 305-010-003                | Raccord pneumatique G1/8 ø 6 / Pneumatic coupling G1/8 ø 6   | 1        |
| 6       | 305-010-010                | Raccord pneumatique G1/4 ø 6 / Pneumatic coupling G1/4 ø 6   | 1        |
| 7       | 305-010-038                | Raccord pneumatique G1/4 ø 10/ Pneumatic coupling G1/4 ø 10  | 1        |
| 8       | 305-040-005                | Bouchon G 1/8" / Plug G 1/8"   | 2        |
| 9       | 305-060-004                | Silencieux G1/4 / Silencer G1/4  | 2        |
| 10      | 305-060-006                | Silencieux d'échappement G1/4 / Exhaust silencer G1/4  | 2        |
| 11      | 325-030-018                | Embase 4 positions G1/4 série V50 / 4 positions subbase G1/4<br>series V50                         | 1        |
| 12      | 330-010-009                | Connecteur DIN43650 / Plug DIN43650  | 4        |

**7.1..6 Plan / drawing 30518003-06**



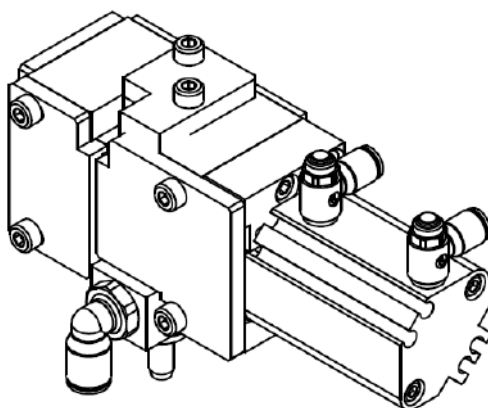
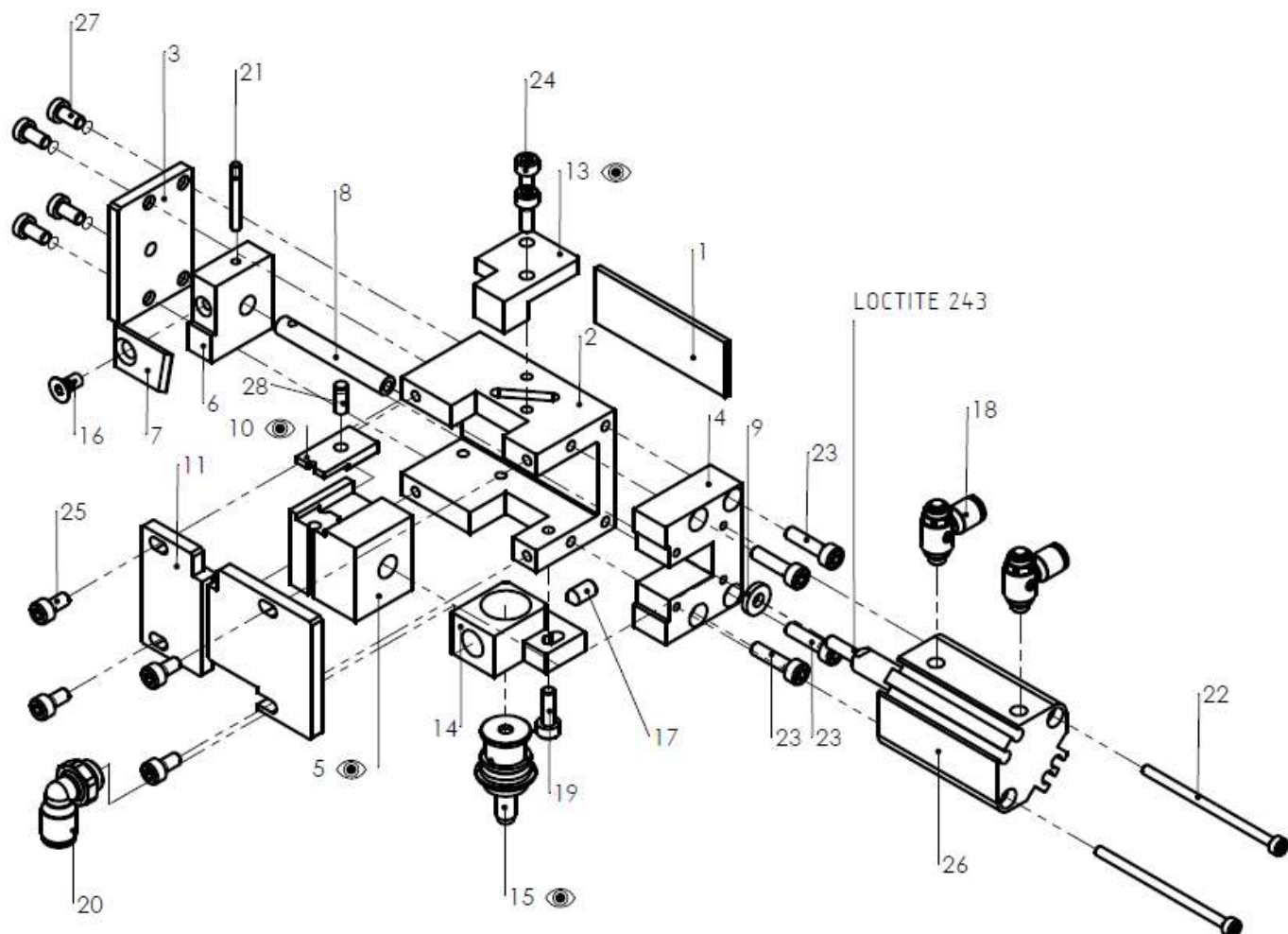
| Rep/pos | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---------|----------------------------|--|----------|
| 1       | 10518003-22                | Carter / Housing   | 1        |
| 2       | 10518003-23                | Bouchon / stopper  | 1        |
| 3       | 10518003-24                | Couvercle / Cover  | 1        |
| 4       | 500-010-000                | Poignée L=90 SERIE EPR.90-PF-C1 / Handle L=90 SERIE EPR.90-PF-C1 | 2        |
| 5       | 500-010-005                | Bouton PL20-M6 / Button PL20-M6                                  | 1        |
| 6       | 105-010-410                | Vis M5 X 10 / Screw M5 X 10                                      | 1        |
| 7       | 100-012-001                | Vis M6 X 12 UNI5931 / Screw M6 X 12 UNI5931                      | 1        |





7.1..7 Plan / Drawing 30518004-02



| Rep/pos | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---------|----------------------------|--|----------|
| 1       | 10518003-21                | Plaque pneumatique / pneumatique plate   | 1        |
| 2       | 110-011-400                | Vis tête bombée M6x10 / domed head screws M6x10  | 4        |
| 3       | 105-010-130                | Vis M3 X 10 - UNI 5933 / Screw M3 X 10 - UNI 5933  | 2        |
| 4       | 150-010-130                | Ecrou M6 UNI 5588 / Nut M6 UNI 5588  | 2        |
| 5       | 305-010-038                | Raccord pneumatique G1/4" Ø10 / Pneumatic coupling G1/4 ø 10   | 1        |
| 6       | 320-010-008                | Filtre régulateur 1/4" SERIE EXCELON / Filter regulator 1/4" SERIE<br>EXCELON                        | 1        |
| 7       | 410-050-000                | Prise simple fusible / Electric plug   | 1        |
| 8       | 410-050-001                | Couvercle isolant / insulated cover  | 1        |
| 9       | 410-090-000                | Traversée de cloison pneumatique ¼ / Pneumatic wall feed-through<br>1/4                              | 1        |
| 10      | 501-010-001                | Plot conique M6x18 Ø20 L.24mm DVA.6-20-24-M6-18-55 / Bumper<br>M6x18 Ø20 L.24mm DVA.6-20-24-M6-18-55 | 2        |
| 11      | 320-020-014                | Equerre filtre régulateur série Excelon / filter regulator Bracket<br>Excelon serie                  | 1        |
| 12      | 100-011-220                | Vis M4 x 10 UNI5931 / Screw M4 x 10 UNI5931  | 2        |
| 13      | 150-010-110                | Ecrou M4 UNI 5588 / Nut M4 UNI 5588  | 2        |

## 7.2 Selector



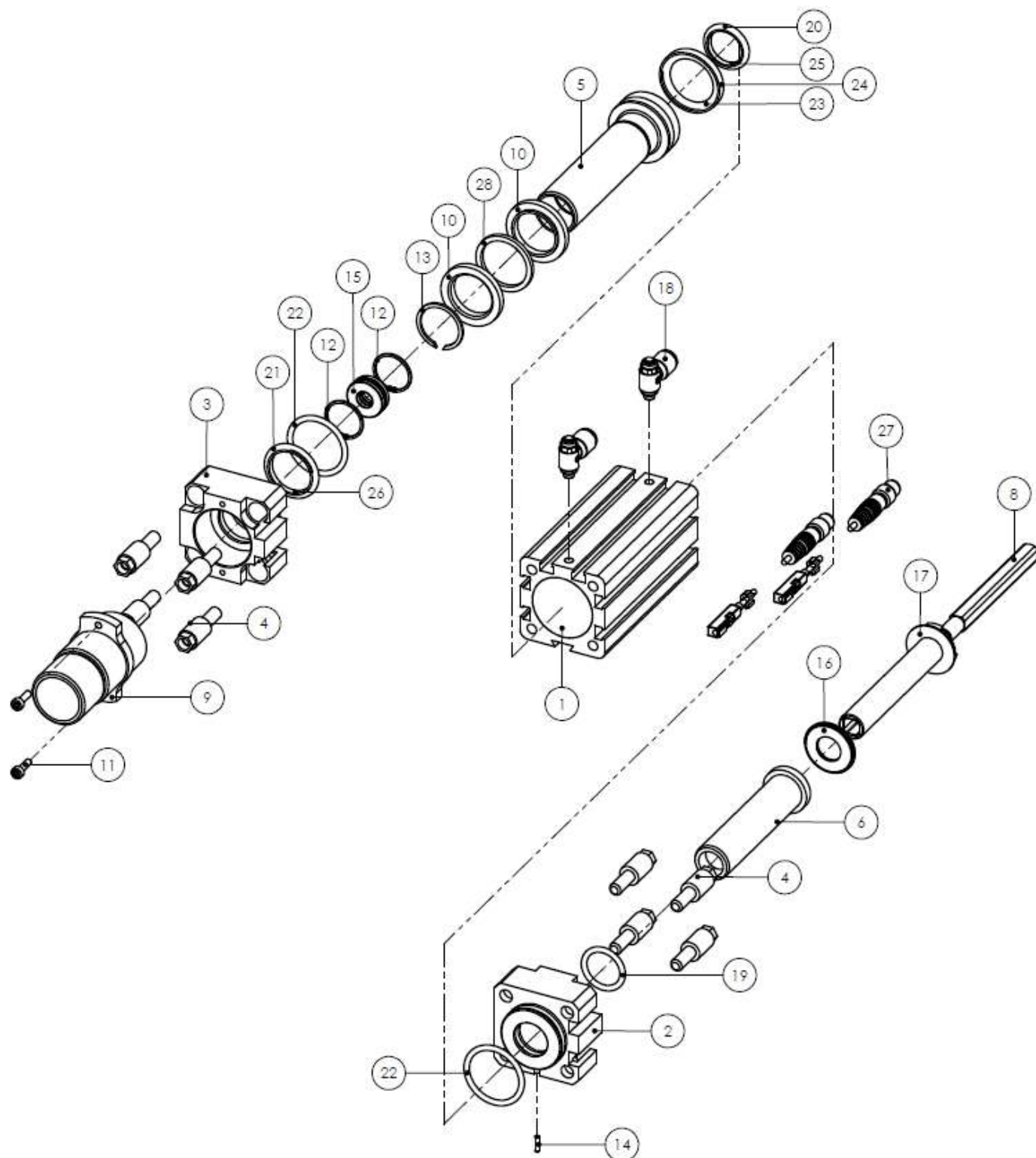
| Rep/pos   | N° pièce / part<br>Numbers | Désignation  | Qté /Qty |
|---|----------------------------|--|----------|
| 1   | 10214004-15                | Plaque / Plate   | 1        |
| 2   | 10214004-01                | Corps / Body   | 1        |
| 3   | 10214004-02                | Fond / Bottom  | 1        |
| 4   | 10214004-03                | Fond pour Vérin / Bottom for cylinder  | 1        |
| 5    | SC                         | Tiroir personnalisé / Customized drawer  | 1        |
| 6   | 10214004-05                | Insert porte lame / Insert door blade  | 1        |
| 7   | 10214004-06                | Lame / Blade   | 1        |
| 8   | 10214004-07                | Tirant cylindrique / Cylindrical tie bar                                       | 1        |
| 9   | 10214004-08                | Rondelle / Washer  | 1        |
| 10C  | SC                         | Came personnalisée / Customised cam  | 1        |
| 11  | 10214004-09                | Cloison Sx / Partition wall Sx   | 1        |
| 12  | 10214004-10                | Cloison Dx / Partition wall Dx   | 1        |
| 13   | SC                         | Couvercle personnalisé / Customized cover                                      | 1        |
| 14  | 10214004-14                | Support tube / Hose support  | 1        |
| 15   | SC                         | Tube personnalisé / Customized hose  | 1        |
| 16  | 105-010-210                | Vis M4x8 UNI 5933 / Screw M4x8 UNI 5933  | 1        |
| 17  | 140-211-330                | Vis pointeau conique M5 X 10 UNI 5927 / Taper needle screw M5 X<br>10 UNI 5927 | 1        |
| 18  | 305-050-001                | Régulateur de débit M5 Ø4 / Flow control valve M5 Ø4                           | 2        |
| 19  | 100-011-230                | Vis UNI 5931 M4x12 / Screw UNI 5931 BRUNITA M4x12                              | 1        |
| 20  | 305-010-003                | Raccord pneumatique G1/8" Ø6 / Pneumatic coupling G1/8" Ø6                     | 1        |
| 21  | 210-026-030                | Goupille ø 2,5 X 23,8 / Pin ø 2,5 X 23,8                                       | 1        |
| 22  | 100-011-185                | Vis M3 X 55 UNI5931 / Screw M3 X 55 UNI5931                                    | 2        |
| 23  | 100-011-240                | Vis M4 x 16 UNI5931 / Screw M4 x 16 UNI5931                                    | 4        |
| 24  | 100-011-220                | Vis M4 x 10 UNI5931 / Screw M4 x 10 UNI5931                                    | 2        |
| 25  | 100-011-210                | Vis M4 X 8 UNI5931 / Screw M4 X 8 UNI5931                                      | 4        |
| 26  | 300-060-010                | Vérin / Cylinder   | 1        |
| 27  | 100-110-210                | Vis M4x8 UNI 9327 / Screw M4x8 UNI 9327  | 4        |
| 28  | 180-311-200                | Goupille cylindrique ø 4 X 10 / Pin ø 4 X 10                                   | 1        |
| 29  | 140-011-270                | Vis pointeau M4X 16 UNI 5923 / Needle screw M4X 16 UNI 5923                    | 1        |



Pièces personnalisées pour votre application / Customised parts for your application  
Précisez le repère, le N° de série / Specify the marker and the S/N.



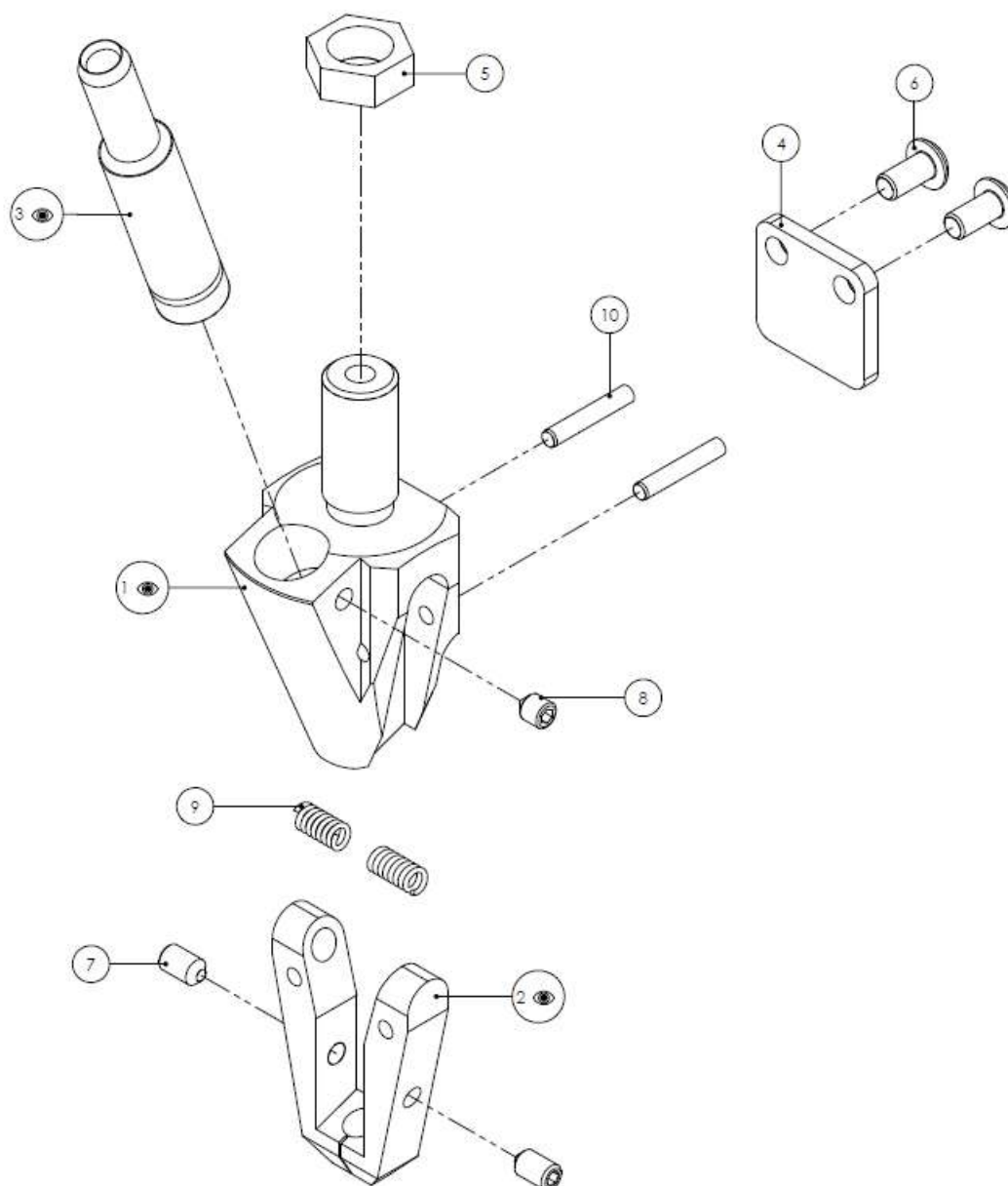
### 7.3 Auto-Advanced unit AA60 – AA100







Plan / drawing 50918010-000

| Rep/pos | N° pièce / part<br>Numbers | Désignation   | Qté /Qty |
|---------|----------------------------|---|----------|
| 1       | 10918010-01                | Chambre du piston 60mm / Cylinder chamber c.sa 60mm                                 | 1        |
| 2       | 10918006-02                | Chape arrière / Back panel  | 1        |
| 3       | 10918006-03                | Chape avant / Front panel   | 1        |
| 4       | 10918006-04                | Insert / Insert   | 8        |
| 5       | 10918010-05                | Piston / Cylinder   | 1        |
| 6       | 10918010-06                | Douille / Sleeve  | 1        |
| 7       | 10918010-07                | Entraîneur de palier de butée / Thrust bearing driver                               | 1        |
| 8       | 10918010-08                | Axe / Axis  | 1        |
| 9       | 10918006-09                | Manchon / Sleeve  | 1        |
| 10      | 10918006-10                | Aimants / Magnets   | 2        |
| 11      | 100-011-130                | Vis M3 X 10 UNI 5931 / Screw M3 X 10 UNI 5931                                       | 2        |
| 12      | 170-016-019                | Circlips JV-19 / Snap ring JV-19  | 2        |
| 13      | 170-017-022                | Anneau pour arbre SW-22 / Shaft ring SW-22  | 1        |
| 14      | 180-010-230                | Goupille ø 2 X 8 / Pin ø 2 X 8  | 1        |
| 15      | 210-017-010                | Butée à bille BA 8 - ø8 - ø19 - 7 / Ball end stop BA 8 - ø8 - ø19 - 7               | 1        |
| 16      | 210-019-001                | Butée à aiguille AX 1326 / Needle roller shutter AX 1326                            | 1        |
| 17      | 210-019-002                | Roulement axial CP-1326 / Axial rolling CP-1326                                     | 1        |
| 18      | 305-050-015                | Régulateur de débit M5 ø6 / Flow control valve M5 ø6                                | 2        |
| 19      | 310-010-039                | Joint torique OR 123 - ø2,62- ø i - 17,86 / O ring OR 123 - ø2,62- ø i - 17,86      | 1        |
| 20      | 310-010-040                | Joint torique OR 3075 - ø 2,62 - ø i 18,72 / O ring OR 3075 - ø 2,62 - ø i 18,72    | 1        |
| 21      | 310-010-045                | Joint torique OR 3093 - ø 2,62 - ø i 23,47/ O ring OR 3093 - ø 2,62 - ø i 23,47     | 1        |
| 22      | 310-010-048                | Joint torique OR 3106 - ø 2,62 - øi 26,65/ O ring OR 3106 - ø 2,62 - øi 26,65       | 2        |
| 23      | 310-010-080                | Joint torique OR 4093 - ø 3,53 - - ø i 23,40/ O ring OR 4093 - ø 3,53 - - ø i 23,40 | 1        |
| 24      | 310-020-015                | Joint LRP L4 ø 32 - - LRP 4093 - 32 / Seal LRP L4 ø 32 - - LRP 4093 - 32            | 1        |
| 25      | 310-030-008                | Joint LRC L 3 - ø 16 - LRC 3075/18 / Seal LRC L 3 - ø 16 - LRC 3075/18              | 1        |
| 26      | 310-030-010                | Joint LRC L3 - ø 22 - LRC 3093/22 / Seal LRC L3 - ø 22 - LRC 3093/22                | 1        |
| 27      | 405-050-038                | Détecteur FESTO, 24Vdc PNP NO / Sensor FESTO, 24Vdc PNP NO                          | 2        |
| 28      | 750-030-001                | Anneau magnétique ø29,5xø24,5xSp.2mm / Magnetic ring ø29,5xø24,5xSp.2mm             | 1        |

## 7.4 Nozzle



| Rep/pos   | N° pièce / part<br>Numbers | Désignation   | Qté /Qty |
|---|----------------------------|---|----------|
| 1  | SC                         | Corps personnalisé / Customized body                        | 1        |
| 2  | SC                         | Mâchoires personnalisées / Customized jaws                  | 1        |
| 3  | SC                         | Tube d'entrée personnalisé / Customised inlet tube          | 1        |
| 4   | 10808003-05                | Plaque de fermeture / Control plate                         | 1        |
| 5   | 10808003-06                | Ecrou / Nut   | 1        |
| 6   | 110-010-100                | Vis tête bombée M3 x 6 / Button head screw M3 x 6           | 2        |
| 7   | 140-011-120                | Vis pointeau M3x5 / Needle screw M3x5                       | 2        |
| 8   | 140-211-110                | Vis pointeau M3 X 4 UNI 5927 / Needle screw M3 X 4 UNI 5927 | 1        |
| 9   | 175-010-020                | Resort / Spring   | 2        |
| 10  | 180-310-330                | Goupille cylindrique ø 2 X 12 / Cylindrical pin ø 2 X 12    | 2        |

 Pièces personnalisées pour votre application / Customised parts for your application  
Précisez le repère, le N° de série / Specify the marker and the S/N.

## 8 STANDARDS

### 8.1 Manufacturer's contact details

**Maker :** DOGA  
**Address :** ZA Pariwest  
8 avenue Gutenberg CS 50510  
78317 MAUREPAS CEDEX - FRANCE

### 8.2 Labelling

The regulatory markings are shown on the nameplate.

### 8.3 Transportation and storage



#### Information

Your equipment can be damaged if you transport or store it improperly.  
Observe the information on transport and storage of your equipment.

#### 8.3..1 Transportation

Use a suitable container for transporting the equipment to protect it from external influences.

Please observe the following instructions before each transport :

- Switch off the equipment.
- Unplug the power cord.

#### 8.3..2 Storage

Please observe the following instructions before each storage :

- Turn off the appliance.
- Unplug the power cord.
- Clean the appliance according to the instructions in the Maintenance chapter.
- Store it in a suitable container to protect it from dust and direct sunlight.
- Store it in a dry place at an ambient temperature below 40°C.

## 8.4 WEEE recycling and end of service life



The symbol showing a crossed out trash container, when placed on an electric or electronic device, means that it should not be disposed of with household trash.

### 7.4.1 Collection and recycling scheme

In compliance with the French Environmental Code covering professional Waste Electric and Electronic Equipment (WEEE) (art.R543-195 et seq.), DOGA is a member of ECOSYSTEM, an eco-organization approved by public authorities under the conditions defined by art R543-197.

You can also benefit from collection and recycling system proposed by ECOSYSTEM for WEEE originating from the professional equipment marketed by DOGA. Further information on [www.ecosystem.eco](http://www.ecosystem.eco).

### 7.4.2 Collection points

Free collection points for used electric or electronic devices are available near your company. Your local authorities can provide their addresses.



