Table of contents

ORIGINAL ENGLISH VERSION

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

1 Safety Instructions

1.1 PYTHON Laser safety

1.1.1 Safety Policy

The primary objective of the PYTHON laser safety program is to ensure that no laser radiation in excess of the maximum permissible exposure (MPE) limit reaches the human eye or skin.

The program is also designed to ensure that adequate protection against collateral hazards is provided. These collateral hazards include, but are not limited to, the risk of electrical shock, fire hazard from a beam, and the emission particles associated with the operation of the laser or laser system.

This manual shall be available for reference by all laser sorter users at the facility. It is the responsibility of the Laser Safety Officer to maintain this manual for reference purposes. All people using lasers at PYTHON laser sorter premises shall be familiar and comply with all requirements of this manual.

FIGURE 1.1: PICTO – LASER RADIATION

1.1.2 What is a Laser

LASER is an acronym which stands for "light amplification by stimulated emission of radiation". The term "radiation" in this context refers to an energy transfer, energy moves from one location to another by conduction, convection, and radiation. Laser light is artificial generated light by a non-conventional source.

The laser produces an intense, highly directional beam of light; its energy is amplified to high intensity by an atomic process called stimulated emission. The colour of laser light is normally expressed in terms of laser's wavelength. The most common unit used in expressing laser's wavelength is a nanometre (nm). The specific properties of the laser light, the coherency properties and the intense of the light beam, can pose safety hazards.

The safe use of lasers requires that all users and everyone near the laser equipment are aware of the potential dangers and hazards. By strictly following all described operation, maintains and service procedures, the users are guided in a safe operation of the laser equipment. Any deviation from the procedures, no described adaptations to the machine or wrong use of the machine may result in hazardous radiation exposure.

Direct eye contact with the output laser beam will cause serious damage to the retina of the eye!
The damage to the retina is irreparable and can cause blindness!
Looking into a laser beam must be avoided at all times for any type of laser, no matter how low the output power!

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

1.1.3 Laser classification

Lasers are classified by wavelength and maximum output power. The lasers used in the PYTHON laser sorter have wavelengths in the UV, Visual and IR spectrum, with a total optical power < 500 mW. The PYTHON laser sorter is classified as a Class IIIB.

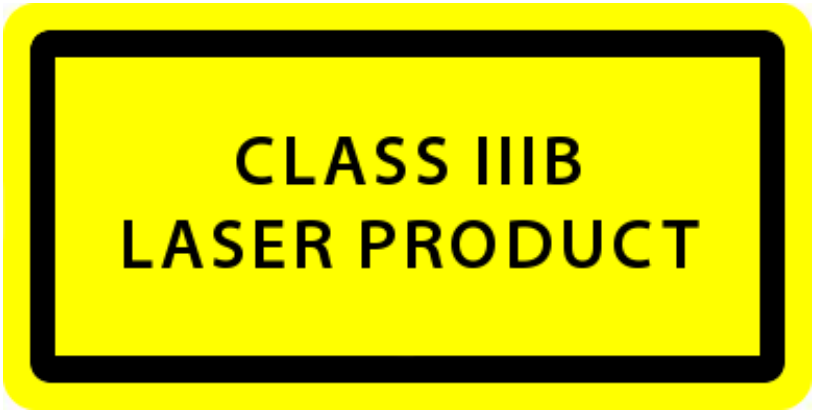


FIGURE 1.2: PICTO – LASER CLASS IIIB

1.1.4 Prevention

The laser beam can ignite volatile substances such as, gasoline, alcohol and other flammable solvents. The laser beam can also damage light sensitive sensors in equipment such as video camera, digital photo cameras, photo diodes and others. Specular reflections and diffuse reflections can also cause significant damage. For these reasons and additional ones, the user and everyone near the laser sorter is advised to follow the precautions stated below.

- Read and follow all safety instructions and precautions described in the PYTHON manual in order to maintain a safe operation of the VISYS laser sorter.
- Looking directly into the laser beam must be avoided at all times for any type of laser. Also avoid looking into the scattered laser beam or into the reflection of the laser beam by a reflective surface.
- Avoid reflecting the laser beam back into to the laser sorter.
- Looking directly into viewport must be avoided at all times.
- People with a sensitive skin are advised to avoid direct skin contact with the laser beam.
- Extreme caution is called for using chemical agents or solvents in the area close to the PYTHON laser sorter.
- Access to the inside of the optical box is strictly restricted. Only Visys certified optical service engineers with a by Visys written authorization may open the optical box to inspect and service the laser optics! The unauthorized opening of the optical box is considered a serious breach of security and safety regulations.
- Advise all those using the laser product of the safety instructions. If there are questions or issues about the safety or correct operation of the laser sorter, please contact first the by Visys trained personnel or the Visys helpdesk before proceeding in the operation of the laser sorter.
- Visys advises to operate the laser sorter in a controlled and restricted area by only trained personnel or personnel who is familiar with laser safety concerns.
- Laser safety goggles can be used as protection tool but need to be used with care. The safety goggles block certain wavelengths but other wavelengths are still dangerous. Therefore, proceed with extreme caution even when safety goggles are used.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

1.1.5 Laser Safety Officer (LSO)

The laser safety officer (LSO) is a person specially trained and informed by Visys about the laser hazards and safety protocols. The LSO has the authority to monitor and enforce the control of laser hazards and effect the knowledgeable evaluation and control of laser hazards. The LSO administers the overall laser safety program where the duties include, but are not limited to;

- Confirming the classification of lasers.
- Assuring that the proper control measures are in place.
- Creating, evaluating and approving standard operating procedures (SOP's).
- Recommending and/or approving eye wear and other protective equipment.
- Specifying appropriate signs and labels.
- Approving overall facility controls.
- Providing the proper laser safety training as needed.
- Assuring medical surveillance as needed.

The LSO should receive detailed training including:

- Laser fundamentals
- Laser bio effects
- Exposure limits
- Classifications of laser equipment
- Laser protective wear
- Area controls
- Medical surveillance requirements.
- Etc….

In many industrial situations, the LSO functions will be a part-time activity, depending on the number of lasers and general laser activity. The individual is often in the corporate industrial hygiene department or may be a laser engineer with safety responsibility.

1.1.6 Laser radiation emission indicator

FIGURE 1.3: CONTROL LIGHT TOWER (CLT)

Each VISYS laser sorter is equipped with a Control Light Tower (CLT), giving the operators clear information about the status of the machine. Please find the specific function of each light in the PYTHON manual. In this paragraph the specific laser radiation emission indicator is explained.

The laser radiation emission indicator on the CLT is duplicated on the control panel. For the specific location of the CLT on the laser sorter and the indicator on the control panel, see picture in preface A.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

1.1.6.1 Procedure

1.	**Flashing white light:**	When the lasers are powered on, the white light will flash frequently for 20 seconds. In this time period, the danger zones need to be cleared! After 20 seconds the laser will be activated.
2.	**Continuous white light:**	When the white light is continuously burning it means that the lasers are powered on and active! In other words, at this moment at least one laser is operational. This means that there is a potential danger (even when no laser light is visible by the human eye).
3.	**Continuous green + white light:**	The laser sorter is ready to sort, which means that the laser light beam is brought outside the optical box. All safety precautions need to be fulfilled.

In case of problems with the CLT, please contact VISYS Customer Service Department. Refer to Chapter 15 "Visys World Wide" for detailed contact information.

When the white light is on, at least 1 laser is active and working! All safety precautions need to be respected.

1.1.7 Safety system

1.1.7.1 Key control

A computer password is applicable to prevent unauthorized operation.

1.1.7.2 Interlock system

In case of an unauthorized access to the optical box, an automatic system will stop the lasers. Interlock systems are installed in the PYTHON SMART LASER SORTER. Defeating these interlock systems can result in hazardous radiation exposure. Only by Visys authorization and only by Visys certificated service engineer, the interlock may be defeated.

1.1.7.3 Beam shutter

In case the scan speed of the laser sorter is reduced or stops under certain specified conditions, the laser beam will be automatic blocked.

This block system will also be activated whenever the power of the laser sorter is down.

In case the beam shutter is not released, please contact VISYS Customer Service Department.

1.1.8 Laser incidents

In the event of serious injury first contact the local emergency services, provide as much as possible information to the emergency services;

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

Be safe, not sorry!!!

Legal disclaimer

The information contained in this Laser Safety is meant to be used as a first introduction and general guidance on safety matters while using lasers and laser equipment. Visys will not be liable to the completeness and the accuracy of the information provided in this 'Laser Safety Information' brochure. In no event will Visys be liable for personal injuries, direct, special, incidental, consequential or damages including, without limitation, damages for loss of business profits or other pecuniary loss arising directly or indirectly from the use of or reliance on information provided in this document. Under the CE regulations the application and impact of laws and directives can vary depending on the country of destination.

1.2 PYTHON Electrical safety

1.2.1 Electrical safety

The PYTHON laser sorter uses AC and DC voltages. In the technical datasheet, one can find the power and electrical specifications for the laser sorter.

Service should only be performed by Visys service engineers or certified service engineers which are especially trained by Visys.

Please follow always the directions and safety procedures when handling the electrical installation.

1.2.2 Electrical safety procedure

During maintenance and service of the electrical installation, when repairing or adapting the electrical installation, all power to the laser sorter and control unit should be cut, except to the main power switch

FIGURE 1.4: LOCK OUT POWER BEFORE SERVICING THE MACHINE

In order to ensure the safety of the maintenance and service personnel, the power should be cut by pressing the Emergency button. After the emergency button is activated the main power switch needs to be put in the OFF position and locked. Refer to Figure 1.4

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

FIGURE 1.5: PICTO – LOCK OUT SWITCHES BEFORE WORKING ON EQUIPMENT

1.2.3 Power safety procedure

When installing the PYTHON laser sorter or when replacing the main power switch installation, ALL power to the installation, including the main power switch, must be cut. This is a safety procedure to ensure the safety of the maintenance and service personnel.

In order to accomplish this, all power connections to the laser sorter and related machinery should be cut, either by use of circuit breakers or by removing the appropriate plugs.

To be absolute sure, Visys advises to double check the electrical condition with a voltmeter.

1.3 PYTHON Laser Sorter Safety Labels

Label n°	*Label*	*Message*	*Location*
1		Test report Nr and date when this report is filed. In accordance with FDA 21, CFR 1010.2, 1010.3, 1040.10 IEC 60825-1	Side cabinet base frame
2		Machine type, Serial Nr, Manufacturing date, Electricity, Air, Environment	Side cabinet base frame
3		Customer Service Department Contact Details, Hotline, Fax, E-mail	On top of Control Cabinet

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

Label n°	*Label*	*Message*	*Location*
4		Avoid direct exposure to eye. Laser radiation may cause damage.	On the control unit
5		Before working on the equipment, turn off the switch and lock it	Near the main switch on the control unit
6		Cabinets must stay closed, especially when cleaning with water.	On the control unit + side cabinet base frame
7		Avoid direct exposure to eye. Laser radiation may cause damage.	On the optical boxes (4x)
8		Caution: moving parts	On top of side cabinet base frame + backside near drums
9		Caution: electric shocks	On the control unit
10		Caution: laser radiation	Both sides of the optical boxes (4x)
11		Warning: when the lights of the control tower are on, the lasers are active. Laser radiation is possible	Both sides of the optical boxes (4x) + on the control panel
12		Warning: No welding is allowed on or near this equipment	Both sides of the optical boxes (3x) + on the control panel
13		Warning: Do not use high pressure water lance to clean the this cabinet	Both sides of the optical boxes (3x) + on the control panel

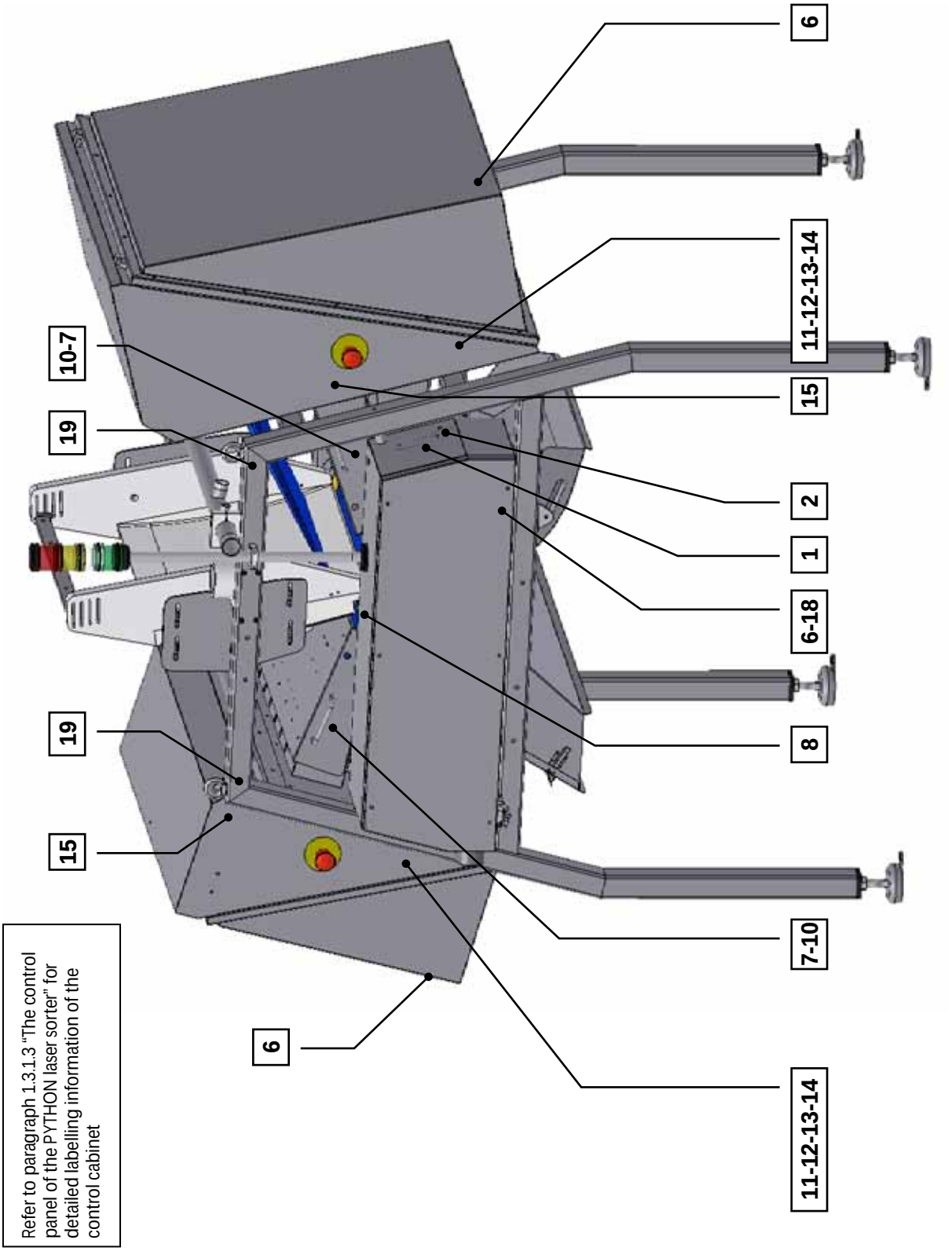
Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

Label n°	*Label*	*Message*	*Location*
14		Warning: Do not step on the equipment	Both sides of the optical boxes (3x) + on the control panel
15		Avoid direct exposure to eye. Laser radiation may cause damage.	Both sides of the optical boxes (4x)
16		Incoming water connection	Backside of the control unit
17		Outgoing water connection	Backside of the control unit
18		Wearing of hearing protection is required	On the control unit + side cabinet base frame
19		Lift the unit with the proper lifting tools. Be sure that the lifting equipment can lift over 1000kg (2200lb)	Lifting rings (4x)

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

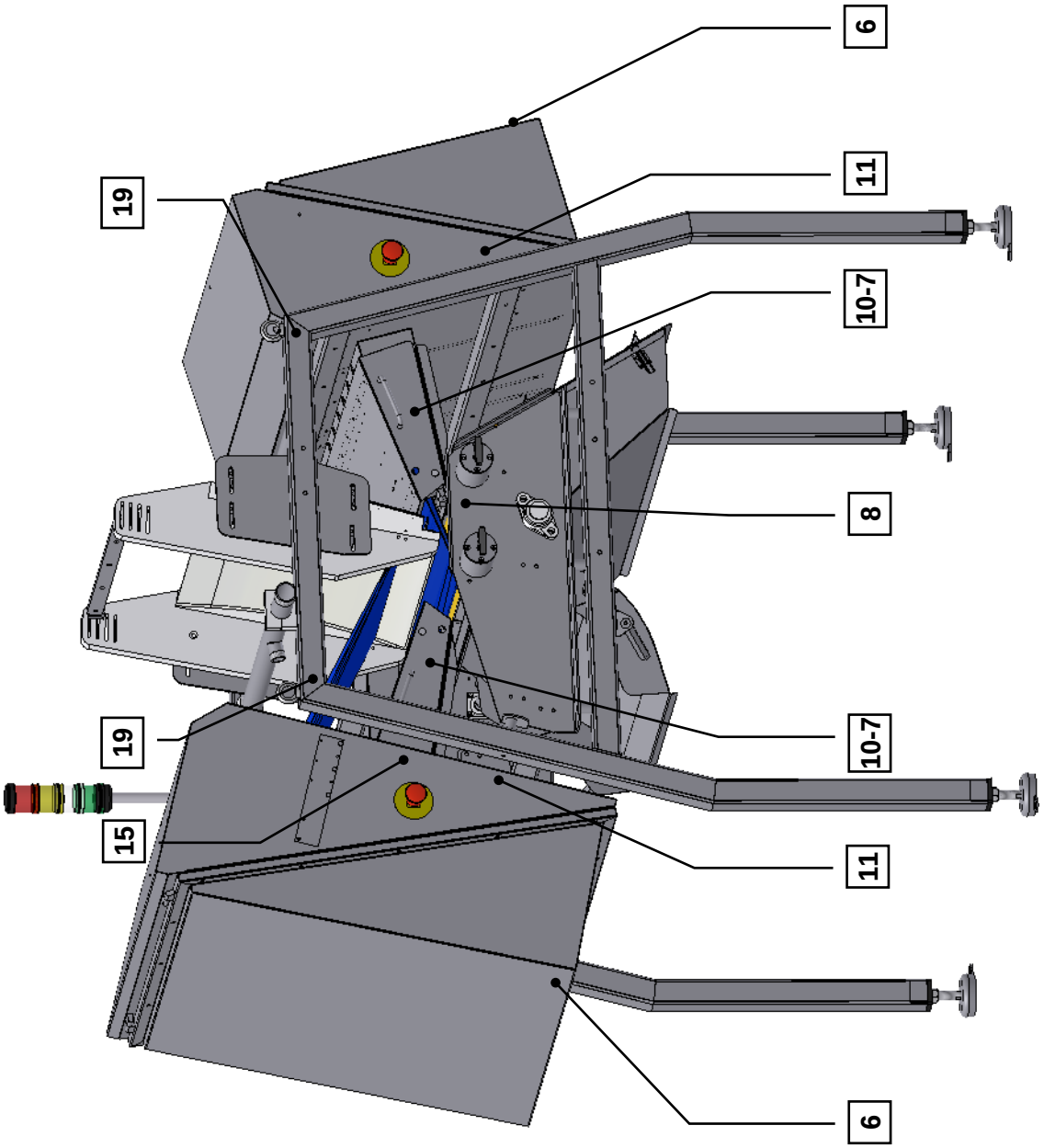
1.3.1 Position of the labels on the PYTHON laser sorter

1.3.1.1 The front of the PYTHON laser sorter



Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

1.3.1.2 The rear of the PYTHON laser sorter



service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

1.3.1.3 The control panel of the PYTHON laser sorter

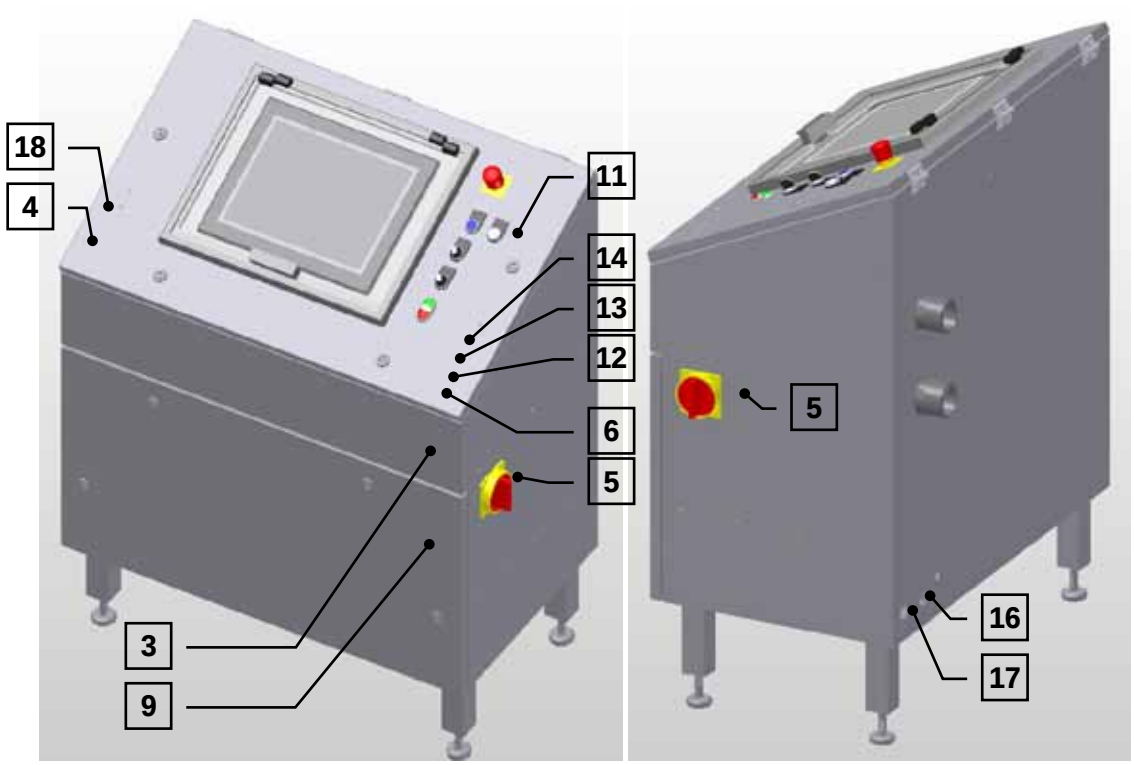


FIGURE 1.6: CONTROL PANEL – VISYS PYTHON

1.4 Responsibility and Disclaimer

If not otherwise agreed in writing, the following rules apply to claim warranty:

- No changes to the electrical wiring can be done without written permission of the vendor.
- No mechanical adaptations can be done without written permission of the vendor.
- No electronic adaptations can be done without written permission of the vendor.
- All cleaning detergents have to be approved in writing by the vendor.
- The machine cannot be installed in corrosive environments.
- User is at all times responsible for the quality of water, compressed air and electricity.
- Components damaged by over-voltage are not covered by warranty.
- Environmental temperature has to be within the limits described in the technical annex attached to the contract or if different it must be specified at the moment of the order.
- No welding may be done on or near the machine.
- If something has to be mounted on the machine, clamps have to be used instead of fixing holes or welding.
- To claim warranty the maintenance program, essential maintenance tasks, under Weekly, Monthly, Yearly and Preventive Maintenance must be applied to the laser sorter.

Visys cannot be held responsible for unsafe situations, accidents, failures or damages which are caused by disregard for warnings and prescriptions as indicated in this manual.

- Optical cabinets may not be opened without explicit written permission of the vendor.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

- The PYTHON can only be used for the purpose it has been sold for as described in the contract.
- The vendor cannot be held responsible for failures caused by the use of other spare parts than those approved by the vendor.
- The vendor cannot be held responsible for safety hazards caused by the purchaser as a result of removing or adapting the safety circuits and/or components.
- A distinction is being made between normal daily use (operator), normal maintenance and service. This distinction was made because of the different requirements to be met by service personnel, maintenance personnel or operators.

1.4.1 Safety measures

Installation, operation and maintenance of the VISYS equipment should only be carried out by trained personnel. Repair executed by unqualified personnel may cause damage to the equipment which can result in safety hazards and loss of warranty. Potential dangerous situations are marked with danger symbols (Refer to the User Manual).

It is also essential that both operating and servicing personnel follow the safety measures in this manual.

Good use of a logbook contributes to a safe operation of the VISYS Python 680 Smart Laser Sorter.

Always log observed irregularities, repairs, system modifications and other observations that might have an impact on operation and safety of the operator.

For safety reasons the system cannot be restarted by resetting the emergency stop switch alone. Restart can only be achieved by subsequent operation of the "RESET" button.

All covers and other protective devices may only be opened or removed by authorized or qualified personnel. First the VISYS equipment must be turned off and secured against reactivation.

For the protection of the operating personnel, safety switches are installed on tactical places on the sorter, all of which trigger EMERGENCY STOP.

All safety devices must be functional at all times! Damaged protective devices or covers must be repaired or replaced immediately! When safety components are replaced, the protective devices are to be properly attached and tested by the operator.

Any manipulation of the safety devices endangers the operating personnel.

1.5 Determination of the limits of the machine

1.5.1 Intended use

The Python Smart Laser Sorter must be used to eliminate foreign materials like wood, stones, sticks, glass, plastics, etc…(or customer specific foreign materials) from an incoming product stream.

The infeed shaker spreads out the product over the complete infeed width of the machine and moves it towards the infeed chute. As the product reaches the end of the infeed shaker it will start its fall down where it is guided by the chute to optimally present the product to the front and/or rear inspection unit. While the product stream has just left the infeed chute it is inspected from one or both sides by lasers. Through the Graphical User Interface (GUI), the operator can set the sorting parameters which are processed by the electronic sorting platform located in the inspection unit(s). When the sorting algorithm has traced and located a defect it activates one or more of the airguns. The airgun(s) removes the desired defect from the incoming product stream and directs it to the reject area. Good product continues its way and ends up at the accept area.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

1.5.2 Limitations of intended use

The unit is not a domestic appliance and should only be used in an industrial environment. Never operate this unit in a potentially explosive atmosphere.

1.5.3 Reasonably foreseeable misuse

It is not allowed to insert product/materials that are not destined for the use of this machine.

1.6 Noise data

Except for the high precision airguns, the Python Smart Laser Sorter works below a noise limit of 90 dB. But in a normal production area this limit is exceeded.

Therefore Visys recommends ear protection device for all operating and servicing personnel.

1.7 End of life treatment

Recycling is the initial step towards environmental preservation.

At the end of the economical life span, the machine has to be disassembled and recycled in accordance with the local applying rules and regulations.

The directive on Waste Electrical and Electronic Equipment (WEEE) requires manufacturers to finance the recovery of waste from electrical and electronic equipment at the end of its useful life.

Any product or product packaging marked with the symbol in Figure 1.7 must not be disposed of with other household waste. The customer must dispose of the product by delivering the product to a designated collection point for the recycling of waste electrical and electronic equipment. For more information about locations to drop off equipment for recycling, contact a local city office, the household waste disposal service, or the business where the product was purchased.

FIGURE 1.7: WEEE DISPOSAL SYMBOL

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

2 General Specifications

2.1 Receiving and unpacking

2.1.1 Receiving the machine

2.1.1.1 ShockWatch Monitored shipments

Visys uses ShockWatch labels to indicate that the load (crate, container) has been handled with great care during transport. These innovative ShockWatch devices contain a tube filled with red liquid held in suspension. When the device is subjected to an impact exceeding a specified G-level, the shock disrupts the surface tension of the liquid, releasing the highly visible red dye into the length of the tube — creating a permanent and immediate indication of mishandling. Normal movement or roadshock won't affect the device — it is only activated by the specific impacts for which it is designed. Once activated, the device cannot be reset.

These devices are affixed to the product packaging (crate). Refer to Figure 2.1

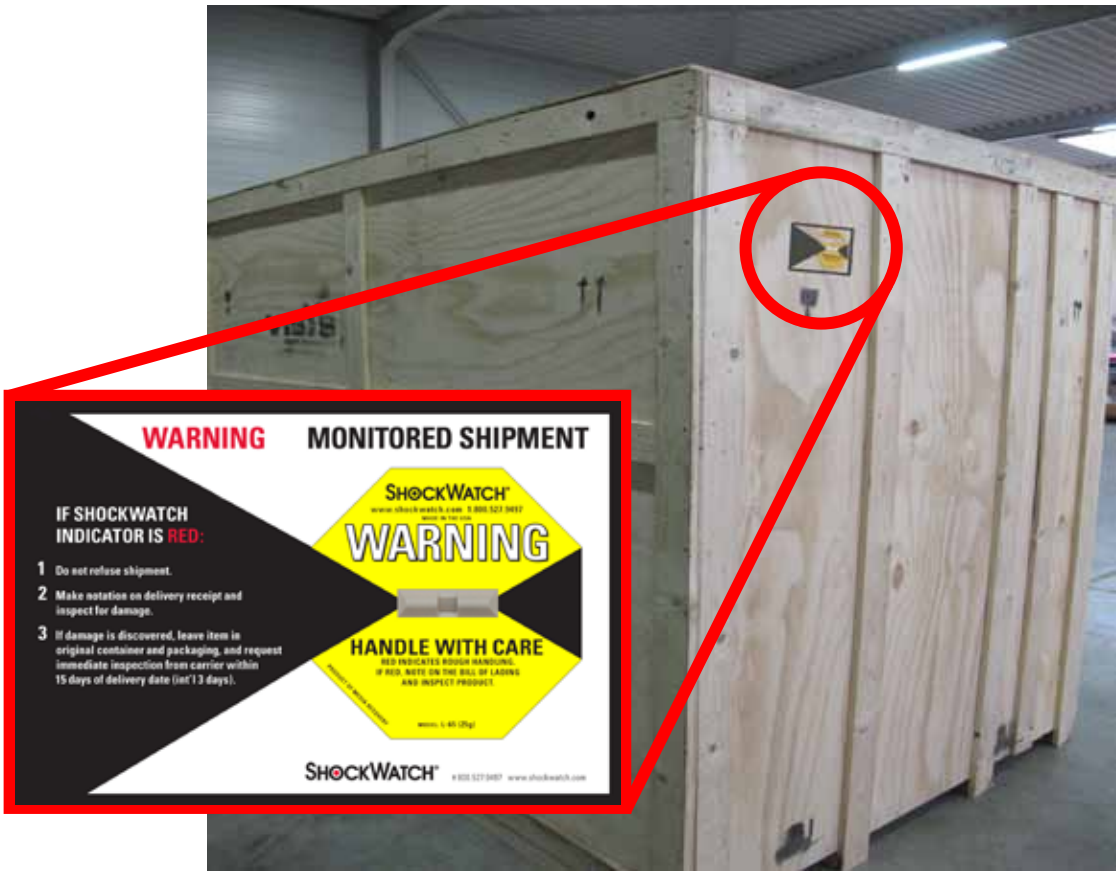


FIGURE 2.1: SHOCKWATCH LABEL ON VISYS CRATE

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

2.1.1.2 What to do if the ShockWatch indicator is RED?

1. Do not refuse the shipment!
2. Make a notation on the delivery receipt and inspect for any damage.
3. If damage is discovered, leave the item in the original crate/container and packaging, and request an immediate inspection from the carrier within 15 days of the delivery date.

VISYS nv recommends the following extra actions in case of damaged freight:

While receiving the Visys PYTHON Digital Laser Sorter the purchaser will check if there is any visual damage to the packaging of the machine. If the purchaser detects any freight damages, he will make the necessary remarks on the CMR-document.

The purchaser will also take the necessary measures to prove the damage to the freight by taking pictures and/or video recordings.

In case of ANY DAMAGE to the freight DO NOT UNPACK the machine and contact VISYS NV with the pictures taken and a description of the damage within 3 days after reception of the machine. Refer to Chapter 15 "Visys World Wide" for the detailed contact information.

2.1.2 Unpacking the machine

The Visys Python 680 Smart Laser Sorter is delivered in 2 crates.

The purchaser will take the necessary care while handling the machine and/or unpacking the crates.

The crates contain the Visys Python 680 Smart Laser Sorter and infeed shaker plus any additional assembly parts and/or optional equipment.

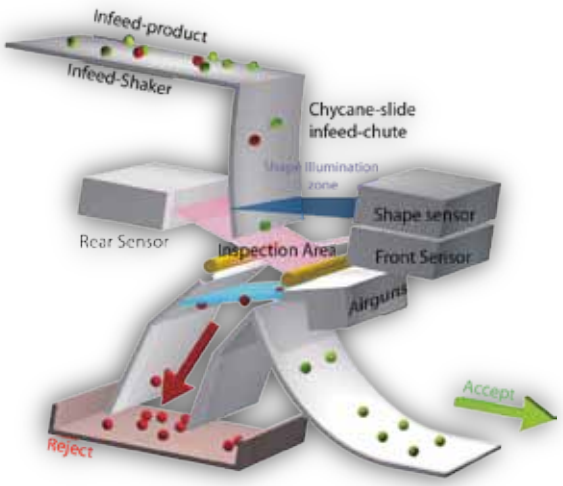
Parts list (indicative)
1 Visys Python 680 Smart Laser Sorter
4 height adjustable feet
1 infeed shaker
4 height adjustable feet
1 reject shaker (optional)
4 height adjustable feet (optional)
1 infeed chute
1 accept chute
1 reject chute
2 background drums
1 air regulator
1 flexible high pressure air pipe
1 cooling unit (optional)

We refer to the contract for detailed information about the ordered Visys Python 680 Smart Laser Sorter configuration and options.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

2.2 Functional description

The **infeed shaker** spreads out the product over the complete infeed width of the machine and moves it towards the **Chycane infeed chute**. As the product reaches the end of the infeed shaker it will start its fall down where it is guided by the Chycane infeed chute to optimally present the product to the **front** and/or **rear inspection unit**. The Chycane infeed chute assures an optimal presentation of the product to the front and/or rear inspection unit(s), optimizing the visibility of the incoming product stream. While the product stream has just left the Chycane infeed chute it is inspected from one or both sides by lasers which enable the Visys Python 680 Smart Laser Sorter to see not only colour differences but also structure differences. Through the **Graphical User Interface (GUI)**, the operator can set the sorting parameters which are processed by the electronic sorting platform located in the inspection unit(s). When the sorting algorithm has traced and located a defect it activates one or more of the **high precision airguns**. The airgun(s) removes the desired defect from the incoming product stream and directs it to the **reject area**. Good product continues its way and ends up at the **accept area**.



The PYTHON Smart Laser Sorter uses laser light to determine colour and/or structure differences in your product stream. The PYTHON Smart Laser Sorter uses a combination of one (1) or more laser sources to distinguish between good and bad product.

By measuring the amount of light, the machine is able to tell differences in colour (e.g. brown spots). By measuring the way the light has been reflected by the inspected product, the machine can tell the differences in structure even when it has the same colour as the good product (e.g. white stones between white beans).

The light information is processed on a dedicated sorting platform where a combination of hard- and software enables the user to parameterize the sorting process and eliminate the right defects from the incoming product stream.

On top of that, the PYTHON Smart Laser Sorter is equipped with a **line scan camera** to perform shape sorting. For each product specific shape algorithms are developed by our R&D department. Products are analysed and compared with certain spatial structures a surface scan is performed. All results have their specific parameters. Setting these parameters gives us the possibility to detect and also eliminate defects and foreign material from the product stream.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

2.3 Identification

2.3.1 Identifying the machine

The identity of the machine can be read from a label at the front side cabinet of the laser sorter. The label lists the type of machine, the date the unit was produced in and the machine serial number (serial N°.) within that type. Further, the specifications concerning electricity, compressed air and water are listed at the bottom of the ID-tag.

FIGURE 2.2: ID-TAG

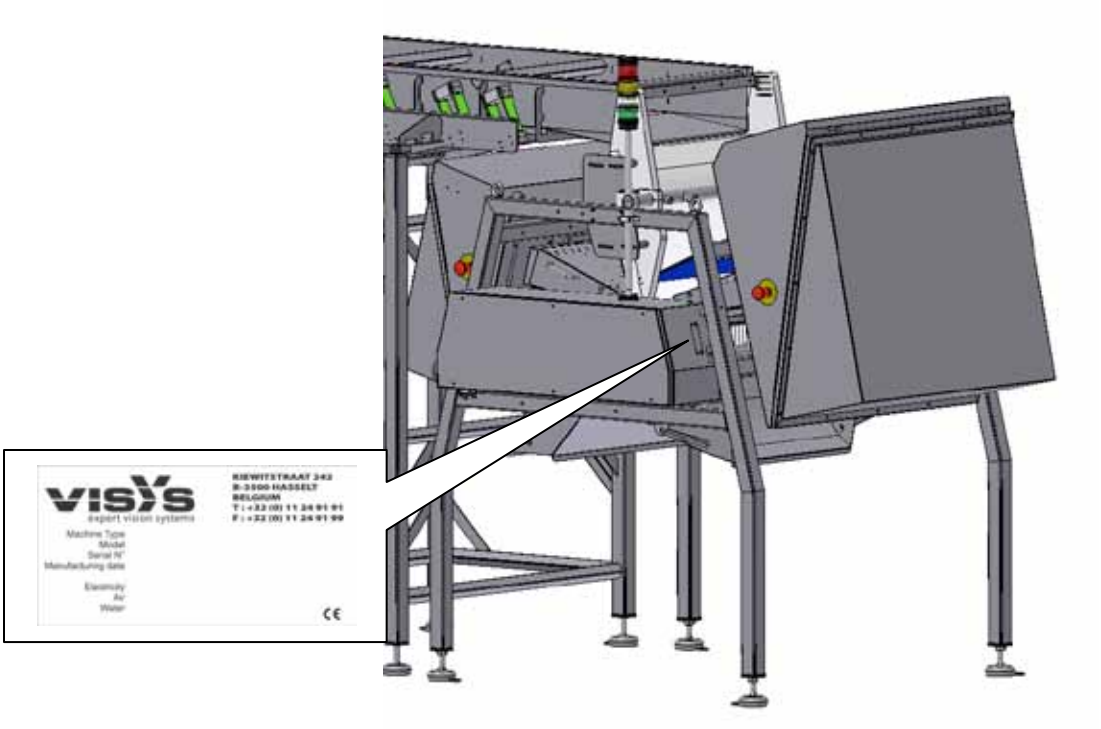


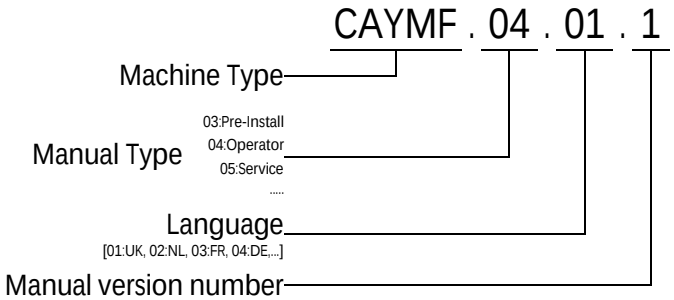
FIGURE 2.3: POSITION OF THE ID-TAG ON THE MACHINE

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

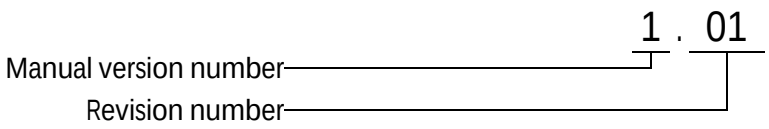
2.3.2 Identifying the manuals

The identification and version numbers of a manual can be found at the bottom of each odd page (identification number and version number).

The first five digits in the identification number refer to the machine in question. The next 2 digits identify the manual type (e.g. 01: technical note, 02: training manual). And the two digits before the last dot indicate the language the manual has been written in. The default language is English. A manual in another language is a translation of the original English version. The last digit represents the manual version number. Refer to the following diagram:



For an unambiguous identification of the manual, always specify the full version number when referring to a manual. The full version number is composed as follows:



Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

2.4 Technical data

2.4.1 Electrical data

- Single phase 230V (2 Connections)
- 5 kVA
- Residual current circuit breaker 300mA (25A)
- Wiring 4mm² (6,35 inch²)
- 50Hz
- US setup (110V 60Hz) also possible

Please note that a continuous, stable electrical power (230V/50Hz) to VISYS Equipment is necessary. Therefore VISYS advises to install a UPS-system

Please contact our Customer Service Department for more details. Refer to chapter 15 "Visys World Wide" for all contact information.

2.4.2 Mechanical specifications overall

2.4.2.1 Sorter

Dimensions (approx) : L x W x H è 2050 x 2000 x 1570 mm [6,7 x 6,5 x 5,2 ft]

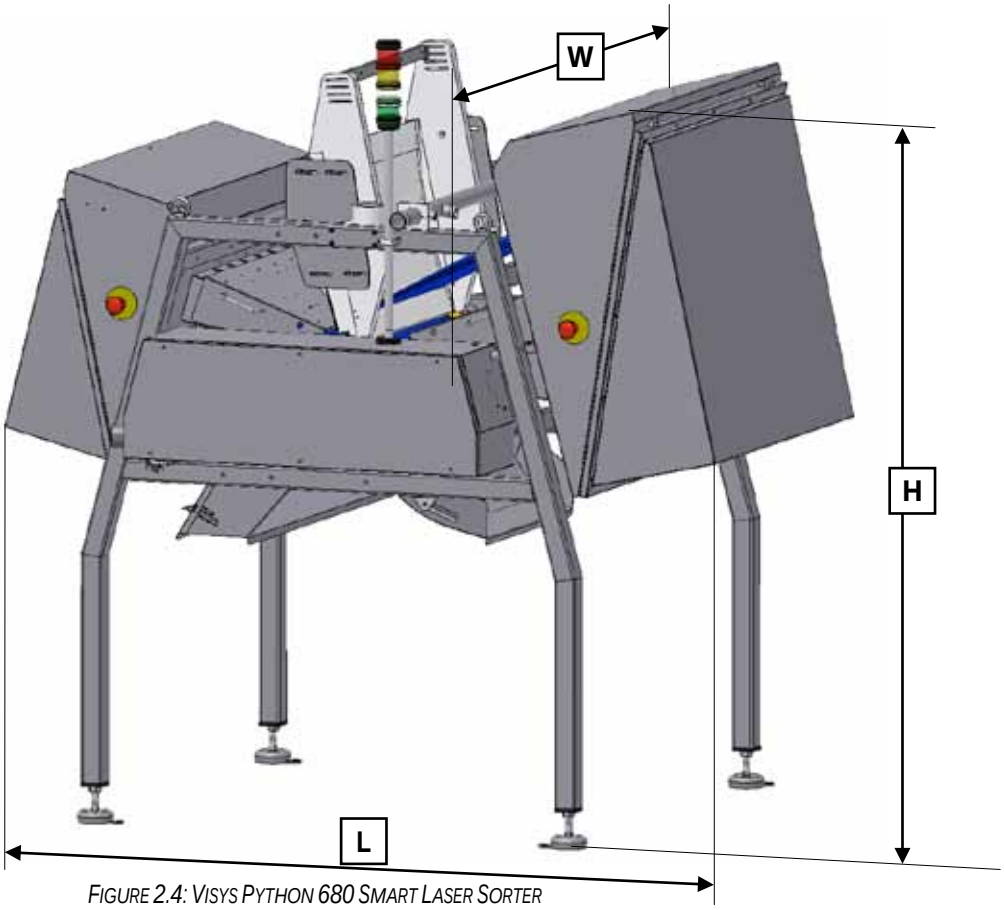


FIGURE 2.4: VISYS PYTHON 680 SMART LASER SORTER

Weight : approx 850 kg

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

2.4.2.2 Infeed Shaker

Dimensions (approx) : L x W x H è 2000 x 1260 x 2070 mm (W' = infeed width = 656mm)

6,5 x 4,1 x 6,8 ft (W' = 2,2 ft)

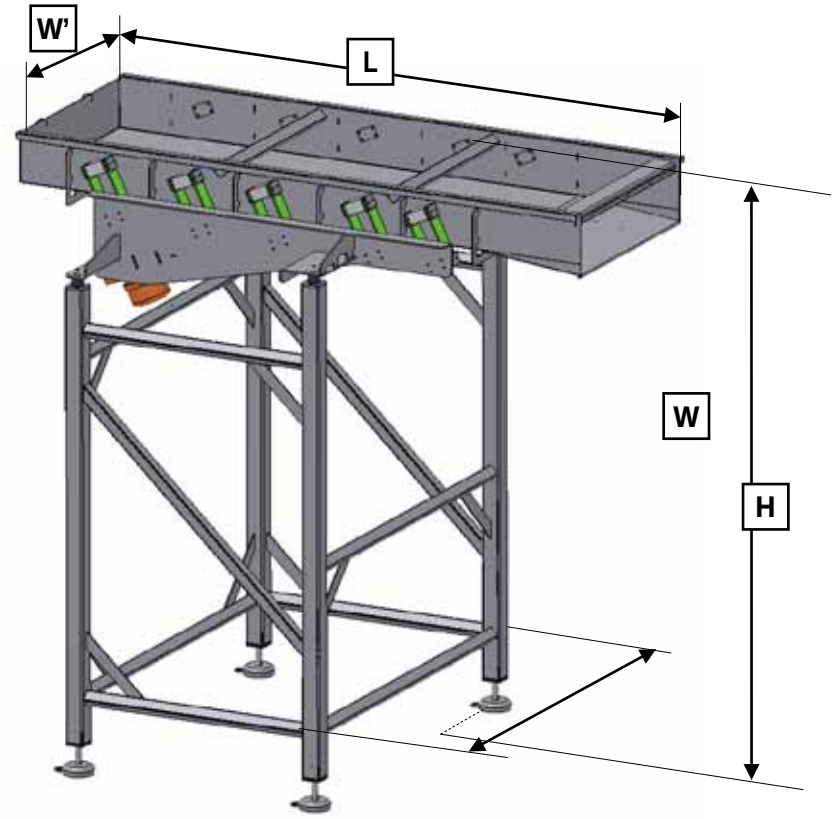


FIGURE 2.5: INFEED SHAKER

Weight: approx 500kg

2.4.3 Compressed air (ISO8573.1 air quality standard)

- Minimum pressure: 6 bar (90 psi)
- Maximum pressure: 10 bar (145 psi)
- Typical consumption: 200 m³/h (120 cfm)
- Maximum consumption: 450 m³/h (265 cfm)
- Quality: filtered 40µm oil / water /dust free
- Connection: 1½ inch

Visys air quality requirements:

- **Maximum particle size of 40 microns**
- **A Dew Point of at least 20°C (68°F) lower than the ambient temperature**
- **Maximum oil content of 0.1 mg/m³ (no lubrication required)**

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

2.4.4 Cooling water

- Minimum pressure: 1 bar (15 psi)
- Maximum pressure: 3 bar (45 psi)
- Water temperature: 15°C ± 2°C (55,4°F – 62,6°F)
- Quality: Lime free and reusable
- Inlet connection: ½ inch
- Outlet connection: ½ inch

2.4.5 Internet connection

Visys strongly recommends to apply a broadband internet connection to the equipment to facilitate providing technical support and software upgrades or updates

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

3 Installation

3.1 Introduction

This chapter contains the necessary information and instructions to install, connect and set-up the Python Smart Laser Sorter. Included are the clearance requirements.

3.2 Moving the machine

Before moving the Python Smart Laser Sorter from one place to another, read attentively the following instructions.

Make sure that:

- The destined area is completely clean.
- The Visys digital laser sorter is completely disconnected: electrical, cooling unit and compressed air.

Always lift the unit with a forklift truck. The forklift has to be able to carry the weight of the sorter which is approximately 1000kg (approx 2200 lb).

On top of the machine there are 4 lifting points (rings) which can be used (with the appropriate lifting tools) to lift the machine and move it.

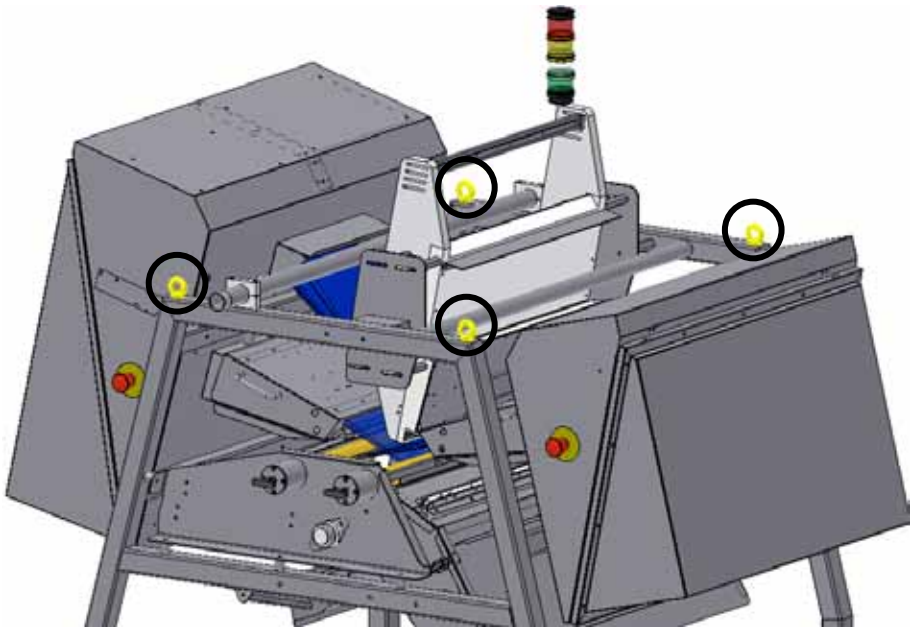


FIGURE 3.1: LIFTING POINTS ON THE PYHTON SMART LASER SORTER

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

While the machine is lifted the 4 height adjustable feet can be mounted and the machine can be placed in the production line.

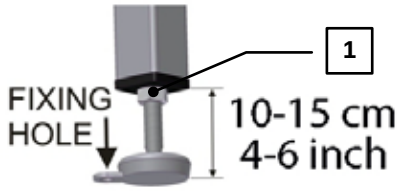


FIGURE 3.2: ADJUSTABLE FOOT

The reject stream should be guided to that side of the machine where the control cabinet (with touch screen) is. This way the operator will be able to investigate and judge whether the machine is performing well and adjust and control the sorting parameters accordingly.

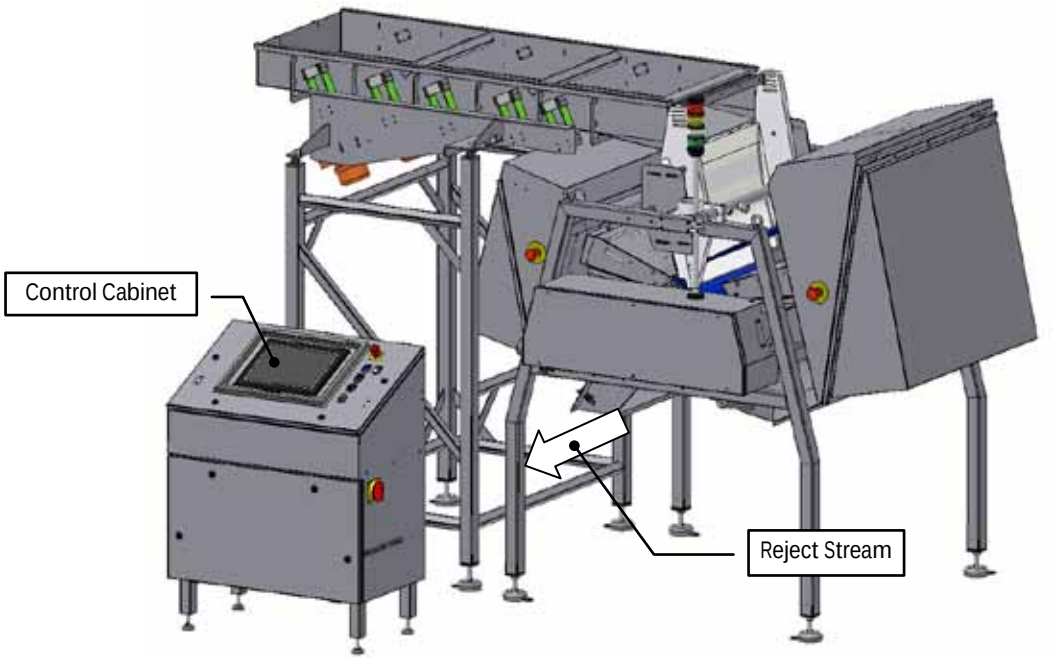


FIGURE 3.3: REJECT STREAM TOWARDS CONTROL CABINET

3.3 Levelling the machine

Once the Visys Digital Laser Sorter is placed on its intended location, level the unit in both directions.

If the machine is brought from a cold room into a heated room, condensation on and in the Laser sorter can constitute a danger and lead to a malfunctioning of the unit as the machine is started. Wait to connect and operate the Laser sorter until it is at room temperature.

Adjust the feet of the machine reserving a height of 10-15cm (4 – 6 inch) from the floor as shown in Figure 3.2

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

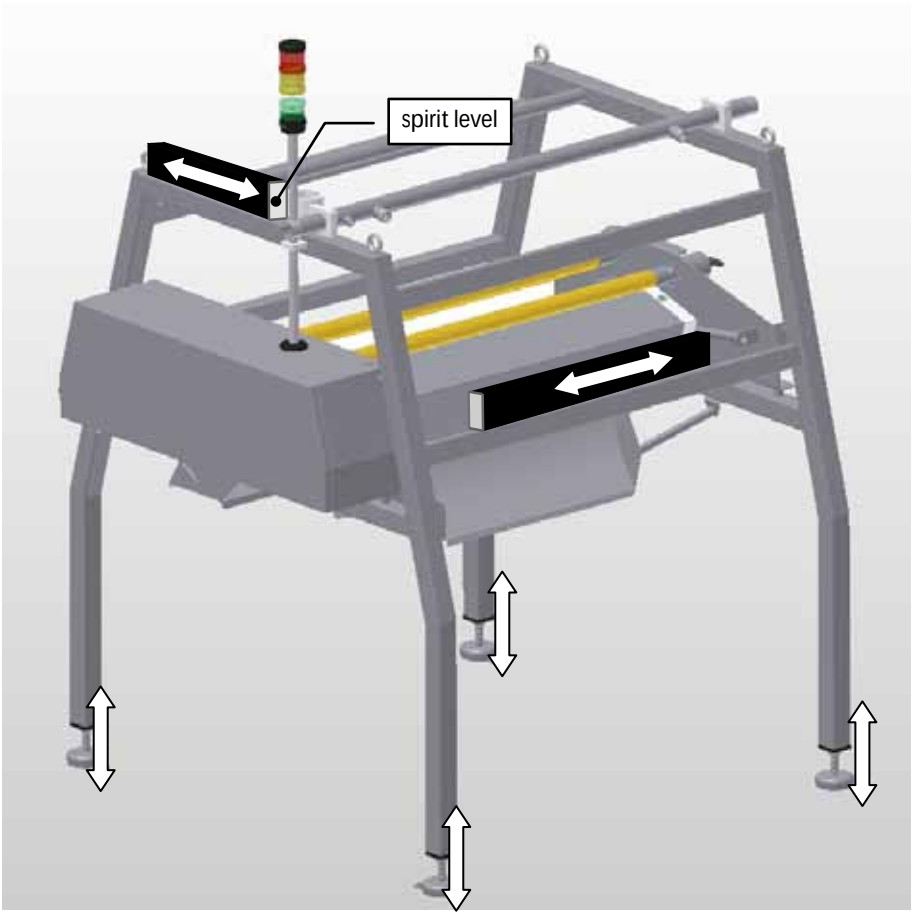


FIGURE 3.4: BASE FRAME VISYS DIGITAL LASER SORTER

Level the machine by adjusting the 4 feet of the machine. Use the locking nut (refer to pos.1 in Figure 3.2) to secure the height of the foot.

Only after final approval of the position of the VISYS Digital Laser Sorter by the installation engineer, the feet must be fixed to the floor by using the provided mounting hole (refer to Figure 3.2) on each foot.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

3.4 Clearance Requirements

When placing the Visys Digital Laser Sorter at its final location, take into account the free space in front and the back of the machine. A Digital Laser Sorter requires at least 1m [3,2ft] of free space at the front, to allow easy installation of the control cabinet. Also take into account the free space in front of the control cabinet to allow the operator to have easy access to the control panel. Refer to Figure 3.5.

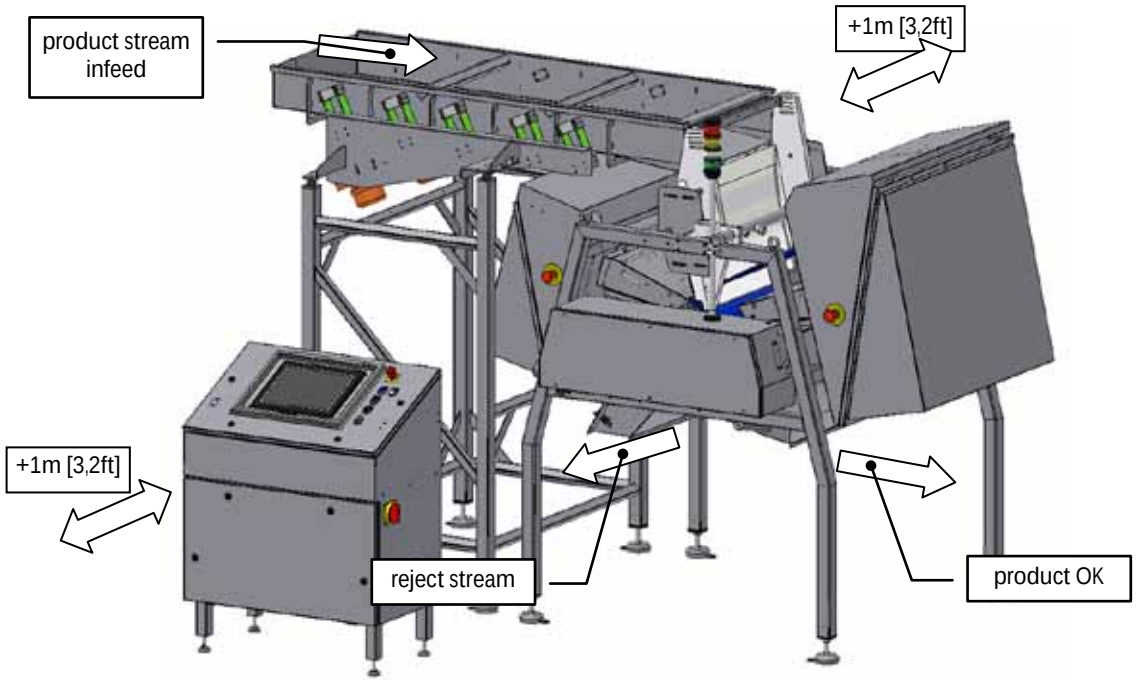


FIGURE 3.5: CLEARANCE REQUIREMENTS

3.5 Placing the infeed shaker

Place the infeed shaker as shown in Figure 3.6. Use the 4 height adjustable feet to adjust and level the shaker (refer to Figure 3.7).

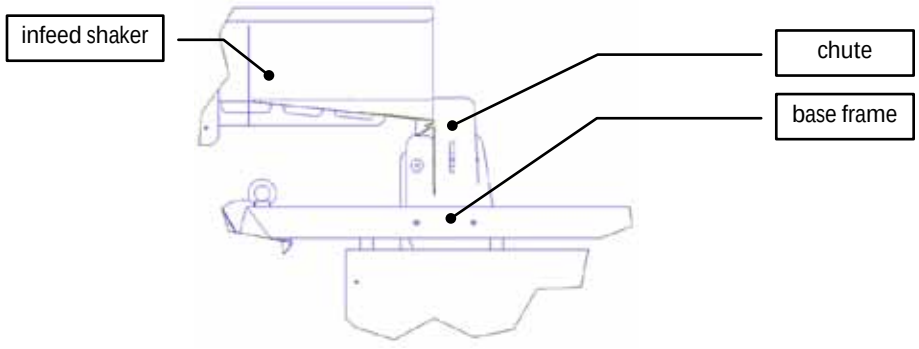


FIGURE 3.6: PLACING THE INFEED SHAKER

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

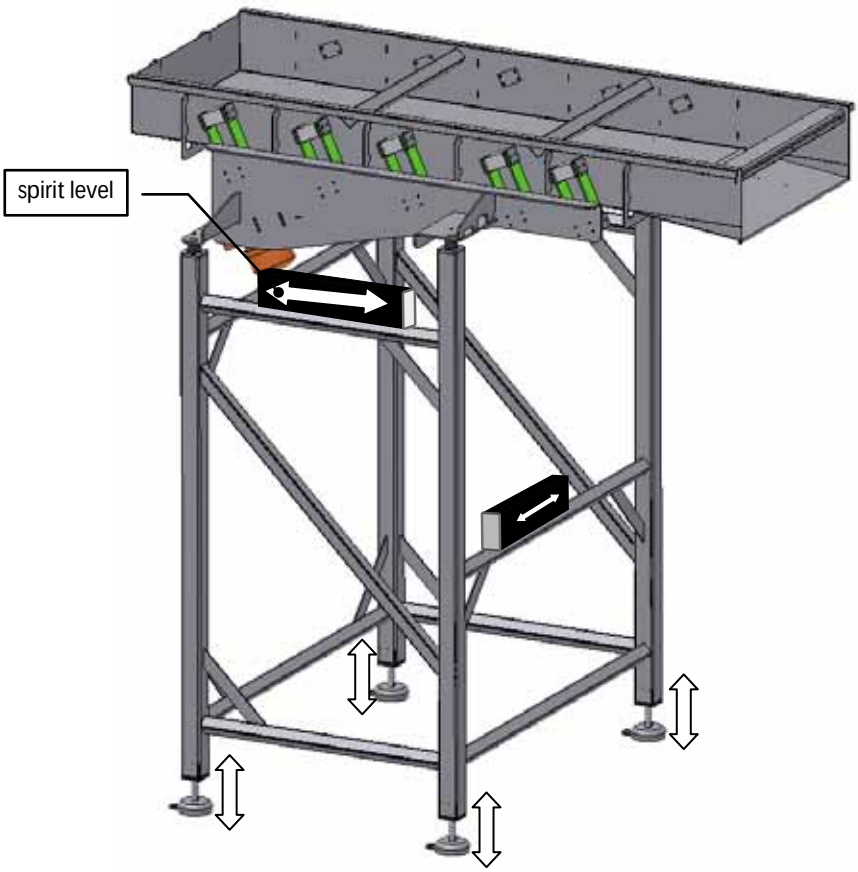


FIGURE 3.7: INFEED SHAKER

Only after final approval of the position of infeed shaker by the installation engineer, the feet must be fixed to the floor by using the provided mounting hole (refer to Figure 3.2) on each foot. This procedure is similar to the fixation of the base frame (refer to paragraph 3.3 “Levelling the machine”.

3.6 Connecting the air supply

DO NOT initiate any compressed air before the VISYS installation engineer has approved the installation.

The compressed air, to operate the high precision defect removal air guns, needs to be supplied with conditioned compressed air.

For detailed information about the compressed air requirements refer to paragraph 2.4.3 “Compressed air (ISO8573.1 air quality standard)” in this manual.

The air regulator supplied with the machine needs to be mounted on the infeed shaker. Mounting plates are provided with the machine to mount the air regulator on the frame of the infeed shaker.

Use the correct tools to install the tubes which deliver the compressed air. Do not saw the tube but use a sharp cutting knife. This is to prevent little particles of the tube from entering the tube and the high precision air guns.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

FIGURE 3.8: COMPRESSED AIR REGULATOR

The flexible (black) compressed air tube, delivered with the machine, needs to be connected between the air regulator and the air inlet on the machine. Refer to Figure 3.9

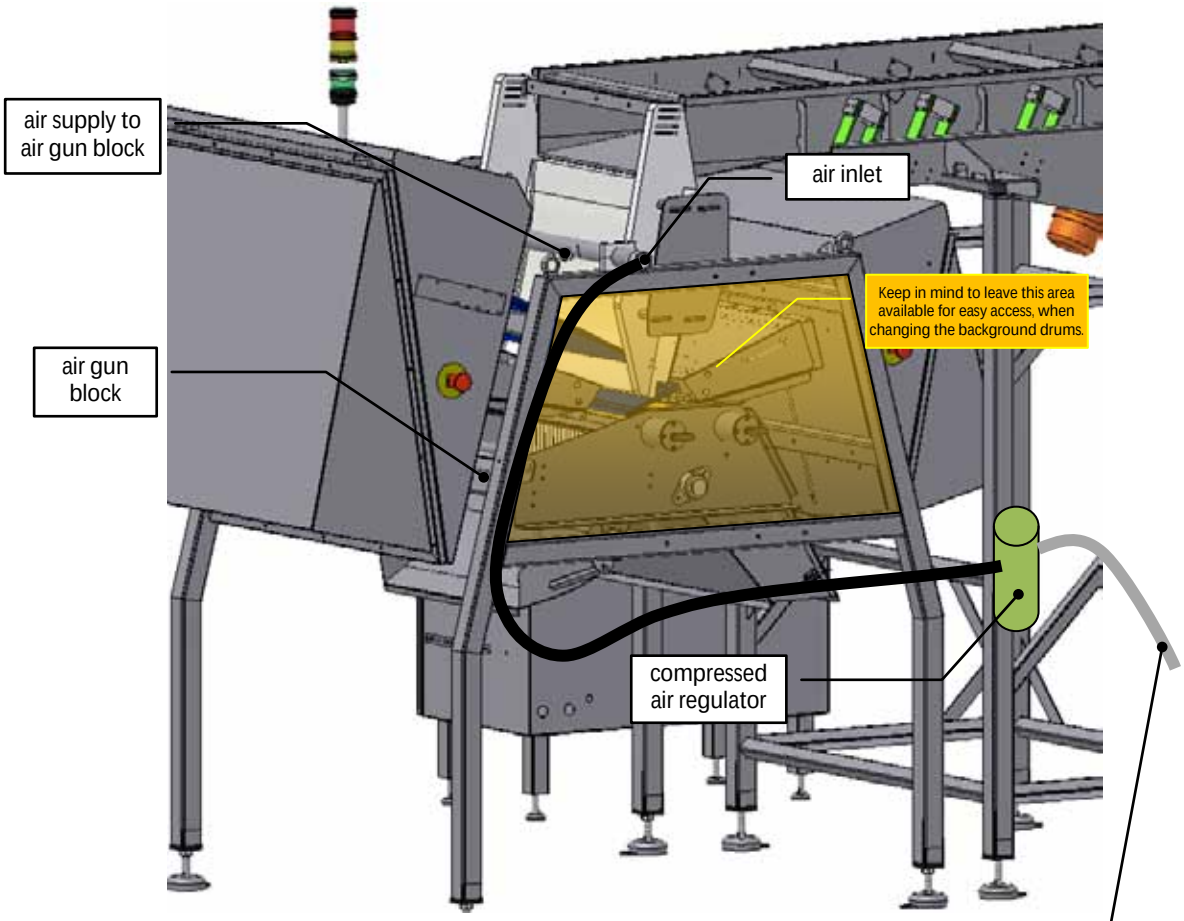


FIGURE 3.9: AIR REGULATOR POSITION AND AIR INLET

CUSTOMER SIDE !!!
This part of the compressed air installation has to be prepared by the customer

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

3.7 Connecting the water supply

DO NOT initiate any water before the VISYS installation engineer has approved the installation.

Depending on the customer's choice, the water can be supplied or by a cooling unit (closed-circuit water cooling system) or by using normal tap water. For detailed information about the cooling water requirements refer to paragraph 2.4.4 “Cooling water” in this manual.

The water inlet and outlet of the machine are located on the back of the control cabinet. Flexible or fixed tubing can be used between the machine and the water supply.

FIGURE 3.10: WATER CONNECTION

3.8 Electrical connections

All electrical circuitry should be compliant with all national and local regulations and codes. Visys hereby advises their customers to provide a stable and continuous power supply

The incoming power supply has to be fused and no other electrical appliances should be connected to the same circuit.

For detailed information about the electrical requirements refer to paragraph 2.4.1 “Electrical data” in this manual.

The electricity needs to be connected to the main switch inside the separate control unit. No other electrical connections go directly to the sorting unit or shaker.

Cables can pass through the bottom of the control unit through the provided holes refer to Figure 3.11.

DO NOT initiate any electricity before the VISYS installation engineer has approved the installation.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

FIGURE 3.11: ELECTRIC CONNECTIONS – BOTTOM SIDE CONTROL CABINET

For detailed electrical information, we refer to the service manual.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

4 Operating Instructions

4.1 Introduction

This chapter discusses the different machine parts, a brief overview of the main working principles and all operating instructions.

4.1.1 Component identification

The Visys Python Smart Laser Sorter has 8 main areas which are important in the sorting process.

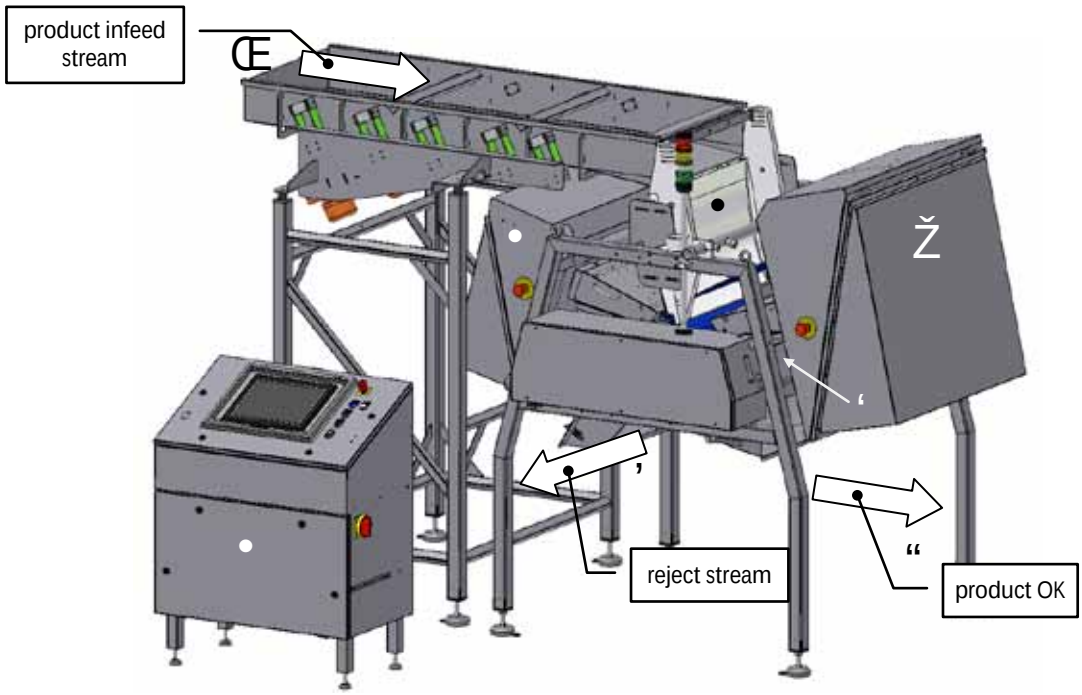


FIGURE 4.1: VISYS PYTHON SMART LASER SORTER

Component identification table		
1	Infeed shaker	Spread out the product over the complete infeed width of the machine and moves it towards the Chycane infeed chute.
2	Chycane infeed chute	Guides the product in its 'fall down' towards the inspection zone.
3	Front inspection unit	This cabinet contains the optical inspection equipment for the front inspection zone
4	Rear inspection unit	This cabinet contains the optical inspection equipment for the rear inspection zone
5	Control cabinet	This cabinet contains the control panel for the operator.
6	Air gun manifold	High precision air gun manifold contains up to 134 pneumatic air valves
7	Reject area	Product removed by the system follows the reject stream
8	Accept area	Good product continues its way in this direction

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

4.1.2 Main working principle

The **infeed shaker** spreads out the product over the complete infeed width of the machine and moves it towards the **Chycane infeed chute**. As the product reaches the end of the infeed shaker it will start its fall down where it is guided by the Chycane infeed chute to optimally present the product to the **front** and/or **rear inspection unit**. The Chycane infeed chute assures an optimal presentation of the product to the front and/or rear inspection unit(s), optimizing the visibility of the incoming product stream. While the product stream has just left the Chycane infeed chute it is inspected from one or both sides by lasers which enable the Visys Python Smart Laser Sorter to see not only colour differences but also structure differences. Through the **Graphical User Interface (GUI)**, the operator can set the sorting parameters which are processed by the electronic sorting platform located in the inspection unit(s). When the sorting algorithm has traced and located a defect it activates one or more of the **high precision airguns**. The airgun(s) removes the desired defect from the incoming product stream and directs it to the **reject area**. Good product continues its way and ends up at the **accept area**.

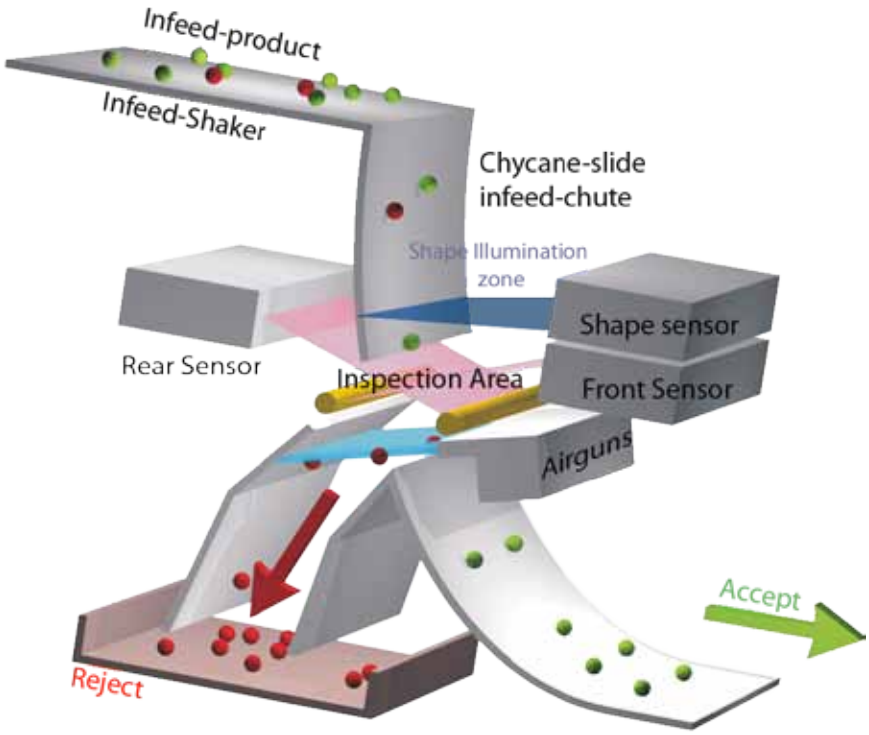


FIGURE 4.2: WORKING PRINCIPLE – VISYS PYTHON SMART LASER SORTER

The PYTHON Smart Laser Sorter uses laser light to determine colour and/or structure differences in your product stream. The PYTHON Smart Laser Sorter uses a combination of one (1) or more laser sources to distinguish between good and bad product.

By measuring the amount of light, the machine is able to tell differences in colour (e.g. brown spots). By measuring the way the light has been reflected by the inspected product, the machine can tell the differences in structure even when it has the same colour as the good product (e.g. white stones between white beans).

The light information is processed on a dedicated sorting platform where a combination of hard- and software enables the user to parameterize the sorting process and eliminate the right defects from the incoming product stream.

On top of that, the PYTHON Smart Laser Sorter is equipped with a **line scan camera** to perform shape sorting. For each product specific shape algorithms are developed by our R&D department. Products

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

are analysed and compared with certain spatial structures a surface scan is performed. All results have their specific parameters. Setting these parameters gives us the possibility to detect and also eliminate defects and foreign material from the product stream.

4.1.3 Laser sorting

The Visys Python Smart Laser Sorter uses laser light to determine colour and/or structure differences in your product stream. The Visys Python Smart Laser Sorter uses a combination of 1 or more laser sources to distinguish between good and bad product.

By measuring the amount of light, the machine is able to tell differences in colour (e.g. brown spots). By measuring the way the light has been reflected by the inspected product, the machine can tell the differences in structure even when it has the same colour as the good product (e.g. white stones between white beans).

The light information is processed on a dedicated sorting platform where a combination of hard- and software enables the user to parameterize the sorting process and eliminate the right defects from the incoming product stream.

On top of that, the PYTHON Smart Laser Sorter is equipped with a **line scan camera** to perform shape sorting. For each product specific shape algorithms are developed by our R&D department. Products are analysed and compared with certain spatial structures a surface scan is performed. All results have their specific parameters. Setting these parameters gives us the possibility to detect and also eliminate defects and foreign material from the product stream.

4.1.4 Location conditions

The machine is placed in the processing line. Leave enough space around the machine to provide easy access for maintenance and/or operation.

If the machine is not switched on, heating and cooling will not work either, and the machine will be subject to sudden changes of temperature. Therefore, we advise to keep the machine under tension at all times. If not, please make sure the machine is placed under a constant temperature.

Do not weld or grind near or on the Visys Python Smart Laser Sorter and do not fix any items to the machine which will obstruct proper maintenance and/or operation of the machine.

There should be no direct contact between the machine and any other machinery. Please avoid the transfer of vibrations to the infeed shaker and sorter unit because this can cause serious damages or disturb the sorting process.

For further details on location and placement of your laser sorter, please consult the “Pre-installation guide”.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

4.2 Control elements

4.2.1 Control Panel

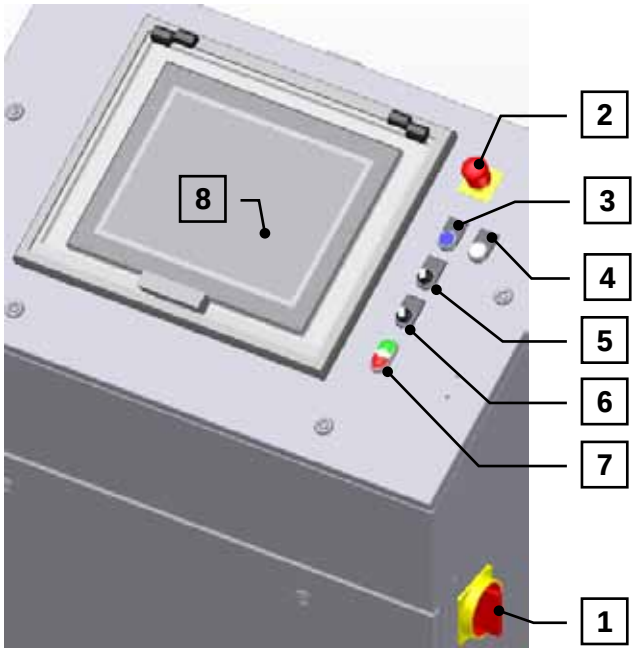


FIGURE 4.3: CONTROL CABINET CONVEYORS – CONTROL CABINET OPERATORS

1 Main switch
This switch will connect the machine to the mains. It will switch on the Visys Digital Laser Sorter and activate the cooling and/or heating tot the sorter.

2 Emergency button
In case of emergency, press the emergency button. There are also emergency buttons available at both sides of the optical inspection unit.

3 Reset push-button (blue)
The signal light in the push-button is extinguished after an emergency stop or a power break. Solve the problem and press the reset push-button to reactivate the security circuit. If the blue push-button is lit, the machine is ready for normal operation.

4 Laser activity indication lamp
Will flash during laser initialization (approx 20sec.) and is lit continuously when there is full laser activity.

5 Air guns ON/OFF
Operating this switch will turn ON/OFF the air gun interface.

6 Cleaning ON/OFF
Operating this switch will deactivate the air guns and prevent the laser light from escaping the scan shielding

7 Start/Stop
Operate these push-buttons to start or stop the sorting operation of the machine.

8 Control panel touch-screen
Built in industrial PC with multifunction touch screen for operator to adjust sorting parameters.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

4.2.2 Lamp tower

FIGURE 4.4: SIGNAL TOWER

Each Visys Python Smart Laser Sorter is equipped with a Control Light Tower, giving the operators clear information about the status of the machine. The green and white lights are indications for normal operation whereas the orange and red lights are alarm indicators.

Please find the specific function of each light described below:

GREEN When this light is blinking on and off, this is an indication that the sorter is ready for sorting but that the airguns and/or the shakers are not yet switched on. After activating the airguns and/or switching on the shakers, the green light will stay on constantly.

WHITE The white light is an indication whether the lasers are switched on or off.

1. Flashing white light: When the lasers are powered on, the white light will flash frequently for 20 seconds. In this time period, the danger zones need to be cleared! After 20 seconds the laser will be activated.
2. Continuous white light: When the white light is continuously burning it means that the lasers are powered on and active! In other words, at this moment at least one laser is operational. This means that there is a potential danger (even when no laser light is visible by the human eye).
3. Continuous green + white light: The laser sorter is ready to sort, which means that the laser light beam is brought outside the optical box. All safety precautions need to be fulfilled.

ORANGE In case of any kind of alarm, the orange light will start blinking. You can use the troubleshooting for locating and solving the problem

RED This light is an indication for the following critical alarms:

- Water leak
- High temperature
- Scan shielding(s) open

In case of a red blinking light, stop sorting immediately and try to locate the problem by the use of the troubleshooting. Please contact VISYS Customer Service Department.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

4.3 Operating procedures

4.3.1 Operators

During the installation procedure of your Visys Python Smart Laser Sorter, our engineers will set different user levels in the software. There are different levels of users, which mean that some users have more rights than others. In practice, we distinguish between 3 kinds of operators:

- **Advanced operators**: who have access to advanced screens and can manipulate more parameters
- **Normal operators**: who have limited access rights and can only manipulate a few parameters
- **VISYS certified engineers**: who have unlimited access rights

Of course these user levels depend upon the capacity of the operators and can be determined more into detail in accordance with our engineers.

4.3.2 Switch on procedure

Before we can start using the Visys Python Smart Laser Sorter you need to be sure the following supplies are connected to the machine:

1. Water for cooling
2. Air for the high precision air guns
3. Electricity

We refer to the "technical details" for more information and specifications on the supplies needed to operate the Visys Python Smart Laser Sorter.

When all supplies are connected, the machine is ready to be switched on.

Make sure all emergency stop buttons are released.

FIGURE 4.5: EMERGENCY BUTTON

Emergency buttons are located on the sides of the front and rear inspection units and on the separate control unit.

To release an emergency button, pull the red knob until you feel/hear a click.

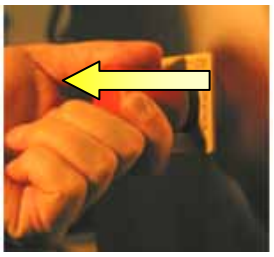


FIGURE 4.6: RESET (PULLING OUT) THE EMERGENCY BUTTON

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

Turn the main switch into the ON position. This will switch on the electrical supply to the Visys Python Smart Laser Sorter and activate cooling and/or heating to the sorter.

As long as the main switch is on, the Visys Python Smart Laser Sorter is kept under defined conditions (temperature) and is ready to be started at any time.

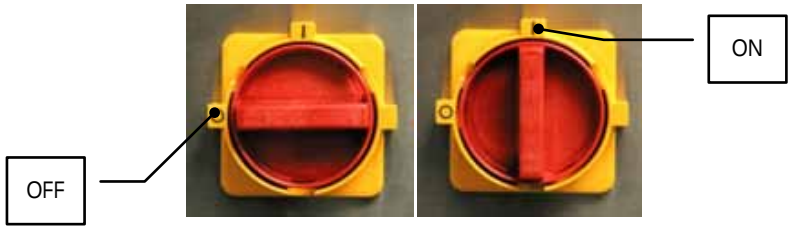


FIGURE 4.7: MAIN SWIITCH

Push the blue RESET push-button(refer to pos.1 in Figure 4.8) and then the green Start push-button (pos.2) to initiate the electronics and start the graphical user interface.

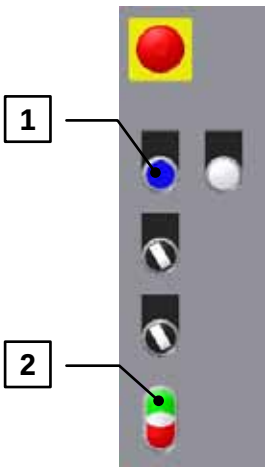


FIGURE 4.8: CONTROL PANEL PUSH-BUTTONS

After the Graphical User Interface appears on the touch screen the machine is ready to activate the lasers. The Visys Python Smart Laser Sorter is now in standby mode.

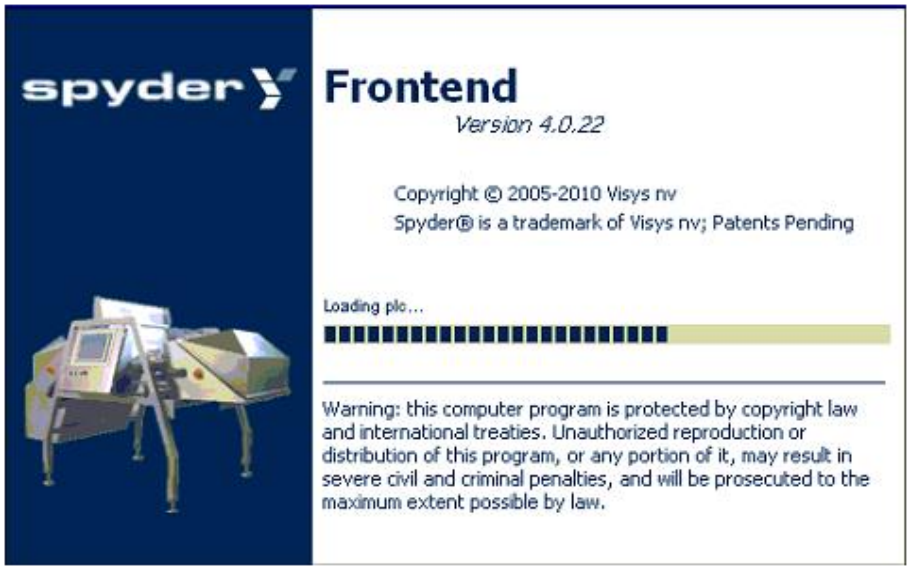


FIGURE 4.9: STARTING SCREEN GRAPHICAL USER INTERFACE

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

It is good to leave the machine in standby mode even when the machine is not operated for a longer period of time. This will keep the machine conditioned and ready to be started up at all time.

4.3.3 Start sorting procedure

After the machine has been switched on, the Visys Python Smart Laser Sorter is ready for start up. Starting up the Visys Python Smart Laser Sorter will activate the inspection unit(s), initialize the electronic sorting platform, set the necessary sorting parameters and activate the infeed shaker.

Open the scan shielding to inspect the optical window. After the machine has been cleaned the optical window should be inspected and any dirt or water residue should be removed before starting up the machine.

Refer to Service Manual for more details on cleaning your Visys Python Smart Laser Sorter.

Before any action can be undertaken by an operator, the operator has to login to activate the associated user rights assigned to the user level he is member of.

We refer to the Service Manual for more details on how to login.

After the user has been logged in, he is able to start up the Visys Python Smart Laser Sorter by pressing the Start button on the screen. The user has the choice to start up with the current program or with a program previously stored into memory.

After making the appropriate selection on the touch screen the specific program is loaded and within seconds the Visys Python Smart Laser Sorter is ready for sorting.

Start the Infeed shaker by pressing the Start Infeed button and put the airgun switch into the ON position.

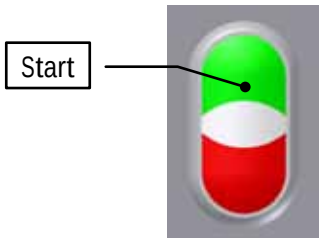


FIGURE 4.10: START-STOP PUSH-BUTTON

AIR GUNS ON POSITION

The Visys Python Smart Laser Sorter is now ready for sorting.

4.3.4 Stop sorting procedure

To stop the Visys Python Smart Laser Sorter the user has to be logged in.

Stop the Infeed shaker by pressing the Stop Infeed button and put the airgun switch into the OFF position.

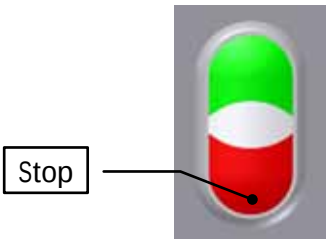


FIGURE 4.11: START-STOP PUSH-BUTTON

AIR GUNS OFF POSITION

Press the Stop button on the touch screen and confirm you want to stop the Visys Python Smart Laser Sorter. This will power down the inspection units and put the Visys Python Smart Laser Sorter into standby mode.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

4.4 Background Drums

In order to take the background drums out of the machine, please follow the indications below:

- Pull the black knob towards you.

FIGURE 4.12: REMOVING DRUM – STEP 1

- Lift the background drum.

FIGURE 4.13: REMOVING DRUM – STEP 2

- Take out the background drum carefully with two hands in order to prevent it from scratching.

Handle the drum(s) with great care. They are very fragile and any scratch on the surface of the drum has impact on the sorting result. Therefore Visys advises to handle these drums with 2 persons.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

- When placing the background drums back in the machine please pay attention that they are well positioned (see picture below).

OK **Not OK**

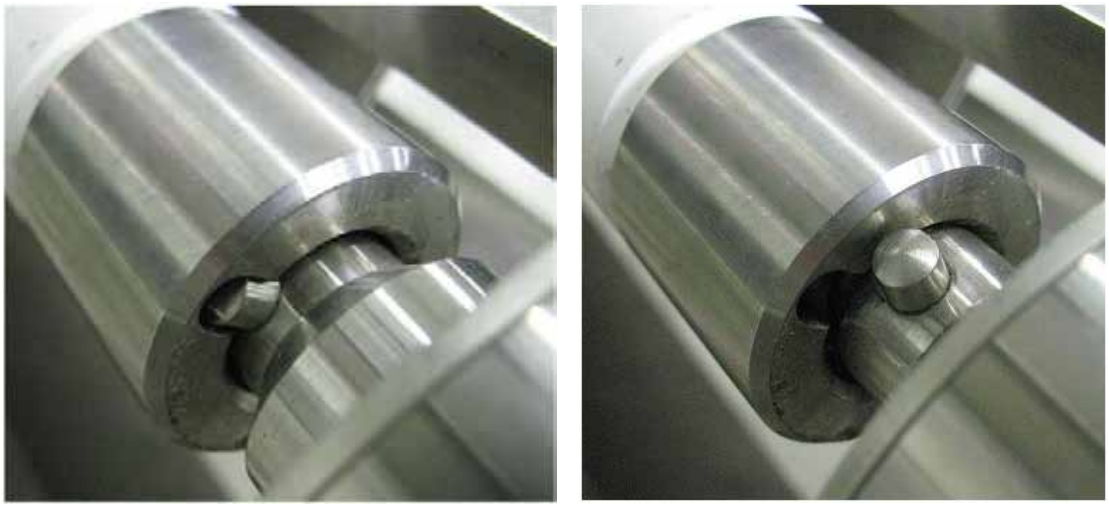


FIGURE 4.14: POSITION BACKGROUND DRUM

If the background drums should be scratched or damaged you can use the following products to "repair" them:

Light scratches Heavy scratches

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

5 Maintenance

Before continuing with this procedure

COMPRESSED AIR has to be available AT ALL TIMES during the cleaning process

It will prevent water/cleaning product from entering the high precision air guns!

If no compressed air is available on your Laser Sorter, this can be very harmful for your installation.

5.1 Daily

VISYS recommends cleaning your machine **at least** once a day. Please follow the following procedure:

The Visys Python Smart Laser Sorter can be cleaned by using

- water 
- compressed air  .

q Make sure all cabinets are firmly closed before cleaning and do not spray onto controls and joints of doors and boxes.

q Switch the sorter in cleaning mode (ON position); this will deactivate the airguns and prevent the laser light from escaping the scan shielding.

FIGURE 5.1: CLEANING MODE ON

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

- Clean the sorter from top to bottom. Especially areas which are in direct contact with the product need closer attention.

- Remove the scan shielding (refer to Figure 5.2 where the scan shield is coloured in yellow for a good contrast) after the machine has been cleaned from the outside and removed any product remnants. You can easily remove the scan shields by grabbing the handles and lift it upwards.

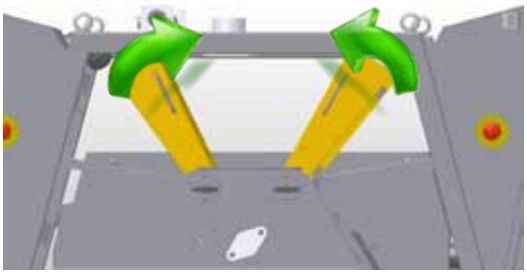


FIGURE 5.2: OPTICAL INSPECTION ZONE – SCAN SHIELDS

- Inspect the optical window and any dirt or water residue should be removed with a soft towel or paper. If necessary, use appropriate, non corrosive window cleaning product.

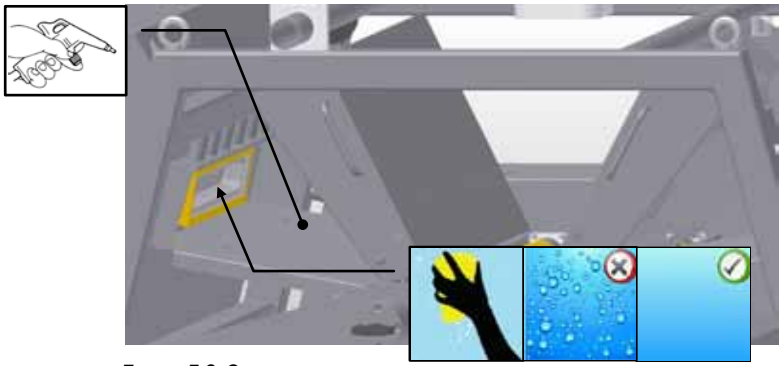


FIGURE 5.3: CLEANING OPTICAL WINDOW AND INSPECTION ZONE

- Switch the cleaning mode switch in OFF-position; this will start an automatic airgun test in order to prevent dirt building up in the airgun outlets.

In order to perform this step successfully, be sure that the compressed air is ALWAYS available to the system!

FIGURE 5.4: CLEANING MODE OFF

After the airgun test has been finished, the machine is ready for sorting again.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

5.2 Weekly

5.2.1 Position of the shakers

Refer to paragraph 3.5 “Placing the infeed shaker” for more information.

5.2.2 Operation of the AIR GUNS

By activating the air gun TEST (Refer to paragraph 9.2.4.1 “Airgun” in this manual for further instructions

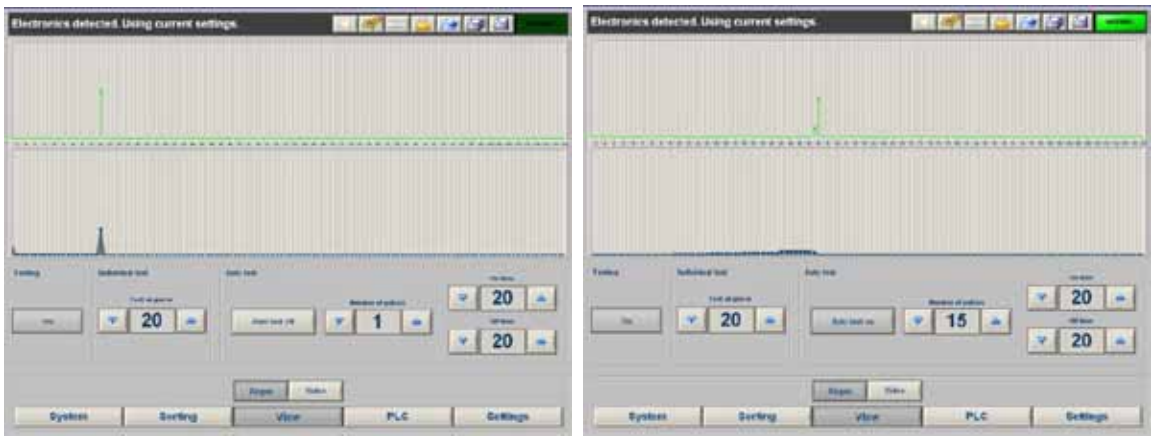


FIGURE 5.5: AIRGUN ACTIVITY - TEST

When “TEST ON” AND “AUTO TEST ON” are activated, the air guns will be activated one after the other. So you can see AND hear if there is an air gun not working.

5.2.3 Water level of the cooling unit.

Recommended water level:
at all times between the two indications

5.3 Monthly

- Check presence of ANTI-FREEZE liquid in cooling unit.
- Check the filter of the FESTO AIR REGULATOR (consult the manual for further instructions).
  If there is a lot of water inside, it means that there is too much water in your compressed air.
- Check WATER supply and AIR compressor quality.
  If there is too much water in the compressed air, the lifetime of your airguns will reduce.
- Check the operation of the EMERGENCY STOPS.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

5.4 Half-yearly

FILTER HEALTH CHECK-UP

Replace the FESTO air regulator filter

Replace the "ELIMINATOR II" set of clean room filters in the main cabinet

Please contact the VISYS Customer Service Department for more information

5.5 Yearly

VISYS advises one yearly service visit by a VISYS certified engineer. Please contact our customer service department to schedule your visit.

CUSTOMER SERVICE DEPARTMENT

VISYS expert vision systems

E-mail: service@visysglobal.com

Direct Tel: **+32 11 24 91 88**

During Business Hours: 8 - 18h (Central European Time)

Fax: **+32 11 24 91 99**

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

6 Troubleshooting

6.1 Introduction

This chapter helps you determine the cause and resolution for problems you might experience while using the PYTHON Sorting application.

This document presents a general list of troubleshooting information, such as a list of the messages that the sorting application uses, and then it also addresses the content of these messages.

Further on in the chapter you can find a short troubleshooting instruction list.

6.2 List of messages

- q High temperature
  - Front

    Check if cooling unit is switched on.
    Check if level of cooling liquid in cooling unit is between min. and max.
    Contact the VISYS Customer Service Department.
  - Rear

    Check if cooling unit is switched on.
    Check if level of cooling liquid in cooling unit is between min. and max.
    Contact the VISYS Customer Service Department.
  - Main/PC

    Check if cooling unit is switched on.
    Check if level of cooling liquid in cooling unit is between min. and max.
    Contact the VISYS Customer Service Department.
- q Low water pressure
  - Check if cooling unit is switched on.
  - Check if level of cooling liquid in cooling unit is between min. and max.
  - Check if water valve outside main cabinet is warm.
  - Contact the VISYS Customer Service Department.
- q Low air pressure
  - Check if the air compressor is switched on.
  - Check if the incoming air pressure is at least 3,5 bar.
  - Contact the VISYS Customer Service Department.
- q Scan shielding
  - Front

    Check if scan shielding of front optics is properly closed.
    Open scan shielding of front optics and check if proximity switches are still in place and close scan shielding afterwards.
    Contact the VISYS Customer Service Department.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

- Rear

  Check if scan shielding of rear optics is properly closed.
  Open scan shielding of rear optics and check if proximity switches are still in place and close scan shielding afterwards.
  Contact the VISYS Customer Service Department.

q Water leak

- Front

  Contact the VISYS Customer Service Department.

- Rear

  Contact the VISYS Customer Service Department.

- Main/PC

  Contact the VISYS Customer Service Department.

q Circuit breaker engines

- Open main cabinet and check if circuit breakers (Q3 + Q4) of the infeed shaker are switched off.
- If not, check the circuit breakers (Q5 + Q6) of the reject shaker.
- Contact the VISYS Customer Service Department.

q Circuit breaker background

- Check if the background drums are rotating.
- Open main cabinet and check if the circuit breaker (Q2) of the background drums is switched off.
- Contact the VISYS Customer Service Department.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

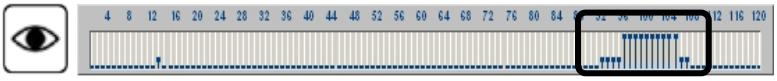
6.3 Machine is 'shooting' constantly

You will reach the highest quality when the environmental conditions (temperature – humidity) in the production area are always constant.

When the machine is constantly shooting, perform the following actions:

1 **Turn Air Guns OFF**

2 **Check Valve Activity**



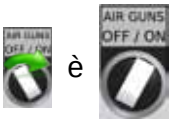
3 **Perform Cleaning**

è §5.1

4 **Select Most Active Channel**

5 **Lower Threshold**

6 **Turn Air Guns ON**



Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

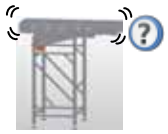
6.4 *Machine does not shoot.*

You will reach the highest quality when the environmental conditions (temperature – humidity) in the production area are always constant.

When the machine does not eliminate the defect, perform the following actions:

1 **Turn Air Guns ON**

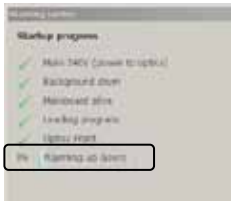
2 **Check Air Pressure** | **Cleaning OFF** | **Shaker ON** | **Check Alarm list**



3 **Select Most Active Channel**

4 **Lower Threshold**

5 **Check Warm Up Time Lasers**



service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

7 Spare Parts

7.1 Introduction

This section has information on ordering spare parts. The following table lists the spare parts in alphanumeric order of their article number.

The table includes the following columns:

- 1st column: spare part category
  (1= first aid part; 2= consumable part; blank= recommended spare part)
- 2nd column: article number
- 3rd column: description of the part
- 4th column: advised quantity to be taken in stock.

7.1.1 Ordering information

To obtain spare parts, forward your order or inquiry to the Visys Head Quarters. Refer to chapter 15 “Visys World Wide” for the detailed contact information.

Whenever possible, identify parts by their article numbers (either Visys article number or any other manufacturer's article number).

Always include machine type and number!

7.1.2 Non-listed parts

To obtain a part that is not listed, include:

- Machine type
- Machine number
- Description of the part
- Function and location of the part
- Visys article number (or any other manufacturer's article number)

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

7.2 Parts List

Cat.	Article n°	Description	Stock Qty.
2	1100-0050 1100-0051	Clean air filter set	1 1
	1100-0366	Infeed shaker motor	1
1	1100-0430	Light bulb signalization tower, white	5
1	1100-0431	Light bulb signalization tower, red	5
1	1100-0432	Light bulb signalization tower, orange	5
1	1100-0433	Light bulb signalization tower, green	5
2	1200-0080	Water valve	1
2	1200-0108	Filter compressed air regulator	1
	1200-0118	Air Ejector	5
2	2004-2371	Curtain infeed shaker	2
	2004-2372	Curtain on the chute	2
2		Background drum white - PYTHON	1

TABLE 1: SPARE PARTS LIST

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

8 Adjustments and Calibration

8.1 Laser and Camera calibration

All the optical equipment (lasers - camera) has been calibrated during the production process. When assembling the Visys Python Smart Laser Sorter, our highly qualified technical engineers will align and set up the requested optical design for your purpose. Therefore there is no extra calibration needed during the complete lifetime of the entire optical equipment.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

9 PLC and PC Software

9.1 Introduction

The Graphical User Interface (GUI) enables the user to control and adjust the Visys Python Smart Laser Sorter behaviour.

By means of a touch screen which is located on a separate control cabinet, the user can make adjustments to the sorting parameters without opening any cabinets or panels.

In order to get the best performances during production, it is advised that the operator has a clear view on the accept stream and reject stream while adjusting the parameters on the touch screen.

To keep the GUI universal and easy to use, any user language can be added and as much as possible text fields are replaced by visual icons.

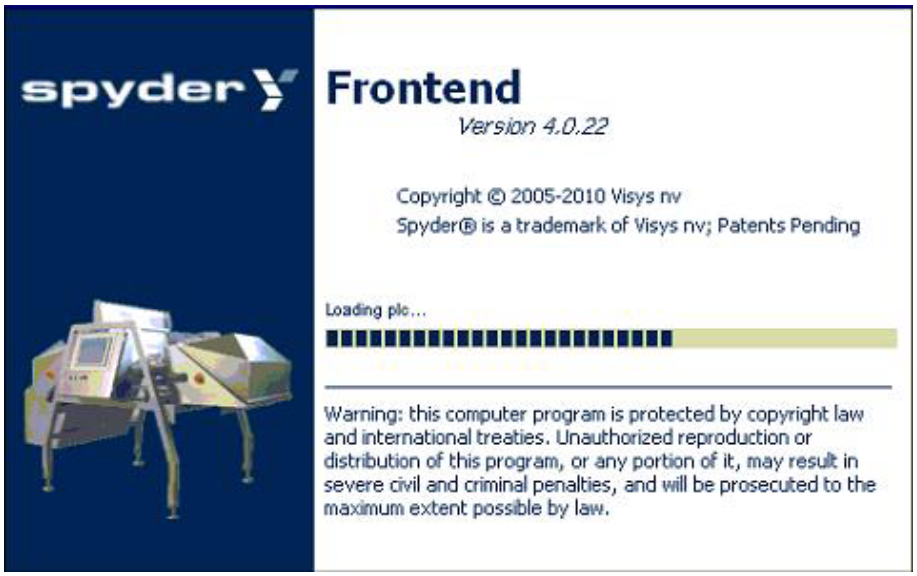


FIGURE 9.1: VISYS PYTHON SOFTWARE LOADING

9.2 Menu options

To guide you through the GUI, a navigation bar is displayed at all time on the bottom side of the screen. Selecting one of the five buttons allows users to go immediately to the section they want without losing too much time.

There are 5 main sections:

- System: users, programs, start/stop, log
- Sorting: adjustment of sorting parameters
- View: control of video signals and airguns
- PLC: info about operation and alarms
- Settings: critical machine settings (only accessible for VISYS certified engineers)

Depending on the user level one or more sections are not visible and/or accessible.

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

9.2.1 System

In this section of the GUI you can start or stop the machine, log on as a different user, load programs and check the machine's logbook.

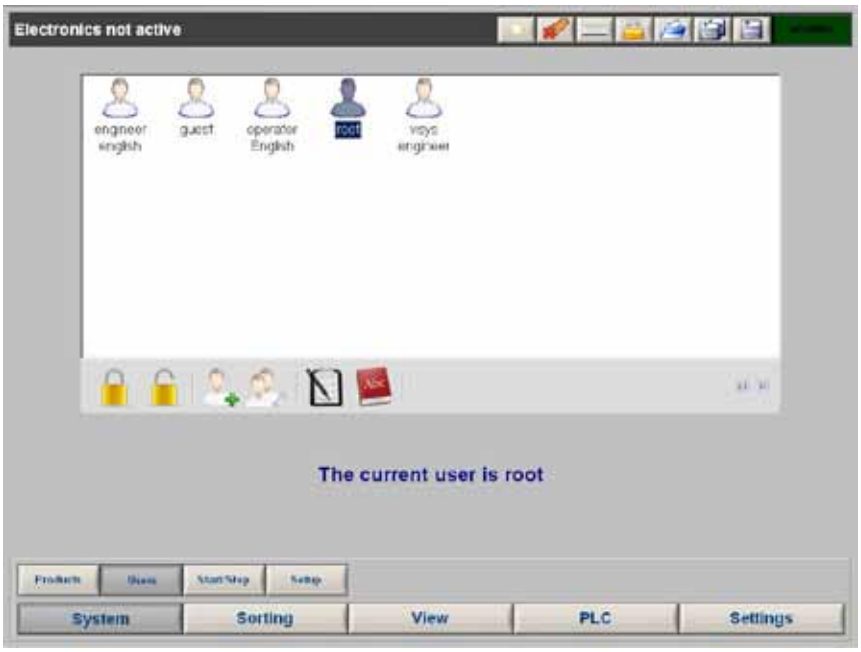


FIGURE 9.2: GUI – SYSTEM - USERS

9.2.2 User selection

The options in the user section of the screen allow users to log in with their own password and user level and to create new user accounts.

Selecting a user and pressing the login button will pop up a dialog to provide the appropriate password. By tapping twice on the text field an onscreen keyboard will appear and the operator can provide his password.

FIGURE 9.3: ON-SCREEN KEYBOARD – ENTER PASSWORD

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

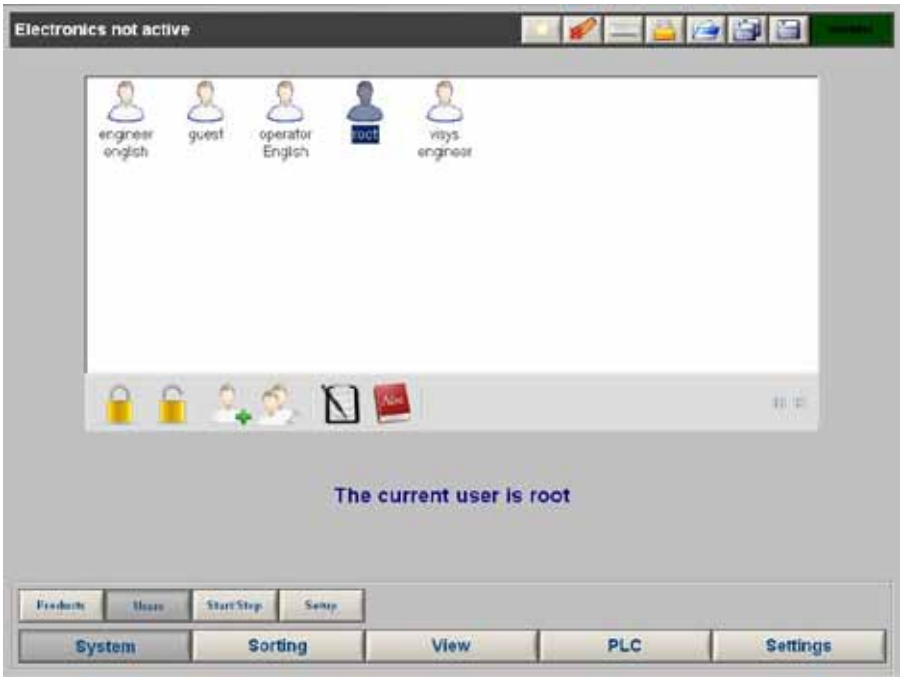


FIGURE 9.4: USER ROOT HAS JUST LOGGED ON

After pushing the new user button , customers can create new user accounts by typing the user name, password and selecting the corresponding user level.

System / Users


Log on


Log off


Add new user


Administrate user groups


Delete user


User related setting

Language settings

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

9.2.2.1 Starting and stopping the lasers

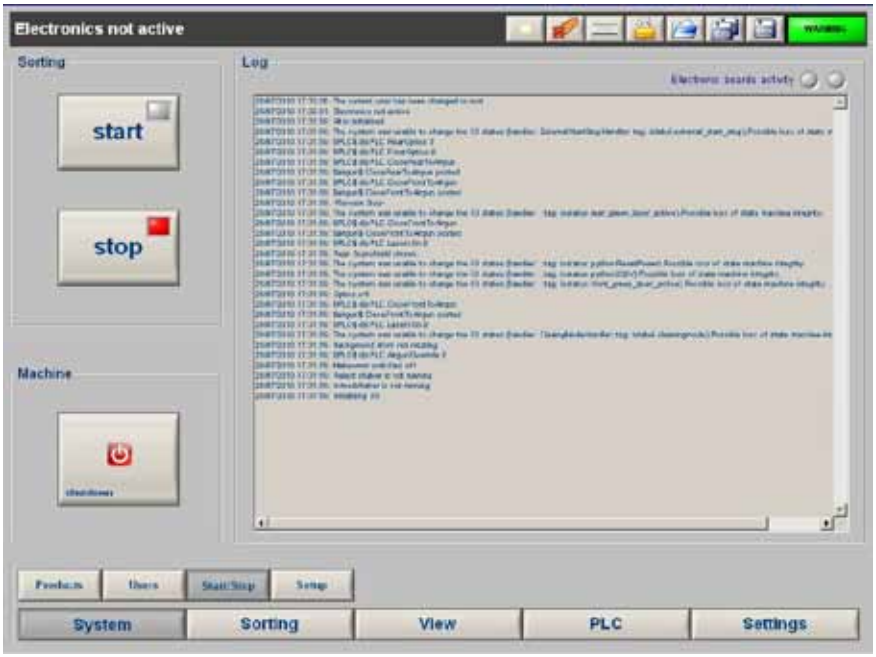


FIGURE 9.5: STARTING – STOPPING LASER ACTIVITY

The "Start" and "Stop" buttons in the sorting section are used to control the sorting process for a specific product. "Start" will give the user the opportunity to start the Visys Python Smart Laser Sorter with the current settings, the last program which was saved or to load a new program. After choosing 1 of the 3 available options the appropriate parameters will be loaded and the electronics and lasers will be switched on. The Visys Python Smart Laser Sorter is ready for production.

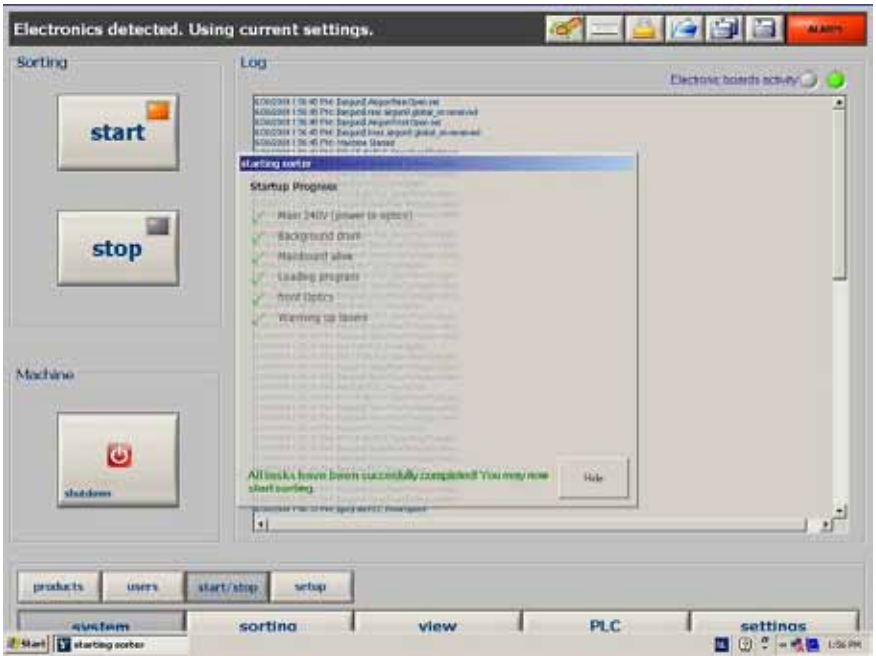


FIGURE 9.6: STARTING THE VISYS PYTHON SMART LASER SORTER

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

The “Shutdown” button is used to shutdown the GUI and the machine. Before the machine will stop completely the user needs to confirm that he wants to switch off the machine.

9.2.2.2 **Program selection (Products)**

The product settings section provides the user tools to load, save, rename and delete product settings files. Once the Visys Python Smart Laser Sorter has been started, loading a program will immediately load the parameters into memory and activate the selected program. There is no need to stop the production while switching from one program to another.

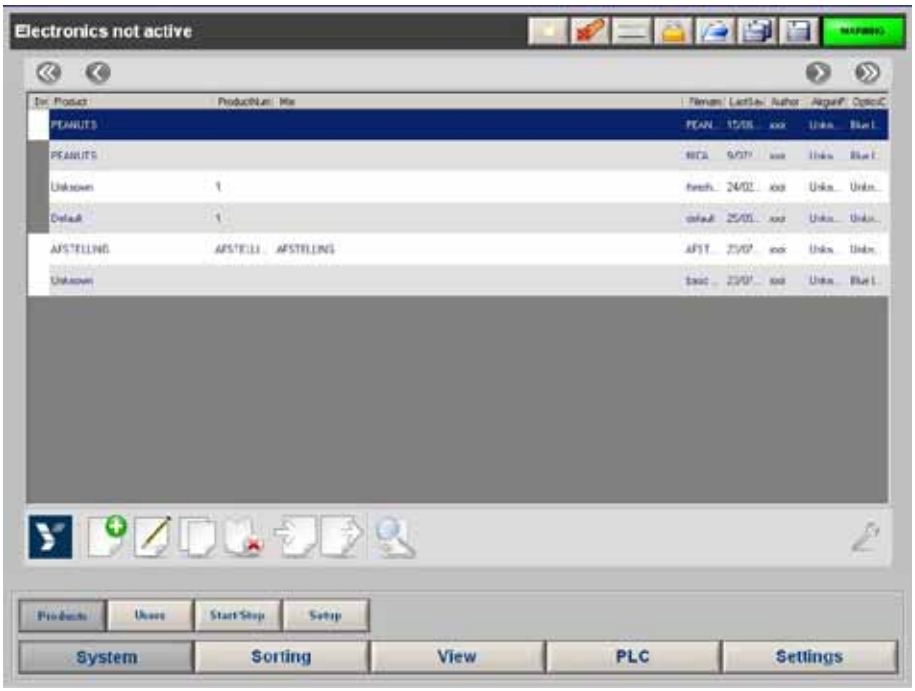


FIGURE 9.7: PROGRAM SELECTION

System / Programs


OR

Open an existing program

Save

Save all

Save as…

Delete product file

New product file

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

System / Programs

Edit product file

Copy product settings

Import product settings

Export product settings

Lookup

Configure product setting

9.2.2.3 Setup

This menu can only be accessed by VISYS certified engineers.

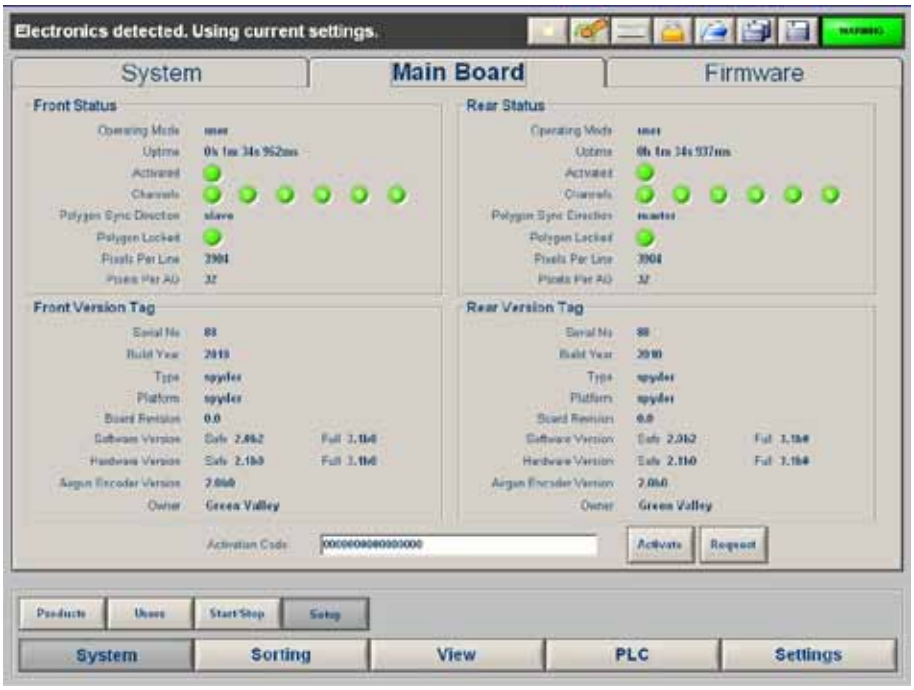


FIGURE 9.8: GUI – SYSTEM - SETUP

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

9.2.3 Sorting

This is the most important section of the user interface and allows users to set and fine-tune any sorting parameter during production.

The screen shows 4 main sections:

Sorting activity (I)

Thresholds (II)

Signal (III)

Selection (IV)

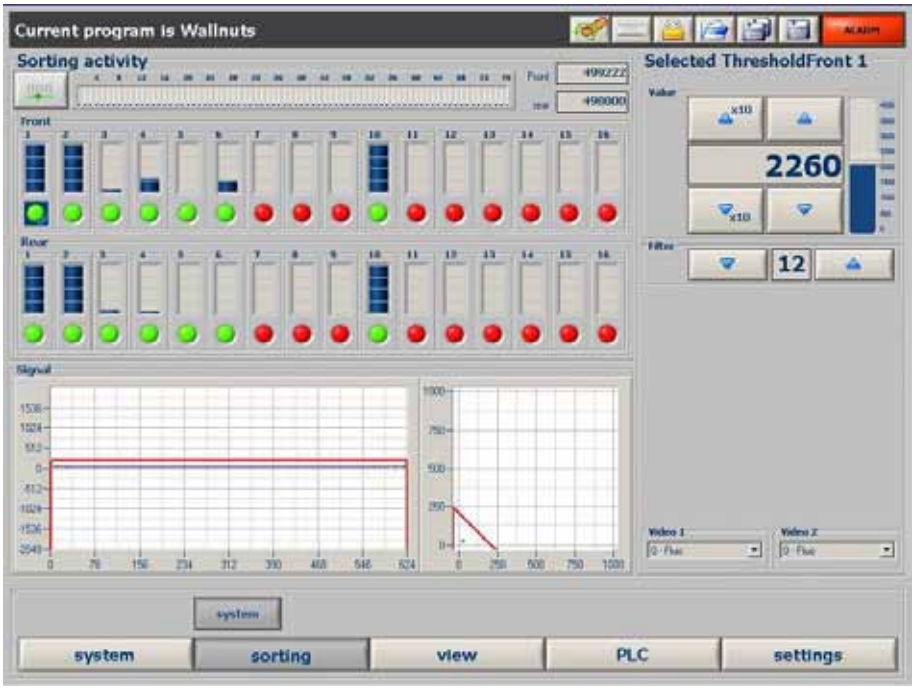


FIGURE 9.9: SORTING SCREEN

9.2.3.1 Sorting Activity

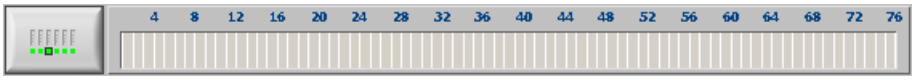


FIGURE 9.10: ACTIVITY OF THE EJECTORS

This section shows the activity of the ejectors and is a good indication whether the product is spread consistently over the full width of the infeed chute. When an ejector is fired the corresponding field will be activated and shown as a dark bar. Next to the indication bar you also find a counter for the front activity and, if you have a double sided machine, also for the rear activity.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

Comparing these two counters gives you a good indication about the fine-tuning of the front & rear thresholds because under normal circumstances the two numbers have to be similar.

9.2.3.2 Thresholds

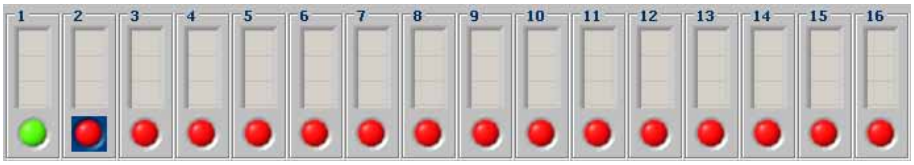


FIGURE 9.11: THRESHOLDS

This section of the screen visualizes the thresholds that are activated and their activity. You see 16 thresholds (front) which can be used in case of a single sided or two rows of 16 thresholds (front and rear) for a double sided machine.

The indicator for each threshold can be green, when activated or red when the threshold is switched off. Activating or deactivating a threshold can be done by pushing the red or green indicator, respectively.

Above each indicator you also find a bar graph which shows the activity of that threshold relative to the total threshold activity for that specific optic. So comparing all the bar graphs of one optic (front or rear) gives an idea of which threshold has the largest activity. Pushing a bar graph selects the threshold and a blue square will appear around the associated indicator.

Fine-tuning the thresholds during production can be done by comparing the bar graphs of the corresponding front and rear thresholds (e.g. Threshold 1 of front and Threshold 1 of rear). If there are big differences between front and rear you can do one of the following steps depending on the reject stream:

If the machine doesn't reject a lot of good product you can increase the value of the threshold with the lowest activity on the bar graph.

If the machine already shoots out a lot of good product you have to decrease the value of the threshold with the highest activity on the bar graph.

9.2.3.3 Signal

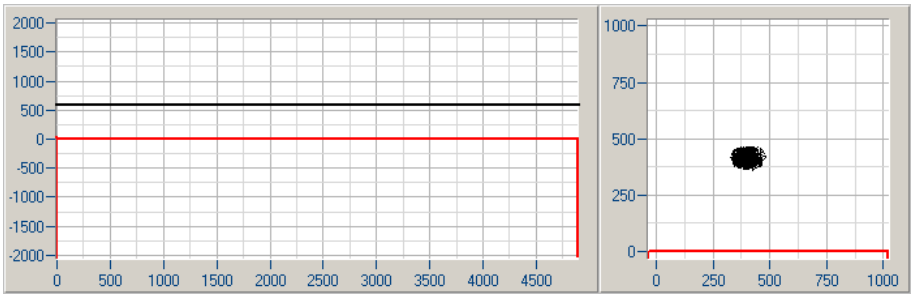


FIGURE 9.12: SIGNAL SECTION

This section shows the signals used for the threshold which is currently selected. The view is updated a number of times per second and can be used as an oscilloscope function for fine-tuning and/or maintenance.

The left image shows the signal on a timescale and is the signal used by the digital sorting platform. When the signal goes into the red zone, which is the threshold level, it is considered as a defect and the appropriate airgun(s) will be activated. This view can also be used to analyze the signal behaviour of any defect and product when you use only one video signal (Video 1 = Video 2).

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

The right image is a combination view of the signals used for the selected threshold. This images shows the signals as a cloud with a high concentration where the background is situated. Any part of the signal that goes into the red threshold area is considered as a defect and the appropriate airgun(s) will be activated. This view can also be used to analyze the signal behaviour of any defect and product when you use two different video signals (Video 1 ≠ Video 2).

9.2.3.4 Selection

After selecting a threshold all the associated parameters for that particular threshold are shown in the "Selection" area. Depending on the user level some of these parameters cannot be accessed and changed.

All numbers (whether it is the value, filter, overlap…) can be changed by means of the arrows or by tapping twice on it. In this case a numeric keyboard will appear and the value for that specific parameter can by typed.

FIGURE 9.13: NUMERIC KEYPAD

The "Value" shows the threshold value for the selected threshold and can be changed by pushing the buttons or using the slider bar.

FIGURE 9.14: VALUE SETTING

The "Filter" shows the smallest size the defect should be before it will be detected by this threshold. Below are the dimensions in millimetre for each possible filter setting.

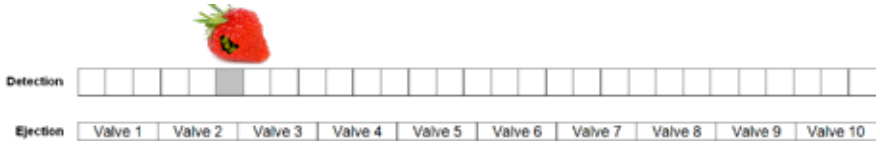
FIGURE 9.15: FILTER SETTING

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

Filter setting	Dimensions (in mm)
15	0,5 x 1,5
14	1,0 x 1,5
13	1,5 x 1,5
12	2,5 x 3,0
11	3,5 x 3,0
10	4,5 x 3,0
9	5,5 x 4,5
8	6,5 x 4,5
7	7,5 x 6,0
6	8,5 x 6,0
5	9,5 x 7,5
4	10,5 x 7,5
3	11,5 x 9,0
2	13,5 x 9,0
1	15,5 x 9,0
0	17,5 x 9,0

The "Overlap" enables the sorter to activate more than one air gun when a defect is on the edge between 2 air guns. This can improve the elimination of larger product with small spots (defects) on.

FIGURE 9.16: OVERLAP SETTING



For example: a spot on a strawberry is detected at valve 2, but if only valve 2 opens, the strawberry will not be ejected but will twirl around. If we put the overlap higher, valve 2 and valve 3 will open and the defect will be eliminated.

The "Angle" is used to fine-tune a threshold that combines 2 signals. This way it is possible to only take part of a signal into account to be combined with another signal. Determining the angle parameter is done by the installation engineer. Only advanced users and VISYS certified service engineers are advised to change this parameter.

FIGURE 9.17: ANGLE SETTING

The "Limit low - high" parameter can limit the working area of the threshold in its workspace. Determining the limit parameter is done by the installation engineer. Only advanced users and VISYS certified service engineers are advised to change this parameter.

FIGURE 9.18: LIMIT LOW-HIGH PARAMETER

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

The "Sign" determines whether the threshold is active above or under the electronic signal. For example: a threshold to detect defects lighter in colour then the background would be set to "+", one for darker things would be set to "-". Determining the sign parameter is done by the installation engineer. Only advanced users and VISYS certified service engineers are advised to change this parameter.

FIGURE 9.19: SIGN PARAMETER

The "Limit" determines on which axe of the signal plane the threshold will be active. Determining the limit parameter is done by the installation engineer. Only advanced users and VISYS certified service engineers are advised to change this parameter.

FIGURE 9.20: LIMIT

The "Split" parameter enables a user to divide the incoming product stream into 2 different sorting streams with different thresholds for each product stream. This advanced feature is often used to run a recycling stream together with incoming product stream. It gives you virtually 2 sorting machines in 1 sorting unit. Determining the split parameter is done by the VISYS installation engineer. Only advanced users and VISYS certified service engineers are advised to change this parameter.

FIGURE 9.21: SPLIT SETTING

The "Video 1" and "Video 2" drop down boxes allow the user to select the signals used for that specific threshold. This could be only one signal (Video 1 = Video 2) or the combination of 2 signals (Video 1 ≠ Video 2).

FIGURE 9.22: VIDEO SETTINGS

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

9.2.4 View

In the “View” screen airgun and video information is available.

9.2.4.1 Airgun

This screen gives a graphical presentation of the airgun activity and allows testing the airguns after switching on the “test” button on the left side.

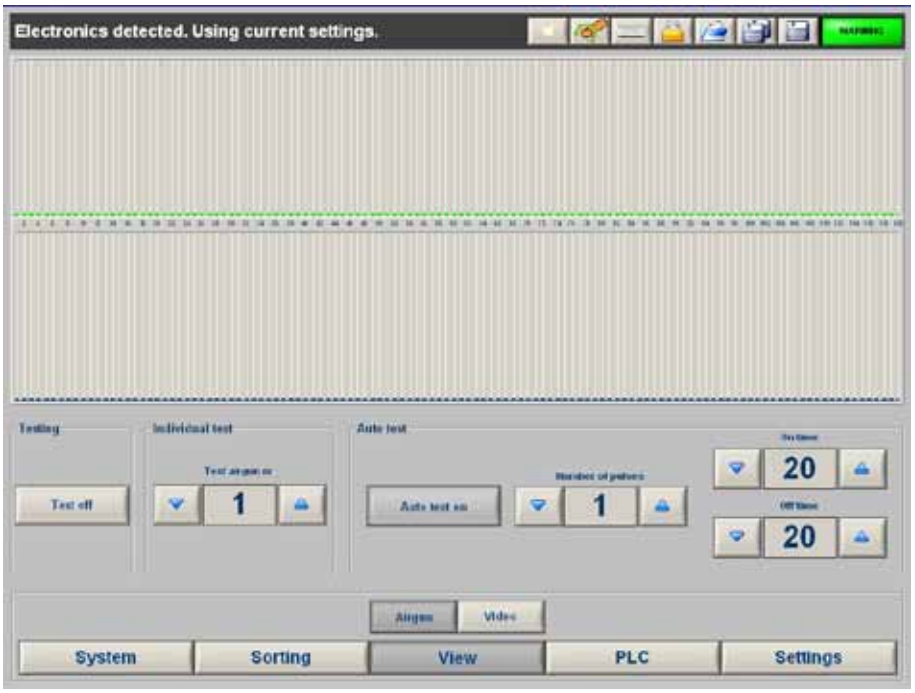


FIGURE 9.23: GRAPHICAL VIEW OF THE AIR GUN ACTIVITY

Valve activity:

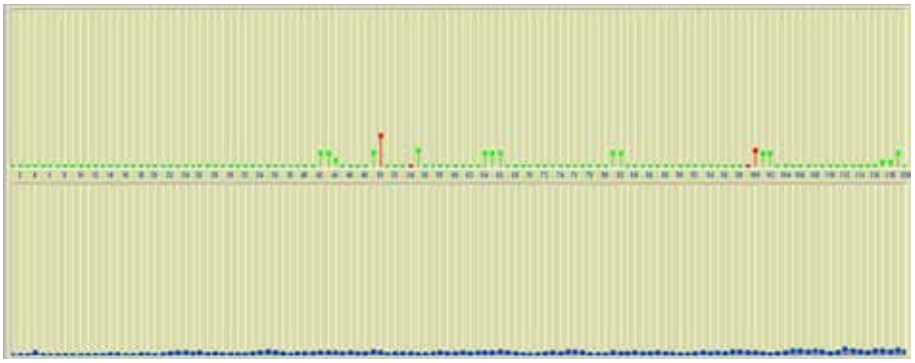


FIGURE 9.24: VALVE ACTIVITY

q Testing:

- Manual test:

  When the “auto test” button is deactivated, the operator can test the airguns separately by selecting the desired airgun in the “individual test” section.

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

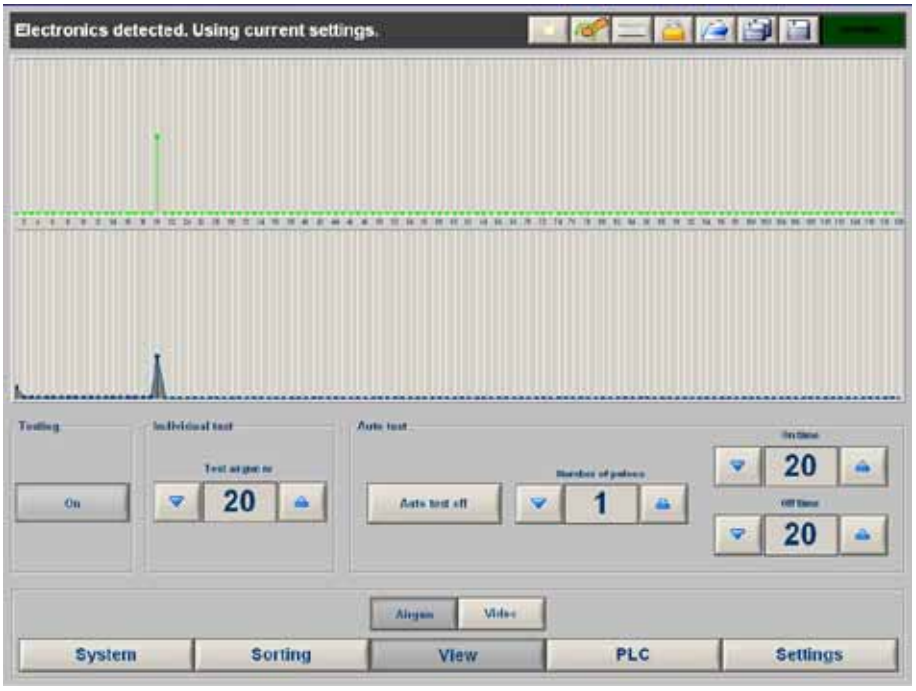


FIGURE 9.25: MANUAL TESTING AIRGUN N°20

- Automatic Test: When the “auto test” button is activated, the air guns will be tested automatically one after the other.

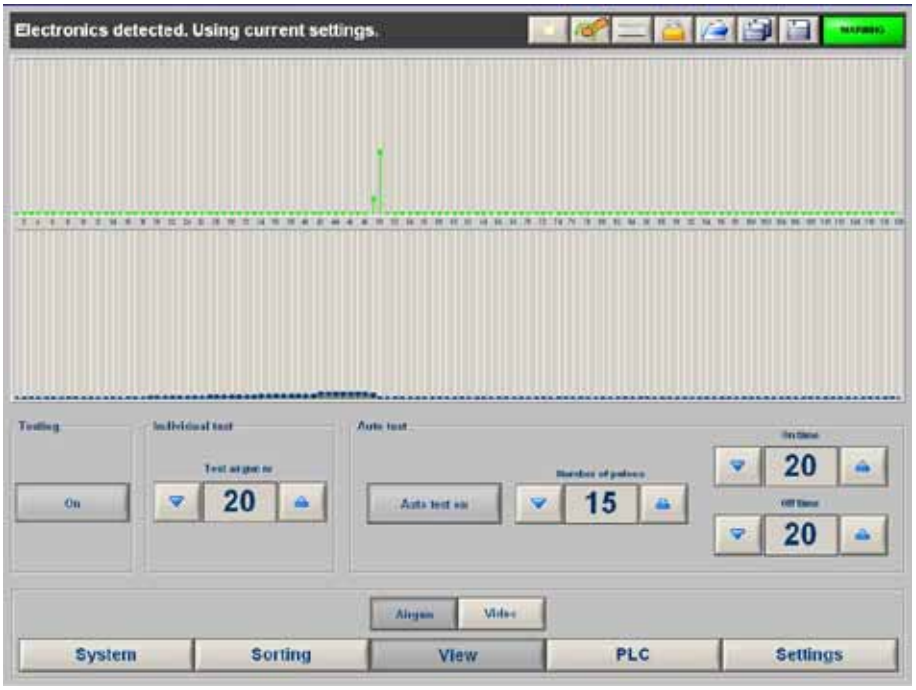


FIGURE 9.26: AUTOMATIC TESTING OF ALL AIR GUNS

The number of pulses, time on and time off during the auto test can also be set but will not influence the sorting.

For manual testing of the air valves, a minimum time setting of time on ‘20’ and time off ‘20’ are advised.

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

9.2.4.2 Video

This section shows simultaneous the separate electronic signals coming from the laser sensors (up to 6 for each inspection unit). Selecting the tabs on top, in case of a double sided machine, switches between the front and rear video signals. This view can be used for more advanced problem solving in finding the right signal combinations.

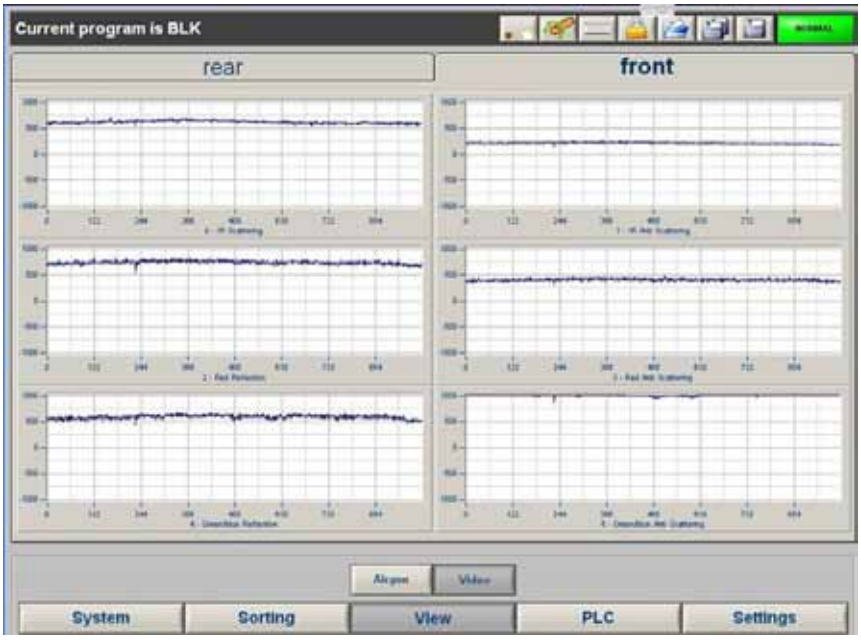


FIGURE 9.27: SEPARATE VIEW OF THE ELECTRONIC SIGNALS

9.2.5 PLC

9.2.5.1 Overall system settings

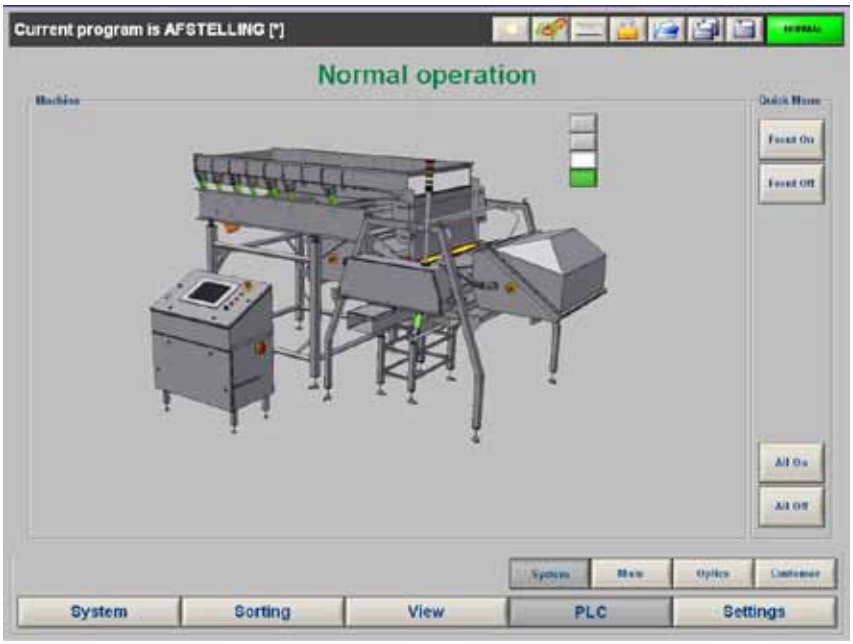


FIGURE 9.28: GUI – SYSTEM -PLC

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

This screen informs the user about the I/O status (Inputs and Outputs) of the machine. I/O modules can be found in several parts of the Visys Python Smart Laser Sorter: the control unit, the front inspection unit and in case of a double sided machine the rear inspection unit as well.

A red indicator shows a non active I/O, a green an active I/O and a gray indicator an I/O which is not used.

To make troubleshooting in case of an alarm easier, the alarm will be described and the part of the machine where the alarm occurs will become red.

9.2.5.2 I/O Modules Main Cabinet:

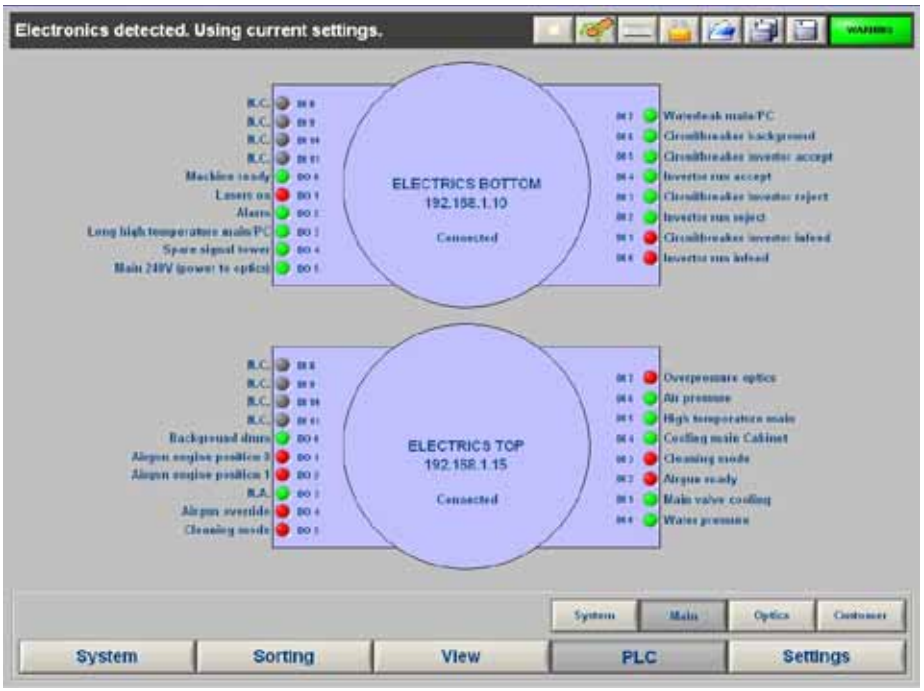


FIGURE 9.29: I/O MAIN CABINET

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

9.2.5.3 I/O Modules Front Optics and Rear Optics (OPTIONAL):

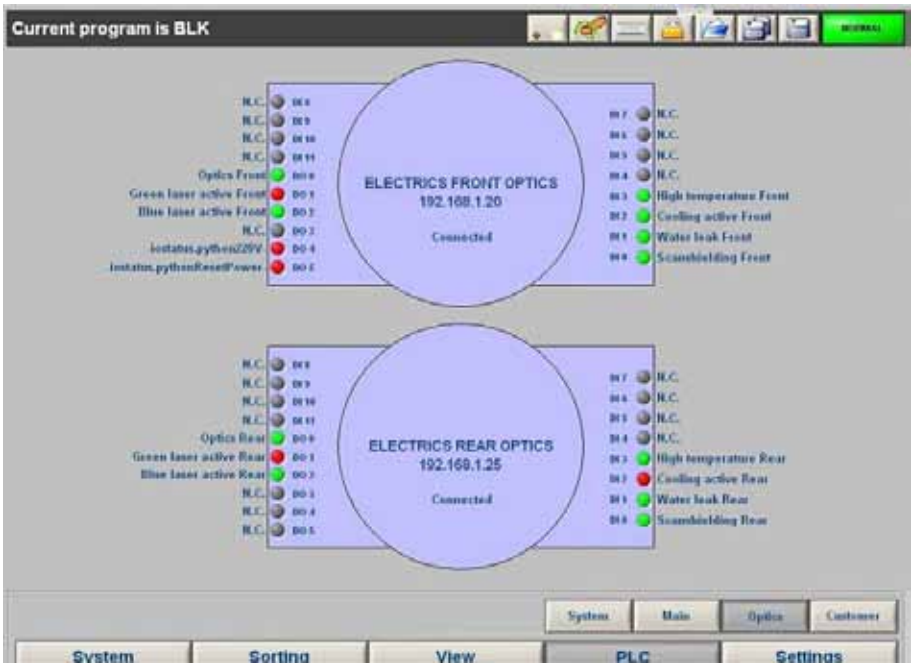


FIGURE 9.30: I/O OPTICAL CABINET

9.2.5.4 I/O Modules Customer Interface (External contacts):

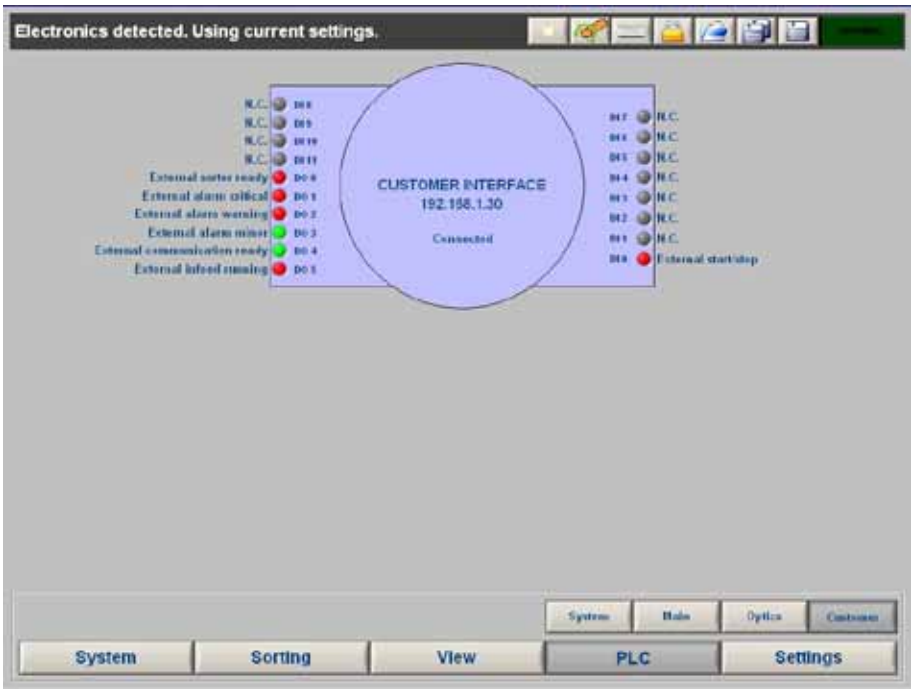


FIGURE 9.31: I/O CUSTOMER INTERFACE

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

9.2.6 Settings

This section controls 2 of the most important parts of the Visys Python Smart Laser Sorter: the optics and the air guns.

The parameters on these screens are set when the machine is installed and are the basis for every sorting. Only advanced users and VISYS certified service engineers are advised to change parameters in this section.

These parameters are defined in the air gun section of the settings menu. Here the user can define what the ejector positioning is. Other parameters define when and how long air guns need to be activated to eliminate a detected defect.

Visual Icons used in the GUI

System / Users

	Log on
	Log off
	Add new user
	Administrate user groups
	Delete user
	User related setting
	Language settings

System / Programs

	Open
	Save
	Save all
	Save as…
	Delete product file
	New product file
	Edit product file
	Copy product settings

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

System / Programs

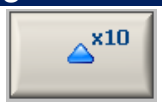
Import product settings

Export product settings

Lookup

Configure product setting

Sorting

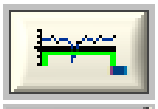


Increase value 10-step

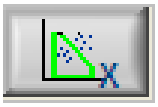
Decrease value 10-step

Increase value 1-step

Decrease value 1-step

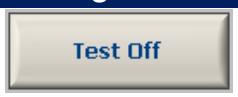


Sign



Limit

View / Airguns



Activate single airgun test

Activate automatic airgun test

Settings / Video

Undo

Single shot

Run

Build Image

Store Sequence

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

Settings / Video

Combine signals

Uncombine signals

Settings / Airgun

Overblast on

Overblast off

Mono

Trig

General

Last

Previous

First

Next

Drum rotating

On screen keyboard

Air Gun Manifold position (Wide or narrow)

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

10 Electric Diagrams

This page is left blank intentionally

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

11 Pneumatic Diagrams

This page is left blank intentionally

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

12 Mechanical Drawings

This page is left blank intentionally

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

13 External documentation

N°	Supplier	Item	Type
0	Visys	This Manual	Service Manual
1	DTE	Water Cooling Equipment	K003.6
2	Advantech	Data Acquisition Module	ADAM – 6052; ADAM - 6066
3	Allen Bradley	Safety relay	MSR 126.1T
4	Allen Bradley	Guard Master-Coded sensor	440N Magnetically coded
5	Allen Bradley	Guard Master-Actuator	440N Magnetically coded

Kiewitstraat 242 | B-3500 Hasselt – Belgium
www.visysglobal.com
T: +32 (0) 11 24 91 91
F: +32 (0) 11 24 91 99
service@visysglobal.com

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

14 Request Forms

14.1 Documentation comment form

VISYS encourages you to comment on the documentation supplied with the product. This information helps us to provide quality products to meet your needs.

Customer Information Date:

Name: _____

Company: _____

Address: _____

Phone: _____

Fax: _____

Title _____

Manual ID & version n°: _____
[at the bottom of this page]

Please comment on the completeness, clarity and organisation of the manual.

_____

_____

_____

_____

_____

If you find errors in the manual, please record the page numbers and describe the errors.

_____

_____

_____

_____

_____

_____

_____

_____

_____

Copy this page and send it to:

VISYS DOCUMENTATION DEPARTMENT

Kiewitstraat 242

B – 3500 Hasselt [Belgium]

+32 11 24 91 99 service@visysglobal.com

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

14.2 Technical support form

Complete this form accurately before contacting the Visys Customer Service Department. It will help us to trouble shoot your problem more efficiently. It is also part of the technical customer service –file.

Customer Information Date:

Name: _____

Company: _____

Address: _____

Phone: _____

Fax: _____

Machine Identification

Model: _____

Serial n°: _____

Software version: _____

Problem description

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com

List any error messages

The next steps will reproduce the error/problem

Copy this page and send it to:

VISYS CUSTOMER SERVICE DEPARTMENT
Kiewitstraat 242
B – 3500 Hasselt [Belgium]
+32 11 24 91 99 service@visysglobal.com

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

14.3 Request form – Spare Parts

Complete this form accurately before sending it to the Visys Customer Service Department. Check the complete spare parts list for the correct article and corresponding article number, description, …. You can find the complete spare parts list summarized in chapter " " in this manual.

Customer Information Date:

Name: _____

Company: _____

Address: _____

Phone: _____

Fax: _____

Shipping Address: _____

Machine Identification

Model: _____

Serial n°: _____

Spare part Information

Article n°	Description	Quantity

Copy this page and send it to:

VISYS CUSTOMER SERVICE DEPARTMENT

Kiewitstraat 242

B – 3500 Hasselt [Belgium]

+32 11 24 91 99 service@visysglobal.com

15 Visys World Wide

Head Quarters	
Kiewitstraat 242 B-3500 Hasselt – Belgium	Tel.: +32 (0) 11 24 91 91 Fax.: +32 (0) 11 24 91 99
KBC 733-0229001-14 IBAN Be94 7330 2290 0114 SWIFT/BIC KREDBEBB	BTW BE 0867 831 383 RPR HASSELT
info@visysglobal.com	www.visysglobal.com

Customer Service	
service@visysglobal.com	Tel.: +32 (0) 11 24 91 88
During business hours: 8 – 18h (Central European time)	

Kiewitstraat 242 | B-3500 Hasselt – Belgium T: +32 (0) 11 24 91 91 service@visysglobal.com
www.visysglobal.com F: +32 (0) 11 24 91 99

service@visysglobal.com T: +32 (0) 11 24 91 91 F: +32 (0) 11 24 91 99 Kiewitstraat 242 | B-3500 Hasselt – Belgium www.visysglobal.com