



Intellispec™ Operator Guide

SOFTWARE VERSION: 5.7 SOFTWARE

MANUAL PART NUMBER: 81278 REV. 01

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Chapter 1 Pressco Introduction

Welcome!

Congratulations on your purchase of an Intellispec system! The Intellispec is a high-speed machine vision system designed specifically for product and online process monitoring. It is a powerful tool that provides inspection much more reliably than the human eye or sampling methods. The latest PC technology, powerful inspection algorithms, online adjustment capability, and inspection data storage allow the Intellispec to automatically inspect parts with extreme accuracy on high-speed lines.

The Intellispec will help you provide the highest quality of products shipped to your customers.

About This Operator Guide



IMPORTANT: *Keep this manual for future reference*

This book is considered an integral part of the system and should be kept handy for future reference as long as the system is being used in your plant.

The purpose of this manual is to describe the Operator-level functions of the software, safety information, and maintenance.

This manual:

- Is considered to be valid for Intellispec version 5.7. Contents of this manual are subject to change without notice.
- Is your responsibility to keep in good condition, in a dry place, and ready for consultation by the authorized users of the system.
- Contains the technology implemented at the time of selling and supplying the system and shall not be considered inadequate in case of technological enhancements in the machine or in the manual's illustrations.

Related books include:

- Intellispec Series V Software Administrator Guide, which describes all the features of the software, and is intended for Administrator-level users
- Intellispec Series V Hardware Guide (multiple options)

The following types of alerts may appear in this guide:



DANGER! - Danger messages alert you to specific conditions that can cause serious or fatal personal injury. Danger messages give you important information which must be observed to prevent injury.



WARNING: - Warning messages indicate information which must be observed to prevent injury, data loss, or equipment damage.



CAUTION - Caution messages indicate important information which must be observed to prevent: loss of data, poor system performance, or equipment damage.

Note: Notes contain special information that warrants being set off from the body text as shown here.



IMPORTANT - Indicates prerequisites or information that must be observed to complete or understand a concept or task.

TIP: Provides helpful hints for completing a task.

Static Discharge Protection



Caution - Electronic components can be damaged by static electricity discharge.

Always observe the following precautions before removing, installing or handling any electronic components within the inspection system:

- Wear an anti-static wristband which is grounded to the Inspection System.
- Stand on an anti-static, grounded floor mat, and lay circuit boards on the mat during any board replacement.
- Keep circuit boards in static shield bags when storing and transporting. Ensure the bag is sealed.

Chapter 2 EU Declarations of Conformity

Declaration of Conformity - Intellispec System

Declaration	The listed product is in conformity with following Union harmonization legislation: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility and with Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. The Technical Documentation demonstrates the fulfillment of the essential requirements as set out in Annex I of the above Directive.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	Intellispec Series V Inspection System
Referenced harmonised standards to which conformity is declared:	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements EN 55011:2009 + A1:2010: Radiated / Conducted Emissions EN 61000-4-2:2009: ESD Immunity EN 61000-4-3:2006 + A1:2008 + A2:2010: Radiated RF Immunity EN 61000-4-4:2004 + A1:2010: EFT Burst Immunity EN 61000-4-5:2006: Surge Immunity EN 61000-4-6:2009: Conducted RF Immunity EN 61000-4-11:2004: Voltage Dips & Interruptions EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
Technical File	EMR2932 & ES2932
Place	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA

Signed for and on behalf of Pressco Technology Inc., 29200 Aurora Road, Cleveland, OH USA 44139:

 VP, ENG. OPERATIONS

Name, Position



Date

Chapter 2

Signed: Fredrick F. Awig, VP of Engineering & Operations. Signed for and on behalf of Pressco Technology Inc.

Date: 22 August 2016

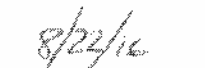
Declaration of Conformity - CSL System

Declaration	The listed product is in conformity with following Union harmonization legislation: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility and with Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. The Technical Documentation demonstrates the fulfillment of the essential requirements as set out in Annex I of the above Directive.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	Compact Single Lane (CSL)
Referenced harmonised standards to which conformity is declared:	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements EN 55011:2009 +A1:2010: Radiated / Conducted Emissions EN 61000-4-2:2009: ESD Immunity EN 61000-4-3:2006 + A1:2008 + A2:2010: Radiated RF Immunity EN 61000-4-4:2004 + A1:2010: EFT Burst Immunity EN 61000-4-5:2006: Surge Immunity EN 61000-4-6:2009: Conducted RF Immunity EN 61000-4-11:2004: Voltage Dips & Interruptions EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
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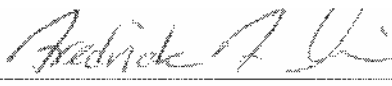
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Declaration of Conformity - FHCP3X-EZ System (MS)

Declaration	Pressco Technology, Inc. FHCP3X-EZ System is in conformity with Directive 2006/42/EC of The European Parliament and of the Council of 17 May 2006.
Other Directives	Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of Member States relating to electromagnetic compatibility.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	FHCP3X-EZ System
Standards Used (only major standards listed)	EN60204-1 (2006): Safety of machinery – Electrical equipment of machine Part 1: General requirements EN14120 (2015): Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards EN ISO 13849-1 (2015): Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design EN ISO 13855 (2010): Safety of machinery - Positioning of safeguards with respect to approach speeds of parts of the human body EN1037 (2008)+A1(2008): Safety of Machinery – Prevention of unexpected startup EN ISO 14119 (2013): Safety of machinery - Interlocking devices associated with guards - Principles for design and selection EN1837 (1999)+A1(2009): Safety of machinery - Integral lighting of machines EN13850 (2015): Safety of Machinery – Emergency stop equipment, functional aspects – Principles for design EN13857 (2008): Safety of Machinery – Safety distances to prevent danger zones from being reached by upper and lower limbs EN ISO 12100 (2010): Safety of machinery - General principles for design - Risk assessment and risk reduction
Technical File	MS4113
Compiler of Technical File	Safenet Ltd, Notified Body 1674 Denford Garage, Denford, Kettering, Northants., NN14 4EQ, U.K.
Electrical Diagram	72999W and 72999E
Place	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA

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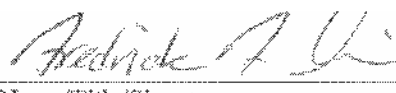
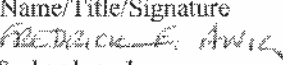
Signature of Manufacturer:  VP, ENG. & OPERATIONS
Name/Title/Signature
Fredrick F. Awig
Place: Pressco Technology Inc. 25 May 2016
29200 Aurora Road
Cleveland, Ohio 44139-1847

Signed: Fredrick F. Awig, VP of Engineering & Operations. Signed for and on behalf of Pressco Technology Inc.

Date: 25 May 2016

Declaration of Conformity - FHCP3X-EZ System (EMC)

Declaration	Pressco Technology, Inc. FHCP3X-EZ System is in conformity with Directive 2014/30/EU of the European Parliament and of the Council of 26 February
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	FHCP3X-EZ System
Standards Used (only major standards listed)	EN 61000-6-2 (2005) Electromagnetic compatibility – Part 6-2: Generic standards – Immunity for industrial environments EN 61000-6-4 (2007+A1:2011) Electromagnetic compatibility – Part 6-4: Generic standards – Emission standard for industrial environments BSEN 55011 (2009+A1:2010) Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment
Technical File	MS4113 Hursley EMC Services, Ltd.
Competent Body	Notified Body of the U.K. 1890 Trafalgar House, Trafalgar Close Chandlers Ford, Eastleigh, Hampshire SO53 4BW, Great Britain
Assessment Certificate Number	14R538, Dated: March 18, 2015
Means of Conformity	The product is in conformity with Directive 2014/30/EU based on test results referencing harmonized standards and the use of a Technical File in accordance with Article 7 of the Directive.
Electrical Diagram	72999W and 72999E
Place	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA

Signature of Manufacturer:  VP, ENG. & OPERATIONS
Name/Title/Signature

Place: Pressco Technology Inc. 25 May 2016
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Date: 25 May 2016

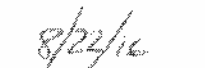
Declaration of Conformity - Cluster Box

Declaration	The listed product is in conformity with following Union harmonization legislation: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility and with Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. The Technical Documentation demonstrates the fulfillment of the essential requirements as set out in Annex I of the above Directive.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	Cluster Box
Referenced harmonised standards to which conformity is declared:	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements EN 55011:2009 +A1:2010: Radiated / Conducted Emissions EN 61000-4-2:2009: ESD Immunity EN 61000-4-3:2006 + A1:2008 + A2:2010: Radiated RF Immunity EN 61000-4-4:2004 + A1:2010: EFT Burst Immunity EN 61000-4-5:2006: Surge Immunity EN 61000-4-6:2009: Conducted RF Immunity EN 61000-4-11:2004: Voltage Dips & Interruptions EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
Place	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA

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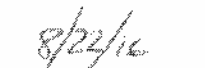
Declaration of Conformity - Embedded Cluster Box

Declaration	The listed product is in conformity with following Union harmonization legislation: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility and with Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. The Technical Documentation demonstrates the fulfillment of the essential requirements as set out in Annex I of the above Directive.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	Embedded Cluster Box
Referenced harmonised standards to which conformity is declared:	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements EN 55011:2009 +A1:2010: Radiated / Conducted Emissions EN 61000-4-2:2009: ESD Immunity EN 61000-4-3:2006 + A1:2008 + A2:2010: Radiated RF Immunity EN 61000-4-4:2004 + A1:2010: EFT Burst Immunity EN 61000-4-5:2006: Surge Immunity EN 61000-4-6:2009: Conducted RF Immunity EN 61000-4-11:2004: Voltage Dips & Interruptions EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
Place	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA

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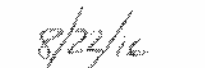
Declaration of Conformity - CPX Inspection Module

Declaration	The listed product is in conformity with following Union harmonization legislation: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility and with Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. The Technical Documentation demonstrates the fulfillment of the essential requirements as set out in Annex I of the above Directive.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	CPX Inspection Module
Referenced harmonised standards to which conformity is declared:	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements EN 55011:2009 +A1:2010: Radiated / Conducted Emissions EN 61000-4-2:2009: ESD Immunity EN 61000-4-3:2006 + A1:2008 + A2:2010: Radiated RF Immunity EN 61000-4-4:2004 + A1:2010: EFT Burst Immunity EN 61000-4-5:2006: Surge Immunity EN 61000-4-6:2009: Conducted RF Immunity EN 61000-4-11:2004: Voltage Dips & Interruptions EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
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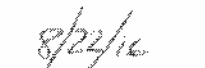
Declaration of Conformity - Intellimass

Declaration	The listed product is in conformity with following Union harmonization legislation: Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility and with Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits. The Technical Documentation demonstrates the fulfillment of the essential requirements as set out in Annex I of the above Directive.
Manufacturer	Pressco Technology Inc. 29200 Aurora Road Cleveland, Ohio 44139-1847 USA This declaration of conformity is issued under the sole responsibility of the manufacturer.
Product Name	Intellimass
Referenced harmonised standards to which conformity is declared:	EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use — EMC requirements — Part 1: General requirements EN 55011:2009 +A1:2010: Radiated / Conducted Emissions EN 61000-4-2:2009: ESD Immunity EN 61000-4-3:2006 + A1:2008 + A2:2010: Radiated RF Immunity EN 61000-4-4:2004 + A1:2010: EFT Burst Immunity EN 61000-4-5:2006: Surge Immunity EN 61000-4-6:2009: Conducted RF Immunity EN 61000-4-11:2004: Voltage Dips & Interruptions EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
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Name, Position



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Chapter 2

Date: 22 August 2016

Chapter 3 Safety Information

This section contains operator safety information that must be read before operating or servicing the system.



WARNING - This product contains no operator serviceable parts. Refer servicing to qualified personnel. To prevent electrical shock do not open cabinet doors whilst power is connected.



WARNING - Do not, under any circumstances, tamper with sealed machine parts or devices. This could result in the removal of protections that might create potentially hazardous conditions.



CAUTION - Possible hazardous optical radiation from LEDs. Do not stare at lamps.

Health Warning - Photosensitive Epilepsy



WARNING: PHOTOSENSITIVE EPILEPSY/ SEIZURES

A small percentage of individuals may experience epileptic symptoms or seizures when exposed to certain patterns or flashing lights. Exposure to the flashing lights in vision inspection systems may also trigger epileptic symptoms or seizures in these individuals. These flashing lights may trigger epileptic symptoms or seizures in persons who have no history of epileptic symptoms or seizures. If you, or anyone in your family has an epileptic condition or has had seizures of any kind, consult your physician before operating this machinery.

IMMEDIATELY DISCONTINUE use and consult your physician if you experience any of the following symptoms while operating this machinery:

- Dizziness
- Altered vision
- Eye or muscle twitches
- Loss of awareness
- Disorientation
- Seizures
- Any involuntary movement or convulsion

Epileptic symptom or seizure triggers vary from person to person. Some common triggers are:

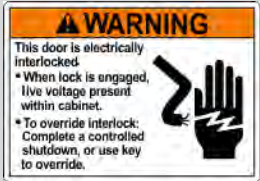
- Flashing lights used for vision inspection systems or fire alarms
- Certain video games or TV broadcasts containing rapid flashes or alternating patterns of different colors
- Bright, contrasting patterns such as white bars against a black background
- Flashing white light followed by darkness
- Stimulating images that take up your complete field of vision, such as being very close to a TV screen or computer monitor
- Certain colors, such as red and blue

If you encounter something that might trigger epileptic symptoms or seizures without warning:

- Do not close your eyes (this could cause a flicker effect)
- Do not look directly at the flashing lights or trigger source
- Do cover one eye with the palm of your hand immediately
- Do turn away from the flashing lights or trigger source

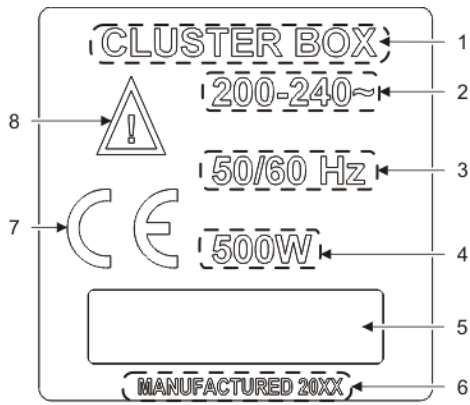
Symbols Used With This System

The following symbols are used on or near the Pressco system. Be aware of potential risk hazards.

Symbol	Meaning
	CAUTION: Risk of danger. Refer to accompanying user documentation before use.
	WARNING: Risk of electric shock
	WARNING: Risk of burns from hot surface
	WARNING: Hand crush hazard
	On (supply)
	Off (supply)
	Alternating current
	Protective conductor terminal
	Arc flash and shock hazard
	Electrical interlock

Label Description - Intellispec

The following illustration shows an example label that you will find on the Intellispec system components.



- 1) Name of component. NOTE: The Chromapulse model is listed on the front panel of the module.
- 2) Voltage range in Volts AC
- 3) Frequency range in Hertz (Hz)
- 4) Maximum rated power in watts (W) with all accessories or plug-in modules connected
- 5) Serial number is listed in this box
- 6) Year of manufacture
- 7) Component certification
- 8) Risk of danger. Refer to accompanying documentation before use.

Warning Devices

The Pressco system has warning devices that indicate system failure or report excessive defects or warnings for your production line. These include an optional light tree, alarms and indicators on screen, and audible warnings (depending on system).

Alarms

User-programmable alarms allow you to set the duration of the lights in the optional light tree and the horn if certain criteria are met.

In addition to the light tree, an alarm button is displayed on screen when certain criteria are met. You can click the alarm button to clear the alarm(s) and see more detailed information about the alarm condition.

Light Tree

The optional light tree is mounted on a pole in a customer-specified location.



The light tree color segments represent each alarm or system condition. A color segment may appear for more than one alarm condition.

Residual Risk

The Pressco system has been designed to minimize any danger of personal injury. However, the system uses rejection devices to remove defective product from the production stream. Also, the electronics cabinets contain risk of shock if they are opened.

Observe the following safety warnings when operating the system or working near it:

 **WARNING** - Potential for projectiles to strike persons and cause injury. Keep clear of reject devices.

 **WARNING** - Sensitive electronics and High Voltages may be exposed. Keep Processor Cabinet/ Electrical Control Box door closed.

Intended Use

Type of Process The Pressco system is intended to monitor container and other special manufacturing processes and identify non-conforming product.

Intended Use The Pressco system is designed and constructed for use in an indoor industrial environment, always sheltered from the weather.

Space Required The Pressco system and accompanying sensors must be installed in a place that will enable safe and easy installation, size changeover, user operation, and maintenance procedures.

Prohibited Use

 **WARNING** - If this instrument is not used as specified, the protection provided by the equipment could be impaired. This instrument must only be used in a normal condition (in which all means of protection are intact).

 **Important** - The Pressco system should NOT be used for any purpose other than specifically indicated in the section titled "**Intended Use**" above.

The following uses are not intended:

 Use in an explosive environment

 Use in a flammable environment

 Use in a damp, moist, or wet environment, except where specifically indicated

Personal Protective Equipment

 **Important** - Always follow the safety requirements of your plant in addition to the recommendations below.

We recommend, at minimum, use of the following Personal Protective Equipment (PPE):



Protective clothing



Protective gloves



Protective ear plugs or headphones



Protective eye wear



Protective foot wear

Personnel Safety

The following rules are recommended to ensure the safety of personnel in charge of machine operation and maintenance.

During machine operation:



Only one operator is needed to operate the machine. All others must keep at a safe distance.



Operators must be familiar with all machinery connected to the Pressco equipment and know how to use emergency stop devices.

Note: the emergency stop devices may not be connected directly to the Pressco equipment, but it is important to know how to use them.



Before putting the Pressco system online, the operator must ensure that all safety devices used with all connected machinery are in place and operational.

Do not operate with guards removed.



The operator must maintain maximum focus on his work and be alert throughout his shift. If this is not the case, immediately inform the shift supervisor.

When carrying out maintenance or repair work:



Disconnect master switch. For switch locations, refer to the Power Up and Power Down section.



Before starting the machine, ensure that no person is close to the machine.



If maintenance or repair requires the disconnection or removal of safety or protection systems, this operation must be supervised by authorized personnel who must ensure the prevention of personal injury or damage to the machine. All machine movements must be performed with limited speed and limited movements.



Maintenance or repair work on electrical components must be carried out exclusively by authorized, trained personnel. When running tests with power connected, you must strictly comply with the rules provided.



Personnel working on higher parts of a machine must wear a harness and hook it on to the structure and must always move with extreme caution.



Never perform lubrication or maintenance procedures on mechanical parts with the machine running.

For your safety, do not:



Open safety guards during machine operation



Perform maintenance and repair while the system is running



Lean on the machine



Sit on the machine components



Use the machine for purposes other than those listed in this manual



Modify parts of the machine



Allow unqualified personnel to operate or perform maintenance procedures on the machine

Lifting Heavy Objects



CAUTION - Some components are heavy. Take proper precautions to prevent personal injury or damage to equipment. If you are not capable of lifting the object alone, ask a capable person to help lift the object, or use a mechanical lifting device

The components do not have handles to lift the equipment. Be sure to:

- Lift equipment from the bottom - do not use wires, brackets, nor other protrusions
- Keep fingers away from sensor lenses to keep the equipment clean
- Proceed slowly



WARNING- The Pressco cabinets must NOT be lifted by one person. Use a mechanical lifting device, and ask another person to assist you.



Do not twist your body when moving the load. Instead take small steps with your feet turning until you are in the correct position.

To safely lift equipment:

1. Stand close to the load and center yourself over it with your feet shoulder width apart.
2. Tighten your abdominal muscles.
3. Keeping your back straight, bend your knees and squat down to the floor.
4. Get a good grasp on the load with both hands.

5. Keeping the load close to your body, use your leg muscles to stand up lifting the load off the floor. Your back should remain straight throughout lifting, using only the muscles in the legs to lift the load.
6. To place the load in the appropriate spot, bend at the knees using only your leg muscles to lower the load.

Authorized Users

Trained machine operators, mechanic and electrical maintenance staff, and plant managers are considered authorized users of the Pressco system. These users should carefully read the information contained in this manual. The plant manager must ensure that the safety recommendations included in this manual are observed.



WARNING - *Allowing workers who are unfamiliar with the production process to operate the Pressco system could result in hazard risk.*

If you are unclear about any part of this manual, contact Pressco Technical Support.



Important - *No worker should ever operate the system outside of his/ her own area of competence and responsibility.*

Proper Operation: Only one worker is to operate the system at any given time. The correct position for the operator is in front of the user interface monitor or control enclosure (if applicable).

Repairs: Any repair on the system shall be carried out exclusively by Pressco Technology Inc. service personnel or by other service expressly authorized by Pressco Technology Inc.

Spare Parts Usage

The following restrictions apply to replacing parts:



WARNING - *Using spare parts that are not designed to Pressco's specifications can compromise the safety and effectiveness of the Pressco system.*

- The use of parts that are not within Pressco's design specifications is prohibited. This prohibition applies in particular when the parts involved contain or are connected with safety devices.
- Before resuming production, make sure all safety devices are in working order.

Pressco Technology Inc. shall not be liable in any way if any of the above-described directions are not complied with.

To obtain a spare parts list, contact the customer service department at Pressco.

Pressco's technicians are available to help customers, in their own plant, to solve any problem that might arise during use and maintenance of the system.

Chapter 4 System Specifications

This instrument has been designed and tested in accordance with Publication EN61010-1 (2010) Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use and has been supplied in a safe condition. The instruction documentation contains information and warnings which must be followed by the user to ensure safe operation and to maintain the instrument in a safe condition.

For dimensions and other specifications for other Intellispec systems, refer to:

FHCP 3X systems: "Hardware Guide [FHCP 3X EZ]"

Compact Single Lane systems: "Hardware Guide [CSL+]"

Environmental Conditions

The Intellispec Series V system is designed to be safe in the following environmental conditions:

Note: Please consult Pressco Technology Inc. if your environmental conditions are outside of those listed.

Condition	Specifications
Indoor/ outdoor use	Indoor use only
Altitude	Up to 2000 meters
Operating Temperature	5 °C to 50 °C
Storage Temperature	0 °C to 70 °C
Humidity	Maximum relative humidity 80 % for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at 50 °C
Mains supply	Voltage fluctuations up to ± 10 % of the nominal voltage
Overvoltage protection rating	Transient overvoltage typically present on MAINS supply NOTE: the normal level of transient overvoltages is impulse withstand (over-voltage) category II of IEC 60364-4-443.
Rated pollution degree	This instrument is designed for use in Installation Category II and Pollution Degree 1 as per EN61010-1 and EN60664 respectively.



Warning - This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Sound Pressure Level

The horn on the optional light tree has a maximum 105dB level at 1 meter distance in front of the horn. Use proper hearing protection as specified by your plant safety instructions.

Specifications - Intellispec Series V

The following sections contain electrical specifications and measurements for components of the Intellispec Series V system. Your system contains only the components necessary for your application.

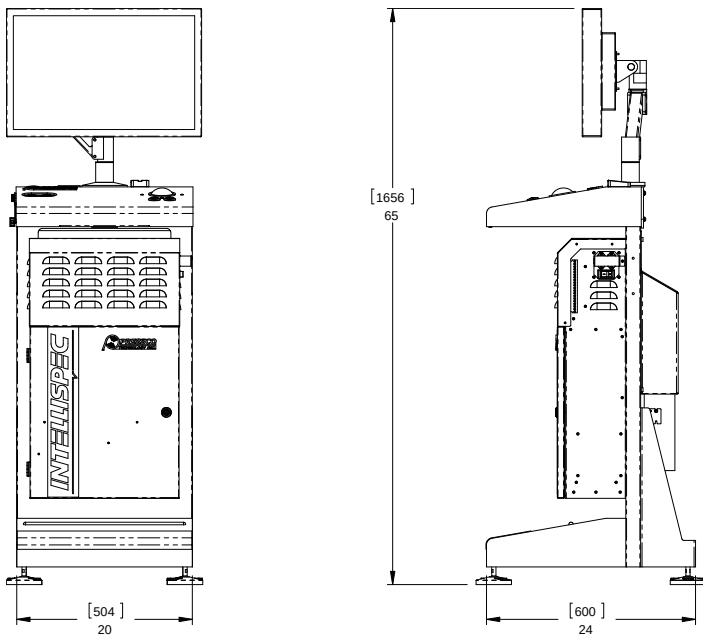
User Interface Electrical Specifications

Standard User Interface - No UPS included	
Voltage Range	100-240VAC
Frequency	50/60Hz
Current	5A @ 120VAC, 100% Load

User Interface with Optional 750VA UPS, 120VAC Nominal	
Voltage Range	100-132VAC
Frequency	50/60Hz
Current	6.3A @ 120VAC, 100% Load

User Interface with Optional 1KVA UPS, 230VAC Nominal	
Voltage Range	200-240VAC
Frequency	50/60Hz
Current	4.3A @ 230VAC, 100% Load

User Interface Measurements



Measurement	Value
Weight (total user interface)	79.7 Kg [177 lb]

Measurement	Value
Weight (stand with monitor arm and all attached components)	31 Kg [68 lb]
Weight (computer)	25 Kg [55 lb]
Weight (Monitor)	11.3 Kg max [25 lb]
Weight (UPS)	12.7 Kg [28 lb]
Height	1656 mm [65 in]
Width	504 mm [20 in]
Depth	600 mm [24 in]

Integrated Tunnel Electrical Specifications

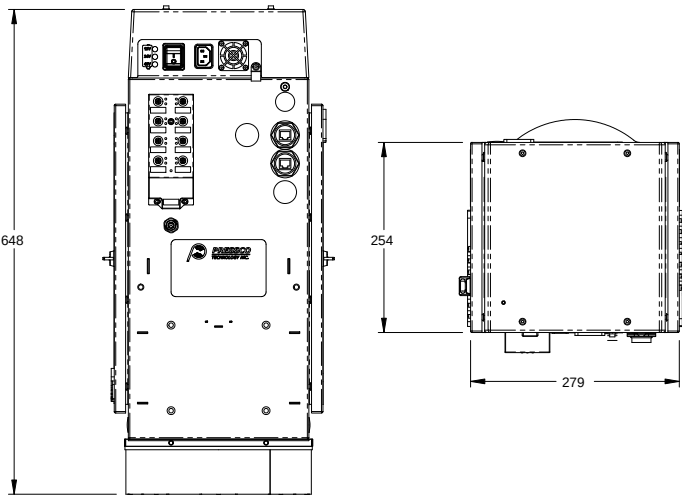
The following are electrical specifications for the integrated tunnel (an inspection module that contains cameras and part tracking in one unit, such as the CP/ EV series tunnels).

Standard - No UPS	
Voltage Range	100-240VAC
Frequency	50/60Hz
Current	6.2A @ 120VAC, 100% Load

Optional 500VA UPS, 120VAC Nominal	
Voltage Range	100-132VAC
Frequency	50/60Hz
Current	4.1 @ 120VAC, 100% Load

Optional 500VA UPS, 230VAC Nominal	
Voltage Range	200-240VAC
Frequency	50/60Hz
Current	2.2A @ 230VAC, 100% Load

CP-EV Tunnel Measurements



Measurement	Value
Weight	16.4 Kg [36 lb]
Height	648 mm
Width	254 mm
Depth	279 mm

Note: measurements do not include connectors

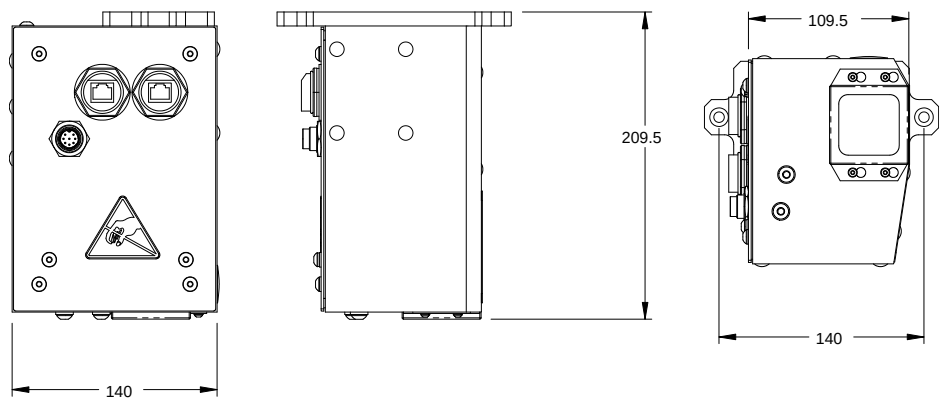
⚠ CAUTION - This object is heavy. Review the section on lifting heavy objects before moving this object. *"Lifting Heavy Objects" on page 29*

Weight of Base, Neck, Seal inspection modules Series V

Measurement	Value
Weight (total base, neck, seal mast and modules)	44 Kg [98 lb]
Weight (base camera module)	2.3 Kg [5 lb]
Weight (neck camera module)	2.7 Kg [6 lb]
Weight (seal camera module with light array)	2.7 Kg [6 lb]
Weight (BNS lower unit - lighting arrays)	8.2 Kg [18 lb]
Weight (BNS mast)	34.6 Kg [77 lb]

Dimensions of Base Camera Module

Note: measurements do not include connectors

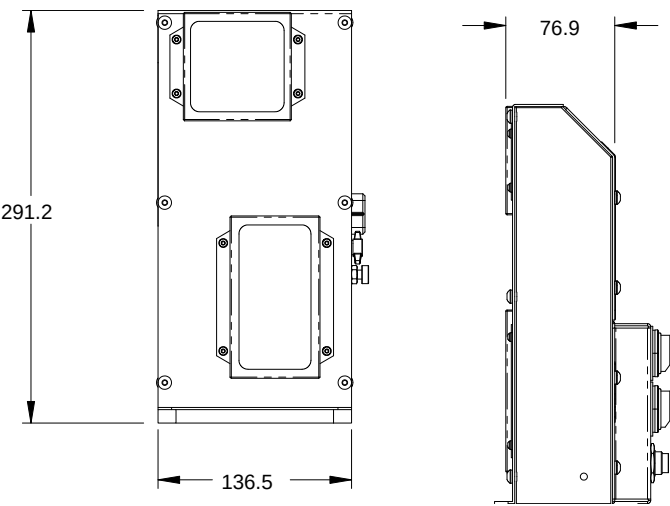


Position the module 5 to 15 mm over the bottle's seal surface.

Measurement	Value
Height (base camera module)	209.5 mm
Width (base camera module)	140 mm
Depth (base camera module)	140 mm

Dimensions of Neck-Sidewall Camera Series V

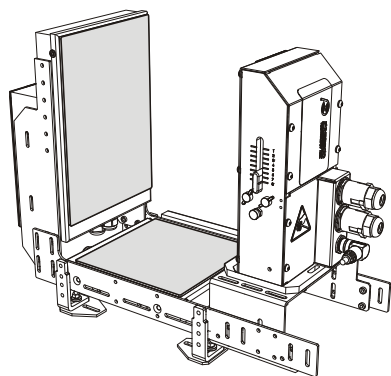
Note: measurements do not include connectors



Measurements are shown in millimeters.

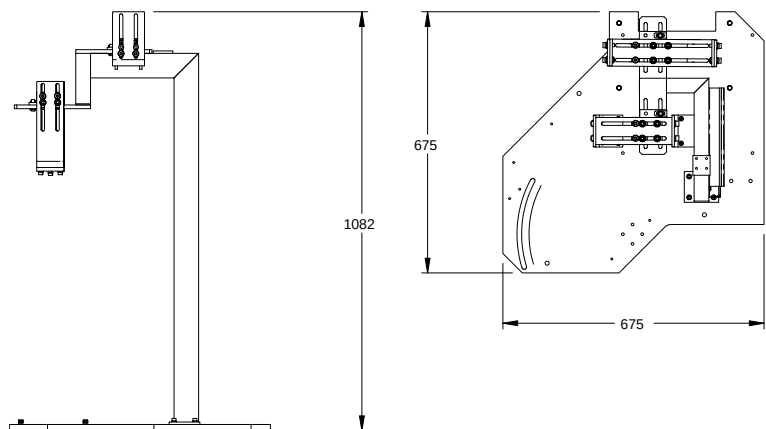
Dimensions of the Base-Neck Mast

The base/neck mast holds the lighting arrays for the base and neck inspection modules.



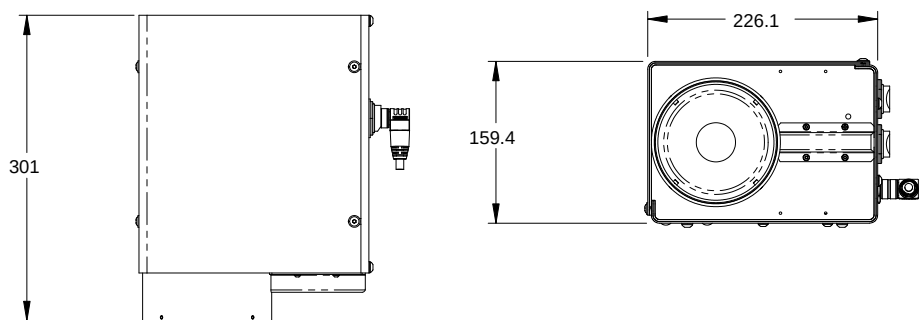
Note: measurements do not include connectors

⚠ CAUTION - This object is heavy. Review the section on lifting heavy objects before moving this object. *"Lifting Heavy Objects" on page 29*



Measurements are shown in millimeters.

Dimensions of the Seal Surface Module Series V



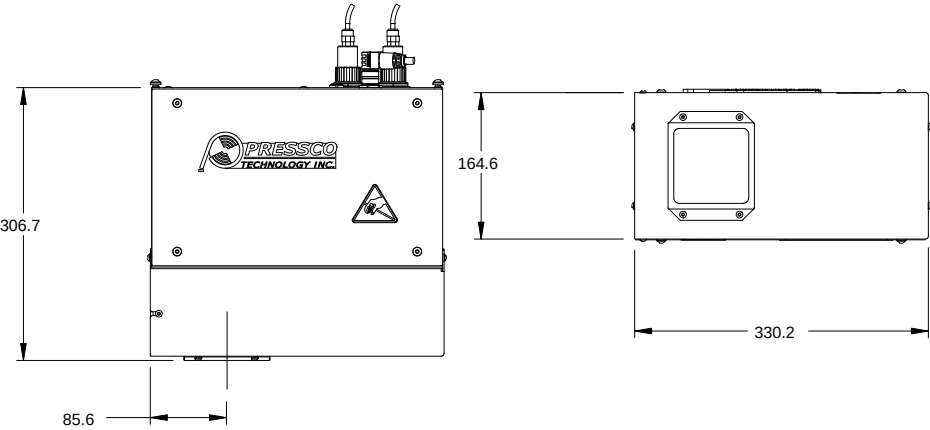
Note: measurements do not include connectors

- For finish Ø less than 35 mm, position 112 mm above grippers
- For finish Ø greater than 35 mm, position 175 mm above grippers

Measurement	Value
Height	301 mm

Measurement	Value
Width	226.1 mm
Depth	159.4 mm

Dimensions of the Preform Seal Endcap Module Series V

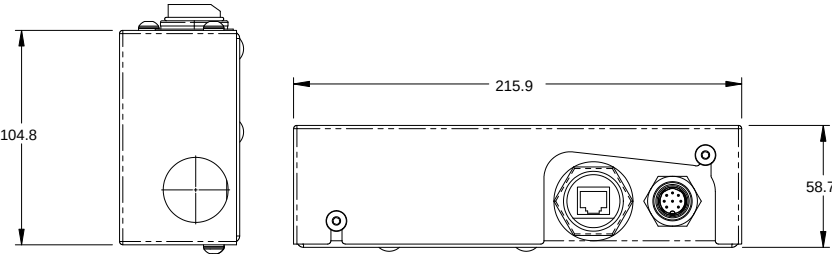


Note: measurements do not include connectors

Measurement	Value
Height	306.7 mm
Width	330.2 mm
Depth	164.6 mm
Distance from edge to center of preform	85.6 mm

Position the module from reference "A" to 25 mm above the seal surface of the preform.

Dimensions of the Preform Sidewall Module Series V



Note: measurements do not include connectors

Measurements are shown in millimeters.

Cluster Box Series V

Cluster Box Electrical Specifications

 CAUTION - Before switching on this instrument, ensure the power supply voltage is in the specified range.

Note: the Cluster Box is not present in all systems. It is mainly used when sensors are installed within a blow molder or similar machinery.

500VA UPS, 120VAC Nominal

Voltage Range	100-132VAC
Frequency	50/60Hz
Current	4.2A @ 120VAC, 100% Load

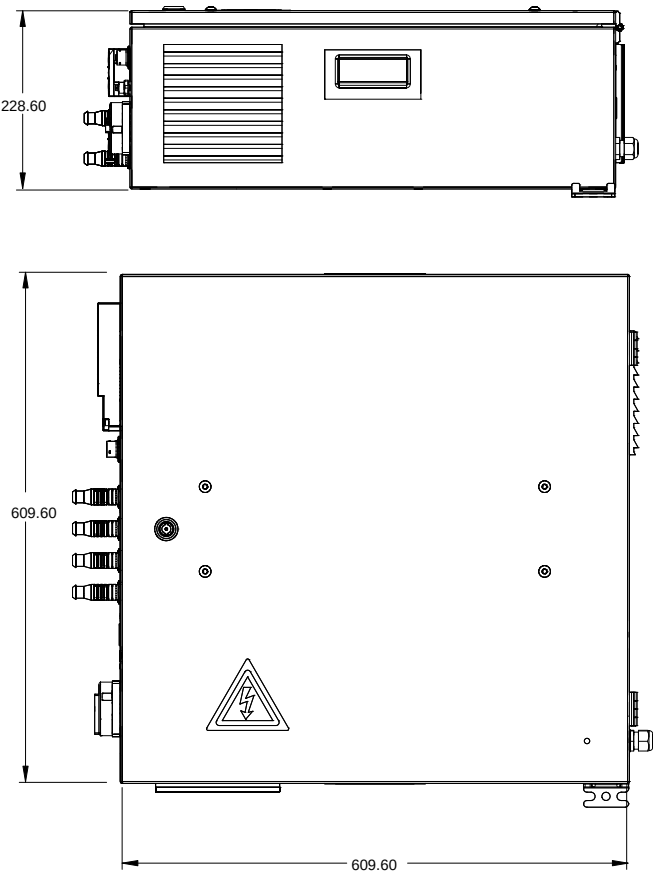
500VA UPS, 230VAC Nominal

Voltage Range	200-240VAC
Frequency	50/60Hz
Current	2.2A @ 230VAC, 100% Load

1KVA Transformer, 400VAC

Voltage Range	380-420VAC
Frequency	50/60Hz
Current	2.5A @ 400VAC, 100% Load

Classic Cluster Box Measurements



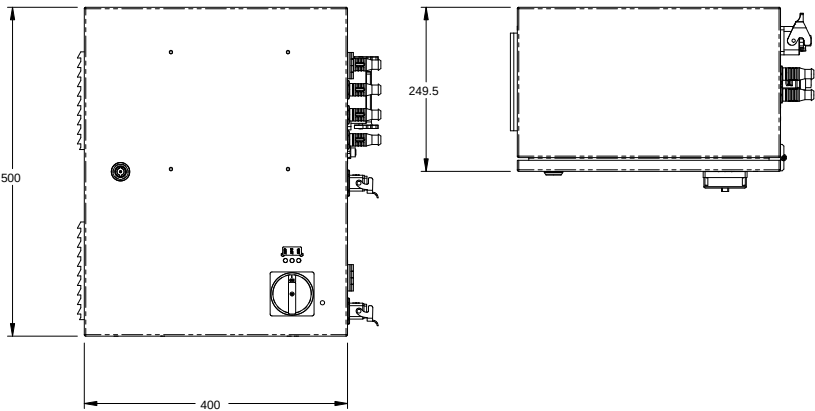
Note: measurements do not include connectors

Measurement	Value
Weight	45 Kg [99 lb]
Height	609.60 mm [24 in]
Width	609.60 mm [24 in]
Depth	228.60 mm [9 in]

 **CAUTION** - This object is heavy. Review the section on lifting heavy objects before moving this object. *"Lifting Heavy Objects" on page 29*

Embedded Cluster Box Measurements

The following are the weight and dimensions of the 400V Embedded Cluster Box.



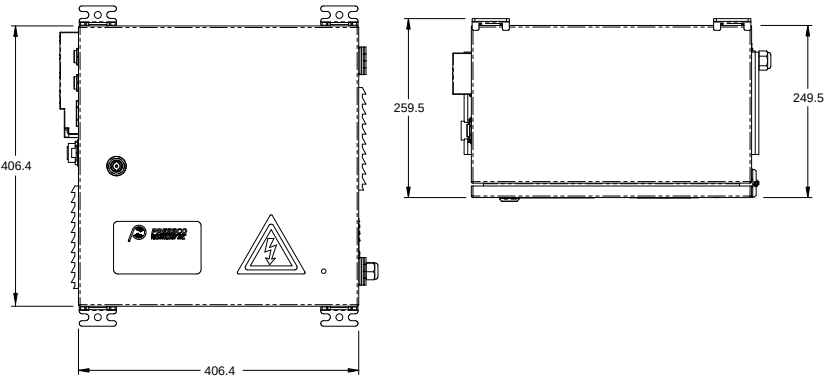
Note: measurements do not include connectors

Measurement	Value
Weight	45 Kg [99 lb]
Height	500 mm [19.69 in]
Width	400 mm [15.75 in]
Depth	249.5 mm [9.82 in]



CAUTION - This object is heavy. Review the section on lifting heavy objects before moving this object. ["Lifting Heavy Objects" on page 29](#)

Micro and Wash-Down Cluster Box Measurements



Note: measurements do not include connectors

Measurement	Value
Weight	30.23 Kg [66.5 lb]
Height	406.40 mm [16 in]
Width	406.40 mm [16 in]
Depth	254 mm [10 in]



CAUTION - This object is heavy. Review the section on lifting heavy objects before moving this object. ["Lifting Heavy Objects" on page 29](#)

Chapter 5 Installation and Wiring

Shipping and Handling

Pressco Technology Inc. ships unassembled components in packing cases designed to protect the contents during handling and from exposure to weather.

Unless otherwise specified in the contract with the machine order, the Customer shall supply Pressco Technology Inc. with the means and equipment necessary for the unloading, lifting, and handling of machine parts. Pressco Technology Inc. deems it important to have one of their technicians supervise the process of unloading, handling, and lifting the machine. The technician can give useful advice as to the logical sequence in which the components should be unpacked and positioned for ease of assembly.



WARNING - Only qualified personnel must be involved in the operation of unloading, handling, and lifting the machine. Pressco Technology Inc. shall not be liable for damage to components and/or personal injury resulting from the involvement of unauthorized personnel and/or failure to comply with the directions provided in this manual in relation to lifting and transport.



Important - The site supervisor will be responsible for ensuring that all the various mounting phases are carried out safely and in compliance with current regulations.

After the machine is delivered, check for any damage that might have occurred during shipping. In case of damage, contact Pressco Technology Inc.

In handling the machine, always keep it close to the ground.



We recommend using a forklift truck with adequate capacity and forks to suit the weight to be lifted (machine plus packaging).

The dimensions and weight of a crate are listed below. Note that this is the maximum size and weight. The size and weight of the crate may be less depending on your configuration. You may receive multiple crates depending on your configuration.

Size	152.4 cm x 124.46 cm x 152.4 cm (60 x 49 x 60 inches)
Weight	453.592 kg (1000 lbs.)

Recommendations Prior to Installation

Before the machine is installed, the Pressco installer, together with the Customer (or representative) shall check the following criteria in the environment where the machine is to be installed:

- Work required by contract for the installation of the machine has been carried out
- The plant layout drawing that describes where the machine will be installed is the final drawing agreed to by Pressco Technology Inc.
- The space and height required for installation are actually available
- Only the components included in the installation layout are present in the area where the machine is to be mounted. Ensure no machines or components have been added at a later

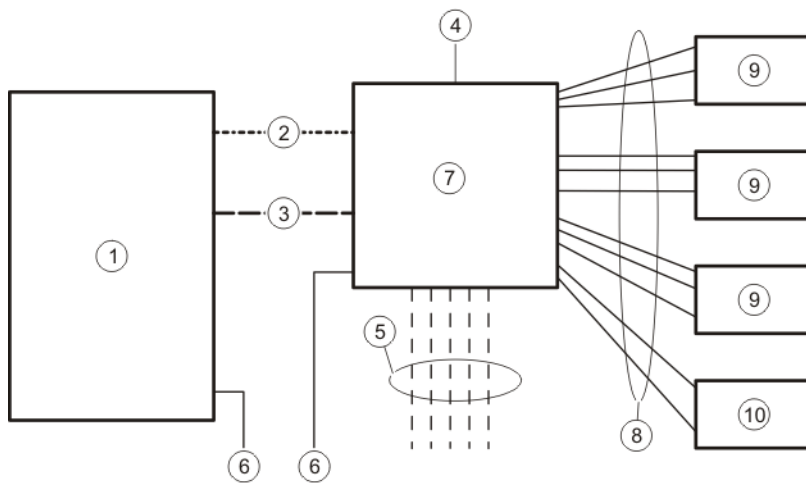
stage that might hinder mounting or make it more difficult. Should this be the case, immediately contact Pressco's Project Engineering personnel to arrange a suitable solution to the problem.

We recommend the following prior to machine installation:

- Transport the machine in its packaging to the area where it will be installed to minimize possibility of damage
- Carefully remove the packaging material and check components for damage
- Check tightness of mechanical components, as they can loosen during transport
- Prepare the compressed air mains line. Before making final connections, ensure that the pipes are clean and free from any debris.

System Block Diagram - Empty Bottle Inspection

The drawing below shows a basic block diagram for a typical Base, Neck Seal (BNS) system with a cluster box and three sensors (camera modules). The drawing shows camera modules that contain only one camera each.



- 1) Vision Processor (PC, monitor, and UPS)
- 2) PDN (Pressco Data Network) ethernet green cable
- 3) Inspection sensor/ camera ethernet blue cable
- 4) Light tree (optional)
- 5) Sensor cables (for part present sensor, encoder, machine part, pocket detect, reject confirm) For details: I/O connectors
- 6) AC power
- 7) Cluster box
- 8) PDN ethernet green cable, Inspection sensor/ camera ethernet blue cable, power and trigger cable (item 10 has only PDN cable and power and trigger cable)
- 9) Inspection sensor/ camera module (example: base, neck, seal surface)
- 10) Light array assembly (for base/neck cameras)

Assembly, Location, and Mounting Requirements

Utilities to be Supplied by Customer

The following utilities are required to operate the Pressco Intellispec system. Before making connection, make sure the utility matches the technical specifications. More than one connection of the utilities may be required depending on the number of modules installed. Refer to specific wiring diagrams.

Utility	Requirements
Air supply for rejection device	Pipe size must be such that there will be no pressure decrease during machine operation. Air must be dry and free of oil.
Electrical supply	Provide one each electrical socket to comply with:
	• User interface electrical specifications (use the specifications that apply to your system) • Integrated tunnel electrical specifications (if applicable) • Cluster box electrical specifications (if applicable)
Internet connection (optional)	Provide a shielded ethernet cable to use Pressco's remote support through the Internet.

Protective Earthing

This product must be grounded (earthed). If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

 **DANGER** - Improper connection of the equipment grounding conductor can result in a risk of electric shock. Check with a qualified electrician or service technician if you are in doubt as to whether the product is properly grounded.

Cord Connected Equipment

The product will be equipped with a supply cord having an equipment grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with local codes and ordinances.

Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

Cable Direct

This product must be connected to a grounded metal, permanent wiring system, or an equipment grounding conductor must be run with the circuit conductors and be connected to the equipment grounding terminal.

Electrical Connection

Make sure that the power outlet voltage matches the voltage required by the machine. Refer to the specifications for equipment included with your system:

- "User Interface Electrical Specifications" on page 32
- "Integrated Tunnel Electrical Specifications" on page 33 (if applicable)
- "Cluster Box Electrical Specifications" on page 37 (if applicable)

⚠ WARNING - Power Switch is the power disconnect device. Do not position the equipment such that access to the disconnect switch is impaired. If not readily accessible (such as within a rack or mounting out of reach), an additional disconnect device should be installed that can isolate the Live and Neutral lines of the mains power supply, whilst leaving the protective earth intact.

Installation

Pressco Technology Inc. recommends that the machine be installed and assembled by Pressco's specialized technicians. This is of vital importance for correct machine operation.

⚠ WARNING - Pressco Technology Inc. shall not be liable in case of failures or damage to property and/or personal injury resulting from or connected with assembly if this has been carried out by unauthorized personnel, or is not in compliance with the indications given in this manual.

To carry out production and cleaning/ servicing operations, it is important for the machine to have a minimum amount of space all around and away from walls.

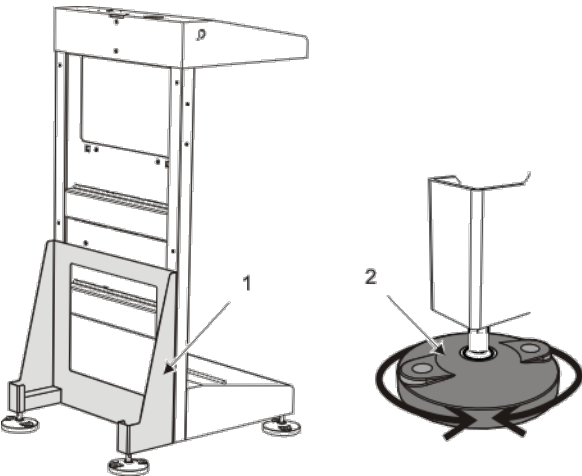
Ventilation

Place the Pressco Intellispec components in a position with adequate ventilation to allow proper air flow through the air filters.

Component	Spacing
User Interface	Leave 1 meter [39 inches] clear around machine
Cluster box (not used on all systems)	Leave 100 mm clear in front of the fan and vent

Stability of User Interface

Ensure the stability of the user interface. Also refer to the directives in the "Personnel Safety" on page 28 section.

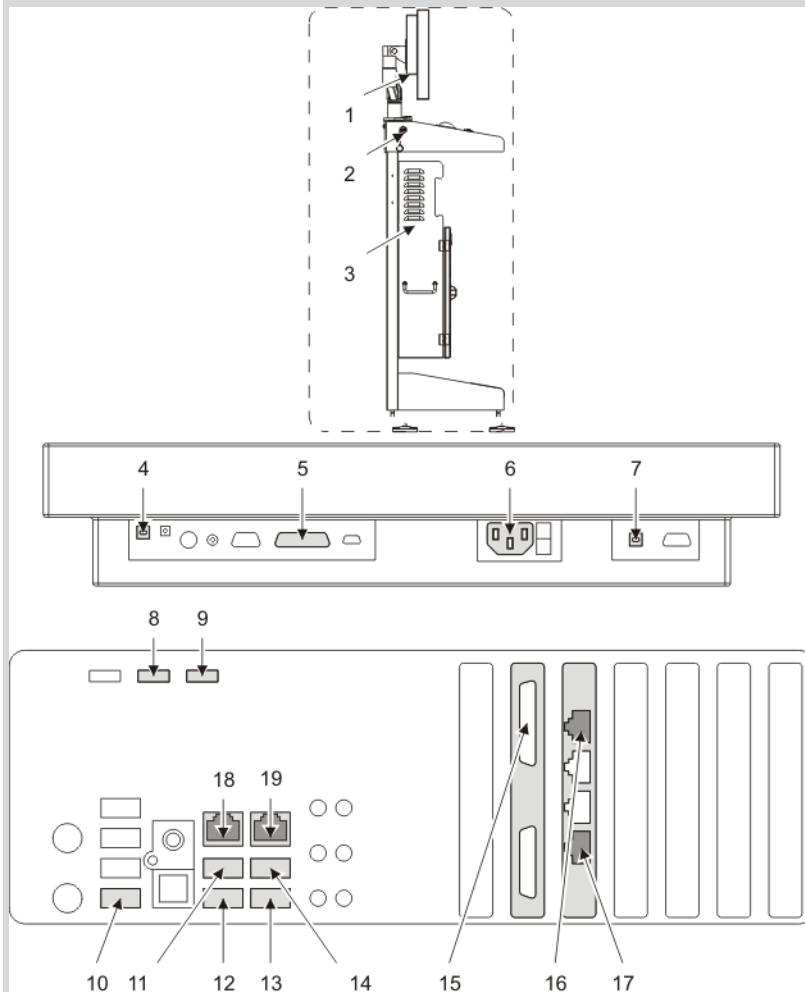


To make sure the user interface is stable:

1. Make sure that the user interface stabilizer [item 1] is secured properly to the user interface.
2. Adjust the feet [item 2] to level the user interface. Proper leveling can help ensure proper operation.

User Interface External Connections

Note: the connectors not called out in the diagram have no connection



1) Monitor connector panel

2) Convenience USB port

3) PC [inside the cabinet]

Monitor connector panel connectors

4) Auxiliary USB connector

5) DVI input

6) AC power connector

7) Touch screen USB connector

PC connectors

8) 2 pin power connector for camera ethernet switch

9) 2 pin power connector for PDN ethernet switch

10) Convenience USB port connector

11) Monitor auxiliary USB connector

12) Monitor touch screen USB connector

13) Trackball USB connector

14) Biometric device USB connector

15) DVI connector

16) Ethernet connector for camera ethernet switch (blue cable)

17) Ethernet connector for PDN ethernet switch (green cable)

18) Optional plant network connection

19) Optional remote user interface connection

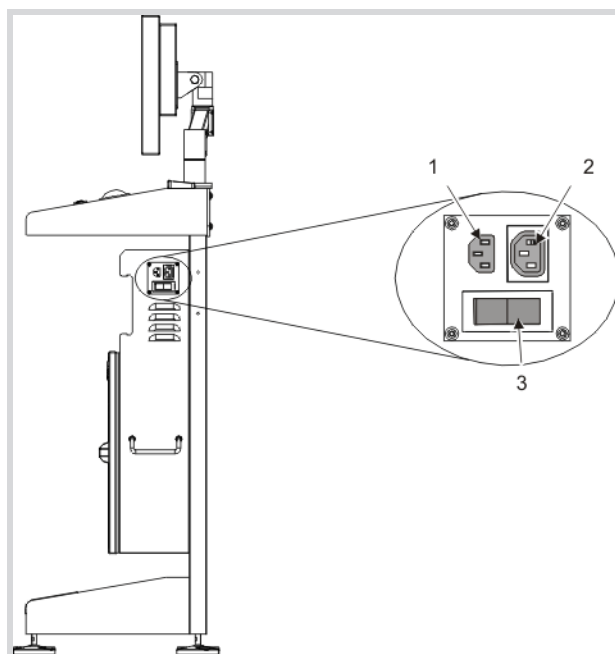
For more information, refer to Wiring diagram user interface/ PC.

Pressco PC Outlet Wiring



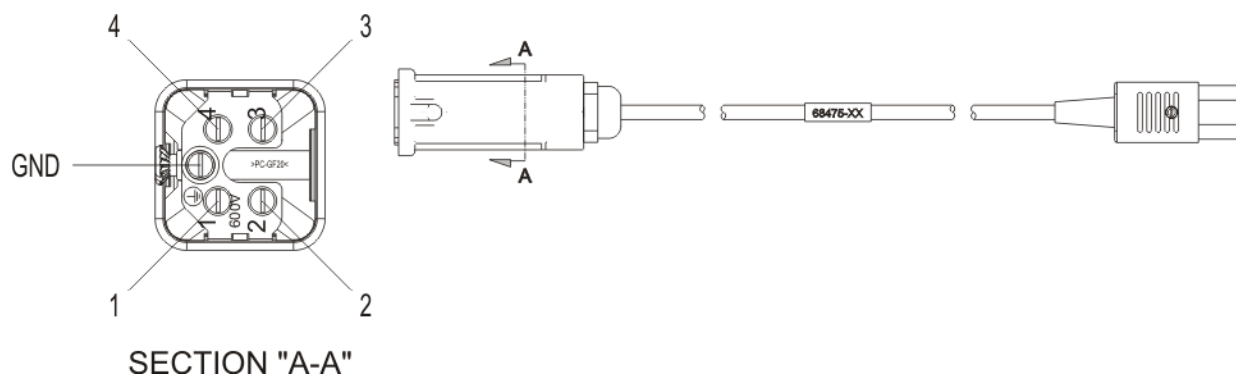
WARNING - The Pressco PC outlet is only to be used to provide power to the Intellispec PC. Any other use is prohibited.

The power connections for the user interface are found on the right side of the cabinet.



- 1) PC (computer) power connector
- 2) Monitor power connector
- 3) User interface power switch

Wiring details:



Output: 230VAC, 500W

Outlet mating connector: Harting: insert 09200042611, hood 09200031440

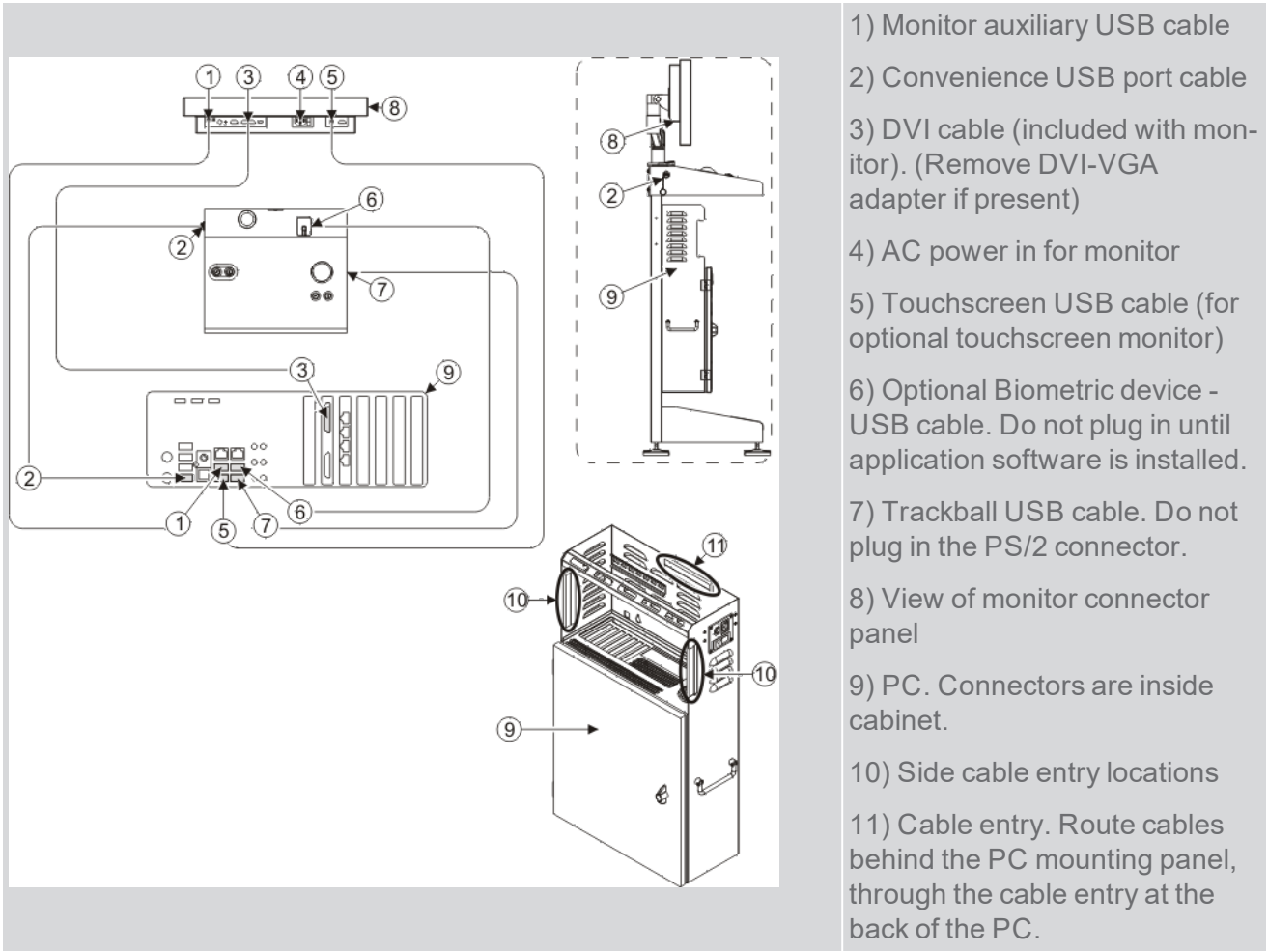
Use wire type UL1015 or equivalent, 16awg (1.44mm²) min.

Wiring chart

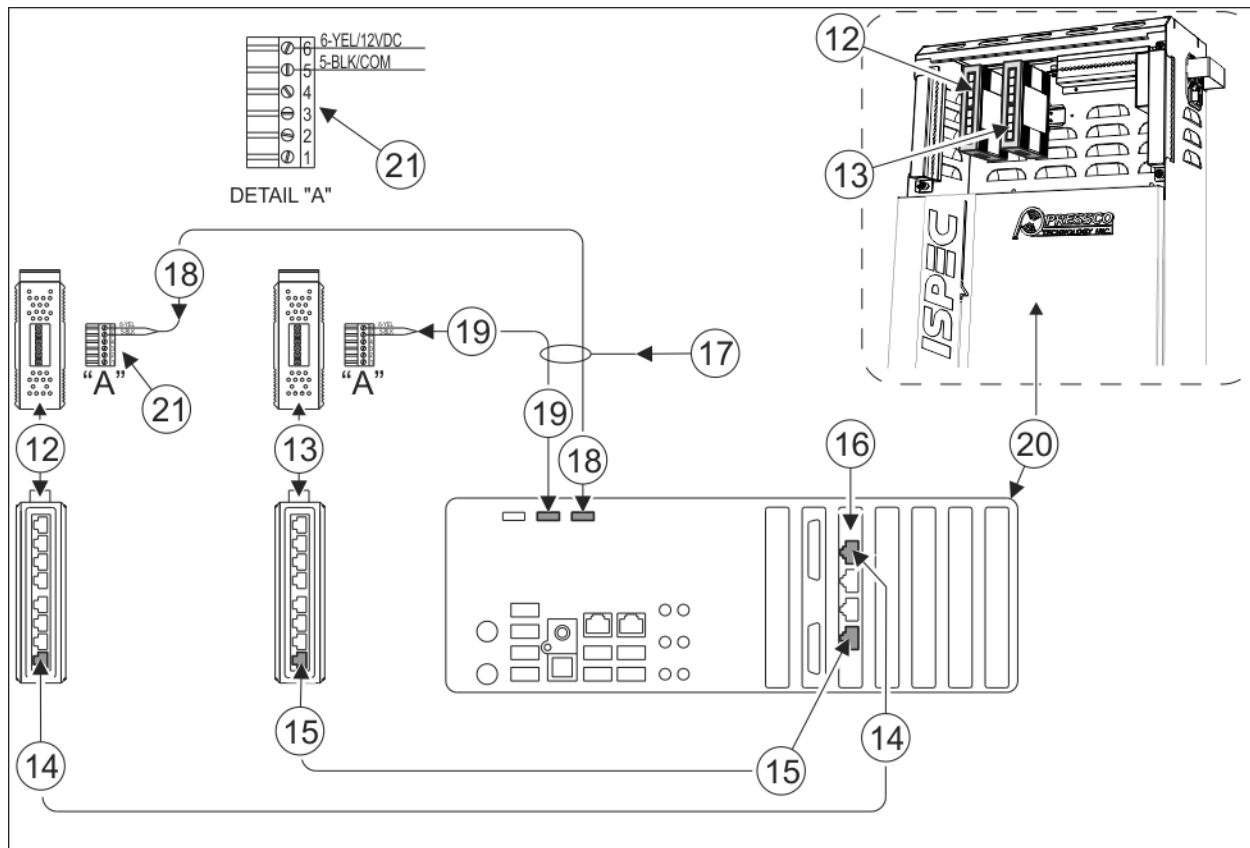
Pin number, 5-pin connector	Wire color	Pin number, 3-pin connector	Description
1	black	L	L1
2	white	N	L2
GND	green	GND	PE

Wiring Diagram User Interface - PC

The following diagram shows the wire connections between the monitor, user interface, and PC.



Wiring Diagram Ethernet Switches



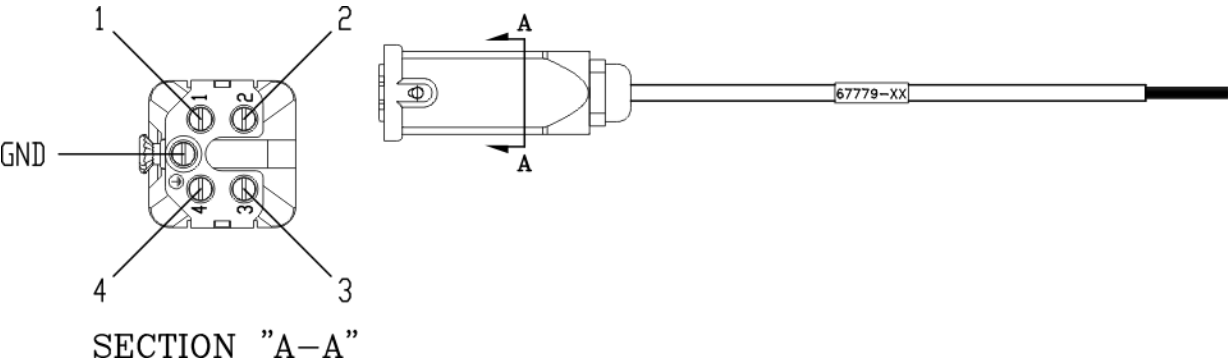
- 12) Ethernet switch for cameras [on left]
- 13) Ethernet switch for Pressco Device Network (PDN) [on right]
- 14) Blue ethernet cable
- 15) Green ethernet cable
- 16) Quad ethernet card
- 17) Two pin power connectors. Cables are included with PC.
- 18) Two pin power cable
- 19) Two pin power cable
- 20) PC
- 21) Detail "A" Ethernet switch power connection

Note: the Cat-6 ethernet cabling is divided into two groups. The green cabling goes to/from the cameras and lighting circuitry. The blue cabling goes to/from the part tracking circuitry.

Cluster Box Connections

Cluster Box Mains Wiring

The mains voltage supply to the Cluster Box should be wired according to the following diagram. For voltage rating, refer to the "Cluster Box Electrical Specifications" on page 37.



Wiring details:

Mains mating connector: Harting: insert 09200042711, hood 09200031440

Use wire type UL1015 or equivalent, 16awg (1.44mm²) min.

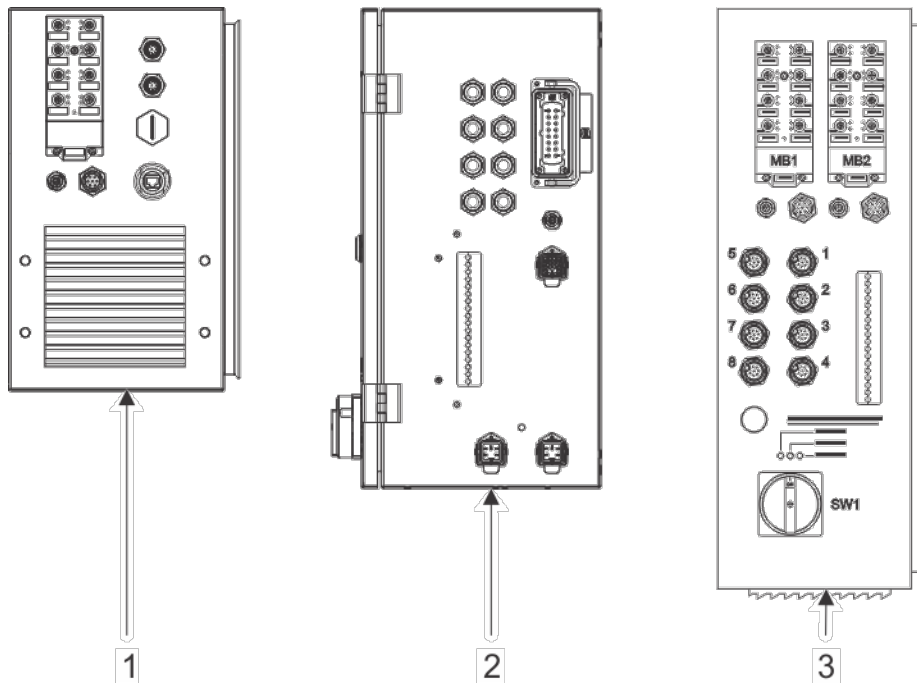
Wiring chart

Pin number, 5-pin connector	Wire color	Description
1	black	L1
2	white	L2
GND	green	PE

Types of Cluster Boxes

There are several types of cluster boxes that differ in size, external wiring, and voltage rating. Use the chart below to identify your cluster box.

For external I/O connections, determine whether your cluster box is a classic, embedded, wash-down, or micro model. The basic shapes are shown below:



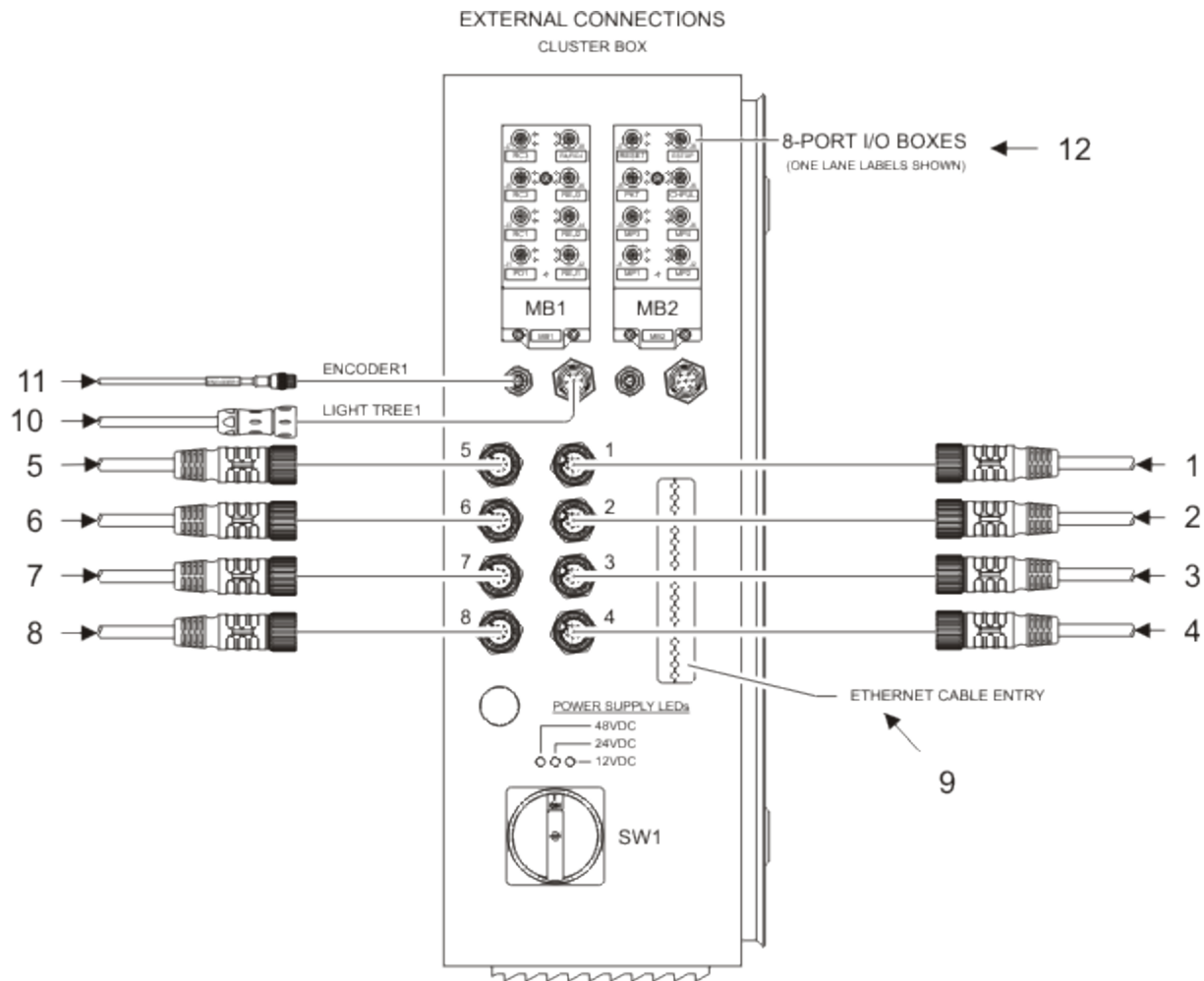
1) Micro or Wash-Down cluster box. Note: Wash-Down version has a protective cover over the filter and fan vents

2) Embedded cluster box

3) Classic cluster box

Classic Cluster Box External Connections

Note: the cluster box is not included with all systems



To connect sensors 1-8 and determine the number of network connections, refer to the "[Cluster Box System Configurations](#)" on page 55.

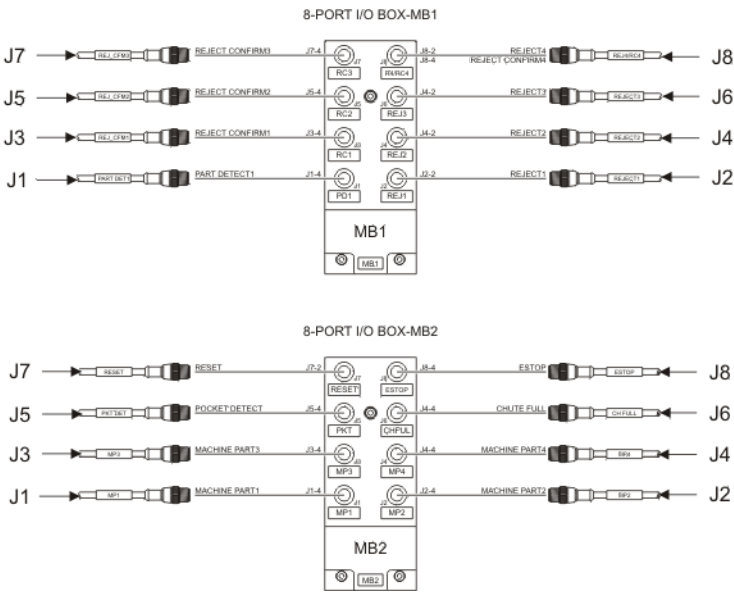
9) Ethernet cable entry

10) Light Tree 1

11) Encoder 1

12) 8 port I/O boxes

8 Port I/O Box (Cluster Box)



8 port I/O box MB1		
J1	PD1	Part detect 1
J2	REJ1	Reject 1
J3	RC1	Reject Confirm 1
J4	REJ2	Reject 2
J5	RC2	Reject Confirm 2
J6	REJ3	Reject 3
J7	RC3	Reject Confirm 3
J8	R4/ RC4	Reject 4/ Reject Confirm 4

8 port I/O box MB2			For typical base/neck/ seal configuration in a blow molder
J1	MP1	Machine Part 1	Cavity
J2	MP2	Machine Part 2	Spindle
J3	MP3	Machine Part 3	Infeed transfer arm
J4	MP4	Machine Part 4	
J5	PKT	Pocket Detect	
J6	CHF	Chute Full	
J7	RESET	Reset	
J8	ESTOP	Emergency stop	

Embedded Cluster Box External Connections

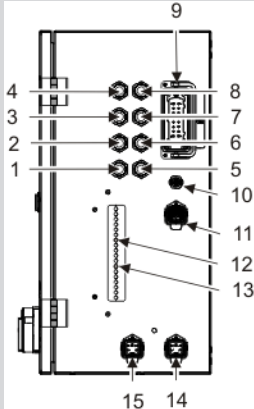


Diagram showing the internal wiring of the Embedded Cluster Box. Terminals 1 through 15 are labeled. Terminals 1-8 are for sensors. Terminal 9 is for PCC. Terminal 10 is for Pressco encoder. Terminal 11 is for Light tree and horn. Terminal 12 is for PDN network (green). Terminal 13 is for Sensor network (blue). Terminal 14 is for 230 V to Pressco PC. Terminal 15 is for 400 V supply.

To connect sensors 1-8 and determine the number of network connections, refer to the "Cluster Box System Configurations" on page 55.

9) To PCC (programmable controller)

10) Pressco encoder

11) Light tree and horn

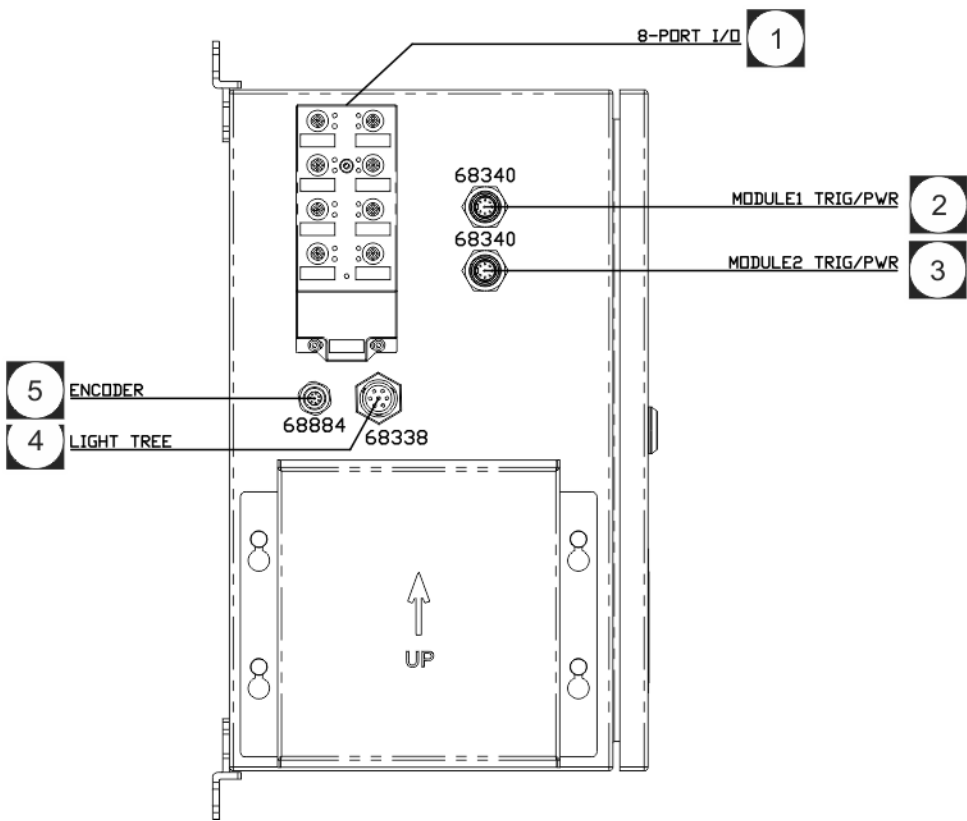
12) PDN network (green)

13) Sensor network (blue)

14) 230 V to Pressco PC

15) 400 V supply

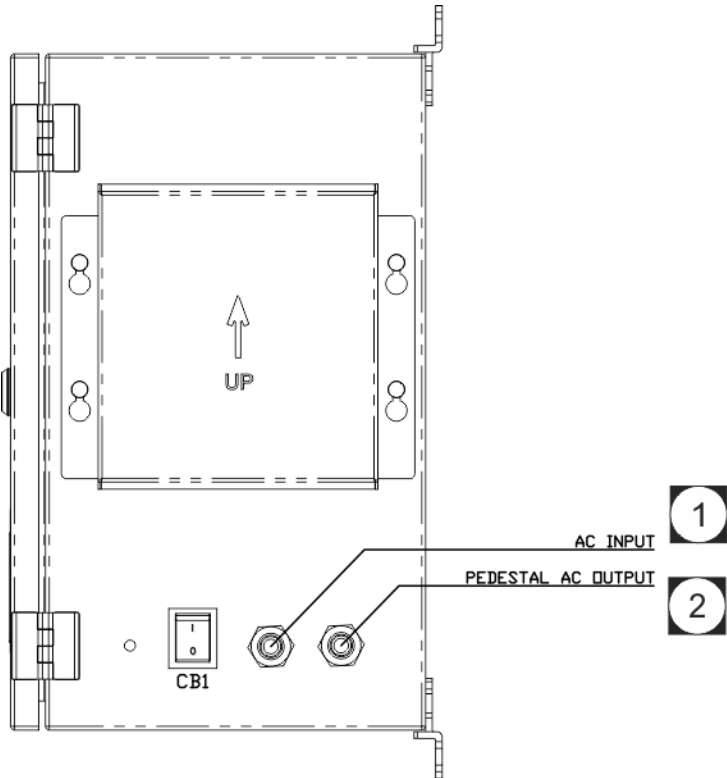
Cluster Box 77797 External Connections



Note: the Wash-Down version of this box has a protective cover over the filter and fan vents

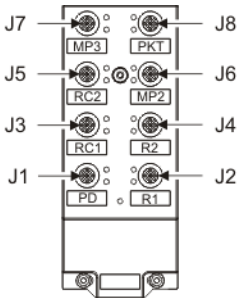
1	8 port I/O box (refer to table below)
2	Sensor 1
3	Sensor 2
4	Light tree and horn

Power Connections



- 1
- AC input
- 2
- Pedestal AC output

8 Port I/O Connections



J1	PD	Part Detect
J2	R1	Reject 1
J3	RC1	Reject Confirm 1
J4	R2	Reject 2
J5	RC2	Reject Confirm 2
J6	MP2	Machine Part 2
J7	MP3	Machine Part 3

Cluster Box System Configurations

Eight-sensor cluster boxes should be wired according to the configuration in the following tables. Please note the following:

- Starting with port 1 – connect the modules in order, skipping a connection if and only if the module just connected has two cameras (2 camera sidewall and PSE).
- Label the cables on the cluster box side with matching designations (1 to 8). Label the other end of the cable with the module name.
- Modules are to be connected in the order listed here:
 - Base
 - Neck or Sidewall
 - Seal
 - Preform Seal/Endcap
 - Preform Wall
 - IMASS Base
 - Imass Wall (uppermost)
 - Imass Wall (next uppermost)

Use the table below that matches your system configuration, and connect the modules accordingly.

- [*] T connection to lighting controller
- [+] Module connects to endcap lighting

Channel	B2WS-PSEP-W-M	BNS-PSEP-W-M2	BNS-M3	BWS-PSEP-W-M2	B-PSEP-W-M	B-M2	PSEP-W-M	NS-PSE
1	Base*	Base*	Base*	Base*	Base*	Base*	PSE+	Neck*
2	Sidewall	Neck	Neck	Sidewall	PSE+	Imass Base	-	Seal
3	-	Seal	Seal	Seal	-	Imass Wall	PW	PSE*
4	Seal	PSE+	Imass Base	PSE+	PW*	-	Imass	-
5	PSE+	-	Imass Wall	-	Imass	-	-	-
6	-	PW*	Imass Wall	PW*	-	-	-	-
7	PW*	Imass Base	-	Imass Base	-	-	-	-
8	Imass Base	Imass Wall	-	Imass Wall	-	-	-	-

Network Connections

(1) indicates one network cable connection, (2) indicates two network cable connections

Module	PDN (green)	Data (blue)
Base	1	1
Neck	-	1
Sidewall	-	1
Sidewall (2 camera)	-	2
Seal	1	1
PSE	2	2
PW	1	1
Imass	1	-
Controller	1	-
Computer	1	1

Replacing Fuses in the Cluster Box



WARNING - For continued protection against fire hazard, replace fuses only with the same type and ratings. The use of other fuses or materials is prohibited.



WARNING - Disconnect the product from the mains supply before replacing the fuse(s).

For fuse rating, refer to the table below pertaining to the type and voltage rating of your cluster box.

Note: the Wash-Down and Micro Cluster boxes do not contain replaceable fuses.

Classic Cluster box 120VAC fuses

Part Number	Fuse	Value
66780	FU1	5A, 600VAC, Time Delay, Class CC
59164	FU2	0.5A, 250VAC, 5x20mm

Classic Cluster box 230VAC fuses

Part Number	Fuse	Value
65345	FU1	3A, 600VAC, Time Delay, Class CC
65345	FU2	3A, 600VAC, Time Delay, Class CC
51818	FU3	0.5A, 250VAC, 5x20mm

Note: Fuse kit 66990 is available. It contains all the above fuses.

Classic Cluster box 400VAC fuses

Part Number	Fuse	Value
65345	FU1	3A, 600VAC, Time Delay, Class CC
65345	FU2	3A, 600VAC, Time Delay, Class CC
65346	FU3	10A, 600VAC, Time Delay, Class CC
51818	FU4 (quantity 2)	0.5A, 250VA, 5x20mm

Note: Fuse kit 66990 is available. It contains all the above fuses.

Embedded Cluster box fuses

Part Number	Fuse	Value
65345	FU1	3A, 600VAC, Time Delay, Class CC
65345	FU2	3A, 600VAC, Time Delay, Class CC
65346	FU3	10A, 600VAC, Time Delay, Class CC
51818	FU4 (quantity 2)	0.5A, 250VAC, 5x20mm

Note: Fuse kit 66990 is available. It contains all the above fuses.

Commissioning

Before placing the machine into operation, make sure the following checks are completed:

Completed	Yes	No
Positioning and leveling of the unit		
Connection of compressed air line to connection points		
Connection of power supply to vision processor cabinet		
Connection of power supply to cluster box (if applicable)		
Connection of power supply to integrated inspection module(s) if applicable		
Proper wiring from user interface cabinet to sensor module(s) and cluster box (if applicable) using the wiring diagrams		

Chapter 6 Operating the Intellispec Series V System

This section contains basic operating instructions.

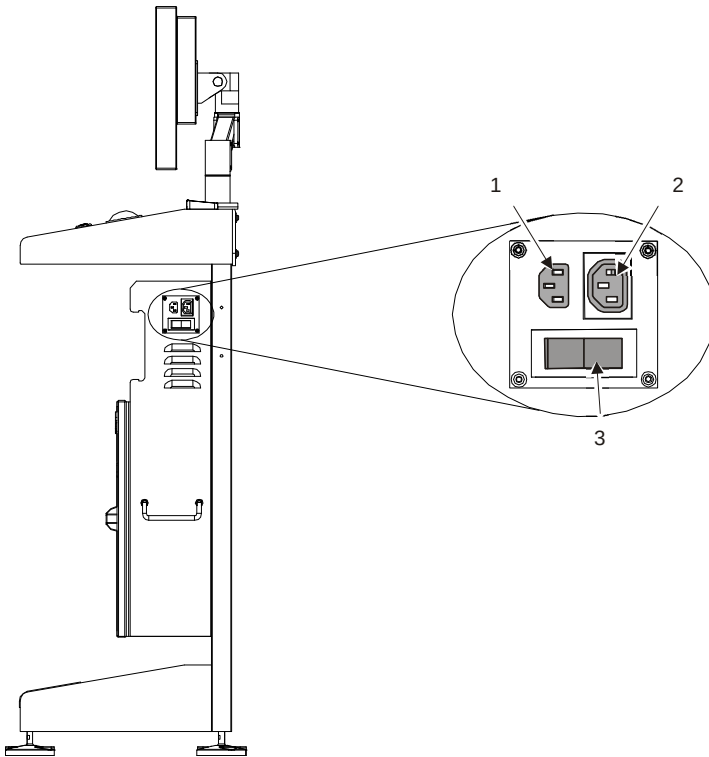
Power Up the Intellispec

Intellispec Series V systems have multiple power switches. Make sure the power switches are turned on for:

1. The user interface,
2. Each camera module, and
3. Cluster box (if applicable).

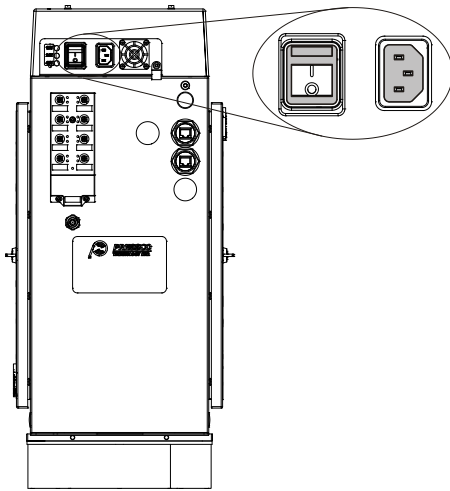
See the illustrations below for power switch locations.

The power connections for the user interface are found on the right side of the cabinet.

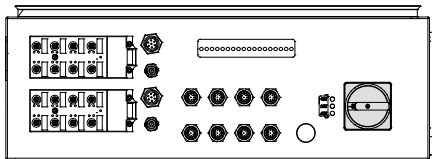


- 1) PC (computer) power connector
- 2) Monitor power connector
- 3) User interface power switch

Each integrated camera module (for example the CPV series of inspection tunnels) has its own power on/off switch.



In system configurations that have a cluster box:



- if the cluster box has a UPS, open the cluster box door and switch on the UPS, then
- turn the external on/off switch to power all camera modules connected to the cluster box.

Power Down the Intellispec

To completely power down all components of the Intellispec, make sure the following power switches are turned off:

- User interface
- Integrated inspection modules (if applicable)
- Cluster box (if applicable)
- UPS inside the Cluster box (if applicable). Open the Cluster box door to switch off the UPS.

The user interface, inspection modules, and cluster box are all independent of each other. Therefore, if you need to service any of the above modules, any one can be turned off by itself.



Important - If you re-start the computer, turn off the User Interface power and leave it off for about 40 seconds before turning it back on. This allows the electronic components to correctly reset.

Online - Offline



The stoplight is the online/offline indicator for each lane.

- Red = offline
- Green = online
- Amber = smart offline (processing parts in the queue when the system goes off-line).

To switch from the online to offline mode, or vice versa, click the stoplight.

Lanes can be put online or offline independently. If multiple lanes are configured, then one lane can be offline while another is online.

Note: you may need user permissions to put the lane online or offline

Part Changeover

When changing parts to inspect, you only need to change the part program (if you have a part program already set up for the newly inspected part type).

This will load the proper inspections, lighting, and guide rail settings, if applicable (as long as these were previously set).

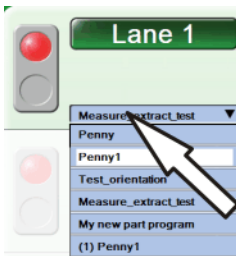
Note: Some menu items are available to advanced users only

What you need:

User permission to Switch Part Program

To change parts:

1. Log in.
2. Click the part drop-down menu.



3. Click the name of the new part to inspect. The new part program is loaded on the Intellispec.
4. Click the statistics panel and select **Clear Lane Statistics**, to begin counting statistics for the new production run.



5. Put the lane online to begin inspecting new parts.

Lane-specific information is contained in each Part Program. Everything you set up have previously set up is stored: camera information, lighting information, calibration information, and inspections.

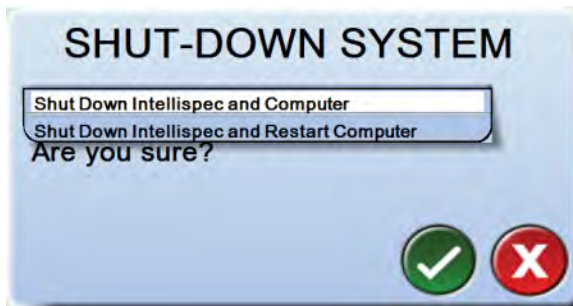
Exiting the Intellispec Software

You must have proper user permissions to exit the software. This prevents unauthorized system shut-downs. Contact your system administrator if you need user permissions.

To exit Intellispec software:

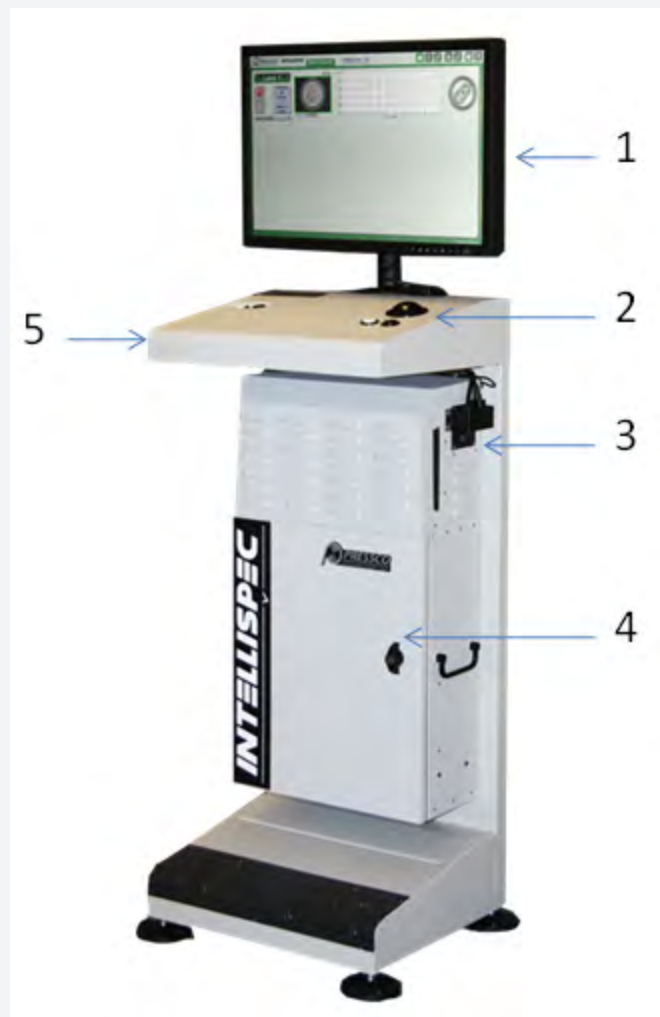
Chapter 6

1. Log in.
2.   Select Home | Tools | Exit System.
3. Select an option.



4.  Select the OK button. The Intellispec software and/or computer shuts down (and restarts if applicable).

Chapter 7 Intellispec Cabinet and User Interface



1) 24" Diagonal color LCD with optional touch screen. An on-screen keyboard (OSK) is displayed when needed.

2) Trackball with two sets of buttons (left-handed or right-handed): Select buttons [] and Information buttons []

3) Vision processor on/off switch.

4) Inside the cabinet: Ethernet switches, Vision processor, Mechanical keyboard (MKB)

5) USB convenience port is mounted on the side of the user interface.

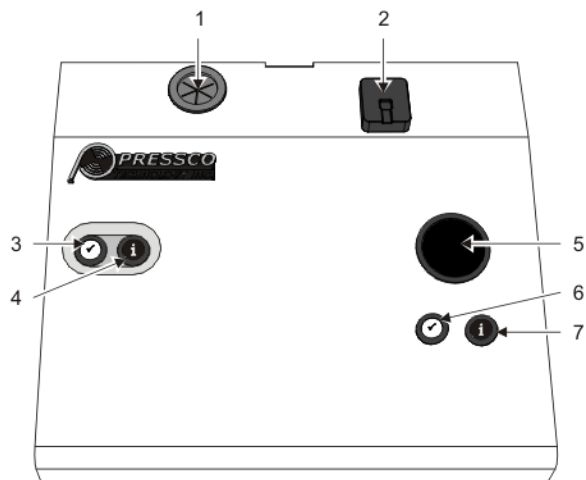
User Interface Input Devices

The following devices are available to input information to the Intellispec system:

- Trackball and buttons "How To Select Menu Items" below
- "On Screen Keyboard (OSK)" on page 72
- Touch Screen monitor (optional)
- Temporarily connected conventional Mechanical Keyboard (MKB) "Mechanical Keyboard (MKB)" on the next page
- "USB Ports" on the next page
- Optional "Biometric Login Device" on page 66

User Interface Selection Devices

The user interface hardware consists of several buttons and selection devices:



- 1) (not a button) Grommet for user interface equipment cords.
- 2) Optional Biometric Identification login device
- 3 and 4) Secondary set of buttons, used with track ball. See also items 6 and 7.
- 5) Track Ball
- 6) Button (left-click) to select and activate objects on screen
- 7) Button (right-click) to call up a context-sensitive menu about the selected object on screen

How To Select Menu Items

Use the track ball to select, interact, and change active objects on the screen. The track ball will be required for all inspection editing tasks.

- Use the left button to select and activate objects on the screen.
- Use the right button to call up a context-sensitive menu related to the area or object clicked.
- A second set of each button type is located on the left side of the podium for two-handed operation.

Note: Swapping the button assignments is not supported. The second set of buttons is to accommodate left-handed users.

Action	Result
Point (move pointer with the track ball)	Display Tool Tip when hovered over active object
✓ Click (Left-click)	A click initiates various actions. Nothing happens when the pointer is clicked on a disabled object.
✓ - ✓ Double-click	A double-click initiates various actions. For example, edit an inspection.
i Right-click	Display a context-sensitive menu when you click on an enabled object. The context-sensitive menu often contains functions that are also available in a menu bar or other screens. (Example, add a point to a polygon)
Drag (hold the left button while moving the track ball)	Examples: move a selected Region of Interest (ROI) around an image or move an inspection in a Tree View to change the order of execution.

Mechanical Keyboard (MKB)

The system supports the temporary connection of a conventional mechanical keyboard using one of the available USB ports. This keyboard will mostly be used for system level tasks such as BIOS configuration, Network configuration, and System level setup.



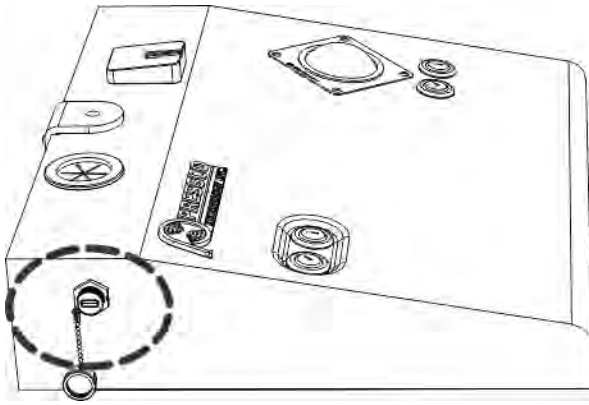
The keyboard:

- Is primarily used by Pressco Field Service Engineers
- Is stored inside the Vision PC chassis
- Requires a stable location when in use

USB Ports

There are USB ports available to back up or transfer data, and also to connect the optional mechanical keyboard. One is mounted on the side of the user interface pedestal.

Some touch screen monitors have additional USB connectors on the side of the monitor.



Biometric Login Device

The Biometric Identification login device is used to log in and out of the Pressco system. This device is optional and must be purchased with the system.



To log in with this device, press your finger to the device. The following are conditions for use:

- You must use the same finger as initially set up by your administrator
- If you do not know how your account was set up (or which finger you used), contact your administrator
- If, after three tries, the Pressco does not recognize your finger print, you must log in using the [On Screen Keyboard \(OSK\)](#)

Chapter 8 Software Overview

This section describes the regions of the user interface and how to navigate through the software. It also describes how to select items and how to use the user interface buttons.

Log in and log out

To log in, use either method:

- A.  Select the Log In button. Select your user name, and enter your password.
- B. With the optional biometric sensor: Press your finger to the sensor. The system logs you in. If the system fails to recognize your identity after three attempts, then log in through the log in dialog box.

To log out:

- A.  Select the button with your name, then select the Log Out button.
- B. With the optional biometric sensor: Press your finger to the sensor. The system logs you out.

Note: When another user logs in, the system automatically logs you out.

Log In menu

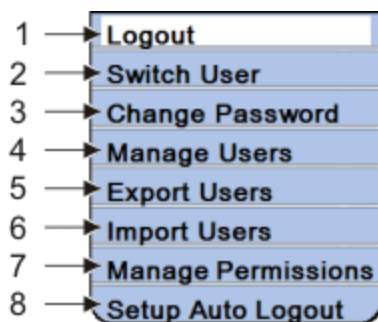
To ensure that only authorized users perform certain changes to the system, users are required to log in.* Some of these menu items are available to advanced users only.

*Some tasks can be configured so that users do not need to log in. This is done through the **Manage Permissions** menu.

To view the Log In menu:

 Select the Log In button and enter your password. The text on the button changes to indicate who is logged in.

 Select the Log In button again. The popup menu appears.



- 1 - Logout
- 2 - Switch user
- 3 - **Change Password** - change only your password
- 4 - **Manage Users** – add, remove, or edit users

5 - **Export Users** - export user profiles from one Intellispec to another

6 - **Import Users** - import user profiles from one Intellispec to another

7 - **Manage Permissions** – assign specific areas of the system that a user can access

8 - **Set Up Auto Logout** – the system logs you out if there is no activity for the specified time

Note: There is a Pressco Technician account for use only by Pressco Service Engineers. This gives access to unsupported features (menu items are a different color). If you log into this account and use those features, do so at your own risk.

4 Software Screens

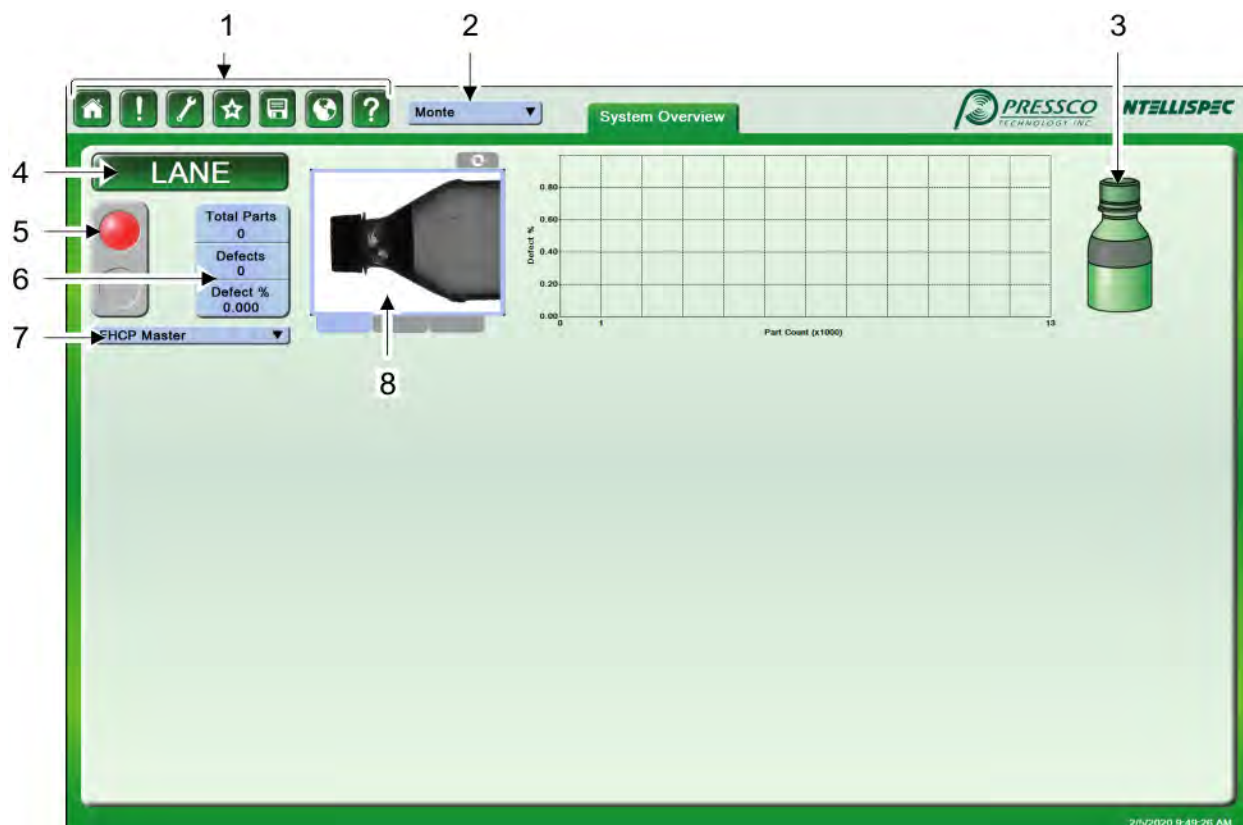
This section describes the four main types of screens in the Intellispec software.

System Overview screen



Access the System Overview screen by selecting the Home icon.

Note: your system may have multiple lanes. This example shows one lane.



1 - "Menu Toolbar" on page 75

2 - Log in/ Log out.

3 - Walk-by graphic

4 - Go to Lane Overview

Chapter 8

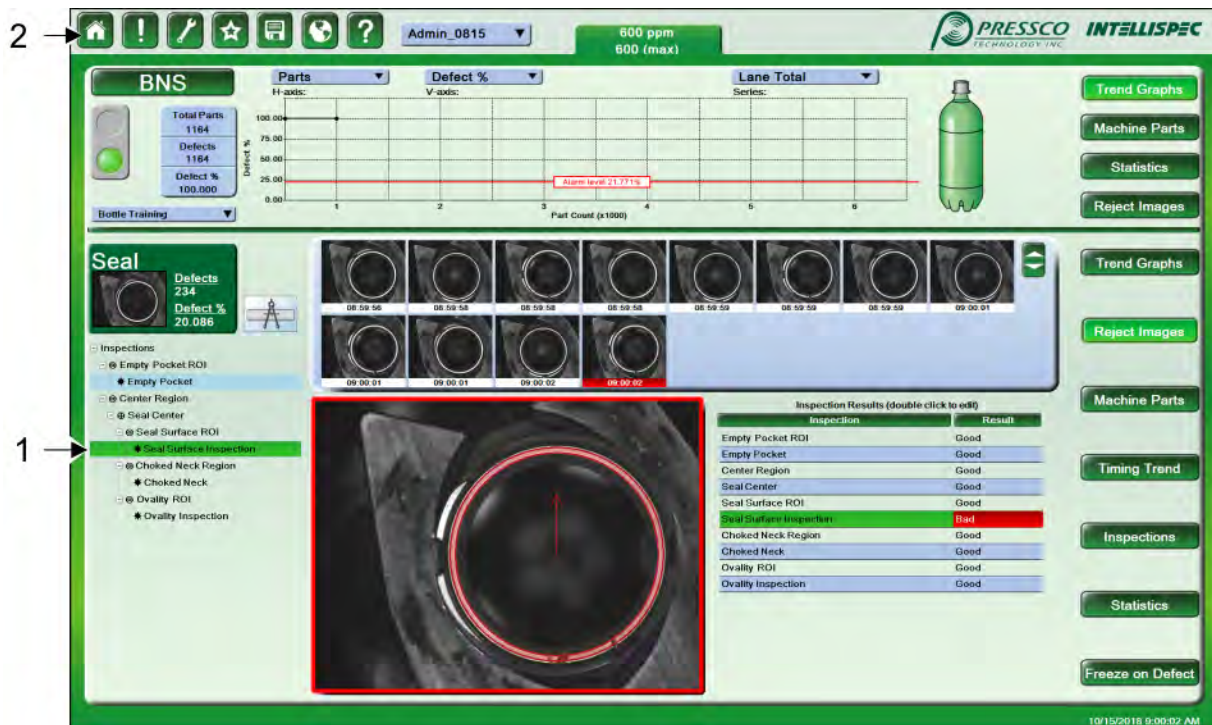
- 5 - Online/ Offline
- 6 - Lane Statistics
- 7 - Part Program
- 8 - Heartbeat Image

Lane Overview Screen



- 1 - Select the sensor button to toggle to detailed Sensor View and back
- 2 - Switch to System Overview

Sensor Overview Screen



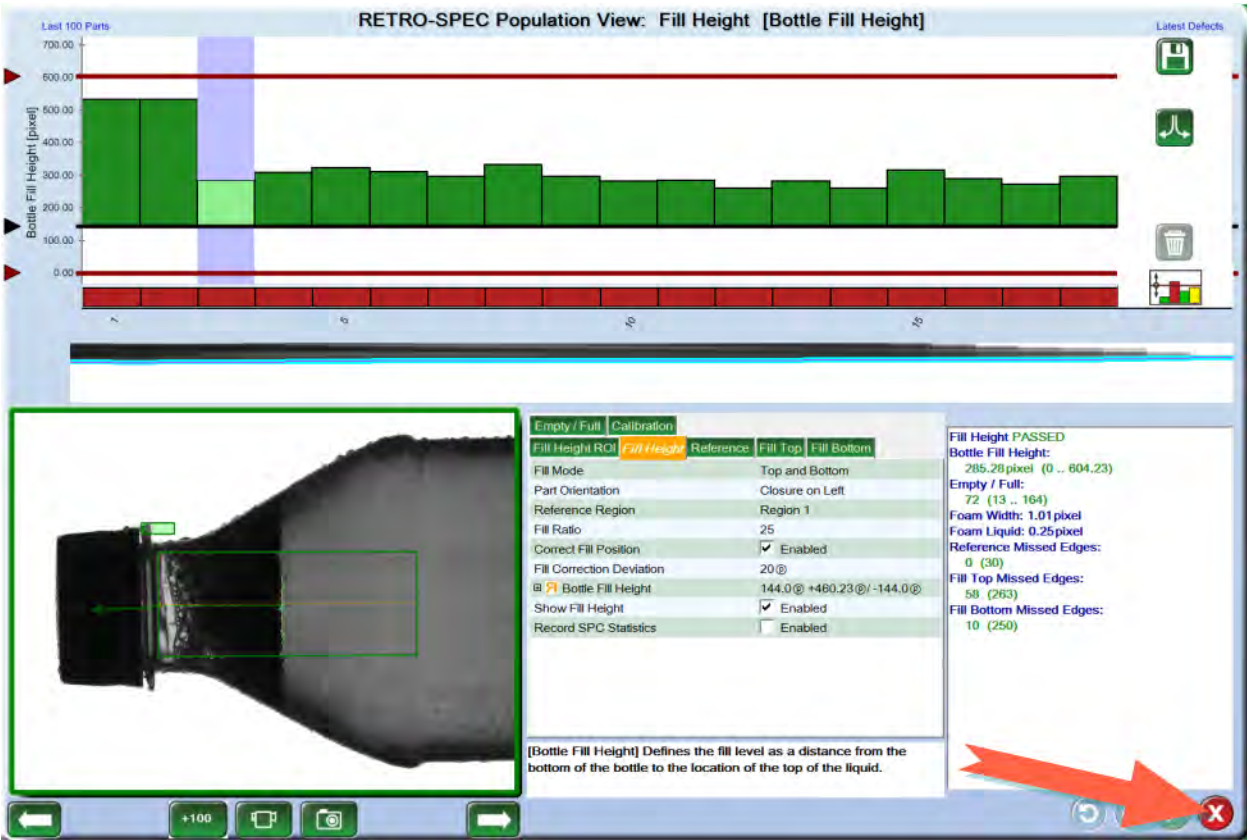
1 - Double-click to open Inspection View

2 - Switch to System Overview

Inspection Overview Screen

Double-click an inspection name in the inspection tree to access the Inspection Overview screen. This is the screen where you may adjust inspection parameters (if you have user permission).

Two different views are available in this screen: "Retro-Spec Population View Graph" and "Retro-Spec Part View Graph."



Close the Inspection View to switch to System Overview or Sensor Overview

Statistics Menu

Use the Statistics menu in the Lane Overview screen to view, reset, or print statistics.

Note: Some menu items are available to advanced users only

Lane n To view the Statistics menu: Select a Lane button | Click over a statistics box.

Total Parts
2465

Defects
364

Defect %
14.767

Statistics Menu

- Clear Lane Statistics ← 1
- Clear Lane Statistics and Clear Images ← 2
- Clear Last-N Statistics Only ← 3
- Clear SPC Statistics Only ← 4
- Clear Machine Part Statistics Only ← 5
- Print Lane Report ← 6
- Statistics Last Reset ← 7

- 1 - **Clear Lane Statistics** Clear the statistics for the lane only.
- 2 - **Clear Lane Statistics and Clear Images** Clear the statistics for the lane and empty the defective image buffer.

3 - **Clear Last-N Statistics Only** Clear the statistics for the Last N and Last N% parts in the corresponding graphs. It also clears the counts for population-based alarms, and clears such alarms that are currently triggered. (includes: Percent Defects, Good Parts, Percent Rejects, Excessive Rejects, Excessive Warnings, and Consecutive Defects)

4 - **Clear SPC Statistics Only** (Only available if you have Retro-Spec inspections enabled to keep SPC data) Clear the statistics from statistical process control.

5 - **Clear Machine Part Statistics Only** (Only available if machine part correlation is enabled on your system) Clear the statistics for the machine parts.

6 - **Print Lane Report** Send the lane statistics report to the default configured printer.

7 - **Statistics Last Reset** Display the date and time when the lane statistics were last reset.

See also:

Machine Part Correlation

"Schedule Reports" on page 99

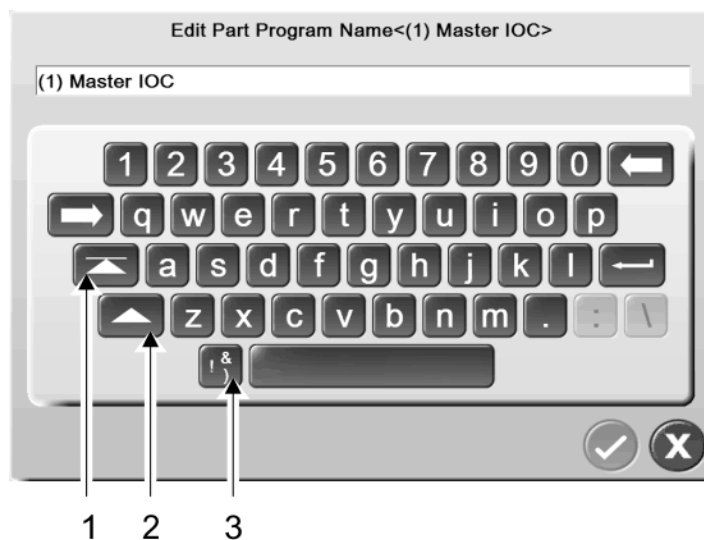
"Statistics Grid Options" on page 95

SPC Graphs

On Screen Keyboard (OSK)

Keyboards will be displayed depending on what kind of input is needed. Other keys are available, depending on your language. Keys may be grayed out if not applicable to the current operation.

Alphanumeric keyboard



1 - Shift lock button - capitalizes all letters until you press this button again.

2 - Shift button - capitalizes one letter, then returns to uncapitalized letters automatically.

3 - Symbols button - provides additional keys:

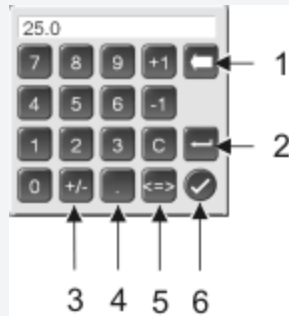


Latin key: This key, available in some languages, allows you to enter Latin characters. This is required for entering some system-level items, including file extensions.

Numeric keyboard

The numeric keyboard is displayed when the input field requires a numeric entry. Most of the buttons are self-explanatory. Additional buttons are described below.

Note: some buttons are not displayed if they are not appropriate for that field.



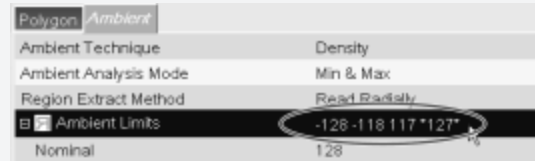
1 - Backspace - removes a digit

2 - Enter - populates the field in the Intellispec screen without closing the keyboard. This is useful if you want to test a value and see the results of the change immediately.

3 - [+/-] makes the number positive or negative

4 - [.] available only if a decimal number is valid in the input field

5 - [<=>] cycles to the next limit of the parameter. If the parameter has more than two limits, then asterisks will surround the selected value in the menu.



6 - the OK button accepts your changes and closes the numeric keypad

Menu Toolbar



Note: some menu items change, depending whether you are in System Overview mode or Lane/Sensor Overview mode

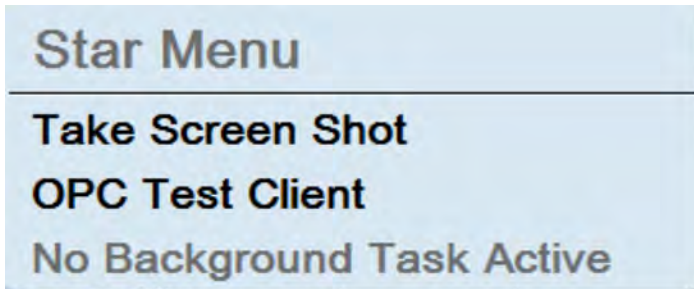
- 1) **Home** Go to the System Overview Screen
- 2) **Alarms** Clear, view, and set alarms
- 3) **Tools menu** Configure system settings, reports, hardware, part tracking, rejectors, part setup, and more
- 4) **Star menu** Take screen shots and manage background tasks
- 5) **Back Up and Restore Menu** Create a support package, restore the system from a support package, and launch Windows Explorer
- 6) **Language** Select the language to display the Intellispec software, from the available options
- 7) **Help** Access the help documents, remote support, and determine software version

Star Menu



Select the Star button from the toolbar to see this menu.

Note: Some menu items are only available to advanced level users.



This menu allows you to access the following utilities:

"Take Screen Shot" on the next page

The Intellispec OPC Test Client - only with the optional OPC package installed. Use this menu to open the OPC client when the system is online.

Manage "Background Tasks" on page 1

Take Screen Shot

Capture an Intellispec screen image. This is different from saving individual part images through the Save Image function. A screen shot is useful to illustrate a problem to technical support, capture error messages, or to capture settings for future setup.

To capture the current full Intellispec screen:

1.  Select the Star button | Take Screen Shot. An onscreen keyboard is displayed with a default image name.
2. Re-name the screen shot if desired.
3. Select OK to save the image. The image is saved as a Portable Network Graphic (.png) file to C:\Pressco\DataExport\ScreenShots.

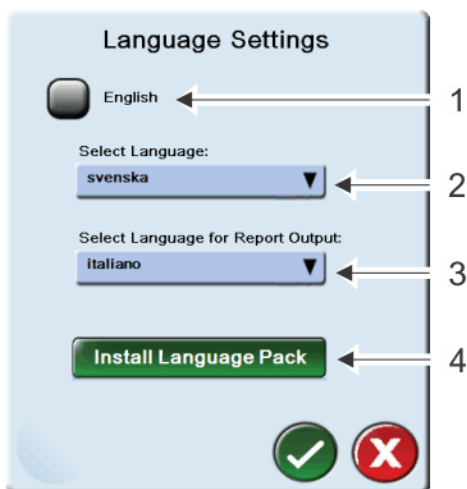
Language



Select a language.



Caution: The Language settings dialog (shown below) is the only place to change language, including number and date/time formatting. These settings must NOT be made in the Windows configuration, where the computer's locale must remain at US English. Otherwise, you may encounter errors and lose critical information.



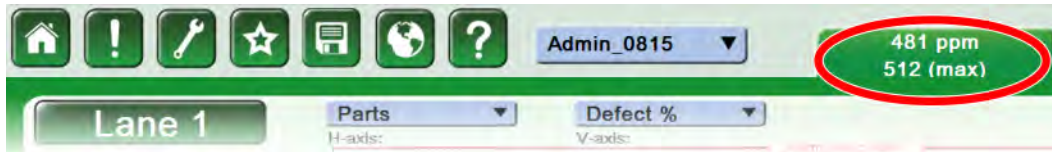
- 1 - **English** If this box is checked, the names of the available languages are displayed in US English (example: Swedish instead of svenska).
- 2 - **Select Language** Select the language to display on the user interface.
- 3 - **Select Language for Report Output** Select the language for the reports, such as the Lane Report from the Statistics menu.
- 4 - **Install Language Pack** When a new language is available, use this option to install the proper files. You will receive instructions from Pressco to install the language pack.

Part Rate

The part rate is displayed in Lane Overview and Sensor Overview modes. You can reset the part rate by right-clicking over the part rate tab and selecting Reset Part Rate.

The part rate displays:

- ppm (parts per minute) - The average rate over the last five seconds. It is updated once per second.
- max - The maximum rate found for all individual parts in the last five seconds determined in (parts per minute). The displayed value is the largest value found in the last five seconds.



Chapter 9 Alarms

There are five types of alarms: System, Lane, Sensor, Rejector, and Machine Part alarms. Most of these are configurable (except the System Alarms - UPS and over temperature).

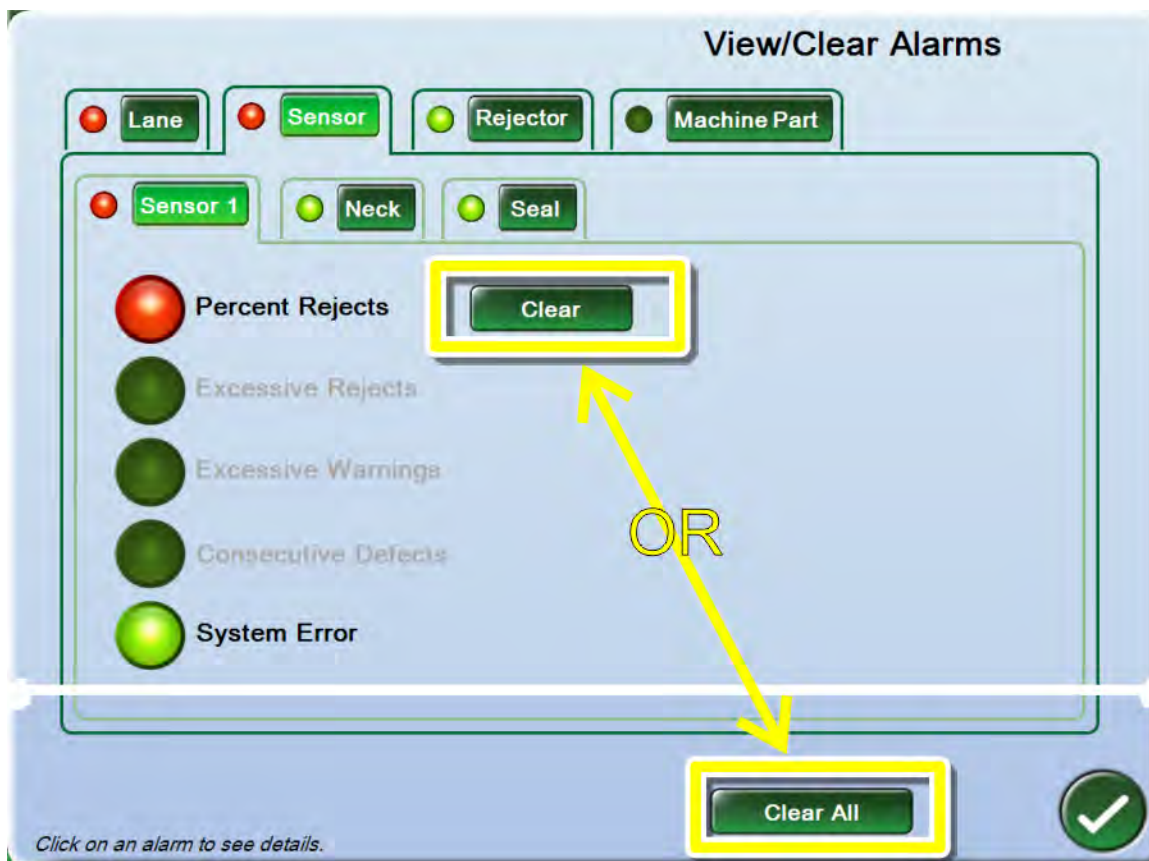
The information in this section is valid in software versions 5.6.010, 5.7.008 and higher.

Note: Alarms are recorded in the system log reader, even when the alarms are automatically cleared.

View and Clear Alarms

ALARM  To View or Clear Alarms, select an Alarm button. If no alarm is active, click the Alarms icon | View/Clear Alarms.

Select the Clear button to clear a single alarm, or the Clear All button to clear all alarms, including alarms in other tabs.



The indicators in this screen show whether an alarm is enabled, and whether it is triggered.



Red On - the alarm is both enabled and triggered



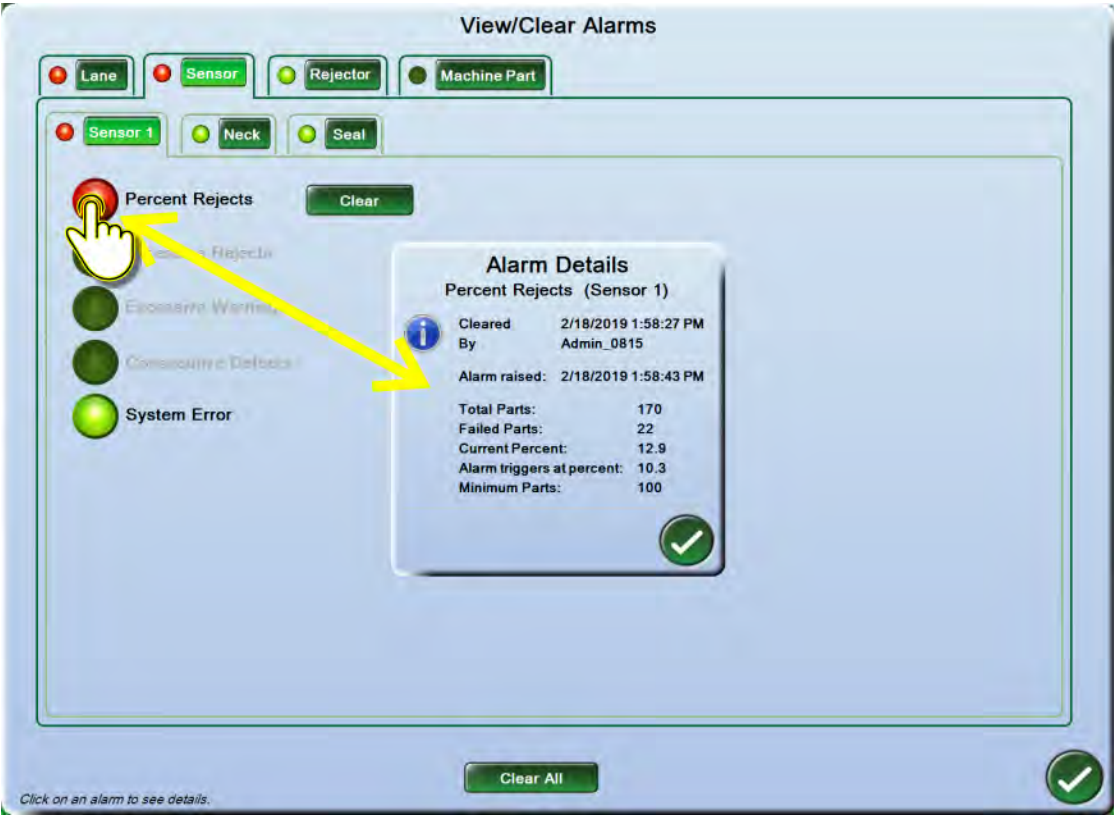
Green On - the alarm is enabled, but has not been triggered



Green Off - the alarm is not enabled nor triggered

Select different tabs to see more alarms. The tabs (except Lane) have sub-tabs. If any alarm is raised in a sub-tab (Sensor 1 in our example), then the container tab (Sensor) also shows an alarm.

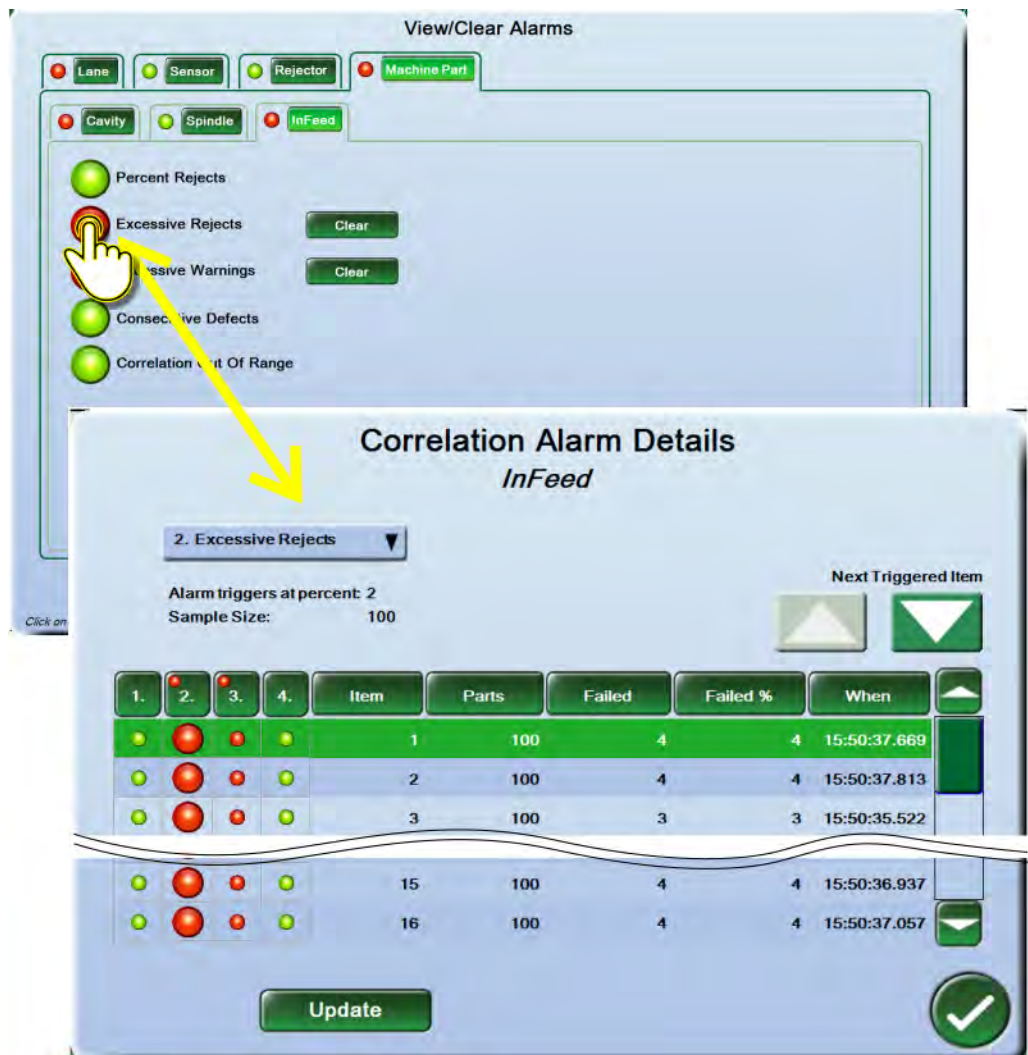
Select any indicator to see alarm details. You can also do this if an alarm is not active.



View and Clear Machine Part Alarms



From the alarms button | View/ Clear Alarms | Machine Part:



Clicking on any machine part alarm shows a details table breaking the alarm details down per correlation value (aka machine part item).

The table lets you select any of the (enabled) alarms either by using the drop down or by clicking one of the columns 1., 2., 3., etc.

A "Next Triggered Item" navigator helps to quickly find the item in alarm when all machine parts cannot be displayed simultaneously.

The Update button updates current inspection information (how many parts have currently been processed and how many failed; this is automatically done if an alarm is raised while in this view).

Review Alarm Configurations

 You can view all the alarm setups from one screen. Access this screen from the alarms button | Review Alarm Configurations, in Lane or Sensor Overview.

Review Configurations for All Alarms

Lane #1 (LANE) Source Type All Activation Hide Disabled

Light Tree

Extended I/O

Lane	Source		Alarm	Activation	Visual	Audible	Digital Out
#1 (LANE)	Lane		Percent Defects	Warning	3600s	3600s	0x2 (Bit 1)
#1 (LANE)	Lane		System Error	Warning	10s	2s	—
#1 (LANE)	Sensor 1	Main	Percent Rejects	Warning	3600s	3600s	0x2 (Bit 1)
#1 (LANE)	Sensor 1	Main	Consecutive Defects	Warning	3600s	3600s	0x2 (Bit 1)
#1 (LANE)	Sensor 1	Main	System Error	Warning	10s	2s	—
#1 (LANE)	Sensor 2	Color 1	Percent Rejects	Warning	3600s	3600s	0x2 (Bit 1)
#1 (LANE)	Sensor 2	Color 1	Consecutive Defects	Warning	3600s	3600s	0x2 (Bit 1)
#1 (LANE)	Sensor 2	Color 1	System Error	Warning	10s	2s	—
#1 (LANE)	Sensor 3	Color 2	Percent Rejects	Warning	3600s	3600s	—
#1 (LANE)	Sensor 3	Color 2	System Error	Warning	10s	2s	—
#1 (LANE)	Rejector 1		Jam at Reject Confirm	Warning	3600s	3600s	—
#1 (LANE)	Rejector 1		Missed Reject	Warning	10s	2s	—
#1 (LANE)	Rejector 1		Missed Result	Warning	10s	2s	—
#1 (LANE)	MP1	Filler Valve	Percent Rejects	Warning	3600s	3600s	—
#1 (LANE)	MP2	Capper Head	Percent Rejects	Warning	3600s	3600s	—
#1 (LANE)	MP2	Capper Head	Excessive Rejects	Warning	3600s	3600s	—

Use the drop-down menus at the top of the screen to filter what you want to see. For example, view the alarm setups for only the Sensors, through the Source drop-down.

All
Lane
Sensor
Rejector
Machine Part

Sort data by column, by selecting a button at the top of the table. For example, sort the alarms alphabetically by sensor/ machine part name, by clicking the blank button.

Capper Head
Capper Head
Color 1
Color 2
Color 2
Filler Valve
Main

System Alarms - Description and Configuration

The system alarms are the UPS (uninterruptible power supply) and CPU temperature alarms. You can configure the UPS shut down time.

These are only shown in the System Overview and will not show up as flashing lane buttons, or on any light tree, and will not sound a horn.

Alarm	Description	Action
UPS	Battery is dead. Or: Plant power is lost and the UPS shutdown time is exceeded. The Intellispec shuts down.	Replace battery Automatically resets If plant power is restored before the Intellispec shuts down, then the alarm is automatically cleared. Otherwise, restart the system.
Over temperature	CPU temperature exceeds highest recommended operating temperature. The Intellispec system shuts down. You must wait till the processor cools before resuming operation.	

System Alarm Setup



To get to this menu: select Home | Alarms.



1 - **UPS Shutdown Time** The number of seconds that the UPS will maintain power to the system if AC power has been lost. The Intellispec system shuts down after this time period. This allows for a normal Windows shutdown.

2 - **CPU Temperature** If a multiple core computer is used, the highest temperature is displayed. If the shutdown CPU temperature is reached, the Intellispec system shuts down.

Lane Alarms - Brief Description

The Lane Alarms affect the hardware associated with one lane. A lane usually refers to one production line, and can contain multiple sensors.

Alarm	Description	Action	Light Tree ²
Percent Defects ¹	Percentage of defects exceeds the set limit.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Offline ¹	Lane goes offline	Automatically resets	 Green = system is online  Red = system is off-line
Chute Full ¹	Reject chute is full	Clear chute Reset alarm on screen	 Red
Power Status ¹	Lane AC Power is lost	Automatically resets Troubleshoot: Check that the inspection module power switch is on. Check +24V supply.	 Red = AC power is lost  Blue = power is OK
Good Parts ¹	Used as a part counter. When specified number of parts is reached, then alarm is triggered.	Replace the box with counted parts with an empty box, then clear alarm. Reset alarm on screen	 Red
System Error ¹	Part tracker or other internal system errors	Depends on specific alarm (see details for System Error Alarm) Reset alarm on screen	 Red Red Flashing for Part Tracker Lost Communication

¹ If you want to connect an external monitoring device such as a PLC, an optional Extended I/O board is required for each lane.

² The light tree displays this color for the Duration if Visual Enabled.

Sensor Alarms - Brief Description

Sensor alarms are configured for each sensor (camera or other sensor).

Alarm	Description	Action	Light Tree ²
Percent Rejects ¹	Percent Rejects This alarm is triggered when the Trigger [%] is exceeded. It will remain triggered until you clear the alarm.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Excessive Rejects ¹	Excessive Rejects This alarm is triggered when Trigger [%] of the last Sample Size parts have been found defective. It will remain triggered until you clear the alarm.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Excessive Warnings ¹	Excessive Warnings This alarm is triggered when Trigger [%] of the last Sample Size parts have been found with a warning status. It will remain triggered until you clear the alarm. Warnings are enabled in the Retro-Spec Options when you are editing an inspection. They can also be enabled in Lane Setup Select Features.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Amber
Consecutive Defects ¹	Consecutive Defects This alarm is triggered when Consecutive Triggers has been exceeded [the sensor had too many consecutive defects]. It will remain triggered until you clear the alarm.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Mass Lighting	Mass Lighting - This alarm is triggered when the lighting threshold falls below a minimum level.	Clean the mass sensors and emitters Reset alarm on screen	none
System Error ¹	Missed part, missed acquisition, missed result, or other internal error	Reset alarm on screen	 Red

¹ If you want to connect an external monitoring device such as a PLC, an optional Extended I/O board is required for each lane.

² The light tree displays this color for the Duration if Visual Enabled.

Rejector Alarms - Brief Description

Rejector Alarms are triggered when a part did not get rejected as expected.

Alarm	Description	Action	Light Tree ²
Jam at Reject Confirm ¹	The reject confirm path has been blocked too long. Works with Reject Confirm Calibration (Optional)	Remove jammed parts at the rejecter, then clear alarm. Reset alarm on screen	 Red
Missed Reject ¹	System missed rejecting a part. Works with Reject Confirm Calibration (Optional)	Reset alarm on screen	 Red
Missed Result ¹	The part reached the rejecter before the part was fully inspected and the result was sent to the part tracker. That is, the inspections took too long to run.	If this occurs often, look at the inspection settings. It may be possible to use other settings to reduce inspection time. Reset alarm on screen	 Red

¹ If you want to connect an external monitoring device such as a PLC, an optional Extended I/O board is required for each lane.

² The light tree displays this color for the Duration if Visual Enabled.

Machine Part Alarms - Brief Description

Machine Part alarms are the correlation-based alarms. They are visible only if your system has correlation sensors installed.

Note: for Machine Part Alarms, except Correlation Out of Range, statistics apply to each correlation value separately. That is, if one of 100 machine parts fails at 100 percent, the detected percentage is 100 percent while overall it would be 1 percent.

Alarm	Description	Action	Light Tree ²
Percent Rejects ¹	Percent Rejects This alarm is triggered when the Trigger [%] is exceeded. It will remain triggered until you clear the alarm.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Excessive Rejects ¹	Excessive Rejects This alarm is triggered when Trigger [%] of the last Sample Size parts have been found defective. It will remain triggered until you clear the alarm.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Excessive Warnings ¹	Excessive Warnings This alarm is	Check the production line to see what might	 Amber

Alarm	Description	Action	Light Tree ²
	triggered when Trigger [%] of the last Sample Size parts have been found with a warning status. It will remain triggered until you clear the alarm. Warnings are enabled in the Retro-Spec Options when you are editing an inspection. They can also be enabled in Lane Setup Select Features.	be creating too many bad parts Reset alarm on screen	
Consecutive Defects ¹	Consecutive Defects This alarm is triggered when Consecutive Triggers has been exceeded [the sensor had too many consecutive defects]. It will remain triggered until you clear the alarm.	Check the production line to see what might be creating too many bad parts Reset alarm on screen	 Red
Correlation Out of Range	Correlation Out of Range - This alarm is triggered if the part tracker counts a machine part that was not configured.	Reset alarm on screen	 Red

¹ If you want to connect an external monitoring device such as a PLC, an optional Extended I/O board is required for each lane.

² The light tree displays this color for the Duration if Visual Enabled.

Chapter 10 Graphs

Several graphs are available on the user interface to help you view inspection trends. This section discusses the buttons on the right side of the screen in the Lane Overview and Sensor Overview modes.

Walk-by Graphic Overview

Walk-by

The Walk-by Graphic is a graphic representation of a part so that you can quickly identify which area of the part is failing. It is called Walk By because you can quickly walk by the Intellispec and look at the graphic to determine the status of inspection:

- Green = passing parts
- Yellow = warning. The spoilage rate is approaching, but has not yet reached a critical level. You can make changes to the manufacturing process before the failure rate gets too high.
- Red = failing parts

Set up warning or failure limits in "[Walk-by Graphic Setup](#)" on page 1.

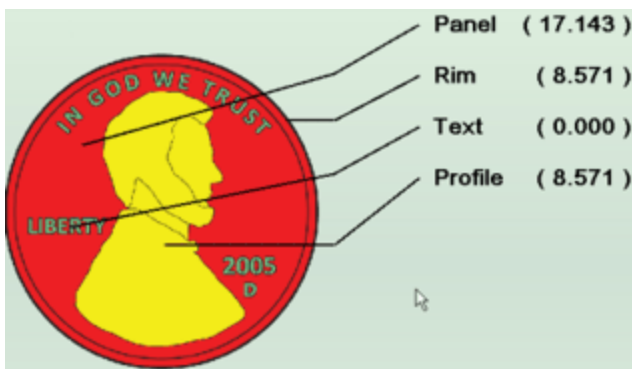
There are two Walk By Graphics:

- A small Walk By Graphic is displayed in System Overview, Lane Overview, and Sensor Overview modes
- A large Walk By Graphic can be displayed in Lane Overview mode

To see the large Walk By Graphic:

1.  Select a Lane button.
2.  Select the Walk By button on the right side of the screen.

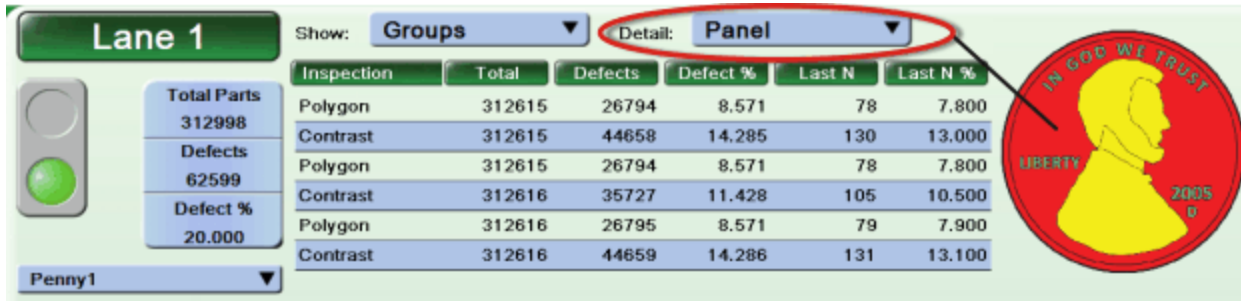
The large Walk By Graphic displays the group names, pointing to the appropriate areas on the part. It also displays the defect percentage for each of those groups, from inspection results.



Using the Walk-by Graphic

View inspection information by selecting on the areas of the graphic. The example below shows:

- The Panel group was selected - all the inspections for Panel are displayed in the table
- The Panel area in the Walk By Graphic is red - The average defect % for the group of inspections exceeds the failure limit from the Walk By setup



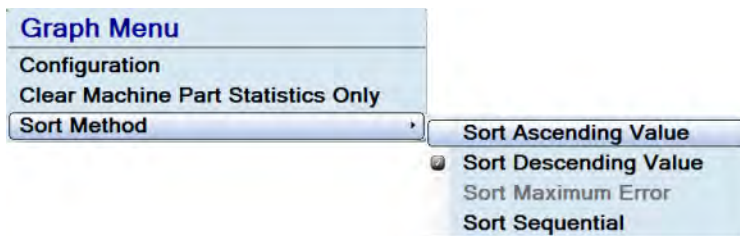
Double-click an inspection from the table to open and edit that inspection. Note: Some menu items are only available to advanced level users.

Sort Data in Graphs

Change the order of the displayed data in the Trend Graphs or Machine Part Graphs (if configured).

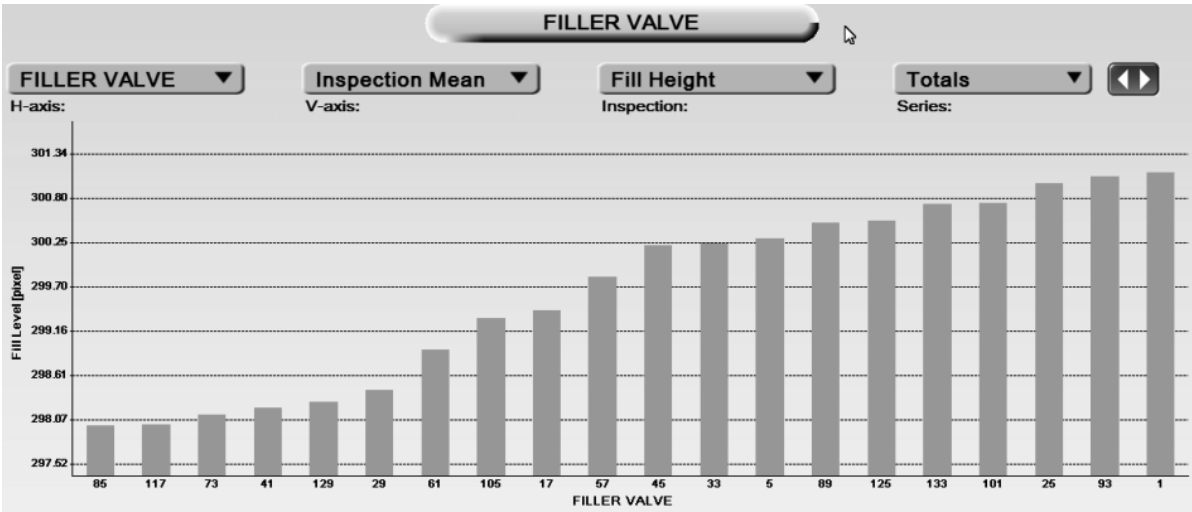
Note: when you change sorting order, it affects the Trend Graphs or Machine Part Graphs in the upper and lower screens. Other graphs are not affected.

To sort the graph data: Right-click over a graph | select Sort Method | select an option.



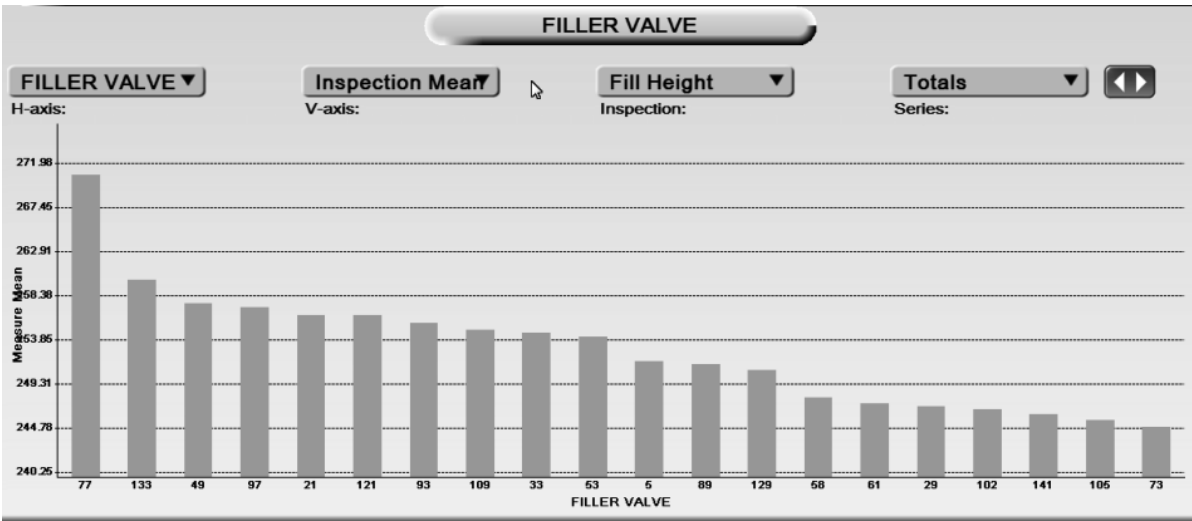
Sort Ascending Value

Sort from low to high result. In the example below, the machine part with the highest number of defects is shown on the right side of the graph.



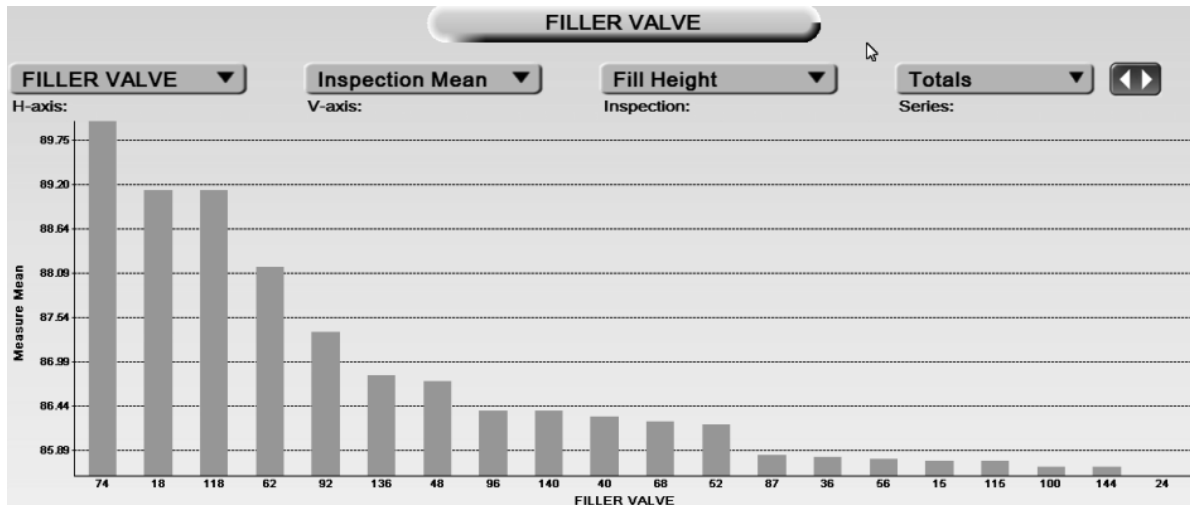
Sort Descending Value

Sort from high to low result. In the example below, the machine part with the highest number of defects is shown on the left side of the graph.



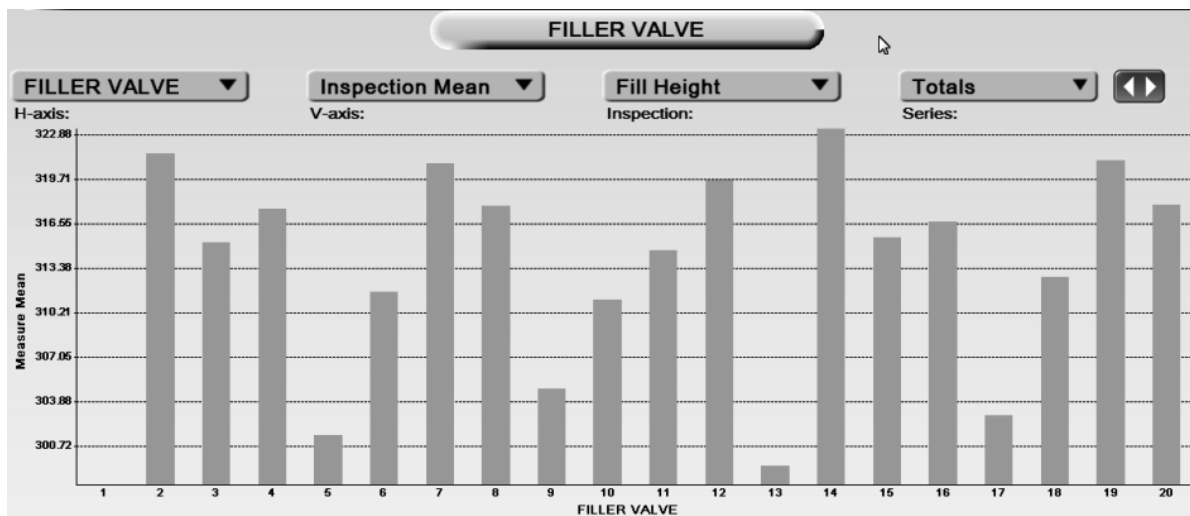
Sort Maximum Error

[Available when "Record SPC Statistics" is enabled for an inspection, Totals is selected for the graph Series, and Inspection Mean is selected for V-Axis] Sort the data by machine part where the highest peak shows the furthest value from nominal, as an absolute value.



Sort Sequential

Display an ordered list of machine parts.



Clear Machine Part Statistics

Clear the statistics for the machine parts only, if desired [only if correlation is enabled].

To clear Machine Part statistics:

1. Right-click over a trend graph or machine part graph.



2. Select Clear Machine Part Statistics Only.

Scroll in Graphs



When the data falls outside of the current viewing range (example, time) a scroll button becomes available.

The data goes back to when the system was powered up, or 2880 data points, whichever is more recent. The trend data is reset when the system is restarted.

- In a time-based graph, if the graph time per update is set to one minute, then the data goes back 48 hours
- In a part-based graph, if parts per update is set at 1000 parts, then the data goes back 2,880,000 parts

Trend Graphs

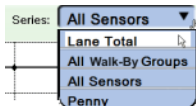
To view the Lane trend graphs:

1.  Select a lane.
2.  Select a Trend Graphs button on the right side of the screen. The trend graph is displayed.

Note: There are two Trend Graphs buttons available. One is for the lane; the other is for the sensor. If you are viewing Lane Overview mode, then the trend graph in the upper screen is where you select the viewing options. The trend graphs in the lower screen follow the settings from the upper screen. In Sensor Overview mode, you can select viewing options separately within the upper and lower screens.

Trend graphs show statistics based on specified criteria. These graphs are available for each lane and each sensor within that lane.

For Trend Graphs, you can select which data to display. Select from the Series drop-down menu.



Lane Total Statistics are averaged for all sensors within the lane.

All Walk-By Groups Statistics for inspection groups. These groups are defined in the Walk By Graphic setup, and pertain to a specific area of a part.

All Sensors Statistics for each sensor.

Individual Sensors [names vary] Statistics for only the selected sensor.

Note: A key (to explain color-coding and data point shape) is displayed to the right of the graph for All Walk-By Groups and All Sensors.

To change the graph criteria:

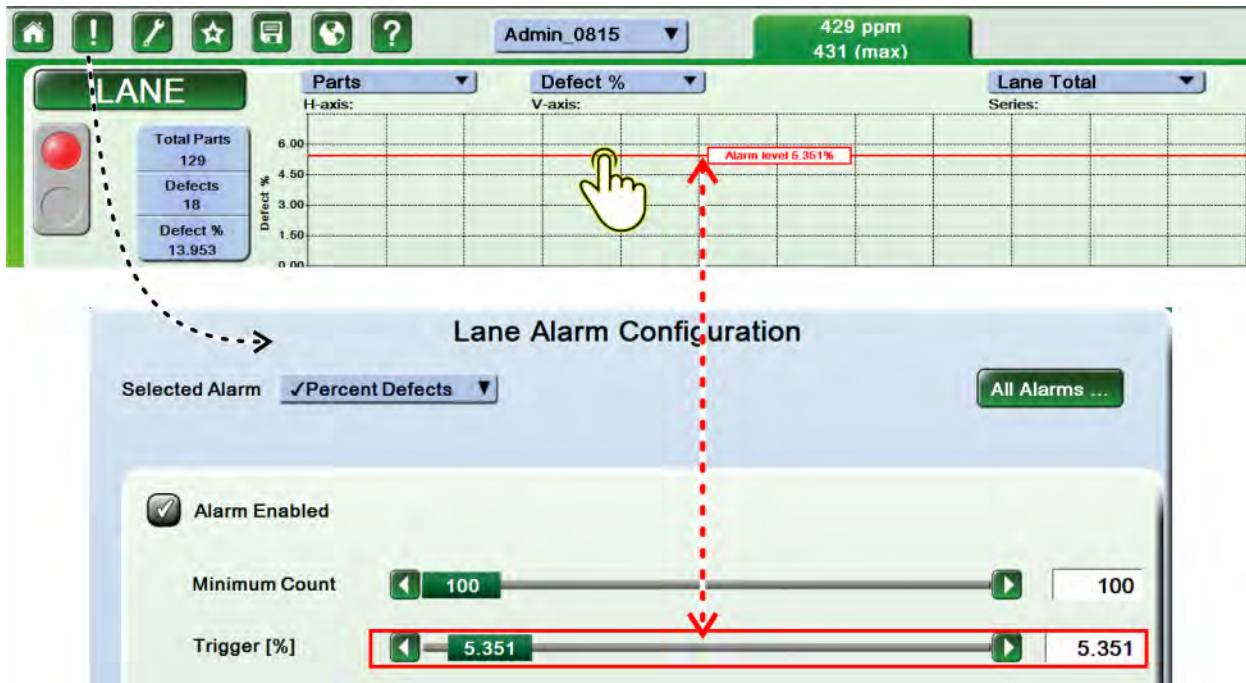
1. Select any button (next to H-axis, V-axis, Inspection, or Series) to view the drop-down menu options.

2. Select the desired criteria. The graph is updated to display based on your chosen criteria.

Alarm Percentages in Trend Graphs

The alarm level can be adjusted in the graphs. Select and drag on the red Alarm Level line to adjust it. This also changes the alarm percentage in the Lane Alarm Configuration menu.

If you adjust the percentage in the Lane Alarm Configuration menu, you may need to go to System Overview, then back to Lane Overview mode to see the change on the graph.



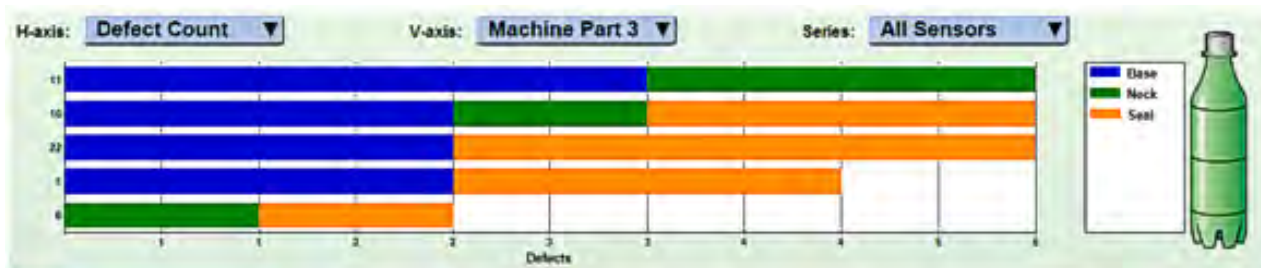
Note: Changing this alarm percentage does not affect the alarm percentage level in the Walk By Graphic.

Machine Part Graphs

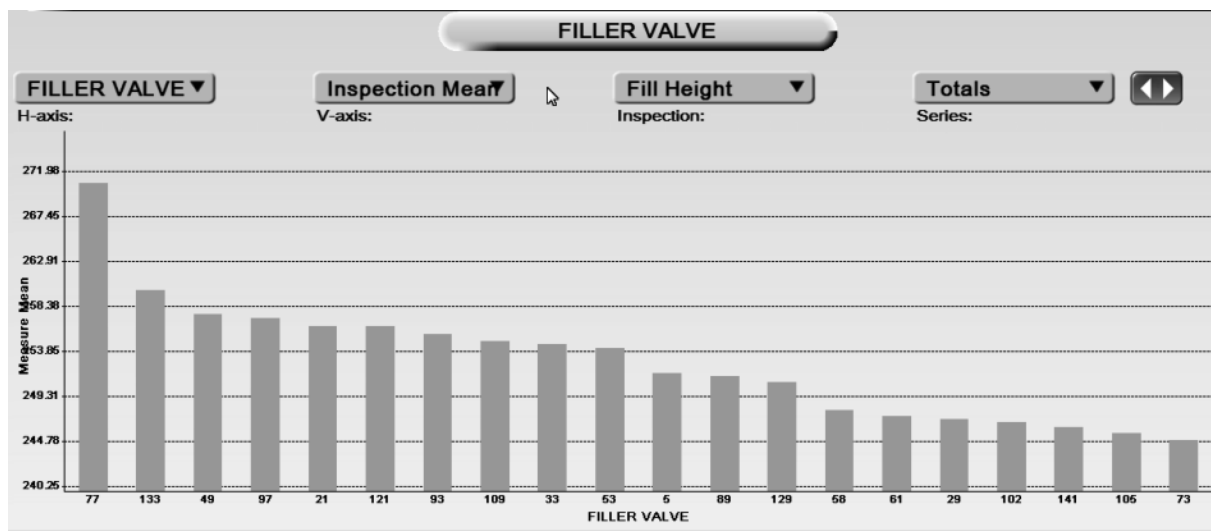
Machine Parts

Machine Part Graphs are available when you have the Correlation option installed. They display defect information for each machine part. The name on the button(s) matches your system configuration.

An example graph is displayed below. It shows defects for a machine part type, and the number of defects correlated to each sensor.



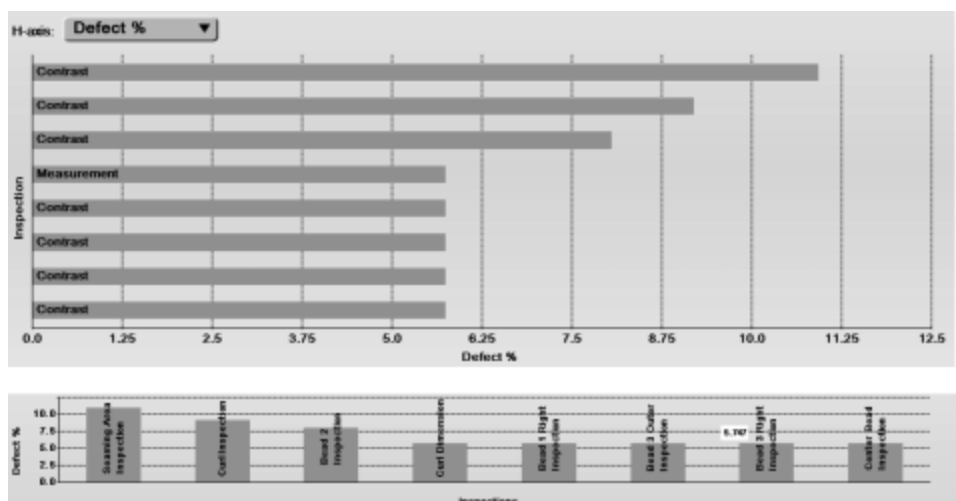
The example below shows machine part data for the fill height for each machine part, for one camera. To change the sorting order, right-click on the graph. For more information, see ["Sort Data in Graphs" on page 88](#).



Inspections Graph

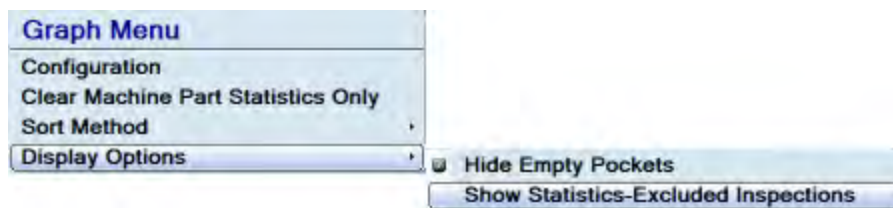
Inspections

Select the Inspections button to display the Defect Count or Defect % for the selected sensor. It displays the failed inspections in descending order of failure. The example below shows the graphs in both Lane Overview and Sensor Overview modes.



Chapter 10

When you right-click over the graph, you can choose to view or hide Empty Pocket or Statistics-Excluded inspections.



Chapter 11 Statistics and Reports

See also: "Graphs" on page 87

Statistics Grid

Statistics The Statistics Grid displays information about each Sensor. There are two types of Statistics Grids: Lane and Sensor.

Lane Statistics Grid

The Lane Statistics Grid (in Lane Overview mode) displays general information about each Sensor. It shows the Total number of parts run, Sensor, Defects, Defect %, Last N, and Last N %.

Show: Sensors ▼	Detail: All ▼				
Sensor	Total	Defects	Defect %	Last N	Last N %
Rivet	56748	56748	100.000	953	95.300
Panel	56748	56748	100.000	953	95.300

Sensor Statistics Grid

This grid is available when you display Sensor information. It shows specific information for each sensor, including Inspection, Total number of parts run, Defects, Defect %, Last N, and Last N %.

Inspection	Total	Defects	Defect %	Last N	Last N %
Pattern Match	56748	56748	100.000	953	95.300
Radial Edge	56748	0	0.000	0	0.000
Ring	56748	0	0.000	0	0.000
Ring	56748	0	0.000	0	0.000

Note: you can configure the statistics display. Your system may not display all of the above-mentioned items.

Sorting order

To sort any column in ascending or descending order, select the button at the top of the column. Select it again to toggle to the opposite order. Right-click to clear sorting in the statistics grid.

Inspection	Total	Defects	Defect %	Last N	Last N %
Pattern Match	56748	56748	100.000	953	95.300
Radial Edge	56748	0	0.000	0	0.000
Ring	56748	0	0.000	0	0.000
Ring	56748	0	0.000	0	0.000

Statistics Grid Options

These settings are applied to all statistics grids, whether in the Lane Overview or Sensor Overview mode. Right-click over any statistics grid to see the options. These are explained below.



Column Visibility The number of columns in the grid.

Display Options The number of rows in the grid. This only affects the statistics grids in the Sensor Overview level.

Hide Regions Hide regions such as Ring, Adaptive, or Rectangle from the grid.

Hide Enhancement Hide enhancements such as Clipping, Stretch Grayshades, or Power Filter.

Hide Empty Pockets and Show Statistics-Excluded inspections Show or hide Empty Pocket or Statistics-Excluded inspections.

Change Limits Change the number of columns and rows of the grids in the first two sections of the menu. These are the same as Column Visibility and Display Options.

Use Error Limit Causes the Defect % and Last N % columns to display in red if the trigger percentage is exceeded. This allows you to see these statistics from a distance.

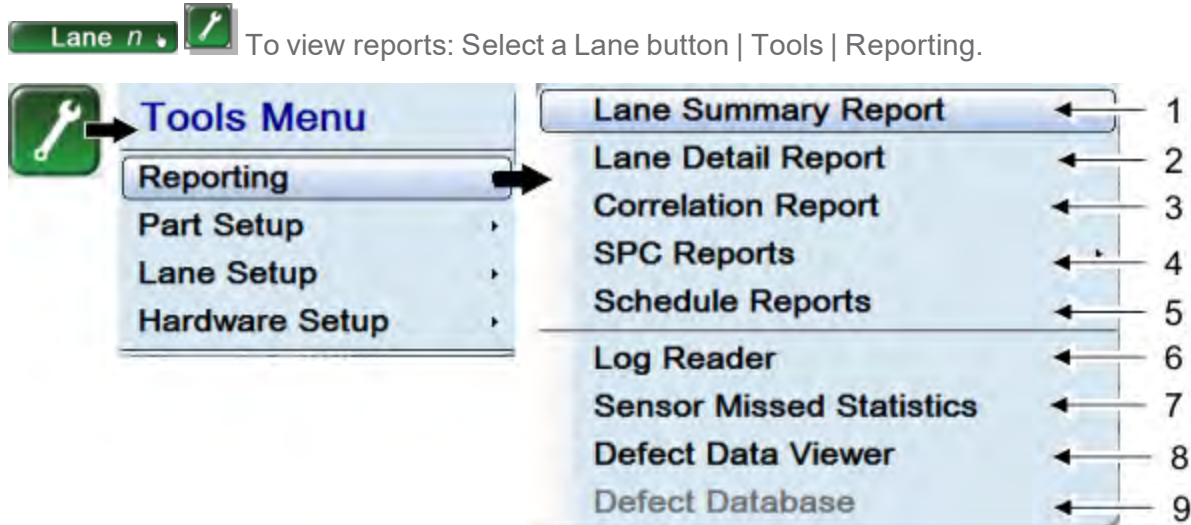
Use Warning Limit Causes the Defect % and Last N % columns to display in yellow if the trigger percentage is exceeded. This allows you to see these statistics from a distance.

Clear Sorting Puts the sorting order back to the default setting.

Reporting

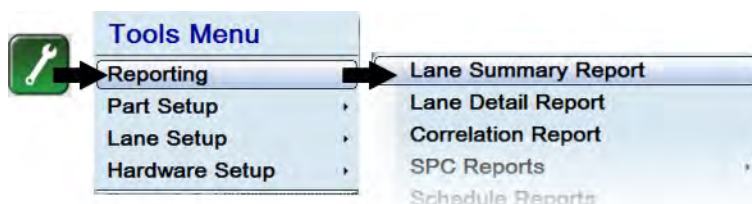
The Intellispec generates many different reports to provide inspection detail. Many of these reports can be transferred outside of the Intellispec.

Note: Some menu items are only available to advanced level users.



- 1 - "Lane Summary Report" below
- 2 - "Lane Detail Report" on the next page
- 3 - "Correlation Report" on page 99
- 4 - SPC Reports (SPC = Statistical Process Control)
- 5 - Schedule Reports
- 6 - "Log Reader" on page 103
- 7 - **Sensor Missed Statistics** Displays the number of missed parts and missed part tracking for the sensor.
- 8 - **Defect Data Viewer** [if enabled] view the images in the defect database
- 9 - **Defect Database** [if enabled] view the inspection data from the defect database

Lane Summary Report

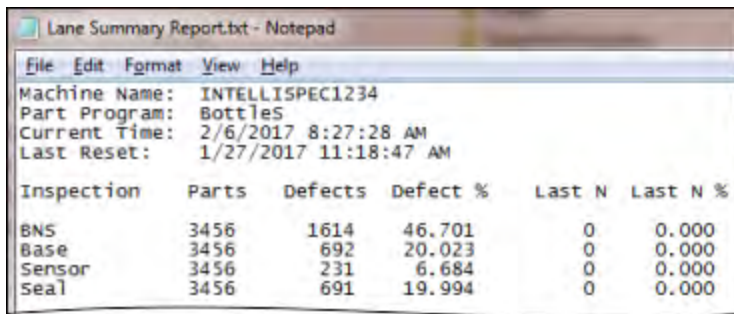


This report lists the statistics for the lane, including:

- Number of parts inspected
- Number of defects

- Defect percentage

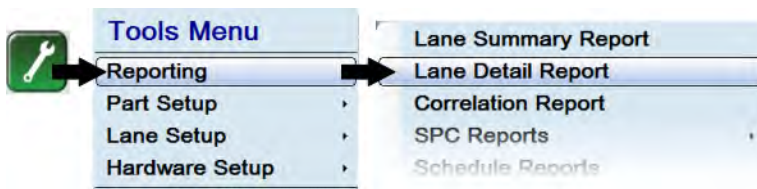
The above numbers are reported per sensor, and as an overall number for the lane. An example from a one lane system is shown below.



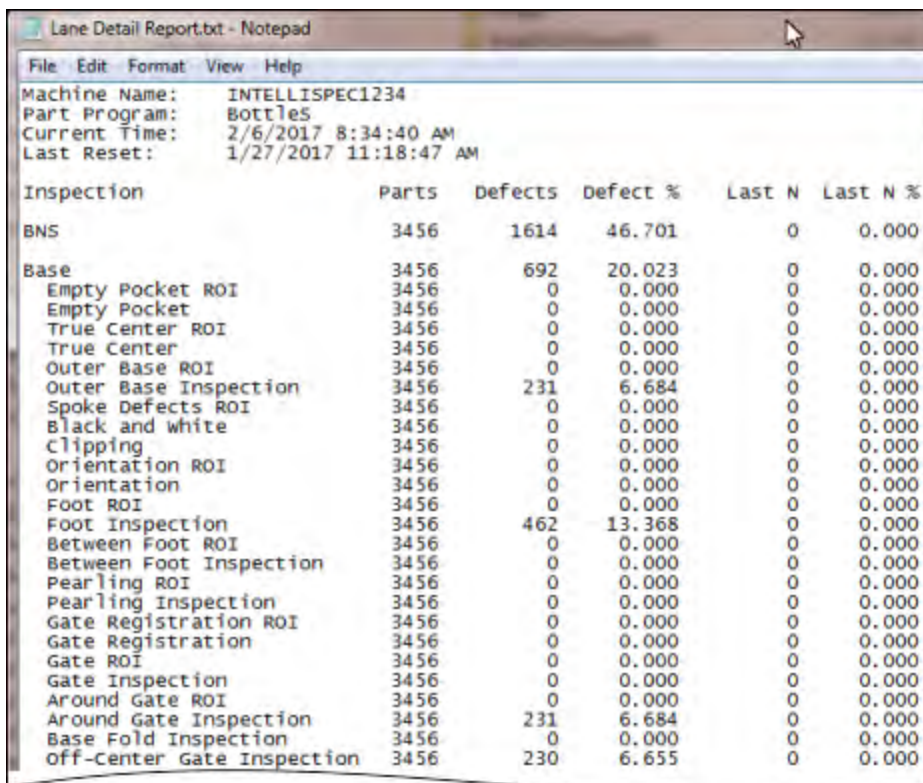
Machine Name: INTELLISPEC1234
 Part Program: Bottles
 Current Time: 2/6/2017 8:27:28 AM
 Last Reset: 1/27/2017 11:18:47 AM

Inspection	Parts	Defects	Defect %	Last N	Last N %
BNS	3456	1614	46.701	0	0.000
Base	3456	692	20.023	0	0.000
Sensor	3456	231	6.684	0	0.000
Seal	3456	691	19.994	0	0.000

Lane Detail Report



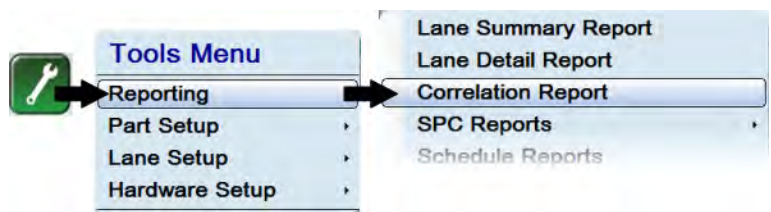
This report contains all the information in the Lane Summary Report, plus inspection detail for each sensor.



Machine Name: INTELLISPEC1234
 Part Program: Bottles
 Current Time: 2/6/2017 8:34:40 AM
 Last Reset: 1/27/2017 11:18:47 AM

Inspection	Parts	Defects	Defect %	Last N	Last N %
BNS	3456	1614	46.701	0	0.000
Base	3456	692	20.023	0	0.000
Empty Pocket ROI	3456	0	0.000	0	0.000
Empty Pocket	3456	0	0.000	0	0.000
True Center ROI	3456	0	0.000	0	0.000
True Center	3456	0	0.000	0	0.000
Outer Base ROI	3456	0	0.000	0	0.000
Outer Base Inspection	3456	231	6.684	0	0.000
Spoke Defects ROI	3456	0	0.000	0	0.000
Black and white	3456	0	0.000	0	0.000
Clipping	3456	0	0.000	0	0.000
Orientation ROI	3456	0	0.000	0	0.000
Orientation	3456	0	0.000	0	0.000
Foot ROI	3456	0	0.000	0	0.000
Foot Inspection	3456	462	13.368	0	0.000
Between Foot ROI	3456	0	0.000	0	0.000
Between Foot Inspection	3456	0	0.000	0	0.000
Pearling ROI	3456	0	0.000	0	0.000
Pearling Inspection	3456	0	0.000	0	0.000
Gate Registration ROI	3456	0	0.000	0	0.000
Gate Registration	3456	0	0.000	0	0.000
Gate ROI	3456	0	0.000	0	0.000
Gate Inspection	3456	0	0.000	0	0.000
Around Gate ROI	3456	0	0.000	0	0.000
Around Gate Inspection	3456	231	6.684	0	0.000
Base Fold Inspection	3456	0	0.000	0	0.000
Off-Center Gate Inspection	3456	230	6.655	0	0.000

Correlation Report



This report contains the percentage of defects by machine part, sorted from highest to lowest percentage of failure.

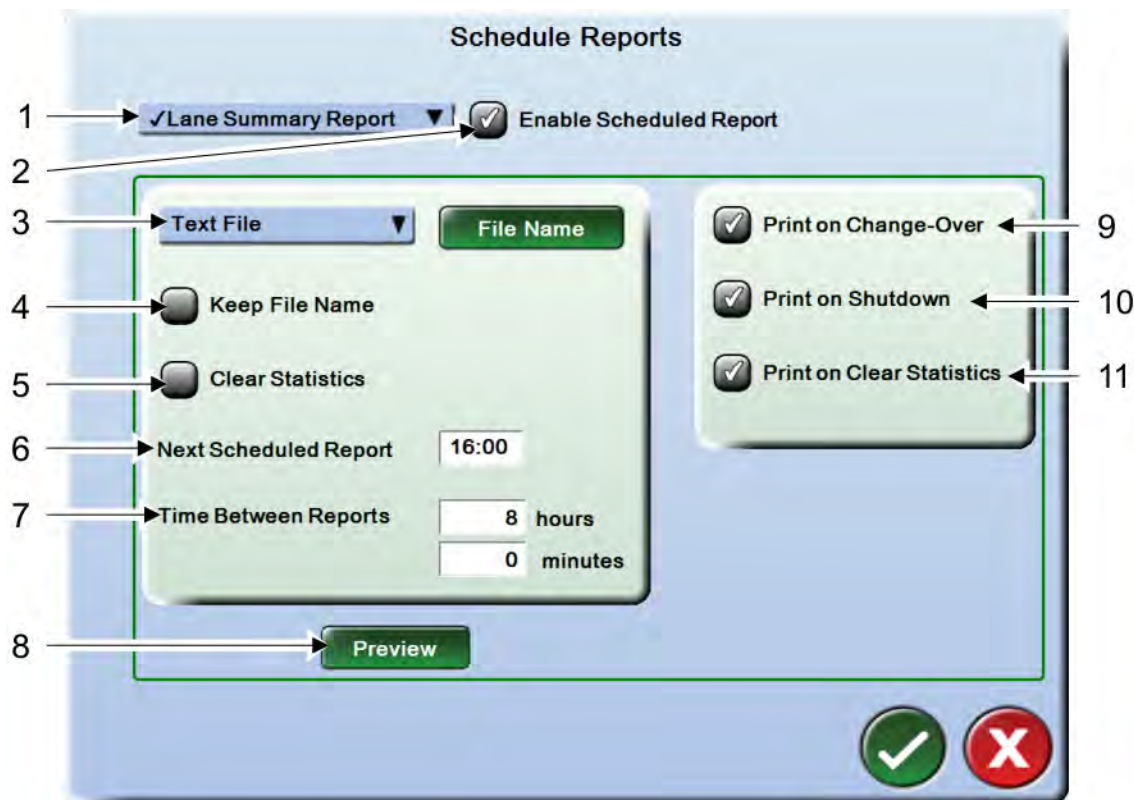
A screenshot of a Notepad window titled 'Report - Notepad'. It contains a report with machine information and two tables of defect data.

Machine Name: TT3400
Part Program: FHCP3X Master
Current Time: 6/18/2013 1:28:37 PM
Last Reset: 6/18/2013 9:42:47 AM

'FILLER VALVE'		'CAPPER HEAD'	
#	Percent	#	Percent
28	0.18	28	0.71
112	0.18	16	0.71
136	0.18	4	0.71
16	0.18	24	0.64
76	0.18	36	0.64
88	0.18	12	0.63
100	0.18	20	0.51
52	0.18	22	0.51
40	0.18	8	0.5
64	0.18	34	0.5
124	0.17	10	0.5
4	0.17	32	0.5
144	0.16	18	0.45
60	0.16	30	0.45
24	0.16	6	0.44
36	0.16	13	0.42
96	0.16	19	0.42
84	0.16	25	0.42
108	0.16	1	0.41
120	0.16	7	0.41
		31	0.41
		15	0.34
		~	~

Schedule Reports

Set up a schedule where the Intellispec generates reports automatically. This is a Lane-level setting. To schedule reports for more than one lane, you must repeat the process for each lane. To access: select from Lane Overview: Tools | Reporting | Schedule Reports.



1 - **Report drop-down menu** Select a report to schedule. Each report must be set up separately. See also "Lane Summary Report" on page 97, "Lane Detail Report" on page 98, and "Correlation Report" on the previous page.

2 - **Enable Scheduled Report** When this box is checked, the settings below are active.

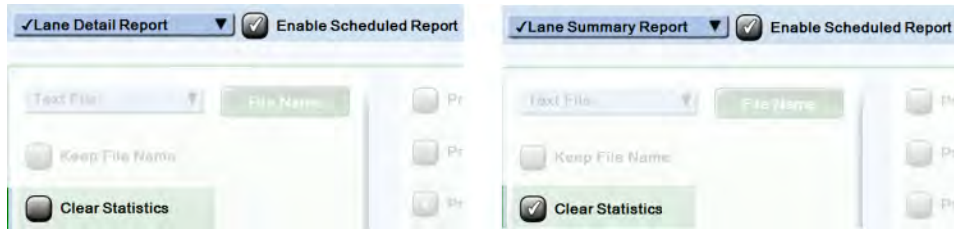
3 - **Destination drop-down menu** Send the report to the default printer or a file. When "Text File" is selected, you can enter a file name and destination by selecting the File Name button. If you do not choose the name or location of the file, then the file is named "Report.txt" and is saved at the hard disk location "c:\Pressco\Reports." Subsequently saved reports include a time stamp in the file name, unless you enable Keep File Name.

4 - **Keep File Name** The system overwrites the file each time, rather than creating unique names for files. Select the File Name button, browse to the location where you want to save it, and create a name for your report. Example: a plant where the Intellispec is networked. Say the office computer is programmed to poll the Intellispec at regular intervals to get the latest statistics report. With the same file name, the office computer just needs to request the same file name each time, regardless of the date and time the report was saved.

5 - Clear Statistics

The statistics are cleared after each scheduled report. This applies to the current report selected in the dialog.

In this example, the Lane Detail report will not clear any statistics when it runs. The Lane Summary report will clear the statistics when it runs.



6 - **Next Scheduled Report** Using a 24 hour clock, set the time to save or print the next report. No reports will print until the specified time. This time of day is always used in subsequent report days, so that you can schedule your network computer to collect reports after this time. Note that this number is updated by the system continuously - it will always show the next scheduled report time. Example: if the current time is 17:00, and Next Scheduled Report is 15:00, then the next report will not print till the next day at 15:00.

7 - **Time Between Reports** Set the time interval to save or print the following reports. This interval is used after the Next Scheduled Report. The reports on following days are scheduled to always include the Next Scheduled Report time as originally set up.

Example: Time Between Reports

Next Scheduled Report = 15:00 and Time Between Reports = 5 hours. The reports will print the next day at 15:00, then at 20:00. The following day, the scheduled reports occur at 00:00, 05:00, 10:00, 15:00, and 20:00. This repeats each following day.

If the system is shut down when a report is scheduled and later started up again, then no report is created for the time when the system is shut down. This is true with the following exceptions:

- If a report was already created today, or the report schedule was edited today
- If the shut down was today
- If either of the above conditions happens, and a report was scheduled during the down time, then a report is created immediately after the system starts up again.

8 - **Preview** Select the preview button to see when scheduled reports will print.

Preview Details

Schedule Preview

Summary **Default Printer** \\fp1\ENGLABS - Dell 2330dn Laser Printer XL (duplex)

Correlation **Text File** C:\Pressco\Lane 1\Korrelationsbericht-*.txt ← 1

SPC Report **Text File** N:\TRANSFER\rennis\SPC Report-*.txt

Preview generated for 4/25/2019 11:51 AM.

Event	Cleared?	Summary	Correlation	SPC
Switch part program		✓	✓	
Shutdown		✓		✓
Statistics Cleared	✓	✓	✓	✓

Time

Today				
12:00 PM			✓	✓
4:00 PM	✓			

Time

Tomorrow				
12:00 AM	✓		✓	✓
8:00 AM	✓			
12:00 PM			✓	✓
4:00 PM	✓			

← 2 ← 3 ← 4

1 - Enabled reports | 2 - If checked, that report will print at the time the event happens (example, when you switch a part program) | 3 - If checked, that report will print today at the time shown | 4 - If checked, that report will print tomorrow and each day after at the time shown

Cleared = Clear Statistics is enabled for that report.

9 - **Print on Changeover** Schedule the system to generate a report if someone changes a part program. This contains defect statistics from the time of the last statistics reset until the time that the part change-over occurred.

Changeover Report Example

This report contains defect information for the most recent parts. It has the time of the last statistics reset, and displays information through the time that the part change-over occurred.

Line 5 Detail Report_2013-06-18_13-31-32.txt - Notepad					
File Edit Format View Help					
Machine Name:		TT3400			
Part Program:		FHCP3X Master			
Current Time:		6/18/2013 1:31:32 PM			
Last Reset:		6/18/2013 9:42:47 AM			
Inspection		Parts	Defects	Defect %	Last N Last N %
Lane 1		97703	14606	14.949	135 13.500
Main		97703	3908	4.000	36 3.600
Neckring	Reg ROI	97703	0	0.000	0 0.000
Neckring	Reg	97703	0	0.000	0 0.000
Color 1		97703	6772	6.931	63 6.300
Neckring	Reg ROI	97703	0	0.000	0 0.000
Neckring	Reg	97703	0	0.000	0 0.000
Color 2		97703	4652	4.761	42 4.200
Neckring	Reg ROI	97703	0	0.000	0 0.000
Neckring	Reg	97703	0	0.000	0 0.000

10 - **Print on Shutdown** The report is generated when the system shuts down.

11 - **Print on Clear Statistics** The report is generated when you manually clear statistics.

Log Reader



To get to this menu: select Home | Tools | Log Reader.

The log reader displays the Intellispec event history including:

- User log in and log out information
- Notification when the part program was changed. Note: detailed changes to parameters and program changes are found in the [Part Program Change Log](#)
- Alarms, when triggered and cleared
- System errors
- System starting information
- Lane online/ offline history
- Lighting changes
- Reports generated
- Text files of the logs are stored at: C:\Pressco\Logs.

Log Reader

Configure

Tools

Filter

	Date	Time	Lane	Message	User	Online	Part Program	
Tue	2011-11-22	17:03:06	(2) Nickle	System went offline.	Administrator	Offline	Nickle	R
Tue	2011-11-29	09:27:47	(0) System	System process starts.	Administrator	Online	default	
Tue	2011-11-29	09:28:18	(0) System	Internal Error	Administrator	Offline	default	
Tue	2011-11-29	09:28:31	(4) Quarter	Lane process starts.	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(4) Quarter	Version: 5.0.467 (XP, 32 bit)	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(4) Quarter	Built: 11/28/2011 3:29:07 PM	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(4) Quarter	Built by: dpaunescu	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(4) Quarter	Built on machine: DPOP755	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(4) Quarter	Built on operating system: Microsoft Windows NT 5.1.2600 Service ...	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(4) Quarter	Build changed from '5.0.465 (XP, 32 bit)' to '5.0.467 (XP, 32 bit)'	Administrator	Offline	Measurement_test	
Tue	2011-11-29	09:28:31	(2) Nickle	Lane process starts.	Administrator	Offline	Nickle	R
Tue	2011-11-29	09:30:20	(2) Nickle	Sensor 'Neck' with Id 2 in the part program 1L squat blue was not fou...	Administrator	Offline	Nickle	
Tue	2011-11-29	09:30:20	(2) Nickle	Sensor 'Seal' with Id 3 in the part program 1L squat blue was not fou...	Administrator	Offline	Nickle	
Tue	2011-11-29	09:30:20	(2) Nickle	Sensor 'Neck' with Id 2 in the part program .5L Snapple Clear was n...	Administrator	Offline	Nickle	
Tue	2011-11-29	09:30:20	(2) Nickle	Sensor 'Seal' with Id 3 in the part program .5L Snapple Clear was no...	Administrator	Offline	Nickle	
Tue	2011-11-29	09:30:22	(0) System	Was not able to connect to a UPS	Administrator	Offline	default	
Tue	2011-11-29	09:30:41	(0) System	User 'Administrator' has logged in.	Administrator	Offline	default	
Tue	2011-11-29	09:32:03	(2) Nickle	System went offline.	Administrator	Offline	Nickle	
Tue	2011-11-29	09:41:35	(1) Penny	System went online.	Administrator	Online	Penny	
Tue	2011-11-29	09:41:36	(1) Penny	System went offline.	Administrator	Offline	Penny	

Navigate

◀

Next Text

▶

All Columns

Enter Search Text

⏮

⏪

⏩

⏭

🌐

✓

Sensor Missed Statistics

Displays the number of missed parts and missed part tracking for the sensor. From Lane or Sensor Overview mode, select Tools | Reporting | Sensor Missed Statistics. This information is recorded in the Log Reader.

Missed Parts / Results

Missed Result

No Missed Results

Missed Part

No Missed Parts

Lost Part Tracking: 0

Part Tracking Closed: 0

Clear All?

✓

✗

Missed Results This can occur if you set the Reject Delay Calibration incorrectly. Another cause could be kinks or intermittent connections to cables, or the inspection time for the lane is too long.

Lost Part Tracking This occurs if the system loses connection to the Part Tracker. You may be able to change the Missed Packets Exception threshold to prevent loss of connection.

Error Messages

Part Tracker Exception

If you see an error "Part Tracker Exception" on the Intellispec screen, this means that power was lost to the Cluster Box or Part Tracker.

To reset the part tracker board:

Push the Reset button on the part tracker board. This is found inside the inspection module or Cluster Box.

Lost Part Tracking

If you see a "Lost Part Tracking" message, possibly the power was lost to the Cluster Box or Part Tracker inside an inspection module. Reset the Part Tracker board as described above.

Chapter 12 Saving Images

Take Screen Shot

Capture an Intellispec screen image. This is different from saving individual part images through the Save Image function. A screen shot is useful to illustrate a problem to technical support, or to capture settings for future setup.

To capture the current full Intellispec screen:

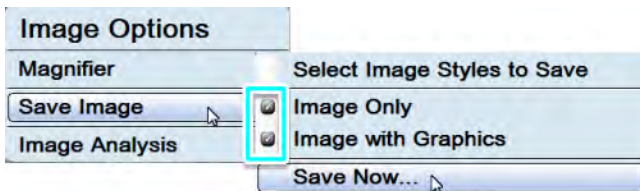
1.  Select the Star button | Take Screen Shot. An onscreen keyboard is displayed with a default image name.
2. Re-name the screen shot if desired.
3. Select OK to save the image. The image is saved as a Portable Network Graphic (.png) file to C:\Pressco\DataExport\ScreenShots.

Save Images

There are several ways to save an image within the Intellispec system.

Save any image:

In most parts of the system, right-click over any image. Follow the instructions on screen. This is useful to save images to include with a Support Package.

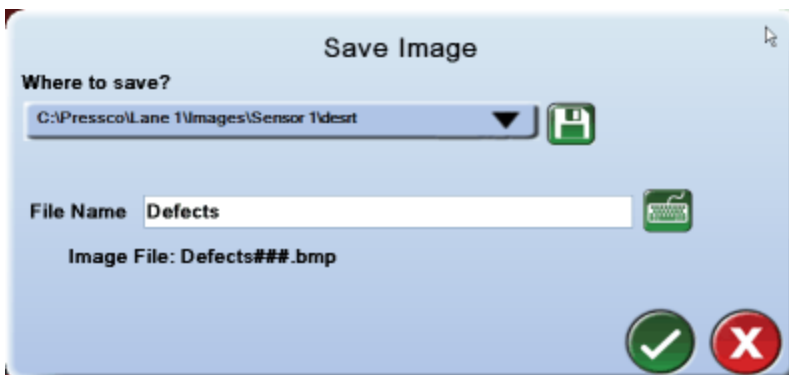


Checked = enabled. Then click Save Now...

Image Only - bitmap (.bmp) image with no graphics. Note: only bitmap images can be loaded back into the Intellispec.

Image with Graphics - portable network graphic (.png) image with inspection graphics

The image is saved to the default location shown, unless you specify a different location. A default file name is provided for you. Select the keyboard icon to rename the image.



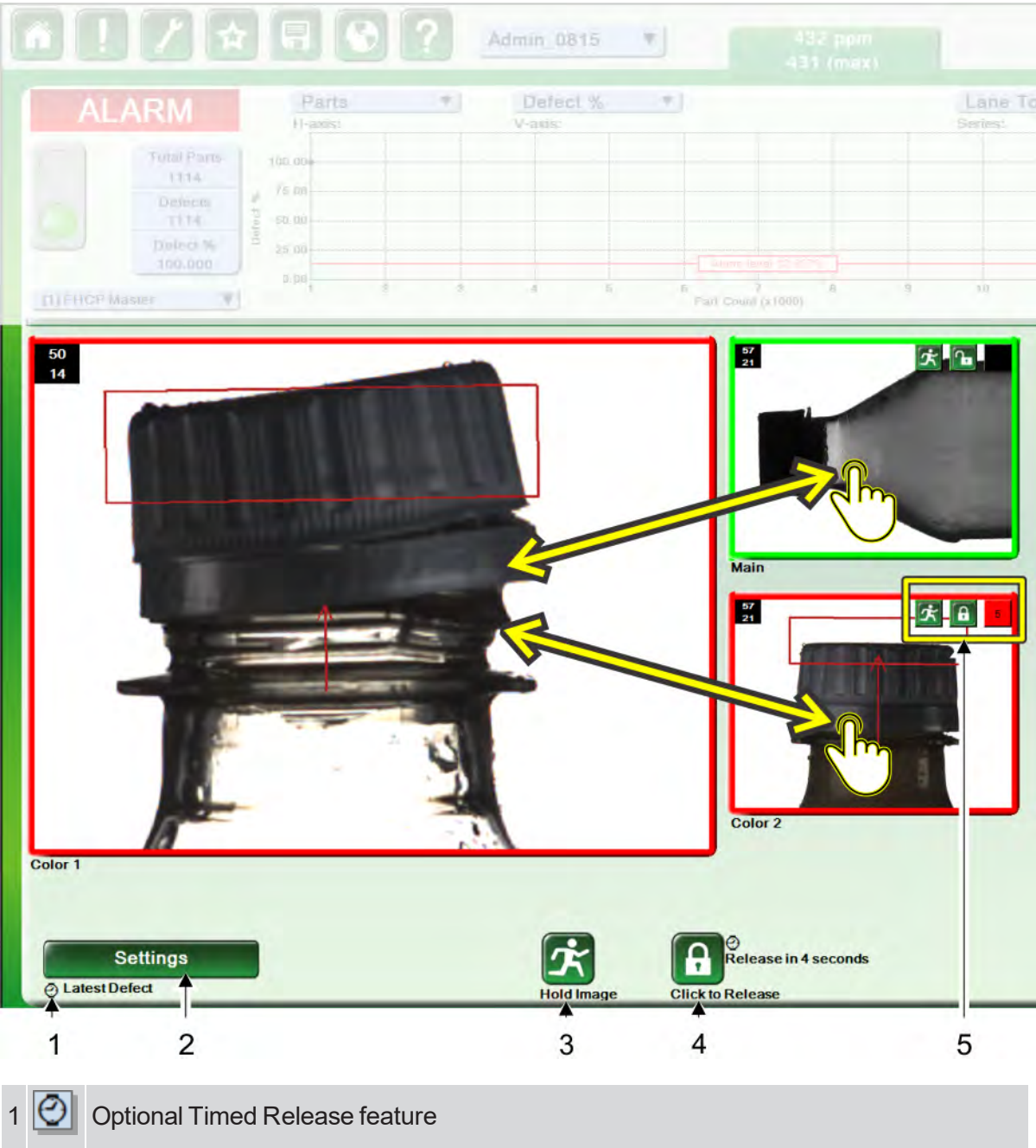
Freeze on Defect

Freeze on Defect

Automatically freeze an image when a lane is online. Freeze on Defect has two views: Multi Sensor View and Single Sensor View.

Multi Sensor View

This is accessed from Lane Overview Screen.



2 Go to "Freeze on Defect Setup Menu" on page 110

3  Hold an image

3  Held image

4  Locked image. Select this button to release an image.

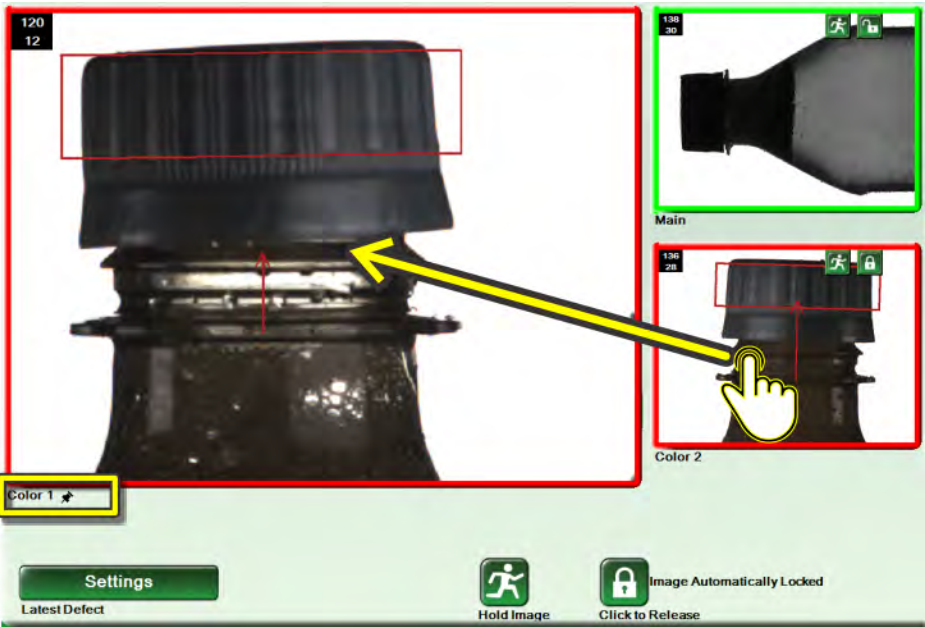
4  Unlocked image.

5 These symbols appear only on the smaller images, when Side-by-Side Locked Images = Latest Sensor Image in the Settings menu (Freeze on Defect Setup menu). The number in the upper right corner of the small image is the countdown timer (when Timed Release is used). The large image does not show these buttons; holding the image is controlled by the buttons at the bottom of the screen.

Right-click over any image to use the "Freeze on Defect Options Menu" on page 111

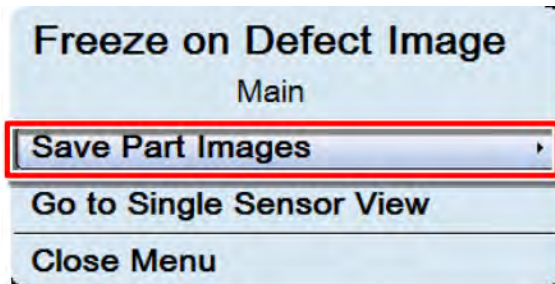
Pinned Image

In Multiple Sensor View, a view can be pinned to the large image when "Automatically switch to the latest locked image" is enabled. This allows you to work with the image for 10 seconds before it gets replaced by another image. When you select one of the smaller images, that image gets moved to the large image, and is pinned there temporarily. A push pin icon is displayed below the large image.

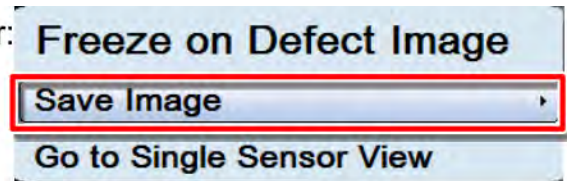


To save an image:

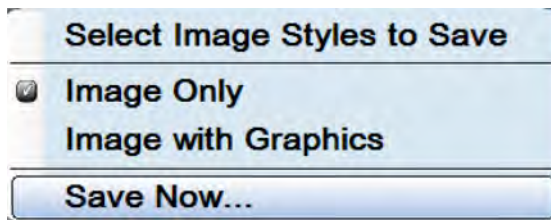
1.  Select the Hold Image button.
2. Right-click over the image.



or:



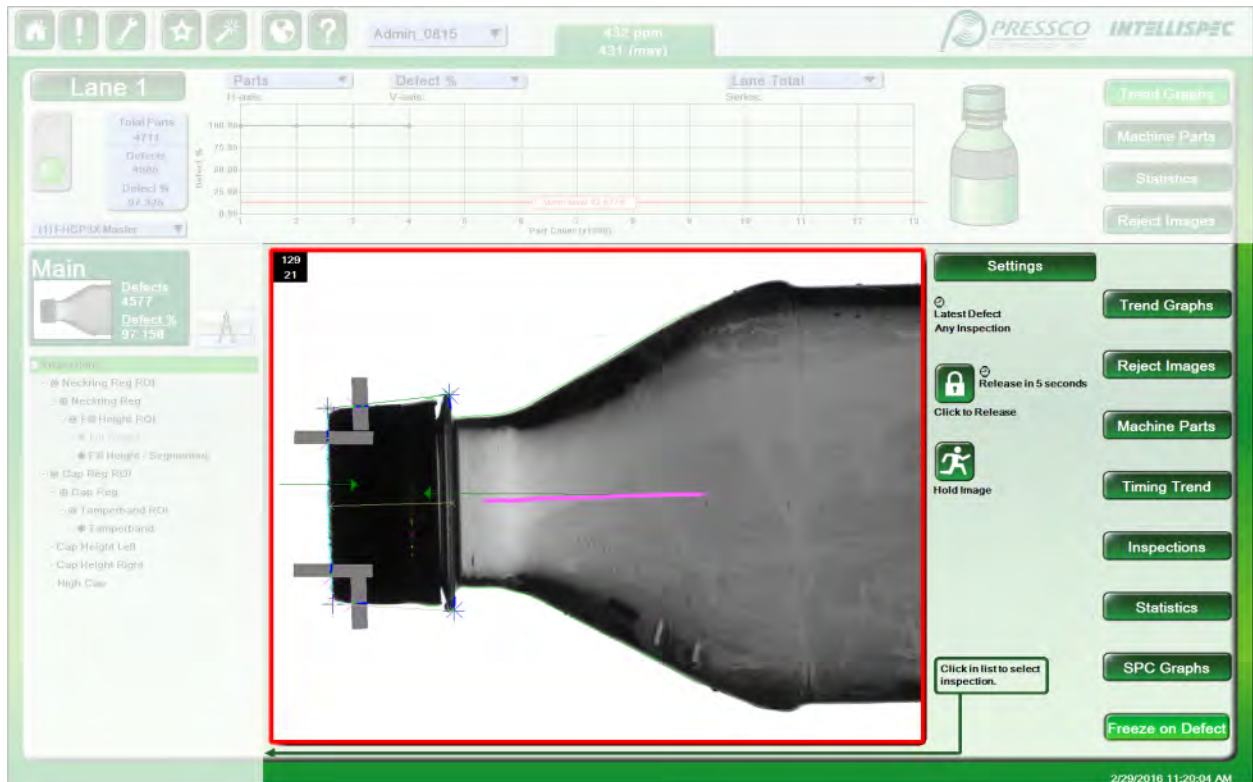
3. Select Save Part Images or Save Images (depending what is shown on screen).
4. Select Image Only or Image with Graphics.



5. Select Save Now... and follow the instructions on screen.

Single Sensor View

Enter this view from the Sensor Overview Screen. Select the inspection to freeze from the inspection tree.



To exit Freeze on Defect:

Select another button on the right side of the screen (example: Trend Graphs).

Freeze on Defect Setup Menu



Select the Settings button from Freeze on Defect mode. Menu options change based on where you entered from.



Freeze Mode

Manual Lock Only Do not automatically hold an image. Images will be updated continuously, except if you select the Hold button.

Latest Defect Freeze the last rejected part. Each subsequent failing part will freeze until another part fails.

Latest Defect - Timed Release Hold the last defective image for a number of seconds (set by Timed Release). If another defect occurs during the countdown, that image is frozen and the Timed Release countdown resets.

First Defect Freeze the image of the first defective part after going online. The image freezes until you release it or change Freeze Mode.

First Good Freeze the image of the first good part after going online. The image freezes until you release it or change Freeze Mode.

Machine Part Freeze the next part image correlated to the selected machine part. It freezes until the next correlated image becomes available and is replaced by the new image. Use the Select Machine Part button to select the machine part.

Machine Part - Timed Release Freeze the next part image correlated to the selected machine part. It remains on screen for the specified time, or until the next correlated image becomes available, whichever comes first. Use the Timed Release settings to set the display time.

Timed Release Set the display time. When the time expires, a new image is displayed.

Graphics Mode Select which inspection graphics to display.

Hide Empty Pockets If enabled: If an inspection detected an Empty Pocket, then that blank image will not be displayed.

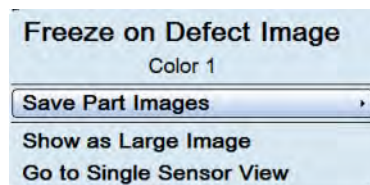
The following only apply if you are in Multi Sensor View.

Side-by-Side Locked Images Same Part - The images displayed are all the same part. Latest Sensor Image - Displays the last inspected images. If your cameras are located far apart, the images may be different parts. This mode is usually used when your cameras are close together, such as in a BNS application. If your system uses Machine Part Correlation, you can "Show Correlation Values in Images," so that you can see which image is associated with each machine part.

Automatically switch to latest locked image This switches the image that most recently met the freeze frame conditions to the large image.

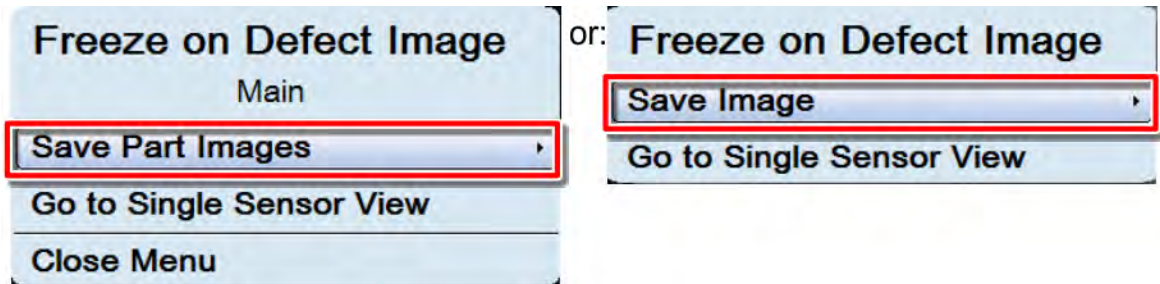
Freeze on Defect Options Menu

Select or right-click over one of the images from Freeze on Defect mode to see the menu.

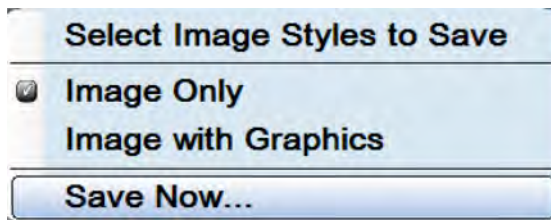


To save an image:

1.  Select the Hold Image button.
2. Right-click over the image.



3. Select Save Part Images or Save Images (depending what is shown on screen).
4. Select Image Only or Image with Graphics.



5. Select Save Now... and follow the instructions on screen.

Show as Large Image [Available from Multi Sensor View, when you right-click over a smaller image]
Display the current image as the large image.

Go to Single Sensor View Go back to Sensor Overview mode and display the Reject Images screen for the selected sensor.

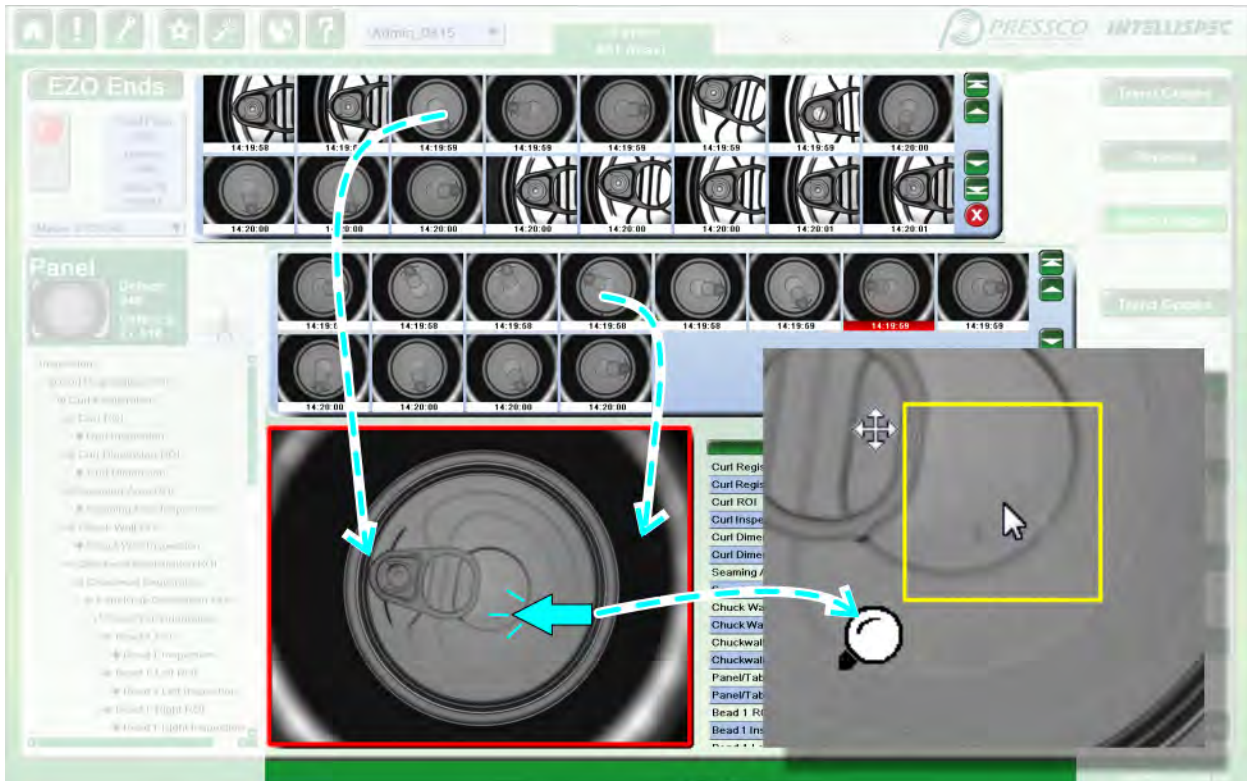
Reject Images



Reject Images are images from the last 100 defects from a sensor (or all sensors for Lane Overview mode). Select a Reject Images button. Note: there are buttons for Lane and Sensor levels.

Lane Reject Images show failed images from different sensors.

Sensor Reject Images show failed images from that sensor only.



Save Reject Images

Save up to 100 (*.bmp) images from defective parts. The lane can be online or offline.



Reset Display Resets the reject image display to show all failed parts, instead of images from only one part or one inspection.

Save Individual Reject Images

Select any thumbnail image in Sensor Overview mode and save it.

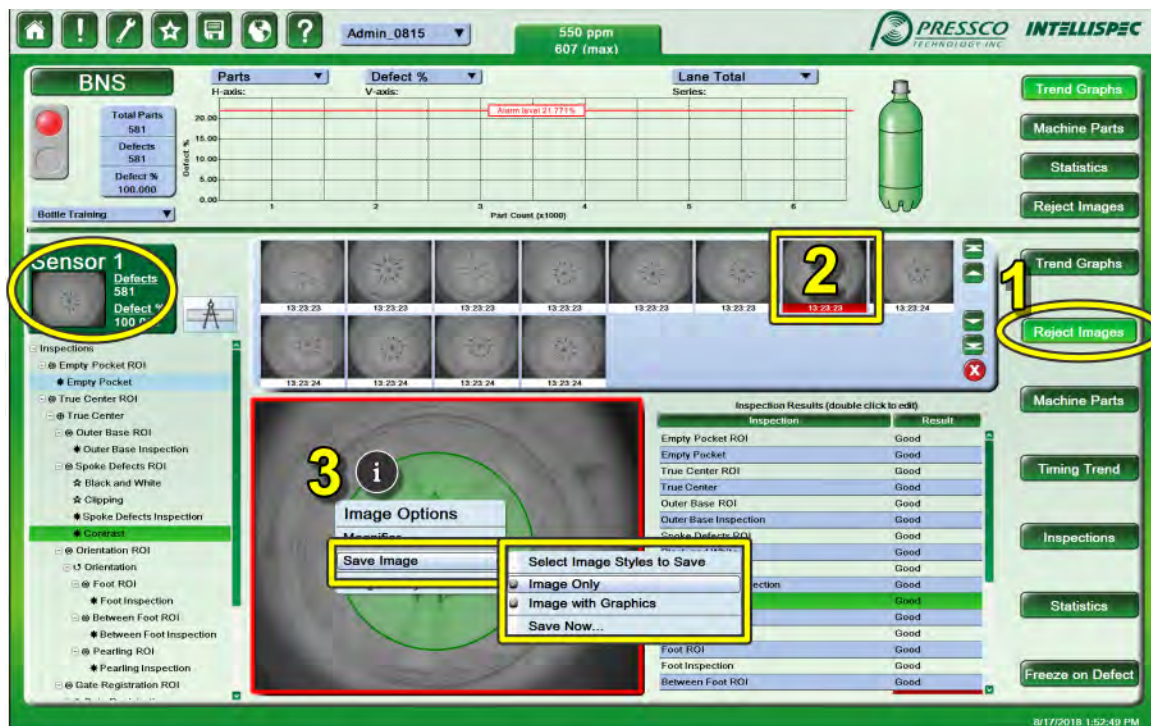
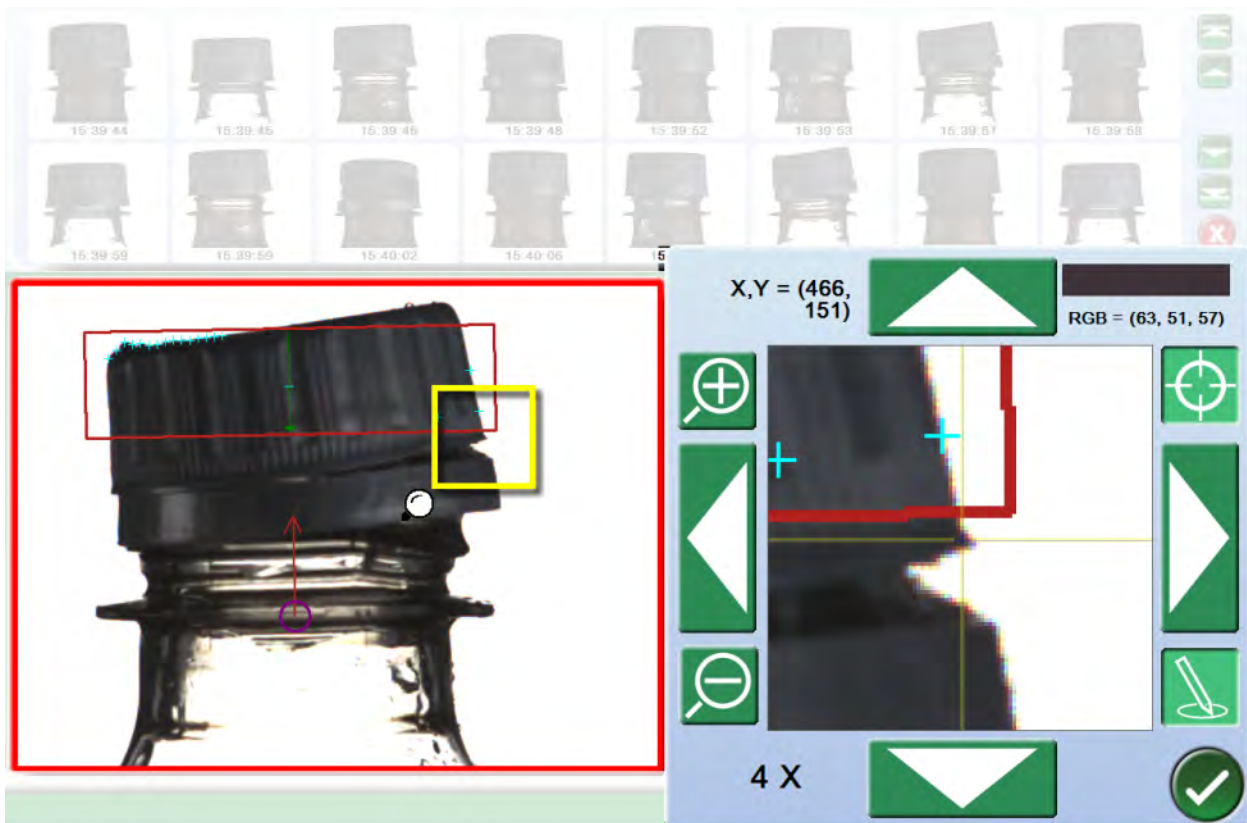


Image Magnifier



To use the magnifier:

Chapter 12

When you first open the tool, the yellow box area over the image is magnified. This moves when you move the cursor on screen. To move the magnified area independent of the cursor, right-click over the image.



The arrow buttons become available.



Select the target button to display or remove crosshairs on the magnified image. The pixel at the center of the crosshairs is where the RGB values are measured.

Chapter 13 Help and Support

This section contains information on:

- Built-in help
- Backup and restore functions
- How to connect with Tech Support through your Intellispec system

Help



Select the Help icon to:

- use the system manuals
- access Pressco [remote support](#)
- obtain your current software version



To access the user manuals:

1.  Select the Help icon.
2. Select Help Documents, then select a manual from the list. The user manual is displayed.

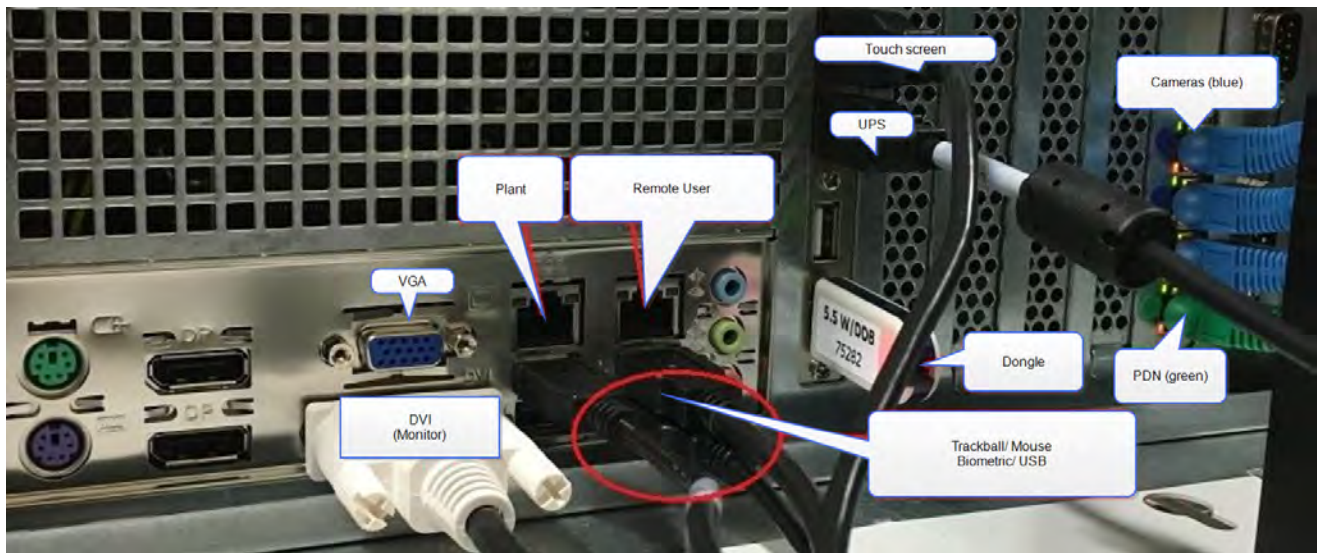
Remote Support

Each Pressco system is equipped with iTivity and Team Viewer agent software that provide a safe and effective means of allowing remote support connections to the system. These allow Pressco engineers to access your Pressco system remotely, and assist with troubleshooting and optimizing system performance.

To use remote support, you must provide an Ethernet connection to the Pressco and outgoing Internet access to the specific support server, described in the "[Intellispec iTivity remote support](#)" on [page 118](#) and "[Teamviewer](#)" on [page 121](#) topics.

The images below show the typical layout of the Intellispec Ethernet ports. Either the Plant or Remote User ports can be used for the remote support connection. Those ports default to "Get IP Address Automatically" but they can be assigned a fixed IP address to accommodate your network requirements.

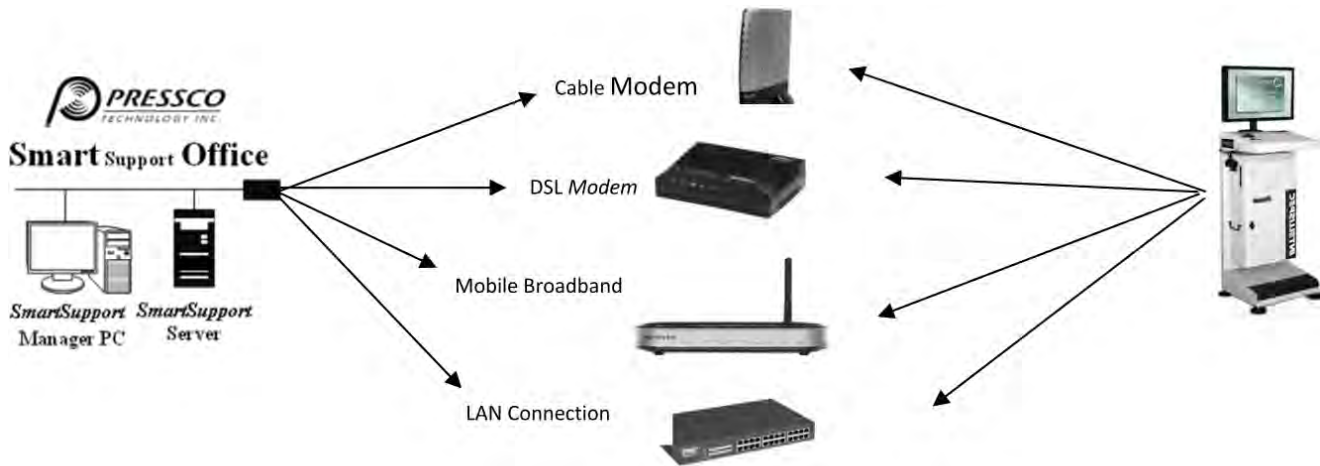
Series V ethernet ports:



CSL system ethernet ports:



Connection Methods: The remote support connection can operate over a variety of networks. However, these are image and video based systems so the higher the bandwidth available the better we will be able to navigate through the system and assist with any issues you encounter.



Intellispec iTivity remote support

Remote Support allows remote access to the Intellispec software. iTivity software is used by Pressco to provide remote system support if a Maintenance Agreement is purchased for that Intellispec system.

Each Intellispec™ system is equipped with iTivity agent software that, when initiated, will establish an encrypted connection to a server located behind the Pressco firewall. This allows Pressco engineers to access your Intellispec system remotely. Only registered members of the Pressco support team can gain access to the remote support server.

To use remote support, you must provide an Ethernet connection to the Intellispec system, and outgoing Internet access to support.pressco.com via port 23800. If you do not have a DNS, Pressco can provide you with the IP address of the remote support server. If connecting through a firewall you will need to add a rule allowing outgoing access from the Intellispec's IP address to support.pressco.com:23800. All other connections can remain blocked.

Once the session is established, the Intellispec system shows up on Pressco's server and is identified by the serial number of the system. Our Engineers can then connect and offer assistance.

To request a Pressco support session:

Contact Pressco support. Provide the serial number of the system that needs to be accessed. Pressco will log into your Intellispec system and perform troubleshooting as necessary.

You will need:

- A functioning Intellispec (systems without power, or systems that are not capable of running Intellispec software, cannot be remotely accessed)

To use Remote Support:

1. Notify a Technical Support representative that you require remote support. You will need to identify yourself, your location, and the Intellispec to which he should connect.
2.  In the Intellispec software, Select Help | Remote Support.



3. Select the iTivity button. If your system has a valid internet connection, the iTivity agent will attach to the server at Pressco. A connection status screen will appear indicating that the session has been established, as shown below. Intellispec systems are identified by computer name, which, in most cases, is the serial number.



4. When the Tech Support representative is finished, he will disconnect your Intellispec from the remote session.

If you need to disconnect your Intellispec from the remote session yourself, follow the steps below.

To disconnect from remote support:

1. Select the X in the upper right corner of the 'iTivity Live Support Agent Connection Status' box.
2. When the system asks "Do you really wish to exit the iTivity Live Support Agent?" select OK. The system will be disconnected.



Note: if you select this button, the session will be disconnected, but this does not close the remote support program.



If the session is disconnected and you want to allow Tech Support to be able to access your system again, select the button.

support.pressco.com Connection Status

Agent disconnected: ISPEC-33X78/Mycomputer/123.456.789

Disconnected from iServer: support.pressco.com: server

Not Connected.

The Session Id is 1ab1b77.



Teamviewer

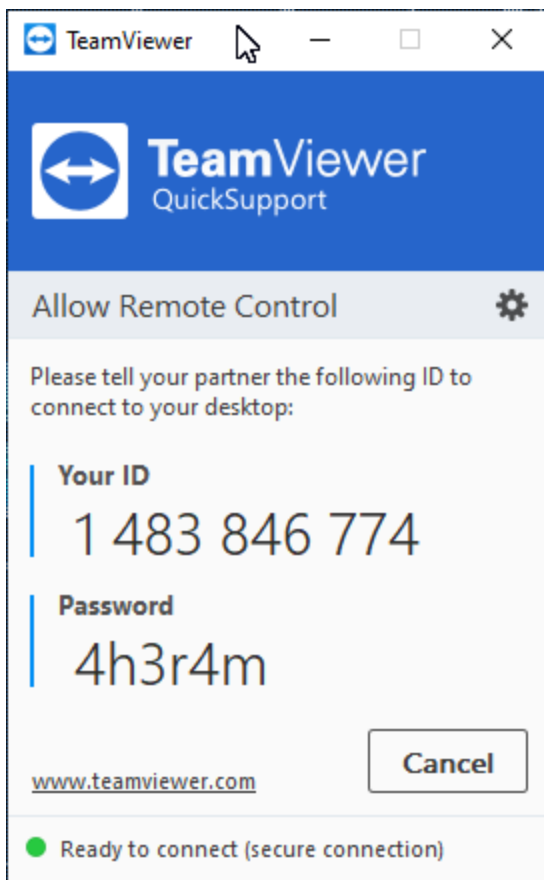
Each Intellispec™ system is equipped with Team Viewer agent software.

Team Viewer is installed at the Pressco factory on the Intellispec system, in systems with version 5.7 software and higher.

To use the Team Viewer connection method, the Intellispec will need outgoing Internet access to TeamViewer.com via port 5938. Firewall rules may need to be set to allow outbound traffic over port 5938.

To initiate a Pressco support session:

1. Launch Team Viewer: go to Help | Remote Support | TeamViewer. When the connection is established you will see a dialog box with an ID number and password. Those are the logon credentials needed for others to gain access to that computer.



2. Contact Pressco support, via email, support chat, text message, or by phone call. See below.
3. Notify Pressco with the TeamViewer ID and Password. Pressco will log into your Intellispec system, and perform troubleshooting or maintenance as necessary.

Request technical support and remote support: techsupport@pressco.com

24/ 7 Customer Support (for urgent system help): +1-440-498-2000

About Intellispec

Use this screen to view the Intellispec software version, options installed, and information about your system. A Pressco technical support representative may need this information to help troubleshoot your system, when necessary.



To access this screen, select Help | About.

About Intellispec Series V



Serial Number: 1233

Version 5.7.027 (Windows 10, 64 bit)

Built: 10/1/2020 10:36:45 AM

Optional Features (OPC Server, Defect Database)

Lane 1

Rejector 1	at 5000 encoder ticks		
Rejector 2	at 5000 encoder ticks		

Module

Neck	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks
Flange	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks
Body	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks

Module

Dome	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks
------	------------------	-----------------	---------------------

Module

BMID	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks
Color Dot	Color Camera	640 x 480 x 256	at 10 encoder ticks

Lane 2

Rejector 1	at 5000 encoder ticks		
------------	-----------------------	--	--

Module

Flange	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks
Body	Grayscale Camera	640 x 480 x 256	at 10 encoder ticks

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Backup and Restore Menu



This section includes information about creating a support package as a backup, and restoring the system from a support package.

Backup and Restore Menu

- 1 → Create Support Package
- 2 → Restore from Support Package
- 3 → Launch Windows Explorer
- 4 → Disk Imaging Software

1 - "Create a Support Package" below

2 - "Restore From Support Package" on page 125

3 - Launch Windows Explorer - *Administrator only* - Opens a Windows Explorer window so that you can browse, move, and edit contents on the computer.

4 - Disk Imaging Software - refer to Pressco document 71789 "True Image 2013."

Create a Support Package

A support package is a set of files gathered by the Intellispec system to help find system problems. You will send this package to Pressco service specialists so that they can troubleshoot your system. This file can also back up your system configuration (not the entire system database).

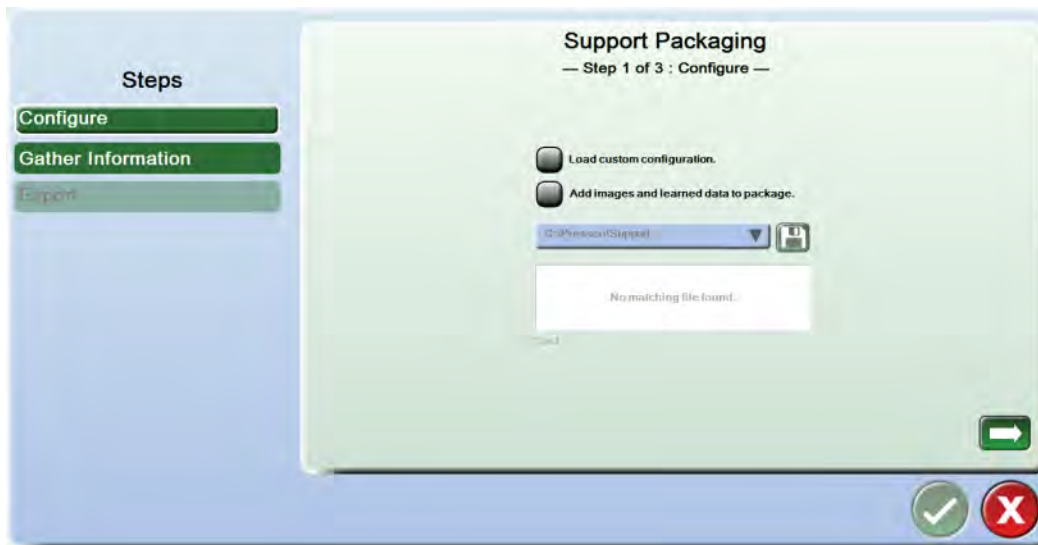
Note: On rare occasions, the Intellispec software cannot be started, so you will not be able to access the support package tool from the user interface. It is possible to create the support package without Intellispec running by starting the following executable from Windows: C:\Pressco\bin\SupportPackaging.exe.

What you need:

- USB flash drive (128MB or larger). Connect this to the USB port
- If you have a ".pcf" file from a Pressco Support representative (to acquire additional system information), then copy that file to the USB drive prior to connecting it to the Intellispec system
- If you want to save images to send with the support file, then save images prior to creating the support file. Be sure to save them in the default image folders: C:\Pressco\Lane n\Images\Sensor n. See Saving Images.

To create the support package:

1.  Select the Backup and Restore Menu | Create Support Package. The support package wizard is displayed.
2. (optional) At Step 1: Configure: add the ".pcf" file or images.

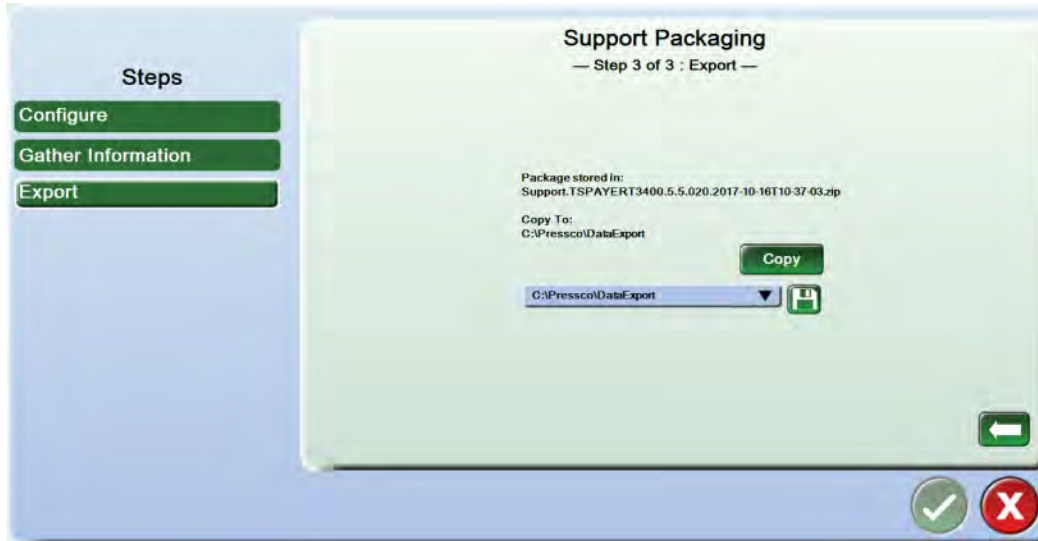


3. (optional) Check the Load custom configuration box. A .pcf file is a custom Pressco configuration file that gathers information beyond the standard Support Package. If a Pressco Support representative sent you a .pcf file, then connect the USB device that contains the .pcf file. Select the disk icon and browse to the location (USB drive) where the .pcf file is stored. The system locates the .pcf file.
4. (optional) Check the Add images and learned data to package box. A dialog (shown below) allows you to choose the type of images to include.



- **Add image files** select images in the default image folder (example: C:\Pressco\Lane 1\Images\Sensor 1). All sensors and lanes for which you have images are included.
 - **Use a separate zip file** a zip file with "IMAGES" in the name is created along with the Support Package zip file. All sensors and lanes for which you have images are included. If you do not check this box, then the images are included in the main Support Package zip file.
 - **Add BMID files** if you have an inspection using BMID correlation, the images from the BMID folder are included (example: C:\Pressco\Lane 1\BMID).
 - **Add template files** if you have a Template Registration or Template Orientation inspection, the images from the InspectionTemplates folder are included (example: C:\Pressco\Lane 1\InspectionTemplates).
5. Follow the instructions on screen. Use the forward arrows to move to the next screens.

6. When the steps are completed, verify that the Step 3: Export screen is displayed.



7. Select the USB Flash Drive in the "Copy to:" location.
8. Select the Copy button. The support package files are copied to the USB flash drive, then a "Copy Succeeded" message is displayed.



9. Select the OK button to continue.
10. Select the OK button at the bottom of the Support Packaging screen to exit.
11. Remove the USB flash drive.
12. Copy the files that were saved, including images, from the USB drive to your computer.
13. Send an e-mail to techsupport@pressco.com and attach the support package files. Pressco service/ tech support will respond within one business day, if possible.

Restore From Support Package

You can restore (import) a support package to a working Intellispec system. This allows you to use the same configuration on multiple systems without having to duplicate your efforts, or use a known good configuration created on another system or by Pressco Technical Support.

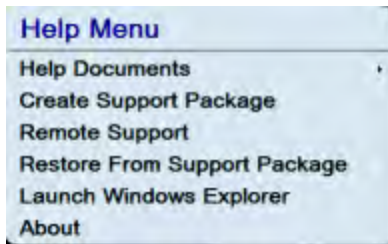
What you need:

A USB flash drive with a known good support package on it

[Mechanical keyboard \(MKB\)](#) to enter a problem description (if backing up your current configuration)

To restore the support package:

1.   Select Home | Help | Restore from Support Package.



2. The system will suggest that you back up your current system. We recommend that you select the Create a Support File button to back up the system.
3. Follow the instructions on screen, and select the location of the USB drive that contains the support package you want to restore, when prompted.
4. Select the support package from the USB drive that you want to restore.
5. Use the forward arrows to move to the next screens.
6. When the system says "Series V Application detected," select the Stop Application button to shut down the Intellispec software. This is necessary to restore the support package.
7. At step 4 on screen, select the Unpack Zip File button to restore the support package and wait for the system to unpack the files.
8. When the system says "Unpacking Complete," select the forward arrow to move to the next screen.
9. Select the Restart Discovery button to restart the Intellispec application.

Chapter 15 Maintenance Frequency

Empty Bottle Inspection Maintenance

Maintenance Frequency		
Observe proper rejection	Verify that defective parts are being rejected, by inserting a known defective part through inspection	Daily
Observe Proper inspection	Verify that no stray parts are stuck in or near the inspection module or reject station	Daily
Observe Proper inspection	Verify that no buildup of dirt or contaminants has occurred on inspection module. Clean if necessary.	Daily
Observe Proper inspection	Verify that each camera's image is properly centered, focused, and properly lit. Adjust if necessary.	Daily
Glass surfaces	Clean with soft, clean, oil-free cloth dampened with glass cleaning solution.	Daily - as needed
Plastic surfaces	Clean with soft, clean, oil-free cloth dampened with mild soap and water solution.	Daily - as needed
Vision Processor filter	Rinse in clean water; use mild soap and water solution if oily. "Cleaning the Vision Processor Filter" on the next page	Monthly
Cluster Box filters (if applicable)	Rinse in clean water; use mild soap and water solution if oily. "Cleaning the Cluster Box Filters" on page 129	Monthly
Beam Splitter Seal Surface and PSE modules	Clean with soft, clean, oil-free cloth dampened with lens cleaning solution. "Cleaning the Beam Splitter Seal Surface module" on page 130 "Cleaning the Beam Splitter PSE Module" on page 131	Monthly
Support Package	Create a snapshot of your Intellispec settings. "Create a Support Package" on page 1	Monthly
Acronis Backup	Create a full System Backup.	Yearly

Cleaning Optical Surfaces



Important - Debris and contamination could build up on both the glass and plastic surfaces. This dirt could appear in the inspection windows, causing false rejects of parts, or it could degrade lighting. Clean glass and plastic surfaces often to avoid false rejects.

To maintain proper image quality and system performance, the clear glass and plastic surfaces on the Inspection Modules must be cleaned on a regular basis. Dirt and debris that appear in the image can cause false rejects. An oily film on optical surfaces can cause false rejects or missed defects.

Cleaning Glass Surfaces

Glass surfaces that may require cleaning are:

- Camera Lens
- Beam Splitter (if present)
- Secondary lens (if present)
- Secondary mirror (if present)

To clean glass surfaces:

- Blow off dust with canned, compressed air
- Use a clean non-abrasive cloth dampened with lens cleaning solution
- Use lens tissue and lens cleaning solution on camera lenses
- If surface has compound on it, first clean with alcohol, then with lens cleaning solution

Note: Cleaning frequency will depend on plant and process conditions.

Cleaning Plastic Surfaces - general

Note: Cleaning frequency will depend on plant and process conditions.

To clean plastic surfaces:

- Use canned compressed air to blow away dust
- Use a clean, non-abrasive cloth dampened with mild soap and water solution. Saturate surface completely to let particles wash away.
- Dry the surface with clean, compressed air



DO NOT: Use paper towels, paper napkins, or dry cloths – these may scratch surfaces

Cleaning the Vision Processor Filter

The filter for the vision processor should be cleaned once a month for best results. The filter is located underneath the user interface cabinet. If the filter has holes or is too dirty to clean, then replace it with Pressco part number 66621.

Note: You may need to clean the filters weekly depending on plant conditions

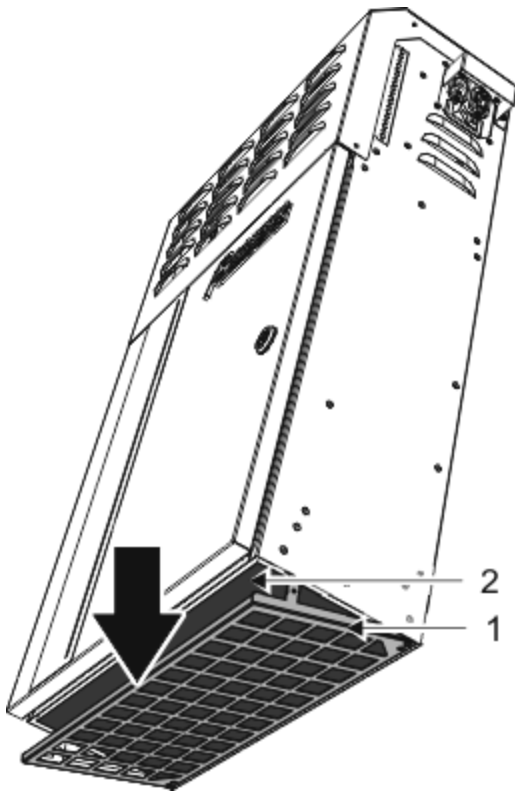
To clean the filter:

1. Pull down the front of the grate [item 1] with your fingers.
2. Remove the filter [item 2] and clean it.

If the filter contains dry dust and dirt, rinse it in plain water

If the filter contains oily dust and dirt, clean it in soapy water, then rinse in clear water

1. Dry the filter completely, then place it back underneath the user interface cabinet.
2. Push the grate closed.



1) Grate to hold filter in place

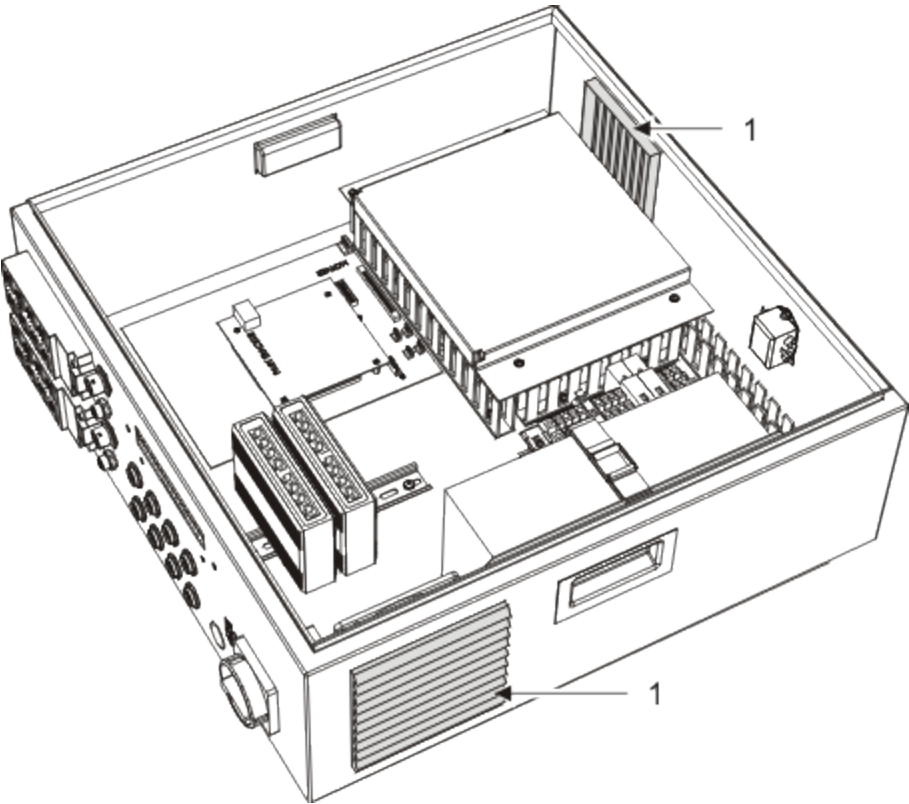
2) Part number 66621 - filter for vision processor

Cleaning the Cluster Box Filters

Clean the filter on the vents when they get dirty. We recommend that you clean them at least once a month. Remove the covers to access the filters.

- If the filter contains only dry dust and dirt, rinse it in plain water
- If it contains oily dust and dirt, clean it in soapy water

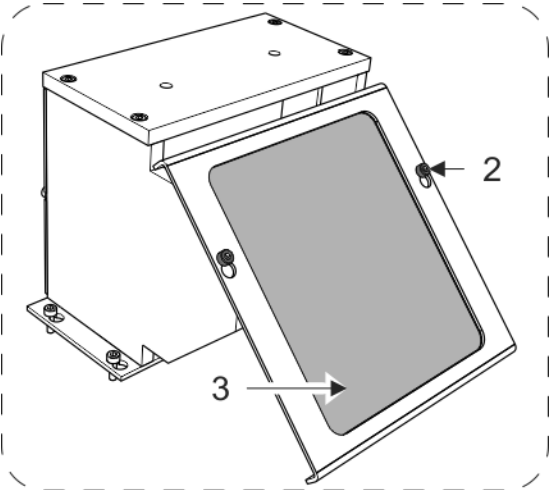
Dry the filter completely before reinstalling it



Note: the illustration shows a Classic cluster box. However, all types of cluster boxes use the same filter replacement.

To replace a filter, use part number: 65779 Replacement filter element (same part number used in both locations)

Cleaning the Beam Splitter Seal Surface module



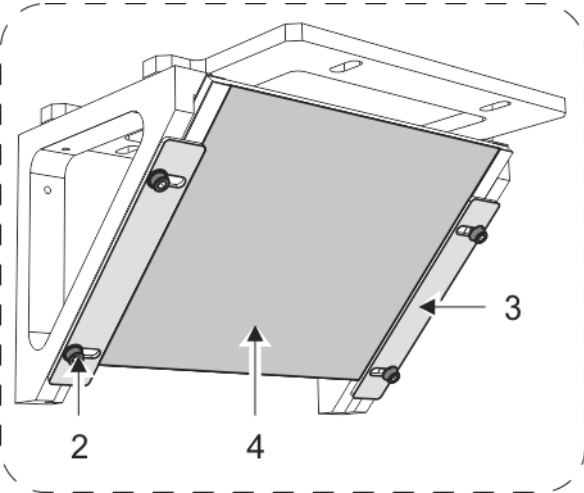
2	Screws
3	Beam Splitter

To clean the beam splitter:

1. Raise the camera if necessary. Be sure to note the camera position before moving it.
2. Loosen the two screws [item 2] and carefully remove the beam splitter.
3. Clean the beam splitter [item 3]:
 - Blow off dust from beam splitter with canned, compressed air.
 - Clean the glass on the beam splitter using lens tissue and lens cleaner.
4. Replace the beam splitter with glass to the inside. Tighten the screws.

Cleaning the Beam Splitter PSE Module

You must remove the Beam Splitter to access the bottom side for cleaning. The beam splitter is used in preform sidewall endcap (PSE) modules.



2	Screws
3	Retaining plates
4	Beam Splitter

To clean beam splitter:

1. Raise the camera if necessary. Be sure to note the camera position before moving it.
2. Loosen the four screws [item 2].
3. Slide the retaining plates [item 3] to the sides and carefully remove the beam splitter.
4. Clean the beam splitter [item 4]. Blow off dust from beam splitter with canned, compressed air.
 - Clean the glass on the beam splitter using lens cleaner and lens tissue.
 - Replace the beam splitter with the reflective side to the outside.
5. Slide the retaining plates back in place and tighten the screws.