

Glass Width



Overview

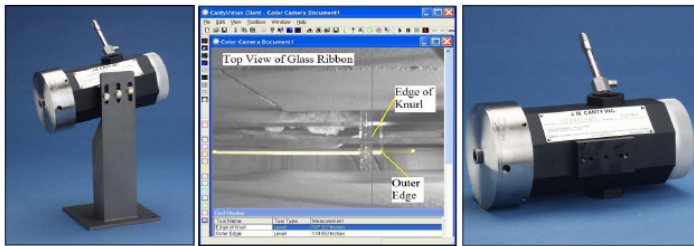
- Minimize trim loss – The Canty float glass system consists of a high temperature Ethernet process camera and incorporates special software to reduce glare along with a unique orifice plate that prevents debris from adhering to the lens, resulting in a clear view of the glass ribbon at all times. This system is a non-contact web width control system which positions Ethernet cameras over the two glass edges and provides continuous real time measurement of web width as glass enters the Lehr annealing chamber after exiting the furnace chamber. Width measurements are made in real-time on a continuous basis, with a resolution of .015". CantyVision™ Client Software utilizes image based technology to continually track the extreme edge of the glass ribbon and also the edge of the knurled region formed by the top roll machines used in the float bath furnace to shape and stabilize the glass ribbon.

Technical Application

CANTY

PROCESS TECHNOLOGY

FLOAT GLASS WIDTH MEASUREMENT SYSTEM



THE CANTY ADVANTAGE

Minimize trim loss –

The Canty float glass system consists of a high temperature Ethernet process camera and incorporates special software to reduce glare along with a unique orifice plate that prevents debris from adhering to the lens, resulting in a clear view of the glass ribbon at all times. This system is a non-contact web width control system which positions Ethernet cameras over the two glass edges and provides continuous real time measurement of web width as glass enters the Lehr annealing chamber after exiting the furnace chamber. Width measurements are made in real-time on a continuous basis, with a resolution of .015". CantyVision™ Client Software utilizes image based technology to continually track the extreme edge of the glass ribbon and also the edge of the knurled region formed by the top roll machines used in the float bath furnace to shape and stabilize the glass ribbon. This machine has a rotating shaft with a knurl head on the end that stretches and pulls the glass ribbon through the tin bath to achieve the desired shape at the exit. Process efficiency is improved by making clear glass just wide enough to trim the knurl but no more. What's more, the software provides a visual verification of the glass web on the facility local area network or localized computer. Control outputs available include 4-20mA current loop, as well as OPC & Modbus Interface.

* Dependant on lens and distance

ELECTRICAL SPECIFICATIONS

Format: TCP/IP Communication (Ethernet)
 Cabling: CAT5 Ethernet Cable, RJ-45 Termination
 Power Req.: User supplies 120 V AC (US models) or 240 V AC (European models)
 Canty supplies transformer to 12 V Power
 Power Supply: Available in unrated or weather proof/IP
 Iris: Electronic Auto Iris/Shutter Speed

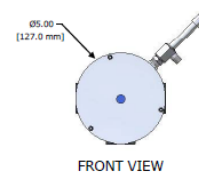
MECHANICAL SPECIFICATIONS

Size: See dimensional info drawing
 Weight: Approximately 10 lbs.
 Mounting: 1/4" x 20 connection, 3X in mounting block on housing optional. Heavy Duty Mounting Bracket Available.
 Ratings: Available in NEMA 4, IP66
 Temperature: 0°F to 200°F Ambient Typical Ratings to 3000°F (process) are available on certain models
 Consult factory for details.

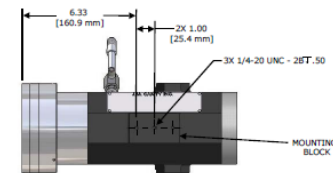
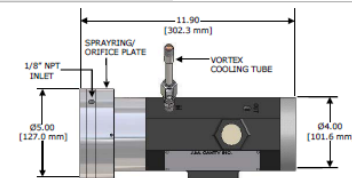
ADDITIONAL FEATURES

- Simultaneously View 10 Cameras On 100 Mbps Network Segment
- Sequentially View Up To 40 Cameras Per Dedicated Network Segment
- Windows® 2000/XP Pro Compatible
- Archive To PC Hard Drive
- Low Installation Cost-Ethernet Cabling
- Point and Click Control
- Optional Video Recording Software
- 15 fps Typical

DIMENSIONAL INFORMATION



FRONT VIEW



* Please Note That The External Camera Insulation Is Included But Not Shown Above

The model designated below is used in most of the applications for float glass, additional options are available upon request
 HOW TO ORDER: Select the appropriate symbols and build a model number for each camera:

EXAMPLE:

VSE5065-WP

VIDEO OUTPUT FORMAT _____
 VS - Vision System
 NTSC (North American Standard)
 VE - Vision System
 PAL (European Standard)

CAMERA OPTIONS _____
 E - Ethernet Camera, Color
 R - Ethernet Camera, B & W Near IR

CAMERA APPLICATION _____
 5 - Surveillance

CAMERA PSU ENVIRONMENTAL RATING _____
 0 - Non WP or EXP camera power supply
 1 - WP camera power supply

CAMERA ENCLOSURE ENVIRONMENTAL RATING/INPUT VOLTAGE _____
 WP - Weather Proof, NEMA 4 and IP66 rated.
 User supplies 120V AC
 IP - Weather Proof, NEMA 4 and IP66 rated.
 User supplies 240V AC

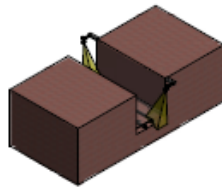
HIGH TEMPERATURE ACCESSORY PACKAGE _____
 5 - Cooling Tube, Orifice Plate and Insulation
 6 - Cooling Tube, Orifice Plate, Insulation and 304 SS Mounting Bracket, 360° Pan, 180° Tilt.

LENS OPTION AND APPROXIMATE LENS VIEW ANGLES _____
 1 - Manual iris lens with standard view angle, 41°H x 31°V
 5 - Manual iris lens with standard view angle, 22°H x 17°V
 6 - Manual iris lens with narrow view angle, 7°H x 5°V

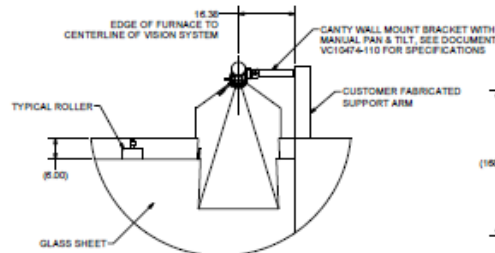
Reference spec. Sheet VD10474-110 for optional mounting bracket details.

*4-20 mA output available by selecting module from datasheet TA9688-1 Ethernet Current Loop Output Options. Sold separately.

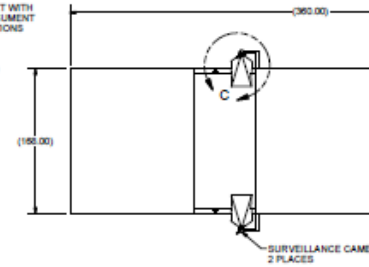
Application Illustration & Layout



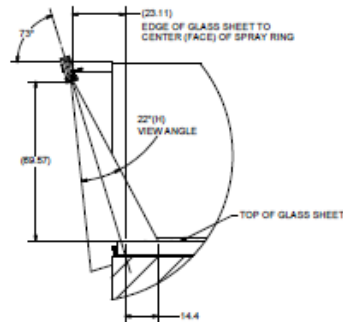
ISOMETRIC VIEW OF FURNACE
SCALE 1 / 96



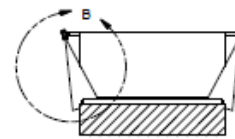
DETAIL C
TYPICAL 2 PLACES
SCALE 1 / 16



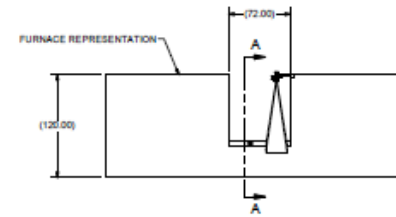
TOP VIEW
SCALE 1 / 64



DETAIL B
TYPICAL 2 PLACES
SCALE 1 / 24



SECTION A-A
SCALE 1 / 64

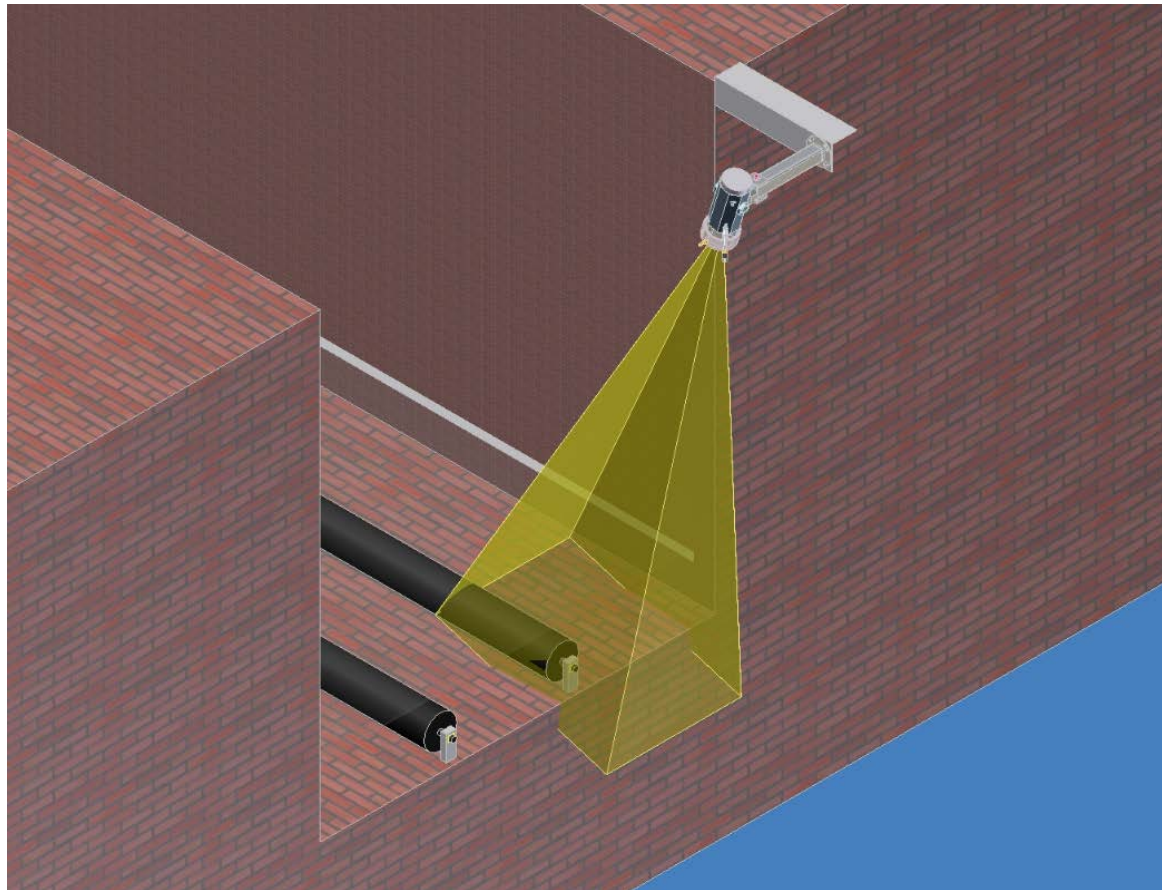


SIDE
SCALE 1 / 64

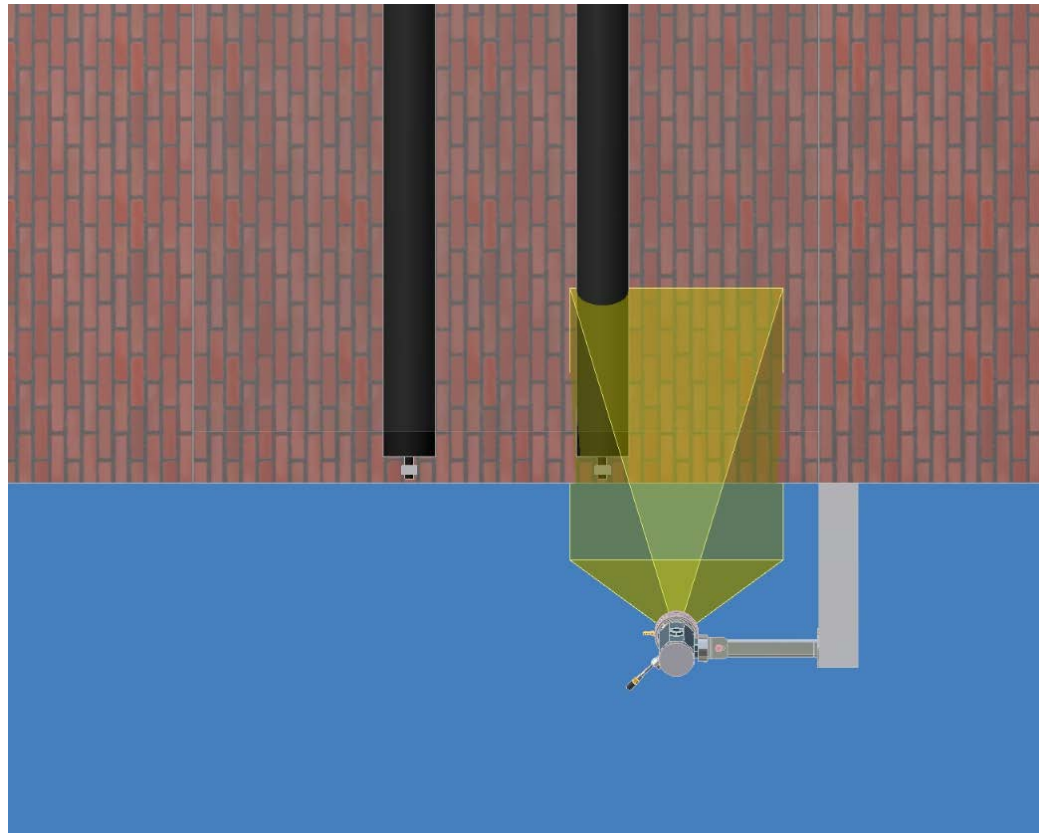
NOTES:
1. ALL DIMENSIONS ARE IN INCHES.

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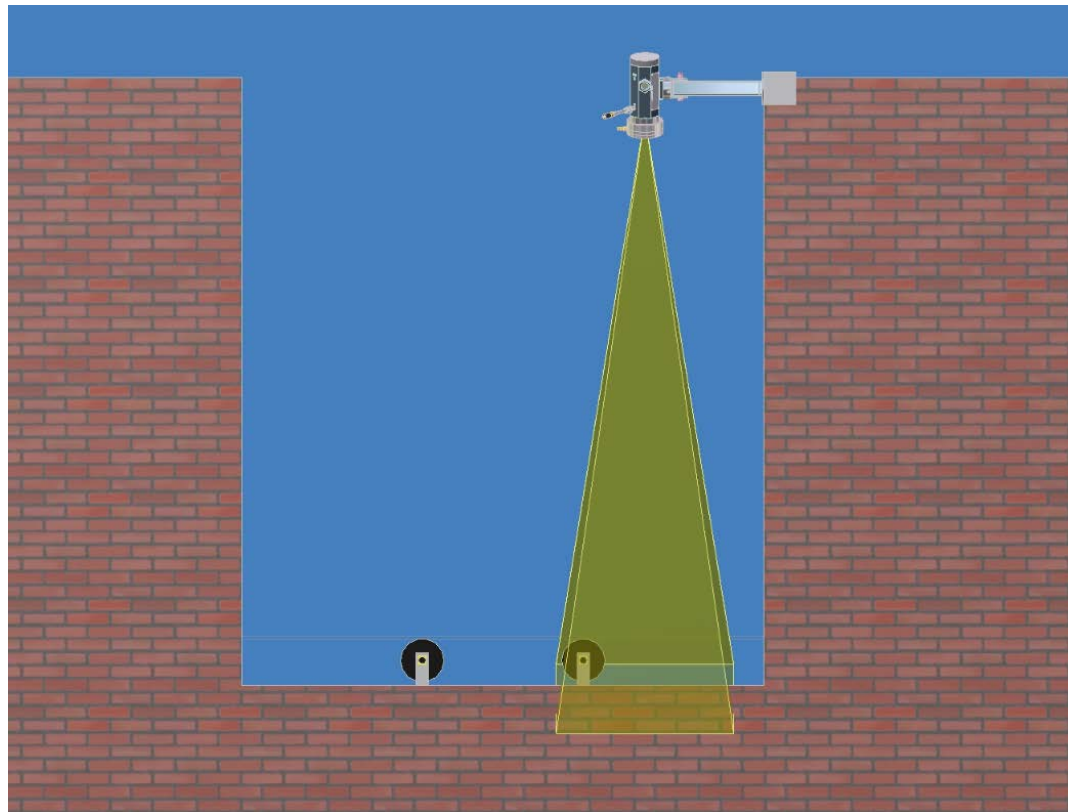
Camera Installation & Orientation



Camera Installation & Orientation Top Down View



Camera Installation & Orientation Horizontal View



Industrial Surveillance Camera Exploded Assembly

SHEET 1 OF 2

2 VORTEX COOLING TUBE

1 INSULATION JACKET

3 SURVEILLANCE JET SPRAY RING

4 ORIFICE PLATE

TYPICAL INDUSTRIAL SURVEILLANCE CAMERA

FUSED GLASS TO METAL SEAL

NOTES:
1. REFERENCE THE FOLLOWING DATASHEETS FOR VARIOUS MODELS AVAILABLE:
• TARESH4 - INDUSTRIAL SURVEILLANCE CAMERA SYSTEMS
• TA102SH - MOLTTEN GLASS LEVEL MEASUREMENT SYSTEMS
• TA104SH-100 - FLOAT GLASS WITH MEASUREMENT SYSTEMS

REVISION	DATE	DESCRIPTION
1	08/14/08	ISSUED FOR MANUFACTURE
2	08/14/08	ISSUED FOR MANUFACTURE

<p>IMPORTANT</p> <p>FOR THE REQUIRED MANUFACTURING SPECIFICATIONS SEE DOCUMENT #A898</p> <p>NOTE: FAILURE TO RECEIVE DOCUMENT DOES NOT WAIVE VENDOR RESPONSIBILITY</p>	<p>PROPERTY</p> <p>J.M. CANTY INC. BUFFALO NY 14240</p> <p>DATE: 08/14/08</p> <p>BY: [Signature]</p>	<p>DATE</p> <p>08/14/08</p>	<p>BY</p> <p>[Signature]</p>	<p>REVISION</p> <p>1</p>	<p>DATE</p> <p>08/14/08</p>	<p>DESCRIPTION</p> <p>INDUSTRIAL SURVEILLANCE CAMERA OPTIONAL EQUIPMENT - EXPLODED ASSEMBLY</p>	<p>ITEM NO.</p> <p>TA102SH-200</p>	<p>REV</p> <p>AS NOTED</p>	<p>SHEET</p> <p>1 OF 2</p>
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SHEET 2 OF 2

1. INSULATION JACKET

2. VORTEX COOLING TUBE

3. SURVEILLANCE JET SPRAY RING

4. ORIFICE PLATE

• INSULATES CAMERA FROM HIGH AMBIENT TEMPERATURES UP TO 300°F (150°C). COOL CAMERA INSIDE ENCLOSURE MUST BE $+130\text{F}$ (60°C) FOR CONTINUOUS OPERATION.
• TYPICAL INSULATION: 1" THICK, 11 LB. NEEDLE-MAT FILLER.
• SPAN / STAPLED EDGES.
• STAINLESS STEEL WIREMESH FASTENERS AND HOODS.
• PREFABRICATED WIRE INLET, COOLING TUBE CLEARANCE HOLES.
• EASY TO INSTALL.

• PROVIDES COLD AIR PURGE OF CAMERA FOR HIGH AMBIENT TEMPERATURE LOCATIONS.
• ACCEPTS CLEAN, DRY INSTRUMENT AIR, 100 PSI (6.8 BAR) MINIMUM. SEPARATES AIR INTO A HOT AND A COLD COMPONENT. COLD AIR IS ROUTED INTO CAMERA HOUSING TO COOL ELECTRONICS. HOT AIR IS EXHAUSTED INTO AMBIENT. COOL CAMERA INSIDE ENCLOSURE MUST BE $+130\text{F}$ (60°C) FOR CONTINUOUS OPERATION.
• LOWEST CUSTOMER'S SUPPLY AIR TEMPERATURE A MAXIMUM OF 300°F (150°C). SUPPLY AIR MUST BE 1/2" (12.7) MAX.
• 1/2" NPT MALE AIR INLET CONNECTION. 1/4-18 NPT MALE EXHAUST.
• CANNOT BE USED IN EXPLOSION PROOF / FLAME PROOF APPLICATIONS.

• GENERATES A HIGH PRESSURE VORTEX CLEANING ACTION USING CLEAN, DRY AIR TO REMOVE DEPOSITS FROM CAMERA FUSED GLASS.
• SPECIALLY DESIGNED CLEANING PORTS PROVIDE MAXIMUM CLEANING POWER.
• CAN BE USED FOR INSTANTANEOUS BLAST-OFF OR CONTINUOUS PREVENTATIVE CLEANING ACTION.
• ALUMINUM CONSTRUCTION. STAINLESS STEEL OPTIONS AVAILABLE.
• 1/2" NPT FEMALE INLET CONNECTION.
• FULLY COMPATIBLE WITH ALL CANTY ORIFICE PLATES.
• AS SUPPLY REQUIRES CLEAN, DRY INSTRUMENT AIR WITH A FLOWRATE OF 4 SCFM. WHEN USED WITH A COOLING TUBE, AIR CAN BE SUPPLIED BY CONNECTING TO COOLING TUBE HOT AIR EXHAUST.

• PROVIDES VORTEX EFFECT FOR SPRAY RING EXHAUST TO KEEP DIRT, OIL FROM ACCUMULATING ON CAMERA FUSED GLASS. MAXIMIZES EFFECTIVENESS OF SPRAY RING.
• SHIELDS CAMERA FROM FACENT OSAF.
• PRECISION DESIGNED TO FIT THE REQUIRED CAMERA VIEW ANGLE FOR MAXIMUM PERFORMANCE.

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Computer Specifications

CANTY

PROCESS TECHNOLOGY

CANTYVISIONCLIENT™ Software

SOFTWARE DESCRIPTION

CANTYVISIONCLIENT™ Software is included with the purchase of any Canty Ethernet Camera.

CANTYVISIONCLIENT™ Software is used for both viewing and analysis. The Level/Intensity/Color (LIC) module comes standard with all Ethernet cameras and can be used for various analysis.

Real time monitoring and analysis can be done using the software. Video recording allows for video records and analysis at a later time.

The software outputs the data in various formats. The customer can select the unit of measure the data outputs-in, as well as the type of file the data outputs to. CANTYVISIONCLIENT™ Software can output results to a database, OPC, 4-20mA or even a specific file location. More than one camera can be connected to a single computer. The software can analyze on multiple applications at once.

The software is easy to use and has a built in help menu for easy access. Software is preset with ideal settings needs. Settings can easily be adjusted to accommodate customers.



COMPUTER SPECS

Desktop Minimum Requirements for LIC Package

- 3GB RAM
- DUAL CORE 2.0 GHz CPU
- Nvidia® GeForce® 9000 series or Equiv Video Card
- 100 Mb NIC (640x480 Cameras)

Desktop Recommended Requirements for LIC and Particle Sizing Packages

- 6GB RAM
- QUAD CORE 2.0 GHz CPU
- Nvidia® GeForce® 500 Series / ATI® Radeon® 6000 Series or Equiv Video Card
- 1Gb NIC (1620x1220 Cameras) with Jumbo Frame support of at least 9kB size.
- Not all Gigabit Ethernet cards support Jumbo Frames. Recommend Intel® Pro 1000, D-Link 530T, & SMC EZ 1000 network adaptor cards
- If connecting to a HUB make sure the hub supports Jumbo Frames of at least 9kB size. Recommend SMC GS8 EZ Switch™ 10/100/1000

Notebook Minimum Requirements for LIC Package

- 3GB RAM
- DUAL CORE 2.0 GHz CPU
- Video Card with Isolated RAM
- 100 Mb NIC (640x480 Cameras)

Notebook Recommended Requirements for LIC and Particle Sizing Packages

- 6GB RAM
- QUAD CORE 2.0 GHz CPU
- Nvidia® GeForce® 200M / ATI® Mobility Radeon® 2000 Series or Equiv Video Card
- 1Gb NIC (1620x1220 Cameras) with Intel® Chipset that support Jumbo Frames of at least 9kB size.
- If LAN doesn't support Jumbo Frames of at least 9kB size and Notebook has an Express Card Port recommend Sonnet Presto™ Express Card/34
- If connecting to a HUB make sure the hub supports Jumbo Frames of at least 9kB size. Recommend SMC GS8 EZ Switch™ 10/100/1000

Please use CAT6 cabling or better (300 ft. max range) to connect the camera to the computer
CANTYVISIONCLIENT™ Software is compatible with Windows® XP, Windows® Vista, Windows® 7 all at 64 Bit.

Note: Canty Recommends using a Desktop for analysis. Notebooks should be used for portable units

LEVEL/INTENSITY/COLOR APPLICATIONS

- Inspection Applications (Imperfections, Out of Spec Pieces)
- Glass and Metal (Level, Width, Temperature)
- Color
- Foam Detection
- Turbidity
- Reactor Level
- Motion Detection
- Change in Color/Phase Split
- Flame Monitoring
- And More!

SUGGESTED METHODS OF DATA STORAGE

- Burn to a CD/DVD
- Record video on hard drive or DVR
- Set software to record certain instances of analysis vs. constant recording
- Set software to record a set number of snapshots at a certain time interval
- Option to record only numerical data or only video

MULTIPLE CAMERAS

Multiple Cameras can be used for viewing, recording and analysis. Canty recommends using the desktop requirements for particle sizing. A hub that supports Jumbo frames of at least 9kB is necessary. Use Cat6 cable or better.

SOFTWARE TOOLS

- Intensity Tool- can be calibrated to report temperature reading
- Particle Sizing Tool -can analyze particles size and shape as small as 0.7 microns
- Color Speck Tool- solid or liquid color analysis
- Level Tool- can determine location of liquid or solid
- Bead Sizing Tool- sizes beads or bubbles with out affecting process
- Length Tool- belt width, elimination of duplicates in packing
- Rocksizer Tool- can determine size and shape of rocks instantaneously
- Froth Tool- measures the bubbles on the froth with out affecting process
- Turbidity Tool- Inline with instant analysis with no sampling needed
- CUT Tool- used to measure the average edge of the item

OPC & 4-20ma Outputs

OUTPUT OPTIONS

OPC - Open Connectivity for Process Control

Canty provides an OPC client to connect CANTYVISIONCLIENT™ Software to our customers' digital control systems. This comes standard with CANTYVISIONCLIENT™! (Please see data sheet TA10560-1 for complete information on this offering).



Ethernet Output Module

Canty also offers an Ethernet controlled 4-20mA signal from CANTYVISIONCLIENT™, which is a 4-20mA current loop signal. This is a separate DIN rail mounted module that can be purchased as an accessory. (Please see data sheet TA9688-1 for complete information on this offering).

