

OIL REFINING PROCESS

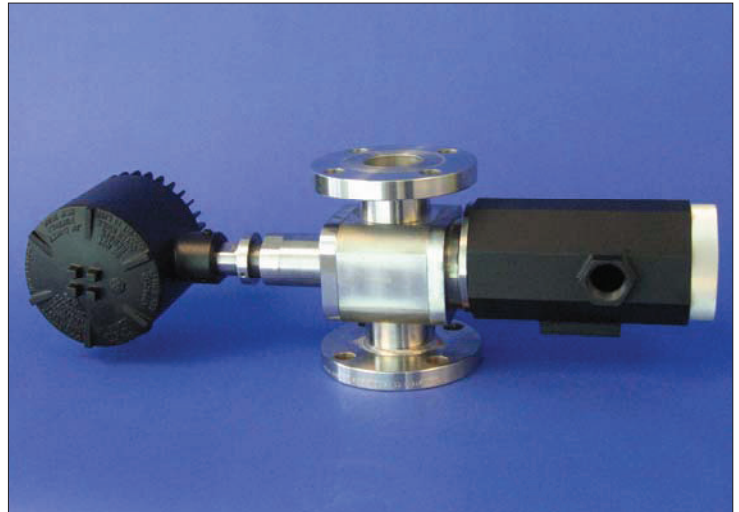
CANTY

PROCESS TECHNOLOGY

INFLOW™ OIL IN WATER / WATER IN OIL / MULTIPHASE OIL / PRODUCED WATER / TAR SANDS MEASUREMENT SYSTEMS

Combining the latest in CCD Ethernet camera technology with Canty fused glass, lighting and CANTYVISIONCLIENT™ software, the INFLOW™ Measurement System provides real time In Flow measurement of Oil in Water, Water in Oil, Multiphase Oil, Produced Water and Tar Sands.

No sampling or lab analysis is required! Each unit can be fully integrated into existing TCP/IP networks. CANTYVISIONCLIENT™ software is installed on a user-supplied PC, and connected to the INFLOW™ measurement system via an Ethernet network. Images of the process can be viewed from any networked PC. The live images are remotely analyzed by CANTYVISIONCLIENT™ software. A comprehensive library of standard utilities and data functions provide a multitude of *real-time* process information.



The CANTY INFLOW™ System uses a 0-1/2" variable insertion measurement gap. This insertion is made possible by the Fuseview™ sight glass, which allows the optical fused pieces to be located in the center of the fluid stream, which is unique to the Canty system. The fused glass seal contains no gaskets, ledges, or steps allowing the highest velocity, representative sample and keeps the sensor clean, even in the harshest of environments (crude oil, drilling mud, etc.). The fused glass seal location keeps the sensor in line with the process temperature to avoid product build up due to thermal change. The image processor can be configured with multiple zone sensing on the image of the fluid. The results from the zones can be compared to base line values for reliability and alarm on detection of a problem.

FEATURES

- Ethernet Connectivity - Wired or Wireless by End User
- Real Time Monitoring Of Process In Flow
- Solid One Piece Central Hub
- High Pressure / Temperature Fuseview™
- Easily Installed Modular Unit
- Fused Glass Process Barriers - Self Cleaning
- Regulated Light Source Emits Cold Light To Prevent Product Bake-On
- OPC, 4-20mA Current Loop, EXCEL spreadsheet and Relay Outputs Are Available

ADVANTAGES

- Provides Both A Real Time, In Flow Measurement And A Continuous Real Time View Of The Product
- Various Process Connection Sizes Available - ANSI or DIN Flanged, Swagelok®, NPT
- Optional Jet Spray Ring
- Utilizes Canty Cold Light and Fused Glass
- Available In NEMA4, IP66, Explosion Proof or Flame Proof Packages
- Digital Video Storage to Customer PC / DVD or Network Drive
- No Purging Needed with Standard Lighting

COMMON APPLICATIONS

- | | | |
|----------------------------|-----------------|----------------|
| • Oil in Water (PPM / PPB) | • Sand % Solids | • Crude Oil |
| • Produced Water | • Flotation | • Water In Oil |
| • Water Cut | • Gas Analysis | • Emulsions |

CANTY

JM Canty Inc
JM Canty Intl Ltd

Buffalo, NY USA
Dublin, Ireland

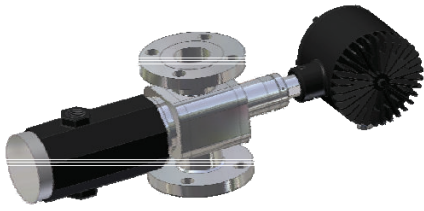
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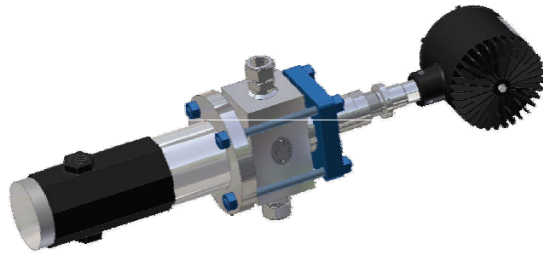
www.jmcanty.com

Document P/N: TA11014-1 REV. 2

MOUNTING CONNECTIONS

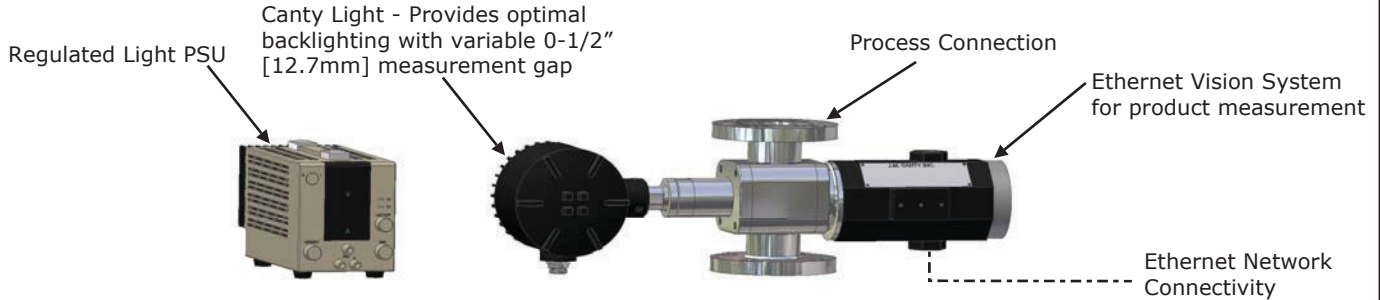


FLANGE CONNECTION



SWAGELOK® CONNECTION

TYPICAL PACKAGE



Notes:
 1. Camera and Light PSUs are not shown but must be located within 100 feet of the unit. The Camera Power Supply enclosure has the same environmental rating as the system. The Ethernet Controlled Regulated Power Supply is provided in a NEMA Type 1 enclosure.
 2. CautyVisionClient™ Software is included but the customer provides the PC which is not included with the system. Reference Document TA10592-1 for computer requirements.

Ordering Information

HOW TO ORDER: Select the appropriate symbols and build a part number :

EXAMPLE:

V O 6 C 1 1 0 A A 1 V

APPLICATION O - Oil In Water M - Multiphase W - Water in Oil	INTERNAL SEAL MATERIAL B - BUNA V - VITON® S - SILICONE E - EPDM N - NEOPRENE K - KALREZ® C - CHEMREZ®										
SYSTEM CLASSIFICATION 6 - Standard Optics	ENVIRONMENTAL RATING 1 - NEMA 4 WEATHERPROOF 2 - IP 66 3 - EXPLOSION PROOF 4 - FLAME PROOF										
CONNECTION TYPE B - Swagelok® C - Flange (ANSI/DIN) E - NPT (Female)	ANSI OR DIN PRESSURE RATING / FLANGE PATTERN <table border="1"> <thead> <tr> <th>ANSI</th> <th>DIN</th> </tr> </thead> <tbody> <tr> <td>A - 150 PSI</td> <td>D - 10 BAR</td> </tr> <tr> <td>B - 300 PSI</td> <td>E - 16 BAR</td> </tr> <tr> <td>C - 600 PSI</td> <td>F - 25 BAR</td> </tr> </tbody> </table> Consult factory for pressure rating up to 10,000 PSI.	ANSI	DIN	A - 150 PSI	D - 10 BAR	B - 300 PSI	E - 16 BAR	C - 600 PSI	F - 25 BAR		
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WETTED METAL MATERIAL 1 - 316L Stainless Steel 2 - Hastelloy® C276 or equal 3 - Hastelloy® C-22® or equal 4 - Carbon Steel	NON-WETTED METAL MATERIAL(PRESSURE BEARING) 0 - Carbon Steel 1 - 300 Series Stainless Steel										

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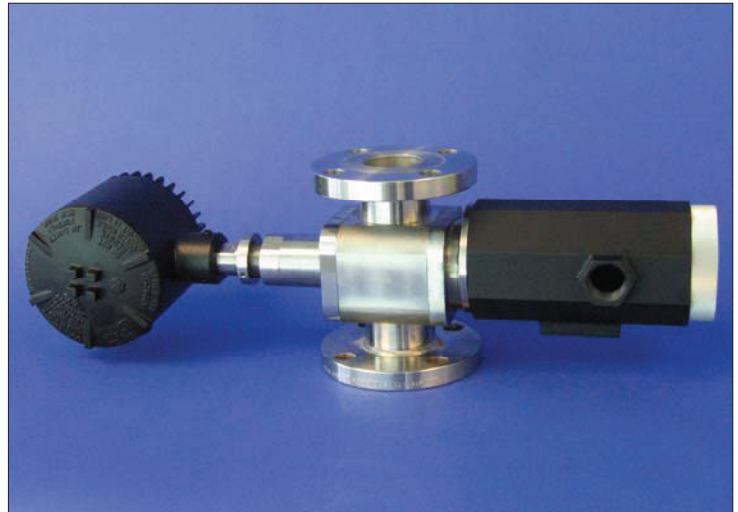
CANTY

PROCESS TECHNOLOGY

INFlow™ TURBIDITY / COLOR ANALYSIS / PERCENT SOLIDS MEASUREMENT SYSTEMS

Combining the latest in CCD Ethernet camera technology with Canty fused glass, lighting and CANTYVISIONCLIENT™ software, the INFlow™ Measurement System provides real time In Flow measurement of Turbidity, Color Analysis or Percent Solids, determined by the part number selected.

No sampling or lab analysis is required! Each unit can be fully integrated into existing TCP/IP networks. CANTYVISIONCLIENT™ software is installed on a user-supplied PC, and connected to the INFlow™ measurement system via an Ethernet network. Images of the process can be viewed from any networked PC. The live images are remotely analyzed by CANTYVISIONCLIENT™ software. A comprehensive library of standard utilities and data functions provide a multitude of *real-time* process information.



The CANTY INFlow™ Turbidity, Color Measurement or Percent Solids Measurement System uses a 0-1/2" variable insertion measurement gap. This insertion is made possible by the Fuseview™ sight glass, which allows the optical fused pieces to be located in the center of the fluid stream, which is unique to the Canty system. The fused glass seal contains no gaskets, ledges, or steps allowing the highest velocity, representative sample and keeps the sensor clean, even in the harshest of environments (polymer, crude oil, drilling mud, epoxy, etc.). The fused glass seal location keeps the sensor in line with the process temperature to avoid product build up due to thermal change. The image processor can be configured with multiple zone sensing on the image of the fluid. The results from the zones can be compared to base line values for reliability and alarm on detection of a problem.

FEATURES

- Ethernet Connectivity
- Real Time Monitoring Of Process In Flow
- Solid One Piece Central Hub
- Supplied With Internal O-ring Seals
- Easily Installed Modular Unit
- Fused Glass Process Barriers
- Regulated Light Source Emits Cold Light To Prevent Product Bake-On
- OPC, 4-20mA Current Loop, EXCEL spreadsheet and Relay Outputs Are Available

ADVANTAGES

- Provides Both A Real Time, In Flow Measurement And A Continuous Real Time View Of The Product
- Various Process Connection Sizes Available (Flanged, Tri-Clamp®, Swagelok®, Tube or NPT)
- Fully Cleanable Unit
- High Throughput
- Available In NEMA4, IP66, Explosion Proof or Flame Proof Packages
- Digital Video Storage to Customer PC / DVD or Network Drive

COMMON APPLICATIONS

- Oil in Water
- Turbidity
- Color/Opacity
- Waste Water
- Centrifuge Discharge
- Percent Solids
- Membrane Filtration
- Water In Oil
- Many, many more.

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Document P/N: TA10591-1 REV. 1

MOUNTING CONNECTIONS



FLANGE CONNECTION

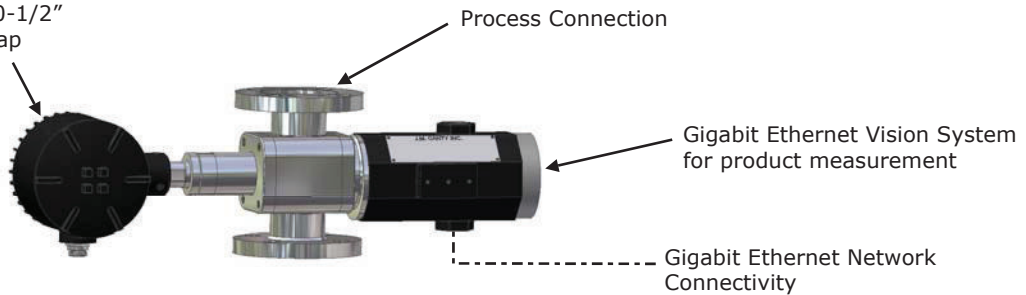
TRI-CLAMP® CONNECTION



SWAGELOK® CONNECTION

Canty Light - Provides optimal backlighting with variable 0-1/2" [12.7mm] measurement gap

TYPICAL PACKAGE



Notes:
 1. Camera and Light PSUs are not shown but must be located within 100 feet of the unit. The Camera Power Supply enclosure has the same environmental rating as the system. The Ethernet Controlled Regulated Light Power Supply is provided in a NEMA Type 1 enclosure.
 2. CantyVisionClient™ Software is included but the customer provides the PC which is not included with the system. Reference Document TA10592-1 for computer requirements.

Ordering Information

HOW TO ORDER: Select the appropriate symbols and build a part number :

EXAMPLE:

V P 1 C 1 1 0 A A 1 V

APPLICATION T - Turbidity C - Color Analysis P - Percent Solids	INTERNAL SEAL MATERIAL B - BUNA V - VITON® S - SILICONE E - EPDM N - NEOPRENE K - KALREZ® C - CHEMREZ®																												
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CANTY

PROCESS TECHNOLOGY

CAMERA SYSTEMS



HOW IT WORKS

J.M. Canty cameras are patented systems designed to illuminate and view inside a pressure or process vessel through a single connection. There is no need for multiple vessel ports. Canty supplies an integrally mounted camera and lighting system (optional) in a connection as small as a 2" NPT. The industry standard video output can be displayed on a video monitor in the comforts of a control room, or recorded on any VCR. A standard video monitor or TV with video input may be used to display the image.

CANTY LIGHTS MAKE IT POSSIBLE

The key to Canty Camera/Light combination systems is the Canty light. Canty uses fiber optic light guides to focus cool, effective light into a process vessel or area. Cool light eliminates product bake-over on the viewing window. Fiber optic light guides have been specifically designed to work in conjunction with cool light to maximize the light transmission into the vessel. The resulting live, remote video image from this illumination is unparalleled!

THE COMPLETE PACKAGE

Canty can meet all your needs! Included as standard equipment on every camera system are power supplies, a high resolution B & W, color or Ethernet camera, pre-focused lens and WP, IP66, explosion proof or flame proof enclosure. What's more – all wiring and maintenance are external. Many optional monitors, recording and control options are available. All cameras can be easily integrated with a Canty Vector System for various process measuring and control functions such as non-contact level control, particle sizing, etc. Please consult the factory for details.

APPLICATIONS

- Polymers – Verify empty, monitor level
- Crystallizers – Liquid and foam level
- Fermentors – Liquid and foam level
- High purity pharmaceutical applications
- Toxic Material – Remote viewing
- Foam and Fluid Level monitoring in:
 - Shredders
 - Nutsche Filters
 - Strippers
 - Hoppers
 - Latex Applications
 - Pressure Vessels

FEATURES

- FM, CSA and approvals to CENELEC on various models. World wide approval!
- 10,000 PSI ratings are available
- Up to 2000° F capabilities
- 2" NPT, 2" flange and larger, 2" Tri-Clamp® and larger connections are available.
- High resolution CCD cameras – available in B&W and color, NTSC, PAL and Ethernet output.
- Remotely view your process from the comforts of a control room
- Single nozzle viewing/illuminating (with light)
- Remote light dimming options
- Spray rings are available to keep your window clean

SPECIFICATIONS

CCD Sensor:	1/2" format. 811(H) x 508(V) typ.
Sensitivity:	Available from .0001 lux usable picture (low light B&W). 0.1 lux is typical (color). Varies with model.
Video Output:	1.0 V p-p, 75Ω typ.(analog) or Ethernet options.
Ambient Temp:	-30°C to 50°C
Current Req.:	500 mA typical
Cable:	RG 59/U, 75Ω coaxial cable suitable CCTV applications (analog) or Cat5e Ethernet (Ethernet Models)
Environmental ratings:	NEMA 4, IP66, Explosion proof (Class 1, Div. 1, Groups B, C & D, Class II, Div. 1, Groups E, F & G) or Flameproof EEx d IIC T6

OPTIONS

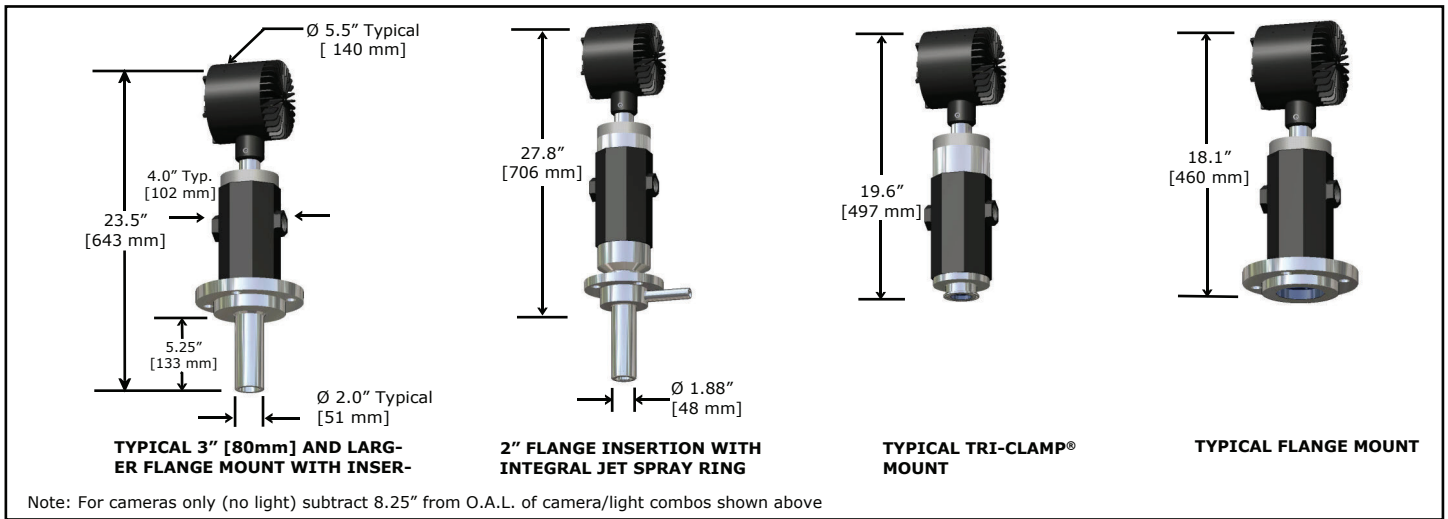
- Vector System - level/foam control, volume control, in-line particle sizing, color analysis
- Time/date generators – overlay time and date stamp onto video picture
- Data overlay – overlay pH, temp, pressure, etc. on-to video picture
- Fiber Optic Link – replaces coaxial cable, need for conduit

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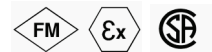
www.jmcanty.com

Document P/N: TA7259-1 Rev. 9



Ordering Information

HOW TO ORDER: Select the appropriate symbols and build a part number as shown:



EXAMPLE:

V 6 B 2 1 B D 1 J

VISION SYSTEM

- V - North American standard
- VE - European standard

ENVIRONMENTAL RATINGS

- 6 - NEMA 4 weather proof, IP66
- 7 - Explosion proof (US) or Flame proof (Europe)

CAMERA OPTIONS

- B - B & W camera
- L - Low Light B & W camera
- C - Color camera
- I - Infrared (near) B & W
- E - Ethernet Network Video camera

LENS OPTIONS

- (Note: Some lenses are not available with certain mounting connections. Consult your binder for details)
- 2 - 56° (H) x 43° (V) x 69° (D)
 - 3 - 69° (H) x 53° (V) x 80° (D)
 - 6 - 41° (H) x 31° (V) x 50° (D)

CAMERA POWER SUPPLY OPTIONS

- 1 - [User supplies 120 V AC. Power supply in a non WP or EXP enclosure. User provides enclosure and switch as needed.](#)
- 2 - No power supply required.
- 5 - [User supplies 120 V AC. Power supply in a WP enclosure.](#)
- 6 - [User supplies 240 V AC. Power supply in an IP/WP enclosure.](#)
- 7 - [User supplies 120 V AC. Power supply in an EXP enclosure. PSU enclosure is rated Class I, Div 1, Groups C & D.](#)
- 8 - [User supplies 240 V AC. Power supply in non WP or FP enclosure. User provides enclosure and switch as needed.](#)

WETTED MATERIAL OPTION

- B - 316 L Stainless Steel*
- D - Hastelloy® C-276 or equal
- E - Hastelloy® C-22® or equal
- F - Glass (BoroPlus™)**

LIGHT OPTIONS

- G - HYL 80 1SRDO (240 V)
- J - HYL 80 1SRDO (120 V)
- N - Camera only - will not accept an integral light
- 0 - Combo w/o light - will accept an existing light (Note: Without a light source the camera cannot maintain WP or EXP integrity)

NON WETTED MATERIAL

- 0 - No flange required (if selecting a flanged model). Select this option when choosing NPT or Tri-Clamp® models also.
- 1 - 150 # carbon steel ANSI flange
- 2 - 150 # 316L stainless steel ANSI flange
- 3 - 300 # carbon steel ANSI flange
- 4 - 300 # 316L stainless steel ANSI flange
- 6 - 16 Bar carbon steel DIN flange
- 7 - 16 Bar stainless steel DIN flange
- 8 - 10 Bar carbon steel DIN flange
- 9 - 10 Bar stainless steel DIN flange

MOUNTING CONNECTION

- Consult factory for additional sizes and ratings.
- B - 2" NPT, 5.25" insertion
 - C - 3" ANSI flange
 - D - 4" ANSI flange
 - E - 2" ANSI flange
 - F - 3" ANSI flange, 5.25" insertion
 - G - 100 mm DIN flange
 - H - 4" ANSI flange, 5.25" insertion
 - J - 100 mm DIN flange, 5.25" insertion
 - K - 2" ANSI flange, 5.25" insertion
 - M - 3" Tri-Clamp® 5.25" insertion
 - P - 4" Tri-Clamp® 5.25" insertion
 - U - 4" Tri-Clamp®
 - Q - 80 mm DIN flange
 - S - 80 mm DIN flange, 5.25" insertion
 - T - 2" ANSI flange, 5.25" insertion, with integral spray ring
 - 2 - 2" Tri-Clamp®
 - 3 - 3" Tri-Clamp®

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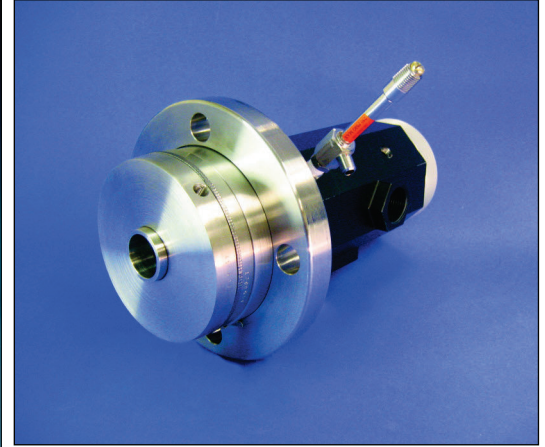
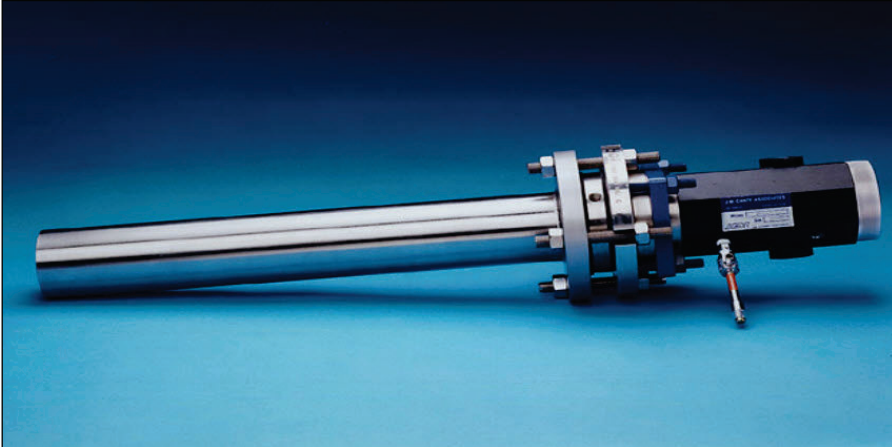
www.cantylight.com

*Cantylight reserves the right to upgrade to Hastelloy® C family of alloys or equal at their own cost
 ** Not available with all models

CANTY

PROCESS TECHNOLOGY

ULTRATEMP™ HIGH TEMPERATURE CAMERAS



UNMATCHED PERFORMANCE

Canty ULTRATEMP™ Cameras are ideal for demanding applications involving visual inspection or verification in extreme temperature environments.

- Computer designed optics for a crystal-clear picture.
- All cameras feature state of the art camera technology.
- A digital electronic auto-iris provides an exceptional image of your application without the problems associated with manual apertures.
- High temperature lenses designed to survive in process without cooling air.

SAFETY IS A PRIMARY CONCERN

Canty ULTRATEMP™ Camera Systems feature a fused glass seal standard with every model. This unique seal provides an impenetrable safety barrier to protect the camera electronics from the harsh process environment and preventing hazardous vapors from escaping into your plant.

NO LENS AIR PURGING REQUIRED

Unlike other manufacturers, Canty does not require air to keep the lenses cool.

Loss of air will not destroy our camera system!

A positive air flow is used for maintenance purposes only to keep dust and soot from accumulating on the lens.

As a result, many applications will not require any air purge, which can save thousands of dollars per year!

APPLICATIONS

- Furnaces
- Power Boilers
- Black Liquor Recovery Boilers
- Incinerators
- Kilns
- Melting Chambers

FEATURES

- No cooling air required. Air is used for cleaning only!
- Disposable Quartz Protective Shield
- High Temperature Furnace Lens - Models Up To 2500°F
- Auto Electronic Iris
- High Quality Quartz Optics
- Fused Glass Seal Separates Electronics From Process
- Insertion Lens Available Up To 36" Long
- Non-Blooming CCD Cameras

SPECIFICATIONS

Video Formats: NTSC, PAL, EIA, CCIR, or Ethernet outputs available.

Video Output: 1.0 V p-p, 75 ohm(NTSC, PAL, EIA, CCIR models) or Ethernet output to PC available

Cable: RG 59/U, RG 11/U, RG 6/U coaxial cable suitable for CCTV applications is recommended for analog cameras. Ethernet cameras require CAT5e or better cabling.

Power Req.: User supplies 120V AC, 60 Hz or 230V AC, 50 Hz power. Canty supplies transformer To 12V DC, .5A TYP.

Ratings: Available in NEMA TYPE 1, NEMA TYPE 4, IP20, IP66

Mounting: 3" 150# ANSI or 80 mm DIN flange for Flush Mount units. Insertion units require a Ø3.5" hole that the wall mount tube will insert into and be welded to.

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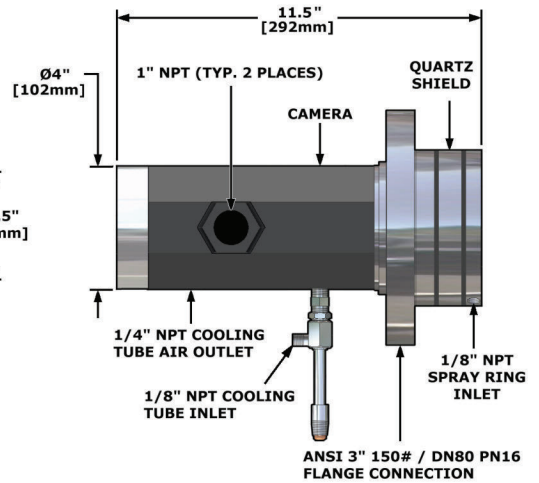
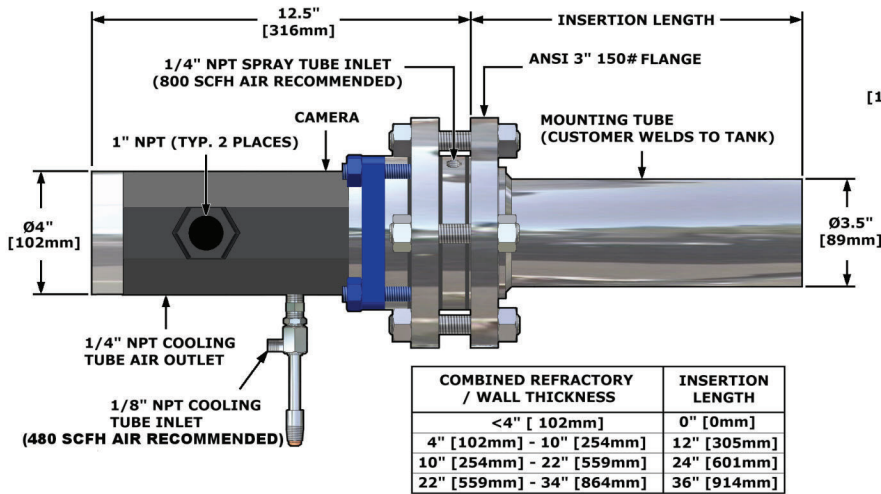
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DIMENSIONAL INFORMATION

Insertion sizes 12" and Larger

Non Insertion Models



- For 0" Insertion models, customer must provide a 3", 150# ANSI (U.S.) or DN80 PN16 (Europe) flange connection to mount camera.
- For all other insertion lengths, customer must provide a 3.5" [89 mm] diameter mounting hole to weld Cauty supplied mounting tube to furnace.
- Layout drawings and additional insertion lengths available. Consult factory.

Ordering Information

HOW TO ORDER: Select the appropriate symbols and build a part number as shown:

EXAMPLE:

VSH DC 6 6 C 1 - S - 3FL150S - 24INS

VIDEO OUTPUT FORMAT

VSH - North American Standard
VEH - European Standard

CAMERA OPTION

DL - B&W camera
DC - Color camera
DE - Ethernet camera
DR - Near IR Ethernet camera

ENVIRONMENTAL RATING

6 - Weather Proof

TEMPERATURE RATING

5 - Furnace operating 2000°F
Temp at lens 1300°F (No insertion)
6 - Furnace operating 2000°F
Temp at lens 1300°F (Insertion models)
7 - Furnace operating 2500°F
Temp at lens 1600°F (Insertion models)

Note: For higher temperature requirements, see the EXTREME^{TEMP}™ model: TA10889-1.

LENS VIEW ANGLES

Insertion Models

B - 30°(H) X 22°(V)
C - 45°(H) X 34°(V)
D - 65°(H) X 49°(V)

Non-Insertion

E - 7°(H) X 5°(V)
F - 22°(H) X 16°(V)
G - 41°(H) X 31°(V)
H - 69°(H) X 53°(V)

INSERTION LENGTHS

0INS - Flush Mount - No Insertion
12INS - 12" [305mm] Insertion
24INS - 24" [610mm] Insertion
36INS - 36" [914mm] Insertion

MOUNTING CONNECTION

3FL150S - 3" 150# ANSI Flange Mount
80FL16S - 80mm 16 Bar DIN Flange
(option for flush mount only)

MATERIAL OF CONSTRUCTION

S - 304 L Stainless Steel
H - Hastelloy® C276

CAMERA POWER SUPPLY OPTIONS

- 1 - [Power supply in NEMA Type 1 enclosure \(120V AC input\)](#)
- 2 - [Power supply in IP 20 enclosure \(230V AC input\)](#)
- 5 - [Power supply in WP NEMA 4X enclosure \(120V AC input\)](#)
- 6 - [Power supply in IP66 enclosure \(230V AC input\)](#)

NOTE: Accessory Kit part number: V401-KIT available to aid in installation contains 100-1000 SCFH and 60-600 SCFH Flowmeters along with a 0.5 micron oil/vapor removal filter.

CANTY

www.jmcanty.com
Document P/N : TA7355-I Rev. 8

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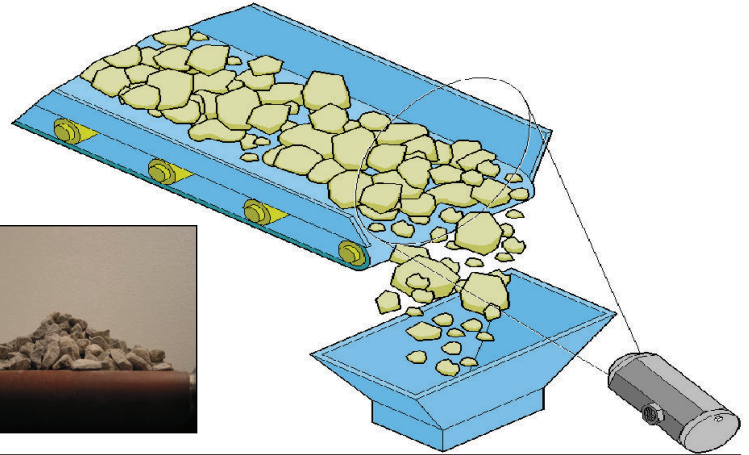
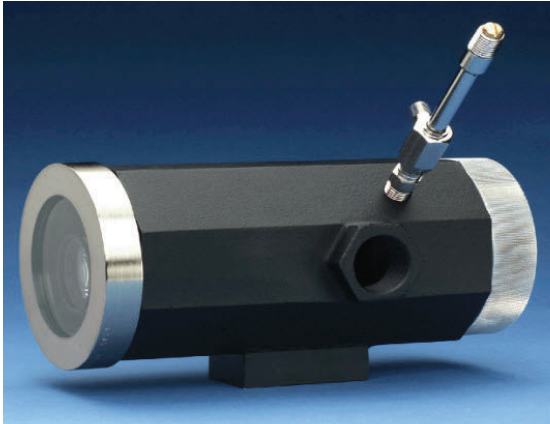
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CANTY

PROCESS TECHNOLOGY

VISION BASED VOLUME MEASUREMENT



HOW IT WORKS

Eliminate costly maintenance for your belt scales!!! The CantyVision™ Volume Based Measurement System consists of a non-contact Ethernet camera that constantly analyzes product profile on a conveyor belt to produce an integrated volume with no maintenance required. The measurement results are output in a rate of weight per time through 4-20mA, OPC Interface, or Modbus where the user selects the measured units. The Canty system avoids the large errors associated with belt scales and eliminates the need for frequent calibration. Material moisture content will not alter the volume solution the way a belt scale will be affected because it is a vision based system. The system is calibrated by initially viewing the empty belt. A full belt is then presented or simulated to provide the span. By properly locating the camera, the tracking position of the belt can also be provided. CantyVision™ looks for the edge of the belt in contrast to the head pulley. This gives an accurate belt position to within .01 inch (.25 mm) allowing for alarming and preventive maintenance. By locating the camera underneath the belt, a continual visual and optional inspection can be made to look for wearing, tearing and other conditions.

FEATURES

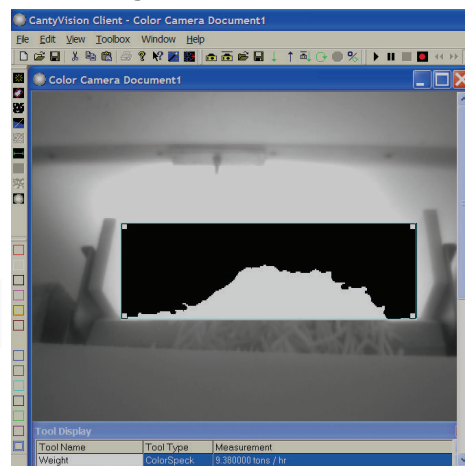
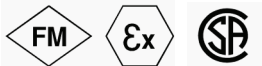
- +/- 1% Accuracy
- Full Range Analysis - Minute Feed Rates Through Tons/Min
- Simple, Quick Calibration - Less Than 5 Minutes
- Non Contact Measurement System
- Independent of Moisture Content
- No Re-calibration Required for Varying Samples

APPLICATIONS/ INDUSTRIES

- Aggregates/ Powders
- Abrasives
- Solids Handling
- Food
- Pharmaceutical
- Chemical



Raw Image



Processed Image

CANTY JM Canty Inc
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HOW TO ORDER: Select the appropriate symbols and build a part number as shown:

EXAMPLE:

VTMSE5061-WP

VIDEO OUTPUT FORMAT
 VTMS - Vision System
 NTSC (North American Standard)
 VTME - Vision System
 PAL (European Standard)

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

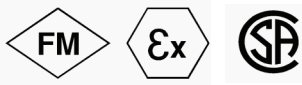
CAMERA APPLICATION
 5 - Surveillance

CAMERA PSU ENVIRONMENTAL RATING
 0 - [Non WP or EXP camera power supply](#)
 1 - [WP camera power supply](#)
 2 - [EXP or FP 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
 EXP - Explosion proof Class 1, Div. 1, Groups B, C, and D.
 Class II, Div. 1, Groups E, F and G. Flame proof EEx d IIC T6.
 User supplies 120V AC.
 FP - Explosion proof Class 1, Div. 1, Groups B, C and D,
 Class II, Div. 1, Groups E, F and G. Flame proof EEx d IIC T6.
 User supplies 240V AC.

ADDITIONAL OPTIONS
 1 - No additional options
 2 - Cooling Tube
 3 - Spray Ring
 4 - Spray Ring and Cooling Tube

LENS OPTION AND APPROXIMATE LENS VIEW ANGLES
 1 - Manual iris lens with standard view angle, 41°H x 31°V
 2 - Manual iris lens with wide view angle, 69°H x 53°V
 3 - Auto iris lens with wide view angle, 58°H x 45°V
 6 - Manual iris lens with narrow view angle, 7°H x 5°V
 7 - 6x Zoom Lens with Auto Iris, 8 - 48mm FL
 Provides view angles: 43°H x 33°V at 8mm
 8°H x 6°V at 48mm



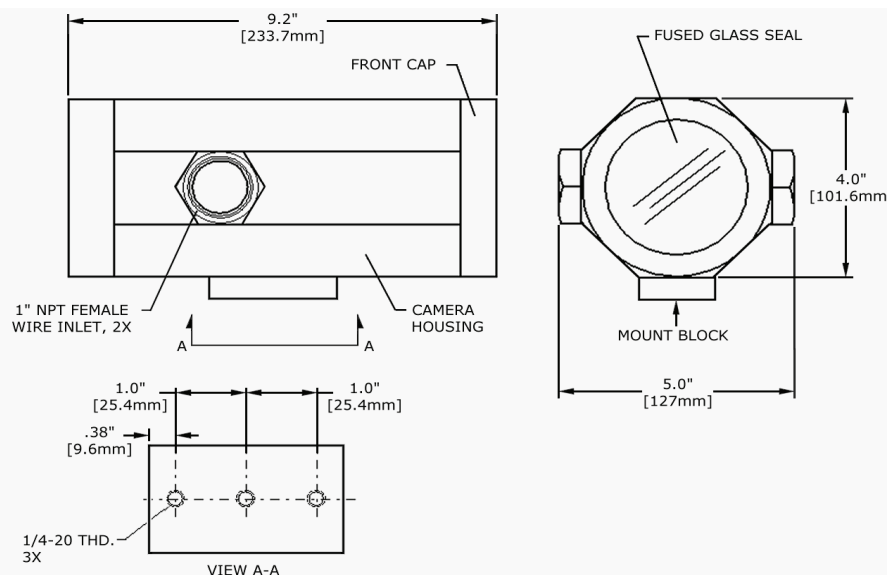
Select Lens View Angle for the Vision System Camera using chart below which indicates distance from belt that camera should be mounted for various combinations of lens View Angles and belt widths.

Belt Width

Lens View Angle

	12 in. Belt	18 in. Belt	24 in. Belt	30 in. Belt	36 in. Belt	40 in. Belt	48 in. Belt
41° (H) X 31° (V)	24 in.	36 in.	48 in.	60 in.	72 in.	84 in.	96 in.
69° (H) X 53° (V)	13 in.	20 in.	26 in.	33 in.	40 in.	46 in.	53 in.
22° (H) X 17° (V)	44 in.	66 in.	-	-	-	-	-

DIMENSIONAL INFORMATION



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CANTY

PROCESS TECHNOLOGY

INDUSTRIAL SOLIDSIZER™ Particle Analysis System



ONLINE PARTICLE SIZING

The Canty Industrial SolidSizer™ is an on-line particle sizing tool for lab environments to determine particle size, shape and distribution, thereby eliminating the need for sieve analysis.

THE CANTY ADVANTAGE

The JM Canty Industrial SolidSizer™ is a vision-based sensor used with the Vector System for dry particle size measurement in a production environment as an on-line production tool. The SolidSizer™ includes a B & W camera with a shutter speed control and a variable magnification lens, a light source with a flexible fiber optic light guide to generate a uniform light field to display silhouette images of opaque particles, and a vibratory feeder to present sample material to the camera / lights in free fall. The weatherproof camera is equipped with a spray ring that can be charged intermittently to control dust buildup on the outside of the camera view port. The camera video is provided to the Vector System for analysis that extracts particle size information. This sheet identifies the features of the SolidSizer™ and provides ordering information. Typical installations also include the Vector System.

FEATURES

- Particle distribution by major, minor diameter, area, perimeter available with Canty Vector System
- Real time, on-line particle size analysis
- Adjustable lens magnification (sub micron through boulders – no upper size limit). Consult factory
- Fiber optic lighting backlighting for true shape illumination
- Shape Analysis
- External video connectors for signal processing by Canty Vector System (optional)
- Optional light filters available for wavelength sensitive materials

APPLICATIONS

- Pharmaceutical powders
- Polymer pellets and beads
- Agricultural products
- Aggregates
- Crushed rock
- Glass bead applications
- Screen break detection
- Agglomeration control
- Spray dryers and fluid bed applications
- Replaces existing lab screen / sieve systems
- End product Q.C. and lot certification
- Many, Many More

SPECIFICATIONS

- Power: 120V AC / 60 Hz (230V AC / 50 Hz)
- Shutter Speed: variable up to 1/100,000 sec
- Instrument Air: 20 to 30 PSI when required

BENEFITS

- Reduces Lab Screening Labor by 99%
- Output Matches Sieve/Screen Data - Direct Replacement
- Three Month Pay Back

Ordering Information

HOW TO ORDER: Select the appropriate symbols and build a model number as shown:

EXAMPLE:

S C - 1 2

STYLE SELECTION

C - Industrial

VIDEO SYSTEM FORMAT

G - Gigabit Ethernet, B&W, 1600 x 1200
 H - Gigabit Ethernet, Color, 1600 x 1200

ENVIRONMENTAL RATING

2 - Weatherproof
 3 - Explosionproof

SYSTEM ILLUMINATION

K - Backlighting
 L - Back / Front (Ringlight), Black Speck Only

ACCESSORIES

1 - No Accessories
 2 - Black Speck Only
 3 - Particle Size and Black Speck

TRAY MATERIAL

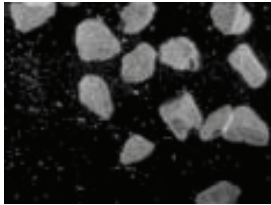
2 - Stainless Steel

INPUT POWER

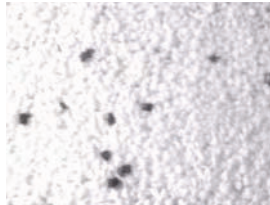
1 - 120 V AC 60Hz
 2 - 230 V AC 50Hz

LENS

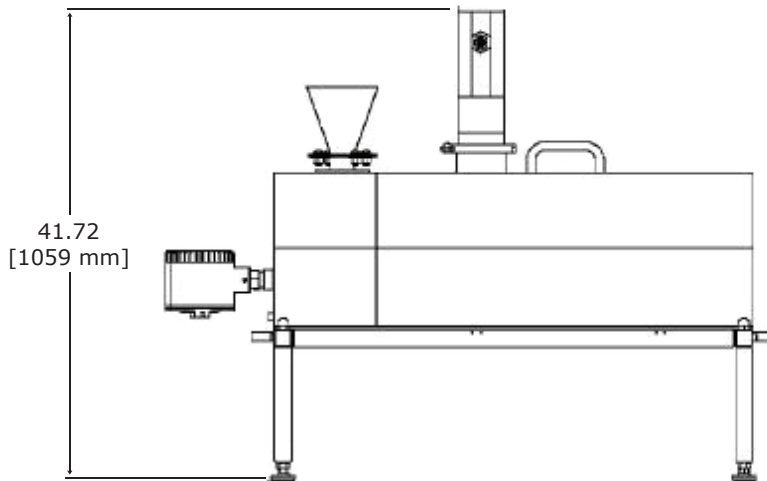
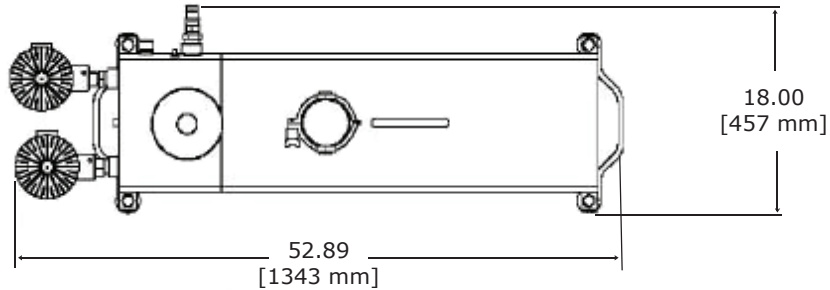
1 - Macro Zoom
 PS range 10-6000 Microns



Live Image



Black Speck Detection



* Fines separator is used to separate small particles (under 80 micron) for optimal particle orientation. Consult factory if required for your application.



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 JM Canty Intl Ltd

Buffalo, NY USA
 Dublin, Ireland

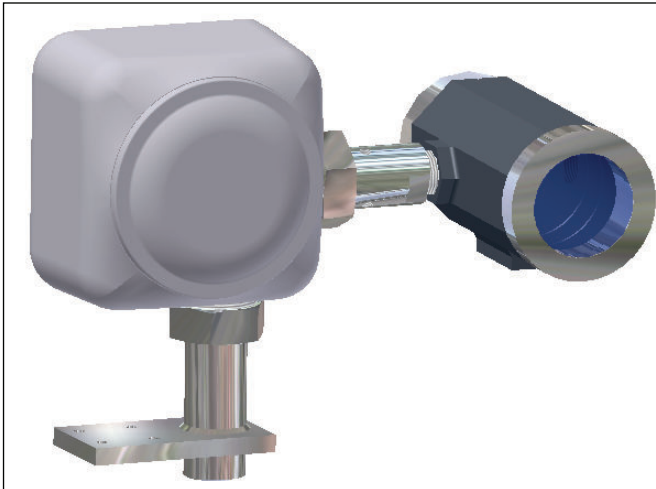
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CANTY

PROCESS TECHNOLOGY

EXPLOSION PROOF PAN & TILT WITH INTEGRAL CAMERA



APPROVALS

Canty pan & tilt systems have been designed for use in hazardous areas in accordance with explosion proof, and flame proof requirements.

- Class I, Div. 1, Groups B, C & D
- Class II, Div. 1, Groups E, F & G, & NEMA 4 areas
- EEx d IIC T6, IP66

THE CANTY ADVANTAGE

Canty explosion proof, flame proof pan and tilt systems have been engineered for the rigorous requirements of industrial applications. Every component in a Canty pan & tilt system has been specifically chosen for quality, performance and reliability.

- Fused Glass - For Harsh Industrial Environments
- Heavy Duty, Rugged Enclosures.
- Compact Design
- 120 V or 230 V Models
- Completely Pre-Wired
- Indoor, Outdoor Operation

All pan & tilt systems are fully compatible with any Canty camera. We feature a complete line of fixed lenses, zoom lenses, switches, monitors, amplifiers, VCRs, surveillance systems and process control equipment.

Please consult the factory, or your local Canty representative for more details.

SPECIFICATIONS

ELECTRICAL REQUIREMENTS

- Operating Voltage: 120 V AC, 60 Hz (US) or 230 V AC, 50 Hz (Europe)
- Current Requirements: .35 A max running
.50 A max starting
- Motors: Single phase induction type, reversible
- Connectors: 15 conductor, 16 AWG pigtails provided
- Controller: Desk top mounted pan & tilt controller included

MECHANICAL SPECIFICATIONS

- Pan: Speed: 6 degrees / second
Movement: 0-340 degrees
Torque: 42 inch pounds (4.7 N-m)
- Tilt: Speed: 6 degrees / second
Movement: +/- 90 degrees
Torque: 42 inch pounds (4.7 N-m)
- Stop Limits: Cam guided
- Weight: 30 pounds (13.6 Kg)
- External Construction: Cast aluminum body with stainless steel fittings
- Maximum Temperature: -10° to 140°F (-23° to 60°C)
- Breaking: Mechanical
- Bearings: Ball bearings / bronze bushings
- Mounting: Includes wall mount bracket VC5100-1 with VC5101-1 support strut

ACCESSORIES

- Video Switchers - 4, 8 or 16 input models
- Distribution Amplifiers - to display one camera on several monitors
- Equalizing Amplifiers - for long cable runs
- Fiber Optic Link - Fiber optic video transmission for cable runs up to 1 mile typ. Call factory for longer cable runs.
- Time / Date Generators
- Data Overlay Modules
- VCR Recording
- Many, Many More.

CANTY

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HOW TO ORDER: Select the appropriate symbols and build a part number as shown:

EXAMPLE: VSPTE-VSE5011-2

PAN & TILT OPTIONS
 VSPTE - Explosion proof pan/tilt, 120V AC supply. Rated for use in Class I, Div 1, Groups B, C & D. Class II, Div 1, Groups E, F & G and NEMA 4 areas.
 VEPTTE - Flame proof pan/tilt, 230V AC supply. Rated for use in EEx d II C T6 and IP66 areas.

VIDEO OUTPUT FORMAT
 VS - North American Standard
 VE - European Standard

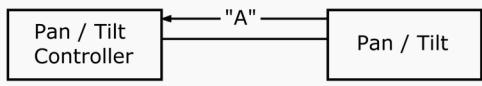
CAMERA OPTIONS
 B - B&W camera
 C - Color camera
 L - Low Light B&W camera
 I - IR (Near) B&W camera
 E - Ethernet camera

CAMERA APPLICATION
 5 - Surveillance with aluminum enclosure

Ethernet Camera PSU Options
 3 - No separate PSU required. PSU is integral to Ethernet Controller.

B&W, Color, Low Light B&W, IR (Near) Camera PSU Options
 0 - [Non WP or EXP camera power supply](#)
 2 - [EXP or FP camera power supply. EXP PSU enclosure is rated Class I, Div. 1, Groups C & D.](#)

CABLING REQUIREMENTS
 9 conductor cable (models without a zoom lens camera)
 12 conductor cable (models with a zoom lens camera)



Maximum Recommended Cable Distance "A"

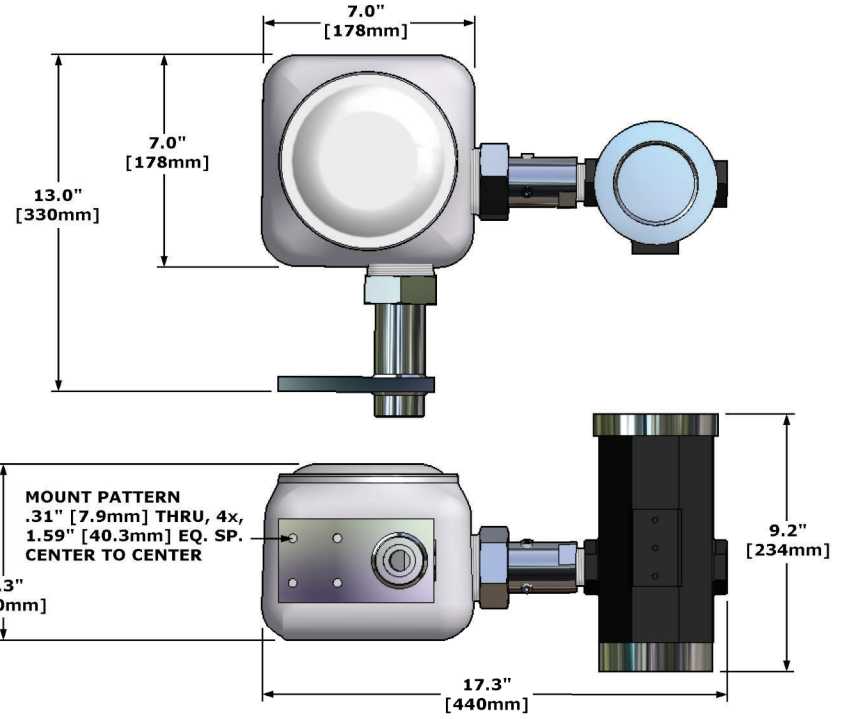
AWG	120v MODEL	230v MODEL
18	800ft (244m)	4000ft (1220m)
16	1200ft (365m)	6000ft (1830m)

(Assuming a 10% (max) Voltage drop)

PAN/TILT CONTROLLER
 2 - Joy Stick Controller - Manual Control of Pan, Tilt.
 3 - Ethernet Controller - Includes Additional Control Box & Software For Ethernet Control of Pan & Tilt. Reference Datasheet TA9645-1.

ADDITIONAL OPTIONS
 1 - No additional options
 3 - Spray Ring

LENS OPTION AND APPROXIMATE LENS VIEW ANGLES
 1 - Manual iris lens with standard view angle, 41°H x 31°V
 2 - Manual iris lens with wide view angle, 69°H x 53°V
 3 - Manual iris lens with wide view angle, 58°H x 45°V
 6 - Manual iris lens with narrow view angle, 7°H x 5°V
 7 - 6x Zoom Lens with Auto Iris, 8 - 48mm FL
 Provides view angles: 43°H x 33°V at 8mm 8°H x 6°V at 48mm
 8 - Manual iris lens with narrow view angle, 3.5°H x 2.5°V
 9 - Ethernet Camera With 18X Zoom Lens and Auto Iris, 4.1 - 73.8 mm FL
 Provides view angles: 2.7°H X 2°V at 4.1mm 48°H X 36°V at 73.8mm



Mounting Brackets

All systems include a VC5100-100 wall mount bracket.



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