

PRODUCED WATER

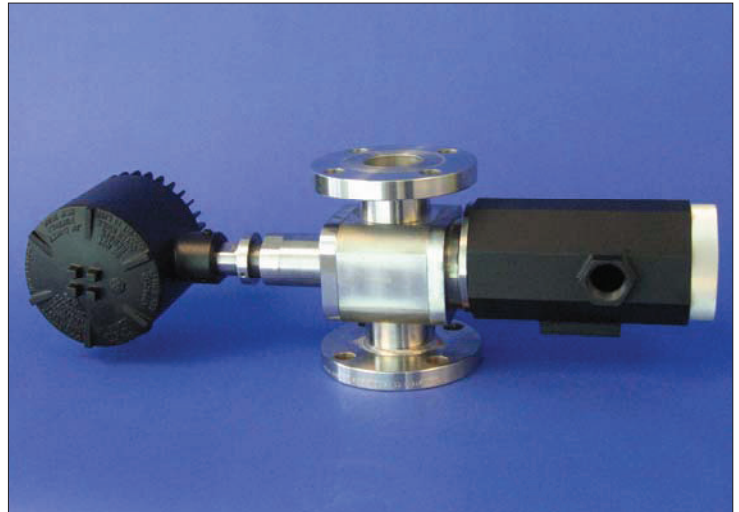
CANTY

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

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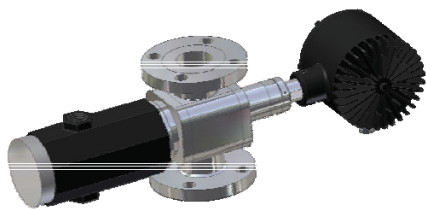
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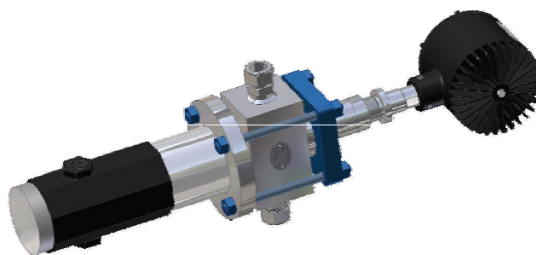
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MOUNTING CONNECTIONS

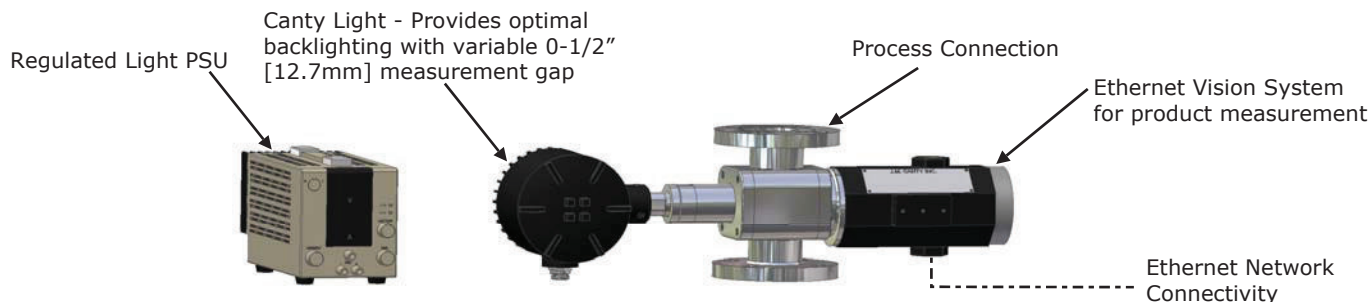


FLANGE CONNECTION



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 N - NEOPRENE V - VITON® K - KALREZ® S - SILICONE C - CHEMREZ® E - EPDM										
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		
ANSI	DIN										
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CONNECTION SIZE <table border="1"> <tbody> <tr> <td>0 - 1/2" (12.7mm)</td> <td>4 - 4" (100mm)</td> </tr> <tr> <td>1 - 1" (25mm)</td> <td>6 - 6" (150mm)</td> </tr> <tr> <td>5 - 1.5" (38mm)</td> <td>8 - 8" (200mm)</td> </tr> <tr> <td>2 - 2" (50mm)</td> <td>9 - 10" (254mm)</td> </tr> <tr> <td>3 - 3" (80mm)</td> <td>A - 12" (305mm)</td> </tr> </tbody> </table>	0 - 1/2" (12.7mm)	4 - 4" (100mm)	1 - 1" (25mm)	6 - 6" (150mm)	5 - 1.5" (38mm)	8 - 8" (200mm)	2 - 2" (50mm)	9 - 10" (254mm)	3 - 3" (80mm)	A - 12" (305mm)	INPUT POWER A - 120 V AC / 60Hz / 250W B - 230 V AC / 50Hz / 250W
0 - 1/2" (12.7mm)	4 - 4" (100mm)										
1 - 1" (25mm)	6 - 6" (150mm)										
5 - 1.5" (38mm)	8 - 8" (200mm)										
2 - 2" (50mm)	9 - 10" (254mm)										
3 - 3" (80mm)	A - 12" (305mm)										
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

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

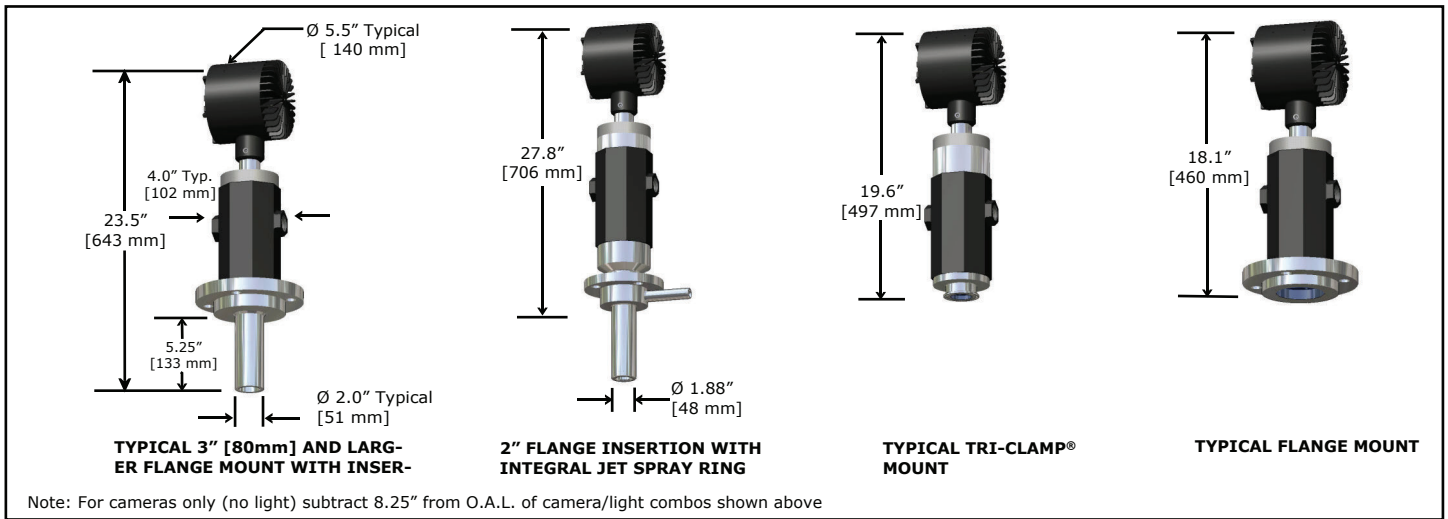
- Vector System - level/foam control, volume control, in-line particle sizing, color analysis
- Time/date generators – overlay time and date stamp onto video picture
- Data overlay – overlay pH, temp, pressure, etc. on-to video picture
- Fiber Optic Link – replaces coaxial cable, need for conduit

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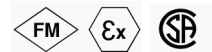
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Ordering Information

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

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