



vision
without
limits

Single Use
Bio-Reactors

CANTY

PROCESS TECHNOLOGY

BUFFALO

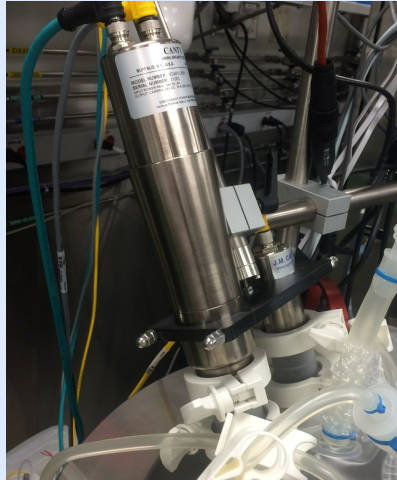
DUBLIN

THAILAND

SINGLE USE - FOAM ANALYSIS

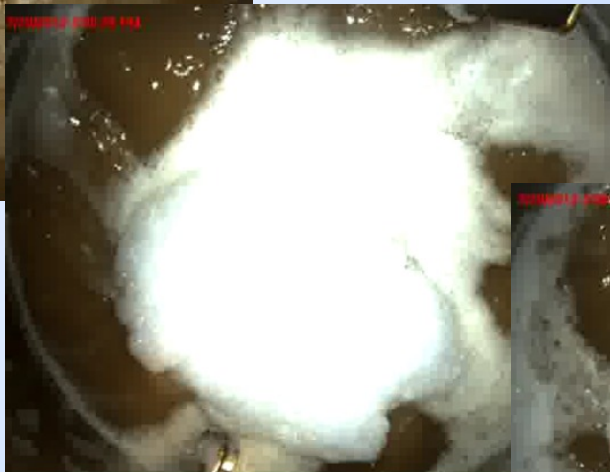
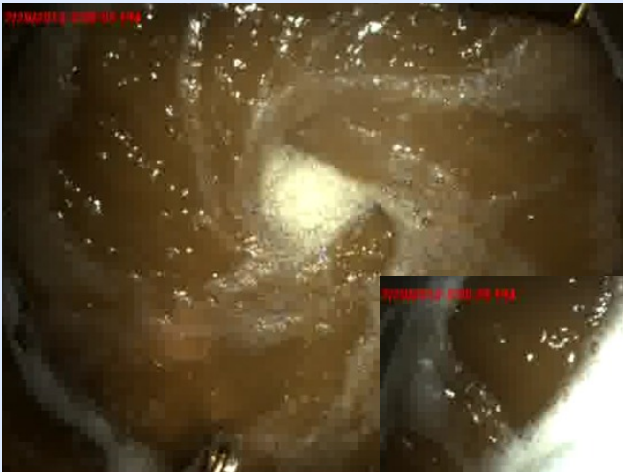
How It Works

The CANTY S.U.BioCam™ is a process camera engineered and designed for foam measurement to automate the control. The S.U.BioCam™ combines the latest in LED lighting with Ethernet camera technology in a streamlined package. The camera utilizes a strobe LED light that has been optimized to run efficiently as to not obstruct photosensitive processes. Coupled with CantyVision™ software, the S.U.BioCam™ can be used for full control via OPC or 4-20mA. This system is perfect for controlling foam in a single use bag.



Features

- LED Light Source - Maintenance Free
- Integrated Camera & Light
- Sanitary Lightweight Nickel Plated Aluminum Housing
- Available in 24V DC, 120V AC, 240V AC
- Strobe Light Allows For Optimized Illumination Without Interfering With Photosensitive Processes
- Includes CantyVision™ Software Standard For Analytics And Feedback
- Outputs - OPC, Modbus, Profibus or 4-20mA to a DCS or PLC
- Stainless steel reactor models are also available



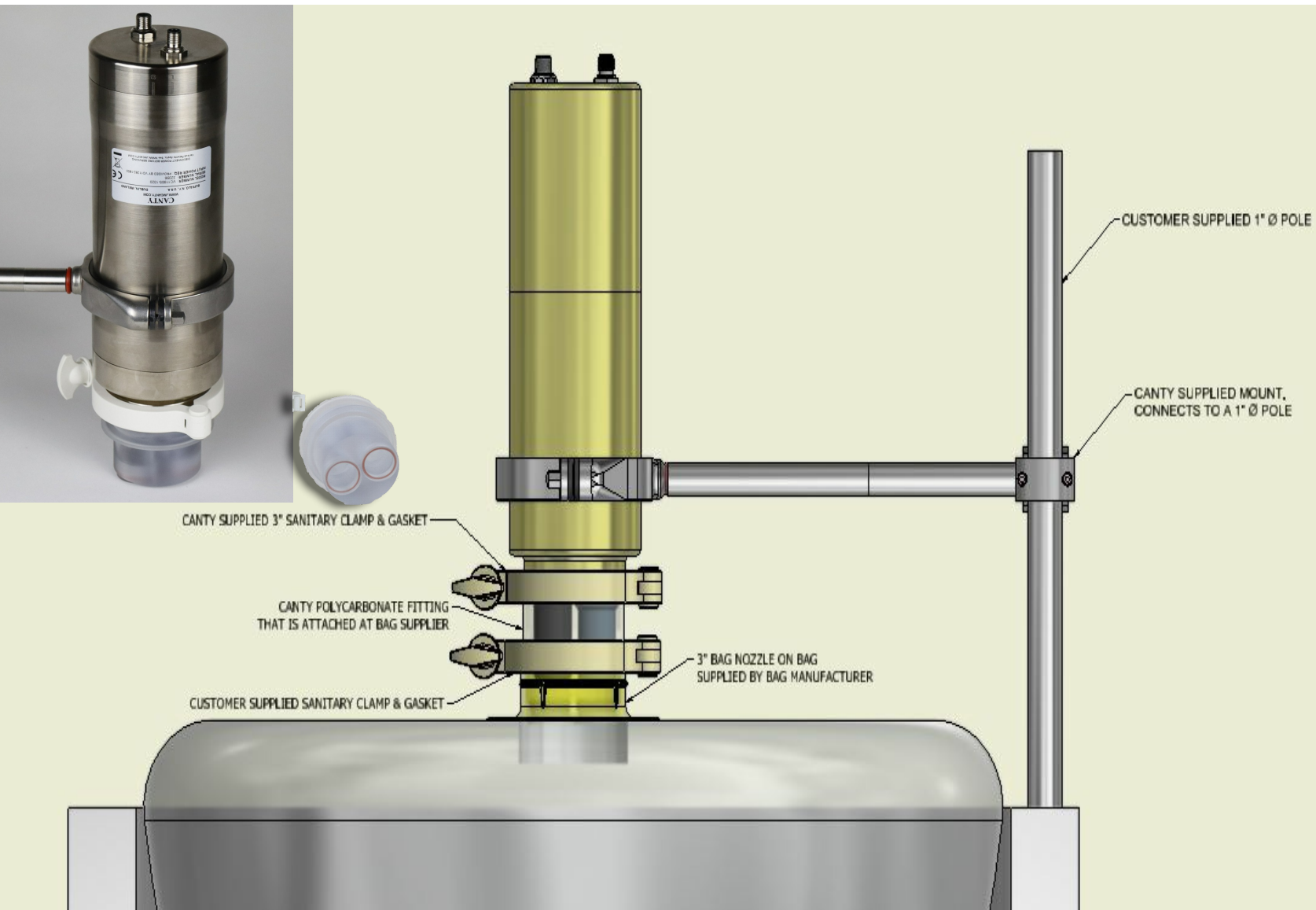
Sanitary Design

All models feature nickel plated aluminum construction and are NEMA 4x Weatherproof rated. The S.U.BioCam™ features a strobe LED light source and high speed Ethernet camera mounted on a pole supported externally from the single use bag. The design includes a bracket with a ball and socket for ease of mounting on a single use bag.

For More Information Click [Here](#)

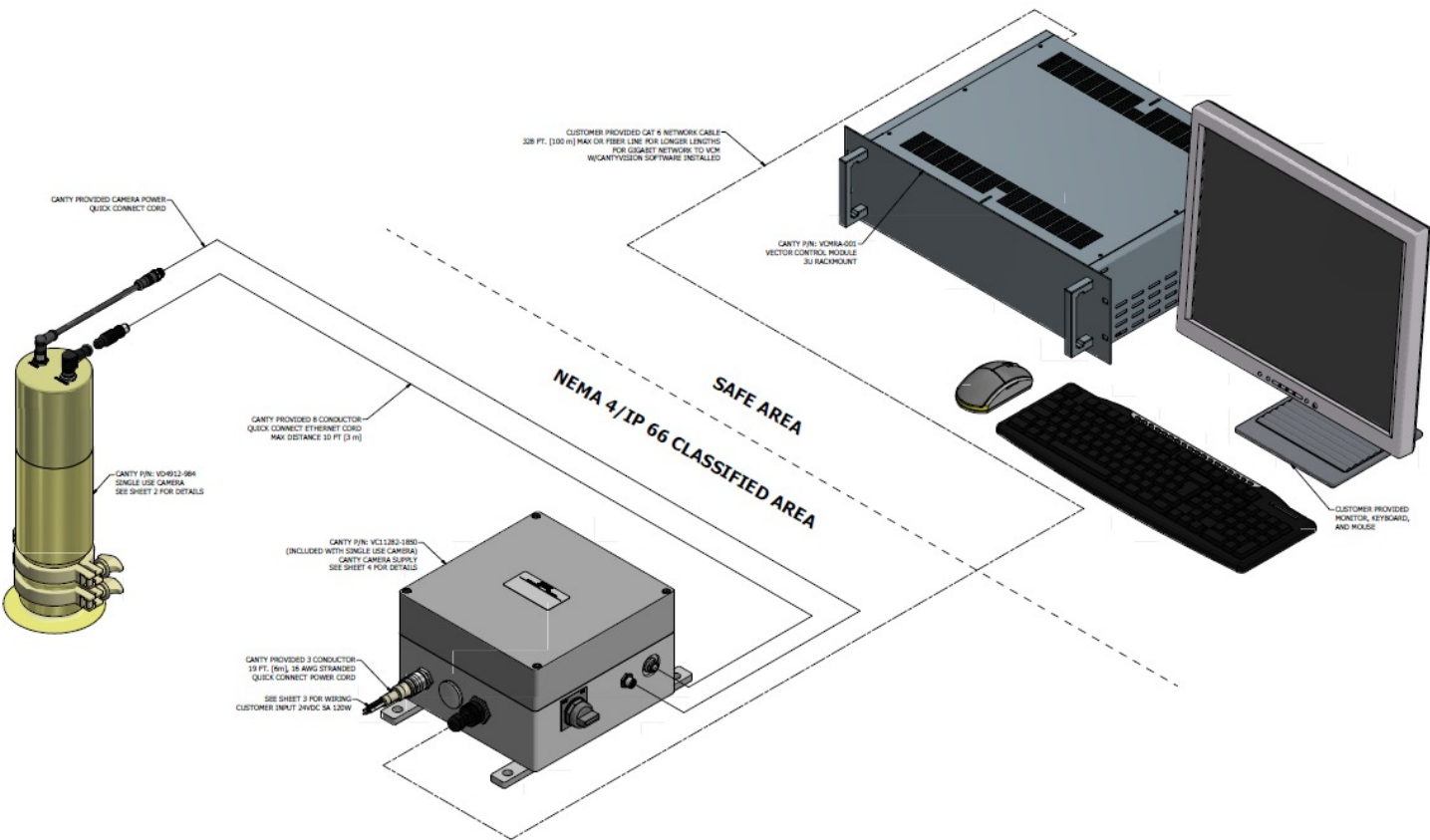
3" Mounting Detail:

Ideal Mounting location is in the center of the bag



- Light-weight, Nickel Plated Aluminum Camera & Light on one 3" Tri-Clamp Nozzle
- 1 Single Use Fittings
- Heaters inside light and camera combo to keep Single Use Fitting condensation free
- Rotational mount to allow for accommodation with bag

TYPICAL WIRING DIAGRAM



HOW TO ORDER

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

EXAMPLE:

SUB- L 2 1 1

MOUNTING CONNECTION

L - 3" (QTY 1 NEEDED)

POWER

2 - 24V DC
A - 120V AC, 60Hz
B - 230V AC, 50Hz

NUMBER OF CAMERAS

1 - ONE (1) CAMERA
2 - TWO (2) CAMERAS
3 - THREE (3) CAMERAS
4 - FOUR (4) CAMERAS
5 - FIVE (5) CAMERAS
6 - SIX (6) CAMERAS

VCM OPTION

1 - VCMEA-001* for use with up to six (6) cameras, 8-channel analog output.
3 - VCMLA-003* for use with one (1) camera, 8-channel analog output.
0 - No VCM, BioCam™ only to add to existing CANTY VCM setup.

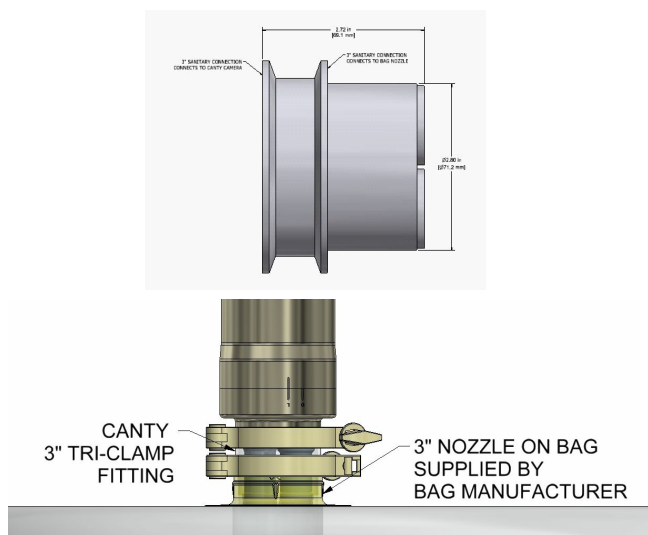
**For other VCM options, see datasheet TA11500-1034*

SINGLE USE FITTINGS INFORMATION

3" SINGLE USE SANITARY FITTINGS

FOR CANTY S.U.BIOCAM

(one fitting required per system)



The best way to order the fittings is through the bag manufacturer, this way the fitting will be sealed and gamma radiated all together.

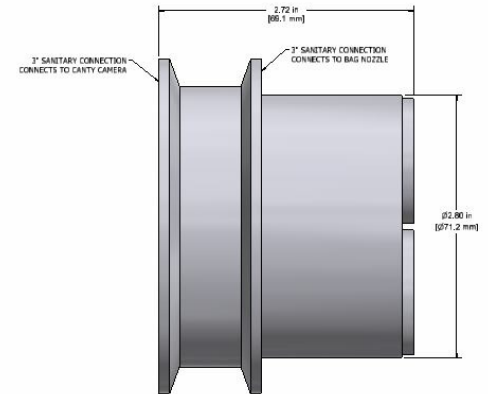
How to Order from Bag Manufacturer:

- Thermo Fisher: Part number SL20012.02 "CANTY 3 fitting"
- Cytivia: Request "the CANTY fitting" from your Cytiva sales representative
- Consult CANTY with questions

Single Use Fittings for the CANTY S.U.BIOCAM™ are disposable and seal on the bag to isolate the camera from the process. The fitting utilizes a tri-clamp connection for both camera and bag connections, and require a separate tri-clamp for each connection. The fittings are gamma radiated with the bag if you order it with the bag. CANTY does not gamma radiate; if you buy direct from CANTY it will require installation in a clean room which can be cumbersome with a Single Use Bioreactor bag. The fitting should be mounted as close to top center of the bag as possible; if choosing a different location consult CANTY to see how much of the bag will be seen.

SINGLE USE - TECHNICAL

SINGLE USE BAG OPTIONS	
Pre-Assembled	Use the CANTY system with pre-made bags from Thermo-Fisher® or GE®
Assembly Required	Buy material from CANTY but assemble under hood

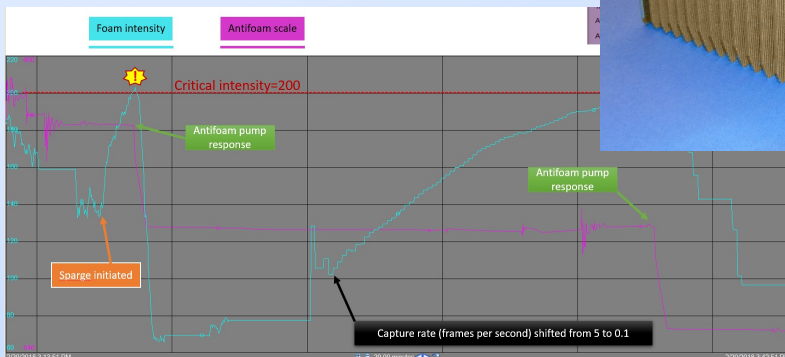
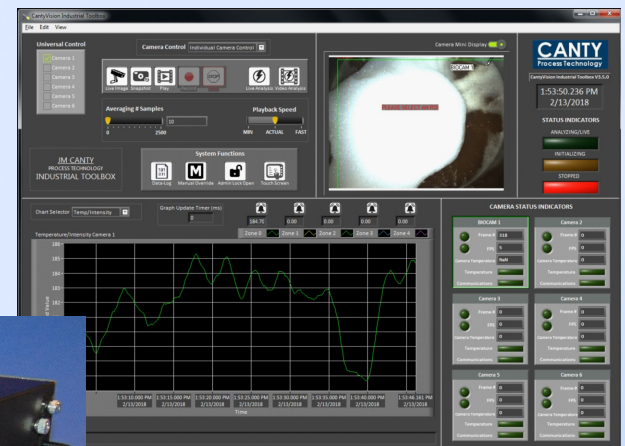


S.U.BIOCAM™ Single Use Fitting:

- Protects Camera & Light from Process
- Disposable
- 3" Tri-Clamps
 - Bag attachment
 - Camera/ Light attachment
- Single Use Fitting Material Options:
 - Generic Polycarbonate
 - Makrolon 2458®

VCM & CantyVision™ Software

The Vector Control Module (VCM) is a small solid state embedded processor that has CANTYVISION™ software pre-installed. It is designed to keep project costs low and to also eliminate the need for a computer. Since the VCM has analog outputs, there is no need for an additional analog output module purchase*. The operator screen makes it simple for operators to see what is going on real time with visual verification. The VCM has OPC or 4-20mA outputs to a PLC or DCS for complete control. The VCM comes with the ability to have full administration controlled passwords and permissions. Customers will need to provide a monitor or use an existing one. Each VCM comes with a wireless access point to allow connection to a LAN either wirelessly or wired by the Ethernet access port.



Features

- VCM - Vector Control Module
- 6 x Gigabyte Ethernet BioCam™ inputs
- 8 x 4-20 ma outputs
- OPC interface
- Modbus interface
- Remote support via user provided Internet connection, wifi or hotspot
- Solid state industrial processor

For More Information Click [Here](#)

ORDERING INFORMATION: VECTOR CONTROL MODULE

TECHNICAL INFORMATION

Visual Verification On Screen • Easy Command Prompt Module • Graphical & Numerical Analysis Output • Customizable Operator Screen



EXTREME PERFORMANCE

PART NUMBER	CAMERAS SUPPORTED	4-20 Ma OUTPUT, 8 CHANNEL
VCMEA-001	6 POEC or 6 NPOEC	✓
VCMEA-002	3 POEC or 4 NPOEC	✓
VCMEA-003	NO POEC, 2 NPOEC	✓
VCMEN-004	6 POEC or 6 NPOEC	
VCMEN-005	3 POEC or 4 NPOEC	
VCMEN-006	NO POEC, 2 NPOEC	

All EXTREME PERFORMANCE VCM's include: 1 LAN Connection

ADD-ON COMPONENTS

PART NUMBER	FEATURES
VCMAK-001	MONITOR, KEYBOARD & MOUSE KIT
VCMAK-002†	120V AC POWER SUPPLY
VCMAK-003†	230V AC POWER SUPPLY
VCMAK-004°	DIGITAL BREAKOUT BOARD (W/68 PIN CABLE)

POEC = Power Over Ethernet Camera. NPOEC = Non-power Over Ethernet Camera.

Please note: All cameras must be configured such that there is a direct connection between the camera and the VCM. All cameras cannot be ran through additional hardware such as a switch or hub. VCM's are compatible with Ethernet cables; for longer distances Canty has available for purchase fiber converters that are rated for a variety of environmental classifications. For more information on OPC see document TA10560-1.

**RACK MOUNT models are designed for non-industrial environments with air conditioning and clean, filtered air.*

†RACK MOUNT and LTE models are either 120V AC / 230V AC input and additional power supplies are N/A.

RACK MOUNT MODELS*

PART NUMBER	CAMERAS SUPPORTED	4-20 Ma OUTPUT, 8 CHANNEL
VCMRA-001	6 POEC or 6 NPOEC	✓
VCMRA-002	3 POEC or 4 NPOEC	✓
VCMRN-004	6 POEC or 6 NPOEC	
VCMRN-005	3 POEC or 4 NPOEC	

All RACK MOUNT VCM's include: 1 LAN Connection.

VCM LTE - NON-EXPANDABLE

PART NUMBER	CAMERAS SUPPORTED	4-20 Ma OUTPUT, 4 CHANNEL, DIN RAIL MOUNTED MODULE
VCMLA-003	2 POEC or 2 NPOEC	✓
VCMLN-006	3 POEC or 3 NPOEC	

NOT APPLICABLE FOR PARTICLE SIZING APPLICATIONS.

CONNECTIVITY

MODEL	HDMI	DISPLAY PORT	DVI
EXTREME PERFORMANCE		2	1
RACK MOUNT	1	1	1
VCM LTE		1	

For More Information Click [Here](#)

MULTI-USE VESSELS

How It Works

The CANTY BioCam™ is a process camera engineered and designed for sanitary applications. The BioCam™ combines the latest in LED lighting with Ethernet camera technology in a streamlined package. The camera utilizes built-in strobe LED light that has been optimized to run efficiently as to not obstruct photosensitive processes. The all-in-one design is both compact and sanitary and unlike its predecessors requires no additional external power supply for operation. A built in heater eliminates condensation from forming on the glass and provides for a clear image at all times. Coupled with the Cauty Vector Control Module, the BioCam™ can be used for full control via OPC or 4-20mA.

Foam Detection

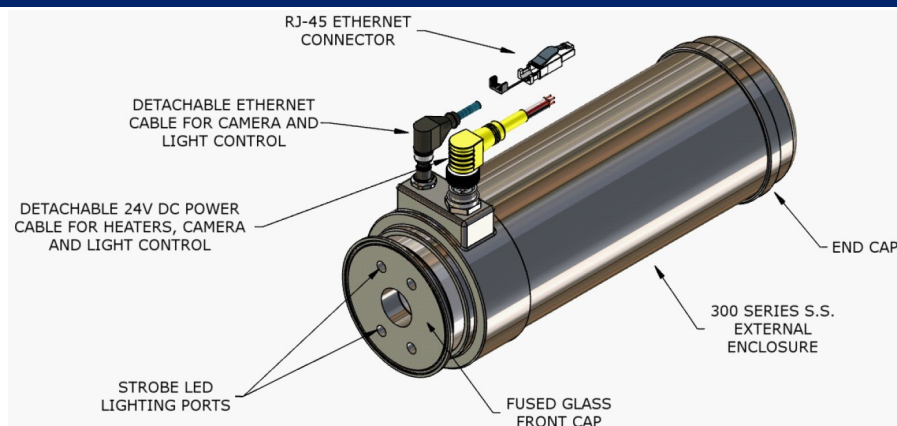
The CANTY BioCam™ is uniquely qualified to view inside your fermentors and bioreactors a continual control signal allowing the user to meter in antifoam. The BioCam™ is an imaging system which connects to the CANTY VCM™ image processor that determines foam on the surface of the liquid. The foam control function allows for significant improves process performance in cell culture growth and eliminates the need for fluids in purification.

Features

- Built in LED light source - maintenance free
- Compact all-in-one design
- Sanitary 316L S.S. Housing
- No external power supplies required
- Available in 24V DC, 120V AC, 240V AC
- Strobed light allows for optimized illumination interfering with photosensitive processes
- Built in heater to prevent fog and condensation
- System outputs via OPC or 4-20mA to a DCS or PLC complete, closed-loop control
- Ideal system for foam detection - Cauty Vector Module can output and control the addition of anti-
- Single use models also available



CONDENSATION-FREE



- Bioreactors and fermentors are known to be difficult to see inside if not impossible
- The issue is the heat of the process generates steam in the head space.
- CANTY's unique heated fused sight glass has overcome this problem by heating and controlling the temperature of the fused glass to closely match the process temperature thereby avoiding condensation which would make the sight glass useless.



Key Components

- Compact, sanitary, no additional external power supply for operation
- LED lighting
 - Built-in strobe
 - Does not obstruct photosensitive processes
- Ethernet camera technology
- Clear image at all times
 - Internal heater prevents condensation

CANTY Advantage

- BioCam™ only needs 1 nozzle!
- Light & camera are combined into one housing for accurate foam detection, reduction in space, and easy calibration
- Cost savings as we only need 1 nozzle for two pieces of equipment

For More Information Click [Here](#)

**CANTY'S GOAL IS TO PROVIDE EQUIPMENT TO ENHANCE PROCESS CONTROL
AND YIELD. WE ACCOMPLISH THIS BY DESIGNING, MANUFACTURING, AND
SERVICING THE FINEST EQUIPMENT IN THE WORLD.**

Some of Our Valued Customers:

ABBOTT LABORATORIES
ABBVIE
ALEXION PHARMACEUTICALS
ALLERGAN
AMGEN
ASTRAZENECA
BAXTER INTERNATIONAL
BAYER
BIOGEN
BRISTOL-MYERS SQUIBB
CELGENE
COVIDIEN
ELI LILLY & CO.
GILEAD SCIENCES

GLAXOSMITHKLINE
HUMAN GENOME
JOHNSON & JOHNSON
MALLINCKRODT
MEDIMMUNE
MERCK & CO.
NOVARTIS
NOVO NORDISK
PFIZER
REGENERON PHARMACEUTICALS
ROCHE
SANOFI
SHIRE PHARMACEUTICALS
TEVA PHARMACEUTICALS

AND YOU!!!



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