

SUGAR PROCESS LAYOUT

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.

CANTY

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MOUNTING CONNECTIONS



FLANGE CONNECTION

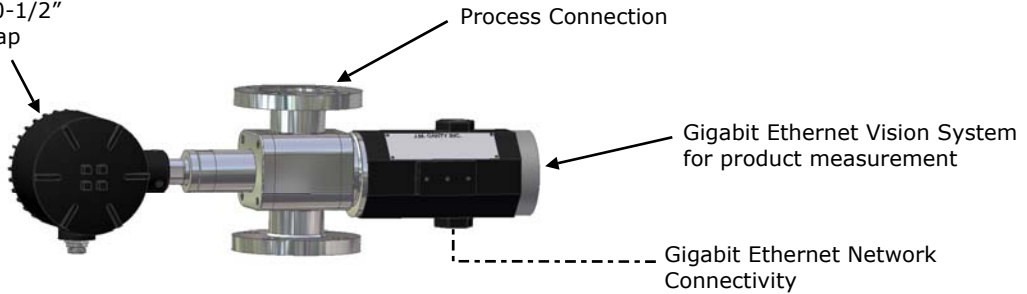
TRI-CLAMP® CONNECTION



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 N - NEOPRENE V - VITON® K - KALREZ® S - SILICONE C - CHEMREZ® E - EPDM																												
SYSTEM CLASSIFICATION <table border="1"> <thead> <tr> <th></th> <th>Turbidity</th> <th>Color Analysis</th> <th>Percent Solids</th> </tr> </thead> <tbody> <tr> <td>1 -</td> <td>Standard</td> <td>Standard</td> <td>Standard</td> </tr> <tr> <td>2 -</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 -</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 -</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5 -</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6 -</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Turbidity	Color Analysis	Percent Solids	1 -	Standard	Standard	Standard	2 -				3 -				4 -				5 -				6 -				ENVIRONMENTAL RATING 1 - NEMA 4 WEATHERPROOF 2 - IP 66 3 - EXPLOSION PROOF 4 - FLAME PROOF
	Turbidity	Color Analysis	Percent Solids																										
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2 -																													
3 -																													
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5 -																													
6 -																													
CONNECTION TYPE A - Tri Clamp® B - Swagelok® C - Flange (ANSI/DIN) D - Tube Diameter 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>	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	NON-WETTED METAL MATERIAL(PRESSURE BEARING) 0 - Carbon Steel 1 - 316L Stainless Steel																												

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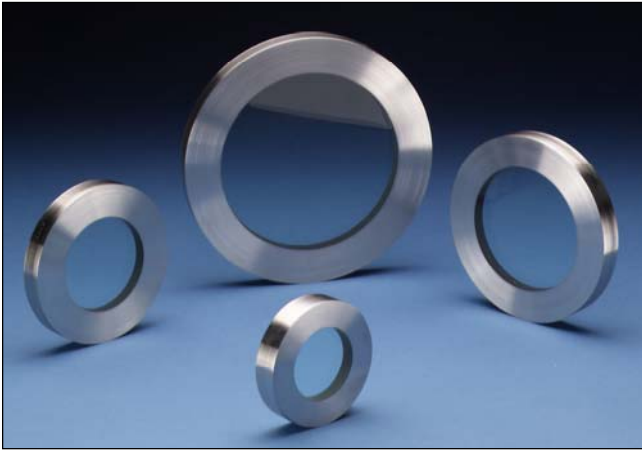
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PROCESS TECHNOLOGY

FUSEVIEW™ ANSI/DIN SIGHT GLASS



THE CANTY ADVANTAGE

J.M. Canty Fuseview™ sight glasses have been engineered to meet all your process and safety needs. All standard Fuseviews™ feature Factory Mutual approval and were designed and tested to ensure the safest product available. Canty can provide certification of material and testing if required, typical of ASME code requirements for process vessels.

UNMATCHED SAFETY, RELIABILITY

All Canty sight glasses feature the Fuseview™ window. Our unique fused glass windows far exceed all conventional tempered glass windows in safety and performance. By fusing glass to metal, a high pressure, high safety, hermetic seal is formed. The fused glass technology ensures safety with every Fuseview™. What's more, our windows can easily be removed for cleaning. Canty windows do not have to be discarded, as do traditional tempered glass windows. Canty fused glass windows can be re-used again and again.

ADVANTAGES OF THE FUSEVIEW™

- Standard models feature FM approval
- Extremely high strength due to radial compression on the hermetically sealed glass
- Eliminates chance of catastrophic failure due to bolt-up
- Very high impact strength and thermal shock resistance due to prestressing
- Operates under positive or negative pressure

FEATURES

- Stainless, carbon, Alloy C, Hastelloy® C276 or equal, and Hastelloy® C-22® or equal fusing rings
- 150# through 2500#, 10 bar through 40 bar models
- Special pressures through 10,000 PSI are available
- Standard temperatures to 650°F 343°C , specials to 2000°F
- Specials available to retrofit any existing sight glass
- Quartz and Sapphire shields for caustic service
- Glass wetted models for glass lined vessels

CANTY FUSEVIEW™ VS METALGLASS

- Largest view in the Industry. When you order a 4" window you get a 4" view
- Fuseviews™ are made with excellent corrosion resistant high nickel Alloy C, Hastelloy® C276 or equal, C-22® or equal, not duplex stainless steels.
- Boro Plus™ fused glass is superior to other glass with ideal optical and fusing properties. It readily fuses to steel making a one piece hermetically sealed window capable of high pressures and temperatures.
- Ideal properties of metal and glass provides true fusion of glass to metal. This provides a stronger safer fuse that will not crack during installation or operation like borosilicate and duplex stainless steels.
- Superior impact, thermal shock, and pressure resistance from the use of optimum materials and the

CANTY FUSEVIEW™ VS OTHERS

- No bolt loading on glass. All the load is carried by the fusing ring so you can use whatever torque you need as specified by the gasket manufacturer and your process.
- The Fuseview™ allows the use of standard process gasketing. No special gaskets are required.
- Canty Fuseviews™ may be removed for cleaning and inspection. This is not allowed with ordinary glass, due to residual stresses incurred at bolt-up.
- No loss of glass temper over time
- Scratches do not affect safety or life.
- Unlike tempered glass, a Fuseview™ will not blow out if the surface is damaged.
- No shims, packing, or adjusting screws
- Canty mounts to standard ANSI or DIN dimensions

UNIQUE OPTIONS

- Dual fused glass for high temperature applications
- Lighting - Flex bundle light eliminates a second nozzle
- Canty Jet spray ring for cleaning or cooling

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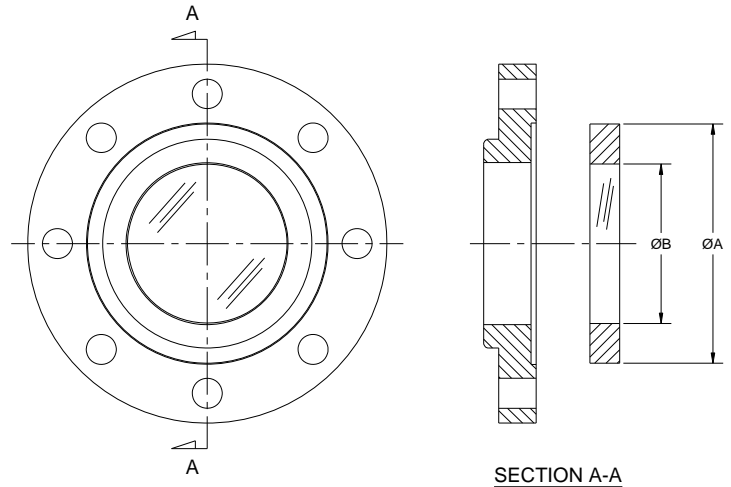
Document P/N: TA7652-1 Rev 6

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FUSEVIEW™ SIGHT GLASS SPECIFICATIONS

ANSI Dimensions

SIZE	A	VIEW B	PRESSURE RATING PSI	TEMP RATING °F
1"	2.00"	1.13"	150/300/600	450
1.5"	3.00"	1.50"	150/300/600	450
2"	3.62"	2.13"	150/300/600	450
2.5"	4.00"	2.50"	150/300/600	450
3"	5.00"	3.00"	150/300/600	450
3.5"	5.50"	3.50"	150/300/600	450
4"	6.00"	4.00"	150/300/600	450
5"	7.50"	5.00"	150/300/600	450
6"	8.37"	6.00"	150/300/600	450
8"	10.50"	8.00"	150/300	400
10"	12.00"	9.50"	50/150	300



DIN Dimensions

SIZE mm	A mm	VIEW B mm	PRESSURE RATING BAR	TEMP RATING °C
25	68	38	10/16/25/40	232
32	76	38	10/16/25/40	232
40	88	51	10/16/25/40	232
50	92	54	10/16/25/40	232
65	122	76	10/16/25/40	232
80	127	76	10/16/25/40	232
100	152	102	10/16/25/40	232
125	191	127	10/16/25/40	232
150	213	152	10/16/25/40	232
200	267	203	10/16	204
250	305	241	10	150



Retrofit Cartridge Dimensions

SIZE	A	VIEW B	PRESSURE RATING PSI	TEMP RATING °F
2"	3.00"	2.00"	150/300/600	450
2.5"	4.50"	2.50"	150/300/600	450
3"	4.80"	3.00"	150/300/600	450
4"	5.90"	4.00"	150/300/600	450
4.5"	6.50"	4.50"	150/300/600	450
4.5"	6.75"	4.50"	150/300/600	450
4.5"	6.89"	4.50"	150/300/600	450
4.5"	7.00"	4.50"	150/300/600	450
5.6"	7.87"	5.60"	150/300	450
7.0"	9.50"	7.00"	150/300	400
7.3"	9.81"	7.30"	150/300	400

Ordering Information

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

EXAMPLE:

S1 — — — **1** — — — **A0**

PRESSURE:

- A 150 PSI 1 10 BAR
- B 300 PSI 2 16 BAR
- D 600 PSI 3 40 BAR

SIZE:

ANSI	DIN	Retrofit (No retainer only)
B 1.0"	X 25mm	D 2.0" x 3.0"
C 1.5"	Y 32mm	G 2.5" x 4.5"
E 2.0"	Z 40mm	9 3.0" x 4.8"
F 2.5"	1 50mm	K 4.0" x 5.9"
H 3.0"	2 65mm	L 4.5" x 6.5"
J 4.0"	3 80mm	M 4.5" x 6.75"
P 5.0"	4 100mm	N 4.5" x 6.89"
R 6.0"	5 125mm	O 4.5" x 7.0"
V 8.0"	6 150mm	S 7.0" x 9.5"
W 10.0"	7 200mm	T 7.3" x 9.81"
	8 250mm	

RETAINER MATERIAL: (non-wetted)

- 0 No flange
- 1 Carbon Steel
- 2 316L Stainless Steel

FINISH: (wetted) (non-wetted 32 in .81 m Ra)

- 0 32 in .81 m Ra (standard)
- B 20 in .51 m Ra (BPE-SF1)
- C 15 in .38 m Ra
- L 20 in .51 m Ra Electropolished (BPE-SF5)
- M 15 in .38 m Ra Electropolished (BPE-SF4)

FUSEVIEW™ MATERIAL: (wetted)

- A Carbon Steel
- B 316L Stainless Steel
- C Alloy C
- D Hastelloy® C276 or equal
- E Hastelloy® C22® or equal

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* Cauty reserves the right to upgrade to Hastelloy® C-family of alloys or equal at their own cost.

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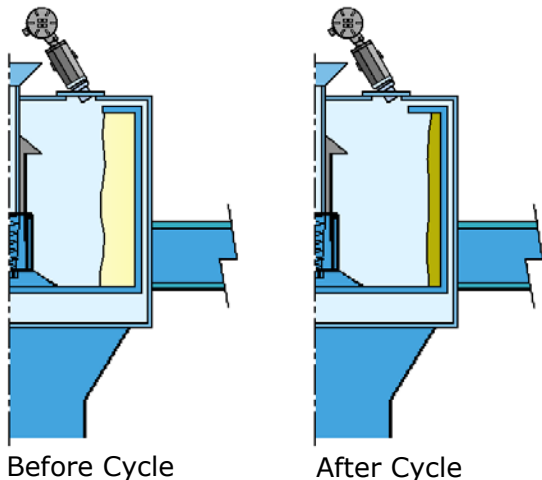
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CANTY

PROCESS TECHNOLOGY

CENTRIFUGE CAMERA CONTROL

BASKET / PEELER STYLE

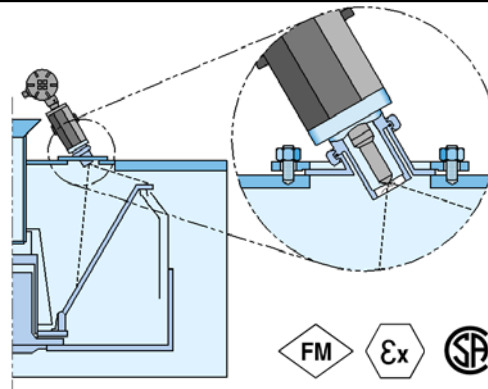


The Canty Camera / Light combination is Tri-clamp® mounted on to the existing light or sight port of the centrifuge to allow continuous internal viewing from the control room. In the control room, the Vector™ image processing computer will analyze this view and provide a 4-20mA output of fill level, filtering level, and a separate cake (solids) detection signal. The level control allows for consistent batching to the centrifuge. The cake detection 4-20mA output signal provides for immediate detection of solids, which prevent the cake from cracking. This means higher product yield due to fewer washes, and ultimately better product quality.

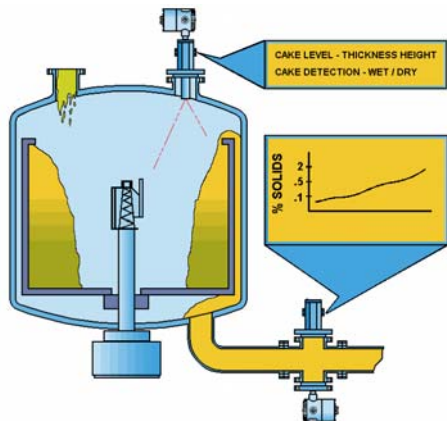
CONTINUOUS / PUSHER STYLE

The Canty Camera / Light combination is used to view and control the color line on this type of centrifuge. This avoids operator error, optimizes recovery, and minimizes washing liquid by providing a 4-20mA output signal to continually control the color line.

In addition, a second reading off the Canty Vector™ System can be used to control the surface color of the product.



DECANTER / INVERTED BASKET STYLE



The Canty Camera / Light combination views the liquid concentrate discharge from the centrifuge to determine color, solids and broken particulate, and provides the 4-20mA output required for continuous control.

In addition, cake dryness can be determined if looking at the loss of liquid flow.

Cleaning is provided by a separate spray-tube.

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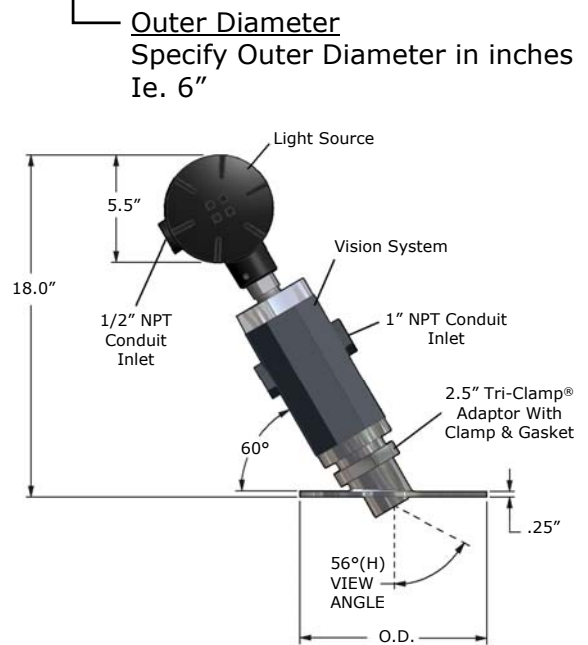
Ordering Information

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

Basket / Peeler Style

CBB1100-6OD

<u>Wetted Material</u> _____	
B	316 Stainless Steel
D	Hastelloy® C276
<u>Camera / Light options</u> _____	
1	1SRDO (Toroidal light with dimmer)
2	1SDO (Standard light with dimmer)
3	Remote flex bundle lighting (72" TYP.)
<u>Environmental Rating</u> _____	
1	Explosion Proof (120V)
2	Flame Proof (240V)
3	WP (120V)
4	IP (240V)
<u>Video Output</u> _____	
0	EIA U.S. B&W Format
1	CCIR Euro B&W Format
2	NTSC U.S. Color Format
3	PAL Euro Colour Format
4	Ethernet, US Format
5	Ethernet, Euro Format
<u>Spraytube</u> _____	
0	None
1	Spraytube



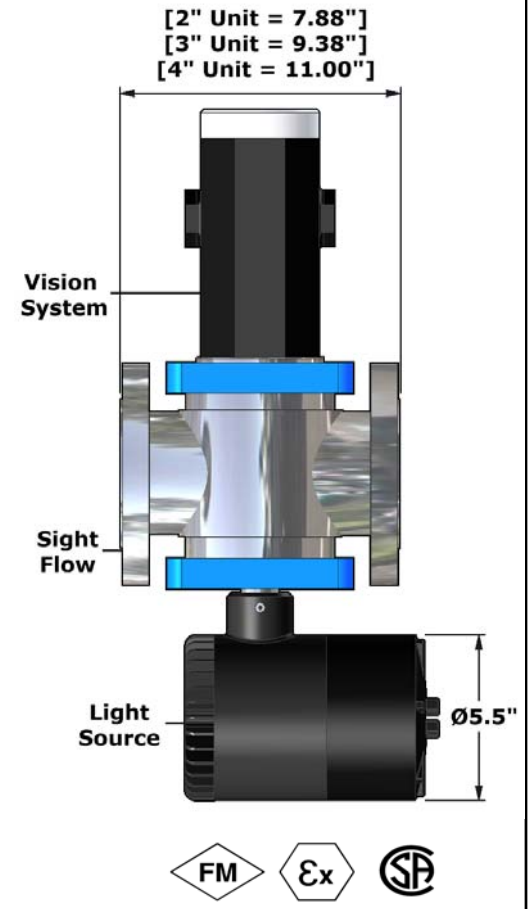
Continuous / Pusher Style

Same part number structure as above. Consult factory if alternate mounting angle is required.

Decanter / Inverted Basket Style (Sightflow mount)

CDD13010B

<u>Wetted Material</u> _____	
B	316 Stainless Steel
D	Hastelloy® C276
<u>Mounting options</u> _____	
1	Flanged
2	Tri-Clamp®
<u>Size</u> _____	
2	2" (only in Flange Mount)
3	3"
4	4"
<u>Video Output</u> _____	
0	EIA U.S. B&W Format
1	CCIR Euro B&W Format
2	NTSC U.S. Color Format
3	PAL Euro Colour Format
4	Ethernet, US Format
5	Ethernet, Euro Format
<u>Environmental Rating</u> _____	
1	Explosion Proof (120V)
2	Flame Proof (240V)
3	WP (120V)
4	IP (240V)
<u>Spray Ring</u> _____	
0	None
1	Spray Ring
<u>Gasket Material</u> _____	
B	Buna
V	Viton®



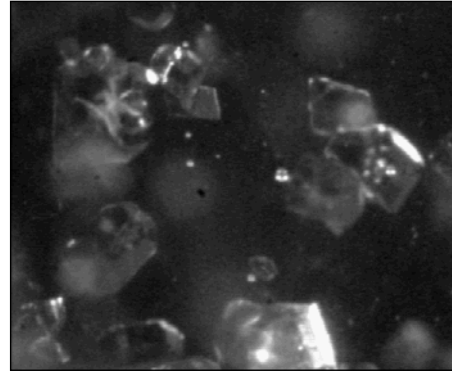
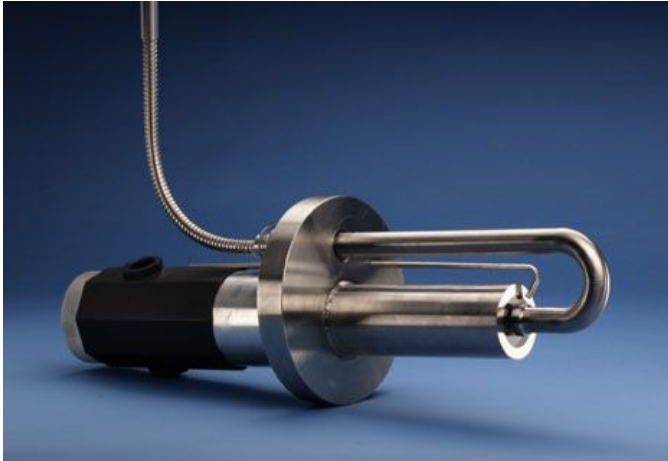
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PROCESS TECHNOLOGY

SUGARSCOPE™ PARTICLE SIZING SYSTEM



CANTY ADVANTAGE

The CANTY SUGARSCOPE™ is a high speed video system that captures and displays live video images of sugar crystals in a sugar pan under process conditions for blur-free, flicker-free process monitoring. The SUGARSCOPE™ features a unique, high magnification lens that views particles as small as 1 micron, manual zoom controls to widen the view angle to 1000 microns. No sampling is required - the process is continually monitored under pressure and temperature.

FEATURES

- Remotely view sugar growth from the comforts of a control room
- Fused Glass, High Pressure / Temperature Seal From process
- High resolution CCD cameras - available in Ethernet Output, B&W and Color
- NEMA 4 / IP66 Rated / Explosion Proof / Flame Proof
- 1 - 1000 micron crystals
- Adjustable Magnification Microscopic Zoom Lens
- Single Nozzle viewing/illuminating
- Cauty Vision Client software comes standard with Ethernet version for particle size analysis
- Output options- OPC, 4-20mA

PARTICLE SIZING

- Crystal Distribution By Major, Minor Diameter, Area, Perimeter Available with Vector System.
- Crystal Size & Shape
- Crystal Count
- Density Of Crystals
- Detection Of Seeding Problems
- Automated Temperature & Vacuum Controls During Crystal Growth
- Increased Efficiency During Filtration

APPLICATIONS

- Crystallizers
- Fermentation Applications - Optical Density/Cell Count
- Mining-Flotation Cells and Thickener Tanks
- Web Inspection
- Fiber-Glass or Polymer Diameter

SPECIFICATIONS

Video Format:	Gigabit Ethernet, EIA, CCIR, NTSC, and PAL
Shutter Speed:	Variable up to 10 micro Seconds
Ambient Temp:	-30° to 50°C
Input Power:	120V AC 60Hz or 230V AC 50Hz
Cable:	Cat6 Ethernet (Ethernet Models) or RG59/U, 75Ω coaxial cable suitable CCTV applications (Analog)
Environmental Ratings:	NEMA 4, IP66, EXP, FP

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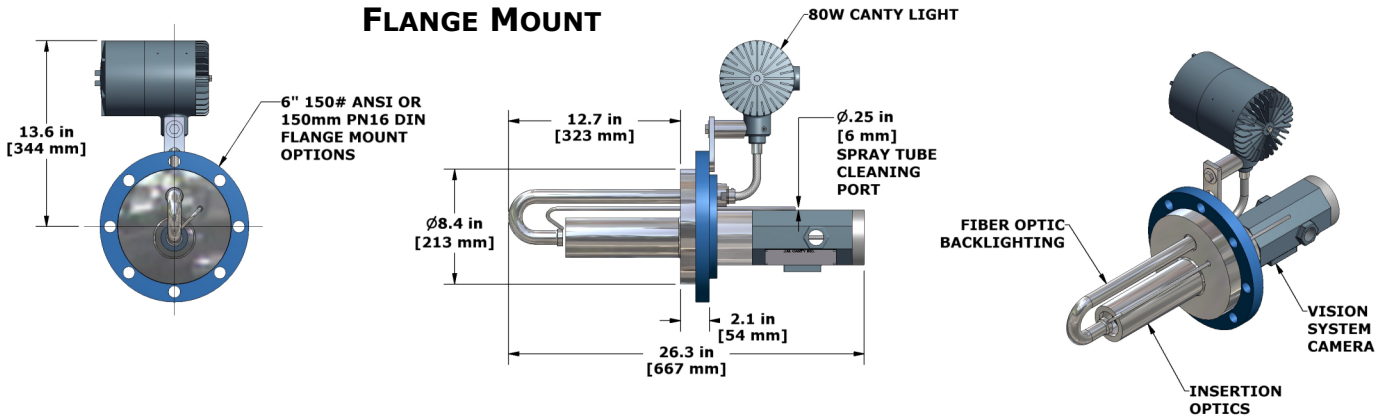
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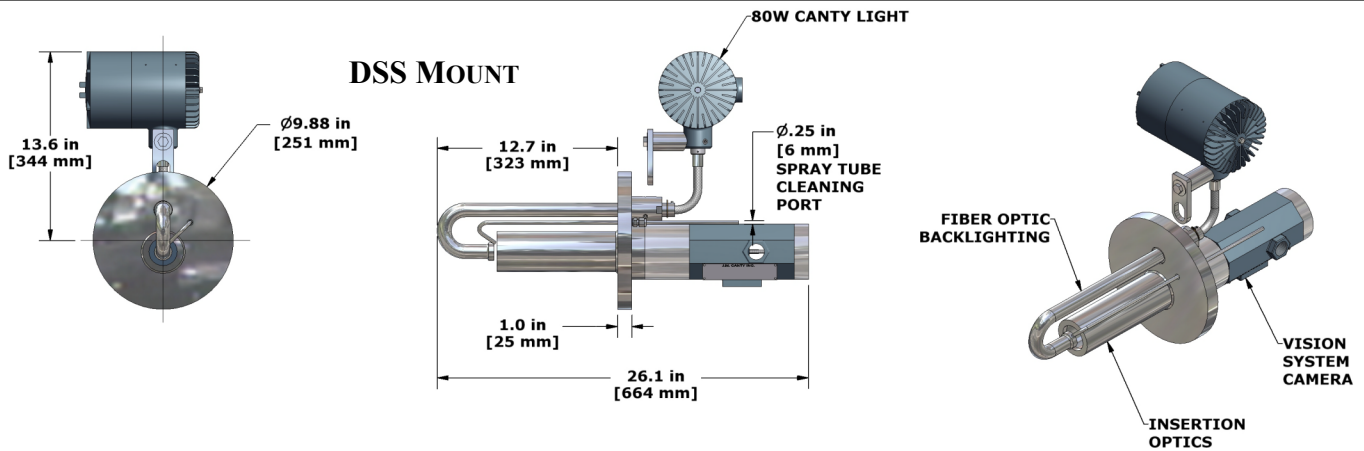
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DIMENSIONAL INFORMATION

FLANGE MOUNT



DSS MOUNT



Ordering Information

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

EXAMPLE:

SUG - 6 F 1 A 1 V

CONNECTION TYPE	
6 -	6" 150# ANSI
7 -	150mm 16BAR DIN
D -	DSS Mount

VIDEO SYSTEM FORMAT	
A -	EIA (U.S. B&W) 640 X 480
B -	NTSC (U.S. Color) 640x480
C -	CCIR (European B&W) 768x576
D -	PAL (European Color) 768x576
E -	Ethernet (Color) 650x490
F -	Ethernet (B&W) 650x490
G -	Gigabit Ethernet (Color) 1600x1200
H -	Gigabit Ethernet (B&W) 1600x1200

ENVIRONMENTAL RATING	
1 -	NEMA 4 Weatherproof
2 -	IP 66
3 -	Explosion Proof (U.S. 120V)
4 -	Flame Proof (Europe 230V)

O-RING MATERIAL	
V -	Viton®
B -	Buna
E -	EPDM
S -	Silicone
N -	NEOPRENE
K -	Kalrez®
C -	Chemraz®

WETTED METAL MATERIAL	
1 -	316L Stainless Steel
2 -	Hastelloy® C276 or equal
3 -	Hastelloy® C-22® or equal

INPUT POWER	
A -	120 V AC / 60Hz
B -	230 V AC / 50Hz

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