

Data Sheet

J. M. CANTY CAMERA SYSTEMS



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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 in a connection as small as a 2" connection. The Ethernet video output can be displayed on a computer in the comforts of a control room, or recorded on any DVR or hard drive. Various software capabilities are available to allow for control and alarm options.

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. Recording and control options are available. Cameras can be easily integrated with CantyVision™ software 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 ATEX approvals on various models. World wide approvals!
- 10,000 PSI ratings are available
- Up to 2000° F capabilities
- 2" NPT, 2" flange and larger, 3" 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 (Consult factory additional temperature needs)
Current Req.:	500 mA typical
Cable:	Cat6 Ethernet (Ethernet Models), RG 59/U 75Ω coaxial cable Suitable CCTV applications analog)
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

- 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
- Various output options - 4-20mA output module available, output via OPC.

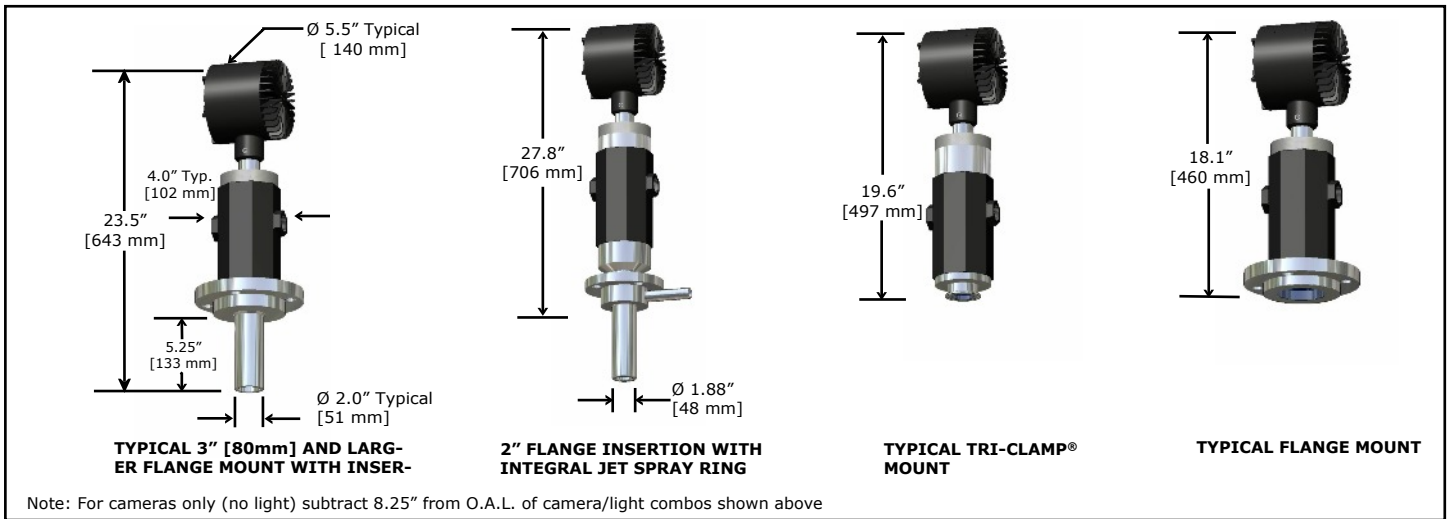
CANTY

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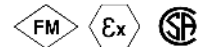
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Ordering Information

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



EXAMPLE:

V 6 E 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
 E - Ethernet Video color camera
 (Note: Please contact CANTY for analog video options)

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
 Q - 80 mm DIN flange
 S - 80 mm DIN flange, 5.25" insertion
 T - 2" ANSI flange, 5.25" insertion w/integral spray ring
 U - 4" Tri-Clamp®
 3 - 3" Tri-Clamp®
 5 - 6" ANSI flange, 5.25" insertion

*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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Data Sheet

J. M. CANTY PROCESS CAMERA

Centrifuge



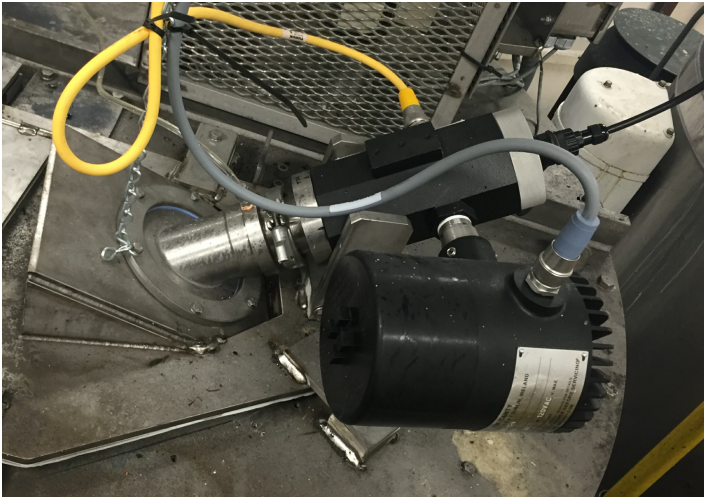
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PROCESS TECHNOLOGY

PROCESS CAMERA - CENTRIFUGE



CLARIFIER

The Cauty Centrifuge Camera is an excellent tool for controlling a batch or continuous centrifuge to determine when the cake has been completely washed.

THE CANTY ADVANTAGE

The Cauty 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 or OPC 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 or OPC 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.

The Cauty Camera / Light combination is used to view and control the color line on continuous centrifuge. This avoids operator error, optimizes recovery, and minimizes washing liquid by providing a 4-20mA or OPC output signal to continually control the color line. In addition, a second reading off the CANTYVISION™ System can be used to control the surface color of the product.

Being imaged based operators can visually verify what is actually occurring with the centrifuge. Video recording is an option for later analysis.

FEATURES

- Centrifuge Fill Control
- Color Line Control
- Cake Detection
- Real Time Analysis
- Easy To Use For Operators
- Multiple Sizes Available
- Eliminate Errors Associated With Paddle or Laser Fill Control
- Visual Verification
- Data Can Be Stored With Images Or Video
- All Data Is Stored On Excel Or In A Database For Later Use And Easy Storage
- Settings Used For Each Sample Can Be Saved So System Setup Is Repeatable
- **SELF CLEANING UNLIKE LASERS**

APPLICATIONS

- Batch Centrifuge
- Continuous Centrifuge
- Replaces Existing Laser Units

BENEFITS

- Minimize Washing
- Eliminate Wasting Good Product
- **Liquid Color Change Does Not Effect Results**
- Record Video For Later Analysis
- Optional Save Video & Images If Needed
- LED Lighting

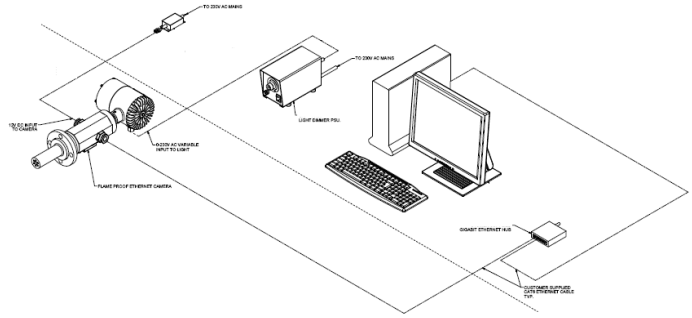
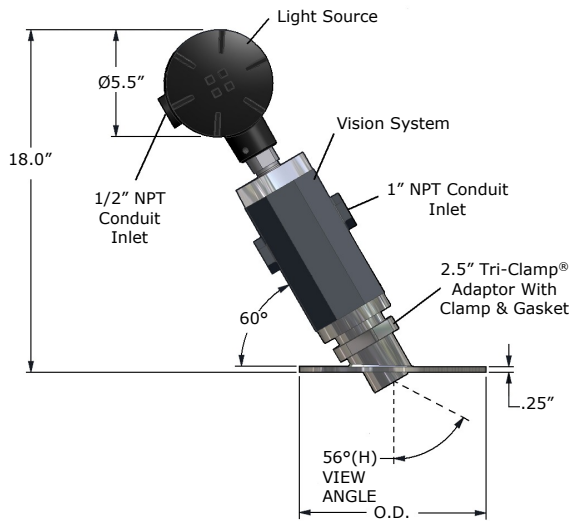
SPECIFICATIONS

- Power: 120 VAC / 60 Hz (230 VAC / 50 Hz)
- Ethernet Camera Resolution

ANALYSIS WITH CANTYVISION

- CautyVision™ System Can Measure And Control Your Process Parameters
- Camera Systems Use A live Video Data
- CautyVision™ Can Perform Level Control / Color Line / Cake Detection
- Microsoft Windows Based Operating System
- Ethernet OPC or 4-20 mA Devices

MOUNTING CONNECTIONS



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.
 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.

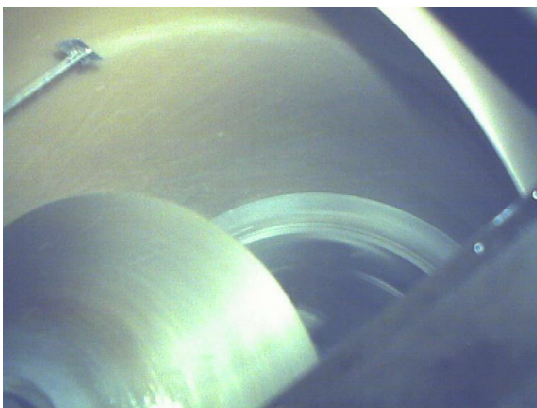
Ordering Information

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

EXAMPLE:

CBB1100-60D

WETTED MATERIAL B - 316 Stainless Steel D - Hastelloy® C276	INTERNAL SEAL MATERIAL 60D - Specify Outer Diameter in inches Ie. 6"
CAMERA & LIGHT OPTIONS 1 - 1SRDO (Toroidal light with dimmer) 2 - 1SDO (Standard light with dimmer) 3 - Remote flex bundle lighting (72" TYP.)	
ENVIRONMENTAL RATING 1 - EXPLOSION PROOF (120V) 2 - FLAME PROOF (240V) 3 - NEMA 4 WEATHERPROOF (120V) 4 - IP 66 (240V)	SPRAYTUBE 0 - NONE 1 - SPRAY TUBE 2 - SPRAY RING
	VIDEO OUTPUT 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



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Data Sheet

J. M. CANTY SPRAY DRYER

Monitoring System



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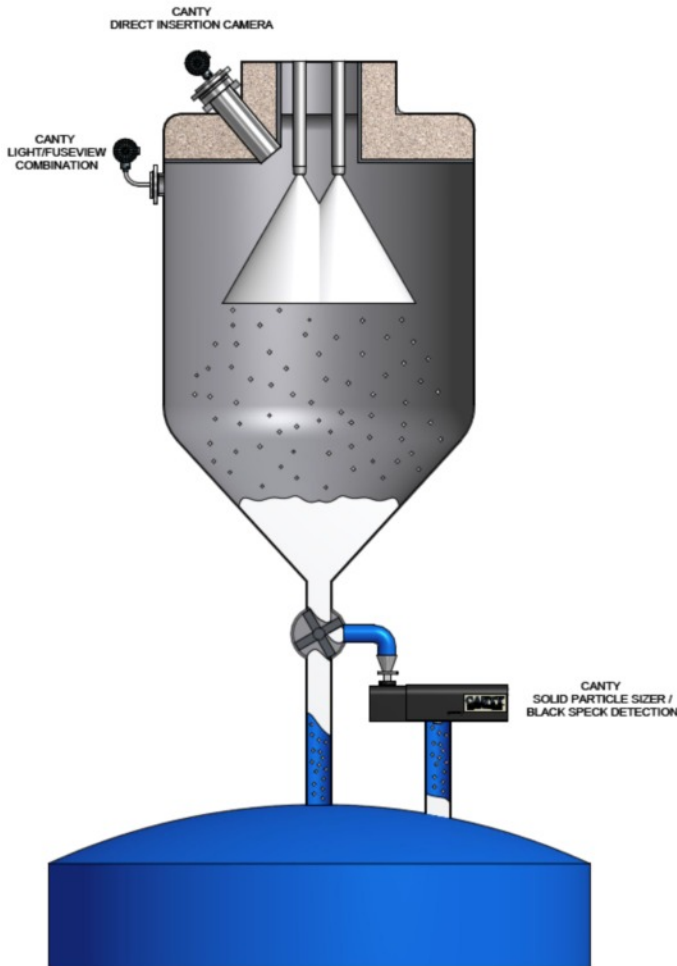
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CANTY

PROCESS TECHNOLOGY

SPRAY DRYER MONITORING SYSTEM

SPRAY DRYER MONITORING



APPLICATIONS

- Dairy Powders
- Pharmaceutical Powders
- Tablet Coaters

MOUNTING CONNECTIONS

- Flanged
- Tri-Clamp®
- Dairy Fittings

SPRAY DRYER MONITORING

Canty Spray Dryer Monitoring Systems are vision based, industrial camera / light combinations used to view spray nozzle patterns in real time. This allows operators to see changes in the profile of the spray pattern, and detect clogging before it becomes a problem. Operators can easily view for product build-up before there is a chance for fire.

This Vision System can be automated by the Canty Vector™ Image Processor to measure the size and shape of the spray pattern profile. Alarms can then be sent to the control system if nozzles clog or the spray pattern changes.

PARTICLE SIZE MEASUREMENT

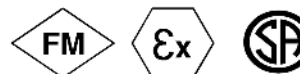
The Canty Solid Sizer™ and Vector™ System can be used simultaneously with the spray nozzle monitoring system to determine the final product size. Particles ranging from .002" to .24" (50 micron - 6mm) are analyzed using 2 dimension imaging software for true size and shape information.

Results can be sent to the control system, allowing pressure adjustments to be made automatically.

A full particle size distribution can be obtained or just critical measuring points. All results can be saved to a file for a historical record.

FEATURES

- Fiber Optic "Cold" Light Means No Product Bake-On
- Fused Glass Interface
- Multiplexing Video Inputs
- World Wide Approvals to FM, CSA, and ATEX
- Single Nozzle Viewing / Illuminating
- Remote Dimmer
- Spray Rings Available For Cleaning
- Multiple Outputs Such As 4-20mA, Or TCP/IP Interfaces Can Be Used



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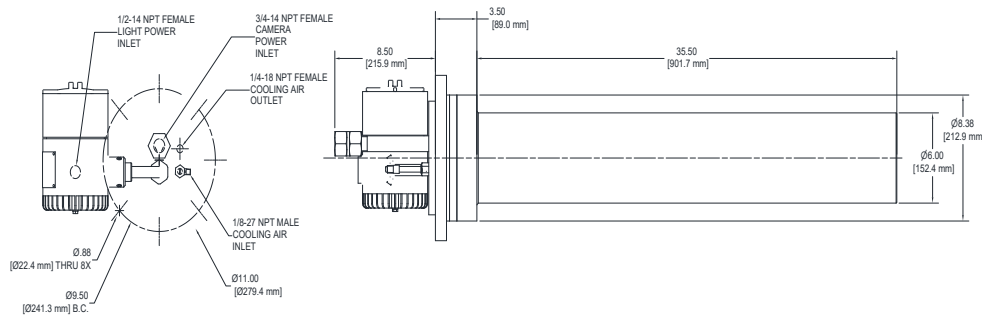
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Ordering Information



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

EXAMPLE:

V6B21B61J - 18INS - CT-ST

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)
- 3 - 69° (H) x 53° (V)
- 6 - 41° (H) x 31° (V)

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

MAINTENANCE OPTIONS

- CT - ST - Cooling Tube, Spray Tube (insertion lengths > 18")

INSERTION LENGTHS

- 18INS - 18" [457mm] Insertion
- 24INS - 24" [610mm] Insertion
- 36INS - 36" [914mm] Insertion

LIGHT OPTIONS

- J - HYL 80 1SRDO (120 V)
- G - HYL 80 1SRDO (240 V)
- A - HYL 80 1SDO (120 V)
- N - Camera only - will not accept an integral light
- 0 - Combo w/ 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

- 6 - 6" ANSI flange
- 8 - 8" ANSI flange
- 10 - 10" ANSI flange
- T - 8" Tri-clamp®
- S - 80FL16S- 80mm DIN flange (Consult factory for additional sizes and ratings.)

* Cauty Reserves the right to upgrade to Hastelloy®, at their cost



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