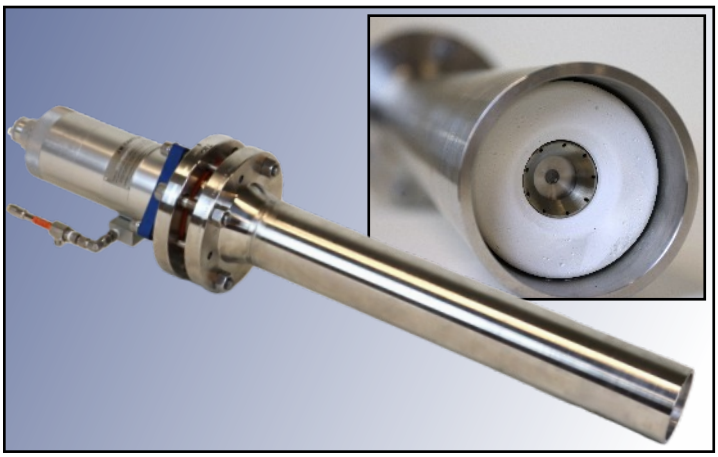
CANTY

PROCESS TECHNOLOGY

HTC- HIGH TEMPERATURE CERAMIC CAMERA



One of the first steps in polymer and plastic production is "cracking" light hydrocarbon gases. This takes place in a cracking furnace where the gas, mixed with steam, passes through the furnace tubes to heat to 750°-950°C, before rapid quenching (all takes place in milliseconds). The single greatest cause of component failure is overheating tubes, which not only is a process issue, but a safety issue.

THE CANTY ADVANTAGE

The CANTY HT Ceramic Camera is a vision-based camera system used with CantyVision™ to monitor temperature of the tubes inside an ethylene furnace. The CantyVision™ software accurately measures temperature as well as bend in the tube for complete control. In comparison to thermocouples, which are costly, not reliable, and monitor only one tube, a camera system can monitor multiple tubes at the same time. CantyVision™ software can output an alarm if the tube has increased in temperature over a certain time to an operator screen, PLC, or DCS for closed loop control. Steam can be introduced to clean the tube and avoid plugging and then switch back to production. The pyrometer is not effective for controlling the temperature in the furnace due to the time intervals in between analysis taken. Also, not everyone measures at the same point which could lead to a change in temperature when a change never occurred. To calibrate the system the pyrometer can be used initially. If the temperature in the tubes increase over 10°C over 10 minutes, a plug has a chance to take place. With the UltraTemp™ this event can be avoided completely.

FEATURES

- Temperature control
- Visual verification
- One camera for multiple tube monitoring
- Real-time analysis
- Jet spray ring for cleaning
- Up to 3' insertion available
- Wall mounted so operators do not handle
- More cost effective than thermocouples
- Eliminate errors associated with pyrometers
- Ethernet Gigabit camera
- 1 degree accuracy
- Data can be stored locally on a CSV or output to a customer control system / historian.
- **SAFEST OPTION FOR OPERATORS**

APPLICATIONS

- Ethylene Furnace
- Hydrogen Reformer
- Reheat Boiler
- Prereformer
- Millisecond Furnace
- Hydrogen Cracker
- Hydrocracking
- Kiln

BENEFITS

- Easy Calibration
- Continuous Output
- Reading Independent Of Emissivity
- Optional Save Video & Images If Needed
- **REDUCE DOWN TIME**
- **INCREASE YIELD**

SPECIFICATIONS

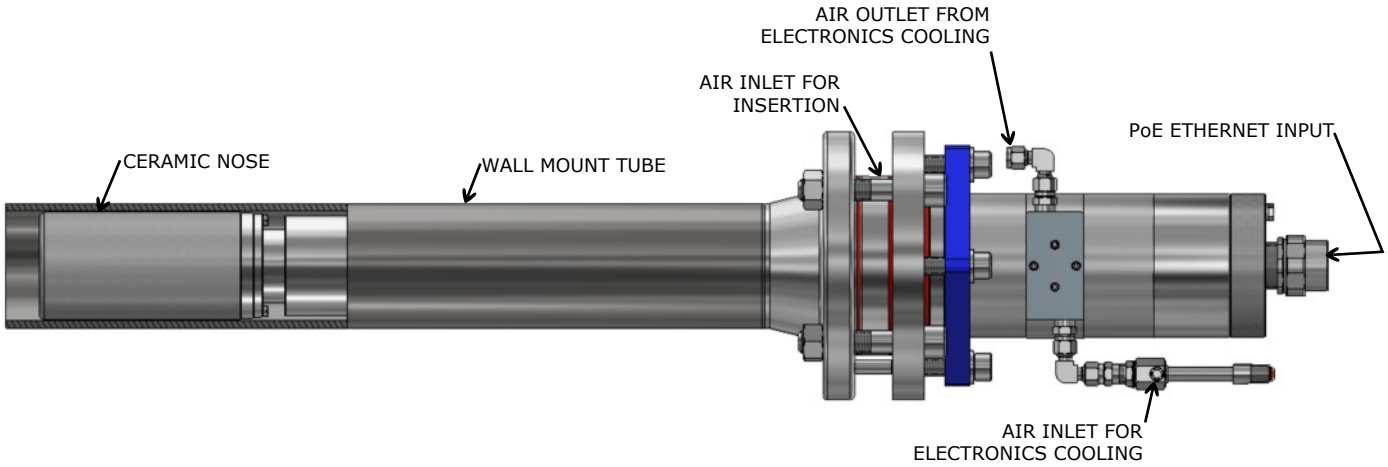
- 120V AC / 60 Hz
- 230V AC / 50 Hz
- 24V DC
- PoE - Power Over Ethernet

ANALYSIS WITH CANTYVISION

- CantyVision™ System can measure and control your process parameters
- Microsoft Windows based operating system
- Ethernet OPC or 4-20 mA devices

CANTY JM Canty Inc | Buffalo, NY USA | Ph: (716) 625 4227 | Fax: (716) 625 4228
JM Canty Intl Ltd | Dublin, Ireland | Ph: + 353 (01) 882 9621 | Fax: +353 (01) 882 9622
www.jmcanty.com
Document P/N: TA11500-1113_R1

MOUNTING CONNECTION



- For all insertion lengths, customer must provide a 3.5" [89 mm] diameter mounting hole to weld Canty supplied mounting tube to furnace.
- Layout drawings and additional insertion lengths available. Consult factory.

Ordering Information

HOW TO ORDER: Select the appropriate characters to build the part number:

HTC-5 E D K Y Q 1 1 1

ENVIRONMENTAL RATING	
3 -	Explosion Proof (North America)
4 -	Flame Proof (Europe)
5 -	**NEMA 4 Weather Proof / IP66**

VIEW ANGLE	
B -	30 x 22
C -	45 x 34
D -	**65 x 49**

CAMERA TEMPERATURE AFFECTED MATERIAL*	
J -	600 series Inconel For <2,200°F / 1200°C Wall temp
D -	C276 For <1,900°F / 1050°C Wall temp
K -	**310S S.S. For <1,900°F / 1050°C Wall temp**

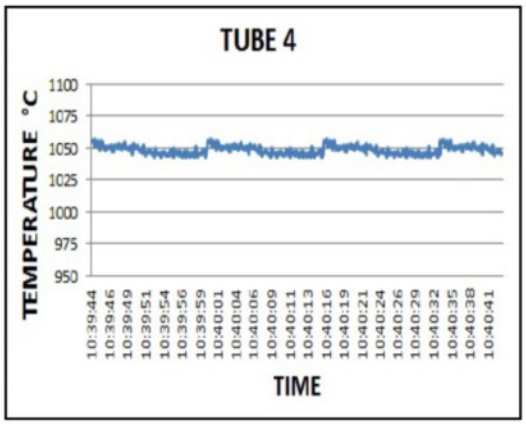
WALL MOUNT TUBE	
1 -	**Standard tube included**
2 -	Embedded tube included
3 -	No Tube - Provided separately by furnace manufacturer

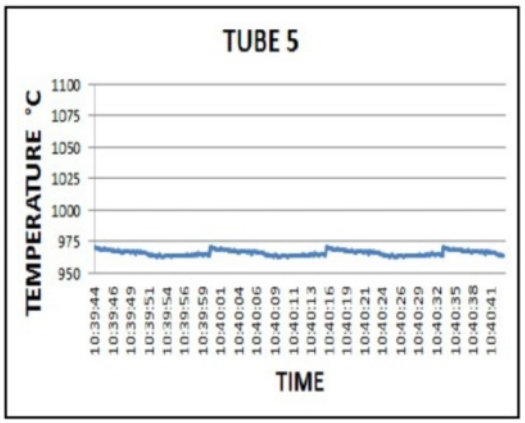
SHIELD MATERIAL	
Q -	**Quartz**
R -	Sapphire

INSERTION LENGTH	
Y -	**24" [610 mm] Insertion**
Z -	36" [914 mm] Insertion

NOTES:
1) See Datasheet TA11500-1029 for optional air prep systems. Select the appropriate configuration based on the available airstream.
2) Temperature Rating at lens 1600°F and Furnace Operating 2500°F
3) Mounting Connection 3" 150# ANSI Flange Mount
* 4) All wall mount tubes are 310S S.S. except Hastelloy C276 option material. For option J, the tube must be the embedded type selected from the wall-mount tube options.

TUBE 4 IS PLUGGED!!!





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