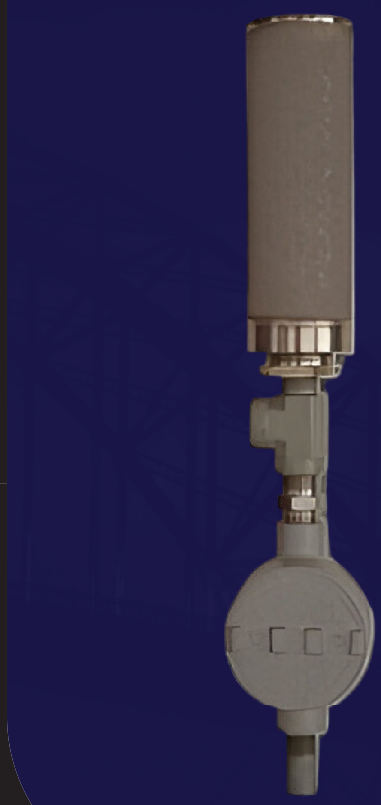
SMITH ANALYTICAL

TRACERASE® CONTROL PANEL



Over the last two decades, the process analyzer industry has relied on the use of the Tracerase® produced by Trace Technologies, LLC to manage the destruction of hydrocarbons from low-pressure vents. In 2023, Smith Analytical, LLC conducted testing of the Tracerase® to determine the actual hourly BTU throughput. This testing was conducted because there were various published claims regarding the hourly BTU throughput ranging from 750 to 2,000 BTU per hour. During testing of the Tracerase® on various samples containing 100% Methane, to a mix of Ethane, Ethylene, Propane and Propylene, it was determined that the catalytic technology employed in the Tracerase® did not achieve the stated efficiency of 99.9% at any of the BTU throughputs published. A complete report on the testing is available from Smith Analytical, LLC at **https://smithanalytical.com/products/.**

The published data for the Tracerase® states that the addition of air (oxygen) for the proper operation of the device is not required. However, during performance testing, it was determined that the only way for the Tracerase® to meet the stated efficiency is for a precise amount of air to be added before the gas to be converted is introduced into the device. The quantity of air to be added is application dependent and a function of the hydrocarbon gas to be converted into CO2 and water vapor.

Due to our extensive testing of the Tracerase®, Smith Analytical understands the requirements for the catalytic device to operate as designed. Key to the proper performance of the catalytic device is the addition of the patent-pending Smith Analytical control panel to ensure the vent gas is properly converted. In addition to monitoring the combustion gas flow, the air flow, and providing for the proper mixing of the combustion gas-air before it is introduced into the Tracerase®, the control panel also ensures the vent gas header the combustion gas flows from remains at a constant pressure at or near atmospheric pressure. The standard control panel can accommodate up to four (4) Tracerase® units. Additional gas channels for systems requiring more than four (4) Tracerase® devices can be provided. An added feature to the design is the containment cap for the Tracerase®. The cap allows for sampling of the Tracerase® from grade via a portable Total Hydrocarbon analyzer to ensure the catalyst is operating at the required destruction efficiency. The employment of the testing cap will be vital if and when these devices are included in the EPA Leak Detection and Repair (LDAR) program. From test data, it is now understood that the testing cap also helps the catalytic device maintain the proper temperature to ensure the highest possible destruction efficiency.

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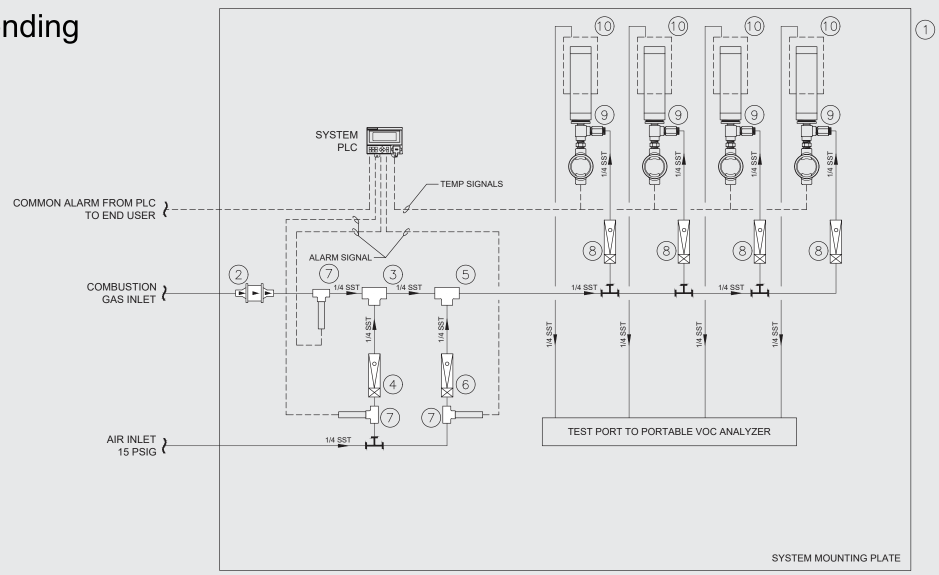
TRACERASE® CONTROL PANEL

US Patent Pending
63/655,894



BILL OF MATERIALS
1. MOUNTING PLATE
2. FLAME ARRESTER
3. ASPIRATOR
4. ASPIRATOR AIR FLOW METER
5. MIXING TEE
6. SUPPLEMENTAL AIR FLOW METER
7. FCL FLOW SWITCH W/ LOW AND HIGH FLOW ALARM SETTING
8. AIR-COMBUSTION GAS FLOW METERS
TO CATALYTIC COMBUSTION DEVICE (MTI OR KECO)
9. COMBUSTION DEVICES (MTI OR KECO)
10. SMITH ANALYTICAL TESTING CAP

REFERENCE
PRINT ONLY

PO#				CLIENT ADDRESS2 ADDRESS2			
VPO							
REF. : MTI_TES							
ENG. SHS	DATE 1/21/24	CHK. SHS	DATE 1/23/24	TITLE 3000 BTU PER HOUR CONTROL PANEL SCHEMATIC DETAIL & BOM			
DRN. RMC	DATE 1/22/24	APP. SHS	DATE 1/23/24				
DWG. MTI_TES_1001				SIZE B	SCALE NTS	SH.	1

REVISION DESCRIPTION	ISSUED	DATE	REV.
ISSUED FOR REFERENCE	RMC	6/25/24	R
ALL DIMENSIONS IN INCHES IF IN DOUBT, ASK.	JOB# N/A		

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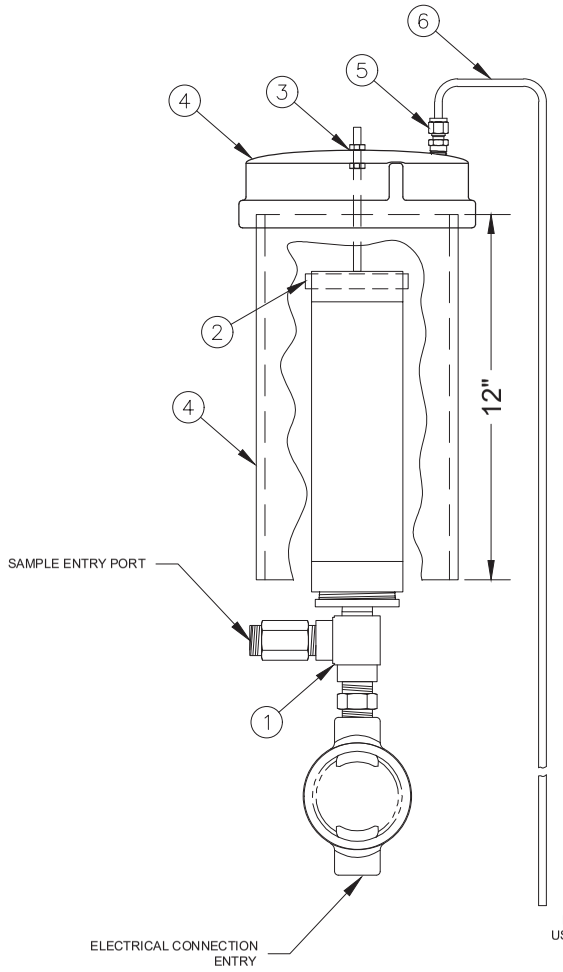
BILL OF MATERIALS

1. CATALYTIC DEVICE (MTI OR KECO)
2. TEST CAP MOUNTING CLAMP TO TOP 3" OF DEVICE.
3. TEST CAP BASE WITH THREADED POST FOR SUPPORT OVER DEVICE.
4. 6" DIA X 12"L 316SS PIPE & CAP INSTALLED OVER TOP 3" SECTION OF CATALYTIC DEVICE.
5. 1/4"Tx 1/4" NPT 316SS TUBING FITTING.
6. 1/4" SAMPLE LINE FOR PORTABLE VOC ANALYZER.

TESTING SHALL BE AT GRADE.



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ISSUED FOR REFERENCE	RMC	8/1/24	R	
REVISION DESCRIPTION	ISSUED	DATE	REV.	
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VPO
REF. : MTI_TES

ENG.	DATE	CHK.	DATE
SHS	1/21/24	SHS	1/23/24
DRN.	DATE	APP.	DATE
RMC	1/22/24	SHS	1/23/24

CLIENT
ADDRESS2
ADDRESS2

TITLE: DEVICE TEST CAP DETAIL & BOM

DWG. MTI_TES_1002 | SIZE B | SCALE NTS | SH. 1

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