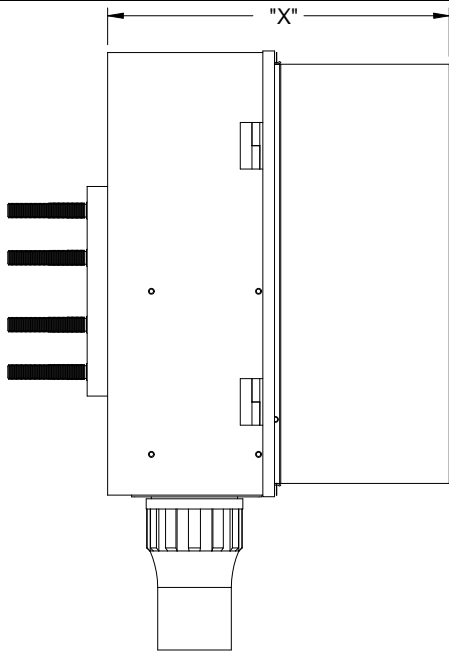
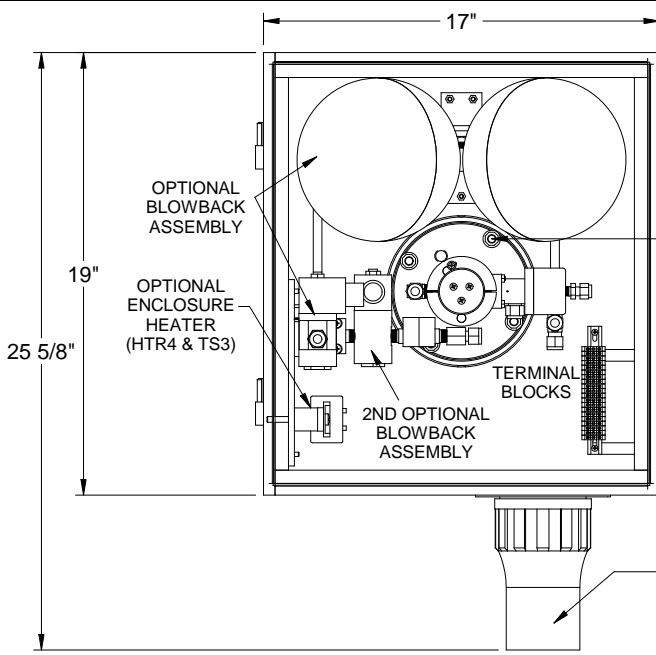


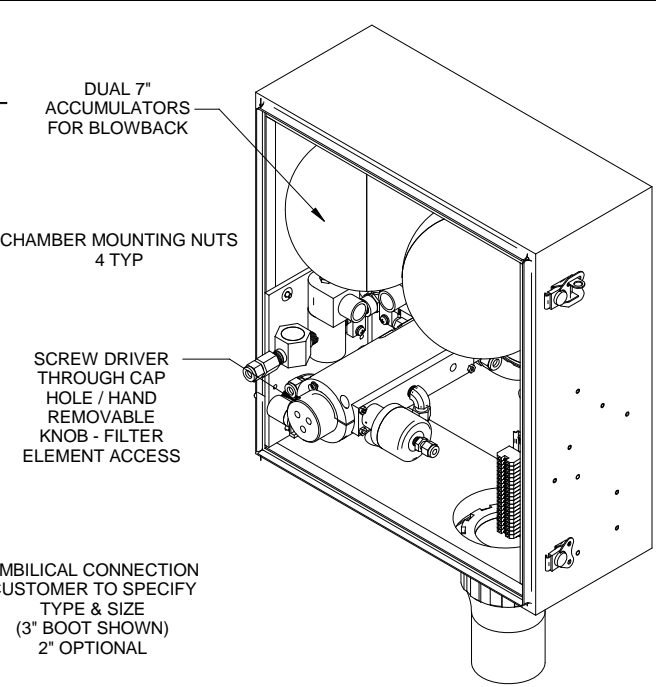
8 | 7 | 6 | 5 | 4 | 3 | 2 | 1



LEFT SIDE

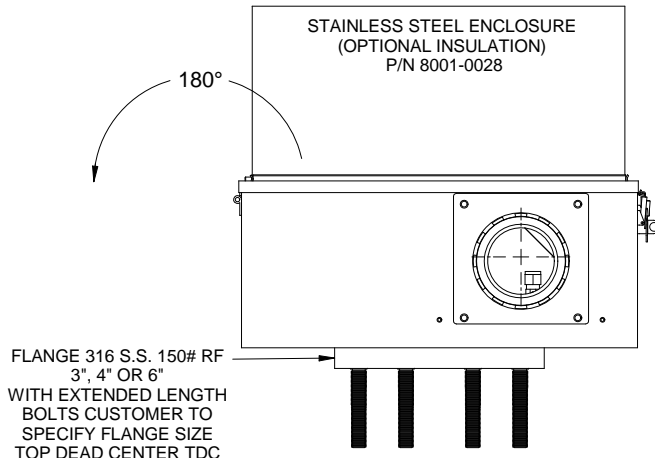


FRONT INTERIOR VIEW



"X" DIMENSION
14 5/8" W/OUT OPTIONAL CHAMBER ISOLATION VALVE
17 3/16" W/OPTIONAL CHAMBER ISOLATION VALVE

- NOTES:
- 1). ARRANGEMENT MAY VARY ACCORDING TO GOOD ENGINEERING AND ASSEMBLY PRACTICES.
  - 2). SEE SHEET 2 FOR STACK FILTER CHAMBER ASSEMBLY.
  - 3). SEE SHEET 3 FOR STACK FILTER CHAMBER REMOVAL AND INSTALLATION & DOOR ACTION AND REMOVAL ILLUSTRATIONS.
  - 4). SEE SHEETS 4, 5, 6, & 7 FOR P&ID.
  - 5). SEE SHEET 8 FOR STACK FILTER HEATER CONTROL SCHEMES.
  - 6). SEE SHEET 9 FOR BLOWBACK & SAMPLE ISOLATION CONTROL SCHEMES.
  - 7). SEE SHEET 10 FOR ENCLOSURE HEATER CONTROL SCHEMES.



BOTTOM VIEW

FLANGE 316 S.S. 150# RF  
3", 4" OR 6"  
WITH EXTENDED LENGTH  
BOLTS CUSTOMER TO  
SPECIFY FLANGE SIZE  
TOP DEAD CENTER TDC  
FLANGE MOUNTING  
OPTION AVAILABLE

DUAL 7" ACCUMULATORS FOR BLOWBACK

CHAMBER MOUNTING NUTS 4 TYP

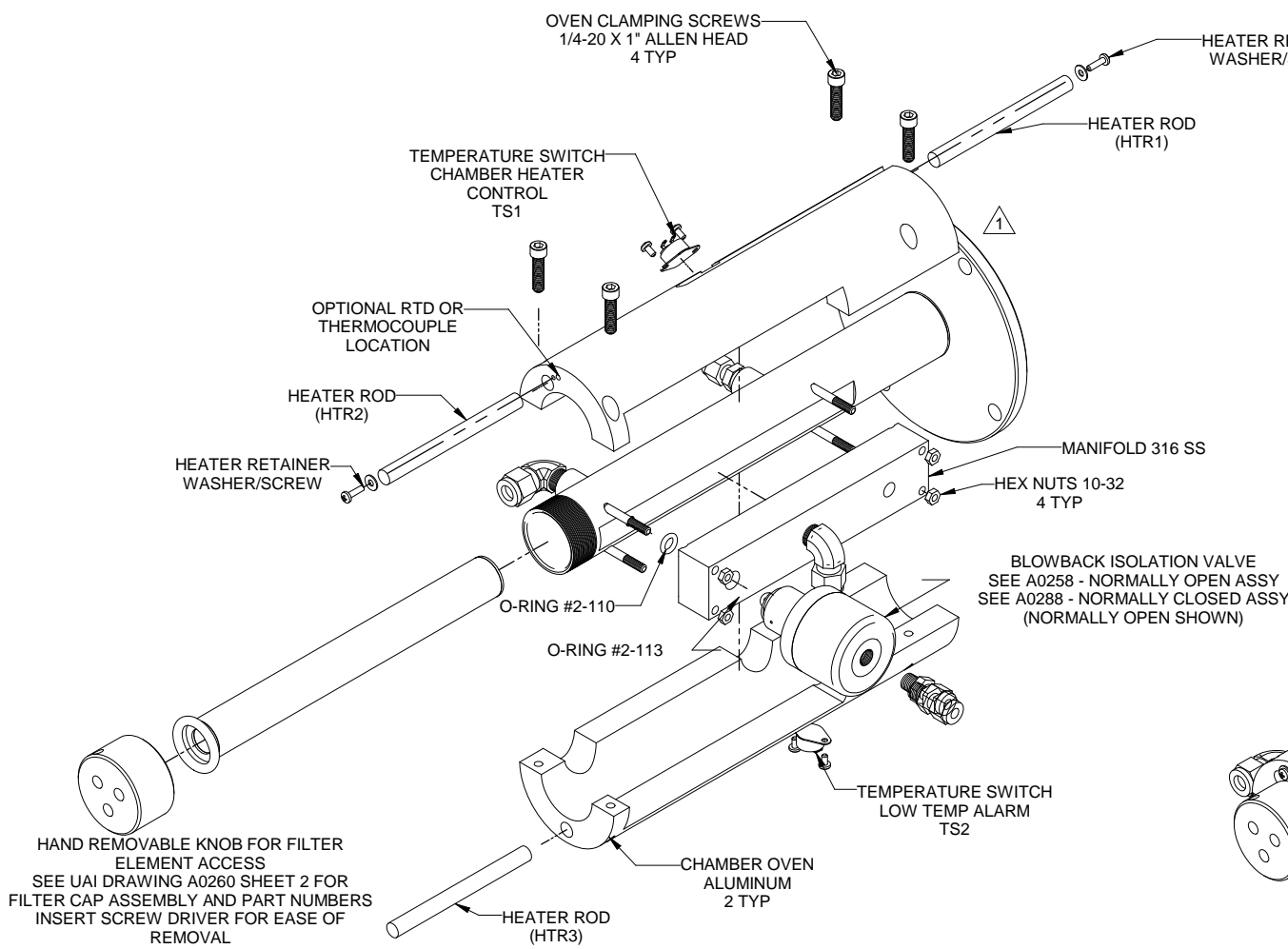
SCREW DRIVER THROUGH CAP HOLE / HAND REMOVABLE KNOB - FILTER ELEMENT ACCESS

UMBILICAL CONNECTION CUSTOMER TO SPECIFY TYPE & SIZE (3" BOOT SHOWN) 2" OPTIONAL

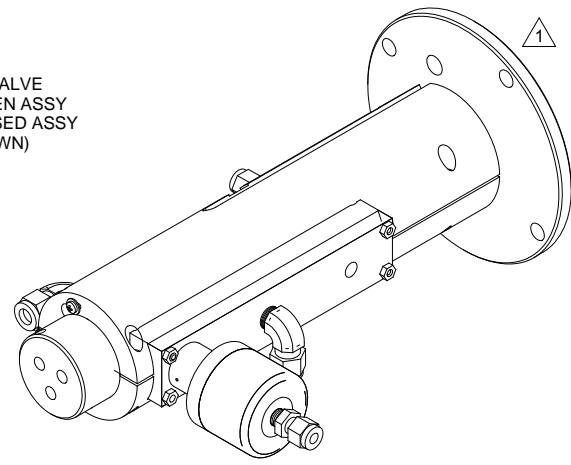
8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South Sutrro Terrace Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN/APVD
Model 275E Probe Layout		REVISIONS			
PART NO.	FOR	DATE	SCALE	SIZE	SHEET
NOT ISSUED	INSTRUMENT	04/05/2004	NTS	D	1 OF 10
		DRAWN BY	E. Musselman	DRAWING NO.	
		APVD BY	G. Evans	P0825	

8 | 7 | 6 | 5 | 4 | 3 | 2 | 1



9" FILTER			
FILTER $\mu$	CERAMIC	316 SS	C276
2 $\mu$ W/0.1 COAT	4980-0180		
1	4980-0128		
2	4980-0034	4980-0042	4980-0120
20	4980-0124		



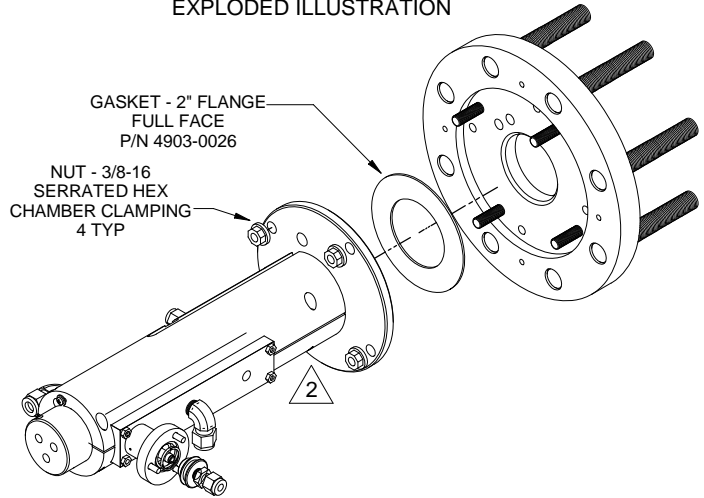
O-RING NO.	MATERIAL	APPLICATION	UAI PART NO.
2-110	VITON	400°F	4904-0046
2-110	KALREZ	600°F	4904-2015
2-113	VITON	400°F	4904-0002
2-113	KALREZ	600°F	4904-2011

1 REFERENCE P0868 IF USING OPTIONAL FILTER CHAMBER ISOLATION.

8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South Sutrö Terrace Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN/APVD
<b>Model 275E Chamber Assembly</b>		REVISIONS			
PART NO. FOR INSTRUMENT		DATE	SCALE	SIZE	SHEET
NOT ISSUED		04/05/2004	NTS	D	2 OF 10
DRAWN BY E. Musselman		APVD BY G. Evans		DRAWING NO. P0825	

STACK FILTER CHAMBER INSTALLATION / REMOVAL  
EXPLODED ILLUSTRATION

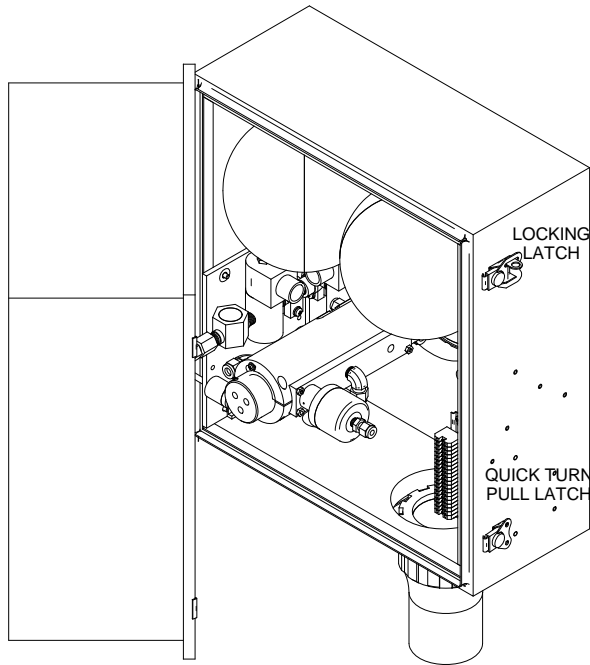


GASKET - 2" FLANGE  
FULL FACE  
P/N 4903-0026

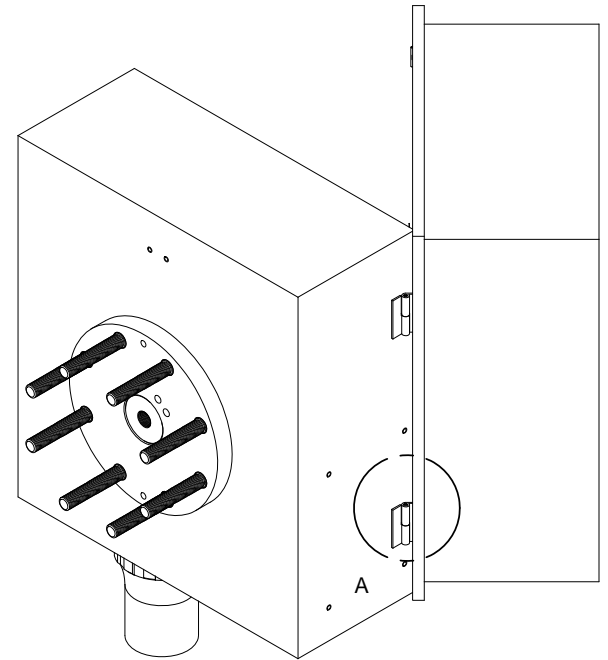
NUT - 3/8-16  
SERRATED HEX  
CHAMBER CLAMPING  
4 TYP

STACK FILTER CHAMBER  
INSTALLED ILLUSTRATION

1



FRONT ISO VIEW WITH  
DOOR OPEN

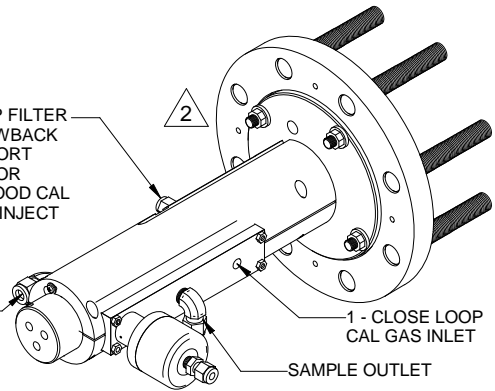


REAR ISO VIEW WITH DOOR OPEN  
SHOWING LIFT OFF HINGES

B - TIP FILTER  
BLOWBACK  
PORT  
OR  
2 - FLOOD CAL  
GAS INJECT

2

A - STANDARD  
BLOWBACK  
CONNECTION



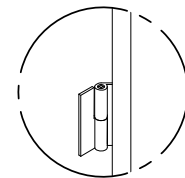
1 - CLOSE LOOP  
CAL GAS INLET

SAMPLE OUTLET

AIR INLET SAMPLE  
ISOLATION VALVE  
(NORMALLY OPEN SHOWN)

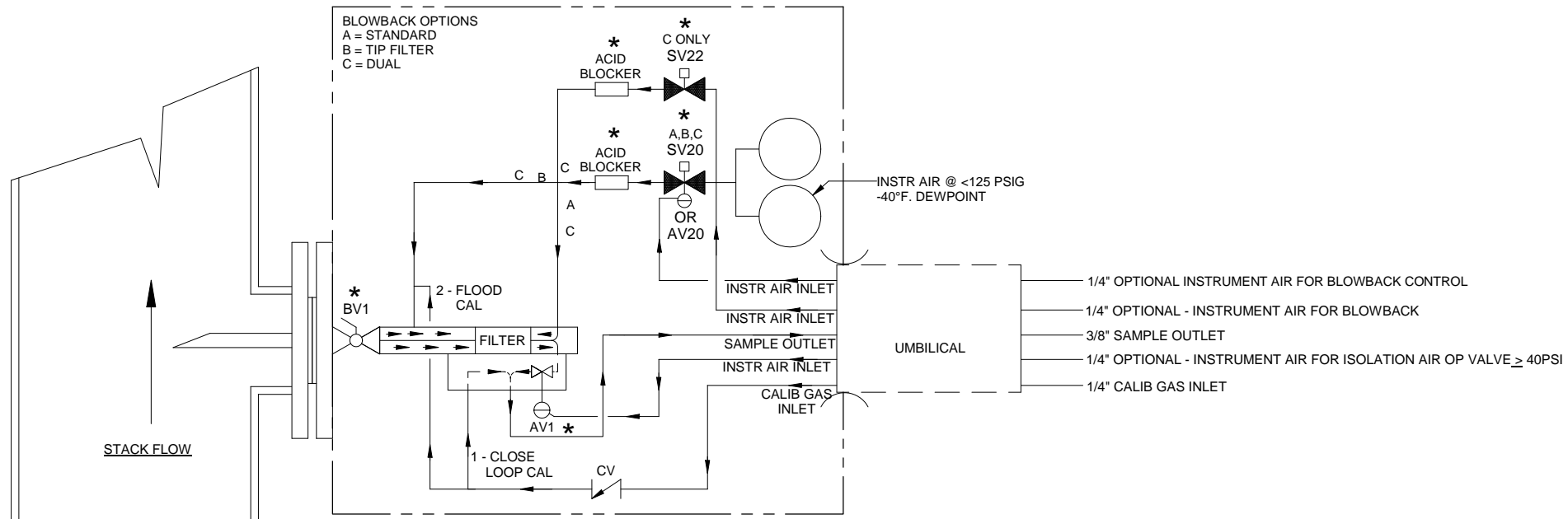
1 HIGH TEMPERATURE UNITS TO RECEIVE HI TEMPERATURE  
WARNING LABEL P/N 5001-0241

2 REFERENCE P0868 IF USING OPTIONAL FILTER CHAMBER  
ISOLATION



DETAIL A  
HINGES - LIFT OFF TYPICAL

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1701 South SuroTerrace Carson City, Nevada 89706 USA		REV DATE	DESCRIPTION	DWN	APVD
<b>Model 275E Chamber Install &amp; Lift-Off Door Layout</b>		REVISIONS			
PART NO.	FOR	DATE	SCALE	SIZE	SHEET
NOT ISSUED	INSTRUMENT	04/05/2004	NTS	D	3 OF 10
DRAWN BY E. Musselman		DRAWING NO.		P0825	
APVD BY G. Evans					



**BLOWBACK OPTIONS**  
 A = STANDARD  
 B = TIP FILTER  
 C = DUAL

**CALIBRATION GAS PORTING OPTIONS**  
 1 = CLOSE LOOP CAL TO MANIFOLD.  
 (MUST ALSO USE AV1 ISOLATION VALVE.)  
 2 = FLOOD CAL INTO CHAMBER

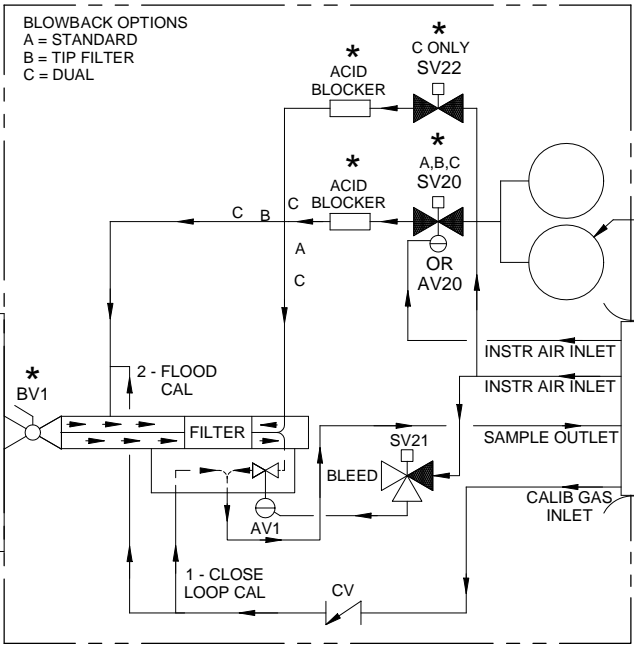
**CHAMBER ISOLATION OPTION**  
 BV1 TO BE INCLUDED ON CHAMBER ASSEMBLY

Item	Qty	Description	UAI Part No.
CV	1	Check Valve, Set @ 3 PSIG	4955-0148
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 24Vdc	4955-0137
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 115Vac	4955-0136
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 230Vac	4955-0144
AV1	1	Valve - Air Operated Sample Isolation - Normally Open <math>< 400^\circ\text{F}</math>	5209-0180
AV1	1	Valve - Air Operated Sample Isolation - Normally Open <math>< 600^\circ\text{F}</math>	5209-0208
AV20	1	Valve - Air Operated Blowback Isolation - 2 Way	4955-0256
BV1	1	Ball Valve - 2 Way	4955-0143

\* OPTIONAL ITEMS

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South SutrroTerrace Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN/APVD
<b>P&amp;ID For Sample Isolation Normally Open</b>		REVISIONS			
PART NO.	FOR	DATE	SCALE	SIZE	SHEET
NOT ISSUED	INSTRUMENT	04/05/2004	NTS	D	4 OF 10
DRAWN BY E. Musselman		APVD BY G. Evans		DRAWING NO. P0825	

8 | 7 | 6 | 5 | 4 | 3 | 2 | 1



**BLOWBACK OPTIONS**  
 A = STANDARD  
 B = TIP FILTER  
 C = DUAL

1/4" OPTIONAL INSTRUMENT AIR FOR BLOWBACK CONTROL  
 1/4" OPTIONAL - INSTRUMENT AIR FOR BLOWBACK / ISOLATION AIR OP VALVE > 40PSI  
 3/8" SAMPLE OUTLET  
 1/4" CALIB GAS INLET

**CALIBRATION GAS PORTING OPTIONS**

- 1 = CLOSE LOOP CAL TO MANIFOLD.  
(MUST ALSO USE AV1 ISOLATION VALVE.)
- 2 = FLOOD CAL INTO CHAMBER

**CHAMBER ISOLATION OPTION**

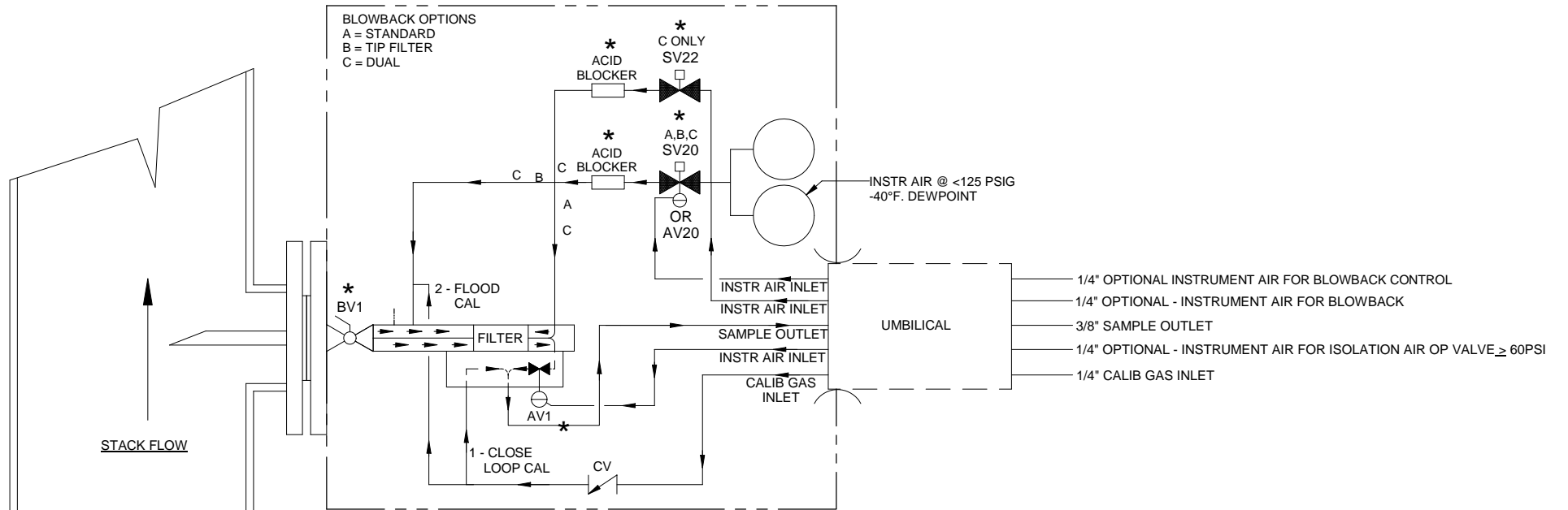
BV1 TO BE INCLUDED ON CHAMBER ASSEMBLY

Item	Qty	Description	UAI Part No.
CV	1	Check Valve, Set @ 3 PSIG	4955-0148
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 24Vdc	4955-0137
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 115Vac	4955-0136
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 230Vac	4955-0144
SV21	1	Solenoid Valve - 3 Way 24Vdc	4955-0132
SV21	1	Solenoid Valve - 3 Way 115Vac	4955-0131
SV21	1	Solenoid Valve - 3 Way 230Vac	4955-0140
AV1	1	Valve - Air Operated Sample Isolation - Normally Open < 400°F	5209-0180
AV1	1	Valve - Air Operated Sample Isolation - Normally Open < 600°F	5209-0208
AV20	1	Valve - Air Operated 2 Way Blowback Control	4955-0256
BV1	1	Ball Valve - 2 way	4955-0143

\* OPTIONAL ITEMS

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South Sutrro Terrace Carson City, Nevada 89706 USA		REV DATE	DESCRIPTION	DWN	APVD
<b>P&amp;ID For Blowback Isolation Normally Open - 3 Way Valve</b>					
PART NO.	FOR	DRAWN BY	SCALE	SIZE	SHEET
NOT ISSUED	INSTRUMENT	E. Musselman	NTS	D	5 OF 10
		APVD BY	G. Evans	DRAWING NO. P0825	

8 | 7 | 6 | 5 | 4 | 3 | 2 | 1



**BLOWBACK OPTIONS**  
 A = STANDARD  
 B = TIP FILTER  
 C = DUAL

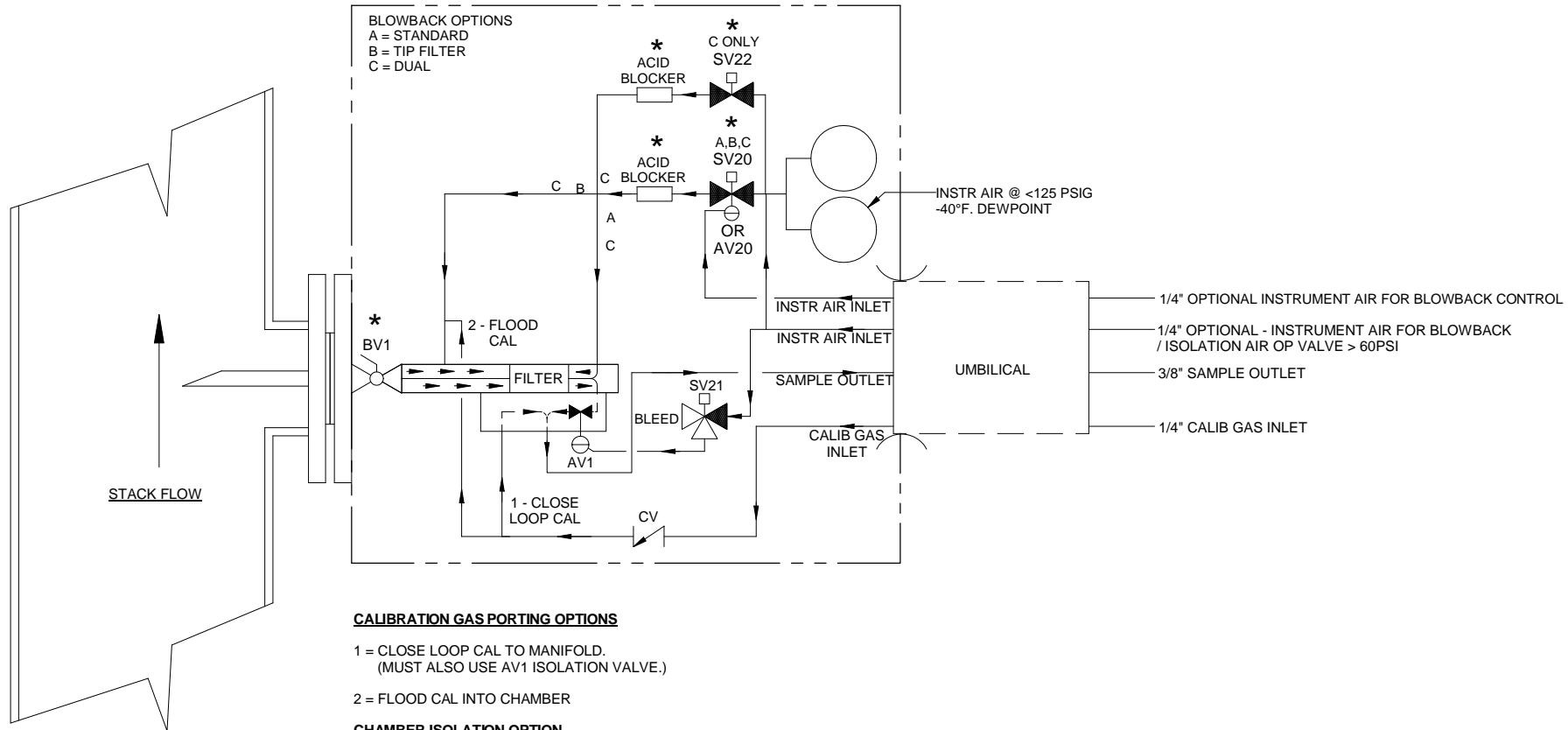
**CALIBRATION GAS PORTING OPTIONS**  
 1 = CLOSE LOOP CAL TO MANIFOLD.  
 (MUST ALSO USE AV1 ISOLATION VALVE.)  
 2 = FLOOD CAL INTO CHAMBER

**CHAMBER ISOLATION OPTION**  
 BV1 TO BE INCLUDED ON CHAMBER ASSEMBLY

Item	Qty	Description	UAI Part No.
CV	1	Check Valve, Set @ 3 PSIG	4955-0148
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 24Vdc	4955-0137
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 115Vac	4955-0136
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 230Vac	4955-0144
AV1	1	Valve - Air Operated Sample Isolation - Normally Closed <math>< 400^\circ\text{F}</math>	5209-0207
AV1	1	Valve - Air Operated Sample Isolation - Normally Closed <math>< 600^\circ\text{F}</math>	5209-0209
AV20	1	Valve - Air Operated 2 Way Blowback Control	4955-0256
BV1	1	Ball Valve - 2 Way	4955-0143

\* OPTIONAL ITEMS

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Air Pressure To 60 psi	RW	PS
1701 South Sutrro Terrace Carson City, Nevada 89706 USA		REV DATE	DESCRIPTION	DWN	APVD
<b>P&amp;ID For Blowback Isolation Normally Closed</b>					
PART NO.		FOR	DRAWN BY	SCALE	SIZE
NOT ISSUED		INSTRUMENT	E. Musselman	NTS	D
		APVD BY	G. Evans	DRAWING NO.	SHEET
				P0825	6 OF 10



**BLOWBACK OPTIONS**  
 A = STANDARD  
 B = TIP FILTER  
 C = DUAL

**CALIBRATION GAS PORTING OPTIONS**

- 1 = CLOSE LOOP CAL TO MANIFOLD.  
(MUST ALSO USE AV1 ISOLATION VALVE.)
- 2 = FLOOD CAL INTO CHAMBER

**CHAMBER ISOLATION OPTION**

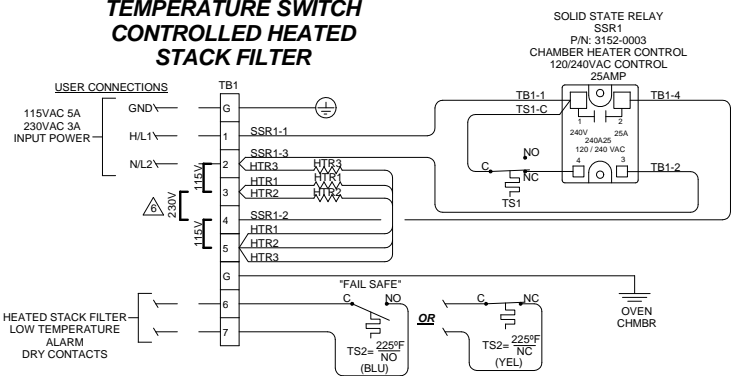
BV1 TO BE INCLUDED ON CHAMBER ASSEMBLY

Item	Qty	Description	UAI Part No.
CV	1	Check Valve, Set @ 3 PSIG	4955-0148
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 24Vdc	4955-0137
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 115Vac	4955-0136
SV20,(22)	1 (2)	Solenoid Valve - 2 Way 230Vac	4955-0144
SV21	1	Solenoid Valve - 3 Way 24Vdc	4955-0132
SV21	1	Solenoid Valve - 3 Way 115Vac	4955-0131
SV21	1	Solenoid Valve - 3 Way 230Vac	4955-0140
AV1	1	Valve - Air Operated Sample Isolation - Normally Closed <math>< 400^\circ\text{F}</math>	5209-0207
AV1	1	Valve - Air Operated Sample Isolation - Normally Closed <math>< 600^\circ\text{F}</math>	5209-0209
AV20	1	Valve - Air Operated 2 Way Blowback Control	4955-0256
BV1	1	Ball Valve - 2 Way	4955-0143

\* OPTIONAL ITEMS

<b>UNIVERSAL ANALYZERS INC.</b>		Q	12/21/07	Revised Air Pressure To 60 psi	RW	PS
1701 South Sutor Terrace Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN	APVD
P&ID For Blowback Isolation Normally Closed - 3 Way Valve						
PART NO.	FOR	DATE	SCALE	NTS	SIZE	SHEET
NOT ISSUED	INSTRUMENT	04/05/2004	E. Musselman		D	7 OF 10
		APVD BY	G. Evans	DRAWING NO. P0825		

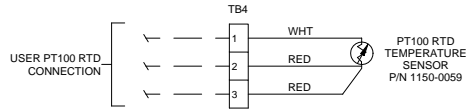
### TEMPERATURE SWITCH CONTROLLED HEATED STACK FILTER



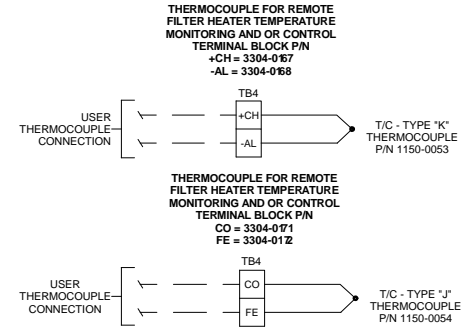
RTD OR T/C OPTIONAL W/CONTROL METHOD A, REQUIRED W/METHOD B, NOT USED W/METHOD C.

### PT100 RTD

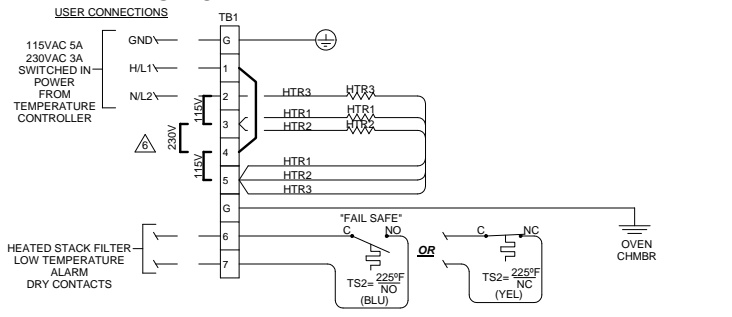
RTD FOR REMOTE FILTER HEATER TEMPERATURE MONITORING AND OR CONTROL.



### THERMOCOUPLE

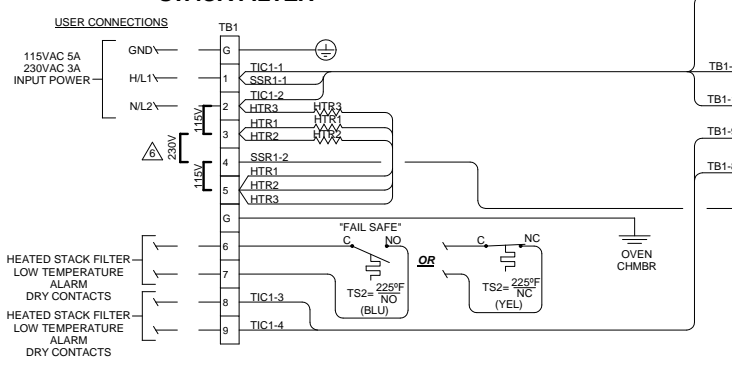


### REMOTE TEMPERATURE CONTROLLED HEATED STACK FILTER



SELECT OPTION A,B OR C TO CONTROL THE HEATED FILTER.

### LOCAL TEMPERATURE CONTROLLED HEATED STACK FILTER



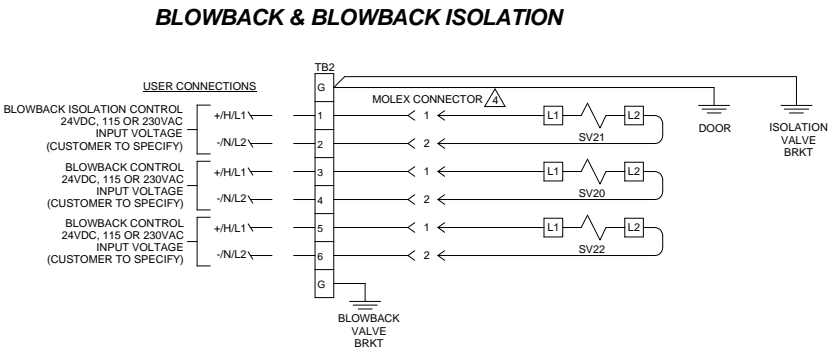
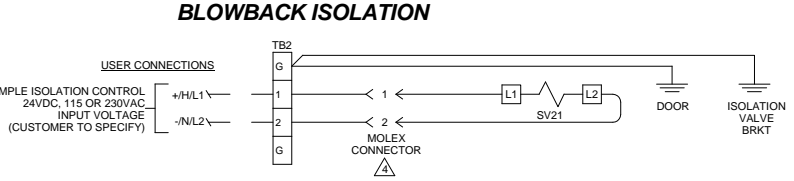
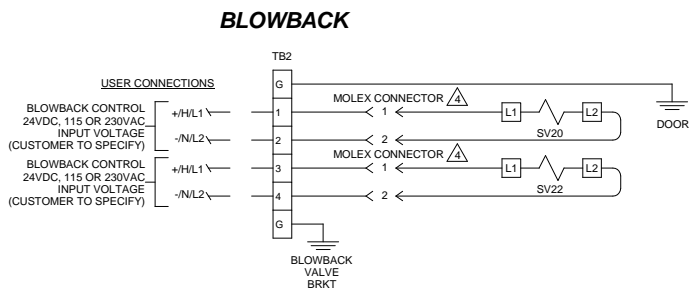
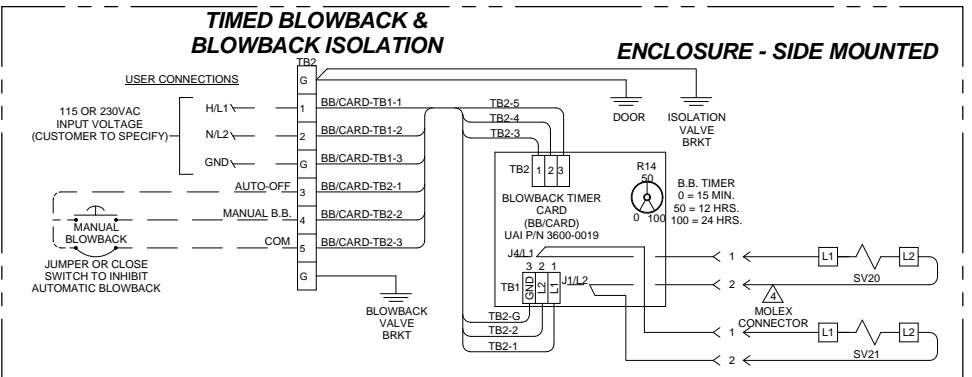
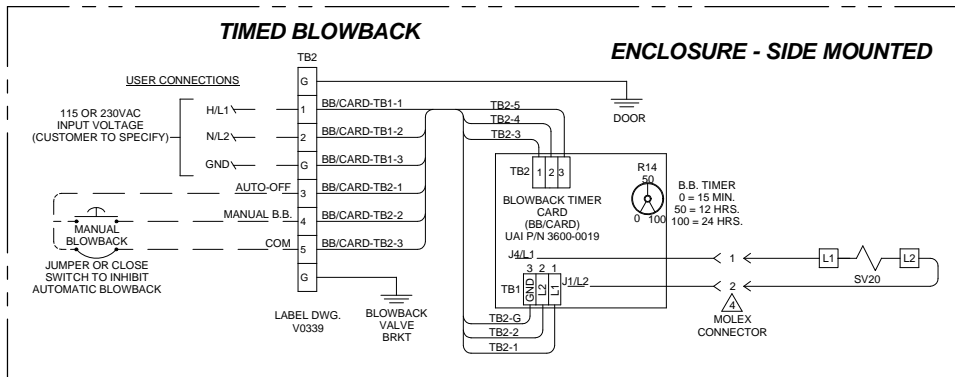
## STACK FILTER HEATER CONTROL SCHEMES

- NOTES:
- ELECTRICAL CLASSIFICATION: GENERAL PURPOSE SYSTEM IS CONFIGURED AT THE FACTORY FOR REQUIRED VOLTAGE. CONTACT FACTORY FOR VOLTAGE CHANGE REQUIREMENTS.
  - AC WIRING SHALL BE INDIVIDUAL CONDUCTORS OF STRANDED TINNED COPPER WITH 300V, TYPE TFE INSULATION. MINIMUM WIRE SIZE SHALL BE 18AWG UNLESS OTHERWISE SPECIFIED. COLOR CODE SHALL BE AS FOLLOWS:
 

HOT	115V - BLACK	L1	230V - BROWN
NEUTRAL	- WHITE	L2	- BLUE
GROUND	- GREEN	GROUND	- GREEN
  - FILTER HEATER ROD SPECIFICATIONS:
    - HTR1 & 2 3/8" Ø x 4.25" LG 120VAC @ 125W - U.A.I. P/N 3014-0058
    - HTR3 3/8" Ø x 4.25" LG 120VAC @ 250W - U.A.I. P/N 3014-0054
  - CHAMBER HEATER CONTROL SWITCH (TS1): NORMALLY CLOSED BELOW 375°F - U.A.I. P/N 3103-0061
  - LOW TEMP ALARM OPTIONS (TS2):
    - BLUE (BLU-FAIL SAFE) NORMALLY OPEN (NO) BELOW 225°F - U.A.I. P/N 3103-0012
    - YELLOW (YEL) - NORMALLY CLOSED (NC) BELOW 225°F - U.A.I. P/N 3103-0013
  - FOR VOLTAGE CHANGE IN FIELD FROM 115VAC TO 230VAC. (115V CONFIGURATION SHOWN) REMOVE JUMPERS ON TB1 AT TERMINAL LOCATIONS 2-3 & 4-5. REPLACE ONE OF THE JUMPER AT TERMINAL LOCATION 3-4.
  - DOOR OF ENCLOSURE MUST BE ELECTRICALLY BONDED TO BODY OF ENCLOSURE.

ENCLOSURE - SIDE MOUNTED

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South SuroTerra Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN/APVD
Model 275E Probe Wiring Schematic		REVISIONS			
PART NO.	FOR	DATE	SCALE	SIZE	SHEET
NOT ISSUED	INSTRUMENT	04/05/2004	NTS	D	8 OF 10
DRAWN BY E. Musselman		DRAWING NO.		P0825	
APVD BY G. Evans					



SELECT (1) OF THE BLOWBACK / SAMPLE ISOLATION CONTROL SCHEMES.

## BLOWBACK & BLOWBACK ISOLATION CONTROL SCHEMES

- NOTES:
- ELECTRICAL CLASSIFICATION: GENERAL PURPOSE SYSTEM IS CONFIGURED AT THE FACTORY FOR REQUIRED VOLTAGE. CONTACT FACTORY FOR VOLTAGE CHANGE REQUIREMENTS.
  - AC WIRING SHALL BE INDIVIDUAL CONDUCTORS OF STRANDED TINNED COPPER WITH 300V, TYPE TFE INSULATION. MINIMUM WIRE SIZE SHALL BE 18AWG UNLESS OTHERWISE SPECIFIED. COLOR CODE SHALL BE AS FOLLOWS:
 

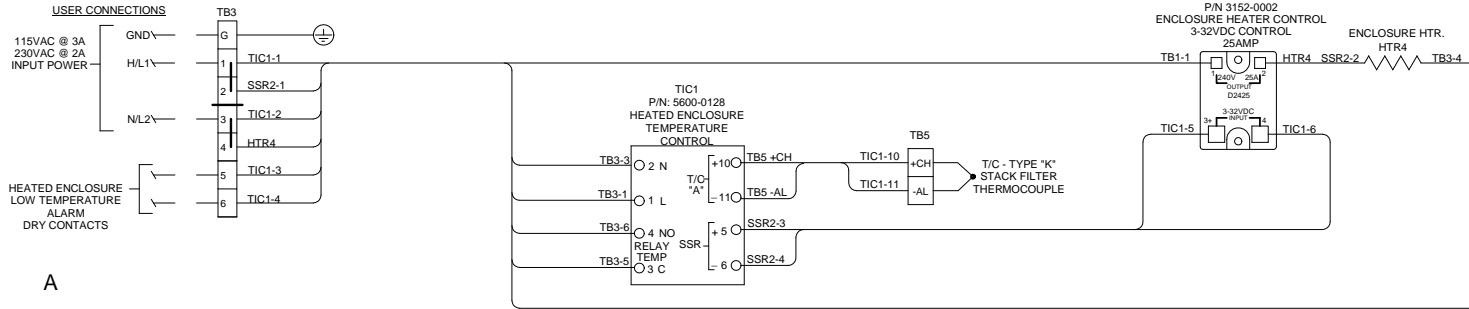
HOT	115V - BLACK	L1	230V - BROWN
NEUTRAL	- WHITE	L2	- BLUE
GROUND	- GREEN	GROUND	- GREEN
  - DC WIRING SHALL BE INDIVIDUAL CONDUCTORS OF STRANDED TINNED COPPER WITH 300V, TYPE TFE INSULATION. MINIMUM WIRE SIZE SHALL BE 22AWG UNLESS OTHERWISE SPECIFIED.
- ⚠️ USE WHEN ENCLOSURE IS NOT HEATED OR HEATED USING TEMPERATURE SWITCH CONTROL ONLY.**

----- FIELD TO WIRE -----

<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South Suro Terrace Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN/APVD
Model 275E Probe Wiring Schematic		REVISIONS			
		DATE	SCALE	SIZE	SHEET
PART NO.	FOR	DRAWN BY	NTS	D	9 OF 10
NOT ISSUED	INSTRUMENT	APVD BY	G. Evans	P0825	

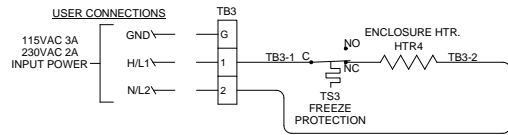
8 7 6 5 4 3 2 1

**LOCAL CONTROL ENCLOSURE HEATER**



ENCLOSURE - SIDE MOUNTED

**TEMPERATURE SWITCH CONTROL ENCLOSURE HEATER**



**LOCALLY MOUNTED DIN CONTROLLED STACK FILTER & ENCLOSURE HEATER**

**(TERMINAL BLOCKS, DIN CONTROLLERS & SOLID STATE RELAYS ALL MOUNTED INSIDE BOX)**

IF THE ENCLOSURE IS HEATED, PLEASE SELECT (1) OF THE ENCLOSURE HEATER CONTROL SCHEMES.

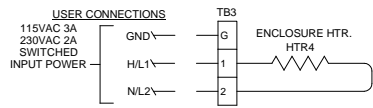
**ENCLOSURE HEATER CONTROL SCHEMES**

- NOTES:
- ELECTRICAL CLASSIFICATION: GENERAL PURPOSE SYSTEM IS CONFIGURED AT THE FACTORY FOR REQUIRED VOLTAGE. CONTACT FACTORY FOR VOLTAGE CHANGE REQUIREMENTS.
  - AC WIRING SHALL BE INDIVIDUAL CONDUCTORS OF STRANDED TINNED COPPER WITH 300V, TYPE TFE INSULATION. MINIMUM WIRE SIZE SHALL BE 18AWG UNLESS OTHERWISE SPECIFIED. COLOR CODE SHALL BE AS FOLLOWS:
 

115V	230V
HOT - BLACK	L1 - BROWN
NEUTRAL - WHITE	L2 - BLUE
GROUND - GREEN	GROUND - GREEN
  - DC WIRING SHALL BE INDIVIDUAL CONDUCTORS OF STRANDED TINNED COPPER WITH 300V, TYPE TFE INSULATION. MINIMUM WIRE SIZE SHALL BE 22AWG UNLESS OTHERWISE SPECIFIED.
  - ENCLOSURE STRIP HEATER SPECIFICATIONS: HTR4  
115VAC @ 250W - UAI P/N 3014-0086  
230VAC @ 300W - UAI P/N 3014-0067
  - ENCLOSURE HEATER TEMPERATURE CONTROL SWITCH (TS3) SPECIFICATIONS: NORMALLY CLOSED BELOW 225°F - P/N 3103-0013
  - USE HIGH TEMPERATURE TERMINAL BLOCKS IF ENCLOSURE IS HEATED.

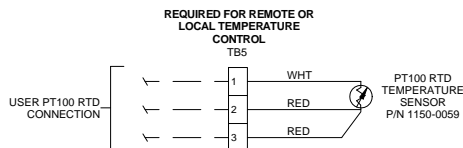
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FIELD TO WIRE

**REMOTE CONTROLLED ENCLOSURE HEATER**



OPTIONAL W/CONTROL METHOD B, REQUIRED W/CONTROL METHOD C.

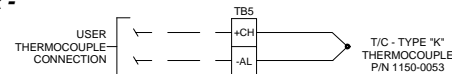
**PT100 RTD**  
OPTIONAL FOR REMOTE FILTER HEATER TEMPERATURE MONITORING



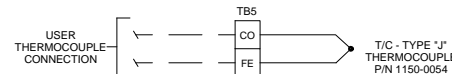
- OR -

**THERMOCOUPLE**

THERMOCOUPLE FOR REMOTE FILTER HEATER TEMPERATURE MONITORING AND CONTROL  
TERMINAL BLOCK P/N  
+CH = 3304-0167  
-AL = 3304-0168



THERMOCOUPLE FOR REMOTE FILTER HEATER TEMPERATURE MONITORING AND CONTROL  
TERMINAL BLOCK P/N  
CO = 3304-0171  
FE = 3304-0172



<b>UNIVERSAL ANALYZERS INC.</b>		Q 12/21/07	Revised Per Sheet 6 & 7	RW	PS
1701 South SuroTerra Carson City, Nevada 89706 USA		REV	DATE	DESCRIPTION	DWN/APVD
Model 275E Probe Din Controller Wiring Schematic		REVISIONS			
DATE	SCALE	NTS	SIZE	D	SHEET
04/05/2004			10 OF 10		
PART NO.	FOR	DRAWN BY	E. Musselman	DRAWING NO.	
NOT ISSUED	INSTRUMENT	APVD BY	G. Evans	P0825	

8 7 6 5 4 3 2 1