FRONT VIEW
(DOOR REMOVED)

- VENT VALVE (NIV) (OPTIONAL)
- HAND REMOVABLE KNOB FOR FILTER ELEMENT ACCESS
- CALIB. GAS SELECT VALVE (AV2) (OPTIONAL)
- DRAIN VALVE (DV) (OPTIONAL)
- SAMPLE GAS OUTLET 3/8" TUBE (1/4" TUBE OPTIONAL)

3" HEAT SHRINKABLE SAMPLE LINE BOOT (4" BOOT OPTIONAL)

BOTTOM VIEW

- VENT 1/4" TUBE (OPTIONAL)
- ENCLOSURE VENT PIN 4951-1079 (NOT USED W/ SAFETY PURGE OPTION)

DOOR OPENS 180°

CAL GAS IN 1/4" TUBE (OPTIONAL)

SAMPLE GAS OUTLET 3/8" TUBE (1/4" TUBE OPTIONAL)

RIGHT SIDE VIEW

- 150# 316SS FLANGE WITH MOUNTING BOLTS
- FLANGE GASKET
- PROBE TUBE SUPPORT LENGTH (OPTIONAL)

NOTES:

1). ARRANGEMENT MAY VARY ACCORDING TO GOOD ENGINEERING AND ASSEMBLY PRACTICES.

2). ENCLOSURE RATING NEMA 4X.

3). SEE SHEETS 1 THRU 3 FOR LAYOUT
   SEE SHEETS 4 & 7 FOR COMMON SUBASSEMBLIES.
   SEE SHEETS 8 THRU 10 FOR TRIPLE O-RING SUBFLANGE SUBASSEMBLIES.
   SEE SHEET 11 THRU 13 FOR RETRACTABLE PROBE TUBE SUPPORT SUBASSEMBLIES.
   SEE SHEET 14 FOR P&ID.
   SEE SHEET 15 & 16 FOR WIRING DIAGRAMS.
   SEE SHEET 17 FOR TAG LIST.
ENCLOSURE HEATER (MOUNT ON THE INTERIOR OF DOOR) (OPTIONAL)

1" SOLOMIDE INSULATION
PN 801-0029
(ENTIRE ENCLOSURE) (OPTIONAL)

ISOMETRIC VIEW
(DOOR OPEN)
Z-PURGE FLOW CONTROL PANEL

NOTES:

1). SAFETY PURGE IS OPTIONAL.

2). SAFETY PURGE NOT REQUIRED FOR HAZARDOUS AREA CERTIFICATION.
NOTES:

1. COMMON PORT OF 3-WAY CALIBRATION VALVE SHOULD LINE UP WITH ELBOW BULKHEAD.

2. USE TWO PREDRILLED HOLES FOR BLOWBACK BRACKET TO LINE UP TWO NEW HOLES.

3. ELBOW BULKHEAD IS PART OF DRAIN PATH FOR UNITS WITH LIQUID STOP, AND IS SAMPLE OUT FOR UNITS WITHOUT LIQUID STOP.
Note: Use Epoxy Adhesive P/N 8006-0003
To Retain Heater Rods.
(Mix Ratio: Part A to Part B 100:64)

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<tr>
<th>ITEM</th>
<th>Qty</th>
<th>DWG NO</th>
<th>PART NO</th>
<th>DESCRIPTION</th>
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<td></td>
<td>M0836</td>
<td>Assembled View</td>
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</tbody>
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Assembled View

- Heater Rods
- Low Temp Switch
- Oven Temp Control Switch
- #6-32 x 1/4" PH Screw
- #1/4-20 x 5/8" SHCS
- #32 x 1/4" PIN Screw
- Control Switch
- Heater Tube
PARTS TABLE

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<td>Temperature Sensor (Optional)</td>
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<td>#6-32 x 3/16&quot; PH Screw w/ Ext. Star Washer</td>
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<td>4951-0038:SN</td>
<td>1/8&quot; NPT Plug - SN</td>
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<td>V024</td>
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COMPLETE ASSEMBLY

EXPLODED VIEW
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<td>Temp. Switch Mount &amp; Heater Wells</td>
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<td>5110-0258</td>
<td>M1227</td>
<td>Oven Wall Top &amp; Bottom</td>
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<td>M1228</td>
<td>Oven Base Clamps</td>
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<td>Switch Oven Control TS2, TS3</td>
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<td>Switch Oven Under Alarm Temp TS5, TS6</td>
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<td>1/4-20 x 1&quot; Socket Head</td>
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<td>8</td>
<td>4710-0019</td>
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<td>1/4-20 Lock Washer</td>
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<td>6-32 x 1/4&quot; Panhead Phillips</td>
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<td>Heater Rods, 1.5&quot; HTR 3, 4, 5, &amp; 6</td>
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<td>5150-1076</td>
<td>-</td>
<td>Insulation Jacket</td>
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</table>

**NOTES:**

1. ONE OR TWO VALVE ASSEMBLIES PER UNIT. (DEPENDING ON NUMBER OF FILTER ISOLATION VALVES)

2. HEATER RODS ARE EPOXIED IN PLACE.

3. ASSEMBLE ITEMS 1 & 2 SO THEY ARE TIGHT AGAINST ONE ANOTHER.
FLANGE ASSEMBLY EXPLODED VIEW

316SS FLANGE WITH MOUNTING BOLTS

GASKET - 2” FLANGE PIN 4903-1002

SECONDARY SUBFLANGE WITH TRIPLE O-RING SEAL
PIN 5150-1020

BOLTS - CHAMBER SUBFLANGE RETAINING
3/8”-16 HEX HD X 1/2” LONG
PIN 4704-1073
4 TYP

FLAT WASHER
PIN 4710-1000
4 TYP

SPLIT WASHERS 4 OR 8 TYP

NUTS 4 OR 8 TYP

FLANGE GASKET

KALREZ O-RINGS #2-117
PIN 4904-2021
3 TYP
(INSTALLED INSIDE SUBFLANGE)

COMPLETE ASSEMBLY
1

NOTES:

⚠️ BUILDER TO VERIFY FULL RANGE OF MOVEMENT OF PROBE TUBE THROUGH SUBFLANGE.
RETRACTION NOTE:
TO REMOVE PROBE TUBE FROM ACTIVE SERVICE:
1. CLOSE ISOLATION BALL VALVES AV1/BV1 & BV2.
2. DISCONNECT PNEUMATIC & ELECTRICAL CONNECTIONS TO HEATED FILTER CHAMBER & ISOLATION BALL VALVE ASSEMBLY.
3. REMOVE 4 BOLTS HOLDING PRIMARY SUBFLANGE TO SECONDARY SUBFLANGE. USE 9/16 SOCKET TO REMOVE BOLTS. BOLTS ARE MARKED WITH /3/, ON DRAWING & ARE ON TOP OF THE PRIMARY SUBFLANGE VICE PARTIALLY COVERED BY PRIMARY SUBFLANGE.
4. FULLY RETRACT PROBE TUBE TO PROBE STOP.
5. CLOSE CUSTOMER SUPPLIED PROCESS ISOLATION VALVE.
6. REMOVE REMAINING 4 SUBFLANGE BOLTS TO SEPARATE SECONDARY SUBFLANGE FROM FLANGE.
FLANGE AND PROBE TUBE SUPPORT SUBASSEMBLY

316SS FLANGE WITH MOUNTING BOLTS
GASKET - 2" FLANGE P/N 4903-1002
TERTIARY SUBFLANGE P/N 5155-1514
O-RING KALREZ #2-132 (INSTALLED INSIDE SUBFLANGE) P/N 4904-2031
FLAT WASHERS 4 OR 8 TYP
SPLIT WASHERS 4 OR 8 TYP
NUTS 4 OR 8 TYP
KALREZ O-RING #2-125 P/N 4904-2032 (INSTALLED INSIDE PROBE TUBE SUPPORT)
SUBFLANGE W/ PROBE TUBE SUPPORT
SPACER W/BOLT 1/2" X .90" W/ CUTOFF P/N 4910-1020 4 TYP
BOLTS - CHAMBER SUBFLANGE RETAINING 3/8"-16 HEX HD X 1/2" LONG P/N 4704-1073 4 TYP
FLAT WASHERS P/N 4710-1000 4 TYP
RETAINING RING P/N 4215-1005 (INSTALLED AFTER PROBE TUBE SUPPORT INSERTION)

FLANGE AND PROBE TUBE SUPPORT SUBASSEMBLY

NOTES:
1). 1/2" LONG BOLTS USE CENTER HOLE OF EACH SUBFLANGE BOLT HOLE CLUSTER.
1/2" SPACERS USE COUNTER CLOCKWISE HOLE OF EACH SUBFLANGE BOLT HOLE CLUSTER.

⚠️ BUILDER TO VERIFY FULL RANGE OF MOTION OF PROBE TUBE SUPPORT THROUGH TERTIARY SUBFLANGE.

COMPLETE SUB-ASSEMBLY
NOTES:

⚠️  BUILDER TO VERIFY FULL RANGE OF MOVEMENT OF PROBE TUBE THROUGH PROBE TUBE SUPPORT.
NOTES:

TO REMOVE PROBE TUBE FROM ACTIVE SERVICE:

1. CLOSE ISOLATION BALL VALVES (AV1/BV1 & BV2).
2. DISCONNECT GAS & ELECTRICAL CONNECTIONS TO HEATED FILTER CHAMBER & ISOLATION BALL VALVE ASSEMBLY.
3. REMOVE 4 BOLTS HOLDING PRIMARY SUBFLANGE TO SECONDARY SUBFLANGE. USE 9/16" SOCKET TO REMOVE BOLTS. BOLTS ARE THOSE WHOSE HEADS ARE FURTHEST FROM THE FLANGE AND ARE NOT PARTIALLY COVERED.
4. FULLY RETRACT PROBE TUBE TO PROBE STOP.
5. REMOVE 4 BOLTS HOLDING SECONDARY SUBFLANGE TO TERTIARY SUBFLANGE. USE 9/16" SOCKET TO REMOVE BOLTS. BOLTS ARE THOSE WHOSE HEADS ARE FURTHEST FROM THE FLANGE & ARE NOT PARTIALLY COVERED.
6. RETRACT PROBE TUBE & PROBE TUBE SUPPORT TO EXTENT ALLOWED BY STOP. PROBE TUBE SUPPORT SHOULD NOT BE RETRACTED FURTHER THAN ITS LENGTH TO AVOID BREAKING SEAL BETWEEN PROBE TUBE SUPPORT & TERTIARY SUBFLANGE.
7. CLOSE CUSTOMER SUPPLIED PROCESS ISOLATION VALVE.
8. REMOVE PROBE ASSEMBLY FROM FLANGE.
9. TO INSTALL PROBE ASSEMBLY;
   A) INSTALL PROBE ASSEMBLY INTO FLANGE.
   B) OPEN CUSTOMER ISOLATION VALVE & FULLY INSERT SUBFLANGE W/ PROBE TUBE SUPPORT.
   C) FULLY INSERT PROBE TUBE INTO PROBE TUBE SUPPORT.
   D) CONNECT GAS & ELECTRICAL CONNECTIONS TO HEATED FILTER & ISOLATION BALL VALVE ASSEMBLY.
   E) OPEN ISOLATION VALVE (AV1/BV1 & BV2).

DETAIL A-A

SECTION A-A

PROBE TUBE RETRACTED

AV1 / BV1 ISOLATION BALL VALVE

DETAIL C

DETAIL B

PROBE TUBE SUPPORT ASSEMBLY
**NOTES:**

1. ALL WETTED METAL PARTS SHALL BE SILCONERT COATED.
2. ALL FITTINGS TO BE 1/4" TUBE UNLESS OTHERWISE SPECIFIED.
3. BV2 IS OPTIONAL
   - SAMPLE OUT MAY BE 1/4" TUBE OR 3/8" TUBE.
4. IF AIR CONTROL IS USED FOR BLOWBACK (AV20), FILTER ISOLATION VALVE (AV1), OR CAL GAS SELECT VALVE (AV3), ADDITIONAL INSTRUMENT AIR LINES WILL BE IN UMBILICAL. ADD TAGS T6, T13, & T14 AS APPROPRIATE.
5. INCLUDED WITH SAFETY PURGE OPTION.
6. AV3 OPTIONAL - SEE ALTERNATE CAL GAS ARRANGEMENT FOR CAL GAS IN & SAMPLE OUT FOR OPTION W/OUT AV3. (FLOOD CAL.)
7. SV22 Optional - NOT REQUIRED IF AV3 IS AIR CONTROLLED
8. LIQUID TRAP (WT) & DRAIN VALVE (DV) OPTIONAL.

---

**Legend:**

- \( 2 \) WAY \( NC \) \( NC \) \( NC \)
- \( 3 \) WAY VALVE TYPICAL
- \( 5 \) TUBING BY OTHERS
- \( 6 \) BILGEHEAD FITTING
- \( 7 \) Fitting in hose (OR) TUBING BY OTHERS
- \( 8 \) BILGEHEAD FITTING
CONDUCT AND WIRING NOTES:

1. ELECTRICAL CLASSIFICATION: MEETS SPECIFICATIONS FOR CLASS 1, DIV2, GRPS B, C, & D.

2. WIRING SHALL BE IN ACCORDANCE WITH APPLICABLE NEC CODE.

3. COLOR CODE:

<table>
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<tr>
<th>115VAC</th>
<th>DC POWER</th>
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<tbody>
<tr>
<td>AC POWER</td>
<td>SIGNAL &amp; ALARM - YELLOW</td>
</tr>
<tr>
<td>GND - BLACK</td>
<td>POSITIVE - RED</td>
</tr>
<tr>
<td>NEUTRAL - WHITE</td>
<td>NEUTRAL - WHITE</td>
</tr>
<tr>
<td>HTR - BLACK</td>
<td>NEGATIVE - BLUE</td>
</tr>
<tr>
<td>GROUND - GREEN</td>
<td>GROUND - GREEN</td>
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</tbody>
</table>

4. USE HIGH TEMPERATURE TERMINAL BLOCKS.

5. FILTER HEATER ROD SPECIFICATIONS (HTR1, 2, 3, 4, 5, 6):

   - 3/8" Ø X 1.5" LG @ 63 WATT/115VAC - P/N 3014-0046

6. OVEN TEMP CONTROL (TS1, TS2, TS3):

   - TS1-NC (INTEGRAL TO CONTROLLER) NORMALLY CLOSED (NC) BELOW 270°F - P/N 3103-1011.

7. LOW TEMP ALARM (TS4, TS5, TS6):

   - TS4-C, TS5-C, TS6-C YELLOW (YEL) NORMALLY CLOSED (NC) BELOW 225°F - P/N 3103-0013
   - TS4-NO, TS5-NO, TS6-NO BLUE (BLU) NORMALLY OPEN (NO) BELOW 225°F - P/N 3103-0012

8. ENCLOSURE HTR CONTROLLER (EH) & ENCLOSURE HEATER (HTR7)

   - USE INTERNAL SWITCH OPTION WIRING IN PLACE OF JUMPERS FOR INTERNAL SWITCH OPTION. USE EXTERNAL SWITCH OPTION WIRING IN PLACE OF JUMPER FOR EXTERNAL SWITCH OPTION.

9. ALTERNATE JUMPER CONNECTIONS: USE INTERNAL SWITCH OPTION WIRING IN PLACE OF JUMPERS FOR INTERNAL SWITCH OPTION. USE EXTERNAL SWITCH OPTION WIRING IN PLACE OF JUMPER FOR EXTERNAL SWITCH OPTION.

FIELD TO WIRE
CONDUIT AND WIRING NOTES:

1). ELECTRICAL CLASSIFICATION: MEETS SPECIFICATIONS FOR CLASS 1, DIV 2, GROUPS A, B, C, & D.

2). WIRING SHALL BE IN ACCORDANCE WITH APPLICABLE NEC CODE: ELECTRICAL MATERIALS SHALL BE LABELED BY: UL, FM OR CSA (WIRE AND TERMINALS ONLY). THE FOLLOWING WIRE SIZES ARE EXCLUSIVE OF INTEGRATED COMPONENT WIRE SIZE:
   AC POWER WIRE: TFE 300-VOLT INSULATION 18 AWG MINIMUM STRANDED COPPER CONDUCTOR.
   DC CONTROL OR SIGNAL WIRING: TFE 300-VOLT INSULATION 22 AWG MINIMUM STRANDED COPPER CONDUCTOR.

3). COLOR CODE:
   230VAC
   L1 - BROWN
   L2 - BLUE
   GND - GREEN

4). USE HIGH TEMPERATURE TERMINAL BLOCKS

5). FILTER HEATER ROD SPECIFICATIONS (HTR1, 2, 3, 4, 5, 6):
   3/8" Ø X 1.5" LG @ 63 WATT/115VAC - P/N 3014-0046

6). OVEN TEMP (TS1, TS2, TS3):
   NORMALLY CLOSED (NC) BELOW 270°F - P/N 3103-1011.

7). LOW TEMP ALARM (TS4, TS5, TS6):
   BLUE (BLU) NORMALLY OPEN (NO) BELOW 225° - P/N 3103-0012
   YELLOW (YEL) NORMALLY CLOSED (NC) BELOW 225° - P/N 3103-0013.

8). CUTOFF SWITCH (SW1) P/N 3100-1019.

ALTERNATE JUMPER CONNECTIONS: USE INTERNAL SWITCH OPTION WIRING IN PLACE OF JUMPERS FOR INTERNAL SWITCH OPTION. USE EXTERNAL SWITCH OPTION WIRING IN PLACE OF JUMPER FOR EXTERNAL SWITCH OPTION.

FIELD TO WIRE

MOLEX CONNECTOR LEGEND
R = RECEPTACLE (FEMALE HOUSING)
P = PLUG (MALE HOUSING)
+ = SOCKET (FEMALE TERMINAL)
- = PIN (MALE TERMINAL)
TAG LIST

UNLESS OTHERWISE SPECIFIED, ALL TAGS ARE TO BE WHITE ON BLACK, 0.2" TALL LETTERS ON GRAVOLY. ALL TAGS TO BE ATTACHED CLOSE TO ITEM IDENTIFIED, SUCH THAT NO OTHER COMPONENT NEARBY MAY BE MISTAKEN AS THE ITEM IDENTIFIED.

V = DRAIN VALVE *

V = VALVE IS IN THE OPEN POSITION WHEN HANDLE IS IN LINE W/ THE CHAMBER. TURN VALVE 90° TO CLOSE.

** V = CAL GAS IN *

** V = SAMPLE OUT *

** V = VENT VALVE *

** V = BLOWBACK CONTROL IN *

** V = INSTRUMENT AIR IN *

V = DRAIN

V = BLEED VENT

V = PURGE RATE

V = PURGE PRESSURE

V = ENCLOSURE PRESSURE

** V = CAL CONTROL IN *

** V = FILTER ISO VALVE  CONTROL *

* STAINLESS STEEL TAG

** TAG TO BE ATTACHED TO APPROPRIATE FITTING.

NOTES:

ATTACHED W/ (2) #6-32 SCREWS TO BV1/BV2 VALVE HANDLE.