PERMA PURE

INSTRUCTION MANUAL

BALDWIN™ - Series

HEATED FILTER PROBES
GENERAL PURPOSE SERIES
Model 34C-R

Version 4.04

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A: SPECIFICATIONS

General Specifications

Calibration	Integral calibration on both sides of filter element
Heater Temp Control	Self regulated (standard)
Connections	1¼" male pipe nipple mount; ½" male pipe thread adapter
Connectors	¼" cal gas, ¼" sample line
Thermocouple	Type K
Blowback	Single direct; 2-way solenoid blowback
Blowback Tank	16 ga. SS, 4" x 8", leak checked, pressure tested
Heat-shrink Boot	7" length, 2.75" min expanded I.D. nose
O-rings	Viton®
Gaskets	Graphoil
Dimensions	14" x 12" x 8" HWD (w/o Stinger probe)
Weight	34 lbs

Operating Specifications

Calibration Gas Requirement	20 psig, 6-10 LPM
Probe Operating Temperature	375ºF (190ºC)
Blowback Duration	5 sec standard (30 sec maximum)
Blowback Valve	115/230 VAC(Customer Specified)
Blowback Flow Rate	14 scfh
Instrument Air for Blowback	Min 50 psig, Max 90 psig

Material Specifications

Enclosure Material	NEMA 4 Steel
Probe Stinger	316L SS tubing (Optional) Schedule 40 Schedule 80 Durinert® coated Hastelloy®
Heater Type	Heater Jacket, 200 W 115/230 VAC
Enclosure Insulation Material	⅛" thick silicone, medium density
Filter Chamber Material	316 stainless steel
Filter Element Types	10 micron sintered SS (Customer Specified) 5, 20 micron sintered SS 2 micron ceramic 2 micron SS screen mesh

B: LIMITED WARRANTY

Perma Pure LLC
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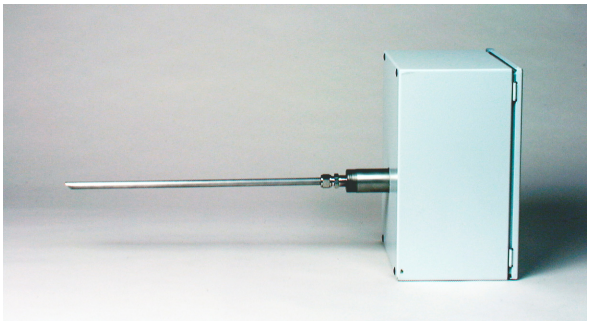
C: PRINCIPLE OF OPERATION

The Baldwin™-Series Model 34C-R Heated Filter Probe is designed to be mounted on a stack or duct for use in high particulate applications. Its primary function is to provide a heated environment to maintain sample gas temperatures above dew point and remove particulate material from the gas sample. Model 34C-R features a standard 10 micron sintered stainless steel filter element, a external regulated heater jacket, an integral calibration gas port on both sides of the filter element, a NEMA 4 enclosure, and a single direct blowback system to clean the filter element.

Mounting

The Model 34C-R is designed to be mounted directly on a stack or duct with a 1¼" Schedule 40 male pipe nipple. This pipe nipple can be screwed into a standard ASA flange, either flat or raised face. The probe boot can be heat shrunk to the sample line to eliminate cold spots.



Blowback

The Model 34C-R comes with a blowback air accumulator tank and 2-way solenoid. To operate blowback, connect a 50-90 psig instrument airline to the blowback air accumulator tank. The customer controls blowback via a PLC or other means determined by customer. The 2-way blowback solenoid is rated high temperature and 100 psig maximum pressure. The valve has a 1/8" orifice and the blowback instantaneous flowrate is 14scfh.

Calibration

To operate calibration gas to the probe, open the user supplied calibration gas control valve, adjust the cylinder pressure to >25 psig, and adjust the calibration gas flow rate to approximately 20% above the highest gas sample flow rate.

D: MAINTENANCE

The Model 34C-R does not require routine maintenance for the filter head or the temperature control.

The filter element requires periodic replacement, depending upon application and dust loading. See the attached Spare Parts list for replacement elements.

If the Model 34C-R is used in conjunction with the Baldwin™-Series Flow Control Drawer, monitoring the sample vacuum will warn the operator when to change the filter element. The operator should log the beginning sample vacuum when the system is first started up.

Keeping a daily log of the sample vacuum will notify the operator what frequency of blowback is required and when increasing frequency of blowback is ineffective in reducing the sample vacuum. Once the sample vacuum will not reduce, the operator should replace the filter element with a new filter.

E: TROUBLESHOOTING

Symptom	*Check*	*Action*
120 VAC heater jacket is not heating	Check the resistance between the black and white wires (tied together) and the blue wire. Resistance should be between 100-130 ohms together or from 230-250 ohms for each leg.	If the measure is open for heater resistance the fusible link has blown and the jacket should be replaced.
220 VAC heater jacket is not heating	Check the resistance between the black and white power wires using an ohmmeter. Resistance should be between 460-480 ohms.	If the measure is open for heater resistance, the fusible link has blown and the jacket should be replaced.
Filter plug cannot be removed from filter housing	Check "O" rings for damage High particulate loading	Replace "O" rings Clean the "O" ring sealing surfaces with a clean towel prior to reassembly.

For further service assistance, contact:
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or your local representative

F: SPARE PARTS

Model 34C-R

Part No.	Description
1PCG-002	Connector: Heated Line Entry Seal, 3”
3FES-004	Filter Element: 316L SS, 1.25” x 2.975”, 10 Micron
3PAM-006PK	Gasket: Graphoil 1.25” (10 pack)
3PHH-003	Heater Jacket, 200W 375°F
3PAM-028PK	O- Ring: Silicone, 50 Durometer (10 pack)
3PAM-010PK	O- Ring: Viton, 50 Durometer (10 pack)
3PAM-031PK	O-Ring: Pack, Viton, “C” series probes only, 5 ea 1⅞” OD, 2 ¼” OD
2VRS-008	Valve: Check, ¼” Viton “O” Ring
2VS2-006	Valve: Solenoid, 2 Way, 230VDC, 316SS
2VS2-007	Valve: Solenoid, 2 Way, 115VAC, 316SS

APPENDIX: