VQ8
Combustible Gas Detector Elements

To be read in conjunction with "Introduction to Pellistor Gas Sensors" and Pellistor Application Notes 1, 2, 3, 4, 6 and 7.

INTRODUCTION

The VQ8 consists of two matched elements which are used for the detection of combustible gases, particularly methane in air mixtures in concentrations from 0.1% upwards. There is no interference from water vapour or carbon dioxide. Using the recommended bridge circuit below and the mounting arrangement shown on page 2, the minimum sensitivity is 13 mV/% methane.

The VQ8 is similar in drive requirements to the VQ3 but with improved resistance to poisoning, particularly from lead bearing vapours.

GENERAL DATA

Electrical

The information given below relates to the VQ8 operating in the recommended circuit shown.

Operation (see note 1)	continuous
Bridge supply	2.5 ± 0.1 V
Bridge power consumption	1.1 W max
Minimum sensitivity (see note 2)	13 mV/% methane

Mechanical

Mounting	see page 2
Outline	see page 2
Shock test	250 g, 5 blows in each plane
Vibration test	20 g, 24 cycles from 100 to 3200 Hz

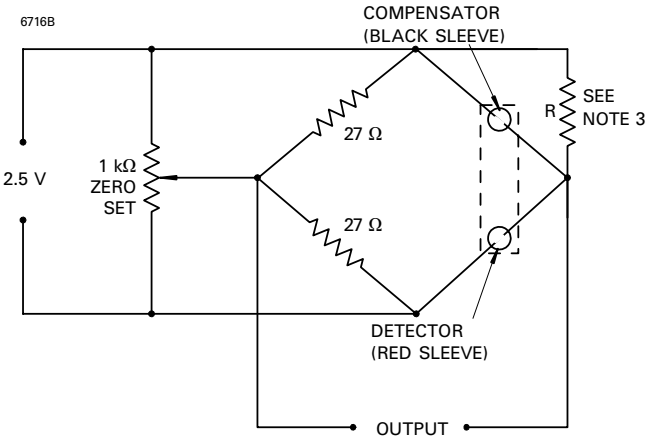
MARKING

Each element is identified by a unique serial number written on the can of both the detector and compensator. The serial number is written in red on the detector and black on the compensator. In addition, the detector carries a red circular label on the base identifying the device type.

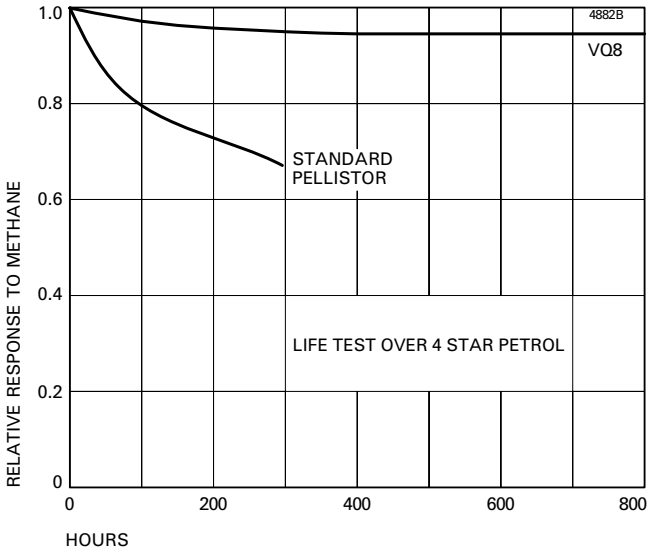
NOTES

1. Operation may be under either direct flow or diffusion conditions in appropriate mountings (see page 2).
2. With open-circuit conditions at the bridge output.
3. The elements are supplied as a matched pair with a trimming resistor R which is to be connected across the compensator element as shown below.

BRIDGE CIRCUIT



RESISTANCE TO LEAD POISONING



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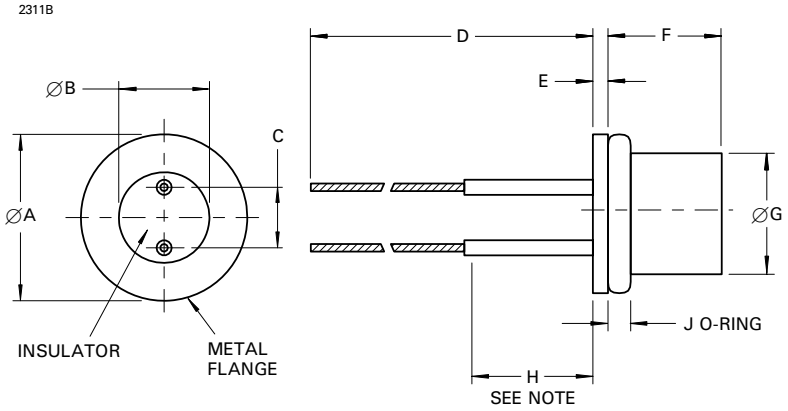
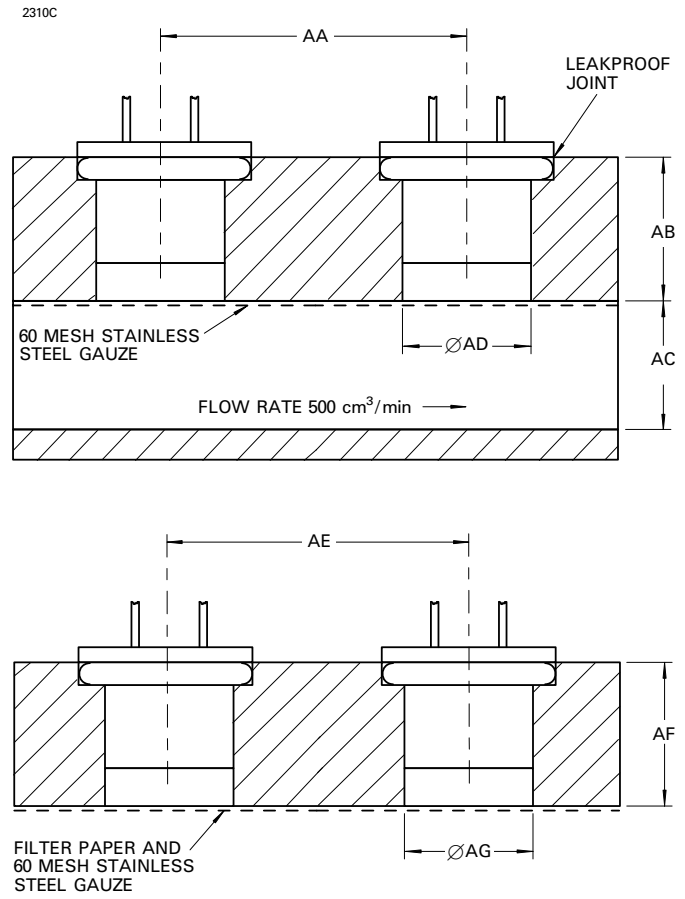
OUTLINE (All dimensions without limits are nominal)



Ref	Millimetres
A	11.05 ± 0.25
B	6.10 ± 0.25
C	3.56 ± 0.13
D	63.50 min
E	1.02
F	5.84 ± 0.51
G	8.20 max
H	9.53
J	1.52

Note No bends may be made in this length.

RECOMMENDED MOUNTING ARRANGEMENTS



Ref	Millimetres
AA	19.05 max
AB	9.53 ± 0.13
AC	8.33 ± 0.13
AD	8.20 min
AE	19.05 max
AF	9.53 ± 0.13
AG	8.20 min