



# Budenberg

Made in Britain

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## Model: 269

The Model 269 is a high specification vacuum gauge specifically designed for the estimation of the intensity of vacuum in a food can. Using an ordinary vacuum gauge fitted with a piercer is usually very inaccurate and does not allow for the dilution of the head space vacuum by entry of air at atmospheric pressure from the gauge. Ordinary vacuum gauges therefore always give a lower reading than the vacuum which existed in the head space before the can was pierced, and if the head space is small the error is compounded.

This gauge was developed by the British Food Manufacturing Industries Research Association and it overcomes the disabilities in an ingenious manner

A circular calculator can be provided with the instrument to carry out the calculations in units of ins Hg, cm Hg and Kpa.

### Size

63mm

### Mounting

Direct

### Case

One piece Polycarbonate case.

### Scale Ranges

0 to 30 Inches of Mercury (Ins Hg)

### Pressure Element

Phosphor Bronze

### Pressure Connection

Piercing needle inside rubber ferrule

### Accuracy Class

CL:1 1.0% of FSD as defined in EN837-1

### Temperature

Operating: -20 to +90 °C

Storage: -40 up to +100 °C

Options: for lower or higher operating temperatures, please contact our Sales Office

### Dial

White Anodised Aluminium marked in black finish

Single or dual scale

### Pointer

Stainless steel coloured black

## BFMIRA PATENT VACUUM GAUGE CAN PIERCING TEST



### Movement

316L Stainless Steel Construction

### Window

3mm Laminated Safety Glass (Standard)

Option: Acrylic Plastic Window

### Puncturing Needle and Ferrule

316L Stainless Steel Needle and Rubber Ferrule

### Environmental Rating

IP67 as defined in EN 60 529

### Traceability

All instruments are individually calibrated and have an unique Serial Number printed on the dial. A Certificate of Conformity Traceable to National Standards is Supplied Free of Charge

### Certification available

BS EN 10204 3.1B Material Certification

Point by Point Test Certificate

### Safety

All units are manufactured to comply with EN 837-1, S3 specification and other regulatory standards including PED.

### Installation Instructions

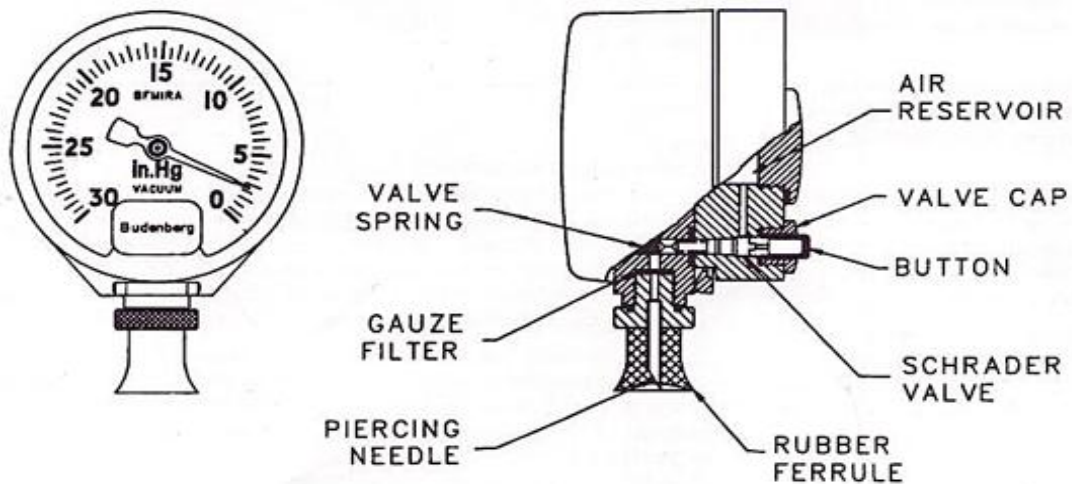
Refer to EN 837-2

### Temperature Effect

Variation in indication caused by temperature shall not exceed  $\pm 0.04 \times (t_2 - t_1)\%$  of the span where:

t1 is the reference ambient temperature in degrees Celsius

t2 is the ambient temperature in degrees Celsius



### Theory

It would be possible to calculate the true vacuum in a can from the vacuum gauge indication as normally obtained provided that the internal volume of the gauge were known, and also that the volume of the head space could be accurately measured. The measurement of the volume of the head space in a can is not however a simple matter. As in most cases the actual volume is governed to a greater or lesser extent by the degree of vacuum because of the flexibility of the lid of the can, an accurate determination of the head space volume by direct measurement would not be possible.

Suppose, however that having made a determination of the vacuum in a can in the usual manner with a puncturing gauge, a second known volume of air at known pressure and at the same temperature as the head space gas is introduced into the system. With the vacuum gauge still in position on the test can, a second gauge reading is obtained. From these two readings it is possible to calculate the original vacuum in the can without requiring to know the volume of the head space.

### Maintenance of Model 269

The BFMIRA vacuum gauge is a scientific instrument and should be treated accordingly. Ensure that it is not left exposed to those conditions which would corrode metal or rot the rubber ferrule.

The rubber ferrule should be removed from time to time and the puncturing needle wiped clean. If after repeated use the puncturing needle has become blunted, any slight burring of the cutting edge should be carefully removed with a fine file.

The gauge is fitted with a fine gauze filter at the head of the puncturing needle. This filter may require cleaning after prolonged use, it can be removed by unscrewing the knurled nut carrying the puncturing needle.

The valve is a standard Schrader type, should this valve fail, as indicated by a failure to obtain a second reading with a vacuum gauge, the valve can easily be removed and cleaned or a new one fitted.

It is essential to ensure that all joints are vacuum tight after carrying out cleaning operations and valve replacements.

### Spares

Rubber Ferrule

Piercing Needle assembly complete