VACUUM GAUGE HEAD, BAYARD-ALPERT TYPE

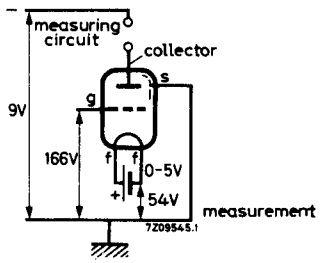
Ultra-high vacuum gauge head of the Bayard-Alpert type. Measuring range 10^{-3} torr to 4 x 10^{-11} torr; sensitivity approx. 12 per torr.
Type IOG-18 has a glass envelope.
Type IOG-18N has a fernico skirt, prepared for easy welding.

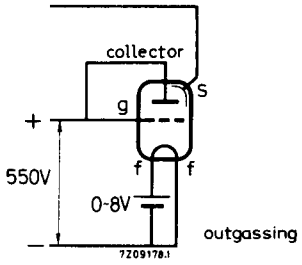
The heads with a glass envelope are provided with an electrically conductive layer on the inside of the envelope. By applying a fixed potential to the layer, excess primary electrons are attracted directly to the envelope rather than oscillating around the collector thereby leading to very stable measurements of low pressure.
Moreover the gauge head features a low thermal inertia and a low filament power consumption.

CHARACTERISTICS

Pressure range	10^{-3} to 4×10^{-11}	torr
Sensitivity (for nitrogen)	approx. 12	per torr
Emission current range, type IOG-18	1 μA to 50	mA
type IOG-18N	1 μA to 30	mA
Filament characteristics	see page 4	
Insulation resistance		
Collector to other electrodes	min. 10^{14}	Ω
Grid to other electrodes	min. 10^{12}	Ω

TYPICAL OPERATING CONDITIONS





Emission current (see also page 4)		
measurement	100 μA, 1 mA or 10	mA
outgassing, type IOG-18	50	mA
type IOG-18N	30	mA

LIMITING VALUES

Pressure (filament litt)	max.	10^{-3}	torr
Filament voltage	max.	8	V
Emission current	max.	50	mA
Grid input power, type IOG-18	max.	30	W
type IOG-18N	max.	20	W
Bulb temperature during operation	max.	100	°C
Bake-out temperature	max.	450	°C

MECHANICAL DATA

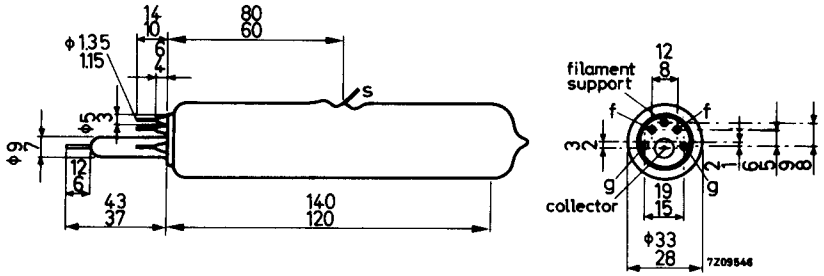
Dimensions in mm

Material

Filament	Tungsten
Tubulation (with type IOG-18)	Kodial
Skirt (with type IOG-18N)	Fernico

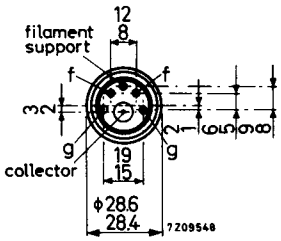
Mounting position: any

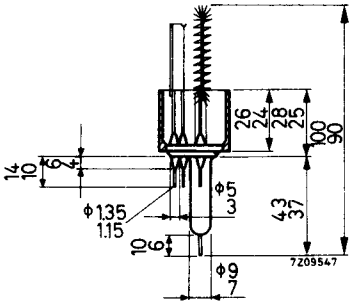
IOG-18

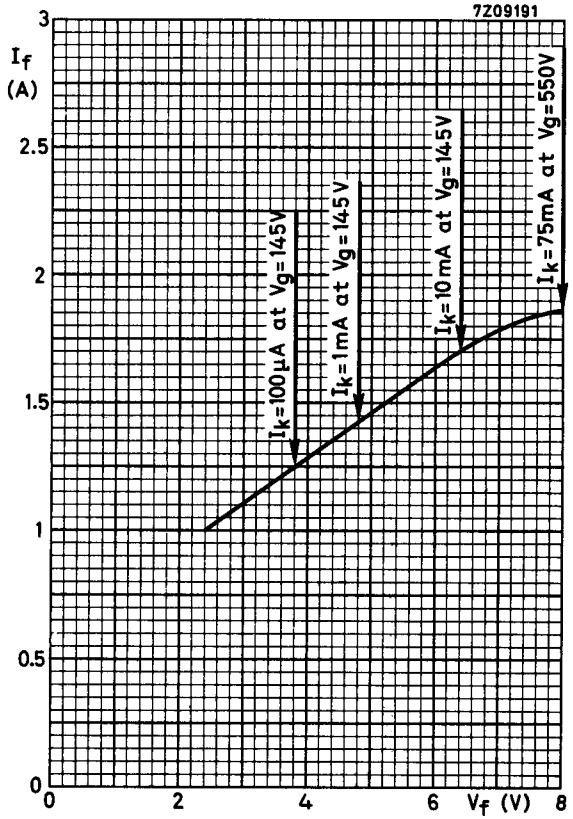


MECHANICAL DATA (continued)

IOG-18N






7Z09191
I_f (A)
3
2.5
2
1.5
1
0.5
0
0
2
4
6
8
V_f (V)
I_k=100µA at V_g=145V
I_k=1mA at V_g=145V
I_k=10mA at V_g=145V
I_k=75mA at V_g=550V

PHILIPS

Data handbook

Electronic components and materials

IOG18 IOG18N

page	sheet	date
1	1	1970.01
2	2	1970.01
3	3	1970.01
4	4	1970.01
	FP	2001.05.17