

Three-electrode high-pressure ionization vacuum gauge designed for gas-pressure measurement over its specified elevated vacuum-pressure range.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	5 V / —	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Gauge
No fixed ratings recorded.
Source-derived physical/electrical section.

VVestinghousé 7676 May 15, 1960 HIGH PRESSURE ION GAUGE TYPE 7676 The 7676 is a three electrode icnization type vacuum gauge designed to measure gas pressures in the range of 1x 10⁻⁵ to 5% 10~ mm Hg. The operating filament is a thoria coated iridium wire. Filament burnout will not occur if the tube is accidentally let down to air during operation. The ion collector is a flat plate paraliel to the operating filament. The other electrode, which is used as an electron emitter during outgassing andas an electron collector during operation, is a tungsten ribbon parallel to the ion collector on the opposite side of the operating filament, ELECTRICAL: MAXTMUM RATINGS: Outgassing: Absoluts Moximum Values Cothode, ...vvvv i nnn Tungsten Ribbon Filoment Outgassing: {DC voltages are with respect to Outgos-Filament- Filament: Electron-Collector Electrode) Yoltage (ac or de}approx. 5 Volts lon collectar Voltage 500 max. Volts Currant L e e e e e e e

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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Published test conditions and operating points. Values on this page are preserved as reported by this source.

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Section 1 · Gauge

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
1x 107510 5% 10~ mm Hg. The operating filament is a thorium	10	1x 107510 5% 10~ mm Hg. The operating filament is a thorium coated iridium wire. Filament burnout will not
Voltage (ac or dc) approx	500	Voltage (ac or dc) approx. ... 5 Volts on collector Voltage ... 500 max. Volts
Current	15	Current 13 Amperes on Collector DC Power Input. 15 max. Watts
Operating: Filament Voltage (ac or dc)	5.5	Operating: Filament Voltage (ac or dc) ... 5.5 max. Volts
Cathode. v v a Thorium Coated [Iridium Filament Ambient Temperature	100	Cathode. v v a Thorium Coated [Iridium Filament Ambient Temperature 100 max. °C
Voltage	65	Voltage 2.0 Volts on Collector Voltage +65 max. Volts
Current at 5 x	2.25	Current at 5 x 105 mm Hg. v o v i e o 2.25 Amperes Outgas-Filament-Electron-Collector
Electrode Voltage	-65	Electrode Voltage -65 max. Volts
Filament Voltage (ac or dc)	2	Filament Voltage (ac or dc) 2.0 max. Volts
/r\ il Voltage {ac or dc)	5	/r\ il Voltage {ac or dc) 5.0 Volts
Current « o t e e e e e e e e	13	Current « o t e e e e e e e e 13 Amperes
Voltage with respect to Dperote Filament	160	Voltage with respect to Dperote Filament . . . 160 Volts
At	1.1	At 107 mmHg .. 1.1 Volts
Frem x	1	Frem x 107% 46 1x 10~2 mm Hg. 1 Mo.
From	50	From 1x 107310 1% 107 mm Hg. 50 HA.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
OUTGASSING P NG S=(H/i) = (W/P) L	0.4	OUTGASSING P NG S=(H/i) = (W/P) L 0.4 (mm Hg) TM
... 1% 107810 6 < 10! mm Hg	10	... 1% 107810 6 < 10! mm Hg
Quigas Filament (-)	-587	Quigas Filament (-)---587 Operate Fllament(-)--& * Voltage must nat be applied across operate filament during out-
3 ° / rd I-.Pra s".mrge—	3	3 ° / rd I-.Pra s".mrge—
108 10° 10 1o 162 1g! 10 100	100	108 10° 10 1o 162 1g! 10 100
from	103	from 1075 to 103 ampere is required for measuring electron current and a sensitive
microammeter with ranges from	107	microammeter with ranges from 1078 to 107° amperes is required in the ion collector
circuit. The filament power required is	5.5	circuit. The filament power required is 2 volts at 2.5 amperes for operation and 5.5 volts
at	2	at13 amperes for outgassing. A circuit incorporating these features is shown in Figure 2.
In this circuit, a	100	In this circuit, a 300 volt, 100 milliampere stabilized power supply is used.
negative, and the electron collector approximately	60	negative, and the electron collector approximately 60 volts positive with respect to the
° D.C.	5	° D.C. 5V
should read	2	should read .002pA at IXIG? mm He.
Note	2	Note 2. Fine control for fiament voltage
will be compensated by a change in filament voltage, is shown in Figure	3	will be compensated by a change in filament voltage, is shown in Figure 3.
Col-}LEctor - L) ° L [[J o L o L] [* k'] o L] - [] [] L] ® [	7	Col-}LEctor - L) ° L [[J o L o L] [* k'] o L] - [] [] L] ® [7

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
tentiometers in the resistance chain, so that the ion collector is approximately	60	tentiometers in the resistance chain, so that the ion collector is approximately 60 volts



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