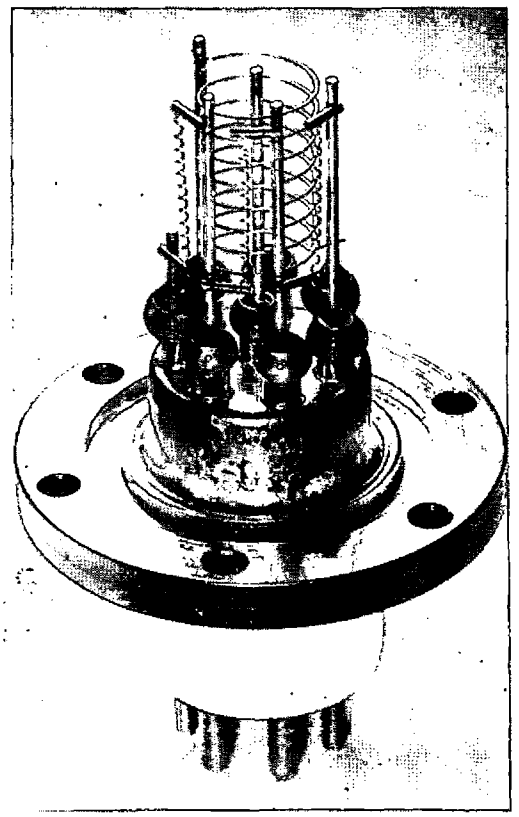
VACUUM TUBE PRODUCTS

VTP IONIZATION GAUGE TUBE TYPE 6578

The VTP 6578 Ionization Gauge Tube is the ultimate in reliability and accuracy for measuring vacuum in large metal systems. The inherent design incorporating the use of pure metals, accurate electrode positioning and freedom from connecting tube restrictions allow a precise measurement of low pressures. By utilizing a design with the grid surrounding the collector, the absolute minimum of errors in gas pressure are obtained, inasmuch as the collector is physically small and few gas molecules are released by collector ion bombardment. The VTP 6578 is constructed with three separately connected filaments providing the maximum in gauge reliability when used on large systems and where a shutdown for gauge tube replacement is costly. Provision is also made for outgassing the grid by direct heating by applying a voltage to the two end connections brought out to separate base pins. Grid out gassing may be done while the tube is in operation, if desired.



SCALE FULL SIZE

GENERAL CHARACTERISTICS

Filaments	Three.
Note: Use filaments individually for maximum life.	
Filament Voltage (Single Filament)	5.0 Max. Volts
Filament Current	6.0 Max. Amps
Grid Voltage (Referenced to Filament)	500 Max. Volts
Grid Voltage (Referenced to Flange)	500 Max. Volts
Grid Current (Emission Current)	15 Max. Ma
Grid Voltage (Pin 3 to Pin 5)	5 Max. Volts
Grid Current (Pin 3 through Pin 5 circuit)	4¼ Max. Amps
Collector Voltage (Referenced to Filament)	500 Max.Volts
Collector Voltage (Referenced to Flange)	500 Max. Volts
Collector Current___Varies directly with gas pressure and directly with grid current	
When filament is hot do not exceed following pressures	
Pressure Maximum (Corrosive Gasses or Nitrogen)	5 Microns
Pressure Maximum (Noble gasses or Hydrogen)	2 Atmospheres
NOTE: It is not necessary to remove the VTP 6578 when pressure testing metal systems for leaks.	
Case	Ceramic RETMA A7-14
Basing	RETMA 7EH

Pin No.	1	2	3	4	5	6	7
Element	F1F2	F1	G	C	G	F3	F2F3

Mounting (Mechanical)	6 equally spaced 13/64" holes on 2¼" hole circle
Mounting Position	Any
Maximum Flange Temperature	180°C

TYPICAL OPERATION

Filament Voltage ___ Single Filament. (Adjust to provide 5 ma Emission to Grid)	Approx. 3.0 Volts
Filament Current (when obtaining emission from 1 filament)	Approx. 4.0 Amps
Grid Voltage (Use voltage regulated supply)	+150 Volts
Grid Current (Adjust filament voltage to obtain this value)	5 Ma
Collector Voltage	--30 Volts
Collector Current (Depends on gas and on gas pressure)	60 Microamps/micron for Dry Air
Grid Outgassing Operation___Apply 5 volts at approx 4 amps between pins 3 and 5 until gas pressure measured is stable.	

NOTE: The collector of the VTP 6578 does not require outgassing due to its small size and the radiation heating from the grid outgas operation.

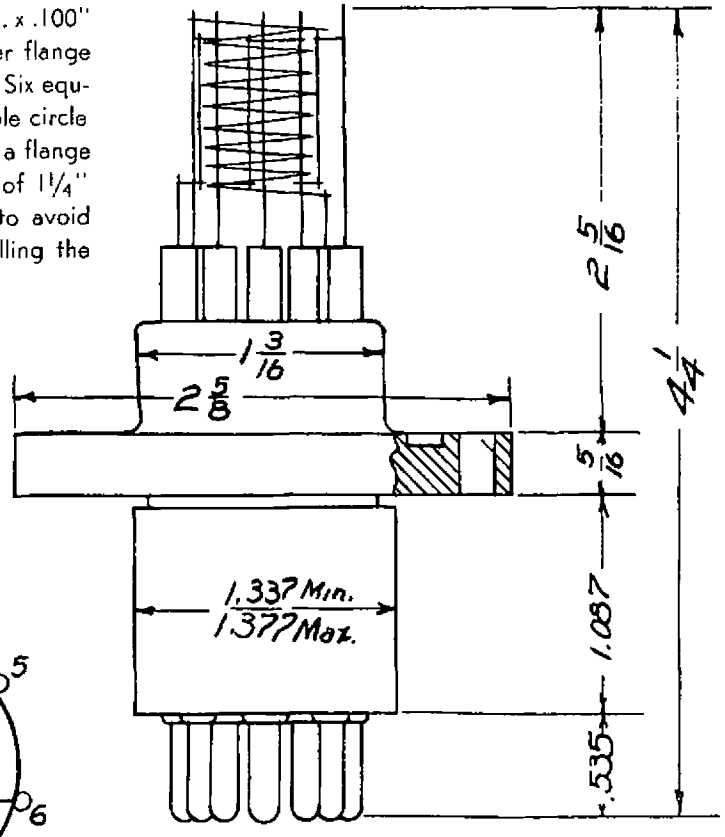
VACUUM TUBE PRODUCTS, 506 SOUTH CLEVELAND STREET, OCEANSIDE, CALIFORNIA
TELEPHONE: SAratoga 2-6567

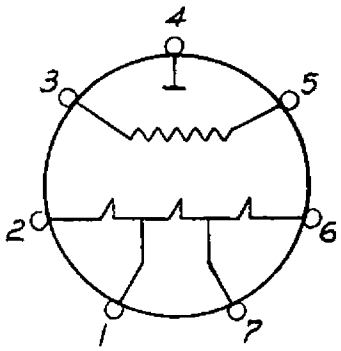
Feb. 1955

from JETEC release #1442, April 4, 1955

IONIZATION GAUGE TUBE
TYPE 6578

A gasket groove 1½" I.D. x 1⅞" O.D. x .100" deep is provided in the 2⅝" diameter flange to accomodate AN6227B-28 O-Rings. Six equally spaced 13/64" holes on a 2¼" hole circle are provided to facilitate clamping to a flange on the vacuum system. A clearance of 1¼" diameter by 2⅝" deep is required to avoid damage to tube elements when installing the VTP 6578.

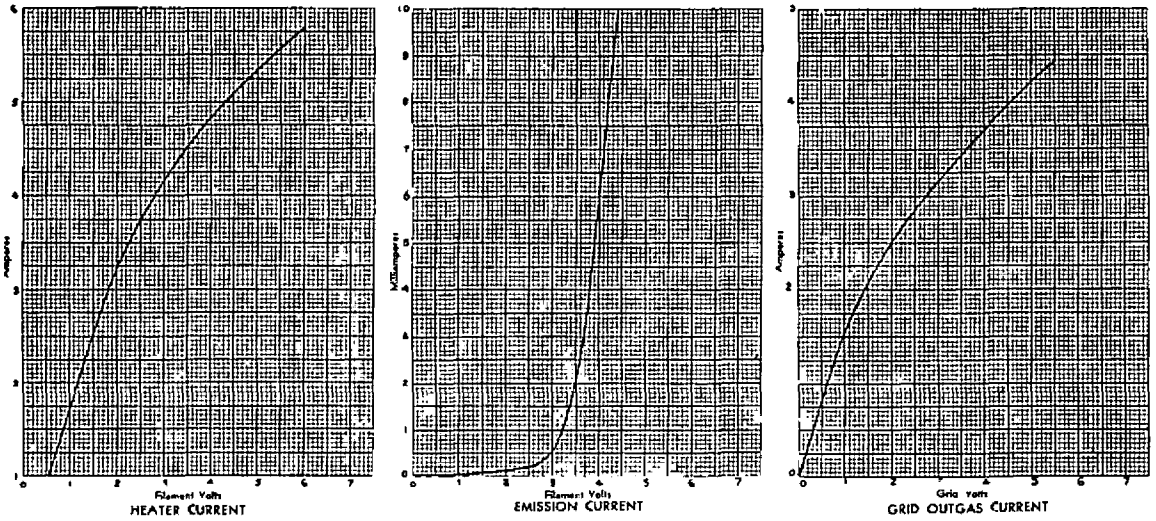




Base—Ceramic RETMA A7-14 BASING PEH

Typical curves with Eg = +150 Ep = —30

Note: Do not exceed 10 ma grid current to obtain maximum filament life.
5 ma Ig is normal operating current.



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