

TENTATIVE DATA

QUICK REFERENCE DATA

External anode triode of ceramic-metal construction, water cooled by means of an integral water cooler, intended for use as a class 'C' industrial oscillator.

f	≤80	MHz
P <sub>out</sub> (less P <sub>drive</sub> )	30	kW
f max.	80	MHz
V <sub>a</sub> max.	9.0	kV
p <sub>a</sub> max.	20	kW

To be read in conjunction with  
GENERAL OPERATIONAL RECOMMENDATIONS - TRANSMITTING VALVES  
INDUSTRIAL OSCILLATOR, CLASS 'C'

OPERATING CONDITIONS

f	≤80	MHz
P <sub>out</sub>	32.4	kW
P <sub>out</sub> (less P <sub>drive</sub> )	30	kW
P <sub>load</sub>	25.5	kW
Duty factor	1.0	
η <sub>a</sub>	80	%
V <sub>a</sub>	7.5	kV
I <sub>a</sub>	5.4	A
-V <sub>g</sub>	653	V
I <sub>g</sub>	1.45	A
R <sub>g-f</sub>	450	Ω
Feedback ratio v <sub>in(pk)</sub> /v <sub>a(pk)</sub>	0.17	
P <sub>drive</sub>	2.4	kW
p <sub>a</sub>	8.1	kW

## RATINGS (ABSOLUTE MAXIMUM SYSTEM)

$f$ max.	80	MHz
$V_a$ max.	9.0	kV
$-V_g$ max.	1.5	kV
$I_g$ max. on load	1.6	A
off load	2.4	A
$I_k$ max.	7.5	A
$i_{k(pk)}$ max.	40	A
$P_{in}$ max.	45	kW
$p_a$ max.	20	kW
$R_{g-f}$ max.	10	k $\Omega$

## CATHODE

Directly heated, thoriated tungsten

$V_f$	7.0	V
$I_f$	175	A
$i_{f(pk)}$ max. (starting)	1.0	kA
$r_f$ (cold)	0.0042	$\Omega$

The filament has been designed to accept temporary fluctuations of supply voltage of +5 to -10%.

## CAPACITANCES

$c_{a-g}$	32	pF
$c_{a-f}$	1.0	pF
$c_{g-f}$	61	pF

## CHARACTERISTICS (measured at $V_a = 7.0kV$ , $I_a = 3.5A$ )

$g_m$	60	mA/V
$\mu$	34	

## MOUNTING

Vertical, anode up or down

## COOLING

Anode - water cooled with integral cooler.

Seals - low velocity air flow at frequencies > 4MHz

### Temperatures

Anode seal max.	200	°C
Grid seal max.	200	°C
Filament seals max.	200	°C
Envelope max.	200	°C
Water inlet max.	50	°C

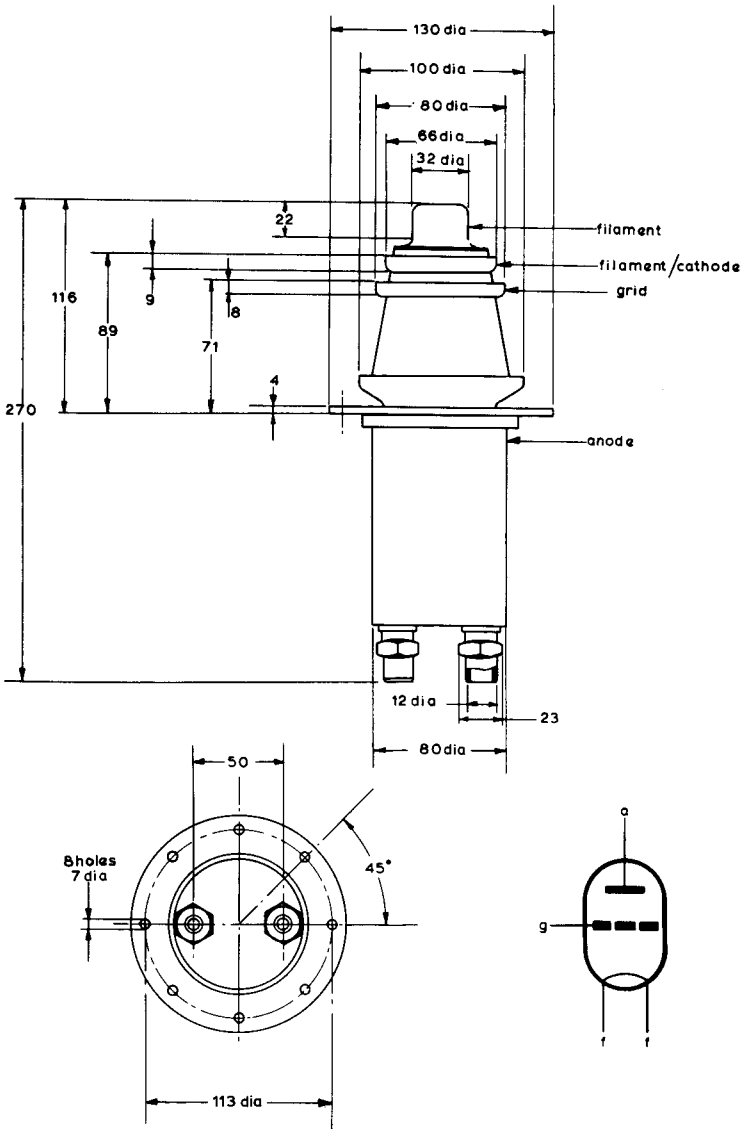
## WATER COOLING CHARACTERISTICS

Anode Dissipation (kW)	Inlet Temperature (°C)	Rate of flow (l/min)	Inlet Pressure (Atm)	Outlet Temperature (°C)
20	20	15	0.7	40

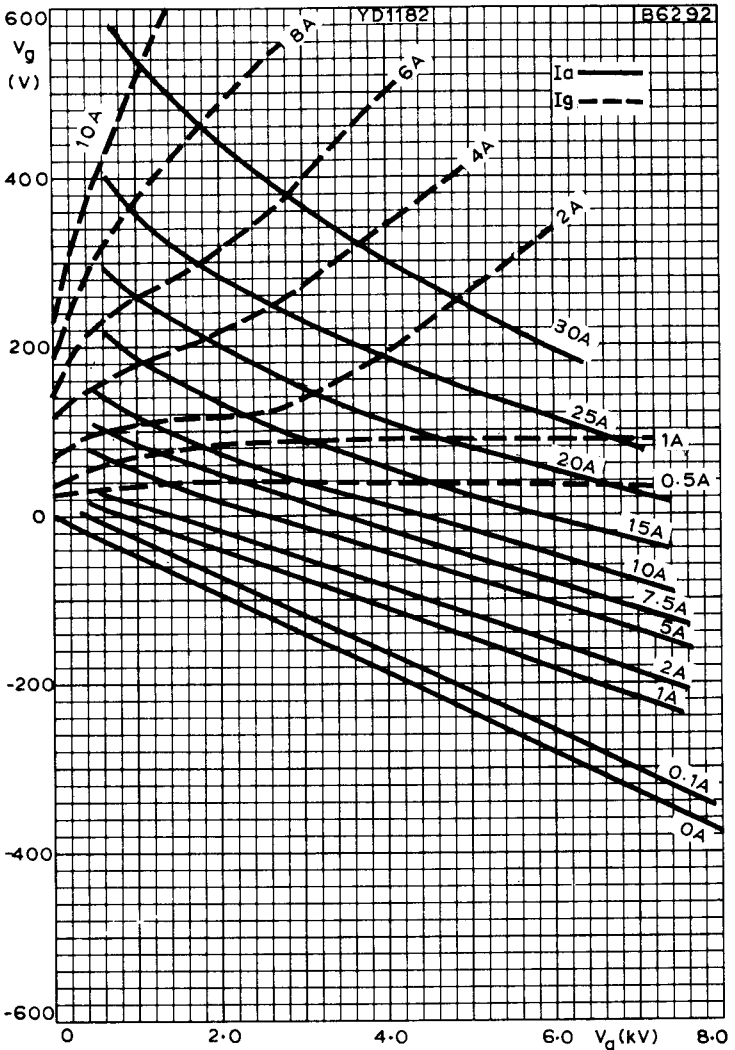
## ACCESSORIES

Grid connector $f \leq 4.0\text{MHz}$	40710
$f > 4.0\text{MHz}$	40711
Filament connectors (both types required)	40708
	and 40709
Filament cables ( $\times 2$ )	40720

OUTLINE DRAWING OF YD1182



All dimensions in mm. B6295



CONSTANT CURRENT CHARACTERISTICS

