

# PET3012CL

Air Cooled Triode  
For Industrial RF Heating

Drop in equivalent of RS 3012 CL

- Output Power: 18 kW (CW mode)
- Anode voltage: 12 kV  
17 kV in serial regulation
- Anode dissipation: 10 kW max.
- Frequency up to 50 MHz

Manufactured in India, in a world-class facility equipped with high quality machinery, materials and components sourced from reputed suppliers in America, Europe and Japan.

Fifty-two weeks warranty against manufacturing defects irrespective of the number of hours of operation.



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The PET3012CL is a RF power triode designed for industrial applications. This tube uses a coaxial design and metal-ceramic technology. This triode may be operated in CW or pulse modes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information. The PET3012CL is a air cooled triode.

## Electrical characteristics

Cathode Filament	. . . . .	thoriated tungsten
Filament voltage (+5%, -10%).	. . . . .	6 V
Filament current	. . . . .	64 A
Surge current (maximum)	. . . . .	192 A
Capacitances:		
• Grid to Anode	. . . . .	11 pF
• Grid to Cathode	. . . . .	21 pF
• Cathode to Anode (see note 2)	. . . . .	0.3 pF
Amplification factor (approx.).	. . . . .	35
Transconductance (Va: 2 kV, Ia: 1 A)	. . . . .	20 mA/V approx.

## Mechanical characteristics

Operating position	. . . . .	vertical, anode up or down
Weight	. . . . .	6.5 kg (14.3 lbs) approx.
Dimensions	. . . . .	see outline drawing

## Maximum ratings

Frequency	. . . . .	50 MHz
Anode voltage:		
• oscillator mode	. . . . .	12 kV
• serial regulation	. . . . .	17 kV
Control grid voltage	. . . . .	-1 kV
Control grid current:		
• At full load, CW	. . . . .	540 mA
• At no load, CW	. . . . .	650 mA
Peak cathode current, CW	. . . . .	14 A
Anode dissipation	. . . . .	10 kW
Grid dissipation	. . . . .	200 W
Grid resistance (at blocked tube)	. . . . .	20 kΩ

## Cooling

Anode cooling	. . . . .	Forced Air
Cooling air flow and pressure gradient	. . . . .	see cooling curves
Inlet air temperature	. . . . .	25 °C typ.
Temperature at any point on tube envelope	. . . . .	220 °C max.

**Class C RF oscillator for industrial applications**

Frequency	. . . . .	< 50	< 50	MHz
Anode voltage	. . . . .	10	8	kV
Control grid bias	. . . . .	- 550	- 550	V
RF control grid voltage	. . . . .	910	890	V
Anode current	. . . . .	2.3	1.9	A
Control grid current	. . . . .	500	480	mA
Anode input power	. . . . .	23	15.2	kW
Anode output power	. . . . .	18	12	kW
Anode dissipation	. . . . .	4.6	3	kW
Screen grid dissipation	. . . . .	155	140	W
Grid resistance	. . . . .	1.1	1.15	kΩ
Feedback ratio	. . . . .	10	12.4	%
Oscillator efficiency	. . . . .	78	79	%

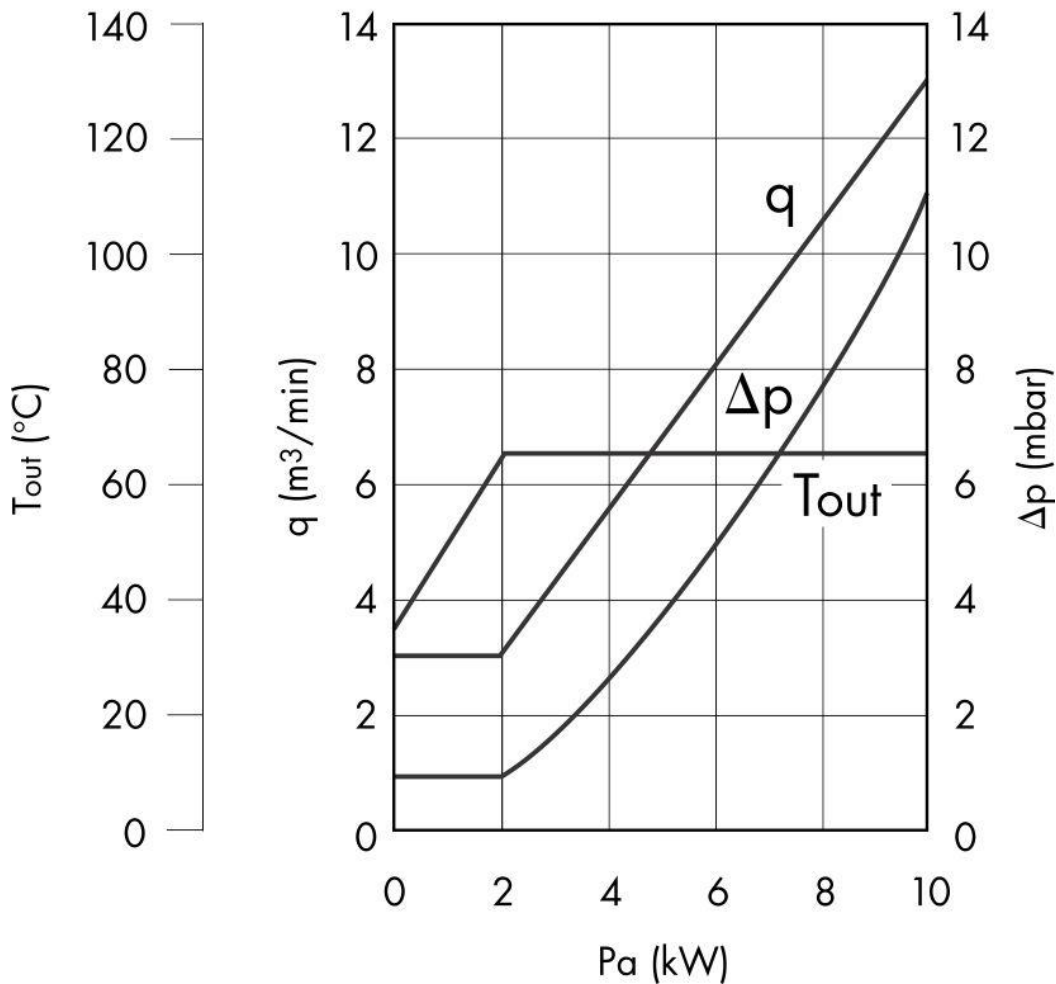
*Operations at higher frequencies available upon request*

**Cooling Curves**

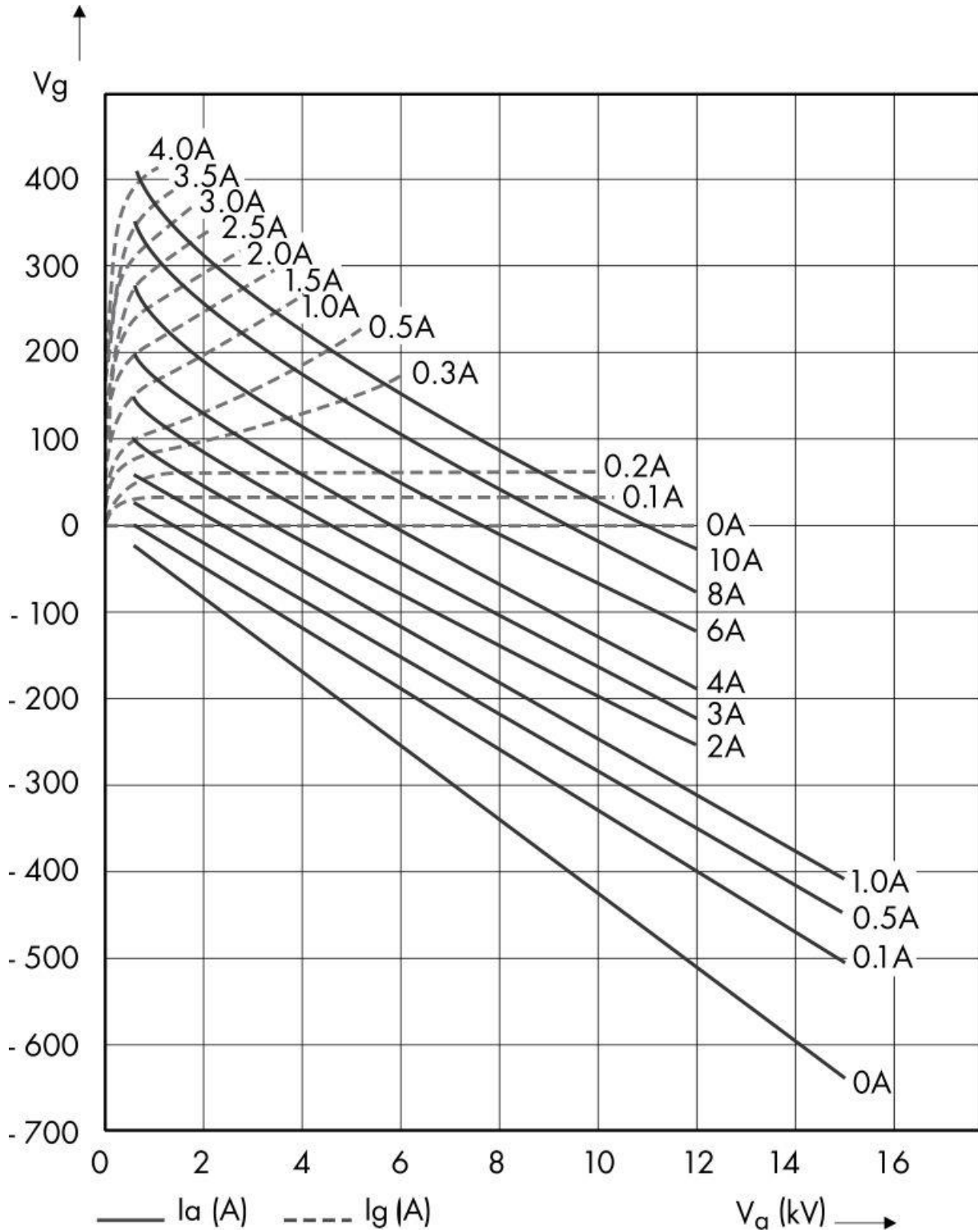
Pa : anode dissipation Δp : pressure drop

q : air flow rate Tout : air outlet temperature

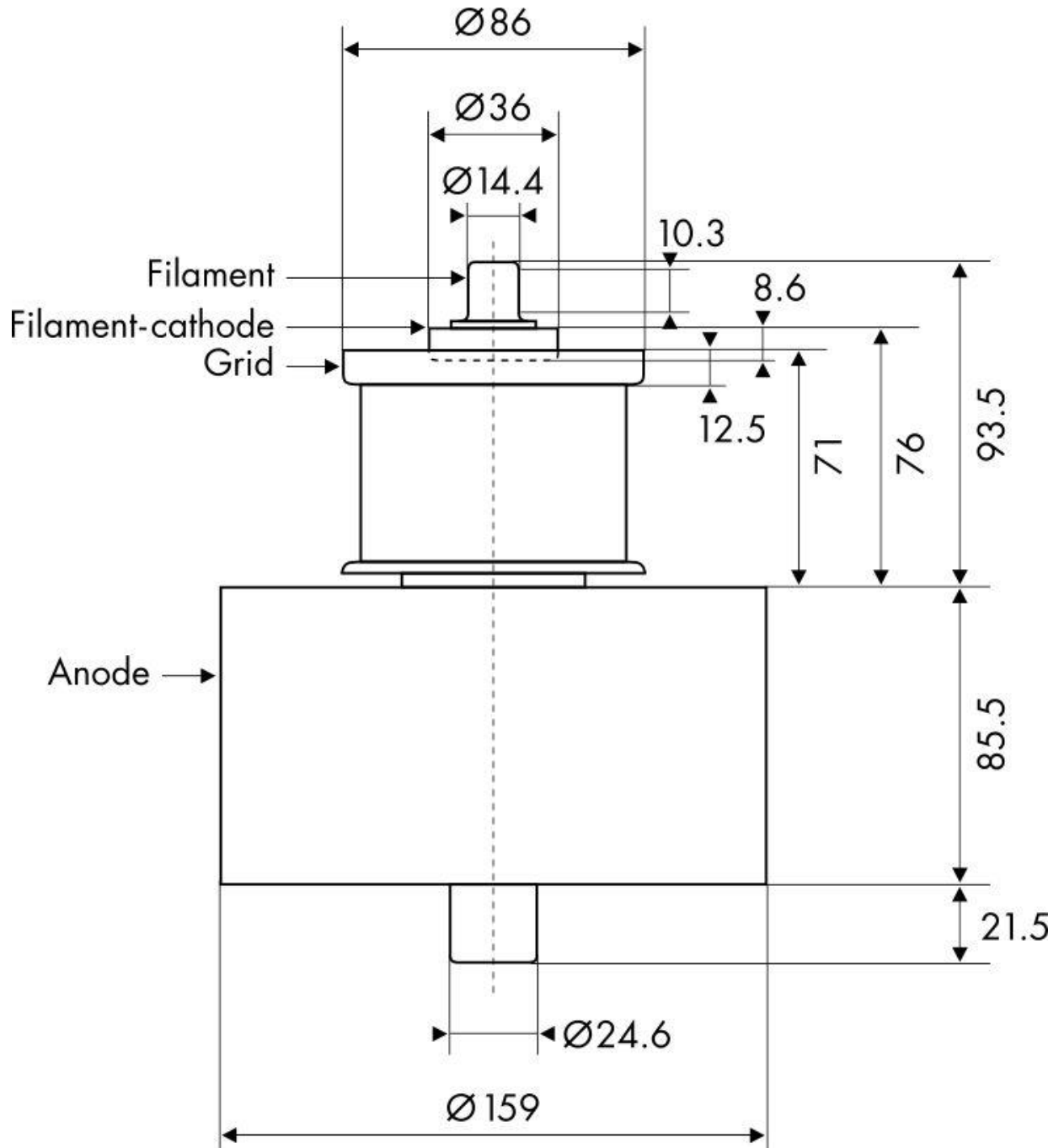
$t_1 = 25^\circ \text{C}$



Constant Current Characteristics



Outline Drawing (in mm)



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