

# Induction Melting Ticonium and Nobileium

United Induction Heating Machine Limited

We are experienced in Induction Heating, induction heating machine, Induction Heating equipment. They are widely used in induction heating service, induction heat treatment, induction brazing, induction hardening, induction welding, induction forging, induction quenching, induction soldering induction melting and induction surface treatment applications  
<http://www.uihm.com>

Melting Ticonium and Nobileium Objective: Crucible melting of Ticonium and Nobileium ingots within a period of 45 seconds. Four ingots of Nobileium are to be placed in a crucible (ID#6012) and heated, while a single ingot of Ticonium is placed in a crucible (ID#65045)

for heating.

Material: 1/2 x 3/8 x 3/8 Ingots of Nobileium

1/2 OD x 3/4 long Ingots of Ticonium

Temperature: 26500F (Nobileium)

24500F (Ticonium)

Application: Due to the small size of the ingots, RF induction heating was required to efficiently couple to the samples in order to provide the necessary power to initiate melting. By using the UIHM SP 5, 5 kW output solid state induction power supply and a five (5) turn helical coil, the following results were achieved:

# 35 seconds was required to fully melt the Nobileium Ingots.

# 30 seconds of heating time was required to melt the Ticonium Ingot.

Equipment: Power of 90 kW output solid state induction power supply including four (4) capacitors totaling 1.33  $\mu$ F, and a five (5) turn helical coil made from 3/16 tubing and measuring 1 5/8 ID and 1 1/2 high.

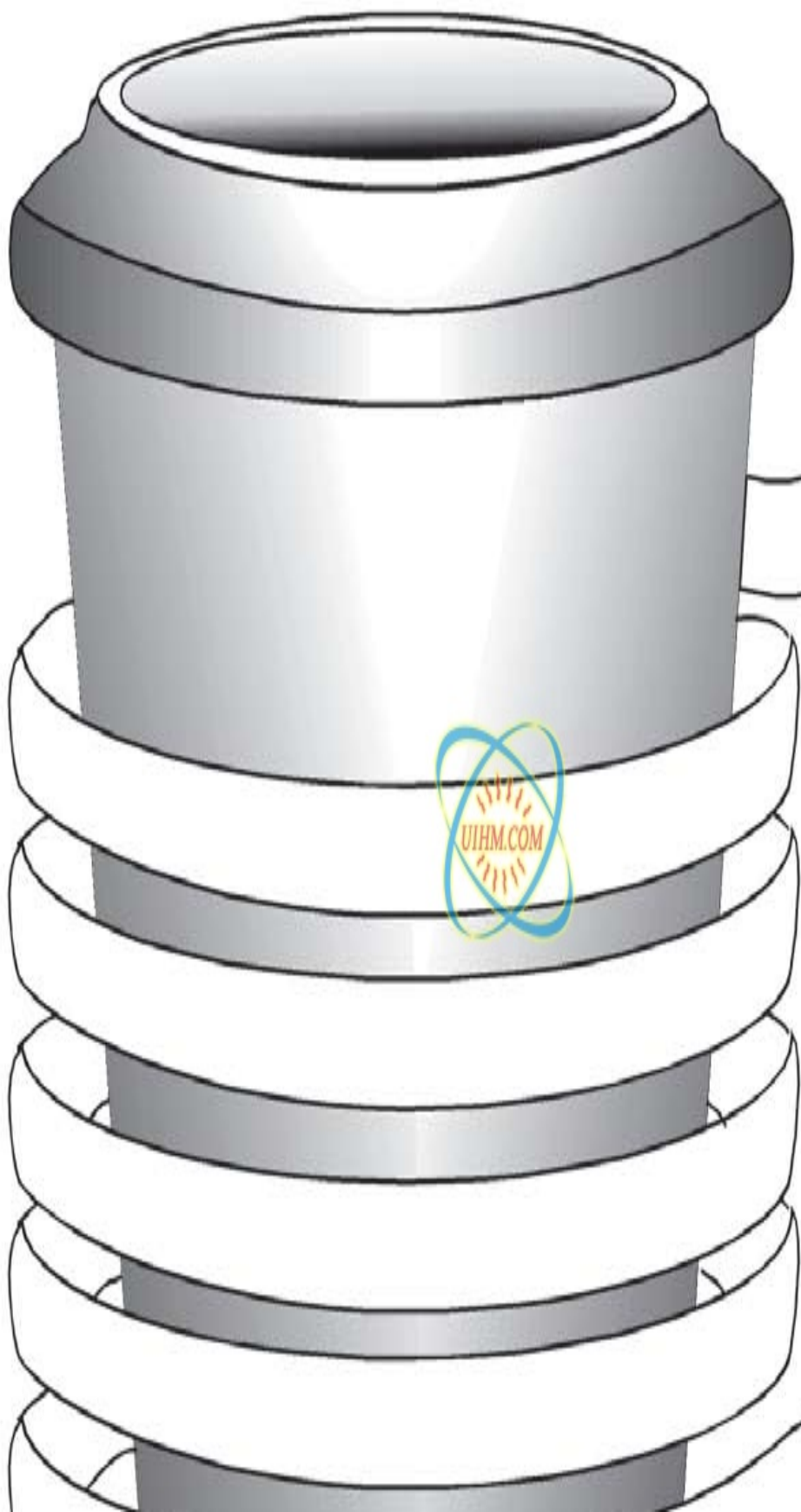
Frequency: 105 kHz (Nobileium)

150 kHz (Ticonium)melting Ticonium and Nobileium

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Fused Silica Crucible Containing  
Titanium and Niobium  
Ingots



To Heat  
Station