Attachment 1

Arc Melter Specification of Requirements

1. The chamber shall be all stainless steel or Ni-based alloy and water jacketed.
2. The chamber must have a window of 4” diameter or larger with external guard to allow the user to safely view the melting process.
3. The chamber must include an illumination port and light assembly, in order to view the chamber interior.
4. The chamber and vacuum pump must be able to reach and maintain a vacuum of 10-1 torr within 20 minutes.
5. The chamber must be equipped to handle backfilling with inert gas, including necessary inlet/relief valves, pressure/vacuum gauges and clamps to handle slight positive pressures.
6. The electrode (Stinger) shall be water-cooled cooper, and capable of up to 650 amps.
   1. 1/4" diameter thoriated tungsten stinger tip and arc starter
7. The hearth plate must have a water-cooled copper top. It shall include a cavity for a titanium purification charge and a cavity capable of creating a 200+ gram circular button of steel.
8. Power cables must be water-cooled.
9. A 650 amp power supply with foot control is required.
10. A table or cabinet for mounting the chamber must be provided.
11. Chamber controls must be arranged for easy operation of inert gas and evacuation system by a single operator.
12. The system must be plug-and-play compatible with the buyer’s existing chiller (Thermal Care EQ2A02, 3HP, 2.2 tons cooling capacity).
13. The entire system (power supply, arc melter, vacuum pump) must fit within a 5.5’W x 5.5’D x 7’H space envelope.
14. Quote shall include one spare gasket set and six (6) spare tungsten electrodes tips.
15. A one year warranty to cover repair or replacement of parts under normal use must be provided.
16. The supplier must allow the buyer to visit their facility for inspection and training on the arc melter prior to shipment.