



## IN RO QUENCH WIRE CASTER

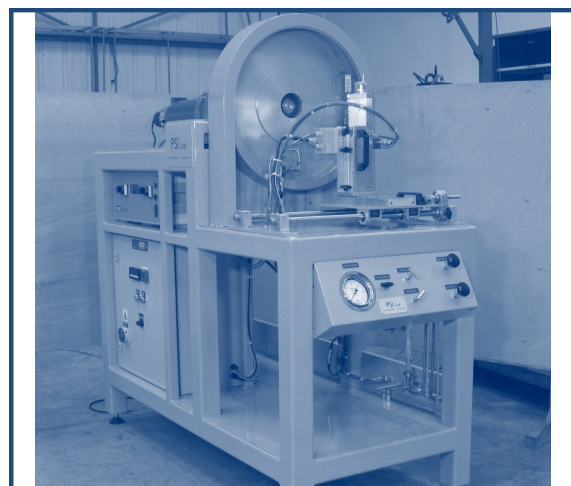
The InRoQuench Wire Caster has been developed to create amorphous wires from a wide range of metallic alloys supplied in the form of rods or small pieces.

It is designed to be a state-of-the-art research-scale wire caster capable of producing rapidly quenched wire product under a range of different process conditions in a wide variety of alloys. Cooling rates of  $10^6 \text{ Ks}^{-1}$  are typical.

The design has evolved from field research experience in addition to PSI's in house development work. These includes several novel features that contribute to the performance, reliability and utility of the InRoQuench wire caster.

- Latest generation induction heating provides greater efficiency and reduces overall power consumption compared with other systems.
- Both 'Low' and 'High' precision crucible adjustment system ensures rapid and repeatable positioning.
- Direct temperature measurement provides the fastest response.
- Advanced bearing design supports the large diameter dynamically balanced water cooled drum.
- Able to produce a wide range of wire diameters.

See overleaf



### INROQUENCH WIRE CASTER

High performance laboratory scale wire caster producing amorphous wires in research scale quantities.

PSI



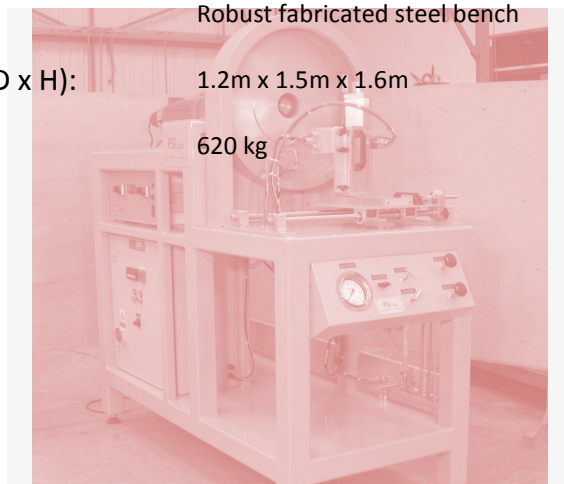
# Phoenix Scientific Industries

High performance process solutions

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### Typical System Data

Melting Method:	Latest generation induction heating system
Melt Capacity:	5g nominal
Crucible Description:	Silica material with specific ejection orifice dimension
Crucible Position Control:	Coarse in X direction, fine in both Y and Z directions
Drum Description:	Large diameter with continuously variable speed to 400 rpm max with digital display
Surface Velocity:	Approx. 12 m sec <sup>-1</sup> max
Melt Ejection Control:	Variable pressure inert gas max. 5 barg
Casting Temperature:	Up to 1400°C regulated to ± 5 °C
Ejection Angle:	Between 0° and 70°
Control System:	Simple operator control interface
Operator Training:	Included within the commissioning process
Water Requirement:	Approx. 10 litres/min, 5 bar
Compressed Air Requirement:	Minimal at 3-5 barg
Framework:	Robust fabricated steel bench
Systems Size (W x D x H):	1.2m x 1.5m x 1.6m
System Weight:	620 kg



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