

# PSI Phoenix Scientific Industries



High performance process solutions

## HERMIGA 100/10 MULTI MELT

The HERMIGA 100/10 Multi Melt atomiser is a unique and adaptable system that provides three interchangeable technologies in one machine.

- Melting / atomisation of reactive melts (including titanium) using Cold Crucible technology.
- Atomisation of other alloys using induction heating with standard crucible materials.
- Production of continuously cast billets for development of novel titanium & other alloys.

PSI's close-coupled die technology is capable of producing fine powders down to 10 microns median with rapid solidification rates in the region of  $10^5$  to  $10^6$  Ksec<sup>-1</sup>.

As a result of a continuous development program the Multi Melt benefits from PSI's unique geometry die design allowing consistent production of high quality spherical metal powders.

A wide range of options is available to produce the system that best suits your requirements.

- Melting capacities are;
  - 10 kg of steel (ceramic crucible)
  - 5 kg titanium (cold crucible)
  - Equivalent volumes of other alloys.
- Touchscreen HMI control system includes sophisticated data logging facility.
- Options available include;
  - Oxygen monitoring
  - Optical Pyrometry
  - Vacuum system upgrades
  - Melt charging / sampling
  - Gas superheat, gas cooling
  - Particle injection system
  - Additional transfer hoppers

See overleaf



## HERMIGA 100/10 MM

An adaptable Atomiser ideal for the production of reactive and non-reactive metal powders and cast product.

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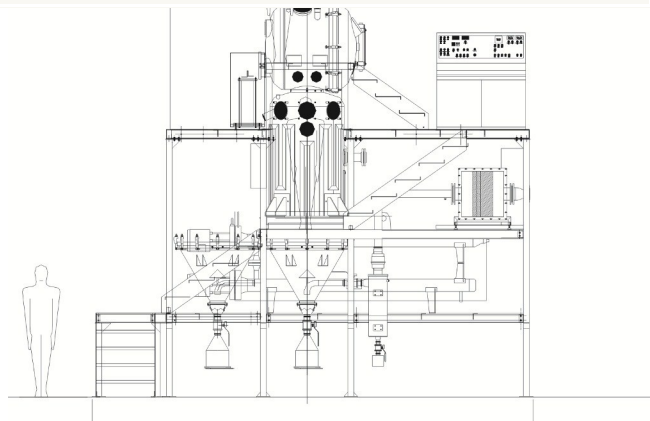
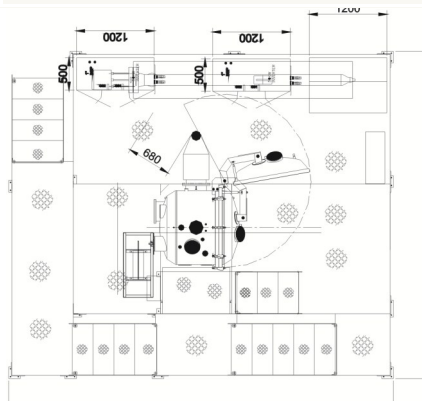
# Industries

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## HERMIGA 100/10 MM ATOMISER

### Typical system data

Configuration Options (3):	Cold Crucible for reactive metals Ceramic Crucible for non-reactive metals Continuous casting configuration
Crucible Capacities:	Cold Crucible—1 litre (approximately 5 kg titanium) Ceramic—1.5 litre (approximately 10 kg steel)
Atomisation Die Type:	Supersonic invariable type 'close-coupled' die
Atomisation Rate:	Typically 2-4 kg/minute of steel
Typical Median ( $d_{50}$ ):	In range 10 to 100 $\mu\text{m}$
Melt Chamber:	Side opening, water cooled, 304L stainless steel
Atomisation Chamber:	Water cooled, 304L stainless steel
Powder Handling:	High efficiency cyclone, partial and HEPA filters
Power Requirement:	425kVA, 3 phase
Water Requirement:	Approx. 375 litres/min, 5 bar
Gas Requirement:	Argon at max 20kg/min at pressure of 60 bar.
Systems Size (L x D x H):	Dimensions of 6.0 m x 5.1 m x 5.7 m
System Weight:	10 Tonnes



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