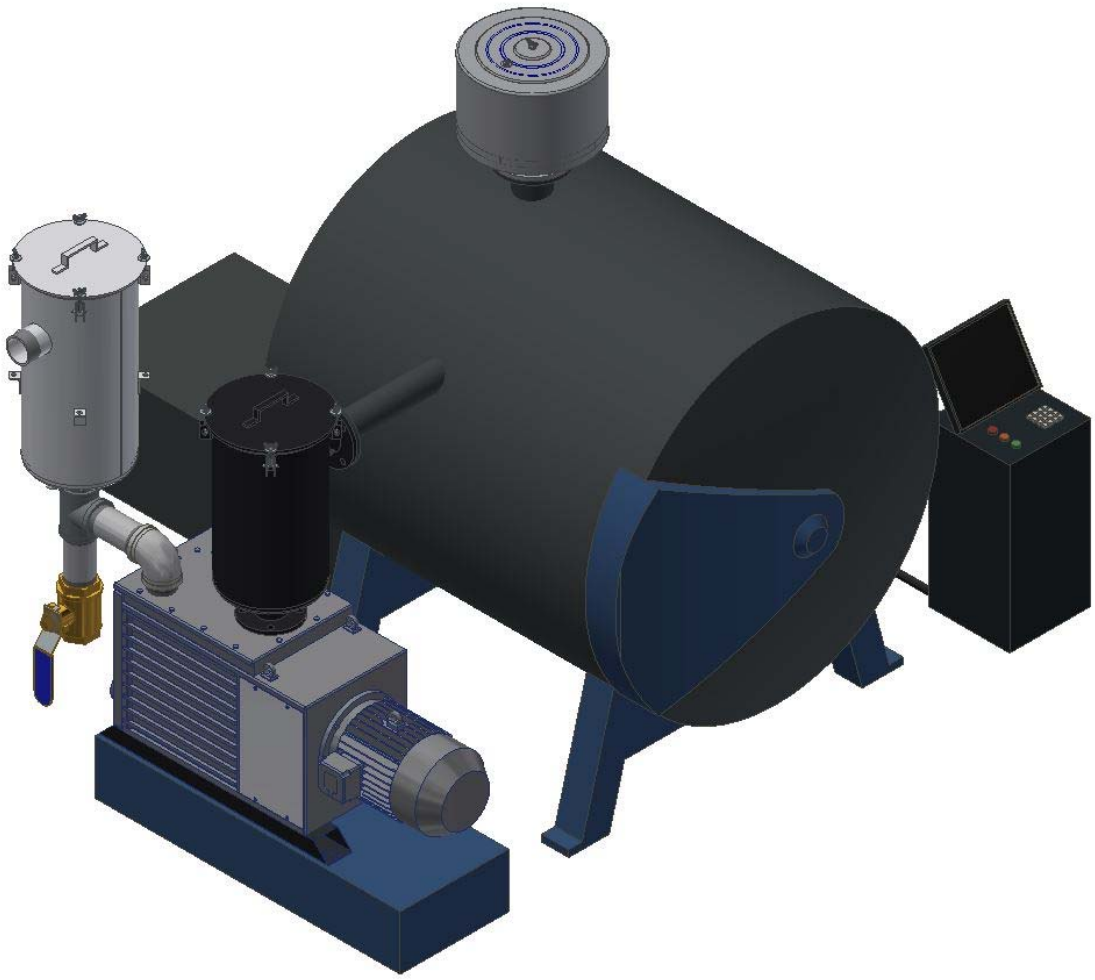
SOLBERG FILTRATION

Vacuum Furnace Industry
Metallurgy

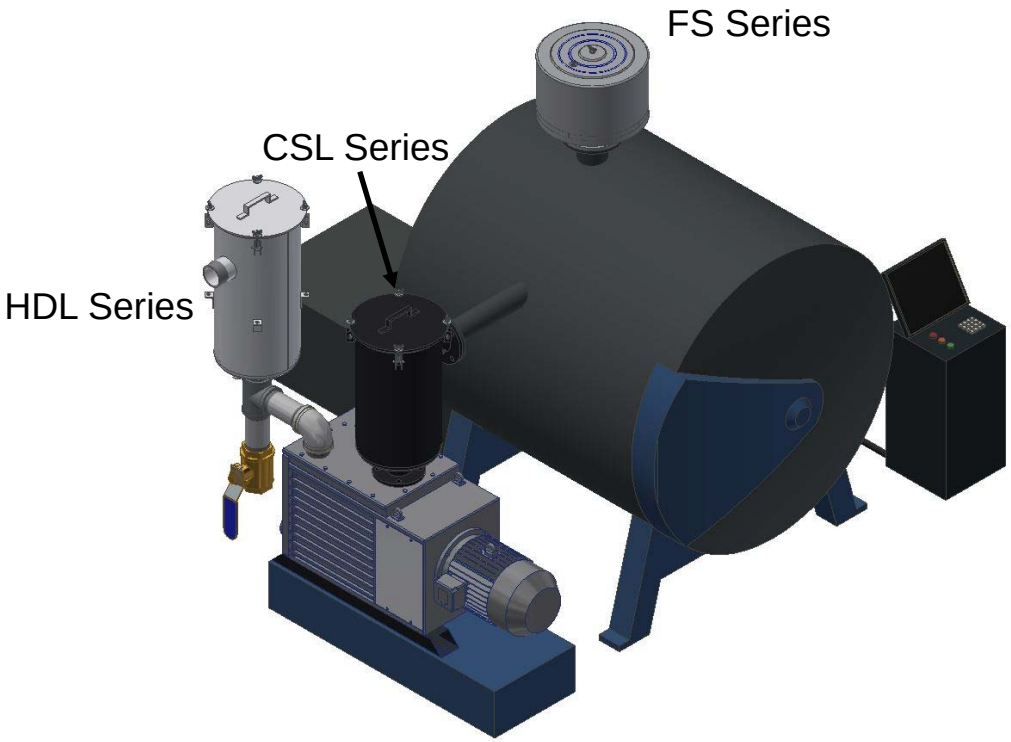


Metallurgy: Vacuum Furnace

Heat Treatment Processes are used to change the characteristics of specialty steels for sectors such as aerospace. Vacuum Furnaces are widely used to provide a controlled environment for such processes.

Traditionally a vacuum furnace will utilize an oil sealed rotary vane or rotary piston pump for the vacuum source sometimes combined with a booster. Solberg can provide an inlet vacuum filter, CSL Series, for the inlet of the pump to capture metallic dust. Many of these pumps have their own internal separators but the operation with vacuum furnaces often results in the pump cycling from deep vacuum to atmosphere on a regular basis. This causes oil carry over from the primary separators requiring the need for a secondary stand alone oil mist filter in the form of the Solberg HDL Series. Lastly when the vacuum chamber is brought back to atmosphere from deep vacuum this is often done quickly by opening a vent valve. This can create a lot of noise which is harmful to operators. The standard Solberg FS Series assemblies provide noise attenuation and filter out any airborne dust to stop it from entering the chamber or clogging the relief valve.

Typical Vacuum Furnace Layout:



Filters for Vacuum Furnace Installations

Inlet Vacuum Filters: CSL Series

Features:

- Heavy duty T bolts for easy maintenance
- Corrosive resistant carbon steel construction
- Black powder coat finish
- O-ring seal with U-channel groove
- Inlet & outlet 1/4” gauge taps
- Lifting lugs
- Brackets for optional support legs
- Nameplate bracket

Technical Specifications:

- Vacuum Rating: Medium vacuum service**
- Hydrostatically tested to 0.5 bar pressure
- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial Δ P
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

Inlet Filter Silencers: FS Series

Features:

- Tubular silencing design - tubes are positioned to maximize attenuation and air flow while minimizing pressure drop
- Corrosion resistant carbon steel construction
- Powder coat finish
- Low pressure drop center bracket & outlet pipe design

Technical Specifications:

- Temp (continuous): min -26°C (-15°F) max 104°C (220°F)
- Filter change out differential: 37-50 mbar over initial Δ P
- Pressure drop graphs available upon request
- Polyester: 99%+ removal efficiency standard to 5 micron
- Paper: 99%+ removal efficiency standard to 2 micron

Oil Mist Filters: HDL Series

Features:

- Captures oil fog, mist or aerosol from exhaust of oil sealed vacuum pumps
- O-ring sealed housings
- Corrosive resistant carbon steel construction
- White powder coat finish
- 1/4” drain tap
- Nameplate bracket
- Brackets for optional support legs
- Lifting lugs

Technical Specifications:

- 0.3 micron media; 99.97% efficiency
- Continuous operating temp: 20°C (68°F) up to 80°C (180°F)
- Mounted vertically
- Housing pressure rating: 0,5 bar

SOLBERG FILTRATION

www.solbergmfg.com

Western Europe Region

BEsales@solbergmfg.com

Kapelanielaan 8, Temse Belgium B-9140

+32 3 774 52 11 Fax: +32 3 886 93 71

United Kingdom/Ireland Region

UKsales@solbergmfg.com

Units 24/25 Calibre Ind Park

Laches Close, Four Ashes

Wolverhampton WV10 7DZ • United Kingdom

+44 (0) 1902 798499 • Fax: +44 (0) 1902 798 502

Eastern Europe Region

predaj@solbergmfg.com

Partizanska cesta 77c, Banska Bystrica, Slovakia 974 01

+421 48 41 33 251 Fax: +421 48 41 37 065

USA Office

sales@solbergmfg.com

1151 Ardmore Ave. Itasca, IL 60143 USA

+1 630 616 4900 Fax: +1 630 773 2643