

ALUMINIUM REFINING SYSTEM



SNIF SHEER P-30HB System in maintenance position.

The SNIF® SHEER P-30 Single Nozzle System provides a nominal continuous refining rate of 30,000 lb (14,000 kg) per hour. The system consists of a heated refining furnace, one (1) SNIF SHEER spinning nozzle, and PLC automated process and furnace heating controls.

The P-30 refining chamber is designed to optimize process gas bubble saturation throughout the melt to maximize spinning nozzle refining efficiency. An internal baffling system controls the flow of metal, ensuring efficient refining of the molten aluminium as it flows through the refining furnace. The baffle allows the metal to flow freely in and out of the furnace, but prevents air infiltration, a cause of excessive dross generation.

OPTIONS

The P-30 furnace can be ordered with the following options:

- Choice of immersion or graphite block heating system.
- Hydraulic tilting system to empty the furnace between casts for cleaning or alloy changes.
- Swivel mast that both lifts and rotates the cover.
- Customized controls.

A significant design feature of the P-30 is its pre-fired refractory furnace lining cartridge that can be quickly and easily replaced. When the furnace refractory needs to be changed, the old cartridge is simply lifted out and replaced with a new one. The cartridge can be replaced in one or two days, possibly without removing the steel shell from the casting line. The system can be returned to service after a 30-hour pre-heat.

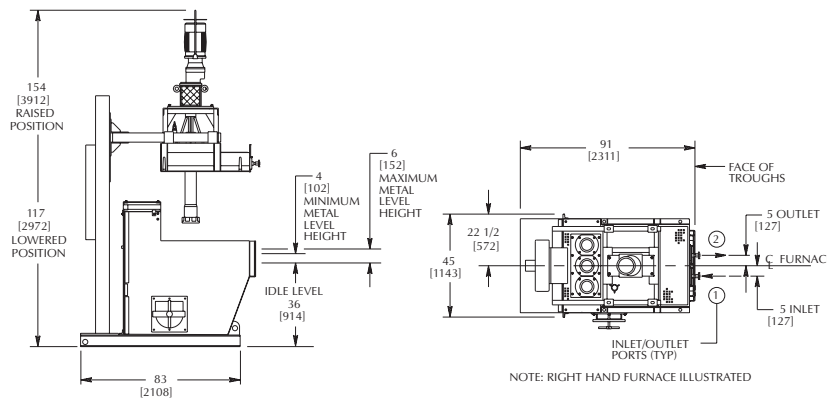
The lining cartridge consists of a dense, hot-face refractory and multiple insulation layers. All refractory is non-wetting and pre-cured. The cartridge is enclosed in foil to prevent moisture absorption while in storage and to minimize contact with the insulation during handling.

The P-30 is available with a choice of two heating systems. The P-30HB is heated by removable metallic heating elements installed in a graphite block. The P-30i is heated by a ceramic immersion heater suspended from the cover.

The P-30 furnace features a self contained hydraulic cover lifter that raises the top to expose the entire surface of the bath for cleaning and servicing. In the closed position, the cover provides an excellent perimeter seal that prevents air infiltration and excess dross generation.

A tap-out drain is provided to empty the furnace for alloy changes or extensive cleaning. A tilting furnace is available as an option.

SNIF® installation dimensions in AutoCAD format are available upon request.



TOTAL ELECTRICAL LOAD (MAXIMUM)*

P-30i (immersion heater)	30 kW – 3 Phase
P-30HB (heater block)	30 kW – 3 Phase
Cover Lifter	2 kW – 3 Phase
* Primary voltage per customer requirements. Refer to installation drawings for electrical interconnection specifications for the equipment provided.	

GAS SUPPLY REQUIREMENTS	ENGLISH	METRIC
Process Gas (Argon recommended)	300 scfh at 70–90 psig (max.)	7.9 Nm ³ /hr at 4.9-6.3 kg/cm ² (max.)
Heater Block Purge Gas (P-30HB only)		
• Argon (recommended)	30 scfh at 50 psig (max.)	0.8 Nm ³ /hr at 3.5 kg/cm ² (max.)
• Nitrogen (alternate)	60 scfh at 50 psig (max.)	1.6 Nm ³ /hr at 3.5 kg/cm ² (max.)
Cover Lift Mast (Plant Air)	60 to 90 psig	4.2 to 6.3 kg/cm ²
Chlorine, if required	15 scfh at 30 psig (max.)	0.4 Nm ³ /hr at 2.1 kg/cm ² (max.)
scfh = standard cubic feet/hour (70°F, 14.696 psia)		1 Nm ³ /hr = 38.0 scfh
Nm ³ /hr - normal cubic meter/hour (0°C, 1.01325 bar, abs.)		1 kg/cm ² = 14.2 psi

GENERAL SPECIFICATIONS

Refining furnace capability, nominal	30,000 lb/hr	14,000 kg/hr
Furnace power rating		
P-30i (immersion)	20 kW	20 kW
P-30HB (graphite heater block)	23 kW	23 kW
Furnace static capacity		
P-30i (immersion)	1,600 lb	730 kg
P-30HB (heater block)	1,300 lb	590 kg
Cover lift assembly weight	1,800 lb	817 kg
Estimated furnace assembly weight including cover, static metal capacity, cover lift assembly, and spinning nozzle	13,000 lb	5,900 kg

*SNIF is a registered trademark of Pyrotek Inc.

Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.



Product Type: 118

Commodity Code: 16004

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