PALMER PORTABLE ROTARY DEGASSER

FEATURES

• Rugged stainless-steel construction
• Variable speed air-motor driven shaft
• Thick integrated insulation chamber protects working components
• Lightweight – 37 lb (including optional leg assembly) allows for use without hoist
• Versatile – for use in ladles, dip-out furnaces, or crucible furnaces with capacity from 50 to 3,000 lb
• Eliminates use of hazardous degassing tablets and harmful gasses such as chlorine
• Compatible with one piece shaft or two-piece impeller shaft
• Air-regulator with air motor oiler included
• Optional fully adjustable leg assembly allows for loading without a hoist or stationing over flat top furnace
• Eliminates hydrogen porosity in your melt and castings
• Anti-vortex shaft design prevents oxides from being sucked into the melt

General Specifications

• Air Motor – ¾ HP Variable Speed
• Body Size 8 ½” x 11”, Suspension Hook 11” above body
• Degassing Unit – 25 lb
• 24” and 36” one piece rotary lances available
• Degassing Capability – 50 to 3,000 lb aluminum melt
• Customer Requirements – Compressed air source (90-100 psi), inert gas source (dry nitrogen, argon, or proprietary dry gas)
• Optional Leg Assembly – 52”W x 17”H, 12 lb

Degassing Time – Approximately 5 to 15 minutes depending upon crucible size and melt conditions

Included:

• Rotary Degasser, combination air regulator/filter/lubricator for air motor
• Four rotary one-piece lances
• Customer supplies interconnecting hoses for compressed air and inert gas

Stainless-steel hoist hanger
Optional leg assembly for setting on furnace top or hand loading without a hoist
Inert gas and air inputs located on top of unit
Heavy-duty stainless-steel construction
Integrated insulation chamber to protect working components from heat

Before

After

Optional Leg Assembly
Set unit on furnace top without a hoist
Palmer PAS3000 Porosity Analysis

The Palmer PAS3000 is a better way to measure and control the porosity in your aluminum casting process. This hydrogen porosity analysis system uses a repeatable, scientific method to measure the level of porosity in Reduced Pressure Test (RPT) samples. No more sawing, polishing, and comparing to a chart. Just measure your RPT sample using the PAS3000 and in less than 30 seconds you have the result. Whether using in conjunction with a RPT machine, the PAS3000 is a safer, quicker, and more accurate way to measure and control the gas levels in your aluminum melt.

The PAS3000 includes: full enclosure to reduce dust, automatic calculation of the results, a touch screen interface to guide the operator, calibration weights, and an Ethernet port to transfer the data to a computer.

Advantages

- Easy to use
- Scientific method of evaluating RPT samples (gas slugs)
- Eliminates sawing and polishing of RPT sample
- Safer, more accurate and less expensive method
- Automatic calculation of specific gravity
- Wide door with easy access tray
- Results in just a few seconds
- Precision calibration weights included

Palmer PAS5000 Melt Quality Control System

Performs & Reports RPT Sample Density, % Porosity, & Density Index all in one machine

The Palmer PAS5000 represents a breakthrough in hydrogen porosity control of the aluminum melt and castings. With precise computerized control of the vacuum setting and quick automated measurements of sample density, the long-standing problem of operator variation is virtually eliminated. The PAS5000 is the only system on the market with the ability to perform and report RPT sample density, % Porosity, and Density Index all in one machine. Test results are stored by date/time, vacuum setting, and alloy along with company information, such as furnace number and part number. Data can be directly exported to a SCADA system or retrieved through either the easy access USB port or ethernet port.

Advantages

- Digital HMI interface to Allen Bradley PLC
- Password protected Set-up Screen to enter vacuum level, solidification timing, and to populate drop-down menus for alloys
- Calibration screen to check and record calibration
- Precision digital control of vacuum setting eliminates operator from manually setting a gauge and variables
- Automatic ABORT mode if vacuum level is not reached or maintained, ensuring sample is run correctly
- Reports Density (S.G.), % Porosity, or Density Index Number
- Data stored to PLC and/or directly exported to SCADA
- Industrial Ohaus computerized scale system with wide access trays for easy operation
- Internal industrial vacuum pump with easy access
- Built-in sample quenching station
- Heavy duty welded steel frame
- Stainless steel working top and handle
- Drop-down steel cover protects system from dust
- Internal LED lighting
Reduced Pressure Tester
Whenever degassing is a requirement of the melting process, it is desirable to verify the effectiveness of the degassing process. Palmer supplies a simple, easy to use partial pressure test unit for this verification.

To use, the operator warms a sample cup, dips the cup into the furnace for a metal sample, quickly places the sample into the vacuum chamber, and starts the vacuum pump.

The aluminum solidifies under a vacuum causing any entrained hydrogen gas bubbles to expand greatly. Once solid and cooled, the sample is cut in half and compared to the chart below for gas-level analysis.

Test Bar Mold
- Complies with ASTM B108-02
- CNC machined from class 30 gray iron
- Optional digital temperature read out available
- Portable
- Weight 150 lb (68 kg)

Spectrographic Coupon Mold
- CNC machined from A36 steel
- Heat dissipating handle
- Homogeneous element distribution within the sample
- Depressed center to aid lathe machining
- Easy sample removal
- Portable
- Weight 7 lb (3 kg)