Evacuated Pin Tube Sampler



Product Overview

DKKI Evacuated Pin Tube Sampler is a precision quartz glass device designed for rapid, contamination-free sampling of molten metals. Engineered for gas analysis of oxygen (O_2), nitrogen (N_2), carbon (C), sulfur (S), and hydrogen (H_2), it ensures high-integrity results through a vacuum-assisted fill process. Each tube features a thin-walled bulb (~1 mm) that melts instantly upon immersion, allowing molten metal to enter the evacuated cavity and solidify into a slag-free pin. Evacuated to −2 bar, the tube minimizes atmospheric interference and accelerates sample formation. Sampling is performed at a 45° angle post slag removal. Once cooled, the pin is segmented into three parts; the middle section—least affected by oxidation—is used for laboratory analysis. Available in diameters from 3.5 to 11 mm and a standard length of 150 mm, DKKI tubes are compatible with calibration standards and analytical instruments used in steelmaking and alloy production.

Key Features

- Thin-wall quartz bulb enables rapid melt and sample entry
- Evacuated to -2 bar for fast, clean metal sampling
- Available diameters: 3.5 - 11 mm; standard length: 150 mm
- Produces slag-free, solidified pins for accurate gas analysis
- Middle segment used to avoid surface oxidation interference
- Designed for steelmaking and alloy production environments
- Passive sampling method requires no active pumping systems
- ISO 9001:2015 certified for consistent quality and reliability

Why DKKI

- Proven success for over three decades
- ISO 9001:2015 certified quality
- In-house testing under real operating conditions
- Free expert support and comprehensive training
- On-site consulting and troubleshooting
- Fast order processing with flexible logistics
- Standard products, customizable options
- Transparent partnerships that build trust
- Proactive customer engagement

Application Areas

- Steel and alloy production requiring precise gas content sampling
- Ladle and tundish gas monitoring during molten metal processing
- Metallurgical R&D requiring high-integrity solid metal specimens
- Process control in casting and refining operations

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Technical Specifications

Parameter	Description
Tube Material	High-purity quartz glass construction
Bulb Thickness	~1 mm for rapid melt activation
Vacuum Level	Pre-evacuated to -2 bar pressure
Tube Length	Standard 150 mm for sampling consistency
Diameter Options	3.5 / 4 / 5 / 6 / 8 / 11 mm available
Sampling Angle	45° immersion angle post slag removal
Sample Type	Slag-free solid pin for gas analysis
Segment Usage	Middle third used for lab-grade accuracy
Certification	ISO 9001:2015 quality management compliance

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