

Title (en)  
OXYGEN BLOWING LANCE COOLED BY PROTECTIVE GAS

Title (de)  
SCHUTZGASGEKÜHLTE SAUERSTOFFBLASLANZE

Title (fr)  
LANCE À OXYGÈNE REFROIDIE PAR GAZ PROTECTEUR

Publication  
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Application  
**EP 09799324 A 20091216**

Priority  
• EP 2009067268 W 20091216  
• AT 19632008 A 20081216

Abstract (en)  
[origin: AT506950A4] The oxygen blowing lance comprises a central conduit (2), two oxygen lines (3), which are arranged next to the conduit and are provided with an outlet nozzle (7) on the lance head side, a sensor (9, 10, 12) for determining measured variables, and a thermal protection device that is made of fireproof material and surrounds the conduit and the oxygen lines and that forms the outer skin of the oxygen blowing lance in the section on the lance head side cooled by protective gas. The oxygen blowing lance is cooled by protective gas in a section on the lance head side. The oxygen blowing lance comprises a central conduit (2), two oxygen lines (3), which are arranged next to the conduit and are provided with an outlet nozzle (7) on the lance head side, a sensor (9, 10, 12) for determining measured variables, and a thermal protection device that is made of fireproof material and surrounds the conduit and the oxygen lines and that forms the outer skin of the oxygen blowing lance in the section on the lance head side cooled by protective gas. The oxygen blowing lance is cooled by protective gas in a section on the lance head side. The longitudinal axes of the oxygen lines are different from the longitudinal axis of the conduit. In the section on the lance head side cooled by protective gas, the intermediate spaces between the oxygen lines with outlet nozzles, the conduit, and the thermal protection device are connected to a protective gas feed device. The thermal protection device comprises a layer of fireproof material. The sensor is attached to one of the locations of thermal protection device, the conduit and the outlet nozzles in such a way that the sensor determines measured variables in a spatial region forming an extension of the conduit on the lance head side. The measured variables are temperature, gas pressure, distance to lance to solid body and/or liquid mirror and spectral data. In the central conduit, a device for the reception of steel- and/or gas samples, a device for measuring temperature and/or composition of the received steel- and/or gas sample, and a device for detecting spectral data are arranged. The central conduit is connected with a device for the delivery of solid, fluid or gaseous substances. The thermal protection device is ranged by channels, which are connected with protective gas feed device and flow in the intermediate space. The lance head of the oxygen blowing lance is covered by the thermal protection device. The lance head side part of the thermal protection device is formed as protection element (4b) that is detachably and exchangeably mounted on the central conduit. In the protection element, passages are present through which the outlet nozzles are guided towards outside. The passages are dimensioned so that a gap remains between the outlet nozzle and protective element. The thermal protection device consists of elements, which are mounted on the central conduit.

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