

VAI-CON lance

Increased safety through quick-change oxygen lance

Metals Technologies

SIEMENS
VAI 



Good reasons for Siemens VAI-CON® lance

- Less time, less effort – lance exchange within 15 minutes with minimum manual activities
- Easy integration Minimum modification costs by reusing existing lance and lance car
- Increase safety for operational personnel through self-coupling and sealing system – actuated by the lance weight
- Self-alignment, which compensates for lance misalignment
- Improved technology through TÜV certification

Quick-change oxygen lance

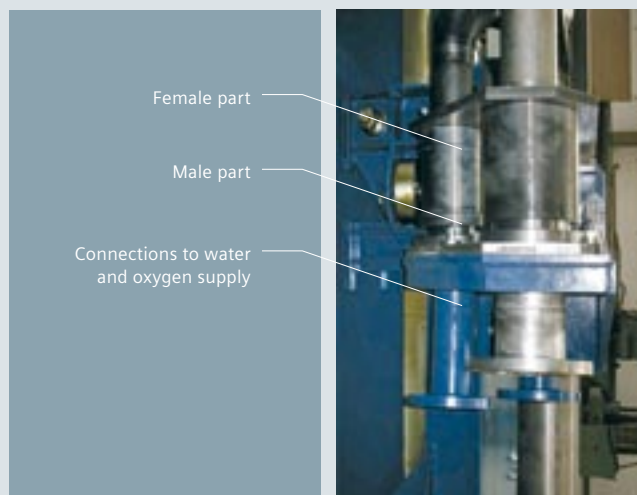
Limiting manual activities

The challenge:

Modern operation of the LD-BOF converter demands the highest availability of the equipment. Operation depends on a reasonable and reliable lifetime of the oxygen lance heads, as well as clean and proper movement of the lance. The time needed for changing the oxygen lance is a further factor influencing the amount of steel produced.

Our solution:

The quick-change oxygen lance is designed to avoid manual operation for opening or connecting water and oxygen piping during lance exchange. This is provided by an automatic coupling system. The new lance only has to be set up in its designated position by crane, the alignment and sealing is done automatically. Manual activities are limited to securing the lance by two swing bolts. Maintenance work is reduced to checking the O-ring and lubricating the connection sleeves. The quick-change oxygen lance is suitable for new implementation, as well as for updating of existing lance equipment. With a minor adaptation the quick-change device can be integrated into the existing equipment in a very short time, e.g. during a relining period.





Introducing the VAI-CON lance

High production at low cost

Components

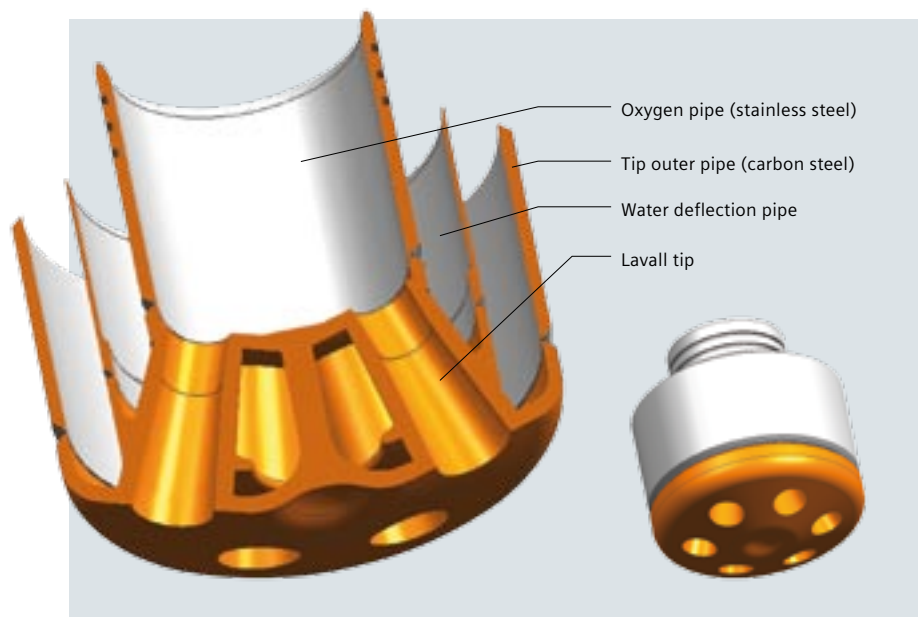
- Elbow at the lance with female coupling parts
- Connection bracket on lance car with male coupling parts and swing bolts
- Centering device on lance car with locking pin
- The lance design – up to 5 m/sec water speed in the outlet chamber reduces skull formation on the lance body due to its improved cooling effect.

Oxygen lance tips

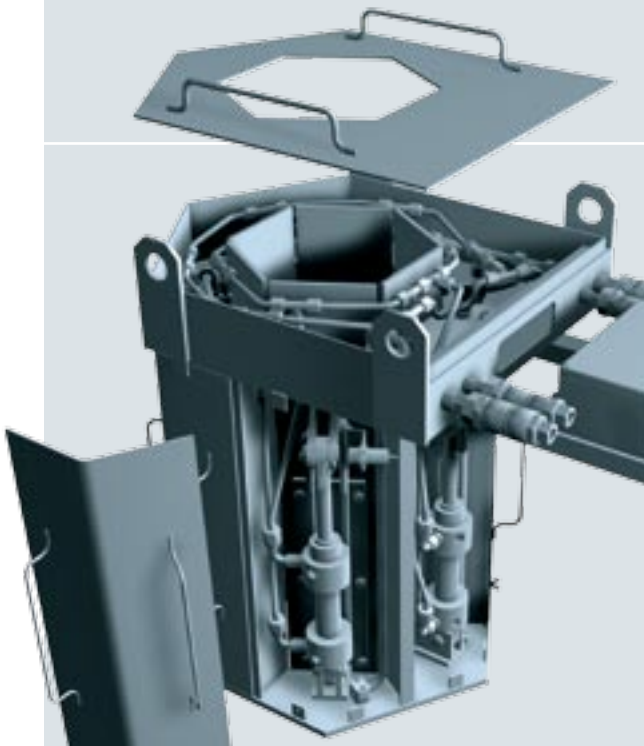
Our long-term experience in design, diagnosis and calculation supports Siemens VAI customers to continuously improve converter performance. In addition to reliable product quality Siemens VAI has the capability to provide its partners with tailor made lance tip solutions in respect to specific converter and operation conditions. Manufacturing of Siemens VAI lance tips follows the highest standards in quality casting.

Main benefits:

- Length compensation of internal pipes in the lance tip, access to the seal (O-ring)
- Optimized tip face in order to minimize cracking tendency
- High turbulence flow condition in order to improve cooling
- Fabrication by casting technology for high production lots and consequently low costs
- Optimum number of nozzles to reduce mach figure for soft blowing
- Copper/steel welding in the workshop



Siemens VAI lance tips



Lance deskuller

The lance deskuller removes slag skulls from both sublances and oxygen blowing lances. This helps to avoid heavy manual deskulling work in the hot and dusty lance socket area.

The deskuller primarily consists of scraper units, fixation frame, base frame for scraper, pneumatic aggregate with oil heater or cooler, valve box with six-way valves and a set of intermediate piping. Under regular operation conditions the deskuller is automatically actuated.

Main benefits:

- Fast and reliable alignment of the sublance or oxygen lance
- Safety for the operating personnel
- Overload protection by pneumatic actuated scraper unit



**For further information,
please contact:**

Siemens VAI
Metals Technologies GmbH & Co
P.O. Box 4, Turmstr. 44
4031 Linz, Austria
Phone: +43 (0)732 6592-0
E-mail: service.metals@siemens.com

The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

Order No.: E10001-M2-A5-V2-7600
Printed in Austria
Dispo No.: 21661 K-No.: 28102
SPS SVAI-07-00341 WS 05071.
Subject to change without prior notice

©Siemens AG 2007.
All rights reserved.

www.siemens-vai.com