

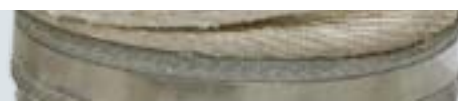


Automatic gas coupling system

For high availability and operator safety

Metals Technologies

SIEMENS
V A I 





Good reasons for the Siemens VAI automatic gas coupling system:

- Safety for operation personnel – no activities in dangerous areas
- Quick and safe connection by simply placing the ladle onto stirring station
- High flexibility – compensates for possible misaligned ladle positions
- Low maintenance – simple and sturdy design with good access
- Compact and solid construction – especially important in case of limited space
- Reliable operation – no need of utilities
- High temperature resistance – enables high temperature applications up to 500 °C, e.g., in VOD plants

Automatic gas coupling system

Save and reliable

The challenge:

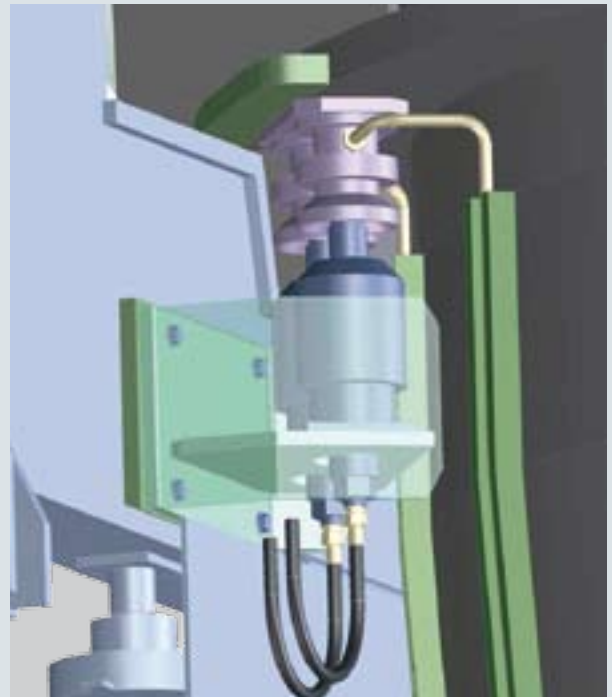
The stirring gas supply to ladles must withstand a high load of dust, weight, misalignment and sometimes even high temperatures.

Nevertheless, the coupling system has to operate at high availability, and a modern gas coupling system must additionally provide the best possible safety for the operating personnel.

Our solution:

The Siemens VAI automatic gas coupling system is a quick, safe, reliable and maintenance friendly connection device for the stirring gas supply to the steel ladle.

The system actuates immediately and automatically when the ladle is placed onto the ladle station or onto the transfer car. It safeguards the supply of the stirring gas to the ladle automatically without the need for personnel to connect hoses to the supply source.



Typical arrangement



Introducing the automatic gas coupling system

High flexibility and low maintenance

Multiple gas supply

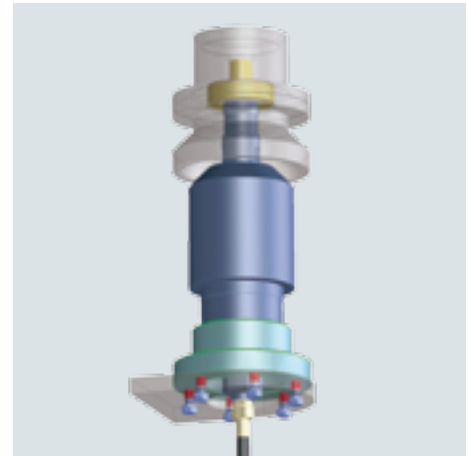
The multiple-gas versions are a mirror image of the well-proven and reliable single-gas system (V-GCV 10). In the multiple gas arrangement, individual sections are joined together into two or three functional units to efficiently utilize space. The connection between the lower and upper section is completed automatically when a ladle is placed onto the ladle treatment stand, ladle car, ladle furnace, etc. The multiple gas version allows independent gas supply to the two or three porous bottom plugs or the usage of two different gases simultaneously.

Highlights

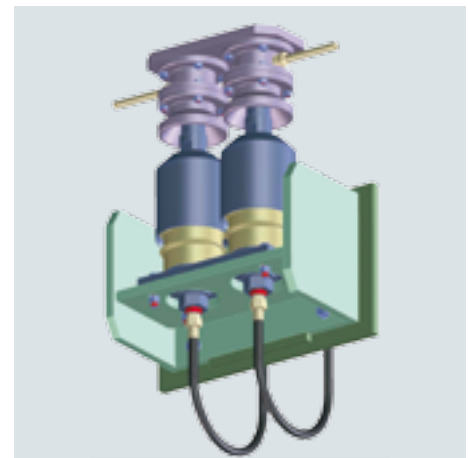
The compact lower section is equipped with spring-loaded pins, which allow flexibility in the X-, Y- and Z-axis planes. This principle enables the unit to compensate for a possible misaligned ladle position. The connection of the lower section to the gas supply lines is made by a flexible metal hose.

General data:

- Stirring gas: Argon or nitrogen
- Working pressure: up to 25 bar
- Flow rate per line:
 - V-GCV 11 - up to 2500 NL/min
 - V-GCV 10 / 20 / 30 - up to 1500 NL/min
- Tolerances:
 - horizontal (x,y):
 - V-GCV 11 - 70 mm
 - V-GCV 10 / 20 / 30 - 50 mm
 - vertical (z):
 - V-GCV 11 - 40 mm
 - V-GCV 10 / 20 / 30 - 25 mm
- Single coupling type:
 - V-GCV 11 - 1 inert gas line
 - V-GCV 10 - 1 inert gas line (compact version)
- Double coupling type:
 - V-GCV 20 - 2 inert gas lines
- Triple coupling type:
 - V-GCV 30 - 3 inert gas lines



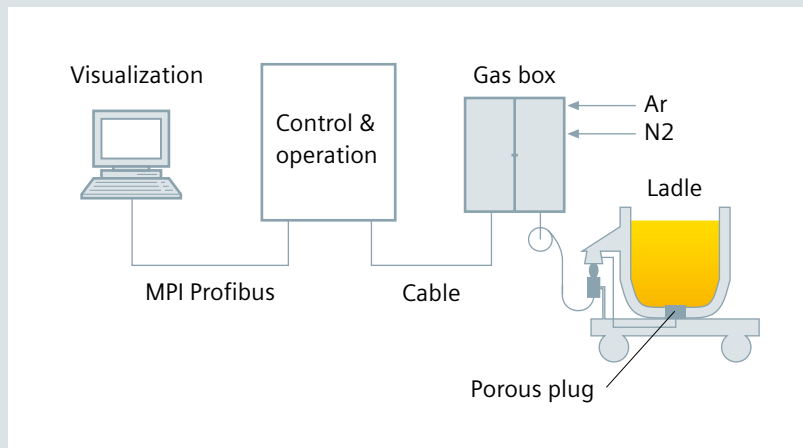
Monoline gas supply



Multiple gas supply

Applications:

- Ladle furnace
- Pouring ladle during tapping from converter or EAF
- Ladle stirring station, VOD, RH, etc.
- Ladle turret of continuous casting machine
- Deslagging station



Gas control system

The gas control system consists primarily of a valve station with PLC, flow meter and main control console in the control room. An additional control box for local operation control can also be optionally provided.

**For further information,
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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.

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