

A 3D CAD rendering of a coupler automatic slide gate coupling system. The system consists of a white motorized actuator unit with a blue and green logo, connected via a long, articulated arm with multiple joints and a hydraulic cylinder, to a white coupling head. The coupling head is designed to connect to a dark grey rectangular gate. The entire assembly is shown in a perspective view against a dark background.


D

coupler

Automatic slide gate coupling system

 coupler

# ready for safety?



**qoupler D** is a patented solution engineered to completely remove the operator from the danger zone in steel plants by fully automating the connection to the ladle slide gate using an external hydraulic cylinder.

It enables safe and reliable coupling without manual intervention or the need for complex robotics, ensuring controlled and efficient steel pouring. In most steel plants today, this task is still carried out manually, exposing workers to severe, often life-threatening hazards.


At qoncept, our drive to innovate is rooted in a clear vision: to optimize industrial processes while delivering maximum protection for those on the ground.



With **qoupler D**, the road to safety on the casting floor is paved.  
**Buckle up and we'll take you there.**

# System Highlights

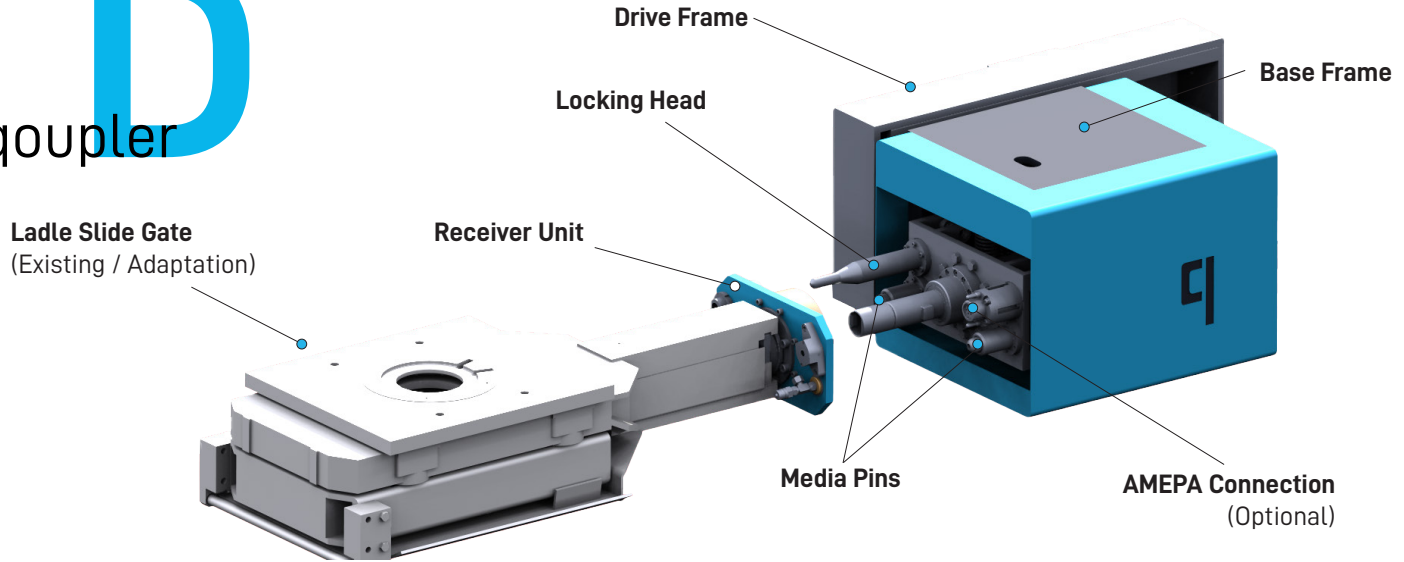
- Automatic coupling of the hydraulic slide gate control (fixed on turret/car) to ladle slide gate mechanism (fixed on ladle).
- Coupling actuated via pneumatic cylinder and locked via hydraulic locking device.
- Supply of all required media, gas, and electrics for ladle slide gate actuation and slag detection system for ladle slide gate.
- Spring loaded system offers highest flexibility.
- High flexibility in all directions to compensate for misalignment between the coupling partners.
- For harshest environments, dust-proof and temperature resistant.
- Patented solution for highest operator safety.
- Very low maintenance and wear.



” **coupler D** is a patented solution prioritizing both **operator safety** and **production efficiency**.

# Main System Components

D  
coupler



1

ensures maximum workplace safety on the casting floor

2

increased efficiency due to quick and simultaneous coupling of drive and media

3

easy adaption and installation in existing facilities

## Technical Data

PARAMETER	DESCRIPTION
Flexibility	Deviation of ladle position up to 70 mm ( $\pm 3''$ )
Temperature	Ambient temperature up to 100 °C (210 °F), dustproof
Slide Gate Driving Force	Max. 240 kN
Coupling Media	<ul style="list-style-type: none"><li>▪ Hydraulic drive</li><li>▪ Signals (e.g., AMEPA)</li><li>▪ Gas</li></ul>

**coupler D** is float-mounted inside a manipulator, which is attached to the ladle transport device (ladle turret or ladle car). It automatically couples and uncouples the slide gate drive during casting.

The manipulator guides the actuator to the ladle with the aid of a flexible mounted centring pin, which ensures axial insertion into the receiving cone of the slide gate cylinder. This provides automatic compensation for potential misalignments. The subsequent locking process simultaneously connects and locks the device to the ladle slide gate.



**PATENTED TECHNOLOGY**



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