Q-ROBOT CAST

ROBOTIC SYSTEM FOR POWDER MANAGEMENT IN CONTINUOUS CASTING PROCESS

HIGH QUALITY INSTRUMENTATION FOR METALS INDUSTRY
**Q-ROBOT CAST**

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**PRINCIPLE OF OPERATION**

Q-ROBOT Cast is the DANIELI AUTOMATION solution for the dosage and distribution of casting powder in continuous casting machines for slab, bloom and billet. The system guarantees a thin and uniform powder thickness over the whole casting process. This results in a higher and more consistent quality of the cast product. A non-homogeneous consumption of powder in part of the strand can be automatically compensated for by means of our automatic vision system. The presence of powder supervisory personnel, operating in hazardous areas, is no longer necessary. Q-ROBOT Cast can operate with up to four different hoppers used for different casting powders, also for the same casting sequence. Q-ROBOT Cast can be supervised by a PLC for integration in a casting automation level 1 system.

**FEATURES**

- Fully integrated in the factory automation L1 system
- Continuous, repetitive and flexible powder dosage and distribution
- Automatic adaption to the casting speed
- Easy to reconfigure for changes made to the casting machine
- Low maintenance
- Robotized cell certified according to Annex II A of the Machine Directive

**BENEFITS**

- Process Know-how stored in the plant, rather than in several different operators’ minds
- Thin and uniform powder thickness over the whole casting process
- Higher and more consistent quality of the casting process
- Reduction of operator injuries resulting from repetitive operations
- Reduction of operators’ presence in dangerous areas
- Reduction of operators’ exposure to high temperatures, high noise and pollution levels

**TECHNICAL SPECIFICATIONS**

- Operating temperature: +5°C (41°F) to +45°C (113°F)
- Up to +70°C (158°F) for short periods
- Connection with automation level 1
- Profinet
- Safety category: 3 (fault detection)
- Max power consumption: 3kW
- Manipulator protection class: IP67 (NEMA 6)

**HOW THE WORK CONDITIONS CHANGE**

Q-ROBOT is the result of the most advanced alliance between industrial robotics and process automation. A set of solutions for each production area allow the introduction of flexible automation in dangerous places where human intervention is still necessary. An anthropomorphic robot enables the men’s work to be relocated to healthier environments, deals with repetitive and labor-intensive tasks which are closely related to poor process quality. However, full adjustments of all parameters is available to the operators. All the Q-ROBOT systems are specifically designed for use in harsh environments with severe pollution.