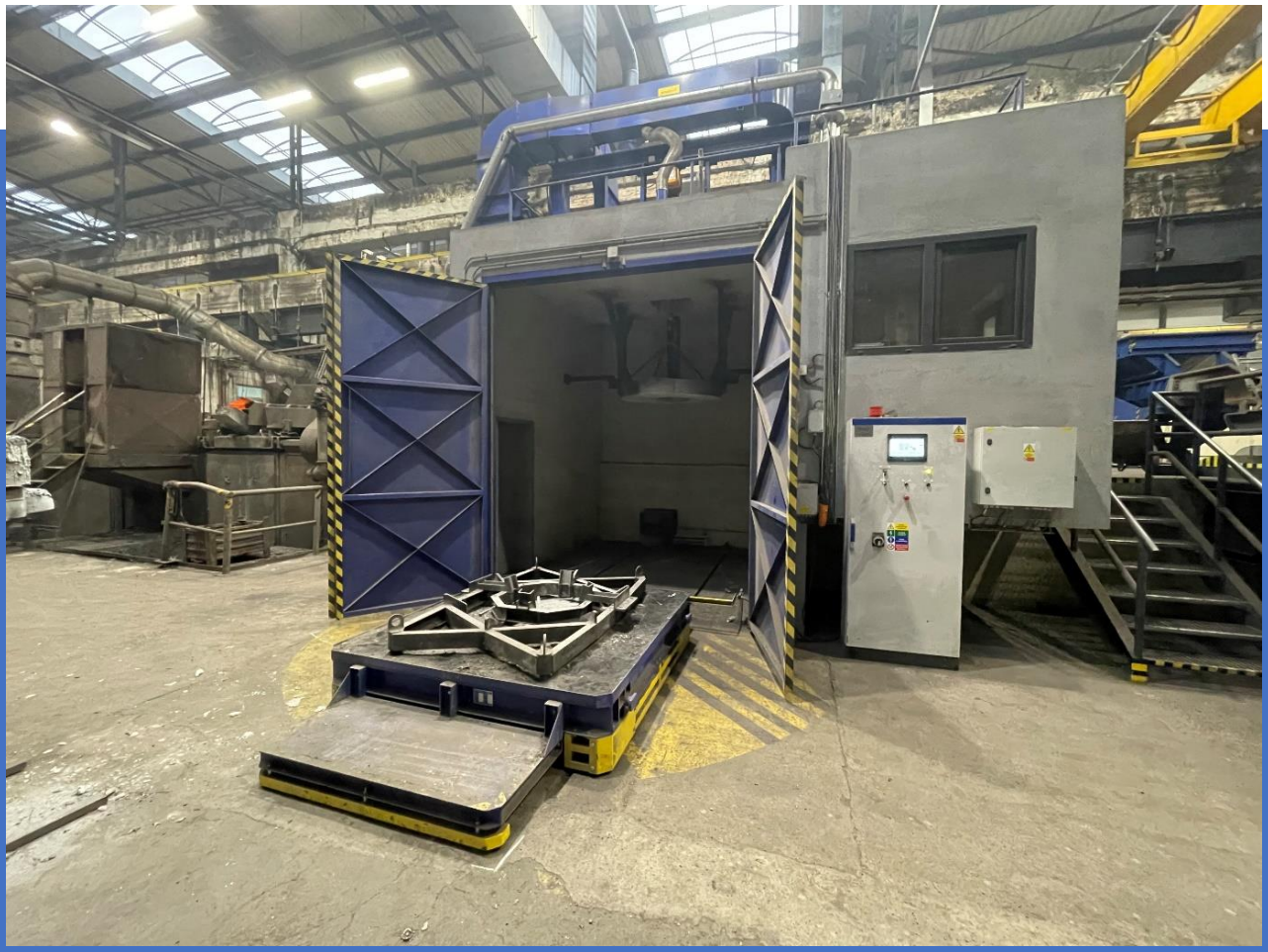
PROFILTR

RAIL TROLLEY



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Introduction

In the modern industrial environment, where efficiency, safety, and reliability play a key role, it is essential to use state-of-the-art handling and transport solutions. Our company specializes in the development and production of rail vehicles designed with the specific needs of various industries in mind, including heavy industries such as foundries and ironworks.

The rail vehicles we offer are the result of many years of experience and continuous innovative development. Our range includes a wide variety of solutions, from heavy vehicles for transporting materials, hot castings, molten metal, and towing or pulling vehicles, to lighter vehicles that facilitate logistics in warehouses, as well as modern automated transport systems with radar security. Each vehicle is designed with a focus on high utility value, resistance to demanding conditions, and easy handling.

Types of Rail Vehicles

Rail vehicles for industrial use

Heavy industry demands robust solutions and specialized handling of large and heavy loads. Our rail vehicles for heavy industry are designed for operation in extreme conditions and are equipped with advanced technologies to ensure maximum reliability.

- **Transport vehicles**:

  These vehicles are ideal for transporting heavy loads with a capacity of up to 50 tons. They allow for the transportation of various loads in manual or automatic mode, such as crossing individual hall aisles or moving between halls, out of reach of overhead cranes, etc. They can receive loads from overhead cranes and facilitate their transfer, as well as take on loads from other handling equipment such as forklifts, manipulators, etc. Thanks to their robust construction, they are capable of handling challenging environments such as dusty areas, heat-stressed operations, or environments with explosion hazards. A special type of transport vehicle is the one designed for the transport of molten metal.

- **Towing vehicles**:

  This is a variant of transport vehicles with increased power and possibly weight, allowing them to tow or push trailer vehicles.

- **Trailer vehicles**:

  Trailer vehicles are primarily designed for transporting lighter loads, typically with capacities ranging from 1 to 15 tons in manual pushing mode. For the towing or pushing of vehicles over 15 tons, towing vehicles are used instead.

- **Handling vehicles with adjustable functions**:

  For flexible handling of large components, these vehicles offer lifting, rotating, and extending capabilities, allowing for the desired manipulation of the load.

- **Trolley vehicles**:

  These vehicles are ideal for transporting heavy loads with a capacity of up to 50 tons. They are primarily single-purpose and are used for supplying products for various technological processes, such as:

  - Heat treatment of products in annealing furnaces,
  - Surface treatment of products, blasting, or painting,
  - Supplying molten metal to the modification cabin and modifying the molten metal with filled profiles, etc.

Thanks to their robust construction, these vehicles are capable of handling demanding environments, including aggressive conditions such as painting booths, environments with high dust content, humidity, or the presence of explosive substances.

Use of rail vehicles

- Heavy Industry
- Light Industry
- Warehouses, Logistics

Power supply of vehicles

- Battery-powered with automatic/manual charging station
- Electric for soldering 230V, using a cable
- Electric for soldering 400V, using a cable
- Electric power supply from the trolley

Vehicle control

- Fixed control panel with a "hold" button
- Wired controller permanently connected to the vehicle, with the operator moving with the vehicle
- Remote wireless controller
- Automated transport system

Automated transport system

In automated industrial operations, precision and safety are key. Our automated rail vehicles are equipped with advanced radar systems that ensure safe operation without the need for direct human intervention.

Advantages of the technical solution

Our rail vehicles are equipped with a wide range of technical features that ensure their safety, reliability, and efficiency. Each product is designed to meet the specific requirements of our customers and provide optimal solutions for every application.

- **Certification and Documentation**:

  All our vehicles are designed and manufactured in accordance with applicable standards. Each vehicle is delivered with complete certification, technical manuals, and the necessary documentation to ensure their safe and efficient use.

- **Durable Construction**:

  Our vehicles are built using high-quality materials that guarantee long service life and resistance to wear. Their robust design allows for use in demanding industrial environments, including high temperatures, dust, and humidity.

- **Safety Features**:

  We place a strong emphasis on the safety of our vehicles. Each vehicle is equipped with advanced safety features, such as anti-collision sensors, emergency stop systems, and others. These systems ensure safe operation and minimize the risk of accidents.

Accessories

Each vehicle can be equipped with various accessories and add-ons that enhance its functionality and tailor it to the specific needs of the customer. Our offerings include:

- **Mechanical Accessories**:
  Options include fastening and seating fixtures for securing transported semi-finished products, specially designed fixtures for transporting molten metal ladles, rotating tables, anti-slip floors, and more. These accessories increase flexibility and allow the vehicles to be customized for different types of loads and handling tasks.

- **Electrical and Battery Components**:
  We offer various supplementary electrical equipment, including battery systems, automatic charging stations, Wi-Fi modules, control systems, remote access, and more.

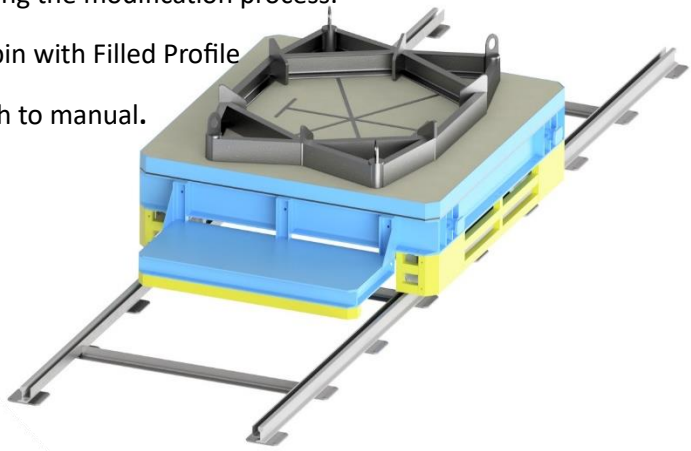
- **Safety Features**:
  To enhance safety and ensure optimal operation, our vehicles are equipped with various safety features such as beacons, audible warning devices, pressure strips, safety sensors, radar systems, and other technologies that improve safety and operational efficiency.

Examples of implementations and deliveries

Foundry

The goal of this project was the delivery of a complete system – a modification cabin. The facility included all necessary equipment for processing molten metal, including exhaust systems, mechanical components, control systems, and rail vehicles.

A platform rail vehicle with a maximum load capacity of 10 tons, equipped with safety features, seating frames, and an entry platform, is controlled automatically from the control panel on the main switchboard, located in close proximity to the equipment and within the operator's line of sight. The system is designed for automatic, manual, and service operation modes. The vehicle's power supply is provided by a self-retracting cable drum, housed in a reinforced enclosure inside the cabin. The equipment was designed with consideration for the increased dust and temperature in the area, as well as the potential risk of molten metal spills during the modification process.

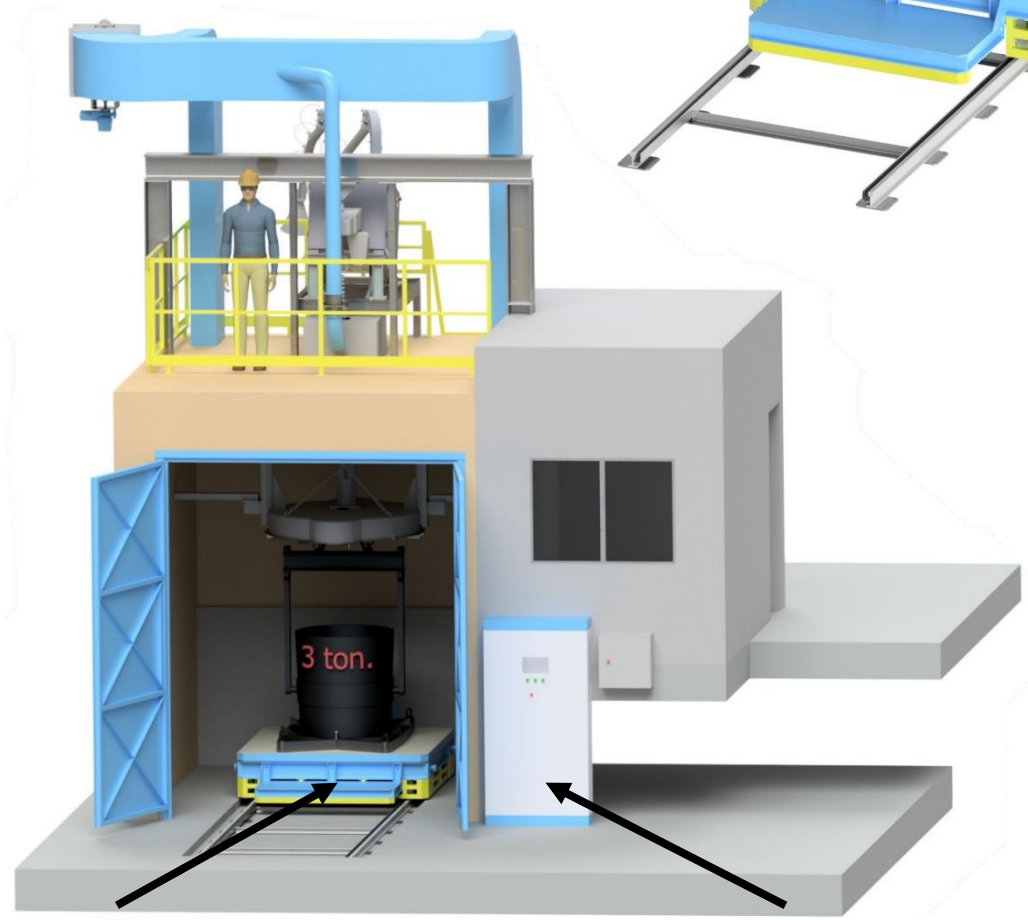


Application: Trolley Vehicle for Modification Cabin with Filled Profile

Operation: Automatic with the option to switch to manual**.**

Implementation: 2022/2023

3D model of the structural solution.:



Rail Platform Trolley

Main Switchboard including Control Panel

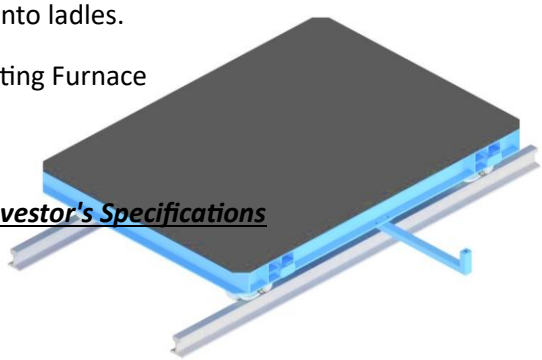
Actual Implementation:

Steelworks

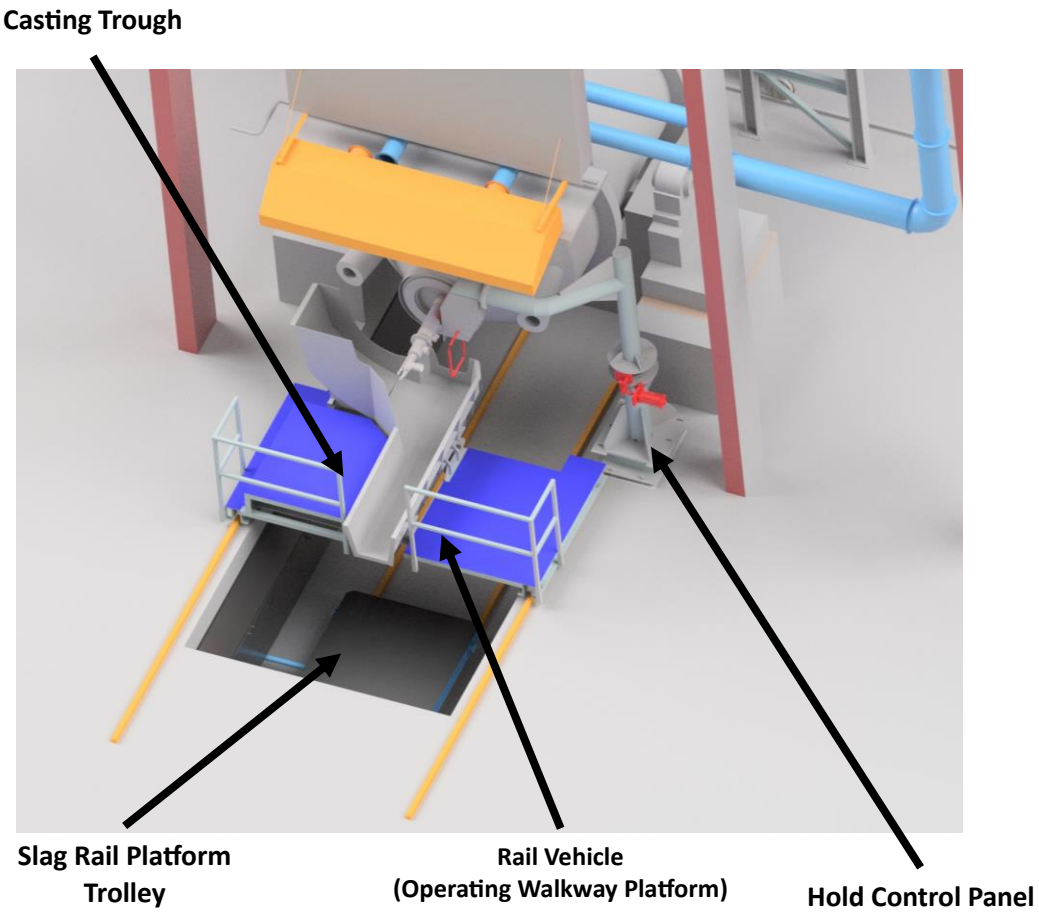
The goal of this project was the delivery of a complete system – an oxygen rotary furnace with a maximum charge volume of 8 tons. The equipment included all necessary components for melting activities, including exhaust systems, mechanical parts, control systems, and rail slag and platform casting vehicles.

The vehicles, with a maximum load capacity of 8 tons and equipped with safety features, are controlled by a hold function from a control panel located in close proximity to the burner arm and within the operator's line of sight. The system is designed for manual and service operation modes. The vehicle's power supply is provided by a retractable cable mounted on the wall of the basement area of the facility, with all wiring separated from the surrounding environment by a reinforced steel cover. The equipment was designed with consideration for the increased dust and temperature in the area, as well as the potential for molten metal spills during pouring into ladles.

Application: Slag and Casting Vehicle for the Melting Furnace
Operation: Manual Hold Button
Implementation: 2023/2024



3D Design of the Equipment Developed According to the Investor's Specifications



Actual implementation:

Foundry, transfer vehicles, product flow logistics

Transfer Vehicles for Inter-Operation Transport of Castings. Vehicles with a maximum load capacity of 10 tons, equipped with safety features, are controlled by a hold function from a control panel, which is located at the midpoint of the transfer track in the operator's line of sight. The vehicle's power supply is provided by a self-retracting cable drum, positioned near the control panel. The equipment was designed with consideration for increased dust and temperature in the area, as well as for transporting hot castings.

Application: Transfer Vehicles
Operation: Manual Hold Button
Implementation: 2023/2024

Foundry, battery-powered transfer vehicles, product flow logistics

Transfer Vehicles for Inter-Operation Transport of Castings. The vehicle has a maximum load capacity of 22 tons, is equipped with safety features, and is controlled by a remote control. The vehicle is always within the operator's line of sight. It includes an automatic charging station. The equipment was designed with consideration for increased dust and temperature in the area, as well as for transporting hot castings.

Application: Battery-Powered Transfer Vehicles
Operation: Remote Control
Implementation: 2016