



Metso:Outotec

Sintering and pelletizing services

Pallet cars for sintering and pelletizing plants

Superior service life
for highest process
performance and plant
availability

Metso Outotec have been the world's leading provider for iron ore sintering and pelletizing from the beginning of this technology. Our pallet cars have proven a superior service life and ensure for reliable and safe operation and thus highest process performance and availability.

Metso Outotec has designed and delivered 30 straight grate pelletizing plants and 20 sinter plants in the last 20 years.

Our experience has resulted in an unparalleled sintering and pelletizing process know-how as a technology leader with an in-house R&D center, engineering, and control of manufacturing from a single source.

The continuous development of pallet cars for new plant projects worldwide as well as of the related global supply base lead to the highest performance with regard to the total cost of ownership, maintainability, and availability.

Our comprehensive offering includes pallet cars and spare part packages which can be tailored according to customer requirements.

- Center and end castings
- Bearings and pressure rollers
- Complete roller sets
- Grate bars
- Sidewalls
- Sealing elements
- Front plates

To reduce the wear, maintenance and spare part costs of the traveling grate system, it is imperative that all pallet cars are perfectly uniform in accordance with the main components of the gear rims and curved rails of drive and tipping station as well as the run and slide rails.

As the OEM supplier, we deliver all key spare parts and support with expert services including inspections and the alignment of the traveling grate..



Benefits

- Proven robust design for reliable operation, long service life and minimum total cost of ownership
- Technology leadership with 25,000 pallet cars delivered in the last 50 years
- Customized solutions to meet specific customer process requirements
- Leading process and engineering expertise coupled with global supply capabilities
- Life-cycle services, including new complete pallet cars, spare parts, inspections and maintenance



Pallet cars for pelletizing

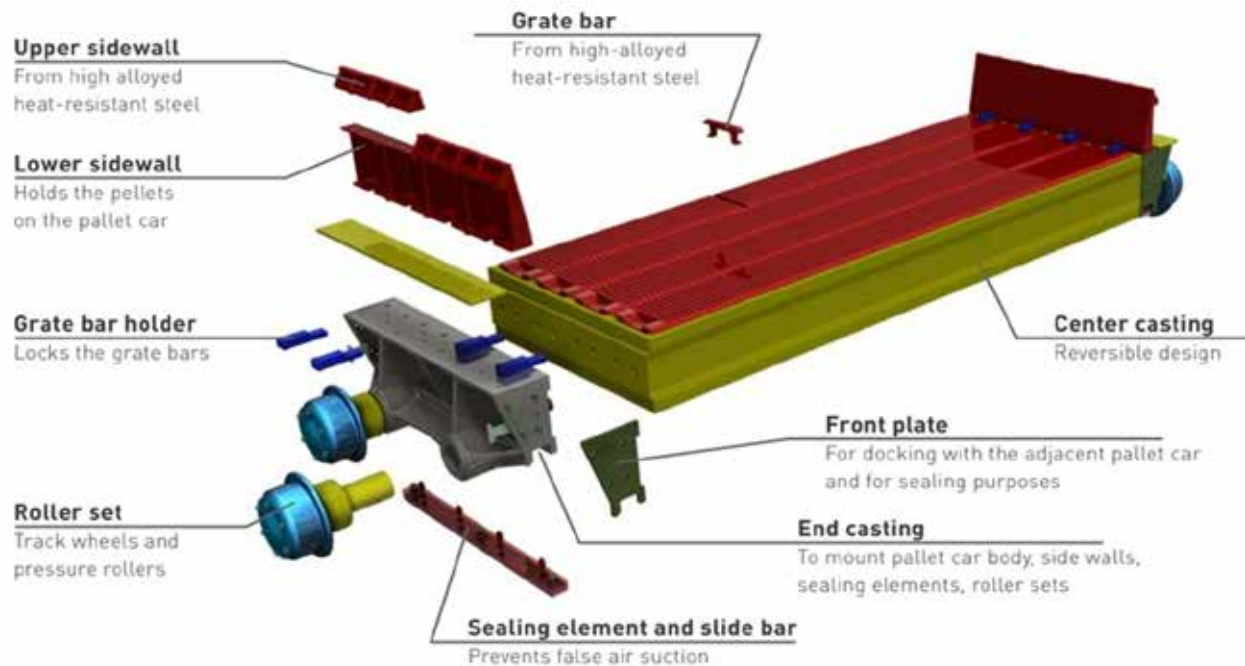
Metso Outotec pallet cars for pelletizing features a 3-piece body design of cast steel for an extended lifetime. The center and end castings, where the roller sets and the side walls are mounted, are joined with bolts. The center casting is symmetrical and can be reversed for extended use. The roller sets and sealing elements are designed for reliable operation and low maintenance.

The split sidewall design allows for an exchange of the high-alloyed upper sidewall, which is exposed to hood temperatures up to 1,350 °C. Pellet bed heights up to 550 mm can be realized.

The grate bar design was further improved for long service life and low pressure drop. The material of the spring-loaded sealing elements is selected to optimally match with the slide rails of the travelling grate machine.

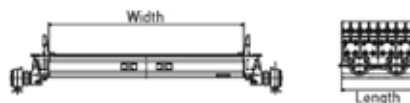


Metso Outotec pallet cars are used in pelletizing furnaces with reaction areas from 180 to 816 m² and with a grate factor of up to 28 tons of pellets per day and m² for hematite and 40 tons per day and m² for magnetite ores.



Standard dimensions

Width [m]	3.0	3.5	4.0
Length [m]	1.5	1.5	1.5



Flexible service solutions

Besides the standard features of our pallet cars Metso Outotec has solutions for the cars and the single components to suit your existing equipment, your budget and your specific performance requirements.

- Center casting: standard, medium, heavy duty
- Straight or pre-bend with camber
- End casting: standard or heavy duty
- Rollers: roller bearings, bushings
- Wheels: cartridge or tapered bearings
- Lower seal: standard or cartridge seal
- End plate: closed or open
- Greasing: sealed for life or external
- Side walls: 50/50 split or 80/20 split
- Butt end, "pellet lock" design
- Grate bars: standard or heavy design, special design fit to existing center casting
- Locking bars: lower or upper inside wall

Pallet cars for sintering

Metso Outotec pallet cars for sintering features a 1-piece body design of nodular cast iron for enhanced cost efficiency. Suspensible insulating pieces protect the pallet car from excessive heat transfer and reduce the body temperature by 100 - 150 °C.

Track wheels and pressure rollers are equipped with anti-friction bearings and seals which make lubrication during operation unnecessary. Bearing designs which allow for frequent relubrication, are also available.

The wear-resistant, spring-loaded sealing elements with 2-component material slide bars prevent false air suction between the pallet car and wind boxes.

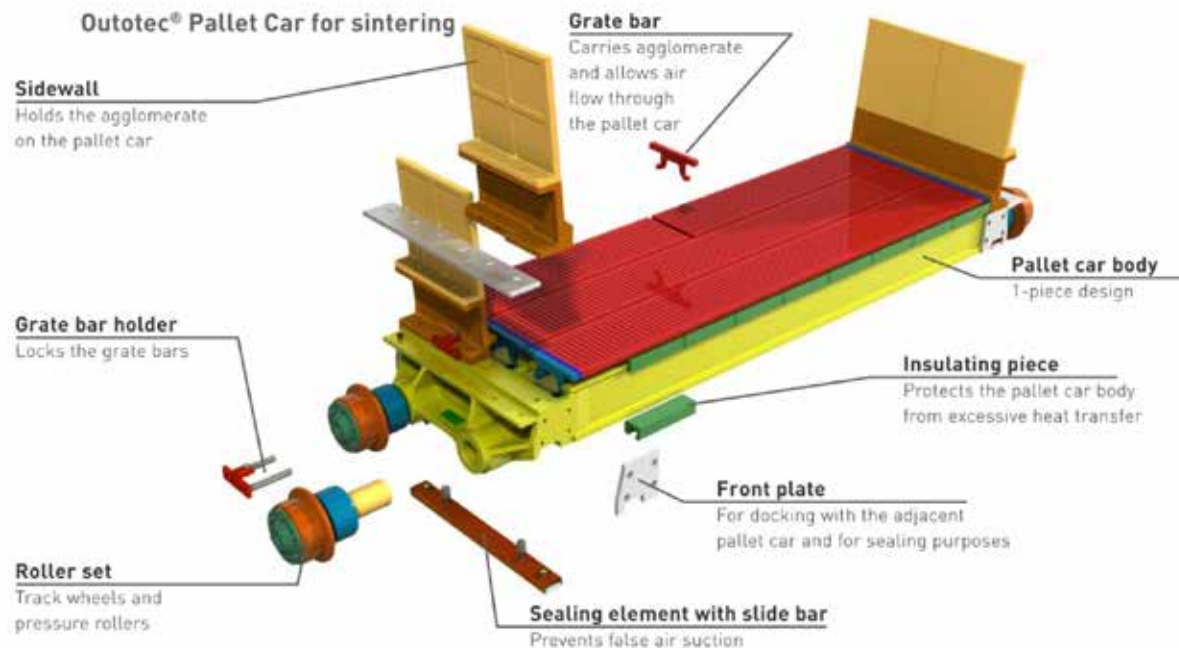


The easy to maintain sidewalls ensure that the feedstock remains on the pallet car. Our pallet cars are used in sintering machines with reaction areas up to 600 m², with a grate factor of up to 45 tons of sinter per day and m². Sinter bed heights up to 730 mm can be realized.

Flexible service solutions

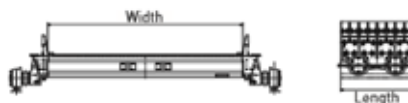
Metso Outotec provides quality parts globally with excellent delivery times. We offer comprehensive quality standards for pallet car we deliver.

- Heat treatment for pallet car castings
- Casting toughened for stress relief
- Test bars for each pallet car casting are kept for reference
- Micrographs are checked
- Dye-penetration and magnetic particle testing to detect cracks on the surface
- Ultrasonic tests
- Determination of all mechanical and chemical analyses is recorded
- Hardness tests will be carried out on different points of the pallet body



Standard dimensions

Width [m]	3.0	3.5	4.0
Length [m]	1.5	1.5	1.5



Additional services for pallet cars

As market leader in sintering and pelletizing plants since the inception of these technologies, Metso Outotec have continuously developed products to improve the performance and the longevity of our process equipment.

Inspections and alignment services



Inspections by our certified experts provide a clear understanding of your current equipment condition, maintenance needs, upgrade suggestions, spare parts requirements and operation improvement recommendations.

The information collected is used to assess planning, management or execution of alignment services for the straight grate to restore the process performance and extend the lifetime of the entire grate system and components.

Modernizations of pallet cars and complete fleets



After decades of operation, pallet cars display wear which and start to impact plant performance and energy consumption. Maintenance needs compromise plant availability, production and increases costs. We offer the replacement of customized pallet cars with an improved state-of-the-art design.

Our modernizations will restore your operational performance and availability of the travelling grate while reducing your spare parts inventory and maintenance costs

Grate bar rapping device



Our proprietary equipment consists of two modules

- Grate bar scraper device to remove residue from grate bars
- Grate bar rapping device to loosen and remove pellets and fines between the grate bars

The device can also be delivered on a removable carrier for easy maintenance, even during operation. Retrofits are hassle-free and improve process performance, maintenance and the lifetime of your equipment

Pallet car condition monitoring



The condition of the pallet cars is crucial for plant availability, process performance and maintenance costs.

Accurate, real-time data is provided regarding the condition of the pallet cars during operation with clear criteria for service intervals using a condition monitoring system. This system was developed to include a Pallet Car Identification System using optical cameras or RFID and a Sag Monitoring for the pallet bodies with contactless sensors.

