SUPERBELT®
High performance steel belt conveyors

MAGALDI®
Dependable technologies
The story of Magaldi Group has ancient roots and arises from the ideas and visions of a family with a passion for creativity and inventiveness. In Salerno in 1901, as Italy was starting its own industrialization, Emilio Magaldi riveted together strips of leather to use as a belt drive. Unlike other belts of that time, which were made of a single piece of rubber, Magaldi’s multi-piece belt ensured to keep an engine running even with a piece snapped.

In the 70’s, Paolo Magaldi applied the same concept to a steel belt conveyor to be operated under severe conditions in several industries. Used at first to remove the hot and heavy metal runoff in foundries, the Magaldi Superbelt® stood out for its ability to convey hot bottom ash, cement clinkers, heavy scraps, metal sinter, hot and cold DRI, castings and molds, in a dependable and low O&M way.
Nowadays the Magaldi Group is the world’s leading manufacturer of steel belt conveyors for materials handling in foundries, steel mills, mineral processing plants, cement plants, waste-to-energy plants and solid-fuel fired power plants, with more than 1000 installations worldwide. Our applications are based on the Magaldi Superbelt® technology: a patented steel belt conveyor able to handle hot and abrasive materials, aggressive chemicals, heavy and sharp products under severe conditions.
The Magaldi Superbelt® is a patented steel belt conveyor able to convey hot, abrasive and heavy products under severe conditions even up to 1100 °C, from fines to bulk materials. The main advantage of all Magaldi’s conveyors is the high dependability ensured by the construction features of the Magaldi Superbelt®: a steel double-wire mesh which carries partially overlapped steel pans bolted on and supported by upper idlers over its entire width. Compared to conventional chain conveyors, the mesh design ensures that the conveyor will never stop. In fact, even in the very unlikely event that part of the mesh results damaged, the mesh is still able to guarantee the suitable traction force. On the contrary, a broken link in a conventional chain conveyor leads to a forced shutdown of the production line.
LATIONS IN 35 COUNTRIES
Conveying technology

The Magaldi Superbelt® is a steel belt made of partially overlapping steel pans bolted on a steel double-wire mesh, that form a virtually sealed belt. The patented method of connecting the pans to the mesh belt leaves all elements free to thermally expand in any direction, without permanent deformation. As a result, the Magaldi Superbelt® withstands temperatures higher than any other known conveyor. In the Magaldi Superbelt® the driving force is transmitted by friction between the head pulley and the belt mesh, while a take-up device on the tail pulley provides a constant tension. This ensures a perfect fitting in the overlapping pans area so that fine materials cannot leak among the pans. The steel belt is supported by carrying idlers, across its entire width in order to withstand heavy mechanical loads, and return idlers.

Wear is negligible, since material is slowly conveyed with no relative motion against steel parts. Power demand for conveying and noise are at the minimum levels.
Accidental shutdowns never occur with the Magaldi Superbelt®, even if the steel belt is severely damaged. Contrary to a chain driven conveyor, a local damage in the Magaldi Superbelt® does not compromise the entire belt integrity and functionality. The Superbelt® can continue to work even if several links of the double-wire mesh are broken. Immediate replacement is not required and the main maintenance activities can be postponed and carried out during a planned outage.

Pans and mesh materials are selected according to operational conditions, from carbon to stainless steels and higher quality.
• Damage-tolerant design, multi-link construction.
• High temperature resistance and tensile strength.
• Free thermal expansions, with no permanent deformation.
• No relative motion between material and belt, thus no wear.
• Maintenance is carried out from outside. No safety hazard for operators.
• Power demand for conveying and noise are at the minimum levels.
• Ability to absorb heavy impact loads.
• Possibility for open and totally enclosed conveyors with self-cleaning devices.
Main Superbelt® applications

Automotive casting cooling and transportation

Conveying, de-gating and shot-blasting loading

Clinker transportation
Hot sinter transportation

Foundry sand transportation

High temperature material transportation

Scrap handling
Dry bottom ash handling for biomass fired boiler

Dry slag extraction for waste-to-energy plants

Dry bed ash extraction for fluidized bed combustion boilers

Dry bottom ash extraction for pulverized coal fired boilers
Dry coal mill rejects handling

Bottom and fly ashes recycling for pulverized coal fired boilers

Dry bottom ash extraction for boiler burning high ash content coals

Post-combustion, extraction and cooling of high UBC content bottom ash
The Magaldi’s manufacturing process starts with the careful, professional and experienced choice of reliable and highly qualified suppliers. The production chain begins with the cutting of the raw material (iron and carbon steel sheets) by 3 laser or plasma cutting machines with the ability to serve two shifts and to reach a production capacity up to 10 tons a day. All materials are manufactured according to the specifications given by the Technical Department and they are identified by codes in order to guarantee traceability as well. After the bending and welding operations, by specifically designed equipment and full-automated robot workstations, each product reaches the quality control area where checks in compliance with the Magaldi’s quality standards are performed. Subsequently, the components are sent to the Assembly department where the conveyors are assembled according to a rigid system of self-checklists. All components are inspected to ensure compliance with the technical and quality parameters. The concept of Total Quality permeates the whole Magaldi’s manufacturing process. Working in a global market, with the best available technology, has driven us to pursue the continuous improvement of the supplied systems for bulk materials handling, overcoming even expectations of the most demanding Customers who must consider Magaldi not just a supplier but a reliable partner. Since 22nd August 2013, Magaldi has adopted a Quality Management System certified UNI EN ISO 9001:2008, in order to reach the full satisfaction of Customer needs. The Company has also achieved the following certifications: 1) EN ISO 3834 - Quality requirements for fusion welding of metallic materials; 2) UNI EN 1090 - Execution of steel structures. Furthermore, as the respect for the Environment, Health and Safety of its employees is considered a priority, Magaldi is also developing an Environmental Management System complying with UNI EN ISO 14001:2004 and a Safety Management System conforming to OHSAS 18001.