



In grain storage plants, magnetic separators play a crucial role in safeguarding machinery and ensuring the quality of the final product by removing ferrous impurities that may be present in the grains. These impurities can originate from various sources, such as worn-out metallic parts from agricultural machinery, nails, screws, or other metallic objects that might have accidentally mixed with the grains during harvesting, transportation, or storage.

The basic operating principle of magnetic separators involves generating a magnetic field that attracts ferrous particles, effectively separating them from the flow of grains.

CESCO Magnetic Separators are available in different dimensions and operation modes (manual, pneumatic, electric) to accommodate various grain flow rates, expected sizes of ferrous particles, and different maintenance requirements.

GENERAL CHARACTERISTICS

- Operates on magnetic attraction through permanent magnets; no external power source necessary.
- Constructed with non-magnetic stainless steel.
- Components susceptible to wear due to product friction can be individually replaced from the exterior.
- Efficiently protects equipment from potential damage by metallic foreign objects.
- Removes unwanted ferrous particles and prevents product contamination.
- Available in various widths, with capacities ranging from 400 t/h to 1000 t/h.
- Manual, pneumatic, or electric drive options.
- Optional automatic cleaning for seamless integration into automated production lines.

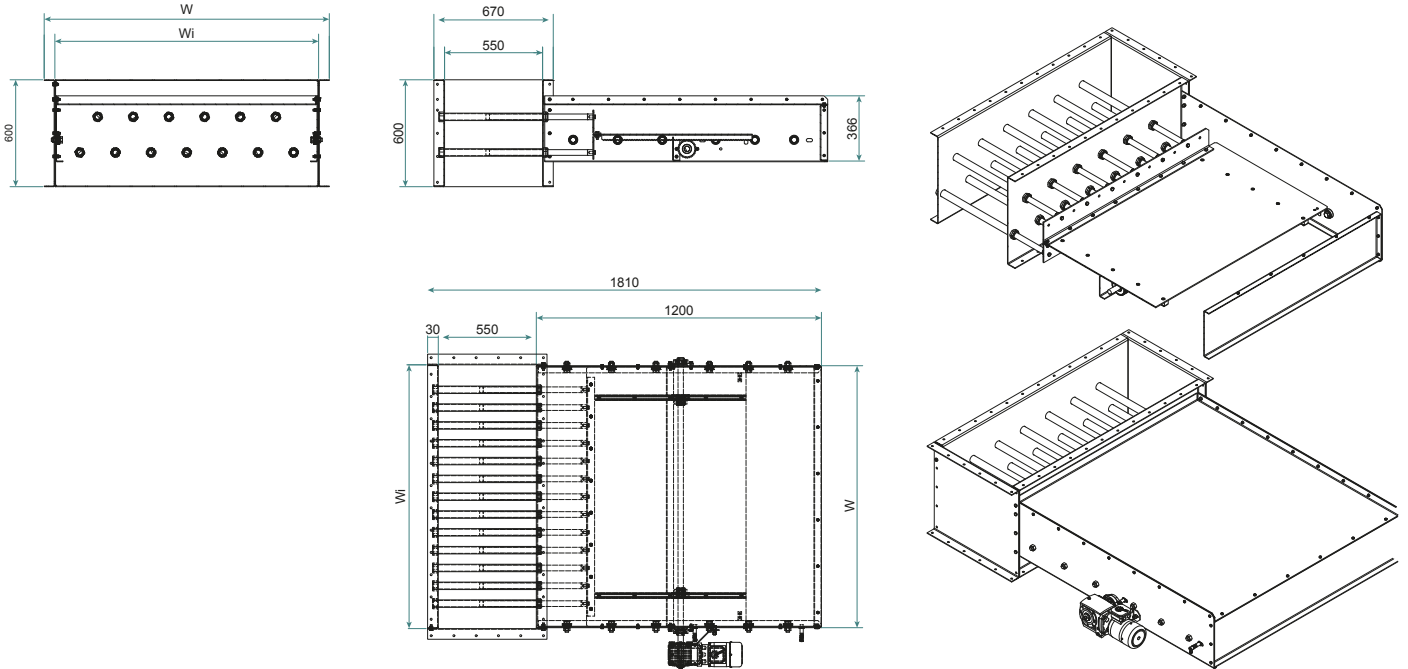
Principle of operation



The CESCO magnetic separators are compact enclosures housing magnet rods, designed for ferromagnetic particle separation in dry, free-flowing bulk products. These separators effectively eliminate ferritic impurities, such as those found in grains and other bulk materials.

The separator is a self-contained housing, constructed from stainless steel, with a series of cascading stainless anti-ferritic pipes. Material flows vertically over these pipes, where magnetic separator rods (permanent magnets) within attract ferritic components.

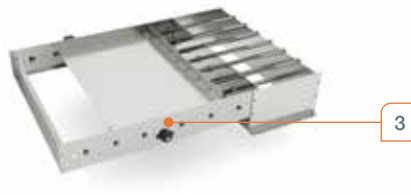
To extract both finer and coarser metal particles from the magnetic separator, the magnetic separator rods can be removed from the stainless steel tubes using manual handwheel operation, a pneumatic cylinder, or an electric gear motor. Additionally, a flap box located downstream of the magnetic separator diverts metal particles into a separate waste container.



Magnetic separator dimensional drawing (two-way valve located underneath not shown).



The magnetic rods (1) are shielded from the product flow by stainless anti-ferritic pipes (2), preventing rod wear and ensuring their smooth extraction from the area of product flow.



The design of the drive (3) allows for manual (handwheel), pneumatic, or electric motor operation of the magnetic separator.



The removable top cover (4) allows for easy and safe inspection and maintenance of the magnetic separator without interfering with the product flow and the operation of the plant.

Magnetic Separator		MS 400	MS 600	MS 800	MS 1000
Throughput	t/h	400	600	800	1000
Number of magnet rods	—	5	9	13	17
Weight	kg	200	300	450	600
Length L	mm	1810			
Width W	mm	740	980	1220	1460
Inner width Wi	mm	680	920	1160	1400
Height H	mm	600			
Operation		Manual, Pneumatic, Electric			

The data reported in this table are for informational purposes.

