

MULTOTEC

Heavy Mineral Spiral Concentrators



Your Specialist in Process Equipment



Heavy Mineral Spiral Concentrators

Gravity separation of fine heavy minerals in the size range 1.5 to 0.04 mm may be conducted on spiral concentrators. Spiral plants may consist of multiple stage spirals, depending on the mineral being recovered and the product requirements.

Multotec is a leading designer and manufacturer of spiral concentrators.

HX High Capacity Mineral Spiral Concentrators

- 1 000 mm in diameter
- 2.5 turn, 3 turn and 5 turn units
- Tonnage rating per start from 4 to 7 tph, depending on mineral type
- Ideal for treatment of fine- and low-grade ore, where large tonnages are processed
- Plant footprint reduction of more than 33%, depending on configuration and mineral treated, over small-diameter spirals

SC Mineral Spiral Concentrators

- Six different basic models and up to three different combinations to suit the A to Z of minerals, making the Multotec spiral range one of the most extensive in the world
- From 3 turns up to 8 turns
- High-, medium- or low-grade profiles
- Materials of construction selected to give a long-life, low-cost and low-maintenance, high-quality product

Additional Services

- Pilot scale test work on spiral concentrators
- Consultation regarding spirals and plants
- Commissioning of spiral plants and equipment
- Optimisation of spiral plants

Multotec Heavy Mineral Spirals include:

Spiral name	Typical applications	Configuration
SC20 LG	Gold, copper, silica sand	Twin and triple start spirals
SC20 HC	Iron ore, chrome, mineral sands	High-capacity twin start spirals
SC20 VC	Mineral sands, chrome, iron ore	Twin and triple start spirals
NHM	Mineral sands, low-grade heavy minerals like tin and tantalite	Twin and triple start spirals
SC21	Chrome, high-grade ores	Twin and triple start spirals
HX3 / HX5 (Large diameter)	Mineral sands, chrome, iron ore	Twin, triple and quad start spirals



Spiral Trough

- Spiral troughs are manufactured to the highest quality. Reproducibility is key to producing consistent product grades and recoveries
- Accurately manufactured by reverse lamination
- Working surface is sprayed with polyurethane to required thickness
- Rubber integral edge:
 - Improves circumferential strength
 - Prevents spillage
 - Integrally cast
 - Ribbed for extra strength



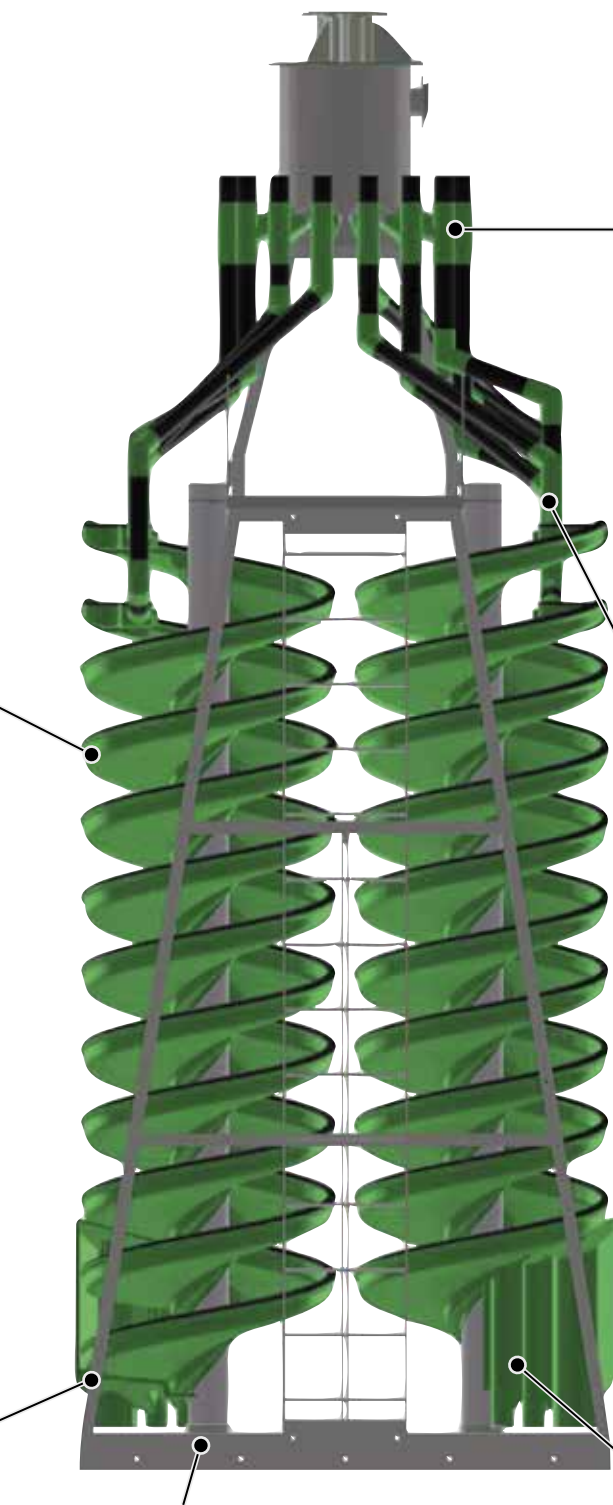
Sliding Splitters

- Splitter settings easily adjusted from the outside of the spiral
- Sliding splitters allow larger mass pulls to concentrate
- Flush with spiral trough surface



Launders

- Cast polyurethane lining for long life
- Lightweight, rigid construction
- Launderers can be bolted to spiral frame
- Design allows for spiral products to discharge directly into launder



Modular Housing Frame

- Each module houses two spiral assemblies
- Can be fully dismantled for retrofitting
- Hot-dip galvanised to prevent corrosion
- Optional features include:
 - Safety handrails
 - Cat ladder hoops
 - Kick-plate
 - Upper level walkway
 - Access cat ladder



Distributor and Piping

- Even distribution to each spiral is attained using gravity distributors
- Top or bottom fed
- Robust, galvanised steel shell
- Cast polyurethane lining
- Replaceable parallel throat orifice
- Anti-syphoning off-takes
- Rigid HDPE piping
- Modular polyurethane elbows
- The spiral does not require any commissioning spares other than orifices
- The feed piping and accessories between the distributor and the spiral feed box have a very long expected life, and typically a third of the total requirement may be kept as operating spares for two years



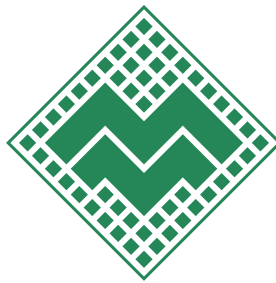
Feed Box

- Solid polyurethane casting
- Impact wall provides longer life
- Design ensures homogenous pulp mix
- Replaceable



Product Box and Splitters

- Product splitter settings are easily adjusted using levers on top of the product box which eliminates the need for a subframe
- Solid lightweight polyurethane casting
- Three or four individual outlets
- Box design ensures no solids build-up
- Linked steel-reinforced splitters
- Splitters are independent to trough surface and offer knife-edge cutting of pulp stream
- Replaceable



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Sampling Solutions	Wear Lining Solutions	Mill and Scrubber Linings
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Multotec products are subject to continuous development and Multotec reserves the right to make changes to the specifications and design of its products without prior notification.