



YOUR PARTNER FOR THE SWARF TREATMENT

SWARF TREATMENT PLANTS

COOLANT FILTRATION

SCRAPS AND OFFCUTS CONVEYING LINES

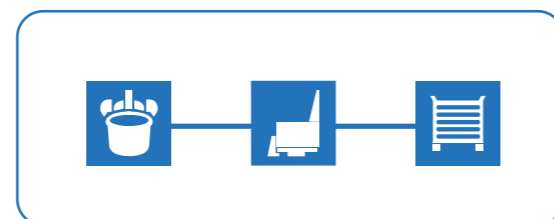
ROBOTLINE

Our patented automatic spinning system able to spin any type of material without cross contamination.



WHAT DOES ROBOTLINE CONSIST OF?

- Basket loading station
- Robotic handler
- Patented automatic centrifuge
- Basket discharge station



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BENEFITS:

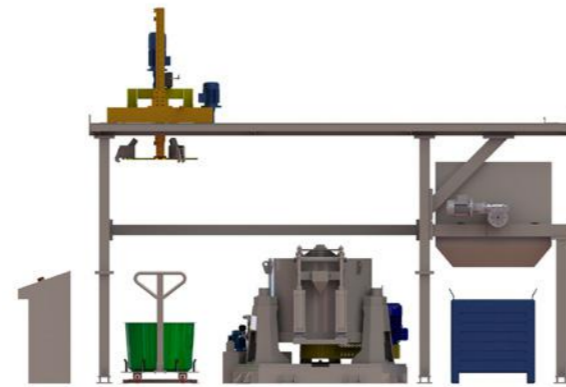
- The basket is completely closed. No leakage at all
- Single plant for different materials
- No cross contamination among materials or oils/coolant
- One single plant both for oil and emulsion
- Capable of spinning chipped and long stringy swarf
- No crusher required
- Bar ends accepted
- The swarf basket is designed to be the centrifuge basket
- The spun swarf is discharged automatically via robotic automation, without any operator's intervention
- Manual or automatic loading of the basket
- As an option, several baskets can be automatically handled, by installing extra roller conveyors.



THE PHASES OF ROBOTLINE

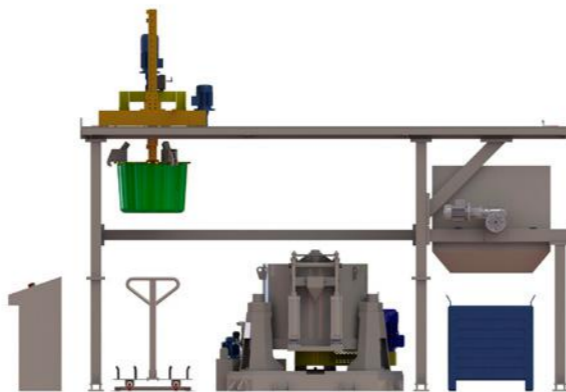
1. TRANSPORT

The conical blind basket, placed under each machine tool, is picked up by the operator and transported to the centrifuge station. The material in the basket can be detected visually or by a sensor.



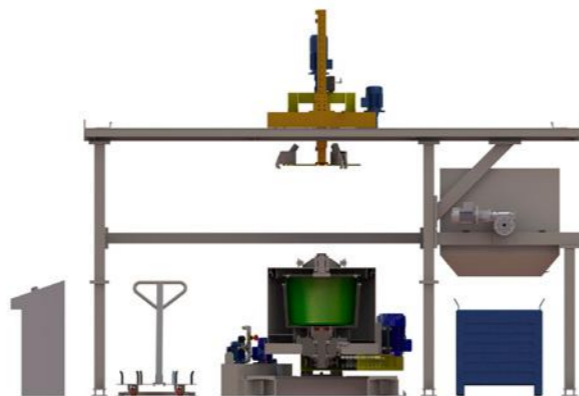
2. LOADING

Once the basket has been placed in the loading station, the robotic handler will pick it up and automatically insert it into the centrifuge.



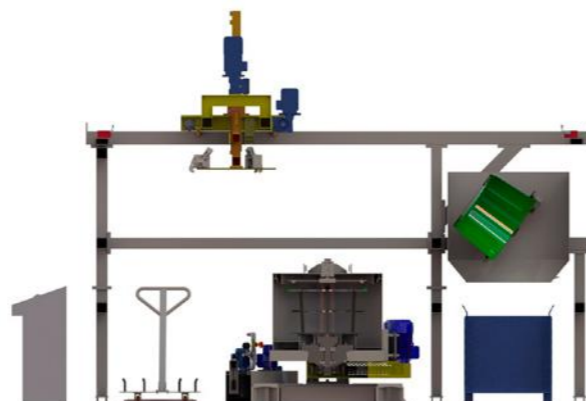
3. SPINNING

In the spinning phase, the chips are separated from the coolant. Residual moisture usually $\leq 2\%$. No cross contamination among materials occurs.



4. DISCHARGE

At the end of the phase, the robotic handler will automatically pick the basket up and tilt the spun swarf into the dedicated discharge station.



Robotline can be implemented through the laser-guided vehicle "Donkey". "Donkey" is the solution for the automatic intralogistics handling.

- Compact and reliable;
- Without blind areas;
- Mecanum wheels with omnidirectional movement;
- Capable of working 24 hours a day without interruptions, thanks to its interchangeable lithium battery system;
- Automatic battery replacement at the charging station thus eliminating any unproductive time.



Charging station

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VACUUM PLANTS



The swarf vacuum system is suitable for the automatic conveying of chips from the machine tools to a centralized collection station, without any operator's intervention or floor conveying.



Vacuum station for fine aluminium swarf



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Vacuum station equipped with grinder

BENEFITS:

- Automatic conveying of swarf from multiple machine tools to a centralized collection point
- Adaptable over time
- No civil works
- No handling of bins
- Unmanned operation
- Swarf suction directly under the machine tool



Vacuum plant discharging into a spinning system

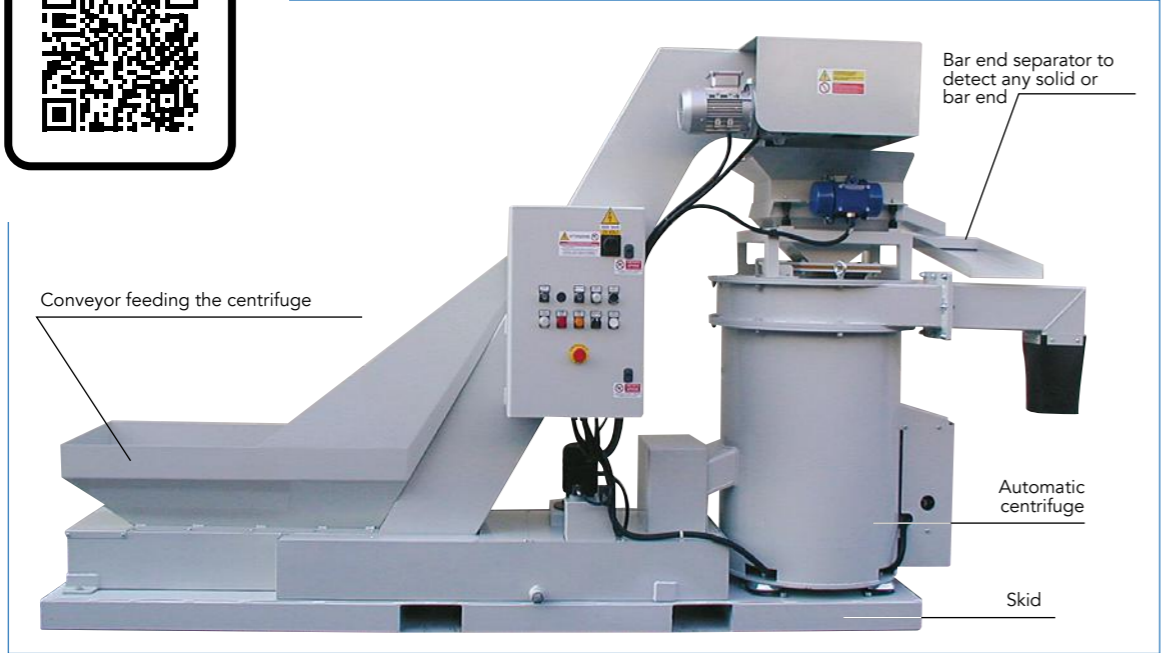


Vacuum plant feeding a briquetting machine

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AUTOMATIC SPINNING SYSTEM "MINISYSTEM"



The throughput of the system varies according to the treated material:

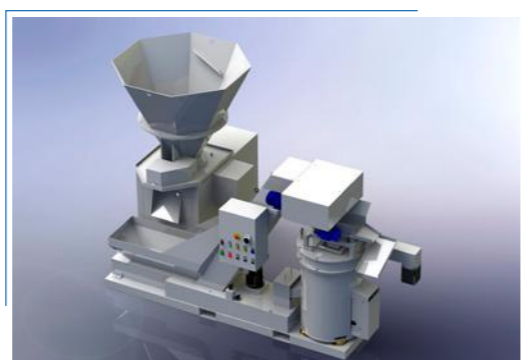
- 180-200 kg / h * for short brass swarf, with density 1 kg = 1dm³
- 160-180 kg / h * for short steel swarf, with density 1 kg = 1dm³
- 70-80 kg / h * for short aluminum swarf

*Indicative data

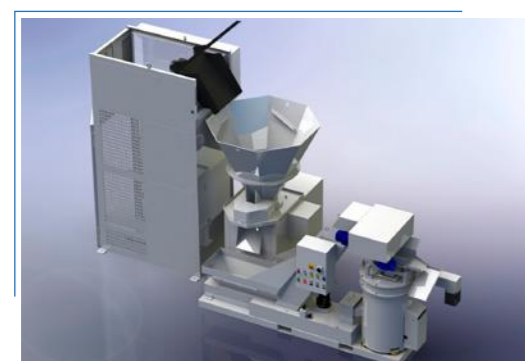
ADDITIONAL MODULES FOR MINISYSTEM



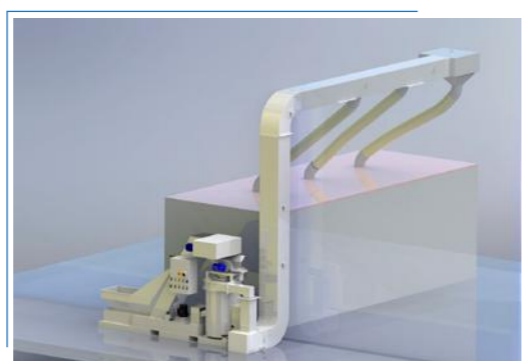
Minisystem with skipoist and 800 Lt conveyor hopper volume



Minisystem with crusher



Minisystem with skipoist and crusher



Minisystem with conveyor to feed container equipped with 3 discharge chutes



Minisystem fed by a skipoist



Minisystem with crusher



Minisystem with crusher and automatic discharge into a container

BENEFITS:

- High coolant recovery (residual moisture <=2%)
- Modular and placed on a skid
- Compact



Minisystem with skipoist, crusher and discharge into container

SWARF TREATMENT PLANTS "SYSTEM"



Crushing and spinning system.
Capacity: 3 ton/h for aluminium swarf



Automatic crushing
and briquetting system

The swarf treatment plants are modular systems, for the crushing, spinning and storage of chips.



Automatic crushing system equipped with magnetic separator



Automatic crushing and spinning system equipped with skipoist



Automatic spinning system

BENEFITS:

- Volume reduction
- Coolant recovery
- Higher value of swarf
- Short return on investment from the sale of briquettes
- Lower storage, transport and handling costs
- Environmentally friendly operation

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Detail of the spun swarf discharge area



Automatic spinning plant with 6m3 pre-storage hopper



Spinning system



Swarf crushing and spinning system equipped with skiphoist

APPLICATIONS:

- Mechanical industry
- Taps
- Fittings
- Aeronautics
- Automotive



Swarf crushing and spinning plant with silos



VERTICAL SILOS



- Large volumes in a small space
- Safe against theft
- Low environmental impact
- Cleanliness of the surrounding area
- Modulars
- Earthquake proof



HORIZONTAL SILOS



Horizontal silos equipped with load cells

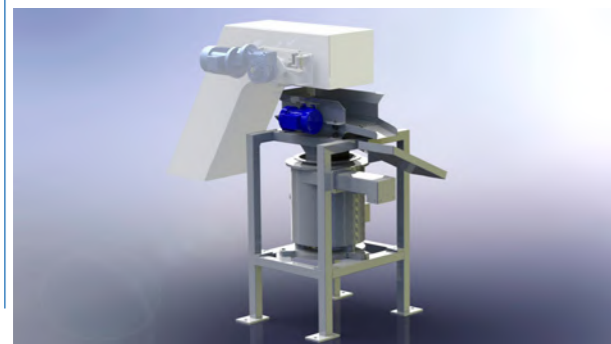
BENEFITS:

- Low height
- They can be placed inside the factory
- Automatic chip weighing
- Standard capacity 15 m³



VERTICAL CENTRIFUGES:

MODEL SCED5



SCED5 centrifuge equipped with bar end separator



Shredding and spinning unit under the machine tool conveyor

MODEL SCED10



SCED10 centrifuge

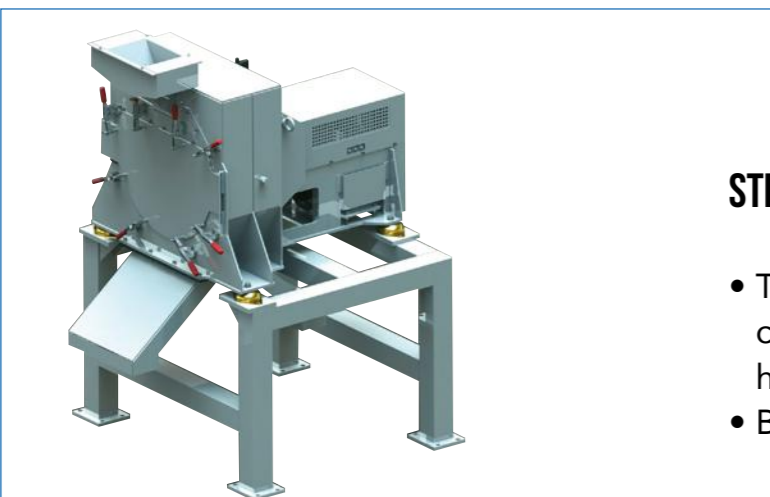


Grinder and SCED10 centrifuge

Model	SCED 5	SCED 10
Capacity kg/h*	100	200
Power	0,5 kw	4 kw
Dim. (mm)	500 x 500 x 495	860 x 710 x 960
Weight	95 kg	550 Kg

* Approximate data for brass swarf

HORIZONTAL CENTRIFUGES:



STRENGTHS:

- The centrifuge that overturns the centrifugation technique with horizontal basket
- Best results at the lowest cost

Model	SCE20	SCE30	SCE40
Capacity kg/h*	500	1500	4000

* Approximate data for brass swarf



GRINDERS

Suitable for cutting the stringy swarf. The shredders are basically composed of a grinding and hydraulic device that pushes the chips towards the rotating roller. We also design grinders equipped with bar end separator device.



Grinder and centrifuge fed by a conveyor



Technical data	MT4
Power	7,5 kw
Capacity kg/h*	150
Dim. (mm)	1450 x 800 x 700

* Approximate data for steel swarf

CRUSHERS

The best performances of the crushers are achieved when continuously fed. They are equipped with a bar end ejector device. Crushers are especially employed as centralized units.



SCR20 crusher



SCR40 crusher

Technical data	SCR10	SCR20	SCR40
Power kw	7,5	15	45
Capacity kg/h*	500	1000	4000

* Approximate data for steel swarf



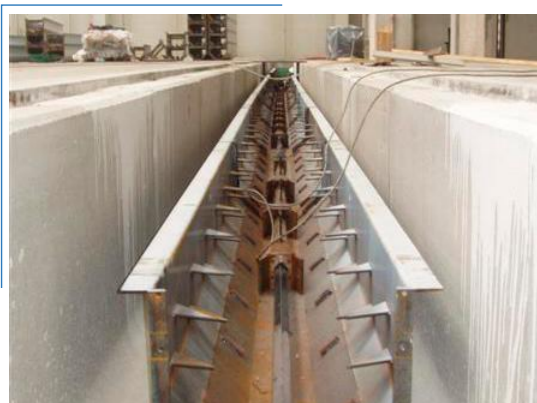
IN-GROUND LINES FOR SWARF CONVEYING



Detail of in-ground lines



Harpoon conveyor line



Detail of harpoon conveyor



CONVEYING LINES FOR STRINGY SWARF



Detail of a turning chute



Conveyors for stringy swarf



Aluminium conveying line



Hinged belt conveyor line

FILTRATION UNITS



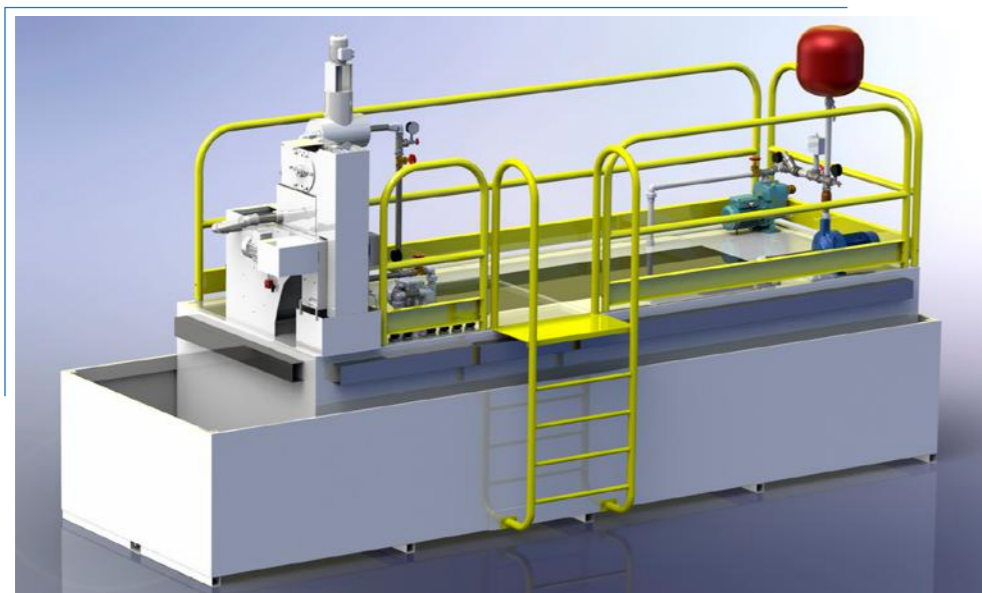
Centralized unit equipped with paper filter, tramp oil skimmer, dosing unit and automatic topping up



Oil filtration unit with automatic topping up



Self-cleaning unit for both neat oil and emulsion



Centralized unit to filter and top up the machine tools

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CONVEYORS FOR OFFCUTS



Swarf conveying line, under a press



- Hinged belt conveyors
- Up to 2 meters wide
- Up to 100 meters long
- Pitch belt of 4, 6 or 8 inches

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Aluminium and steel offcuts conveying line



Heavy conveyor for scraps discharge



HEAVY CONVEYORS SUITABLE FOR THE TRANSPORT OF:

- Metal, oily and sharp scraps
- Hot and heavy pieces
- Die castings



In-ground line for offcuts



Detail of the discharge into container

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**Swarf treatment plants
Coolant filtration
Scraps and offcuts conveying lines**

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