



# MORILLON HYDRASCREW

Hydraulic planetary screw for inclined or flat bottom silos



**DESIGN AND MANUFACTURE**  
OF UNLOADERS FOR DIFFICULT TO FLOW MATERIALS





## EDITORIAL



«When I joined the family company in 1984, my father Théodore Morillon and his team drew on their long experience in the field of storage and material handling to lay the foundations of the unloading activity with the Hydrascrew. The innovative hydraulic controls and the original booster enabled the company to quickly forge a good reputation in the field. Initially fuelled by the demand from the company's traditional customers (storage of soya and rape meal, bran and gluten), the activity soon diversified, both in terms of markets (wood industry, environmental applications) and geographically. Today, the company is internationally recognised as a leading actor in the storage of bulk materials.

Guaranteed performance for our customers is the challenge that we face every day and what drives our company and its personnel. We have been proud to rise to this challenge for nearly 150 years\*!»

Laurent Morillon - President



\*Morillon was created in 1865 by the great-great grandfather of the current owner, who was a mill builder

# The design and manufacture of unloaders for difficult to flow materials

## Your need

To unload difficult to flow materials that are heavy or light, powdery or fibrous, dry or damp, and that do not easily flow by natural means.

## Our expertise

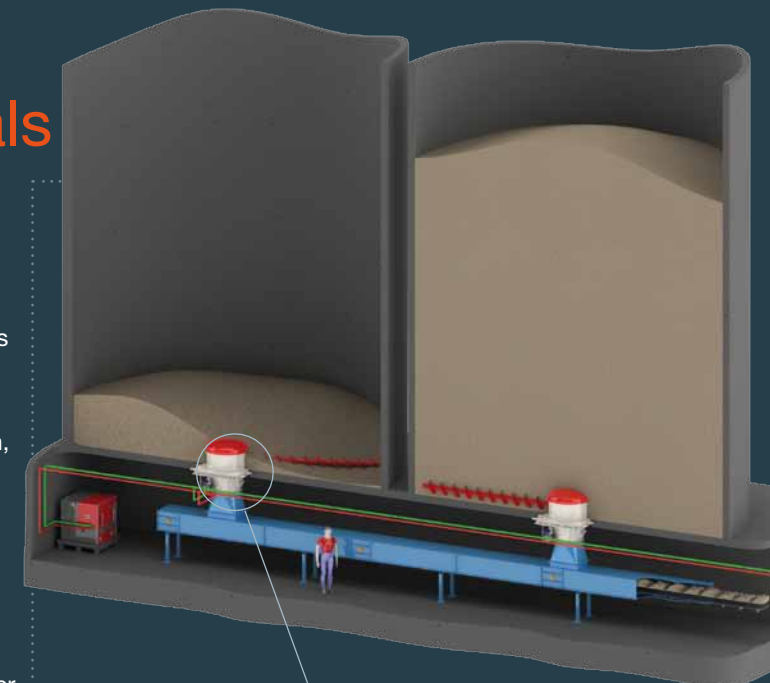
Thanks to our broad experience of extraction applications (more than 2,000 systems worldwide), our sales and R&D teams can support and advise you to better define your needs.

## Principle

A screw, driven by a directly coupled hydraulic motor, sweeps the radius of the floor of the cell through 360°, unloading the product according to the «first in, first out» principle.

The fully hydraulic transmission means that the hydrascrew is reliable and long-lasting, and is capable of transmitting high levels of torque at low speeds, in particular thanks to the booster starter system.

A number of hydrascrews can be connected to the same power pack in order to unload several silos simultaneously or not.



## APPLICATIONS



Ashes



Coal



Glass wool



Urea



Sludge



Wood pellets/wood chips



Gypsum/Cement



Soya meal/DDGS



Plastic waste





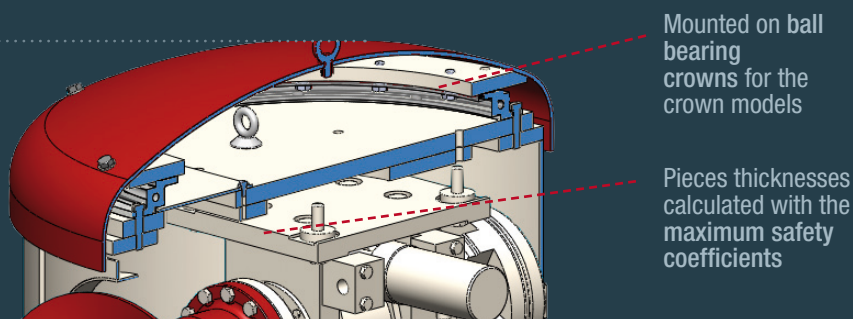


# Hydrascrew, a reliable solution that has been proven worldwide

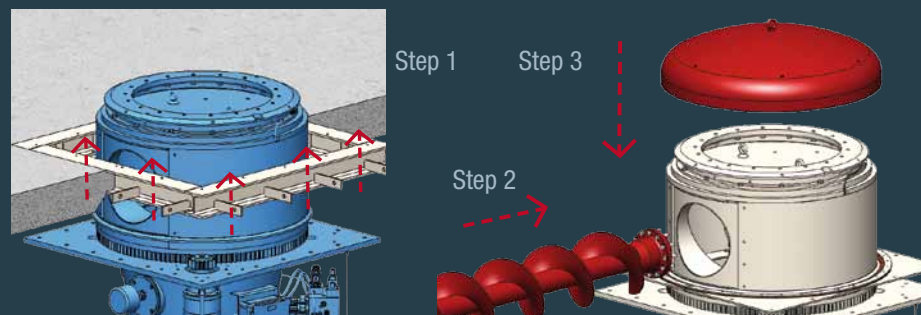


## Tried and tested quality of production

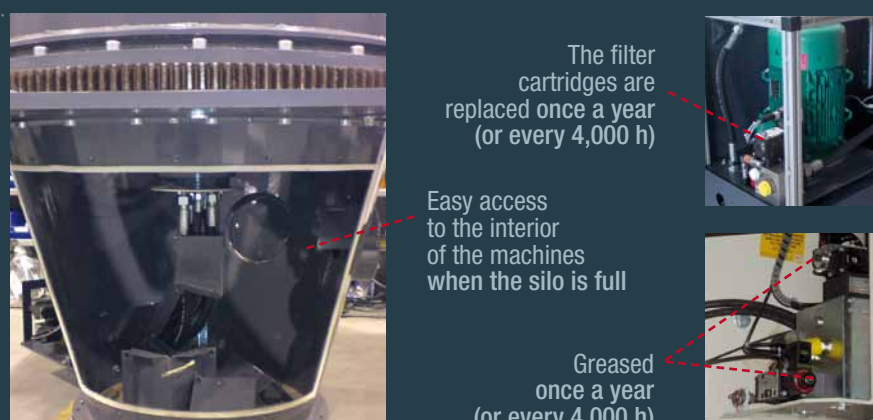
### Robust and long-lasting



### Easy and safe to install Minimum dimensions

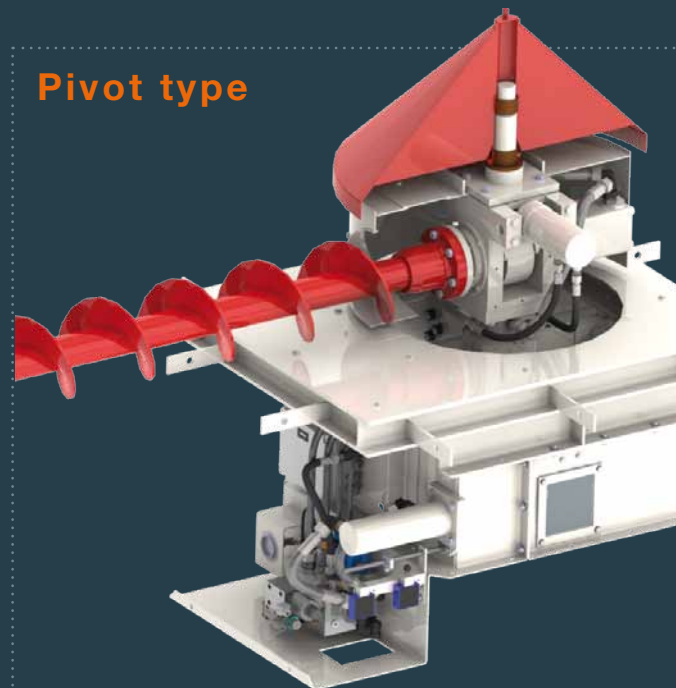


### Easy to maintain



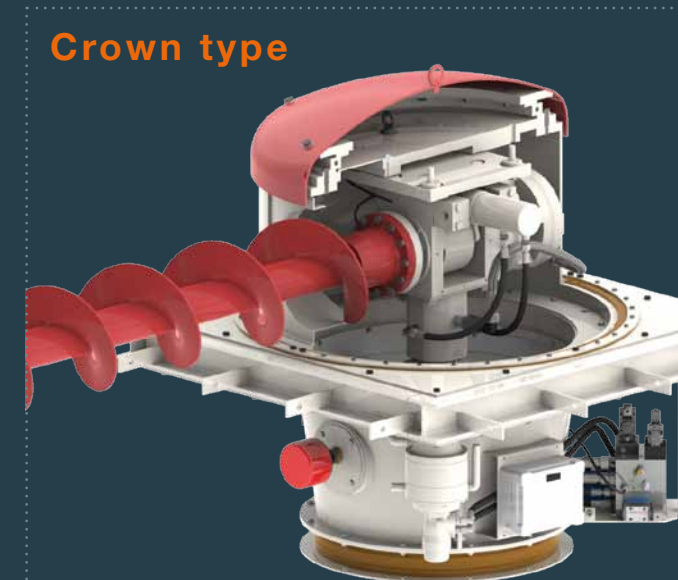
## Two solutions to meet your needs

### Pivot type



- An economical solution
- Can be used with very humid materials

### Crown type



- High unloading capacity
- Very robust
- Access inside even with full silo

High-performance motor from 5.5 to 75 Kw and very quiet too (max. 80 dBA)

Manual or analogic flow control

Connection box

Two hydrascrews can be operated at the same time (on demand).

Connection box or optional control cabinet.

## The mechanical benefits of a hydraulic system

- smooth and supple operation to protect the screw
- speed regulation without any loss of yield, at constant torque, without speed variation or overheating
- hydraulic limitation of the torque on the planetary gear advance to conserve the unloader screw and the transmission
- possibility of turning in the two planetary directions


Unloading in the following silos\*:

- new or existing
- smooth/corrugated panels
- bolted or welded panels
- metal or concrete silo bottom
- Ø 2 m to Ø 12 m with the pivot model
- up to Ø 20 m with the crown model

\*conditional on validation by calculating the resistance of the silo for eccentric type unloading

## The applications

### Hydrascrew

- Unloading in explosive atmospheres (ATEX) 
- Unloading hot and/or corrosive materials (ashes, ice)
- Unloading abrasive materials



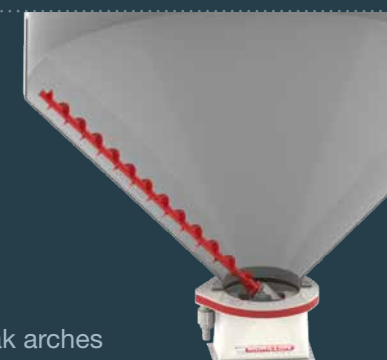
### Hydrascrew inclined at $\leq 15^\circ$ \*



- Adaptation to the silo bottom available for fluidisation
- Enhances water flow when washing
- Facilitates product flow

\*Other angles on demand

### Arch breaker from $45^\circ$ to $60^\circ$

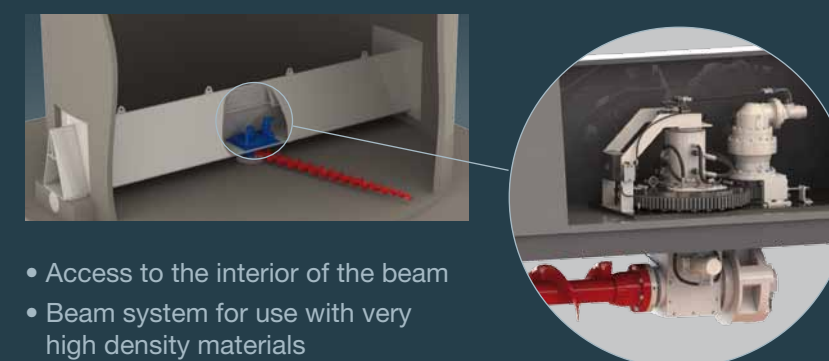


- The screw is used to break arches (flours, ores, pellets, plastic waste, etc.)
- Adaptation on the silo flange
- Easy to start
- Refined mechanics
- From Ø 2 m to Ø 10 m (please contact us for other diameters)



Recovery screw or other equipment to control the flow

### Hydrascrew built into a beam



- Access to the interior of the beam
- Beam system for use with very high density materials

### Twin-screw hydrascrew

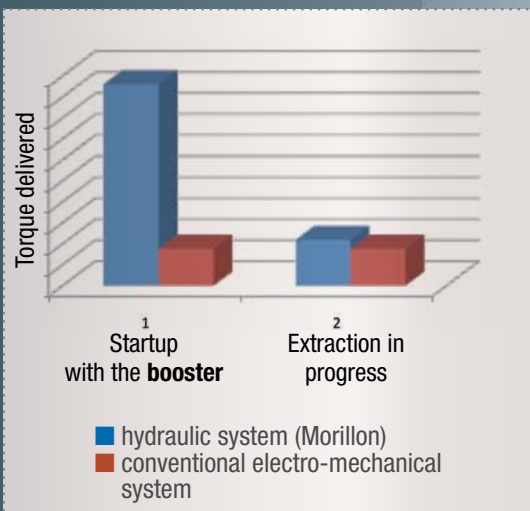
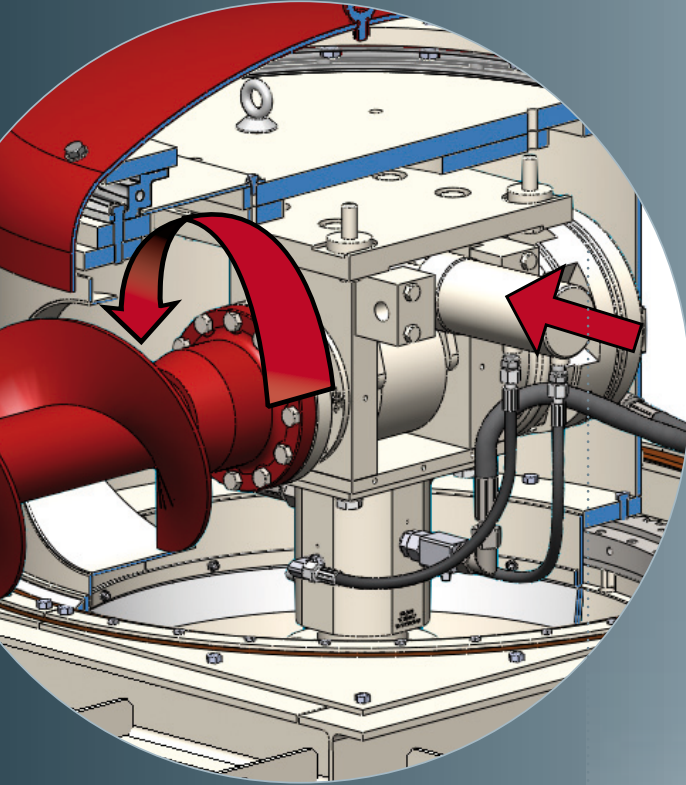


- Reduced risk of caking thanks to the double screw
- High flow rates of up to 500 m³/h



# the power of hydraulics

## THE BOOSTER SYSTEM



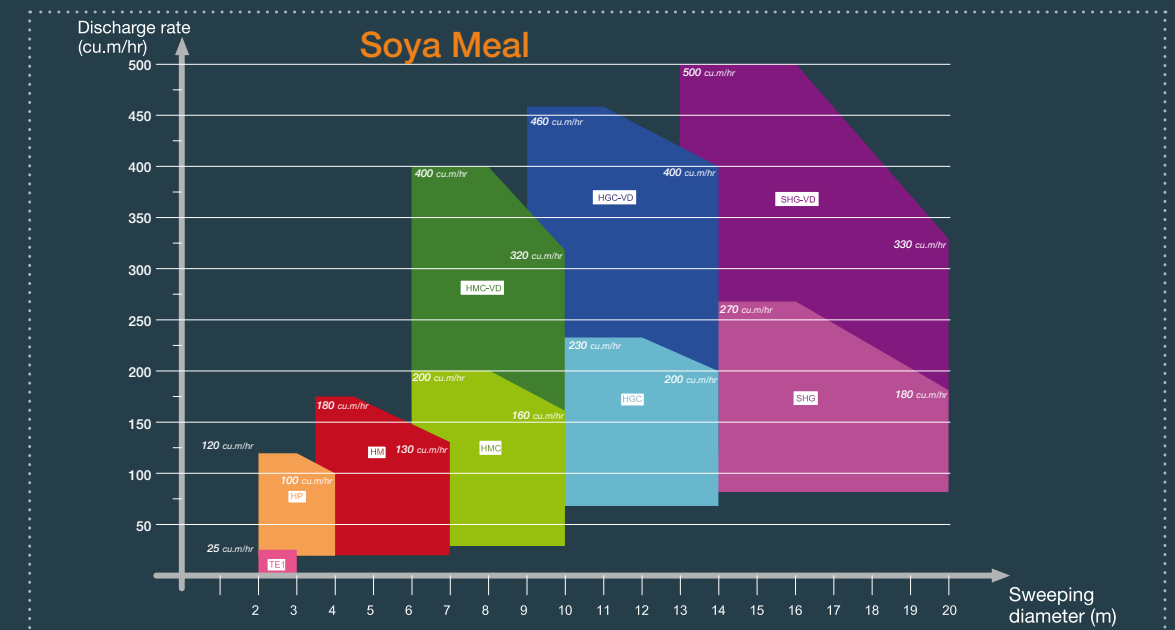
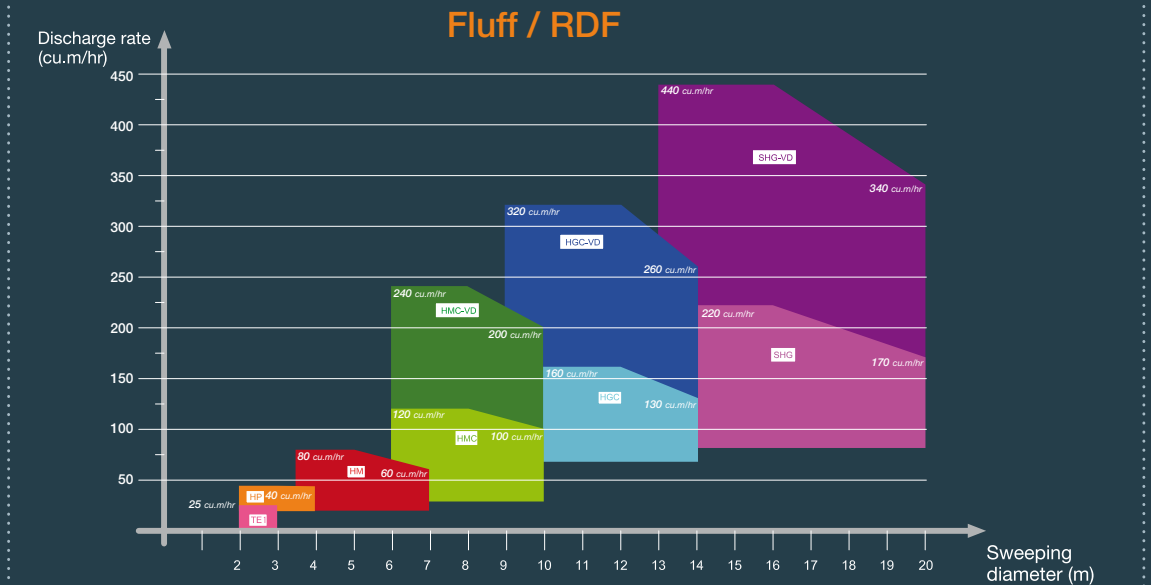
- The Booster is used to start the machine when the **silo is full** and when the screw is in any position inside the silo (there is no mandatory parking position)
- A hydraulic solution with unmatched **performance**
- The torque of the booster is 10 to 12 times higher than the nominal torque



**Thanks to its experience and renown, Morillon continues to progress by strengthening its presence in numerous industrial sectors and on international markets (80% of turnover)**

- **Construction** (cement works, brick works)
- **Foodstuffs** (milling, oils, animal feed)
- **The environment / waste processing** (processing of household waste, water treatment, recycling of plastics, alternative fuels, biofuels)
- **Chemicals.**

Our engineering and development office pays close attention to feedback from the market and to market trends in order to design the unloading solutions of the future.



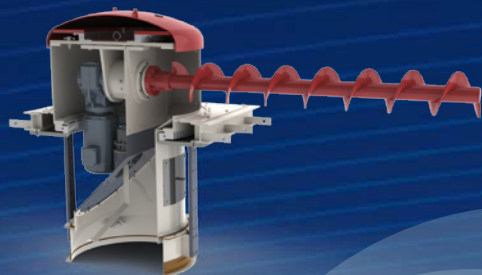
## OTHER MORILLON PRODUCTS



### SPIROGYRE

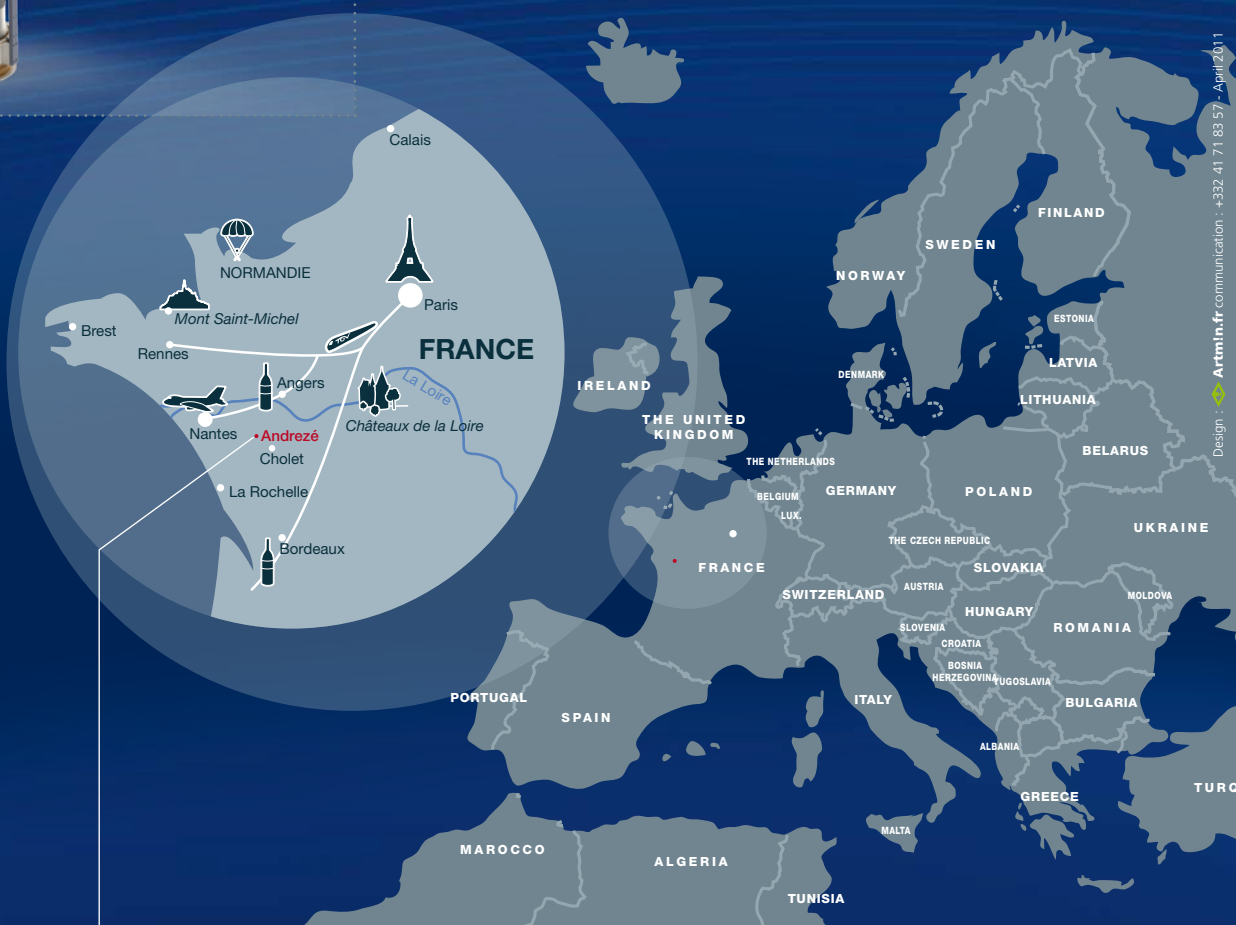
The Spirogyre bin sweepers are designed to unload residual banks of cereals and other naturally flowing materials that are stored in silos with flat bottoms measuring between 4 m and 38 m in diameter (25 to 300 T/h).

We also offer special versions to unload paddy rice, oil seeds and certain granules, such as wood pellets.



### TE type ELECTRO-MECHANICAL unloader

For silos measuring 2 m to 7 m in diameter



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