

# CONVEYING, FILTRATION AND PROCESSING

swarf and coolant

for the metal working industry



Single conveyor



Stand-alone filtration solution



Central Filtration systems



Chip processing

# Worldwide at your side.....

6 Locations for production and engineering, and a network for sales and service partners, secure our customers an optimal support.



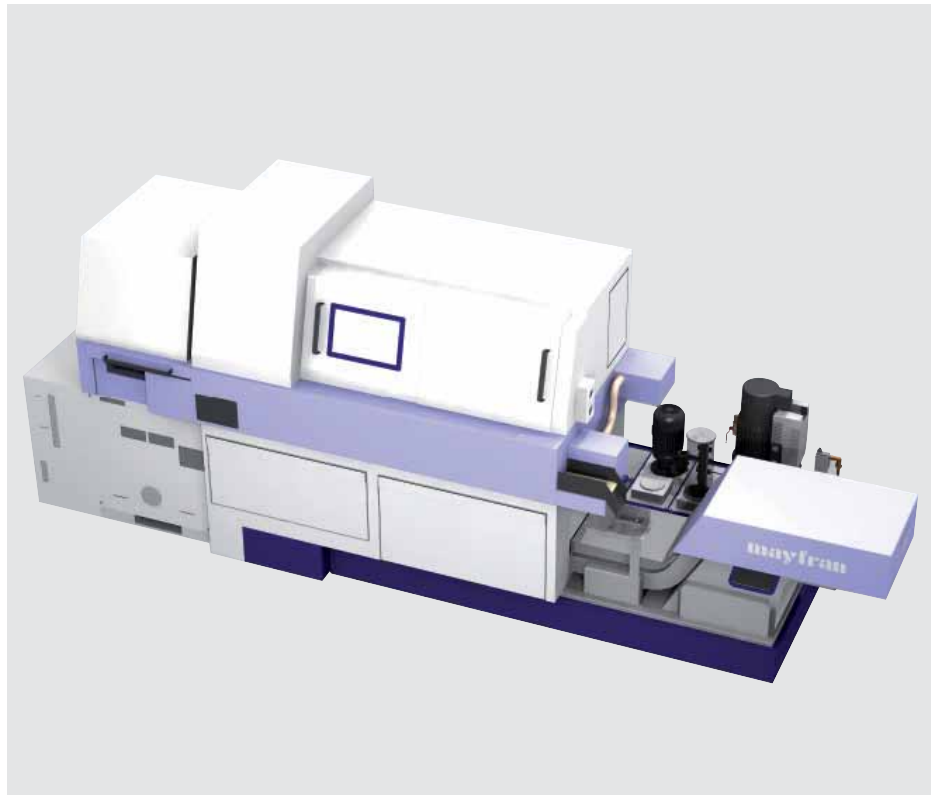
- 1. America, Cleveland, US
- 2. Europe, Landgraaf, NL
- 3. Asia Shiga Japan
- 4. Asia Hubli India
- 5. Asia Shanghai China
- 6. Asia Seoul Korea



## Chip handling and coolant filtering

### Single solutions for machine tools

- Hinge belt conveyors
- Draglink conveyors
- Chip conveyors with integrated filtration
- Stand-alone filter systems
- Magnetic separator conveyors
- Pumping systems



### Central systems

- Conveying systems
- Coolant filtration systems
- Chip processing
- Chip crushers
- Chip centrifuges
- Overhead chip & coolant handling
- In floor chip & coolant handling
- Chip charging systems
- Pumping systems



# Chip conveyors

Since 1938 Mayfran has produced over 500,000 chip conveyors for the metalworking and automotive industry.



## From Cleveland USA to the world

Mayfran was granted the first patent for a chip conveyor in 1952. At this time nobody knew that by 2006 nearly all machine tools would be equipped with chip conveyors.

As a global company, Mayfran now builds chip conveyors in 6 worldwide locations (US, Netherlands, Japan, India, Korea, China) to similar designs.



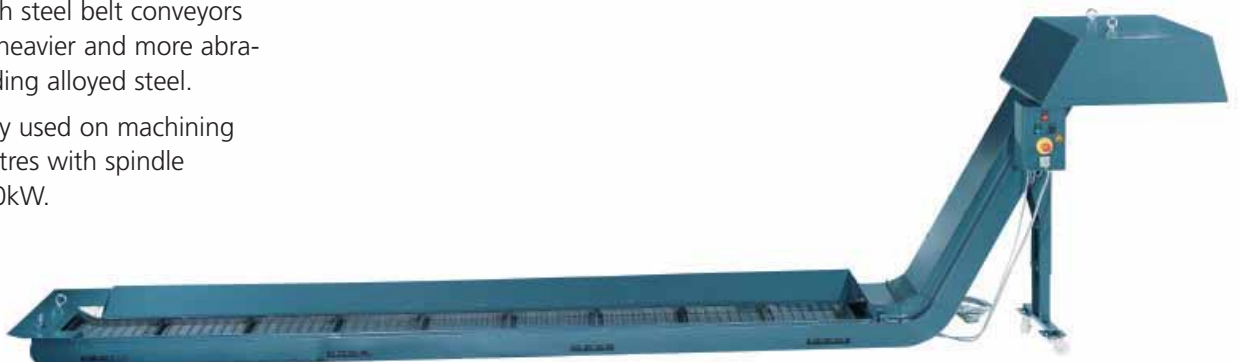
## MT 10 "the compact"

Mayfran 1.25" pitch steel belt conveyors are suitable for even the smallest machine tools due to their extremely compact design. They can convey typical machine tool swarf & chips, as well as machined parts, small bar ends and stampings. This steel belt conveyor is typically used on machining and turning centres with a spindle power of up to 15kW.

## CT 20 "the universal"

Mayfran 2" pitch steel belt conveyors are suitable for heavier and more abrasive swarf including alloyed steel.

They are typically used on machining and turning centres with spindle powers up to 30kW.



## CT 2 "the classic"

Mayfran 2.5" pitch steel belt conveyors incorporate wear and shock resisting features to give long life in the most demanding environments. They are typically used on a variety of machine tools with spindle powers up to 50kW.



### Steel belt conveyors / Physical dimensions

Type	MT-10	CT-20	CT-2
Chain pitch	1 ¼" (31,75 mm)	2" (50,8 mm)	2 ½" (63,5 mm)
Belt thickness	2 mm	2,5 mm	3 mm
Cleat height	20 mm	28 mm	38 mm
Belt pin diameter	5 mm	8 mm	9,5 mm
Chain roll diameter	19 mm	28,6 mm	39,5 mm
Chain roll width	7,5 mm	14 mm	20 mm
Chain link thickness	2 mm	4 mm	4 mm
Frame thickness	2,5 mm	2,5 mm	3 mm
Wear liner thickness	2,5 mm	3 mm	5 mm
Frame height idler end	120 mm	165 mm	220 mm
Application indication Machines to max (Power of main spindle)	15 KW	25 KW	50 KW



## Scraper conveyor

Mayfran 2" pitch scraper conveyors are used in applications where only fine swarf of heavy materials (e.g. cast iron & brass) are to be removed.

## Special Applications

Mayfran offers a wide range of solutions for special applications (for example die cast scrap)



# ConSep system

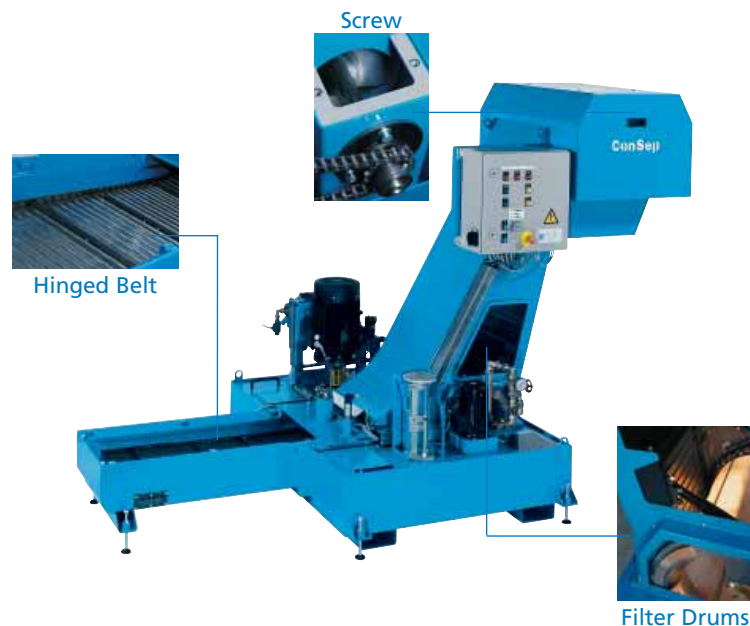
## The conveyor - separator is a space saving and integrated solution for chip handling and coolant filtration

The ConSep 2000 II HP is the ultimate solution for chip handling and integrated coolant cleaning for high performance machine tools such as machining centres, turning centres and integrated lathes.

The new ConSep 2000® II HP reduces the required preventive maintenance interventions and therefore improves the up-time performance of the coolant system.

### Advantages

- Outstanding coolant cleaning capability
- Handles a vast range of chip types and materials
- Low floor space requirement
- No additional filtering necessary for most applications
- Bespoke design for individual machine tools
- Can be fitted with additional modules for special applications



### FS 2000 Fluid system

- Full-automated coolant control system
- Optimized for 24/7 shift operations
- Maximised maintenance intervals
- Highest machine availability
- Extended coolant life

## Magnetic conveyors

The Mayfran magnetic roller separator conveyors provide a more effective separation of the swarf from the coolant.

The excellent separation is achieved by passing the coolant several times through strong magnetic fields. So the effect of every magnet compared to the effect of a conventional magnetic conveyor is much stronger.



Magnetic roller conveyor



Magnetic conveyor

# Stand-alone filtration solutions

## FPF & HPF paper band filters



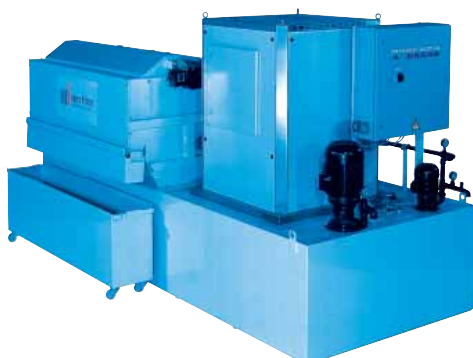
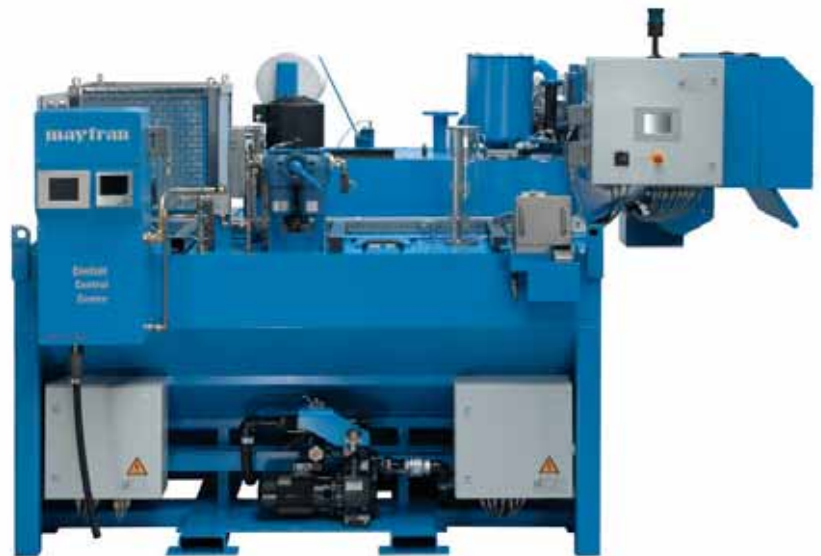
Flat type and Hydrostatic type Paper Filter systems can be used for fine filtration of coolants, particularly on grinding machines. They are able to completely remove a wide variety of coolant contaminants.

- Modular design
- Low maintenance
- Fitted with dirt tolerant level sensing
- Media can be changed for optimum filtration result
- Designed to eliminate contamination of clean tank

## MMF-Filter

The Modular Filter concept is based on a standard 'anti sedimentation tank' with interchangeable filter and pump modules.

The system can be upgraded by adding additional modules in the field.



## RBF-E

The Rotary Band Filter (embedded) achieves outstanding filtration by building up a deep filter cake on its surface. The swarf is periodically removed by a rotating brush and back flush jets.

- No vacuum required
- Simple handling and low maintenance

- No consumption of filter auxiliary materials
- V-2A stainless filter mat
- Double cleaning of permanent belt
- Compact and modular design

# Central systems

## Optimum filtration for multiple machine tools

### Central coolant filtration systems

Mayfran filters are custom designed to satisfy customer requirements for space, capacity and filtration quality.

Several elements can be specified or combined for the optimum solution:

- Precoat filter
- Magnet separator
- Pressure filter
- Pressure belt filter
- Drum filter
- Vacuum filter
- Prefilter





# Over the floor pumpback system (Viavent)

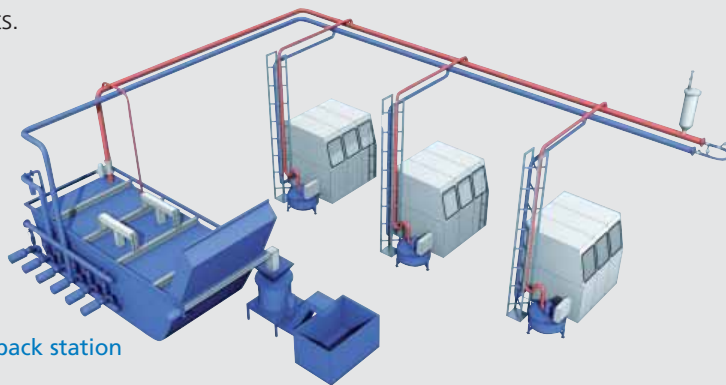
Viavent® is a closed over-the-floor cycle system for the automatic pumping of swarf and coolants from the machine tools to a centralized filtration.

Due to the flexible feeding possibilities in Viavent®, the modular tube system provides maximum flexibility at set-up and conversion, because machine set-up is no longer dependent on floor channels.

The closed coolant cycle results in less coolant consumption and longer service life of the coolant. It also allows smaller filters, which again means gaining floor space and saving in investment costs.

## Advantages:

- Flexibility – set-up is no longer dependent on floor channels.
- Environment-friendliness – No coolant can get into the ground water unnoticed and the air inside the factory is also cleaner due to closed piping circuit.
- Low operational costs – high degree of automation, low maintenance costs due to self-cleaning of the system. Lower coolant quantity and longer service life because of the closed circuit.
- Lower investment costs due to flexible and easy installation of piping. Modular expansion is possible without extensive construction measures.

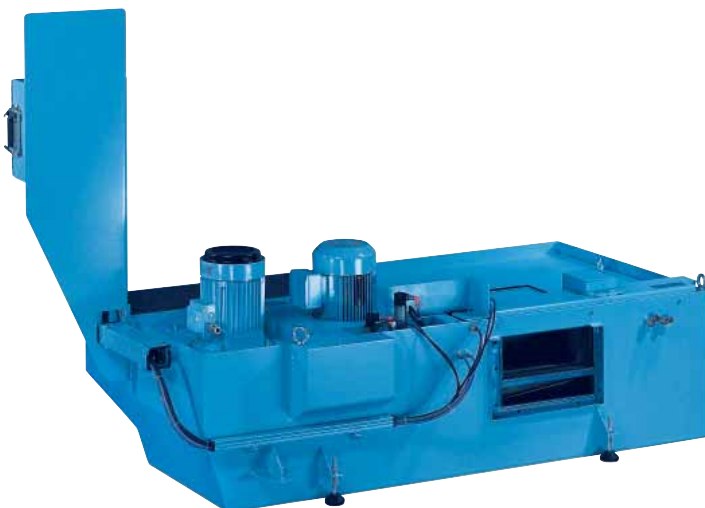


A Viavent Pumpback station



Pumpback station for a transfer line

## Pump back stations



Pumpstations from Mayfran with integrated crusher are used to transport swarf and coolant with capacities from 50l/min up to 5.000 l/min



Pump supply

# Chip processing systems

## Systems for the automatic and economic processing of swarf for recycling.

### Compact systems

Mayfran offers ready-to-go compact systems for the processing (shredding and drying) of swarf and economical recovery of coolant. In combination with the right conveyor solution and coolant cleaning Mayfran provides the best possible solution for environment-conscious chip disposal.

The various modular possibilities of the Mayfran components allow different combinations to individual central systems according to size, type and available space. This way the Mayfran products are adapted to your individual requirements.



Installation consisting out of following components: chip-wringer, chip crusher, chip-conveyor and container loading system.



### Mobile chip processing

To offer flexibility of location, chip processing systems can be supplied fitted to steel pallets.

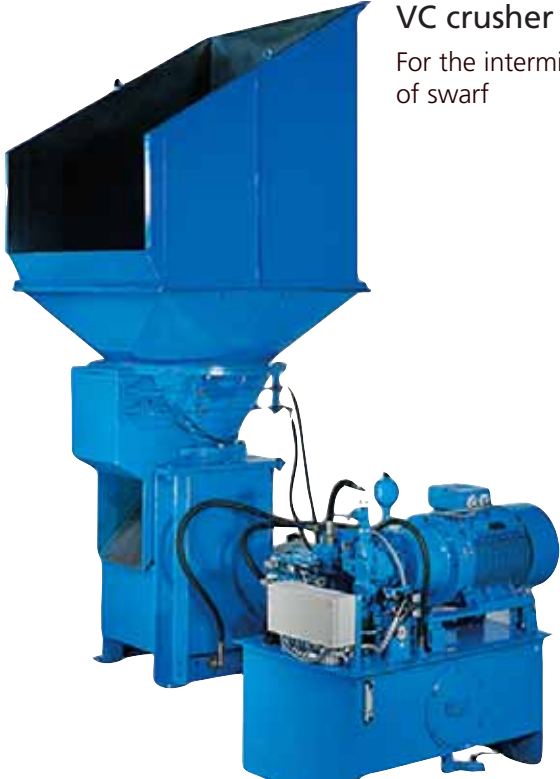
### Chip crusher

Crushers are the first step in chip processing. Depending on the requirements there are various models of Mayfran crushers. In every case they provide the highest level of reliability and user safety



### VC crusher

For the intermittent (batch) supply of swarf



### Chip centrifuge VBU

Centrifuges for drying of chips which are fed continuously. Different sizes are available depending on quantity and chip form.



### Lift bottom centrifuge

Chip drying centrifuge particularly suitable for batch drying of grinding chips and swarf.



# Worldwide at your side



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