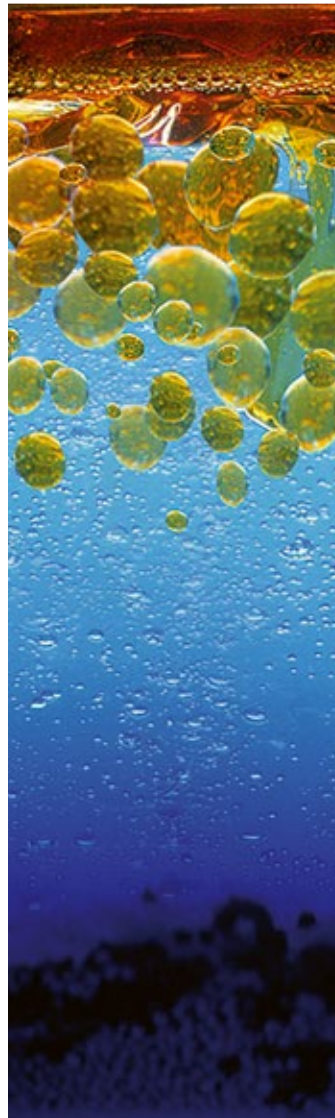
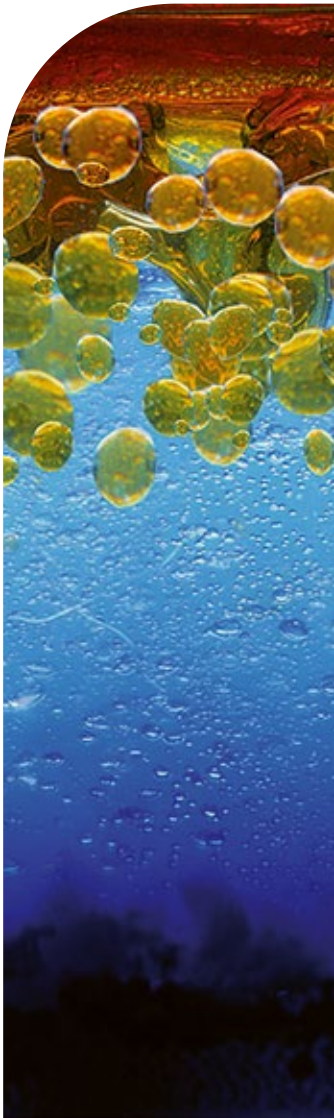


CENTRAL FILTRATION SYSTEMS

The right filter for every application



From 100 l/min to 20,000 l/min



Central filtration systems for cooling lubricants including chip transport and processing solutions

Always the right filter technology

Mayfran designs and constructs complete, customised filtration systems for handling coolant and chips.

These systems can process the desired flow volumes with one or more modules. A large selection of filtration technologies, such as gravity, pressure, precoat and vacuum filters means that we will always find the solution to match your needs. Paper belt filter or endless belt designs are available.

Years of experience in designing and implementing central filtration systems, established project management and engineering resources and a huge range of filtration technologies make Mayfran the safe choice for your coolant filtration solution.

Reduce your operating costs

We can also incorporate the unique Viavent overhead pump system and chip transport and processing solutions, which allows us to deliver an optimised chip and coolant processing system, helping you reduce operating costs.

Central filtration systems

- Precoat filter
- Pressure belt filter
- Vacuum belt filter
- Drum belt filter

Overhead/underfloor systems

- Viavent overhead system
- Pushbar conveyors

Components and modules

- Magnetic rod separator
- Preseparator
- RefillMatic® – coolant conditioning
- Pump stations
- Chip wringers and centrifuges
- Chip crushers
- Chip conveyors

Customised systems solutions

Filter systems



Precoat filter



Pressure belt filter

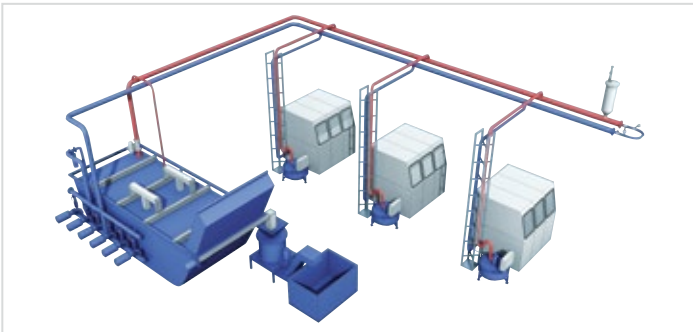


Vacuum filter

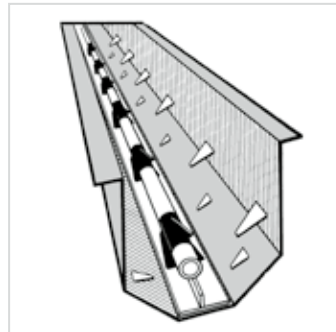


VERTIDRUM

Overhead/underfloor systems



Viavent overhead system



Power-Trof®
pushbar conveyors

Components



MTCS magnetic rod separator



Preseparator



RefillMatic®



Pump stations

Customised modules



Chip processing



Chip crusher



Centrifuges



Chip conveyor

PRECOAT FILTER



Efficient, compact, modular and easy to connect – the Mayfran MCF filter

MCF PRECOAT FILTER (independent flushing)

Compact precoat filtration system for individual or group supply for hard grinding applications.

Technical data:

- Capacity: 1,000 l/min. per module
- Filtration quality: $\leq 10 \mu\text{m}$
- Height: 400 cm
- Floorspace required: 250 x 340 cm

Fields of application:

- Wherever maximum filter quality is required
- Hard grinding
- In case limited space is available

The benefits:

- Modular construction
- Easy-to-connect
- Low space utilisation
- No consumption of auxiliary filtration materials
- Energy efficient
- High average grade of filtration
- Low residual contaminant content under 20 ppm
- Change of location possible within one week
- Additional modules can be connected and controlled via the master control unit.

Design:

- Individual module system
- Central pressure cartridge filter with independent flushing
- Tank design for clean and contamination tanks
- Full flow cooling with plate heat exchanger
- Regulation of the supply and filtration quantity as required
- Modules can be coupled to a multi-module system.

PRESSURE BELT FILTER



Pressure belt filter system consisting of several filter modules

PRESSURE BELT FILTER

Mayfran pressure belt filters are used for cleaning and processing coolants in the metalsprocessing industry.

Technical data:

- Filter size from 3 m² to 6 m²
- Output: up to 12,000 l/min. per module
- Degree of purity: up to 10 µm, depending on the type of chips and contamination

Fields of application:

- Mechanical processing and grinding applications
- Chips: Fine, short swarf
- Aluminium chips

The benefits:

- High throughput, even without the use of auxiliary filter materials
- Continuous supply with purified coolant without downtimes
- Good drying of the filter cake
- Maintenance friendly and low-wear
- Stable and robust construction
- Economic thanks to the high degree of regeneration.



Central chip removal by Mayfran chip conveyors

VACUUM BELT FILTER



Modular vacuum belt filter

MVF VACUUM BELT FILTER

The safest way to prevent faults.

Coolant filter used for central coolant cleaning for several machine tools. The universal central filter for short swarf.

Technical data:

- Filter size from 1 m² to 40 m²
- Degree of purity: from 30 µm

Field of application:

- Milling, drilling, grinding and roll
- For short chips
- For all chip types

The benefits:

- For operation with filter fleece or endless belt
- High reliability
- Low operating costs
- Flexible installation options
- Modular construction



vacuum belt filter

VERTIDRUM



VERTIDRUM filtration system

VERTIDRUM DRUM BELT FILTER

Fleece-free coolant filtration.

Mayfran drum filters have proven themselves many times over through their reliability, the flexible set-up possibilities and low operational costs for filtering the emulsion or coolant.

Technical data:

- Output: coolant quantity up to 10,000 l/min. per VERTIDRUM module
- Degree of purity: from 50 µm

Field of application:

- For short and long chips
- Cutting and machining steel, grey cast, iron, brass, copper and aluminium

The benefits:

- Fleece-free filter
- High reliability
- Low operating costs
- Flexible installation options
- No conveyor required for prepreparation
- No clean tank required
- Modular construction

OVERHEAD AND UNDERFLOOR SYSTEMS

POWER-TROF® – the reliable underfloor system

The versatile Power-Trof® push-bar conveyor efficiently conveys loose or bundled metal chips, fines, curls, turnings or strings, as well as coolant, over short or long distances.

An efficient series of ploughs, powered by a solid push-bar, transports the chips through the trough by means of back and forth action.

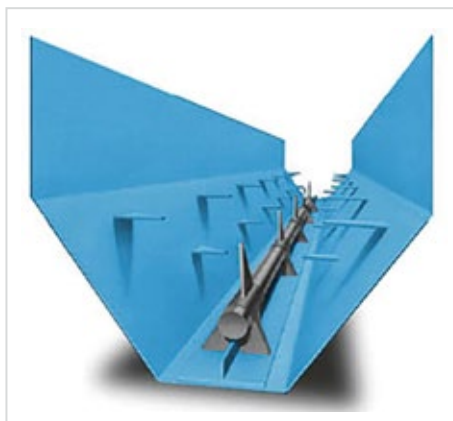
Power-Trof® push-bar conveyors are designed for trouble-free operation, easy installation and maintenance, plus maximum durability for longer service life.

The benefits:

- Can be operated as a stand-alone, feeder and collecting conveyor
- Easy expansion and extension
- For transporting large quantities of bundled chips over long distances
- Also suitable for coolants – even in extreme quantities
- Special designs for conveying short chips and casting swarf
- High reliability and durability



Vacuum filter facility with Viavent pump system



Every Mayfran push-bar conveyor can be extended as required.



The push-bar centres automatically on the floor of the conveyor trough.

Energy efficient conveyor systems for chips



Mayfran Viavent – the clean overhead system

Viavent is an energy-efficient closed system that conveys coolant as well as production residues (chips, grit, etc.) overhead from machines to a central collection point.

A sensitive control system fills steel pipes installed in the hall ceiling area until they are completely full, at which point the discharge process, which cleans and empties the entire system, is initiated.

The coolant flows back to a central filter through horizontally installed pipelines without the need for an external energy supply. This is where the material is processed, cleaned of chips and fed back to the machine.

The high-quality self-purification rules out the risk of blockages.

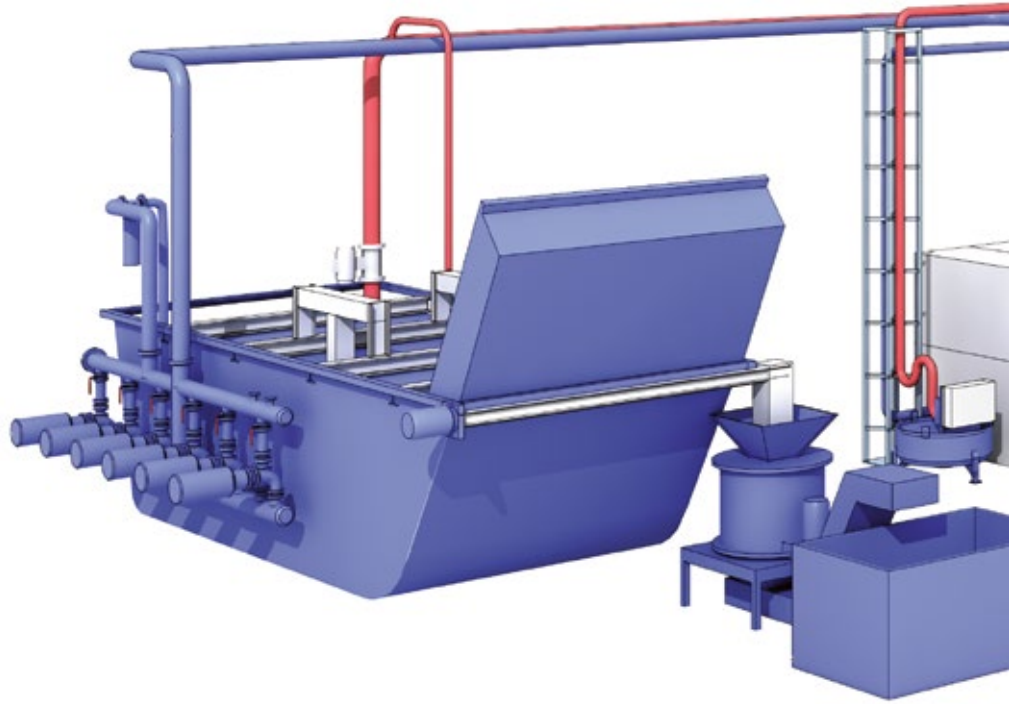
The benefits:

- No rinsing nozzles required as is the case for conventional open channel lines.
- The closed circuit reduces coolant losses, extends its service life and reduces the required filter size.
- The environmentally-friendly system ensures better air quality and occupational safety in the plant (no haze) and the coolant is kept separate from the groundwater.
- No floor ducts thanks to the closed overhead system.



Vacuum filter with preseparator

OVERHEAD PUMP SYSTEM



Mayfran Viavent overhead pump system

The modular overhead construction allows for maximum flexibility when installing machines and machining centres as well as for future extensions, as the machine design is not dependent on channels on the floor.

Viavent systems have been successfully installed in the latest manufacturing plants around the world in combination with Mayfran's proven return pump station design.



Function stop valve

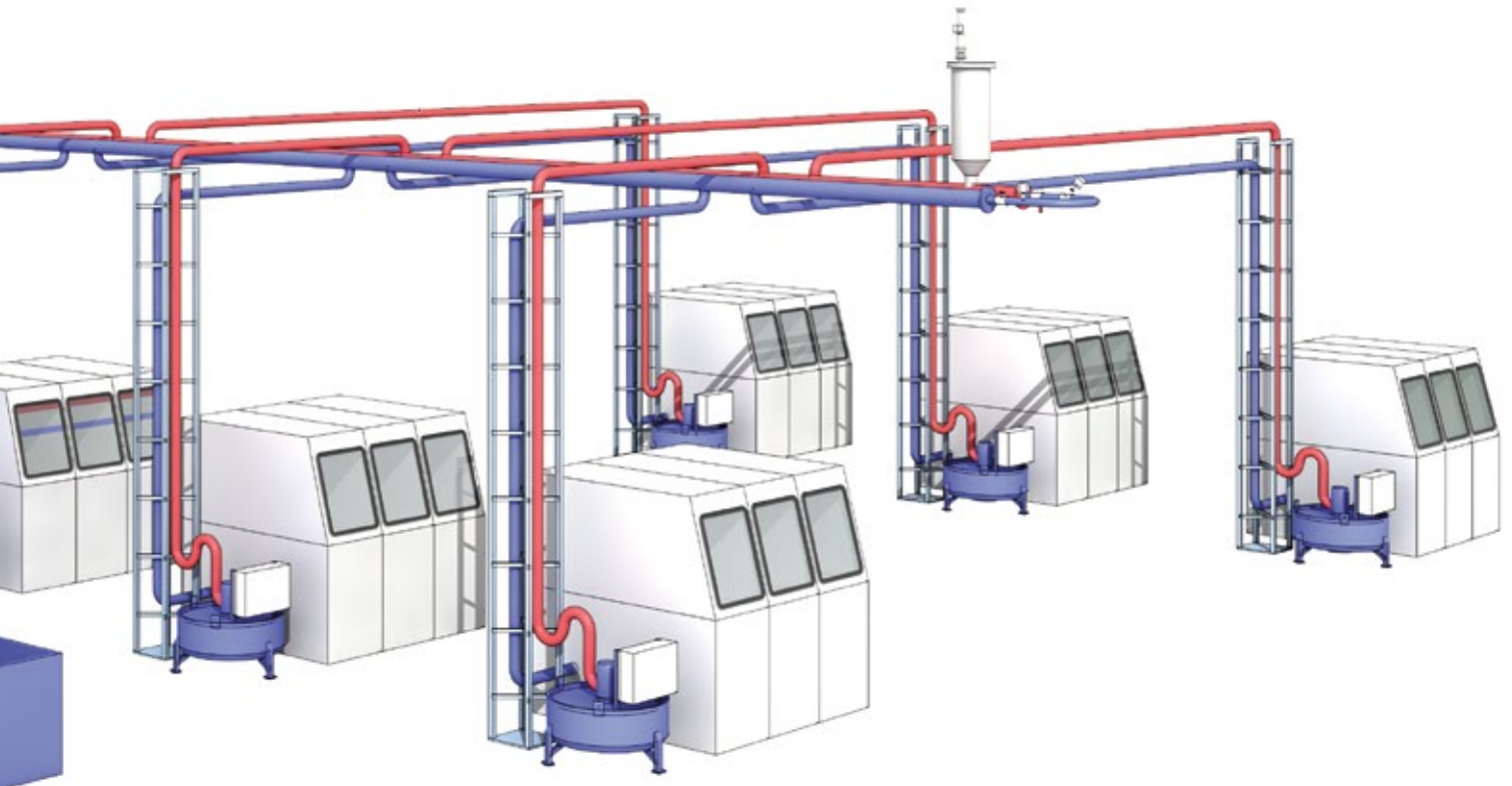
The "lock-keeper". When released, the coolant and the chips go directly into the filtration system.



Chip processing

Start and end of the circuit. Separate components such as filters, tanks, centrifuges, skimmers etc. are selected individually for each application. This provides the best possible processing system for your specific requirements.

Self-purifying & energy-saving – the flexible and easy-to-expand Viavent system



Machine pump station

Coolant and chips are removed with the help of a special pump. The machine pump station can be equipped with or without chip shredders.



Pipeline systems

The lifelines. They connect the individual components to form a functioning network for supply and disposal. High transport capacity with small pipe diameters. No gradient necessary – horizontal overhead installation.



Overhead control tanks

The gear of the Viavent-system. With the overhead control tank and the system control Mayfran reliably avoids the buildup of deposits in the pipelines, thereby saving energy as well as operating materials. The ingenious application of the basic laws of physics and a reliable release mechanism provide complete emptying and effective self-flushing of the piping.

COMPONENTS



RefillMatic control unit



Preseparator on a vacuum filter



MTCS magnetic rod separator

RefillMatic®

Filling – measuring – controlling

The Mayfran RefillMatic® system has been developed in order to get the best out of your coolant.

The RefillMatic® system is a logical extension to a new or existing coolant system. The sophisticated fill unit (RCC) technology allows the coolant system to be filled and re-filled completely automatically.

The benefits:

- Extended service life of the tools
- Optimised quality of the workpieces
- Reduces consumption costs to an absolute minimum
- Reliable coolant quality

Preseparator

Preseparators separate short and long chips from the coolant at the machines. The coolant with short and long chips enters a conveyor system from the machine tool.

Here, the coarse and long chips are separated by a slotted sieve section and forwarded for chip processing.

The benefits:

- Separates large and small chips and slags
- Discharge of downstream filter units

Magnet separator

The MTCS magnetic rod separator is used to clean coolant such as water, oil or emulsion that has been contaminated with magnetic solid particles and tramp oils.

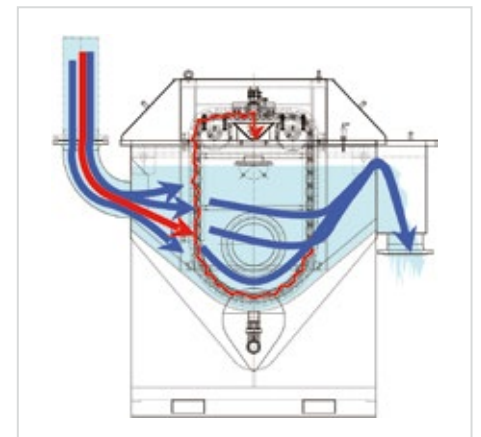
The magnetic fields of the magnetic rods bind the ferritic coolant impurities to the chain of magnetic rods.

Features:

- For short metal chips, metal slurry, grinding swarf
- Constant filling level
- High separation efficiency, large throughput quantity
- No auxiliary filter material



RefillMatic® system

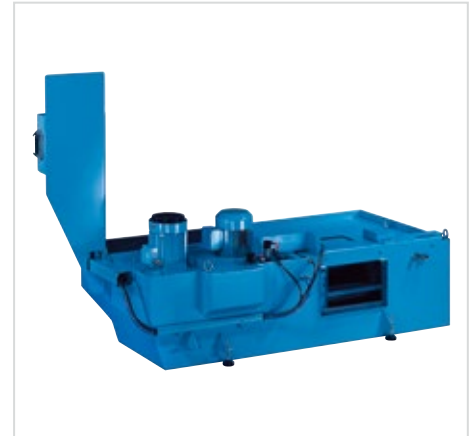


Profile of the operating principle

Components that reduce costs



MRS-BP pump station



MRS-D pump station

Machine pump stations

Chips & coolant are smoothly conveyed

Machine pump stations can be integrated into almost any machine tool. The coolant (oil or emulsion) and chips are pumped through pipes to a central filtration or processing system.

The benefits:

- Machine pump stations can be individually adapted to existing or new machine tools
- Simplified conversion of decentralised or stand-alone filtration systems to central coolant filtration and supply
- The flexibility of the pump stations is ensured even in the event of machine reconfigurations
- Automated chip and coolant transport
- Clean manufacturing environment



Machine pump station directly on the machine with supply to the Viavent overhead system

MODULAR COMPONENTS



Centrifuge, chip crusher, conveyor and container loading



Chip centrifuge VBU



Cleansweep® chip conveyor

Chip processing system

Mayfran offers turnkey compact systems for chip processing (crushing and drying) and efficient coolant extraction. In addition, higher prices are obtained when selling the chips.

The benefits:

- In combination with the right conveyor technology and coolant processing system Mayfran offers the optimal complete solution for environmentally compatible chip disposal.
- The modular construction of the Mayfran components allows for the customised configuration of central systems depending on their size, type and available space.
- Comprehensive project management

Chip centrifuge VBU

The VBU chip wringer runs continuously for all everyday applications.

Various sizes for average outputs between 150 kg/h to 4,500 kg/h (steel chips) are available.

The benefits:

- The speed can be adjusted to the operating requirements
- Fully automatic and continuous operation
- Quiet operation, minimum maintenance
- Tempered drum with long service life
- Optimal oil separation
- Compact construction

Chip conveyor

Mayfran is a leading global provider of chip conveyors for machine tools with an extremely wide range that meets the needs of almost any material, any type of coolant and any speed for material removal.

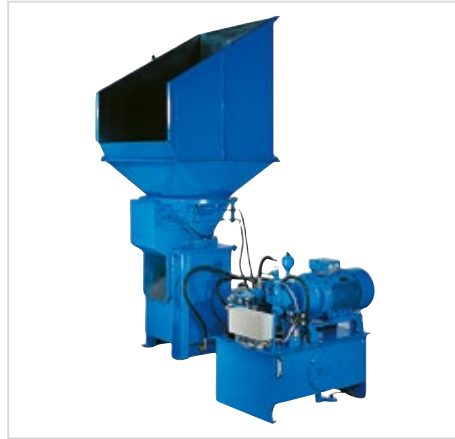
Central chip transport systems, whose designs are based on the push-bar, steel belt, scraper or screw conveyors, reduce costs and forklift traffic by automatically collecting and transporting the chips from the machine tools to central sorting or processing systems.



Customised modular components for systems



Chip processing system with centrifuge and chip crusher



Chip crusher VC



Chip crusher MA

Environmental protection and cost savings

These days it is becoming increasingly important to process chips and ensure they are dried before disposal. In doing so, the coolant is reclaimed and fed back into the manufacturing process.

This provides the opportunity for considerable cost savings, e.g. with regard to the consumption of oil, while a higher sales price can be obtained with dry chips.

For the supply of chips in batches. Large quantity clusters can be directly added (e.g. from buckets) and processed.

The crusher with vertical grinder (normal or fine) is particularly well suited for crushing tough material and can be equipped with an automatic tramp metal ejector.

Chip crusher MA

The patented MA 4 single-shaft crusher with automatic rejection of coarse parts is particularly well suited for use in pump stations for chips and coolant. The MA 4 is distinguished by its compact and robust design.



MAYFRAN PRODUCT RANGE

PRODUCTS FOR MACHINE TOOLS

- Chip conveyor
 - Slat-band chain conveyor
 - 4-inch and 6-inch conveyor
 - Roller chain conveyor
 - Magnetic conveyor
 - CleanSweep Series
- Individual filtration systems
 - Consep – Conveyor with KSS filtration
 - MFF – modular filter system
- Components
 - Refillmatic
 - High-pressure devices
 - Magnet separator
 - Oil skimmer etc.

KSS FILTRATION DEVICES

- Conveyor systems
 - Overhead and underfloor systems
 - Extraction systems
 - Loading systems
- KSS filter systems
 - Precoat filters
 - Pressure belt filters
 - Vacuum filters
 - Gravity filters
- Accessories

CHIP PROCESSING SYSTEMS

- Centrifuges Chip
- Conveyors

SCRAP TRANSPORT/ RECYCLING

- Conveyors for parts and transporting scrap
- Metal Scrap-feed conveyors

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