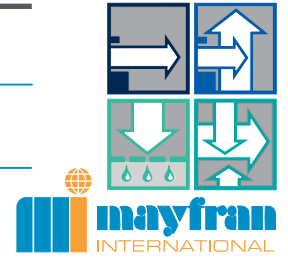
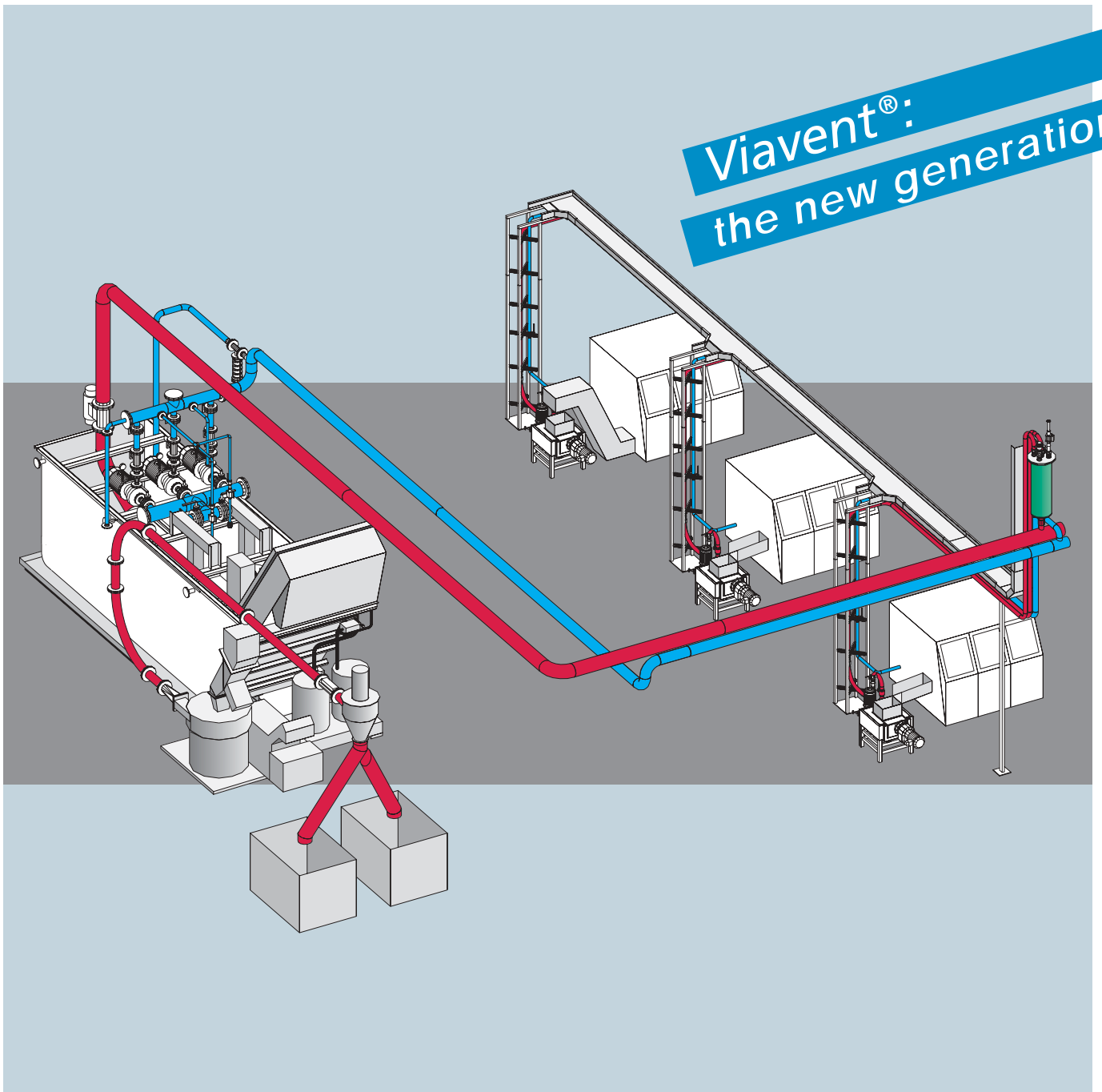


Viavent[®] OVERHEAD SYSTEMS
FOR CONVEYING AND PROCESSING
CHIPS AND COOLANT



Viavent[®]:
the new generation



Viavent® ...THE MORE EFFICIENT WAY . . .

...for chip transportation and processing

Today's Systems:

Cumbersome, polluting, expensive, and time-consuming handling of chips and coolant.



Machine pump station



The Viavent® System:

Chips and coolant are automatically pumped through an overhead closed loop piping system.

Advantages:

- **Flexible shop layout**
machine location is not tied to coolant trenches
- **Less risk of pollution**
clean air and floors because of the Viavent® closed loop system. No misting or undetected leaks from in-floor coolant trenches
- **Reduced operating costs**
- **Easy access for maintenance**



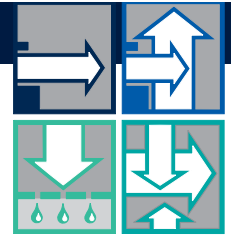
EHB - overhead control tank

“EHB”, the exclusive Viavent® feature:

The patented “EHB” overhead control tanks of Viavent® ensure that there is no sediment in the piping and no fouling as in a typical overhead pumpback system.

Viavent[®] ADVANTAGES OVER CONVENTIONAL SYSTEMS...

...for large or small installations



Lower investment costs:

- overhead piping reduces civil construction requirements
- enhanced coolant flushing (patented)
- pumps and filtration systems are smaller;
- no need for velocity flushing of sediment in piping

Improved environmental protection:

- in the remote chance of a system leak, detection is immediate
- lower disposal costs due to longer coolant service life
- no clogging or sediment build-up in piping system by using the patented "EHB" overhead control tanks of Viavent[®]

Greater flexibility:

- easy, low-cost modification and expansion of the System
- Viavent[®] can grow and change with your production requirements. Flexible connections make it easy to relocate machine tools without costly in-floor construction

Improved utilization of production floor space:

- overhead piping system (instead of in-floor trenches)
- reduced filtration requirements
- no need for chip hoppers at machine tools



Lower operating costs:

- automatic chip removal reduces material handling personnel
- easier maintenance due to self-cleaning feature
- 20-40 percent less energy consumption than conventional systems (depending on the application)
- lower coolant volumes and longer coolant service life due to closed loop piping and coolant treatment features
- lower overall investment required due to smaller filters and overhead pipelines (no trenches)

Improved safety features:

- closed loop system lowers levels of coolant mist
- reduced skin contact with coolant due to closed loop system
- reduced bacterial contamination of coolant
- redundant functions create a "fail-safe" environment
- failure-tolerant control functions in the PLC (Programmable Logic Control)
- reduced heavy physical labor from chip handling
- reduced traffic on the production floor (no handling of chip hoppers)

WHAT MAKES *Viavent*[®] UNIQUE?

*The closed loop piping system with patented "EHB" overhead control tanks ...
...self-cleaning and energy-conserving*

Foot valve:

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



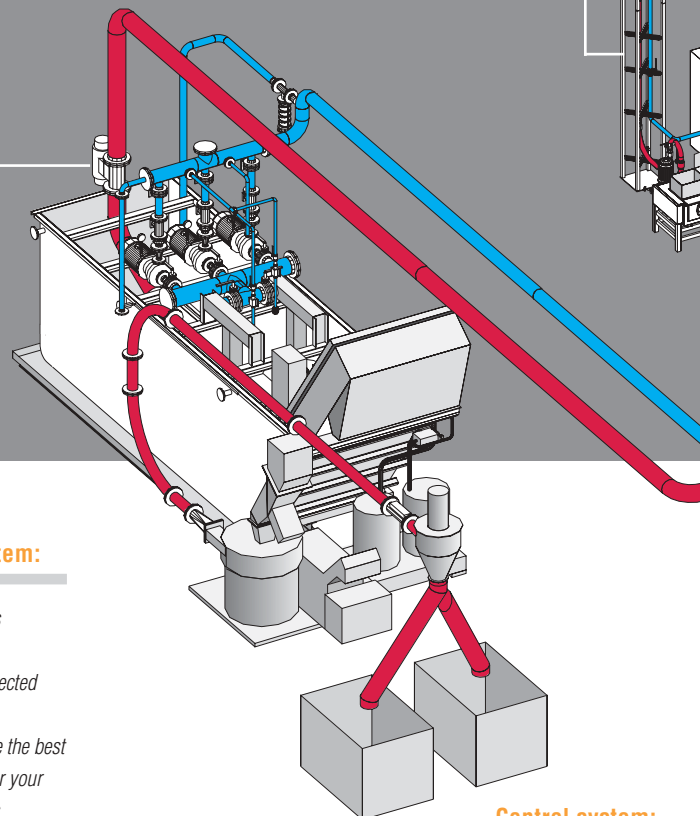
Utility support columns and overhead lines:

*With *Viavent*[®], all of your
machine tools can be linked to
utility lines (coolant,
compressed air, electricity,
telephone, etc.) using "utility
support columns."*



Main features of *Viavent*[®]:

- pumps both coolant and chips automatically from machine tools
- "digests" larger chips than conventional pumpback systems
- ensures no clogging or sedimentation of chips in the piping
- reduces energy costs (compared to conventional systems)
- supplies the machine tools with clean coolant (from the optional filtration system)
- automatically separates, dries, and stores chips for recycling (with optional Mayfran chip processing equipment)



Processing system:

*Separate components
such as filters, tanks,
skimmers etc. are selected
individually for each
application to provide the best
processing system for your
specific requirements.*

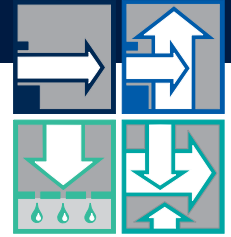


Control system:

*The programmable control
(PLC) is the "brain" of
Viavent[®]. Using software
developed by Mayfran, all
system functions are controlled
and performed automatically.*

NO SEDIMENT IN PIPING...

...modular construction - easy to expand or modify



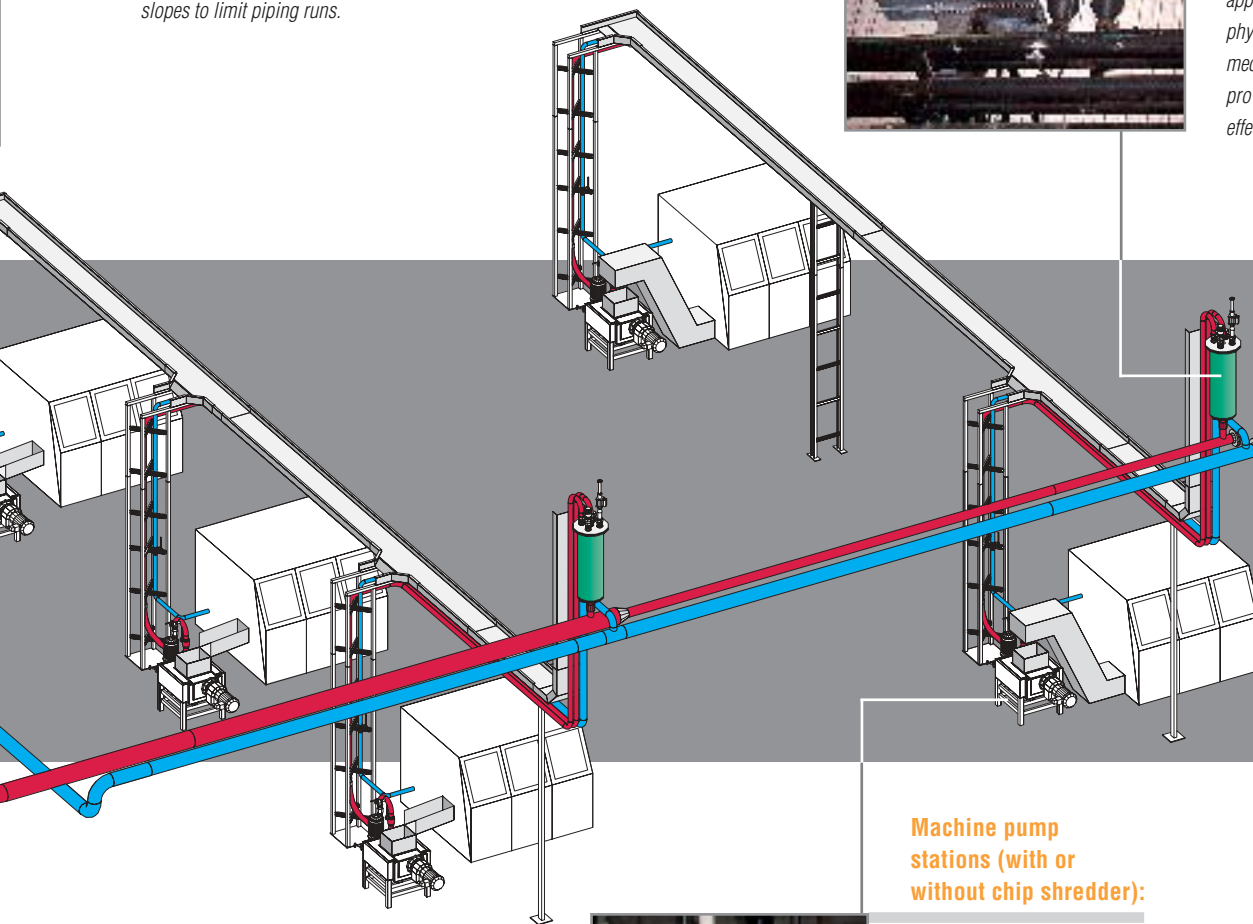
Piping systems:

The "lifelines" of the system interconnect the separate components and create a smoothly operating network for supply and disposal. High capacity is achieved with smaller pipe diameters. The piping system is mounted horizontally above the floor so there are no slopes to limit piping runs.



The patented "EHB" overhead control tanks:

The patented "EHB" overhead control tanks are the basic component of the Viavent® principle and the heart of the System. The ingenious application of basic laws of physics and a reliable release mechanism, "the lock keeper", provide complete emptying and effective flushing of the piping.



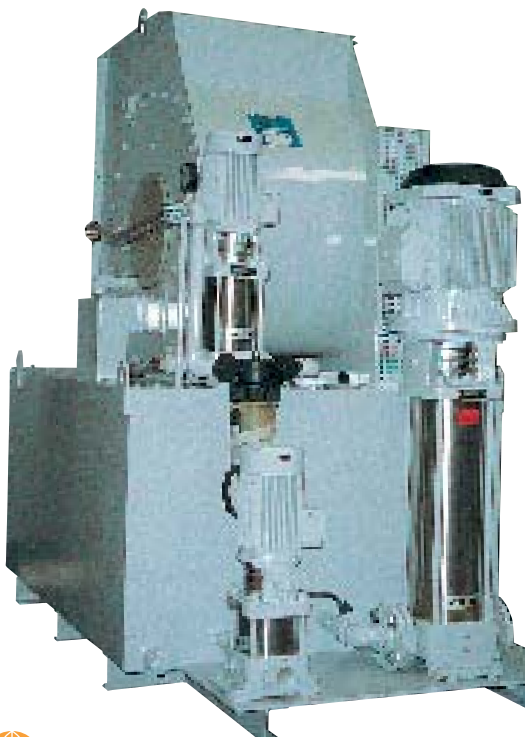
Machine pump stations (with or without chip shredder):

Coolant and chips are handled with the help of special slurry pumps; manual chip disposal at the machine is no longer necessary.



ADDITIONAL BUILDING BLOCKS:

...coolant filtration and chip processing



Optional components:

- self-cleaning filtration modules
- high degree of mechanical safety
- no media disposal costs
- low operating costs
- modular expansion
- designed and constructed for easy maintenance



Vacuum-type drum filters



- high filtration quality
- low investment costs
- low operating costs
- no filter aids required
- stainless steel filter fabric (double cleaning)
- compact design

Small filter with permanent media

- recovery of precious coolant reduces operating and disposal costs
- drying of chips complies with environmental laws and increases the sales value of chips
- continuous or intermittent operation available
- compact design reduces floor space requirements

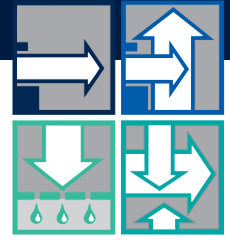


Chip processing

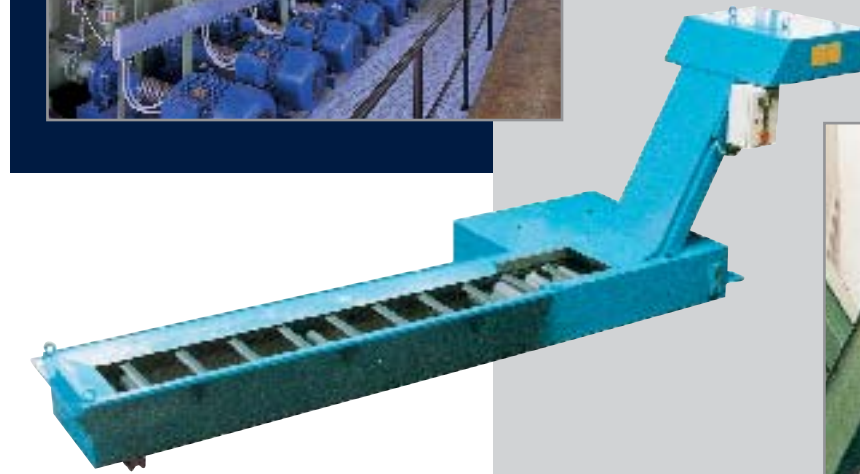


MAYFRAN'S DIVERSIFIED RANGE OF PRODUCTS...

...with engineering, manufacturing, and installation from a single source, Mayfran is your better solution!



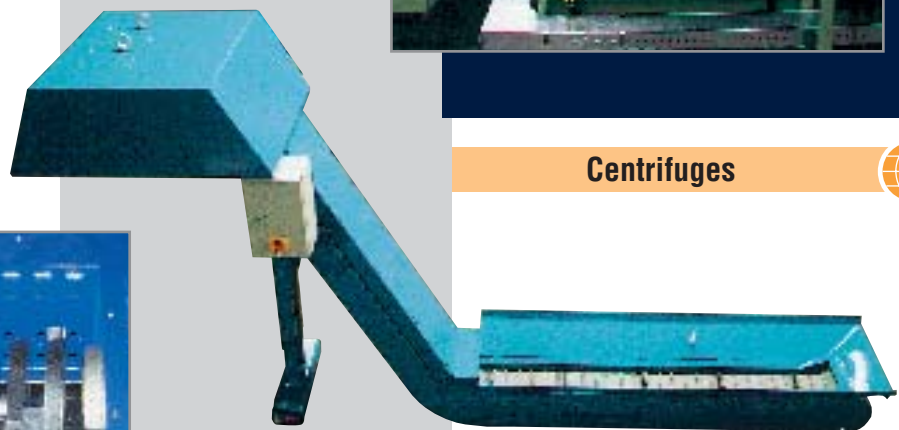
Coolant filtration



Separator conveyor



Centrifuges



Chip conveyor



Chip shredder

For single components
or complete systems,
MAYFRAN has the better
solution for your business.



Mayfran International B.V.

P.B. 31032, Edisonstraat 7
NL-6370 AA Landgraaf/The Netherlands

Tel.: 31-45-5329292

Fax: 31-45-5329300

Mayfran U.K. Ltd.

Blundell House, Torrington Avenue
Coventry CV4 9GU/UK
Tel.: 44-1-203-466281
Fax: 44-1-203-422206

Mayfran GmbH, Roermonder Str. 594

D-52072 Aachen/Germany
Tel.: 49-241-938720, Fax: 49-241-175080

Mayfran France S.A.R.L., Centre D'Affaires, Paris-Nord

Immeuble le Bonaparte, F-93153 Le Blanc Mesnil Cedex/France
Tel.: 33-1-48-65-7800, Fax.: 33-1-48-67-7629

Mayfran International (Inc.)

P.O. Box 43038
Cleveland, OH 44143 U.S.A.

Tel.: 1-216-461-4100

Fax: 1-216-461-5565

Mayfran International, 370 East 12 Mile Road

Madison Hts., MI 48071 U.S.A.
Tel.: 1-313-399-9850, Fax: 1-313-399-9891

Tsubakimoto Mayfran Inc.

5001 Ohno, Tsuchiyama-Cho, Kouga-Gun
Shiga 528-02/Japan

Tel.: 81-7486-7-1001

Fax: 81-7486-7-1097

Mayfran Canada Ltd.

5955 Airport Road, Suite 300
Mississauga, Ontario, Canada L4V 1R9

Tel.: 1-905-678-0018

Fax: 1-905-678-0019

Miven Mayfran

P.O. Box 59 Karwar Road,
Hubli-580 024/India

Tel.: 91-836-303-246

Fax: 91-836-303-265

Korea Mayfran

72-1, Onsoo-dong
Kuro-ku 152-120, Seoul/Korea

Tel.: 82-2-611-5886

Fax: 82-2-684-9166