



CHIP SOLUTIONS

**|||| HENNIG®**  
perfect machine protection.

# HENNIG CHIP CONVEYORS

## PERFECT PROTECTION FOR MAN AND MACHINE

Perfect Machine Protection is not just a catch phrase at Hennig. It's our mission, and our chip conveyance solutions prove the point. Chip conveyors have been a core competency at Hennig for nearly three decades. Today our state-of-the-art chip conveyors and disc filtration systems set the standard for removing chips and debris from machine coolant, improving the life of precision machines and the accuracy of output. Hennig chip conveyors can be custom-tailored to any machine, workspace, or performance requirement. They are supported worldwide with Hennig's global sales and support infrastructure, which includes facilities and partnerships throughout the industrialized world. Hennig conveyors get the job done. That's why many of the biggest names in metalworking around the world rely on Hennig to protect their machines, year after year.



**Better designed, better built.** Hennig offers a complete range of chip conveyor solutions tailored to particular machine types, performance requirements, and work area considerations. Hennig chip conveyors outperform expectations, even in the most demanding production environments, and they do it more efficiently and with less maintenance than other conveyor solutions.

## CHIP CONVEYORS

Hennig can design, build and deliver a chip conveyor solution for any machine or application challenge. Proprietary CAD technology allows our conveyor designs to be evaluated, refined, and accurately built in ultramodern facilities using precision lasers, CNC machines and automated welding equipment. Our equipment, along with streamlined workflows and finely tuned assembly processes, ensure that

the cost, quality and delivery of Hennig conveyors are tightly controlled. Our dual focus on design and manufacturing – all in-house – allows Hennig chip conveyors to outperform expectations, even in the most demanding environments, while requiring less maintenance than competitive systems. The end result: fewer repairs, fewer delays, greater tool efficiency and industry-leading uptime.

## CHIP DISC FILTRATION SYSTEMS

Simple is better, especially when it comes to coolant filtration, where simple solutions are easier to use and less expensive to maintain. That's the premise behind Hennig's innovative Chip Disc Filtration (CDF) technology. CDF technology was invented, designed and patented by Hennig for appli-

cations as fine as 25 microns, and is ***now available with our New Cast Iron Filtration option***. Our CDF system combines durable, stainless steel coolant filtration media in a simple yet rugged design, providing an affordable and effective alternative to traditional drum filtration.

## ULTRAMODERN FACILITIES



Engineers at Hennig's expansive North American facility use state-of-the-art lasers, CNC press brakes, and welding equipment to make high-precision sheet metal products quickly and efficiently.

Industry-leading best practices have resulted in the development of streamlined workflows and assembly processes for controlling every aspect of cost, quality and delivery.

# HENNIG CHIP CONVEYORS

## Making the most of your time and tools.

Efficient, dependable chip collection is the key ingredient in a well-run, efficient manufacturing environment. That's why so many machine tool builders worldwide come to Hennig for chip conveyors. Our custom conveyor solutions increase tool life, reduce machine maintenance, and improve efficiency on the production floor.

## Superior By Design

Hennig leads the industry in developing innovative new chip conveyor technologies and applying them to the specific needs of machine tool builders and manufacturers.



- 1** Hennig chip conveyors are equipped with various types of jam detection devices that protect the conveyor from damage in the event of an overload.
- 2** Heavy-duty gear motors power all Hennig chip conveyors. Various mounting configurations are available to suit individual requirements.
- 3** Hennig hinge and scraper belts consist of hinge plates, side wings, and scraper blades that are custom made from heavy-duty steel.
- 4** Hennig conveyor designs include various removable cover plates that allow easy access to the internal workings of the conveyor. Removing the plates is easy, so maintenance can happen fast.
- 5** Hennig's adjustable take-up mechanism is externally mounted for easy access and quick adjustment of belt tension.
- 6** Extra heavy-duty internal chain guides withstand the rigors of constant use and ensure nearly maintenance-free operation. This feature enables Hennig chip conveyors to work longer and harder, greatly reducing maintenance downtime.
- 7** Heavy-duty casters can be affixed to some Hennig chip conveyors, a helpful feature in environments where conveyors need to be moved or slid into a machine base.
- 8** Custom controls can be tailored to specific requirements.

## AUXILIARY COOLANT TANKS

If coolant isn't cleaned quickly, machining is interrupted. Hennig solves the problem with custom-engineered, custom-tailored auxiliary coolant tanks to control flow rates.



## HEAVY-DUTY COOLANT TANKS

Coolant storage tanks are made from heavy gauge steel to provide leak-free service in harsh shop environments. Removable cover plates allow easy access to the tank's interior for quick, easy maintenance. Baffles, chip baskets, and removable screens can also be added.

## REPLACEABLE CARTRIDGE FILTER ELEMENTS



Custom coolant filtration systems generally include replaceable cartridge filter elements and a replaceable cartridge filter. Continuous optimum performance is assured by configuring each filtration system according to the precise requirements of each application.

## HEAVY-DUTY PUMPS

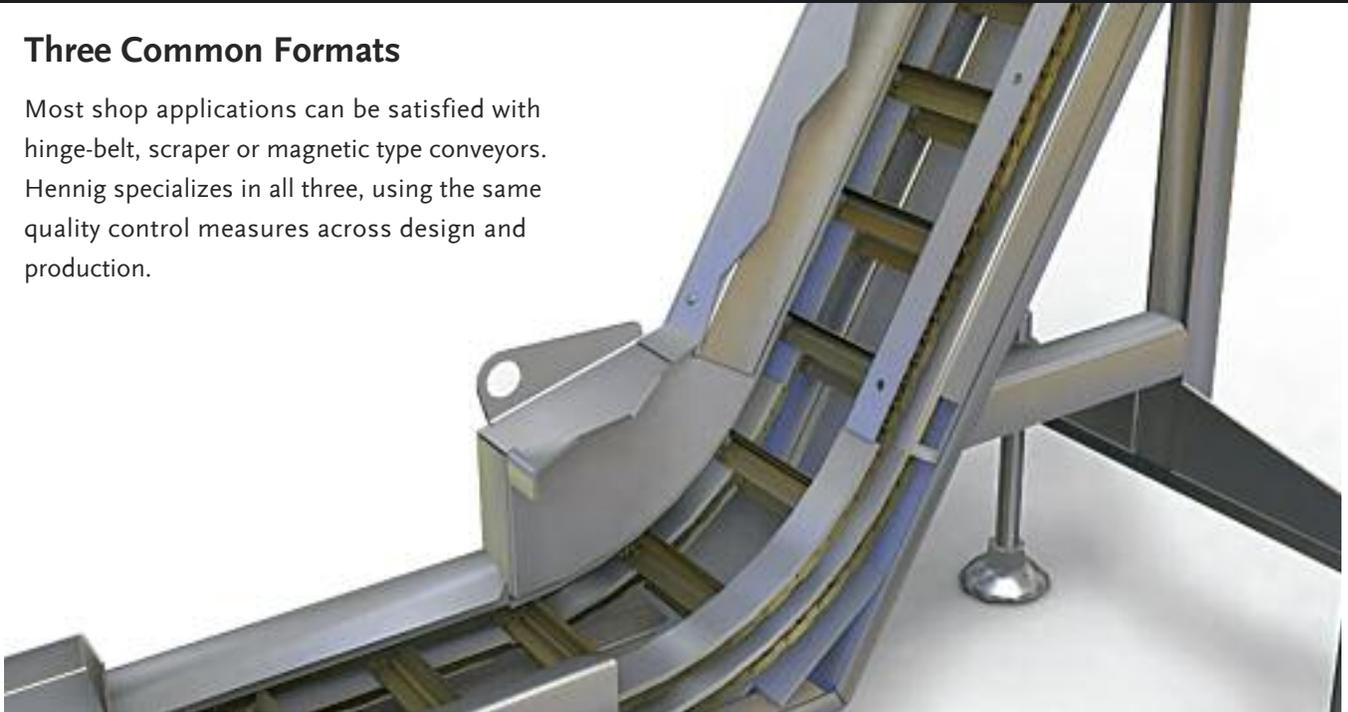


Heavy-duty pumps recycle coolant reliably. Automatic on-off float switches can be provided on request. Hennig can provide a complete coolant filtration solution.

# HENNIG CHIP CONVEYORS

## Three Common Formats

Most shop applications can be satisfied with hinge-belt, scraper or magnetic type conveyors. Hennig specializes in all three, using the same quality control measures across design and production.



## SCRAPER-TYPE CHIP CONVEYORS



Scraper-type chip conveyors are most often used for cast iron, bronze or brass machining, which produces smaller chips that can nest together. Chips fall directly to the bottom of the conveyor, and scrapers drag debris to the discharge end of the conveyor.

## HINGE-BELT CHIP CONVEYORS



Hinge-belt chip conveyors, the most common format, offer an effective means of managing heavy chip loads and stringy chips. Chips that fall from the machine tool land on the conveyor belt and are conveyed away from the machine tool's precision surfaces.

## MAGNETIC CHIP CONVEYOR



Magnetic chip conveyors are intended for ferrous material applications with small chips. The chips fall onto the conveyor's stainless steel surface and are conveyed by powerful magnets moving underneath. The chips are released from the magnets at the discharge end, and fall freely into a collection container.

## SPECIALS

### Custom Conveyors

Unique work environments. Specialized machine configurations. Varying chip volumes. These are just a few of the special requirements that indicate the need for a custom chip conveyor solution.

Hennig engineers can help by creating modified or special solutions to meet the needs of virtually any application. With Hennig you get a chip solution that is tailored to your unique production environment and business needs.

## HENNIG CHIP CONVEYORS SHARE THESE ATTRIBUTES:

### Advantages

- Chips are removed without interrupting production
- Hot chips are removed from the machine bed, reducing heat build-up
- Cutting area accidents are reduced
- Chips and coolant are separated automatically

### Construction

- Low-profile design
- Heavy gauge steel body
- Rugged steel rails
- Jam protection

### Paint

- Standard: grey or blue  
(other colors and specs available on request)

### Technical Data

- Belt width: minimum 6" to 33"+ (maximum)
- Standard incline angles: 45°/60°
- Drive: 1/8 hp and larger inverter duty, direct or overhead drive assemblies
- Standard belt speed: 1.6m/min or 2.2m/min (variable speed available upon request)
- Power requirements: standard 220/440 VAC, 3-phase (other voltages available upon request)

### Coolant Tank (Optional)

- Integral design or separate unit

# HENNIG CHIP DISC FILTRATION SYSTEM

## The simple approach to chip collection.

Simple operation. Long-life media. Quick maintenance. Broad application versatility. These are just some of the non-negotiable design parameters that drove development of the Hennig Chip Disc Filtration (CDF)

## Simplicity Defined

The Hennig CDF system is simple by design. It includes a hinged conveyor belt that transports chips and acts as the first stage of filtration. Disc filters with permanent media provide the second filtration stage. A coolant tank, low and high pressure pumps, float

system. This affordable approach to chip collection is Hennig-designed and patent protected. It is the most straightforward approach to coolant filtration in the market today.

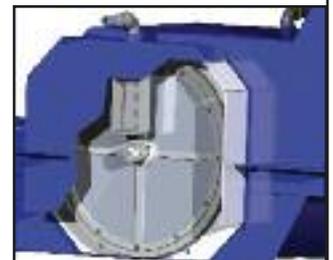
switches, oil skimmers and controls complete the standard configuration. Scraper-type conveyors are also available with the CDF system.



## EFFECTIVE DESIGN

- Innovative disc filtration — Patented disc filtration design provides for a direct coolant flow path into the coolant tank reservoir. Filters a wide variety of materials, both in water- and oil-based coolants.
- Efficient coolant backwash — Continuous self-cleaning operation, no outside source such as steam or air is used.
- Hinged belt conveyor — Provides Stage 1 filtration, catches and removes fine, broken and bushy chips.
- Rotating disc — Provides Stage 2 filtration with permanent media.

- Stainless steel screen — Rated at an industry-standard 40 microns. Finer filtration levels also available.
- Long-life media — Stainless steel media strength handles momentary or continuous heavy chip loads, which can be a problem with nylon mesh, drum-type filters.
- Low inlet height — External filtration discs allow for the lowest inlet height in the industry compared to drum-style filtration units.



## FAST MAINTENANCE, LESS DOWNTIME

### The Affordable Alternative

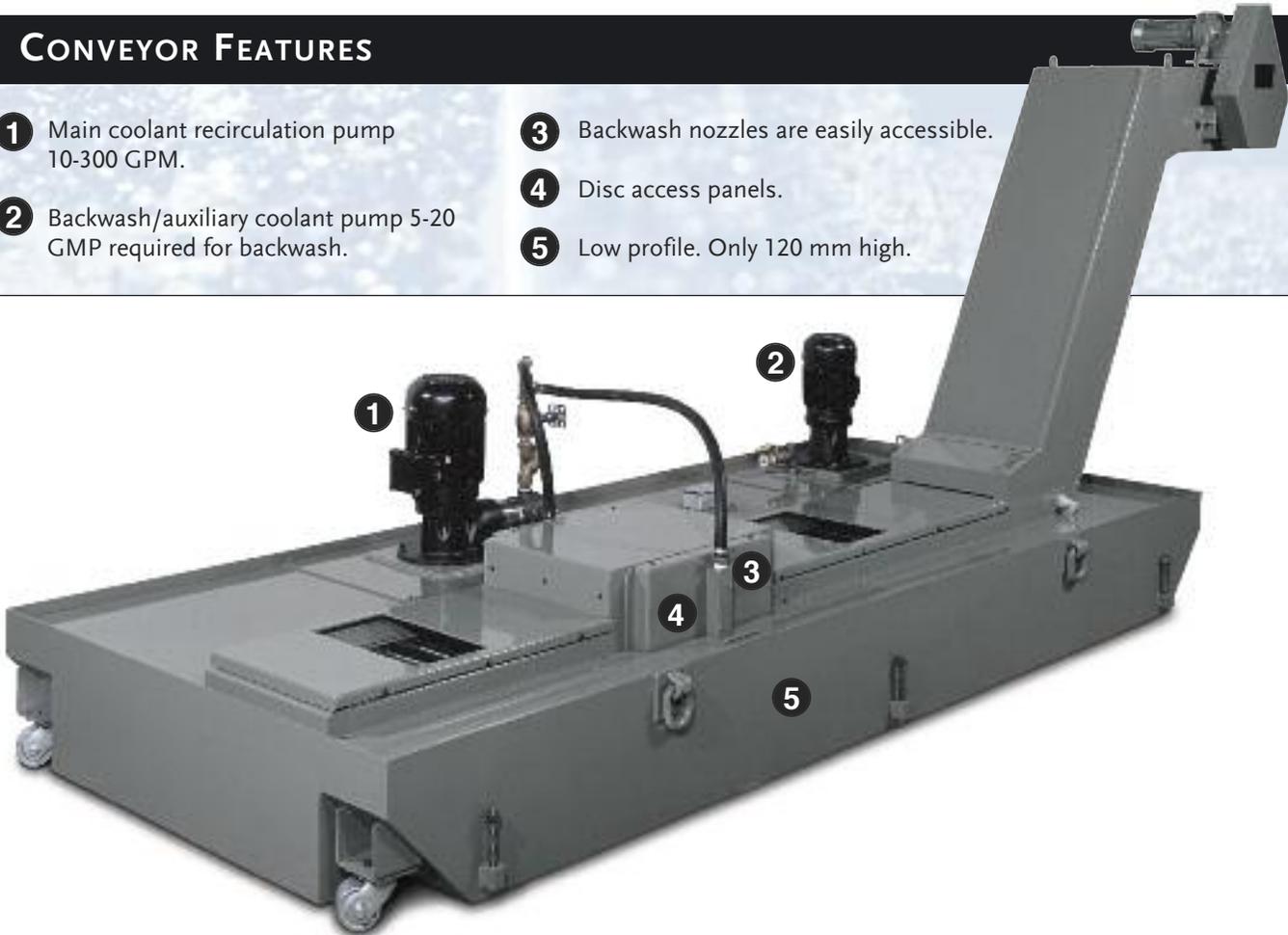
Simpler design means fewer moving parts and easier maintenance. The end result is a disc filtration system that is affordable to buy, operate, maintain and own. No one works harder than Hennig to protect your investment in precision machines.

- Easy media access — Typically just 20 minutes to remove the access panel and disc, install the new disc and secure the access panel.
- Easy disc seal replacement — Typically about ten minutes.

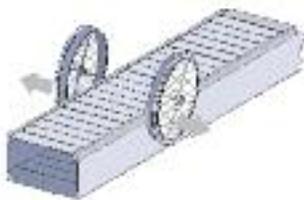
- Easy disposal — Old media are not a hazardous waste, and can be discarded with chips.
- Affordable design — Disc design and construction keeps media replacement costs down.
- One drive system — Disc design makes it possible to incorporate one drive system for all types of chips. Unlike many nylon mesh drum-type systems, CDF technology does not need two expensive drive systems to handle stringy chips.

## CONVEYOR FEATURES

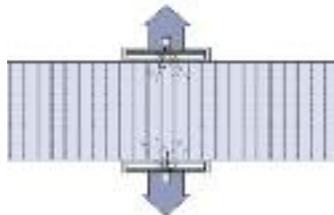
- 1 Main coolant recirculation pump 10-300 GPM.
- 2 Backwash/auxiliary coolant pump 5-20 GMP required for backwash.
- 3 Backwash nozzles are easily accessible.
- 4 Disc access panels.
- 5 Low profile. Only 120 mm high.



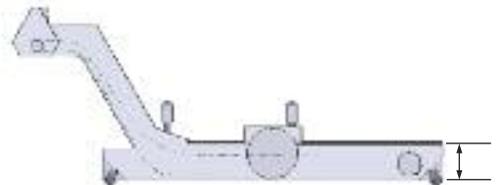
## HENNIG CHIP DISC FILTRATION SYSTEM



**Hinged conveyor.** Coolant drains through the hinged conveyor into the conveyor chamber, then flows into the main coolant tank reservoir through the rotating discs. A scraper type conveyor is available as an option.



**Continuous backwash nozzles for effective self-cleaning action.** Continuously sprays filtered coolant against the stainless steel media, removing fines and chips. Nozzles are easily accessed for cleaning or replacement.



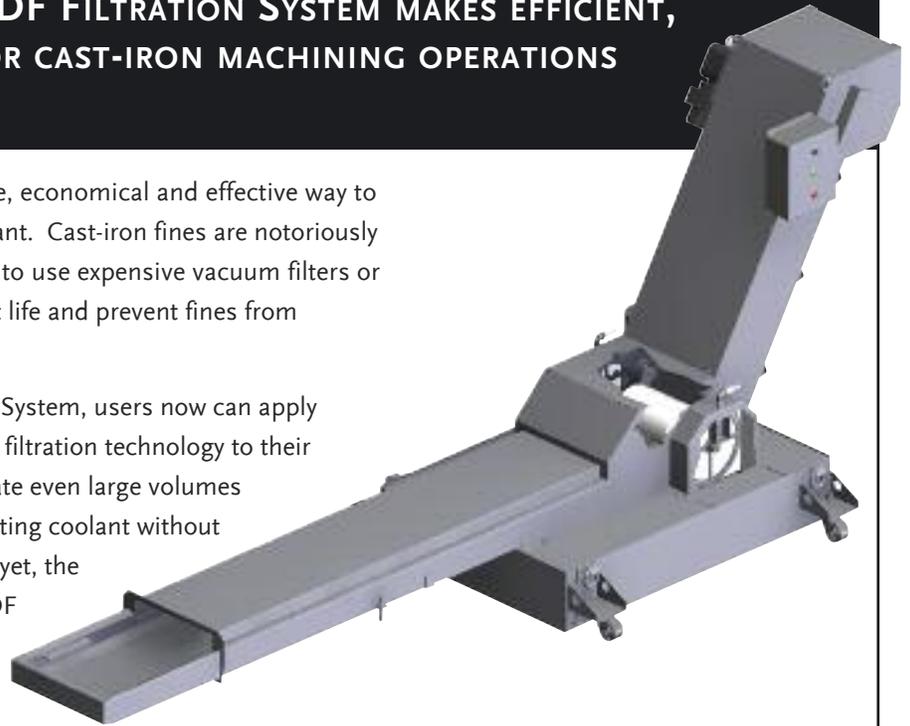
**Low-profile design accommodates smaller machines.** External disc location and coolant flow path allow 120mm minimum dimension, ideal for many smaller machines.

# HENNIG CAST-IRON CDF FILTRATION

## NEW HENNIG CAST IRON CDF FILTRATION SYSTEM MAKES EFFICIENT, ECONOMICAL FILTRATION FOR CAST-IRON MACHINING OPERATIONS AS EASY AS 1...2...3.

Until now, there has never been a reliable, economical and effective way to filter cast-iron chips and 'fines' from coolant. Cast-iron fines are notoriously hard to remove, requiring manufacturers to use expensive vacuum filters or replaceable media to try to extend coolant life and prevent fines from recirculating back to the machine.

With the Hennig Cast-Iron CDF Filtration System, users now can apply a proven, self-cleaning, permanent-media filtration technology to their cast-iron machining operations to eliminate even large volumes of cast-iron chips and fines from recirculating coolant without the use of disposable filter media. Better yet, the new system uses the patented Hennig CDF (Chip Disc Filtration) technology.



## HERE'S HOW IT WORKS, IN THREE EASY STAGES.

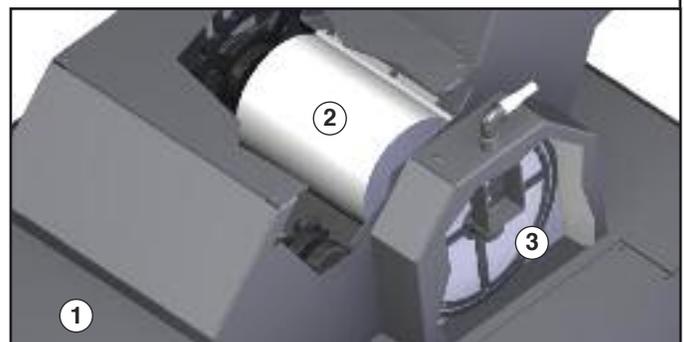
**Stage 1:** Dirty coolant flows into the conveyor trough where large chips and particles settle out and are removed by the scraper belt, which continuously transports the material up the conveyor incline and dumps them in the chip hopper.

**Stage 2:** Smaller particles in solution are collected by a rotating magnetic drum, which indexes against a stainless steel blade that scrapes the particles off the drum. Once enough particles have collected to form a heavy sludge, the sludge drops onto the dry chip conveyor incline to be dragged along with the larger chips and fines, into the chip hopper.

**Stage 3:** Smaller particles that escape the magnetic field of the drum naturally migrate with the coolant flow toward the Hennig disc filter media, which uses a micronic weave stainless steel mesh screen to intercept particles as small as 25 microns. As this filtration disc rotates past the 12:00 position, a continuous backwash spray of clean coolant blasts the particles that have been collected on the disc towards the rotating magnetic drum, where they magnetically adhere and are scraped off as sludge.

As a result, only ultra-clean coolant is allowed to flow through the screens in the third stage to the clean coolant reservoir, where it is recirculated back to the machine tool or used in the unit's self-cleaning spray cycle.

The end result of this simple, 1-2-3 process is the first truly cost-efficient system for effectively removing cast-iron chips and fines from coolant. End users now can take considerable cost out of their cast-iron machining processes, and improve workpiece quality, with a unit that will pay for itself in a just a matter of months.



# INQUIRY FORM FOR CHIP CONVEYORS

To begin the quotation process for a Hennig Chip Conveyor or Hennig Chip Disc Filtration (CDF) system, please copy this form, fill in all fields, and fax to 815-636-9737.

## 1 Company (complete address)

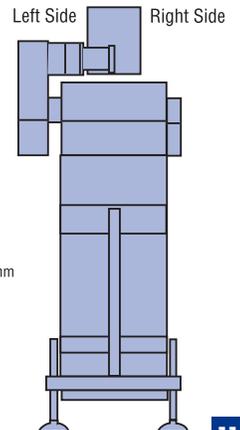
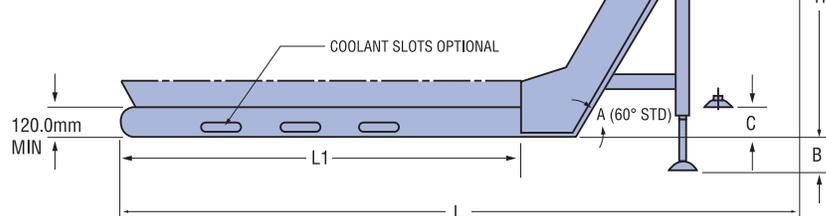
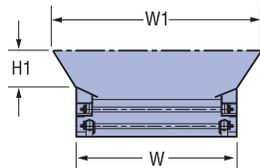
	Your Name	
	E-Mail	
	Phone	
	Fax	

## 2 Existing Part Number

Hennig, Enomoto or Sermeto Part Number

## 2 Technical Data

1. Intake length	LI =	mm	17. Type of machine	<input type="checkbox"/> Lathe <input type="checkbox"/> Milling
2. Max length	L =	mm		<input type="checkbox"/> Drilling <input type="checkbox"/> Tapping
3. Discharge height	H =	mm		Other: _____
4. Max width	W =	mm	18. Spindle H.P.	hp
5. Angle (45x, 60x)	A =	deg.	19. Chip volume	in <sup>3</sup> /min
6. Foot location (choose one)	B =	mm	20. Chip type	<input type="checkbox"/> Cast Iron <input type="checkbox"/> Steel
	C =	mm		<input type="checkbox"/> Aluminum <input type="checkbox"/> Brass
	WI =	mm		Other: _____
7. Width of chip chute	HI =	mm	21. Kind of chips	<input type="checkbox"/> Fine <input type="checkbox"/> Broken
8. Height of chip chute	V _____ Ph _____ Hz _____			<input type="checkbox"/> Lg Broken <input type="checkbox"/> Lg Bushy
9. Power requirements	<input type="checkbox"/> Yes <input type="checkbox"/> No		22. Discharge location	<input type="checkbox"/> Side <input type="checkbox"/> Front <input type="checkbox"/> Rear
10. Control box (check all that apply)	<input type="checkbox"/> Yes <input type="checkbox"/> No		23. Coolant tank	<input type="checkbox"/> Yes <input type="checkbox"/> No
Std 3 button (forward, momentary reverse, E-stop)	<input type="checkbox"/> Yes <input type="checkbox"/> No		24. Height/Width/Length	/ / mm
On/off switch (no starters/overloads)	<input type="checkbox"/> Yes <input type="checkbox"/> No		25. Tank capacity	Gallons
Variable speed option	<input type="checkbox"/> Yes <input type="checkbox"/> No		26. Coolant flow rate (Total machine)	Gal/min
Special (provide specs)			27. Coolant pumps	_____ GPM @ _____ psi
11. Paint	<input type="checkbox"/> Grey <input type="checkbox"/> Blue		28. Float switch	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Other (paint chip required)			
12. Casters	<input type="checkbox"/> Yes <input type="checkbox"/> No			
13. Motor location	<input type="checkbox"/> Left <input type="checkbox"/> Right			
14. Filtration spec		microns		
15. Coolant slots (conveyor only)	<input type="checkbox"/> Yes (location) <input type="checkbox"/> No			
	<input type="checkbox"/> Left <input type="checkbox"/> Right <input type="checkbox"/> Both			
16. Machine make and model				



(HSC) - Telescopic Steel Covers  
Chip Conveyors  
Chip Disc Filtration (CDF) Systems  
Folded Bellows  
Flex-Protect Systems  
Machine Enclosures  
Power Generator Enclosures  
Roll-up & Flexible Apron Covers  
Wiper Systems  
Stabilastic Telescopic Springs  
XYZ-Modules

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