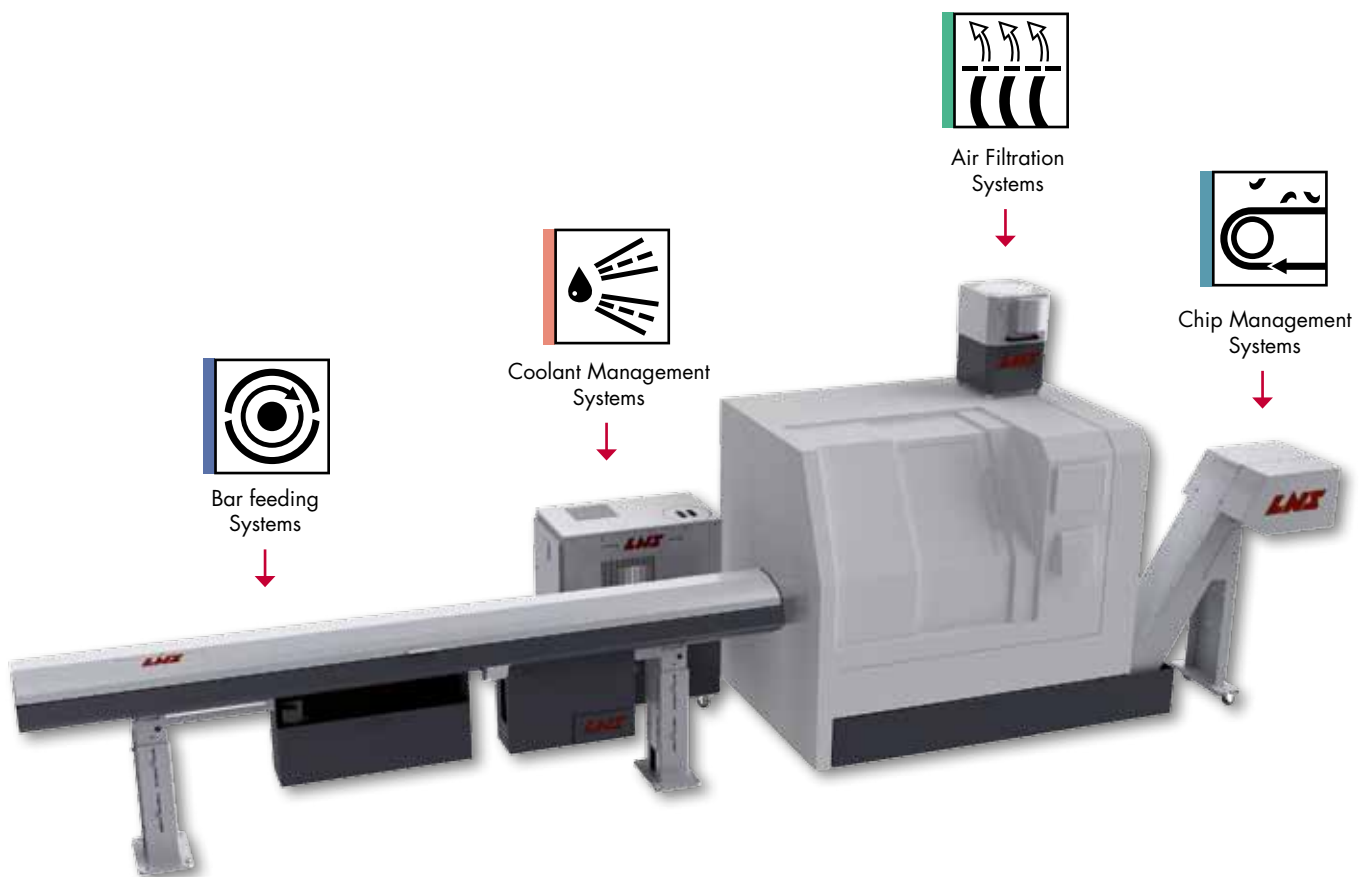


YOUR "ONE-STOP-SHOP" FOR MACHINE-TOOL PERIPHERALS



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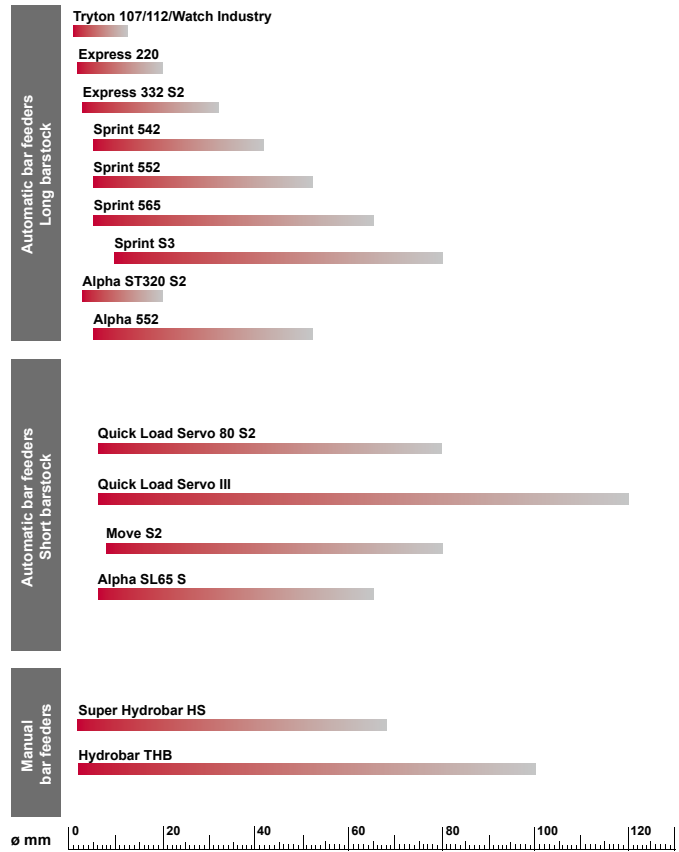
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Diameter range



Automatic bar feeders - long barstock



LNS Series

- Tryton 107/112
- Tryton Watch Industry
ø 1 - 12.7 mm
- Express 220
ø 2 - 20 mm
- Express 332 S2
ø 3 - 32 mm
- Sprint 542
ø 5 - 42 mm
- Sprint 552/Sprint 565
ø 5 - 52/65 mm
- Sprint S3
ø 10 - 80 mm

LNS Alpha Series

- Alpha ST320 S2
ø 3 - 20 mm
- Alpha 552
ø 5 - 52 mm

LNS Alpha Series

The Alpha range offers the ideal entry-level solution to automatic bar feeding technology satisfying all applications where more sophisticated features are not required. The range is composed of highly productive and price-competitive automatic bar feeders.

Tryton 107/112/Watch Industry

The Tryton 107/112 is an automatic magazine bar feeder featuring high performance for small diameter and is designed for camshaft controlled screw machines and Swiss-style CNC machines. The guiding technology on the Tryton is based on a hydrodynamic oil support in totally enclosed guide tubes.

- Hydrobar technology
- High rotation speeds on diameter range 1-12.7mm
- Interchangeable models of barrels available
- Quick diameter changeover
- Designed for specific materials production (gold, plastic, etc...)



Capacity		cams	CNC
Diameter	mm	ø 1 - 12.7	ø 1 - 12.7
Bar length 2m/3m/12/4m	mm	- /3200/3710/4200	2100/3200/3710/4200
		WI: 3200	
Loading system		Barrel	Barrel
Loading capacity	bars	45 (ø 1-5)	45 (ø 1-5)
		36 (ø 1-7)	36 (ø 1-7)
		24 (ø 3-10) – (WI: no)	24 (ø 3-10) – (WI: no)
		24 (ø 4-12.7) – (WI: no)	24 (ø 4-12.7) – (WI: no)
Loading side		Right/left	Right/left
Applications			
Headstock type		Fixed/sliding	Fixed/sliding
Synchronisation		Pressure regulator	Pressure regulator
Diameter change			
Partial changeover	mins	2 (within the guide tube range)	2 (within the guide tube range)
Total changeover	mins	5 - 10 (with hybrid barrel)	5 - 10 (with hybrid barrel)
Driving system			
Drive		Hydraulic pressure	Hydraulic pressure
Guiding		Hydrodynamic / tube	Hydrodynamic / tube
Oil ISO 100	Lt	25	25
Options			
Hybrid barrels		2x14 barstocks (ø 1 - 10) 2x14 barstocks (ø 1-12.7)	2x14 barstocks (ø 1 - 10) 2x14 barstocks (ø 1-12.7)
Barrel swing out system		Yes (WI: no)	Yes (WI: no)

Automatic Bar Feeders - Long Barstock

Express 220

The Express 220 is an automatic magazine bar feeder designed for short, medium and long production run. In its standard version, the Express 220 covers 80% of the most frequent applications. Due to its modular construction, the Express 220 can quickly be equipped with options at any given time.

- Hydrobar technology
- Quick diameter changeover
- Optional direct spindle synchronization system "3S"
- Complete range of options



Capacity		
Diameter	mm	ø 2 - 20
	mm	ø 2 with specific bar selection system
	mm	ø 22 with bar preparation
Bar length 3m/12/4m	mm	3300/3850/4200
Loading system		Side load rack
Loading capacity	mm	160
Loading side		Right/left
Applications		
Headstock type		Fixed/sliding
Synchronisation		PLC/Servo-motor
Max. remnant length	mm	400
Diameter change		
Partial changeover	mins	2 (within the guiding channel range)
Total changeover	mins	8 (for all guiding elements)
Front rest		Automatic
Bar selection		Automatic
Driving system		
Motor		Servo
Drive		Chain
Guiding		Hydrodynamic / U-Channel
Oil ISO 100	Lt	80
Options		
Specific ø 2 mm bar selection system		
500 mm Z axis retraction		
Direct headstock synchronisation system "3S"		

Express 332 S2

The Express 332 S2 is an automatic magazine bar feeder designed for short, medium and long production run. The conception of this bar feeder permits fast diameter changeover and very short set up times. The hydrodynamic support in the guiding channels allows optimal RPM without vibration on the diameter range 3-32 mm.

- Hydrobar technology
- Automatic diameter set up
- Complete range of options



Capacity		
Diameter	mm	ø 3 - 32
	mm	ø 34 with bar preparation
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200
Loading system		Side load rack
Loading capacity	mm	270
Loading side		Right/left
Applications		
Headstock type		Fixed/sliding
Synchronisation		PLC/Servo-motor
Max. remnant length	mm	400
Diameter change		
Partial changeover	mins	2 (within the guiding channel range)
Total changeover	mins	8 (for all guiding elements)
Front rest		Automatic
Bar selection		Automatic
Driving system		
Motor		Servo
Drive		Chain
Guiding		Hydrodynamic / U-Channel
Oil ISO 100	Lt	80
Option		
500 mm Z axis retraction		

Sprint 542

The Sprint 542 automatic bar feeder takes advantages of the proven concept of the Sprint 565. This bar feeder allows maximum flexibility in the range of 5-42 mm. The long and round guiding elements offer optimal bar guiding performance for all bar shapes.

- Hydrobar technology
- High performance guiding
- Quick diameter changeover
- Flexibility of configuration



Capacity		
Diameter	mm	ø 5 - 42
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200
Loading system		Side load rack
Loading capacity	mm	280
Loading side		Front/rear
Applications		
Headstock type		Fixed/sliding
Synchronisation		PLC/Servo-motor
Diameter change		
Partial changeover	mins	2 (keeping the same bearing elements / with remnant retract option)
Total changeover	mins	Less than 10 (for all guiding elements)
Standard front rest		Fixed
Bar selection		Automatic
Driving system		
Motor		Servo
Drive		Notched belt
Guiding		Hydrostatic / bearings
Oil ISO 100	Lt	80
Options		
Remnant retract: 450mm max. length		
Z axis retract : 470 mm		
2 position front rest		
Automatic front rest		

Sprint 552 / Sprint 565

The Sprint 552/Sprint 565 series of automatic bar feeders offer maximum configuration flexibility. These bar feeders are designed for medium and large-scale production runs, within a diameter range of 5-52mm for the Sprint 552, and 5-65mm for the Sprint 565.

- Hydrobar technology
- Minimal footprint
- Quick diameter changeover
- Flexibility of configuration



Capacity		
Ø Sprint 552 / Sprint 565	mm	Ø 5 - 52 / Ø 5 - 65
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200
Loading system		Chain load rack
Loading capacity:		
Sprint 552 / Sprint 565	bars	11 / 9
Loading side		Front/rear
Applications		
Headstock type		Fixed/sliding
Synchronisation		PLC/Servo-motor
Diameter change		
Partial changeover	mins	2 (keeping the same bearing elements / with remnant retract option)
Total changeover	mins	Less than 10 (for all guiding elements)
Standard front rest		Fixed
Driving system		
Motor		Servo
Drive		Notched belt
Guiding		Hydrostatic / bearings
Oil ISO 100	Lt	80
Options		
Remnant retraction system: 450 mm max. length		
Z axis retract : 500 mm		
Lower horizontal rack magazine to increase total loading capacity : 330 mm		
Automatic front rest		

Sprint S3

The Sprint S3 is an automatic magazine bar feeder featuring high performance designed for small, medium and large diameter permitting large production runs. The robust design and the guiding precision provided by the patented hydrostatic support in the bearing blocks permits maximum RPM without vibrations.

- Hydrobar technology
- Robust design
- Quick diameter changeover
- Round the clock production



Capacity		
Diameter	mm	Ø 10 - 80
Bar length 3m/12'/4m	mm	3300/3800/4200
Loading system		Floor load rack
Loading capacity	mm	700
Loading side		Front/rear
Applications		
Headstock type		Fixed
Diameter change		
Total changeover	mins	15 (for all guiding elements)
Driving system		
Motor		Pneumatic
Drive		Chain
Guiding		Hydrostatic / bearings
Oil ISO 100	Lt	80

Alpha ST320 S2

The Alpha ST320 S2 is the LNS entry-level solution to load small diameter barstocks for fixed or sliding headstock machines. The easily adjustable loading fingers and front rest assure accurate bar loading and high performance. The Alpha ST320 S2 is a highly productive and economical automatic bar feeding system for round bar stock diameters from 3 - 20 mm.

- Hydrobar technology
- Compact design
- Easy to operate
- Highly productive and reliable



Capacity		
Diameter	mm	ø 3 - 20
Bar length	mm	3200
Loading system		Side load rack
Loading capacity	mm	270
Loading side		Front/rear
Applications		
Headstock type		Fixed/sliding
Max. remnant length	mm	400
Diameter change		
Partial changeover	mins	2 (in the same channels)
Total changeover	mins	10 (for all guiding elements)
Front rest		Manual
Bar selection		Manual
Driving system		
Motor		Servo
Drive		Chain
Guiding		Hydrodynamic / U-Channel
Oil ISO 100	Lt	40

Alpha 552

Alpha 552 is a high-performance and affordable solution to ensure maximum productivity for the loading of bar stocks from 5 to 52 mm, designed for medium and long production runs on fixed or sliding headstock lathes. The guiding system consists of pushers and round bearings. For a total diameter changeover, these elements are quickly and easily replaced, without any tools.

- Reliable and easy to operate
- User friendly remote control
- Quick diameter changeover
- Patented Synchronization system 3S



Capacity		
Diameter	mm	Ø 5 - 52 (from 47 mm with bar preparation)
Bar length	mm	3200 / 4200
Loading system		Side load rack
Loading capacity	mm	300
Loading side		Front/rear
Applications		
Headstock type		Fixed/sliding
Z axis retraction	mm	470
Max. remnant length	mm	450
Diameter change		
Partial changeover	min	3 (in the same channels)
Total changeover	min	10 (for all guiding elements)
Front rest		2-Position, pneumatic
Bar selection		Manual
Driving system		
Motor		Servo
Drive		Chain
Guiding		Hydrostatic/bearings
Oil ISO 100	Lt	80

Automatic bar feeders - short barstock



LNS Series

- Quick Load Servo 80 S2
ø 6 - 80 mm
- Quick Load Servo III
ø 6 - 120 mm
- Move S2
ø 8 - 80 mm

LNS Alpha Series

- Alpha SL65 S
ø 6 - 65 mm

LNS Alpha Series

The Alpha range offers the ideal entry-level solution to automatic bar feeding technology satisfying all applications where more sophisticated features are not required. The range is composed of highly productive and price-competitive automatic bar feeders.

Automatic Bar Feeders - Short Barstock

Quick Load Servo 80 S2

The Quick Load Servo 80 S2 is designed for automatic loading of short bars. The machine uses the proven concept of the Quick Load Servo III, and is especially adapted for working in standard applications.

- Compact, simple, easy to use design
- Automatic diameter set up
- Fully electrical
- Servo Motor LNS technology
- "Easy clic" pusher
- Adjustable loading ramp
- Integrated X or Z retraction



Capacity		
Diameter	mm	ø 6 - 80
Bar length (limited to headstock length)	mm	350 - 1605
Loading system		Side load rack
Loading capacity	mm	650
Loading		Front/rear
Applications		
Headstock type		Fixed
X or Z axis retraction	mm	600
Diameter change		
Diameter set up	sec	10 (fully automatic)
Total changeover	mins	2 (including pusher)
Driving system		
Motor		Servo
Drive		Notched belt
Options		
Shaft loading kit		
Orientation kit for square bar stocks		

Quick Load Servo III

The Quick Load Servo III is an automatic magazine bar feeder for spindle length bar stocks. The features of the Quick Load Servo III allow many operations in a record time. The user friendly interface simplifies all current operations.

- Compact design
- Diameter change over completely automatic
- Multiple applications
- Different production applications available
- Integrated X or Z retraction



Capacity		
Diameter	mm	ø 6 - 120
Bar length (limited to headstock length)	mm	100 - 1600
Loading system		Side load rack
Loading capacity	mm	1000
Loading		Front/rear
Applications		
Headstock type		Fixed
X or Z axis retraction	mm	600
Diameter change		
Diameter set up	sec	10 (fully automatic)
Total changeover	mins	2 (including pusher)
Driving system		
Motor		Servo
Drive		Notched belt
Options		
Telescopic pusher		
Shaft loading kit		
Orientation kit for square bar stocks		

Move S2

The Move S2 provides an innovative answer to the difficult choice between the two usual bar working philosophies of either regular length bar stocks, or short bar stocks.

The "half-bar" concept of the Move S2 combines the qualities of the two working philosophies, and reduces significantly their disadvantages.

- Hydrobar technology
- Compact design
- Quick diameter changeover
- Servo Motor LNS technology



Capacity		
Diameter	mm	ø 8 - 80
Bar length	mm	700 - 1900
Loading system		Chain load rack
Loading capacity	bars	7
Loading		Front
Applications		
Headstock type		Fixed
Z axis retraction	mm	470
Diameter change		
Total changeover	mins	4
Driving system		
Motor		Servo
Drive		Notched belt
Guiding		Guiding tube
Oil ISO 100	Lt	40
Option		
Lower horizontal rack magazine to increase total loader capacity: 330 mm		

Alpha SL65 S

The Alpha SL65 S is an entry-level alternative for spindle length bar stock feeding. The Alpha SL65 S is designed for simple applications, especially for standard production parts, and for medium and large production runs.

- Small footprint
- Easy diameter change over
- Easy to use
- Integrated X or Z retraction



Capacity		
Diameter	mm	ø 6 - 65
Bar length (limited to headstock length)	mm	300 - 1500
Loading system		Side load rack
Loading capacity	mm	660
Loading		Rear
Applications		
Headstock type		Fixed
X or Z axis retraction	mm	X : 300 / Z : 600
Diameter change		
Diameter setup	mins	5 (manual)
Total changeover	mins	10 (with pusher)
Driving system		
Motor		Servo
Drive		Notched belt

Manual bar feeders



LNS Series

- **Super Hydrobar HS**
ø 2 - 68 mm
- **Hydrobar THB**
ø 2 - 100 mm

Super Hydrobar HS

The Super Hydrobar HS is a manual bar feeder for small and medium production runs. The diameter range is designed for camshaft-controlled screw machines and CNC machines. The Super Hydrobar HS offers maximum flexibility in turning applications. The hydrodynamic support totally enclosed guiding tubes provide high performance with high reliability.

- Hydrobar technology
- Large range of length and diameter available
- Quick diameter change over



Capacity		
Diameter	mm	ø 2 - 68
Bar length	mm	6000 max.
Loading system		Tube swing out system
Loading side		Right/left
Applications		
Headstock type		Fixed/sliding
Diameter change		
Total changeover	min	1
Driving system		
Drive		Hydraulic pressure
Guiding		Hydrodynamic system
Oil ISO 100	Lt	120
Options		
Z axis retraction 200 mm or 600 mm		

Types	ø tubes	ø barstocks	Types	ø tubes	ø barstocks
HYS 6.68 HS	70-62-55-48-40-32	24-68	HYS 3.28 HS	30-24-16	8-28
HYS 6.65 HS	68-62-55-48-40-32	24-65	HYS 3.26 HS	28-22-16	8-26
HYS 6.60 HS	63-58-52-44-36-28	20-60	HYS 3.25 HS	27-21-14	6-25
HYS 6.55 HS	58-52-45-38-30-22	14-55	HYS 3.24 HS	26-20-14	6-24
HYS 6.52 HS	54-48-42-34-26-18	10-52	HYS 3.22 HS	24-18-12	4-22
HYS 6.50 HS	52-46-40-32-24-16	8-50	HYS 3.20 HS	22-15-8	3-20
HYS 6.46 HS	48-42-36-30-24-16	8-46	HYS 3.18 HS	20-14-8	3-18
HYS 6.45 HS	47-42-36-30-24-16	8-45	HYS 3.16 HS	18-13-6	2-16
HYS 6.42 HS	44-40-34-28-22-14	6-42	HYS 3.12 HS	14-10-6	2-12
HYS 6.40 HS	42-38-34-28-22-14	6-40	HYS 3.10 HS	11-8-6	2-10
HYS 6.36 HS	38-34-30-24-18-12	4-36			
HYS 6.32 HS	34-30-26-21-16-10	3-32	Other configurations on request		
HYS 6.30 HS	32-28-24-19-14-8	3-30			
HYS 6.26 HS	28-24-20-16-12-8	3-26			

Hydrobar THB

The Hydrobar THB is an economical alternative to manual bar feeding for special applications and production runs with small diameter changeover. The hydrodynamic support in totally enclosed guiding tubes provides high performance with high reliability.

- Hydrobar technology
- Easy to use
- Designed for camshaft controlled screw machines and Swiss-style CNC machines



Capacity			
Diameter	THB 100	mm	ø 102 max.
	THB 65	mm	ø 65 max.
	THB 42	mm	ø 42 max.
	THB 32	mm	ø 32 max.
	THB 22	mm	ø 22 max.
	THB 16	mm	ø 16 max.
Bar length		mm	6000 max.
Loading system			Tube swing out system
Loading side			Right/left
Applications			
Headstock type			Fixed/sliding
Diameter change			
Total changeover		mins	10
Driving system			
Drive			Hydraulic pressure
Guiding			Hydrodynamic system
Oil ISO 100		Lt	120
Option			
Z axis retraction 600 mm			

Accessories



- **PB80 - Chamfering machine**
ø 8 - 80 mm
- **Spindle liners**
ø 11 - 80 mm

Accessories

PB80

The PB80 is the ideal partner for automatic and manual bar feeders. The PB80 offers an economical solution for bar end preparation. The PB80 is used for chamfering, centering and turning.

- 3 different applications
 - Chamfer
 - Center
 - Turning
- Easy to use
- Economical

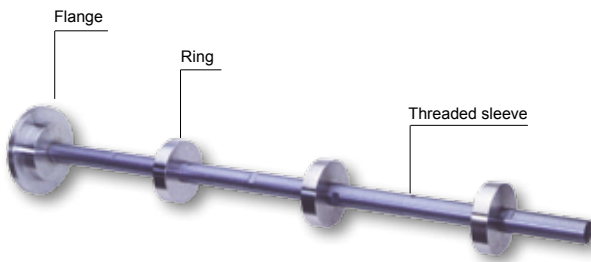


Capacity		
30° Chamfering	mm	ø 8 - 80
Turning	mm	ø 10-60
	mm	40 max. length
Centering	mm	ø 8 - 80
Driving system		
Motor	kW	0.9 / 1.65
Drive		2 x 2 speeds
Speed 1	rpm	230 / 460
Speed 2	rpm	700 / 1400
Clamping system		
Chuck		3 jaws
		4 jaws option

Spindle liners

LNS manufactures and supplies top-quality liners designed for all lathes. This, in combination with LNS loading systems, guarantees improved guiding in headstocks at lower cost.

- Accurate straightness
- Balanced rotation
- Easy to adapt by the end-user
- Easy assembly and removal
- Wide diameter range available



LNS guarantees the best guiding in the headstock lathe with patented Spindle liners for all range of diameter.

LNS Spindle liners are composed of 3 different parts screwed together. A rear flange, a threaded sleeve, and a spacer. Assembly of the spindle liner is very easy.

All LNS bar feeders feature retraction systems which permit fast and easy access to the lathe for the changeover of spindle liners.

LNS offers two sizes of Spindle liners:

- A small size for headstocks up to max diameter 45 mm
- A large size for headstocks up to max diameter 80 mm

The spindle liners can be easily adapted to most different chucking systems by turning down the flange and the spacers to the appropriate headstock diameter.



Chip Management Systems

Chips conveyor systems

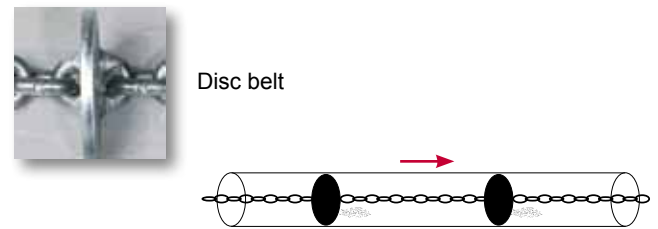
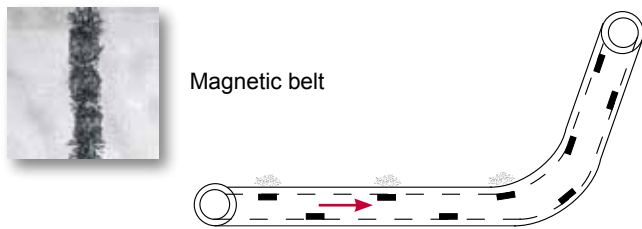
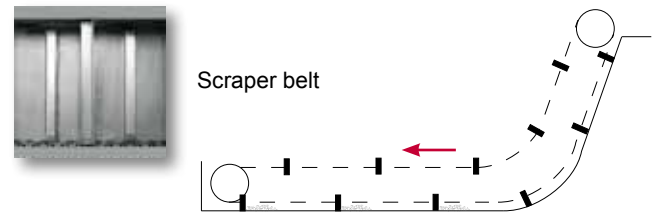
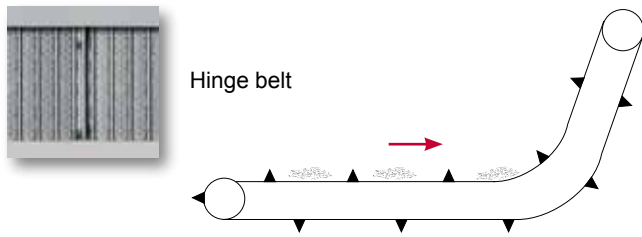


The machining of parts by milling, drilling or turning requires an effective and continuous evacuation of chips to prevent production slowdown or stops and therefore increase machine productivity.














LNS designs and produces conveyors and complete chip disposal systems for all machine types (milling, turning or machining centers) and for the most varied applications.

A complete range of conveyors covers all material types and chip shapes. In addition based on the filtration requirements LNS chip conveyors can be equipped with up to 50µ filtration systems.

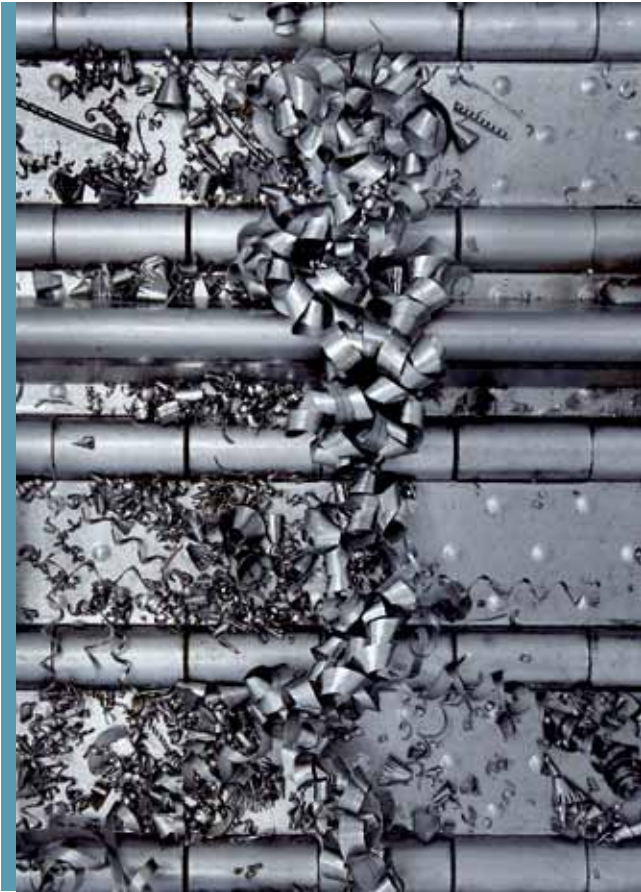
Belt type



Selection guide

Material Type	Chip Shape	Model	Coolant Filtration (μ)	
Mixed material (Brass, steel, cast iron, aluminium,...) Plastic	 Stringy Coarse	 Standard duty Heavy duty Super heavy duty	No filtration	▶▶ Turbo HB
Ferrous material Cast iron	 Fine	 Magnetic belt	No filtration	▶▶ Turbo Magnetic
Mixed material (Brass, steel, cast iron, aluminium,...) Plastic	 Mixed shape	 Hinge belt & Scraper belt	 50 μ	▶▶ Turbo MF2 Turbo MF3
Mixed material (Brass, steel, cast iron, aluminium,...) Plastic	 Mixed shape	 Hinge/scraper belt combined	 250 μ - 500 μ	▶▶ Turbo MH Series
Mixed material (Brass, steel, cast iron, aluminium,...)	 Fine	 Scraper belt	 500 μ	▶▶ Turbo MS500

Non filtering chip conveyors



- **Turbo HB**
Without filtration
- **Turbo Magnetic**
Without filtration

Non Filtering Chip Conveyors

Turbo HB

The Turbo HB is a standard conveyor used for chip removal where filtration is not necessary. The hinge belt can be used for all types of application and is the best choice for coarse and stringy chips.

Efficient Chip Removal

LNS uses specially-formed cleats to prevent curled chips from adhering to the belt, reducing wear and improving chip removal. Conveyor top cover height can be varied for special applications. Scraper cleats on the belts clean the entire surface of the bottom pan a minimum of two times per revolution.

Wear-resistant Design

Special abrasion-resistant alloy material is used in high wear locations, such as upper and lower curves. Belt rollers and hinge pins are hardened for long life, even in the toughest applications.

Continuous Operation

On applications where heavy chip load is expected, the conveyor is supplied with a specially designed ball detent clutch that will free all minor jams without operator or maintenance intervention.



The best choice for

- Coarse and stringy chips
- Mixed material, plastic
- No filtration

Options

- **Air header**
 - Small chips
 - Anti-adherence device
- **Chip stripper bar**
 - Stringy, bushy chips
- **Variable speed control**
 - Reduced coolant carry out

Variety of belts

For most efficient chip removal and coolant drainage, a wide variety of belt designs are essential to maximize chip removal success: dimpled and perforated.



Turbo Magnetic

The Turbo Magnetic is specially designed for multi-tasking machines producing fine chips of ferrous material.

The Turbo Magnetic features a heavy gauge stainless steel slider face for a long life in extreme wear conditions. All moving parts are contained inside the conveyor's viton sealed frame so they are never exposed to machining contaminates. The conveyor belt is automatically tensioned.

Self-lubricated Track

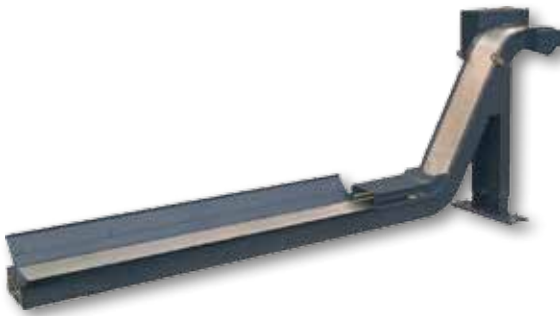
No lubrication oil inside the conveyor to leak and contaminate the coolant.

Reduced Coolant Carry-out

A variable speed drive (AC Inverter) is standard on all units to maximize chip removal and minimize coolant loss.

Easily-Replaceable Magnets

LNS components, including individual magnet segments, are easily and economically replaced if the conveyor is accidentally damaged.



The best choice for

- Fine chips
- Ferrous material (cast iron)
- No filtration

Belt construction



Magnets within the conveyor frame



Heavy duty stainless steel slideway

Filtering chip conveyors



• Turbo MF2/Turbo MF3

Filtration to 50 μ

• Turbo MS500

Filtration to 500 μ

• Turbo MH Series

Filtration to 250 μ or 500 μ

Benefits of filtration conveyors

- Reduced maintenance to machine coolant tank
- Extended coolant life
- Improves coolant pump life
- Enables lights out operation
- Improved coolant quality to the cutting area

Turbo MF2 / Turbo MF3

Thanks to its two-storey conveyor concept: a hinge belt above of a scraper belt, the Turbo MF2/Turbo MF3 are conveyors designed to remove all chip shapes made of different material and to provide superior filtration down to 50µ.

The upper conveyor is a hinge belt type removing larger chips, and the lower conveyor removes finer and smaller chips trapped in the conveyor.

Versatility

Upper conveyor separates heavy chip load from filtration drum. Ideal for multiple material applications, including material chunks, stringy, bushy, and large chips. Also for heavy chip loads from today's advanced machining techniques. Lower conveyor is a scraper-type, ideal for removal of small particles carried through the upper conveyor. Fines trapped by the filter drum are deposited on the incline.

Low maintenance

Self-cleaning filter drum provides particle-free coolant to 50µ for the most demanding tooling applications. Extends coolant life and tooling life for cost-saving operation.



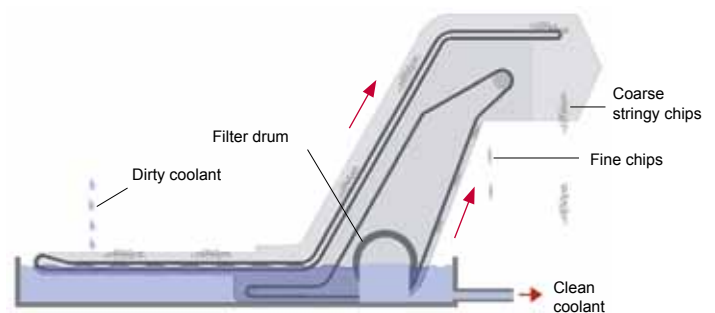
The best choice for

- Mixed-shape chips
- Mixed material, plastic
- Filtration to 50µ

Filtration device



Sealed nylon filter drum with reliable heavy duty viton seal.



Turbo MS500

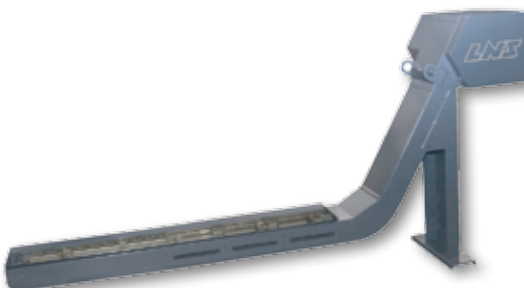
The Turbo MS500 handles medium to light chip loads including brass, steel, cast iron and aluminum incorporating coolant filtration, to 500µ nominal. This conveyor is ideal for removal of chips produced in the machining of cast components and billets.

Dry Chip Disposal

Designed to minimize coolant loss from the discharge. Less coolant loss and drier chips provide a more cost-effective, environmentally friendly operation.

Coolant Filtration

Each filter box is automatically cleaned whilst the conveyor is operating. The number of filter boxes required is related to the machine flow rate, assuring coolant flow and optimal filtration.



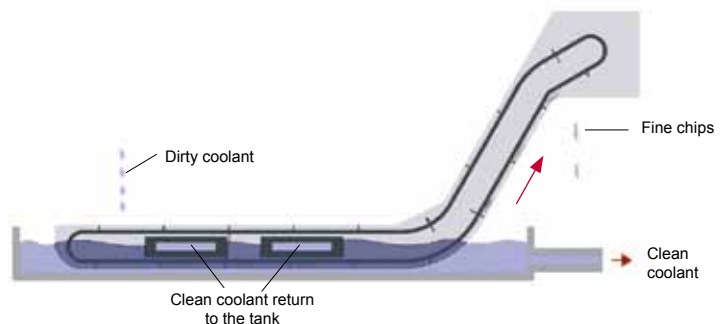
The best choice for

- Fine chips
- Mixed material
- Filtration to 500µ

Filtration device



Removable heavy duty filter box



Turbo MH Series

Thanks to this revolutionary concept from LNS: Filtration boxes are used in conjunction with a hinge / scraper belt conveyor. The Turbo MH Series of conveyors are designed to remove all chip shapes made of different material incorporating self cleaning filtration. The hinge belt removes the chips in the same way as a normal hinge belt conveyor but the use of filter boxes ensures that all chips greater than the filter box filtration level cannot pass into the coolant tank. The fine chips are continually carried out of the bottom of the conveyor by the scrapers mounted to the hinge belt. This revolutionary design ensures minimal floor space is utilized while still covering a wide range of applications and filtration needs.

Low maintenance

The filter boxes provide particle free coolant to 250µ or 500µ (depending the type). This filtration reduces the amount of coolant tank maintenance, extends the coolant and tooling life for cost saving operation. Each filter box is automatically cleaned whilst the conveyor is operating.

Coolant filtration

The number of filter boxes required is related to the machine flow rate, assuring coolant flow and optimal filtration.



The best choice for

- Mixed-shape chips
- Mixed material
- Filtration to 250µ or 500µ

Benefits of the Turbo MH Series

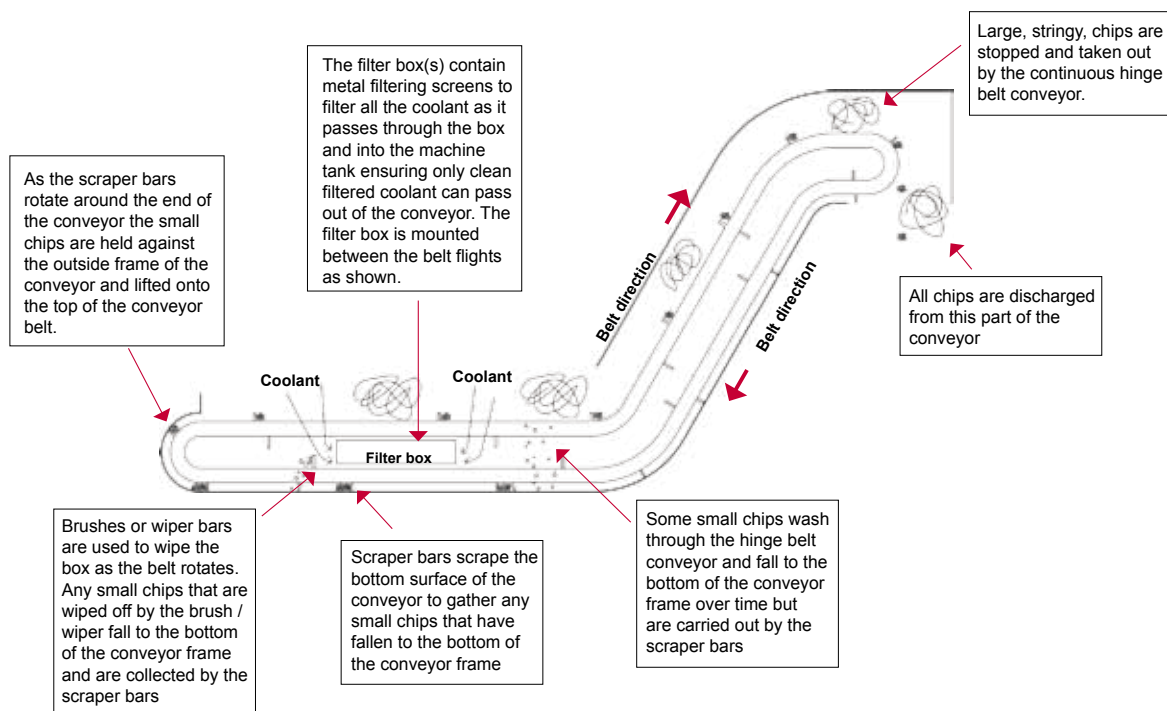
- Self cleaning filtration to 250 or 500 Micron
- Very small footprint (same as a standard conveyor)
- Flexible design for various flow rates
- Handles any chip shape (long and small)
- Handles any material
- Attractive price
- Fits to most standard machine coolant tanks
- Robust construction

Filtration device



Removable heavy duty filter box

System schematic



Central processing



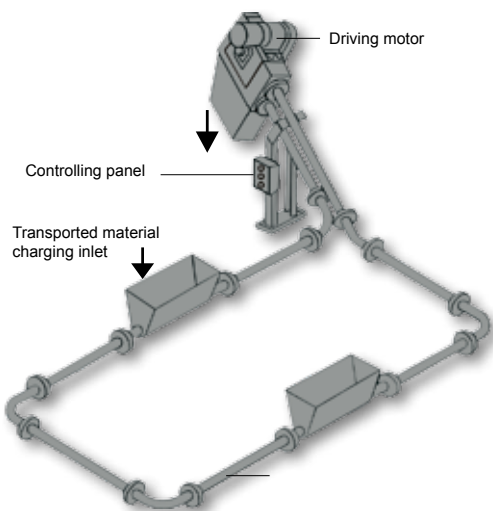
- **Turbo 3D**
No filtration

Central Processing

Turbo 3D

The Turbo 3D provides a complete workshop-integrated, material-conveying system. From your multi-tasking machines, material is removed through a piping network directly to an outdoor hopper or truck.

The system can fit almost any plant, thanks to its modular elements. At the lower point of the system, coolant recovery tanks can be easily installed.



Advantages of the system

- A fully-automated factory system capable of removing chips and different swarf from a number of machine tools at one time, and discharge can be positioned inside or outside the factory for disposal of chips.
- It creates a clean and tidy environment with substantial labour savings.
- Each and every system is designed to suit the particular factory.

System equipment

The system can be equipped with additional options.

Accessories - Chip Hoppers



The LNS self-tipping chip hopper is the ideal accessory to any chip conveying system.

Thanks to its self tipping device, operators can easily and safely unload waste material.



High pressure coolant systems



The use of high pressure coolant can drastically increase the performance of a machine tool through a number of factors.

Heat is one of the major causes of tool failure. Normal flood coolant in many cases does not even reach the cutting edge. The temperature at the tool is often over 500°C. HPC keeps the temperature lower at the cutting edge and improves the cutting action of the tool.

High Pressure Coolant also helps to break chips by hitting the cutting area at high speed. In addition to this high pressure helps to evacuate the chips and stops them from falling back into the cut helping to prevent broken inserts caused by re-cutting chips.

Lubricity also plays an important role in metal cutting. HPC systems deliver the coolant between the cutting tool and the workpiece, dramatically improving the lubrication, tool life, and, in many cases, the surface finish. In summary, metal can be cut at much higher surface speeds, improving productivity as well as lowering tooling cost.

Various models available

LNS offers 4 types of high pressure coolant systems to best meet the needs of our customers. These are:

- **PowerStream SA**
- **PowerStream MC**
- **PowerStream VP**
- **Integrated High Pressure Coolant**

The PowerStream units can be standalone or integrated with your LNS conveyor and coolant tank. The PowerStream's high pressure lines (up to 8) are independently controlled by the M-codes of the machine. The on-board PLC with user interface panel means that the system is quickly configured to your machine tool's interface and specific application.

High Pressure Coolant Systems

PowerStream Series

PowerStream VP

The latest high pressure coolant innovation using the most modern high pressure coolant system design allowing programmable variable pressure outputs for ultimate flexibility and energy efficiency. The system can deliver up to 140 Bar of filtered coolant where the pressure output can be automatically varied through signals from the machine tool or pre-programmed settings. The incorporated coolant transfer pump, speed control, on-board coolant tank and numerous options ensures maximum performance and reliability.

	PowerStream VP	
Outlet pressure	70 bar	140 bar
Flow rate	30 L/Min	20 L/Min
Filtration	Single filter canister with 10µ filtration as standard	
Number of outlets	4 ports as standard	
Tank capacity	130 L	
Size	950 x 550 x 1200 mm	
Option 1	8 ports output	
Option 2	Dual Filter Canister	



PowerStream MC

The ideal Standalone high pressure coolant system that can deliver up to 70 Bar of filtered coolant specifically designed for machines where high coolant contamination requires quick filter change over to allow continuous machining.

The incorporated dual filter canister, coolant transfer pump and on-board coolant tank, along with the optional, external heat exchanger, ensures maximum performance and reliability.

PowerStream SA

The ideal Standalone high pressure coolant system that can deliver up to 140 Bar of filtered coolant for all types of machines.

The incorporated coolant transfer pump and on-board coolant tank, along with the optional, internal heat exchanger, ensures maximum performance and reliability.

Integrated high pressure

The Integrated system can be designed into our coolant tanks, so it can be customized to your individual needs giving maximum flexibility with flow and pressure, and thus tailoring the high pressure to your machine and application.

	PowerStream SA			PowerStream MC
Outlet pressure	70 bar	70 bar	140 bar	70 bar
Flow rate	30 L/Min	45 L/Min	20 L/Min	30 L/Min
Filtration	Single filter canister with 10µ filtration as standard			Dual filter canisters with 10µ filtration as standard
Number of outlets	4 ports as standard			1 port as standard
Tank capacity	120 L			130 L
Size	950 x 550 x 1200 mm			950 x 550 x 1200 mm
Option 1	8 ports output			4 ports output
Option 2	Heat exchanger (Internal)			Heat exchanger (external)

Tramp oil removal system



LNS PhaSep's patented oil removal technology can improve metalworking fluid life by 100%, drastically reducing the need for hazardous waste disposal, at the same time reducing cost on replacement coolant.

The design of machine tools means that from box ways and linear ways, either grease packs or oil, contaminate coolant resulting in bacteria, foul odour, and irritants. Mechanically it destroys the tooling through the deterioration of coolant.

Oil contamination is the number one cause of metal working fluid disposal. Metal working fluids lose valuable cooling and lubrication properties when contaminated with oil.

Model available

- PhaSep

Tramp Oil Removal

PhaSep

The unique floating pick-up skims the tramp oil and coolant mix from the top of the machine sump. As the liquid moves slowly through the patented steel coalescing plates, oil droplets as small as 20μ are separated from the coolant and rise to the top of the PhaSep unit.

When the oil layer builds up sufficiently in the unit, it passes over a specially-designed weir, and is trapped away from the clean coolant. The oil can then be removed periodically through the waste oil drain.

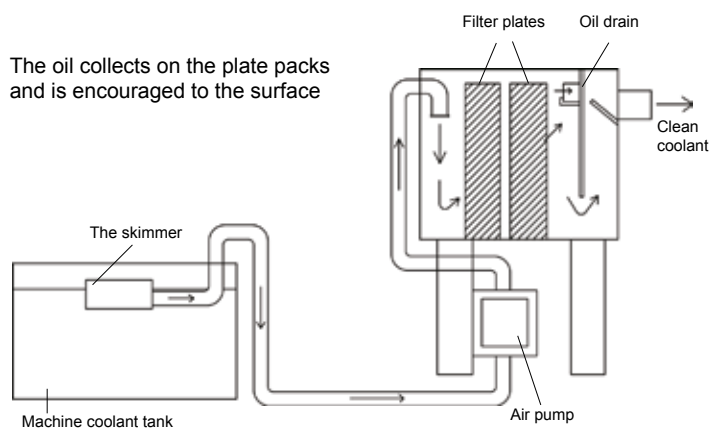
Coolant, cleaned of 99% of contaminated oils, is returned directly to the machine sump.



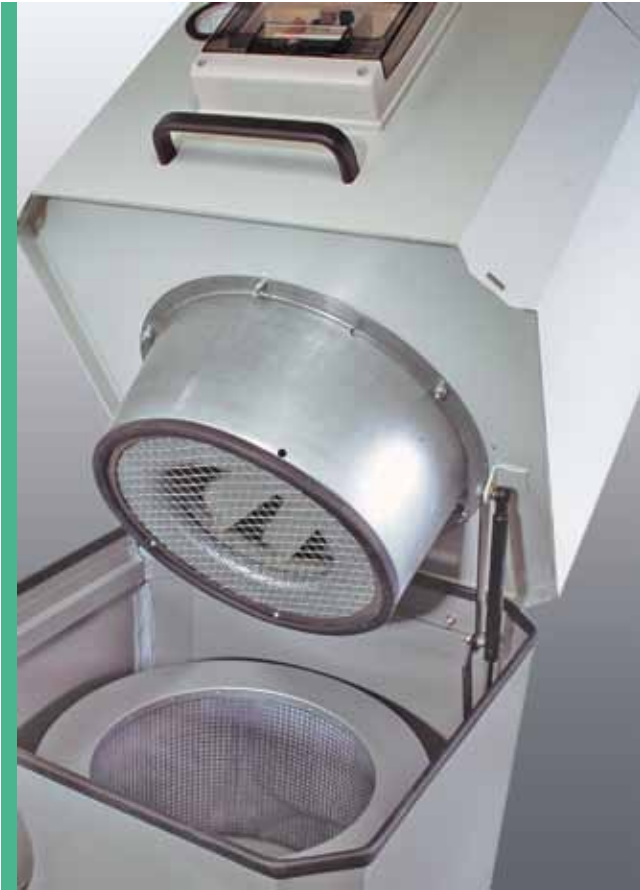
Technical specifications

CPS Mini	2.25 to 3.4 L/Min Process Rate, 432 x 406 x 610 mm
	Coolant tank processing up to 400 Lt
CPS Junior	6.8 L/Min Process Rate, 610 x 406 x 610 mm
	Coolant tank processing up to 800 Lt

System schematic



Air Filtration Systems



The quality of the air is a fundamental aspect of maintaining a healthy and safe working environment. LNS designs, produces and market a complete range of air filtration systems that can solve a broad range of pollution problems present in the workshop.

Highly reliable and heavy duty designed, Fox units feature a high efficiency filtration system (99 % according to norm AFNOR 44-060)

To eliminate:

- Mist
- Vapours
- Smoke
- Odours

Models available:

Oil mist collectors

- Fox WS : WS250, WS500, WS1000, WS1500, WS2000
- Fox WM : WM4000, WM8000, WM12000

Spray Cabin

- Fox SC: SC500

Oil Mist Collectors

Fox WS Series

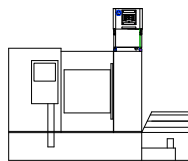
Fox WS series is the perfect solution for the elimination of oil mist typical of metal cutting applications.

With its small and compact dimensions the WS series integrates perfectly with the machine tool design and thanks its control panel it can be easily interfaced.

With the optional additional Hepa filter module it can completely eliminate dry smoke problem providing a 99.95 % MPPS filtration efficiency level (EN 1822).

Models available

- Fox WS250
- Fox WS500
- Fox WS1000
- Fox WS1500
- Fox WS2000



The best choice to eliminate

- Mist
- Vapours
- Smoke
- Odours

Designed for

All types of machine tools and industrial operation which use coolants (water soluble oil or straight oil) and for EDM machines.

Technical specifications

		Air flow (m3/h)	Static pressure (Pa)	Motor (Kw)	Weight (Kg)	Sound level (db(A))
WS 250	50 Hz	240	470	0.24	28	62
	60 Hz	285	600	0.3	28	64
WS 500	50 Hz	470	610	0.37	35	65
	60 Hz	560	890	0.4	35	67
WS 1000	50 Hz	950	950	0.75	55	71
	60 Hz	1130	1420	0.9	55	73
WS 1500	50 Hz	1450	1260	1.5	75	74
	60 Hz	1720	1800	1.8	75	76
WS 2000	50 Hz	1800	1720	2.2	85	76
	60 Hz	2120	2300	2.6	85	78

Options

- HEPA filter module
- Relay remote
- Timer
- Custom paint
- LED lights alarm when filter maintenance is required

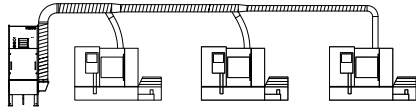
Fox WM Series

Fox WM is designed for the simultaneous connection of multiple machine tools and/or for equipping very large machine tools where considerable airflow rate is needed.

Designed with the same high quality and reliability concepts of the smaller Fox WS series the unit is a modular system that if combined it can provide 8000 or 12000 m³/h.

Models available

- Fox WM4000
- Fox WM8000
- Fox WM12000



The best choice to eliminate

- Mist
- Vapours
- Smoke
- Odours

Designed for

Simultaneous connection of Multiple machine tools which use coolants water soluble oil or straight oil).

Technical specifications

		Air flow (m ³ /h)	Static pressure (Pa)	Motor (Kw)	Weight (kg)	Sound level (db(A))	Air inlets (mm)
WM 4000	50 Hz	3620	1800	3	275	78	n°3-350x250
	60 Hz	3600	2300	3.6	275	80	n°3-350x250

Options

- HEPA filter module
- Relay remote
- Timer
- Custom paint
- LED lights alarm when filter maintenance is required

Spray Cabin

Fox SC500

Fox SC500 is the solution to eliminate pollution generated by the cleaning of oily parts with an airgun. This mobile and compact unit ensures high-performance filtration. The unit is equipped with a standard electric motor [V/Hz] 230/50 or with a three-phase motor [V/Hz] 230/3/50 - 400/3/50 as an option.

- Mobile and compact
- Easy connection to standard wall plug
- High efficiency filtration > 99% (AFNOR 44060)
- Washable prefilter
- Low noise level
- Low electrical consumption



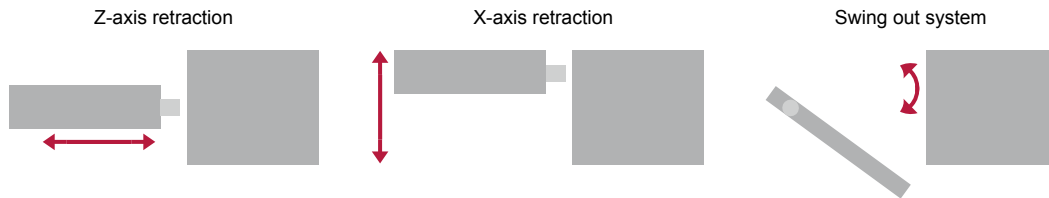
Technical specifications

	Nominal air flow (m ³ /h)	Static pressure (Pa)	Sound level (db(A))	RPM (min-1)	Motor (kW)	Voltage / Phase / Frequency (V/Hz)	Weight (kg)
50 Hz	750	(Pa)	67	2790	(kW)	230/1/50	70
60 Hz	900	890	69	3350	0.40	115/1/60	70

LNS lexicon - Bar feeding systems

Device retraction

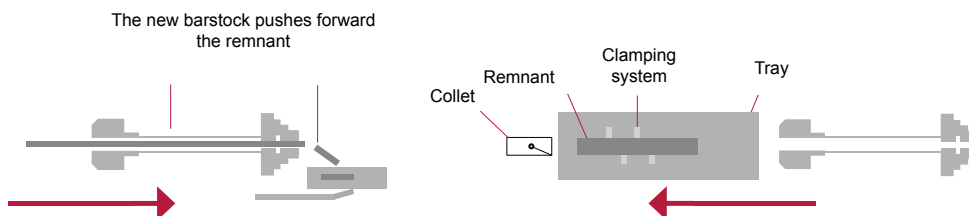
The device retraction system is intended to facilitate access to the lathe for changing the spindle liners or for carrying out maintenance or repairs. Depending on the model of bar loader, LNS offers three different systems: lengthways retraction, sideways retraction or a swing out system.



Evacuation of remnants

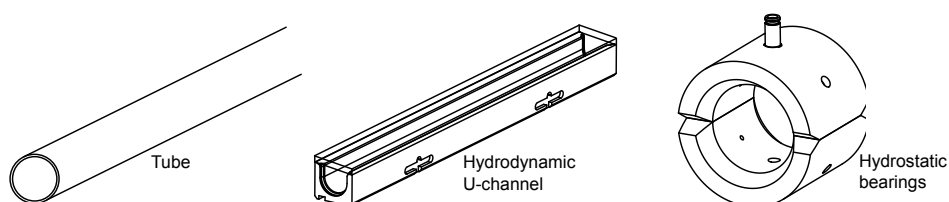
LNS has two remnant evacuation systems :

- The remnant is pushed forward by the next bar into the lathe's part collector.
- The remnant is pulled back across the spindle and deposited in a tray located behind the bar feeder.



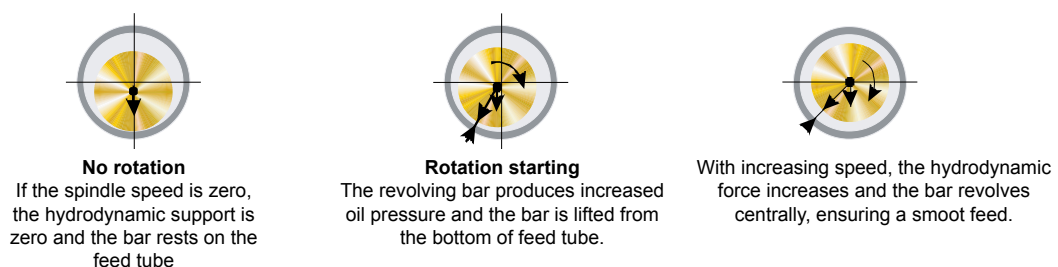
Guidance

LNS offers three solutions to ensure perfect guidance for bars of different diameters. For the smallest diameters, LNS guides the bar along its entire length in a closed tube. For diameters from 2mm to 36mm, LNS offers hydrodynamic channels. For diameters above 36mm, LNS guides the bars in hydrostatic bearing elements.



Hydrobar®

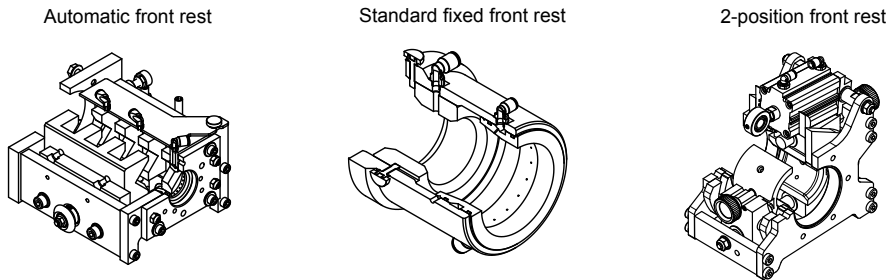
Pressurized oil is introduced to the inside of the guiding tube, guiding channels or hydrostatic bearing elements. An oil film forms and separates the bar to be machined from the guide element. The more the rotation speed increases, the greater the hydrodynamic effect. LNS equips all its loaders with the Hydrobar® system.



LNS lexicon - Bar feeding systems

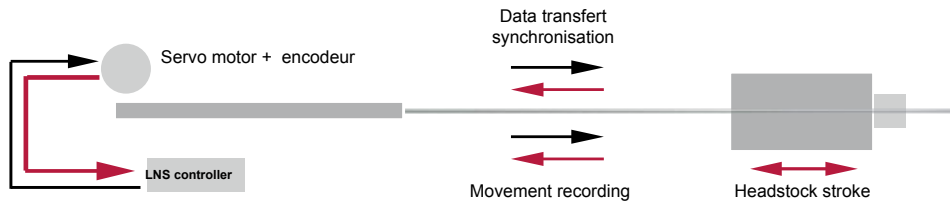
Front rest

To ensure optimum guidance closest to the entrance of the lathe spindle, LNS equips its bar loaders with a front rest. This system guarantees rotation speeds with no vibration along the entire length of the bar. The front rest is the last guide element in contact with the bar before the entrance of the lathe spindle.



Synchronization

LNS synchronization is an electronic system which enables the movements of the headstock to be synchronized to those of the loader pusher. By means of a servo motor controlled by an SPS, the loader detects and anticipates movements of the headstock. At the headstock advance speeds used on today's lathes, this is a decisive assurance to prevent bars from buckling.



Straightness

If a bar is not straight, it can create vibrations as it rotates, and thus affects performance. Above 0.5mm per meter, a bar is not considered straight.

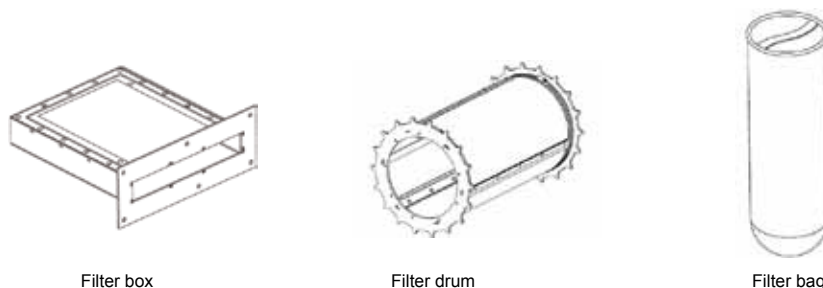
- The bars can be bent along their entire length.
- The bars be bent at the end as a result of the manufacturing process. In this case it is advisable to lathe the bent end first in order to avoid transmitting the vibrations along the whole bar while it rotates.



LNS lexicon - Chip management systems

Coolant filtration

LNS uses 3 primary types of filtration. For coarse filtration where it is necessary to remove particles to 500µ, self cleaning filter boxes are used where flat screens are contained in removable boxes within the conveyor frame. For higher level filtration to 50µ a self cleaning filter drum is used where a screen is wrapped around a sealed drum that is contained within the conveyor frame. For very fine filtration to as little as 5µ filter bags are used, these are material sacks that need to be replaced periodically.



LNS subsidiaries

Switzerland

LNS SA
Rte de Frinwillier
CH-2534 Orvin
Tel : +41 (0)32 358 02 00
Fax : +41 (0)32 358 02 01
sales@LNS-europe.com
www.LNS-europe.com

France

LNS France
44, Impasse des Troènes
74800 Amancy
Tel : +33 4 50 03 93 32
Fax : +33 4 50 03 93 34
LNSfrance@LNS.fr
www.LNS-europe.com

Italy

LNS Automazione srl
Via Mons. Colombo 34
21053 Castellanza – VA
Tel : +39 0 331 501 901
Fax : +39 0 331 482 101
LNS@LNSautomazione.it
www.LNSautomazione.it

Italy

LNS Fox srl
Via Ugo Foscolo 17
24052 Azzano San Paolo - BG
Tel : +39 035 4243756
Fax : +39 035 32276
Sales@LNS-fox.com
www.LNS-fox.com

Turkey

LNS Makine San.Tic.A.Ş.
Keresteciler San.Sit. 10.Sk.No:45
Kazan - Ankara / TÜRKİYE
Tel : +90 312 815 24 34
Fax : +90 312 815 24 37
info-turkiye@LNS-europe.com
www.LNS-europe.com

United Kingdom

LNS Turbo UK Limited
Waterside Park, Valley Way,
Wombwell
Barnsley S73 0BB
Tel : +44 1226 27 00 33
Fax : +44 1226 27 00 44
sales@LNSturbouk.com
www.LNS-europe.com

America, Mexico, Canada

LNS America Inc.
4621 East Tech Drive
Cincinnati, OH 45245
Tel : 001 513 528 5674
Fax : 001 513 528 5733
sales@LNSamerica.com
www.LNS-america.com

China

LNS China
No. 289 Quande Road
Economical and Technical Development Zone
Wujiang Jiangsu Province P.R.C
Tel : +86 512 6327 0828
Fax : +86 512 6327 0827
info.cn@LNS-asia.com
www.LNS-asia.com

Japan

LNS Yoshida KK
Ushi 38-1, Dourin Machi
Nomi Shi, Ishikawa Ken
Post 929-0125 Japan
Tel +81 (0)761-55-2058
Fax +81 (0)761-55-0856
www.LNS-yoshida.com
mail@LNS-yoshida.com

LNS Asia SDN. BHD

29, Jalan Permas 9/12, Bandar Baru
Permas Jaya
81750 Johor Bahru
Tel : +607-388 5414
Fax +607-388 5597
info.ma@LNS-asia.com
www.LNS-asia.com

KTM International Co. Ltd

4F 4FI, 159-110, Gwangmyeong-Dong
423-807 Gyeonggido / Korea
Tel : +82 2 3436-6187
Fax +82 2 3436-6189
info.ko@LNS-asia.com
www.LNS-asia.com

Taiwan

LNS Asia, Taiwan Branch
No.133, Lane 418, Sec. 3, Sinan Rd.,
Wurih District, Taichung City 414
Taiwan R. O. C.
Tel : +886-4-2335 4920
Fax : +886-4-2335 4929
info.tw@LNS-asia.com
www.LNS-asia.com

Thailand

LNS (Thailand) Co. Ltd
801/214 Phahon Yo Tin Rd
Kukot-Lamlukka
12130 Phatumthanee
Tel : +66 2992 6066
Fax +66 2992 6068
Info.th@LNS-asia.com
www.LNS-asia.com



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Fields of activities

- Bar feeding systems
- Chip management systems
- Coolant management systems
- Air filtration systems



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