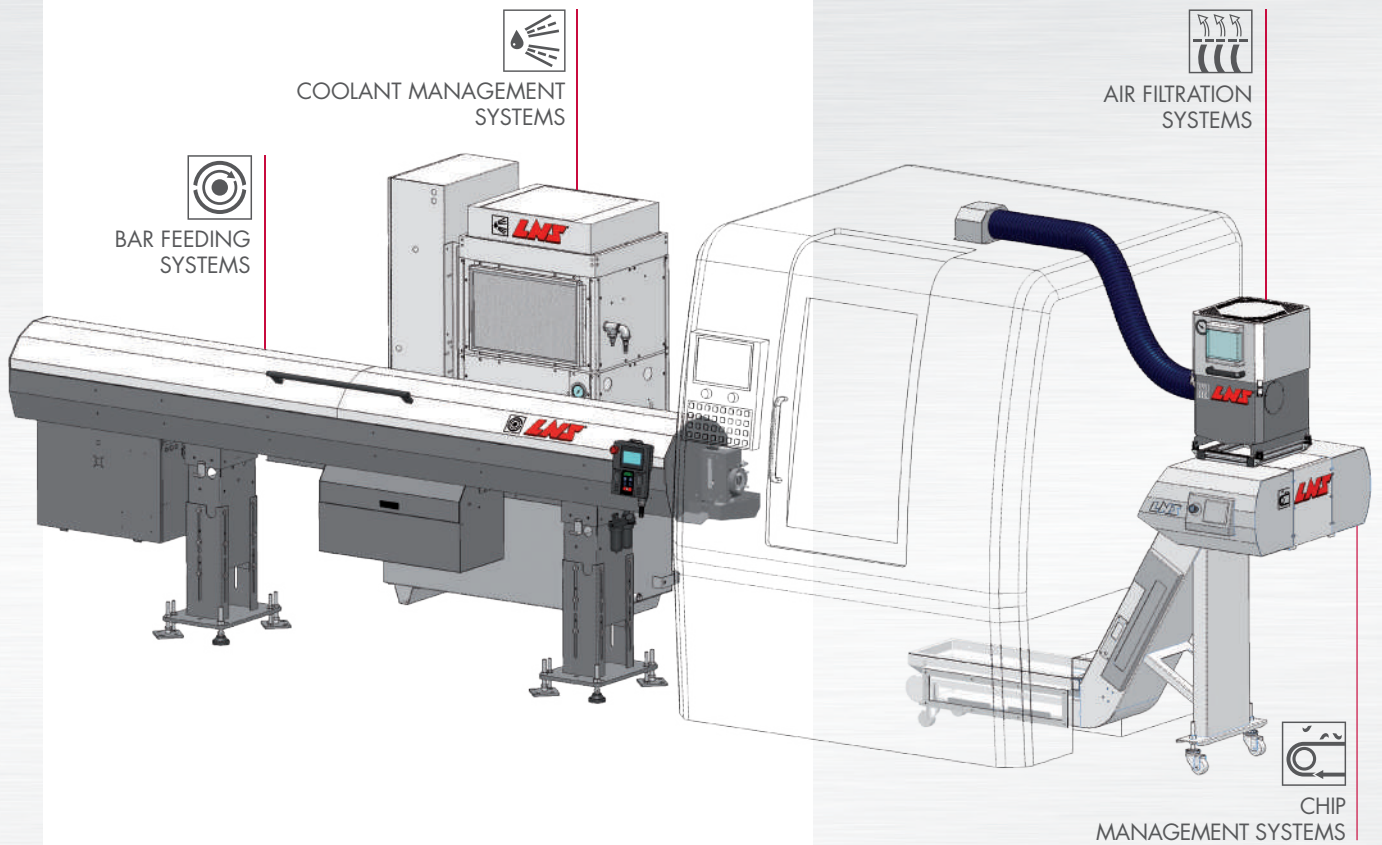


## LNS, YOUR UNIQUE PARTNER FOR YOUR PERIPHERALS



YOUR ONE-STOP-SHOP  
FOR MACHINE-TOOL PERIPHERALS

## OVER 45 YEARS OF SERVICE, PERFORMANCE AND INNOVATION

For over 45 years, LNS has been based in the town of Orvin, the perfect location in the heart of Switzerland's Jura region, the hub of the bar turning industry.

Since it was founded, LNS has been devoted to helping optimise the performance of their machine tools whilst increasing their productivity and safeguarding their operators.

Our group has become a world leader in the domain of peripherals for machine tools. Our worldwide presence with 8 production sites, strategically located across the globe, gives us proximity to the market and allows us to position ourselves as a local supplier of reliable products and to offer a quick service. Market coverage is ensured by a network of subsidiaries and exclusive agents that we have built up ourselves.

LNS currently employs more than 900 members of staff, inventing, manufacturing, assembling, promoting, selling and maintaining a large range of products designed for equipping machine tools. The common denominators of these products that we group under the heading «peripherals» are: performance, quality, reliability and ease of use.

Thanks to the efforts made by all of our employees and the continuous investment in innovation, we aim to continue to offer unrivalled value to all our customers by providing the most advanced technology at the best price for many decades to come.

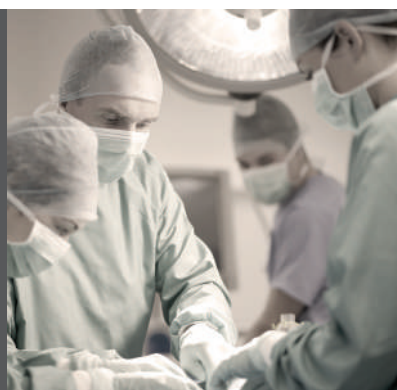
Headquarter, Orvin, Switzerland



LUXURY &  
HIGH PRECISION



MEDICAL



ELECTRONICS &  
CONNECTORS



## LNS OFFERS A WIDE RANGE OF PRODUCTS

TO ENABLE YOU TO MAXIMISE YOUR PRODUCTIVITY AND YOUR RETURN ON INVESTMENT.

### BAR FEEDERS

p. 4 to 15

With more than 178,000 units installed across the world, LNS bar feeders are universally recognised for their exceptional quality and performance. Our bar feeders ensure maximum productivity on all types of fixed or sliding headstock lathes, even in the most varied of applications.

From entry level solutions to sophisticated equipment, our vast range of products covers all manufacturing approaches (short bars, long bars or half-bars), whilst offering unbeatable reliability and flexibility thanks to systems which enable the quickest diameter changes in the world.

### CHIP CONVEYORS

p. 16 to 21

LNS designs and produces chip conveyors and complete chip removal systems for all types of machine.

With more than 156,000 units installed, LNS conveyor systems are available in a large range of models for all types of materials and all kinds of chip. They can be fitted with coolant filtration systems effective to 50 microns.

### COOLANT MANAGEMENT

p. 22 to 29

LNS supplies a complete range of coolant management systems which guarantee optimal performance of your coolant system.

LNS high-pressure cooling systems significantly increase machining speeds, extend the service life of the cutting tool and reduce expenditure on tooling.

Currently, there are 40,000 high-pressure coolant systems delivered by LNS worldwide.

### AIR FILTRATION SYSTEMS

p. 30 to 31

LNS designs, produces and commercialises a complete range of air filtration systems designed to counter contamination problems experienced in the workshop. Over 16,500 air filtration systems have already been installed. Thanks to their ultra-resilient construction and high level of reliability, oil mist collectors eliminate any mist, vapours and smoke, thereby helping to ensure a safe and healthy working environment and protect your production equipment.

TRANSPORTATION



ENERGY, OIL & GAS



MACHINERY & PRODUCTION

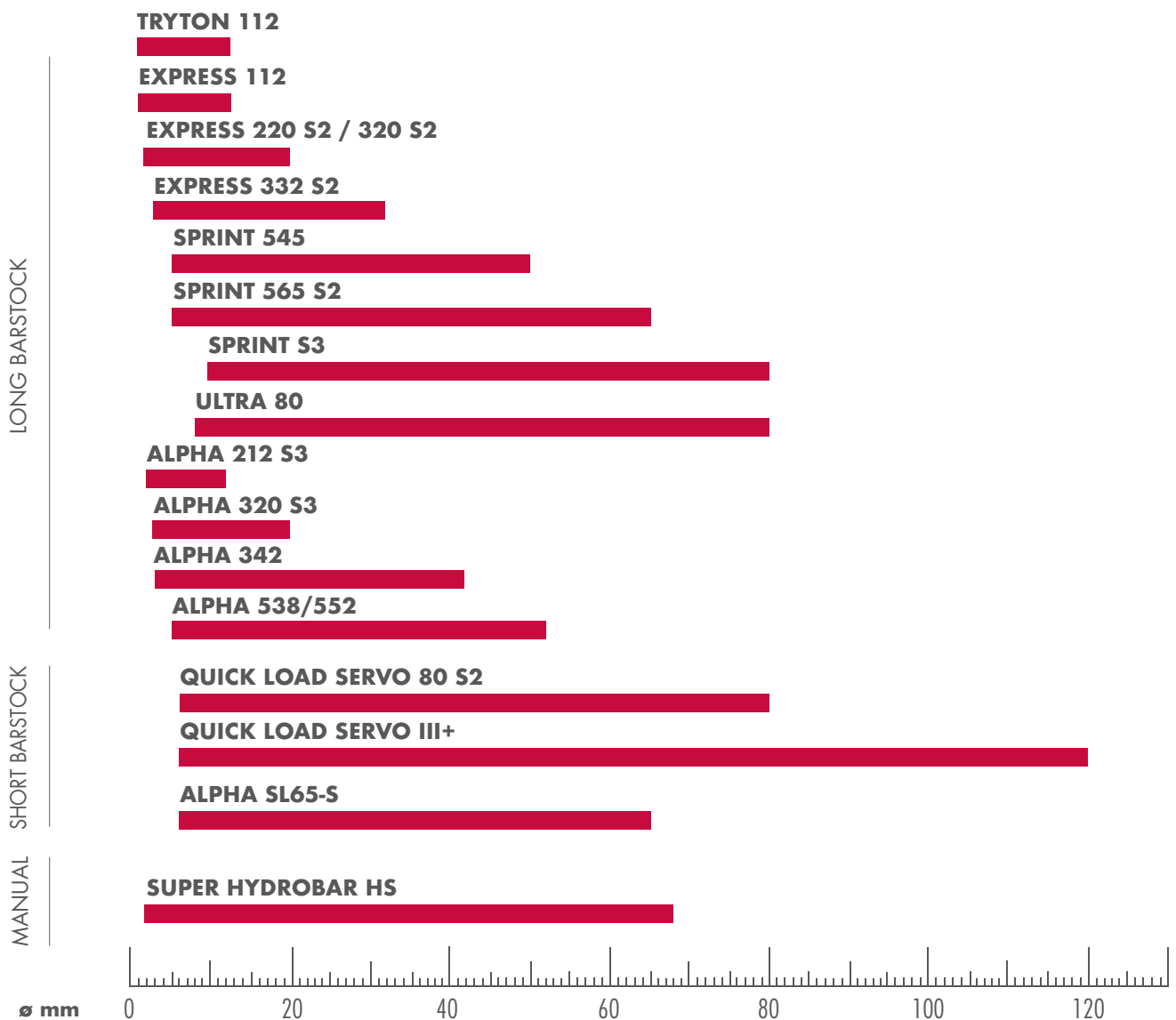


# TABLE OF CONTENTS

## BAR FEEDING SYSTEMS

<b>TRYTON 112</b> <b>EXPRESS 112</b>	<b>5</b>	<b>ALPHA 342</b> <b>ALPHA 538/552</b>	<b>10</b>
<b>EXPRESS 220 S2 / 320 S2</b> <b>EXPRESS 332 S2</b>	<b>6</b>	<b>QUICK LOAD SERVO 80 S2</b> <b>QUICK LOAD SERVO III+</b>	<b>11</b>
<b>SPRINT 545</b> <b>SPRINT 565 S2</b>	<b>7</b>	<b>ALPHA SL65-S</b> <b>PB 80</b>	<b>12</b>
<b>SPRINT S3</b> <b>ULTRA 80</b>	<b>8</b>	<b>SUPER HYDROBAR HS</b> <b>SE 880</b>	<b>13</b>
<b>ALPHA 212 S3</b> <b>ALPHA 320 S3</b>	<b>9</b>	<b>SPINDLE REDUCTION TUBES (MULTIPLE PIECES)</b> <b>COLLETS AND ROTATING SLEEVES</b>	<b>14</b>
		<b>LNS E-CONNECT</b>	<b>15</b>

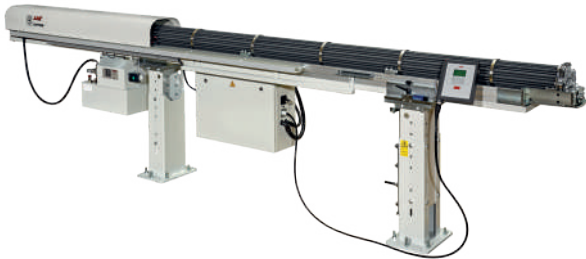
## DIAMETER RANGE





## TRYTON 112

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



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
- Quick diameter changeover
- Designed for specific materials production (gold, plastic, etc.)

Capacity		
Available versions		CNC / Cames
Diameter	mm	∅ 1 – 12.7
Bar length 2m/3m/12'/4m	mm	2100/3200/3710/4200
Loading system		Barrel
Loading capacity	Bars	A: 45 (d 1-5) B: 36 (d 1-7) C: 24 (d 3-10) D: 24 (d 4-12.7)
Loading side		Right/Left

Applications		
Type of headstock		Fixed/Sliding
Synchronization		Pressure valve
Remnant length	mm	Min. 70/Max. 230

Diameter change		
Partial change	min	2 (within the diameter range for the tube)
Complete change	min	5 – 10 (with the hybrid barrel)

Driving system		
Drive		Hydraulic pressure
Guide		Hydrodynamic/tube
Oil		25L, ISO VG 100

Options		
Hybrid barrel		A+C: 2x14 bars (d 1-10) B+D: 2x14 bars (d 1-12.7)
Barrel pivoting		Yes



## EXPRESS 112

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



Innovative and efficient, the Express 112 provides maximum productivity and sets a new standard offering the smallest footprint in its class. The bar feeder ensures perfect guiding of bars at the highest speeds, over the entire range of diameters thanks to the Hydrobar® technology.

- Especially suitable for high-precision industry
- Ergonomic
- Compact
- Hydrobar® technology
- Colour touchscreen with parts library

Capacity		
Diameter	mm	∅ 0.8 – 12
Bar length 2m/3m	mm	2200/3200
Loading system		Screw
Loading capacity		Up to 30 bars
Loading side		Right/Left

Applications		
Type of headstock		Fixed/Sliding
Synchronization		Electronic "3S"
Remnant length	mm	Min. 70/Max. 230
Remote control		Colour touchscreen with library of 500 parts

Diameter change		
Partial change	min	2 (in the same channels)
Complete change	min	6 (for all guide components)

Driving system		
Motor		Servo
Drive		Belt
Guide		Hydrodynamic/Guiding channel
Oil		30L, ISO VG 32 or 68

Options		
350 mm longitudinal movement		
Adjustable 2-positions longitudinal movement		



## EXPRESS 220 S2 / 320 S2

### AUTOMATIC BAR FEEDERS – LONG BARSTOCK



The Express 220 S2 / 320 S2 offers the best loading capacity/length ratio in its category. Its high-end components and manufacturing quality ensure perfect alignment and operation, making it the ideal choice for users looking to guarantee years of production. In addition, it can be quickly and economically equipped with specific options at any time.

- Hydrobar® technology
- Rapid diameter changes
- Patented LNS “3S” synchronization system
- Complete catalogue of options
- Colour touchscreen with parts library

Capacity		EXPRESS 220 S2	EXPRESS 320 S2
Diameter	mm	ø 2 – 23*	ø 3 – 23*
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200	
Loading system		Lateral magazine	
Loading capacity	mm	240**	
Loading side		Right/Left	
Applications			
Type of headstock		Fixed/Sliding	
Remnant length	mm	Min. 70/Max. 400	
Synchronization		Electronic “3S”	PLC/Servo motor
Remote control		Colour touchscreen with library of 500 parts	
Diameter change			
Partial change	min	2 (in the same channels)	
Complete change	min	8 (for all guide components)	
Driving system			
Motor		Servo	
Drive		Chain	
Guide		Guiding channel and “active cover”	Guiding channel
Oil		40L, ISO VG 100	
Options			
450 mm longitudinal movement			
Adjustable 2-positions longitudinal movement			
Extension to 26 mm *			
Extension of the magazine up to 340 mm for bars from 4 to 12 mm **			



## EXPRESS 332 S2

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Express 332 S2 is an automatic magazine bar feeder designed for short, medium and long production runs. 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.

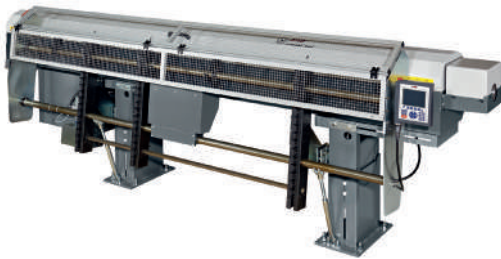
- Hydrobar® technology
- Automatic diameter set up
- Complete range of options
- Colour touchscreen with parts library

Capacity			
Diameter	mm	ø 3 – 32 (34)	
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200	
Loading system		Lateral magazine	
Loading capacity	mm	270	
Loading side		Right/Left	
Applications			
Type of headstock		Fixed/Sliding	
Synchronization		PLC/Servo motor	
Remnant length	mm	Min. 90/Max. 400	
Remote control		Colour touchscreen with library of 500 parts	
Diameter change			
Partial change	mins	2 (in the same channels)	
Complete change	mins	8 (for all guide components)	
Driving system			
Motor		Servo	
Drive		Chain	
Guide		Hydrodynamic/Guiding channel	
Oil		60L, ISO VG 100	
Options			
470 mm longitudinal movement			
Adjustable 2-positions longitudinal movement			



## SPRINT 545

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



An automatic bar feeder for fixed or sliding headstock lathes, this device guarantees maximum productivity thanks to its side chain loading rack system and offers the highest autonomy on the market as standard, all within a compact footprint. Depending on the workpieces to be machined, the Sprint 545 is designed to adapt to any type of production requiring frequent diameter changes, whether very large or medium runs.

- Hydrobar® technology
- Rapid diameter changes
- Highest autonomy on the market
- Colour touchscreen with parts library

#### Capacity

Diameter	mm	ø 5 – 45
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200
Loading system		Side chain elevator
Loading capacity		18 x ø 38 mm or 11 x ø 45 mm
Loading side		Right/Left

#### Applications

Type of headstock		Fixed/Sliding
Remnant length	mm	Min. 110/Max. 450
Synchronization		PLC/Servo motor
Remote control		Colour touchscreen with library of 500 parts

#### Diameter change

Partial change	mins	2 (in the same bearings)
Complete change	mins	10 (for all guide components)
Front rest		Fixed, 2 position pneumatic, automatic
Bar selection		Automatic

#### Driving system

Motor		Servo
Drive		Belt
Guide		Hydrostatic bearings
Oil		80L, ISO VG 100

#### Options

500 mm longitudinal movement		
Adjustable 2-positions longitudinal movement		
330 mm capacity extension		



## SPRINT 565 S2

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



Designed for medium and large production runs in diameters ranging from 5 to 65 mm, the Sprint 565 S2 is an automatic bar feeder for fixed headstock lathes. The Sprint 565 S2 is equipped with reinforced feet which support the constituent parts of the device to ensure maximum stability and thereby prevent vibrations.

- Hydrobar® technology
- Rapid diameter changes
- Flexible configuration
- Colour touchscreen with parts library

#### Capacity

Diameter	mm	ø 5 – 65
Bar length 2m/3m/12'/4m	mm	2200/3200/3800/4200
Loading system		Side chain elevators
Loading capacity		11 x ø 52 mm or 9 x ø 65 mm
Loading side		Right/Left

#### Applications

Type of headstock		Fixed
Remnant length	mm	Min. 110 / Max. 450
Synchronization		PLC/Servo motor
Remote control		Colour touchscreen with library of 500 parts

#### Diameter change

Partial change	mins	2 (in the same bearings)
Complete change	mins	10 (for all guide components)
Front rest		Fixed, 2 position pneumatic, automatic
Bar selection		Automatic

#### Driving system

Motor		Servo
Drive		Belt
Guide		Hydrostatic bearings
Oil		80L, ISO VG 100

#### Options

350 mm longitudinal movement		
330 mm capacity extension		



## SPRINT S3

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Sprint S3 is an automatic magazine bar feeder featuring high performance designed for small, medium and large diameter bars, permitting large production runs. The robust design and the guiding precision provided by the patented hydrostatic support in the bearing blocks ensures 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		Side chain elevator with ramp
Loading capacity	mm	700
Loading side		Front/Rear
Applications		
Type of headstock		Fixed
Diameter change		
Complete change	mins	15 (for all guide components)
Driving system		
Motor		Pneumatic
Drive		Chain
Guide		Hydrostatic/bearings
Oil		80L, ISO VG 100



## ULTRA 80

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Ultra 80 is an innovative automatic bar feeder featuring high performance designed for medium and large diameter bars, permitting large production runs. The robust design and quality components ensure maximum RPM without vibrations, while its automatic front rest allows working large ranges of diameters within the same guiding elements.

- Performance through robustness and quality engineering
- Durability through massive components
- Versatility in the standard equipment
- Flexibility in the possible equipment
- Integrated safety, ergonomics and aesthetic concept
- Available with lift

Capacity		
Diameter	mm	8–80
Bar length 3 m/4 m	mm	3200 / 4200
Loading system		Side / Elevator
Loading capacity	mm	330 / 650
Loading side		Left / Front
Applications		
Headstock		Fixed
Remnant length	mm	110–400
Synchronisation		PLC / Servo
Remote control		Colour touchscreen
Longitudinal movement	mm	600
Diameter change		
Diameter changeover	min	2 (in the area of the guide channels)
Full diameter changeover	min	10 (for all guiding elements)
Driving system		
Motor		Servo
Drive		Belt
Guide		Guiding channel
Oil		120 L, ISO 100





## ALPHA 212 S3

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Alpha 212 S3 is the ideal entry-level solution for loading small-diameter bars, from 2 to 12 mm.

Its straightforward use, compactness and efficiency are crucial production assets for fixed or mobile headstock lathes.

- Hydrobar technology
- Compact design
- Colour touchscreen remote control
- Maximum reliability and productivity

Capacity		
Diameter	mm	ø 2 – 12
Bar length 3 m	mm	3200
Loading system		Screw
Loading capacity		Up to 20 bars
Loading side		Right/Left
Application		
Headstock		Fixed/Sliding
Synchronization		Electromechanical
Remnant length		Min. 90 mm / Max. 300 mm
Remote control		Colour touchscreen
Longitudinal movement	mm	400
Diameter change		
Diameter changeover	min	2 (within the guiding channel range)
Full diameter changeover	min	10 (for all guiding elements)
Driving system		
Motor		Servo motor
Drive		Belt
Guide		Hydrodynamic / Guiding channel
Oil		30 L, ISO VG 100
Options		
Adjustable 2-positions longitudinal movement		



## ALPHA 320 S3

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Alpha 320 S3 is the LNS entry-level solution to load small diameter barstocks for fixed or sliding headstock machines. The easily adjustable loading fingers and manual front rest ensure optimum bar guidance and high performance. The Alpha 320 S3 is a highly productive and economical automatic bar feeding system for round bar stock diameters from 3 – 23 mm.

- Hydrobar® technology
- Compact design
- Easy to operate
- Highly productive and reliable
- User friendly remote control
- 2-positions longitudinal movement in option

Capacity		
Diameter	mm	Diameters 3 – 23
Bar length 3 m/4 m	mm	3200 / 4200
Loading system		Side load rack
Loading capacity	mm	270
Loading side		Right/left
Application		
Headstock		Fixed/sliding
Remnant length	mm	Min. 90/max. 400
Synchronisation		PLC/servomotor
Remote control		Colour touchscreen
Longitudinal movement	mm	430
Diameter change		
Diameter changeover	mins	2 (in the area of the guide channels)
Full diameter changeover	mins	10 (for all guiding elements)
Driving system		
Motor		Servo
Drive		Chain
Guide		Guiding channel
Oil		30L, ISO VG 100
Options		
2-Positions longitudinal movement, adjustable up to 270 mm		
2-Positions longitudinal movement 350 mm		



## ALPHA 342

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Alpha 342 is a reliable and easy to operate bar feeder. It has been designed for maximum productivity and return over investment in the sliding headstock range, for long bars from 3 to 42 mm.

- Optimum guiding
- Quick diameter changeover
- Upgraded front rest

Capacity		
Diameter	mm	3–42
Bar length	mm	3200 / 4200
Loading system		Side load rack
Loading capacity	mm	280
Loading side		Right/Left
Application		
Headstock type		Fixed/sliding
Remnant length		Min. 90 / Max. 400
Front rest		Pneumatic, V-shaped elements
Bar selection		Manual
3S Synchronization		Standard
Z axis retraction	mm	390
Remote control	mm	Color touch screen
Diameter change		
Partial changeover	min	2 (in the same guiding elements)
Total changeover	min	10 (for all guiding elements)
Driving system		
Motor		Servo
Drive		Chain
Guiding		Hydrostatic/bearings
Oil		35L ISO VG 100
Weight	kg	3 m: 850 / 4 m: 1050
Options		
2-positions Z-axis retraction	mm	Adjustable (max. 310)



## ALPHA 538/552

### AUTOMATIC BAR FEEDER – LONG BARSTOCK



The Alpha 538/552 is a high-performance and affordable solution to ensure maximum productivity for the loading of bar stocks from 5 to 52 mm for the Alpha 552 and 5 to 38 mm for the Alpha 538, 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

Capacity		Alpha 538	Alpha 552
Diameter	mm	5–38	5–52
Bar length	mm	3200 mm / 4200 mm	
Loading system		Side load rack	
Loading capacity	mm	300	
Loading side		Front / rear	
Applications			
Headstock type		Fixed / sliding	
Remnant length	mm	Min 90 / Max 400	
Front rest		2-positions pneumatic	
Bar selection		Manual	
3S synchronization		Standard	Option
Z-axis retraction system	mm	470	350
Remote control		Color touch screen	
Diameter change			
Partial changeover		3 min (in the same guiding elements)	
Total changeover		10 min (for all guiding elements)	
Driving system			
Motor		Servo	
Drive		Chain	
Guiding		Hydrostatic bearings	
Oil		80L ISO VG 100	
Options			
2-positions longitudinal movement	mm	adjustable	–



## QUICK LOAD SERVO 80 S2

### AUTOMATIC BAR FEEDER – SHORT BARSTOCK



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	mm	350 – 1605 (limited to headstock length)
Loading system		Lateral magazine
Loading capacity	mm	650
Loading side		Front/Rear

#### Applications

Type of headstock		Fixed
X or Z axis retraction	mm	600

#### Diameter change

Diameter set up	sec	10 (automatic)
Complete change	mins	2 (including pusher)

#### Driving system

Motor		Servo
Drive		Notched belt

#### Options

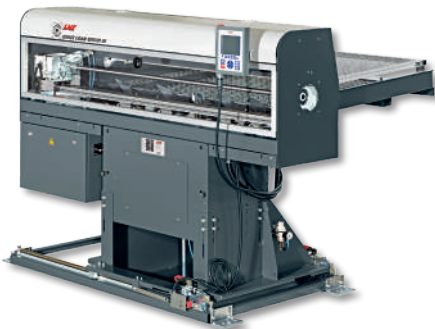
Kit for "One Shot" shaft loading		
Orientation kit for square stocks		

The bar length cannot exceed the spindle length



## QUICK LOAD SERVO III+

### AUTOMATIC BAR FEEDER – SHORT BARSTOCK



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
- Different production applications available
- Integrated X or Z retraction

#### New option: now available with lift!

The bar stocks now can be brought with a fork lift or a crane directly on the ramp, saving manpower for the heavy lifting.

#### Capacity

Bar diameter	mm	ø 6 – 120 (Weight limited to 67 kg per bar)
Bar length	mm	100 – 1600 (Weight limited to 67 kg per bar)
Loading system		Side load rack
Loading capacity	mm	1000
Loading side		Front/Rear

#### Applications

Type of headstock		Fixed
X or Z axis retraction	mm	600

#### Diameter change

Diameter setup	sec	10 (fully automatic)
Complete change	min	2 (including pusher)

#### Driving system

Motor		Servo
Drive		Notched belt

#### Options

Telescopic pusher		
Shaft loading kit		
Orientation kit for square bar stocks		
Kit "heavy bars" up to 80 kg per bar stock		

The bar length cannot exceed the spindle length



## ALPHA SL65-S

### AUTOMATIC BAR FEEDER – SHORT BARSTOCK



The Alpha SL65-S is a competitive 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 to use
- Easy diameter change over
- Integrated X or Z retraction

Capacity		
Diameter	mm	ø 6 – 65
Bar length	mm	300 – 1500 (limited to headstock length)
Loading system		Lateral magazine
Loading capacity	mm	600
Loading side		Rear

Applications		
Type of headstock		Fixed
X or Z axis retraction	mm	X : 300/Z : 600

Diameter change		
Diameter set up	mins	5 (manual)
Complete change	mins	10 (with pusher)

Driving system		
Motor		Servo
Drive		Notched belt

⚠ The bar length cannot exceed the spindle length



## PB 80

### CHAMFERING MACHINE



The PB 80 is the ideal partner for automatic and manual bar feeders. The PB 80 offers an economical solution for bar end preparation. The PB 80 is used for chamfering, centering and turning.

- 3 different applications : Chamfer, Center, Turn
- Easy to use
- Economical

Diameter		
30° Chamfering	mm	ø 8 – 80
Turning	mm	ø 10 – 60
	mm	40 max. length
Centering		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

Options		
Universal head "pencil sharpener" for chamfering bars ø 8 – 51 mm		
4 Jaws chuck		



## SUPER HYDROBAR HS

### MANUAL BAR FEEDERS



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		
Type of headstock		Fixed/Sliding
Diameter change		
Complete change	mins	1
Driving system		
Drive		Hydraulic pressure
Guide		Hydrodynamic/tube
Oil		120L, ISO VG 100
Option		
200 mm or 600 mm longitudinal movement		

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



## SE 880

### SPINDLE EXTENSION



The LNS SE 880 spindle extension can be used to load and guide bars up to 1600 mm in length, making it the perfect accessory to a short bar feeder. Thanks to the spindle length of the lathe and the additional spindle extension, 3m bars can be loaded and guided in half length. This reduces the number of remnants, extends autonomy and increases productivity.

The stability of the spindle extension SE 880 and its guiding tubes, for the diameter range of 8 to 80 mm, allow the system (hydrodynamic guiding tube) a low-noise and low-vibration guiding of the bar to machine parts with optimal cutting speeds.

Capacity		
Diameter	mm	ø 8 – 80
Bar length maximum	mm	up to 1600*
Permissible spindle length	mm	750 to 1200 max.
Spindle height	mm	920 to 1350
Specifications		
Guide		Hydrodynamic/Guiding tube
Oil		10L, ISO VG 100
Control		Via the QLSIII or QLS80S2

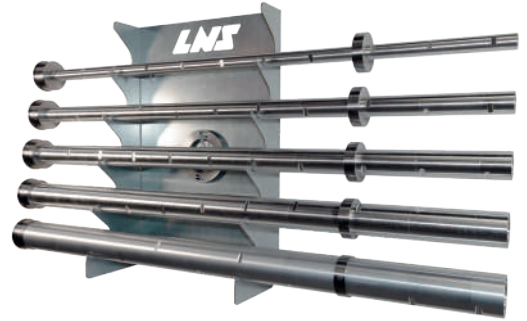
\* depends on the lathe's configuration, to be confirmed when ordering



## SPINDLE REDUCTION TUBES – MULTIPLE PIECES ACCESSORIES

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 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 4 sizes of Spindles liners:

- For spindles up to  $\varnothing$  55 mm
- For spindles up to  $\varnothing$  72 mm
- For spindles up to  $\varnothing$  85 mm
- For spindles up to  $\varnothing$  105 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.



## COLLETS AND ROTATING SLEEVES ACCESSORIES

LNS offers a range of collets from  $\varnothing$  0.8 to  $\varnothing$  80 mm, and rotating sleeves from  $\varnothing$  5.5 to  $\varnothing$  50 mm.

The collets are manufactured to very accurate manufacturing tolerances; their clamping force is calibrated to prevent tiresome adjustments of the infeed torques each time the gripper is changed.

The rotating endpieces have several rows of ball bearings to ensure a long service life, allowing them to turn at the highest rotation speeds.

These accessories are key factors in obtaining optimum productivity.

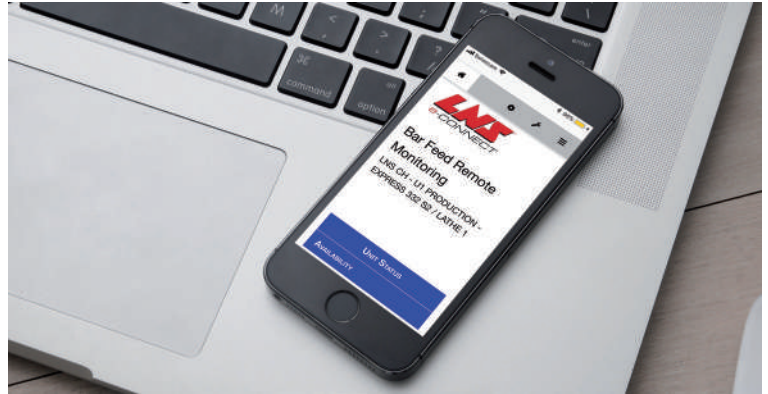
## LNS E-CONNECT

INDUSTRY 4.0 KIT  
YOUR CONNECTED PRODUCTION TOOL



### YOUR ADVANTAGES:

- Proactive status communication
- Increase visibility through real-time monitoring
- Reducing downtimes
- Increase productivity
- Remote access to key functions



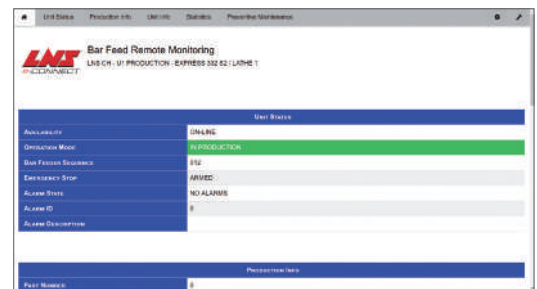
### COMPATIBLE E-CONNECT KIT

The kit consists of a gateway integrating management functionalities and providing a wired RJ45 connection to the factory network, and a router for easy IP addresses management.

Through widely standardized technologies and protocols (HTTP, HTML web pages, OPC-UA communication), the "Industry 4.0" kit provides access to an extensive set of functionalities for the operator, the production manager and the maintenance team.

### MANAGEMENT OF YOUR PRODUCTION TOOLS & SCHEDULING

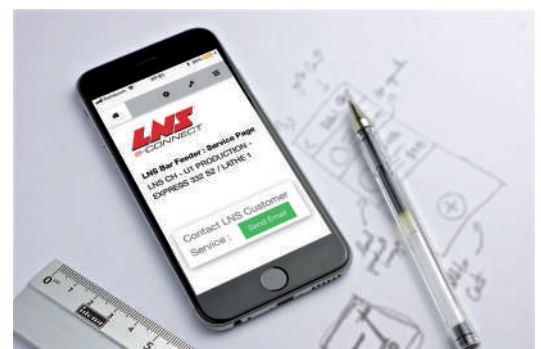
Real-time status of the unit is communicated, including the current production parameters, critical production statistics as well as data about preventive maintenance.



The web pages, available in any device, provide an intuitive interface.

### PROACTIVE STATUS COMMUNICATION

Active alarm and proactive warning messages are sent by email to mobile devices to the relevant staff in the company (up to 4 different recipients). These alarms are sorted per category.



Example of e-CONNECT on a mobile device.

### INCREASE VISIBILITY THROUGH REAL-TIME MONITORING

Remote diagnostics can display relevant data (sensors, values, parameters) of the unit's status, including sending a snapshot of these values to an email address of choice.

### REDUCING DOWNTIMES

Thanks to the proactive e-mail notifications, production cycle continues due to the operator's real time reaction.

### INCREASE PRODUCTIVITY

The e-CONNECT option integrates the essential requirements for your ERP / MES system to gather the necessary data and drive the production through your daily management tools.



On demand, a dashboard can be used to see all the connected units in one single view.

### REMOTE ACCESS TO KEY FUNCTIONS

A dashboard allows a quick overview of your connected units for fast monitoring.

















# TABLE OF CONTENTS

## CHIP MANAGEMENT SYSTEMS

<b>TURBO SF COMPACT</b>	<b>17</b>	<b>TURBO MH SERIES</b>	<b>20</b>
<b>TURBO HB</b>		<b>TURBO 3D</b>	
<b>TURBO MAGNETIC</b>	<b>18</b>	<b>CHIP HOPPER</b>	<b>21</b>
<b>TURBO MF2</b>			
<b>TURBO MS500</b>	<b>19</b>		



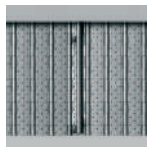
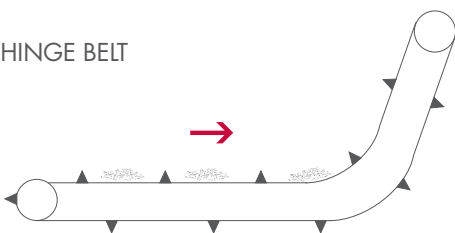
## SELECTION GUIDE

Material Type	Chip Shape	Model	Coolant Filtration	
<b>Mixed material</b> (Steel, aluminium, plastic)	 <b>Stringy Coarse</b>	 <b>Standard duty Super heavy duty</b>	<b>No filtration</b>	<b>&gt; TURBO HB</b>
<b>Ferrous material</b> (Cast iron)	 <b>Fine</b>	 <b>Magnetic belt</b>	<b>No filtration</b>	<b>&gt; TURBO MAGNETIC</b>
<b>Mixed material</b> (Brass, steel, cast iron, ...)	 <b>Fine</b>	 <b>Scraper belt</b>	 <b>500µm</b>	<b>&gt; TURBO MS500</b>
<b>Mixed material</b> (Brass, steel, cast iron, aluminium, ...)	 <b>Mixed shape</b>	 <b>Hinge/scraper belt combined</b>	 <b>250µm - 500µm</b>	<b>&gt; TURBO MH SERIES</b>
<b>Mixed material</b> (Brass, steel, cast iron, aluminium, ...)	 <b>Mixed shape</b>	 <b>Hinge/scraper belt combined</b>	 <b>50µm</b>	<b>&gt; TURBO SF COMPACT</b>
<b>Mixed material</b> (Brass, steel, cast iron, aluminium, plastic)	 <b>Mixed shape</b>	 <b>Hinge belt - Super heavy duty &amp; Scraper belt</b>	 <b>50µm</b>	<b>&gt; TURBO MF2</b>

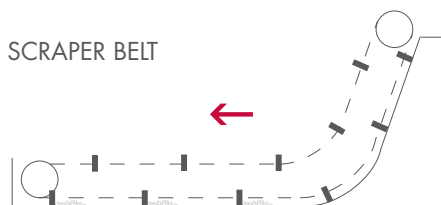


## BELT TYPE

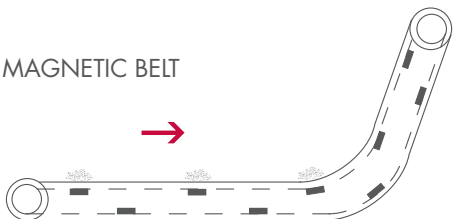
HINGE BELT



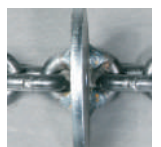
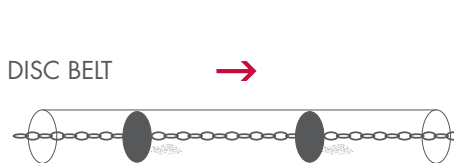
SCRAPER BELT



MAGNETIC BELT



DISC BELT







## TURBO SF COMPACT

CHIP CONVEYOR WITH FINE FILTRATION TO 50µm

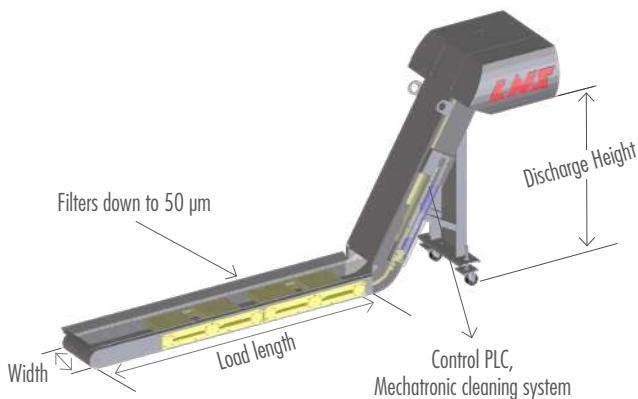


Thanks to its filtration down to 50 µm, the SF Compact becoming the new benchmark for chip conveyors with built-in filtration. Self-cleaning filters have been built into the frame of the chip conveyor. Thanks to its patented double filter cleaning technology, with the SF Compact, LNS guarantees filtering levels identical or superior with filter drum conveyors with 50 µm filtration.

Modern machining processes produce a wide range of chip types from a huge variety of materials such as steel, titanium, brass, aluminium, etc. Chip shapes range from long chips, through balled chips, floating chips and to ultra-fine chips. The LNS Turbo SF Compact removes all types of chips originating from a wide variety of materials, while simultaneously filtering the cutting fluid down to 50 µm

### BENEFITS OF THE LNS TURBO SF COMPACT:

- Removes all types of chips from a wide variety of materials
- Continuously supplies the machine with a 50 µm filtered cutting fluid, which ensures:
  - Reduced cleaning costs
  - Reduced downtime
  - No blockage of or damage to the cutting fluid pumps
- The patent filter system is built into the chip conveyor's fixed frame, hence:
  - Reduced space requirements
  - same as for a standard hinge conveyor
- In most cases, utilizes the existing machine tank to reduce the investment cost
- PLC control allows adjustment of the belt speed to reduce cutting fluid losses
- Hardened and specialized materials are used to ensure a long life
- Cost-effective operation:
  - Drive motor output 0.18 kW
  - Compressed air consumption 10 l/h



Features	
Filtration	Down to 50 Microns
Chip Shape	Mixed (long, stringy to fine)
Material Type	Mixed (suitable for most material types from stainless steel to brass and aluminium)
Discharge Height	800 mm – 3000 mm
Width	250 mm, 300 mm, 400 mm, 500 mm, 550 mm, etc.
Pitch	40 mm
Motor	0.18 kw
Air Consumption	10 L/hr
Filter Type	Self-cleaning filter box with woven stainless steel mesh



## TURBO HB

### NON FILTERING CHIP CONVEYORS



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

In the heaviest applications 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 and serrated cleats optimise the removal of stringy bushy chips.

#### Wear-resistant Design

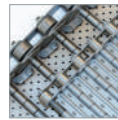
Special abrasion-resistant alloy material is used in high wear locations, such as upper and lower curves. Belt rollers and hinge pins are hardened for long life, even in the toughest applications.

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



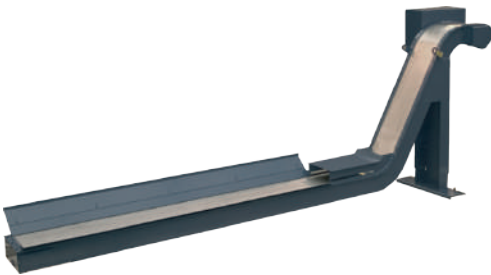
#### Variety of belts

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

### NON FILTERING CHIP CONVEYORS



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



## TURBO MF2

### FILTERING CHIP CONVEYORS



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 50µm.

#### Versatility

The upper conveyor separates heavy chip loads from the 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. The 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

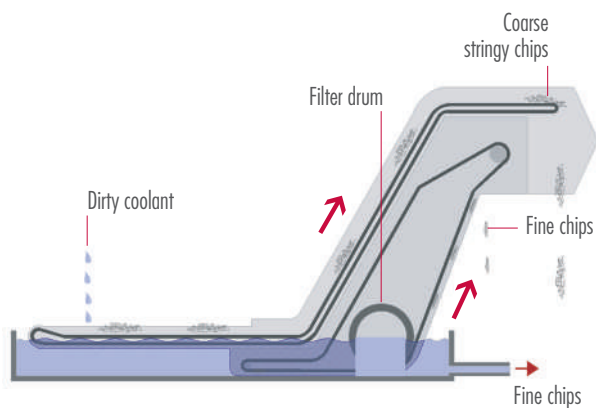
The self-cleaning filter drum provides particle-free coolant to 50µm for the most demanding machining applications. Extends coolant life and tooling life for cost-saving operation.

The best choice for :

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

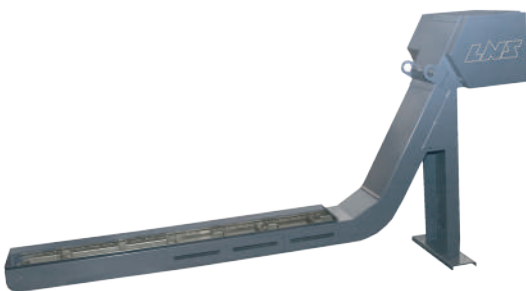


Filtration device  
Sealed nylon filter drum with reliable heavy duty viton seal.



## TURBO MS500

### FILTERING CHIP CONVEYORS



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

#### Dry Chip Disposal

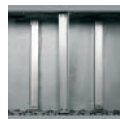
Designed to minimize coolant loss from the discharge. Less coolant loss and drier chips provide a more cost-effective, environmentally friendly operation.

#### Coolant Filtration

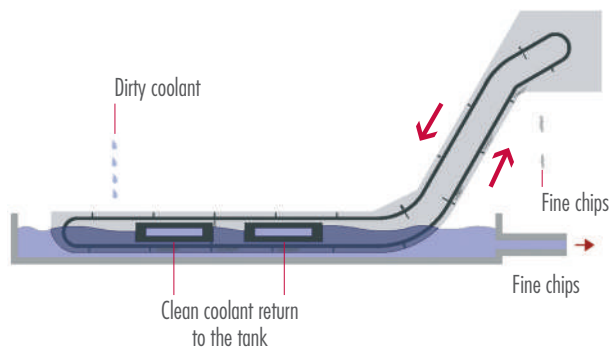
Each filter box is automatically cleaned whilst the conveyor is operating. The number of filter boxes required is related to the machine flow rate, assuring coolant flow and optimal filtration.

The best choice for :

- Fine chips
- Mixed material
- Filtration to 500µm



Filtration device  
Removable heavy duty filter box





## TURBO MH SERIES FILTERING CHIP CONVEYORS



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 250µm or 500µm (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

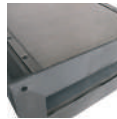
The number of filter boxes required is related to the machine flow rate, assuring coolant flow and optimal filtration.

The best choice for :

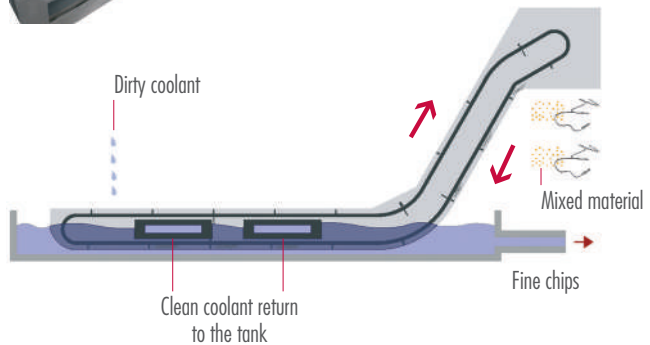
- Mixed-shape chips
- Mixed material
- Filtration to 250µm or 500µm

### Advantages

- Self cleaning filtration
- Very small footprint (same as a standard conveyor)
- Flexible design for various flow rates
- Handles most chip shapes and materials
- Competitive price
- Fits to most standard machine coolant tanks
- Robust construction



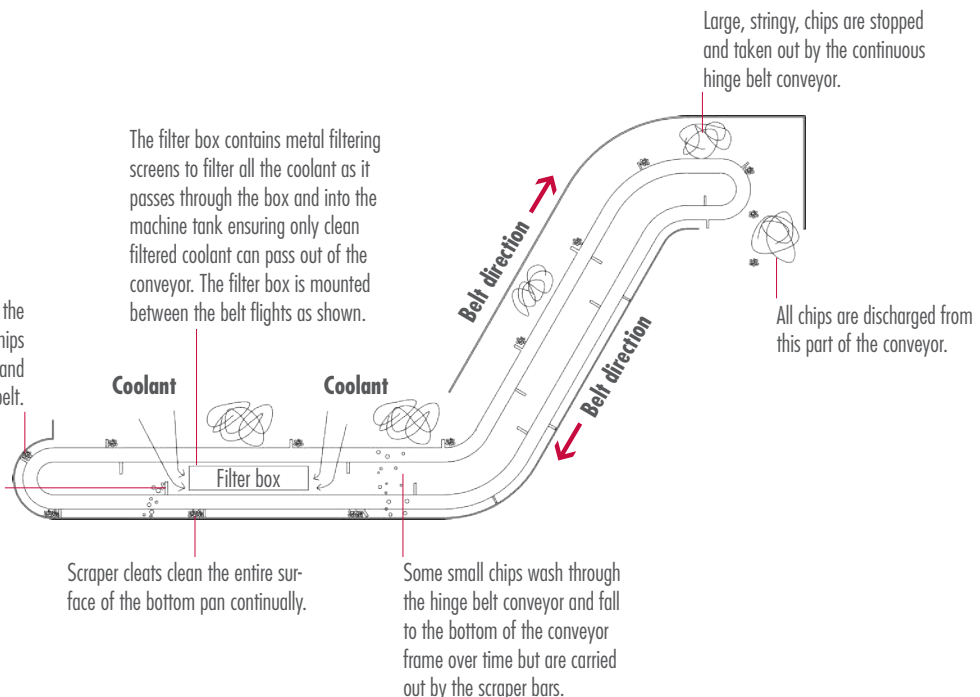
Filtration device  
Removable heavy duty filter box



## SYSTEM SCHEMATIC MH FILTERING CHIP CONVEYORS

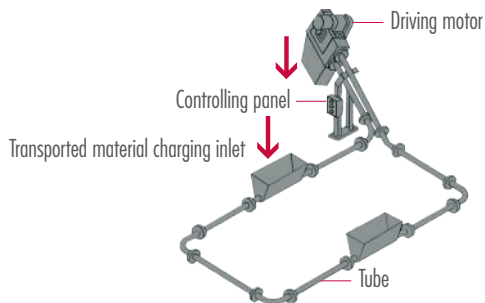
As the scraper bars rotate around the end of the conveyor the small chips are transported around the curve and lifted to the top of the conveyor belt.

Brushes or wiper bars are used to wipe the box as the belt rotates. Any small chips that are wiped off by the brush / wiper fall to the bottom of the conveyor frame and are collected by the scraper bars.





## TURBO 3D CENTRAL PROCESSING



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

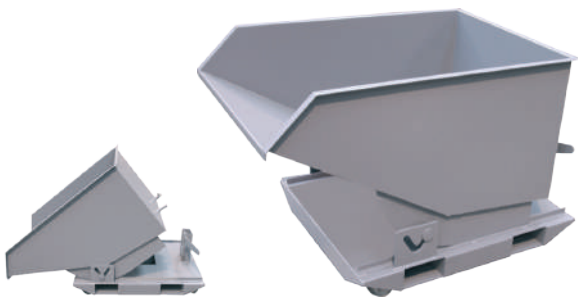
- A fully-automated factory system capable of removing chips and different swarf from a number of machine tools at one time, and discharge can be positioned inside or outside the factory for disposal of chips.
- It creates a clean and tidy environment with substantial labour savings.
- Each and every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

### System equipment

The system can be equipped with additional options.



## CHIP HOPPER ACCESSORIES



LNS chip hoppers are the perfect accessory for any chip conveyor.

Their unique tipper system allows for secure unloading from a rack without manual intervention.

Capacity	Width	Length	Height
0.18 m <sup>3</sup>	600 mm	1010 mm	650 mm
0.35 m <sup>3</sup>	840 mm	1320 mm	840 mm
0.50 m <sup>3</sup>	1100 mm	1270 mm	970 mm

# TABLE OF CONTENTS

## COOLANT MANAGEMENT SYSTEMS

<b>CHIPBLASTER B-SERIES</b>	<b>23</b>	<b>CHIPBLASTER V-SERIES</b>	<b>26</b>
<b>CHIPBLASTER F-SERIES</b>	<b>24</b>	<b>OPTIONS AND ACCESSORIES</b>	<b>28</b>
<b>CHIPBLASTER U-SERIES</b>	<b>25</b>		



## INTEGRATED 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 almost all 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 keeping the material brittle through temperature control. In addition to this, high pressure helps 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 and feeds, improving productivity as well as lowering tooling cost.

The development teams at LNS use the latest CAD tools and specially chosen accessories, to ensure each coolant system works with your machine tool and your application.

Our engineers are able to integrate a wide range of accessories such as pumps for high pressure coolant, frequency converters, coolant suction pumps, or fine filtration systems.

Our technical support team works closely with our customers to evaluate their exact requirements and create detailed specifications for production of the finished product.



## CHIPBLASTER B-SERIES



### CHIPBLASTER B-30/35



Chipblaster B-30/35 fixed rate, medium pressure coolant system is a compact, affordable unit with a turret index signal releasing the pressure, allowing an easy turret rotation and tool changing, that is ideal for machine tools up to 15 Kw and 40 taper mills.

Chipblaster B-30/35 is a single M code controlled, fixed rate medium pressure coolant system. A single pleated, 10-micron filter, automatic overload system, and dirty filter alarm circuit provide a safe machining process that helps prevent damage to the machine tool, workpiece and tooling.

Volume	30 Liters per minute
Pressures	Up to 35 bar
Motor Power	2,2 kW
Coolant Outlets	1



### CHIPBLASTER B-30/70



Chipblaster B-30/70 fixed rate, high pressure coolant system is a compact, affordable unit with a turret index signal releasing the pressure, allowing an easy turret rotation and tool changing, that is ideal for machine tools up to 15 Kw and 40 taper mills.

Chipblaster B-30/70 is a single M code controlled, fixed rate high pressure coolant system. The unit has 2 pleated, 10-micron filters that can be manually switched as needed, automatic overload system, and dirty filter alarm circuit. These features provide a safe machining process that helps prevent damage to the machine tool, workpiece and tooling.

Volume	30 Liters per minute
Pressures	Up to 70 bar
Motor Power	3,7 kW
Coolant Outlets	1

\* This model is also available with a Hydracell pump and a special tank of 190 Liters (only for water based coolant).

# CHIPBLASTER F-SERIES



## CHIPBLASTER F-30



Chipblaster F-30 high-pressure coolant system is a reliable, affordable solution when a fixed rate high-pressure system is desired. This model is ideal for machine tools up to 15 kW.

Chipblaster F-30 provides more accurate cutting, faster throughput and longer tool life. All in an affordable, custom-designed unit requiring minimal floorspace. The industry's most efficient bag filtration and a double compression filter hold down lid protects the system and machine tool from contaminants.

Volume	30 Liters per minute
Pressures	Up to 83 bar
Standard Coolant Tank Capacity	380 Liters
Motor Power	5,6 kW
Coolant Outlets	1
Pump	Piston

\* This model is also available with a Hydracell pump.



## CHIPBLASTER F2-60



Chipblaster F2-60 high-pressure coolant system is a reliable, affordable solution when a fixed rate high-pressure system is desired. This model is ideal for machine tools up to 30 kW.

Chipblaster F2-60 operates as two completely independent 30 liter (8 gpm) modules for dual turrets or as a single 60 liter (16 gpm) fixed volume unit. This unit is fed by a transfer pump that draws from the machine tool sump, through the filter vessel to the integral 380-liter (100 gal) tank. When the machine tool calls for coolant, the positive displacement pump(s) draws the coolant from the Chipblaster tank. The coolant then flows at high pressure through a series of distribution and safety valves and on to the machine tool.

Volume	2x 30 Liters per minute
Pressures	Up to 83 bar
Standard Coolant Tank Capacity	380 Liters
Motor Power	2x 5,6 kW
Coolant Outlets	1 or 2
Pump	Piston

\* This model is also available with a Hydracell pump.



# CHIPBLASTER U-SERIES



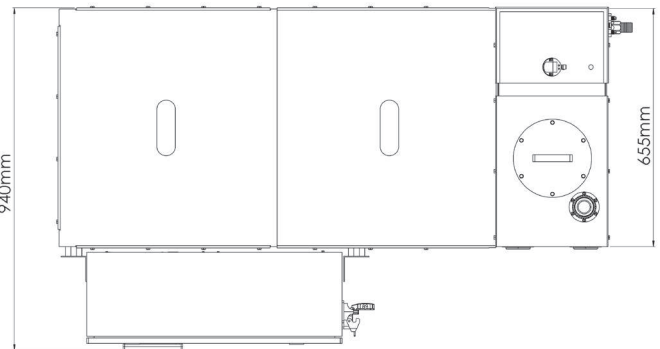
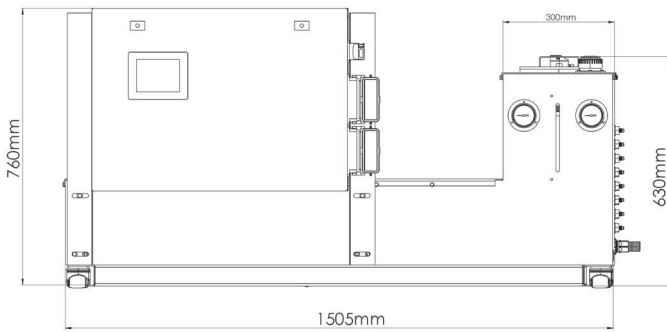
## CHIPBLASTER UBV

Chipblaster UBV is a compact high pressure coolant system specifically designed to slide under most of the LNS barfeeders in order to save valuable floor space.

Chipblaster UBV is the perfect solution for sliding headstocks, where floor space is limited.



Volume	4 to 22 Liters per minute
Pressures	Up to 140 bar
Standard Coolant Tank Capacity	80 Liters
Motor Power	5,6 kW
Coolant Outlets	4 or 8
Pump	Piston



# CHIPBLASTER V-SERIES



## CHIPBLASTER V-40



Chipblaster V-40 automatic variable volume high-pressure coolant system automatically delivers precise coolant pressure and flow to enhance CNC machine performance and extend cutting tool life for virtually any application

Chipblaster V-40 goes well beyond conventional coolant systems to automatically provide optimal pressure and flow for all applications. This assures more accurate cutting, faster throughput and longer tool life. All in an affordable, custom-designed unit requiring minimal floorspace.

Volume	8 to 40 liters per minute
Pressures	Up to 105 bar
Standard Coolant Tank Capacity	380 Liters
Motor Power	5,6 kW
Coolant Outlets	1
Pump	Piston

\* This model is also available with a Hydracell pump (for harsh applications) or higher pressure pump (up to 210 bar).



## CHIPBLASTER V-60



Chipblaster V-60 automatic variable volume high-pressure coolant system automatically delivers precise coolant pressure and flow to enhance CNC machine performance and extend cutting tool.

Chipblaster V-60 is ideal for machine tools up to 30 kw (40 hp), lathes and 50 taper mills.

Volume	12 to 60 Liters per minute
Pressures	Up to 83 bar
Standard Coolant Tank Capacity	480 Liters
Motor Power	7,5 kW
Coolant Outlets	1
Pump	Piston



## CHIPBLASTER V2-80



Chipblaster V2-80 is automatic variable volume high-pressure coolant system. It automatically pumps just enough volume to maintain full pressure other systems pump a fixed rate that is always too much or too little causing foam, heat, and short filter life.

The Chipblaster V2-80 can operate as two completely independent 40 liters (10 gpm) modules or combine to provide high pressure and very high volumes 80 liters at any time during the same program. Ideal for machine tools up to 40 kw (50 hp), dual turret lathes and 50 taper mills.

Volume	2x 8 to 40 Liters per minute
Pressures	Up to 105 bar
Standard Coolant Tank Capacity	380 Liters
Motor Power	2x 5,6 kW
Coolant Outlets	1 or 2
Pump	Piston

\* This model is also available with a Hydracell pump (for harsh applications) or higher pressure pump (up to 210 bar).



## CHIPBLASTER V2-120



The Chipblaster V2-120 is automatic variable volume high-pressure coolant system.

It can operate as two completely independent 60 liters (16 gpm) modules or combine to provide high pressure and very high volumes 120 liters at any time during the same program. Ideal for machine tools up to 60 kw (80 hp), dual turret lathes and 50 taper mills.

Volume	2x 12 to 60 Liters per minute
Pressures	Up to 83 bar
Standard Coolant Tank Capacity	480 Liters
Motor Power	2x 7,5 kW
Coolant Outlets	1 or 2
Pump	Piston

## OPTIONS AND ACCESSORIES

	Piston	Hydracell
Materials	Almost any application not involving grinding or cast iron materials.	Grinding, cast iron materials and other applications where the machining process creates small, dirty, destructive particles.
Pressure	Over 70 bar	Less than 70 bar
Coolant flows	Over 60 liters per minute	Less than 60 liters per minute

## OPTIONS AVAILABLE

	B-30/35	B-30/70	F-30	F2-60	UBV	V-40	V-60	V2-80	V2-120
Oil Skimmer		○	●	●		●	●	●	●
Chiller			●			●	●	●	●
Mist Collector			●	●		●	●	●	●
Cyclone Filtration		○	●	●		●	●	●	●
Heater			●	●		●	●	●	●
Wash Wand			●	●		●	●	●	●
Industry 4.0			●	●	●	●	●	●	●

○ For the Hydracell pump model



# TABLE OF CONTENTS

## AIR FILTRATION SYSTEMS



## FOX WS 2 SERIES

### AIR FILTRATION SYSTEMS



Fox WS 2 series is the perfect solution for the elimination of typical coolant mist generated by metal cutting application.

With its small and compact dimensions the WS 2 series integrates perfectly with the machine tool design and thanks to its control panel it can be easily interfaced.

The WS2 series comes as a standard with an ISO ePM1 85% efficiency (ISO 16890) for general use. By adding the HEPA H13 filter module providing 99.95% @0.3 μm efficiency (ISO EN 1822), it can completely eliminate submicronic mist particles and dry smoke.

#### Models available

- Fox WS 2 250
- Fox WS 2 500
- Fox WS 2 1000
- Fox WS 2 1500
- Fox WS 2 2000

#### Technical specifications

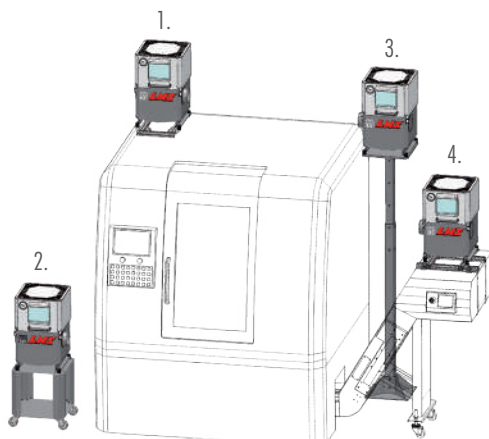
	Air flow (m <sup>3</sup> /h)	Static pressure (Pa)	Motor (kW)	Weight (kg)	Sound level (db (A))	
WS 2 250	50 Hz	240	470	0.24	35	62
WS 2 500	50 Hz	470	610	0.37	43	65
WS 2 1000	50 Hz	950	950	0.75	65	71
WS 2 1500	50 Hz	1450	1260	1.5	92	74
WS 2 2000	50 Hz	1800	1720	2.2	110	76

#### Options

- Absolute filters EPA E10 and HEPA H13
- Remote relay
- LED lights alarm when filter maintenance is required

#### Designed for

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



#### Possibilities of installation

The FOX WS 2 can be fitted to the machine-tool in 4 different ways:

1. On an aluminum frame on top of the machine
2. On a trolley
3. On a vertical stand
4. On a conveyor



## FOX WS 2 FILTERS AND ACCESSORIES

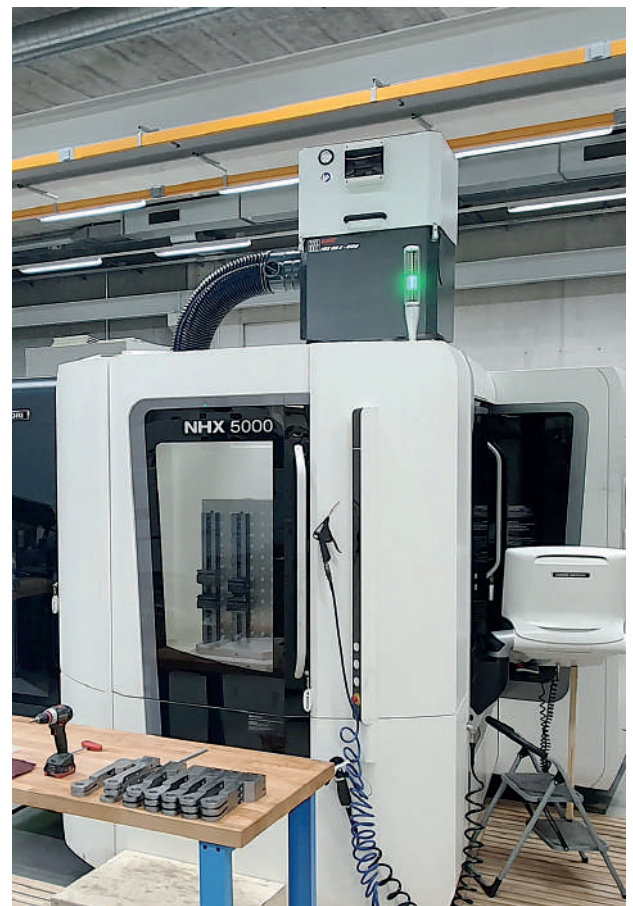


The filters are the core of an air filtering system. In order to guarantee optimum efficiency, LNS filters are specific to the operating scenario – emulsion, oil, high pressure, spark machining – and developed to give the FOX WS 2 a high-performance filtering quality and maximum longevity. For strict requirements, final-stage HEPA filters provide optimum filtration.

LNS offers specific accessories kits to ensure successful machine integration, whether in terms of accessibility, space saving in the workshop, or fire safety.

### Accessories

- telescopic stand
- mounting frame
- flange with built-in air outlet
- fire protection valve



## THINK GLOBAL, ACT LOCAL



### QUALITY COMMITMENT

LNS provides innovative peripherals for machine tools combined with tailor-made solutions and services, across the world.

To maintain our position as market leader, we are committed to continuously improving the skills of our teams, our processes and our products to ensure we meet and exceed our customers' expectations.

### QUALITY OBJECTIVES

- Maintaining and improving our customer focus, whilst respecting or exceeding their requirements by creating tailored products and services.
- Developing our products, services and processes thanks to continuous improvement initiatives.
- Continually improving our skills and the level of knowledge of our employees through training tailored to our products, services and processes.

### DELIVERY

We understand that missed or late deliveries are detrimental and costly, which is why we are continually striving to improve our manufacturing processes to meet, and even exceed, your expectations.

### COMMISSIONING

To ensure your LNS peripheral is up and running quickly and efficiently anywhere in the world, our factory-trained, experienced and certified technicians follow precise installation procedures for each product, ensuring successful commissioning.



### TRAINING

Our key objective is to have a global presence which will enable our customers to improve their productivity, thereby increasing their competitiveness and profitability. To enable this, we have trained up a dedicated team of more than 200 highly qualified professionals. This means we are able to offer training to our customers during installation of our products, allowing them to get the very best from their LNS product.



### PRODUCTIVITY

Your partner in productivity, LNS not only offers you the latest technology in the industry in terms of products and performance, this is combined with an exceptional technical service and genuine customer support. Our service team, present across the world, ensures you get the best possible use from your LNS products, giving you maximum return on investment.



### TELEPHONE SUPPORT

Thanks to the teams at LNS, which have been loyal for many years, we have the experience and expertise needed to analyse and resolve even the most complex of problems without delay.

This easy-to-access troubleshooting service ensures you can minimise downtime and maximise productivity.



### REPAIR & SPARE PARTS

Even the highest quality machines experience wear over time. When your equipment needs repairing, the LNS technical service team, boasting unrivalled experience and trained across the entire range of products, will ensure production can be restarted without delay.

This also means that we are able to help our customers resolve the most tricky application problems, deliver on time, provide a professional installation service and deliver spare parts quickly, and to do so across the globe.



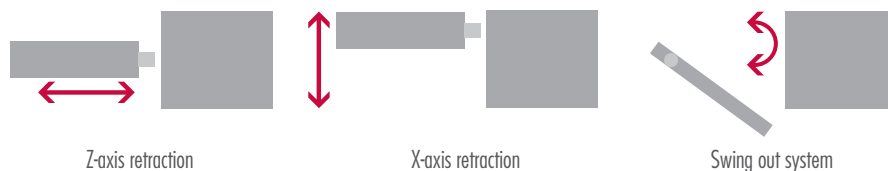
# LNS LEXICON

## 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.

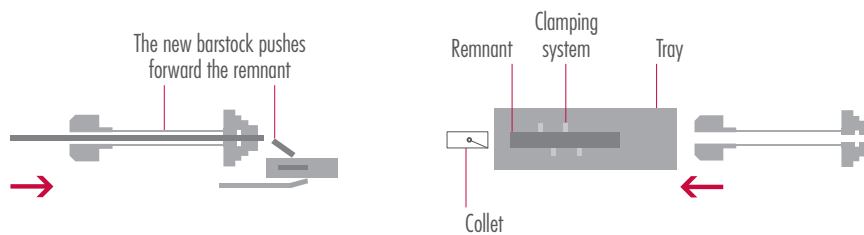
Depending on the model of bar loader, LNS offers three different systems: lengthways retraction, sideways retraction or a swing out system.



### EVACUATION OF REMNANTS

LNS has two remnant evacuation systems :

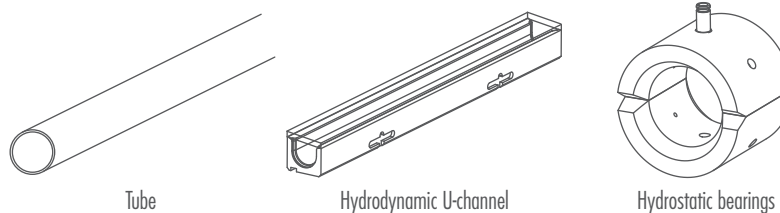
- The remnant is pushed forward by the next bar into the lathe's part collector.
- The remnant is pulled back across the spindle and deposited in a tray located behind the bar feeder.



### 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

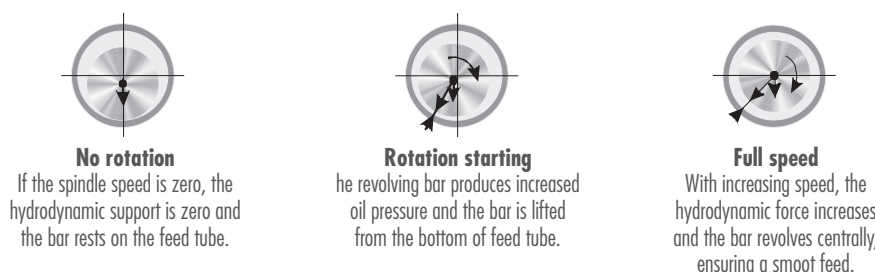
hydrodynamic channels. For diameters above 36mm, LNS guides the bars in hydrostatic bearing elements.



### 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.



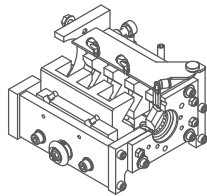
# LNS LEXICON

## BAR FEEDING SYSTEMS

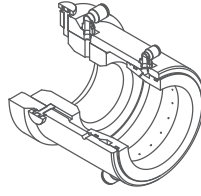
### FRONT REST

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

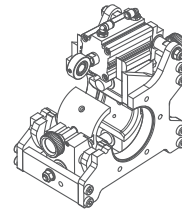
with no vibration along the entire length of the bar. The front rest is the last guide element in contact with the bar before the entrance of the lathe spindle.



Automatic front rest



Standard fixed front rest

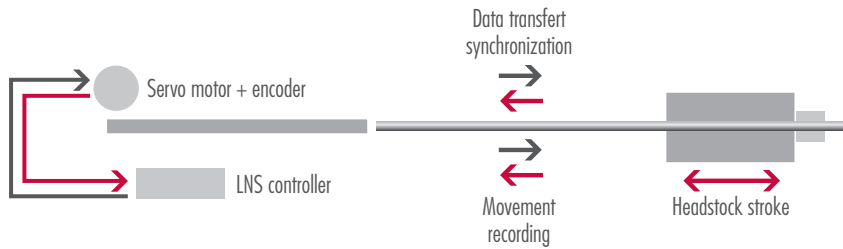


2-positions front rest

### 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.

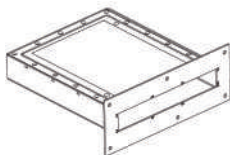


## COOLANT MANAGEMENT SYSTEMS

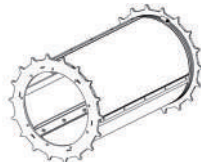
### COOLANT FILTRATION

LNS uses 3 primary types of filtration. For coarse filtration where it is necessary to remove particles to 250µ, 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.



Filter box



Filter drum



Filter bag



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