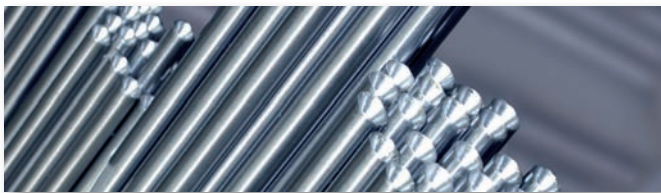


# YOUR "ONE-STOP-SHOP" FOR MACHINE-TOOL PERIPHERALS



Bar Feeding Systems



Chip Management Systems



Coolant Management Systems



Air Filtration Systems



## Overview

### Bar Feeding Systems

|   |    |
|---|----|
| Diameter range                                | 4  |
| <b>Automatic bar feeders - long barstock</b>  | 4  |
| Trytex 107                                    | 5  |
| Tryton 107/112                                | 5  |
| Express 220                                   | 6  |
| Express 332                                   | 6  |
| Sprint 542                                    | 7  |
| Sprint 552/Sprint 565                         | 7  |
| Sprint S3                                     | 8  |
| Alpha ST 320                                  | 8  |
| <b>Automatic bar feeders - short barstock</b> | 9  |
| Eco Load                                      | 9  |
| Quick Load Servo 80 S2                        | 10 |
| Quick Load Servo III                          | 10 |
| Move S2                                       | 11 |
| <b>Manual bar feeders</b>                     | 11 |
| Super Hydrobar HS                             | 12 |
| Hydrobar THB                                  | 12 |
| <b>Accessories</b>                            | 13 |
| PB 80   | 13 |
| Spindle liners                                | 14 |

### Chips Management Systems

|                                     |    |
|-------------------------------------|----|
| Chip conveyor systems               | 15 |
| Belt type                           | 15 |
| Selection guide                     | 16 |
| <b>Non filtering chip conveyors</b> | 16 |
| Turbo HB                            | 17 |
| Turbo Magnetic                      | 17 |
| <b>Filtering chip conveyors</b>     | 18 |
| Turbo MF2/Turbo MF3                 | 18 |
| Turbo MH Series                     | 19 |
| Turbo MS500                         | 20 |
| <b>Central processing</b>           | 20 |
| Turbo 3D                            | 21 |
| <b>Accessory</b>                    | 21 |
| Chip hoppers                        | 21 |

### Coolant Management Systems

|                                      |    |
|--------------------------------------|----|
| <b>High pressure coolant systems</b> | 22 |
| PowerStream Series                   | 22 |
| <b>Tramp oil removal</b>             | 23 |
| PhaSep                               | 23 |

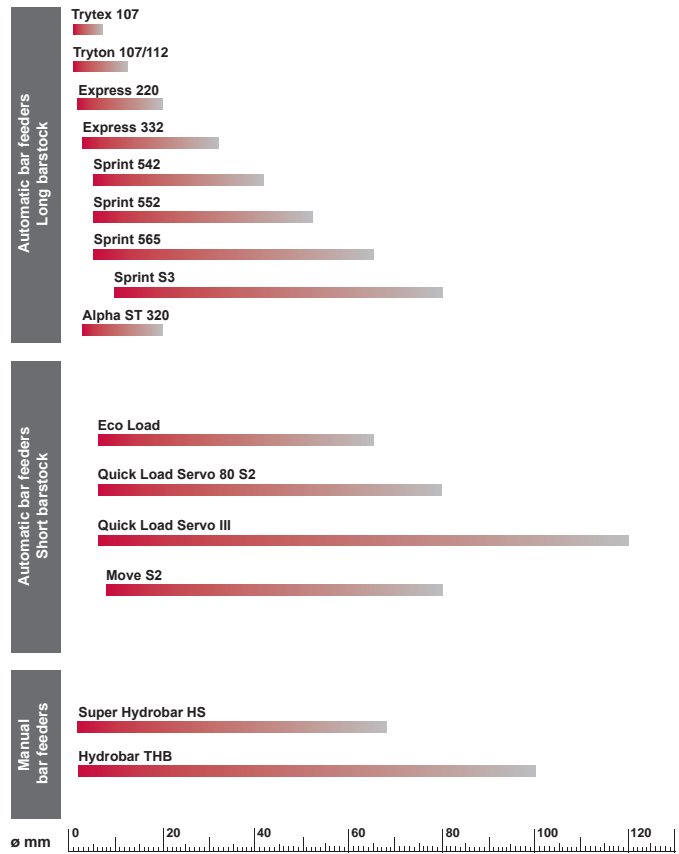
### Air Filtration Systems

|                            |    |
|----------------------------|----|
| <b>Oil mist collectors</b> | 24 |
| Fox WS Series              | 24 |
| Fox WM Series              | 25 |

### Miscellaneous

|                  |    |
|------------------|----|
| LNS lexicon      | 26 |
| LNS subsidiaries | 28 |

Diameter range



Automatic bar feeders - long barstock



LNS Series

- **Trytex 107**  
ø 1 - 7 mm
- **Tryton 107/112**  
ø 1 - 12.7 mm
- **Express 220**  
ø 2 - 20 mm
- **Express 332**  
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 ST 320**  
ø 3 - 20 mm

LNS Alpha Serie

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 cost-competitive automatic bar feeders.

## Trytex 107

The Trytex 107 is one of the shortest automatic bar feeders on the market for the production of 1 to 7mm diameter parts. The Trytex 107 is designed to reach maximum rotation speeds and spindle movements. The new, patented Trytex loading system ensures fault-free bar loading.

- Selection of small diameters
- Hydrobar technology
- Side loading
- Quick diameter changeover



| Capacity             |      |                        |
|----------------------|------|------------------------|
| Diameter             | mm   | ø 1 - 7                |
| Bar length 2m/3m/12' | mm   | 2150/3200/3725         |
| Loading system       |      | Barrel / side loading  |
| Loading capacity     | bars | 44                     |
| Loading side         |      | Right / left           |
| Applications         |      |                        |
| Headstock type       |      | Sliding                |
| Synchronisation      |      | PLC/Servo-motor        |
| Z axis retraction    | mm   | 350                    |
| Diameter change      |      |                        |
| Partial changeover   | mins | 10                     |
| Front rest           |      | Automatic              |
| Driving system       |      |                        |
| Drive                |      | Servo-motor            |
| Guiding              |      | Hydrodynamic / channel |
| Oil ISO 100          | Lt   | 22                     |

## Automatic Bar Feeders - Long Barstock

## Tryton 107/112

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                |      | Tryton 107/112 cams                                    | Tryton 107/112 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                                    |
| 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)  | 24 (ø 3-10)  |
|                         |      | 24 (ø 4-12.7)  | 24 (ø 4-12.7)  |
| 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)<br>2x14 barstocks (ø 1-12.7) | 2x14 barstocks (ø 1 - 10)<br>2x14 barstocks (ø 1-12.7) |
| Barrel swing out system |      | Yes  | Yes  |

## 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

The Express 332 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 36 with bar preparation            |
| Bar length 3m/12/4m      | mm   | 3300/3850/4200                       |
| 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   | 450                                  |
| 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 3m/12'/4m               | mm   | 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 | 1 (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

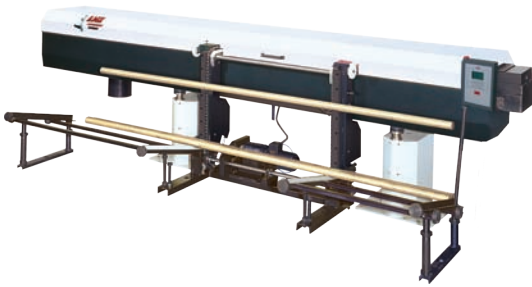


| Capacity   |      |   |
|--|------|---|
| ø Sprint 552 / Sprint 565  | mm   | ø 5 - 52 / ø 5 - 65   |
| Bar length 2m/3m/12'/4m  | mm   | 2200/3200/3800/4200   |
| Loading system   |      | Chain load rack   |
| Loading capacity:  |      |   |
| Sprint 552 / Sprint 565  | bars | 11 / 9  |
| Loading side   |      | Front/rear  |
| Applications   |      |   |
| Headstock type   |      | Fixed/sliding   |
| Synchronisation  |      | PLC/Servo-motor   |
| Diameter change  |      |   |
| Partial changeover   | mins | 1 (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 ST 320

The Alpha ST 320 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 ST 320 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 3m       | 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 | 8 (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                           |



## Automatic bar feeders - short barstock



## LNS series

- **Eco Load**  
ø 6 - 65 mm
- **Quick Load Servo 80 S2**  
ø 6 - 80 mm
- **Quick Load Servo III**  
ø 6 - 120 mm
- **Move S2**  
ø 8 - 80 mm

## Automatic Bar Feeders - Short Barstock

## Eco Load

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

- Compact design
- Easy diameter change over
- Easy to use
- Integrated X or Z retraction



| Capacity                                    |      | Eco Load 1200            | Eco Load 1500            |
|---|------|--------------------------|--------------------------|
| Diameter                                    | mm   | ø 6 - 65                 | ø 6 - 65                 |
| Bar length<br>(limited to headstock length) | mm   | 300 - 1250               | 300 - 1500               |
| Loading system                              |      | Left/rear side load rack | Left/rear side load rack |
| Loading capacity                            | mm   | 640                      | 640                      |
| <b>Applications</b>                         |      |                          |                          |
| Headstock type                              |      | Fixed                    | Fixed                    |
| X or Z axis retraction                      | mm   | 300                      | 300                      |
| <b>Diameter change</b>                      |      |                          |                          |
| Diameter setup                              | mins | 5 (manual)               | 5 (manual)               |
| Total changeover                            | mins | 10 (with pusher)         | 10 (with pusher)         |
| <b>Driving system</b>                       |      |                          |                          |
| Drive                                       |      | Pneumatic                | Pneumatic                |

## 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: 330mm |      |                 |

## Manual barfeeders



### 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                   | mins | 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

**PB 80**

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
  - Turning
- Easy to use
- Economical

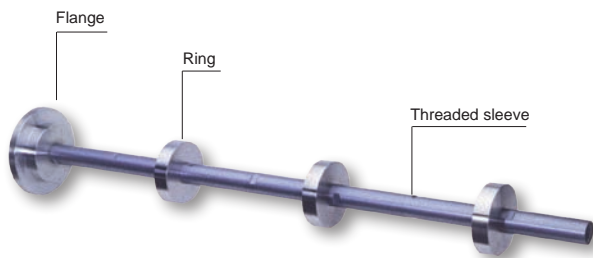


| Capacity        |     |                |
|-----------------|-----|----------------|
| 30° Chamfering  | mm  | ø 8 - 80       |
| Turning         | mm  | ø 10-60        |
|                 | mm  | 40 max. length |
| Centering       | mm  | ø 8 - 80       |
| Driving system  |     |                |
| 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.

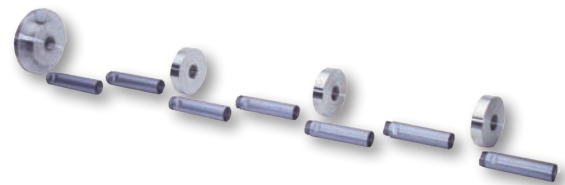
LNS Spindle liners are composed of 3 different parts screwed together. A rear flange, a threaded sleeve, and a spacer. Assembly of the spindle liner is very easy.

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.



## Chips conveyor systems

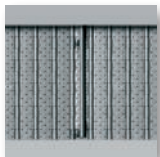


The machining of parts by milling, drilling or turning requires an effective and continuous evacuation of chips to prevent production slowdown or stops and therefore increase machine productivity.

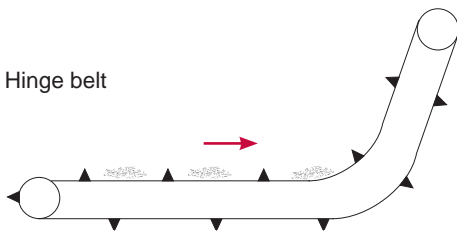
LNS designs and produces conveyors and complete chip disposal systems for all machine types (milling, turning or machining centers) and for the most varied applications.

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.

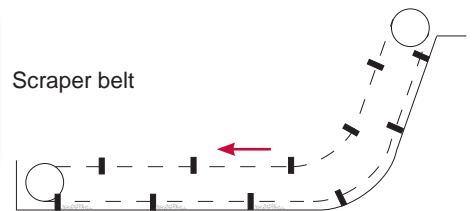
## Belt type



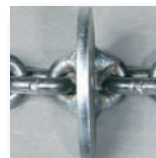
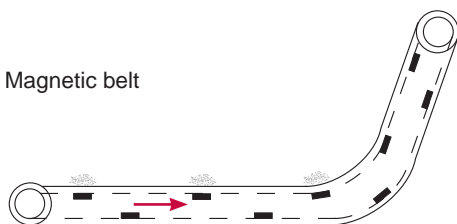
Hinge belt



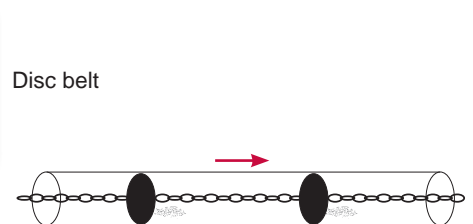
Scraper belt
















Magnetic belt



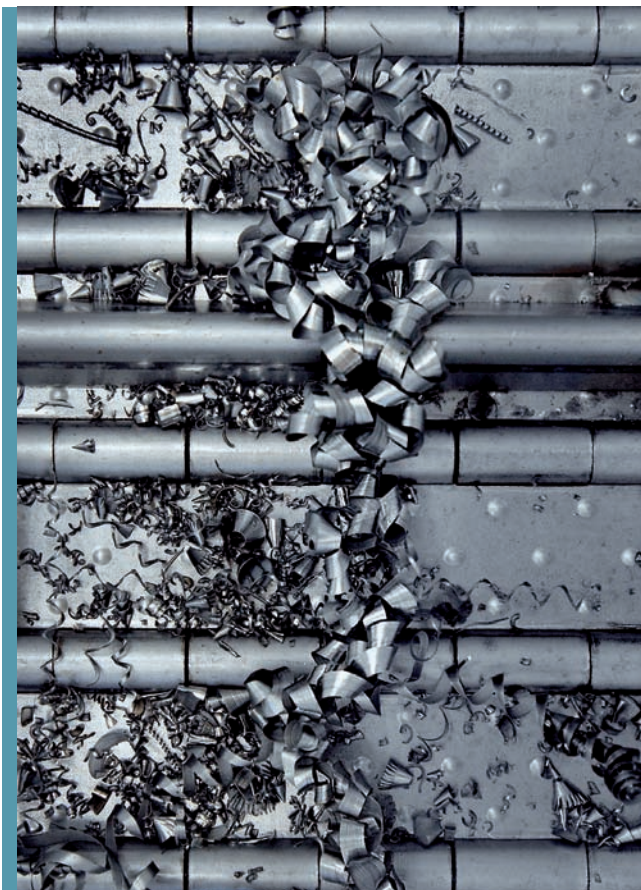
Disc belt



## Selection guide

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

## Non filtering chip conveyors



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



## 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. Wipers 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

The ball-detent clutch system provides protection for the motor during «excessive loads». Due to the unique action of releasing tension on the belt and then moving forward, it also overcomes 90% of minor stoppages without operator intervention. This is a crucial element in the success of unattended machining operation.



### 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**
  - Variable speed

### 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

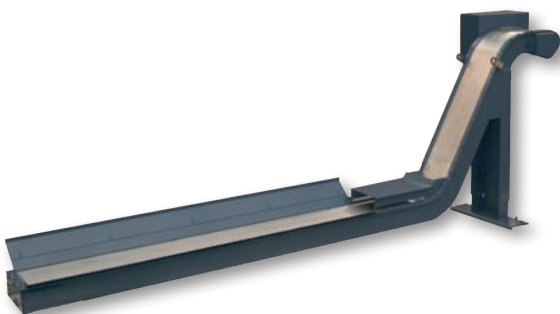
No lubrication oil inside the conveyor to leak and contaminate the coolant.

### 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

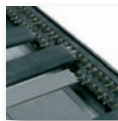
LNS components, including individual magnet segments, are easily and economically replaced if the conveyor is accidentally damaged.



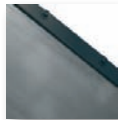
### The best choice for

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

### Belt construction

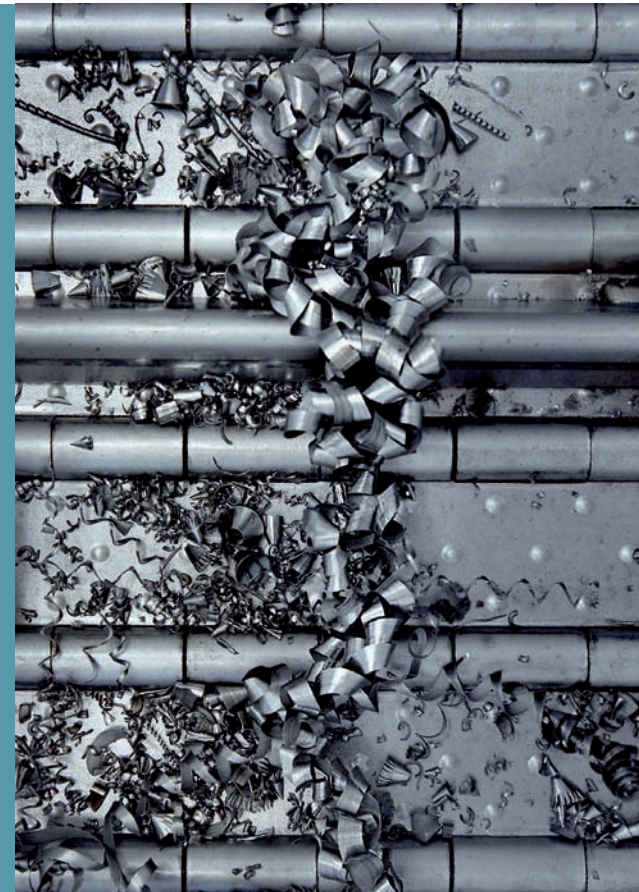


Magnets within the conveyor frame



Heavy duty stainless steel slideway

## Filtering chip conveyors



- **Turbo MF2/Turbo MF3**  
Filtration to 50 $\mu$
- **Turbo MH Series**  
Filtration to 250 $\mu$  or 500 $\mu$
- **Turbo MS500**  
Filtration to 500 $\mu$

### 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

## Filtering Chip Conveyors

### 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 50 $\mu$ .

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 50 $\mu$  for the most demanding tooling applications. Extends coolant life and tooling life for cost-saving operation.



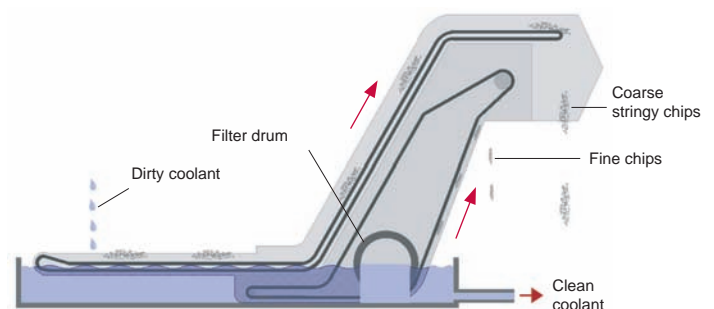
### The best choice for

- Mixed-shape chips
- Mixed material, plastic
- Filtration to 50 $\mu$

### Filtration device



Sealed nylon filter drum with reliable heavy duty viton seal.



## Turbo MH Series

Thanks to this revolutionary filtration concept from LNS: Filtration boxes used in conjunction with a hinge 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. 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.



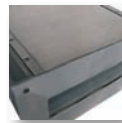
### The best choice for

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

### Benefits of the Turbo MH Series

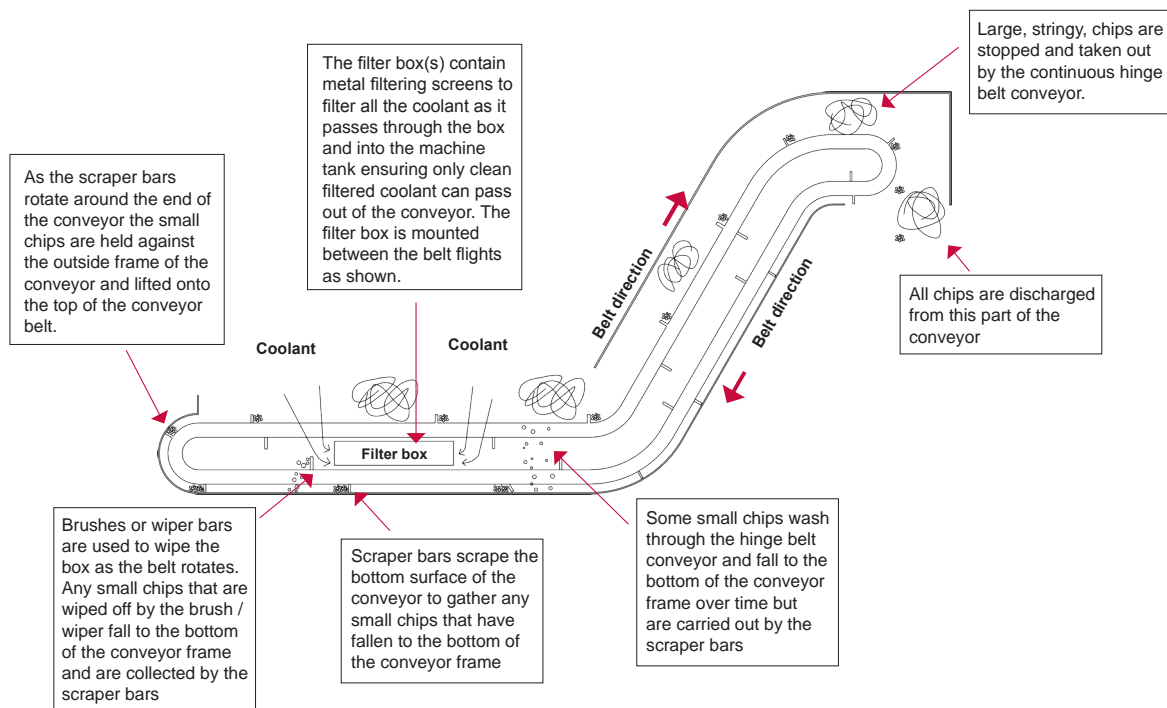
- Self cleaning filtration to 250 or 500 Micron
- Very small footprint (same as a standard conveyor)
- Flexible design for various flow rates
- Handles any chip shape (long and small)
- Handles any material
- Attractive price
- Fits to most standard machine coolant tanks
- Robust construction

### Filtration device



Removable heavy duty filter box

## System schematic



### Turbo MS500

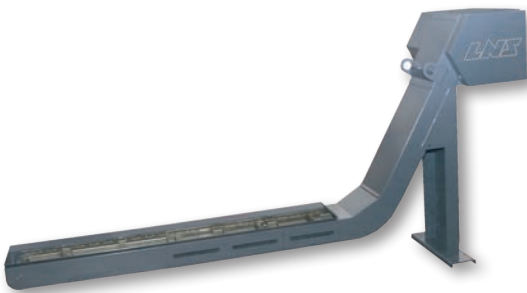
The Turbo MS500 handles medium to light chip loads including brass, steel, cast iron and aluminum incorporating coolant filtration, to 500µ nominal. This conveyor is ideal for removal of chips produced in the machining of cast components and billets.

#### 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

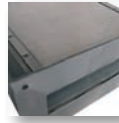
Each filter box is automatically cleaned whilst the conveyor is operating. The number of filter boxes required is related to the machine flow rate, assuring coolant flow and optimal filtration.



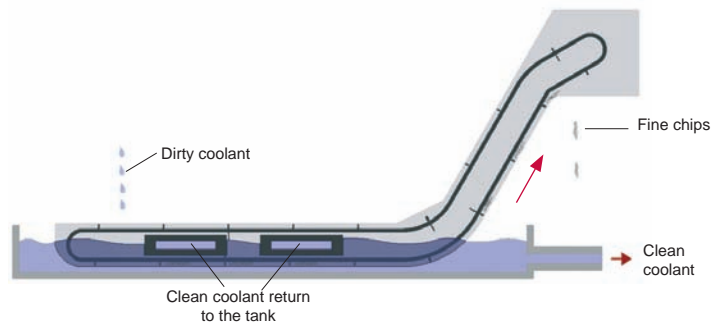
#### The best choice for

- Fine chips
- Mixed material
- Filtration to 500µ

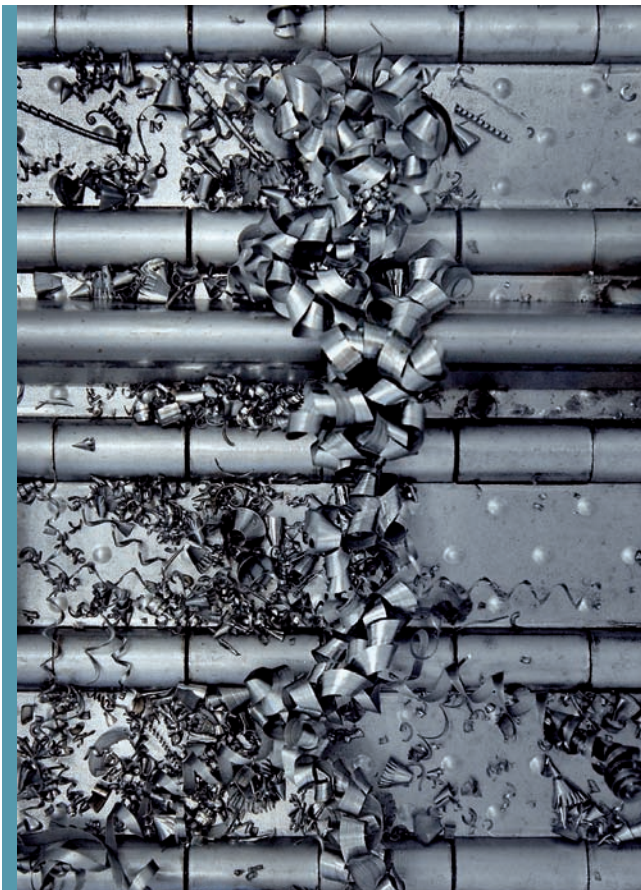
#### Filtration device



Removable heavy duty filter box



### Central processing

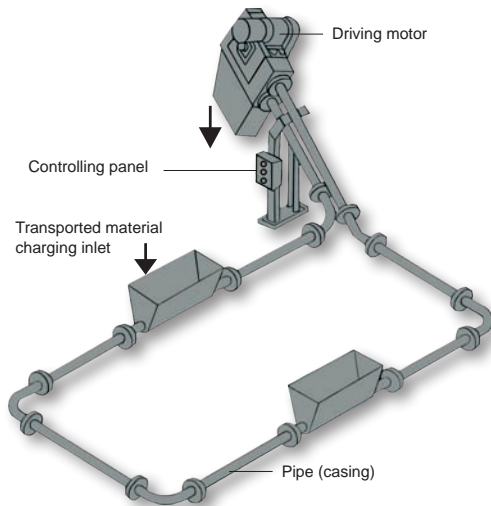


- Turbo 3D  
No filtration

## 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.

## Chip Management Systems

### 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     | 130 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  $20\mu$  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.

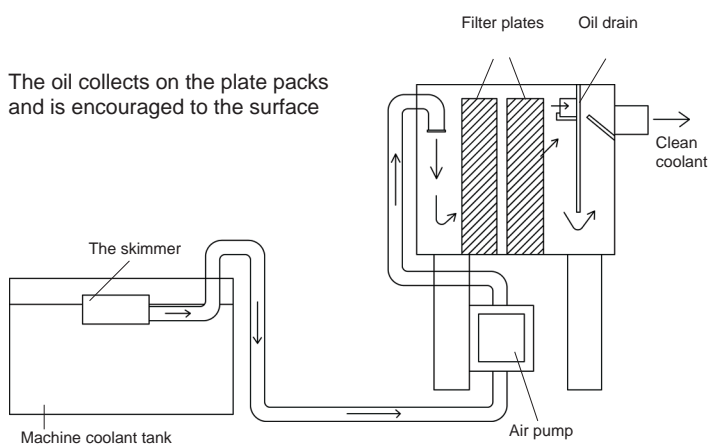
Coolant, cleaned of 99% of contaminated oils, is returned directly to the machine sump.



### 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



## Oil mist collectors



The quality of the air is a fundamental aspect for 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.

### The oil mist collectors eliminates

- Mist
- Vapours
- Smoke
- Odours

### Advantages of the Fox WS/WM series

- High filtration efficiency (99 % according to norm AFNOR 440060)
- Extended Filter's lifetime
- Heavy duty construction and High reliability

### Models available

- Fox WS : WS 250, WS 500, WS 1000, WS 1500, WS 2000
- Fox WM : WM 4000, WM 8000, WM 12000

## Oil Mist Collectors

### Fox WS Series

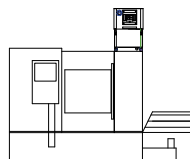
Fox WS series is the perfect solution for the elimination of oil mist typical of metal cutting applications.

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



### 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 (m <sup>3</sup> /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
- Frequency inverter to reduce the energy consumption
- Relay remote
- Timer
- Custom paint
- LED lights alarm when filter maintenance is required



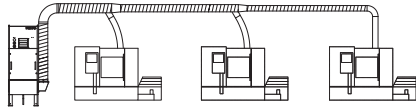
## Fox WM Series

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 m<sup>3</sup>/h.

### Models available

- Fox WM 4000
- Fox WM 8000
- Fox WM 12000



### 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 <sup>3</sup> /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     |

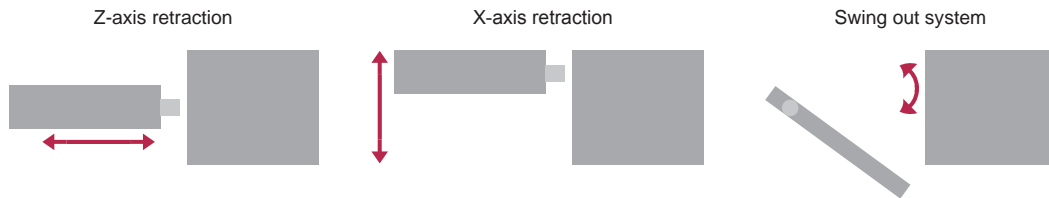
### Options

- Hepa filter
- Frequency inverter to reduce the energy consumption
- Relay remote
- Timer
- Custom paint
- LED lights alarm when filter maintenance is required

## LNS lexicon - Bar feeding systems

### Device retraction

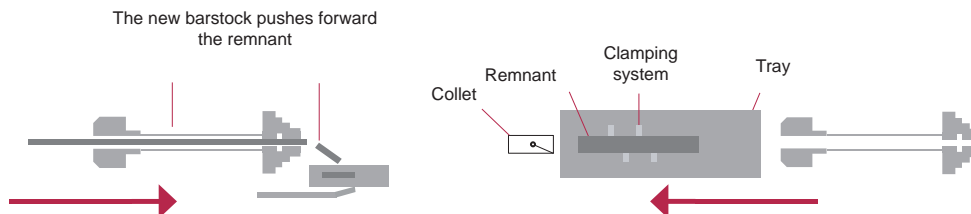
The device retraction system is intended to facilitate access to the lathe for changing the spindle liners or for carrying out maintenance or repairs. Depending on the model of bar loader, LNS offers three different systems: lengthways retraction, sideways retraction or a swing out system.



### Evacuation of remnants

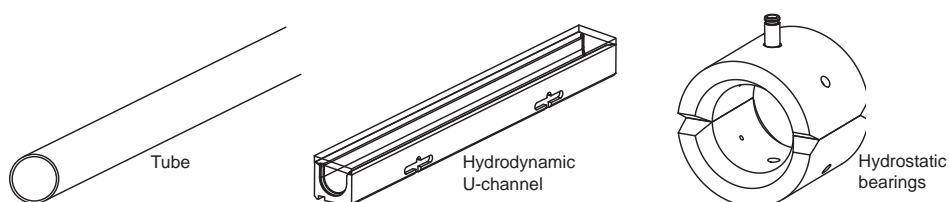
LNS has two remnant evacuation systems :

- 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.



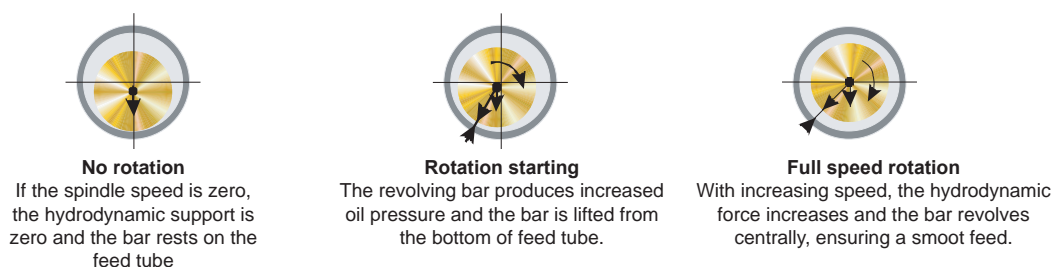
### Guidance

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®

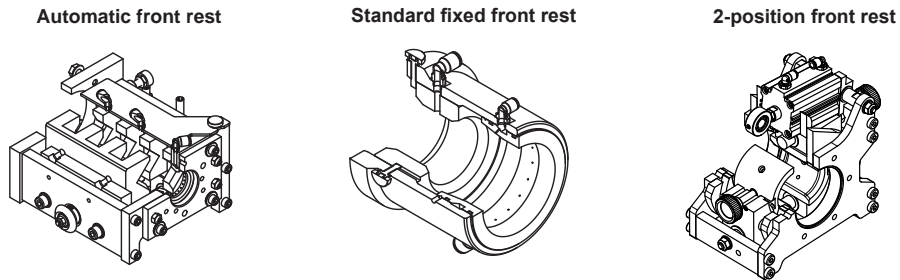
Pressurized oil is introduced to the inside of the guiding tube, guiding channels or hydrostatic bearing elements. An oil film forms and separates the bar to be machined from the guide element. The more the rotation speed increases, the greater the hydrodynamic effect. LNS equips all its loaders with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



## LNS lexicon - Bar feeding systems

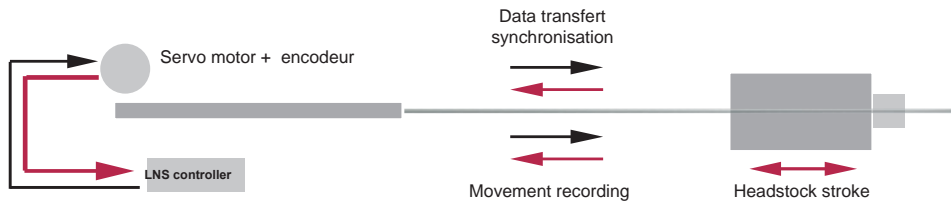
### Front rest

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.

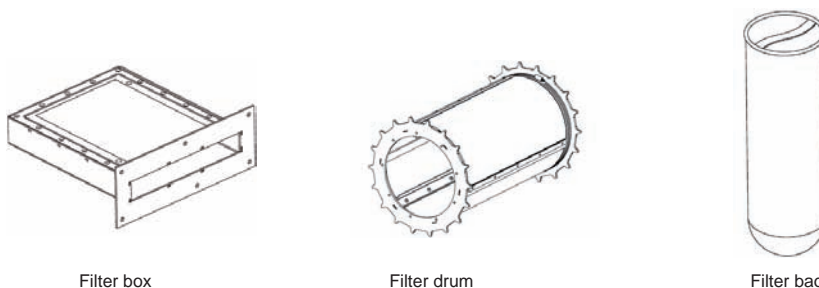
- The bars can be bent along their entire length.
- The bars be bent at the end as a result of the manufacturing process. In this case it is advisable to lathe the bent end first in order to avoid transmitting the vibrations along the whole bar while it rotates.



## 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.



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## Fields of activities

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



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