EDGE TECHNOLOGIES

FMB Turbo 20-100

Turbo 20-100

The FMB Turbo 20-100 is an Automatic Magazine style Bar Feeder for processing bars in the diameter ranges of 20mm -100mm and in lengths from 12' to 14' on CNC lathes. Quick change polyurethane guide channels allow for quiet operation at high RPM while feeding round, square or hex bar stock.

The Turbo 20-100 is compatible with all kinds of fixed headstock lathes. Swiss type synchronization device is also available.

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FMB

The FMB Turbo 20-100 is an automatic Bar Loading Magazine Feeders for processing bars in the diameter ranges of 20mm up to 100mm and in lengths from 12' to 14' on CNC lathes.

- The FMB Turbo 20-100 is designed for automatically feeding round, square or hexagonal bar stock into CNC lathes.
- Oil filled polyurethane guide channels provide the ideal guiding system while reducing noise and vibration to a minimum.
- The polyurethane guide channels can be changed quickly and easily for feeding other diameters of bar stock. (Optional auto-adjust channels eliminate the need for changes)
- Damage to the bar stock is avoided since there is no metal to metal contact.
- Sturdy base structure due to the use of gray cast iron for the machine bed. The Turbo 20-100 uses 3 heavy duty stands for added rigidity.
- The magazine storage capacity is 11 inches. Optional extensions and bundle loaders are available to handle capacities up to 2.5 tons.
- Bar diameters within a 20 mm range can be accommodated within one guide channel size. The 20 mm range is increased significantly when straight bars are used. (.007"/ft. TIR max)
- The bar remnant is withdrawn to the back end of the magazine. A gripper then extracts it out from the bar stock collet.

Drive

Precise synchronous toothed belt drive facilitates accurate feed tolerances.

Profiled Material

The feed mechanism is automatically pulsed to ensure the profiled material is successfully located in the lathe collet/chuck.

In-feed Control

The new bar is automatically positioned in the lathe ready for facing before the first component is produced. Part to part feedout can be controlled without a dead stop required.

Optional Auto-Adjust Channel System

Eliminates the need for the changeover of guide channel sets and spindle liners when changing bar stock sizes. Adjustments are made directly through the control (see inset photo).

Control

Bosch controller with servo motor drive to the feed mechanism. Flexible control of length and rate of feed guarantee the optimum practical and therefore economic use of the magazine.

Gripper

A mechanical gripper uses a force of up to 1500 N to press the bar stock into the collet and pull out the material remnant. The gripper which is arranged on a side block performs an action in the function mentioned above. It is not necessary to chamfer the bars if they are cleanly cut.

Quick Change Guide Channels

Polyurethane inserts which can easily be changed for the range of 20 to 100 mm diameter. For the choice of channel sizes please see the list on the back page.

Soft Load Fingers

Allows large diameter bars to be gently lowered into the guide channels without the impact of the bar's weight. Can also be used to unload partially machined bars.

Bar Pusher

A swing out bar pusher bar system reduces the total length of the loading magazine.

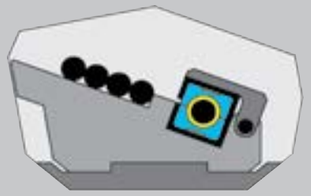
Roller Steady Rest

This device guides the bar stock between the lathe and bar feeder. Rollers or blocks provide the ideal guiding of round or profiled material. The rollers can be continously adjusted to the bar diameter and can quickly be replaced with blocks for supporting profiled material.

The mode of function of FMB loading magazines

Loading
The storage capacity is 11 inches.

Bar Separation
The material is loaded from the bar storage table into the guide channel.



Processing
Support of the bar within the oil-filled guide channel.

FMB Guide Channel

The channel is filled with hydraulic oil from the storage tank. The rotation of the bar creates turbulence which keeps it in the center of the channel. The higher the rotation speed the better centralization effect, therefore the magazine will help the lathe to achieve optimum cutting conditions.

If the diameter of the bar stock is close to that of the channel, very little turbulence can be created by rotation and thus the hydrodynamic bearing effect supports the center of the channel.

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Technical Data

- **Maximum Bar length**
  4200 mm (13'8")
- **Bar Diameter Range**
  20-100mm
- **Power consumption**
  5.5 kW (6 kVA)
- **Feed force**
  adjustable, max. 750 N
- **In feed rate**
  adjustable from 0-700 mm/sec
- **Forward feed rate**
  adjustable max. 2360 inches/min
- **Return feed rate**
  0-1650 inches/min
- **Loading time**
  45 sec (for 12 ft. bars)
- **Oil capacity**
  80 liters (22 gallons)
- **Oil viscosity**
  150 cST at 40°C
- **Operating voltage**
  230 V/60 Hz
- **Compressed air supply**
  6 bar (90 psi)
- **Compressed air consumption**
  approx. 10 liters per loading action
- **Weight without oil**
  3720 kg (8,200 lbs)
- **Remnant length**
  580 mm max. (22.8 inches)

Options Available

- **Auto-Adjust Channel System**
  Eliminates the need for the changeover of guide channel sets and spindle liners when changing bar stock sizes.

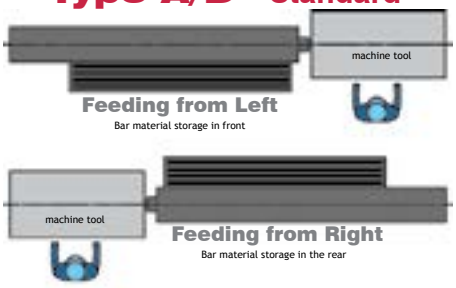
Channel Sizes

Channel Size	Bar Size Capacities (mm)		
	Minimum Bar Size	Maximum Bar Size	Maximum Bar Size w/Front Remnant Expulsion*
Ø 25 mm	10 mm (.393")	23 mm (.905")	25 mm (.984")
Ø 42 mm	17 mm (.669")	38 mm (1.500")	42 mm (1.653")
Ø 65 mm	40 mm (1.574")	61 mm (2.400")	65 mm (2.559")
Ø 70 mm	45 mm (1.772")	66 mm (2.598")	70 mm (2.755")
Ø 80 mm	51 mm (2.000")	76.2 mm (3.0")	80 mm (3.152")
Ø 100 mm	65 mm (2.55")	90 mm (3.54")	100 mm (3.94")

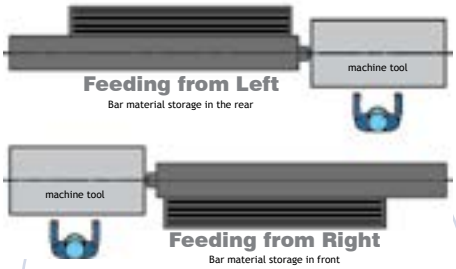
(*) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.

Loading Configurations

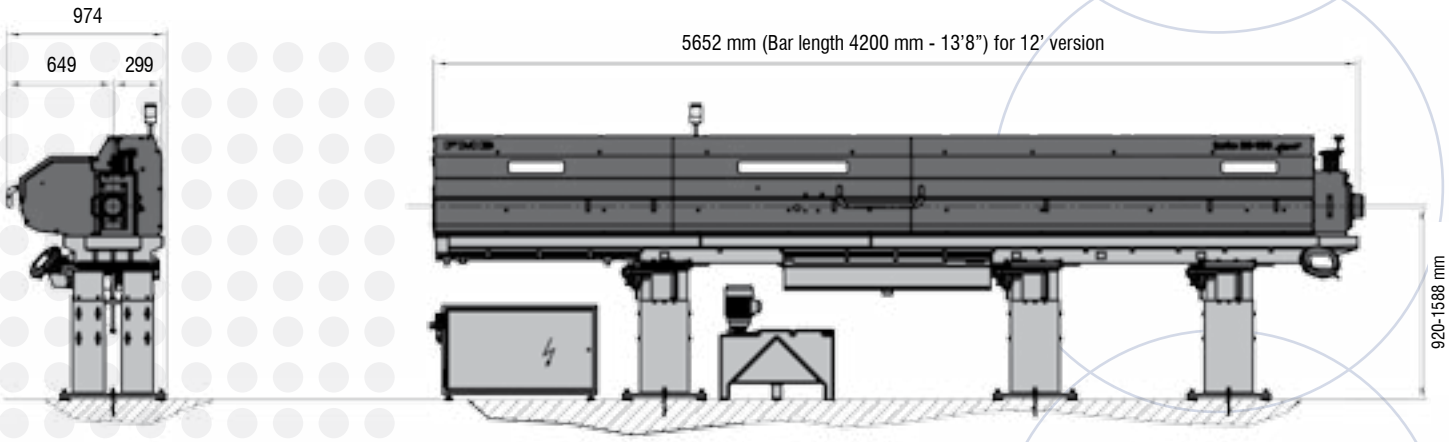
Type A/D - Standard



Type B/C - Optional*



*By special request only



Technical data subject to change without notice

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