



Minuteman 320 SE

The Minuteman 320 SE is an Automatic Magazine style Bar Feeder designed for feeding round, square and hexagonal bar stock into CNC lathes.

Minuteman 320 SE

EDGE ○○○
TECHNOLOGIES

The Edge Technologies Minuteman 320 SE is designed for automatically feeding round, square and hexagonal bar stock in lengths up to 12', in a diameter range of 3-20 mm, into CNC lathes.



● Double Pusher

The two pusher system drastically reduces the overall length of the unit by as much as 4 feet. A short pusher pre-feeds the bar then retracts, then a second full-length pusher lowers into position to continue the feeding process.

● Dual Anti-Vibration Devices

Dual anti-vibration devices stabilize the bar stock at two critical points between the guide channel and lathe spindle maximizing RPM potential. Its adjustable roller design provides superior support and easy set up of all bar diameters without the cost of multiple bearing blocks.



- The first roller steady rest is mounted internal to the front of the bar feeder providing support to the bar as it enters the telescopic nose.



- The second roller steady rest is outboard mounted onto the rear of the sliding headstock following the stock as the headstock moves on the z-axis. The bar stock and bar pusher are held in center at the rear of the headstock in both feeding and turning operations.



● Bushing Blocks

Optional bushing blocks replace rollers on outboard steady rest when running shaped stock.



● Gripper - Remnant Retract

The gripper device holds and inserts the new bar into the bar collet and is also used to extract the remnant. Bar ends that are free of burrs require no additional chamfering. The gripper requires no adjustment for bar size changes as it "self-centers".

The bar remnant is withdrawn to the back end of the magazine. A gripper extracts it from the bar stock collet and deposits it in a hide-away remnant basket.



● Rotating Tip & Collet

The bar pusher is equipped with a standard rotating tip that ensures smooth running at high RPM. The bar stock collet is a common thread-on or pin-on type.



● Sync Device

As a standard feature on the Minuteman 320 SE, the Synchronization device for Swiss style lathes employs an electro-magnetic coupling, mechanically linking the lathes headstock's z-axis travel to the bar feeder's pusher to ensure synchronous movement and no loss of connection between the bar stock and collet-pusher.



● **Belt Drive**

The Minuteman 320 SE's double pusher system is propelled by a toothed belt for accuracy as well as smooth quiet running.



● **Operator Control Panel**

The control is easy to program, yet flexible enough for all applications. Parameters are set through simple F functions. Alarms are well defined and displayed on the operator control panel. Panel swings out for ease of use.



● **Control**

A Mitsubishi controller and servo drive provide the Minuteman's motion control and functionality.



● **Robust Construction**

Heavy gauge structural steel ensures rigidity and long term durability.

● **Large Storage Capacity**

The bar stock magazine is an incline rack with a loading capacity of 10 linear inches. Bars can be loaded from the front or the rear sides of the bar feeder.

● **Stock Alignment Guides**

The bar stock alignment guides are quickly and easily adjusted for different bar diameters, effectively reducing set up time.

● **Remote Pendant**

The Minuteman 320 SE features the convenience of an easy-to-use remote control pendant. Functions include:



- manual and automatic operation
- manual load/unload of bar stock for set-up and/or change over
- movement of bar pusher
- emergency stop

● **Quick Change Guide Channels**

The top guide channel is profiled for all bar stock sizes. The "U" shaped bottom guide channel sections slide easily out of their base. Simply insert the new channel size, tighten the screw and the Minuteman 320 SE is ready for the new bar stock.

- The channel is flooded with oil to create a hydrodynamic effect resulting in higher RPM with reduced noise and vibration.



Minuteman 320 SE



Technical Data

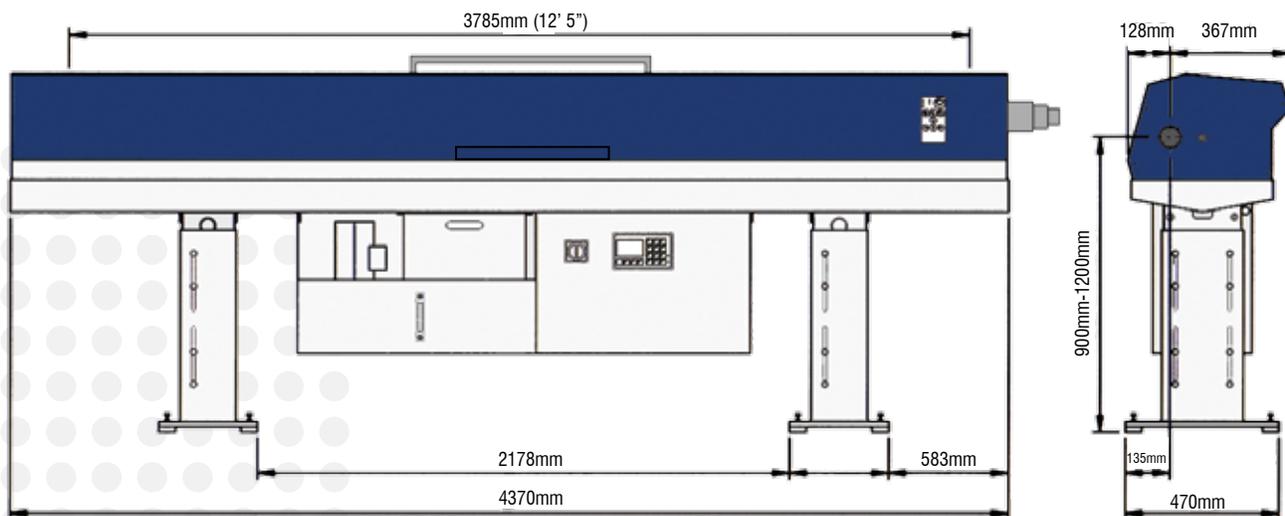
- **Power consumption**
1.5 kW
- **Feed force**
adjustable, max. 450 N
- **Forward feed rate**
adjustable max. 600 mm/sec
- **Return feed rate**
1000 mm/sec
- **Loading time**
30 sec (for 12 ft. bars)
- **Oil capacity**
46 liters (12 gallons)
- **Oil viscosity**
ISO 100 cST
- **Operating voltage**
230 V/60 Hz
- **Compressed air supply**
6 bar (90 psi)
- **Compressed air consumption**
approx. 8 liters per loading action
- **Weight without oil**
1320 lbs
- **Remnant length**
420mm max (16.5 inches)

- **Maximum Bar Length**
3785 mm (12'5")
- **Bar Diameter Range**
3-26 mm (.125"-1.023")
- **Reversible Configuration**
Machine is reversible to load material from front or rear.



Channel Set	Pusher Ø	Min	Max	Max Bar With Remnant Ejection
8	7.5	3mm (.118")	6.4mm (.250")	7mm (.275")*
11	10	3mm (.118")	9mm (.354")	10mm (.393")*
14	12	3.2mm (.125")	11mm (.437")	13mm (.512")*
18	16	5mm (.196")	13.5mm (.531")	17mm (.669")*
20	18	8mm (.315")	18mm (.709")	19mm (.750")*
22	20	8mm (.315")	19mm (.750")	21mm (.826")*
24	22	8mm (.315")	19mm (.750")	23mm (.905")*
28	26	10mm (.395")	25.4mm (1.0")	27mm (1.062")*

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



Technical data subject to change without notice

EDGE TECHNOLOGIES ○ PRODUCTIVITY SOLUTIONS PROVIDER

11600 ADIE ROAD MARYLAND HEIGHTS, MO 63043

314.692.8388 ○ f 314.692.5152 ○ www.edgetechnologies.com