PRODUCT CATALOGUE

Material flow systems for machine tools

FMB Maschinenbau

More productivity with FMB

we know how

The FMB machinery

Since 1980 the name of FMB has been well-known in the world of turning. With our „Loading Magazine“ range of products, FMB represents reliable and highly economical equipment for the loading and unloading of machine tool systems. With a broad product range providing both standard solutions and equipment tailor-made to customers' requirements, we have successfully earned the confidence worldwide of users, retailers and OEMs. New products, such as the unirobot® series, have expanded our range to encompass full industrial automation with its numerous conveying, loading and unloading requirements.

Our main priority is optimizing the economic benefits to the user. This requires a profound knowledge of production processes and production equipment which is carefully tailored to suit individual projects. Backed up by reliable and flexible customer services, our products give a timely return on investment. And of course we ensure that spare parts are available long-term.

To this end we have 120 employees, dedicated to the development, production and maintenance of top-quality automation technology. Their experience, gained over more than 16,000 machines and systems, is a guarantee that FMB, with its innovative products and comprehensive services, is, and will continue to be, a dependable partner for its customers.

We know how – our Service

The acknowledged high quality of FMB products already provides you with a maximum degree of reliablity.
But if there are any problems with your loading magazine, we are at your disposal all over the world with our service hotline and a team of highly qualified technicians.

Customer-specific adaptations

The engineers and technicians at FMB have taken the flexibility of the loading magazines into account from the outset in construction. Therefore, it is possible to optimise all loading magazines to customers' requirements. Be it the adaptation to a machine tool, various possibilities of loading or quite simply an individual coat of paint.
Something for the eyes - individual design.
You can also order the loading magazine from us to match the colour of your machine tool.

FMB
Maschinenbau

The FMB Service-Hotline

So that you get the right person to contact straight away in questions of service, we have set up a hot-line for you, where you are given quick and competent information about the following subjects:

- Fault diagnosis and rectification by telephone
- Online data remote diagnosis
- Coordination of the service engineers in situation
- Machine maintenance
- Accessories for your loading magazine
- Assistance in determining spare parts

Our service hotline is available
for you by phone: +49 (0) 93 92 - 80 18 01
Monday - Friday
from 7.00 a.m. - 7.00 p.m. CET
Saturday
from 8.00 - 12.00 a.m. CET
Also by E-Mail:
service@fmb-machinery.de

Part supply for your FMB product

With the purchase of an FMB loading magazine, you have made an investment for the future. Our extensive range of accessories and the fast availability of spare parts - also for older magazines - guarantee years of constant productivity for you.

Making a difference - the accessories

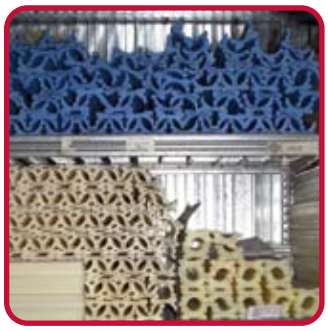
To match your loading magazine and the material to be processed, we offer you various material guides and channel segments.

Quickly available - the spare parts

For prompt supply, we always have sufficient quantities of spare parts in stock. And you will even find spare parts for „old timers“ back to the early 80‘s.

All around the world - dispatch

We only use established logistic companies for unproblematic and punctual dispatch.



Installation, maintenance and repair

Our FMB-trained service personnel will help you on site. We offer a high availability of our wide range of services by involving highly skilled service partners, worldwide.

The new loading magazine - installation

Our service engineers install the loading magazine for you in position on your machine tool. Your personnel is trained in operation. In the event of a change of personnel, you can also obtain tailor-made training on site from FMB.

Done by professionals - maintenance

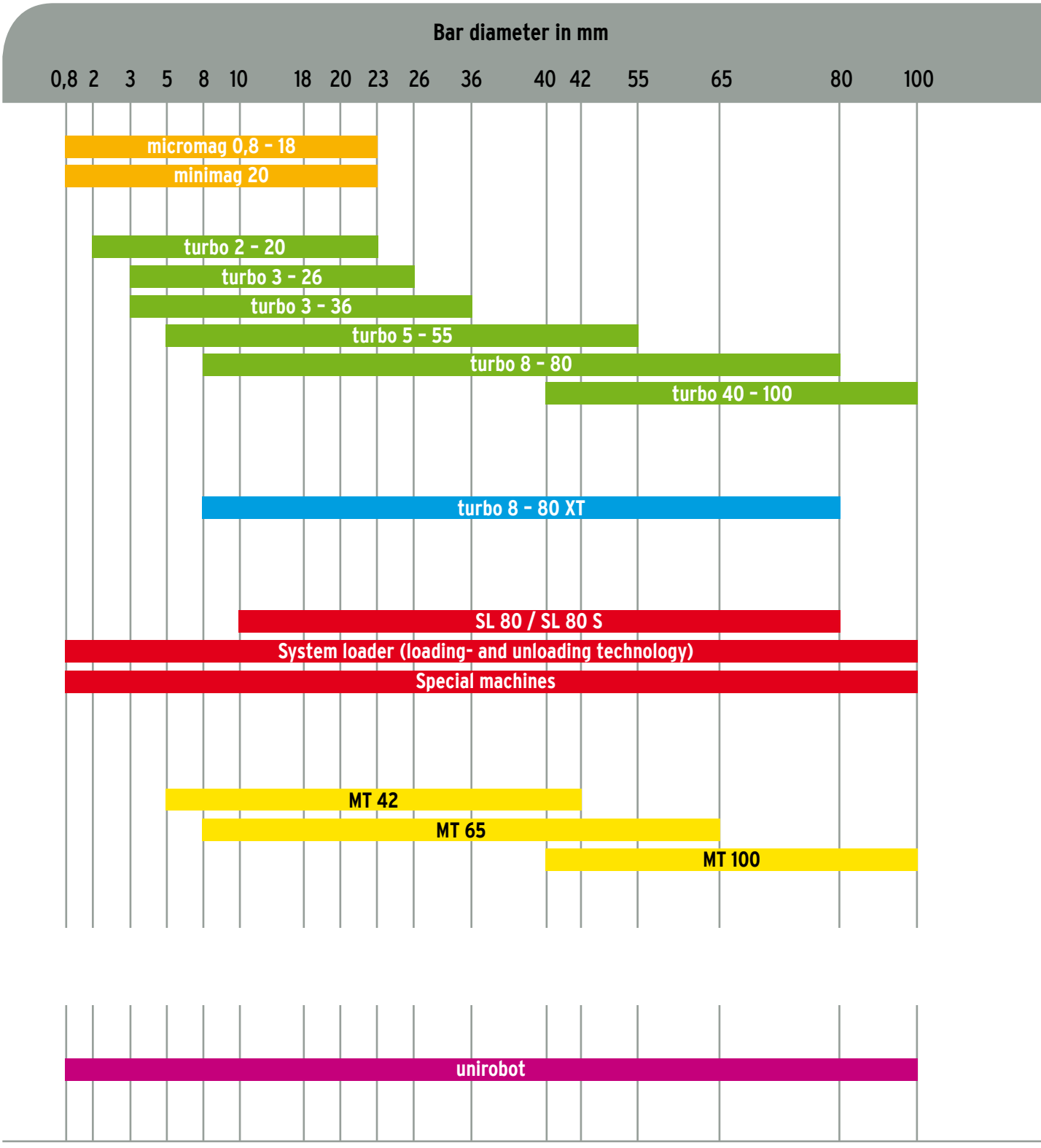
Maintain productivity and secure a long service life of the loading magazine by professional maintenance from FMB.

Available all over the world - repairs

Each loading magazine sold by us is also repaired by our service engineers. We are here for you: from remote diagnosis right down to repair on site - all over the world.

You will find the FMB Service-Partners world-wide on page 31

Loading Magazines for processing bars



FMB Maschinenbau

Single spindle lathe

LC LINE — Low cost solution for small diameter CNC- and CAM-controlled lathes

ST LINE — Standard solution to cover completely the diameter range from 2 to 100 mm

XT LINE — High-tech magazines for high-performance production

BF LINE — Individual solutions for the loading and unloading of bars and unusual bar sections

Multi spindle lathe

MT LINE — Loading magazines for multi-spindle lathes

unirobot® – Loading and unloading of machined and unmachined parts

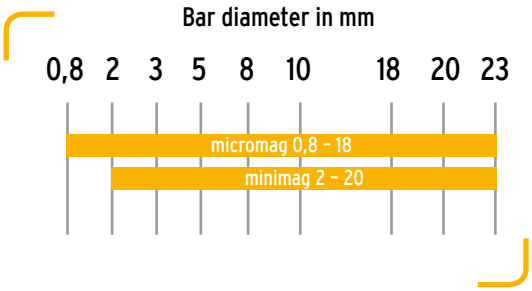
AT LINE — Handling system for workpieces based on a 6-axle robot system

Page

micromag 0,8 – 18

FMB micromag is a magazine for bar diameters of 0,8 - 23 mm. Designed for small Swiss type lathes (4 mm, 7 mm and 10 mm). Besides that the micromag is also suitable all swiss type lathes up to 18 mm diameter, which are also occasionally used for small diameter machining.

- swing-in step back reversal
- Servo drive with new clutch configuration
- enclosed 5 mm channel system
- all minimag channels are interchangeable
- space-saving due to side loading, no additional space required behind and infront the equipment is necessary



minimag 20

The FMB minimag 20 is an automatic Bar Loading Magazine for processing bars in the diameter range of 2 - 18 mm and in lengths up to 3200 mm or 4200 mm on machine tools.

- The loading magazine FMB minimag 18 is designed for automatically feeding round, square or hexagonal bar into automatic lathes.
- Oil filled plastic channels provide the ideal guiding system while reducing noise and vibration to a minimum. The feed channel size can be changed to allow the processing of the smallest bar diameters and it is securely closed with a very efficient, air operated, toggle lever system.
- The pusher bars and feed tubes can be changed quickly and easily for feeding smaller diameters.
- Changing the channelset of the magazine can be accomplished quickly and easily.
- Bars within a larger diameter range can be accommodated within one channel size.
- The bar remnant is withdrawn to the back end of the magazine.
  A gripper extracts it out of the clamping sleeve.

Single spindle lathe

LC LINE

Low cost solution for small diameter
CNC- and CAM-controlled lathes

Material guide
This device guides the round and profiled material between the feed channel and the automatic lathe. The device makes a spindle liner for the lathe unnecessary.

micromag 0,8 – 18
minimag 20

Technical data at page 22

Operation mode of the
FMB bar load magazine
page 21

The FMB
bar feed channel
page 21

micromag 0,8 – 18

minimag 20

turbo 2 – 20 / turbo 3 – 26 / turbo 3 – 36 / turbo 5 – 55 / turbo 8 – 80

The loading magazines FMB turbo 3-26 and FMB turbo 3-36 are designed for automatically feeding round, square and hexagonal bar material into automatic lathes.

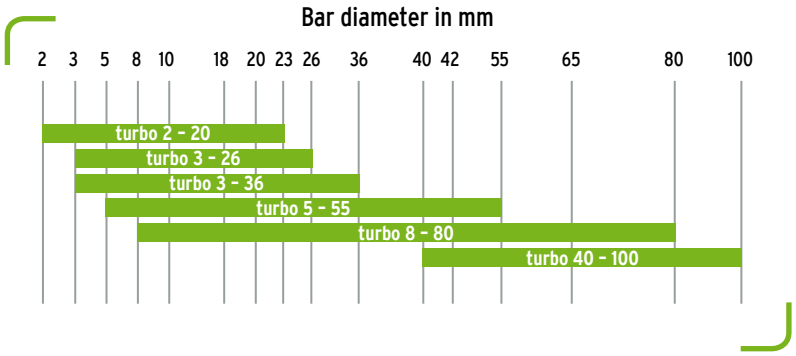
- The new design of the support is resisant to bending and reduces vibration to a minimum. Therefore smooth operation is guaranteed.
- Oil filled channels provide the ideal guiding system whilst reducing noise and vibration.
- Bars are placed on the storage table at the side of the feed channel with a loading capacity of 280 mm.
- The feed channel is securely closed with a toggle lever system while processing bars.
- Bars within a larger diameter range can be processed without the change of the feed bar and feed channel.
- The bar remnant is withdrawn to the back end of the magazine. A gripper extracts it out of the clamping sleeve.
- Feed channels can be changed quickly and easily for feeding other material bar diameters.
- Extensive options of control on the control panel guarantee the interaction between the bar loading magazine and the automatic lathe. Parameters are shown on the clear text display.

turbo 2 – 20

Single spindle lathe

ST LINE

Standard solution to cover completely the diameter range from 2 to 100 mm



turbo 2 – 20
turbo 3 – 26
turbo 3 – 36
turbo 5 – 55
turbo 8 – 80
turbo 40 – 100

Technical data at page 23

Operation mode of the FMB bar load magazine page 21

The FMB bar feed channel page 21

Change of the feed channel
The feed channel can be changed quickly and easily in about 7 minutes to accommodate other bar material diameters.

turbo 5 – 55

turbo 40 – 100

The FMB turbo 40-100 is an automatic loading magazine for processing bars in the diameter range of 40 – 100 mm and in lengths up to 3200, 3700 or 4200 mm on machine tools.

The loading magazine FMB turbo 40-100 is designed for automatically feeding round, square or hexagonal bars into automatic lathes (other profile materials on request).

Oil filled plastic channels provide the ideal guiding system whilst reducing noise and vibration to a minimum.Channel inserts can quickly be changed for different bar size ranges.

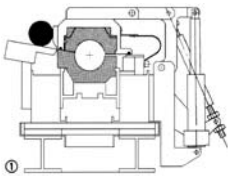
Damage to the bar material is avoided since there is no metal to metal contact.

The bar remnant is withdrawn and extracted to the back end of the magazine with a gripper.

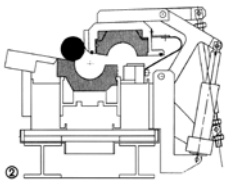
The roller steady guides the round bar material between the feed channel and the automatic lathe. Further noise dampening is accomplished with the use of plastic rollers.

A pneumatic gripper to press the material bar into the clamping sleeve and to extract the remnant. The gripper working on a vertical carriage moves down and grips the bar remnant. The feed bar moves back, the gripper blades open and the remnant is lowered from remnant flap into the remnant container.

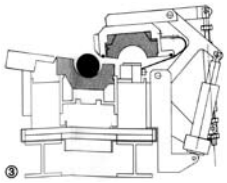
The mode of function



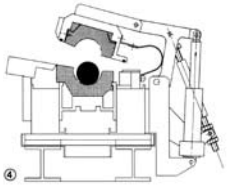
Loading
Bars are placed on the 180 mm deep storage table at the side of the feed channel.



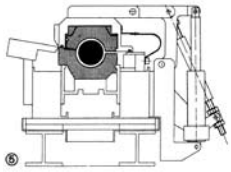
Opening the feed channel
The top section of the feed channel is lifted and moved aside by a screw driven mechanism.



Bar separation
The material bar drops slowly into the feed channel.



Closing the feed channel
The feed channel is then closed and remains locked.



Processing
The material bar is guided in the oil filled channel.

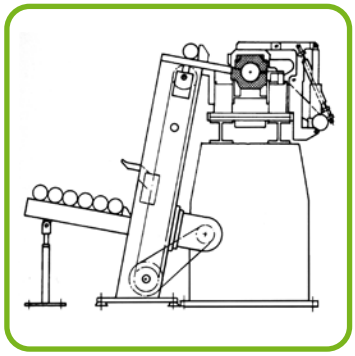
Single spindle lathe

ST LINE

Standard solution to cover completely the diameter range from 2 to 100 mm

turbo 40 – 100

Version LMLI

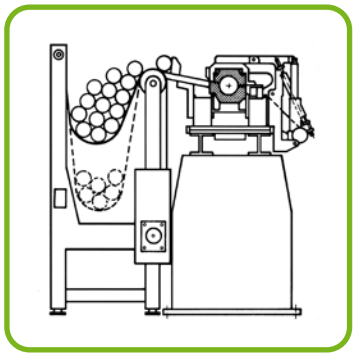


Loading magazine with a lifting device with brings the bar from a 1 m deep storage table into the feed tube. Feed rate is controlled by an adjustable drive. A pneumatic gripper is used to load a new bar to the clamping sleeve and to extract the remnant.

Technical data page 25

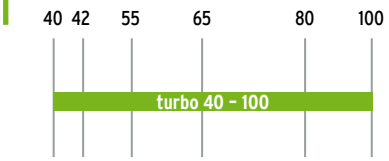
FMB machine feature page 20

Version LMBÜ



Similar to type LMLI but with a bundle loader.Capacity of the bundle loader is 2.5 t.

Bar diameter in mm



turbo 8 – 80 XT

The FMB turbo 8-80 XT is an automatic Bar Loading Magazine for processing bars in the diameter range of 8 - 80 mm and in lengths up to 3200 or 4200 mm on machine tools.

The loading magazine FMB turbo 8-80 XT is designed for automatically feeding round, square or hexagonal bar into automatic lathes.

Oil filled plastic channels provide the ideal guiding system whilst reducing noise and vibration to a minimum.

The polyurethane inserts can be quickly changed to accommodate diameter outside the prescribed range.

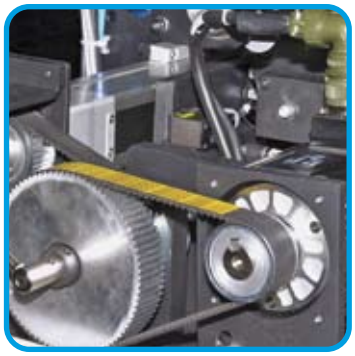
Damage to the bar material is avoided since there is no metal to metal contact.

Sturdy base structure due to the use of grey cast for the machine bed.

The storage capacitiy is 280 mm. Lifts and bundle loaders are optionally available for capacities up to 2,5 tons.

Bar diameter within a 20 mm range can be accommodated within one channel size. The 20 mm range is increased significantly when straight bar is used.

The bar remnant ist withdrawn to the back end of the magazine.
A gripper extracts it out of the clamping sleeve.



High precision linear drive facilitates stop-free insertion at high tuning speed.

- Time saving operation and high productivity
- Machine tool conservation
- Additional tool place due to omission of the stop

Single spindle lathe

XT LINE

High-tech magazines for
high-performance production

turbo 8 – 80 XT

Technical data at page 26

Operation mode of the
FMB bar load magazine
page 21

The FMB
bar feed channel
page 21

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

Feed channels –
Polyurethane inserts which can easily be changed for the range of 25 to 80 mm diameter. For the choice of channel sizes please see page 26.

turbo SL 80

The FMB SL80 (SL 80 S) is a automatic Bar Loading Magazine for processing bars in the diameter range of 10 - 80 mm and in lengths up to 1200 mm or 1500 mm on machine tools.

Free of noise and vibration
While processing the bar there is no contact between the material bar and the loading magazine, so whether the bar is round, square or hexagonal a processing is possible with an optimal spindle reduction without any problems.

Minimum space requirement
The compact design of the SL 80 loading magazines results in the minimum amount of floor space being used.

Side loading
The storage capacity is 530 mm deep. The inclination of the storage table is adjusted.

Loading to the automatic lathe
The material bar is loaded into the lathe spindle and is guided there. Spindle liners are necessary to accommodate different bar diameters.

Length of the material bars
Material bars with maximum lengths of 1200 and 1500 mm can be loaded. However, the maximum length depends on the spindle length of the automatic lathe.

Adjustment of the bar diameter
By means of a handwheel an easy and quick central adjustment reduces the change-over time to different bar diameters to a minimum.

Moving device
The loading magazine FMB SL 80 / SL 80 S is equipped with a moving device which makes an easy movement of the loading magazine possible. So the spindle liners of the main spindle can be changed easily.

The material bar is loaded into the main spindle of the automatic lathe by a pneumatic feed mechanism. The feed force and the feed rate are adjustable by pneumatic valves.

Minimum maintenance

Easy to operate by removable user-friendly control panel.

Single spindle lathe

BF LINE

Individual solutions for
the loading and unloading of bars and
unusual bar sections

SL 80
SL 80 S

turbo SL 80 S

Technical data at page 27

The material bar is loaded into the main spindle of the automatic lathe by a linear feed mechanism with toothed belt and servomotor. This drive allows the feeding of the material bar to a precise position.

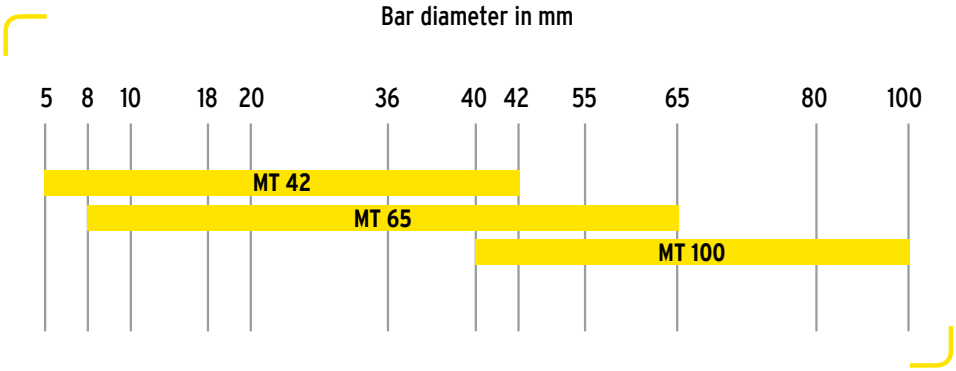
Operation mode of the
FMB bar load magazine
page 21

Extensive options of control guarantee the interaction between the loading magazine and the automatic lathe. All parameters are shown on the clear text display.

The FMB
bar feed channel
page 21

MT 42 / MT 65 / MT 100

The devices MT 42, MT 65 and MT 100 are automatic Bar Loading Magazines for processing bars in the diameter range of 5 - 100 mm and in lengths up to 3200 or 4200 mm on multi-spindle lathes.



Settings
All operation parameters can be entered into the control panel. Positioning of limit switches is not necessary.

Free of noise and vibration
While processing the bar there is no contact between the material bar and the loading magazine, so whether the bar is round, spuare or hexagonal there is no problem.

Insertion forces
The insertion force infinitely variable via the control panel. High bar insertion force is possible as a result of the rigid anti-torsion frame design.

Bar storage system (version 1)
A minimum of space is needed due to the compact construction. A low cost solution for automatically loading multi-spindle lathes.

Multi layer bar support (version 2)
Higher loading capacity can be achieved by having four storage layers, which also saves space.

Bundle loader (version 3)
The bundle loader offers high capacity and easy loading.

Pusher
Having a out-swinging pusher bar reduces the total length of the loading magazine.

Bars Ø < 8 mm
Small bar diameters can be separated without problem because of swinging bar stop design. (MT 42).

Holding Down Device
The holding down system fitted to the loading magazine FMB MT 42 allows high insertion forces into the lathe collet and it prevents distortion of small diameter bars.

Multi spindle lathe

MT LINE

Loading magazines for multi-spindle lathes

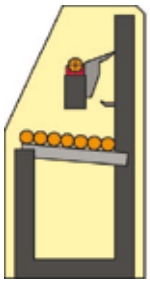
MT 42
MT 65
MT 100

Technical data at page 28

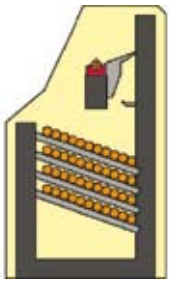
Operation mode of the
FMB bar load magazine
page 21

The FMB
bar feed channel
page 21

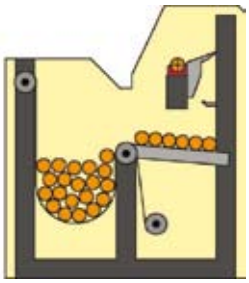
The versions of MT loading magazines



Version 1
Single layer
bar support



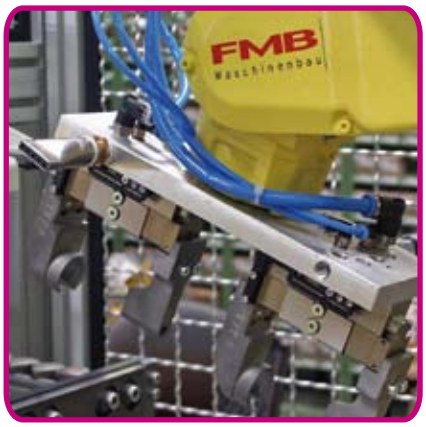
Version 2
Multi layer bar support for
bar diameters up to 42 mm.



Version 3
Bundle loader for bar diameters
up to 65 mm. Loading capacity
2,5 to.

unirobot® automation systems are automation cells with 6-axis industrial robots wich excel thanks to

- high profitability
- individual design
- rapid movements
- high flexibility



unirobot® automation systems have repeatedly proven their worth in:

- Loading and unloading of automatic lathes, milling centres, presses, grinding machines, injection moulding machines, measurement systems, etc.
- Linking of entire production units.
- Assembly of components

unirobot® automation systems optionally provide:

- De-burring function
- Light metal-cutting processing
- Image recognition
- Testing measurement function with scrap separators
- Connection of statistical process control
- Remote system monitoring

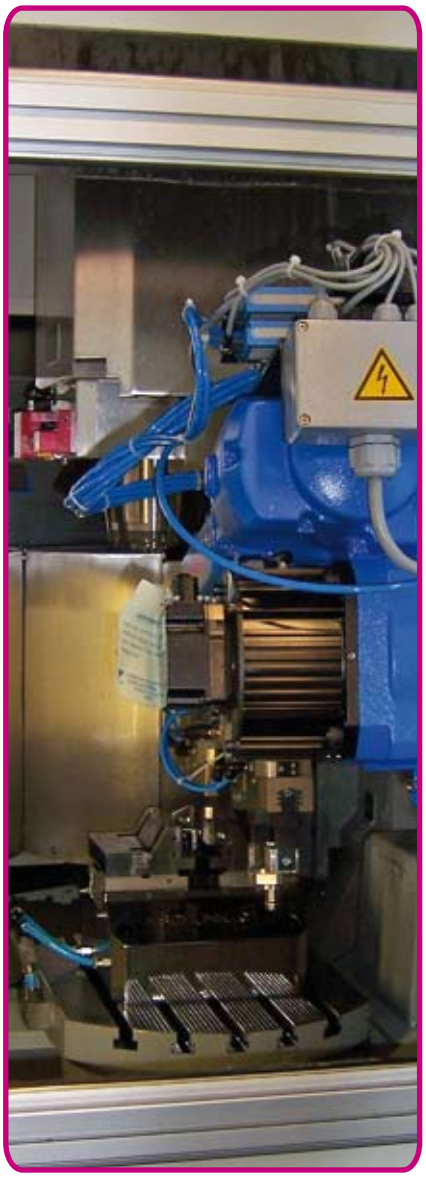
unirobot® automation systems

- are mechanically and electrically adapted to the interface problems in question
- can be provided with standardised mechanical and eletrical interfaces, e.g. for flexible use on a number of production plants

Loading and unloading of machined and unmachined parts

ATI LINE

Handling system for workpieces
based on a 6-axis robot system



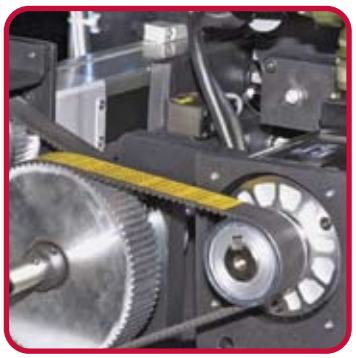
Standard solutions:
unirobot® 4P unirobot® 2TB
unirobot® 8P unirobot®2W
unirobot® FS

Data page 29

For individual automation systems, please request for individual unirobot® brochure

Whether automatic systems of the peg or individually tailor-made to match your requirements – unirobot® from FMB Maschinenbau

FMB machine feature



Drive

Precise synchronous belt drive facilitates accurate feed tolerances at low noise.

Profiled material

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

Gripper

A pneumatic gripper to press the material bar into the clamping sleeve and to pull out the material rest. The gripper arrranged on a side block performs an adequate action in the function mentioned above. A force up to 1500 N presses the bar and removes the material rest. It is not necessary to point the bars if they are cleanly cut.

Feed channels

Polyurethane inserts which can easily be changed for the range of 5 to 80 mm diameter. For the choice of channel sizes please see the list.

Pusher bar*

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

Roller steady

A device to guide the material bar between the lathes and the bar guidance, for processing round and profile material, through setting of feed jaws (for profile material).

Control panel

Extensive options guarantee the interaction between the bar loading magazine and the automatic lathe. Parameters are shown on the clear text display. Positioning of the limit switch is no longer necessary.

Control

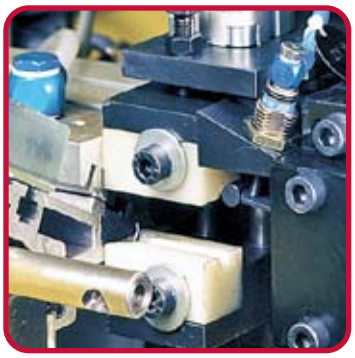
SPS controller (FANUC, Omron) with servo motor drive to the feed machanism. Flexible control of length and rate of feed guarantee the optimum practical and therefore economic use of the magazine.

Toggle lever locking*

An efficient, air operated, toggle lever device is used to close the bar feed channel when material is being processed.

In-feed control

The new bar is automatically positioned in the lathe ready for facing cut off before the first component is produced.



* Deviations with individual machines

The operating mode of FMB loading magazines

The storage capacity is 180 mm.

Loading

The material is loades from the bar storage table into the feed channel.

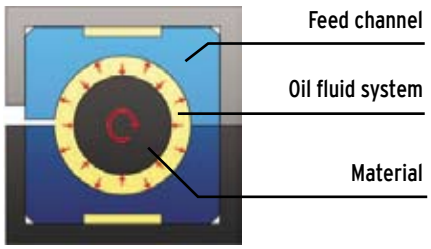
Bar seperation

Guidance of the bar within the oil-filled channel.

Processing

FMB bar feed channel

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



If the diameter of the bar material is close to that of the channel little turbulence can be created by rotation but then the hydrodynamic bearing effect supports the centre of the channel.

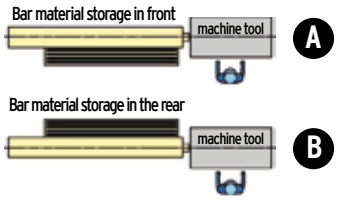
Technical data/ Machine dimension

Page

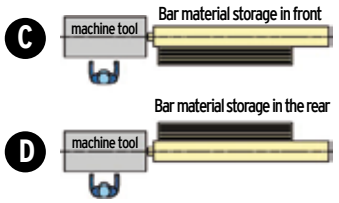
	micromag 0,8 – 18	minimag 20
	A B C D	A B C D
Bar diameter	0,8 – 18 mm	2 – 20 mm
Max. bar length	3200 mm, 4200 mm	3200 mm, 4200 mm
Standard channel sizes – Channel size	5, 7, 10, 12, 13, 15, 16, 18	5, 7, 10, 12, 13, 15, 16, 18, 20, 22, 23
Standard channel sizes – maximum bar size capacity (mm)	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.
Standard channel sizes – I round diameter	4 (5), 5 (7), 8 (10), 10 (12), 11 (13), 13 (15), 14 (16), 16 (18)	3 (5), 5 (7), 8 (10), 10 (12), 11 (13), 13 (15), 14 (16), 16 (18), 20
Standard channel sizes – I hex A/F	3 (4), 4 (6), 7 (8), 8 (10), 9 (11), 11 (13), 12 (13), 13	2 (4), 4 (6), 7 (8), 8 (10), 9 (11), 11 (13), 12 (13), 13, 17
Standard channel sizes – I sp. A/F	3 (3), 3 (5), 5 (7), 7 (8), 7 (9), 9 (10), 10 (11), 11	2 (3), 3 (5), 5 (7), 7 (8), 7 (9), 9 (10), 10 (11), 11, 14
Power consumption	1,5 KW	1,5 KW
Feed force	adjustable, max. 300 N	adjustable, max. 300 N
In feed rate	adjustable from 0 – 300 mm/sec	adjustable from 0 – 300 mm/sec
Forward feed rate	adjustable max. 300 mm/sec	adjustable max. 300 mm/sec
Return feed rate	600 mm/sec	600 mm/sec
Loading time	22 sec (for bars 3200 mm)	22 sec (for bars 3200 mm)
Oil capacity	50 litres	50 litres
Oil viscosity	100 cSt at 40 °C	100 cSt at 40 °C
Operating voltage	400 V / 50 Hz (standard)	400 V / 50 Hz (standard)
Compressed air supply	0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)
Compresed air consumption	approx. 3 litres per loading approx. 0,3 litres per double stroke of the steady	approx. 3 litres per loading approx. 0,3 litres per double stroke of the steady
Weight without oil	3200 mm - 500 kg 4200 mm - 600 kg	3200 mm - 500 kg 4200 mm - 600 kg
Remnant length	300 mm at max.	420 mm at max.

Loading possibilities

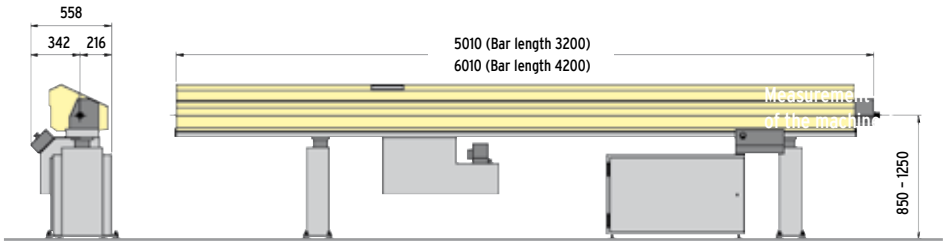
Feeding from left



Feeding from right



Machine dimension



micromag 0,8 – 18

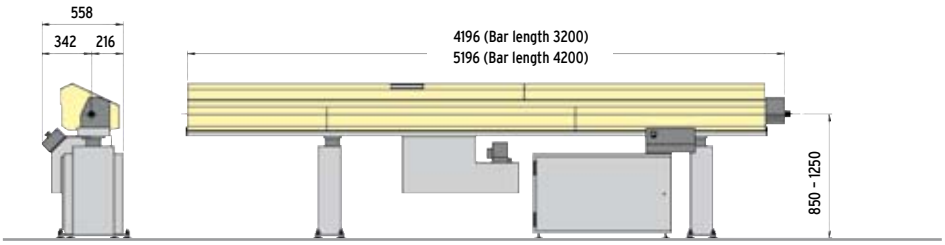
minimag 20

turbo 2 – 20	turbo 3 – 26	turbo 3 – 36	
A B C D	A B C D	A B C D	
2 – 20 mm	3 – 26 mm	3 – 36 mm	Bar diameter
3200 mm, 4200 mm	3200 mm, 4200 mm	3200 mm, 4200 mm	Max. bar length
5, 7, 10, 12, 13, 15, 16, 18, 20, 22, 23	7, 10, 12, 15, 18, 20, 25, 26	7, 10, 12, 15, 18, 20, 25, 26, 32, 36, 38	Channel size
( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.	maximum bar size capacity (mm)
3 (5), 5 (7), 8 (10), 10 (12), 11 (13), 13 (15), 14 (16), 16 (18), 20	5 (7), 8 (10), 10 (12), 13 (15), 16 (18), 18 (20), 23 (25), 24 (26), 28 (32), 32(36)	5 (7), 8 (10), 10 (12), 13 (15), 16 (18), 18 (20), 23 (25), 24 (26), 28 (32), 32(36)	I round diameter
2 (4), 4 (6), 7 (8), 8 (10), 9 (11), 11 (13), 12 (13), 13, 17	4 (6), 7 (8), 8 (10), 11 (13), 13 (15), 15 (17), 20 (21), 20 (22)	4 (6), 7 (8), 8 (10), 11 (13), 13 (15), 15 (17), 20 (21), 20 (22), 24 (27), 27 (31)	I hex A/F
2 (3), 3 (5), 5 (7), 7 (8), 7 (9), 9 (10), 10 (11), 11, 14	3 (5), 5 (7), 7 (8), 9 (10), 11 (12), 12 (14), 16 (17), 17 (18)	3 (5), 5 (7), 7 (8), 9 (10), 11 (12), 12 (14), 16 (17), 17 (18), 19 (22), 22 (25)	I sp. A/F
1,5 KW	1,5 KW	1,5 KW	Power consumption
adjustable, max. 300 N	adjustable, max. 450 N	adjustable, max. 450 N	Feed force
adjustable from 0 – 300 mm/sec	adjustable from 0 – 520 mm/sec	adjustable from 0 – 520 mm/sec	In feed rate
adjustable, max. 300 mm/sec	adjustable, max. 700 mm/sec	adjustable max. 700 mm/sec	Forward feed rate
600 mm/sec	1000 mm/sec	1000 mm/sec	Return feed rate
22 sec (for bars 3200 mm)	26 sec (for bars 3200 mm)	26 sec (for bars 3200 mm)	Loading time
50 litres	80 litres	80 litres	Oil capacity
100 cSt at 40 °C	100 cSt at 40 °C	100 cSt at 40 °C	Oil viscosity
400 V / 50 Hz (standard)	400 V / 50 Hz (standard)	400 V / 50 Hz (standard)	Operating voltage
0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)	Compressed air supply
approx. 3 litres per loading approx. 0,3 litres per double stroke of the steady	approx. 10 litres per loading approx. 0,5 Liter per double stroke of the steady	approx. 10 litres per loading approx. 0,5 litres per double stroke of the steady	Compresed air consumption
3200 mm - 500 kg 4200 mm - 600 kg	3200 mm - 1000 kg 4200 mm - 1200 kg	3200 mm - 750 kg 4200 mm - 1000 kg	Weight without oil
420 mm at max.	450 mm at max.	450 mm at max.	Remnant length

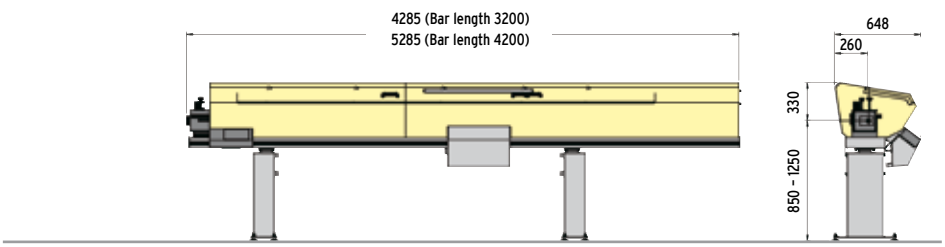
Standard channel size

Machine dimension

turbo 2 – 20



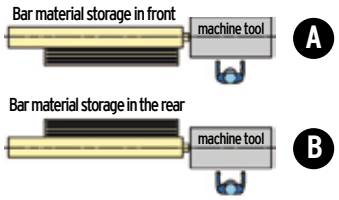
turbo 3 – 36



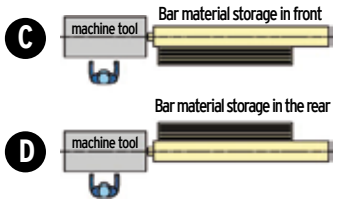
	turbo 5 – 55	turbo 8 – 80
	A B C D	A B C D
Bar diameter	5 – 55 mm	8 – 80 mm
Max. bar length	2200, 3200 mm, 4200 mm	3200 mm, 4200 mm
Standard channel size: Channel size	15, 25, 32, 36, 42, 50, 55	25, 42, 50, 60, 65, 72, 80
Standard channel size: maximum bar size capacity (mm)	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.
Standard channel size: I round diameter	12 (15), 22 (25), 28 (32), 32 (36), 38 (42), 45 (50), 50 (55)	22 (25), 38 (42), 45 (50), 55 (60), 60 (65), 65 (70), 72 (80)
Standard channel size: I hex A/F	10 (13), 19 (21), 24 (27), 27 (31), 33 (36), 38 (43), 42 (47)	19 (21), 32 (36), 38 (43), 47 (51), 51 (56), 56 (62), 62
Standard channel size: I sp. A/F	8 (10), 15 (17), 19 (22), 22 (25), 26 (29), 31 (35), 34 (38)	15 (17), 26 (29), 31 (35), 38 (42), 42 (45), 45 (50), 50
Power consumption	2,2 KW	3,5 KW
Feed force	adjustable, max. 750 N	adjustable, max. 750 N
In feed rate	adjustable from 0 – 700 mm/sec	adjustable from 0 – 700 mm/sec
Forward feed rate	adjustable max. 1000 mm/sec	adjustable max. 1000 mm/sec
Return feed rate	1000 mm/sec	1000 mm/sec
Loading time	30 sec (for bars 3200 mm)	ca. 30 sec (for bars 3200 mm)
Oil capacity	80 litres	80 litres
Oil viscosity	150 cSt at 40 °C	150 cSt at 40 °C
Operating voltage	400 V / 50 Hz (standard)	400 V / 50 Hz (standard)
Compressed air supply	0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)
Compresed air consumption	approx. 10 litres per loading approx. 0,5 litres per double stroke of the steady	approx. 10 litres per loading approx. 0,5 litres per double stroke of the steady
Weight without oil	3200 mm - 1800 kg 4200 mm - 2300 kg	3200 mm - 2800 kg 4200 mm - 3300 kg
Remnant length	530 mm at max.	max. 580 mm at max.

Loading possibilities

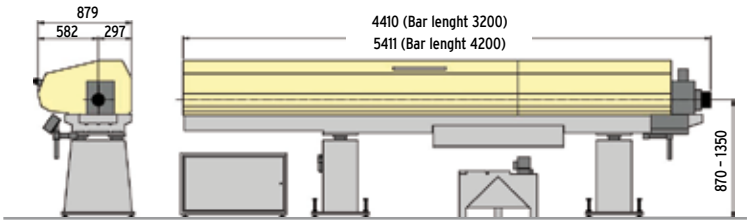
Feeding from left



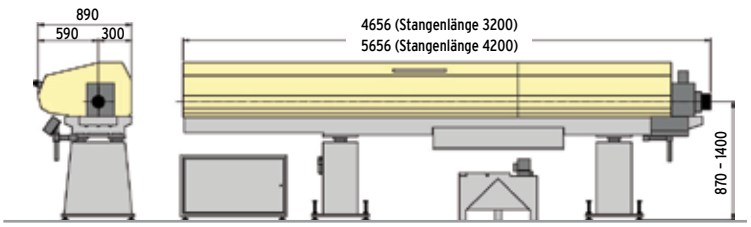
Feeding from right



Machine dimension



turbo 5 – 55



turbo 8 – 80

turbo 40 – 100

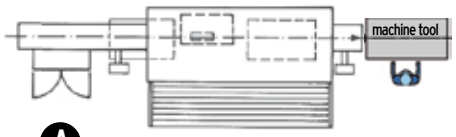
A

Stangendurchmesser	40 – 100 mm
Max. bar length	LMLI 3200: 3200 mm LMLI 4200: 4200 mm LMBÜ 3200: 3200 mm LMBÜ 4200: 4200 mm
Channel size	90, 100
maximum bar size capacity (mm)	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible. 80 (90), 90 (100)
Power consumption	7,0 KW
Feed force	adjustable, max. 1000 N
Forward feed rate	adjustable, max. 400 mm/sec
Return feed rate	600 mm/sec
Loading time	ca. 70 sec (for bars 3200 mm)
Oil capacity	160 litres
Oil viscosity	150 – 220 cSt at 40 °C
Operating voltage	400 V / 50 Hz (standard)
Compressed air supply	0,6 MPA (= 6 bar)
Compressed air consumption	approx. 20 litres per loading ca. 3 litres per double stroke of the steady
Weight without oil	6000 kg at max.
Remnant lenght	100 mm at min., 300 mm at min.

Standard channel size

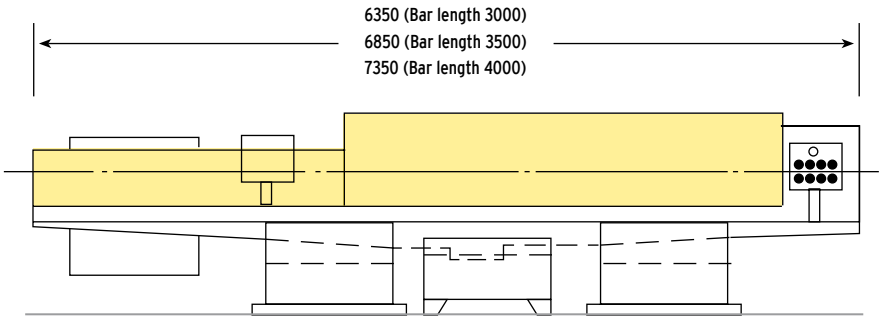
Loading possibilities

Feeding from left **(LMLI, LMBÜ)**



A

Machine dimension



turbo 40 – 100

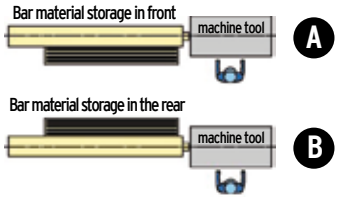
turbo 8 – 80 XT

A B C D

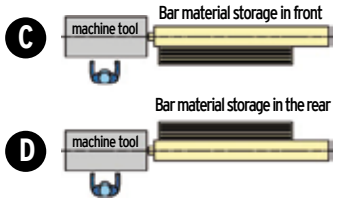
Bar diameter	8 – 80 mm
Max. bar length	3200 mm, 4200 mm
Standard channel size – Channel size	25, 42, 50, 60, 65, 72, 80
Standard channel size – maximum bar size capacity (mm)	( ) Diameters in brackets can be achieved if bar ends are turned down or if forward ejection of the bar remnant is possible.
Standard channel size – I round diameter	22 (25), 38 (42), 45 (50), 55 (60), 60 (65), 65 (70), 72 (80)
Standard channel size – I hex A/F	19 (21), 32 (36), 38 (43), 47 (51), 51 (56), 56 (62), 62
Standard channel size – I sp. A/F	15 (17), 26 (29), 31 (35), 38 (42), 42 (45),45 (50), 50
Power consumption	3,5 KW
Feed force	adjustable, max. 750 N
In feed rate	adjustable from 0 – 700 mm/sec
Forward feed rate	adjustable max. 1000 mm/sec
Return feed rate	1000 mm/sec
Loading time	30 sec (for bars 3200 mm)
Oil capacity	80 litres
Oil viscosity	150 cSt at 40 °C
Operating voltage	400 V / 50 Hz (standard)
Compressed air supply	0,6 MPA (= 6 bar)
Compresed air consumption	approx. 10 litres per loading approx. 0,5 litres per double stroke of the steady
Weight without oil	3200 mm - 2800 kg 4200 mm - 3300 kg
Remnant length	580 mm at max.

Loading possibilities

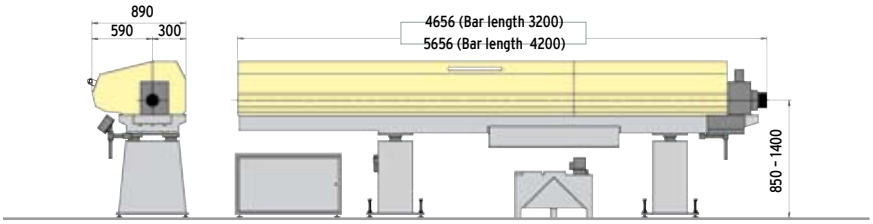
Feeding from left



Feeding from right



Machine dimension



turbo 8 – 80 XT

SL 80

A B

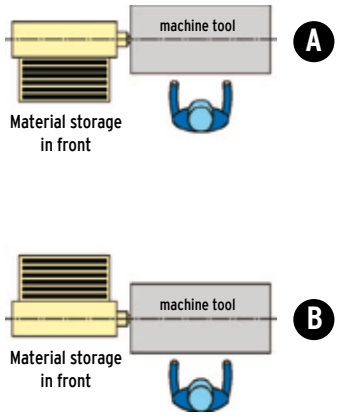
SL 80 S

A B

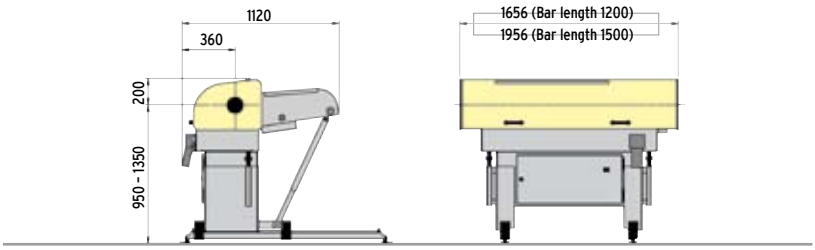
10 – 80 mm	10 – 80 mm	Bar diameter
1200 mm, 1500 mm	1200 mm, 1500 mm	Max. bar length
80	80	Channel size
		maximum bar size capacity (mm)
10 – 80	10 – 80	I round diameter
10 – 68	10 – 68	I hex A/F
10 – 55	10 – 55	I sp. A/F
0,25 KW	1 KW	Power consumption
adjustabel, max. 450 N at 6 bar	adjustable, max. 450 N	Feed force
pneumatic feed mechanism	adjustable from 0 – 700 mm/sec	In feed rate
	adjustable, max. 500 mm/sec	Forward feed rate
	1000 mm/sec	Return feed rate
20 sec	20 sec	Loading time
-	-	Oil capacity
-	-	Oil viscosity
400 V / 50 Hz (standard)	400 V / 50 Hz (standard)	Operating voltage
0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)	Compressed air supply
approx. 60 litres per bar change ca. 5 litres per part feed	approx. 10 litres per bar change	Compresed air consumption
1200 mm – 500 kg 1500 mm – 600 kg	1200 mm – 500 kg 1500 mm – 600 kg	Weight without oil
machine-dependent	machine-dependent	Remnant length

Standard channel size

Feeding from left



Machine dimension



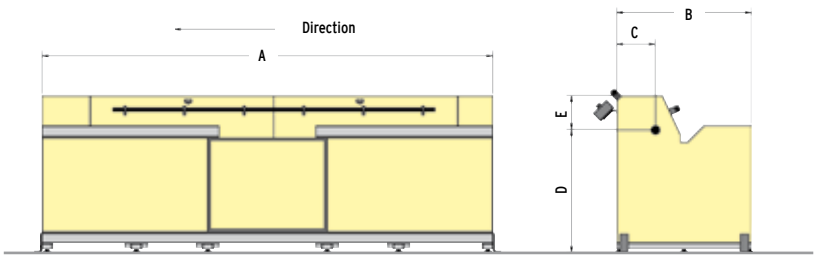
SL 80 / SL 80 S

	MT 42	MT 65	MT 100
Bar diameter	5 – 42 mm	10 – 42 mm	40 – 100 mm
Max. bar length	3200 mm, 4200 mm	3200 mm, 4200 mm	4200 mm
Channel size	10, 15, 20, 25, 32, 36, 42	10, 15, 20, 25, 32, 36, 42, 50, 55, 60, 65	adjustable
power consumption	2,5 KW	3,0 KW	3,75 KW
Loading capacity			
Version 1 *	bar storage in length 450 mm	–	bar storage length of 1700 mm
Version 2 *	multi layer bar support in length of 4 x 450 mm	–	–
Version 3 *	–	bundle loader with loading capacity of 2,5 to.	–
Feed force	500 N (3000 N)*	600 N (10000 N)*	800 N (10000 N)*
Feed rate	1200 mm/sec (150 mm/sec)	1200 mm/sec (85 mm/sec)	1200 mm/sec (70 mm/sec)
Loading time	11 sec (Bar length 3200)	13 sec (Bar length)	20 sec (Bar length 3200)
Operating voltage	400 / 50 Hz	400 / 50 Hz	400 / 50 Hz
Control voltage	24 V DC	24 V DC	24 V DC
Compressed air supply	0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)	0,6 MPA (= 6 bar)
Compressed air consumption	approx. 1 litres per loading action	approx. 1 litres per loading action	approx. 10 litres per loading action
Weight	3200 mm - 900 kg 4200 mm - 1100 kg	3200 mm - 1600 kg 4200 mm - 1800 kg	4200 mm - 6000 kg

* value by pressing the bar into the feed collet

Measurement of the machine			
A	Bar length 3200 mm / 4200 mm	Bar length 3200 mm / 4200 mm	Bar length 4200 mm
B	Version (Version 1) 750 mm (Version 2)	660 mm (Version 1) 1130 mm (Version 2)	2000 mm (Version 1)
C	274 mm	325 mm	600 mm
D	1030 – 1350 mm	1030 – 1350 mm	1250 – 1470 mm
E	258 mm	285 mm	534 mm

* see page 17



MT 42 / MT 65 / MT 100

Select an **FMB unirobot®**-System,
wich has proven its worth repeatedly and will
satisfy your requirements:

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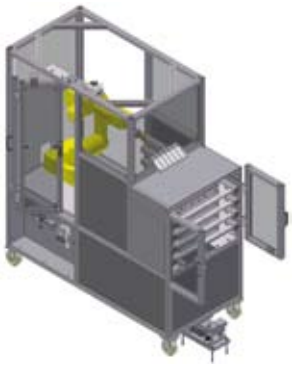
Automation Systems

FMB unirobot® 4P

- 4 pallet shafts for
- standard 600 x 400 mm pallets
- Robot with 3 kg handling weight
- Application-specific gripping system
- Compact solution with high memory capacity



unirobot® 4P

FMB unirobot® 8P

- 8 pallet shafts for
- standard 600 x 400 mm pallets
- Robot with 6 kg handling weight
- Application-specific gripping system
- Compact solution with heigh memory capacity

unirobot® 8P

FMB unirobot® FS

- Conveyor line for 2 stacks of pallets
- each with 15 standard 600 x 400 mm pallets
- Robot with 6 kg handling weight
- Application-specific gripping system
- Solution with high memory capacity

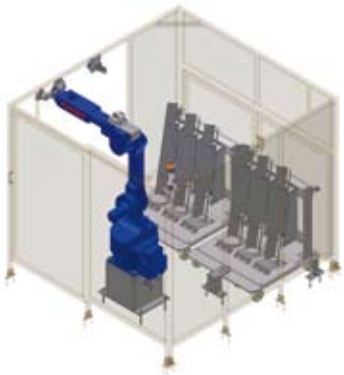
unirobot® FS

unirobot®
Automation Systems

unirobot® 2TB

FMB unirobot® 2TB

- Raw part feeding belt 800 x 1000 mm with 5 tracks and centrally adjustable track width
- Finished part removal belt 800 x 1200 mm
- Robot with 20 kg handling weight
- Application-specific gripping system
- Highly flexible solution for workpieces of varying geometries



unirobot® 2W

FMB unirobot® 2W

- 2 individually designable carriages in use
- Robot with 20 kg handling weight
- Application-specific gripping system
- Flexible solution for large-shaped workpieces

FMB unirobot® – we have the individual solution for your requirements

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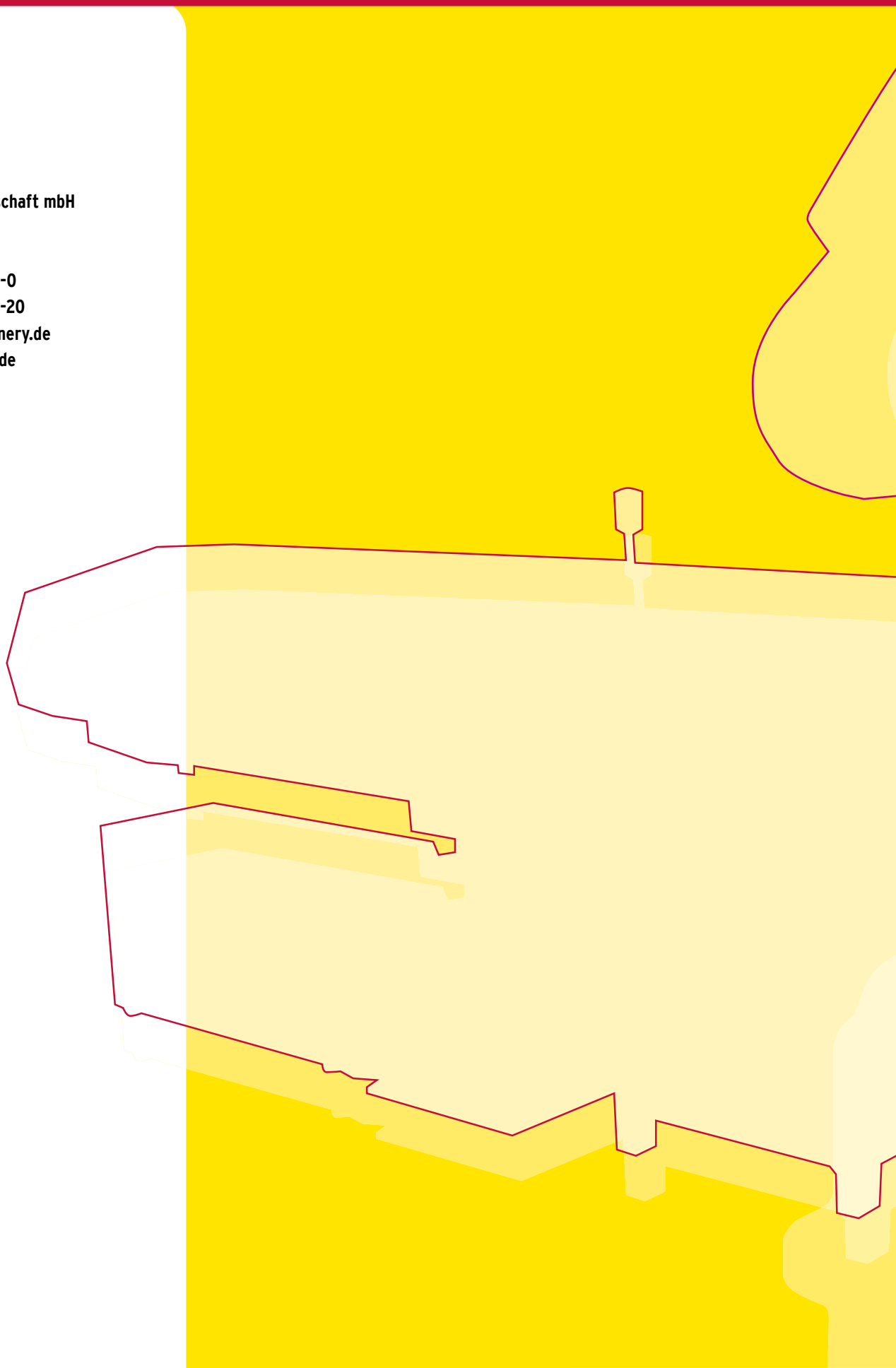

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09.2007/Technical subject to change

we know how