

MULTI-SPADE BESSER-MATIC

LOADER/UNLOADER



BESSER

an employee-owned company

AUTOMATIC, GENTLE AND VERSATILE HANDLING OF CONCRETE PRODUCTS

Designed for Versatility

Besser engineers designed the Multi-Spade Besser-Matic® (MSBM) to efficiently and reliably handle concrete products. The design of the MSBM is time-proven and provides dependable, cost-effective operation.

The MSBM has built a reputation as a versatile and dependable pallet handling system since it was introduced to the industry in the 1970s. As with the original system, the new MSBM fits into all semi- or fully automatic plant layouts and accommodates the output of all concrete products machines. The MSBM handles concrete units of all shapes and sizes with ease.

The MSBM gently loads and unloads concrete products onto and off of racks, automatically. The machine has two separate stackers each equipped with a spade loader or unloader. The loader stacker receives pallets of green concrete masonry units from the front delivery conveyor of the concrete products machine. The spade loader moves in and elevates to pick up a load. Once the spade loader is full, the spade moves out of the stacker to the center, rotates 180 degrees, moves forward and gently deposits the pallets of green concrete masonry units onto a rack. The spade then moves out of the rack to the center, rotates another 180 degrees and returns to the stacker to pick up another load.

Simultaneously, the spade unloader retrieves pallets of cured concrete masonry units from the racks then moves out of rack to center, rotates 180 degrees, travels forward and deposits the pallets into the unloader stacker. The stacker sets the pallets one at a time onto the unloading conveyor while the spade moves to center, rotates 180 degrees and returns to the rack to pick up another load.

The rack conveyor indexes to the next bay or to the next rack after the spade loader and unloader have filled or emptied their respective bays.



The thoughtful design of the MSBM provides trouble-free operation and is simple to maintain.

Specifications

MS-13 Besser-Matic for use on a Three-At-A-Time

Capacity: up to 11 pallets high with 26" x 18-1/2" (660 mm x 470 mm) pallets (other pallet sizes are available); 3000 lb (1361 kg) payload

Rack Conveyor: available for use with fork lift or LSC-50 system

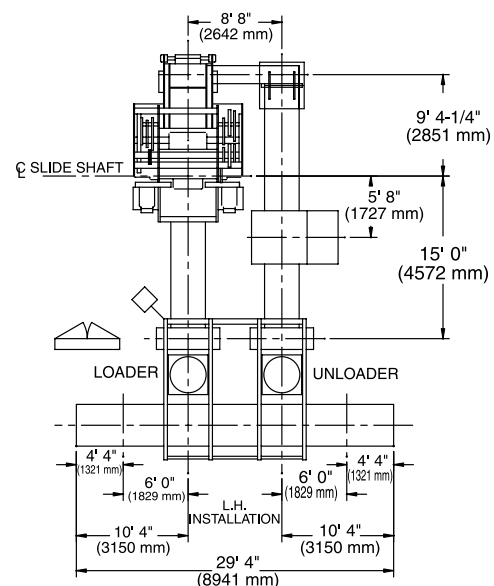
Unloading Centers: 7' (2134 mm) on two bay for fork lift operations; 8' 8" (2642 mm) on three bay for fork lift operations or for LSC-50 (variations are available)

Maximum Equipment Height: 14', 16' or 18' (4267 mm, 4877 mm or 5486 mm) depending on application

Weight: 26,000 lbs (11,794 kg)

Total Motor Capacity:

- 1 hp (.76 kW) ----- front delivery conveyor
- 3 hp (2.3 kW) ----- unloading conveyor
- 2 hp (1.5 kW) ----- pallet return conveyor
- 6 hp (4.5 kW) ----- loader spade assembly
- 6 hp (4.5 kW) ----- unloader spade assembly
- rack conveyor (hydraulic)
- depalleter (hydraulic)
- 18 hp (13.5 kW) ----- **total**



Dynapac® (three-at-a-time) concrete products machine with a MS-13 Besser-Matic® and fork lift operation.

Cover photo: The MS-16 Multi-Spade Besser-Matic® loader stacker gently sets pallets of cured concrete masonry units onto the unloading conveyor.

Specifications

MS-14 Besser-Matic for use on a Four and Five-At-A-Time

Capacity: up to 11 pallets high with 38-1/2" x 18-1/2" (978 mm x 470 mm) pallets (other pallet sizes available); 6000 lb (2721 kg) payload

Rack Conveyor: available for use with LSC-50/75/100 system

Unloading Centers: 12' 6" (3810 mm) for LSC-50 & LSC-75; 16' 0" (4877 mm) for LSC-100 (variations are available)

Maximum Equipment Height: 16' or 18' (4877 mm or 5486 mm) depending on application

Weight: 38,500 lbs (17,460 kg)

Total Motor Capacity:

1.5 hp (1.1 kW)	-----	front delivery conveyor
4 hp (3 kW)	-----	unloading conveyor
1 hp (.76 kW)	-----	pallet return conveyor
	-----	pallet rollover
17 hp (12.8kW)	-----	loader spade assembly
17 hp (12.8 kW)	-----	unloader spade assembly
	-----	rack conveyor (hydraulic)
	-----	depalleter (hydraulic)
41.5 hp (31.1 kW)	-----	total

MS-16 Besser-Matic for use on a Six-At-A-Time

Capacity: up to 10 pallets high with 55" x 18-1/2" (1397 mm x 470 mm) pallets (other pallet sizes available); 10,000 lb (4535 kg) payload

Rack Conveyor: available with LSC-100 system

Unloading Centers: 16' (4877 mm) for LSC-100 system

Maximum Equipment Height: 20' 6" (6248 mm)

Weight: 56,000 lbs (25,397 kg)

Total Motor Capacity:

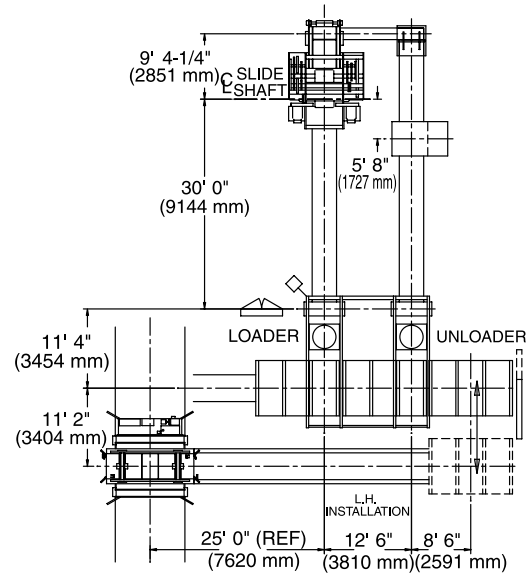
4 hp (3 kW)	-----	front delivery conveyor
6 hp (4.5 kW)	-----	unloading conveyor
1.5 hp (1.1 kW)	-----	pallet return conveyor
1 hp (.76 kW)	-----	pallet rollover
22 hp (16.4 kW)	-----	loader spade assembly
22 hp (16.4 kW)	-----	unloader spade assembly
	-----	hydraulic - rack conveyor
	-----	hydraulic - #1 depalleter
	-----	hydraulic - #2 depalleter
56.5 hp (42.4 kW)	-----	total

Voltages

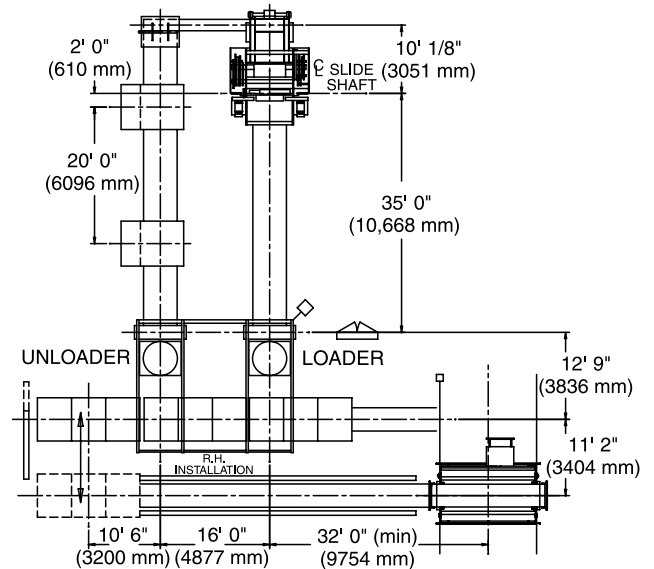
Control circuit: 120 V.

Motors: 208, 230, 380, 415, 460 or 575 V., 3 phase, 50 or 60 Hertz

Hydraulic power unit sizes varies with equipment supplied (determined when placing order)



Ultrapac® (four-at-a-time) concrete products machine with a MS-14 Besser-Matic and an LSC-75 rack transporter system.



Superpac® (six-at-a-time) concrete products machine with a MS-16 Besser-Matic and an LSC-100 rack transporter system.

Front Delivery and Unloading Conveyors

- Dodge Quantis gearmotors provide improved efficiency
- Bolt-on chain track and pallet guides

Pallet Return Conveyor and Pallet Rollover

- Dodge Tigear gearmotors provide improved efficiency for pallet return conveyor, Cone Drive boxes on pallet rollover
- Bolt-on chain tracks and return chain tracks
- A pallet rollover located at the corner of the unloading and pallet return conveyors makes the transition between conveyors seamless
Note: This is an optional feature on three-at-a-time systems, which include standard pallet "tip-off."

Depalleters

- An adjustable crank for double push depalleters centers product on turntables
- Sensors are located for easy adjustment
- 12" (300 mm) high product capacity

Frame Assembly

- Loader and unloader weldments
- Added legs and cross bracing reduce installation time, improves the rigidity of the structure

Loader and Unloader Accumulators

- Dodge Quantis gearmotors improve efficiency
- Geneva Drive mechanism standard on all models (optional for three-at-a-time MS-13s)

Loader and Unloader Spade

- Up and down movement is handled by a fully enclosed screw jack mechanism that provides greater reliability and reduced maintenance
- New design simplifies plant installation and field assembly
- Designed to offer a hydraulic option at no additional cost
 - Hydraulic cylinder lift mechanism with directional control
 - Hydraulic turn and transfer actuators with proportional control

BescoShear Motorbrake

- 115 VAC electric actuation
- Quick disconnect electrical connection
- Power "On" LED indicator light
- Oil shear multiple disc spring set braking
- Superior heat dissipation
- Smooth "cushioned" stops to reduce system shock
- Keyless high torque collet hub to shaft connection
- Internal surge protection
- Two-year warranty

Electrical

- PowerFlex frequency drives provide improved reliability and additional features
- Allen-Bradley PC-based control stations provide the ability to network control stations and add a server to allow for easy access to ladder logic, wiring diagrams, documentation, internet, etc.

Parts & Technical Service

Besser is dedicated to providing producers with superior parts and service. In addition to our educated and experienced staff, Besser offers online support with electronic catalogs and manuals, technical service bulletins and tips and the ability to order parts online.

Producers can contact a Besser representative 24 hours a day, 7 days a week with our Rapid Response phone system. Simply contact Besser by phone 989.354.4111 or 800.968.0444 and select Parts (option 3) or Technical Service (option 4) to reach a representative at any time.

A Geneva Drive mechanism provides soft starts and stops for handling fragile concrete products.

For better viewing, all guards, safety devices and signs are not necessarily shown. Some of the equipment shown or described throughout this brochure is available at extra cost. Since the time of printing, some of the information in this brochure may have been updated; ask your Besser sales representative for details.



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