

ULTRAPAC® Concrete Products Machine



The Ultrapac® is a four-at-a-time concrete products machine that produces up to 2160 units (8"/200 mm equivalents) per hour. Consistent and precise concrete masonry units are produced on this machine, at speeds up to nine cycles per minute.



OUTSTANDING PRODUCTION AND FLEXIBILITY

STANDARD FEATURES

Cam Driven

The Ultrapac is cam driven to deliver consistency and repeatability of movements. The precise indexing of the cams achieves uniform product quality even in variable operating conditions.

Automatic Lubrication

Precisely measured amounts of lubricant are automatically supplied to key bearings and pins. This routine maintenance function insures optimum performance of the Ultrapac.

Frequency Drive on Block Moving Device

A variable speed frequency drive is remotely controlled from the control panel.

AB Control Processor

Many of the operating functions of the Ultrapac can be easily adjusted by accessing the controller through the color graphics display unit. This control panel automatically pinpoints problems and displays information for making corrections fast, and stores machine settings which are retrievable by entering product codes.

The color graphics display swivels on a floor-mounted pedestal providing convenient access for the machine operator. This solid state unit has touch screen command of the sequencing, on/off, innerlocking and status monitoring functions. Plant personnel can easily program new products using intuitive touch screen controls.

Block and Pallet Delivery System

The block and pallet delivery system is independently adjustable; speed is not directly controlled by the operating rate of the machine. Since delivery takes less time than molding, this arrangement makes it possible to reduce delivery speed to gently handle fragile units while maintaining the overall production rate. The movable inner frame design provides constant delivery height of 36-5/16" (922 mm) regardless of the type of concrete masonry units being produced.

Quality Highly skilled staff follow stringent quality guidelines during the design, manufacture, assembly and testing of the equipment. All Besser equipment is manufactured with precision machinery, ensuring consistent quality.



The Ultrapac® consistently produces dimensionally precise paving stone.

Autofeeder Automated Cutoff Bar

An automated cutoff bar controls the product height and density. A motor driven cam raises and lowers the cutoff bar and allows the feedbox to always remain level.

Rotary Position Sensor on Cam Shaft

The sensor provides cam position information to the controller. This allows adjustments to be made to the machine set points while the concrete products machine is operating. Adjustments are made through the color graphics display unit.

Bescodyne Vibration

Standard Bescodyne vibration provides rapid engagement of vibrators to provide quick and smooth starts and stops, optimum compaction and consistent, uniform concrete products.

Bescodyne Hydraulic Clutch/Brake

A Bescodyne oil shear clutch/brake system is used on the main drive to provide quick and smooth starts and stops. The system is designed to handle the energy of rapid acceleration and deceleration, which allows for increased productivity. This clutch/brake also reduces stress on motors and other components of the machine, which extends the life of the components and reduces maintenance.

OPTIONAL ENHANCEMENTS

Advanced Servo Vibration

By employing independent amplitude and frequency control, vibration is tunable to specific molds and product requirements. The ability to control both amplitude and frequency results in more rapid compaction and quicker finish times than can be obtained with conventional vibrating systems. Vibration can be engaged or disengaged multiple times within a single machine cycle.

Servo motors smooth out the machine cycle to produce the highest quality concrete products and extend the life of machine and mold parts.



OPTIONAL ENHANCEMENTS

Main Drive Servo

Replaces mechanical components (clutch and brake), and the related wear and tear, with electronic components. Provides control of the machine cycle so operation can be tailored to the specific concrete units being produced, increasing overall cycle speed.

Operating the servo motor on the Main Drive creates power during deceleration. This power is sent to the main electrical panel for use by either the main drive during acceleration or by the Advanced Servo Vibration (ASV).

AFC SmartPac® Vibration

Dual vibration utilizes a Bescodyne clutch/brake which allows the concrete products machine to use Posapac weights for short production orders. This is beneficial if several existing molds are owned with weights attached. AFC SmartPac can then be used for longer production orders or for manufacturing specialized products. This allows you to take advantage of reduced mold wear as well as independent amplitude and frequency control to facilitate improved feeding and finishing of products.

AFC SmartPac and Posapac® Dual Vibration

Dual vibration utilizes both a Bescodyne clutch/brake and AFC SmartPac vibration which allows the concrete products machine to use Posapac weights for short production orders. This is beneficial if several existing molds are owned with weights attached. AFC SmartPac can then be used for longer production orders or for manufacturing specialized products. This allows you to take advantage of reduced mold wear as well as independent amplitude and frequency control to facilitate improved feeding and finishing of products.

Head Vibration*

Provides an additional .04" - .12" (1 mm - 3 mm) of compaction resulting from the vibration of the head.

*This option is only available for the 26" (660 mm) deep Ultrapac and is used for product heights up to 80 mm (non-cored units).

Air Compaction

The use of air compaction reduces finish time, which improves overall cycle time. Air cylinders supplement the force on the mold exerted by the weight of the machine head. The addition of compressed air brings the height pins together sooner, compacting the unit faster and more effectively.

Pallet Receiver Cam Inserts

Pallet receiver cam inserts allow for rapid height changeovers for certain mold configurations between 2" and 7-5/8" (50 mm - 190 mm). 60 mm, 3-5/8", 5-5/8" and 7-5/8" flat top molds can be run from the 7-5/8" position and do not require moving the inner frame. Other product heights may be able to run from this position depending upon the mold configuration. Please contact your Besser sales representative to determine the appropriate configurations for your specific requirements.

Automated Head Clamp

Hydraulic clamps with wedge locks are used to clamp and hold the stripper head in the concrete products machine during production.

Pallet Scraper

Material build-up on pallets is automatically removed during each machine cycle. The tension forcing the scraper blade down on the pallet is fully adjustable to meet specific cleaning needs.

Vibrator Motor Air Bag Lifts

The vibrator motor air bag lift is an easy and quick way to raise the vibrator motors for mold changes. A lever operated pneumatic valve is moved to the up position allowing air to flow into the air bags. When the bags inflate both vibrator motors rise. This allows the operator to remove the belts and begin the mold change procedure. Once the mold change is completed, the belts are reinstalled on the sheaves. The lever is moved to the down position, allowing the air bags to deflate and the vibrators motors to lower. A safety lockout device is included for safety during maintenance.

Mold Insertion Device

The time needed to change molds is shortened and simplified with the mold insertion device. This pneumatic powered mechanism lifts/lowers the entire mold assembly off/onto the mold throat. The entire mold assembly is manually rolled into/out of the mold throat area.

Core Puller

A core puller is an attachment for the concrete products machine. It is comprised of a drawer which is activated by either hydraulic or pneumatic cylinders to which the "forks" required to form the horizontal cores are attached. The core puller is installed in front of the mold on the concrete products machine, above the front delivery conveyor. It can be wheel-mounted or leg mounted.

The use of a core puller expands the variety of concrete products that can be produced on a concrete products machine. Many of the complex concrete unit designs popular today feature horizontal openings that are formed by a core puller. Some units produced using a core puller are cored brick fabricated on edge, concrete units with fake mortar grooves, retaining wall units with a bottom key and the protrusion in water and erosion control units.



SPECIFICATIONS

Production Rates

- Machine Cycle Time (in seconds): 3.7
- Forming Time (feed, finish and delay - in seconds): 3.0
- Total Cycle Time (in seconds): 6.7
- Cycles Per Minute: up to 9
- Concrete Masonry Units (8" equivalents per minute): 36
- Concrete Masonry Units (8" equivalents per hour): 2160

Note: Optimum production rates depend upon many variables, therefore actual production may vary from this example.

Horsepower

- Main Drive: 25 hp (18.6 kW)
- Autofeed Automatic Cutoff Bar: 1/2 hp (.37 kW) 115 V.
- Pallet and Block Delivery: 5 hp (3.7 kW)
- Feedbox Agitator: 5 hp (3.7 kW)

Vibration

- Requires two 10 hp motors (7.5 kW each), or
- AFC SmartPac® Vibrators: require two 10 hp motors (7.5 kW each)

Pneumatic Requirements

- 1 SCFM* (.028 SCMM**) for miscellaneous concrete products machine functions
- 9 SCFM (.255 SCMM) with AFC SmartPac Vibration

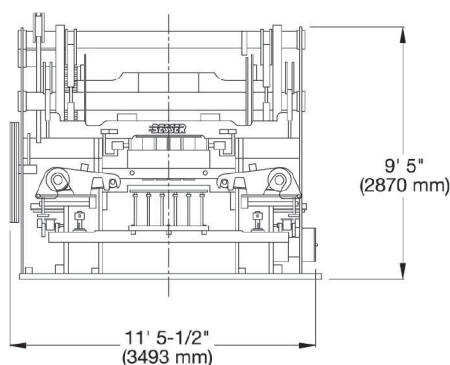
- 50 SCFM (1.400 SCMM) with air compaction
- All above at 80 psi minimum
- * SCFM = standard cubic feet per minute
- ** SCMM = standard cubic meters per minute

Dimensions/Weight

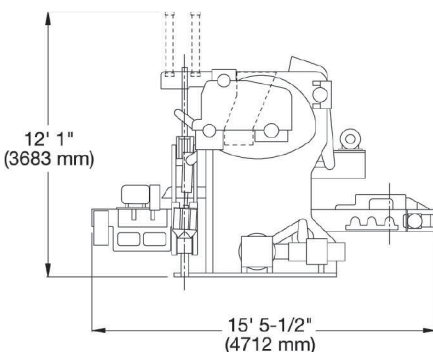
- Width: 11' 5-1/2" (3493 mm)
- Height: 12' 1" (3683 mm) with air compaction
- Length: 15' 5-1/2" (4712 mm)
- Weight: 55,000 lbs (24,962 kg)
- Block Delivery Height: 36-5/16" (922 mm)
- Pallet Size:
39-3/8" x 26" x 3/8"
(1000 mm x 660 mm x 10 mm) or
39-3/8" x 18-1/2" x 3/8"
(1000 mm x 470 mm x 10 mm)
(other pallet sizes are available)
- Product Height: 2" (50 mm) high – 12" (300 mm) high

Voltages

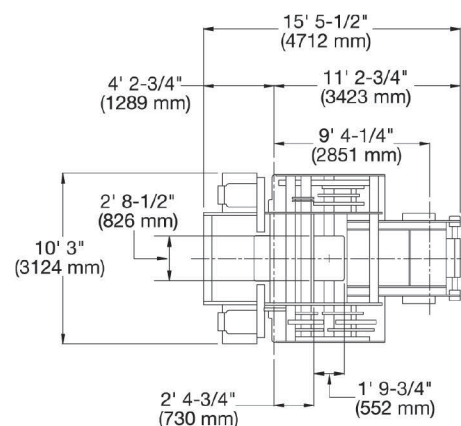
- Control Circuit: 120 V., single phase, 60 Hertz
- Motors: 230/460 V., 3 phase, 60 Hertz
(other voltages are available)



Front View



Ride Side View



Top View



801 Johnson Street
Alpena, Michigan 49707 USA
+1.989.354.4111 sales@besser.com
besser.com

Cover photo: The Ultrapac® concrete products machine is shown producing standard concrete masonry units.

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. Besser Company reserves the right to change or improve product design and specifications without prior notice. Since the time of printing, some of the information in this brochure may have been updated, ask your Besser sales representative for details.