GA-001 Bucket-top soil sifting frame

Separate coarse debris from small batches of potting media over a compatible collection tub.

Controlling dimensions: US inches and feet. Metric equivalents are references. Original editorial design; no physical build, animal trial or load certification is claimed.

Before marking and cutting

Measure the stated stock sections before cutting. Use the cut-list geometry, not scale measurements from the drawing.

US inch dimensions control; millimeter values are rounded conversions. Ordinary cut target ±1/16 in (1.6 mm); fit commercial accessories before boring attachment holes.

Use limits

Original bounded garden component, not an occupied structure.

No human standing, sitting, climbing, lifting or fall protection use. No stated safe working load.

Geometry and fastener quantities are editorially checked; no prototype build, wind test or crop trial is claimed.

Materials and finished cuts

Part	Qty	Size to cut	Material and detail
P01 Front and rear rails	2	20 × 2 1/2 × 3/4 in 508 × 63.5 × 19.05 mm	1 × 3 in board sound untreated cedar or other durable untreated wood
P02 End rails	2	12 1/2 × 2 1/2 × 3/4 in 317.5 × 63.5 × 19.05 mm	1 × 3 in board sound untreated cedar or other durable untreated wood
P03 Screen	1	20 × 14 × 1/25 in 508 × 355.6 × 1.02 mm	galvanized hardware cloth 1/4 in grid, about 19 gauge; all cut edges trapped under battens; soil contact only
P04 Screen battens	2	20 × 1 1/2 × 3/4 in 508 × 38.1 × 19.05 mm	1 × 2 in board sound untreated cedar or other durable untreated wood; no unknown salvage

Hardware and consumables

8 exterior #8 × 1-1/2 in screws for rail corners

12 exterior #8 × 1-1/4 in screws for battens

1 mesh rectangle 20 × 14 in (508 × 355.6 mm)

8 wide-crown stainless staples for temporary mesh location

2 smooth U-channel mesh-edge guards, 14 in each, crimped over the side edges

Tools

Tape measure and steel rule; Pencil, square and clamps; Saw suited to the stated stock; eye and hearing protection; Drill/driver, countersink and bits matched to fasteners; Sandpaper and edge file; gloves when handling cut mesh

Primary context and design record

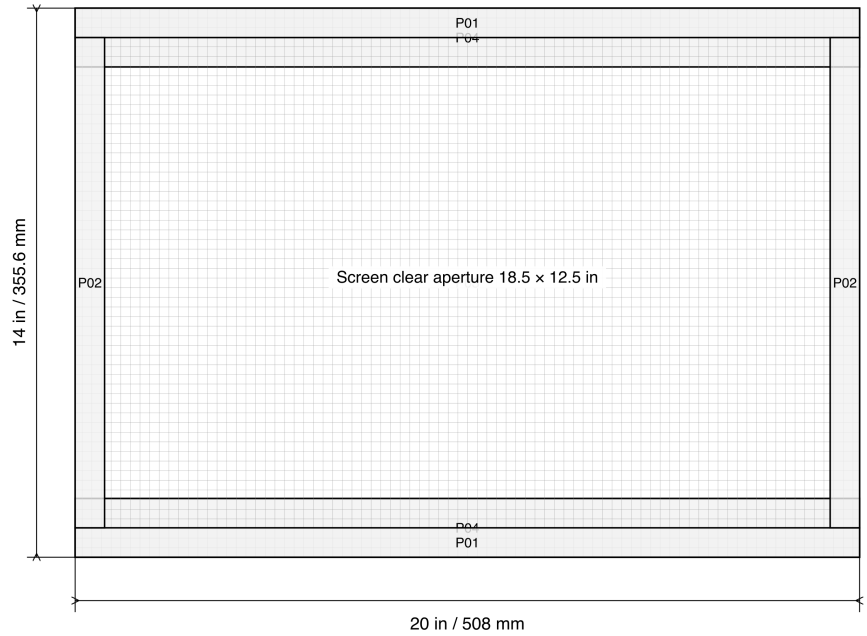
Context references; not design endorsements or certifications.

E01 · Raised bed gardens · University of Minnesota Extension · https://extension.umn.edu/garden-and-home/yard-and-garden/gardening-in-minnesota/raised-bed-gardens

Assembly and first checks

GA-001 Bucket-top soil sifting frame

PLAN — looking down; rear at top; controlling dimensions in inches



Part IDs refer to the finished cut list. Shapes are not load-rated. Read assembly before cutting.

Notches, holes, fittings and operating angles: see numbered steps and geometric annotations.

Original editorial draft • B/W vector • not physically built or tested • no implied Extension endorsement

01 Plan the bucket-top soil sifting frame for this result: Separate coarse debris from small batches of potting media over a compatible collection tub. Confirm the design reference before cutting: Outside rectangle 20 × 14 in; diagonal difference ≤1/8 in (3.2 mm). In the drawings x runs left to right, y runs front to rear and z runs upward.

02 Verify the required stock before laying out these parts: 1 × 2 in board: actual 0.75 × 1.5 in (19.05 × 38.1 mm); 1 × 3 in board: actual 0.75 × 2.5 in (19.05 × 63.5 mm); galvanized hardware cloth: 1/4 in grid, about 19 gauge; all cut edges trapped under battens; soil contact only. Reject split or twisted wood and unknown salvage; thinner stock requires recalculating the joints, not simply using the listed lengths.

03 Cut and label the finished parts: 2 Front and rear rails 20 × 2.5 × 0.75 in (508 × 63.5 × 19.05 mm), mark P01; 2 End rails 12.5 × 2.5 × 0.75 in (317.5 × 63.5 × 19.05 mm), mark P02; 1 Screen 20 × 14 × 0.04 in (508 × 355.6 × 1.02 mm), mark P03; 2 Screen battens 20 × 1.5 × 0.75 in (508 × 38.1 × 19.05 mm), mark P04. Keep saw kerf outside each finished line. Rip only where the finished width is narrower than the actual stock; use a suitable guide and target ±1/16 in (1.6 mm) for ordinary cuts. Dowel triples mean length × diameter × diameter, not square dowel stock.

04 Clamp the two 20 in rails around the 12-1/2 in end rails. The outside rectangle must be 20 × 14 in (508 × 355.6 mm); the open aperture is 18-1/2 × 12-1/2 in.

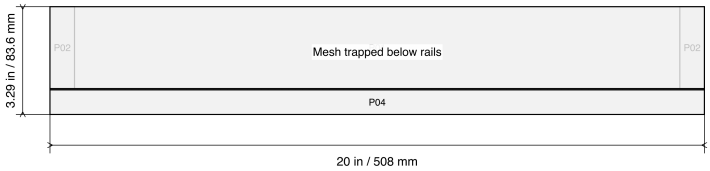
05 Compare the two corner-to-corner diagonals; a square frame has approximately 24.41 in diagonals. Correct the frame before drilling.

06 At each corner drill two pilots through the long rail into the end rail, 5/8 and 1-7/8 in above the lower edge. Install the eight 1-1/2 in screws without splitting the ends.

Complete the assembly

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FRONT — transparent assembly projection from y = 0; controlling dimensions in inches



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Notches, holes, fittings and operating angles: see numbered steps and geometric annotations.
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07 Place mesh under the frame with no projection beyond the outer rectangle. Tack at the corners while wearing wire-handling gloves.

08 Install the 20 in battens below front and rear rails. Put six 1-1/4 in screws in each batten at x = 1, 4.6, 8.2, 11.8, 15.4 and 19 in; keep the mesh edge fully trapped.

09 File and fold any exposed side wires inward, then cover the two side edges with crimped U-channel selected for the mesh thickness. Add two 14 in U-channel lengths to the hardware purchase.

10 Dry-fit the frame over a tub with a rim opening smaller than the frame and broad continuous support beneath both battens. Never balance it across an unsupported bucket rim.

11 Sift a small dry handful first. Lift the frame vertically to empty debris rather than striking the mesh against the tub.

12 Complete the acceptance checks below before putting the assembly into service. Record any changed stock thickness, fastener or equipment fit on the project sheet. The published geometry has not been physically built or load-tested.

Acceptance and intermediate checks

Outside rectangle 20 × 14 in; diagonal difference ≤1/8 in (3.2 mm).

Mesh is taut, with no finger-accessible sharp wires.

All four support edges are stable on the chosen tub; frame does not rock.

Operation

Use only small hand-sized batches; this is not a shaker table.

Do not screen unknown contaminated soil into food-growing media.

Cleaning and maintenance

Brush dry after use; inspect mesh and trapped edges each session.

Replace broken mesh and split rails; store under cover.