Build it yourself 12 and 25 drawer (cornell-size) specimen cabinets

by

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Basic enclosure
For 25 drawer cabinet (Fig. 1) and 12 drawer cabinet (Fig. 2), begin by routing ½" wide grooves for drawer guides every 3½" on the internal surfaces of both side panels (part A or H). Depth of grooves (usually 3/16") is dependent upon the combined screw head height and thickness of metal drawer guides (Fig. 5). Groove entire 17" panel width. The bottom edge of the first upper groove should be at least 3½" measured from the top edge of the side panel. Layout and mark all grooves before routing (Fig. 1, 2, 4, and 5). There is 1/8" added space below bottom of last groove, so bottom drawer is not resting on floor of cabinet. Install rear end of drawer guides in a line ½" from rear panel edge.

Next, align parts (A & B) or (H & B) so front edges are even, then glue and nail.

Corner bracing (Fig. 3)
Use similar dimension lumber in appropriate lengths for both 25 and 12 drawer cabinets, refer to Bill of Materials. First, frame in front cabinet face using part G (Fig. 3). Miter corners 45°. Using part E, frame in back panel. Shorter corner boards (part E) are cut to fit snugly between front and rear framing.

Footing support (Fig. 6)
Miter cut ends 45° and install as shown.

Door interface (Fig. 7 & 8)
Two designs are offered. Both begin by installation of door frame (part E or F). Refer to figures for measurements. Allowance for weatherstripping should be made as shown. The amount of space allowance is dependent upon the thickness of weatherstrip used (usually ±3/16"). Miter corners 45° (part E or F). The door itself is made using part G for frame, miter corners 45°. The precise door size is dependent on actual measurements of the fabricated basic enclosure. Option 2 requires allowance for hinges and 1/8" to 3/16" along all edges. Construct door by notching inner edge of part G, both internally and externally 3/16" X 3/8" as shown. After forming door frame using part G, allow glue to dry. Then install 3/16" thick plywood panel to precise opening measurements of both frame sides. Glue and nail using ½" brads.
Door latch (Fig. 9)

Door design is dependent on type of latch used, and vice versa. A simple sliding bolt will work on both options presented here.

Quality tips

Make all cuts as precise as possible using good quality blades. Always apply glue to 100% of adjoining surfaces. When cabinets are filled with drawers, there is considerable structural stress, especially in the 25 drawer unit. Proper gluing is important in order to achieve maximum strength. Various types of clamps are useful in aligning parts and in the gluing process.

Allowance for coatings are required for all internal component parts and inset door. These allowances have been made in the dimensions given in these instructions. Texture coatings can easily add 1/16" to 1/8" to measurements per surface. Usual good woodworking practices should be adhered to throughout fabrication. Proper sanding and attention to details will be evident in the end product. Use of a natural wood finish should be avoided unless high quality woods are used for construction. Some woods do not accept a varnish finish well, those that do will probably double the cost of less costly woods. A final coating of black, gray, or tan paint more closely match those found on metal entomological cabinets.

Corner bracing and door framing lumber can be cut from less expensive 1 X 12 shelving. Be selective and avoid lumber with excessive knots. Ponderosa pine and other pines have worked well in this author's experience.
Fig. 1 Basic enclosure for 25 drawer cabinet, front view
Fig. 2 Basic enclosure for 12 drawer cabinet, front view
Fig. 3 Basic enclosure showing added corner bracing, without door frame face or door
Fig. 4 Drawer guide placement
Fig. 5 Drawer guide installation
expanded view

Fig. 6 Cabinet bottom footing support
view inverted from rear
Fig. 7 Door interface with cabinet edge, door mounted over entire cabinet face Option 1

Fig. 8 Door interface with cabinet edge, door mounted flush with frame Option 2

Fig. 9 Sliding bolt door latch, see Fig. 7