

# STEVENS SILO COLUMNS™ \*

## FOR HORIZONTAL MILLING MACHINES

**RIGID, LIGHTWEIGHT, HIGHLY VERSATILE**

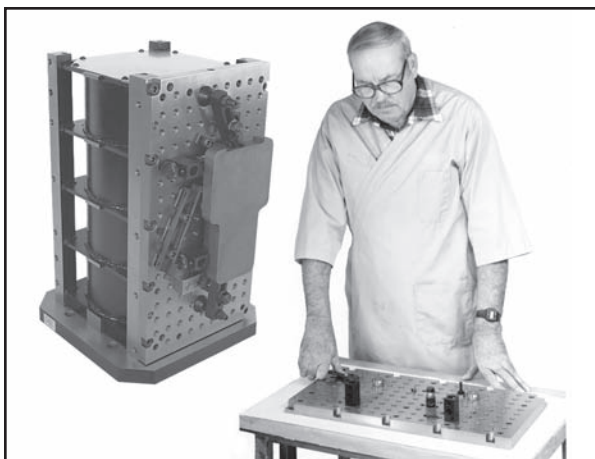


### FEATURES

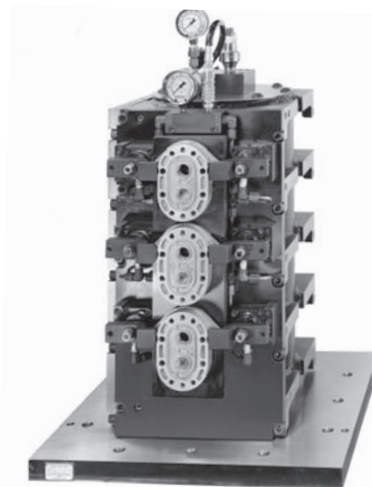
- Our Silo approach minimizes the number of columns and machine pallets required to maintain steady production flow on horizontal machining centers.
- The design is optimized for stiffness; dead weight of cast iron structures is eliminated.
- Fully stress relieved for long-term dimensional stability.
- Solid top bulkhead (standard) keeps chips and coolant out of interior. Open access to interior with removable cover is optional allowing installation of hydraulic or pneumatic components.
- Base location features for centering are included.

**CUSTOM SIZES AVAILABLE**

**UP TO  
40" SQUARE x 60" HIGH**



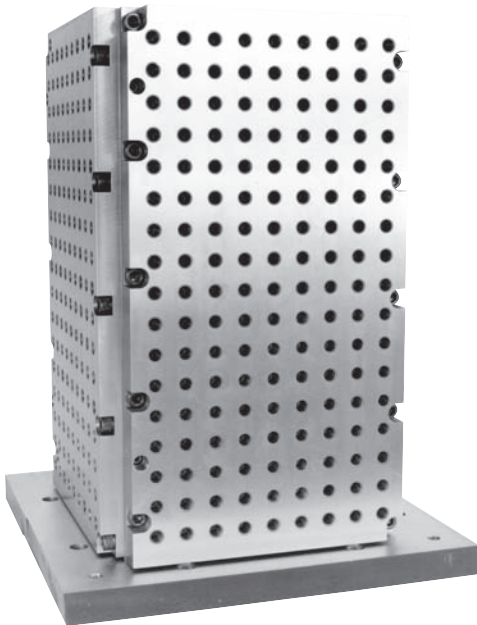
*Temporary modular workholding fixtures mounted on Stevens Silo Subplates or permanent holding fixtures on Silo Tooling Plates are easily installed on any of the (4) faces.*



\*Patent #355,200

# SILO SUBPLATES AND SILO TOOLING PLATES

## **FOR BUILDING TEMPORARY OR PERMANENT WORKHOLDING FIXTURES**

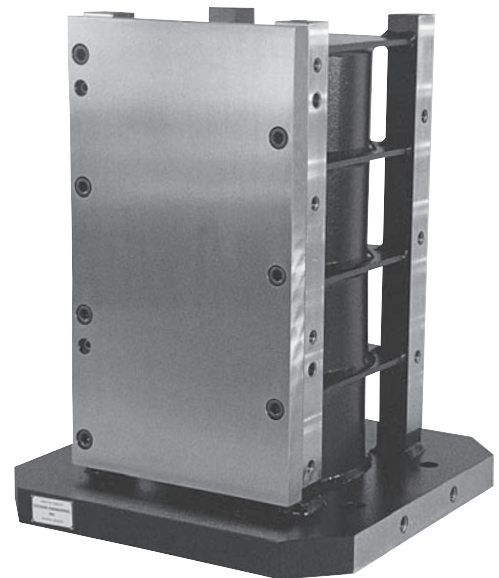


### **SILO SUBPLATES**

- Silo Subplates have the standard Stevens bushed and threaded hole pattern for mounting any Stevens accessory.
- Pull dowels inserted thru bushings near the edge into corresponding holes in the column locate the subplate accurately and repeatably.
- Cap screws inserted thru clearance holes near the edges and into threaded holes in the Silo Column secure the subplate.

### **SILO TOOLING PLATES**

- Silo Tooling Plates are used as a base for building permanent holding fixtures.
- Pull dowels locate Tooling Plates on the Silo Column while Cap Screws secure the Tooling Plate on the Column as described for Silo Subplates.
- Silo Column Tooling Plates are available in steel or aluminum in thicknesses of 1.000 and 1.500.
- Span-Comp Bushings in aluminum tooling plates compensate for differences in thermal expansion. Consult our website for dimensions on Silo Columns, Silo Subplates, and Silo Tooling Plates.

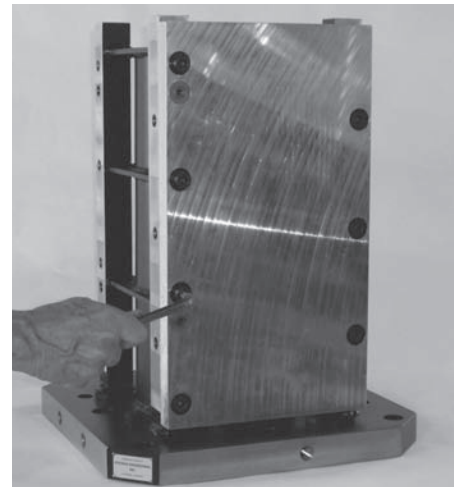


# SILO SUBPLATES AND SILO TOOLING PLATES WITH OPTIONAL LOCATOR CAPSULES

## **ELIMINATES TIME LOST IN COLLECTING SCREWS AND PULL DOWELS NEEDED FOR INSTALLATION ON THE SILO COLUMN**

Captured screw and captured dowel capsules are permanently installed in holding fixtures for location and attachment to a Silo Column Subplate, or machine table. Captured dowels are retained in precision bushings which are installed in the fixture. Two captured dowel assemblies align the fixture when the dowel is pushed into a bushing or bored hole in the surface below. Captured screws are retained in a housing which is installed in the fixture. Two or more captured screws hold the fixture in place when the screws are threaded into tapped holes in the Silo Column Subplate, or machine table below.

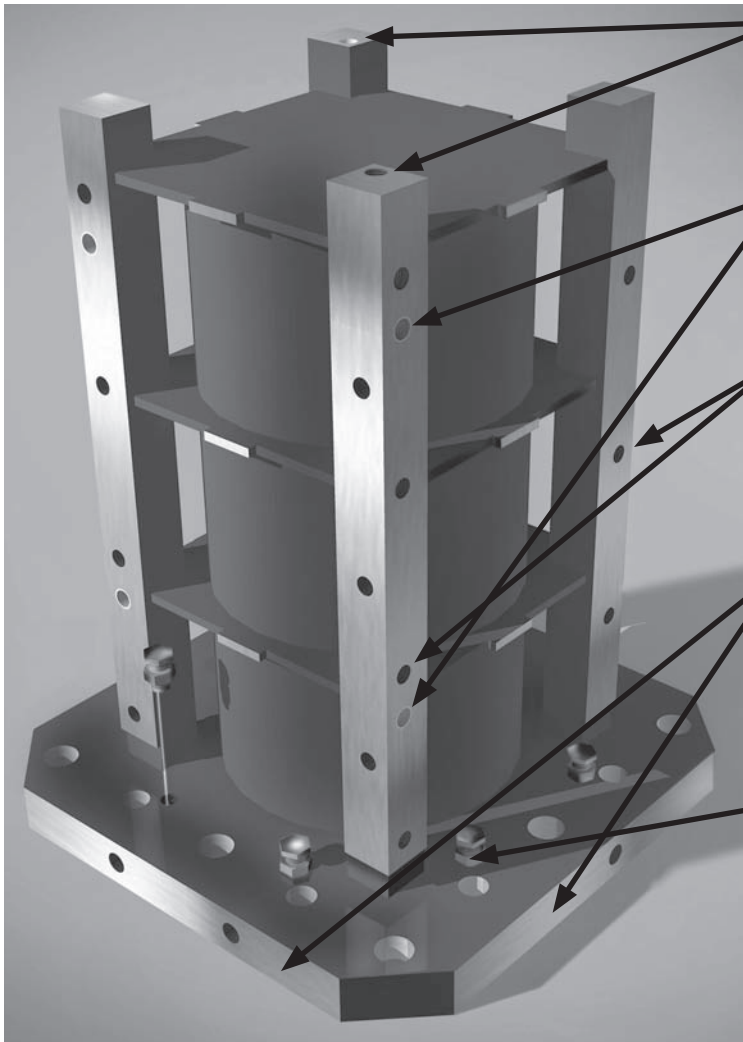
- When inserted into corresponding holes below, locator capsules lie flush with the fixture surface eliminating cutter path interference.
- In captured dowel assemblies, concentricity between the pull dowel and the O. D. of its bushing is held to .0003, providing exceptional location accuracy.
- The pull dowel may be removed from its bushing if necessary by taking out the retaining screw on its lower end.
- The screw may be removed if necessary by pushing the screw upward.
- A spring actuated mechanism in the screw pushes it upward near the top of its travel, preventing the screw from hanging up in the threaded hole below.



*The above photos show locator capsules used with Stevens Silo Tooling Plates. They can also be used with Stevens Silo Subplates shown on page 2.*

# SILO COLUMN CONSTRUCTION

The tubular design of Silo Columns provide maximum rigidity under heavy machining forces. Tubular segments are welded to a series of bulkheads which are in turn welded to vertical stanchions which form the mounting surfaces for Silo Subplates and Silo Tooling Plates.



- Threaded hole for lifting ring. (2) places
- Bushed holes for locating subplates and tooling plates; two on each face.
- Threaded holes for attaching subplates or tooling plates. Quantity varies with size of Silo Column.
- Edge location features on two (2) adjacent edges for centering the Silo Column on the machine table or pallet.
- Positioning screw (P/N 20242) to locate tooling plates and subplates for easy insertion of pull dowels. (8 places)