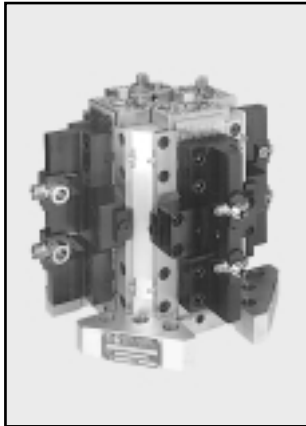


TODAY'S SOLUTIONS TO WORKHOLDING NEEDS

QUAD & DUAL VERTICAL COMBINATION CHUCKS

QVD/DVC Chucks can increase horizontal machining centers productivity by 50% or more.

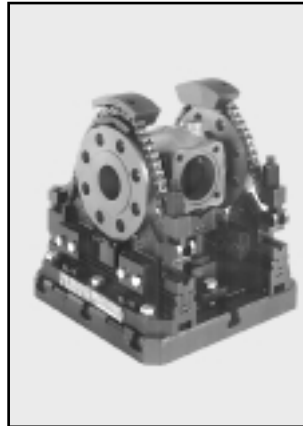
Holds up to 8 parts in the QVC or 4 parts in the DVC on horizontal machining centers. Permits virtual continuous spindle use, decreases tool changes, and practically eliminates downtime for parts changing.



UNIVERSAL MODULAR FIXTURES

Reduces the number of dedicated fixtures required for a given family of parts.

Eight sizes available from 300mm to 1,250mm. Expand and contract to fit the largest/smallest parts by rearranging the clamping components in x-y-z axes. Vee adjustments are self-centering or converted to independent operation.



HORIZONTAL INDEX TRUNNIONS

Royal mounted fixtures can be mounted on each of the four sides allowing machining access to three sides of the work piece.

Trunnions may be manually or automatically indexed by machine control. Hydraulic clamping can be built into the workholding system. Virtually all types of vertical machining centers can accommodate Royal indexing trunnions.



MULTIPLE SPINDLE DRILLING AND TAPPING HEADS

Royal custom-designed, multiple spindle drilling/tapping heads reduce tool rotating and work rotating machine production time.

Available with (and without) bushing plates and multiple RPM output and coolant through the tool. Heads are designed for all manual and CNC horizontal/vertical machining centers and lathes.



HYDRAULIC PALLET FIXTURES

Designed to hold multiple parts per side for first or secondary operations on horizontal machining centers. Up to 72 parts can be located on fixture, based on part's size and shape. Increases productivity by reducing number of operations and handling.



SPECIAL C-FRAME FIXTURES

Complete machining is assured of large valve body flanges and/or weld connections by clamping on part's body - and not the flanges. Unique arrangement improves overall production quality and reduces overall manufacturing time through less handling and concentrating of machining operations.

