

## Safety First & Always

No power workholding catalog would be complete without a few words about safety. Hydraulic clamping can provide significant safety advantages over manual clamping. But carelessness in planning or operation can injure workers and damage expensive equipment. So take a positive approach. From the planning stage to the work schedule, think and practice safety.

Like other mechanical devices, the use of hydraulic workholding devices is subject to certain hazards that cannot be precluded by mechanical means, but only by the exercise of intelligence, care, and common sense. It is therefore essential to have personnel involved in the use and operation of equipment who are careful, competent, trained and qualified in the safe operation of the equipment. Some examples of hazards include but are not limited to: inadequate clamping capacity; unprotected pinch points; hoses, tubing and fittings not rated for system working pressures; improper installation and maintenance; and inadequate system monitoring.

As with all clamping devices, these clamps have pinch points. Secondary pinch points also exist in some devices such as swing clamps, because of their rotation, and other clamps which may be used with extensions. If any of these conditions exist, personal injury may result from crushing action, flying projectiles and burst tubing. These same actions may also result in destruction of property.

### **Plan with safety in mind.**

Start by providing for good lighting, ample working space and easy access for inspection and maintenance of your workholding equipment. Position valves, safety guards and controls with the operator's safety in mind. Select hose, tubing and hydraulic components that are rated for the highest working pressures

your system will encounter. Make sure all components are compatible and adequate to perform their respective functions.

### **Assemble and install equipment with care.**

Even minor leaks from high pressure hydraulics can be dangerous. An improperly secured component can become a projectile. Don't "build in" hazards by careless installation of your hydraulic clamping system.

Route tubing and hose where they won't be exposed to damage. Make sure that connections are tight and properly made. Avoid unsupported straight tubing runs. Use large radius bends to facilitate assembly and allow for expansion and contraction. Align fittings carefully so that connections do not introduce stress.

See that threads are fully engaged on mountings and brackets. Make sure that stops are adequate to withstand the clamping forces that may be developed. Test the system before starting production.

### **Keep your operators thinking.**

With your system on line and in production, set up and enforce work rules that help avoid human injury and damage to equipment. Be sure every operator knows his equipment and develops good work habits. An operator should always make sure valves are in the correct position before he starts a hydraulic pump. Keep hands clear during clamping operations. And use judgment in positioning the workpiece. Be sure the workpiece is properly positioned before clamping forces are applied. Watch for kinked hoses. Monitor gauges to see that system pressures are within limits. Swing clamps must be able to rotate freely through 90° into clamping position before force is applied. Caution: Be sure to keep clear of swing clamp pinch points. Each

"new" setup should be carefully planned and checked.

### **Follow good maintenance practices.**

A clean, well-cared-for workplace is a safer workplace. Make daily inspections for damaged hose, bent tubing and leaks. Repair or replace anything that shows signs of wear or damage before minor problems become big ones.

We design and build your components with durability, performance, and safety in mind. Properly selected, installed and maintained, they will serve you long and well. The best hydraulic components embodied in properly designed circuitry can be expected to perform properly only if it is thoroughly cleaned before it is activated. Dirt is the number one enemy of hydraulics!

As an integral part of system design, care must be taken to select the proper devices and accessories ensuring proper integration with your operations and equipment. Sufficient safety measures must be taken to avoid the risk of personal injury and property damage from your application or system.

Vektek cannot be responsible for injury or damage caused by unsafe use, maintenance or application of its products.

Please write the Vektek office including specifics for guidance when you are in doubt as to proper safety precautions regarding design, installation or operation in your particular application.

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