Faster, Better Clamping with...

Now, control ALL your clamps with a single valve.

THE CHOICE IS YOURS...
Many nuts to tighten - OR - One valve to clamp everything.

Imagine the time savings and greater productivity you will achieve by being able to clamp everything with the simple turn of a valve. Plus, unclamping is just as fast.

The information in this brochure is intended to introduce you to the basics of power workholding. We have discovered that successfully implementing a power workholding system is a Team effort. This collaboration consists of: Team Vektek, possibly an outside fixture designer, and you...the customer.

Team Vektek is here to assist in any way to see that your move to Power Workholding is easy, effective and profitable.

Learn the basic descriptions of Vektek workholding components.

Types of Vektek POWER Supplies for POWER Workholding.

What is a Palletized Fixture?

Vektek Quality & Support

Basic steps to PLAN YOUR Power Workholding System.

LEARN HOW-TO PROFIT...
A simplified return on investment approach can get you started.

Spend Less Time, Get It Right Every Time!

Increasing the accuracy and repeatability of a manufacturing process will produce a higher-quality product, reduce scrap, and achieve the ultimate goal...profit.

Hydraulic workholding devices provide a consistent, repeatable force in a relatively small weight and size envelope. This means that in today’s manufacturing environment, the workpiece can be secured in less time and more accurately while conserving valuable fixture space. Hydraulic power clamping precisely controls the force on your parts with the touch of a single valve.
SWING CLAMPS

Swing clamps are some of the most used workholding devices. As the plunger retracts, the arm swings over the workpiece and pulls down to hold the part in place. As the plunger extends, the arm swings back out of the way to allow easy unloading of the workpiece.

Vektek Offers Standard and TuffCam™ Swing Clamps

Standard Swing Clamp Models

ADAPTABLE PLUNGER
Right Swing, Left Swing or Straight Pull

TuffCam™ Swing Clamps

TuffCam™ Swing Clamps were designed to meet the growing demand for high-speed, precise positioning, and heavy arm applications. TuffCam™ is a three cam design that will accurately swing, position and clamp in less than one second. TuffCam™ swing clamps are dedicated left swing or right swing and direction must be specified when ordering. TuffCam™ has the patented Cam Follower Ball Seat and Vektek V-Groove technology.

Size

Vektek swing clamps come in a variety of sizes and cylinder capacities, from 450 lbs to 7,500 lbs.

Single or Double Acting

Swing clamps are either single or double acting. Single acting clamps use hydraulic pressure to clamp the plunger/arm and a spring unclamps it. Double acting devices increase reliability and use hydraulic pressure to clamp and to unclamp the plunger/arm.

Optional Mounting

Vektek Top Flange and Bottom Flange swing clamps can be plumbed or manifold mounted. Cartridge mount swing clamps are manifold only.

The most versatile mounting options on the market!
The basics of 3-2-1 fixturing require three points to define the plane of part location. When machining, a part often requires additional support in that “Z” plane. A floating support, such as a work support, is an easy solution. You can use a work support anywhere a “jack screw” can be used. A work support will position faster, without distortion of the part and without dependence on “operator feel”.

In applications where part distortion, chatter, ringing or poor surface finish is a result of part movement or vibration, a work support can decrease or eliminate the problem.

Vektek work supports are available in these styles:

- **Spring Advance Work Supports**
  Available in four capacities from 1,000 to 12,500 lbs., these work supports adapt to support fragile parts, deflection prone areas of heavy parts and are well fitted to heavy material removal applications. Spring extended plungers maintain contact with the part during loading exerting only spring force against the part. As hydraulic pressure is applied, the plunger “freezes” and does not exert any additional force on the part.

- **Air Advance Work Supports**
  Available in four capacities from 1,000 to 12,500 lbs., these work supports are ideally suited to use in harsh environments or on fragile parts where pre-support contact forces must be adjusted to prevent part distortion. A continuous flow of air can serve as an “air spring” and can be left connected during machining. This “air curtain” or “purge” can help keep harsh contaminants from getting between the plunger and sleeve.

- **Fluid Advance Work Supports**
  Fluid Advance supports are available in three capacities: 1,000, 2,500, and 4,000 lbs. An internal piston in a fluid advance work support advances a spring which in turn lifts the plunger to contact the workpiece. Hydraulic pressure automatically sequences, “freezing” the plunger properly against the workpiece surface. This is accomplished with a single hydraulic line.

Vektek’s innovative design features a spring advanced work support within a double acting shuttle mechanism. This exclusive design eliminates part ejection of any workpiece and the need for ancillary part retention devices. TuffGrip™ has positive extension and retraction making it superior in precision applications. The TuffGrip™ double acting work support is ideal for robotic applications.

Available in two styles: Top Flange and Cartridge Mount in 2750 and 5500 lb capacities.

TuffGrip™ is available with Return Position Sensing. Position sensing is critical in automated systems where an extended work support can cause a crash. This is particularly valuable in robot loaded applications. Monitoring position by air sensing has proven to be cost effective and widely accepted.
Most clamping cylinders are intended for pushing against a part and holding it in place. They are not intended to move a load, as in power cylinder applications, where punching, bending or forming are performed. Cylinders are the least costly form of hydraulic clamping available. Good fixturing principles recommend clamping opposite fixed locators and transmitting cutter forces into the stationary locators.

- **Spring/Hydraulic Part Crowder**
  Used to secure parts. Crowding and clamping pressure applied at the exact same point on parts.

- **Power Pin**
  Spring force pushes part into position against fixed stops. Hydraulic actuation forces the club head to move, clamping the part.

- **Pull-Down Clamp**
  Used when lateral clamping is desired. These clamps generate straight clamping motion and force along with pull-down clamping force.

- **Edge Clamp**
  Downward clamping angle of the blade yields both horizontal and vertical force pushing your part firmly against locators and the work surface. Low profile allows slab milling over the clamp on most parts.

- **Retract Clamp**
  Extends straight forward, then down to contact your part. They are useful when clamping into hard-to-reach areas of parts like manifolds or engine heads.

- **Hydraulic 5-C Collet Vise**
  The concentric piston design “pulls” the collet down on centerline against a fixed height locator installed in the collet vise body. This is a quick fixture for round parts in milling or secondary operations.

- **Air Powered Collet Vise**
  A compact design this vise yields 750 lbs collet closing force at 100 psi air line pressure.

**LINK CLAMPS**

Link clamps contain the beam mechanism preferred by some users. The link clamp lever accommodates hard-to-reach or hard-to-hit clamping points. This self-contained beam eliminates the need to build or design a clamp mechanism as part of the fixture. Vektak’s unique single piece body and pivot design, on the high pressure model, provides the least side-to-side axial deflection and the most rigid product on the market today.

- **High Pressure Link Clamp**
  Available in five sizes from 350 to 6,800 lb capacities at 5,000 psi. High pressure Link clamps can be mounted using the top flange, which may be manifold mounted, or using the threaded body.

- **Low Pressure Link Clamp**
  Available in three sizes from 550 to 2,200 lb capacities at 1,000 psi. Low Pressure Link Clamp lever position is adjustable to left, forward, or right. These top flange mount clamps come in double acting only and include manifold ports.

**PUSH/PULL CYLINDERS**

Push/Pull Cylinders are used to actuate a remote mechanism, pulling on clamp plates, or may be used to reach through a hole and pull a removable “C” washer. Available in threaded, top flange, bottom flange, cartridge mount, and block body styles.
POWER SUPPLIES

Vektek offers a variety of pre-configured power supplies designed to provide optimal functionality for most power clamping applications.

Electric/Hydraulic

Electric power supplies consist of a pump configured with the necessary valves and controls. The pump motor is controlled by a pressure switch, which will shut off the pump when a preset pressure has been reached. If pressure should fall below the reset point of the pressure switch, the pump motor will kick on and replenish the system’s pressure.

Air/Hydraulic

A pneumatic power supply drives an air motor to create hydraulic fluid flow and pressure. As the hydraulic flow in the system becomes restricted (pressure increase), the pump cycle rate decreases until the system’s pressure completely restricts and stalls the air motor.

Manual Screw Pump

An inexpensive manually operated power supply for small systems. This pump can be driven by a “nut runner” for fast and precise actuation. The Vektek screw pump has a maximum working pressure of 5,000 psi and an oil capacity of 1.57 cu. in.

Please refer to the Vektek product catalog or website for specific details about power supplies.

www.vektek.com

Decoupled or Live Hydraulic Fixtures?

A palletized or tombstone fixture is a workholding mechanism that can be run with live (connected) hydraulic power or disconnected from the power source during machining.

Palletized (Decoupled) Tombstone Fixtures

A decoupled fixture’s disconnection is achieved using a pallet decoupler. A pallet decoupler serves as the interface between the stationary pump and the moving pallet. It is the point where the hydraulic hoses from the pump are connected and disconnected. The decoupler stays on the pallet/tombstone and its accumulator is the source of reserve pressurized fluid for the clamping circuit while it is disconnected from the pump.

A decoupler includes a shutoff valve to contain pressurized fluid within the clamping circuit. It must also contain a quick disconnect for connecting the hoses and an accumulator. Filter screens to minimize the amount of contamination that enters the pallet hydraulic circuit are recommended to extend the life of your devices. A decoupler may also include a pressure gauge and an over-pressure relief valve.

Tombstone Top Plates

A Tombstone Top Plate is an expanded type of Manual Shutoff Valve Decoupler. A tombstone top plate has multiple shutoff valves to provide separate unclamp control of two or more single acting circuits and a common accumulator to keep all circuits pressurized when the column is disconnected from the pump.

Manual Shutoff Valve Decouplers and Tombstone Top Plates typically use an on-demand pump that includes a directional control valve and a mating coupler with suitable hose.

There are two basic types of decouplers, automatic shutoff and manual shutoff.

In Manual Shutoff Valve Decouplers, the operator manually closes and opens the shutoff valve. Most Manual Shutoff Valve Decouplers are used with single acting clamp systems, but some can be configured for double acting use.

An Automatic Shutoff Valve Decoupler is actuated by Clamp and Unclamp pressure from the power supply. This leaves the operator free to connect hoses and control only the pump, not the valves. Automatic Shutoff Decouplers are used with both single and double acting circuits with equal ease.
Vektek accessory valve designs are specifically intended for use in hydraulic clamping systems. Manufactured with steel components and hardened operating parts, these valves are suited to the low flow demands of workholding. Vektek accessory valves prevent system damage and erratic operation frequently experienced when using valves designed for high flow general industrial applications.

**Flow Control**
Regulate the speed of clamping with a precision In-line or In-port flow control valve. These valves are especially useful on clamping fixtures where components must clamp at nearly the same time. They can also prevent component damage caused by excessive flow rates from pumps not specifically designed for clamping.

**Sequence Valves**
Sequence valves operate as pressure sensitive, normally closed (N/C), elements in a clamping system. When fluid first enters the system at low pressure, the valve is closed, blocking the flow of fluid to devices downstream. After the other devices have moved into position, pressure begins to increase and overcomes the spring force holding the valve closed. This forces the poppet off its seat and allows fluid to flow through the valve until maximum pressure is reached. They are highly effective multiple function timing controls. Vektek sequence valves are precise metering devices and less sensitive to contaminants than other brands.

**Shutoff Valve**
Vektek’s shutoff ball valve, with precision steel components and molded spherical seats, provides a positive seal to isolate your fixture. Valve handle is easy to move even under maximum pressure.

**Pressure Reducing Valves (PRV)**
The Pressure Reducing Valve is a Normally Open (N/O) pressure control device. The valve remains open and fluid flows freely to downstream devices until the pressure in the valve reaches the pressure set-point (adjustable). At the set-point pressure the valve closes, blocking further flow and pressure to the downstream devices. If there is a sufficient downstream pressure loss (from the valve to devices), the PRV will re-open, allowing fluid to pass through the valve until the pressure again reaches the valve set-point. The PRV is designed for use in both single and double acting systems.

**Pressure Limiting Valves (PLV)**
The Pressure Limiting Valve is a Normally Open (N/O) pressure control device. The valve remains open and fluid flows freely to downstream devices until the pressure in the valve reaches the pressure set-point (adjustable). At the set-point pressure, the valve closes, blocking further flow and pressure to the downstream devices. The internal valve seal prevents fluid flow through the valve in either direction until the inlet pressure (power source to the valve) is reduced to near zero. The PLV is for use in single-acting systems only.

**Waterproof Pressure Switch**
A pressure switch is used for hydraulic logic. When in-line pressure reaches the pre-set limit (adjustable from 750 to 5000 psi) the internal switch is activated. Reset deadband is approximately 5% of the set pressure. The switch is available with an M8 connector for easy connection and replacement.

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**Questions?**
Just ask us...
800-992-0236
sales@vektek.com
INTERNATIONAL
+1-913-365-1045

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**Live Hydraulic Fixtures**

- Rotating Unions
- Pressure Switch
- Pressure Reducing Valve
- Pressure Limiting Valve
- Sequence/PRV Combination

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**Rotating Unions**
Rotating unions are a continuous rotary connection used with indexers or live hydraulic pallet systems. Rotating unions feed pressure and clamp control to fixtures while allowing full rotation via 1-12 discrete circuits.

Rotating unions can allow “live” hydraulic power to be supplied continuously to fixtures on two pallet machines during the machining cycle.

Integral mounting holes, multiple plumbing options and electrical slip ring options make Vektek’s design easier to use than other industrial models.

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**VEKTEK**
The Productivity Devices Company
DIRECTIONAL CONTROL VALVES

A Vektek directional control valve function is the extension and retraction control for your hydraulic cylinders. It provides a flow path from the pump to the cylinders and a return path from the cylinders to the fluid reservoir. Whether manual or solenoid operated, they are specifically designed to control workholding fixture circuits.

All Vektek directional control valves are rated at 5,000 psi working pressure. They typically incorporate international standard mounting and fluid flow patterns.

Standardized mounting patterns also mean that valve operation can easily be upgraded from manual to electric without having to change system plumbing.

Quality Vektek Products

Vektek products are not just another “me too” product. Vektek does exhaustive research, design, development and testing to insure our products set the workholding standard.

Vektek has developed BHC™, a special black hard coating, to make device bodies extra durable. This high tech surface hardening process virtually eliminates the bore scoring and scratching that is the most common reason for seal failures and leakage in many cylinders.

Extensive use of Hard Chrome provides improved durability of load bearing surfaces where it is critical to device life. Special seals and wipers prevent leaks and keep contaminants out.

Warranty is an indication of a manufacturer’s confidence in the ability of the product to run “trouble-free” for a specified time. Our hydraulic products are warranted to be free of defects for one year from the date of shipment.

Please compare the durability and long life of our devices with that of our competitors. Prove it to yourself. We welcome any head-to-head challenge.

Product Availability

We do our best to have products in stock. We keep adequate shelf stock to be ready to ship orders quickly. We normally ship next day or same day if necessary to help you out.

Vektek Services

• A trained sales staff to assist you
• Technical advice and support
• Fixture concepts at no charge
• Technically trained field reps

On-site Training - By appointment, we will come to your location for workholding training.

Prompt price quotes

Order follow-up...we make sure you received your order promptly and have what you need!

We stay connected.

Vektek’s Website:
www.vektek.com

• Order Online - Use the “Sign-Up” link on our homepage to register your account. Sign up today and your account will be ready to use within a day or so.

PDF catalog

CAD 2D & 3D drawings

Parts Lists

Site Search

Local Reps

Repair and Maintenance Service

At times repairs are required, our repair team is ready to service and return clamps to you promptly.

For those who do not wish to perform maintenance on their devices, Vektek offers a repair service. Contact us for details and scheduling.

Medium Capacity Pump shown with 4 solenoid control valves and single control pendant.
Successful powered workholding does not just happen. Like any other manufacturing process, it must be carefully planned. But, that does not mean that you need to be a hydraulics engineer to implement a powered workholding system.

Designing a system involves a common-sense application of a few basic workholding concepts.

Applications for power workholding fall into two categories:

- **Retrofits**
  Replacing and upgrading clamps on existing fixtures.

- **New Fixture**
  Designed from the beginning with power workholding.

In both cases you must keep in mind the forces that can be generated by power workholding devices. A single device that you can hold in your hand can generate five tons of clamping force.

In replacing existing manual bolt and nut clamping or toggle clamps it is imperative the fixture or machine tool base will withstand the forces. Do not risk damaging a machine bed by tying a 10,000 lb clamp into a T-slot that can only withstand 5,000 lbs of force.

The 3-2-1 concept, as it relates to the location of the workpiece in three planes, is just as applicable when using power workholding devices as when using manual methods. Workholding devices should be positioned in such a way as to ensure firm contact between the workpiece and locating buttons, pins, or surfaces.

**Step 1:**

First, determine the nature of the operation to be performed, the number of parts to be processed per cycle, and whether operations will be performed on more than one surface of each part. Also, determine the time that should be allowed for part loading, unloading, and clamping.

Consult your machine tool file to determine the available work space on the machine table, bed, chuck or other surface, as applicable. Be sure that the space available will accommodate the part or quantity of parts to be processed according to your manufacturing work-flow. If space is not available, revise your plan.

In the initial phases of system planning, include adequate measures and devices to ensure the safety of workers and equipment. For more information, see the Safety section on the back inside cover of our catalog.

**Step 2:**

Prepare an outline of the sequence of events that will take place during the manufacturing cycle. This will assist you in determining the number of sequence valves that you might need, as well as any external control (such as a tie-in with machine controls) that your application may require.
**Step 3:**

Determine the cutting forces generated in the machining process and note the direction that these forces tend to act on the workpiece. It is recommended that cutter forces be calculated as a precaution in such a case to ensure that workholding devices are sized and positioned to provide adequate holding. The operation manuals of many machine tools contain tables that list machining forces or simple formulas for calculating these forces. If you are planning a retrofit of a manual clamping system, the torque values of your current application may be helpful in determining how much clamp force you are already using. If you can’t find the information, give us a call.

**Step 4:**

Plan your fixture(s) with positive fixed stops to resist the majority of cutting forces and to ensure correct location of the workpiece using the primary part locating features.

**Step 5:** (optional)

Thanks to the two-stage design of VektorFlo® hydraulic power sources, the low-pressure high-flow first stage will move clamping devices into position around the workpiece and generate sufficient force to settle the workpiece against fixture stops before high-pressure clamping forces are generated. Additionally, in many applications, the nature of the fixture itself will ensure that the part is located closely enough to eliminate the need for positioning devices as a separate fixture element. However, consideration should be given to the need to overcome weight and positioning friction.

**Step 6:**

After you have determined the machine cutting forces, assess the clamping force required to hold the workpiece on the fixture or machine table.

**Step 7:**

Determine where clamps should contact the part to hold or support it securely and avoid interference with machine operations. If clamps cannot be located to avoid interference with manufacturing operations, it will be necessary to use an external control device to move the clamps out of the way as the need arises during the manufacturing sequence. This will require additional valves be used to control the offending devices separately.

**Step 8:**

Determine the type and number of workholding devices you need based on the total clamping force required and clamping positions you’ve selected.

**Step 9:**

To help determine the capacity of the power source you’ll need the total oil displacement requirements for the devices you have selected. Then choose a power source with equal or greater capacity and determine if it will operate the system within your clamping time constraints by working out the following formulas:

\[
\text{Device Capacity} = \frac{\text{Low Pressure}}{\text{Flow}} \times \frac{\text{Position}}{\text{Time}}
\]

**Where...**

Device capacity is total device oil capacity expressed in cubic inches. Low Pressure flow is low pressure pump oil volume expressed in cu. in. per minute. Position time is time to position expressed in decimal parts of a minute. (Sequence valves in your circuit will affect this time)

To the result obtained above, add the result of the following calculation to find total estimated clamping time.

\[
\left(\frac{\text{System Capacity}}{\text{High Pressure Flow}}\right) x .01 (\text{System Operating Pressure ÷ 1000}) = \text{Pressurize time}
\]

**Where...**

High Pressure flow is high-pressure pump oil volume expressed in cu. in. per minute. System capacity is total system oil capacity, the workholding device capacity plus the internal volume of any associated tubing, hoses, manifolds, etc. (For small systems, the plumbing volume may be so small as to be negligible. However, for systems with long runs of tubing or hose, their volume may be of such magnitude as to materially affect the time it takes for operating pressure to be reached.)

The expression \( .01 x (\text{System Operating Pressure ÷ 1000}) \) takes into account the slight compressibility of oil and system elasticity, which influence the length of time required to pressurize a system. Pressurize time is the total time to reach pressure expressed in decimal parts of a minute. If the total estimated clamping time is not within the cycle time requirements you’ve targeted but is within device limitations, a larger power source is required — one with greater capacity. Select such a source and repeat the above calculations to ensure that it will provide the clamping cycle times required.

If the total estimated clamping time in the initial calculation is significantly less than the time allowed, your first power source selection may have been too large. In such a case, select a smaller power source and repeat the above calculations to ensure that it will provide the clamping cycle times you will need. Additional factors you should consider when selecting a power source include a shop floor plan and/or machine layout and your own preference for the type of power source (shop air vs electric). If desired, large electrical power sources may be used to supply several workholding systems, each operating independently at several machines.

In this case, the timing and sequence of operations for each individual system must be calculated as shown above to arrive at a size for the power source.

**Step 10:**

Select valves and other control components to accomplish the sequence of operations you outlined in Step 2. See the valve sections in our catalog for guidance.

**Step 11:**

Select appropriate safety control mechanisms for your fixture. All VektorFlo® electrical power modules have a hydraulic pressure switch as standard equipment to ensure that consistent forces are maintained at all times. However, when a power source is used to power several separate individual systems, each system should also have its own pressure monitor.

**Step 12:**

Finally, select the plumbing components required to connect the power source to the valves and devices. Simply review your system specifications and layout to determine what you need in terms of fittings, sizes, and lengths.

**Step 13:**

Let us take a look. Our application engineers do not design fixtures. Their job is to help you use hydraulic clamps successfully. Whether you are retrofitting existing fixtures, need a concept idea for clamping a new part or want a quick review of your design, we are here to help.
Where Do I Start?

TRANSFORMING A MANUAL STRAP CLAMP FIXTURE INTO A HYDRAULIC POWERED FIXTURE

Let’s take a common manual strap clamp fixture found in most any machine shop, similar to the one illustrated above right, and convert it to a Hydraulic Power Fixture.

As you can see in the illustration at right, the heels have been replaced with Vektek Block Cylinders. The studs have been double nuted to a desired location. Now, all that is required is connecting the plumbing and power source to the block cylinders.

Air/hydraulic boosters are an inexpensive way to power single acting systems.

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**DOLLAR SAVINGS POTENTIAL PER CLAMP CYCLE**

<table>
<thead>
<tr>
<th>LABOR RATE</th>
<th>2 CLAMPS/1 PART</th>
<th>4 CLAMPS/1 PART</th>
<th>8 CLAMPS/2 PARTS</th>
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<tr>
<td>$50 per hour</td>
<td>$0.28</td>
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<tr>
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<tr>
<td>Payback Cycles</td>
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<td>282</td>
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</tbody>
</table>

**SAVINGS FORMULA**

See TIME SAVINGS chart, below right.

**EXAMPLE OF FIXTURE SHOWN:**

2 CLAMPS/1 PART @ $50 hr. labor

Hourly Rate ($50) divided by number of seconds per hour (3600) = rate per second ($0.0139) X seconds saved (20) = DOLLARS SAVED PER CLAMP CYCLE 0.278 cents ($0.28)

APPROX. COST TO ADD HYDRAULIC POWER TO STRAP CLAMP FIXTURE

$1298.00 + $0.28 = 4,636 cycles

• PLUS •

Ongoing cost reduction of $0.28 on every part produced after system cost is paid back.

**TIME SAVINGS:**

2 CLAMPS / 1 PART

MANUAL CLAMPING TIME 35 SECONDS

POWER CLAMPING TIME 15 SECONDS

SAVINGS OF 20 SECONDS

4 CLAMPS / 1 PART

MANUAL CLAMPING TIME 68 SECONDS

POWER CLAMPING TIME 20 SECONDS

SAVINGS OF 48 SECONDS

8 CLAMPS / 2 PARTS

MANUAL CLAMPING TIME 130 SECONDS

POWER CLAMPING TIME 26 SECONDS

SAVINGS OF 104 SECONDS

Calculations based on:

**MANUAL** - Time to load part, position clamps, tighten clamp nuts with a break-over torque wrench, loosen clamps and unload part.

**POWER** - Time to load part, position clamps, activate hydraulic power source, build to pressure, release pressure and unload part.

**PAYBACK CYCLES** - Based on system cost including number of powered clamping cylinders, Air/Hydraulic Booster, Hoses, Fittings and allowing $15 per clamp for tool modification and for installation. Actual may vary.
TYPICAL STEPS TO YOUR POWER WORKHOLDING PURCHASE

After several conversations with a Vektek sales representative, you may uncover an application where hydraulic clamping will pay for itself in a very short time. The next step would be to call and discuss your fixture concept with one of our Application Engineers.

They may ask you to send information about your current fixture, part(s), machine and processes to study and propose a clamping concept similar to what you see at the left. So you know what to expect, we do not “design” the fixture, we provide a concept. With the concept, we can provide a Bill of Materials, if you request one.

To aid in your fixture design, CAD files for each product are available online at www.vektek.com or by requesting a CD from your sales representative.

After your design is complete, call us to place your order. We will deliver your components promptly.

The relationship does not end here. We want your fixture to work right and keep on working.

VEKTEK, INC.
1334 E 6th Avenue
Emporia, KS 66801
800-992-0236
sales@vektek.com

INTERNATIONAL
+1-913-365-1045
www.vektek.com

Faster, Better Clamping!
Some possibilities to enhance or fully automate a manual strap clamp fixture with hydraulic power.

A manual strap clamp fixture shown with a work support powered by a manual screw pump. To eliminate vibration and movement on the unsupported end of the part, one or more supports may be activated remotely by a single screw pump (A pressure gauge should be incorporated to assure proper working pressure is supplied.)

Here, the strap clamp heel rests have been replaced with hydraulic block cylinders. A sequence valve must be added to engage the work support after the part has been clamped in position. Any hydraulic power supply can be used to operate this application as long as it has sufficient fluid volume.

For ease of loading and removing the part, swing clamps have replaced the block cylinders in this illustration. Again, any hydraulic power supply can be used to operate this application as long as it has sufficient fluid volume.
INFORMATION YOU REQUESTED

Machine Parts Better, Faster, and MORE Consistently with...

POWER WORKHOLDING

• Achieve Greater Repeatability
• Use Higher Cutting Speeds
• Faster Clamping
• Produce Less Scrap

DETAILS INSIDE