

# MicroLoc<sup>®</sup>

*Adaptable*



*Powerful*



*Versatile*



*Accurate*



*Expandable*



## Workholding Systems



MicroLoc<sup>®</sup>

Whatever your requirements, we can provide a workholding system that's right for you.

If you are looking for a versatile, general-purpose, system for sub-contract work, that will grow with your workload, then consider our standard kits.

If you need something for a particular job, but with an eye on future work, we can offer a customised system that will improve your productivity, but won't get put under the bench when the first job is finished.

# workholding

## With a MicroLoc Kit you can:

**Save money** (standard kits are generally 10-15% less than the sum of the parts when bought separately. We manufacture in quantity, so you save.)

**Know exactly what you are buying.** Instantly. All of our kits are comprehensively listed, so it's easy for you to choose.

**Expand as your budget permits.** Kits can be mounted side-by-side, so MicroLoc can expand with your workload.

**Have ex-stock delivery.** Next day. If you have an urgent requirement, we can help.

Use our standard table clamps to mount the kit base onto your table, or, if you prefer, you can machine your own fixing holes to suit your specific machine table or cube. (We recommend M12 fixings and we can advise on this when you are considering a purchase.)

## With MicroLoc customised service you can:

**Save money.** Hold many parts within the same area that previously held one or two parts in a huge vice. MicroLoc can often compare very favourably with the cost of a dedicated fixture. MicroLoc is competitive on price with multi-vice set-ups and has the advantage of future adaptability.

**Choose a set-up to suit your requirements.** Whether you are looking for a baseplate to fit your machine table and hold a family of large moulds, or if you need a small fixture to clamp a number of small telecom parts, we can help. We will provide fixing holes to suit your machine. We can custom your baseplate to suit a particular pallet or cube. We can supply cubes, tombstones and trunnions configured with MicroLoc. Try us.

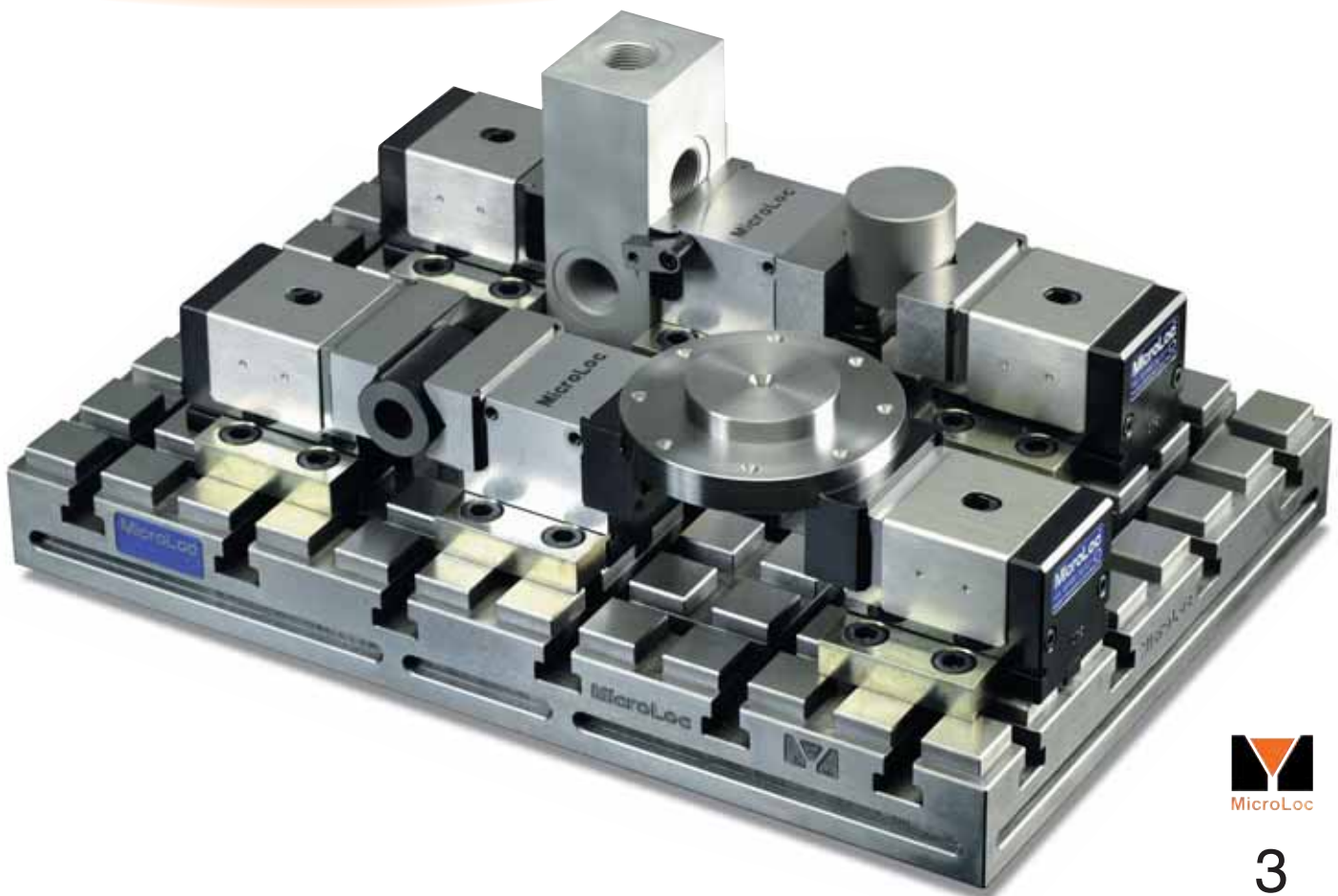


[www.microloc.com](http://www.microloc.com)

buy as a kit...



...or customised



# versatile



MicroLoc

# four ranges to choose from:

## •50-series

Baseplates with t-slots at 50mm pitch, from 300x200x55mm up to 1450x650x55mm. Your choice of t-slots in X or Y, with provision included for four-edge clamping. Three effective widths of clamping jaw: 34mm, 42mm, and 82mm (between stops). Full range of jaw accessories.

Standard kit size 300x200x55mm.



## •60-series

Baseplates with t-slots at 60mm pitch, from 300x180x55mm up to 1440x660x55mm. Your choice of t-slots in X or Y, with provision included for four-edge clamping. Two effective widths of clamping jaw: 34mm and 42mm (between stops). Full range of jaw accessories.

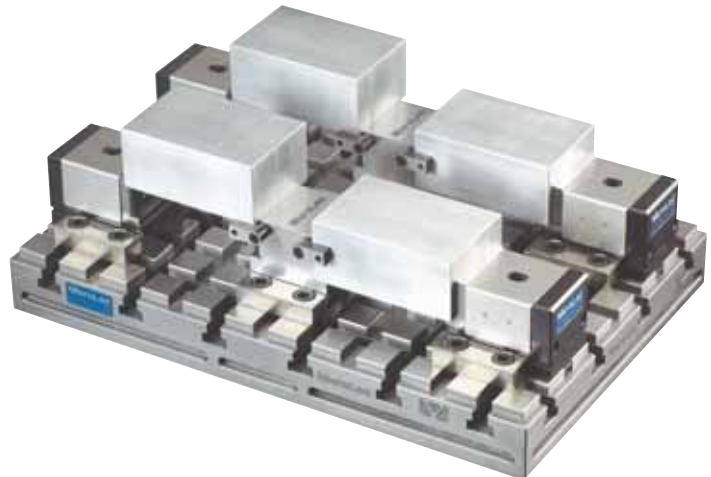
Standard kit size 360x240x55mm.



## •75-series

Baseplates with t-slots at 75mm pitch, from 375x225x55mm up to 1425x675x55mm. Choose from t-slots in X, Y, or (at a small extra cost) in X and Y. Two effective widths of clamping jaw: 42mm and 60mm\* (between stops). Full range of jaw accessories.

Standard kit size 450x300x55mm.



## •100-series

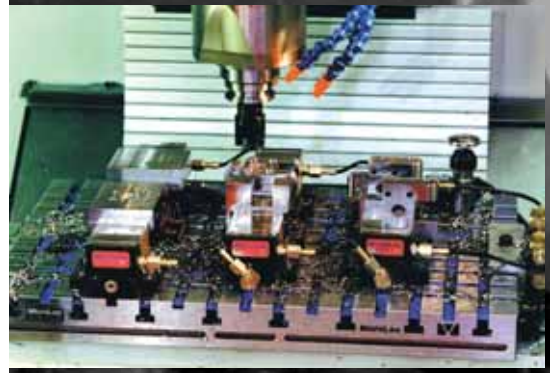
Baseplates with t-slots at 100mm pitch, from 400x300x55mm up to 1400x600x55mm. T-slots in X and Y as standard. One effective width of clamping jaw: 82mm\* (between stops). Full range of jaw accessories.

Standard kit size 600x400x55mm.



\*Manual and hydraulic versions available

The Future, Now!



# powerful

## Manually-operated or Power-operated?

The 75 and 100 series clamping units have the option of manual or power operation.

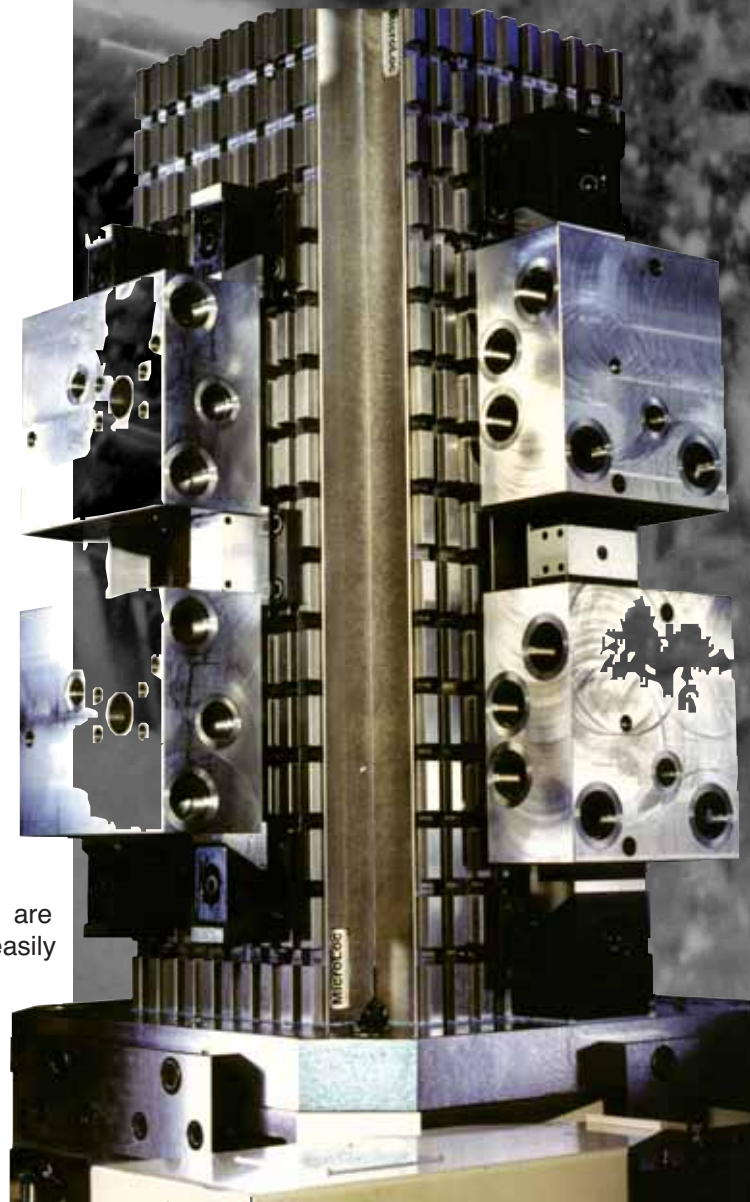
The power clamps have the same physical dimensions as the manual versions and share the same accessories.

For production work the powered clamp is quick to load and saves valuable time (and money).

To power-up the hydraulic clamps we can supply a self-contained MicroLoc power-pack which is either air-operated or electrical.

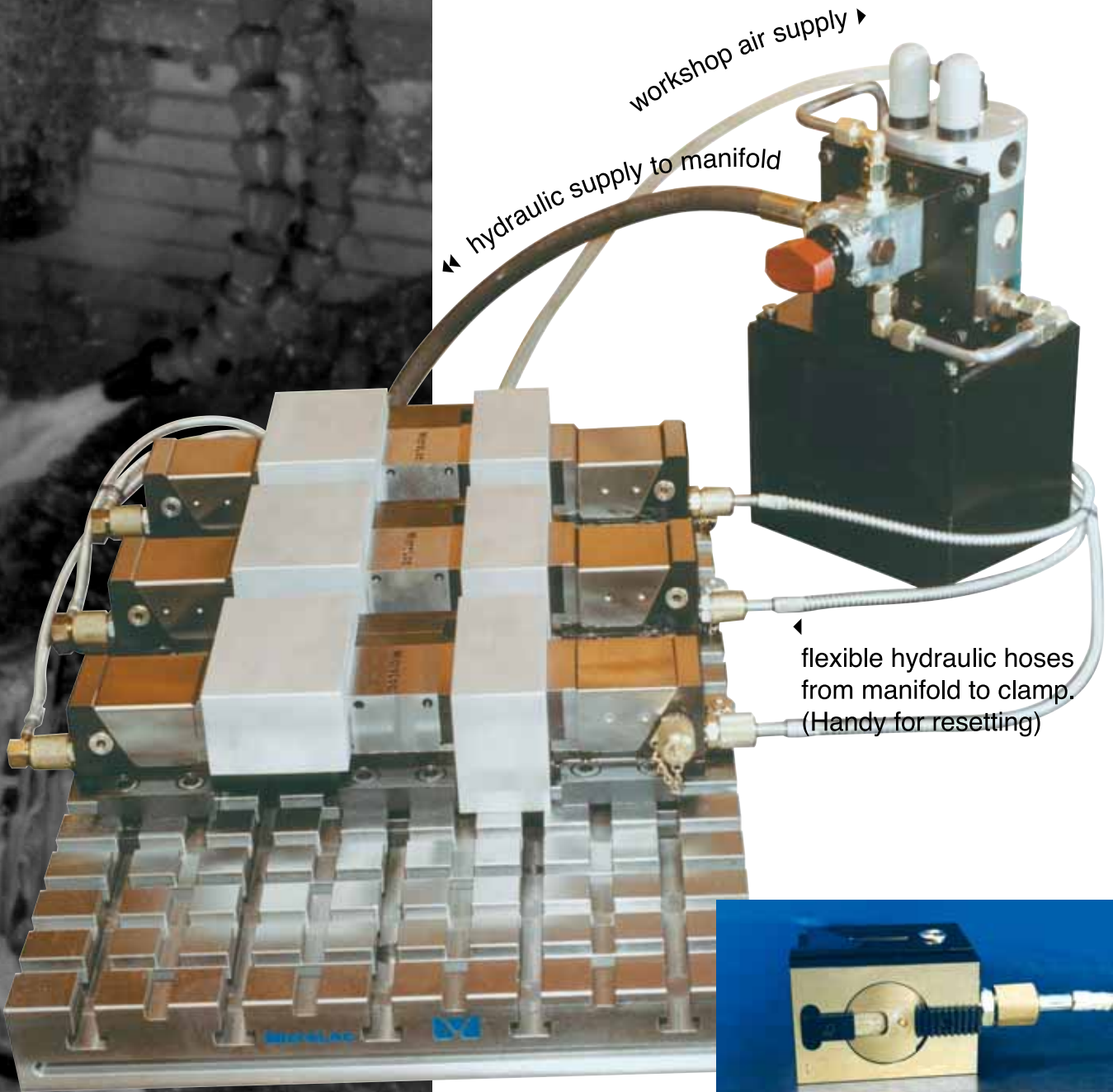
The MicroLoc power-pack is virtually plug-in-and-go: you provide a standard 5bar (72.5psi) workshop air supply or an electric socket outlet, the power-pack provides a 350bar (5000psi) max hydraulic supply to the clamps. One power-pack can supply in excess of thirty 75-series hydraulic clamps.

Because all other elements apart from the clamping units are common to both manual and powered systems you can easily upgrade from manual to power at a future date.

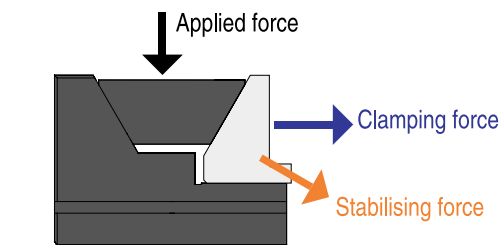


MicroLoc in use on a pallet-pool arrangement at Sterling Hydraulics





Underside of hydraulic clamp showing cartridge insert



## secure

Because there is always solid metal behind and beneath every component supported on MicroLoc, a very stable and secure machining platform is achieved, which helps to reduce vibration, noise, and even prolongs tool life.

Also, the novel geometrical design of our clamping jaw allows it to swivel slightly when tightened onto a component (up to 1mm across the jaw width), so there is always two-point clamping across the face of any prismatic part.

# ...to choose

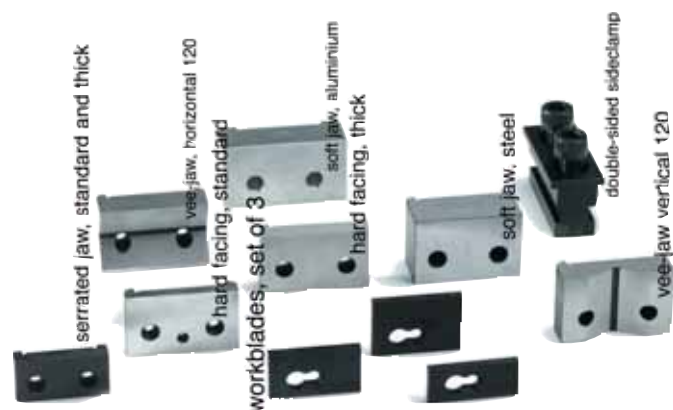
- 1 Decide if you require a kit, or bespoke service. (Kits are generally available ex-stock.)
- 2 Choose a suitable jaw width and clamping force that will best fit the range of parts you will be machining.
- 3 Decide on a suitable pitching of jaws (eg component width + cutter size + clearance), and determine if this is best fitted to a 50mm, 60mm, 75mm or 100mm pitching of t-slot. (Remember that intermediate or offset positions are possible for the clamping elements.)
- 4 Decide on the likely maximum number of parts you will need to hold.
- 5 Choose a size of baseplate or kit, either matched to the number of clamping stations required, or by the size of your machine envelope or pallet size.
- 6 Choose accessory jaws.

If you are not sure of the ideal size of MicroLoc for your needs, just call us with some details of your requirements and we can provide a CAD layout for you to consider.

Locate the MicroLoc baseplate to your machine using a pair of bore tenon adaptors. The 16mm bores in the baseplates are used for this purpose.

If you are purchasing a kit you will need to mount the baseplate either by using a minimum of six table clamps around the perimeter, or alternatively provide some counterbored holes for M12 screws. We can give you advice on what to do.

If you have opted for a customised service, we will supply your baseplate with the necessary fixing holes, bushed location holes for mounting on cubes, or even edge locations and fixings for pallets.



## MicroLoc® Standard Accessories

# easy...





# ...to set-up

1



Mount the baseplate to your machine table t-slots using a pair of bore tenon adapters fitted to 16mm bores in the underside of the MicroLoc baseplate.

2



Insert locators carefully into the desired positions

3



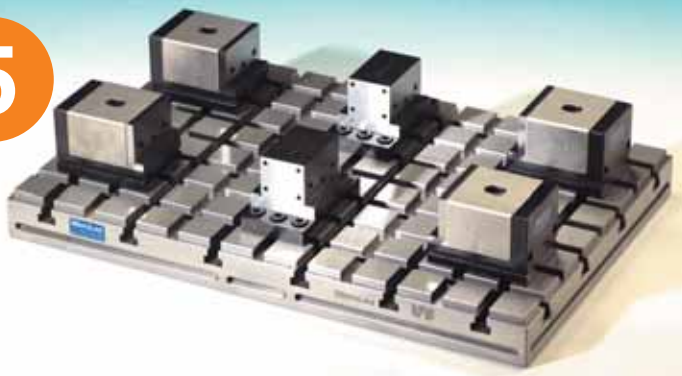
Slide in sideclamps and tighten.

4



Position clamping jaws by placing a loose rack into cross-slots in the baseplate and...

5



...using a component as a template, engage the rack in the underside of the clamping jaw into the loose rack to locate the component within 3mm.

6



Each size of clamping unit has a sliding jaw with a stroke in excess of 3mm. Again, slide in sideclamps and tighten.

7



Determine by inspection the number of end-stops and spacers to be fitted.

8



Load the components and tighten using the central actuating screw.



# accurate

**integer location!**

**how it's done**

The components you wish to hold are clamped against a fixed jaw, and this jaw gives accurate location of each component in X, Y, and Z to aid programming!

Every locator has tenon key positioning into cross-slots on the baseplate, to give you quick and easy offsets from any chosen datum point on the baseplate to the faces of all the locator jaws (and hence components) on the baseplate. So, to find where your parts are positioned relative to each other, just count the offsets from your chosen datum.

We grind our case-hardened jaws to  $\pm 10$  microns relative to the tenon keys, and machine our baseplates to a similar tolerance over one metre, giving a system repeatability accuracy of  $\pm 25$  microns.

The clamping jaw has a rack in the underside, which engages fully into a repositionable rack in the baseplate, for coarse setting using a component as a template. To set a row of components, simply match the number of teeth exposed in the loose rack.



system repeatability  $\pm 25\mu\text{m}$



Sure, MicroLoc has vice-like jaws in which one clamping station might hold one part, and you can gang the jaws together to provide the equivalent of, say, an eight inch vice, and you can fit aluminium or steel soft jaws or vee-jaws.....

But isn't that missing the point of MicroLoc?

**YES** it can do what a vice can do

# is it a vice?

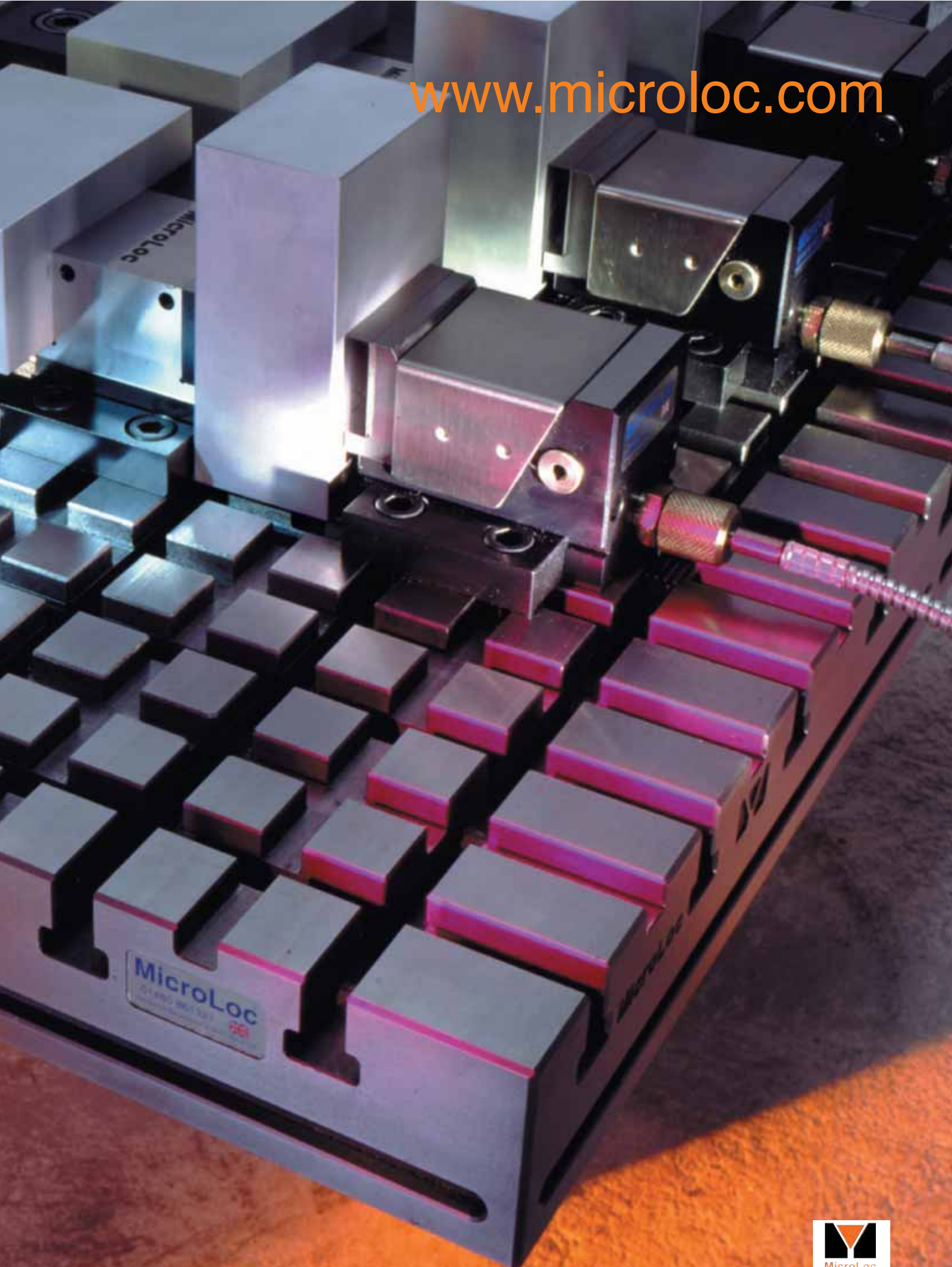
**NO** it's *more* than a vice!



Use MicroLoc as a vice substitute if you wish, but that would be missing out on all the additional features that MicroLoc has to offer.

All MicroLoc baseplates have the facility to rotate clamping elements through 90 or 180 degrees, which will allow four-edge clamping of, for instance, a large mould, using exactly the same elements that, perhaps, yesterday you used to clamp a number of valve blocks, and which tomorrow you will use to grip a pair of long, round bars horizontally. All in accurate locations. So you can multi-part load, or mount one-offs, or a mixture of both, all with the same kit. *That's* versatility.

OK, so you need to buy a MicroLoc baseplate to enjoy the full versatility and accuracy of the system. (We don't insist on it. If you just wish to buy some clamps, that's fine.) But then you will probably want to be clamping at least six components at a time, and if you were using vices regularly these would really need to be mounted on a sub-table of some description, the cost of which redresses the balance somewhat in our favour.



MicroLoc  
CLASSIC BOLT SET  
250

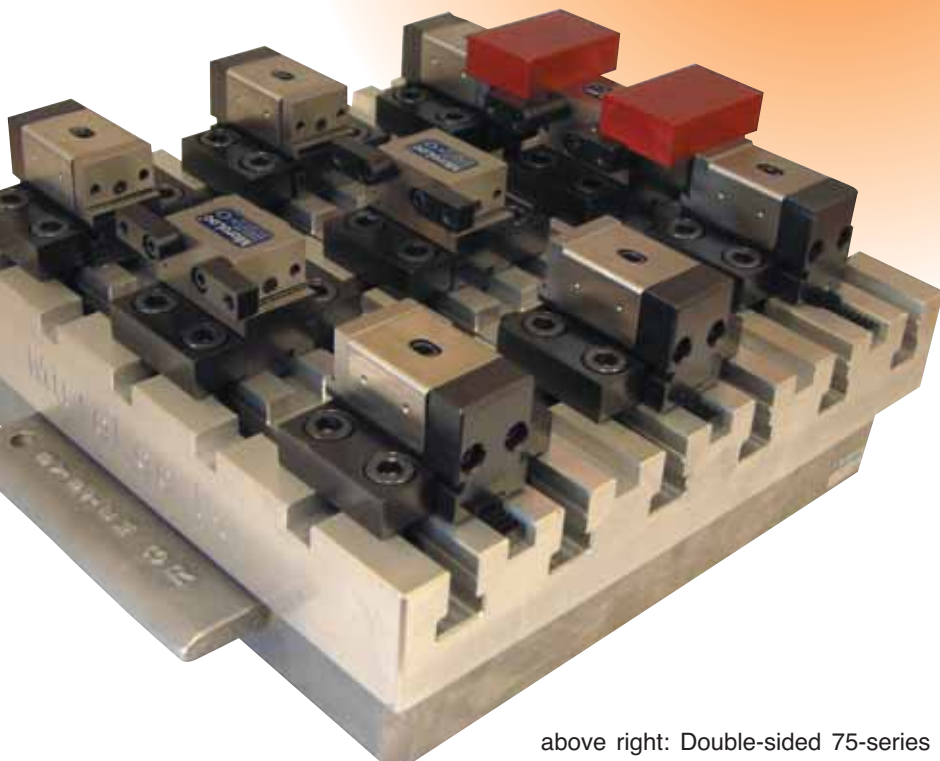


Matched pairs of escalator treads being machined at Finecast Engineering Ltd



50-series system machining aluminium parts for the electronics industry on a Brother machining centre

# it works

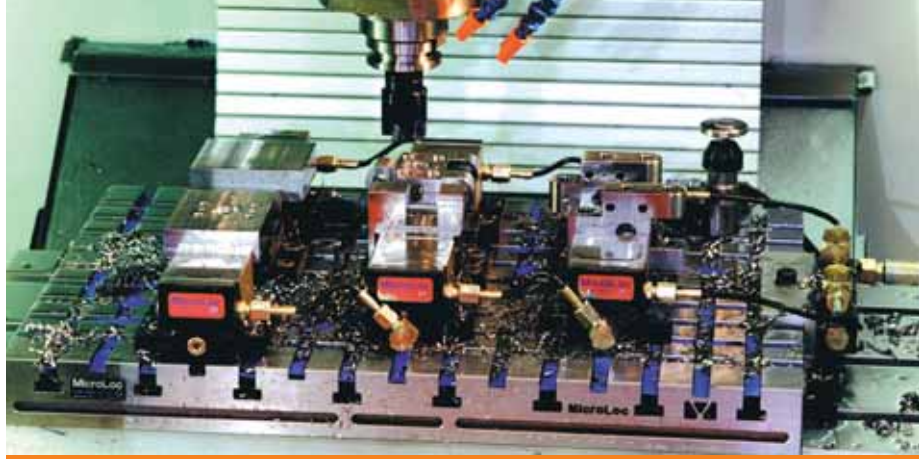
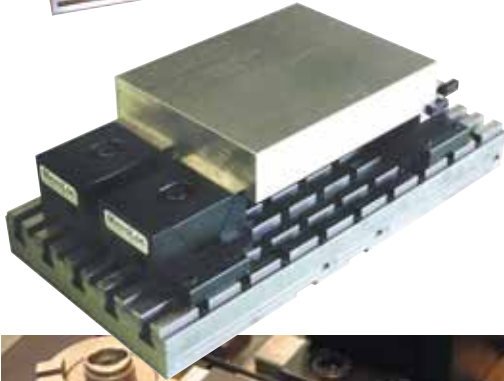


above right: Double-sided 75-series horizontal fixture on a 400mm pallet  
 above: Special 300x300mm MicroLoc Aluminium base to suit System 3R Dynafix pallet.

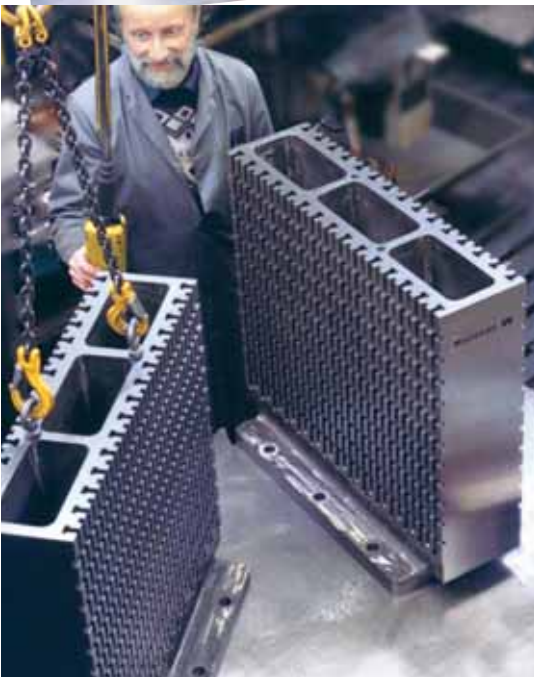
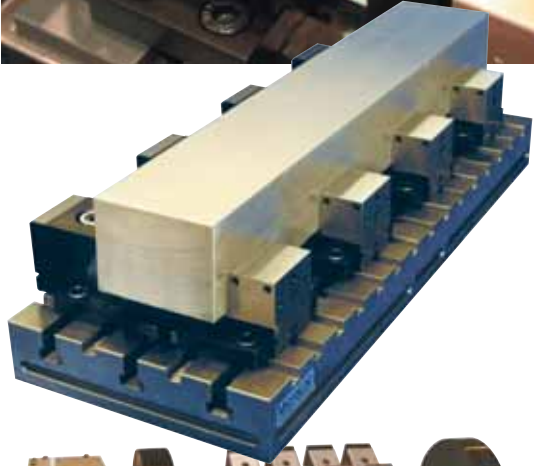
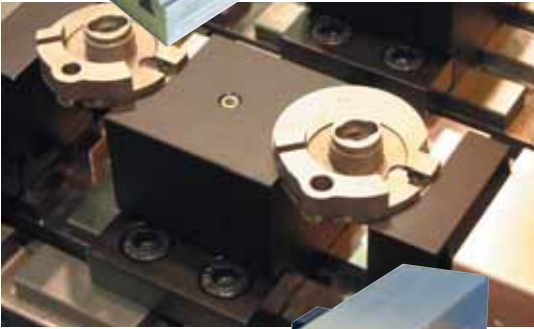


right, top to bottom:  
 Round and rectangular bars in MD75 jaws  
 Large block in MD100 elements  
 Small parts held in profiled soft jaws MD60  
 Square section bar in MD75 jaws  
 MD60 trunnion  
 50-series 630x630mm double-siders





above: Hydraulic fixture for machining chain links in six operations  
below: 75-series trunnion on display at Mach'2002, Birmingham UK



above: Aluminium blocks clamped vertically between hard facings on an hydraulic 75-series fixture

# MicroLoc®

## Soft Clamping Systems

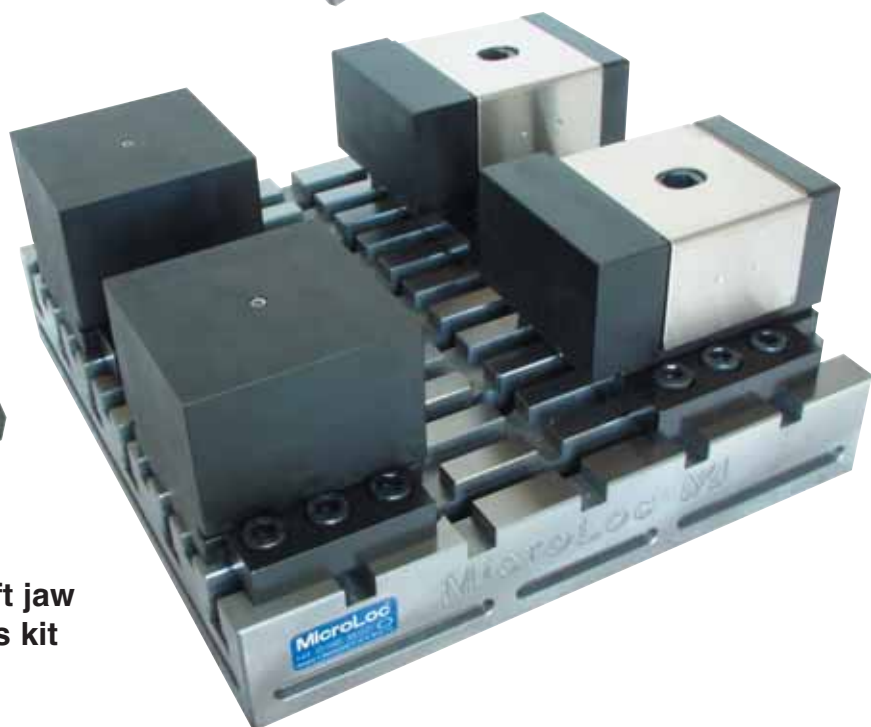


**New!**



**VERSATILE  
WORKHOLDING**

- Available in four standard sizes, with soft jaw sets to adapt existing MicroLoc systems, or available as complete systems ready for your machine!
- Machine component features directly into the clamping elements
- The MicroLoc compensating jaw even allows pairs of smaller parts to be clamped securely per jaw.

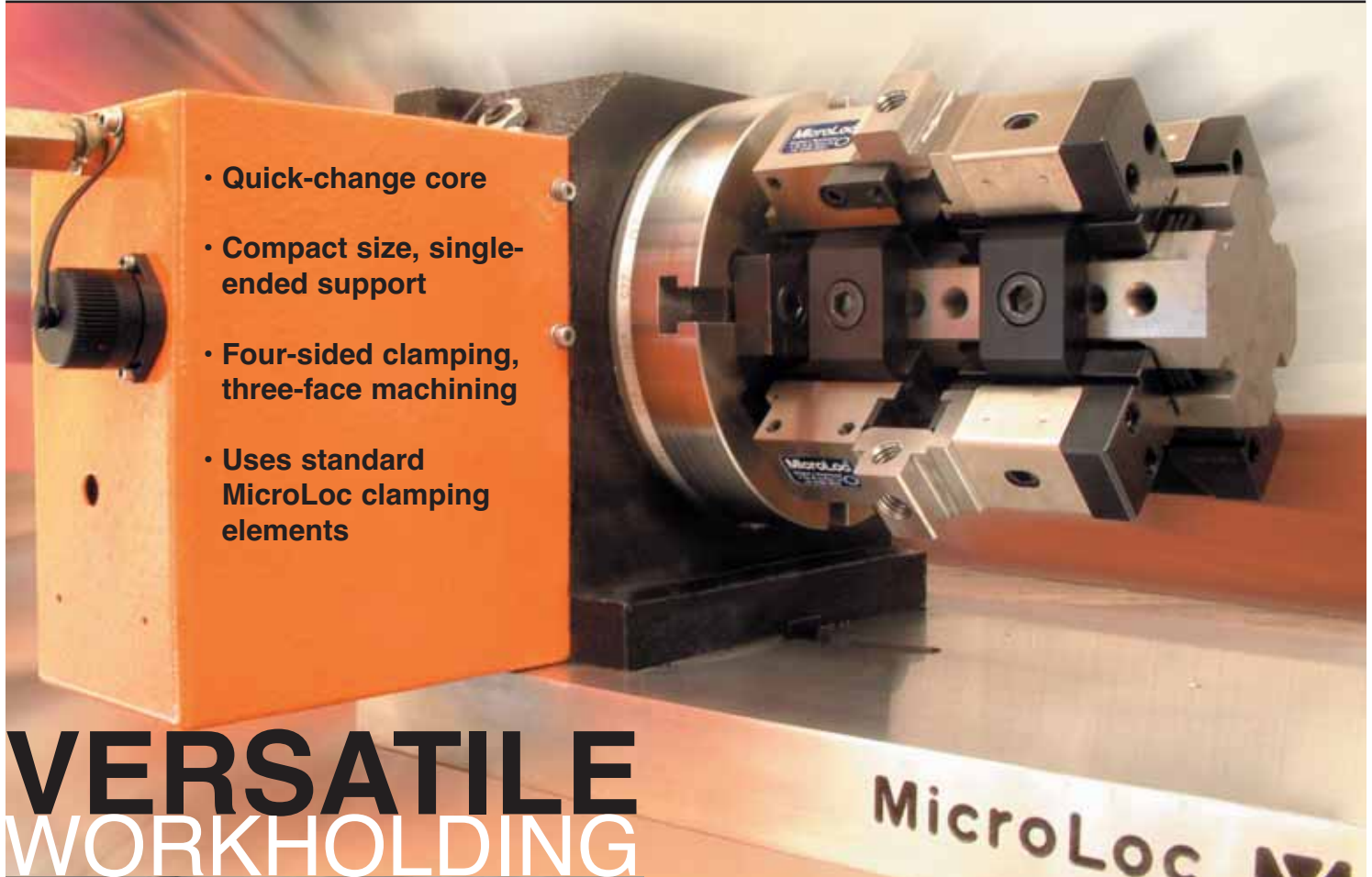


Standard soft jaw  
consumables kit



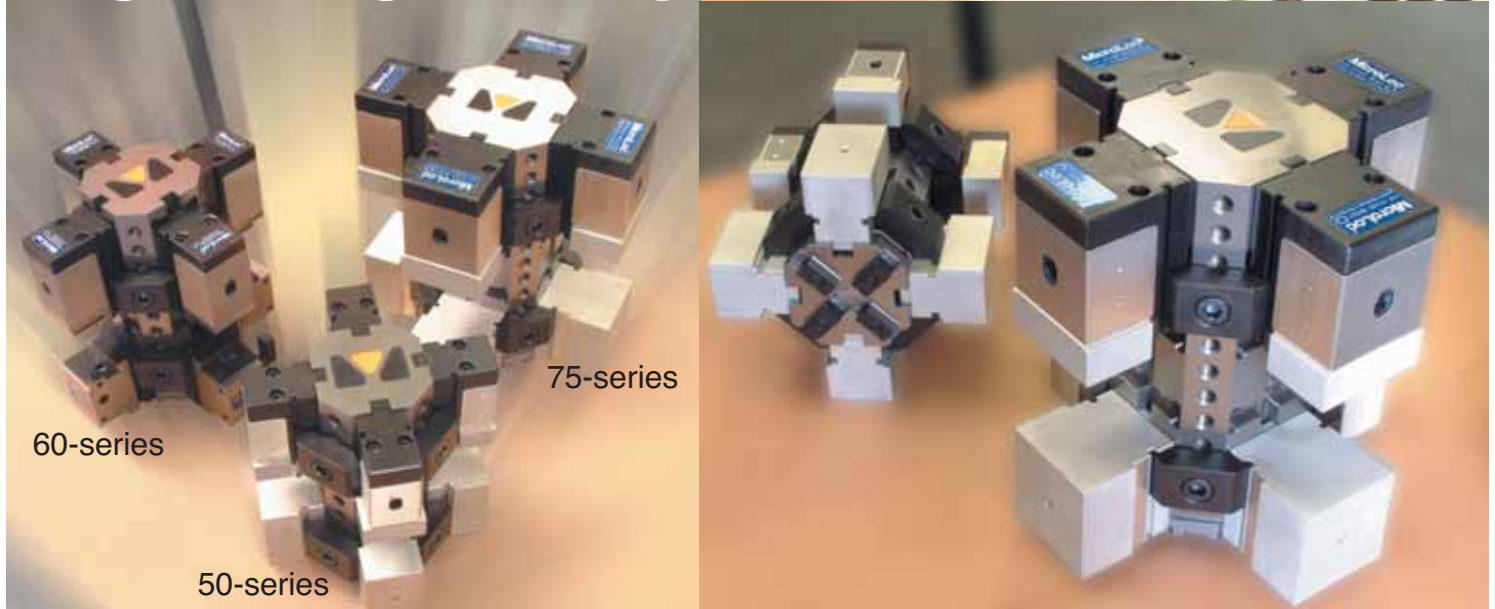


# MicroLoc® RotoLoc12™ **New!**



- Quick-change core
- Compact size, single-ended support
- Four-sided clamping, three-face machining
- Uses standard MicroLoc clamping elements

## VERSATILE WORKHOLDING



60-series

50-series

75-series

- Available as a complete system ready with adaptor for your rotary table/indexer/full cnc table!
- Can be supplied complete with 4th axis of your choice.
- Core available separately in 50, 60 and 75-Series configurations.