



Licensed Manufacturer of the Locking Swing Clamp

CATALOG

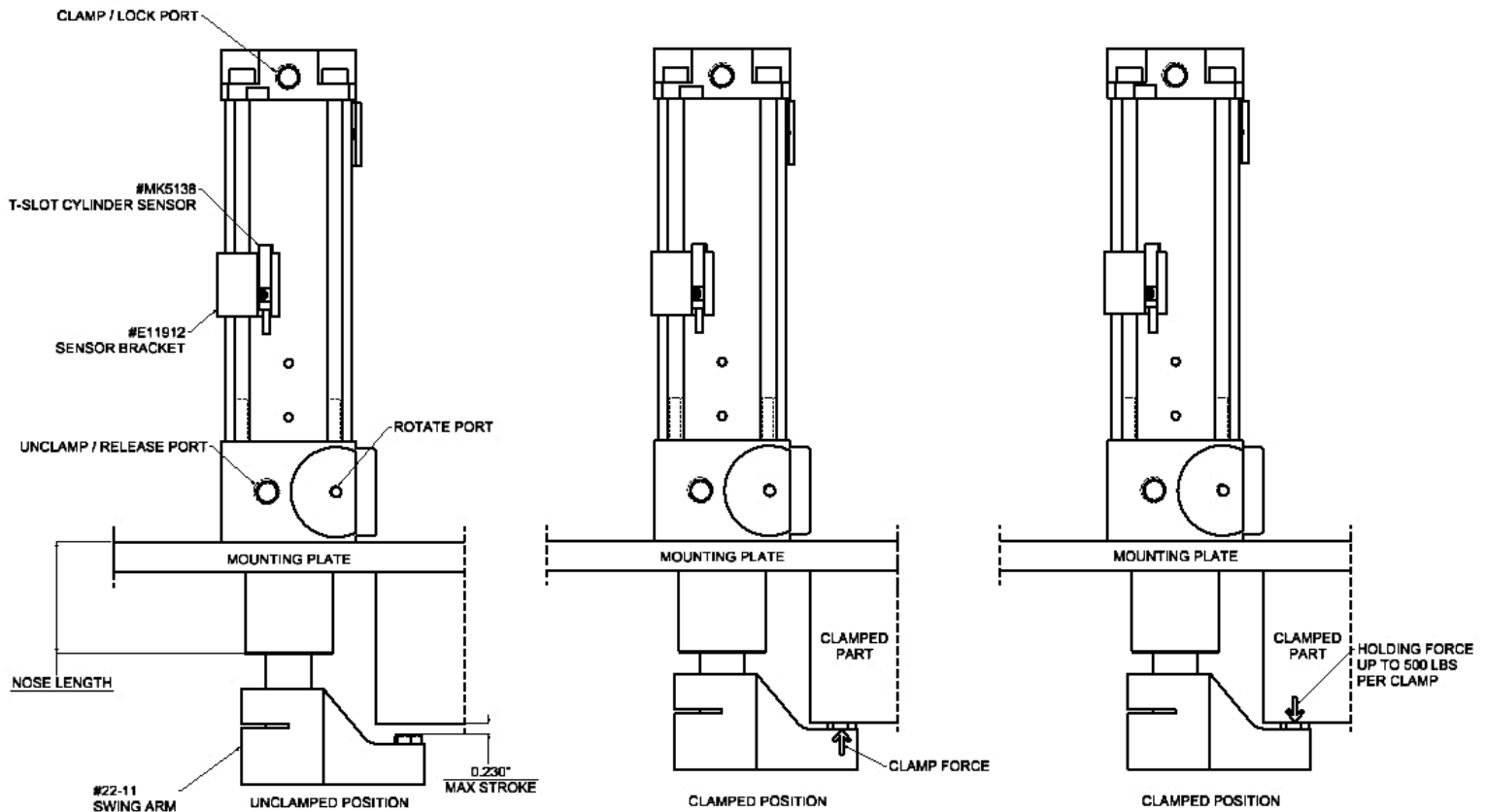
Patented, Quadloc® Pneumatic
Locking Swing Clamp



4422 and 4425 Quadloc® Models

Mechanical Locking Pneumatic Swing Clamp

Quadloc® Model 4425



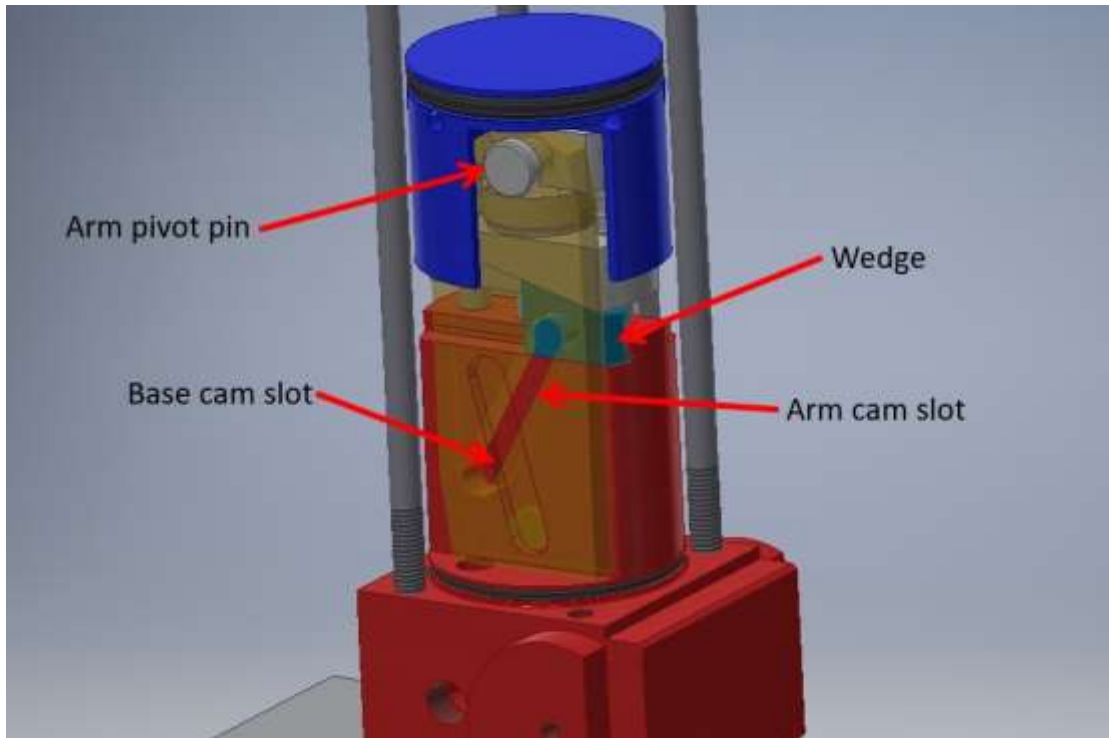
Our 4422 and 4425 models can clamp at 400lbs with standard shop air.

Quadloc's® superior mechanical design eliminates the need for rod locks.

All Quadloc® models always have a holding force of 500lbs regardless of clamping force.

Mechanical Information

Locking is achieved by cam slots and wedges



The cam arms do not allow the wedges to move backward after it's clamped, locking it in place.

The unit clamps when the wedges are driven in. The harder/faster they're driven, the higher the clamp force.

With this patented design, you can decouple all pneumatic power sources and it will stay clamped without losing any of its clamping force or holding capabilities. The clamp holding force is only limited by the strength of materials.

The only way to unclamp Quadloc® clamps is to energize the unclamp port.

For more information, go to the "How it Works" section of our website at www.lockingswingclamp.com.

Other Features

Quadloc® clamps also have an independent rotate that does not require flow controls.

The swing arm accessory, #22-11, has a flexible, 360-degree rotation. This gives you full adjustability.

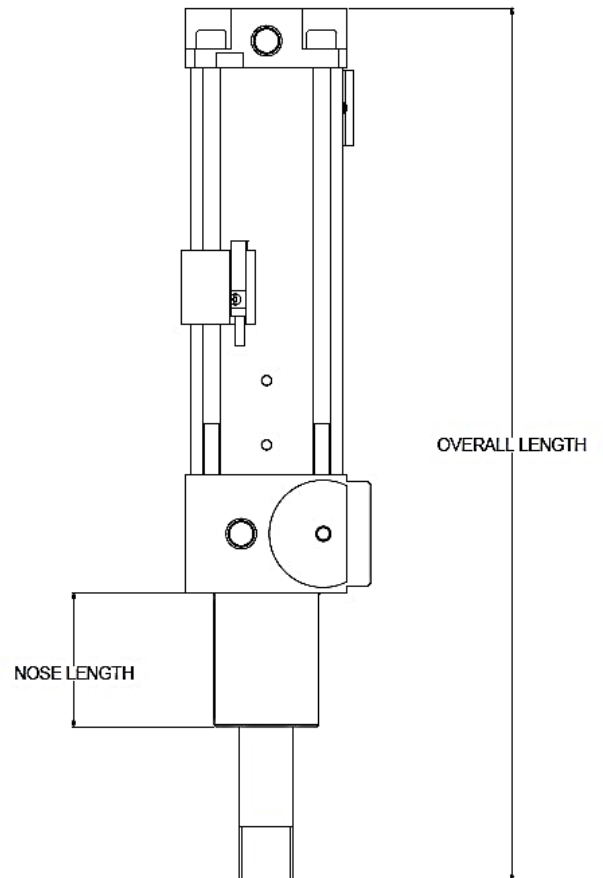
Quadloc® clamps are very compact. The largest model has a 11.420" overall length with a 2.125" square mounting surface.

This compact unit allows for easier design implementation with less clearance required. No need to worry about clockwise or counter-clockwise clamping.

Specifications and Forces

Quadloc® Model Specifications

	<u>4422</u>	<u>4425</u>
Clamping Force	400	400
Holding Force	500	500
Rotate	Automatic	Automatic
Nose Length	14.75mm	44.75mm
Weight	4.6lbs	4.9lbs
Overall Length	260mm	290mm
Stroke	5.8mm	5.8mm



Quadloc® Models Clamp Force and Holding Force

	4422 and 4425 Clamping Force (lbs)	4422 and 4425 Holding Force (lbs)
40psi	157	500
60psi	246	500
80psi	329	500
100psi	408	500

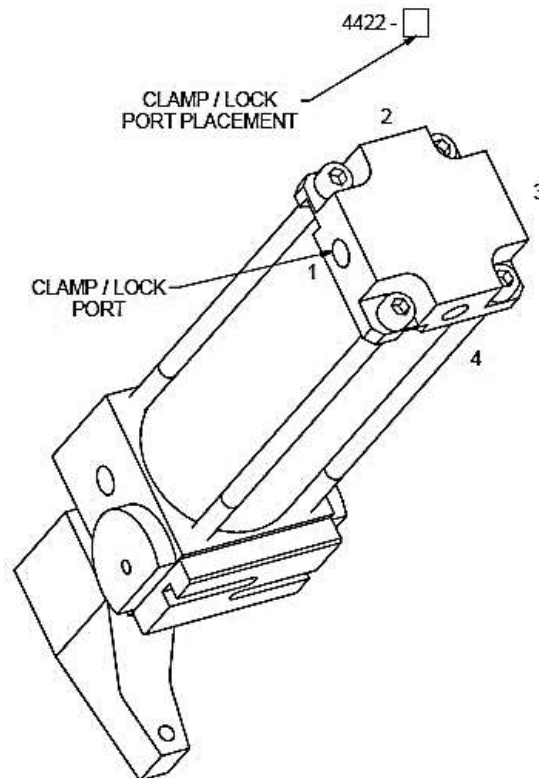
*All numbers are from averaged readings with #22-11 swing arm, and using ¼" diameter 2 feet long airlines with a 1.0cv Numatics Mark 8 spool valve, model #082SS53AM 24VDC and a Wilkerson FRL #C08-02-FKG0 (.8Cv).

*Forces are lowered by an average of 15% for every 12' length of pneumatic tubing from clamp to valve.

*Forces are lowered by 15% when using a 0.38 Cv valve.

Configuration Options

All Quadloc® models give you customization in choosing what orientation you want the clamp/lock port.

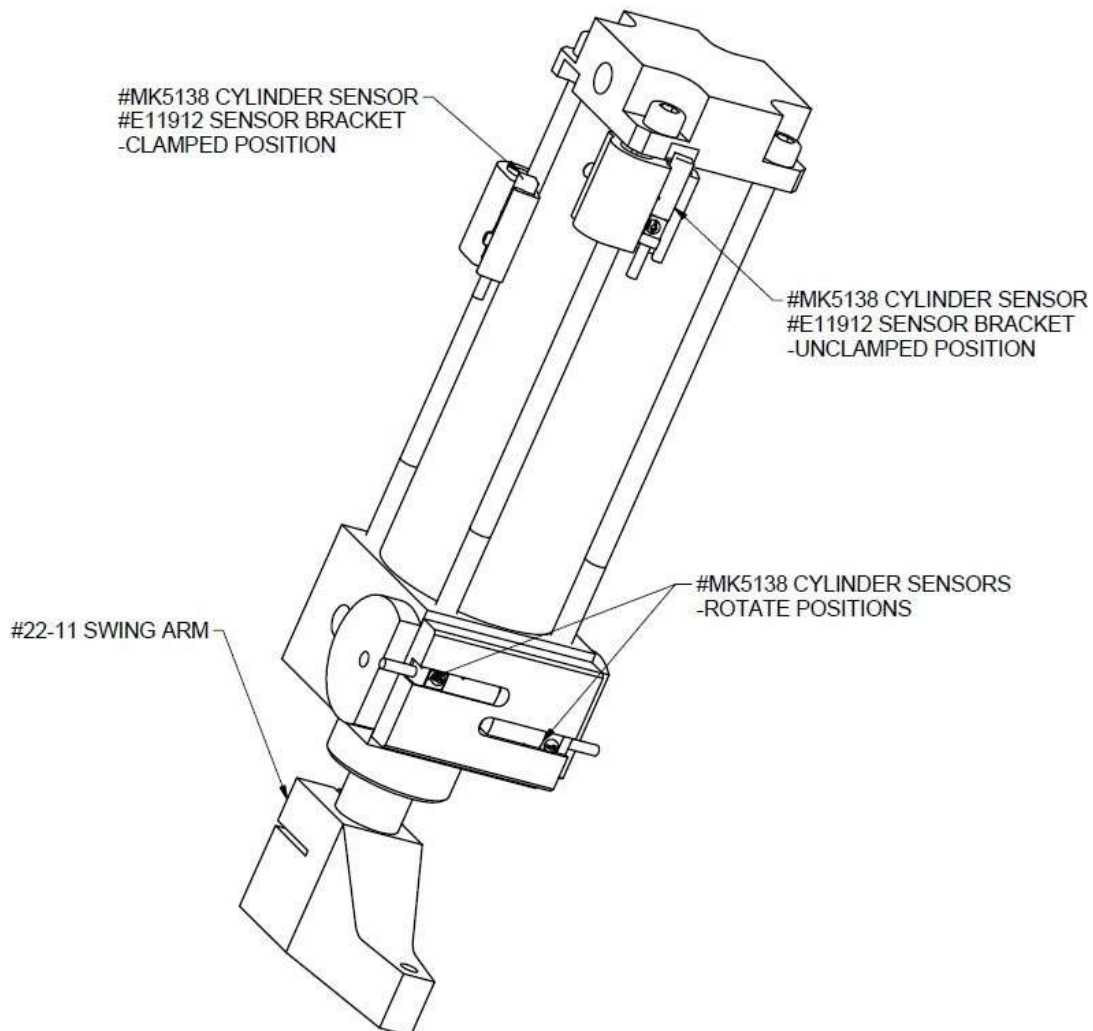


Accessories

There are (3) accessories that are recommended for all Quadloc® clamps:

- T-Slot Cylinder Sensors – (4) are required to fully automate each clamp. Refer to page 8 for all compatible sensors and specifications.
- #E11912 Sensor Brackets – (2) are required.
- #22-11 Swing Arm – (1) is required

FULLY ACCESSORIZED QUADLOC® CLAMP

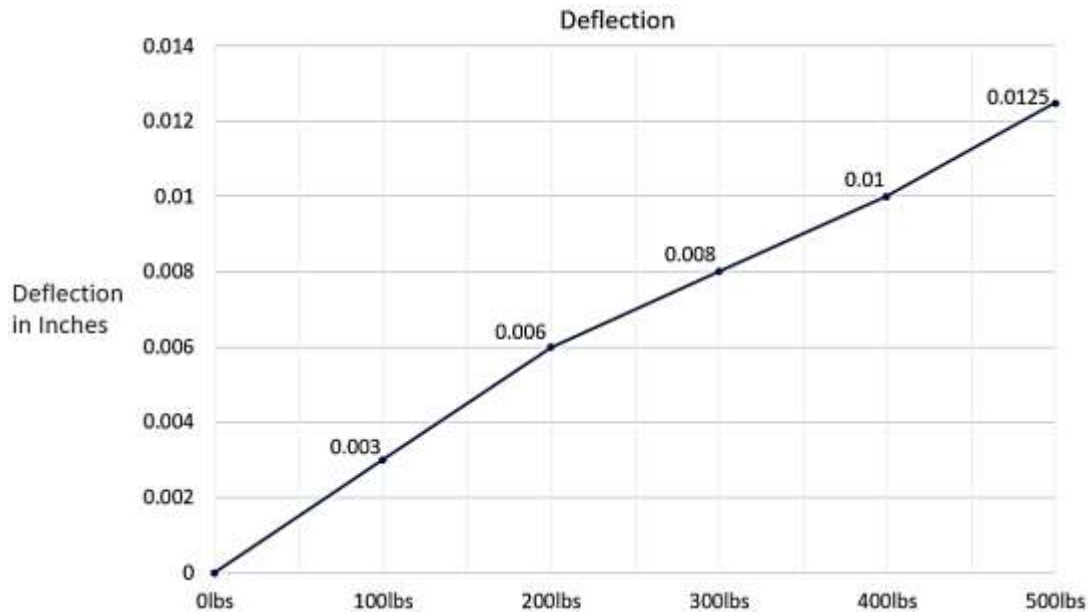


Material Deflection

Factors that determine deflection in the swing arm are the reaction force and the clamping force. The chart below shows the ratio for our units.

Reaction force equals the amount of force acting against the clamping force.

To determine what the deflection will be for your application, subtract the amount of deflection at the clamping force you are obtaining from the amount of reaction force you have.

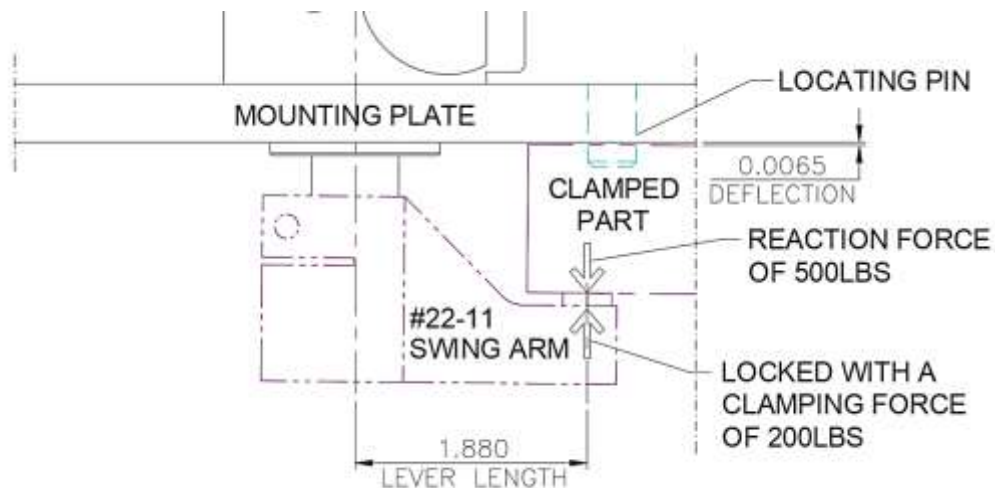


*These numbers are based on the average of actual measurements.

This graph is measuring the deflection in the swing arm at 1.880" lever length

Note: If your reaction force is not higher than your clamping force, there will be no deflection.

Example: If the clamp force is 200lbs and the reaction force is 500lbs, by subtracting 0.006" from 0.0125", you will get .0065" of deflection. (See picture below)



Important Technical Information

Quadloc® clamps are intended for continuous air pressure, but if air pressure is lost, it will stay clamped/locked with the same clamped and holding forces.

The Quadloc® clamp was designed for this power down (loss of air) situation.

Operating range for the clamp portion of the unit is 40-100psi

Operating range for the rotate portion of the unit is 60-100psi

Recommended valve size rating of .38-1.0Cv

Must use electrically actuated spool valves – no manually actuated valves.

Recommended pneumatic lines for clamp and unclamp ports is 6mm or ¼" diameter.

Recommended pneumatic lines for the rotate is 6mm or ¼" diameter.

Recommended to use a 3-position valve with exhaust center spring detent. For example: Numatics Mark 8 Series valve #082SS53AM.

Recommended to de-energize the unclamp port before energizing the rotate ports.

Maximum flow rate of the pneumatic system for the Quadloc® clamps is .80Cv or 45scfm at 100psi.

Rotate ports require an M5 or #10-32 SAE male thread with gasket. (Note: the male thread length of these port fittings must not exceed a length of 4mm[0.16"]).

The rotate speed is controlled internally, making flow controls unnecessary for the rotate portion of the clamp. A minimum of 60psi is required to operate the rotate.

Flow controls are not recommended on Quadloc® clamps.

Must use clean, dry air through an FRL.

Efector Sensor Specifications

Sensor Model #'s	MK5138	MK5139	MK5186	MK5137	MR0100
Operating Voltage [V]	10...30 DC	10...30 DC	10...30 DC	10...30 DC	5...120 AC/DC
Current Consumption	<10	<10	<10	<10	N/A
Protection Class	III	III	III	III	II
Electrical Design	PNP	PNP	NPN	NPN	PNP/NPN
Output Function	Normally open	Normally open	Normally open	Normally open	Normally Open
Dimensions [mm]	25 x 5 x 6.5	25 x 5 x 6.5	25 x 5 x 6.5	25 x 5 x 6.5	30.5 x 5 x 6.5

*For more information on Efector sensors, go to www.ifm.com/us/en.

Warranty Information

Warranty Period: Inateg products are guaranteed for 12 months after shipment from our production facility. Any non-Inateg products (ie. Efector switches, etc...) will carry the original manufacturer's warranty.

Warranty Scope If the product fails to function as intended design during the warranty period due to faulty workmanship, Inateg will replace or repair the product at our expense, provided the products are used for the purpose intended and are operated in accordance with the instructions/manuals supplied, and instructions on the website. The warranty is deemed void if the product has been tampered with or has been disassembled in any form. The warranty is deemed void if the product is used exceeding its stated maximum capabilities and recommendations, including but not limited to cv rating, pneumatic tubing size, psi, holding capacity, clamping capacity, etc... See "Terms of Sale" for additional details.
The Quadloc® clamp is not a safety device.