



Unidex ECL Manipulators

Designed and built for your specific
needs

www.unidex-inc.com

This booklet shows a few examples of various types of ECL Manipulators that we have designed, some showing the product that is being lifted. Unidex has a wide range of capabilities that include design, machining, welding, sheet metal work, powder coating, electrical, assembly, testing and crating.

Think of reaching out to Unidex Corporation for your next needs. Our equipment is well built needing very little maintenance. Always keeping the operators in mind, these manipulators are easy to maneuver. Let our Manipulators handle the heavy loads and keep your workers safe!

Call or email:

800-724-1302 or www.sales@unidex-inc.com

We have a customer that makes semi truck cabs and they were using a cherry-picker type lift to pick parts off a pallet and place them into the cab. It was a cumbersome process and took a lot of effort to move, having the part swinging during the transport. We built them a prototype manipulator with three lifting hooks and they purchased 4 more units to add to their assembly line-not only increasing productivity time but improving the operator's safety. The manipulator handles the weight of the part, and the operator only directs the articulating arm. The arm has a controlled lift and lower speed.



Here is a manipulator we designed to pick and hold a fan blade. The fan blades come into the assembly area on a cart standing upright and need to be picked, rotated and manipulated for install. These fan blades are approximately 50 lbs each. The end tool has a vacuum cup with two axis of rotation to position as needed.

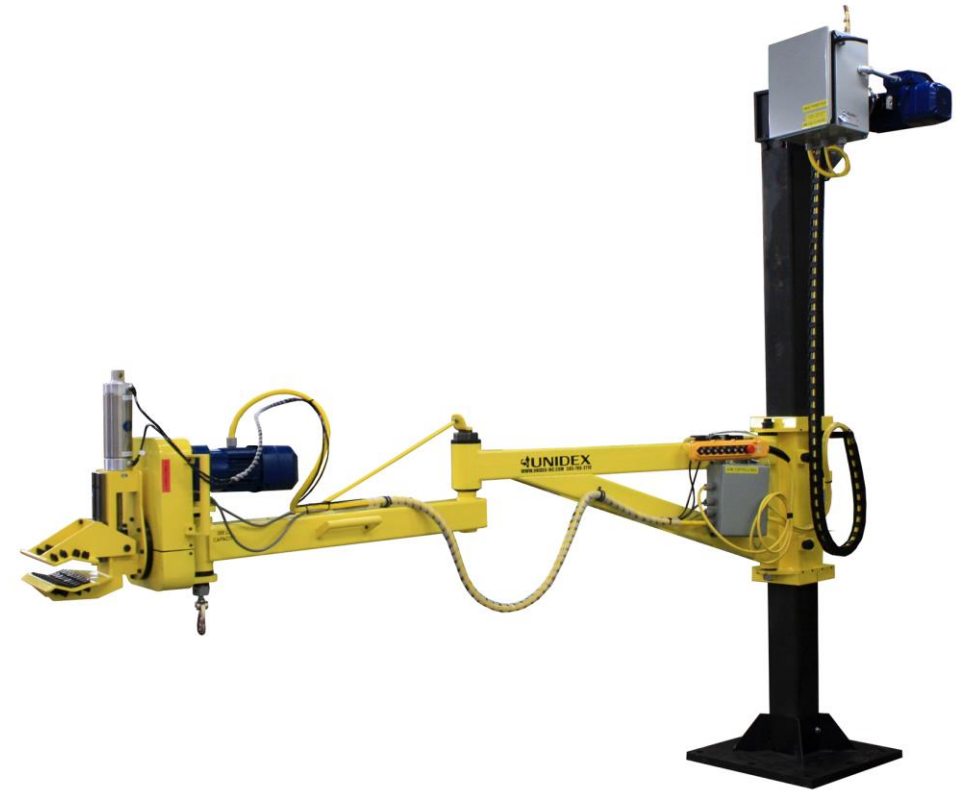


One of the big challenges is providing an end tool that will work for each customer's problem. The manipulator you see below picked a fan blade but needed to only be picked and placed. The gripper we chose has rubber contact pads to prevent any damage to the part but offers a strong grip.



Here is a manipulator mounted to a riser so the operator can stand behind the end tool and control rotation and positioning of the gripper. The application involved picking various shapes of sand castings off a conveyor and placing them into a machine.

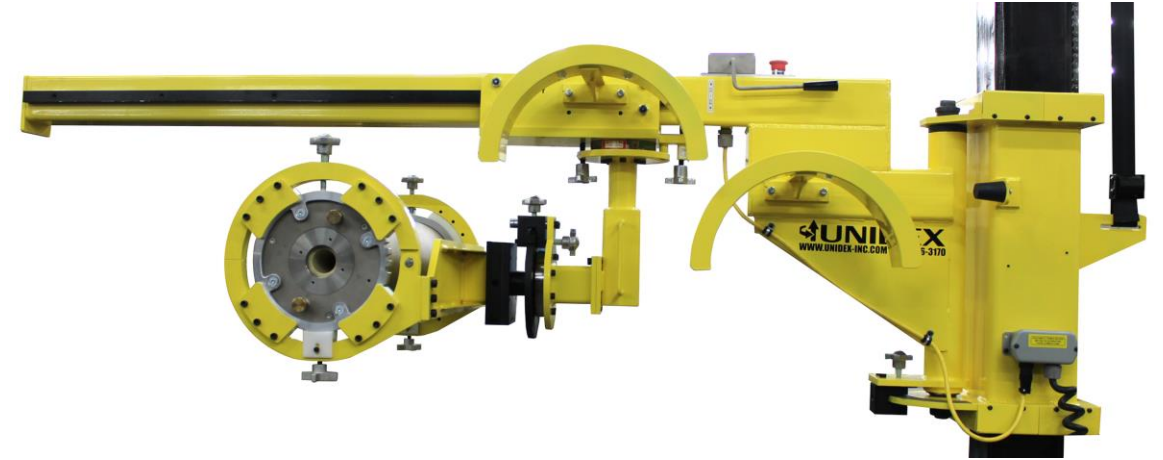




This ECL Manipulator was designed to pick a cylinder out of a bench type cradle and rotate it 90 degrees to insert into a vertical tube. The picture shows a steel tube to simulate the cylinder. The cylinders weigh up to 300 lbs each we designed an air-powered grip with an electric gear motor for the rotation. The arm provides 8' of reach.



One of our customers added a new filling line and asked for help to pick and place full buckets of peanut butter to stack on pallets. These filled containers are heavy and bulky to handle during an 8-hour shift. Needless to say, the workers were very happy with this Manipulator to help them!



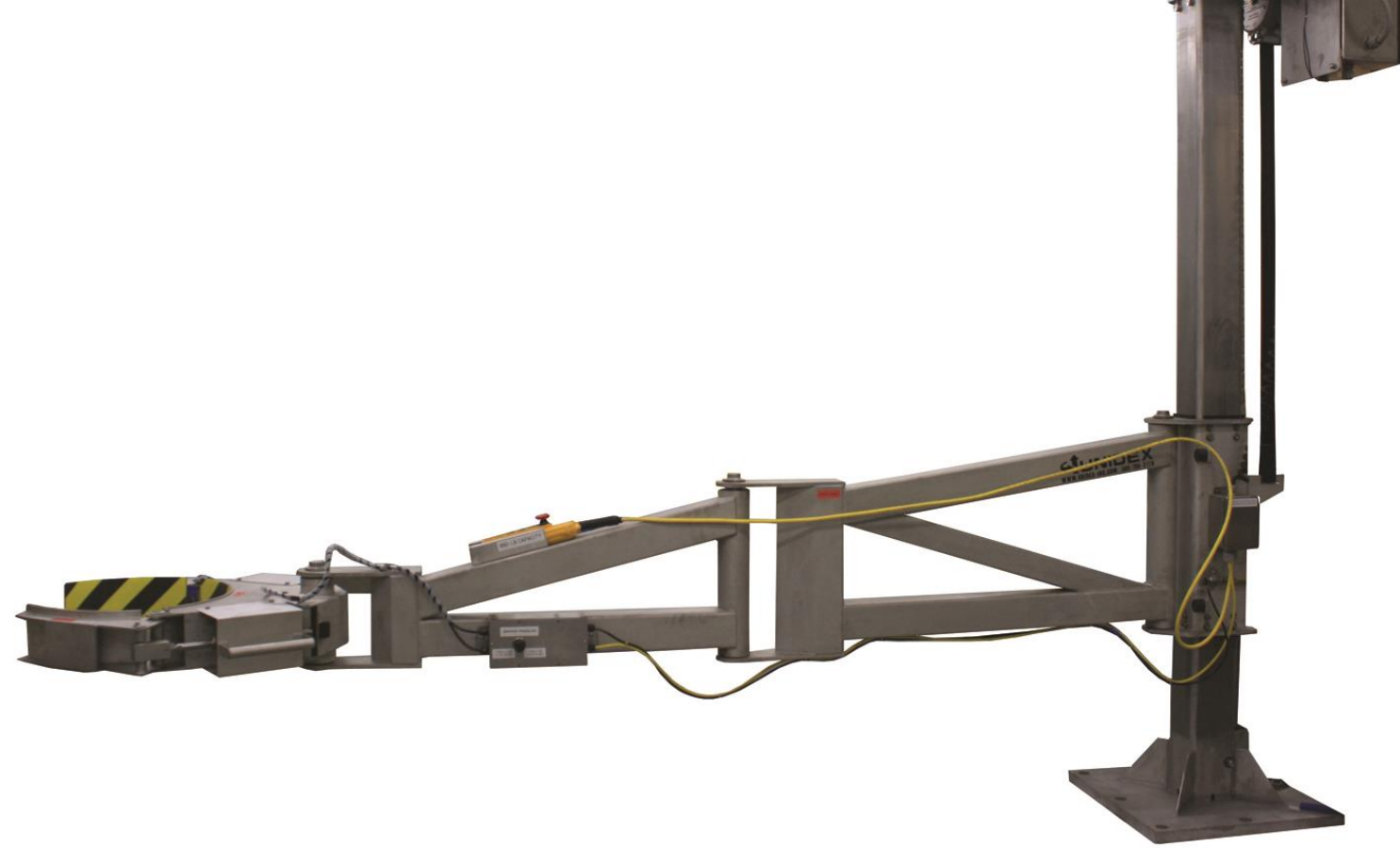
Shown above is a highly custom end tool to support an XRAY machine for checking welds. The end tool allows the Xray machine to be positioned and locked in place as the part is moved to check the welds. Included are holders to support the wires and cables.

This is a Dual ECL Manipulator System that work in tandem to lift the top section off a metal shipping container of a sensitive load. The raised height of the cover needed to reach 150" above the ground. Not shown is two risers that are 6' tall that lift these manipulators to the height that is required to achieve that goal.





This is an ECL Manipulator designed to assist operators to replace dies in a machine at a steel mill. Due to the environment, bellows were added to the column to protect the moving parts on the lift mast. The three-jaw gripper contacts the dies on the groove.



Here is a Stainless Steel ECL Manipulator with a powered gripper designed to pick fiber drums. Included on the gripper was controls to increase or decrease the grip pressure on the drums. This Manipulator is in the Food Industry where it is frequently cleaned and wiped down. The weight capacity is 650 lbs. at the end of the arm.

Here are 2 manipulators, one designed for picking a motor and to load in tall shipping containers. The sides of the shipping container are 40" high and the end tool had a spring sensor release pick point. The motor has to be nested in place before the end tool would release it. The other Manipulator has two Electromagnets for picking plate dies out of a machine with a low overhead clearance in the machine.



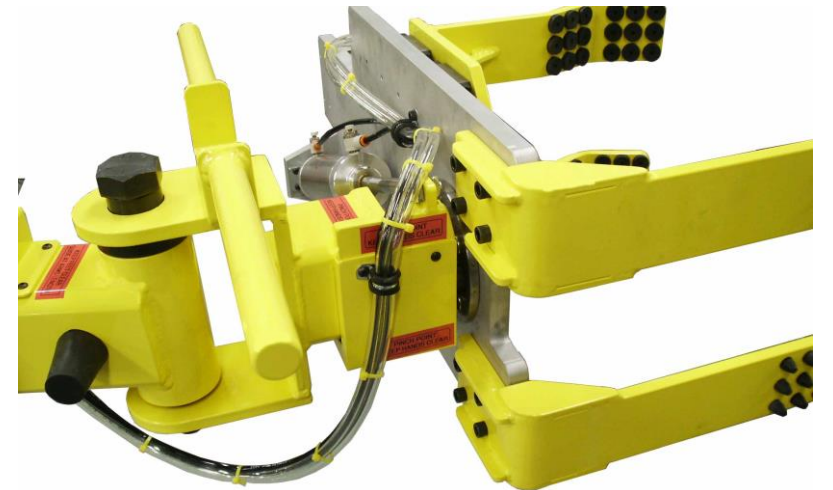
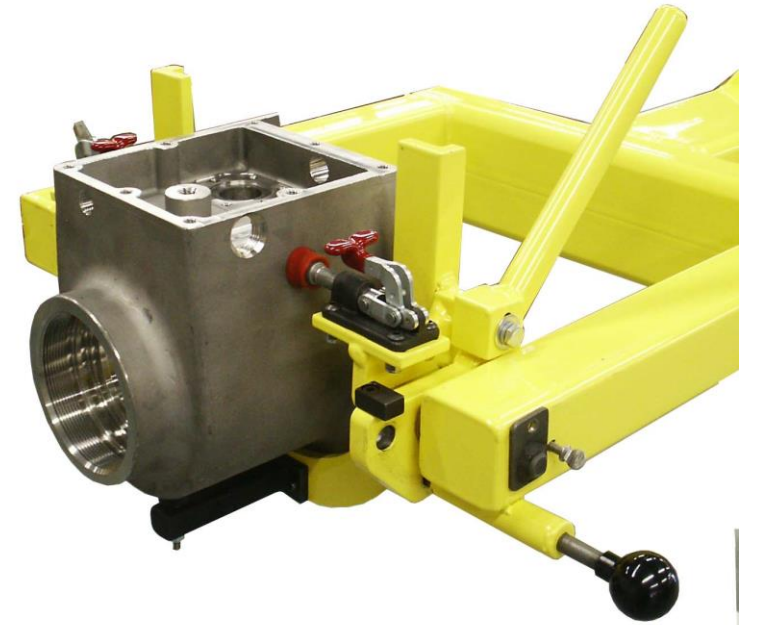
On occasion, customers need a Manipulator on a portable base. The base requires a fair amount of counterweight relative to the load capacity and arm length. Ideally it is best if the load is less than 100 lbs. and the reach is less than 8'. The gear motor is mounted at the bottom to act as counterweight.



Here are two ECL Manipulators with clamping end tools. One is designed for picking metal cabinets-one at a time off a conveyor and placing it on a shipping pallet. The other is for picking a hot metal round part with a manual clamp. The contact points were wrapped in heat resistance material.



Other End Tools



Call Unidex for your next material handling project and see what we can offer! We are located in Warsaw, NY and we have been in business solving problems for over 30 years!

www.unidex-inc.com or 800-724-1302