IN-PLACE MACHINING COMPANY®

DIAMOND WIRE CUTTING

Large Scale Cutting & Drilling

LARGE SCALE CUTTING & DRILLING

COMPLETE SERVICES

DIAMOND WIRE SAWING CONCRETE & METAL | UNDERSEA CUTTING | LARGE SCALE CORE DRILLING

In-Place Machining Company is a specialty large scale cutting and drilling contractor. We offer unique field services for highly complex concrete and metal cutting applications—both on land and undersea. Our worldwide focus markets are nuclear, hydro, locks & dams, heavy industrial, decommissioning, bridges, marine and offshore.

Diamond wire sawing, related diamond cutting tools and core drilling are our primary areas of expertise. We helped pioneer the first-ever construction diamond wire sawing business for North America in 1983. We also offer robotic demolition, hydraulic splitting, diamond blade sawing, and specialized super-abrasive cutting of steel. We have unparalleled experience in wire cutting nuclear steam generators and large heat exchangers.

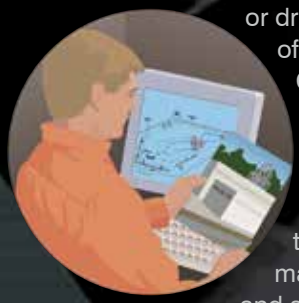
When you work with In-Place Machining Company, you can count on complete project management from initial engineering, planning and technical support of your cutting job to turnkey cutting, drilling, rigging and removal. Specialized recycling of water and slurry waste is included in projects with environmental sensitivity. We also sell equipment and technical services to support projects around the globe.

Additionally, you can expect a high priority on safety. Our team follows a written safety program that includes regular training, safety toolbox meetings and random testing for substance abuse. This practice has yielded an outstanding safety record and extremely low EMR rates.

Your inquiries are always welcome. We look forward to planning and conducting your next heavy concrete cutting, metal cutting or specialty drilling project.

www.inplace.com ▪ 513.388.0199 ▪ help@inplace.com

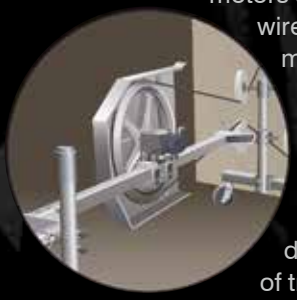
HOW IT WORKS



First, we meticulously detail the unique demands of your large scale cutting or drilling project. Our team of engineers develops CAD schematics to pre-plan each cut and direct the work on-site in a specific order. This minimizes time and expense while maximizing efficiency and safety.

Key to the process of cutting heavy, concrete structures is the diamond wire cutting system. Comprised of a modular, mobile saw and diamond wire, the system is powered by two hydraulic motors. The saw can be broken down into components for a variety of applications. Standard fasteners and 2-inch schedule 80 tubing generate infinite machine position configurations to make a variety of cuts including flush to a floor, parallel to an adjacent wall or at an angle.

The primary hydraulic motor with direct mounted wire saw wheel moves along a track guided by a hydraulic-driven rack-and-pinion drive. Both motors allow cutting wire as long as 100 meters to move in either direction at variable speeds. The wire is guided via two different sizes of transition brackets and pulleys that re-orient the wire from one plane to another, accommodating different cutting angles.

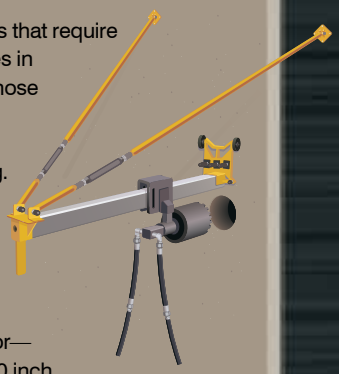


When powered by one of our 50 horsepower power units, the diamond wire cuts cross-sectional areas at a rate of 1–3 square meters per hour. These power sources produce high-flow hydraulic power for both drive motors. Two bi-directional valves yield easy, single handle operation. Users guide main drive speed and direction—both clockwise and counter-clockwise—and set the speed and direction of the rack drive's stroke via these controls.

To filter out heavy solids, we've designed a proprietary water-slurry recycling filtration system with upper and lower drums connected to an air-operated diaphragm pump. Particles as large as 100 microns and as small as 5 microns are removed, and the water is returned to the cutting operation for reuse.

Large-Scale Core Drilling

For specialized projects that require the boring of large holes in concrete, particularly those with an unusual angle of approach, we offer large-scale core drilling. Similar to drilling done on a small scale—with a metal cylinder capped with a diamond embedded bit, mounted to an arbor—the ability to bore 12–30 inch diameter holes through 60-foot thick reinforced concrete takes special expertise and careful engineering.

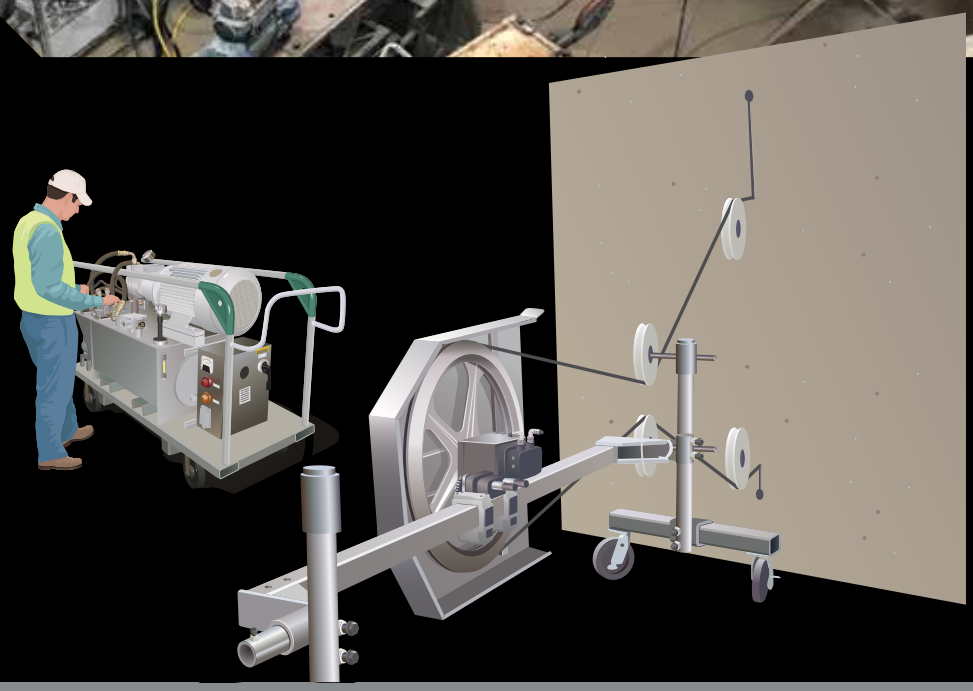


Robotic Demolition

In-Place Machining Company provides Robotic Demolition Services to complement our expertise in large scale diamond wire cutting and drilling. Robotic demolition equipment is well suited for the downsizing and removal of large concrete sections. We offer state of the art robotic demolition equipment and experienced technicians to perform the work safely and efficiently.

CUTTING CONCRETE

Every concrete cutting job is unique. That's why our engineering team develops a coordinated, visually-delineated plan to be followed on the job site to maximize efficiency while minimizing the time needed to complete your project. Concrete cutting typically employs the "pull" method of diamond wire saw cutting, where the diamond wire is threaded through a hole drilled at the top and bottom of the structure and guided through it via a series of pulleys. The process itself eliminates vibrations, does not weaken surrounding structures, produces no dust or flying debris and yields a smooth exposed surface without overcut corners to minimize re-work in new pours.



CUTTING METAL

No two metal cutting projects are the same. But whether the project involves slicing metal tanks above ground, or cleaving conductor pipes or platform legs undersea, the diamond wire cutting process is handled similarly. Undersea diamond wire saw projects also involve careful pre-engineering to determine the best cutting and removal plan to efficiently complete your project.

CUTTING UNDERSEA

Most undersea metal cutting applications employ the "push" method of diamond wire saw cutting, where the saw is guided along a track and the spinning wire is pushed through the metal structure. Depending on the situation, an above ground metal cutting project might use either the "push" or "pull" cutting methodology. The mechanical, diver-friendly remote-operated saws yield faster, spark-free results, making them an ideal replacement for thermal cutting methods. Vibration free, the saws produce smooth cut edges. Additionally, they are easily converted to remote operated vehicle (ROV) use, eliminating the need for divers and generating a dramatic improvement in safety.

REPRESENTATIVE PROJECTS

Nuclear Project

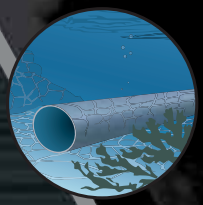
Batelle JN-3 D&D (West Jefferson, OH) — Diamond core drilling and wire sawing of large bioshield walls; slurry collection and water recycle system; rigging attachments. Saved DOE $275,000.

Bridge Project

Kiewit-General Hood Canal Bridge (Poulsbo, WA) — Diamond core drilling and wire sawing large piers, above and below tidewater; containment of slurry and recycle water; fast-track performance on-time.

Dam Project

TVA Fontana Dam Slot Cuts (Fontana, NC) — Large diameter wire saw cuts made in transverse sections of dam to relieve stress (AAR); wire lengths of 400 linear feet and cuts up to 100 feet deep.



Undersea/Metal Project

Multiple Offshore Projects (Gulf of Mexico) — developed and deployed 18 unique underwater wire saws to sever underwater conductor pipes and platform legs; diver friendly and time saving machines are also ROV adaptable.

Heavy Industrial Project

Cianbro-GNP Paper Mill Shutdown (Millinocket, ME) — Diamond core drill and wire saw large foundations and floor sections, running 6 wire saws, multiple core drills and 5 Brokks around the clock; very timely performance.

Nuclear Project

Fluor 233S Bldg D&D (Hanford, WA) — Diamond core drilling and wall sawing of two-story structure; very strict airborne controls and water recycle; first ever open-air demo of a plutonium process facility.

Bridge Project

Palmetto-Tidewater Cooper River Bridge (Charleston, SC) — Diamond core drill, wire saw and Brokk demo of 8 longitudinal restraint blocks that were temporary structures supporting the record-breaking, cable stayed bridge.

Dam Project

Voith-Dominion Bath Co. Pumped Storage (Warm Springs, VA) — Diamond core drill 14 inch diameter x 25 foot deep precision holes for 6 unit, 6 year project; also wire sawing of pads and excavation for new sole plates.

Undersea/Metal Project

SMUD Rancho Seco SG Cuts (CA) — Diamond wire saw cutting of huge steel steam generator vessels in place, including several thousand steel tubes in each slice. Also cut off lower nozzles; completed project on time in spite of difficult access with extremely low usage of cooling water.

Heavy Industrial Project

FMI Gold Mine Operations (Indonesia) — Provided diamond wire equipment, special wires and technical training on multiple occasions for cutting large concrete structures at a 10,000 foot elevation.

IN-PLACE MACHINING COMPANY®

Large Scale Cutting & Drilling In-Place... Any Place in The World

In-Place Machining Company designs and develops specialized machine tool systems, and provides high-precision large scale cutting & drilling, on-site machining, and metrology services for a wide range of renewable energy, aerospace, industrial, and military customers throughout the world. With over 200 employees in multiple locations around the USA, and arguably the largest inventory of dedicated on-site field machining and cutting systems in the world, In-Place Machining Company is ready to serve you, our customer, In-Place... Any Place in the World.

Contact Us 24/7/365

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help@inplace.com