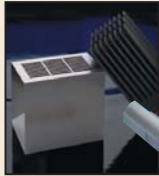


# Sodick TOP 10 ADVANTAGES

North American manufacturing has gone through many changes in the last couple of years. Overseas competition has forced shops to reevaluate their manufacturing processes in order to make themselves as efficient as possible. At Sodick, we believe we have the ultimate designed EDM that makes you more productive and competitive in today's global market. Here are 10 Sodick advantages:

## 1 Linear Motor Drives

Sodick first introduced their linear motor EDM in 1999. Over 10,000 units have been sold. Since linear motors eliminate the need for ball screws, you will never worry about replacing them or creating scrapped part due to excessive backlash.



- Linear motors will never wear out unlike a set of ball screws, which can cost over \$7,000. This direct drive system also eliminates the need for couplings or belts between the motor and the axis, which results in quicker response time to the spark gap and therefore faster and more reliable machining.

- Since there is no contact between the table and the linear motor drive, the axis movement is vibration free and quiet.
- Linear motor is composed of magnets and copper coils, the same components of rotary servo motors but without the mechanical linkage of a ball screw and nut.
- Linear motors require no maintenance and their life expectancy is indefinite. Sodick manufactures their own linear motors to ensure reliability and affordability.
- The high axis speed and acceleration of a linear motor driven sinker EDM automatically creates its own flushing condition. This eliminates the need & experience to machine flush holes into the electrodes or to set up auxiliary flush lines.

## 2 Glass Scale Feedback

- 10 nanometer (.4 millionths) glass scales are mounted to all moving axes. This ensures cutting accuracy and repeatability. Since the scales are mounted directly to the axis, it's always measuring the true machine position. (Not the rotated position of the ball screw as is the case of rotary encoders).
- Some of our competitors also use glass scales but with ball screw drives. This is not a good solution, as the ball screw wears it creates a gap within the nut. Because of this gap, the glass scale and drive fight each other for the actual machine position, which results in vibration and inaccurate workpieces.



## 3 Sodick Motion Controller



- Sodick's Motion Controller (SMC) is integrated to machine's generator. The SMC controls all the axis motion, and monitors changes to the spark gap. Because of its quick reaction time it can make changes to the spark gap 500X per second resulting in instantaneous servo response. When linear motors are combined the SMC, it vastly reduces the possibility of, wire breaks and increases the burn rate of your cut while maintaining the optimum discharge spark gap.

## 4 Solid Meehanite Castings

- Meehanite is the proven and preferred machine tool casting and is preferred to polymer concrete, which is a less expensive option. Sodick machines normally outweigh the competitor's models by as much as 1,000 lbs. Our heavier, rigid, traditionally built machines are solid and stable to ensure good part accuracy.



## 5 Ceramic Components



- Strategic machine components such as the upper / lower arms, tables and work pedestal are composed of Sodick's very own manufactured ceramics. These ceramic components provide several advantages. They are 1.3 times more rigid than stainless steel and have the thermal expansion is 1/3 that of stainless steel. A more rigid and thermally stable machine will produce more accurate parts with consistent repeatability.

- Because of the ceramics chemical and physical stability, it will never oxidize. After years of operation, particles, and sludge tend to adhere to insulated areas causing material corrosion. With Sodick's ceramic components this will never happen due to its strong resistance to such chemical erosion and therefore cutting speeds will remain consistent throughout the life of the machine.

## 6 Windows Based Controls



- Learning a new unfamiliar control can be stressful to a machine operator. The Sodick LQ Window base control will create instant familiarity between the machine and operator. The operator will notice many similarities between their home or office computer. This ultimately puts the operator at ease, reduces the learning curve resulting in better productivity. The LQ control can also be LAN connected to the office or company network.

## 7



## Import CAD Files

- All Sodick LQ Controls come standard with SolidWorks CAD software. Solidworks is the world leader 3D mechanical design software. On a Sodick wire EDM; with the use of SolidWorks a 3D CAD file can be imported directly into the machine control. The onboard CAM system will then generate the wire path and create an NC program without any manual entry of part geometry. Thus eliminating potential human error. The 3D function can also be used to visualize what the part looks like before the first spark is made. On the sinker EDM, the 3D shape of the electrode is imported into the control. The operator needs only to enter the standard machining requirements such as workpiece and electrode material, desired surface finish and number of electrodes. Since the control knows the exact shape and surface area of the electrode at all depth it can now maximize the cutting parameters, which dramatically increase the machining performance.

## 8 Onboard Programming



- The Sodick software studio on the LQ1W control contains as standard a fully integrated CAM package. Although some companies program their parts at a workstation there are advantages to having this function on the control: generating wire path from imported CAD files, Shop floor independence during out of normal hour operation, development of R&D parts, immediate response to last minute modifications and for the smaller shops a saving on their budget due to them not needing to purchase CAD and CAM software.
- Additionally, the Sodick CAM software makes it easier for beginners to start programming parts including importing DXF, IGES files and converting them to NC code right on the machine.

## 9 Remote Monitoring Networking



- With the remote monitoring/ networking function, you can view the Sodick machine's control status from another PC and also move programs from other Sodick machines or computers by a simple click of the mouse and drag. With a wireless Internet connection, you can even remotely monitor the machine from the beach.

## 10 We are experts in the field of EDM



- Sodick is recognized as the technology leader in EDM. The company is focused on developing machines that have the highest level of performance and precision in order that our customers can profit. Since Sodick was founded in 1976 it has continually set the benchmark in EDM performance.
- 1976 – developed the world's first CNC die sinker EDM
- 1984 – developed the first high speed small hole EDM
- 1999 – linear motor sinker EDM introduced
- 2000 – linear motor wire EDM introduced
- 2004 – over 10,000 linear motor EDM's have been sold over 40,000 CNC EDM machines delivered worldwide
- Customer care and service are our priority and through our network of technical centers and factory-trained engineers throughout North America we are capable of providing the top level of support our customers deserve.

# Technology ... *the winning hand*

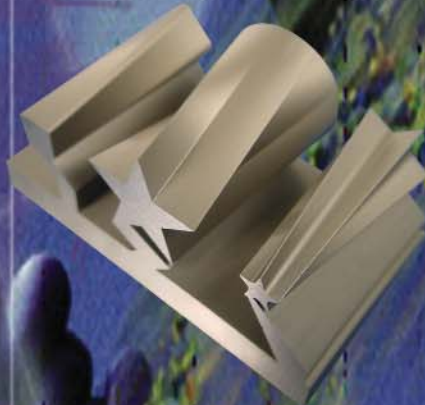
Sodick has been the recognized technology leader in the EDM industry for over 25 years. We believe in close working relationships with customers in order to develop EDM products that offer "real" advantages in solving manufacturing problems and improving productivity.

Our products include the advanced exclusive features that experienced EDM users have demanded.

Zero backlash linear motor drives, Windows based 3D control, Onboard CAD CAM software, 10 nano glass scale resolution, High speed cutting with brass wire, No flush machining and much more!

Create Your Future, switch to Sodick EDM and stay competitive.

- Electrolysis Free Machining
- High Speed Wire Threading
- Rise and Fall Tank
- Micro Hole Drilling
- Ceramic for Thermal Stability
- Remote Monitoring
- 15" LCD Touch Screen
- 45 Degrees Machining
- Precision Corner Machining
- Automation Friendly
- SodickCare Extended Warranty
- Linear EDMs starting at \$89,950



Unmatched technical support with  
10,000 Linear EDM's Sold



# Sodick

*create your future*

For more information Call 1.888.639.2325 or visit [www.sodick.com/products](http://www.sodick.com/products)