



Large Size Linear Wire-cut EDM

**AQ750L**

**AQ1200L**

**AQ900L**

**AQ1500L**



*create your future*

# The Premium



## Linear Large Wire EDM Range

As a response to the growing demands for Large Wire EDM Machines resulting from the growth in Aerospace, Large Mold and Dies stimulated by the popularity of Large Flat Screen TV's and the growth in large Automotive Tooling; Sodick has expanded its range of Large Size Wire EDM Machines.

The AQ750L/900L/1200L/AQ1500L utilize the Linear Motor Technology developed and manufactured by Sodick to ensure smooth and accurate motion. The LP Control is capable of directly importing a 3D Model, therefore helping operators to achieve optimum productivity during the manufacturing process.

# Linear Series



*Positioning Accuracy  
10 years guarantee*



Utilising Linear Motor Drive Systems, Sodick Die-Sinker and Wire-Cut EDM Machines have enabled customers to achieve EDM machining standards that are not possible with conventional ball-screw type machines.

The Linear Motor Driven EDM Machines do not suffer the disadvantages associated with conventional ball screw type machines. The use of the Linear Motor System removes the deterioration of the machining accuracy due to Backlash and Lost Motion as a result of wear within the ball-screw assembly.

Sodick is so confident of the reliability and accuracy of their machines over the working life of the machine, that they are the only Manufacturer to offer a comprehensive 10 Year positioning accuracy guarantee on all of the Linear EDM Machines.

# Five Core Technologies

*Developed in-House Aiming At Manufacturing At The World's Highest Level.*

Starting from the development of the electrical discharge circuits, Sodick has continued to pursue the highest possible level of accuracy, speed and efficiency of machining. As a result the technologies for the CNC Units, fine Ceramics, Linear Motors, Motion Controllers and the Electrical Discharge Power Supply have been established as the 5 Core Technologies of Sodick. Sodick's continuous research programme into these core areas and new technologies ensures Sodick remains at the forefront of EDM Machine producers.



## Tech 1&2

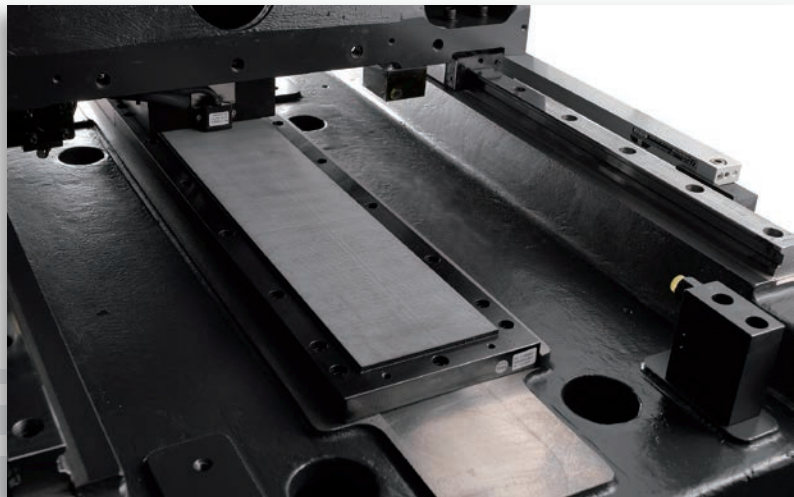
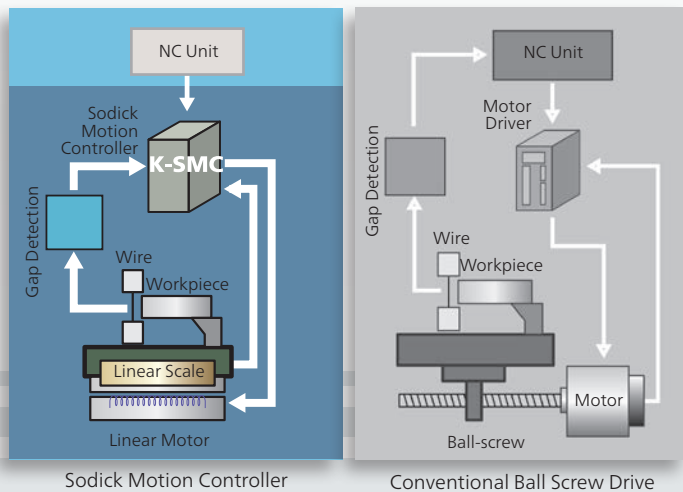
### CNC And Discharge Units

The AQ Wire EDM Range benefits from the 5th Generation Electrical Discharge Technology "LP2WH" which has adopted the "Perfect Active Control" enabling simultaneous control of the high-speed electrical discharge and axis movements by using serial communication technology of 1 Gbit/sec. 3D Solid Models from CAD can be transferred directly into the LP 3D Control and an optimized CNC Program can be generated within the Control, therefore dramatically reducing Set-Up times. The performance of the electrical discharge is ensured by an extensive library of Cutting Conditions Database for a wide range of materials and heights.

## Tech 3&4

### Linear Motor Drive and Motion Controller

Sodick's Linear Motor employs a direct drive vibration-free Drive System which has unrivalled acceleration and positioning accuracy without any backlash. Its high dynamic responsive performance, optimized for precision does not diminish over time and remains maintenance-free. The Linear Drive System Motors outstanding performance is controlled by the NC Unit in conjunction with the Sodick Motion Controller (K-SMC) which has been perfected over a number of years.



## Tech 5

### Ceramic Work-zone

The AQ750L/900L/1200L/AQ1500L benefit from the use of Ceramic for critical components such as the Work Table Stands, Lower and Upper Guide Arms and the Z-Axis Quill, all of which are produced to ensure high precision machining with better electrical insulation, abrasion resistance and lightness. Ceramics are ideal for high precision EDM Machines because of their low thermal expansion coefficient (less than one third of cast iron) high rigidity and resistant against ageing.

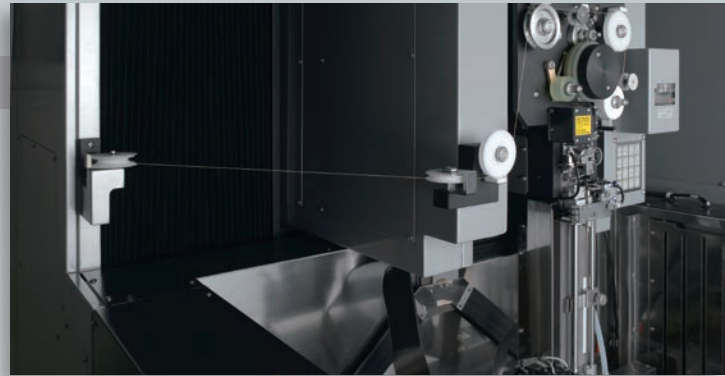




# Design Features that ensure continuous and unattended production.

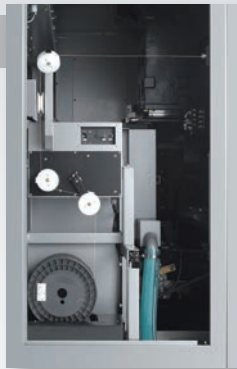
## High Speed Generator

The LP2WH High Speed Generator is standard on the Sodick AQ Series. Both brass and coated-wire are compatible with this advanced Generator.



## Jumbo Feeder

This wire supply device allows up to a 20kg wire bobbin and enables continuous machining.



## Low Maintenance Tank Seal

The tank seal flushing function has been introduced to enhance the capability and reliability. The constant flushing stops the possibility build-up of debris on the rear seal.



## The High Speed Automatic Wire Threader (AWT)

The High Speed Automatic Wire Threader with thermal cutting device is specifically designed for automated unattended, multi-cavity production.



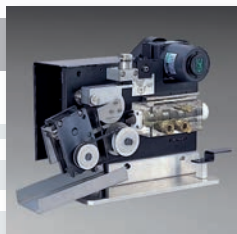
## Large Work Table Frame

On the AQ750L/AQ900L models multiple work-pieces can be easily clamped using the large 3 sided Table Frame. By using the supplied movable rail a 4th side can be utilized. The AQ1200L/AQ1500L models are equipped with a fixed 4 sided Table Frame



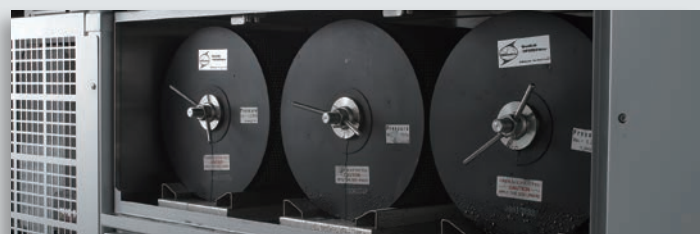
## L-Cut (Wire Chopper)

The L-Cut Unit chops the ejected wire into small pieces for easy disposal



## Multi Filter System

Three large capacity filters ensure efficient and economic performance and guarantee the full capability of the AQ Series during extended production.



## Vertical Sliding Tank Door

An automatic vertical drop down tank door improves the efficiency of the machine and ergonomics for the operator, making setting and access to the work table as convenient as possible.



# Specifications

| Machine tool                             | AQ750L Premium         | AQ750LH Premium        | AQ900L Premium         | AQ1200L Premium        | AQ1500L Premium        |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|
| Max. workpiece dimensions (W x D x H) mm | 1050 x 750 x 400       | 1050 x 750 x 600       | 1200 x 900 x 400       | 1600 x 1200 x 400      | 1900 x 950 x 600       |
| Max. workpiece weight                    | 1500 kg                | 1500 kg                | 2000 kg                | 4000 kg                | 8000 kg                |
| X-/Y- Z- axis travel                     | 750 x 500 x 400 mm     | 750 x 500 x 600 mm     | 900 x 600 x 400 mm     | 1200 x 800 x 400 mm    | 1500 x 1000 x 600 mm   |
| U x V axis travel                        | 770 x 520 mm           | 770 x 520 mm           | 920 x 620 mm           | 1220 x 820 mm          | 1520 x 1020            |
| Taper angle (Work. thickness 150mm)      | ±30°                   | ±30°                   | ±30°                   | ±30°                   | ±30°                   |
| Wire diameter                            | 0.15 ~ 0.33 mm         | 0.15 ~ 0.33 mm         | 0.15 ~ 0.33 mm         | 0.15 ~ 0.33 mm         | 0.15 ~ 0.33 mm         |
| Wire tension                             | 3 ~ 23N                | 3 ~ 23N                | 3 ~ 23N                | 3 ~ 23N                | 3 ~ 23N                |
| Max. wire speed                          | 420 mm/sec             | 420 mm/sec             | 420 mm/sec             | 420 mm/sec             | 420 mm/sec             |
| Distance from floor to table top         | 1000 mm                | 1000 mm                | 1050 mm                | 1200 mm                | 1200 mm                |
| Machine tool dimensions (W x D x H) mm   | 2100 x 2860 x 2390     | 2760 x 2860 x 2830     | 2380 x 3330 x 2395     | 4100 x 3935 x 2510     | 5600 x 4435 x 2930     |
| Machine installation dimensions          | 3200 x 4160 mm         | 3700 x 4160 mm         | 3500 x 4200 mm         | 5200 x 5085 mm         | 6700 x 5765 mm         |
| Machine tool weight                      | 5600 kg                | 6100 kg                | 8000 kg                | 10000 kg               | 15000 kg               |
| Total power input                        | 3-phases 50/60Hz 15KVA | 3-phases 50/60Hz 15KVA | 3-phases 50/60Hz 15KVA | 3-phases 50/60Hz 15KVA | 3-phases 50/60Hz 18KVA |

| Dielectric Tank                    | AQ750L Premium                                | AQ750LH Premium                               | AQ900L Premium                                | AQ1200L Premium                               | AQ1500L Premium                               |
|------------------------------------|---|---|---|---|---|
| Capacity                           | 1265 lit                                      | 1640 lit                                      | 1600 lit                                      | 3000 lit                                      | 5000 lit                                      |
| Dielectric fluid filtration system | Replaceable paper filters (internal pressure) | Replaceable paper filters (internal pressure) | Replaceable paper filters (internal pressure) | Replaceable paper filters (internal pressure) | Replaceable paper filters (internal pressure) |
| Deionizer                          | Ion exchange resin (18-lit. type)             | Ion exchange resin (18-lit. type)             | Ion exchange resin (18-lit. type)             | Ion exchange resin (18-lit. type)             | Ion exchange resin (18-lit. type)             |

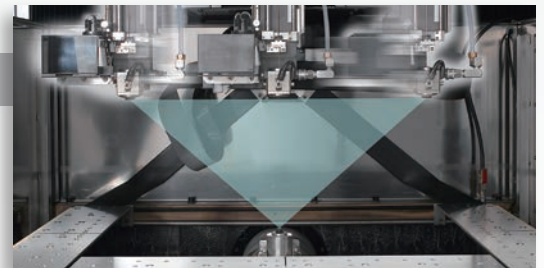
The dielectric chillers on Sodick machines contain either fluorinated greenhouse gas R410A or R407C.

\*Due to ongoing research, specifications are subject to change without prior notice

## Options

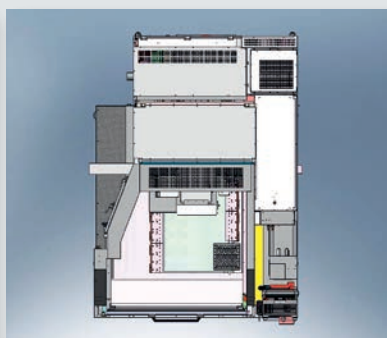
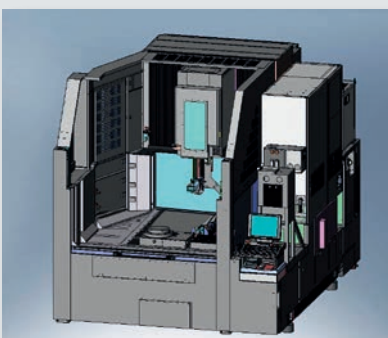
### Taper Flex Neo 45

Taperflex Neo 45 is available as an option for accurate large angular machining up to 45°. Taper Flex Neo 45 is easy to use and requires no special training. The option consists of three parts: High Angle Guides, a Calibration Jig and Software.



### Multi Axis Control

Sodick's LP20WH is capable of controlling up to 8-Axes simultaneously. The Multi Axis Control is available as a factory-fit option.



### Custom Made Solutions

A cutting height option of 600 mm submerged is available on the AQ750L as a standard option and on request for the AQ1200L. The innovative machine design also allows the work-tank to be made larger or the Z Height to be increased, depending on the customer's requirement.



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