



Premium

AQ750L

AQ900L

Picture shows CE specification

Large size Wire-cut EDM
with LP-Controller



Sodick

Nano&Solution



Picture shows CE specification

The world's first! High speed Large Linear Wire Cut EDM

In response to the growing demands for large dies spurred by the popularity of large flat screen TV's, this model is designed specifically for machining large size dies for display panel components as well as those for automotive parts such as instrument panels and bumpers.

The AQ750L/AQ900L use linear motors developed and manufactured by Sodick on all 4 axes to realise smooth and accurate motion along all axes. The LP Control is capable of directly importing 3-D models helping operators to realise optimum workflow during the manufacturing process.



Positioning Accuracy
10 years guarantee



Lower ecological impact due to energy saving technologies incorporated in all SODICK products.

Employing the linear motor drive system, Sodick die-sinker EDMs and wire-cut EDMs have enabled difficult machining operations that were not possible with conventional ball screw-type EDMs.

The linear motor-driven EDMs, eliminate the need for ball screws and allow for non-contact EDMing. Use of the Linear Motor removes the deterioration in machining accuracy caused by worn ball screws throughout the machine life (more than 10 years). Sodick is so confident of the performance and accuracy of their machines over a 10 year period, that they are the only Manufacturer to offer a 10 year positioning accuracy guarantee on all Linear EDM Machines.

Five Core Technologies

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

Starting from the development of electrical discharge circuits, Sodick has continued to pursue the highest possible level of accuracy, speed and versatility of machining. As a result the technologies for CNC units, fine ceramics, linear motors, motion controllers and electrical discharge power supply have been established as the five core technologies of Sodick. Sodick keeps trying to challenge it's capability in new fields of technology. This has resulted in the industrial application of 5 core technologies in all Sodick EDM products.

Tech 1&2

CNC Unit And Discharge Unit

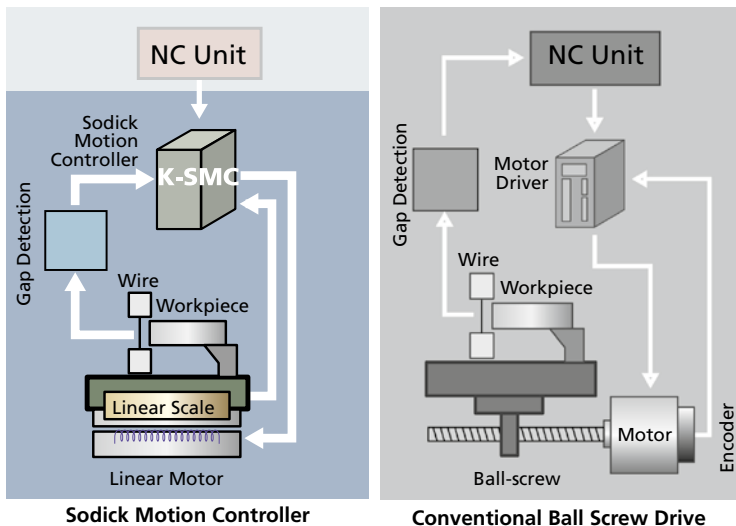
The AQ750L/AQ900L series features Sodick's latest LP power supply unit capable of high speed, high precision and high efficiency machining. A CNC control system based on modern control theory is used in conjunction with the LP series and yields outstanding results. 3D solid models from a CAD system can be transferred directly to the LP 3D control and converted into an optimised CNC program without any detours, dramatically reducing set up time. Performance of the electrical discharge is achieved through by controlling the method and duration of the energy pulses and the distance between electrodes.



Tech 3&4

Linear Motor Drive And Motion Controller

Sodick's linear motor employs a direct drive vibration free device which has unrivalled acceleration, positioning accuracy and no backlash. It's high dynamic responsive stability for precision machining and performance do not diminish over time and remain maintenance free. Linear motors achieve even better performance thanks to the Sodick motion controller which has been perfected over the years.



Tech 5

Ceramic Components

The AQ750L/AQ900L is constructed using ceramic components for the work stand table and critical parts, all of which are built to ensure high precision machining with better electrical insulation, abrasion resistance and rigidity. Ceramics are ideal for high precision machining due to their low thermal expansion coefficient (less than one third than that of cast iron) high rigidity and resistance to ageing.

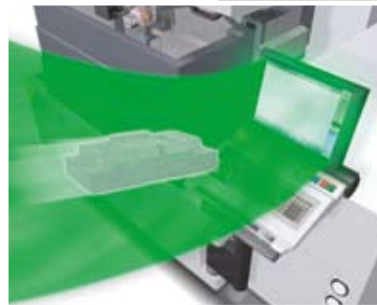


Sodick's Intelligent Q³vic Shapes The Future Of Manufacturing

The use of 3D solid models has now become an essential part of the manufacturing process. The AQ750L/AQ900L range features the first control unit in the world compatible with 3D solid models. These machines provide customers with the manufacturing technologies capable of creating a finished result which is not dependant on the level of skill of the operator; effectively eliminating the need for drawings and reducing human error.

Intelligent Q³vic

The LP power supply comes equipped with "Intelligent Q³vic" as standard. This enables the operator to directly import 3D models and to additionally extract every cutting contour to be wire EDM'd within seconds. Even work pieces with a complicated shape and different cutting heights can be programmed using only a single command. After the surfaces to be machined have been recognised an NC programme is generated including all cutting parameters. A full on screen simulation is possible prior to machining.



Intelligent Q³vic And Esprit CAM System Offline

All LP series machines come with "Intelligent Q³vic" and "Esprit" on a CD ROM. This package can be run on an external PC, and allows the operator to manipulate 3D Solid Model remote from the machine. Furthermore, any other 2D and 3D formats can be imported allowing full offline programming. When the offline system is networked to the machine, a full simulation can be performed using "Intelligent Q³vic".



2D Form Design

With Intelligent Q³vic EDW, it is also possible to design cutting form tools. Varying top & bottom contours, involute gears, coreless forms (pocket machining) and free-form curves can be designed easily. Furthermore it can import data created in DXF format and output machining programmes for wire cut EDM.



Unique Features Support Long Time Continuous Machining

The design of the machine not only compliments the function of the linear motor drives but it is also perfect for automation.

The AQ750L/AQ900L range is equipped with many unique features to support long time continuous machining. It starts with a large wire feeding device through to an automated wire ejecting system. This allows for long, unattended, continuous operation.



Jumbo Feeder

The wire supply device allows up to 30kg wire bobbin as standard and supports continuous machining.



The High Speed Automatic Wire Threader

The automatic wire threader with thermal cutting device is specifically designed for automated unattended, multi-cavity runs.



L Cut

Part of the ejected wire is chopped into small pieces for easy disposal.



Vertically Sliding Tank

An automatic and ergonomic vertical drop down tank door has been introduced to increase work space which makes access for work preparations easier.



Low Maintenance Tank Seal

The tank seal flushing function has been introduced to support the machines capability for high precision stable machining. This also provides for easier maintenance and extends the life of the seal.



Standard Workstand Bridge

By using the standard moveable rail, multiple work pieces can be set up at the same time.



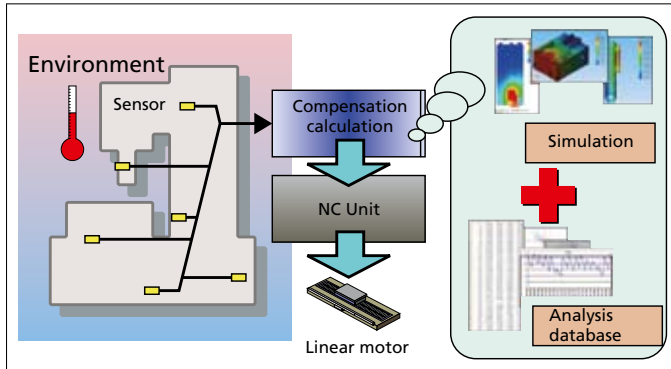
Four Part Filtration System

An extensive improvement in filtration capability makes high speed and accurate machining easier to achieve.

New functions

Thermal Multi Fit

The new precision thermal compensation system comes as standard across the AQ750/AQ900L range. The thermal multi fit can stabilise the machine by comparing simulation analysis data and actual data from sensors at all time. This function allows precision machining even under temperature fluctuation.



Taper Flex 45 (option)

Taper Flex 45 is available as an option for further advanced high angle taper cutting up to 45°. Taper Flex 45 is easy to use and requires no special training. The function consists of three parts, high angle guides, and compensation jig and specialised software.



Specification AQ750L/AQ900L Premium

Linear motor drive
Large-size Wire-cut EDM

Machine tool	AQ750L Premium	AQ750LH Premium	AQ900L Premium
Max. workpiece height (W x D x H)	1050 x 750 x 400 mm	1050 x 750 x 600 mm	1200 x 900 x 400 mm
Max. workpiece weight	3000 kg	3000 kg	3000 kg
Work Tank dimensions (W x D)	1264 x 973 mm	1264 x 973 mm	1133 x 1374 mm
X axis travel	750 mm	750 mm	900 mm
Y axis travel	500 mm	500 mm	600 mm
Z axis travel	400 mm	600 mm	400 mm
U x V axis travel	770 x 520 mm	770 x 520 mm	920 x 620 mm
Taper angle (Work. thickness 150mm)	±30°	±30°	±30°
Wire diameter	0.15 ~ 0.33 mm	0.15 ~ 0.33 mm	0.15 ~ 0.33 mm
Wire tension	3 ~ 23N	3 ~ 23N	3 ~ 23N
Max. wire speed	420 mm/sec	420 mm/sec	420 mm/sec
Distance from floor to table top	1000 mm	1000 mm	1050 mm
Machine tool dimensions (W x D x H)	2100 x 2860 x 2390 mm	2760 x 2860 x 2830 mm	2380 x 3150 x 2395 mm
Machine installation dimensions	3200 x 4160 mm	3700 x 4160 mm	3500 x 4200 mm
Machine tool weight	5600 kg	6100 kg	8000 kg
Total power input	Max. : 15 kVA	Max. : 15 kVA	Max. : 15 kVA

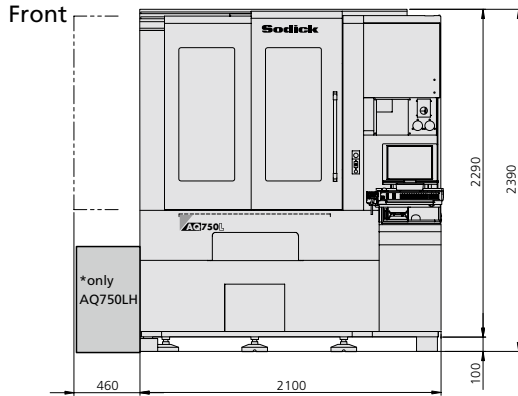
Dielectric Tank	AQ750L Premium	AQ750LH Premium	AQ900L Premium
Capacity	1265 lit	1640 lit	1600 lit
Dielectric fluid filtration system	Replaceable paper filter (internal pressure)	Replaceable paper filter (internal pressure)	Replaceable paper filter (internal pressure)
Deionizer	Ion exchange resin (18-lit.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

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

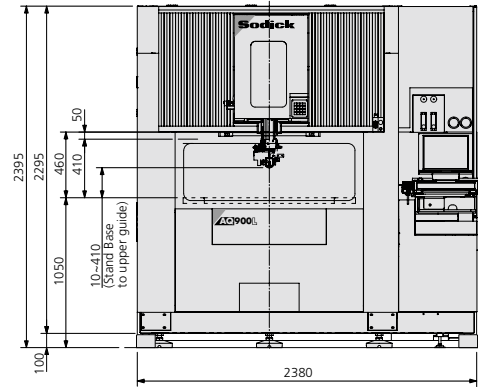
Premium Features

- LP33W High speed generator
- Thermal multi fit compensation
- Optimised dielectric system
- LP control with 3D solid data input

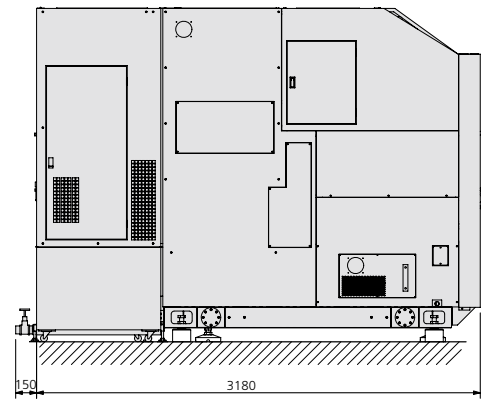
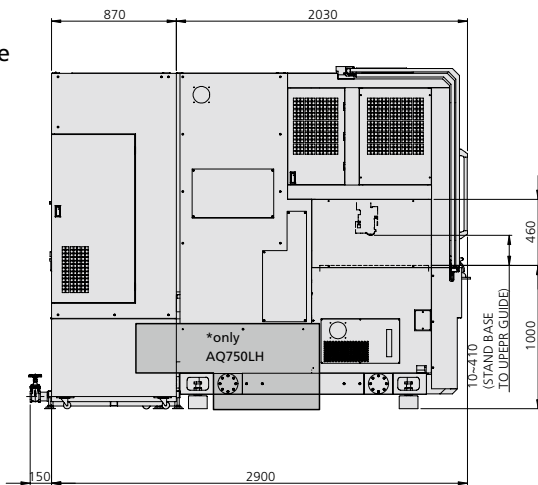
AQ750L



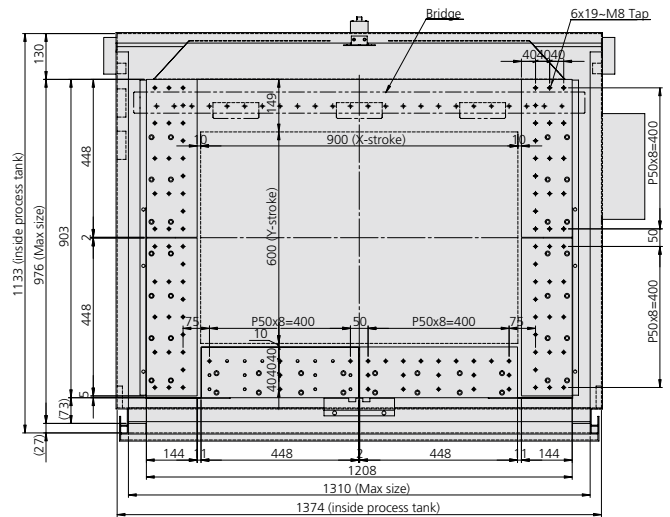
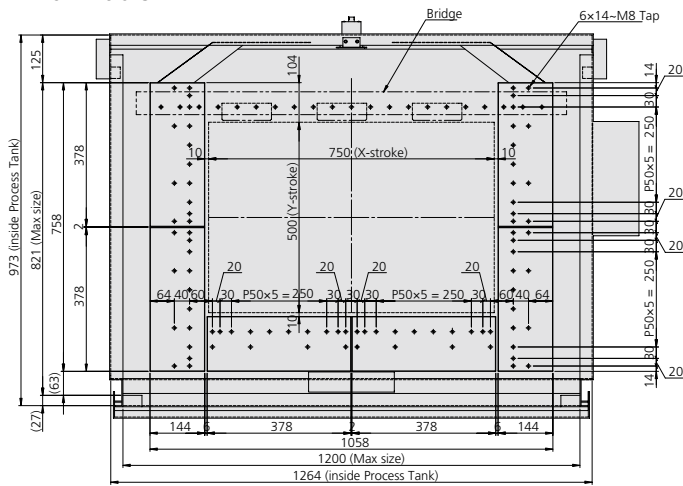
AQ900L



Side



Work Table



create your future

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