

# Specifications

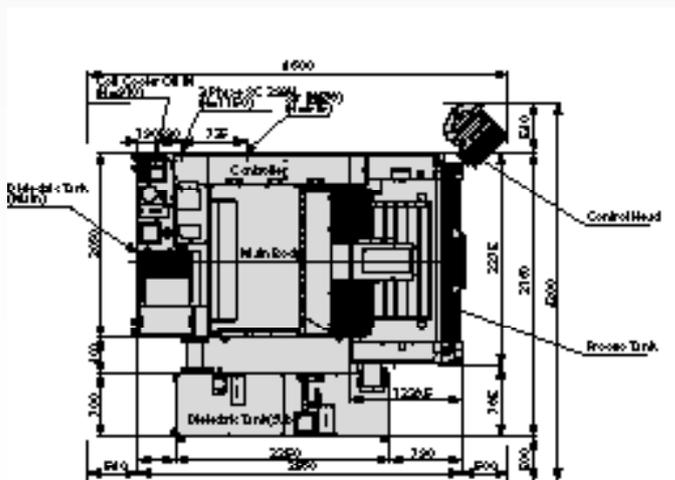
Technical Specifications	AG80L LST	AG100L
X/Y/Z axis travel (mm)	850 x 520 x 420	1200 x 650 x 500
Table dimensions (mm)	1200 x 700	1600 x 1000
Worktank dimensions (mm)	1800 x 1000 x 550	2100 x 1250 x 650
Dielectric level (min ~ max, mm)	225 ~ 500	325 ~ 600
Max. workpiece weight (kg)	3,000	5000
Max. electrode weight (kg)	100	100
Distance from floor to table top (mm)	840	940
Machine tool dimensions (W x D x H, mm.) (Incl. power supply and dielectric tank)	2335 x 3475 x 2900	3820 x 4200 x 3340
Step resolution (mm)	0.0001	0.0001
Machine weight (kg)	9600	12500
Controlled axis	4	4
Air pressure (Automatic Clamping chuck, MPa)	0.65	0.65

Dielectric Tank	AG80L LST	AG100L
External dimensions Main- (W x D x H, mm) Sub-	2060 x 1270 x 2230 700 x 2350 x 1150	2520 x 900 x 2330 900 x 2650 x 1250
Empty weight (kg)	600 (main) + 300 (sub)	650 (main) + 450 (sub)
Dielectric fluid	Oil	Oil
Capacity (l)	1,730	2,770
Filtration method	4 replaceable paper filters(MF-2400)	6 replaceable paper filters(MF-2400)

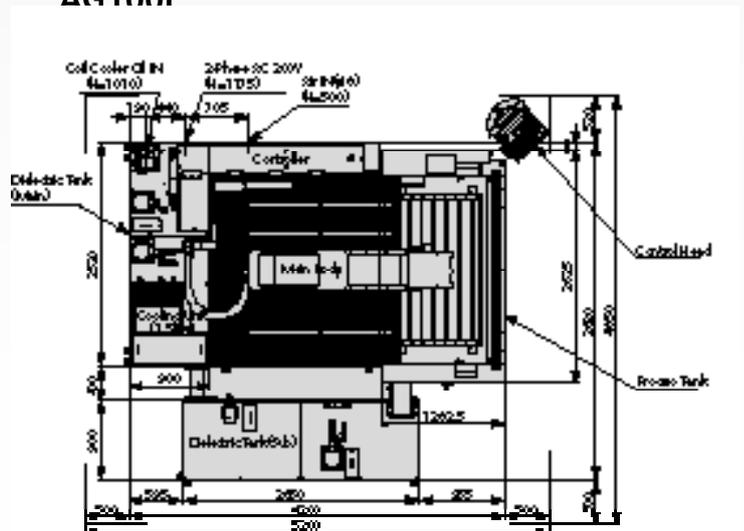
The dielectric chillers on Sodick machines contain either fluorinated greenhouse gas R410A or R407C.  
Due to ongoing research, specifications are subject to change without prior notice.

## Floor Layout

### AG80L LST



### AG100L



# Sodick

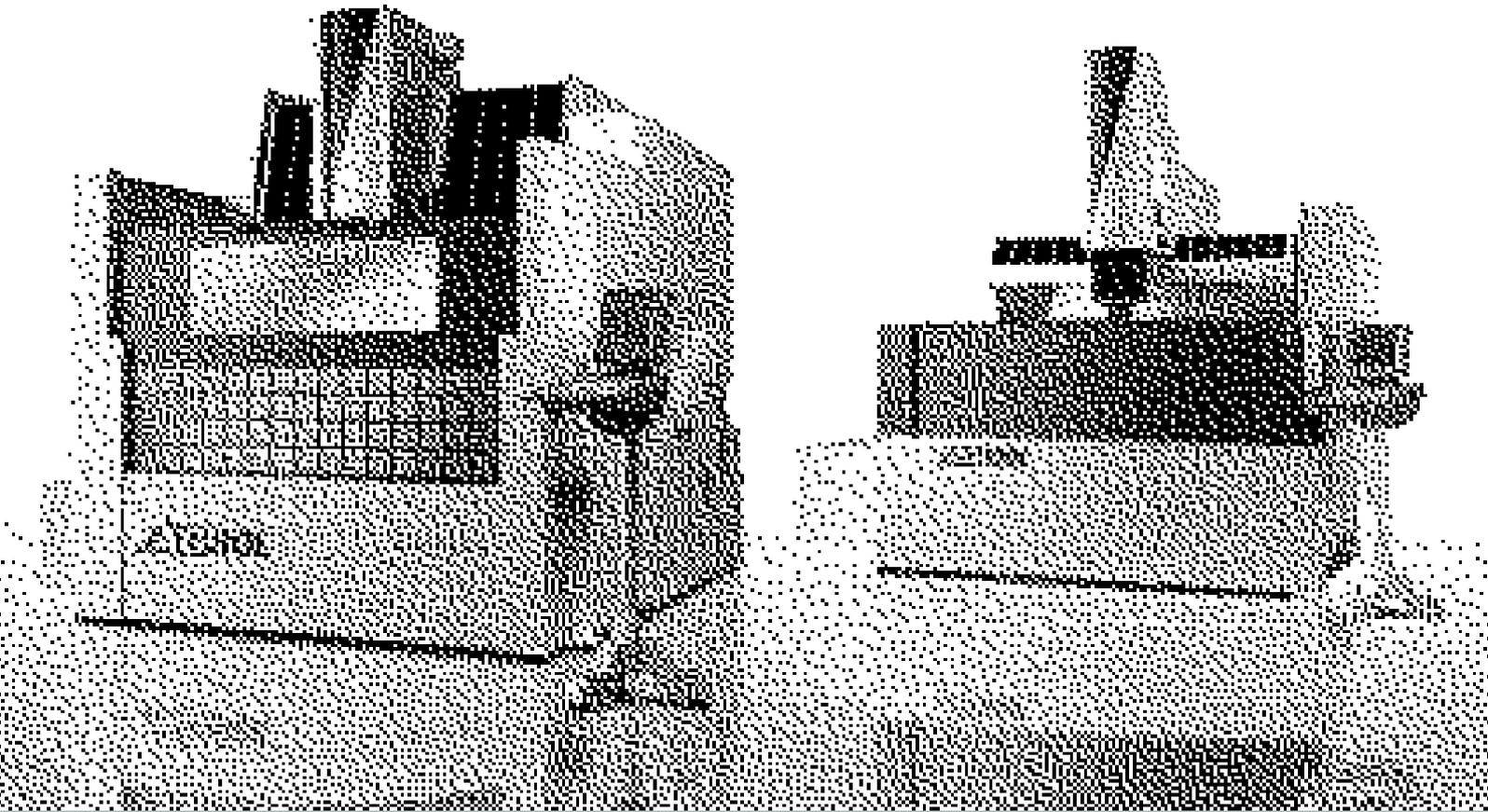
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*Large Size Linear Die Sinker EDM*

# **AG80L LST/AG100L**



# **Sodick**

# Core Technology

## Five Core Technologies Developed In-House For Achieving The World's Highest Quality Machining

Starting with the development of electrical discharge circuits, Sodick has continued to make untiring efforts in the research and development of advanced EDMs. Sodick's philosophy has been the pursuit of the highest level of accuracy, speed and versatility of machining in order to provide the highest quality products to its customers.

Sodick's: Power Supply Units, Discharge Units, Linear Motors, Motion Controllers and Fine Ceramic Components have evolved as its five core technologies. These developments have positioned Sodick at the pinnacle of EDM technologies.

### Tech 1&2

#### NC Power Supply Unit + Discharge Unit

The Sodick Die Sinker EDM Series features Sodick's latest "LN2 series" power supply unit, which is capable of high-speed, high-precision and high-efficiency machining. The outstanding performance of the LN2 power supply is controlled by a modern in-house designed NC system running on a Windows Operating System. The user interface benefits from a 15" colour touch screen for ease of use and operation.



### Tech 3

#### Linear Motor

The most outstanding features of the Sodick in-house developed and manufactured Linear Motors are high-speed axis motion and quick response, which result from wear-free motion and without the need for old-fashioned ball screws. Conventional drive systems use ball screws to convert the rotational motion of the motor into the linear motion of the axis stroke, leading to the unavoidable deterioration in response of high speed servo motors due to back-lash and mechanical lost motion. However linear motors directly provide motion to each axis without converting rotational movements of motor to linear motion.

### Tech 4

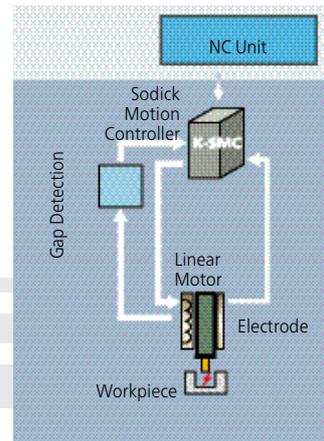
#### Motion Controller

In order to achieve maximum performance with a linear motor, the K-SMC motor controller is also developed in-house and incorporates Sodick control know-how accumulated over the years.

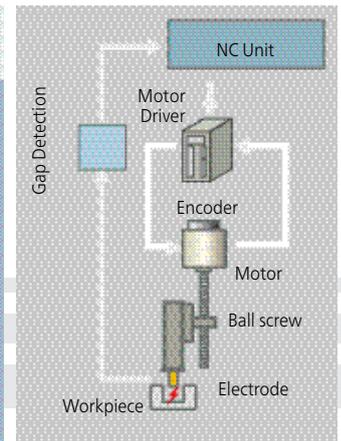
The feedback from the spark gap is directly input in to the K-SMC board allowing for instantaneous adaptation of the sparking conditions.

#### Absolute Linear Scales

With the introduction of new advanced absolute linear glass scales the need for referencing has been removed. Therefore, ensuring total positional control at all times and reduced setting up time.



Linear Motor Drive



Conventional Ball Screw



### Tech 5

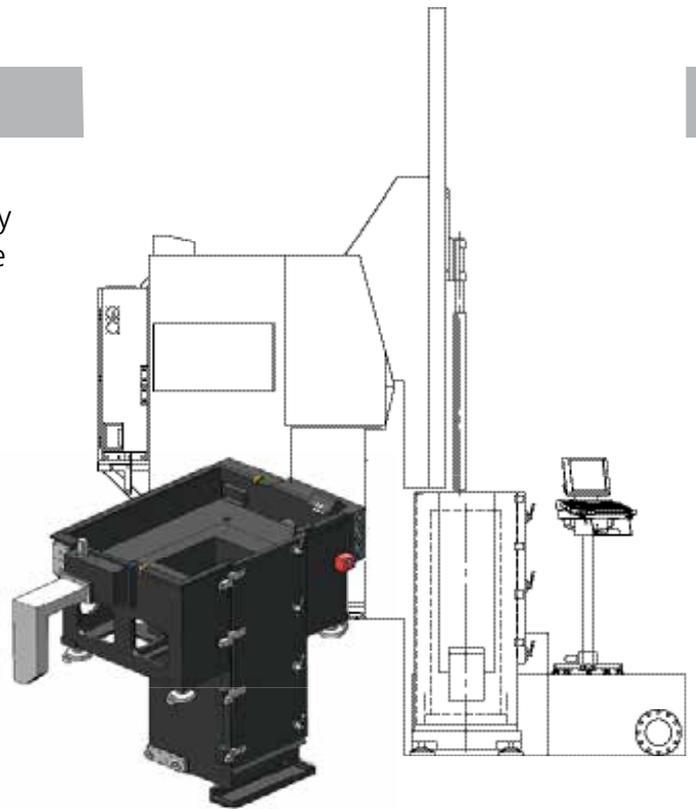
#### Ceramic Components

In major components, such as the quill, the Sodick Die Sinker EDM series is equipped with in-house manufactured ceramic material, which has been carefully researched and is considered as the best material for use in high-end EDM machines.

## Innovative Machine Design

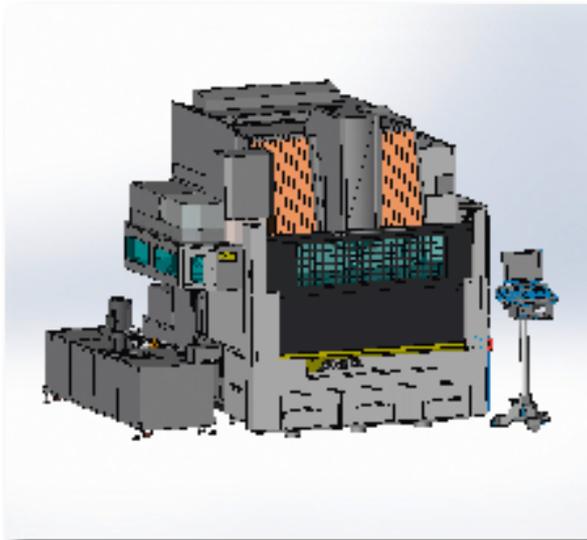
The machine construction is designed with heavily ribbed sections to provide superior long term rigidity and stability. The surfaces on which the THK Ball-Type Linear Guide-ways are mounted are hand-scraped to ensure a perfectly flat surface and outstanding machine geometry.

Since the work-tank of AG80L LST and AG100L is a separate unit of the machine tool, weight of work-piece does not adversely affect the precision and speed of the axis movements. Furthermore, the advanced machine design allows the flexibility to customize work-tank on request as required by the customers' application.



## Dielectric Cooling Unit

The dielectric cooling unit comes with Sodick Linear EDM series as standard, equipped for efficient and stable machining.

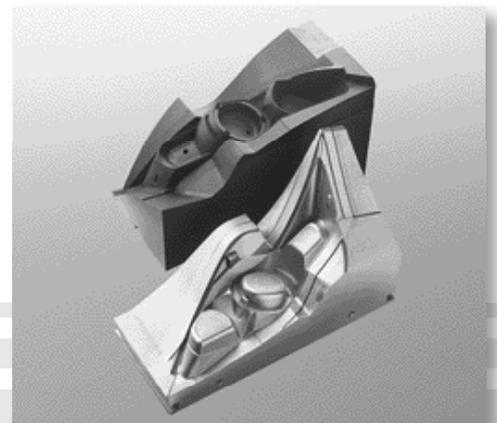


## ATC Unit (Optional)

Different sizes of Automatic Tool Changer (ATC) are available on AG large EDM series. With the LN Professional, operators can easily program the automatic operation with use of ATC.

AG80L LST: 16/ 32-position ATC

AG100L: 6-position Shuttle ATC, 16/ 32-position ATC



## High Precision Rotary Head, C Axis (Optional)

The Sodick Rotary Head (C axis) "SEC10" offers 1/1,000,000 of standard resolution. It enables high precision indexing with direct-drive and continuous rotation (20rpm), expanding the machining capabilities.

SEC-10	
Resolution	1/1,000,000
Max. spindle speed	2 – 20 rpm
Max. current	80 A
Flushing through Axis	as standard

