Sodick

Press Release

5th September, 2008

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Sodick Co., Ltd

The new linear motor drive high speed die sinker EDM equipped with fifth generation ( ) NC unit "Cruise series：C32" has been released.

Sodick announces the release of "(*)*fifth generation*" linear motor drive electrical discharge machine, "*Cruise series:C32* ", which will be distributed through the new *"FREE MARKET /FREE TERITORY global sales system*".

"Cruise series:C32" has been developed to make further contribution to the manufacturing of die and mold and mechanical part over the world, especially in the newly developing countries known as BRICs (Brazil, Russia, India, China) and VISTA (Vietnam, Indonesia, South America, Turkey, and Argentina).

(*) Fifth generation EDM features "*Perfect Active Control*" function, which can perform high speed simultaneous control of the state of discharge and axis movement to achieve unprecedented highly efficient machining performance by taking advantage of serial communication technology of 1Gbit /sec.
By simultaneously performing accurate and undelayed monitoring of discharge status and high speed and high responsive axis control realized by linear motor drive system, ideal EDMing such as stable discharge with increased cutting speed realized by arcless machining characteristic have been made possible. This achieves to obtain wide range of surface qualities from satin to mirror finish, and "*Zero wear*" machining, have been made possible.

First generation: Spark EDM
Second generation: Transistor no-wear EDM
Third generation: NC EDM
Fourth generation: Linear motor driven EDM
Fifth generation: Perfect active control EDM

In the newly developing countries, there has been a growing demand for a highly affordable EDM which can enable anyone from beginners to the experienced to operate easily and ensure high machining accuracy. In response to such trend, Sodick has developed a machine that can meet wide range of customer's needs in a swift manner.

In association with the trend of technological innovation in the global market, Sodick has cultivated its technologies to develop high value added EDMs that can support the manufacturing of high

precision die and mold and mechanical part, targeting 5 major markets (Japan, the USA, Europe, China, and South East Asia).

With the technologies developed by Sodick inside, "Cruise series: C32" will be distributed through "FREE MARKET / FREE TERRITORY GLOBAL SALES SYSTEM", in which machine specification and the price are set so that sales network such as internet, local agents, and dealers in newly developing countries and anywhere in the world can play the central role in delivering and installing the machine in the minimum time. This will ensure the maximum contribution to the development of the culture of manufacturing .

In Japanese market, affordable price has been set to meet the demands from part manufacturers, technical universities, colleges, and technical high schools as a mother machine which supports manufacturing from the perspective of education.

80 units are planned to be assembled par month in newly established Sodick Amoy factory. Delivery starts from October, 2008.

Together with Sodick's core technologies such as linear motor drive system, motion controller, electrical power supply unit, and numerical control unit, C32 is equipped with the latest electrical discharge circuit "SGF (wear rate of electrode is 0.006%)", which ensures improved "Zero-wear" machining characteristic. Other than that, high speed and high quality finishing circuit, "SVC" and auto-programming support system which can handle the latest machining conditions are also standard. Compact machine design makes installation at any places possible.

C32 will be exhibited for the first time in IMTS2008, which is held in Chicago in the United States.

■Main features

1）Linear motor developed by Sodick is standard on Z axis.

2）The latest “Zero-Wear” circuit “*SGF Ⅱ*” and high speed / high quality surface finishing circuit “*SVC*”is standard.

3）The latest machine design to achieve compact installation space.

4）The new numerical control device which enables easy operation, “LMX32”.

■Details

1）Sodick original linear motor is standard on Z axis.

“Cruise series: C32” is the entry model of high speed die-sinker EDM, adopting Sodick’s original linear motor drive on Z axis. Linear motor drive system excels in speed of axis movement, positioning accuracy, and responsiveness. Moreover, as there is no mechanical contact, long term stability, serviceability, and reliability can be ensured. Linear scale is standard to ensure high accuracy machining. The performance of linear motor can be maximized by motion controller developed by Sodick for years.

2）The new stable discharge circuit “SGF Ⅱ” is standard to ensure further improvement of“Zero-Wear”machining characteristics. High speed and high quality finishing circuit “SVC” is also standard.

The “Zero-Wear” machining characteristic has earned a high reputation among a lot of customers. This time the new stable discharge circuit “SGFⅡ” has been developed to achieve further improvement of “Zero-Wear”machining characteristic to maximize the advantage of graphite electrode. One electrode can keep from roughing process to surface finishing process. This feature is applicable in making moulds for auto-mobile components, die-casting mold, ribs to reinforce the components of home electric appliances. “Zero-Wear” machining characteristic is advantageous in varieties of machining patterns, especially in cutting narrow and deep ditch (machining of rib shape).

In addition to large reduction of machining time, reduction of the number of electrode will ensure the reduction of the total manufacturing cost and the risk of human error. Furthermore in using copper and tungsten electrode, machining speed can also be largely increased.

High speed and high quality finishing circuit “SVC” is standard to achieve the surface roughness of 3μmRz. Combined with ultra minute surface finishing circuit (option), achievement of high quality surface roughness of 0.8μmRz is possible. Satin or mirror surface can be machined in a short time, while increasing the machining speed and minimizing the irregularity of surface roughness and wear of electrode.

3）Compact machine design

By installing the dielectric tank beneath the machining tank, machine installation space has been minimized. By minimizing the machine height, the machine can be carried in from smaller entrance.

4) The new numerical control unit "LMX32", which enables high quality machining by easy operation

As "LN Assist" handles plenty of Sodick's machining conditions, even beginners can achieve the same level of machining result as experienced operators. Thanks to the operation screen which has high level visibility, setup process can be swiftly carried out with the reduced risk of human error.

■ Main specification, "Cruise series: C32 Model"

Machine

Table size (width×length)	450×300 mm
Machine tank internal size (Width×Depth×Height)	600×450×300 mm
Max. workpiece weight	50 kg
Distance from table to clamp chuck face	100～350 mm
Axis travel (X axis×Y axis×Z axis)	300×200×150 mm
Auxiliary axis (manual)	100 mm
Max. electrode weight	20 kg
Chuck type	TPH－11 (Manual)
Machine dimensions (Width×Depth×Height)	1050×1740×1750 mm
Machine installation space (Width×Depth)	1850×2540 mm
Machine weight	1300 kg
Electric capacity	5 kVA

Power Supply Unit

Max. electric current	15 A
Electric capacity	200/220 V 50/60 Hz
NC Unit	Multi task OS SI－LINK system
Simultaneously controllable axes	Max. 3 axes

■ 「Cruise series: C32 Model」