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FOR IMMEDIATE RELEASE

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New Product Release**Sodick Releases AL800G and ALN800G:****Large, Linear Motor-Driven Wire EDM Machines with High Speed and Performance**

Sodick Co., Ltd. is launching the new AL800G and ALN800G, two linear motor-driven, large wire EDM (electrical discharge machining) machines that provide high speed and performance which are ideal for machining large parts and dies.

AL Series models are wire EDM machines that are driven by linear motors, provide high speed and performance, and are the latest releases in Sodick's new AL Series that debuted in 2016. The machines have been well received by manufacturers using them for precision die and part machining for products such as smartphones, tablet terminals, and precision automotive parts.

The aim of this latest release is to expand the AL Series lineup to meet urgent demand from manufacturers seeking to use the superior machining speed, precision, and quality of linear motor-driven wire EDM machines for a wider range of machining applications, such as for machining large dies used to manufacture automotive or electrical products, or large parts used in industries such as energy, aerospace, and automotive production. This demand has been met by adding two models, AL800G and ALN800G, that enable machining of large workpieces.

The new models offer the same superior machining speed, precision and quality as previous AL Series models, while incorporating several new design elements to support machining of large parts.

AL800G and ALN800G employ the 'Advanced Smart Pulse' and 'Advanced Smart Linear' development concepts devised for the AL Series. The two concepts also achieve high performance through several elemental technologies in areas such as the linear motor, EDM power supply, NC equipment, motion controller, and ceramics. These technologies were developed and manufactured completely in-house.

The new models have been designed to support machining of large parts and dies by providing longer X- and Y- axis strokes (X-axis: 800 mm; Y-axis: 600 mm), as well as U- and V-axis strokes

33% larger than those of AL600G (U-axis: 200 mm, V-axis: 200 mm). The mechanical structure is the result of optimum design methods tailored to the placement of large workpieces and environmental changes, ensuring stable machining for extended periods. A new thermal displacement correction function has also been provided.

Standard features on the new models include an automatic three-sided vertically sliding machining tank enabling submerged machining of workpieces with a plate thickness of up to 500 mm, ample machining space for large workpieces (up to 1,250 × 1,020 mm), a hollow rectangular workpiece stand, four sets of machining fluid filters, a service tank that provides high fluid processing efficiency in a compact, functionally compartmentalized design, a built-in 20 kg wire feeder, and other functions. An interface enabling connection to the Sodick IoT (Internet of things) is also provided as a standard feature, permitting next-generation Internet-connected manufacturing. These standard features are designed to ensure that setup changes and all other work processes done at the machining site can be accomplished easily and efficiently, helping improve production efficiency.

Sodick's original linear motor is provided standard on AL800G and ALN800G to drive four machining axes (X, Y, U, and V) to ensure continual high speed, high responsiveness, and high-precision positioning over extended periods. Originally developed and manufactured by Sodick in-house in 1998, this pioneering motor has since logged a successful track record spanning nearly 20 years.

The high-speed automatic wire threader (AWT) unit and FJ guide unit (Type A) employed in previous AL Series models have been optimized for use in large models, improving high-speed threading capacity for large plate thicknesses. This combination of elemental technologies achieves automated machining with stable high-speed machining quality for large workpieces over extended periods.

The new models feature an SPW power supply—a type of NC power unit with a proven track record in previous AL Series models. A wide range of cutting-edge technologies are provided as standard features to ensure high machining speed, precision and quality. These features include a Digital PIKA circuit, TMP II control, Barrel Effect-Free control II, a new tension servo function, and automatic fluid level control. They enable stable maintenance of high-efficiency machining with minimal cuts. Also, the new models can be operated from an LCD multi-touch monitor or keyboard, providing a groundbreaking level of operation ease that makes the equipment simple to use regardless of experience level.

AL800G is an advanced, environmentally-friendly machine tool that conforms to global standards with an innovative fully covered design. Its front cover has a new sliding front door that enables

easier placement of large workpieces, and is designed to support robotics or other automation.

The European version of this model will be exhibited at the EMO Hannover 2017 trade fair to be held in Hanover Germany in September 2017. The model will also be exhibited at the MECT 2017 (Mechatronics Technology Japan) trade fair held in Nagoya in October.

■ Main Specifications (AL800G/ALN800G)

Machine Specifications

Maximum workpiece dimensions (W × D × H)	1,250 × 1,020 × 500 mm
Maximum workpiece weight	3,000 kg
Machining tank internal dimensions (W × D)	1,500 × 1,040 mm
Axis strokes (X-axis × Y-axis × Z-axis)	800 × 600 × 500 mm
Auxiliary axis strokes (U-axis × V-axis)	200 × 200 mm
Maximum taper angle (for 130 mm plate thickness)	±25°
Wire electrode diameter	0.1 to 0.3 mm
Machine body dimensions (W × D × H)	3,395 × 3,640 × 2,780 mm
Machine body weight	6,000 kg
Total electrical capacity	13 kVA

Power Supply

Maximum machining current	40 A (60 A with option)
Power input specifications	200 VAC, 50/60 Hz
NC unit	Sodick CNC (KSMC-M4 type)
Number of simultaneously controlled axes	Up to 4 (up to 8 with option)

■ Photo of AL800G



■ Photo of ALN800G



■ Planned sales prices (excluding tax), production target

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| ● AL800G (standard price): | 28 million yen |
| ● ALN800G (standard price): | 27 million yen |
| ● Production target (all AL800 Series models): | 50 units/year |

■ Inquiries

Sales Promotion Department

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