NIPPON PULSE FOR SUBTRACTIVE MANUFACTURING

Nippon Pulse is a custom motor manufacturer that offers a variety of motion control products that are perfect for the subtractive machining and machine tool markets. We offer customizable and fully custom versions of our patented Linear Shaft Motor, linear stages and stepper motors, as well as electronics to drive them.

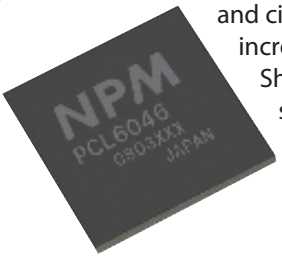
LASER PROCESSING

Welding/Heat Treating (Commander core + Linear Shaft Motor)

Surface modification requires exceptional control to ensure process parameters are met. With its nanometer-range precision, the Linear Shaft Motor makes easy work of high travel speeds with low speed ripple to control exact beam positioning. Commander core maintains defined motion profiles – including multi-axis maneuverability – in order to reduce the Heat Affected Zone and produce harder surfaces that will withstand chipping.

Cutting (PCL6000 Controller Chip)

Burn cut lines in small regions of the workpiece with the PCL control chips' ability to minutely define the motion profile, issue pulse and direction commands, monitor and predict position and speed, and quickly issue corrective commands if necessary.



Engraving/Etching (PCL6000 Controller Chip + Linear Shaft Motor)

With our PCL6000 series chips, complex patterns can be achieved through a combination of linear and circular interpolation across multiple axes at incredibly fine scales. Coupled with the Linear Shaft Motor, which can operate at high travel speeds with high positional resolution and low speed variation, engraving and etching can be accomplished with crisp precision, identical line depth, and fine detail.

SHAPING

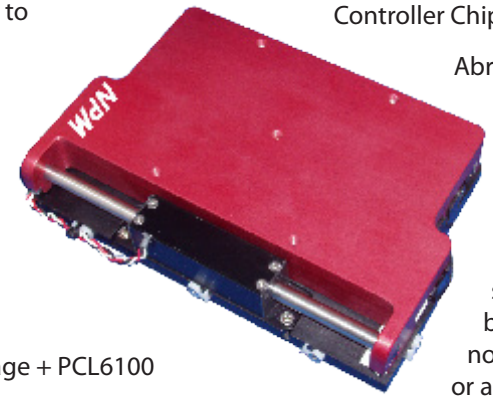
EDM (Electrical Discharge Machining) (Linear Shaft Motor + PCL6000 or PCL6100 Controller Chip)

The Linear Shaft Motor is ideal for spark machining applications that require high motor stiffness, low speed ripple, and fast settling time. Both the PCL6000 and PCL6100 chip series offer incredible precision and the ability to coordinate multi-axis movement through linear or circular interpolation. The Linear Shaft Motor also has the benefit of being operable in a variety of conditions and temperatures without force or movement being affected, even when tooling hard or harsh materials.

Milling (SCR Nanopositioning Stage + PCL6100 Controller Chip)

Our advanced PCL motion control processors are capable of high-resolution, high-accuracy motion for precise multi-axis control (up to 36 axes of movement for Large Scale Integration). The Linear Shaft Motor integrated into the SCR stage provides ultra-precise control of machining tools relative to the workpiece, with impressive repeatability and resolution for the finest shaping requirements.

Grinding (Linear Shaft Motor + PCL6000 Controller Chip)



Abrasive and moist environments have nothing on the Linear Shaft Motor's capabilities. Unlike ball-screw and lead-screw systems, the LSM's non-contact motor design doesn't rely on a mechanical system that can wear and bind, so its mechanisms are not affected by grime, liquids or abrasive particles that would typically affect motion speed or smoothness. The PCL6000 controller allows for incredible precision in final dimensioning and surface finishing.

NPM Nippon Pulse
Your Partner in Motion Control

COMMANDER CORE FOR INDUSTRIAL AUTOMATION

Nippon Pulse's COMMANDER core is a powerful hybrid IC that bridges the gap between design-from-scratch and off-the-shelf motion controllers. COMMANDER core is secure, flexible and easy to use, and is built around Nippon Pulse's PCL6000-series ASIC, "The Most Advanced Controller Chips in the World."

Get to Market Faster

Your system design can be quickly proven out with the Commander Development Kit, which includes a development board and core module. The OEM can incorporate the core module itself into their final custom PCB design. Nippon Pulse can also custom design PCB boards to your application specifications.

Easily Scalable

For OEMs, the Commander core is a cost-effective tool for ramping up to higher-volume prodiction with minimal design time and support. Commander is easily scalable from prototype to production with no changes to the software.

Ready-Built

Commander is a ready-built motion controller that eliminates the need to source components from additional suppliers, so it is free from dependency on other components' lifespans (and the huge revisions to products in the field such lifespans usually entail). Commander is ideal for applications such as textile machines, CNC milling, welding equipment, small robotics, and manufacturing equipment.

LINEAR SHAFT MOTORS IN MACHINING

Our brushless servo motor is incredibly precise, simply designed, and withstands harsh environments without wear and tear.

Stage Integration

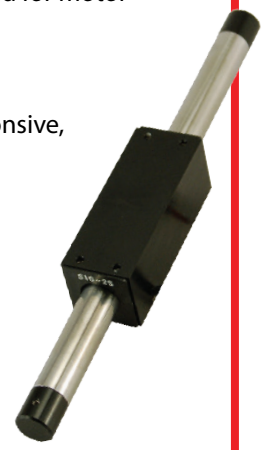
The Linear Shaft Motor servomotor can be integrated into a variety of systems, including Nippon Pulse's SCR and SLP linear stages, to reduce downtime and the need for motor replacement.

Accuracy

The Linear Shaft Motor's design is highly responsive, with high stiffness and low speed variation for achieving high dimensional and geometric accuracy. The motor's design eliminates the need to compensate for inaccuracies, such as backlash, pitch error or thermal expansion.

Settling Time

The LSM's low settling time and minimal position deflection allows for quick changes in motion with minimal positional overshoot or tool wandering.



ABOUT NIPPON PULSE

Since 1952, Nippon Pulse has built state-of-the-art motion control products. We provide solutions for original equipment manufacturers that include products that can accomplish common industrial automation tasks.

Over the past 60 years, Nippon Pulse has been established as a leader in stepper motor, driver and controller technology. We want to impress you with our products and service, not just satisfy your requirements. We do this through complete system engineering expertise, individual attention and support, superior prototyping, and cutting-edge technology.

Nippon Pulse America, Inc. is a wholly owned subsidiary of Tokyo-based Nippon Pulse Motor Co. Ltd., and serves customers in North, Central and South America, and Europe.

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