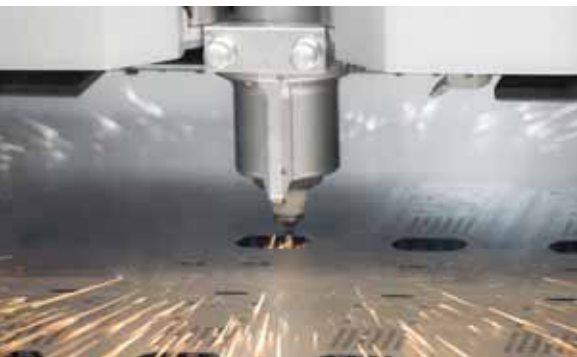


**Nidec**

# **FLEXWAVE**

An evolution in strain wave gear technology



**NIDEC-SHIMPO CORPORATION**

# FLEXWAVE

## Achieving new heights in compact, fine precision gear technology

NIDEC-SHIMPO has had a long and storied history supplying the leading robotics and machine tool manufacturers in Japan. Our loyal customers within these industries strongly urged us to develop our own strain wave gear technology, and leverage our primary competencies – modularity and flexibility of the core design and consistent production in mass volume – to help them become more competitive in the global marketplace. After extensive effort to refine strain wave gear technology and to manufacture at a level that exceeds our customers' expectations, NIDEC-SHIMPO is proud to introduce our new **FLEXWAVE** technology.

The **NIDEC-SHIMPO FLEXWAVE** is a very compact reduction mechanism that achieves zero backlash, as well as exceptional accuracy and repeatability. The **FLEXWAVE** consists of three major internal elements – the elliptical wave generator subassembly, the flexible cup gear, and the inner ring gear. The elasticity properties of the cup gear and the teeth differential between the cup gear and the inner ring gear result in the unique reduction characteristics. When compared to other reduction technologies, the **FLEXWAVE** offers the following advantages;

- › *Near Zero backlash*
- › *High efficiency ratings*
- › *High reduction ratios in a compact footprint*
- › *Exceptional repeatability and torsional stiffness*
- › *Extremely light weight with superior torque density*

These characteristics enable the **FLEXWAVE** to be the superior choice when sizing and selecting the proper reduction technology for **ROBOTICS, MEDICAL EQUIPMENT, SEMICONDUCTOR** and **CIRCUIT MANUFACTURING, MACHINE TOOLS** or any **ASSEMBLY AUTOMATION** applications requiring fine positioning.

## WPC SERIES

### Component Sub-assembly

The core strain wave gear elements without any supplemental components that provide additional bearing support, the structure for containment, and specialized input or output configurations.

### Series Features

- › Simplest and most flexible design option
- › Cost effective at high volumes
- › Allows complete integration into equipment
- › Most compact of all series

<b>Frame Size</b>	35mm - 80mm
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<b>Reduction Ratios</b>	50:1 - 120:1
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<b>Torque Output</b>	23Nm ~ 346Nm
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<b>Housing Style</b>	Closed
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## WPS SERIES

### Simple Contained Assembly

The core strain wave gear elements, with additional cross roller bearing support is included within this assembly. No housing is provided for containment, requiring the designer to integrate into their equipment substructure.

### Series Features

- › Self-supported output section
- › Versatile to allow for total integration
- › Variety of output mounting options
- › Compact design

<b>Frame Size</b>	35mm - 80mm
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<b>Reduction Ratios</b>	50:1 - 120:1
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<b>Torque Output</b>	23Nm ~ 346Nm
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<b>Housing Style</b>	Open
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## WPU SERIES

### Complete Unit Assembly

The core strain wave gear elements and cross roller bearing completely contained within a substructure. Also included is an output flange to enable a variety of mounting configurations. The Complete Unit Assembly would be partially integrated into machinery.

### Series Features

- › Simplified configuration for installation
- › A stand-alone structurally rigid assembly
- › Self-supported output section
- › Variety of output mounting options

<b>Frame Size</b>	35mm - 80mm
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<b>Reduction Ratios</b>	50:1 - 120:1
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<b>Torque Output</b>	23Nm ~ 346Nm
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<b>Housing Style</b>	Closed, Open (input shaft), Open (hollow shaft)
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## FLEXWAVE PRODUCT FAMILY



**WPC SERIES**  
Component Sub-assembly  
Closed Housing Style



**WPU SERIES**  
Complete Unit Assembly  
Closed Housing Style



**WPS SERIES**  
Simple Contained Assembly  
Open Housing Style



**WPU SERIES**  
Complete Unit Assembly  
Open Housing Style  
(hollow shaft)



**WPU SERIES**  
Complete Unit Assembly  
Open Housing Style  
(input shaft)

[www.drives.nidec-shimpo.com](http://www.drives.nidec-shimpo.com)

***Nidec***

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