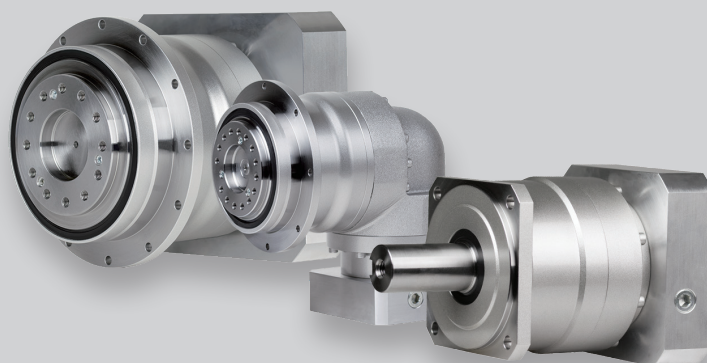


Precision Gear Technology Guide



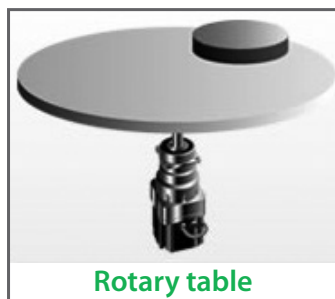
Our company

NIDEC-SHIMPO has established itself as the leading supplier of precision gearing solutions to the industrial automation marketplace. Since 1952, when we introduced the world's first mechanical variable speed drive, NIDEC-SHIMPO has expanded into a diverse manufacturer of high precision power transmission systems for highly dynamic motion control applications. In 1994, SHIMPO was acquired by the NIDEC Corporation and became formally known as NIDEC-SHIMPO. NIDEC-SHIMPO began to focus on accelerating production volumes as the global market for motion control and mechatronics grew at an accelerated rate. We saw a unique opportunity to supply our customer base with the highest variety of transmission technologies, which brought forward strain wave, index table and products to complement our existing portfolio of planetary and cycloidal gearheads. The result for our customers was a single source drive solutions supplier.

Our products are used in robotics, machine tools, food packaging, printing, paper converting, material handling, medical, semiconductor and aerospace related systems. Our diverse product portfolio, state-of-the-art equipment, engineering know-how and manufacturing scale allow our customers to compete and expand their businesses globally. NIDEC-SHIMPO has over 2,400 employees strong with a presence across five continents. Our engineering staff, customer support team and distribution partners undergo rigorous product training to ensure the quickest response to our customers' needs. Our aim is to continue to innovate and provide the highest quality, best-in-class products and services for our customer base.



Application selection



Rotary table



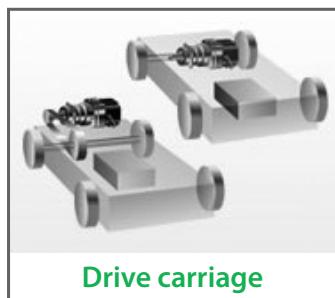
Belt conveyor



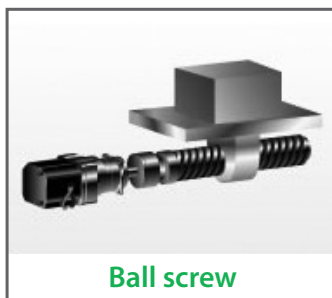
Rack and pinion



Lifting & lowering device



Drive carriage



Ball screw



Drive gears



Robot joints

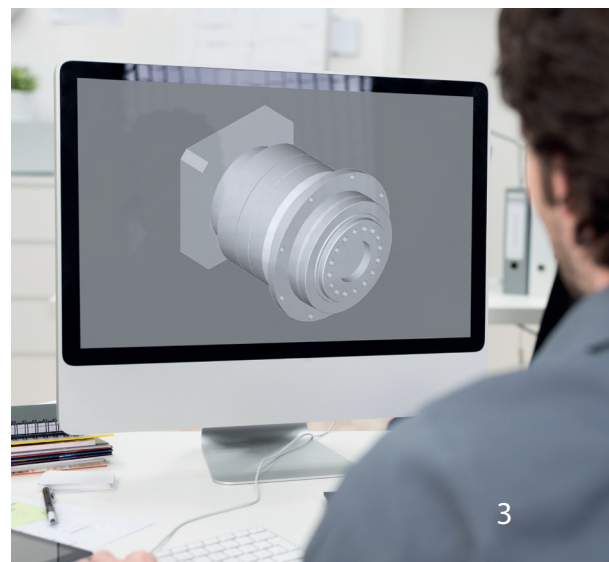
Configure our planetary products with ease. Download models.

NIDEC-SHIMPO's online product configurator makes it easier than ever for engineers to incorporate our products into their drive system design. Our configurator allows our customers to select from wide range of servo motor manufacturer models to ensure flawless fitment with our products. Our planetary products can be attached to any motor all over the world.

In addition to motor sizing, our configurator also allows our customers to select gearheads based on application. These applications include rotary tables, belt conveyors, rack and pinion drives, lifting and lowering devices, ball screws, drive gears, drive carriages and robot joints. After selecting the application template, customers can then input the application load parameters and motion profile. The proper frame size and reduction ratio are then determined, with motor selection as the final last step.

Once sizing is complete, our configurator will then display the full part number, along with gearbox and motor technical specifications. This part number includes the motor mounting adapter, which can be sent directly to our sales support team for pricing & delivery. Drawings and models are also available in PDF, DXF, IGS and STEP formats, making it simple for machine designers to quickly drop them into machine schematics to check for proper fitment. We have seasoned application engineers standing by to assist with any sizing or selection questions.

<http://www.nidec-shimpo.co.jp/selection/all/index.php>



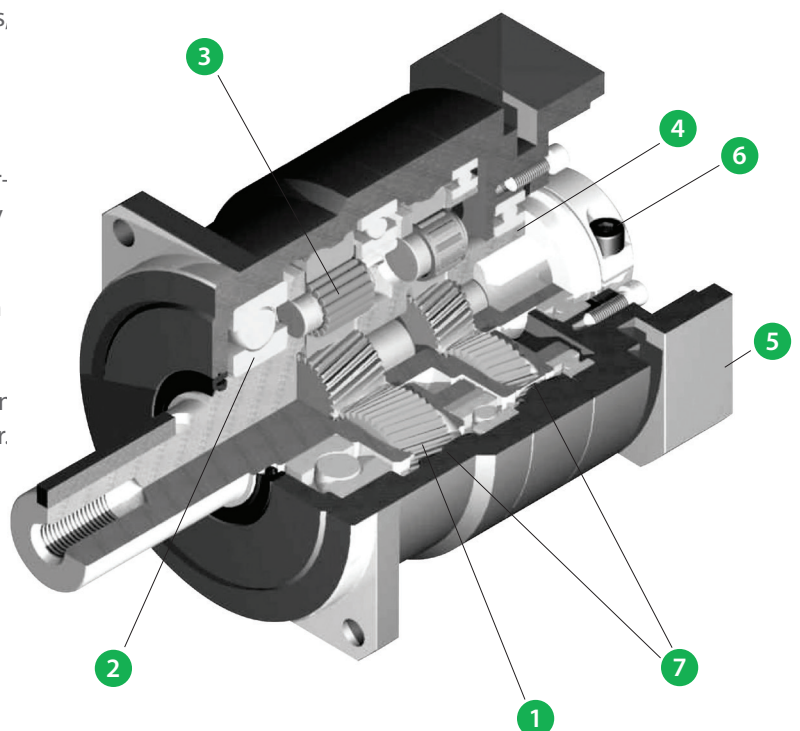
VR Series inline planetary gearheads







- Exceptional value for mid to high end motion control applications with demanding accuracy requirements
- The widest range of frame sizes (042-285) and ratios (3-100) available in the market
- Best-In-class backlash (≤ 3 arc_min), with reduced backlash option available
- Broad range of mounting adapters offer a simple, precise attachment to any motor
- Maintenance-free solution that is lubricated for life. High performance grease allows for flexible mounting in any orientation
- Industry standard mounting dimensions

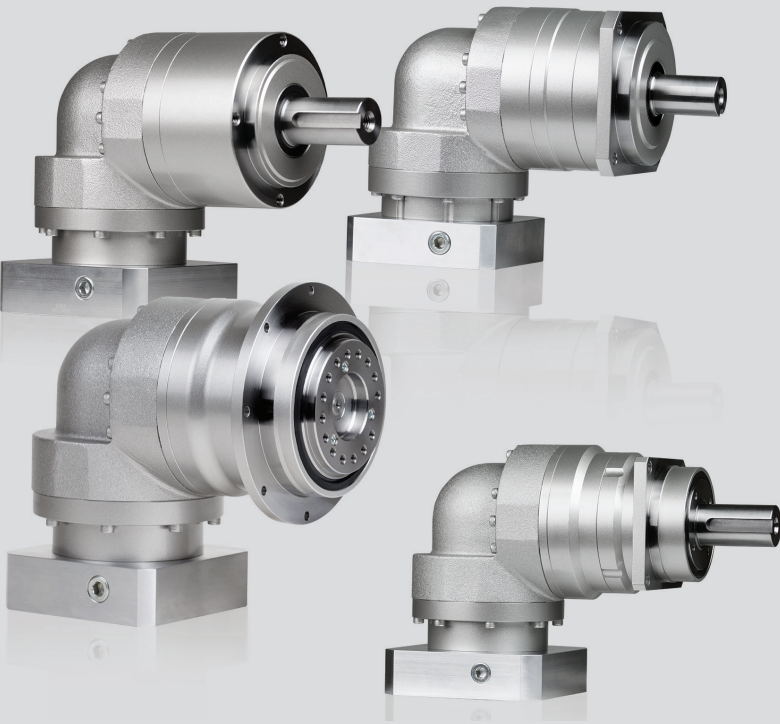
VR Features

- 1 Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation. 40% higher tooth surface area than the industry standard
- 2 One piece output shaft and planet carrier with two bearings straddling the planet gears. Higher stiffness, torque capacity and safety factor, with guaranteed alignment of gearing
- 3 Uncaged needle roller bearings provide excellent torque density and torsional rigidity. 43% larger bearing surface area compared to the rest of the industry
- 4 Unique labyrinth input seal design greatly reduces heat and increases system efficiency. IP65 protection is available for wash down applications
- 5 Optimized mounting system with active centering or motor pilot diameter guarantees alignment of motor. Motor can be installed in any orientation
- 6 True concentric motor shaft clamping connection, optimized for your specific motor. Reduced inertia for dynamic performance and balanced for high speed operation
- 7 Ring gear machined directly into the housing, not welded or pressed in. Provides greater concentricity and elimination of speed fluctuation



				
Product series	VRL	VRB	VRS	VRT
Axis of orientation	Inline	Inline	Inline	Inline
Gear technology	Helical planetary	Helical planetary	Helical planetary	Helical planetary
Frame size range	050-235	042-220	060-240	047-285
Ratio range	3-100	3-100	3-100	4-100
Output mounting style				
Solid keyed shaft, tapped holes	■			
Solid Keyed Shaft, through holes		■	■	
Solid Smooth Shaft, tapped holes	■			
Solid Smooth Shaft, through holes		■	■	
Flange output				■
Hollow shaft				
Output bearing type				
Ball bearing	■	■		■
Tapered roller bearing			■	■
Cross roller bearing				
Performance specification				
Nominal output torque range [Nm]	6-1500	6-1500	18-2400	6-3300
Max. acceleration torque range [Nm]	12-2300	12-2300	24-3700	12-5300
Emergency stop torque range [Nm]	30-5000	30-5000	80-8000	30-12000
Radial load range [N]	710-15000	710-15000	3000-30000	1100-86000
Axial load range [N]	640-14000	640-14000	2700-27000	550-64000
Backlash [arc_min]	≤5	≤3	≤3	≤3
Torsional rigidity [kgcm ²]	Suitable	Suitable	Suitable	Superior
Efficiency [%]	Superior	Superior	Superior	Superior
Service life [hours]	20,000	20,000	20,000	20,000
Lubrication				
Grease	■	■	■	■
Oil				

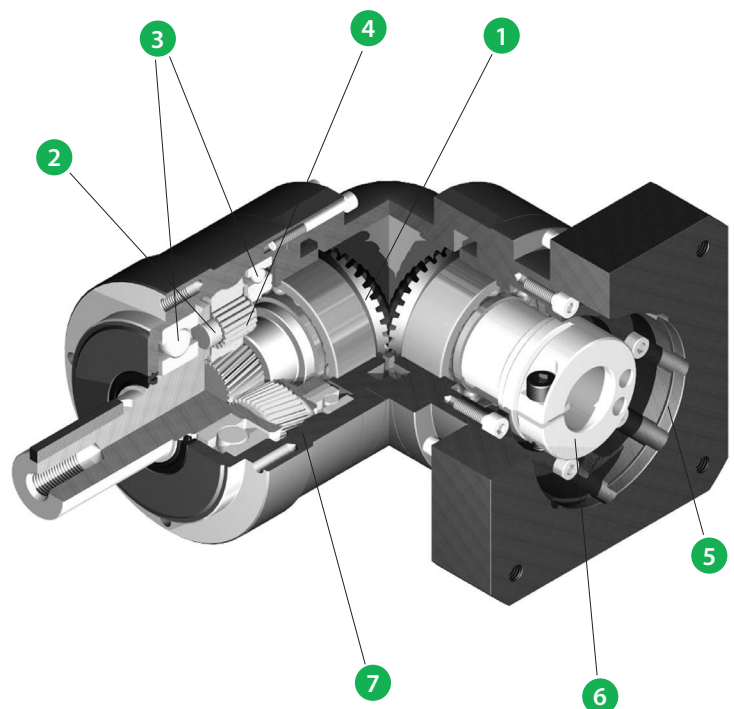
EV Series Right-angle Planetary Gearheads


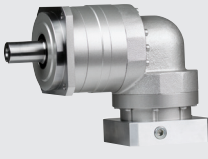
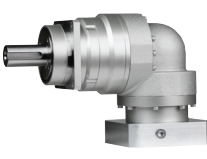



- Compact right-angle design for application where space and clearance are a serious limitation
- Exceptional value for mid to high end motion control applications with demanding accuracy requirements
- The widest range of frame sizes (060-255) and ratios (3-105) available in the market
- Broad range of mounting adapters offer a simple, precise attachment to any motor
- Maintenance-free solution that is lubricated for life. High performance grease allows for mounting in any orientation
- Hollow output shaft available for flexible mounting to machinery

EV Features

- 1 Right angle bevel gear configuration allows motor to be mounted at a 90 degree position from the gearbox, saving space
- 2 Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation. 40% higher tooth surface area than the industry standard
- 3 One piece output shaft and planet carrier with two bearings straddling the planet gears. Higher stiffness, torque capacity and safety factor, with guaranteed alignment of gearing
- 4 Uncaged needle roller bearings provide excellent torque density and torsional rigidity. 43% larger bearing surface area compared to the rest of the industry
- 5 Optimized mounting system with active centering on motor pilot diameter guarantees alignment of motor. Motor can be installed in any orientation
- 6 True concentric motor shaft clamping connection, optimized for your specific motor. Reduced inertia for dynamic performance and balanced for high speed operation
- 7 Ring gear machined directly into the housing, not welded or pressed in. Provides greater concentricity and elimination of speed fluctuation



				
Product series	EVL	EVB	EVS	EVT
Axis of orientation	Right-angle	Right-angle	Right-angle	Right-angle
Gear technology	Spiral bevel/planetary	Spiral bevel/planetary	Spiral bevel/planetary	Spiral bevel/planetary
Frame size range	070-235	060-220	060-240	064-255
Ratio range	3-100	3-100	3-100	4-100
Output mounting style				
Solid keyed shaft, tapped holes	■			
Solid keyed shaft, through holes		■	■	
Solid Smooth Shaft, tapped holes	■			
Solid smooth shaft, through holes		■	■	
Flange output				■
Hollow shaft				
Output bearing type				
Ball bearing	■	■		
Tapered roller bearing			■	■
Cross roller bearing				
Performance specification				
Nominal output torque range [Nm]	12-1200	12-1200	12-1920	16-1920
Max. acceleration torque range [Nm]	24-1840	24-1840	24-2960	32-2960
Emergency stop torque range [Nm]	50-4500	50-4500	50-7200	65-7200
Radial load range [N]	1200-15000	1200-15000	3000-30000	1500-40000
Axial load range [N]	1100-14000	1100-14000	2700-27000	750-20000
Backlash [arc_min]	≤6-11	≤4-9	≤4-9	≤4-9
Torsional rigidity [kgcm ²]	Suitable	Suitable	Suitable	Superior
Efficiency [%]	Superior	Superior	Superior	Superior
Service life [Hours]	20,000	20,000	20,000	20,000
Lubrication				
Grease	■	■	■	■
Oil				

Sold by:



SMART DRIVE SOLUTIONS

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