

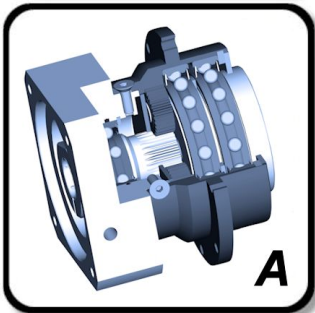


The leader in precision planetary technology.

Neugart offers a wide range of servo gearheads in many sizes, ratios, and configurations. Next to a broad range of standard catalog products, we offer tailor made solutions for demanding applications in automation.

Neugart products excel in quality, reliability, and very high torque density. In most cases you can use a smaller Neugart unit compared with that of virtually all competitors. Gearboxes are highly mature products, to be a leader in the precision planetary gearbox technology, one must have better and smarter solutions than the competition in many, if not all the details. By only doing a few things right, one will not become a leader in this field.

Here are some of the main features making up the “Neugart difference”

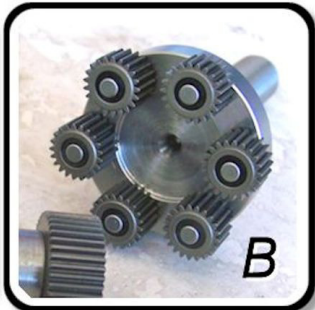


The Neugart Difference

What gives the Neugart gearheads the superior performance?

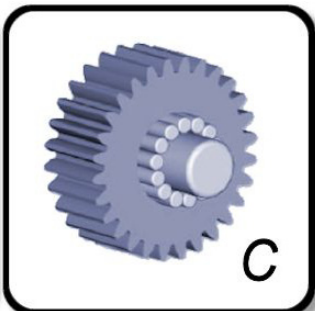
A-Streamlined, simple, integrated design

Neugart design approach is guided by simplicity. It is based on decades of experience with gear and with planetary system design. *“Perfection is not when there is nothing more to add, but nothing left to take away.” (A. de Saint-Exupery)* Strangely enough, one will find quite a few designs on the market which are apparently based on the belief, that more parts and complicated design is a sign of “high tech”.



B-Increased number of planet gears (up to 6 gears)

One of the fundamental advantages of the planetary system is the distribution of the transmitted torque to multiple gear meshes. The safely transmittable torque by a planetary gearbox is roughly proportional with the number of planet gears. Therefore, Neugart’s approach is, to use more than 3 planet gears in the high torque output stage whenever possible. The Neugart design philosophy is minimizing the usage of high ratios such as 8:1 or 10:1 in one stage, because these ratios have very small weak sun gears and also do not allow the usage of more than 3 planets.



C-Full-needle, cage-less planet bearings for increased loadability

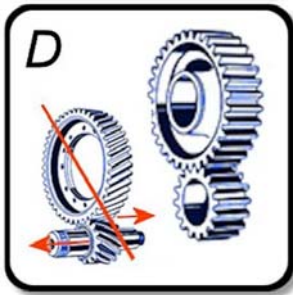
The planet bearings are next to the gears fundamental torque carrying components in the planetary system. The torque / force is transmitted to the planet carrier (generally integrated with the output shaft), through the planet gear needle bearings. More needles in contact means higher transferable torque, higher stiffness and increased L10 life. Many times you will find standard caged needle bearings, with far less load carrying needles, in some cases you might even find units using simple ball bearings.

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D- Gears made with zero helix angle

Balanced internal gear forces are another inherent advantage of planetary systems. The balance is however destroyed if non-zero helix angle gears are used. More serious consequences are “skewed uneven” loading of the planet needle bearing, leading to drastically decreased life, and also in some cases undesirable loads on the servomotor-shaft bearing. The “helical disadvantage” is a poor compromise for a slight noise reduction.



E - All gears are plasma case hardened

Hard gear contact surface is essential for high surface durability, low wear, and consistent backlash. It is hard to believe, but it is a fact, many gearheads on the market un-hardened, or only partially hardened gears, in some cases even gears made of soft stainless steel material.



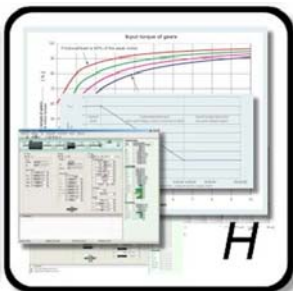
F- All gears are precision honed

After hardening Neugart gears are finished by precision honing. This ensures a superior tooth profile-quality, reduced transmission error, smooth gear contact flanks, negligible “wear-in”; along with increased loadability, smooth running, and consistent backlash.



G- Precise motor shaft clamping system

Concentric, connection of the motor shaft to the input sun-gear with minimized run-out is essential for a smooth run, low vibration and low noise, as well as for a long reliable performance of the planetary gearhead. At the same time a safe transfer of motor torque is imperative. All Neugart gearheads feature a backlash free safe clamping system which also facilitates a very easy mounting. We do not offer cumbersome, primitive “radial setscrew type clamping”, like many other suppliers.



H- Ratings and all technical specs are based on well-defined recognized proven standards

Neugart gears and shafts are design based on the endurance limits, i.e. allowing unlimited load-cycles without fatigue. Bearings are selected and sized based on a conservative L10 life. The rating values are clearly defined and documented in our specifications. Very frequently you will find competitors gearheads with ill-defined ratings, with “made-up” sizing factors. Doing so they can list inflated ratings. We do not participate in this “rating- and guessing- game” of the others.



J- Over 80 years of Neugart; 80 years of experience and know-how

Neugart is dedicated to excellence in precision gearing. Starting with manufacturing clocks and precision parts for the clock- and precision instruments- industry. We transitioned to the industrial field supplying high quality gears for a wide range of application. In the 1960’s we supplied our first series of planetary gearboxes, matching stepper motors, utilized in automated machines, and controlled-motion applications.