

IIMS.35 Pro Max LN

Garden Heroes





Appliances / Lawn Robots

You can rely on them

You can rely on them: Lawn robots reliably mow the grass in your garden, and not just on Saturdays. It takes powerful drive solutions to make things run smoothly. With its modular system and thorough expertise, IMS Gear has been one of the major manufacturers and suppliers of **planetary gears for lawn robots**.

With its modular system, IMS Gear's spectrum ranges from quick quality solutions to customer-specific adaptations and sophisticated special gear configurations. The same applies to our solutions for lawn robots.

- High driving torque
- Good efficiency
- Robustness
- Individual adaptability

„Standard and individuality need not contradict each other:
We from IMS Gear will be happy to prove it!“

Running Smoothly

The environmentally-friendly and independent lawn robots Ambrogio mow lawns of up to 3,200 m², even with gradients of up to 30 degrees. The robot automatically avoids obstacles such as trees and detects the grass height via blade motor. If the grass is short, the control reduces the blade number which results in lower power consumption. By means of an integrated rain sensor it even interrupts its work in rainy weather and automatically returns to its charging station.

The requirements to the gear technology reflect that - **high output torque** to handle the gradients, optimum **efficiency** to save the batteries and **indestructible design** to brave the rough mowing conditions.

From Small to Big

Like many products in the field of appliances and garden devices, lawn robots also feature a **great number of product variations** - the perfect choice for every customer. With our modular system we from IMS Gear can perfectly cater to this in the field of drive technology: We are the perfect partner for all lawn robots, from small and medium-sized to big!

The smaller robot of the series 200 has a 3-stage planetary gear IMS.32 Pro with 4.5 Nm output torque and a gear reduction of $i=169:1$. The first and second stage are equipped with plastic planetary gears, the third stage with metal planetary gears, the sprocket is made of steel. The radial

forces of up to 1,000 N generated at the output had to be considered in the design. The 3-stage planetary gear IMS.42 Pro with 15 Nm has the gear reduction $i=150:1$ and is used in the next bigger series 300. Likewise, the first and second stage were equipped with plastic planetary wheels, the third stage with metal ones. In this model, however, the radial load amounts to just 300 N, the axial load to 110 N.

From Standard to Individual

Due to our extremely wide range of standard components from the modular system we from IMS Gear are capable of catering to individual requirements - **highly efficient and in shortest time-to-market**.

This also applies to the development of planetary gears for lawn robots. Sprockets, planetary carrier, planetary wheels and motor pinion selected from our standard parts.

From Individual to Standard

The **motor flange** and output bearing flange were solutions that had to be **customized**: To connect the different motors with the gears and to be able to reliably absorb the vibrations occurring during the mowing process, special aluminium motor flanges were designed. Due to the complete integration of the mounting interface at the customer's side into the output flange of the gear drive, additional reception and bearing installations at the housing of the lawn robot could be completely omitted. A combination of ball and needle bearing was selected for the bearing as radial peak forces

may occur briefly if a wheel is blocked. The distance between the bearings was adapted to the requirements. By means of this combination, the **high life-time requirements** could reliably be fulfilled.

For the 42 mm gear a special output shaft with hexagonal adapter and inner thread was manufactured. This allows the customers to place and mount the driving wheel directly to the output shaft.

Summary

You see - standard and individual adaptation need not contradict each other. With our manifold drive solutions we from IMS Gear prove this again and again - for example with our planetary gears for lawn robots. Contact us if you too wish to make a cut and get an "individual standard planetary gear" from us!

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