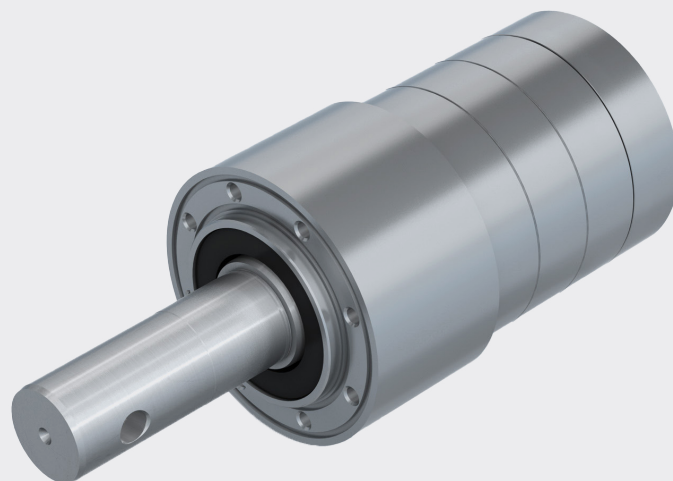
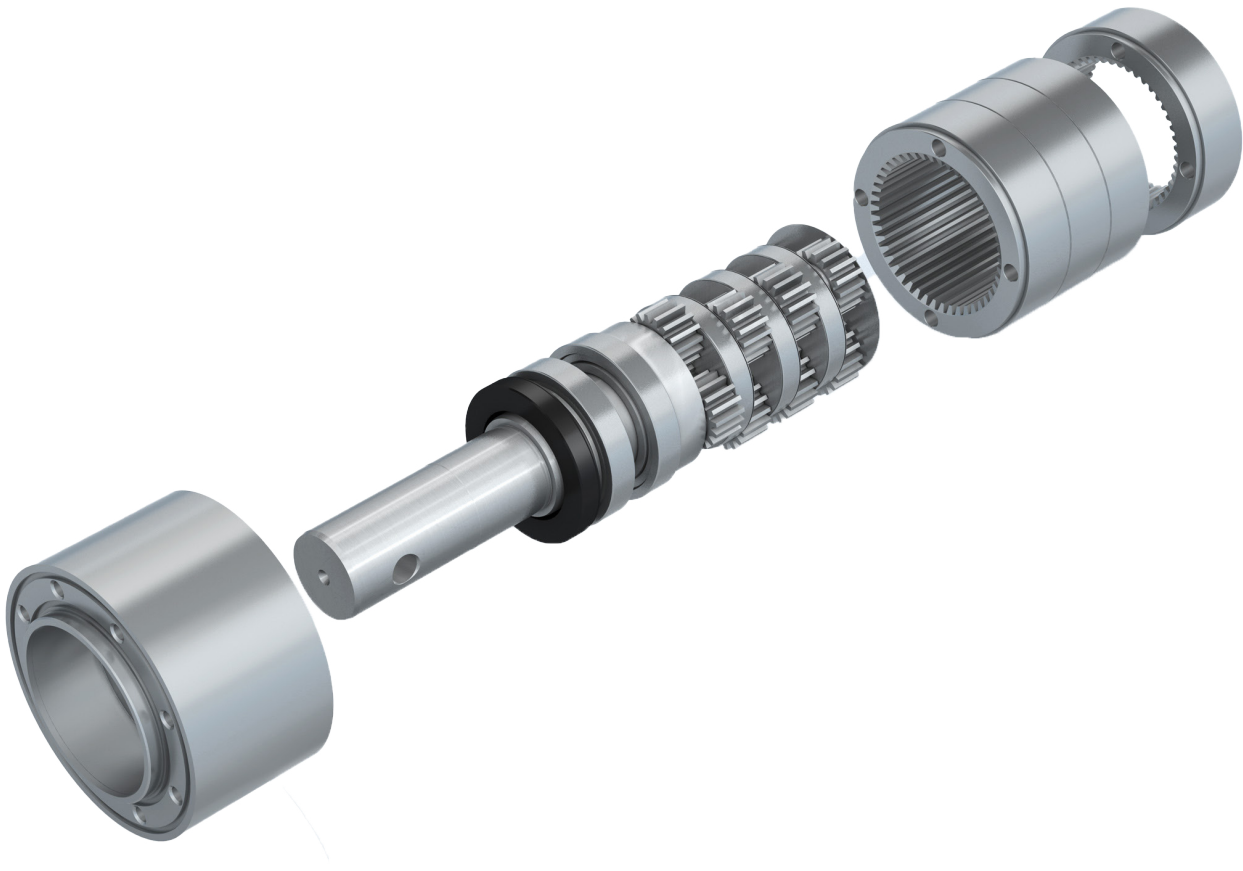


IMS.81 Pro LN

**Not in at the  
deep end**





## Building Engineering / Pool Covers

# Not in at the deep end

What used to be pure luxury some years ago can now be found at more and more places: one's own pool. Relaxing after work or at the weekend, swimming some lengths or splashing around with the children - just wonderful. The corresponding pool covers are not just important in terms of energy efficiency, they are also a major safety factor.

With planetary gears from IMS Gear providing the suitable drive. They are based on: Decades of experience, sound technological know-how and the ability to develop quick and individual solutions from the modular system. Thus, we did not have to jump in at the deep end to launch a powerful gear

drive for pool covers. But still a most refreshing task! Demanding requirements had to be met:

- Tightness
- Surface quality
- Resistance to chlorine
- Installation space & situation
- High output torque
- Long service life

**“The world looks quite different under water. Various factors need to be perfectly synchronized. This is what made our project for pool covers so special. And so successful!”**

Dominik Bea, Sales Engineer with IMS Gear



## Motto: Keep it Tight!

It is not difficult to understand that liquids from outside must be prevented from entering a functioning planetary gear. However, implementing this very tightness in pool covers - which means under water - is technologically anything but simple. “Our approach to achieve submarine tightness”, explains

Dominik Bea, who as a sales engineer largely managed the project, “mainly focused on a special solution for ultimate tightness. We could optimize the design in several tests. The result is a reliable solution that is absolutely waterproof.”

## More Than Just Chic

Naturally, optical factors play a minor role with planetary gears - especially if they are installed in underwater drives. “Even so, the planetary gear for pool covers required a high surface quality around the output shaft”, Bea reports. “Not least because the customer wanted to have further shaft seals installed at the output side.”

A further application-specific challenge to our planetary gears for pool covers: The high chlorine content in pools. “Of course, chlorine is important

for hygiene and cleanliness, but it has an aggressive impact on materials.” Accordingly, the design of the gear shaft was based on chlorine-resistant Nirosta. “Although it is more difficult to machine, it offers the necessary degree of longevity for underwater use.”

## Little Space. Great Power.

As with many applications of planetary gears, the limited installation space available for pool cover drives posed a major engineering challenge. The specific installation situation in a tube permitted a maximum outer diameter of 81 cm, whereas the power required had rather demanded a 105 cm gear. The solution was found with the IMS.81 Pro that was subjected to specific optimizations.

"This is where we could utilize the special strengths of IMS Gear that we possess due to our modular system and our technological know-how",

Dominik Bea rejoices. In the output stage, four instead of three planetary wheels were used to absorb high loads. "The result is a torque of 200 Nm. Normally, "only" 120 Nm are possible. One can definitely say that the planetary gear from the modular system was pretty much tuned up."

## Running. Smoothly.

Smooth running, low noise development and long service life are often two sides of the same coin. To achieve an optimum balance, the planetary wheels were also equipped with a needle-bearing, while an additional rolling bearing minimizes friction losses. "At a later stage, the low noise development will be a major convenience criterion for the customer", Bea knows. "This is why haven't made any compromise here either."

As Bea can report, the process between the project partners was also smooth and pleasant: "In order to realize such a special application fast and efficiently, close coordination is required. In this triangular constellation between motor manufacturer, customer and IMS Gear we had found a downright ideal setup." The successfully launched planetary gear is now applied in pools all over Europe.

## Summary

**Effective pool covers contribute to an efficient thermal insulation and are a major factor for the safety of animals and humans. The respective drives have to meet complex requirements. We from IMS Gear are the perfect partner for this.**

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