

## 22 Series Planetary Gear Line

with state-of-the-art engineering

The great thing about a modular kit is that all its parts are freely combinable and fit perfectly. IMS Gear has now taken its modular system and revised its PK/PM 22 gear series to bring it in line with state-of-the-art engineering. The essential features include a revised gear design with optimized noise behavior, improved efficiency and a new flange design. An all-plastic planetary gear has now also been included in the line-up. The gears have so far been offered in three variants – the modular design with aluminum or plastic gear rim and a short steel variant. In the future, the short steel variant will be supplied on special request only.



Photo 1: all-plastic planetary gear

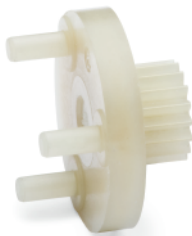


Photo 2: all-plastic planetary gear carrier



Photo 3: old gear rim (left);  
new (right) with radial stiffening



Photo 4: PM 22 exploded view

### New in the modular system: all-plastic planetary gear carriers and flanges

To meet the increasing cost pressure in the market for large volume applications, a totally new low-cost all-plastic planetary gear has been developed, with motor and drive flange, planetary gear carrier and internal ring gear all made of plastic. The new gears are particularly suitable for applications in which high torque values and ambient temperatures are not decisive factors. Another advantage over metal is their low weight. The reductions were maintained for the all-plastic planetary gear carriers, allowing an easy change to the new PM/PK 22 generation without modifying the motors or the connecting dimensions of the total system. The overall length of the gear, the dimensions and the attachment options – both on the drive and the output side – are identical with the tried and tested PK 22 gears. Output flange and gear rim are also made in two parts. The flange can be individually designed, length and form of the drive shaft can be selected in virtually any shape or size.

### New flange design for optimized stiffening

In radially bolted gear units such as the PM/PK 22, radial stiffening of the gear is particularly important to guarantee the true and smooth running of the unit. The flanges on the drive and output side were therefore designed with an additional centering function to provide even better

stiffening of the gear casing or of the gear rims. This enhances and improves the efficiency of the gear and helps to cut power input, power loss and heat development.

### High Performance and a wider range of uses

The latest generation of the 22 series gears covers an even wider range of requirements in high performance and high quality applications. The PM 22 features a steel internal gear rim with a black plastic powder coating – the optimum solution in terms of corrosion resistance, service life and optical appearance.

The revised gear tooth design reduces gear noise and delivers a smoother gear behavior, with IMS Gear relying on individually designed gear tooth profiles. Unlike the profiles under the DIN, ISO & AGMA norms, the optimized shape of the gear teeth reliably prevents tip and root impact effects during engagement. The higher molecular weight of steel also helps to dampen and attenuate noise. Compared with aluminium, the permissible output torques values were increased to as much as 1.0 Nm under continuous torque.

The advanced modular gears in all-plastic, all-plastic-metal or all-metal versions can be easily fitted into any motor and so promote the forward development in building engineering, in the automotive market and in other industries.