

# THE RIGHT PARTS IN THE RIGHT PLACE

Modular drive technology from a modular system

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to date

# MODULAR DRIVE TECHNOLOGY FROM A MODULAR SYSTEM

**LIA is a description of the flange design**

The aim of a modular system is to make it possible to combine all components with each other in such a way as to create the largest possible number of optimized solutions. We're all familiar with those colorful little building blocks that can be put together to create houses, cars, airplanes or anything else imaginable. Again and again, the parts take on a new purpose to fit the user's creativity.

Gearmotors are widely used as drives in almost all areas of industrial production, manufacturing and transport. In many applications, these compact units combining a gear unit and electric motor are the perfect option for drive engineering tasks. The possibilities are virtually limitless, with uses ranging from simple conveyor belts and packaging machines to fairground rides.

Due to the range of applications, it makes little sense to manufacture gearmotors as custom-made single parts. In the vast majority of cases, this would be far too expensive and would also often involve long delivery times. This is why we have adopted a modular concept, so that the separate components such as the motor and gear unit can be selected and combined to create a gearmotor that suits the customer's needs.

## Modular system

The modular principle to gearmotors means motors, gear units and other components such as adapters and input shaft assemblies of different types and sizes can all be combined with each other.

We call the flange connection we have designed for this the LIA interface. "LIA" is a description of the flange design – "Lochkreis im Achskreuz" (hole circle in axis cross).

Thanks to the LIA interface, different sizes of motor and gear unit can be combined with each other across different diameters. This interface was recently also introduced with the new diameter 105 mm for the smallest helical gear units – the R.07, with an  $M_{amax}$  of up to 50 Nm, and the R.17, with an  $M_{amax}$  of up to 85 Nm. This means that the full range of the modular system is now open to even the smallest helical gear units with the new LIA 105.

**+ The perfect option for drive engineering tasks**

## MOTOR DESIGNS

IE1 AC asynchronous motor of type DR2S..

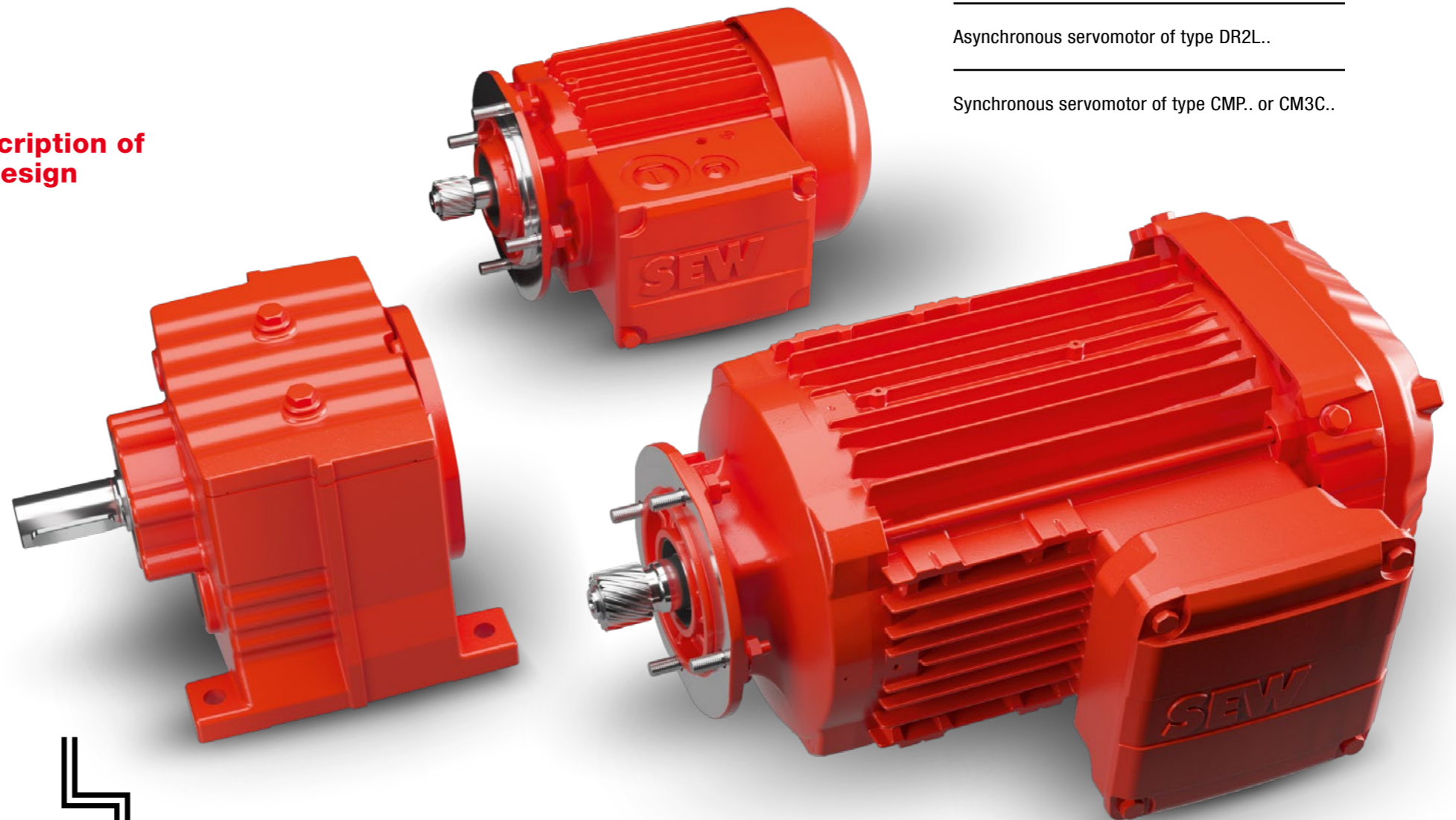
IE3 AC asynchronous motor of type DRN..

Explosion-protected AC asynchronous motor of type EDRN..

Torque motor of type DR2M..

Asynchronous servomotor of type DR2L..

Synchronous servomotor of type CMP.. or CM3C..



**+ Can be sensibly combined with four to six different motor sizes**



**+ Can also be combined with various adapters using the LIA interface**

These combinations are “classic” gearmotors for direct mounting. This has the advantage of a short length, low weight and optimal coordination of the motor shaft, flange and bearing in terms of the expected load.

There are also requirements where an adapter needs to be installed between the gear unit and motor so that the motor can be unscrewed for servicing purposes without opening the gear unit, for example. In these applications, the modular system ensures that the gear units can also be combined with various adapters using the LIA interface.

In theory, gearmotors can be assembled from all available motors and gear units. In practice however, we try to use the performance of the gearmotor to optimum effect. This means the range of combinations is slightly restricted.

**For example**

- Combining an excessively large motor with a small gear unit overloads the gear unit.
- Combining an excessively small motor with a large gear unit does not utilize the full capability of the gear unit.

Gear units in any one size can be sensibly combined with four to six different motor sizes. For example four motor sizes with up to eight power ratings in the 0.09 kW to 1.1 kW range are suitable for mounting on the R.07 and R.17 gear units.

**+ Full range of the modular system**

**ADAPTERS**

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Adapters of the **type AMS.. (IEC)** for mounting asynchronous motors standardized to IEC.

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Adapters of the **type AMS.. (NEMA)** for mounting asynchronous motors standardized to NEMA.

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Adapters of the **type AQSA..** for mounting market-standard synchronous servomotors with a motor shaft with key.

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Adapters of **type AQSH..** for mounting market-standard synchronous servomotors with a smooth motor shaft.



**+ Has the advantage of a short length, low weight and optimal coordination of the motor shaft, flange and bearing in terms of the expected load**

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