Does not fit – does not exist!

More flexibility through gearbox with engine input clutch

A costly storage and annoying screws in the connection of engine and transmission belong to the past. The clutch transmissions not only offer many practical advantages but also contribute to cost optimization.
So far, the connection of the individual components of a geared motor consuming and requires the use of tools. The gearbox is attached to the flange of a motor using screws and screwdrivers. Making this connection takes some time and can only be realized if the corresponding material is available. Depending on the size of the gearbox not only the size of the screws and the tool varies but also the size of the motor. Only a few motors of different sizes can be attached to a specific gearbox size. The biggest disadvantage of this common mounting method is the stocking of the different required sizes in stock. In the end, one has to decide between increased costs for warehousing or less flexibility in custom conversion.
In order to solve these everyday problems, the Italian transmission manufacturer came up with the idea of adding a corresponding product to the portfolio. The aim was to be able to react even better and more easily to customer-specific requirements without having to bear even higher costs.
The result of the months of development and test phase was an engine input clutch suitable for the most common transmission types in the product portfolio.
With the aid of the motor input clutch, motors of different sizes can be attached to a gearbox. Through the use of this coupling can be generated from a gearbox in the warehouse up to four different customer gearbox. In addition, the user can decide which motor make he wants to grow. This results in an enormously high degree of flexibility through which various customer requirements can be considered and implemented.
There are only five different basic sizes of the couplings. These basic quantities, KA - KE, are subdivided into clutches with different motor shaft diameters. Starting with a motor shaft diameter of 9 mm for the smallest gearbox 030 up to a diameter of 28 mm for the largest possible gearbox to which a clutch can be attached. The use of the engine input clutches is currently carried out for transmissions in the power range 10 - 1000 Nm output torque. In a few months, the couplings should also be available for gearboxes with higher performance.

A coupling can be used for all gear types from the delivery program. These include worm gear units, helical gear units, slip-on or flat gear units, bevel-helical gear units and parallel shaft gear units. As a result, many different customer variants can be set up in stock with just a few different couplings. The storage can be minimized and the ability to deliver secured. The gearboxes with engine input clutch are also available in stainless steel. There is a coupling version for both worm and spur gears and bevel-helical gear units, which are completely made of stainless steel. All engine input couplings are ATEX approved. This means that they are certified for use in explosion-proof drives. In addition, the couplings are available in different materials. They are made both in a GRP polymer and in Zamak. The engine input clutches for the INOX transmissions are also available in GRP or Zamak. The fact that the couplings can be mounted or attached directly to the gearbox without the use of tools represents a considerable advantage over the previous method of attachment. This makes it easier for both the supplier and the customer to handle their own assembly work. By using gearboxes with motor input clutch, fretting corrosion is avoided as a precaution and dismantling problems are reduced. The dismantling of a motor was previously very difficult after a running time of about one to two years due to the resulting fretting corrosion. The result was mostly damaged attachments. In the future, the engine input clutches should also be available as a clamping hub version. This extension of the product portfolio also allows the use of motors without keys, such as servomotors and brushless DC motors. Prototypes of

this clamping hub version are already in use in pilot projects in the areas of shipbuilding and in various door drives. The development phase for this version took almost a year. Since an increase in costs for the customer should be avoided, the goal of the development was to achieve a cost neutrality compared to the already existing engine adaptation. A decisive advantage of this clamping hub version is its use in applications with alternating loads. With the clamping hub version, further motor shaft diameters, also outside the IEC standard series, will be available in the future.

By using gearboxes with engine input coupling, shaft seals of reduced diameter can be used. Because of this, the development of heat and friction is reduced. This contributes both to improving the energy efficiency and to extending the life of the installed seals at the transmission input. The clutch gearboxes are currently applicable to motors with a power of 0.06kW to 5.5kW. The use of gearboxes with motor input couplings is particularly suitable in the areas of servo and DC technology. However, the large variety of products makes it possible to use these gearboxes in almost every industrial sector.