

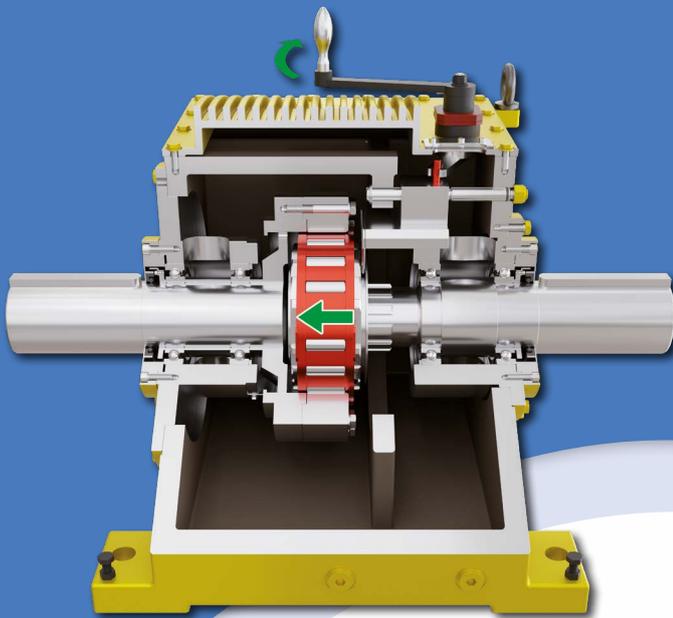
Greater availability thanks to lockout tagout

Worldwide, the Housing Freewheels of the FH series from RINGSPANN are regarded as a premium solution for the realization of overrunning functions in powertrains with several motors or turbines. In power plants, refineries as well as conveyor and process engineering plants, they ensure their availability in the event of a failure of the energy supply or a drive and allow energy-efficient partial load operation. In order to further reduce the maintenance costs of the plant operators, the company has now supplemented the series with the FHD type. The special feature: it has a lockout tagout security function according to the international OSHA guidelines.

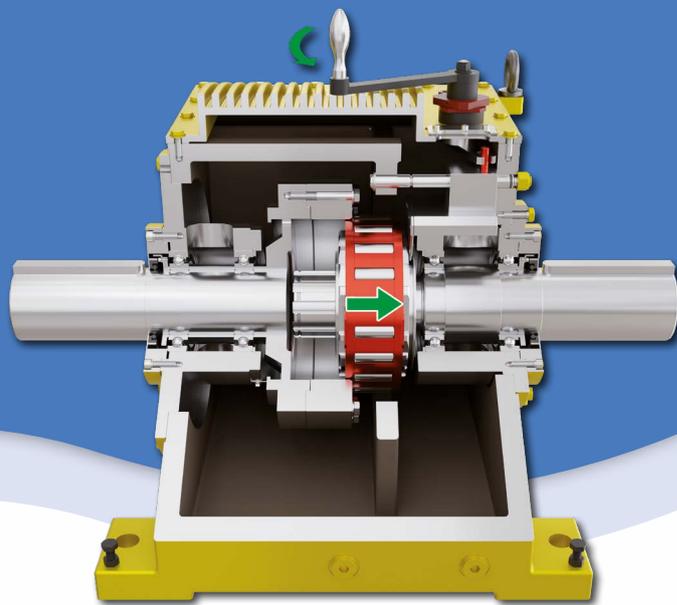
Many plant manufacturers and designers have been waiting for this: A Housing Freewheel for high-torque applications and wear-free continuous operation with a maintenance-friendly lockout tagout function (LOTO) that meets the safety requirements of the US *Occupational Safety and Health Administration* (OSHA). Manufacturer RINGSPANN – the world leader in the field of freewheel technology – now offers such a Housing Freewheel under the type designation FHD. The fully encapsulated unit transmits nominal torques of up to 24,405 Nm and is designed for use in the multi-motor and multi-turbine drive systems of large generators, pumps, blowers, fans and uninterruptible power supplies. It therefore offers considerable added value in particular to plant manufacturers in power plant and refinery technology as well as petrol, process and conveyor technology. Its na-

tive, manually operated and OSHA-compliant LOTO function simplifies maintenance, repair and overhaul work on powertrains, improves occupational safety for the employees entrusted with it and increases the availability of the system. In multi-motor systems, the mechanical disengaging function enables the fast, safe and torque-free disengagement of rotating shafts from the drive train. Individual power units can thus be replaced during operation.





Freewheel engaged (ready for use)

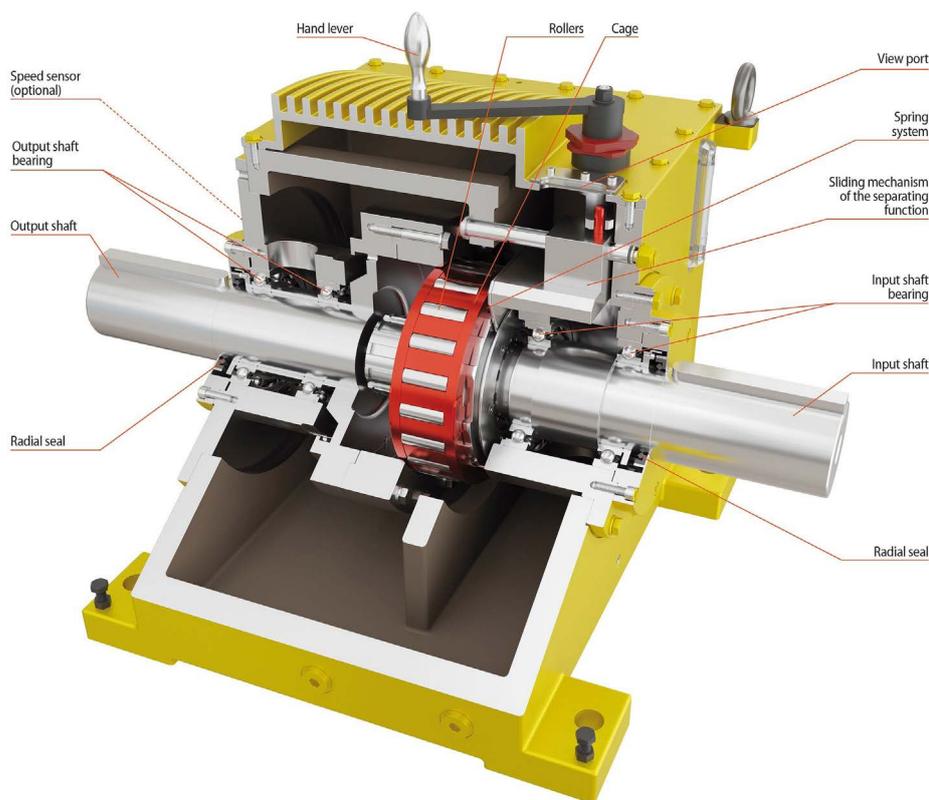


Freewheel mechanically separated

Gently and safely disengaged

Externally, the new Housing Freewheel from RINGSPANN is recognizable by a hand lever on its top. If this is cranked counterclockwise, the inner ring of the freewheel with the clamping rollers slides out of the engagement of its outer ring in the FHD – which interrupts the drive train. This separation process can be carried out with rotating shafts and disengages the drive and output gently and reliably. The operator can visually control this through a small viewing window.

After completion of the maintenance or repair work, the input and output trains are reunited and coupled by resetting the hand lever. From the outside, the position of the lever can also be secured with a padlock. As envisaged by OSHA, the lockout tagout system of the new FHD from RINGSPANN thus enables the isolation, locking and marking of those energy sources that could pose a safety risk to persons. Thanks to the disengaging function, central drive components can be maintained or replaced without having to interrupt production.



High efficiency at high speeds

Like all representatives of the FH series, the new OSHA-compliant Housing Freewheel from RINGSPANN also works with hydrodynamic, wear-free clamping roller lift-off (see info box). As a speed-dependent overload clutch, it is the drive technology alternative to expensive and technically complex shift clutches. In its external dimensions, it corresponds to the FH sister models and in practice proves to be a low-noise endurance rotor with very high efficiency. The six available sizes transmit nominal torques from 1,356 to 24,405 Nm, whereby the input and output shafts may run at speeds of up to 5,600 min⁻¹.

Due to their hydrodynamic clamping roller removal, FH Housing Freewheels from RINGSPANN are regarded as a high-performance overrunning freewheel solution for stationary applications in which a unit – for example a fan or a pump – is optionally operated by several motors or turbines at the same or similar speed. In the event of a drive failure, they enable the system to continue running smoothly. In addition, they allow a drive to be easily switched to economical part-load operation – which benefits the system's energy balance.

By the way: if required, Housing Freewheels in the FH series can also be equipped with a heater as well as the sensor and telematics modules of the innovative condition monitoring system from RINGSPANN. The monitoring system includes data analysis, remote maintenance and integration into higher-level control systems. This allows operators and maintainers of complex multi-motor systems in particular to monitor all important power and MRO parameters of the installed freewheels around the clock in real time. <<



RINGSPANN GmbH, Bad Homburg 12.04.2022

Mechanical automatic shifting

Housing Freewheels are usually used as automatically operating overrunning couplings in multi-motor drives. They are regarded as an alternative to complex shifting devices. A technical highlight of the Housing Freewheels of the FH series from RINGSPANN is the hydrodynamic clamping roller lifting. Here, the lifting force of the clamping rollers is generated by an oil film, which is applied to the track of the outer ring with centrifugal force in idle mode. This enables virtually wear-free idling operation. RINGSPANN supplies more than 6,000 customers worldwide with freewheels for the realization of backstops, overrunning and indexing functions in industrial drive technology.

Industry 4.0 solution for Housing Freewheels

The Housing Freewheels of the FH series from RINGSPANN act as overrunning freewheels in pumps, generators, conveyor belts, fans and uninterruptible power supplies. Depending on the complexity of the drive systems, several FHs can be installed in difficult to access places. RINGSPANN has developed a condition monitoring system for its FH Housing Freewheels to ensure that plant operators and service teams are always aware of what is happening inside the freewheels as part of predictive maintenance. In addition to modern sensor and diagnostic modules, telematics tools are also used in this predictive maintenance solution at Industry 4.0 level. Thus, users have a complete solution that offers them a full overview of the functional-kinematic status of each Housing Freewheel integrated into the CMS system.