

ABOUT US

> **H**enfel develops and manufactures mechanical products for power transmission, such as flexible couplings, constant and variable speed hydrodynamic couplings, besides a complete line of bearing housings. The company serves the strictest industrial segments, such as mining, steel, cement, sugar and ethanol, pulp and paper, oil and gas, among others.

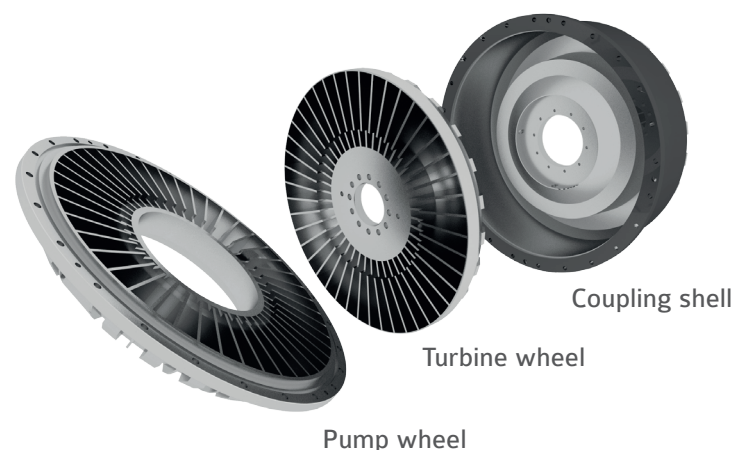
The company is a division of RINGFEDER Power Transmission division, which with its premium brands RINGFEDER and GERWAH, is one of the world leaders when it comes to locking assemblies, shrink discs, friction springs and industrial couplings and their applications.

The synergies that result of this alliance adds many competences to the group and it is an important step towards serving customers with a complete range of solutions for power transmission drive systems and braking systems.

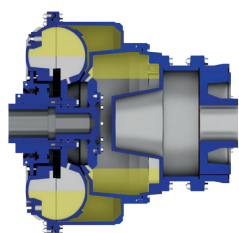
HENFLUID^{NG}

PRINCIPLES OF OPERATION

Hydrodynamic Couplings are applied connecting the prime mover (in most cases an electric motor) and the driven machine. They transmit power by means of the kinetic energy from the fluid circulating inside the operating chamber, which is between the pump wheel, connected to the input shaft, and the turbine wheel, connected to the output shaft. The operating fluid flow provides torque transmission with no mechanical contact whatsoever and free of torsional vibrations resulted from power input and output.

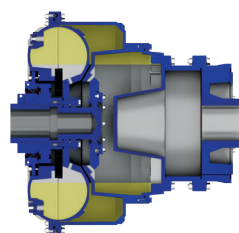


IDLE POSITION



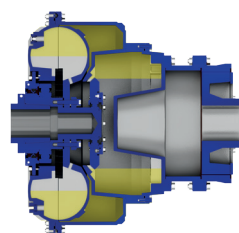
The operating fluid remains static inside the coupling.

START UP



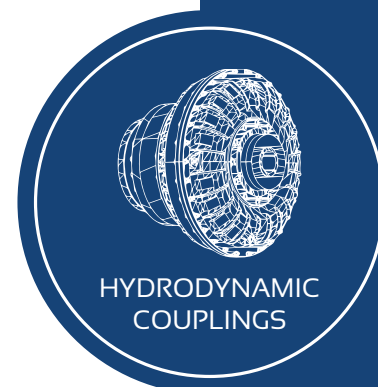
The driving machine provides the energy to accelerate the operating fluid in order to generate a round-about current. Due to the transmission of the kinetic energy by the fluid, the internal wheel (turbine wheel) is put in motion

NORMAL OPERATION



During normal operation only the torque required by the driven machine is transmitted by the coupling, which is designed to absorb possible overloads without passing these on to the drive.

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HENFLUID NG: MAIN ADVANTAGES

- Greater efficiency and agility in assembling / disassembling operations, with no need for special tools / devices;
- Available models are interchangeable with most of the couplings available in the market (with elastic coupling and with metal disc couplings). There is no need to modify the drive base;
- Optimization of the seal system and therefore, less risk of leakage;
- Same features and torque transmission characteristics of a tradition type of fluid coupling, with many advantages.

Partner for Performance



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HENFEL

hydrodynamic

COUPLINGS



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Hydrodynamic Couplings are generally applied in extremely aggressive and contaminated environments, exposed to the weather, with variations in temperature, pressure, vibration, shock etc.

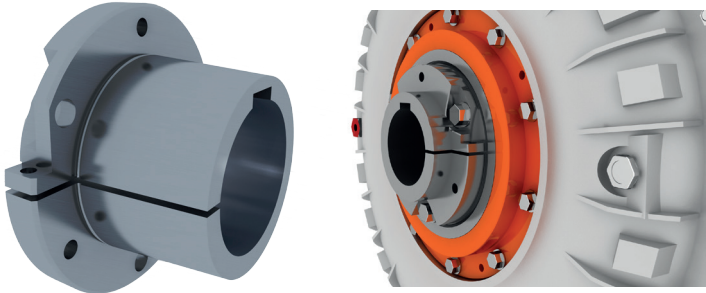
Noting the work of users and maintenance technicians in assembling and disassembling of couplings, the research and development department designed a new generation of fluid couplings, the Henfluid NG.

Improvements in this new project objectify the reduction of maintenance shutdown time, reducing the cost of this operation.

INNOVATION,
PRACTICALITY AND
EFFICIENCY WHICH
RESULTS IN GREATER
FLEXIBILITY TO YOUR
MAINTENANCE PROCESS.

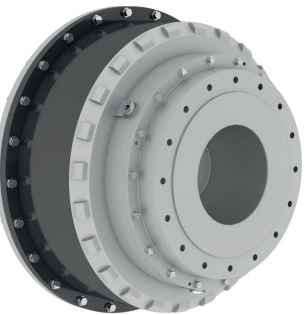
NEW FASTENING SYSTEM

- Fixing by the frontal part through a taper bushing system.
- The taper bushing is mounted on the shaft of the equipment and the coupling is fixed by it, as in a bearing assembly. This operation does not require special tools.
- The taper bushing offers the possibility of mechanical or hydraulic removal.



OPTIMIZATION OF THE SEAL SYSTEM.

- With the elimination of the fixing bolt, the coupling is closed on the rear part.



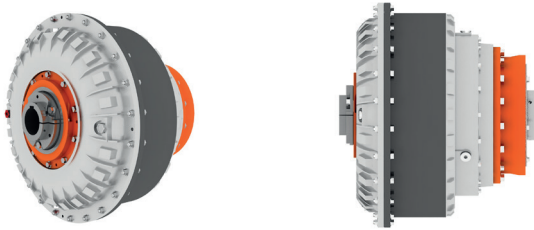
MODELS

Nowadays, there are two dominant configurations in the market. The HLE model is used for in line assemblies, and has a connecting element type LE, composed of flange, hub and perbunan elastic elements. The HFF model is equipped with metal disc couplings which allow radial assembling and disassembling with no need to displace other drive components.

CONSTRUCTIVE FORMS

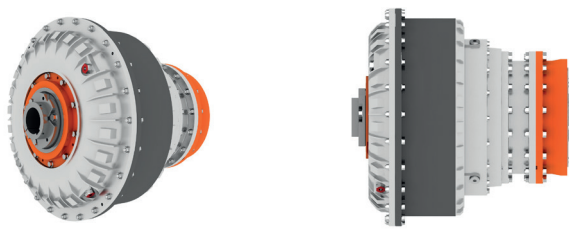
HNG

This model meets the requirements of the HLE couplings since it has the same length. Therefore, it's not necessary to adjust the base and the gap of the drive system. It has a connecting element type LE which absorbs misalignments and vibrations.

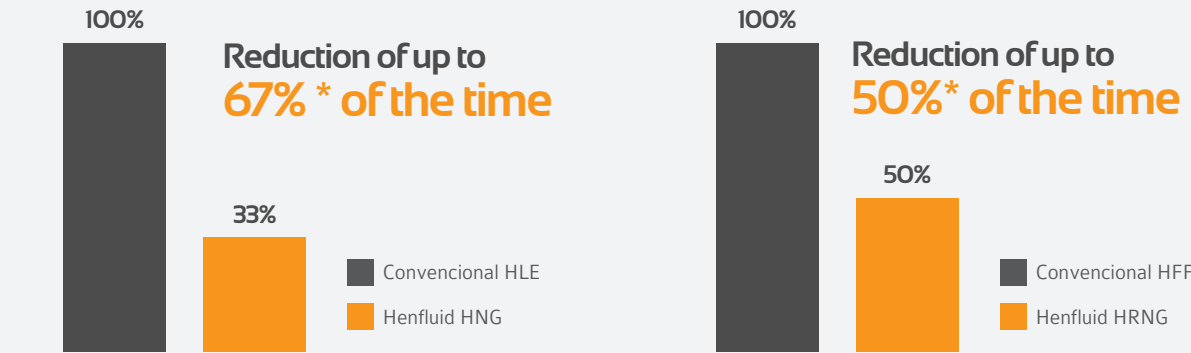


HRNG

This model meets the requirements of the HFF couplings since it can be disassembled radially. However it is more compact. In case of substitution of HFF models, it can be manufactured with the same total length, eliminating the need to adjust the base and the gap of the drive system. It has an elastic connecting element which absorbs misalignments and vibrations, which is a great advantage over the HFF system with metal disc couplings.



OPTIMIZATION OF THE ASSEMBLING AND DISASSEMBLING PROCESSES:



* Values subject to variation due to application characteristics.

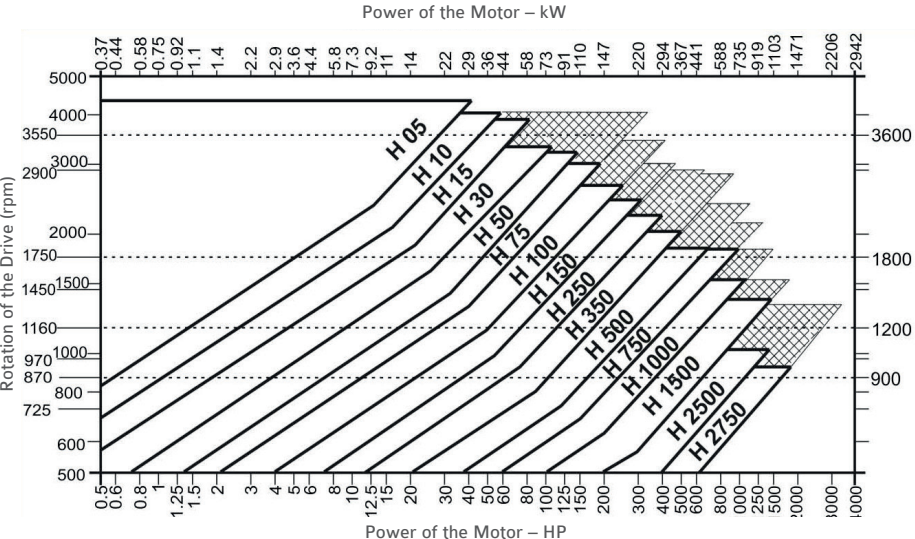
SELECTION GRAPH

This graph below should be used for a preliminary selection of the Henfluid hydrodynamic coupling size. To confirm the size and most suitable model for the drive, and for elaboration of technical and commercial proposals, Henfel's application engineering department should be contacted.

Operating fluid Mineral oil
Density 0.84 Kg/dm³
Fuse plug 140°C / 160°C / 180°C
Moving parts Aluminum (Silumin)

Heat treatment
for moving parts
required.

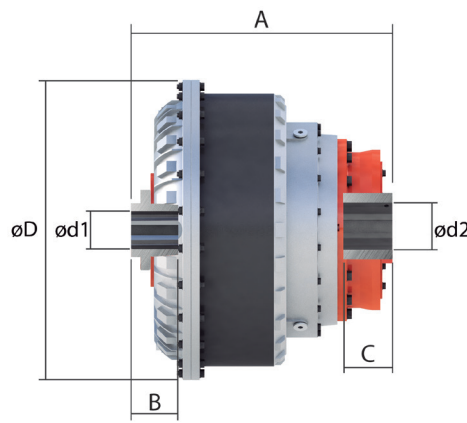
In order to dimension Water Couplings,
add 10% to the drive potence.



BENEFITS THAT MAKE ALL THE DIFFERENCE

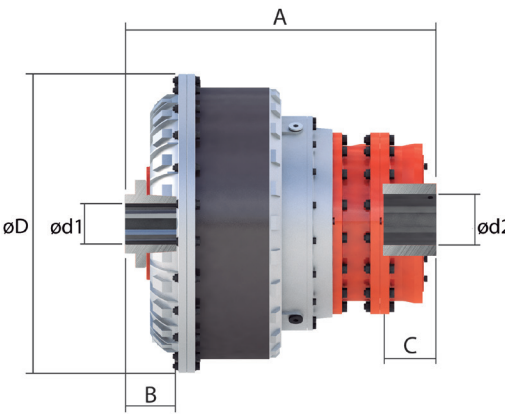
- Greater efficiency and flexibility in assembly and disassembly.
- Optimization of the seal system.
- Special tools or devices are not required
- Since they are more compact, they reduce the cost of new projects (reduction of the base size)
- They can be manufactured with the same total length of the most common models found in the market (with elastic connecting element, with metal disc couplings) requiring no adjustments on the drive base.

DIMENSIONAL TABLE HNG



SIZE	CHAMBER	A	B	C	ØD	Ød1 (max)	Ød2 (max)
75	S/C	277	105	77	400	55	65
	R	307					
	RR	332					
	RRA	332					
100	S/C	307	122	99	460	65	80
	R	359					
	RR	384					
	RRA	384					
150	S/C	334	122	99	528	65	80
	R	359					
	RR	402					
	RRA	402					
250	S/C	371	140	115	574	80	80
	R	403					
	RR	488					
	RRA	488					
350	S/C	449	140	141	634	80	100
	R	449					
	RR	529					
	RRA	529					
500	S/C	514	162	182,5	719	100	120
	R	536					
	RR	631					
	RRA	631					
750	S/C	514	162	182,5	790	100	100
	R	564					
	RR	666					
	RRA	666					
1000	S/C	603	184	182,5	910	110	140
	R	603					
	RR	766					
	RRA	766					
1500	S/C	682	202	243	1040	110	160
	R	682					
	RR	830					
	RRA	830					
2500	S/C	757	215	249,5	1170	140	180
	R	757					
	RR	896					
	RRA	896					
2750	S/C	880	248	251,5	1295	140	180
	R	880					
	RR	987					
	RRA	987					

DIMENSIONAL TABLE HRNG



SIZE	CHAMBER	A	B	C	ØD	Ød1 (max)	Ød2 (max)
75	S/C	367	105	77	400	55	65
	R	397					
	RR	422					
	RRA	422					
100	S/C	412	122	96	460	65	80
	R	464					
	RR	489					
	RRA	489					
150	S/C	439	122	96	528	65	80
	R	464					
	RR	507					
	RRA	507					
250	S/C	506	140	100	574	80	80
	R	538					
	RR	623					
	RRA	623					
350	S/C	584	140	111	634	80	100
	R	584					
	RR	664					
	RRA	664					
500	S/C	669	162	144,5	719	100	120
	R	691					
	RR	786					
	RRA	786					
750	S/C	669	162	144,5	790	100	120
	R	719					
	RR	821					
	RRA	821					
1000	S/C	793	184	154,5	910	110	140
	R	793					
	RR	956					
	RRA	956					
1500	S/C	892	202	180	1040	110	160
	R	892					
	RR	1040					
	RRA	1040					
2500	S/C	972	215	199,5	1170	140	180
	R	972					
	RR	1111					
	RRA	1111					
2750	S/C	1130	248	199,5	1295	140	180
	R	1130					
	RR	1237					
	RRA	1237					