

## MGH Magnetic Couplings

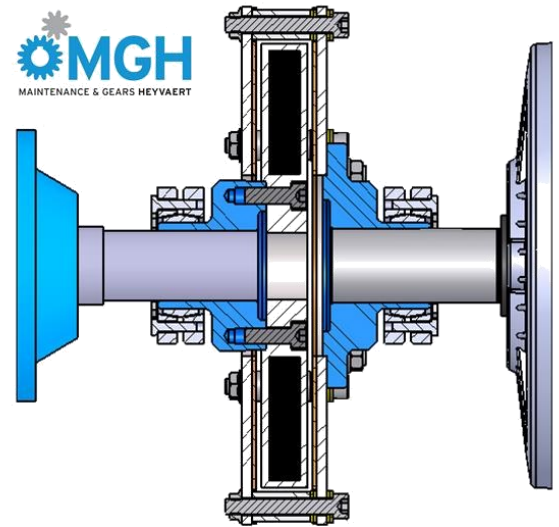
Revolutionary technology to transfer torque through an airgap

### Working principle:

- **Permanent** magnets and copper plates
- Principle of changing magnetic flux, resulting in force
  - Law of Lenz
  - Law of Newton
- The air gap is essential!

**Bigger air gap = higher slip = lower torque = lower speed**

**Smaller air gap = lower slip = bigger torque = bigger speed**



### General properties

- Maintenance free
  - Tolerates big misalignments
  - Soft start
  - Overload protection
  - Dampens vibrations
  - Lower TCO
- 1) The hubs of our magnetic couplings are customised, allowing the installation to keep its current DBSE.
  - 2) The selected coupling's diameter will **ALWAYS** be smaller than the height of your motor

### 1. Vortex (VTX) coupling

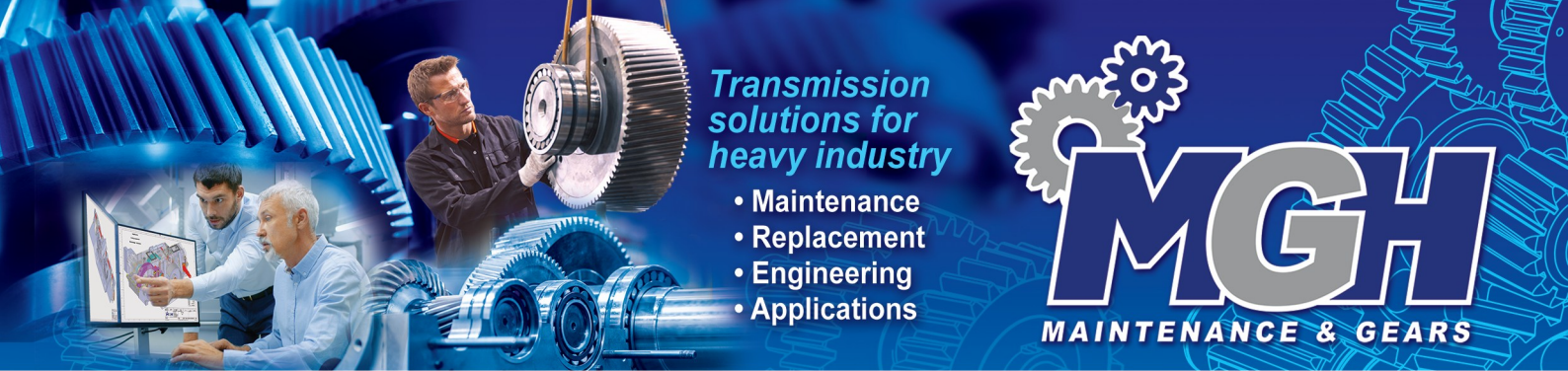
- Most **budget-friendly** magnetic coupling
- Delivered from stock
- Used for smaller size applications



MGH is the official distributor of MagnaDrive magnetic couplings in the EU

Servicecenter Brussels: Rittwegerlaan 2B - B-1830 Machelen - Servicecenter Antwerp: Luithagen Haven 2K - B 2030 Antwerpen  
 Tel 24/24: +32 (0)2/7530040 E-mail: [info@MGH.be](mailto:info@MGH.be) URL: [www.MGH.be](http://www.MGH.be)





## 2. Fixed Gap Coupling (FGC)

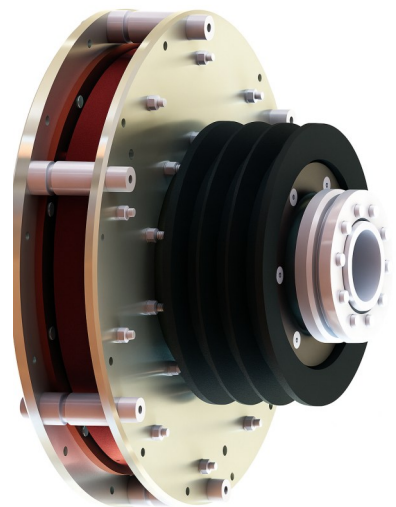
- **High-end** solution for bigger size applications
- **ATEX** certified
- **Temperature sensor** to prevent thermal damage
- **Adjustable airgap**, done in MGH workshop **BEFORE** operation
- **Great energy savings** thanks to affinity laws
- Options available: heat exchangers

$$(Power_1/Power_2) = (Flow_1/Flow_2)^3$$



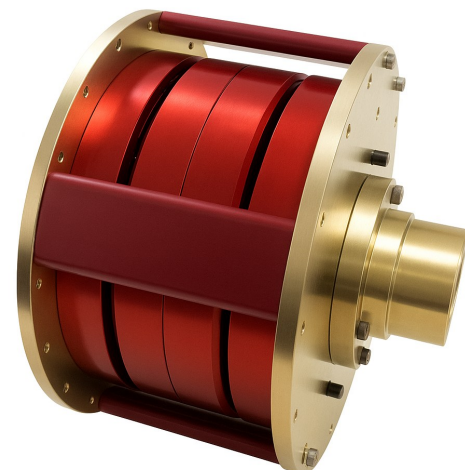
## 3. B-Max coupling

- Specially designed for **belt driven equipment**
- **High-end** solution
- **Temperature sensor** to prevent thermal damage
- **Adjustable airgap**, done in MGH workshop **BEFORE** operation
- **Great energy savings** thank to affinity laws



## 4. Synchra coupling

- Uses **2 sets of permanent magnets**
- **NO slip**, synchronous coupling
- **NO heat generated**
- **ATEX** certified

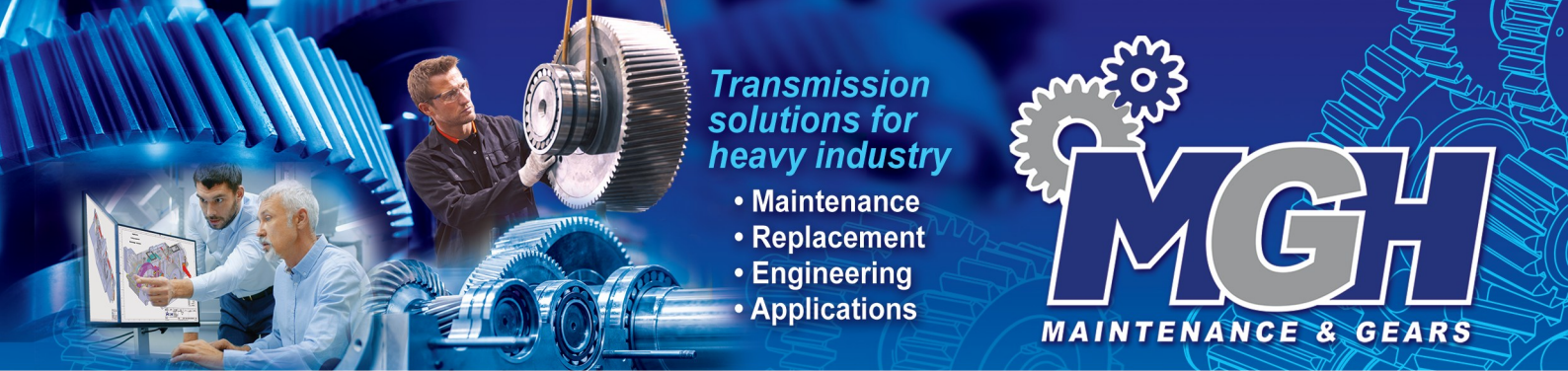


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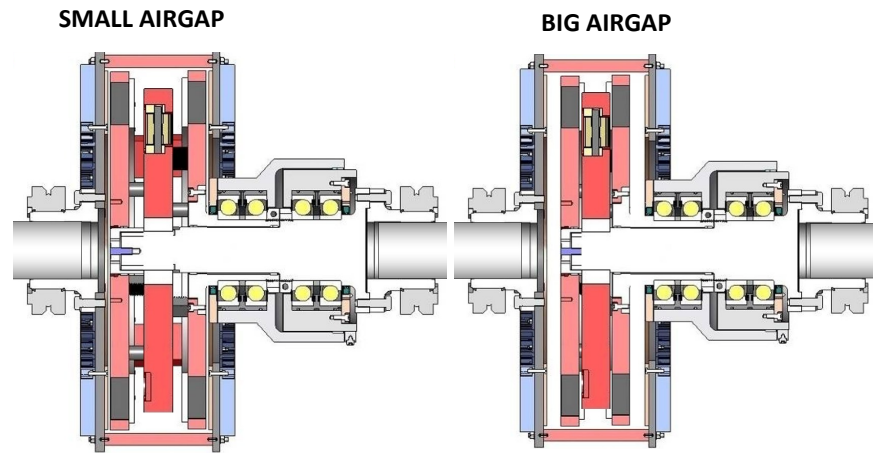


## 5. Adjustable Speed Drive (ASD)

- (Mostly) maintenance free
- Adjustable airgap

By using actuator **DURING** operation

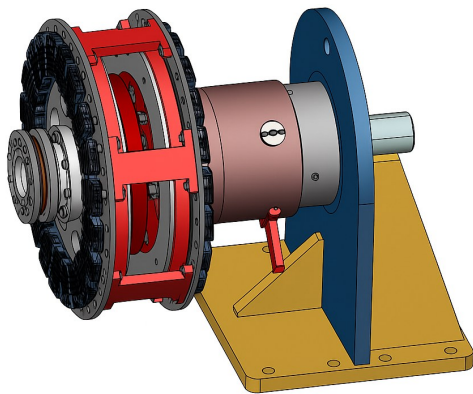
- Highly suited for compressors / fans / pumps / ...
- **High end** solution, **ATEX** certified
- **FANTASTIC ENERGY SAVINGS!!!**



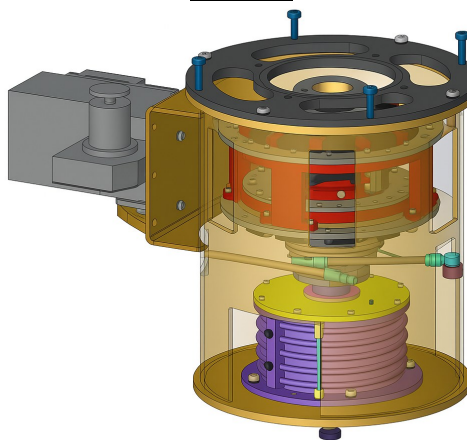
$$(Power_1/Power_2) = (Flow_1/Flow_2)^3$$

There are 3 variants of the ASD:

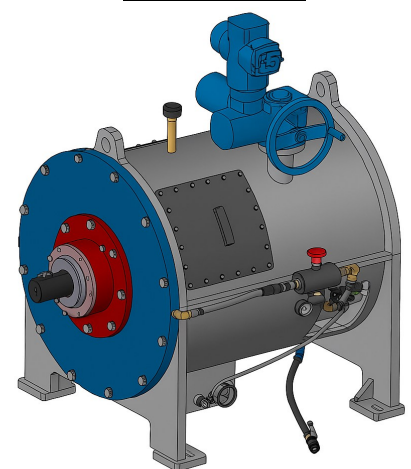
### Rigid Pedestal Mount



### Vertical



### Water-cooled



## Advantages compared to “classical solutions”

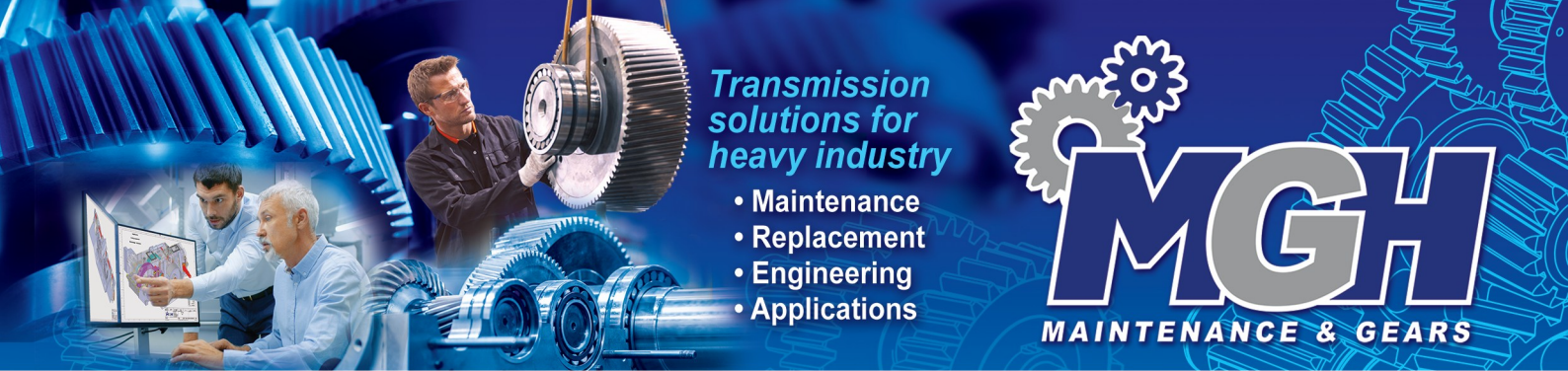
<u>Compared to fluid couplings:</u>	<u>Compared to frequency drives (VFD)</u>	<u>Compared to inlet guide vanes (IGV)</u>
<ul style="list-style-type: none"> <li>• <b>NO</b> maintenance needed</li> <li>• <b>NO</b> leaks / burning hot oil spilling</li> <li>• <b>NO</b> expensive stock spare parts</li> <li>• <b>NO</b> complex installation procedure</li> <li>• Food industry approved</li> </ul>	<ul style="list-style-type: none"> <li>• <b>NO</b> expensive and complex electrical equipment needed</li> <li>• Longer lifespan</li> <li>• VFD and coupling in 1</li> <li>• Motor can operate on nominal settings (= more efficient)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>NO</b> complex mechanical set-up</li> <li>• <b>NO</b> mechanical spare parts</li> <li>• Longer lifespan</li> <li>• Motor can operate on nominal settings (= more efficient)</li> </ul>

1) The hubs are customised, allowing the installation to keep its current DBSE.

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Transmission  
solutions for  
heavy industry

- Maintenance
- Replacement
- Engineering
- Applications

**MGH**  
MAINTENANCE & GEARS

Motor	VTX				FGC				ASD						
									Air-Cooled, ped + vert				Water-Cooled		
RPM kW	3000	1500	1000	750	3000	1500	1000	750	3000	1500	1000	750	1500	1000	750
0,75	1	1	1	1											
1,5	1	1	2	2											
2,5	1	1	2	2											
4,0	1	2	2	2											
5,5	2	2	2	3											
7,5	2	2	3	3											
11,0	2	3	3	3			4	4				9			
15,0	2	3	3	3			4	5			9	9			
18,5	2	3	3			4	4	5			9	9			
22	3	3				4	5	5		9	9				
30	3	3				5	5	6		9					
37	3				4	5	6			9		10			
45	3				4	5	6		9		10	10			
55	3				4	6		7	9		10				
75					5		7		9	10					
90					6					10					
110					6	7						11			12
132															12
160								8	10		11			12	12
200					7			8						12	12
250					7		8	8		11			12	12	12
315						8	8						12	12	13
355						8							12	12	13
400						8							12	12	13
500													12	13	13
560													12	13	13
630					8								12	13	13
710					8								13	13	13
800					8								13	13	
900					8								13	13	
1000													13	13	
1500													13		
2000															
2500															



Not possible



Possible

1 = €2k

4 = €7k

7 = €16k

9 = €48k

12 = €240k

2 = €4k

5 = €11k

8 = €55k

10 = €55k

13 = €330k

3 = €5k

6 = €13k

11 = €95k

DISCLAIMER: Every case is unique, MGH will be happy to check and validate your selection. These prices are indicative for 2025 and may change

