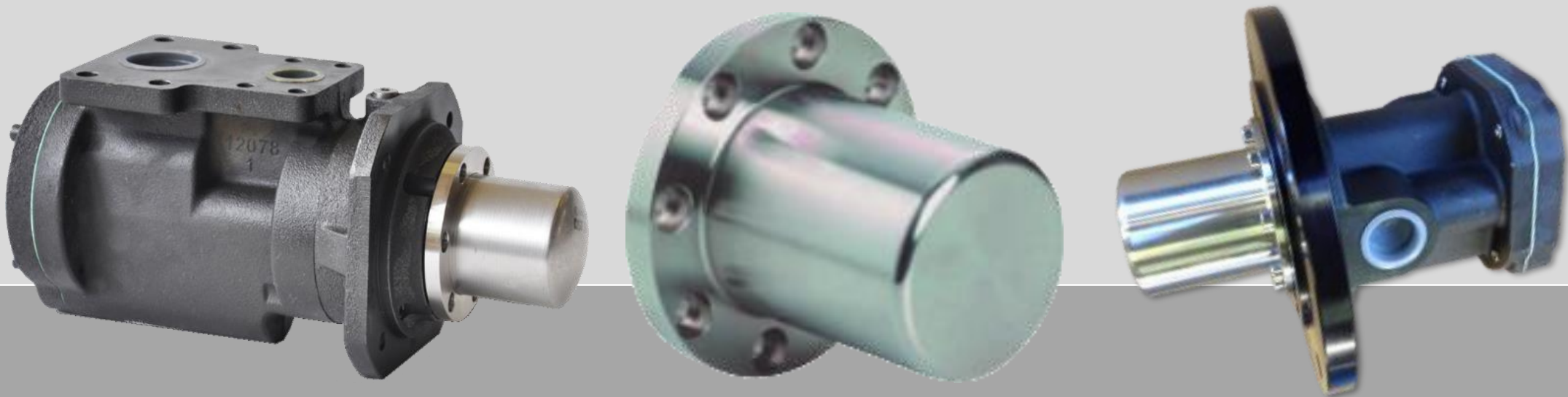




No noise hydraulic pumps Magnetic Coupling presentation



COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =



What is a MAGNETIC COUPLING SEAL?

It is a permanent magnetic synchronous coupling able to transmit torque through magnetic forces between the internal and external rotor. Applying a magnetic coupling, the drive and the driven sides are hermetically separated. In case of critical media the magnetic coupling is a reliable seal and prevents any serious leaking.

The magnetic coupling is the containment shroud that is fixed to the driven sided power unit and separates internal and external rotor from each other. The vibration torque transmission are very low, due to the absence of mechanical connection with completely leak-proof separation of product and atmosphere.

The magnetic coupling therefore is used to ensure no media leaking or when pumps are used in sensitive or hazardous areas.

Why choosing a MAGNETIC COUPLING SEAL?

ZERO pump maintenance:

there is no more the requirement to periodically check/change the sealing. The maintenance costs drop down drastically.

NO leakage:

there is no sealing on rotary parts, but only static sealing.

Component protection:

The magnetic coupling also protects the motor from damages. If the pump requires a torque (power) bigger that the maximum allowed, the magnetic coupling automatically detaches the power transmission

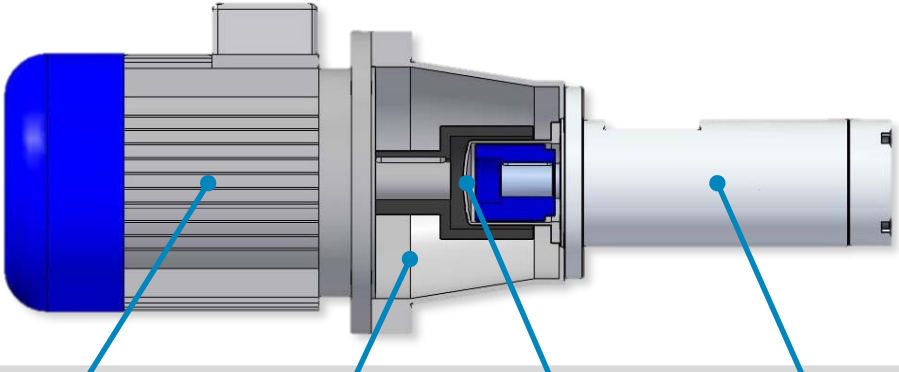
Where to use a MAGNETIC COUPLING SEAL?

- Hot oils
- Heat transfer
- Cooling of special components with special fluids
- Filtration of special fluids
- Automotive factories
- Toy factories (Plastic Injection Molding Machines)
- Medical applications
- Marine applications
- Gearbox lubrication in Windmill applications

Did you know? *Settima* SEAL-LESS MAGNETIC COUPLINGS PUMPS have been chosen by one of the world's leader in plastic injection molding machines as the safety measure of choice. *Settima* MAGNETIC COUPLINGS PUMPS are installed over the PIM machines used to produce one of the most loved toys for children all over the world, the LEGO® blocks. *Settima* scores another point in ensuring safer conditions at work and home, and a cleaner world!

(LEGO® is a registered trademark of LEGO® Group, and it is reported here for information purposes only)

A look at the MAGNETIC COUPLING installation and components:

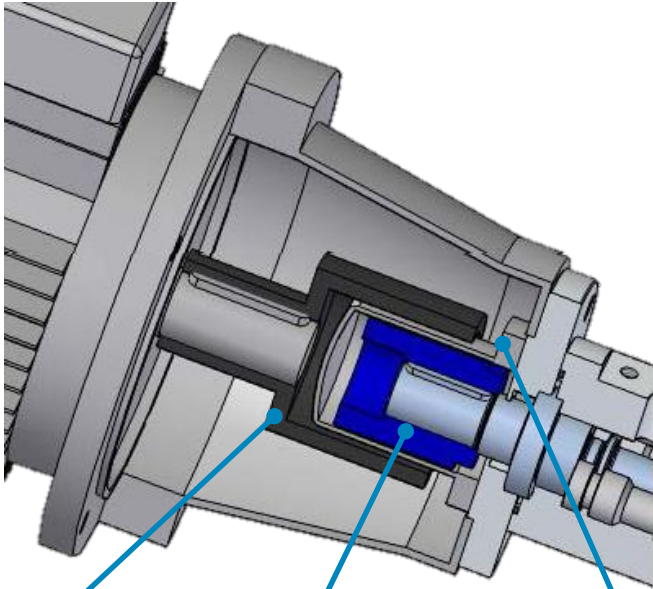


Standard IEC motor

Magnetic Coupling

Settima three screw pump

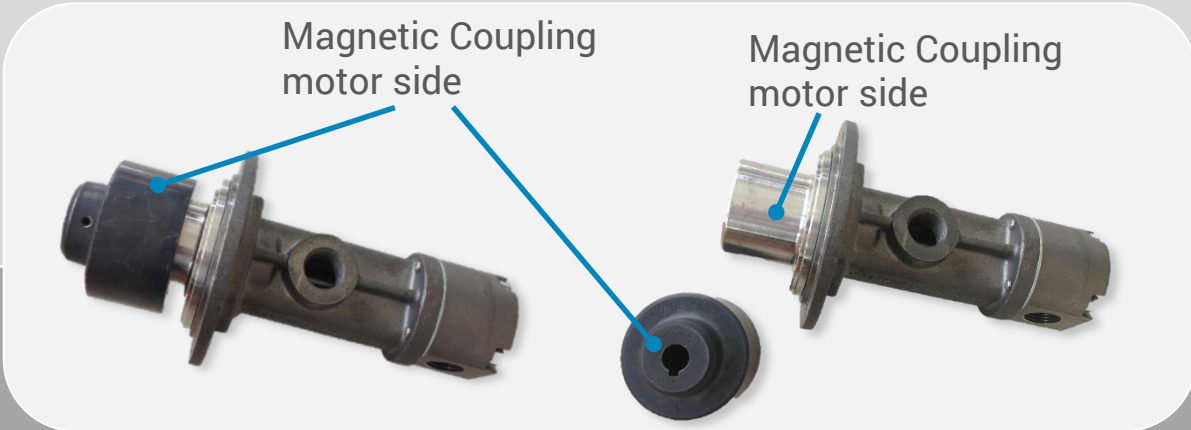
Standard bell housing



Magnetic Coupling motor side

Magnetic Coupling pump side

PUMP COVER: it covers statically sealed to the pump - it keeps the oil inside and there is no sealing on moving parts.



Magnetic Coupling motor side

Magnetic Coupling motor side

NO-SEAL (MAGNETIC) overview

Magnetic Coupling seals are high technology seals, with extremely high reliability and high performances, guaranteed to be absolutely totally leakage free.

SETTIMA can provide this seal alone, or with an already perfectly compatible bellhouse. SETTIMA engineers study very carefully every customer's single specific installation, and they can offer him with a complete solution, from the motor pump unit, to the correct magnetic seal and the compatible bellhouse, everything tested and ready to use.



	MAGNETIC COUPLING seal
SEAL MATERIALS	Stainless steel, Hastelloy, PEEK, ceramic
FLUIDS MANAGED	All standard oils, fuels, emulsion and fluids, plus all fluids unsuited for use with NBR/Viton/EPDM/PTFE lip seals or with mechanical seal materials
TEMPERATURE RANGE	Up to +130° C standard, up to 300° C with ceramic seal
ORDER CODE	Ask SETTIMA: tell us the specifics of your installation, our engineers will provide you a solution!

Joint selection table

A.C. Motor 50 Hz	Motor output 3.000 RPM 2 poles		Settima coupling code	Motor output 1.500 RPM 4 poles		Settima coupling code	Motor output 1.000 RPM 6 poles		Settima coupling code	Motor output 750 RPM 8 poles		Settima coupling code
	Size	Output P [kW]		Torque T [Nm]	Output P [kW]		Torque T [Nm]	Output P [kW]		Torque T [Nm]	Output P [kW]	
56	0,09	0,32	FGMA 34/10	0,06	0,43	FGMA 34/10	0,037	0,43	FGMA 34/10			
	0,12	0,41		0,09	0,64		0,045	0,52				
63	0,18	0,62	FGMA 46/6	0,12	0,88	FGMA 46/6	0,06	0,7	FGMA 46/6			
	0,25	0,86		0,18	1,3		0,09	1,1				
71	0,37	1,3	FGMA 46/6	0,25	1,8	FGMA 60/8	0,18	2	FGMA 60/8	0,09	1,4	FGMA 46/6
	0,55	1,9		0,37	2,5		0,25	2,8		0,12	1,8	
80	0,75	2,5	FGMA 60/8	0,55	3,7	FGMA 60/8	0,37	3,9	FGMA 60/8	0,18	2,5	FGMA 60/8
	1,1	3,7		0,75	5,1		0,55	5,8		0,25	3,5	
90S	1,5	5	FGMB 60/8	1,1	7,5	FGMB 60/8	0,75	8	FGMB 60/8	0,37	5,3	FGMB 60/8
90L	2,2	7,4		1,5	10		1,1	12		0,55	7,9	
100L	3	9,8	FGMB 75/10	2,2	15	FGMB 75/10	1,5	15	FGMB 75/10	0,75	11	FGMB 75/10
112M	4	13		3	20		2,2	22		1,1	16	
132S	5,5	18	FGMC 75/10	5,5	36	FGMC 75/10	3	30	FGMC 75/10	1,5	21	FGMC 75/10
	7,5	25		4	27		3	30		2,2	30	
132M	7,5	25	FGMB 110/16	7,5	49	FGMB 110/16	4	40	FGMB 110/16	3	40	FGMB 110/16
	160M	11		36	11		72	5,5		55	4	
160L		18,5	60	FGMC 110/16	15	98	FGMC 110/16	7,5	75	FGMC 110/16	5,5	74
180M	22	71	18,5		121	11		109	7,5		100	
180L			FGMC 110/16	22	144	FGMC 135/20			FGMC 135/20			FGMC 135/20
200L	30	97		30	196		15	148		11	145	
	225S	37	120	FGMC 135/20	37	240	FGMD 165/24	18,5	181	FGMD 165/24	15	198
225M	45	145	37		240	22		215	18,5		244	
250M	55	177	FGMD 135/20	45	292	FGME 165/24	30	293	FGME 165/24	22	290	FGME 165/24
280S	75	241	FGMD 165/24	55	356	FGMD 200/30	37	361	FGMD 200/30	30	392	FGMD 200/30
280M	90	289	FGME 165/24	75	484	FGME 200/30	45	438	FGME 200/300	37	483	FGME 200/300
315S	110	353										
315M	132	423	FGMD 200/30									
			FGME 200/30									

Generally, the magnetic coupling DOES NOT CHANGE the pump layout. It means you can use the same bell housing and coupling you are already using with a standard shaft Settima pump.

A look at the applications: HOT FLUIDS & API 685

HOT OIL & HEAT TRANSFER MAGNETIC DRIVE PUMPS

High Temperature Magnetic Drive Pumps

Pumping heat transfer fluids provides a wide range of challenges to the end user. Many problems can be traced back to mechanical seal failures, resulting in costly repairs and down time.

By eliminating the mechanical shaft seal of a conventional screw pump, Settima FGM seal-less magnetic drive pump series provide a more reliable, safer and cost-effective solution for hot fluids and heat transfer applications

FGM – Seal-less up to 500°C without cooling

High performance magnetic couplings handle product temperatures up to 500 °C without external cooling. Settima seal-less magnetic drive pumps require very little maintenance, providing many years of trouble-free service – even under extreme conditions.

Key Benefits – Settima Seal-less Advantages

- Low maintenance design reduces life cycle costs
- High performance magnets handle liquids up to 500°C
- Elimination of lip seal or mechanical seal increases reliability and avoids costly repairs and down-time
- Motor protection is assured by a fixed torque transferrable from a specific FGM Settima joint
- Over 10 years of experience with seal-less mag drive pumps and over 10.000 installed mag drive pumps

API 685 HEAVY DUTY SEALLESS MAGNETIC DRIVE PUMPS

Seal-less Mag Drive Pumps per API 685 applications

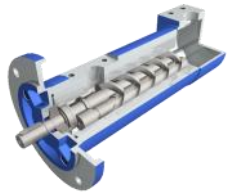
First Introduced in 2000 the API 685 standard describes requirements for seal-less centrifugal pumps for petroleum, heavy-duty chemical, and gas industry services. Our screw pumps has been designed to comply to sealing requirements of API 685. Our screw pumps with API 685 compatible sealing, are screw pumps designed according to API 676 including a sealing compatible with the requirements of API 685.

Key Benefits – Settima Seal-less Advantage

- High reliability - low cost of ownership
- No mechanical seal, no complicated seal support system
- No emission inspection & reporting required
- Exclusion from fugitive monitoring requirement of the Clean Air Act
- Motor protection is assured by a fixed torque transferrable from a specific FGM Settima joint
- Over 10 years of experience with seal-less mag drive pumps and over 10.000 installed mag drive pumps



Settima full complement of products:



SMT – high-pressure industrial, lube and tool machines



SMT16B – cooling, filtration and lube oil



SMT8B – compact cooling and filtration



SFO – shipyards diesel oil handling



SMAPI (API676) – wide range of marine and industrial applications



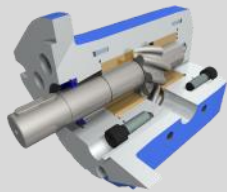
FOTP – high-reliability boiler ignition/feeding marine application



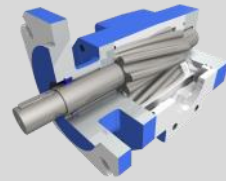
SMTU – USA lifts and freight elevators



SM – lifts and freight elevators



CONTINUUM® – high-pressure, no-noise fluid power applications



2VHL CONTINUUM® – low-pressure no-noise lube oil services



FLOWMETERS – high-pressure, high-precision flow measurement



MAGNETIC COUPLING – seal-less option for no medium leakage

Engineering and certification are a resource for our customers. If some certification is not available today, it could be available soon: ask Settima and we will answer.



COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001 =