Magnet drive gear pumps
MG200 series

The MG series magnet drive gear pumps are compact precision performance pumps for high technology applications.
The magnet drive principle provides a totally sealed pump chamber capable of handling a wide range of corrosive liquids with a high degree of safety. The housing of the pump and the internal metal parts are in AISI 316L stainless steel and the gears are available in Peek™, Ceramic Peek™ or PTFE™.
In operation the MG series pumps are noiseless, pulsation-free and able to handle relatively high temperature fluids with low coefficient of expansion.
The principle of the magnetic drive compries an inner magnet embodied in the pump and connected to the driving gear, and an outer magnet connected to the motor shaft.
The pole-to-pole alignment of the two magnets provides the driving motion to the pump. Decoupling will occur when the pump load exceeds the maximum coupling torque provided by the alignment of the two magnets.



Available upon request:
- Built-in relief valve
- Rare earths driven magnet

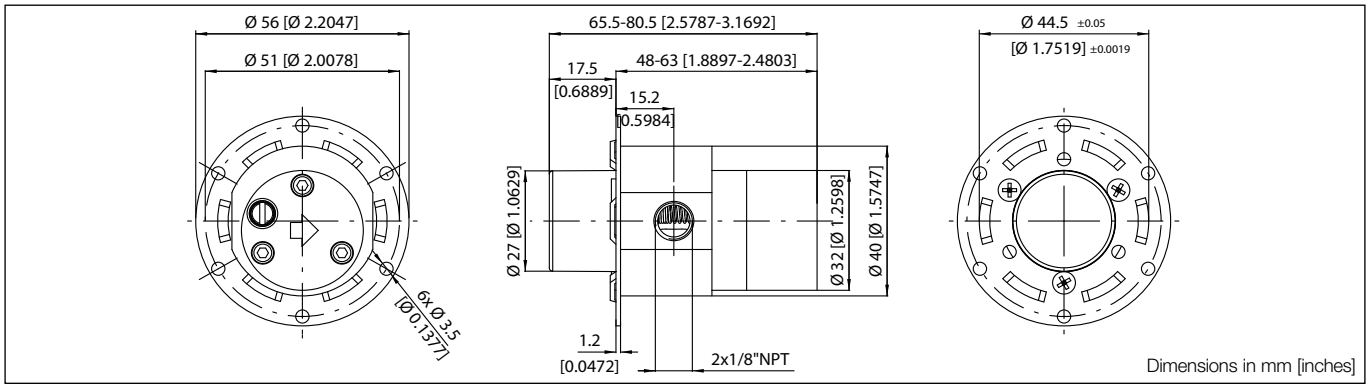
MAIN APPLICATIONS

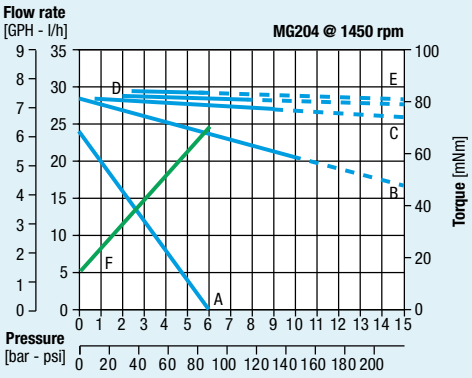
- Medical and surgical equipment
- Hemodialysis apparatus
- Laser apparatus
- Lubrication
- Ink-Jet printing systems
- Cooling systems
- Laboratory instrumentation
- Water treatment
- Sampling
- Food processing equipment
- Sanitization

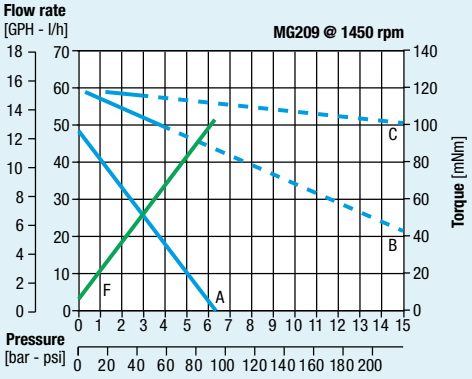
TECHNICAL INFORMATION

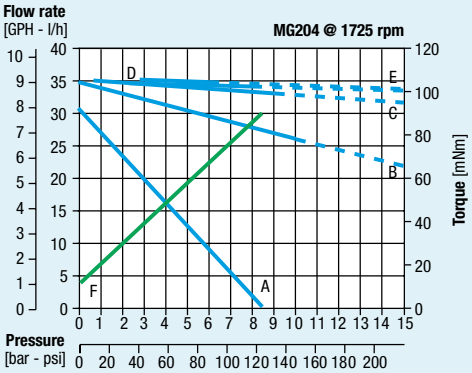
Pump housing material	Stainless steel	Max static pressure	20 bar/290 psi
Gears and bushing materials	Peek™/Ceramic Peek™/PTFE™	Temperature range	Peek™ -45 to 120 °C/-49 to 248 F
Ports	1/8" GAS or NPT		Ceramic Peek™ -45 to 120 °C/-49 to 248 F
Pump weight (MG209)	380 g (0.8 lb)		PTFE™ -45 to 50 °C/-49 to 122 F
Speed limit	5000 rpm	Max vacuum	724 mmHg/28.5 inHg
*Wet lift with water	~ 8m/26.7 ft		

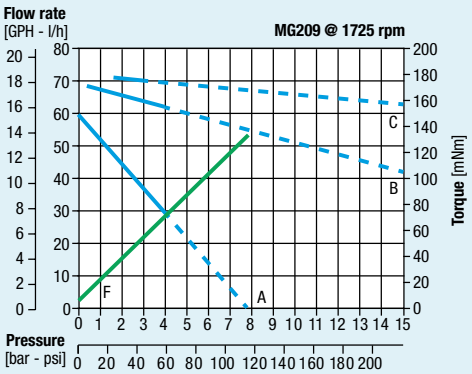
* Priming ability varies with operating conditions and fluid characteristics

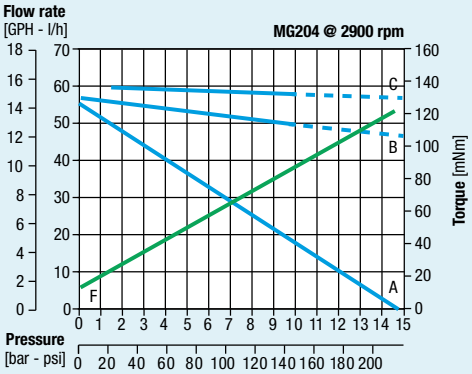


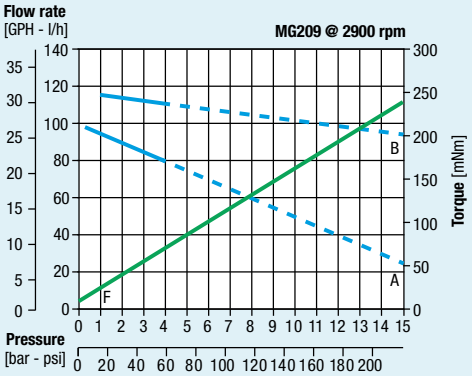


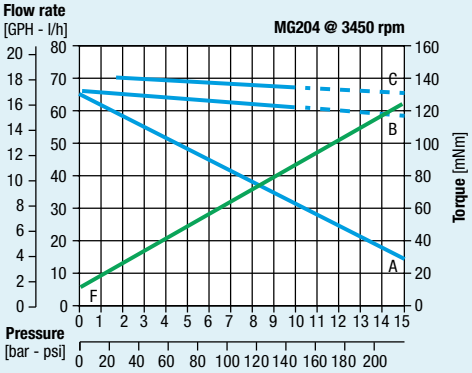


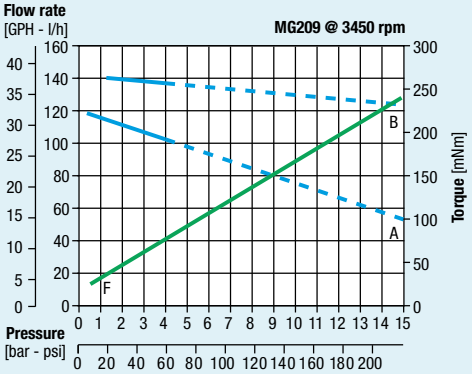








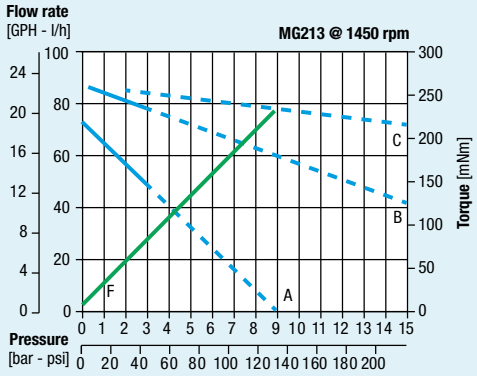


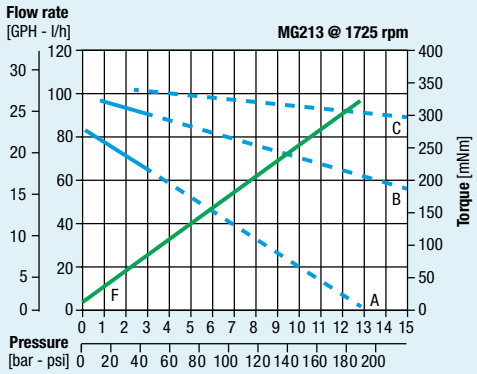


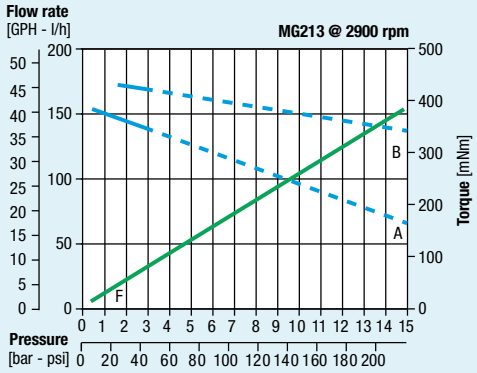
Operating range with ferrite driving magnet
Operating range with rare earth driving magnet
Torque

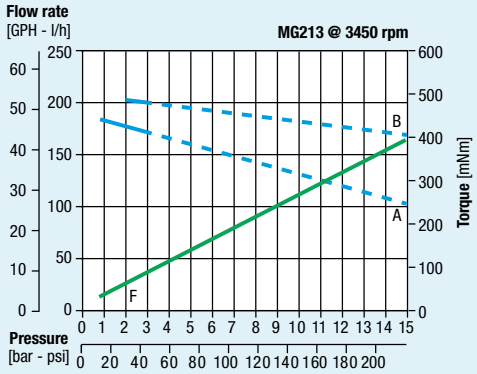
A = 1 cP **B** = 20 cP **C** = 75 cP **D** = 180 cP **E** = 210 cP **F** = 1 cP Torque

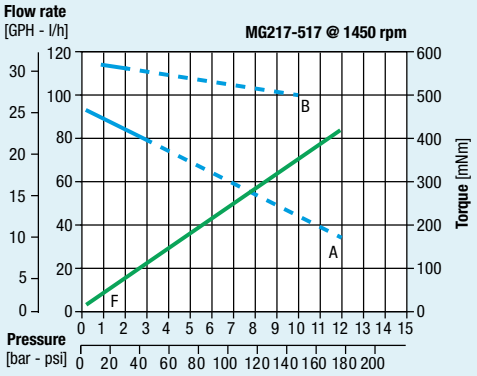
Note: Characteristics with water at 20 °C (68 F) and without relief valve. Fluids different from water must be validated by the Customer. Temperature requirements different from ambient temperature must be mentioned on the order. Different materials are available upon request. Use a filter before the pump inlet no larger than 10 micron

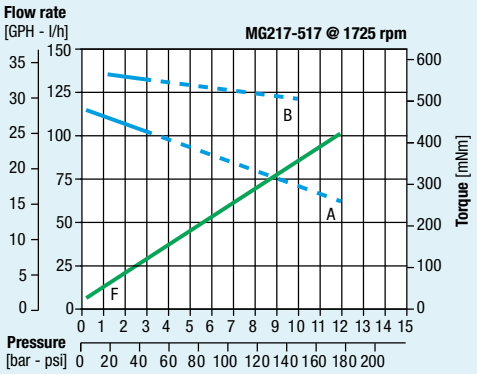


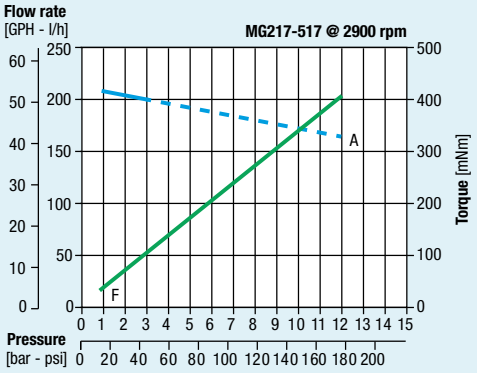


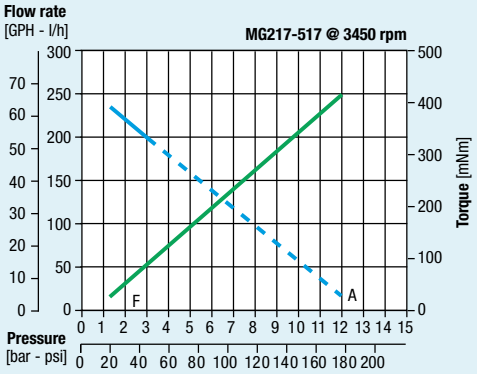












Operating range with ferrite driving magnet
Operating range with rare earth driving magnet
Torque

A = 1 cP **B** = 20 cP **C** = 75 cP **D** = 180 cP **E** = 210 cP **F** = 1 cP Torque

Note: Characteristics with water at 20 °C (68 F) and without relief valve. Fluids different from water must be validated by the Customer. Temperature requirements different from ambient temperature must be mentioned on the order. Different materials are available upon request. Use a filter before the pump inlet no larger than 10 micron

MODEL NUMBER MATRIX

Position	1	2	3	4	5	6	7	8	Customization
Code	**MG**	**2**	**09**	**X**	**D**	**0**	**P**	**T**	**00000**

POS	DESCRIPTION	CODE
1	Driven magnet	**MG** = ferrite **MS** = rare earths
2	Pump series	**2** = PTFE™ flat seal
3	Gear width in mm (Nominal displacement)	**04** = 4 mm (0.3 ml/rev)
		09 = 9 mm (0.6 ml/rev)
		13 = 13 mm (0.9 ml/rev)
		17 = 17 mm (1.2 ml/rev)

POS	DESCRIPTION	CODE
4	Housing material *	**X** = AISI 316L **S** = SAF 2205
		Y = AISI 303
5	Type of connections	**D** = 1/8" NPT **G** = 1/8" GAS
6	Relief valve	**0** = without **1** = with
7	Gear material	**P** = Peek™ **T** = PTFE™
		G = Ceramic Peek™
8	Static seal material	**T** = PTFE™

* Other materials available upon request

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Magnet drive gear pumps
MG400 series

The MG400 series magnet drive gear pumps are designed for heavy duty applications where reliability in harsh environments is key. The combination of the magnet drive with the use of ceramic for the internal components makes of the MG400 series an exceptionally robust pump capable of handling a wide range of liquids with a high degree of safety.
The housing is in AISI 316L stainless steel and the gears are available in Peek™, Ceramic Peek™ or PTFE™.
In operation the MG series pumps are noiseless, pulsation-free and able to handle relatively high temperature fluids with low coefficient of expansion.
The principle of the magnetic drive compries an inner magnet embodied in the pump and connected to the driving gear, and an outer magnet connected to the motor shaft.
The pole-to-pole alignment of the two magnets provides the driving motion to the pump. Decoupling will occur when the pump load exceeds the maximum coupling torque provided by the alignment of the two magnets.

Available upon request:
- Built-in relief valve
- Rare earths driven magnet



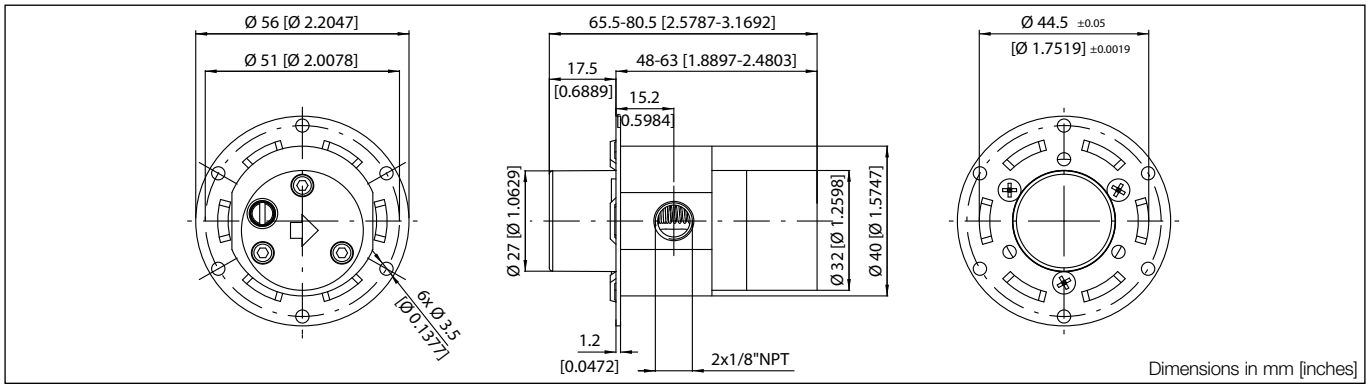
MAIN APPLICATIONS

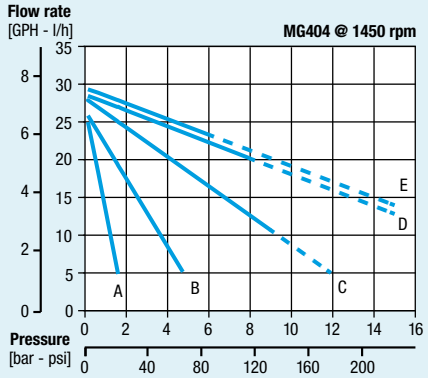
- Medical and surgical equipment
- Hemodialysis apparatus
- Laser apparatus
- Lubrication
- Ink-Jet printing systems
- Cooling systems
- Laboratory instrumentation
- Water treatment
- Sampling
- Food processing equipment
- Sanitization

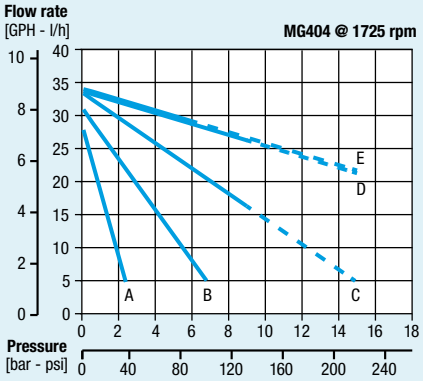
TECHNICAL INFORMATION

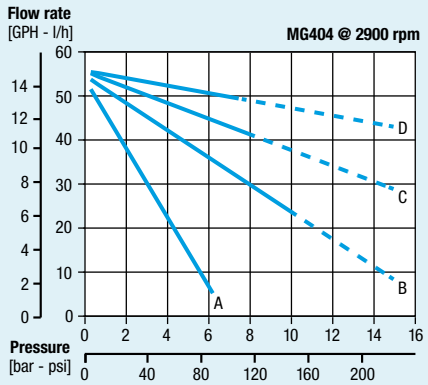
Pump housing material	Stainless steel	Max static pressure	20 bar/290 psi
Gears and bushing materials	Peek™/Ceramic Peek™/PTFE™	Temperature range	Peek™ -45 to 120 °C/-49 to 248 F
Ports	1/8" GAS or NPT		Ceramic Peek™ -45 to 120 °C/-49 to 248 F
Pump weight (MG409)	410 g (0.9 lb)		PTFE™ -45 to 50 °C/-49 to 122 F
Speed limit	5000 rpm	Max vacuum	724 mmHg/28.5 inHg
*Wet lift with water	~ 8m/26.7 ft		

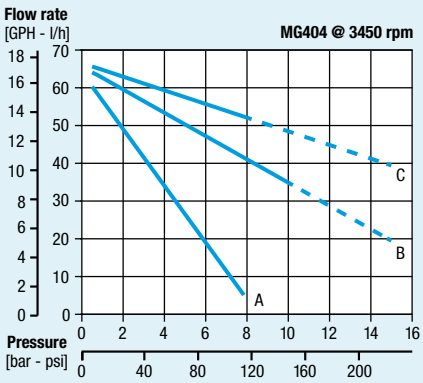
* Priming ability varies with operating conditions and fluid characteristics







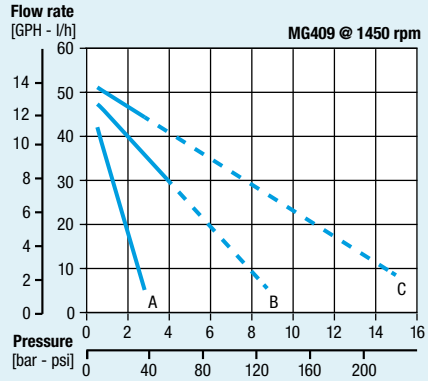


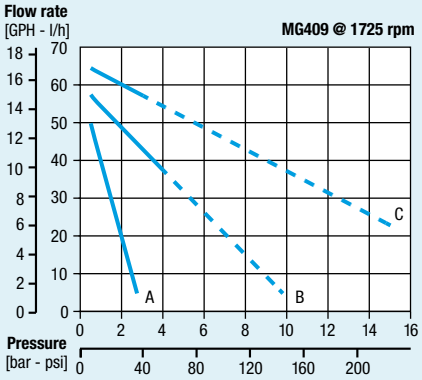


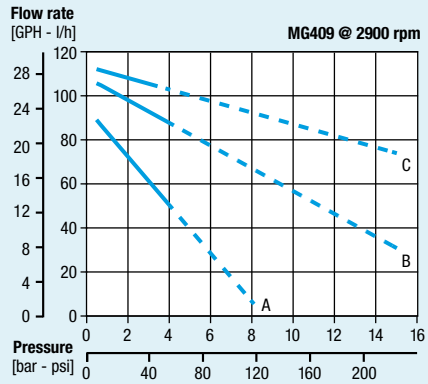
Operating range with ferrite driving magnet
Operating range with rare earth driving magnet

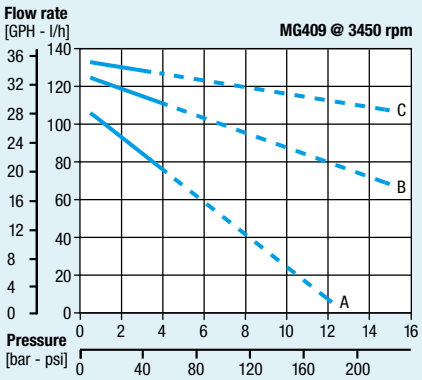
A = 1 cP **B** = 20 cP **C** = 75 cP **D** = 180 cP **E** = 210 cP

Note: Characteristics with water at 20 °C (68 F) and without relief valve. Fluids different from water must be validated by the Customer. Temperature requirements different from ambient temperature must be mentioned on the order. Different materials are available upon request. Use a filter before the pump inlet no larger than 10 micron





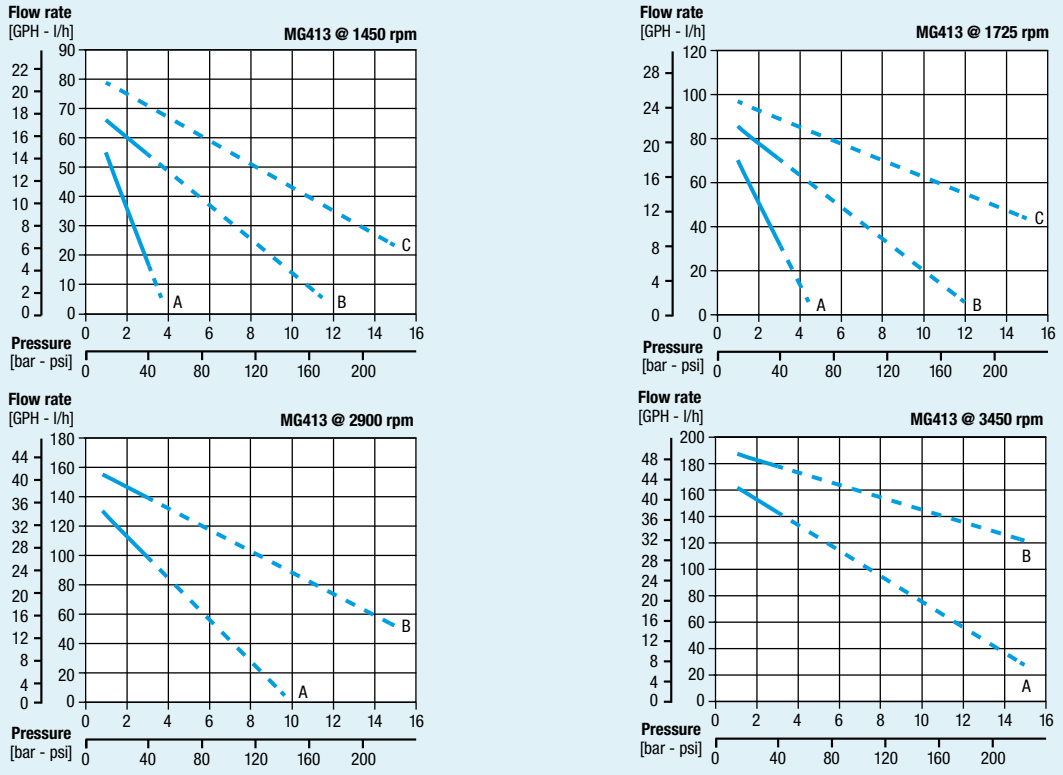




Operating range with ferrite driving magnet
Operating range with rare earth driving magnet

A = 1 cP **B** = 20 cP **C** = 75 cP **D** = 180 cP **E** = 210 cP

Note: Characteristics with water at 20 °C (68 F) and without relief valve. Fluids different from water must be validated by the Customer. Temperature requirements different from ambient temperature must be mentioned on the order. Different materials are available upon request. Use a filter before the pump inlet no larger than 10 micron



Operating range with ferrite driving magnet
Operating range with rare earth driving magnet

A = 1 cP **B** = 20 cP **C** = 75 cP **D** = 180 cP **E** = 210 cP

Note: Caratteristiche con acqua a 20 °C e senza valvola di sicurezza. Fluidi differenti dall'acqua devono essere validati dal Cliente. Richieste di temperature diverse da quella ambiente devono essere menzionate nell'ordine. Differenti materiali sono disponibili su richiesta. Usare un filtro da 10 micron prima della pompa.

MODEL NUMBER MATRIX

Position	1	2	3	4	5	6	7	8	Customization
Code	**MG**	**4**	**09**	**X**	**D**	**0**	**T**	**T**	**00000**

POS	DESCRIPTION	CODE	POS	DESCRIPTION	CODE
1	Driven magnet	**MG** = ferrite **MS** = rare earths	5	Type of connections	**D** = 1/8" NPT **G** = 1/8" GAS
2	Pump series	**4** = PTFE™ flat seal and ceramic plates	6	Relief valve	**0** = without **1** = with
3	Gear width in mm (Nominal displacement)	**04** = 4 mm (0.3 ml/rev)	7	Gear material	**C** = Ceramic filled PEEK with ceramic shaft and bushings in ceramic filled PEEK
		09 = 9 mm (0.6 ml/rev)			**G** = Ceramic filled PEEK with ceramic shafts and bushings in standard PEEK
4	Housing material *	**X** = AISI 316L **S** = SAF 2205			
		Y = AISI 303	8	Static seal material	**T** = PTFE™

* Other materials available upon request

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