

# Couplings



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**Drive couplings provide the means by which power is transmitted from the electric motor to the hydraulic pump.**

**By virtue of their flexible structure, they are able to compensate angular and radial misalignments between motor and pump, and appreciably attenuate the noise generated through the drive line.**

**The couplings illustrated are available in aluminium and cast iron versions, with a variety of spider options, and will cover a range of applications using electric motors from size 63, rated 0.15 kW, up to size 400 rated 400 kW.**

**Grub screw on all half-couplings.  
Cast iron half-coupling SGE<sup>G</sup> available with screw mounted.  
Steel half-couplings SGE<sup>S</sup> and SGDR available with screw.**



**Standard ATEX Directive 2014/34/EU and UK Regulation S.I. 2016 No. 1107 (as amended)**

**Half-couplings are available to use in hazardous area.**

**The couplings are certified according to Standard ATEX Directive 2014/34/EU and UK Regulation S.I. 2016 No. 1107 (as amended) - Category certified 2G - Area 1 and 2.**

**Other information available on our web site "[www.mpfltri.com](http://www.mpfltri.com)".**

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**The half-couplings SGE<sup>\*\*\*</sup> series are in conformity to normative DIN 740/2.**

**The max torque to transmit is always less than the max torque that the coupling can transmit.**

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The half-couplings series SGE\*\*\* allow secure transmission between the electric motor and the driven side; they are able to absorb shocks and vibration, in addition to compensating radial misalignment, angular and axial.

The complete range of couplings are extrapolated from the on-line software, with a length equal than the shaft on which must be mounted and they are completed with grub screw for fixing located on the key.

The assembly of the couplings can be horizontal/vertical, withstanding vibration and load reversals.

Available for cylindrical shaft with metric and imperial dimensions as well for splined shafts as per specification DIN, ISO and SAE.

## Admissible misalignment radial, angular and axial

### Max admissible radial misalignment

Half-coupling	R [mm]
SGE * 01	0.5
SGE * 21	1.0
SGE * 31	1.0
SGE * 40	1.0
SGE * 51	1.5
SGE * 60	1.5
SGE * 80	2.0
SGE * 90	2.0

### Max admissible angular misalignment

Half-coupling	$\beta$ [°]
SGE * 01	1.5°
SGE * 21	
SGE * 31	
SGE * 40	
SGE * 51	
SGE * 60	
SGE * 80	
SGE * 90	

### Max admissible angular alignment

Half-coupling	A [mm]
SGE * 01	2.0
SGE * 21	2.5
SGE * 31	3.0
SGE * 40	3.5
SGE * 51	3.5
SGE * 60	3.5
SGE * 80	4.0
SGE * 90	5.0

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MP Filtri couplings are developed with:



Drawings 3D available on website [www.mpfiltri.com](http://www.mpfiltri.com) at section TOOLS.

Examples verification of the coupling

Torque transmitted by electric motor:

**Mt:**  $9560 \times kW / rpm = Nm$

**Me >**  $Mt \times S = Nm$

Where:

**Mt:** Torque transmitted by electric motor

**Me:** Torque transmitted by coupling

**kW:** Power of electric motor

**Rpm:** Revolutions per minute of electric motor

**S:** Service factor

Table 1

<b>Small pumps, uniform load, low operating pressures</b> e.g. rotary action machine tools - 5/8 work cycles per hour	<b>1.3</b>
<b>Small pumps, uniform load, high working pressures</b> e.g. lifting equipment - 120-150 work cycles per hour	<b>1.5</b>
<b>Pumps, non-uniform load</b> e.g. lifting equipment - 280-300 work cycles per hour	<b>1.7</b>

**Example**

Electric motor, 4 pole - 4 kW  
hydraulic pump, uniform load, low operating pressure

**Mt:**  $9560 \times 4 / 1500 = 25.45 Nm$

**Me >**  $25.49 \times 1.3 = 33 Nm$

**Half-coupling SGEA21 meets the above requirement.**

Select the half-coupling of the calculated size from the motor half-couplings table.

**Note:** When selecting the coupling, remember that for pumps with splined shaft, only cast iron couplings of the SGEG series can be used.

Determine the size of the coupling according to the type of installation and application envisaged, on the basis of the formulas and the following tables:

Table 2

Half-coupling type	External diameter [mm]	Nominal torque Me - Nm	Maximum transmissible torque Me - Nm		
<b>ROTAFIT</b>					
<b>SGEA01</b>	<b>SGEK01</b>	43	15	20	
<b>SGEA21</b>	<b>SGEK21</b>	68	160	190	
<b>SGEA31</b>	<b>SGEK31</b>	75	340	380	
<b>SGEA51</b>	<b>SGEK51</b>	109.5	550	620	<b>ALUMINIUM</b>
<b>SGEG01</b>		40	20	30	
<b>SGEG30</b>		80	400	450	
<b>SGEG40</b>	<b>SGEK40</b>	95	550	620	
<b>SGEG60</b>	<b>SGEK60</b>	120	760	850	
<b>SGEG80</b>	<b>SGEK80</b>	160	2200	2500	
<b>SGEG90</b>		200	5500	6100	<b>CAST IRON</b>
<b>SGES40</b>		95	550	620	
<b>SGES60</b>		120	760	850	
<b>SGES80</b>		180	2200	2500	<b>STEEL</b>

Nominal and maximum torque values are referred to couplings assembled with standard flexible spiders of the **EGE\*\*** series (see page 31).

Where higher torques are to be transmitted, use flexible spiders of the **EGE\*\*RR** series (see page 31).