

A guide to select the correct bell-housing and drive coupling components

DATA REQUIRED

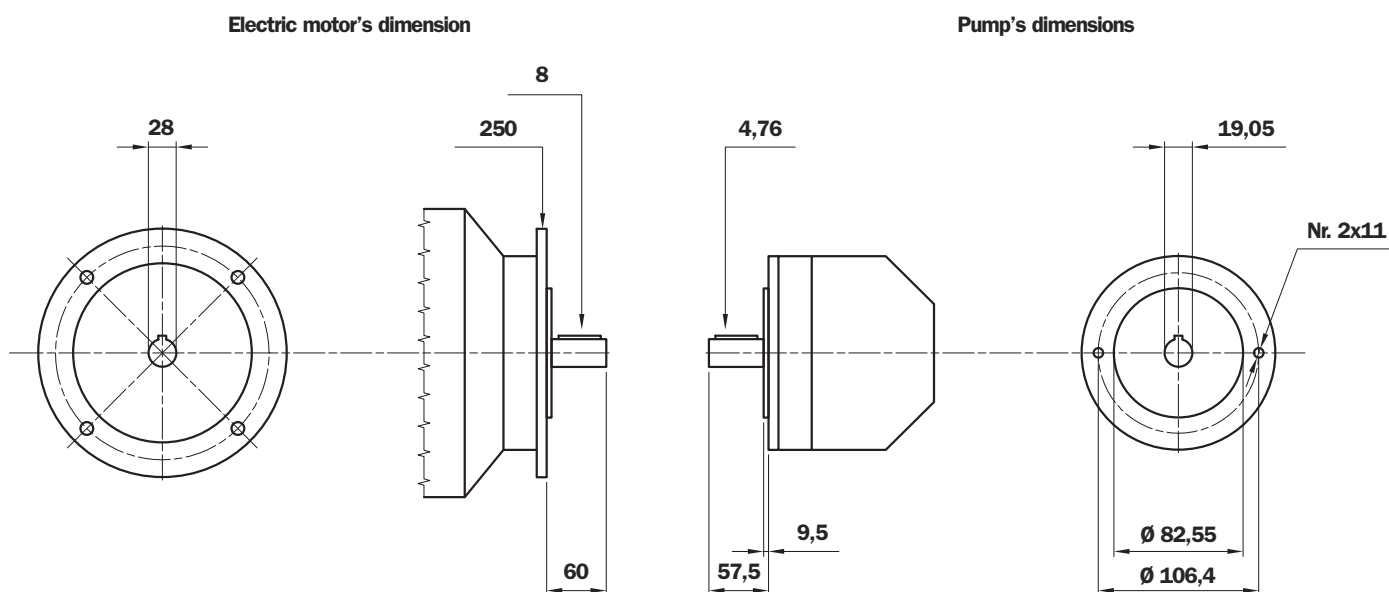
Electric motor power/motor size
 Manufacturer and pump type

TO VERIFY:

- 1 - Pump and motor shaft dimensions (see page 69)
- 2 - Shaft and flange pump (see pump data sheet)

Example:

- Electric motor 2 kW - 4 poles - Motor size 110/112
- Atos pump code PFE31 - Shaft 1



Bell-Housing's length calculation

- $H = 60 + 18 + 57,5 = 135,5$ mm (18= Sp spider - see page 49)
- Choose type of bell-housing (LMC - LMS)
 - For LMC see tab. 3 at page 11
 - For LMS see tab. 21 at page 32
 - For MODUL 2/3 see at page 36

Note: The length of bell-housing must be \geq than the length calculated (135,5 mm)

Case A - solution with LMC bell-housing

Tab. 3 at page 11 - for electric motor 2kW LMC 250
 LMC 250 bell-housing with height $\geq 135,5$ - LMC250AFSQ

- The bell-housing code must be completed with drilling pump code (see tab. 34 at page 47)
 For the specific case C= 82,5 - Nr. 2 holes M10: Code drilling 060
- Definitive bell-housing code **LMC250AFSQ060**

Case B - solution with LMS bell-housing

Tab. 21 at page 32 - for electric motor 2kW LMS 250
 LMS 250 bell-housing with height $\geq 135,5$ - LMS250AFSQ

- The bell-housing code must be completed with drilling pump code (see tab. 34 at page 47)
 For the specific case C= 82,5 - Nr. 2 holes M10: Code for. 060
- Definitive bell-housing code **LMS250AFSQ060**

Choose coupling

- **Motor half-coupling** (see tab. 37 at page 50)

- For electric motor GR 100/112, the half-coupling is **SGEA21M05060**

- **Spider** (see tab. 35 - 36 at page 49)

- For SGEA21, EGE2 - EGE2RR

(choose spider material on the base of the application, oil, temperature and cycle machine, etc.)

- **Pump half-coupling**

- Choose the drilling code tab. 43 - 44 at page 53 for shaft 19,05 - Ch. 4,76 - code: **G01**

- Half-coupling length = L BH length - THK Spider - THK Spigot

LMC= 138 mm - 60 - 18 - 9,5= 50,5 mm

LMS= 148 mm - 60 - 18 - 9,5= 60,5 mm

- LMC - Choose the half-coupling's length on tab. 38 at page 50 $\leq 50,5$ mm.

- LMS - Choose the half-coupling's length on tab. 38 at page 50 $\leq 60,5$ mm.

- LMC - Availabe length for SGEA21= 50 mm

- LMS - Availabe length for SGEA21= 60 mm

- LMC=LMS - Code half-coupling code: **SGEA21G01050**

**Software for automatic calculation available on the web site
www.mpfiltri.com - tools - software**

The screenshot shows the MP Filtri software interface for pump and motor selection. The interface is divided into several sections:

- HYDRAULIC PUMP - Technical Data:**
 - L1: 37.5
 - d1: 19.05
 - Ch1: 4.76
 - e: 9.5
 - Pd: 82.55
 - d2: 106
 - Rc: 2
 - F: M0
- ELECTRIC MOTOR - Technical Data:**
 - L1: 60
 - d1: 28
 - Fig.: 250
 - Ch: 8
- Coupling material:**
 - Aluminum
 - Cast iron
 - Other alternative material
- Result:**
 - Coupling: M01 - 21066
 - Drilling Pump: 5000
 - Pump Shaft: G01
 - Motor Shaft: M0
 - Monobloc Bearing: OK
 - Modular Bearing: OK
 - Silenced Bearing: OK

A button labeled "CLICK HERE TO PROCEED" is located at the bottom left of the interface.

Note: For multi pumps we recommend to use a specific support on the base of the pump's dimensions and weight.

Half-coupling SGE*** series

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

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.

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	β (°)
SGE * 01	
SGE * 21	
SGE * 31	
SGE * 40	1,5°
SGE * 51	
SGE * 60	
SGE * 80	
SGE * 90	

Max admissible angular misalignment

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

Normative ATEX 94/9/CE

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

The couplings are certified according to ATEX 94/9/CE (ATEX 95).

Category certified 2G - area 1 and 2.

Other information available on our web site "www.mpfiltri.com".

MP Filtri couplings are developed with:

CAD 3D



FEM (calculation)



Drawings 3D available on website www.mpfiltri.com at section TOOLS/2D-3D COMPONENTS

The half-couplings SGE*** 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.

Examples verification of the coupling

Torque transmitted by electric motor:

Mt: $9560 \times \text{kW} / \text{rpm} = \text{Nm}$

Me > $\text{Mt} \times \text{S} = \text{Nm}$

Where:

Mt: Torque transmitted by electric motor

Me: Torque transmitted by coupling (see table 14)

kW: Power of electric motor

Rpm: Revolutions per minute of electric motor

S: Service factor (see table 14)

TABLE 1

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

Example

Electric motor, 4 pole - 4 kW

hydraulic pump, uniform load, low operating pressure

Mt: $9560 \times 4 / 1500 = 25.45 \text{ Nm}$

Me > $25.49 \times 1.3 = 33 \text{ Nm}$

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 following formulas and tables:

TABLE 2

Half-coupling type	External diameter mm	Nominal torque Me - Nm	Maximum transmissible torque Me - Nm
ALUMINIUM	SGEA01	15	20
	SGEA21	160	190
	SGEA31	340	380
	SGEA51	550	620
CAST IRON	SGEG01	20	30
	SGEG30	400	450
	SGEG40	550	620
	SGEG60	760	850
	SGEG80	2200	2500
	SGEG90	5500	6100
STEEL	SGES40	550	620
	SGES60	760	850
	SGES80	2200	2500

Nominal and maximum torque values are referred to couplings assembled with standard flexible spiders of the **EGE**** series (see page 49).

Where higher torques are to be transmitted, use flexible spiders of the **EGE**RR** series (see page 49).

Noise

Noise is a particularly pervasive problem so much so that there have been statutory regulations in place now for some years, designed to limit harmful occupational exposure. Many of the machines used in industry today are equipped with oil-hydraulic systems, which happen to be a major source of noise.

1. Theory and definition of noise

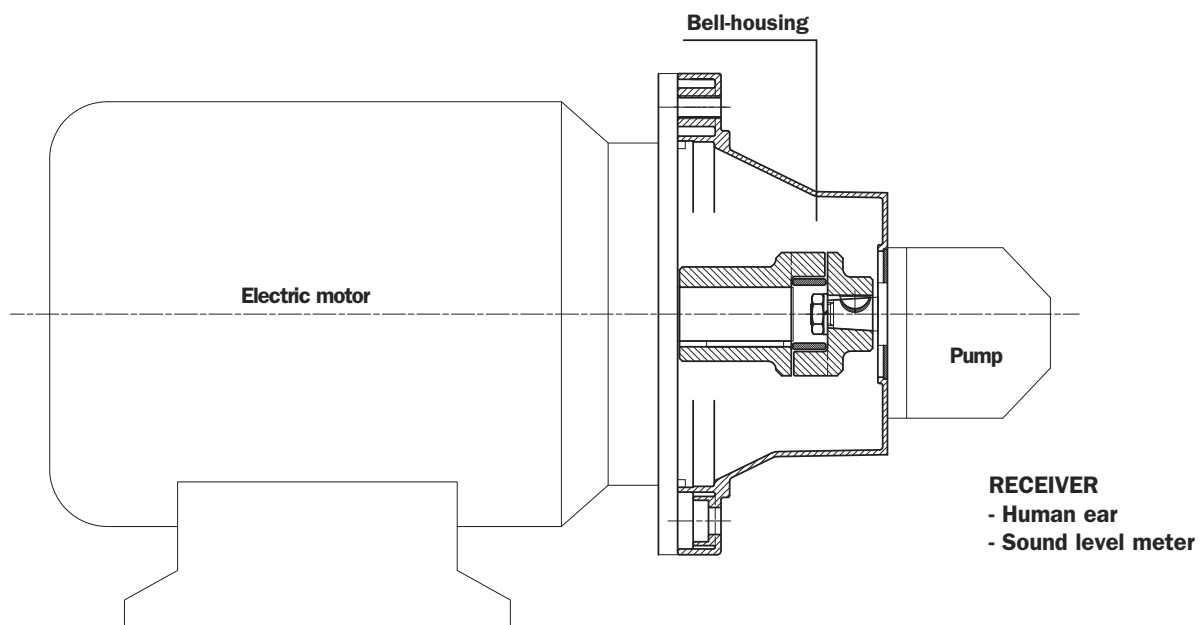
From a health and hygiene standpoint, noise can be defined as an unpleasant and undesirable sound, or an unpleasant and annoying or intolerable auditory sensation (noise being any sound phenomena that may be accompanied by sensations of disturbance and pain). By definition, acoustic phenomena are oscillatory in character, propagated in a flexible medium and causing pressure variations at the points, and the areas adjacent to those points, through which they pass.

2. Sound

Technically considered, certain elements must be present simultaneously for acoustic phenomena to occur:

- Sound source
- Transmission medium
- Receiver

Motor and pump unit



The **electric motor** and the **pump**, together with the drive coupling, are the **SOURCE OF THE NOISE**.

The **Bell-housing** is the noise transmission medium.

Depending on whether the monobloc bell-housing is a rigid or low noise type, there will be variations in the flexible properties of the transmission medium.

The acoustic phenomena are dissimilar in the two cases, given the differences in pressure variation and particle displacement.

Assembly of motor and pump unit

As mentioned in the presentation, low noise bell-housing will help to attenuate the transmission of vibrations and the emission of noise generated by the system.

Self-evidently, however, the mere adoption of a low noise bell-housing will achieve little unless the motor and pump are correctly installed on the machine, or on the tank of the hydraulic power unit.

- Should be followed in order to achieve best possible results and correct installation:

1. Motor and pump unit mounted horizontally on oil tank lid

- The suction pipe attached to the pump must be rigid, and fitted using a resilient bulkhead flange of the FTA series, which helps to cushion the vibrations propagated between the pipe and the tank lid. If pipes need to be bent, the radius of curvature must be at least 3 times the pipe diameter. Do not use elbow fittings, as these will significantly increase pressure losses.
- The pressure pipeline of the pump must be flexible, and long enough to include bends with the minimum radius of curvature recommended by the manufacturer for the specified operating pressure.
- The return pipeline running from the service to the filter must be flexible. Where oil is returned directly to the tank of the hydraulic power unit through a rigid pipe, it is advisable to use a resilient bulkhead flange of the FTR series, which helps to cushion the vibrations propagated between the pipe and the tank lid.
- Anti-vibration devices (resilient mounts or damping rods) must be located under the feet of the electric motor or the PDM foot brackets, depending on the mounting position of the motor.
- The lids of hydraulic oil tanks must be sturdy enough to support the load they carry.


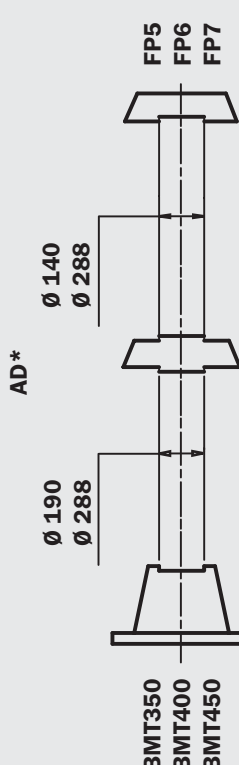
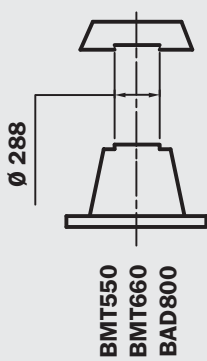
2. Motor and pump unit mounted horizontally on machine

- As a matter of good practice, the oil tank and motor-pump unit should be mounted on a single supporting frame of strength sufficient to support the load.
- If the hydraulic system is fitted with a side-mounted filter, the suction pipeline to the pump must be flexible, and long enough to include bends with the minimum radius of curvature recommended by the manufacturer.
- If the suction filter is not side mounted, the pipeline should be rigid and installed in conjunction with a compensating coupling.
- The pressure pipeline of the pump must be flexible, and long enough to include bends with the minimum radius of curvature recommended by the manufacturer for the specified operating pressure.
- The return pipeline running from the service to the filter must be flexible. Where oil is returned directly to the tank of the hydraulic power unit through a rigid pipe, it is advisable to use a resilient bulkhead flange of the FTR series, which helps to cushion the vibrations propagated between the pipe and the tank lid.
- Anti-vibration devices (resilient mounts or damping rods) must be located under the feet of the electric motor or the PDM foot brackets, depending on the mounting position of the motor.

Note: The above guidelines are indicative only, and subordinate to the solutions adopted ultimately by design engineers.

In conclusion: For best results, in any event, the motor-and-pump unit should be incorporated into the hydraulic system in such a way that no one component is rigidly associated with another, resulting in the propagation of vibration, and consequently noise.

Table of summary MODUL 2/3

	5.5 - 7.5 kW	11 - 22	30	37 - 45	55 - 90	110 - 200	250 - 400
	7.5 - 10.2 Hp	15 - 30 Hp	40.80 Hp	50.32 - 61.2 Hp	75 - 125 Hp	150 - 272 Hp	340 - 544 Hp
	Size 225 - D.450	Size 160/180 D.350	Size 200 - D.350	Size 225 - D.450	Size 250/280 D.550	Size 315 - D.660	Size 355/400 D.800
MODUL 3	 <p>AR*</p> <p>BMT300 BMT350</p> <p>FR1*</p> <p>Ø 190</p> <p>Ø 85</p> <p>Kit of assembly KVG5 (Q.ty 1) + Kit of assembly KVG1 (Q.ty 1)</p>						
	 <p>AD*</p> <p>BMT350 BMT400 BMT450</p> <p>FP5 FP6 FP7</p> <p>Ø 190</p> <p>Ø 288</p> <p>Ø 140</p> <p>Ø 288</p> <p>Kit of assembly KVG5/7 (Q.ty 2)</p>						
MODUL 2	 <p>BMT550 BMT660 BAD800</p> <p>FP6 FP7 (BAD800 ONLY FP7)</p> <p>Ø 288</p> <p>Kit of assembly KVG6/7 (Q.ty 1)</p>						
	5.5 - 7.5 kW	11 - 22	30	37 - 45	55 - 90	110 - 200	250 - 400
7.5 - 10.2 Hp	15 - 30 Hp	40.80 Hp	50.32 - 61.2 Hp	75 - 125 Hp	150 - 272 Hp	340 - 544 Hp	340 - 544 Hp
Size 225 - D.450	Size 160/180 D.350	Size 200 - D.350	Size 225 - D.450	Size 250/280 D.550	Size 315 - D.660	Size 355/400 D.800	Size 355/400 D.800

Drive couplings

SGEA-SGEG-SGES series

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 SGEG available with screw mounted.

Technical specifications

SGEA - SGEG - SGES

Materials

- **Motor half-coupling**
Pressure diecast aluminium/cast iron/steel.
- **Pump half-coupling**
Pressure diecast aluminium/cast iron/steel.
- **Spiders**
Oil-resistant rubber, black, Shore A hardness 87
Polyurethane resin, red, Shore A hardness 98

Temperature

- **Oil-resistant rubber:**
-20°C ÷ +90°C
- **Polyurethane resin:**
-40°C ÷ +120°C

For temperatures outside this range, contact the MP Filtri Technical and Sales Department.



Compatibility with fluids

- **Modular bell-housing components compatible for use with:**

Mineral oils

Types HH-LL-HM-HR-HV-HC, to ISO 6743/4 standard

Water based emulsions

Types HFAE - HFAS, to ISO 6743/4 standard

Water glycol

Type HFC, to ISO 6743/4 standard

Ask for anodized version

Special Applications

- **Any applications not covered by the normal indications contained in this catalogue must be evaluated and approved by the MP Filtri Technical and Sales Department.**

EGE** series

Made of black oil-resistant rubber, these components serve to interconnect the two halves (motor - pump) of a flexible coupling. They are suitable for all industrial applications and will withstand temperatures from -20°C to +90°C.
Shore A hardness 87

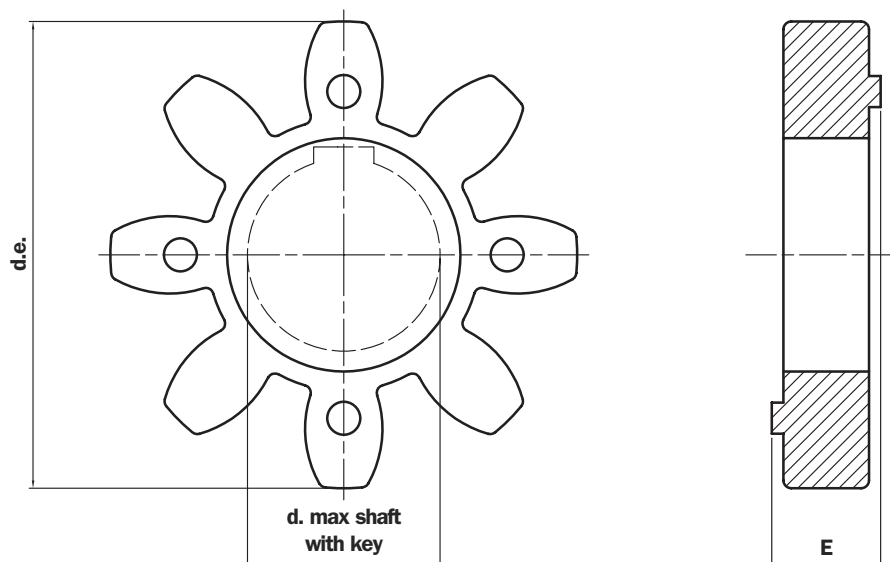


TABLE 35

Half-coupling type	Code	E	d.e.	d.max	Nominal torque Nm	Max torque Nm	Weight (kg)
SGEA01/SGEG01	EGE0	15	40	16	10	20	0,006
SGEA21	EGE2	18	65	25	95	190	0,02
SGEA31/SGEG31	EGE3	22	80	35	190	380	0,04
SGEA51	EGE5	26	105	45	310	620	0,06
SGEG40/SGES40	EGE4	24	95	40	310	620	0,09
SGEG60/SGES60	EGE6	28	120	55	430	860	0,13
SGEG80/SGES80	EGE8	38	160	75	1250	2500	0,36

EGE**RR series

Made in polyurethane Laripur - E 2203-93A, red colour, are suitable for applications where high levels of torque are transmitted. They will withstand temperatures from -30°C to +120°C.
Shore A hardness 95

TABLE 36

Half-coupling type	Code	E	d.e.	d.max	Nominal torque Nm	Max torque Nm	Weight (kg)
SGEA01/SGEG01	EGE0RR	15	40	16	15	30	0,006
SGEA21	EGE2RR	18	65	25	115	230	0,02
SGEA31/SGEG31	EGE3RR	22	80	35	250	500	0,04
SGEA51	EGE5RR	26	105	45	400	800	0,06
SGEG40/SGES40	EGE4RR	24	95	40	380	760	0,09
SGEG60/SGES60	EGE6RR	28	120	55	550	1100	0,13
SGEG80/SGES80	EGE8RR	38	160	75	1400	2900	0,36
SGEG90	EGE9RP	42	200	95	8900	9900	0,59

Version for extreme temperatures available on request.

For further information, contact the MP Filtri Technical and Sales Department.

SGEA motor half-coupling aluminum

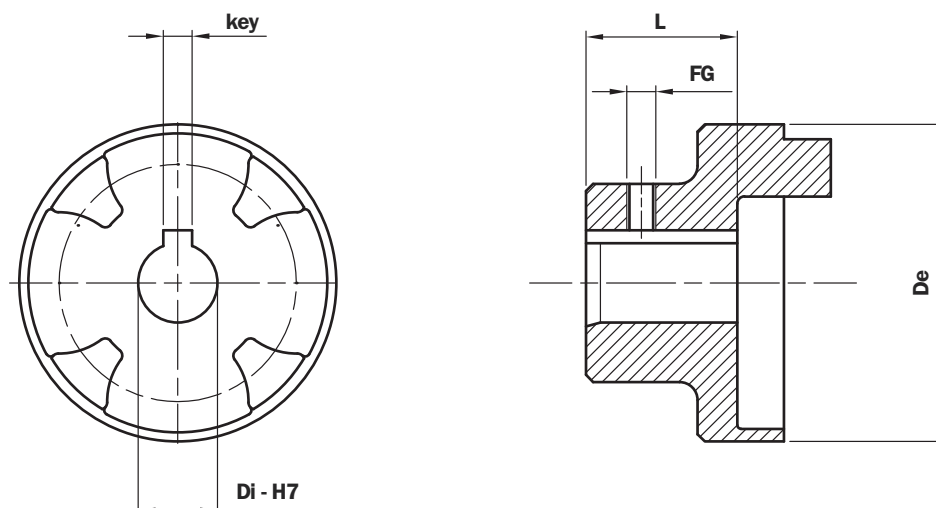


TABLE 37 - Motor half-coupling

Motor 4-pole 1500 rpm				Dimensions of motor half-coupling								
Frame size	kW	Hp	Shaft	Half-coupling code	De	L	d	Tol	key	Tol	FG	Weight (kg)
63	0.12 - 0.16	0.18 - 0.24	11x23	SGEA01M01021	43	21	11		4		M5	0,07
71	0.25 - 0.34	0.37 - 0.50	14x30	SGEA01M02028	43	28	14		5		M5	0,08
80	0.53 - 0.75	0.75 - 1	19x40	SGEA01M03040	43	40	19		6		M5	0,12
				SGEA21M03040	68	40	19		6		M6	0,30
90	1.1 - 1.5	1.5-2	24x50	SGEA01M04048	43	48	24		8		M5	0,13
				SGEA21M04048	68	48	24		8		M6	0,28
100 - 112	2.2-4	3.5.5	28x60	SGEA21M05060	68	60	28		8		M6	0,33
				SGEA31M05060	85	60	28	H7	8	D10	M8	0,48
132	5.5-7.5	7.5-12.5	38x80	SGEA31M06077	85	77	38		10		M8	0,78
				SGEA51M06077	109,5	77	38		10		M8	1,60
160	11-15	15-20	42x110	SGEA51M07109	109,5	109	42		12		M8	1,60
180	18-22	25-30	48x110	SGEA51M08109	109,5	109	48		14		M8	1,60
200	30	40	55x110	SGEA51M09109	109,5	109	55		16		M8	1,90
225	37-45	50-61	60x140	SGEA51M10109	109,5	109	60		18		M8	1,90

TABLE 38 - Pump drive half-couplings

Half-coupling code	d min	d max	D	Tol	L min	L max										Standard lengths	FG
SGEA01 *** **	11	19	43	H7	17	50	17	23	30	40	44	48	-	-	-	-	M5
SGEA21 *** **	15	24	70	H7	23	50	35	40	42	44	48	50	-	-	-	-	M6
SGEA21 *** **	25	28	70	H7	40	60	40	42	44	48	50	55	58	60	-	-	M6
SGEA31 *** **	18	32	85	H7	40	60	42	45	48	50	52	55	58	60	-	-	M8
SGEA31 *** **	38	42	85	H7	60	80	60	65	70	77	80	-	-	-	-	-	M8
SGEA51 *** **	18	40	109,5	H7	40	70	42	45	48	50	52	55	58	60	65	70	M8
SGEA51 *** **	38	55	109,5	H7	70	109	70	75	80	85	90	95	100	105	109	-	M8

Complete the half-coupling designation with the pump interface code and the length.

Ex. **SGEA51D02040** **D02** See **Table 43** **040** Half-coupling length (see **Table 38**).

Note: Screw not included

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SGEG half-coupling cast iron

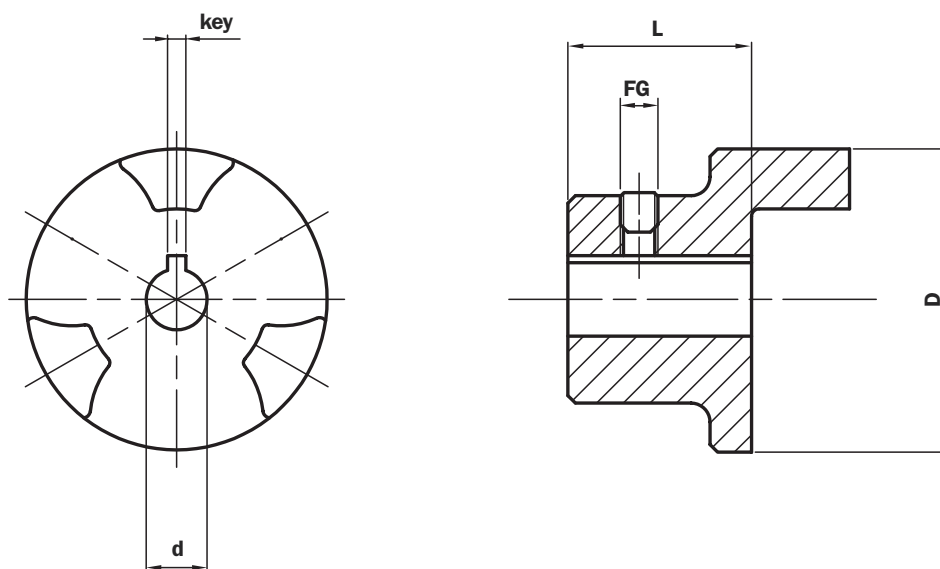


TABLE 39 - Motor half-coupling

Motor 4-pole 1500 rpm				Dimensioni semigiunti lato motore								
Frame size	kW	Hp	Shaft	Half-coupling code	D	L	d	Tol	ket	Tol	FG	Weight (kg)
63	0.12 - 0.16	0.18 - 0.24	11x23	SGEG01M01021	43	21	11		4		M6	0,32
71	0.25 - 0.34	0.37 - 0.50	14x30	SGEG01M02028	43	28	14		5		M6	0,42
80	0.53 - 0.75	0.75 - 1	19x40	SGEG01M03040	43	40	19		6		M6	0,61
90	1.1 - 1.5	1.5-2	24x50	SGEG01M04050	43	50	24		8		M6	0,77
100 - 112	2.2-4	3-5.5	28x60	SGEG31M05060	80	60	28	H7	8		M6	2,35
				SGEG40M05060	95	60	28		8		M8	2,65
132	5.5-7.5	7.5-12.5	38x80	SGEG31M06080	80	80	38		10		M6	3,15
				SGEG40M06080	95	80	38		10		M8	3,55
160	11-15	15-20	42x110	SGEG40M07110	95	110	42		12		M8	4,70
180	18-22	25-30	48x110	SGEG40M08110	95	110	48		14		M8	4,55
200	30	40	55x110	SGEG40M09110	95	110	55		16	JS9	M8	4,35
				SGEG60M09110	120	110	55		16		M8	9,00
225	37-45	50-60	60x140	SGEG60M10140	120	140	60		18		M8	12,30
250	55	75	65x140	SGEG60M11140	120	140	65		18		M8	12,00
				SGEG80M11140	160	140	65		18		M8	18,30
280	75-90	102-122	75x140	SGEG80M12140	160	140	75		20		M10	17,70
				SGEG90M12100	200	100	75	F6	20		M10	21,00
315	110-200	150-272	80x170	SGEG80M13170	160	170	80		22		M10	20,60
				SGEG90M13100	200	100	80		22		M10	20,00
355	250-315	340-428	95x140	SGEG90M15100	200	100	95		25		M10	19,00
400	355-400	482-544	100x210	SGEG90M16100	200	100	100		80		M10	18,00

TABLE 40 - Pump drive half-couplings

Half-coupling code	d min	d max	Tol	D	L min	L max	Standard lengths every 5 mm
SGEG01 *** **	/	24	H7	40	20	50	
SGEG30 *** **	/	42	H7	80	30	80	
SGEG40 *** **	/	55	H7	95	30	110	
SGEG60 *** **	/	75	H7	120	40	140	
SGEG80 *** **	/	85	H7	160	50	170	
SGEG90 *** **	/	100	H7	200	40	100	

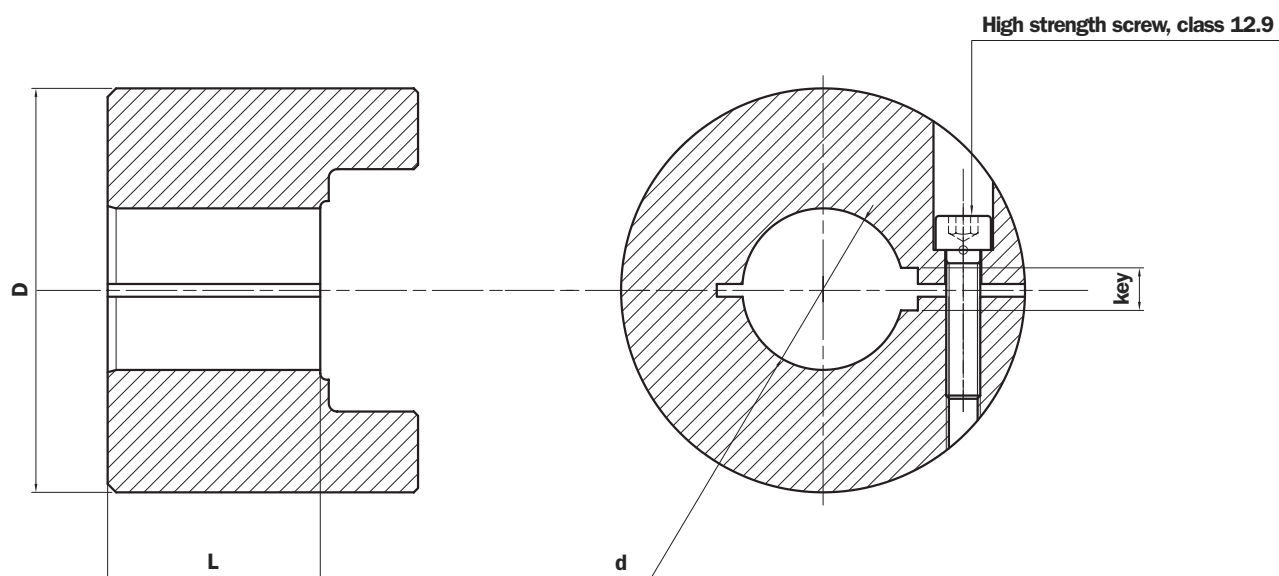
All SGEG series cast iron half-couplings are supplied with a grub screw hole as standard, and with a grub screw UNI 5929 DIN 916 fitted to the hub.

Note: For lengths other than those indicated in table 40, contact the MP Filtri Technical and Sales Department.

SGES*G0 series pump drive half-couplings

SGES series half-couplings, made of hardened and tempered C40 steel, are designed to eliminate any clearance between the hub and the shaft on which they are mounted.

All SGES couplings are balanced and supplied complete with property class 12.9 fixing screws.



SGES series motor half-couplings - steel

TABLE 41

Motor 4-pole 1500 rpm				Dimensions of motor half-coupling								
Frame size	kW	HP	Shaft	Half-coupling code	D	L	d	Tol	key	Tol	Screw	Weight (kg)
132	5.5-7.5	7.5-12.5	38x80	SGES40M06050G0	95	50	38		10		M8	4,00
160	11-15	15-20	42x110	SGES40M07065G0	95	65	42		12		M8	5,00
180	18-22	25-30	48x110	SGES40M08065G0	95	65	48		14		M8	5,00
200	30	40	55x110	SGES60M09085G0	120	85	55	H7	16	JS9	M10	8,00
225	37-45	50-61	60x140	SGES60M10085G0	120	85	60		18		M10	8,00
250	55	75	65x140	SGES60M11085G0	120	85	65		18		M10	8,00
280	75-90	102-122	75x140	SGES60M12085G0	120	85	75		20		M10	8,00
315	110-200	150-272	80x170	SGES80M13085G0	160	85	80		22		M10	13,00

SGES series pump half-couplings - steel

TABLE 42

Half-coupling code	d min	d max	Tol	D	L
SGES40 *** **	/	55	H7	95	35
SGES60 *** **	/	65	H7	120	65
SGES80 *** **	/	75	H7	160	85

Complete the half-coupling designation with the pump interface code and the length.

Ex. **SGES40PD02050 PD02** See **Table 43 - 44**

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Half-coupling bore size codes

TABLE 43

Bore size code - cylindrical shafts (SGEA - SGEG - SGES series)																	
Diameter	key	Code	Diameter	key	Code	Diameter	key	Code	Diameter	key	Code	Diameter	key	Code	Diameter	key	Code
12	4	C00	35	10	D05	14	5	M02	19,05	4,76	G01	13,45	3,18	H07			
15	5	C01	40	12	D06	19	6	M03	22,22	4,76	G02	17,46	4,76	H08			
16	4	C02	45	14	D07	24	8	M04	22,22	6,35	G03	12,7	3,18	H09			
16	5	C03	50	14	D08	28	8	M05	25,4	4,76	G04	15,87	3,97	L00			
17	5	C04	70	20	D09	38	10	M06	25,4	6,35	G05	22,22	4	L01			
18	6	C05	22	8	D10	42	12	M07	31,75	6,35	G06	28,58	6,35	L02			
20	5	C06	8	3	E00	48	14	M08	31,75	7,94	G07	19,05	6,35	L03			
19	5	C07	10	3	E01	55	16	M09	34,94	7,94	G08	47,63	12,7	L04			
30	10	C08	22	5	E02	60	18	M10	38,1	9,52	G09	85,73	22,23	L05			
20	6	C09	32	8	E03	65	18	M11	41,27	9,52	H00	60,33	15,88	L06			
16	5	C10	35	8	E04	75	20	M12	44,45	11,11	H01	60,33	12,7	L07			
22	6	D00	82	22	E05	80	22	M13	50,8	12,7	H02	73,03	19,05	L08			
24	6	D01	25	7	E06	90	25	M14	53,94	12,7	H03	92,07	22,22	L09			
25	8	D02	63	18	E07	95	25	M15	19,02	3,17	H04	41,6	12	L10			
30	8	D03	9	3	M00	100	28	M16	25,4	4,76	H05						
32	10	D04	11	4	M01	11,11	3,18	G00	15,87	4,76	H06						

Combinations with double key:

G02+G03 **2E** G06+G07 **2G** C07+M03 **2L** D01+M04 **2N**

G04+G05 **2F** C02+C03 **2H** C06+C09 **2M** D03+C08 **2P**

Ex. Code SGEA21G02050**2E**

TABLE 44

Bore size code - splined shafts (SGEG - SGES half-couplings only)											
Profile	Standard	Code	Profile	Standard	Code	Profile	Standard	Code	Profile	Standard	Code
17th 8/16	Diametral Pitch	PD01	30th 32/64	Diametral Pitch	PD24	W55x2x26	DIN 5480	PA16	A55x50	DIN 5482	PB18
14th 12/24	Diametral Pitch	PD02	33th 32/64	Diametral Pitch	PD25	W60x2x28	DIN 5480	PA17	A58x53	DIN 5482	PB19
16th 12/24	Diametral Pitch	PD03	23th 40/80	Diametral Pitch	PD26	W70x2x34	DIN 5480	PA18	A60x55	DIN 5482	PB20
17th 12/24	Diametral Pitch	PD04	36th 48/96	Diametral Pitch	PD27	W80x2x38	DIN 5480	PA19	A62x57	DIN 5482	PB21
9th 16/32	Diametral Pitch	PD05	41th 48/96	Diametral Pitch	PD28	W60x3x18	DIN 5480	PA20	A65x60	DIN 5482	PB22
11th 16/32	Diametral Pitch	PD06	47th 48/96	Diametral Pitch	PD29	W70x3x22	DIN 5480	PA21	A68x62	DIN 5482	PB23
12th 16/32	Diametral Pitch	PD07	13th 8/16	Diametral Pitch	PD30	A15x12	DIN 5482	PB01	A70x64	DIN 5482	PB24
13th 16/32	Diametral Pitch	PD08	15th 8/16	Diametral Pitch	PD31	A17x14	DIN 5482	PB02	A72x66	DIN 5482	PB25
15th 16/32	Diametral Pitch	PD09	W18x1,25x13	DIN 5480	PA01	A18x15	DIN 5482	PB03	A75x69	DIN 5482	PB26
21th 16/32	Diametral Pitch	PD10	W20x1,25x14	DIN 5480	PA02	A20x17	DIN 5482	PB04	A78x72	DIN 5482	PB27
23th 16/32	Diametral Pitch	PD11	W25x1,25x18	DIN 5480	PA03	A22x19	DIN 5482	PB05	A80x74	DIN 5482	PB28
27th 16/32	Diametral Pitch	PD12	W28x1,25x21	DIN 5480	PA04	A25x22	DIN 5482	PB06	A82x76	DIN 5482	PB29
40th 16/32	Diametral Pitch	PD13	W32x1,25x24	DIN 5480	PA05	A28x25	DIN 5482	PB07	A85x79	DIN 5482	PB30
20th 24/48	Diametral Pitch	PD14	W38x1,25x29	DIN 5480	PA06	A30x27	DIN 5482	PB08	A88x82	DIN 5482	PB31
21th 24/48	Diametral Pitch	PD15	W30x2x14	DIN 5480	PA07	A32x28	DIN 5482	PB09	8x10	DIN 5481	PC01
23th 24/48	Diametral Pitch	PD16	W32x2x14	DIN 5480	PA08	A35x31	DIN 5482	PB10	10x12	DIN 5481	PC02
25th 24/48	Diametral Pitch	PD17	W35x2x16	DIN 5480	PA09	A38x34	DIN 5482	PB11	12x14	DIN 5481	PC03
26th 24/48	Diametral Pitch	PD18	W37x2x17	DIN 5480	PA10	A40x36	DIN 5482	PB12	15x17	DIN 5481	PC04
27th 12/48	Diametral Pitch	PD19	W38x2x18	DIN 5480	PA11	A42x38	DIN 5482	PB13	17x20	DIN 5481	PC05
28th 24/48	Diametral Pitch	PD20	W40x2x18	DIN 5480	PA12	A45x41	DIN 5482	PB14	21x24	DIN 5481	PC06
29th 24/48	Diametral Pitch	PD21	W42x2x18	DIN 5480	PA13	A48x44	DIN 5482	PB15	26x30	DIN 5481	PC07
32th 24/48	Diametral Pitch	PD22	W45x2x21	DIN 5480	PA14	A50x45	DIN 5482	PB16	30x34	DIN 5481	PC08
21th 32/64	Diametral Pitch	PD23	W50x2x24	DIN 5480	PA15	A52x47	DIN 5482	PB17	60x65	DIN 5481	PC09

For splined profiles other than those indicated in the table, contact the MP Filtri S.p.A. Technical and Sales Department.