

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

DATA REQUIRED

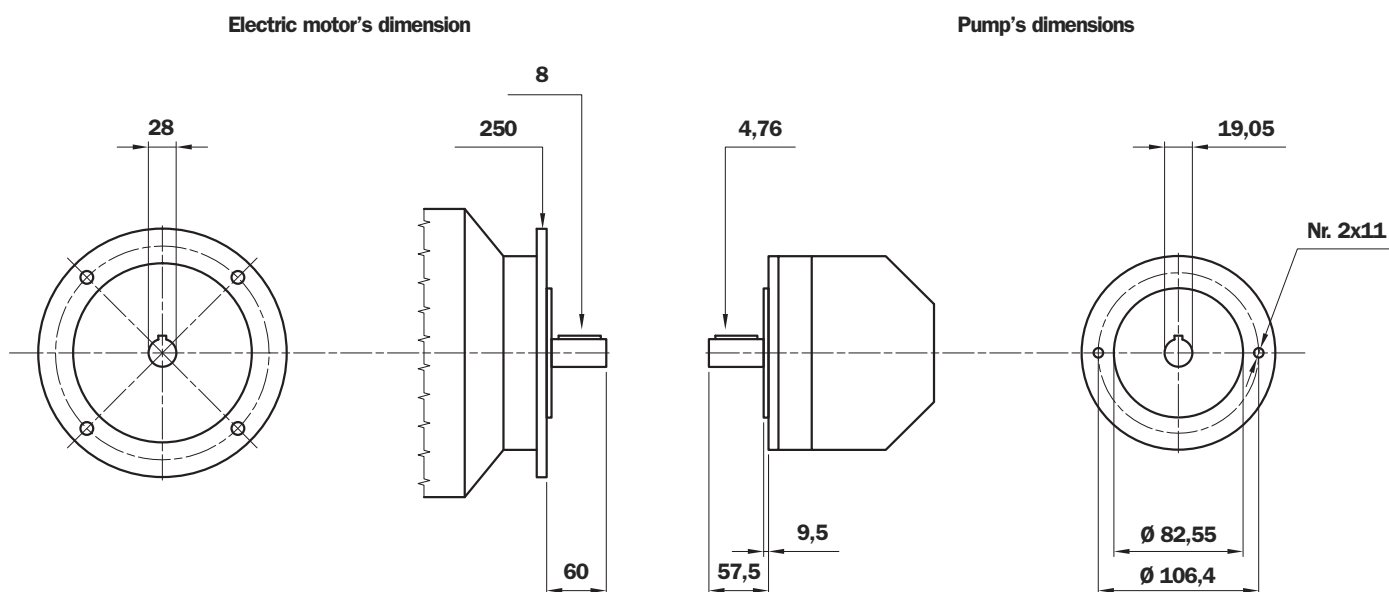
Electric motor power/motor size
 Manufacturer and pump type

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 O60
- 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**

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	43	15	20
	SGEA21	68	160	190
	SGEA31	85	340	380
	SGEA51	109,5	550	620
CAST IRON	SGEG01	40	20	30
	SGEG30	80	400	450
	SGEG40	95	550	620
	SGEG60	120	760	850
	SGEG80	160	2200	2500
	SGEG90	200	5500	6100
STEEL	SGES40	95	550	620
	SGES60	120	760	850
	SGES80	160	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

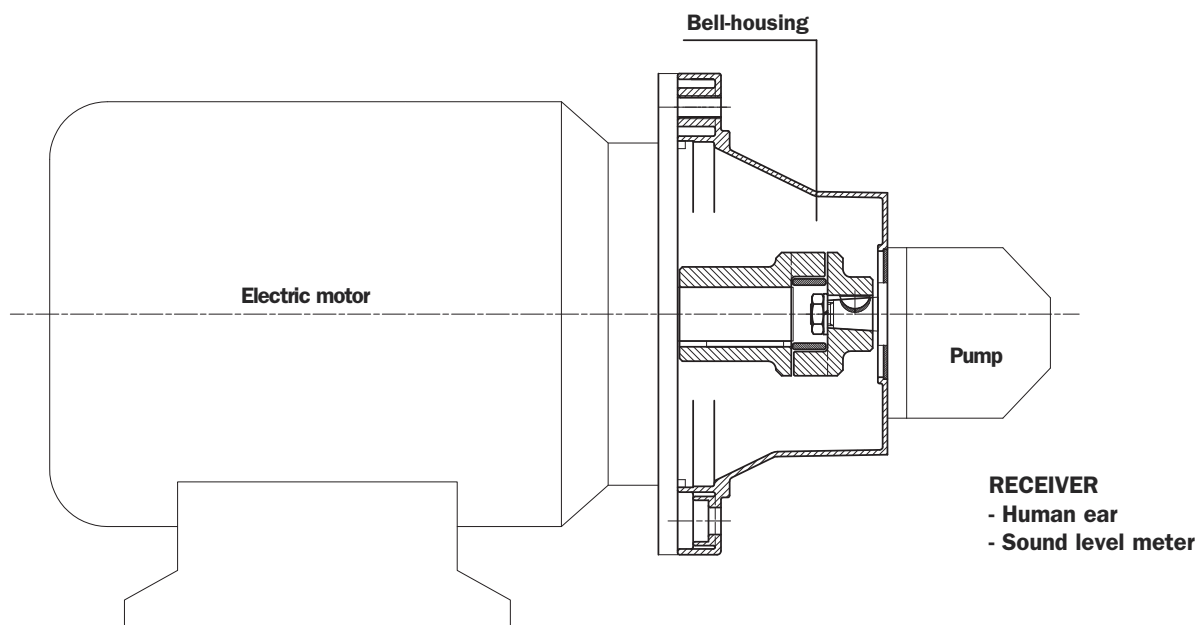
From a health and hygiene standpoint, noise can be defined as an unpleasant and undesirable sound, or an unpleasant and annoying or intolerable auditory sensation (noise being any sound phenomena that may be accompanied by sensations of disturbance and pain). By definition, acoustic phenomena are oscillatory 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.


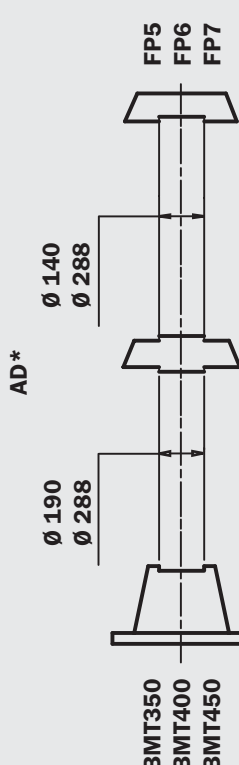
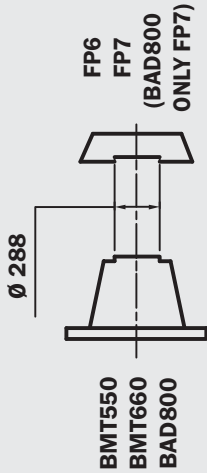
2. Motor and pump unit mounted horizontally on machine

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

Monobloc bell-housing

LMC series

LMC series monobloc bell-housings for gear pumps are used to interconnect **UNEL-MEC frame electric motors with B3 - B5 - B14** flange, and internal gear pumps with standard rectangular flange.

Accordingly, these components can be classified as standard units in terms both of the pump flange fixing holes, and of the shaft design.

Available with or without a removable centre ring, they will cover the majority of applications within a range including in electric motors from size **63** rated 0.12 kW, up to size **280** rated 75 kW.

Technical specifications

LMC

Materials

- **Monobloc bell-housing**
Pressure diecast aluminium alloy.
- **Pump flange**
Pressure diecast aluminium alloy.
- **Foot bracket**
Pressure diecast aluminium alloy.
- **Damping ring**
Vulcanized aluminium
- **Gaskets**
Special paper (guarnital).

Temperature

- $-30^{\circ}\text{C} \div +80^{\circ}\text{C}$
For temperatures outside this range,
contact the MP Filtri Technical and Sales Department.

Compatibility with fluids

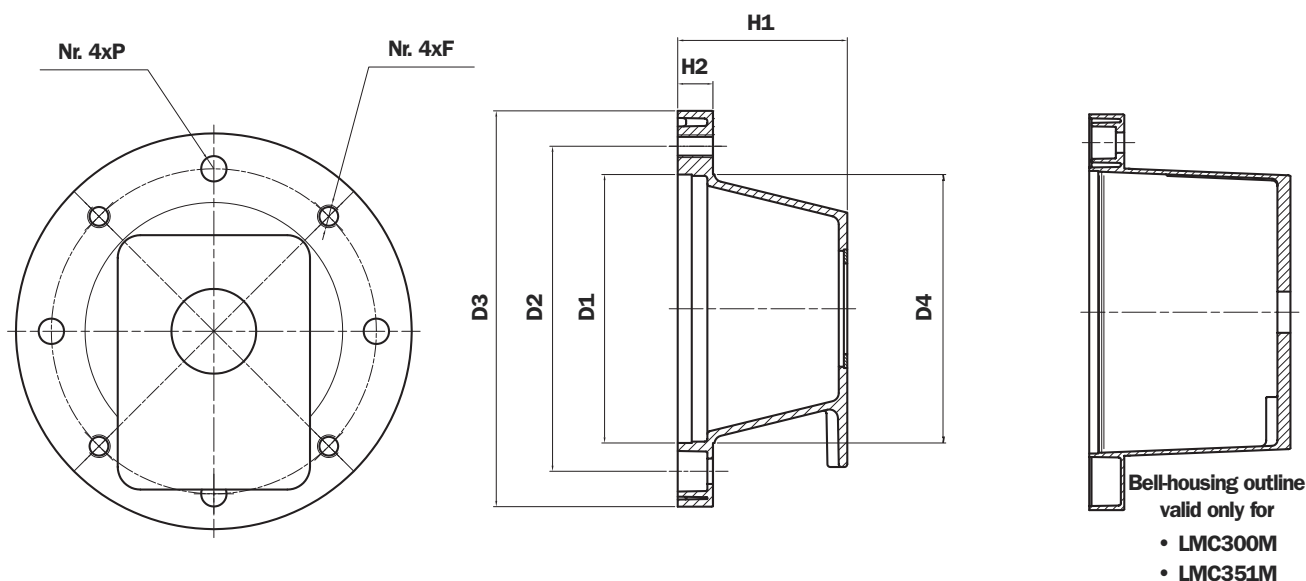
- **Monobloc bell-housing compatible for use with:**
 - Mineral oils**
Types HH-LL-HM-HR-HV-HC, to ISO 6743/4 standard
 - Water based emulsions**
Types HFAE - HFAS, to ISO 6743/4 standard
 - Water glycol**
Type HFC, to ISO 6743/4 standard
- Ask for anodized version**

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.**



Monobloc bell-housing for gear pumps



The auxiliary flange, if specified, is supplied already fitted to the bell-housing (MODUL-2).

Note: The hole made in the tank cover should be 2 mm larger than dimension D4

Machining tolerances

D1	F8
Spigot hole	H7
H1	± 0,15 mm

Concentricity of D1/Spigot hole

LMC 090 - LMC 160	0,15 mm
LMC 200 - LMC 350	0,20 mm
LMC 300 - LMC 450	0,25 mm

TABLE 12

Electric motor, 4-pole, 1500 rpm - B3/B5				Dimensions of LMC monobloc bell-housing												
Frame size	kW	Hp	Shaft	Bell-housing code	Foot bracket code	Damping ring code	D1	D2	D3	D4	H1	H2	F	P	Weight (kg)	
63	0.12-0.18	0.16-0.24	11x23	LMC 140	/	/	95	115	140	100		13	M8	9	0,35	
63	0.12-0.18	0.16-0.24	11x23	LMC 141	/	/	95	115	140	100		13	M8	9	0,35	
71	0.25-0.37	0.34-0.50	14x30	LMC 160	PDM A 160	/	110	130	160	110		15	M8	9	0,44	
71	0.25-0.37	0.34-0.50	14x30	LMC 161	PDM A 160	/	110	130	160	110		15	M8	9	0,44	
80	0.53-0.75	0.75-1	19x40	LMC 200	PDM A 200	ANM A 200	130	165	200	135		18	M10	11	0,68	
90	1.1-1.5	1.5-2	24x50	LMC 201	PDM A 200	ANM A 200	130	165	200	135		18	M10	11	0,80	
100-112	2.2-4	3-5.5	28x60	LMC 250	PDM A 250	ANM A 250	180	215	250	185		19	M12	14	1,16	
132	5.5-7.5	7.5-12.5	38x80	LMC 300	PDM A 300	ANM A 300	230	265	300	235		23	M12	14	2,55	
160	11-15	15-20	42x110	LMC 351	PDM A 350	ANM A 350	250	300	350	255		31	M16	18	4,90	
180	18-22	25-30	48x110	LMC 351	PDM A 350	ANM A 350	250	300	350	255		31	M16	18	4,90	
						For dimension see page 55						For dimension see page 56				
												See Tab. 15-16				

TABLE 13

Electric motor, 4-pole, 1500 rpm - B14				Dimensions of LMC monobloc bell-housing												
Frame size	kW	Hp	Shaft	Bell-housing code	Foot bracket code	Damping ring code	D1	D2	D3	D4	H1	H2	F	P	Weight (kg)	
63	0.12-0.18	0.16-0.24	11x23	LMC 090	/	/	60	75	90	63		7	7	7	0,30	
71	0.25-0.37	0.34-0.50	14x30	LMC 105	/	/	70	85	105	74		8	6	6	0,35	
80	0.53-0.75	0.75-1	19x40	LMC 120	/	/	80	100	120	84		9	7	7	0,35	
90	1.1-1.5	1.5-2	24x50	LMC 141	/	/	95	115	140	100		13	M8	9	0,51	
100-112	2.2-4	3-5.5	28x60	LMC 161	PDM A 160	/	110	130	160	110		15	M8	9	0,60	
						For dimension see page 55						For dimension see page 56				
												See Tab. 17				

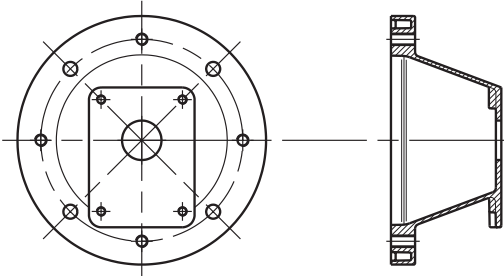
To determine dimension H1 of the bell-housing see pages 22 - 23 - 24

Note: For larger dimensions, contact the MP Filtri Technical and Sales Department.

Versions

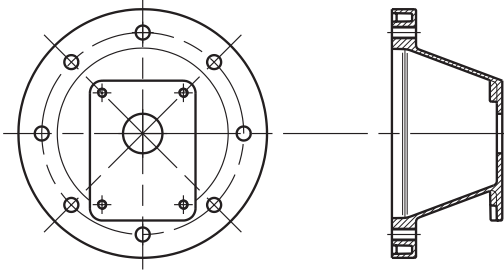
In order to ensure greater adaptability across a wide range of applications, **LMC** monobloc bell-housings for gear pumps can be supplied in 4 different versions:

LMC *** 4S



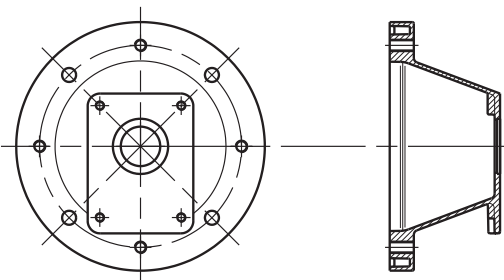
Without centre ring allowing removal of half-coupling (which as a rule is keyed permanently to the pump shaft); motor mounting flange drilled with 4 clearance holes + 4 threaded holes. Used normally for vertically mounted motor and pump units with pump submerged in the oil tank.

LMC *** 8S



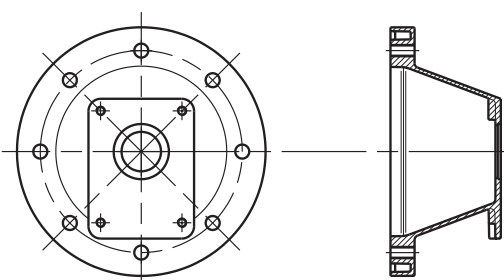
Without centre ring allowing removal of half-coupling (which as a rule is keyed permanently to the pump shaft); motor mounting flange drilled with 8 clearance holes. Used normally for vertically mounted motor and pump units with pump submerged in the oil tank; allows greater flexibility for directional positioning of the hydraulic pump inside the tank, according to constructional requirements.

LMC *** 4E



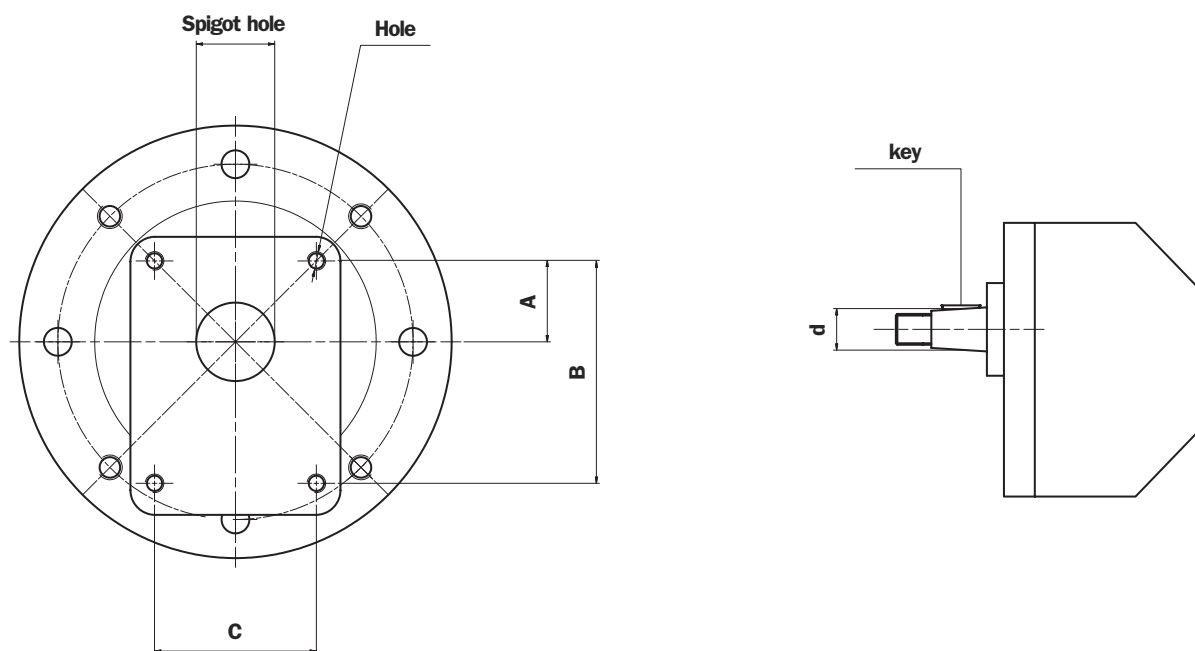
With centre ring allowing removal of half-coupling (which as a rule is keyed permanently to the pump shaft); motor mounting flange drilled with 4 clearance holes + 4 threaded holes. Normally used for motor and pump units mounted horizontally on the tank lid or on the machine, for maximum ease of maintenance. With this type of mounting, in effect, the hydraulic pump can be removed without removing the motor. The half-coupling mounted to the shaft passes through the spigot hole.

LMC *** 8E



With centre ring allowing removal of half-coupling (which as a rule is keyed permanently to the pump shaft); motor mounting flange drilled with 8 clearance holes. Normally used for motor and pump units mounted horizontally on the tank lid or on the machine; offers maximum ease of maintenance, and enables directional positioning of the pump. With this type of mounting, in effect, the hydraulic pump can be removed without removing the motor. The half-coupling mounted to the shaft passes through the spigot hole.

Designation of pump flange and shaft



The auxiliary flange, if specified, is supplied already fitted to the bell-housing (MODUL-2).

• For technical information see “DRIVE COUPLINGS”.

TABLE 14

Pump group	Spigot hole	A	B	C	Hole	Pump flange code	Shaft type	d	key	Pump half-coupling code
05	22	25.5	66	/	M6	FS05M	cilindrico	6	2	FS05M
	22	25.5	66	/	M6	FS05C	cilindrico	7	2	FS05C
1	25.4	26.2	72	52	M6	FS100	con. 1:8	9.7	2.4	FS100
	30	24.5	73	56	M6	FS1M0	cilindrico	12	3	FS1C0
	30	24.5	73	56	M6	FS1M0	con. 1:8	13.9	3	FS1M0
2	36.5	32.5	96	71.5	M8	FS200	con. 1:8	17.2	3.2/4	FS200
3	50.8	43	128	98.5	M8	FS25T	con. 1:8	22.2	4	FS300
	50.8	42	128	98.5	M10	FS300	con. 1:8	22.2	4	FS300
	50.8	43	128	98.5	M10	FS3M0	con. 1:8	22.2	4	FS300
	50.8	45	137	98.5	M10	FS3T0	con. 1:8	22.2	4	FS300
3.5	60	48.5	148	127	M12	FS35M	con. 1:8	25.6	4.76/5	FS350
	60.3	49.5	149.5	114.3	M10	FS350	con. 1:8	25.6	4.76/5	FS350
4	63.5	65	196	142.8	M12	FS4M0	con. 1:8	33.3	6.35/7	FS400
	63.5	64.3	188	143	M12	FS400	con. 1:8	33.3	6.35/7	FS400
Bosch	32	10.3	40	40	M8	FSZBR	con. 1:5	9.8	2	FSZBR
	80	34.5	100	72	M8	FSZFR	con. 1:5	16.9	3	FSZFR
	105	48	145	102	M10	FSZGR	con. 1:5	25.2	5	FSZGR

Note: For any dimensions not indicated in Table 14, see tables 15 - 16 - 17 showing motor-pump combinations.

Table of combinations

Electric motors with B3 - B5 flange gear pumps

TABLE 15

Electric motor, 4-pole, 1500 rpm				Components of combination						
Motor size	kW	Hp	Motor shaft	Pump code	Bell-housing code	H1	Motor half-coupling code	Spider code	Pump half-coupling code	Centre ring code
63	0.12 0.18	0.16 0.24	11x23	FS05M	LMC140MFS05M4S	60	SGEA01M01021	EGE 0	SGEA01FS05M	/
				FS05C	LMC140MFS05M4S				SGEA01FS05C	/
				FS100	LMC140MFS100**				SGEA01FS100	ANC01FS100
				FS1C0	LMC140MFS1M0**				SGEA01FS1C0	ANC01FS1M0
				FS1M0	LMC140MFS1M0**				SGEA01FS1M0	ANC01FS1M0
				FSZBR	LMC140MFSZBR4S				SGEA01FSZBR	/
71	0.25 0.37	0.34 0.50	14x30	FS05M	LMC160MFS05M4S	70	SGEA01M02028	EGE 0	SGEA01FS05M	/
				FS05C	LMC160MFS05M4S				SGEA01FS05C	/
				FS100	LMC160MFS100**				SGEA01FS100	ANC01FS100
				FS1C0	LMC160MFS1M0**				SGEA01FS1C0	ANC01FS1M0
				FS1M0	LMC160MFS1M0**				SGEA01FS1M0	ANC01FS1M0
				FSZBR	LMC160MFSZBR4S				SGEA01FSZBR	/
80	0.53 0.75	0.75 1	19x40	FS05M	LMC200MFS05M4S	87	SGEA01M03048	EGE 0	SGEA01FS05M	/
				FS05C	LMC200MFS05M4S				SGEA01FS05C	/
				FS100	LMC200MFS100**				SGEA01FS100	ANC01FS100
				FS1C0	LMC200MFS1M0**				SGEA01FS1C0	ANC01FS1M0
				FS1M0	LMC200MFS1M0**				SGEA01FS1M0	ANC01FS1M0
				FSZBR	LMC200MFSZBR4S				SGEA01FSZBR	/
				FS200	LMC201MFS200**	95	SGEA21M03048	EGE 2	SGEA21FS200	ANC02FS200
				FSZFR	LMC201MFSZFR4S	SGEA21FSZFR	/			
90	1.1 1.5	1.5 2	24x50	FS05M	LMC200MFS05M4S	87	SGEA01M04048	EGE 0	SGEA01FS05M	/
				FS05C	LMC200MFS05M4S				SGEA01FS05C	/
				FS100	LMC200MFS100**				SGEA01FS100	ANC01FS100
				FS1C0	LMC200MFS1M0**				SGEA01FS1C0	ANC01FS1M0
				FS1M0	LMC200MFS1M0**				SGEA01FS1M0	ANC01FS1M0
				FSZBR	LMC200MFSZBR4S				SGEA01FSZBR	/
				FS200	LMC201MFS200**	95	SGEA21M04048	EGE 2	SGEA21FS200	ANC02FS200
				FSZFR	LMC201MFSZFR4S	SGEA21FSZFR	/			
100 112	2.2 4	3 5.5	28x60	FS100	LMC250MFS1004S	105	SGEA21M05055	EGE 2	SGEA21FS100	/
				FS1C0	LMC250MFS1M04S				SGEA21FS1C0	/
				FS1M0	LMC250MFS1M04S				SGEA21FS1M0	/
				FSZBR	LMC250MFSZBR4S				SGEA21FSZBR	/
				FS200	LMC250MFS200**				SGEA21FS200	ANC02FS200
				FSZFR	LMC250MFSZFR4S				SGEA21FSZFR	/
				● FS25T	LMC250MFS25T4E	126	SGEA21FS300	ANC0005		
				● FS300	LMC250MFS3004E		SGEA21FS300	ANC0005		
				● FS3M0	LMC250MFS3M04E		SGEA21FS300	ANC0005		
				● FS3T0	LMC250MFS3T04E		SGEA21FS300	ANC0005		

● Bell-housing with auxiliary flange + centre ring

Note: The two final asterisks in the bell-housing code indicate the version.
See "Ordering information" pages 28 - 29.

Table of combinations

Electric motors with B3 - B5 flange gear pumps

TABLE 16

Electric motor, 4-pole, 1500 rpm				Components of combination						
Motor size	kW	Hp	Motor shaft	Pump code	Bell-housing code	H1	Motor half-coupling code	Spider code	Pump half-coupling code	Centre ring code
132	5.5	7.5	38x80	FS100	LMC300MFS1004S	145	SGEA31M06077	EGE 3	SGEA31FS100	/
				FS1C0	LMC300MFS1M04S				SGEA31FS1C0	/
	FS1M0	LMC300MFS1M04S		SGEA31FS1M0	/					
	FSZGR	LMC300MFSZGR4S		SGEA31FSZGR	/					
	FS200	LMC300MFS200**		SGEA31FS200	ANC03FS200					
	FSZFR	LMC300MFSZFR4S		SGEA31FSZFR	/					
	FS25T	LMC300MFS25T**		SGEA31FS300	ANC03FS300					
	FS300	LMC300MFS300**		SGEA31FS300	ANC03FS300					
	FS3M0	LMC300MFS3M0**		SGEA31FS300	ANC03FS300					
	FS3T0	LMC300MFS3T0**		SGEA31FS300	ANC03FS300					
	FS35M	LMC300MFS35M**		SGEA31FS350	ANC03FS350					
	FS350	LMC300MFS350**		SGEA31FS350	ANC03FS300					
160	11	15	42x110	FSZGR	LMC351MFSZGR4S	179	SGEA51M07109	EGE 5	SGEA51FSZGR	/
				FS200	LMC351MFS2004S				SGEA51FS200	/
	FSZFR	LMC351MFSZFR4S		SGEA51FSZFR	/					
	FS25T	LMC351MFS25T**		SGEA51FS300	ANC04FS300					
	FS300	LMC351MFS300**		SGEA51FS300	ANC04FS300					
	FS3M0	LMC351MFS3M0**		SGEA51FS300	ANC04FS300					
	FS3T0	LMC351MFS3T0**		SGEA51FS300	ANC04FS300					
	FS35M	LMC351MFS35M**		SGEA51FS350	ANC04FS350					
	FS350	LMC351MFS350**		SGEA51FS350	ANC04FS350					
180	18.5	25	48x110	FSZGR	LMC351MFSZGR4S	179	SGEA51M08109	EGE 5	SGEA51FSZGR	/
				FS200	LMC351MFS2004S				SGEA51FS200	/
	FSZFR	LMC351MFSZFR4S		SGEA51FSZFR	/					
	FS25T	LMC351MFS25T**		SGEA51FS300	ANC04FS300					
	FS300	LMC351MFS300**		SGEA51FS300	ANC04FS300					
	FS3M0	LMC351MFS3M0**		SGEA51FS300	ANC04FS300					
	FS3T0	LMC351MFS3T0**		SGEA51FS300	ANC04FS300					
	FS35M	LMC351MFS35M**		SGEA51FS350	ANC04FS350					
	FS350	LMC351MFS350**		SGEA51FS350	ANC04FS350					

For dimensions of motor half-coupling see page 25

For dimensions of spiders see page 49

For dimensions of pump half-coupling see page 25

Note: The two final asterisks in the bell-housing code indicate the version.

See "Ordering information" pages 28 - 29.

Table of combinations

Electric motors with B14 flange gear pumps

TABELLA 17

Electric motor, 4-pole, 1500 rpm				Components of combination							
Motor size	kW	Hp	Motor shaft	Pump code	Bell-housing code	H1	Motor half-coupling code	Spider code	Pump half-coupling code	Centre ring code	
63	0.12 0.18	0.16 0.25	11x23	FS05M	LMC090MFS05M4E	60	SGEA01M01021	EGE 0	SGEA00FS05M	ANCA001	
				FS05C	LMC090MFS05M4E				SGEA01FS05C	ANCA001	
				FS100	LMC090MFS1004E				SGEA01FS100	ANCO1FS100	
				FS1C0	LMC090MFS1M04E				SGEA01FS1C0	ANCO1FS1M0	
				FS1M0	LMC090MFS1M04E				SGEA01FS1M0	ANCO1FS1M0	
				FSZBR	LMC090MFSZBR4E				SGEA01FSZBR	/	
71	0.25 0.37	0.35 0.55	14x30	FS05M	LMC105MFS05M4E	67	SGEA01M02028	EGE 0	SGEA01FS05M	ANCA001	
				FS05C	LMC105MFS05M4E				SGEA01FS05C	ANCA001	
				FS100	LMC105MFS1004E				SGEA01FS100	ANCO1FS100	
				FS1C0	LMA105MFS1C04E				SGEA01FS1C0	ANCO1FS1M0	
				FS1M0	LMC105MFS1M04E				SGEA01FS1M0	ANCO1FS1M0	
				FSZBR	LMC105MFSZBR4E				SGEA01FSZBR	/	
80	0.55 0.75	0.75 1	19x40	FS05M	LMC120MFS05M4E	87	SGEA01M03048	EGE 0	SGEA01FS05M	ANCA001	
				FS05C	LMC120MFS05M4E				SGEA01FS05C	ANCA001	
				FS100	LMC120MFS1004E				SGEA01FS100	ANCO1FS100	
				FS1C0	LMC120MFS1M04E				SGEA01FS1C0	ANCO1FS1M0	
				FS1M0	LMC120MFS1M04E				SGEA01FS1M0	ANCO1FS1M0	
				FSZBR	LMC120MFSZFR4S				SGEA01FSZBR	/	
				FS200	LMC121MFS2004E	95	SGEA21M03048	EGE 2	SGEA21FS200	ANC02FS200	
				FSZFR	LMC121MFSZFR4S	SGEA21FSZFR	/				
90	1.1 1.5	1.5 2	24x50	FS05M	LMC141MFS05M4S	95	SGEA01M04048	EGE 0	SGEA01FS05M	ANCA001	
				FS05C	LMC141MFS05M4S				SGEA01FS05C	ANCA001	
				FS100	LMC141MFS100**				SGEA01FS100	ANCO1FS100	
				FS1C0	LMC141MFS1M0**				SGEA01FS1C0	ANCO1FS1M0	
				FS1M0	LMC141MFS1M0**				SGEA01FS1M0	ANCO1FS1M0	
				FSZBR	LMC141MFSZBR4S				SGEA01FSZBR	/	
				FS200	LMC141MFS200**	95	SGEA21M04048	EGE 2	SGEA21FS200	ANC02FS200	
				FSZFR	LMC141MFSZFR4S	SGEA21FSZFR	/				
100 112	2.2 4	3 5.5	28x60	FS05M	LMC161MFS05M4S	105	SGEA21M05055	EGE 2	SGEA21FS05M	/	
				FS05C	LMC161MFS05M4S				SGEA21FS05C	/	
				FS100	LMC161MFS1004S				SGEA21FS100	/	
				FS1C0	LMC161MFS1M04S				SGEA21FS1C0	/	
				FS1M0	LMC161MFS1M04S				SGEA21FS1M0	/	
				FSZBR	LMC161MFSZBR4S				SGEA21FSZBR	/	
				FS200	LMC161MFS200**				SGEA21FS200	ANC02FS200	
				FSZFR	LMC161MFSZFR4S				SGEA21FSZFR	/	

For dimensions of motor half-coupling see page 25

For dimensions of spiders see page 49

For dimensions of pump half-coupling see page 25

Note: The two final asterisks in the bell-housing code indicate the version.

See "Ordering information" pages 28 - 29.

Dimensions of SGEA series motor half-coupling aluminium

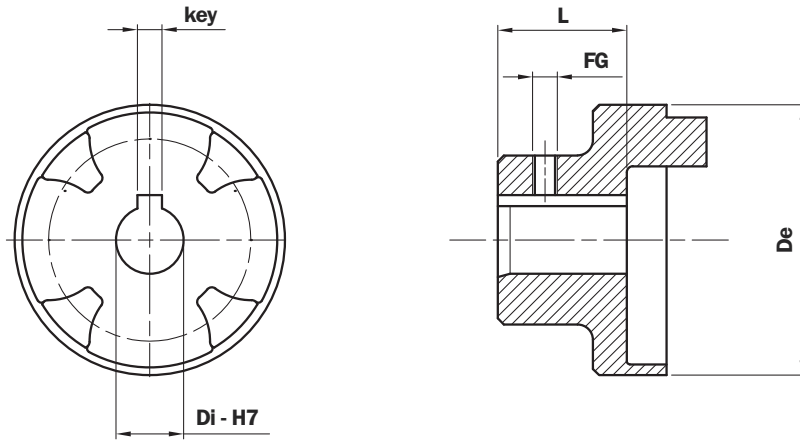


TABLE 18

Half-coupling code	De	L	Di	key	FG
SGEA01M01021	44	21	11	4	M5
SGEA01M02028	44	28	14	5	M5
SGEA01M03048	44	48	19	6	M5
SGEA01M04048	44	48	24	8	M5

Half-coupling code	De	L	Di	key	FG
SGEA21M05055	65	55	28	8	M6
SGEA31M06077	85	77	32	10	M8
SGEA51M07109	105	109	42	12	M8
SGEA51M08109	105	109	48	14	M8

Note: Screw not included

Dimensions of SGEA series pump half-coupling aluminium

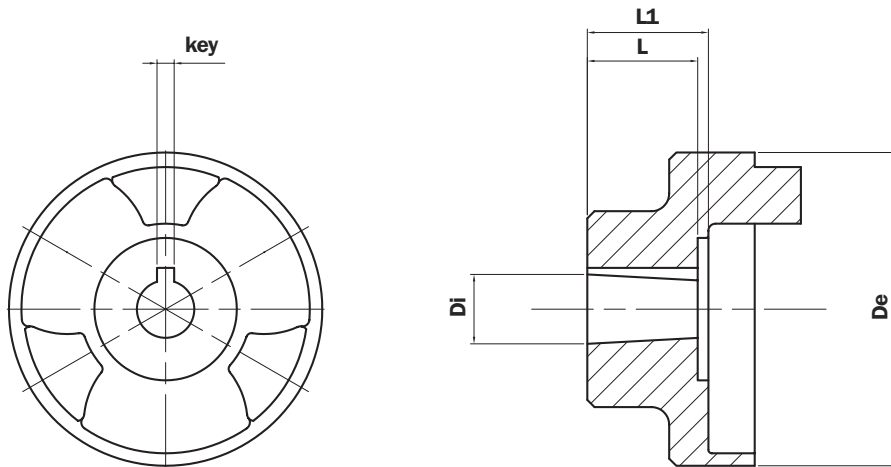


TABLE 19

Half-coupling code	De	L	L1	Di	key
SGEA01FS05M	44	10	16	06	2
SGEA01FS05C	44	10	16	07	2
SGEA01FS100	44	14,5	16	9,7	2,4
SGEA01FS1M0	44	16	16	13,9	3
SGEA01FS1C0	44	16	16	12	3
SGEA01FSZBR	44	16	16	9,8	2
SGEA21FS100	65	14,5	21,5	9,7	2,4
SGEA21FS1C0	65	16	21,5	12	3
SGEA21FS1M0	65	16	21,5	13,9	3
SGEA21FS200	65	21,5	21,5	17,2	3,2-4
SGEA21FSZFR	65	20	21,5	16,9	3
SGEA21FS300	65	27	41	21,6	4

Half-coupling code	De	L	L1	Di	key
SGEA31FS100	85	14,5	37	9,7	2
SGEA31FS1C0	85	16	37	12	2
SGEA31FS1M0	85	16	37	13,9	2,4
SGEA31FS200	85	23	37	17,2	3,2-4
SGEA31FS300	85	27	37	21,6	4
SGEA31FS350	85	35	37	25,6	4,76-5
SGEA31FSZFR	85	20	37	16,9	3
SGEA31FSZGR	85	27	34	25,2	5
SGEA51FS200	105	21,5	32	17,2	3,2-4
SGEA51FS300	105	27	32	21,6	4
SGEA51FS350	105	35	32	25,6	5
SGEA51FSZFR	105	20	32	16,9	3
SGEA51FSZGR	105	27	32	25,2	5

Comparative table - Bell-housing

MP Filtri		OMT	Hydrapp	Raja	KTR
New code	Old code	Code	Code	Code	Code
LMC140MFS05M**	LMB140A060A001	LS140	/	/	/
LMC140MFS05C**	LMB140A060A001	LS140	/	/	/
LMC140MFS100**	LMB140A060A002	LS141	/	L45	/
LMC140MFS1C0**	LMB140A060A003	LS142	/	/	/
LMC140MFS1M0**	LMB140A060A003	LS142	/	B45	/
LMC140MFSZBR**	LMB140A060S013	LBS18	/	Bo45	/
LMC160MFS05M**	LMB160A067A001	LS160	HL1	H9	PL160/1/...
LMC160MFS05C**	LMB160A067A001	LS160	HL2	H9	PL160/1/...
LMC160MFS100**	LMB160A067A002	LS161	HL2	L9	PL160/1/...
LMC160MFS1C0**	LMB160A067A003*	LS162	HL3	L9	PL160/1/...
LMC160MFS1M0**	LMB160A067A003	LS162	HL4	B9	PL160/1/...
LMC160MFSZBR**	LMB160A067S013	LBS19	HLB1	Bo9	PL160/1/...
LMC200MFS05M**	LMB200A087A001	LS210	HL4L	H2	PL200/1/...
LMC200MFS05C**	LMB200A087A001*	LS210	HL4L	H2	PL200/1/...
LMC200MFS100**	LMB200A087A002	LS211	HL5L	L2	PL200/1/...
LMC200MFS1C0**	LMB200A087A003	LS212	HL6L	B2	PL200/1/...
LMC200MFS1M0**	LMB200A087A003	LS212	HL6L	B2	PL200/1/...
LMC200MFSZBR**	LMB200A087S013	LBS28	HLB3L	Bo2	PL200/1/...
LMC201MFS200**	LMB200A095C004	LS203	HL7SL	L7/4	PL200/2/...
LMC201MFSZBR**	LMB200A098S014	LS203	HLB12SL	Bo7	PL200/2/...
LMC250MFS100**	LMB250A109C002	LS250	HL8/1L	L6/3	PL250/1/...
LMC250MFS1C0**	LMB250A109C003	LS251	HL8L	B5	PL250/1/...
LMC250MFS1M0**	LMB250A109C003	LS251	HL8L	B5	PL250/1/...
LMC250MFSZBR**	LMB250A109S013	LBS22	HLB13L	Bo5	PL250/1/...
LMC250MFS200**	LMB250A109C004	LS252	HL9L	L6/3	PL250/1/...
LMC250MFSZFR**	LMB250A109S014	LBS23	HLB17L	Bo6	PL250/1/...
LMC250MFS25T**	LMB250A126D005	LS254	HL11	L4/3	PL250/7/...
LMC250MFS300**	LMB250A126D006	LBS25	HL11	L4/3	PL250/7/...
LMC250MFS3M0**	LMB250A126D007	LS256	HL11	L4/3	PL250/7/...
LMC250MFS3T0**	LMB250A126D006	LS257	HL11T	L34	PL250/7/...
LMC300MFS100**	/	LS210	/	/	PL300/2/...
LMC300MFS1C0**	/	LS211	/	/	PL300/2/...
LMC300MFS1M0**	/	LS311	/	/	PL300/2/...
LMC300MFSZBR**	/	/	/	/	PL300/2/...
LMC300MFS200**	LMB300A130D004	LS300	HL12	L13	PL300/2/...
LMC300MFSZR**	LMB300A130S014	LBS26	HLB22	Bo13	PL300/2/...
LMC300MFS25T**	LMB300A147D005	LS301	HL13	L12	PL300/2/...
LMC300MFS300**	LMB300A147D005	LS302	HL13	L12	PL300/2/...
LMC300MFS3M0**	LMB300A147D005	LS303	HL13	L12	PL300/2/...
LMC300MFS3T0**	LMB300A147D006	LS304	HL13T	L14	PL300/2/...
LMC300MFS35M**	/	LS305	/	L16	PL300/2/...
LMC300MFS350**	/	LS306	HLB28	L15	PL300/2/...
LMC351MFSZGR**	/	LBS27	HL15	Bo14	PL350/2/...
LMC351MFS200**	LMB350A160D004	LS350	HLB27	L17	PL350/2/...
LMC351MFSZR**	LMB350A160S014	LBS31	/	Bo18	PL350/2/...
LMC351MFS25T**	LMB350A179F005	LS351	/	L18	PL350/2/...
LMC351MFS300**	LMB350A179F005	LS352	/	L18	PL350/2/...
LMC351MFS3M0**	LMB350A179F005	LS353	/	L18	PL350/2/...
LMC351MFS3T0**	LMB350A179F006	LS354	/	L19	PL350/2/...
LMC351MFS35M**	/	LSE355	/	L21	PL350/2/...
LMC351MFS350**	/	LSE356	/	L20	PL350/2/...
LMC351MFSZGR**	/	LBS32	/	Bo19	PL350/2/...
LMC351MFS200**	LMB350A160D004	LS350	HL15	L17	PL350/2/...
LMC351MFSZR**	LMB350A160S014	LBS31	HLB27	Bo18	PL350/2/...
LMC351MFS25T**	LMB350A179F005	LS351	/	L18	PL350/2/...
LMC351MFS300**	LMB350A179F005	LS352	/	L18	PL350/2/...
LMC351MFS3M0**	LMB350A179F005	LS353	/	L18	PL350/2/...
LMC351MFS3T0**	LMB350A179F006	LS354	/	L19	PL350/2/...
LMC351MFS35M**	/	LSE355	/	L21	PL350/2/...

Note: The above table is guideline only.

All bell-housings of the MP Filtri range can be considered equivalent to the counterpart brands listed.

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

Comparative table - Half-coupling

MP Filtri		OMT
New code	Old code	Code
SGEA01FS05M	SGEA00B01018	ND48P05M
SGEA01FS05C	SGEA00B02018	ND48P05GT
SGEA01FS100	SGEA00B07018	ND48PU1P
SGEA01FS1C0	SGEA00B03014	ND48P1C
SGEA01FS1M0	SGEA00B06016	ND48PIM
SGEA01FSZBR	SGEA00B08014	ND48PZB
SGEA21FS100	SGEA20B07018	ND65PU1P
SGEA21FS1C0	SGEA20B03024	ND65P1C
SGEA21FS1M0	SGEA20B06024	ND65P1M
SGEA21FSZBR	SGEA20B08024	ND65PZB
SGEA21FS200	SGEA20B100242A	ND65P2
SGEA21FSZFR	SGEA20B13024	ND65PZF
SGEA21FS25T	SGEA20B16041	ND65Q3U
SGEA31FS100	SGEA30B07022	ND86PU1P
SGEA31FS1C0	/	ND86P1C
SGEA31FS1M0	SGEA30B06021	ND86P1M
SGEA31FSZBR	/	/
SGEA31FS200	SGEA30B100222A	ND86P2
SGEA31FSZFR	SGEA30B13020	ND86PZF
SGEA31FS300	SGEA30B16038	ND86P3U
SGEA31FS350	SGEA30B180382B	/
SGEA51FSZGR	SGEA50B17034	/
SGEA51FS200	/	/
SGEA51FSZFR	SGEA50B13032	ND108PZF
SGEA51FS300	SGEA50B16032	ND108P3U
SGEA51FS350	SGEA50B180342B	ND108Q35
SGEA51FS400	SGEA50B210462C	/

Note: The above table is guideline only.

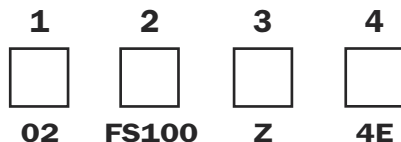
Not all half-couplings are fully interchangeable.

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

Ordering information AKA

Complete coupling kit AKA

Example: AKA



1 - Sizes

02	Size 63 B3-B5
03	Size 71 B3-B5
04	Size 80 B3-B5
05	Size 90 B3-B5
07	Size 100/112 B3-B5
11	Size 132 B3-B5
12	Size 160 B3-B5
13	Size 180 B3-B5
43	Size 63 B14
44	Size 71 B14
45	Size 80 B14
46	Size 90 B14
48	Size 100/112 B14

2 - Pump identification code

See table 14 page 21

3 - Product revision code

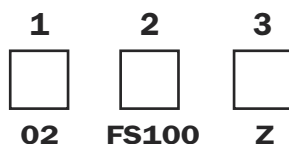
4 - Versions

4S	}	See page 20
4E		
8S		
8E		

Ordering information AKG

Coupling kit AKG

Example: AKG



1 - Sizes

02	Size 63 B3-B5
03	Size 71 B3-B5
04	Size 80 B3-B5
05	Size 90 B3-B5
07	Size 100/112 B3-B5
11	Size 132 B3-B5
12	Size 160 B3-B5
13	Size 180 B3-B5
43	Size 63 B14
44	Size 71 B14
45	Size 80 B14
46	Size 90 B14
48	Size 100/112 B14

2 - Pump identification code

See table 14 page 21

3 - Product revision code

Note: For customization features other than those indicated on this page, contact the Technical and Sales Department

