

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

## DATA REQUIRED

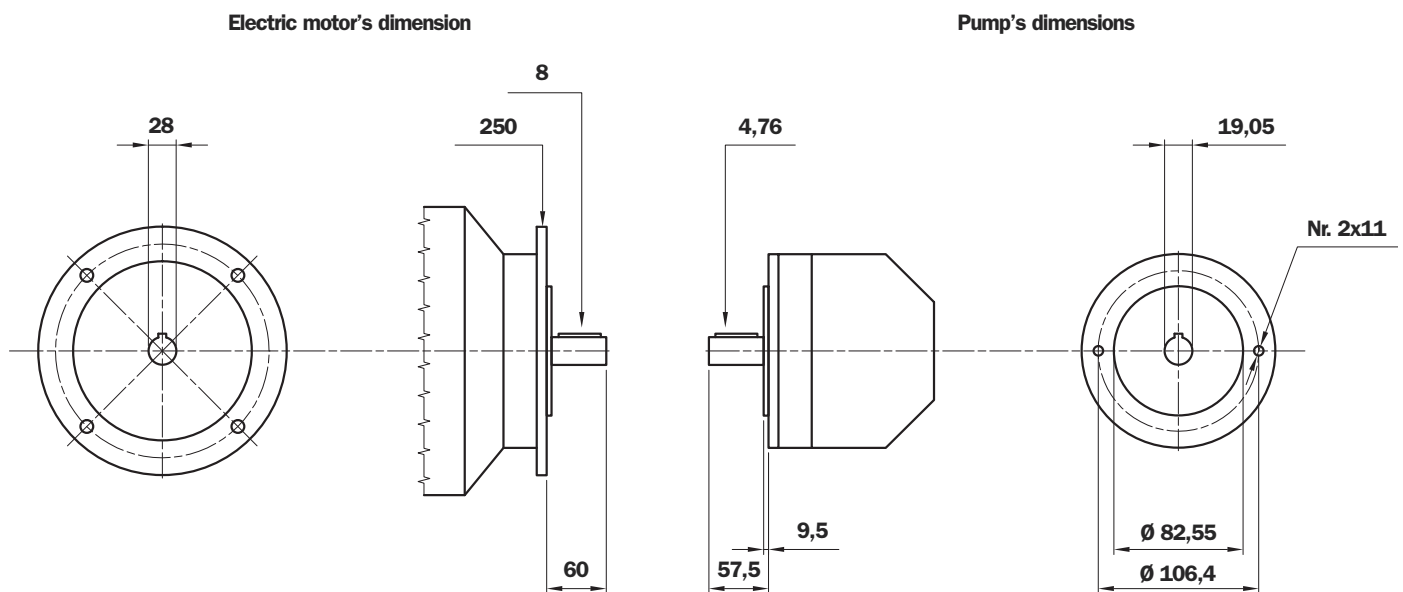
Electric motor power/motor size  
 Manufacturer and pump type

## 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= 101,6 - Nr. 2 holes M10: Code drilling 070
- Definitive bell-housing code **LMC250AFSQ070**

## 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= 101,6 - Nr. 2 holes M10: Code for. 070
- Definitive bell-housing code **LMS250AFSQ070**

## 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  
 $138 \text{ mm} - 60 - 18 - 9,5 = 50,5 \text{ mm}$

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

- Available length for SGEA21= 50 mm

- Code half-coupling code: **SGEA21G01050**

# 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	$\beta$ (°)
SGE * 01	1,5°
SGE * 21	
SGE * 31	
SGE * 40	
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](http://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**

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

**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
<b>ALUMINIUM</b>	SGEA01	15	20
	SGEA21	160	190
	SGEA31	340	380
	SGEA51	550	620
<b>CAST IRON</b>	SGEG01	20	30
	SGEG30	400	450
	SGEG40	550	620
	SGEG60	760	850
	SGEG80	2200	2500
	SGEG90	5500	6100
<b>STEEL</b>	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 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

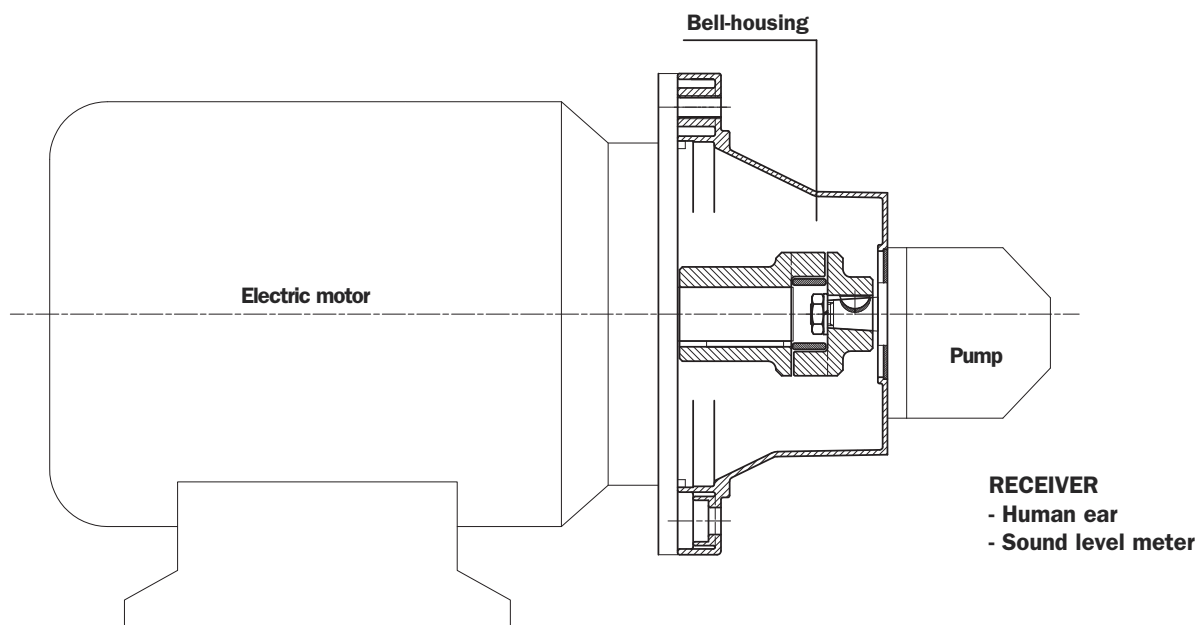
From a health and hygiene standpoint, noise can be defined as an unpleasant and undesirable sound, or an unpleasant and annoying or intolerable auditory sensation (noise being any sound phenomena that may be accompanied by sensations of disturbance and pain). By definition, acoustic phenomena are oscillatory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

	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
<b>MODUL 3</b>	<p>AR*</p> <p>BMT300 BMT350</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>Kit of assembly KVG5/7 (Q.ty 2)</p>						
<b>MODUL 2</b>	<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

## 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**

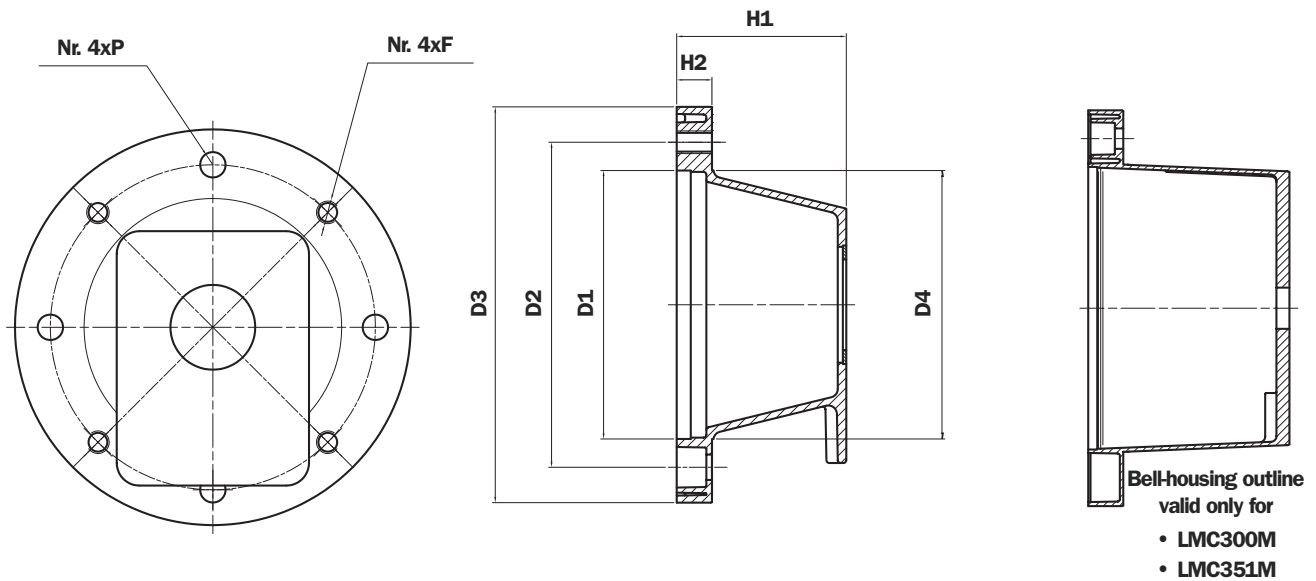
##### Special Applications

- **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				

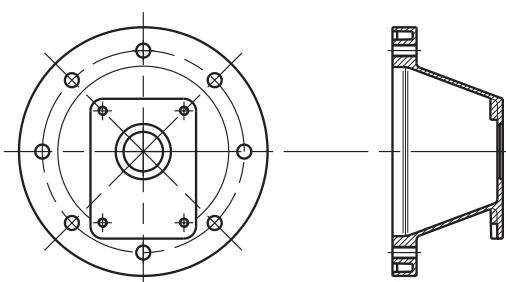
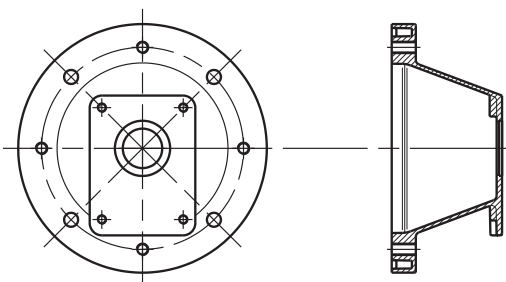
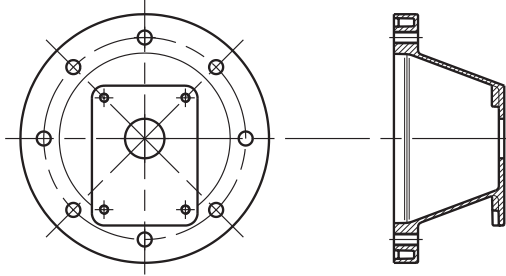
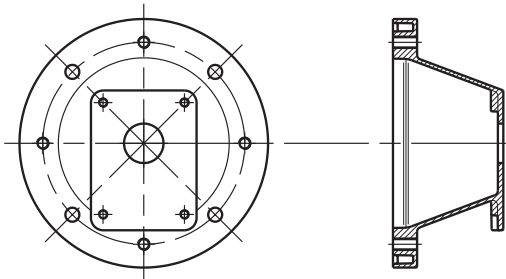
**TABLE 13**

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				

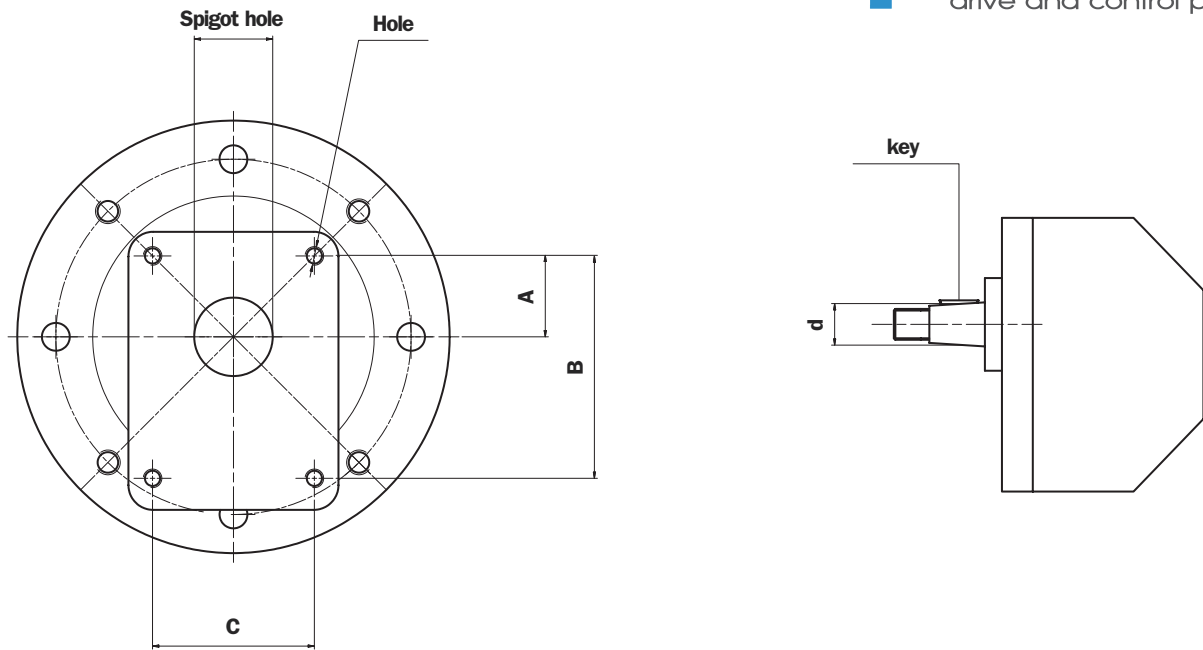
To determine dimension H1 of the bell-housing see pages 22 - 23 - 24

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

# Versions



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

**Note:** For any dimensions not indicated in Table 14, see tables 15 - 16 - 17 showing motor-pump 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	<b>ANC01FS100</b>
				FS1C0	LMC140MFS1M0**				SGEA01FS1C0	<b>ANC01FS1M0</b>
				FS1M0	LMC140MFS1M0**				SGEA01FS1M0	<b>ANC01FS1M0</b>
				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	<b>ANC01FS100</b>
				FS1C0	LMC160MFS1M0**				SGEA01FS1C0	<b>ANC01FS1M0</b>
				FS1M0	LMC160MFS1M0**				SGEA01FS1M0	<b>ANC01FS1M0</b>
				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	<b>ANC01FS100</b>
				FS1C0	LMC200MFS1M0**				SGEA01FS1C0	<b>ANC01FS1M0</b>
				FS1M0	LMC200MFS1M0**				SGEA01FS1M0	<b>ANC01FS1M0</b>
				FSZBR	LMC200MFSZBR4S				SGEA01FSZBR	/
				FS200	LMC201MFS200**	95	SGEA21M03048	EGE 2	SGEA21FS200	<b>ANC02FS200</b>
				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	<b>ANC01FS100</b>
				FS1C0	LMC200MFS1M0**				SGEA01FS1C0	<b>ANC01FS1M0</b>
				FS1M0	LMC200MFS1M0**				SGEA01FS1M0	<b>ANC01FS1M0</b>
				FSZBR	LMC200MFSZBR4S				SGEA01FSZBR	/
				FS200	LMC201MFS200**	95	SGEA21M04048	EGE 2	SGEA21FS200	<b>ANC02FS200</b>
				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	<b>ANC02FS200</b>
				FSZFR	LMC250MFSZFR4S				SGEA21FSZFR	/
				● FS25T	LMC250MFS25T4E	126	SGEA21FS300	<b>ANC0005</b>		
				● FS300	LMC250MFS3004E		SGEA21FS300	<b>ANC0005</b>		
				● FS3M0	LMC250MFS3M04E		SGEA21FS300	<b>ANC0005</b>		
				● FS3T0	LMC250MFS3T04E		SGEA21FS300	<b>ANC0005</b>		

● 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.

## 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	<b>ANC03FS200</b>					
	FSZFR	LMC300MFSZFR4S		SGEA31FSZFR	/					
	FS25T	LMC300MFS25T**		SGEA31FS300	<b>ANC03FS300</b>					
	FS300	LMC300MFS300**		SGEA31FS300	<b>ANC03FS300</b>					
	FS3M0	LMC300MFS3M0**		SGEA31FS300	<b>ANC03FS300</b>					
	FS3T0	LMC300MFS3T0**		SGEA31FS300	<b>ANC03FS300</b>					
	FS35M	LMC300MFS35M**		SGEA31FS350	<b>ANC03FS350</b>					
	FS350	LMC300MFS350**		SGEA31FS350	<b>ANC03FS300</b>					
160	11	15	42x110	FSZGR	LMC351MFSZGR4S	179	SGEA51M07109	EGE 5	SGEA51FSZGR	/
				FS200	LMC351MFS2004S				SGEA51FS200	/
	FSZFR	LMC351MFSZFR4S		SGEA51FSZFR	/					
	FS25T	LMC351MFS25T**		SGEA51FS300	<b>ANC04FS300</b>					
	FS300	LMC351MFS300**		SGEA51FS300	<b>ANC04FS300</b>					
	FS3M0	LMC351MFS3M0**		SGEA51FS300	<b>ANC04FS300</b>					
	FS3T0	LMC351MFS3T0**		SGEA51FS300	<b>ANC04FS300</b>					
	FS35M	LMC351MFS35M**		SGEA51FS350	<b>ANC04FS350</b>					
	FS350	LMC351MFS350**		SGEA51FS350	<b>ANC04FS350</b>					
180	18.5	25	48x110	FSZGR	LMC351MFSZGR4S	179	SGEA51M08109	EGE 5	SGEA51FSZGR	/
				FS200	LMC351MFS2004S				SGEA51FS200	/
	FSZFR	LMC351MFSZFR4S		SGEA51FSZFR	/					
	FS25T	LMC351MFS25T**		SGEA51FS300	<b>ANC04FS300</b>					
	FS300	LMC351MFS300**		SGEA51FS300	<b>ANC04FS300</b>					
	FS3M0	LMC351MFS3M0**		SGEA51FS300	<b>ANC04FS300</b>					
	FS3T0	LMC351MFS3T0**		SGEA51FS300	<b>ANC04FS300</b>					
	FS35M	LMC351MFS35M**		SGEA51FS350	<b>ANC04FS350</b>					
	FS350	LMC351MFS350**		SGEA51FS350	<b>ANC04FS350</b>					

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.

## 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

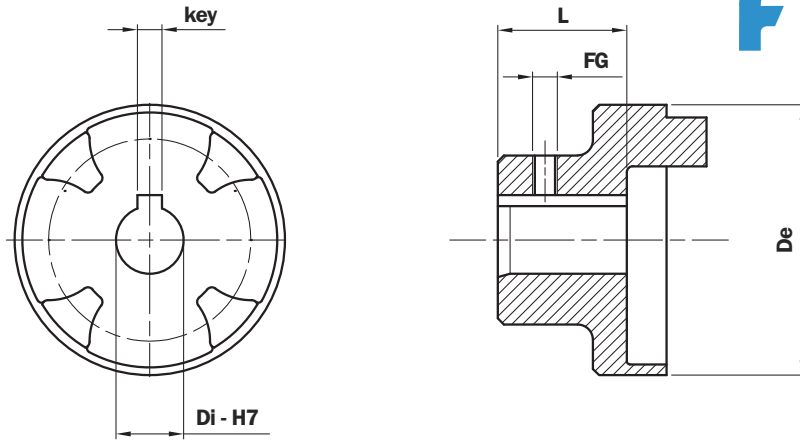
For dimensions of spiders see page 49

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



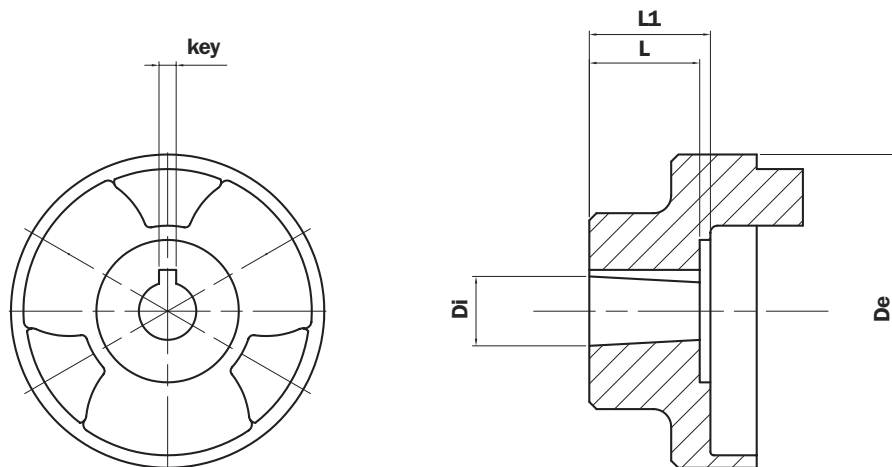
**TABLE 18**

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

**Note:** The above table is guideline only.

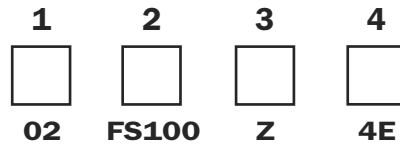
Not all half-couplings are fully interchangeable.

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

# Ordering information AKA

## Complete coupling kit AKA

Example: AKA



### 1 - Sizes

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

### 2 - Pump identification code

See table 14 page 21

### 3 - Product revision code

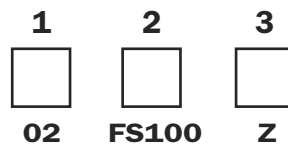
### 4 - Versions

<b>4S</b>	}	See page 20
<b>4E</b>		
<b>8S</b>		
<b>8E</b>		

# Ordering information AKG

## Coupling kit AKG

Example: AKG



### 1 - Sizes

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



## LMC series

**LMC** series monobloc bell-housings are used as connecting elements between **B3 - B5** flanged **UNEL-MEC** electric motors and a wide range of hydraulic pumps available on the international market.

With special machining, they can be modified to serve as motors base that will accept standard flanges manufactured by **MP Filtri S.P.A.** (MODUL-2).

Thanks to their considerable versatility and to the extensive range of pump flanges available, **LMC** series monobloc bell-housings are compatible with electric motors from **size 80, rated 0.5 kW**, up to **size 225, rated 37/45 kW**, and therefore suitable for most applications.

### Technical specifications

#### LMC

##### Materials

- **Monobloc bell-housing**  
Pressure diecast aluminium alloy.
- **Pump flange**  
Pressure diecast aluminium alloy.
- **Foot bracket**  
Pressure diecast aluminium alloy.

##### Temperature

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

##### Compatibility with fluids

- **Monobloc bell-housings compatible for use with:**

###### Mineral oils

Types HH-HL-HM-HR-HV-HG, to ISO 6743/4 standard

###### Water based emulsions

Types HFAE - HFAS, to ISO 6743/4 standard

###### Water glycol

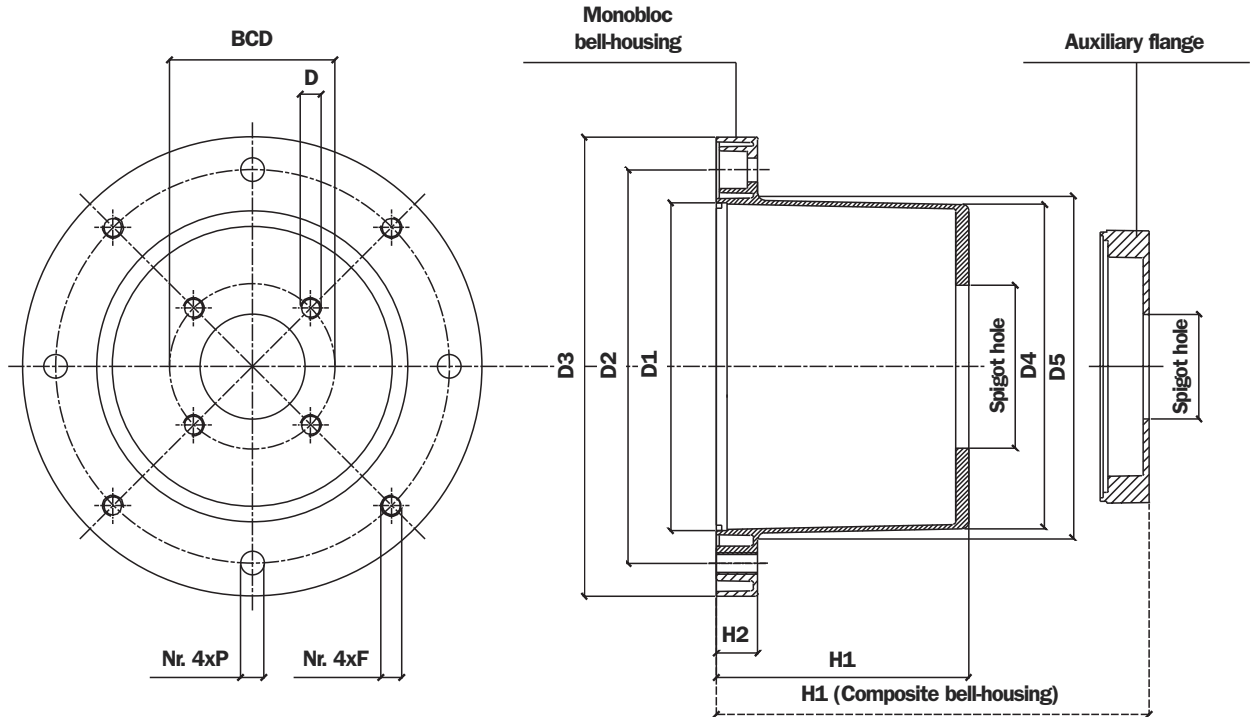
Type HFC, to ISO 6743/4 standard

**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**



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

- For loose components see pages 15 - 16 - 17
- Check that the pump interface dimensions are compatible with those of the bell-housing

**Note:** The hole made in the tank cover should be 2 mm larger than dimension D5

#### Machining tolerances

D1	F8
Spigot hole	H7
H1	± 0,15 mm

#### Concentricity of D1/Spigot hole

LMC 200 - LMC 350	0,20 mm
LMC 300 - LMC 450	0,25 mm

**TABLE 3**

Electric motor, 4-pole, 1500 rpm				Dimensions of LMC monobloc bell housing										
Frame size	kW	Hp	Shaft	Bell-housing code	Foot bracket code	D1	D2	D3	D4	D5	H1	H2	F	P
80	0.53-0.75	0.75-1	19x40	LMC 200	PDM A 200	130	165	200	125	135		18	M10	11
90	1.1-1.5	1.5-2	24x50	LMC 200	PDM A 200	130	165	200	125	135		18	M10	11
100-112	2.2-4	3-5.5	28x60	LMC 250	PDM A 250	180	215	250	175	186		19	M12	14
132	5.5-7.5	7.5-12.5	38x80	LMC 300	PDM A 300	230	265	300	230	235		23	M12	14
160	11-15	15-20	42x110	LMC 350	PDM A 350	250	300	350	240	254		31	M16	18
180	18.5-22	25-30	48x110	LMC 350	PDM A 350	250	300	350	240	254		31	M16	18
200	37	45	55x140	LMC 400	/	300	350	400	280	305		31	M16	-
225	37-45	50-60	60x140	LMC 450	/	350	400	450	320	350		31	M16	-
					For dimension see page 55						See Tab. 4 - 5			

To determine dimension H1 of the bell-housing  
For dimensions of the foot bracket

see table 12  
see page 55

# LMC bell-housing, dimension H1

**TABLE 4**

Monobloc bell-housing		
Code	H1	Weight (kg)
LMC200AFSJ***	100	0,75
LMC200AFSW***	125	0,95
LMC250AFSM***	114	1,50
LMC250AFSQ***	138	1,60
LMC250AFSR***	159	1,75
LMC300AFST***	155	3,20
LMC300AFSX***	170	3,30
LMC350AFSY***	178	4,80
LMC350AFSU***	194	4,90
LMC400AFSV***	201	6,50
LMC450AFSZ***	250	9,00

**TABLE 5a**

Modul 2 bell-housing		
Code	H1	Weight (kg)
LMC200AFRB***	125	1,85
LMC200AFRC***	133	1,95
LMC200AFRD***	158	2,10
LMC250AFRB***	156	2,50
LMC250AFRC***	161	2,75
LMC250AFRA***	185	4,20
LMC300AFRB***	191	4,45
LMC300AFRC***	193	4,60
LMC300AFRD***	201	4,95
LMC300AF5A***	192	4,50
LMC300AF5B***	198	4,80

**TABLE 5b**

Modul 2 bell-housing		
Code	H1	Weight (kg)
LMC350AF5A***	218	5,90
LMC350AF5B***	224	6,15
LMC350AF6A***	239	6,80
LMC350AF6B***	252	7,30
LMC400AF5A***	228	7,50
LMC400AF5B***	234	7,90
LMC400AF6A***	247	8,50
LMC400AF6B***	260	9,00
LMC450AF5A***	226	10,00
LMC450AF5B***	234	10,40
LMC450AF6A***	295	11,20
LMC450AF6B***	308	11,60

**Note:** The three asterisks in the designation code represent the three digits identifying the pump interface (see page 47).

## Specified tightening torques for auxiliary flange

- FR\* 18 Nm
- F5\* 100 Nm
- F6\* 180 Nm

## Recommended tightening torques for motor/pump assembly bolts

- M6 10 Nm
- M8 24 Nm
- M10 50 Nm
- M12 84 Nm
- M14 135 Nm
- M16 205 Nm
- M18 280 Nm
- M20 400 Nm
- M22 530 Nm
- M24 690 Nm

These values are calculated to exploit the performance of the bolt at 70% of its elastic limit.

This means in practice that the shank of the bolt will be stressed typically to 60-70% of its limit of elasticity in the course of being tightened.

The values indicated are valid for hexagon head bolts to UNI 5737 and hexagon socket screws to UNI 5931, property class 8.8, tightened by degrees using a torque wrench.

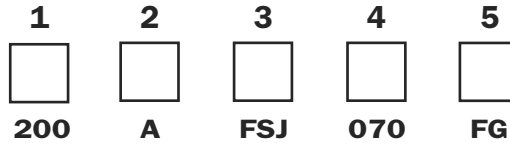
If bolts or screws are tightened using impact or hammer action drivers, the applied torque should be reduced by 10%.

# Comparative table

MP Filtri		OMT	Hydrapp	Raja	KTR
New code	Old code	code	code	code	code
LMC200A***	LMB200A100***	TH20A***	/	R200/99-115/...	PK200/3/...
LMC200A***	/	TH1***	HLC1	R200/120-135/...	PL200/8/...
LMC250A***	LMB250A109***	TH2***	HLC3	R250/120-135/...	PL250/6/...
LMC300A***	LMB300A130***	TH3***	HLC5	R300/155-170/...	PL300/4/...
LMC350A***	LMB350A179***	TH4***	HLC8	R350/173-194/...	PK350/4/...
LMC400A***	/	TH15***	HLC12	R400/194-210/...	PK400/4/...
LMC450A***	/	TH18***	/	R450/250-210/...	PK450/4/...

## Monobloc bell-housing LMC

Example: LMC



### 1 - Sizes

### 2 - Product revision code

### 3 - Bell-housing

See table 4 page 12  
 See table 5 page 12

### 4 - Pump interface codes

See table page 47

### 5 - Option

Holes rotated through 45° in relation to standard position (page 47)  
 Drain hole + inspection hole  
 Double set of hole  
 Black anodized finish  
 Clearance holes at motor interface  
 Customer specification

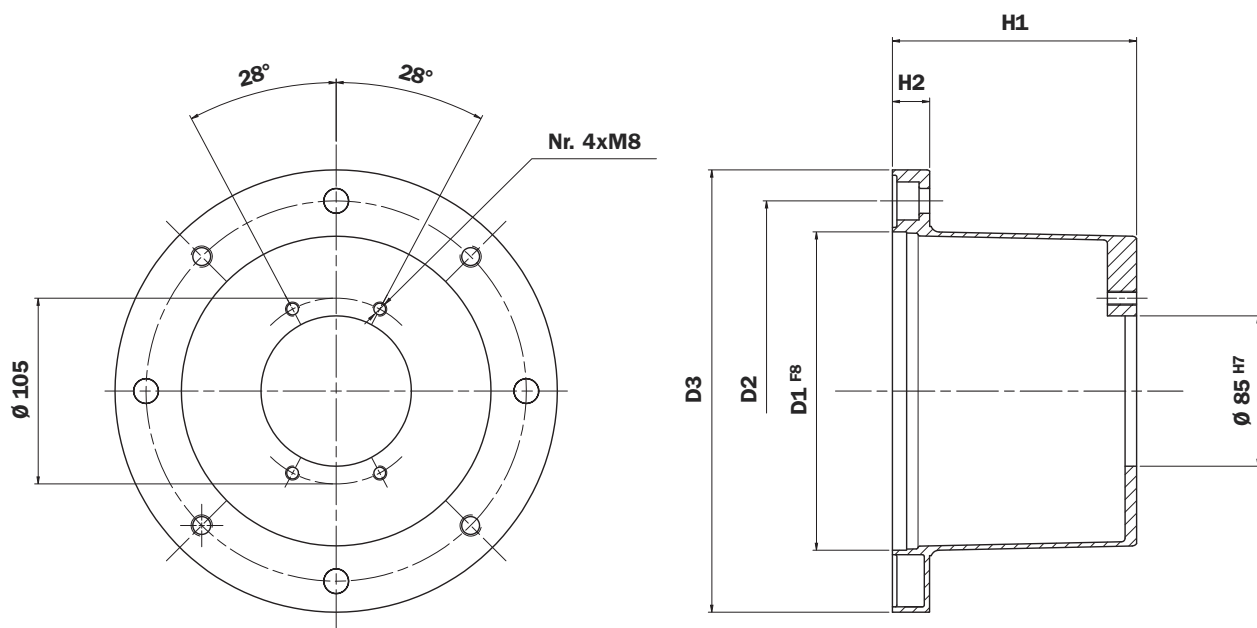
**N.B.** Bell-housings with DI options are supplied complete with threaded closure plug

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

# BMC series

The motors base of the **BMC** series are derived from standard LMC monobloc bell-housings, and used as bases to which flanges of the **FR/FP5/FP6** series can be fitted either to increase the height of the bell-housing or to allow machining of the pump interface, not possible with a standard monobloc housing.

## Motor base for installation of auxiliary flange FR1



**TABLE 6**

Electric motor, 4-pole, 1500 rpm				Dimensions of BMC motor base							
Frame size	kW	Hp	Shaft	Motor base code	Foot bracket code	D1	D2	D3	H1	H2	Weight (kg)
80	0.53-0.75	0.75-1	19x40	<b>BMC200A1001</b>	<b>PDM A 200</b>	130	165	200	100	18	0,75
90	1.1-1.5	1.5-2	24x50	<b>BMC200A1251</b>	<b>PDM A 200</b>	130	165	200	125	18	0,95
100-112	2.2-4	3-12.5	28x60	<b>BMC250A1141</b>	<b>PDM A 250</b>	180	215	250	114	19	1,60
				<b>BMC250A1361</b>	<b>PDM A 250</b>	180	215	250	136	19	1,60
132	5.5-7.5	7.5-12.5	38x80	<b>BMC300A1551</b>	<b>PDM A 300</b>	230	265	300	155	23	3,30

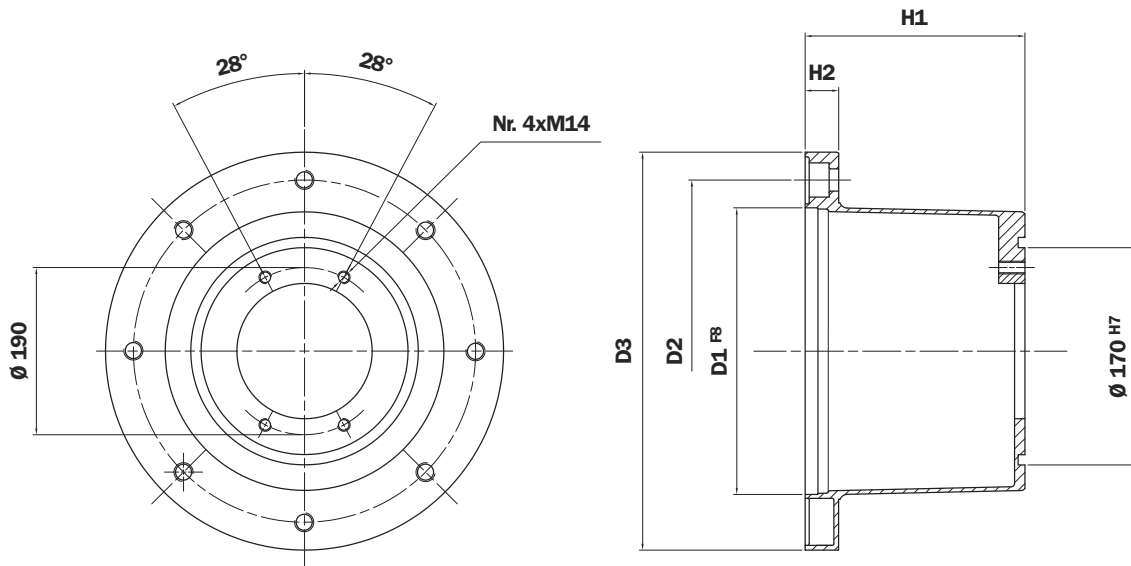
For dimension see page 55

Assembly kit code (motor base + flange): **KVG1**

- For pump flange codes, see page 17



**Motor base for installation of auxiliary flange FP5**



**TABLE 7**

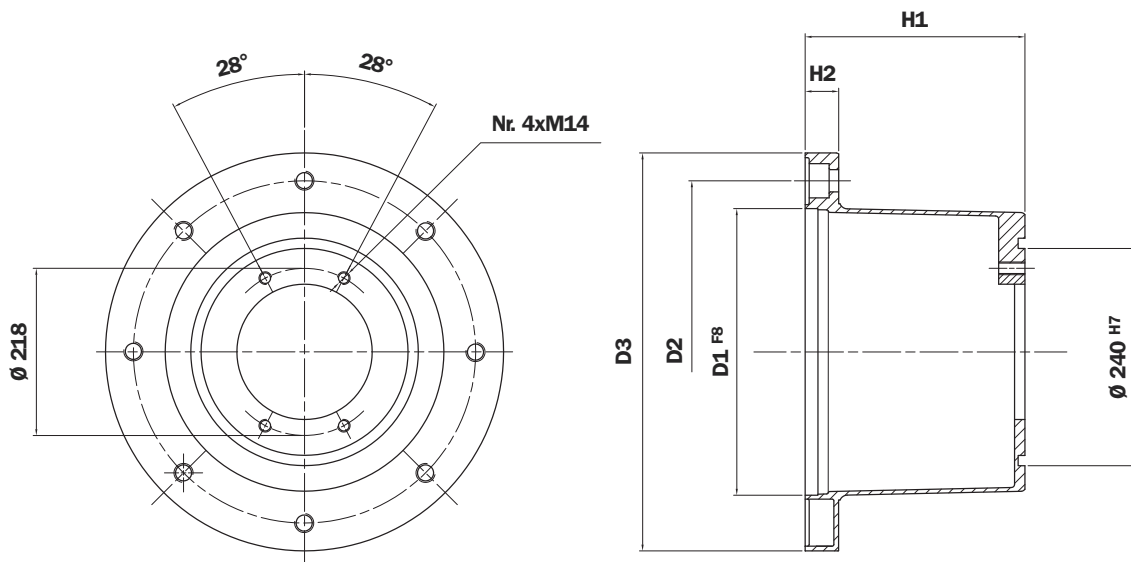
Electric motor, 4-pole, 1500 rpm				Dimensions of BMC motor base							
Frame size	kW	Hp	Shaft	Motor base code	Foot bracket code	D1	D2	D3	H1	H2	Weight (kg)
132	5.5-7.5	7.5-12.5	38x80	BMC300A1555	PDM A 300	230	265	300	155	23	3,30
				BMC300A1705	PDM A 300	230	265	300	170	23	
160	11-15	15-20	42x110	BMC350A1945	PDM A 350	250	300	350	194	31	4,90
180	18.5-22	25-30	48x110								

For dimension see page 55

Assembly kit code (motor base + flange): **KVG5**

- For pump flange codes, see page 17

**Motor base for installation of auxiliary flange FP6**



**TABLE 8**

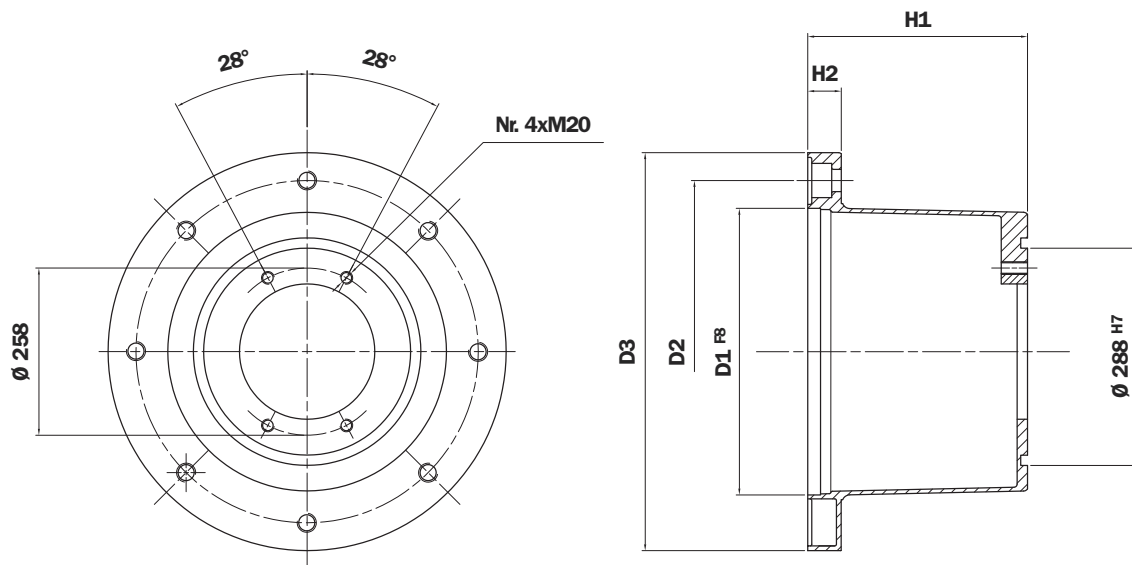
Electric motor, 4-pole, 1500 rpm				Dimensions of BMC motor base							
Frame size	kW	Hp	Shaft	Motor base code	Foot bracket code	D1	D2	D3	H1	H2	Weight (kg)
160	11-15	15-20	42x110	BMC350A1946	PDM A 350	250	300	350	194	31	4,90
180	18.5-22	25-30	48x110								
200	30	40	55x140	BMC400A2016	/	300	350	400	201	31	6,90

For dimension see page 55

Assembly kit code (motor base + flange): **KVG6**

- For pump flange codes, see page 17

## Motor base for installation of auxiliary flange FP7

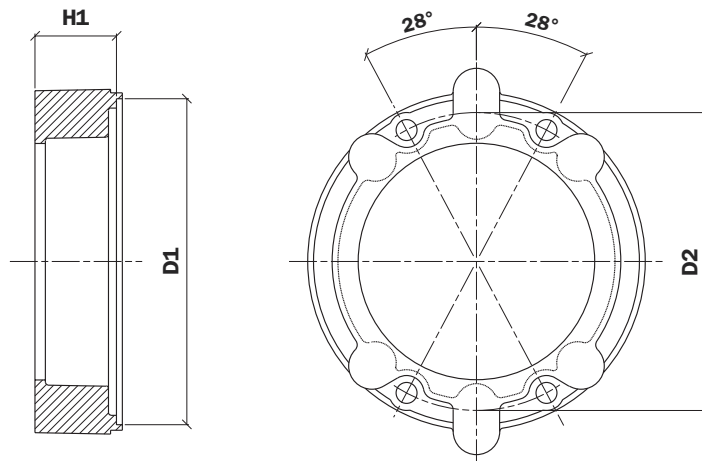


**TABLE 9**

Electric motor, 4-pole, 1500 rpm				Bell housing dimensions, BMC motor base						
Frame size	kW	Hp	Shaft	Motor base code	D1	D2	D3	H1	H2	Weight (kg)
225	37-45	50-60	60x140	<b>BMC450A2507</b>	350	400	450	250	31	9,00

Assembly kit code (base module + flange): **KVG7**

- For pump flange codes, see page 17



**TABLE 10**

Code	Flange			Assembly kit	Possible pump interfaces	Weight (kg)
	H1	D1	D2			
FR1023***	23	85	105	KVG1	S024 S025 D042 S061 S063 S083 S023 S070 S071 S072 S075 S125 S154	0,25
FR1025***	25				S021 S026 S068 S069 S080 S082 S115 S237	0,30
FR1033***	33				S021 S023 S026 S027 S070 S071 S072 S074 S080 S082 F260	0,80
FR1035***	35				S060 S063 S065	0,90
FR1040***	40				S098 S227	1,10
FR1079***	79				S031 S116	1,30

Complete the order designation with the pump interface code: Ex. **FP5026S023**

**TABLE 11**

Code	Flange			Assembly kit	Possible pump interfaces	Weight (kg)			
	H1	D1	D2						
FP5026***	26	190	170	KVG5	S023-S024-S025-S033-D042-S063-S070-S072-S075-S154-S254	1,00			
FP5032***	32				S024-S031-S158-S096-S125	1,10			
FP5035***	35				S021-S023-S024-S025-S026-S031-S059-S060-S068-S072-S074-S075-S083-S097-S106-S125-S131-S138	0,90			
FP5045***	45				S021-S024-S025-S026-S060-S068-S070-S071-S072-S074-S075-S106-S125-S141	0,90			
FP5056***	56				S021-S026-S072	1,61			
FP5063***	63				S021-S025-S068-S070-S079-S138-S141	1,70			
FP5064***	64				S024-S025-S059-S093-S099-S100-S104	1,70			
FP5091***	91				S025-S031-S033-S100-S113-S115-S116-S267	2,20			
FP6032***	32	240	218	KVG6	S021-S035-S081-S082	1,80			
FP6045***	45				S021-S025-S026-S027-S069-S070-S075-S077-S080-S081-S082-S125-S198-S207-S215-S253	2,10			
FP6058***	58				S024-S025-S026-S027-S038-S077-S078-S079-S080-S081-S082-S207-S215-S237	2,40			
FP6070***	70				S080-S270	3,00			
FP6082***	82				S038-S080-S081-S116-S141-S198-S215	3,30			
FP6086***	86				S021-S026-S027-S077-S078-S090-S092-S166-S091-S114-S132-S198-S200	3,40			
FP6101***	101				S027-S035-S113-S115-S132-S148-S176-S228	4,20			
FP6110***	110				S080-S111	5,50			
FP7052***	52				288	258	KVG7	S028-S092-S108-S112-S133-S192	4,10
FP7066***	66							S090-S092-S166	4,75
FP7069***	69	S108-S143-S148-S158-S192-S19-S201-S204-S281-S282-S288	4,90						
FP7086***	86	S022-S027-S028-S091-S092-S108-S112-S117-S166-S184-S192-S201-S228-S300	5,20						
FP7111***	111	S028-S091-S112-S117-S144-S145-S184	6,30						
FP7124***	124	S190-S211	7,50						

# Modular bell-housing components

## MODUL 2/3

Modular bell-housing components are used to connect **UNEL-MEC electric motors with B3 - B5 flanges** to piston, vane and screw type hydraulic pumps.

The advantage of modular design is that a wide range of motor and pump combinations can be covered with relatively few components.

This means that dealers can simplify their inventory while still being able to service the majority of applications envisaged.

The strength of these components will also guarantee top reliability, even in the toughest of applications.

Suitable for electric motors from **size 132, rated 5.5 kW**, up to **size 400, rated 400 kW**.

### Technical specifications

#### MODUL 2/3

##### Materials

- **Base module**  
Pressure diecast aluminium alloy.
- **Pump flange**  
Alluminium alloy.
- **Intermediate adapter**  
Alluminium alloy.
- **Foot bracket**  
Pressure diecast aluminium alloy.
- **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

- **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

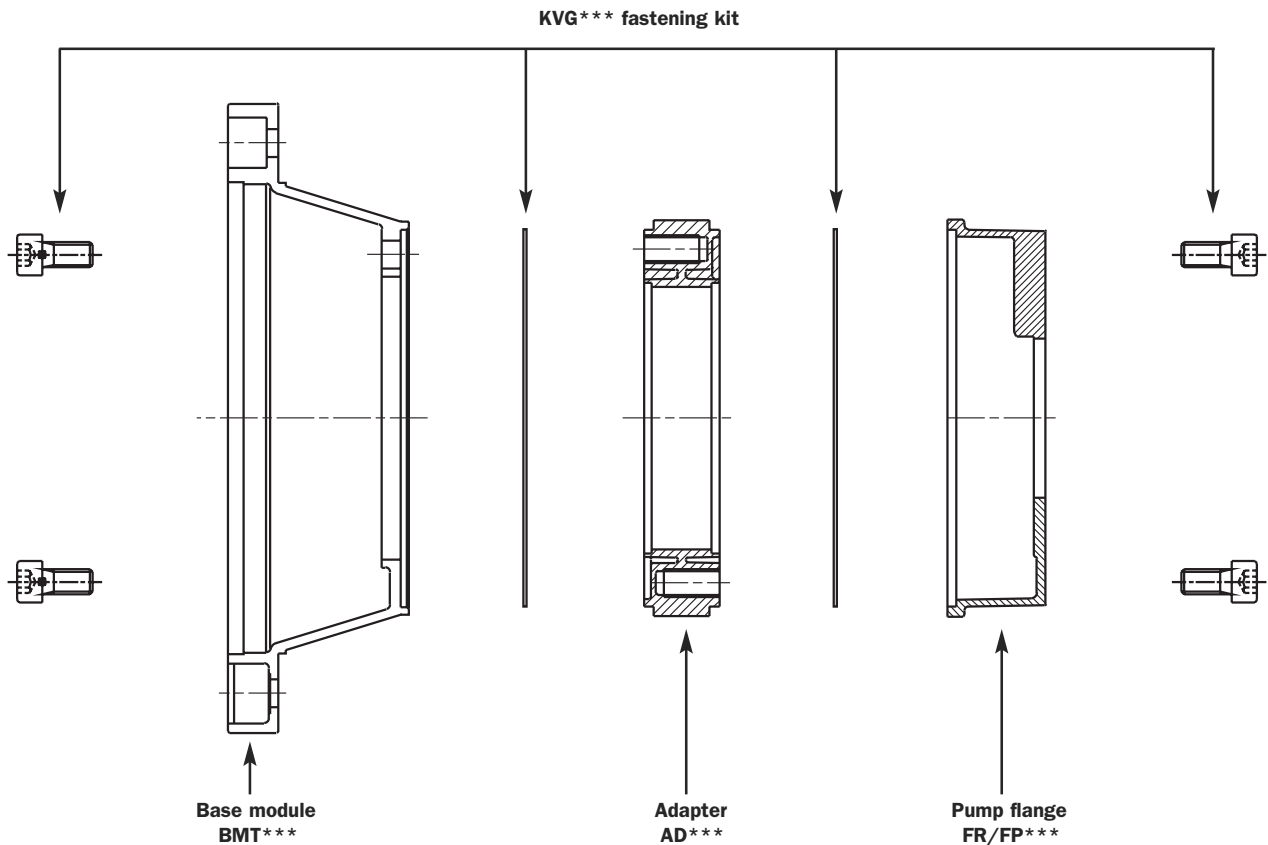
##### Water glycol

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.**



- 1 Clean the gasket seating surfaces
- 2 Locate the base module gasket in the relative recess and position the adapter
- 3 Secure with the bolts of the kit
- 4 Locate the pump flange gasket in the relative recess, then offer the flange to the adapter
- 5 Secure with the bolts of the kit

**Note:** Secure the screws of the fastening kit as indicated in the following table

**Recommended tightening torques for assembly of components.**

KVG 1	KVG 5	KVG 6	KVG 7
M8	M14	M16	M20
24 Nm	135 Nm	205 Nm	400 Nm

These values are calculated to exploit the performance of the bolt at 70% of its elastic limit.

This means in practice that the shank of the bolt will be stressed typically to 60-70% of its limit of elasticity in the course of being tightened.

The values indicated are valid for hexagon head bolts to UNI 5737 and hexagon socket screws to UNI 5931, property class 8.8, tightened by degrees using a torque wrench.

If bolts or screws are tightened using impact or hammer action drivers, the figure indicated should be reduced by 10%.

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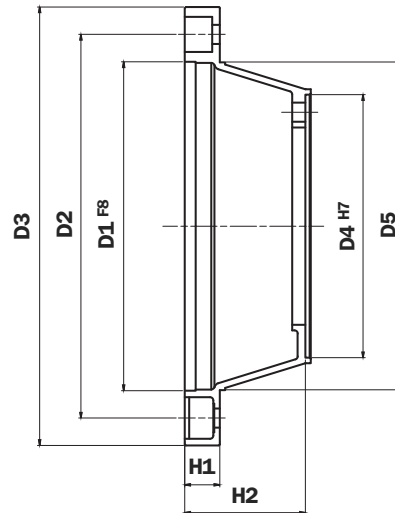
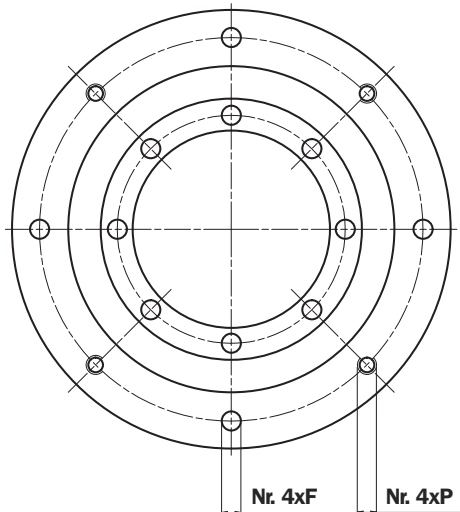
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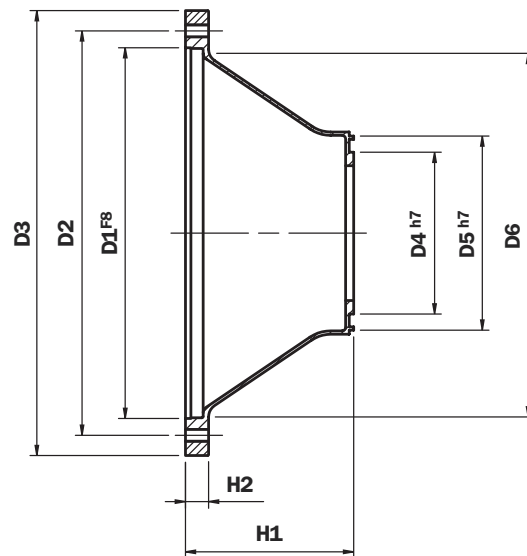
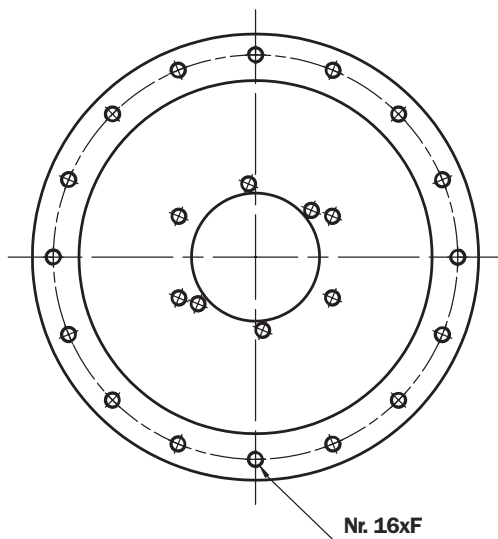
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**TABLE 23 - MODUL 3**

Motor 4-pole 1500 rpm				Dimensions of motor base													
Frame size	kW	Hp	Shaft	Code	Foot bracket code	D1	D2	D3	D4	D5	H1	H2	F.	Nr.	P	Nr.	Weight (kg)
132	5.5-7.5	7.5-12.5	38x80	BMT300A0805	PDM A 300	230	265	300	190	234	24	80	M12	4	14	4	1,95
160	11-15	15-20	42x110	BMT350A1105	PDM A 350	250	300	350	190	260	32	110	M16	4	18	4	3,10
180	18.5-22	25-30	48x110	BMT350A1105	PDM A 350	250	300	350	190	260	32	110	M16	4	18	4	4,90
200	30	40	55x110	BMT400A1106	/	300	350	400	240	300	32	110	M16	4	18	4	4,90
225	37-45	50-60	60x140	BMT450A1406	/	350	400	450	240	350	32	140	M16	8	/	/	5,00

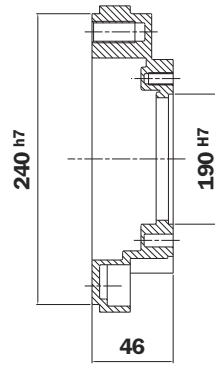
For dimension see page 55



**TABLE 24 - MODUL 2**

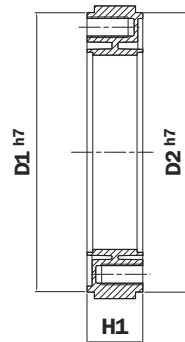
Motor 4-pole 1500 rpm				Dimensions of motor base														
Frame size	kW	Hp	Shaft	Code	Foot bracket code	D1	D2	D3	D4	D5	D6	H1	H2	F.	Nr.	P	Nr.	Weight (kg)
250	55	75	65x140	BMT550A21567	/	450	500	550	240	288	450	215	32	M16	16	/	/	8,40
280	75-90	100-125	75x140	BMT550A21567	/	450	500	550	240	288	450	215	32	M16	16	/	/	8,40
315	110-200	100-125	80x170	BMT660A25067	/	550	600	660	240	288	550	250	40	M20	16	/	/	12,00
355	250-315	340-428	95x170	BAD800A2707	/	680	740	660	288	/	680	270	40	M20	8	/	/	31,00
400	355-400	483-544	100x210	BAD800A2707	/	680	740	800	288	/	680	270	40	M20	8	/	/	31,00

Not available



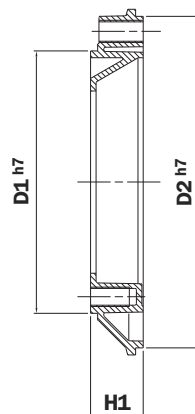
**TABLE 25**

Application with Motor base	Application with Pump Flange	Code Adapter	Fastening kit Motor base	Fastening kit Pump Flange	Weight (kg)
BMT400A1106 BMT450A1406	FP6 *** **	AD60465	KVG6	KVG5	1,30



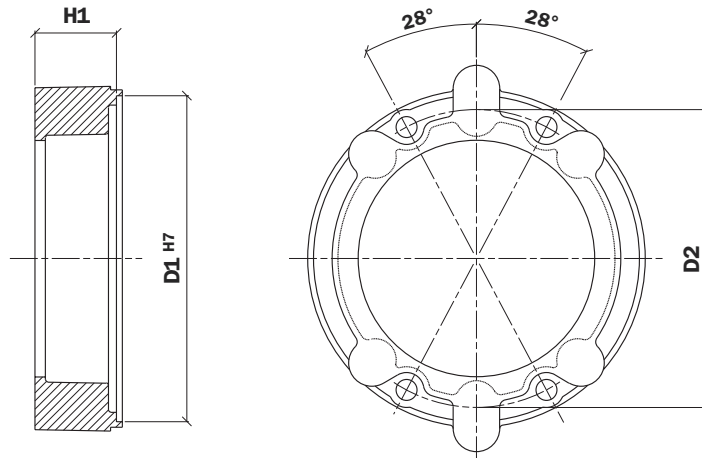
**TABLE 26**

Application with Motor base	Application with Pump Flange	Code Adapter	Fastening kit Motor base	Fastening kit Pump Flange	D1	D2	H1	Weight (kg)
BMT300A0805 BMT350A1105	FP5 *** **	AD50385	KVG5	KVG5	190	240	38	1,00
BMT400A1106 BMT450A1406	FP6 *** **	AD60466	KVG6	KVG6	240	288	46	1,60



**TABLE 27**

Application with Motor base	Application with Pump Flange	Code Adapter	Fastening kit Motor base	Fastening kit Pump Flange	D1	D2	H1	Weight (kg)
BMT300A0805 BMT350A1105	FP5 *** **	AD50386	KVG5	KVG6	190	240	38	1,25
BMT300A0805 BMT350A1105	FP5 *** **	AD50467	KVG5	KVG7	190	288	46	1,90
BMT400A1106 BMT450A1406	FP6 *** **	AD60467	KVG6	KVG7	240	288	46	2,50



**TABLE 28**

Code	Flange			Assembly kit	Possible pump interfaces	Weight (kg)
	H1	D1	D2			
FR1023***	23	85	105	KVG1	S024 S025 D042 S061 S063 S083 S023 S070 S071 S072 S075 S125 S154	0,25
FR1025***	25				S021 S026 S068 S069 S080 S082 S115 S237	0,30
FR1033***	33				S021 S023 S026 S027 S070 S071 S072 S074 S080 S082 F260	0,80
FR1035***	35				S060 S063 S065	0,90
FR1040***	40				S098 S227	1,10
FR1079***	79				S031 S116	1,30

**TABLE 29**

Code	Flange			Assembly kit	Possible pump interfaces	Weight (kg)
	H1	D1	D2			
FP5026***	26	190	170	KVG5	S023-S024-S025-S033-D042-S063-S070-S072-S075-S154-S254	1,00
FP5032***	32				S024-S031-S158-S096-S125	1,10
FP5035***	35				S021-S023-S024-S025-S026-S031-S059-S060-S068-S072-S074-S075-S083-S097-S106-S125-S131-S138	0,90
FP5045***	45				S021-S024-S025-S026-S060-S068-S070-S071-S072-S074-S075-S106-S125-S141	0,90
FP5056***	56				S021-S026-S072	1,61
FP5063***	63				S021-S025-S068-S070-S079-S138-S141	1,70
FP5064***	64				S024-S025-S059-S093-S099-S100-S104	1,70
FP5091***	91				S025-S031-S033-S100-S113-S115-S116-S267	2,20
FP6032***	32	240	218	KVG6	S021-S035-S081-S082	1,80
FP6045***	45				S021-S025-S026-S027-S069-S070-S075-S077-S080-S081-S082-S125-S198-S207-S215-S253	2,10
FP6058***	58				S024-S025-S026-S027-S038-S077-S078-S079-S080-S081-S082-S207-S215-S237	2,40
FP6070***	70				S080-S270	3,00
FP6082***	82				S038-S080-S081-S116-S141-S198-S215	3,30
FP6086***	86				S021-S026-S027-S077-S078-S090-S092-S166-S091-S114-S132-S198-S200	3,40
FP6101***	101				S027-S035-S113-S115-S132-S148-S176-S228	4,20
FP6110***	110				S080-S111	5,50
FP7052***	52	288	258	KVG7	S028-S092-S108-S112-S133-S192	4,10
FP7066***	66				S090-S092-S166	4,75
FP7069***	69				S108-S143-S148-S158-S192-S19-S201-S204-S281-S282-S288	4,90
FP7086***	86				S022-S027-S028-S091-S092-S108-S112-S117-S166-S184-S192-S201-S228-S300	5,20
FP7111***	111				S028-S091-S112-S117-S144-S145-S184	6,30

Complete the order designation with the pump interface code: Ex. **FP5026S023**

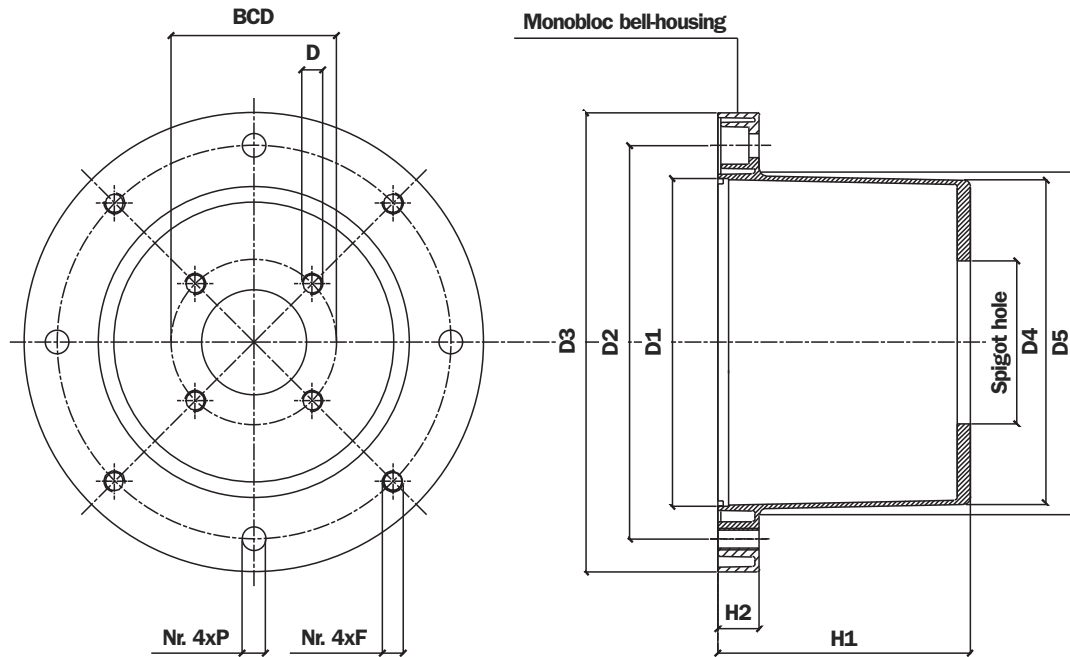


# Monobloc bell-housing for NEMA motors

Monobloc bell-housings for NEMA motors are standard products of the LMC series used normally for electric motors manufactured to European standards.

These bell-housings must be used in combination with specific **ADNEMA 143 TD** and **ADNEMA 254 TD** adapters.

For dimensions and clearances of adapter rings see page 45.



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

- Check that the pump interface dimensions are compatible with those of the bell-housing

**Note:** The hole made in the tank cover should be 2 mm larger than dimension D5

## Machining tolerances

D1	<b>F8</b>
Spigot hole	<b>H7</b>
H1	<b>± 0,15 mm</b>

## Concentricity of D1/Spigot hole

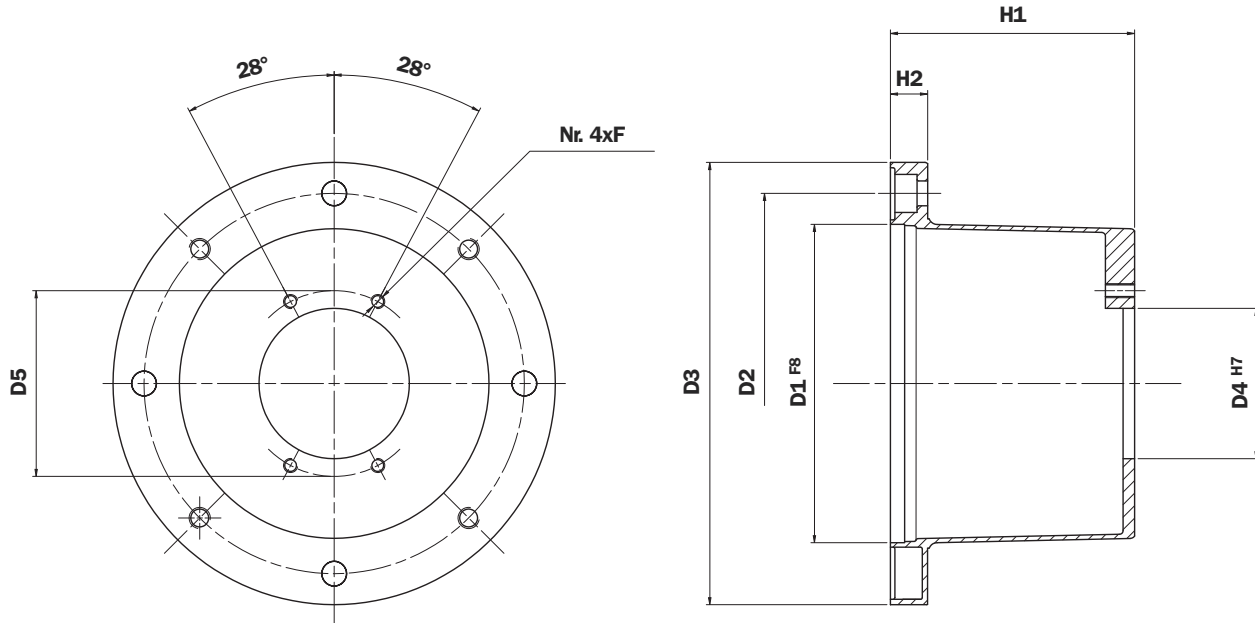
LMC 300	<b>0,20 mm</b>
---------	----------------

**TABLE 30**

Bell-housing code	Dimensions of LMC monobloc bell-housing									
	Foot bracket code	D1	D2	D3	D4	D5	H1	H2	F	P
LMC 300AFST***	PDM A 300	230	265	300	230	235	155	23	M12	14
LMC 300AFSX***	PDM A 300	230	265	300	230	235	170	23	M12	14
	For dimension see page 55									

**BMC** series motors base are derived from standard LMC monobloc bell-housings and used as base elements to which **FR/FP5/FP6** series auxiliary flanges can be fixed so as to increase the height of the bell housing or allow the attachment of a pump, which would not be possible using a monobloc bell housing.

Motors base can be used for the installation of NEMA motors in conjunction with specific **ADNEMA 143 TD** and **ADNEMA 254 TD adapters**. For dimensions and clearances of adapter rings, see page 45.



**TABLE 31**

		Dimensions of BMC motor base								Weight (kg)
Motor base code	Foot bracket code	D1	D2	D3	D4	D5	H1	H2	F	
<b>BMC300A1551</b>	<b>PDM A 300</b>	230	265	300	85	105	155	23	M8	3,30
<b>BMC300A1701</b>	<b>PDM A 300</b>	230	265	300	85	105	170	23	M8	3,30
<b>BMC300A1555</b>	<b>PDM A 300</b>	230	265	300	170	218	155	23	M14	3,30
<b>BMC300A1705</b>	<b>PDM A 300</b>	230	265	300	170	218	170	23	M14	3,30

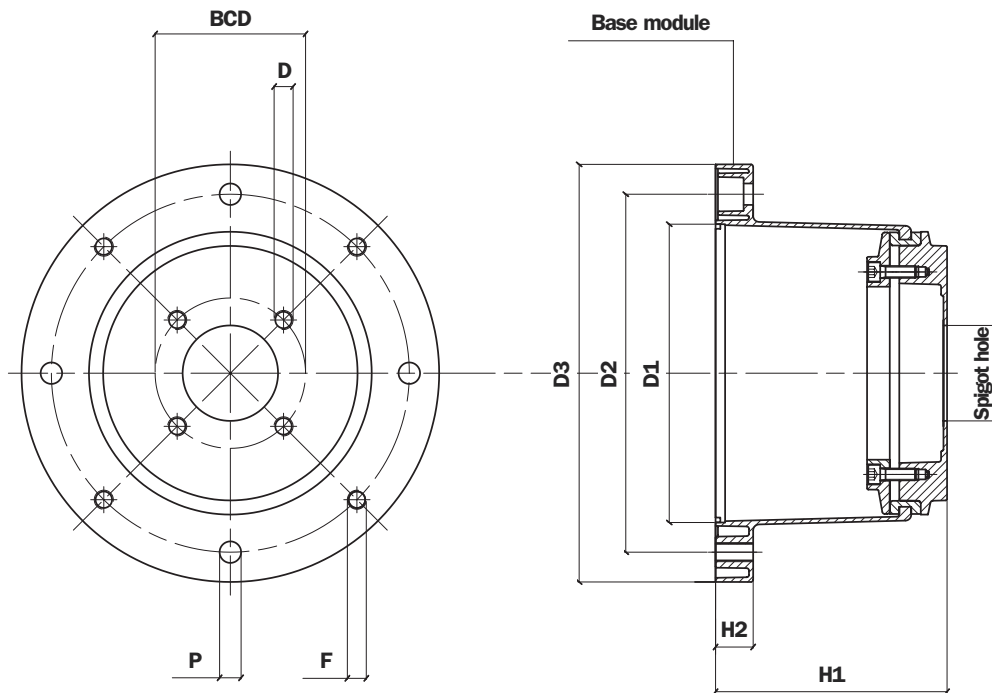
For dimension see page 55

• For pump flange codes, see page 17

# Low noise bell-housing for NEMA motors

Low noise bell-housings for NEMA motors are standard products of the LMS series used normally for electric motors manufactured to European standards.

These bell-housings must be used in combination with specific **ADNEMA 143 TD** and **ADNEMA 254 TD** adapters. For dimensions and clearances of adapter rings, see page 45.



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

**N.B. In order to ensure coaxial alignment between the motor and pump spigot centres, the bell-housing cannot be disassembled and reassembled.**

## Machining tolerances

D1	<b>F8</b>
Spigot hole	<b>H7</b>
H1	<b>± 0,15 mm</b>

## Concentricity of D1/Spigot hole

LMS 300	<b>0,20 mm</b>
---------	----------------

**TABLE 32**

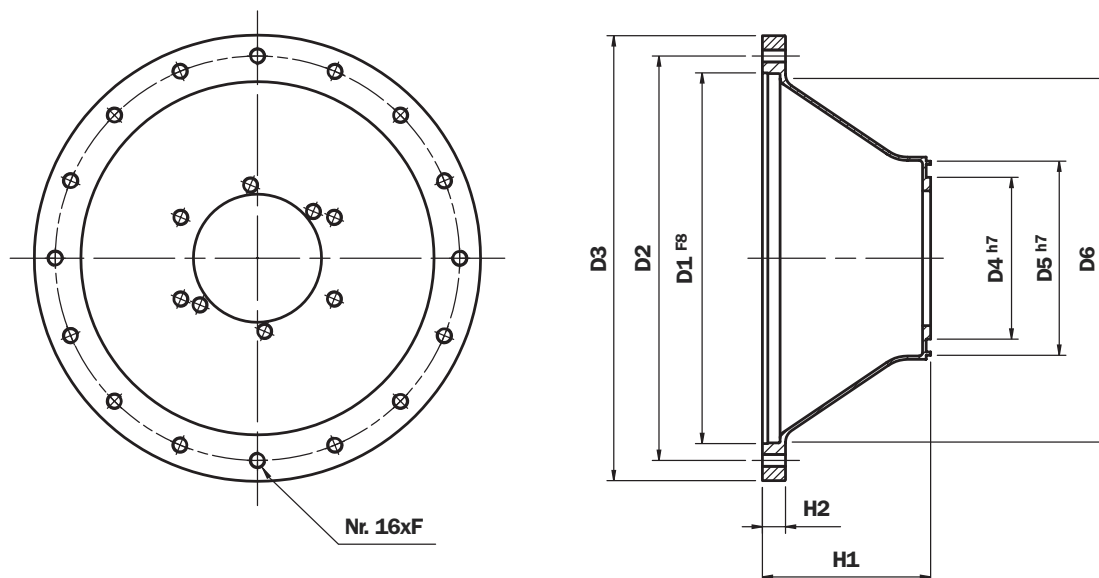
Dimensions of LMS low noise bell-housing								
Bell-housing code	Foot bracket code	D1	D2	D3	H1	H2	F	P
LMS 300AFSC***	PDM A 300	230	265	300	155	23	M12	14
LMS 300AFSD***	PDM A 300	230	265	300	168	23	M12	14

For dimension see page 55

# Motor base for NEMA motors - Flange TD

Motors base for NEMA motors are standard products of the BMT series used normally for electric motors manufactured to European standards, which are machined in such a way as to provide the necessary interface for the NEMA motor. Motors base are utilized in conjunction with standard pump flanges of the FP series. For the dimensions of flanges, see page 17.

**Motor base for NEMA motors:**  
**404TD - 405TD - 444TD - 445TD - 447TD - 449TD**

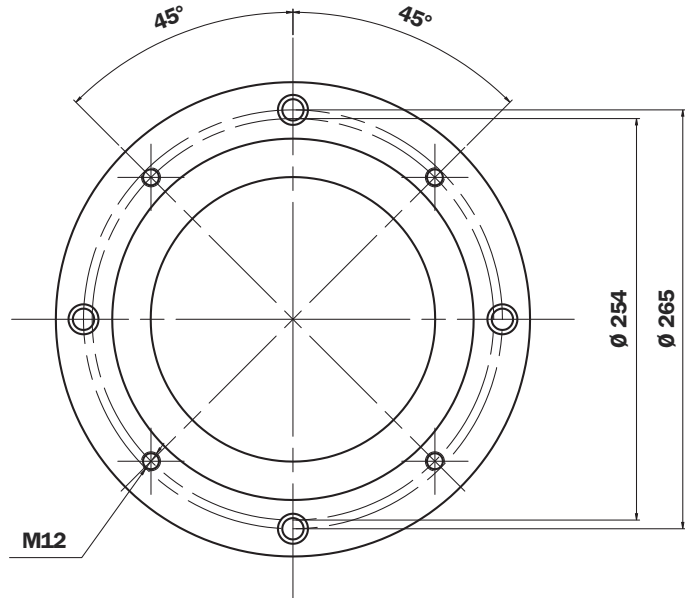
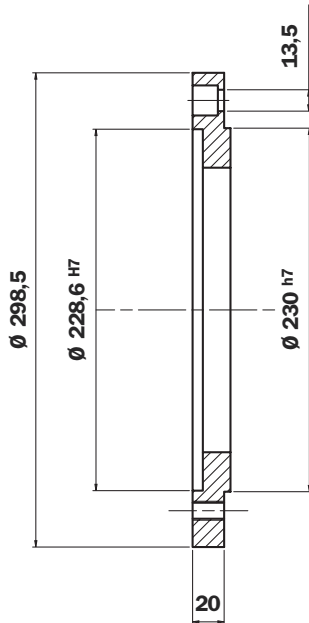


**TABLE 33 - MODUL 2**

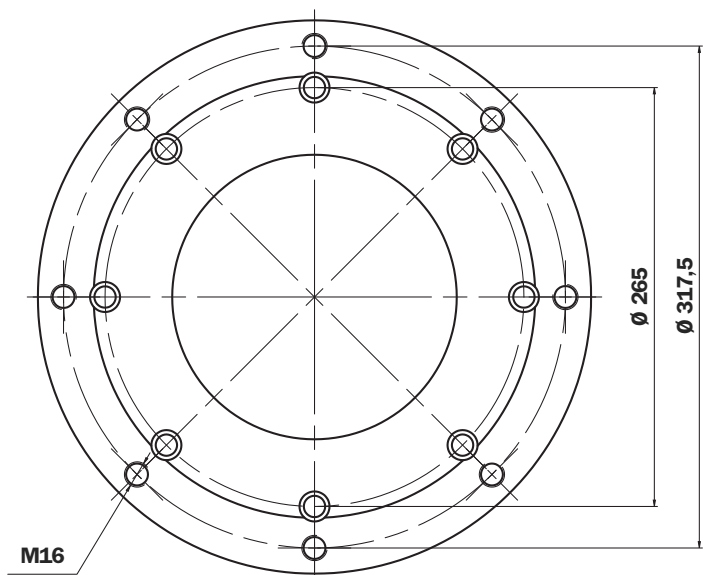
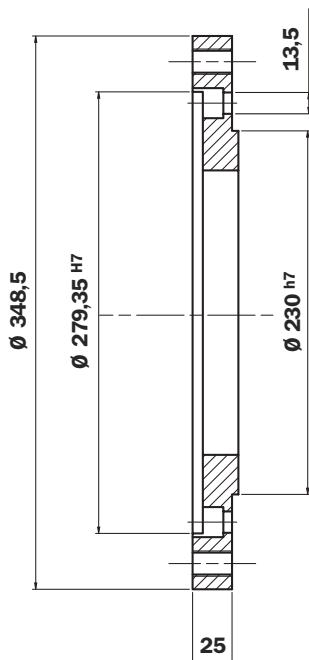
Dimensions of Motor base										
Code	D1	D2	D3	D4	D5	H1	H2	F.	Nr.	Weight (kg)
BMT450NEMA324TD	355,6	406,4	450	240	350	140	32	18	8	5,00
BMT550NAMA404TD	457,2	508	550	240	450	215	32	18	16	8,40

# Adapters for NEMA motors - Flange TD

Adapter for NEMA motors NEMA: Cod. ADNEMA143TD  
143TD - 145TD - 180TD - 182TD - 184TD - 210TD - 213TD - 215TD  
To assemble on bell-housing LMC - BMC - LMS - BMT 300



Adapter for NEMA motors NEMA: Cod. ADNEMA254TD  
256TD - 284TD - 286TD



# LMC series steel bell-housings

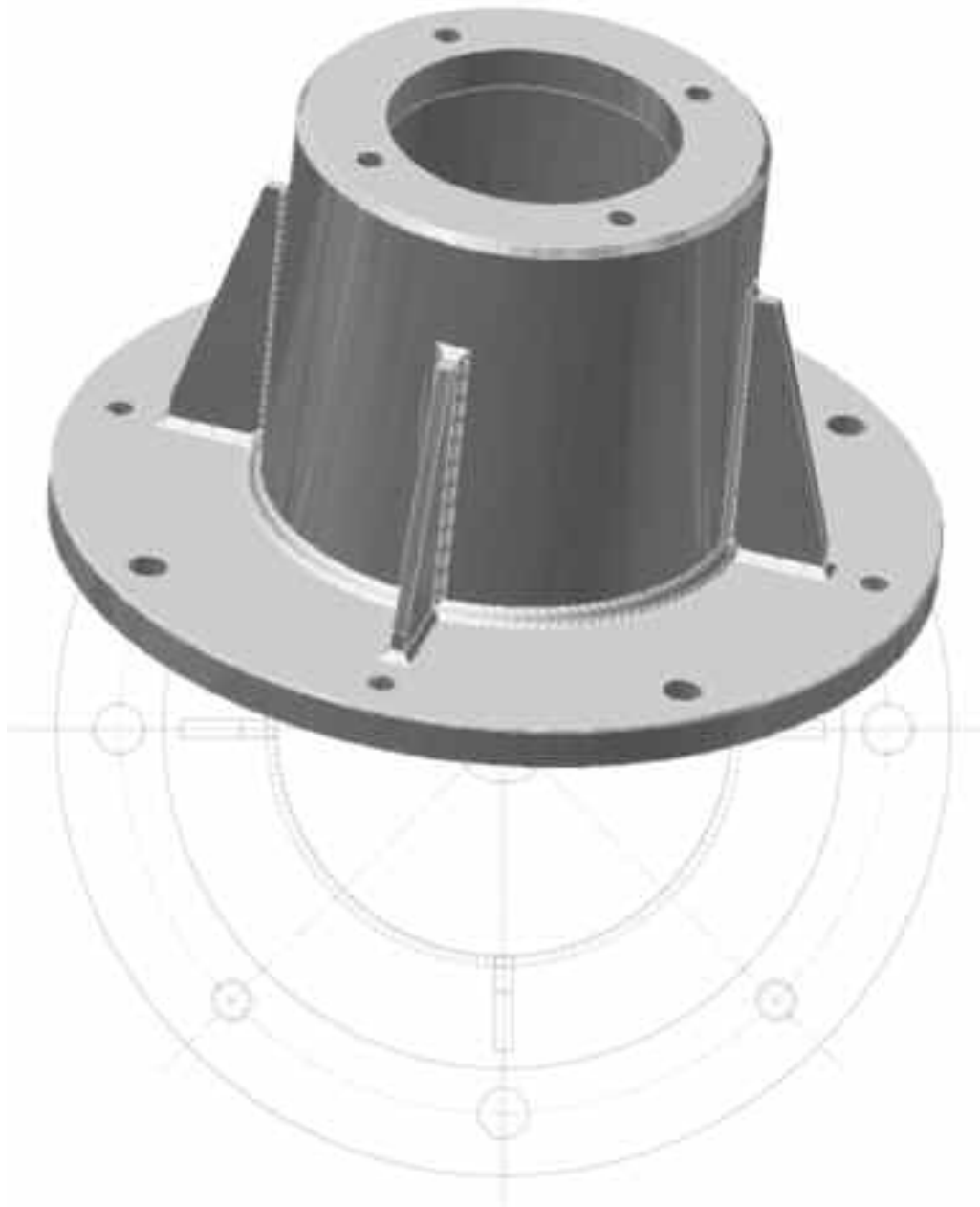
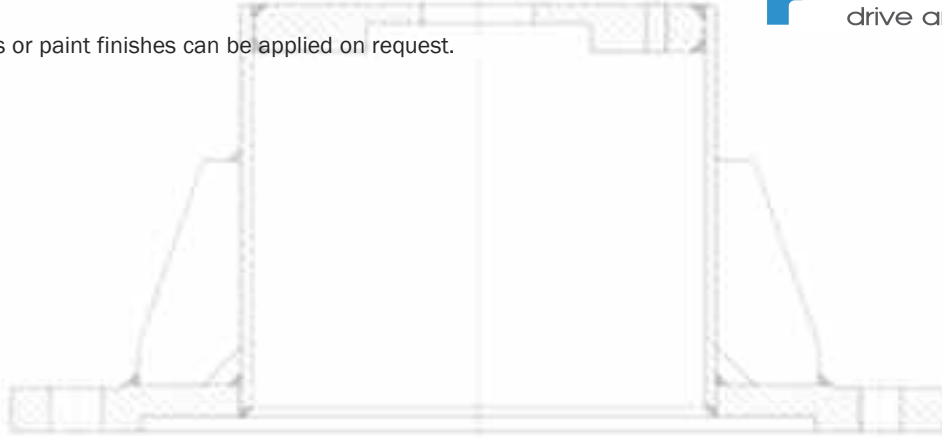
These bell-housings made of welded steel are available for electric motors rated from 0.5 up to 1000 kW, responding to UNEL-MEC (European) and to NEMA (US) standards.  
The dimensions can be customized to suit the type of motor-pump combination, or to meet particular customer specifications.

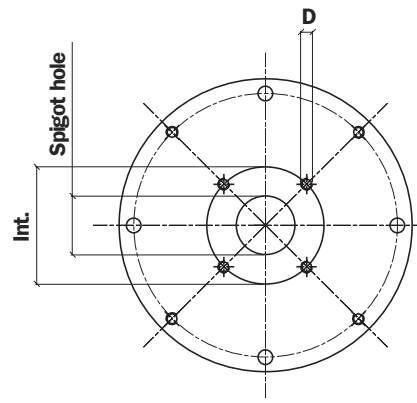
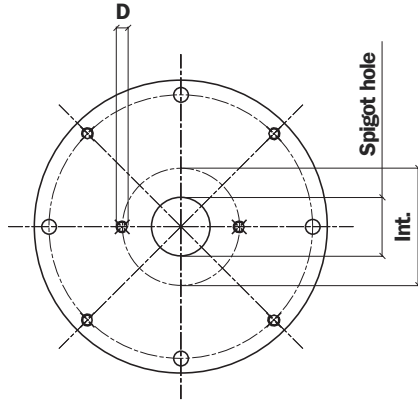
Standard finishes:

- zinc-treated, white
- oil-resistant primer, black

Custom treatments or paint finishes can be applied on request.

**F**indynamica  
drive and control products





• 2 x hole at pump interface, aligned with through holes at motor interface

• 4 x hole at motor interface, aligned with through holes at motor interface

**TABLE 34**

Spigot hole mm	BCD	D	N° holes	Code
40	72	M8	2	<b>191</b>
45,2	88,9	M8	4	<b>096</b>
	71,8	M8	4	<b>120</b>
50	80	M8	2	<b>052</b>
	93	M10	2	<b>053</b>
	60	M5	4	<b>280</b>
	63	Ø7	4	<b>057</b>
50,8	93	M8	2	<b>287</b>
	82,50	M8	2	<b>050</b>
52	/	/	/	/
56	/	/	/	/
	76	M6	4	<b>234</b>
57,15	106,4	Ø11	2	<b>212</b>
	74	M10	4	<b>098</b>
60	98,5	M6	4	<b>147</b>
	75	M6	4	<b>227</b>
	157,2	M12	4	<b>231</b>
62,7	100	M8	2	<b>042</b>
	125	M6	4	<b>043</b>
	160	M8	4	<b>044</b>
	80	M8	2	<b>051</b>
63	80	Ø8,5	4	<b>058</b>
	100	M10	2	<b>062</b>
	85	M8	4	<b>168</b>
	90	M8	4	<b>271</b>
65	90	M8	4	<b>073</b>
70	84	Ø7	4	<b>289</b>
71,8	88,9	M10	4	<b>047</b>
75	102	M10	4	<b>139</b>
80	100	M8	4	<b>024</b>
	103,2	M8	2	<b>045</b>
	100	Ø11	4	<b>059</b>
	100	M10	2	<b>061</b>
	110	M10	2	<b>063</b>
	140	M10	2	<b>064</b>
	115	M10	2	<b>065</b>
	100	M10	4	<b>067</b>
	106,4	M10	2	<b>083</b>
	130	M8	4	<b>087</b>
	100	Ø8,5	4	<b>093</b>
82,55	113	M12	4	<b>104</b>
	95	M8	4	<b>169</b>
	103	M8	4	<b>242</b>
	110	M10	4	<b>272</b>
	106,4	M10	2	<b>060</b>
	105	M10	4	<b>097</b>
	106,4	M8	2	<b>254</b>
85	146	M12	2	<b>260</b>
	110	M10	2	<b>284</b>
	106,4	M10	2	<b>066</b>
90	112	M8	2	<b>134</b>
	105	M8	4	<b>156</b>
	118	Ø9	2	<b>163</b>
	112	Ø9	2	<b>164</b>

Spigot hole mm	BCD	D	N° holes	Code
92	140	M8	4	<b>088</b>
	145	M10	4	<b>089</b>
95	115	M8	4	<b>137</b>
95,2	127	M10	4	<b>131</b>
98,4	125	Ø11	4	<b>128</b>
	125	M10	2	<b>023</b>
100	125	M10	4	<b>025</b>
	125	Ø11	4	<b>031</b>
	125	Ø11	4	<b>032</b>
	190	Ø15	4	<b>038</b>
	125	Ø13	4	<b>041</b>
	125	M12	2	<b>071</b>
	140	M12	2	<b>072</b>
	146	M12	2	<b>075</b>
	126	M10	2	<b>106</b>
	120	M8	4	<b>122</b>
101,6	160	M10	4	<b>141</b>
	150	M10	4	<b>150</b>
	161,5	M12	4	<b>029</b>
	146	M12	2	<b>070</b>
	127	M12	4	<b>125</b>
	146	M10	2	<b>159</b>
	127	M10	4	<b>224</b>
105	146	M12	2	<b>076</b>
	175	M10	4	<b>110</b>
	130	M8	4	<b>154</b>
110	200	M10	4	<b>202</b>
	135	M10	4	<b>219</b>
	145	M12	4	<b>273</b>
112	140	M12	2	<b>074</b>
	140	M10	2	<b>138</b>
	130	M10	4	<b>264</b>
115	180	M12	4	<b>198</b>
116	160	M14	2	084
120	210	M16	2	<b>094</b>
	145	M10	4	<b>155</b>
	150	Ø13	4	<b>267</b>
125	160	M12	4	<b>026</b>
	160	Ø13	4	<b>033</b>
	160	M12	2	<b>079</b>
	180	M16	2	<b>082</b>
	155	M10	4	<b>102</b>
	160	Ø17	4	<b>113</b>
	200	M12	4	<b>114</b>
	181,2	M16	2	<b>136</b>
	200	M16	4	<b>200</b>
	180	Ø20	4	<b>215</b>
170	Ø18	4	<b>237</b>	
127	161,5	M12	4	<b>021</b>
	181,2	M16	2	<b>080</b>
	161,5	M14	4	<b>140</b>
130	165	Ø11	4	<b>054</b>
	150	M12	4	<b>068</b>
	181,2	M16	2	<b>085</b>
	165	M12	4	<b>124</b>
	165	M14	4	<b>135</b>

Spigot hole mm	BCD	D	N° holes	Code
130	165	M10	4	<b>253</b>
	160	M10	4	<b>151</b>
135	175,4	M12	4	<b>220</b>
	180	M140	4	<b>077</b>
140	180	M12	2	<b>281</b>
	165	M10	4	<b>157</b>
	200	M16	4	<b>176</b>
	165	M10	4	<b>223</b>
	180	M16	2	<b>232</b>
150	185	M16	4	<b>069</b>
	228,6	M16	4	<b>022</b>
152,4	228,6	M18	2	<b>090</b>
	228,6	M18	41	<b>108</b>
	217,5	Ø17	4	<b>118</b>
	228,6	M20	2	<b>166</b>
	228,6	M20	4	<b>192</b>
	190,5	M8	4	<b>207</b>
	200	M16	4	<b>027</b>
	200	Ø17	4	<b>035</b>
160	200	M16	2	<b>091</b>
	224	M20	2	<b>092</b>
	200	M12	2	<b>107</b>
	230	M22	4	<b>111</b>
	185	M12	4	<b>152</b>
	224	M16	4	<b>184</b>
	230	22	4	<b>228</b>
162	188	M12	4	<b>263</b>
	317,35	M20	4	<b>143</b>
165,1	317,35	M24	2	<b>145</b>
	229	M20	4	<b>201</b>
	317,35	M18	4	<b>204</b>
	200	M12	4	<b>153</b>
175	230	M18	2	<b>185</b>
	350	M24	4	<b>146</b>
177,8	216	M12	4	<b>222</b>
	350	M24	4	<b>203</b>
	216	13	4	<b>055</b>
	216	M16	4	<b>078</b>
180	224	M16	4	<b>112</b>
	216	M12	4	<b>132</b>
	215	M22	4	<b>148</b>
	230	22	4	<b>226</b>
	250	M20	4	<b>028</b>
200	250	Ø22	4	<b>095</b>
	280	M24	2	<b>117</b>
	230,5	M12	4	<b>214</b>
203,2	254	M14	4	<b>210</b>
205	240	M16	4	<b>133</b>
224	280	M20	4	<b>144</b>
	280	Ø22	4	<b>205</b>
250	310	M24	4	<b>238</b>
	315	M20	4	<b>282</b>
275	355	M16	4	<b>233</b>
	355	Ø18	4	<b>281</b>
-	-	-	-	-
-	-	-	-	-

## LMS series

Bell-housings of this type, appropriately installed in hydraulic systems, are able to help bring about a significant reduction in the level of noise generated by the system.

This is achieved through the adoption of a damping element located between the base of the bell-housing and the pump mounting flange.

Thanks to their notable versatility and to the broad selection of bases and flanges available, **LMS** low noise bell-housings will cover the majority of applications within a range including electric motors from size 100, rated **2.2 kW**, up to size 280, rated **90 kW**

### Technical specifications

#### LMS

##### Materials

- **Base module**  
Pressure diecast aluminium alloy.
- **Damping ring**  
Oil-resistant rubber, Shore A hardness 87.
- **Pump flange**  
Pressure diecast aluminium alloy.
- **Foot bracket**  
Pressure diecast aluminium alloy.

##### Temperature

- -30°C ÷ +80°C  
For temperatures outside this range, contact the MP Filtri Technical and Sales Department

##### Compatibility with fluids

- **Base modules compatible for use with:**
    - Mineral oils**  
Types HH-HL-HM-HR-HV-HG, 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.**

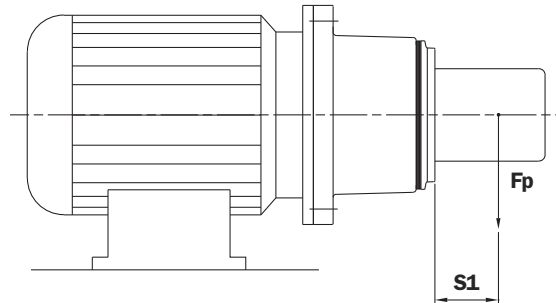




## Maximum admissible load for LMS low noise bell-housings

**TABLE 20**

Bell-housing	Max permissible load "F" (N)	Load application distance "S" (mm)
LMS 250	600	200
LMS 300	1000	200
LMS 350	1500	200
LMS 400	2200	200
LMS 450	4000	200
LMS 550	4000	200



Maximum permissible load values have been calculated assuming the assembly of a pump with its centre of gravity located at a distance  $S=200$  mm from the mounting face.

If the distance " $S$ " is greater than this assumed value, then calculate the new permissible load value

" $F_1$ " using this formula:

$$F_1 = F \times S_1 / S \text{ (N)}$$

### Examples

Low noise bell-housing: LMS250  
Fp pump: 600 N  
S1: 220 mm

$$F_1 = 600 \times 220 / 200 = 660 \text{ N} > 600 \text{ N} \text{ (value not acceptable)}$$

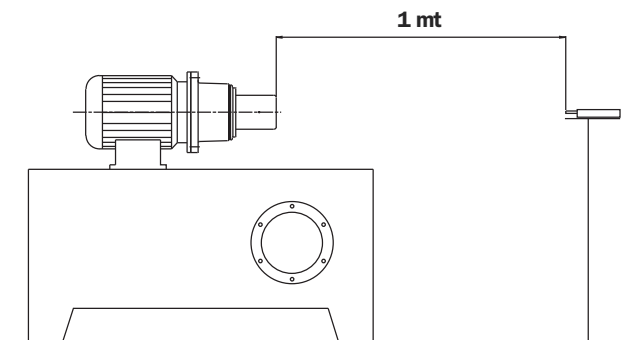
Low noise bell-housing: LMS250  
Fp pump: 600 N  
S1: 190 mm

$$F_1 = 600 \times 190 / 200 = 570 \text{ N} < 600 \text{ N} \text{ (value acceptable)}$$

## Reduction of noise level

The level of noise emitted by a motor-pump unit depends on several factors, namely:

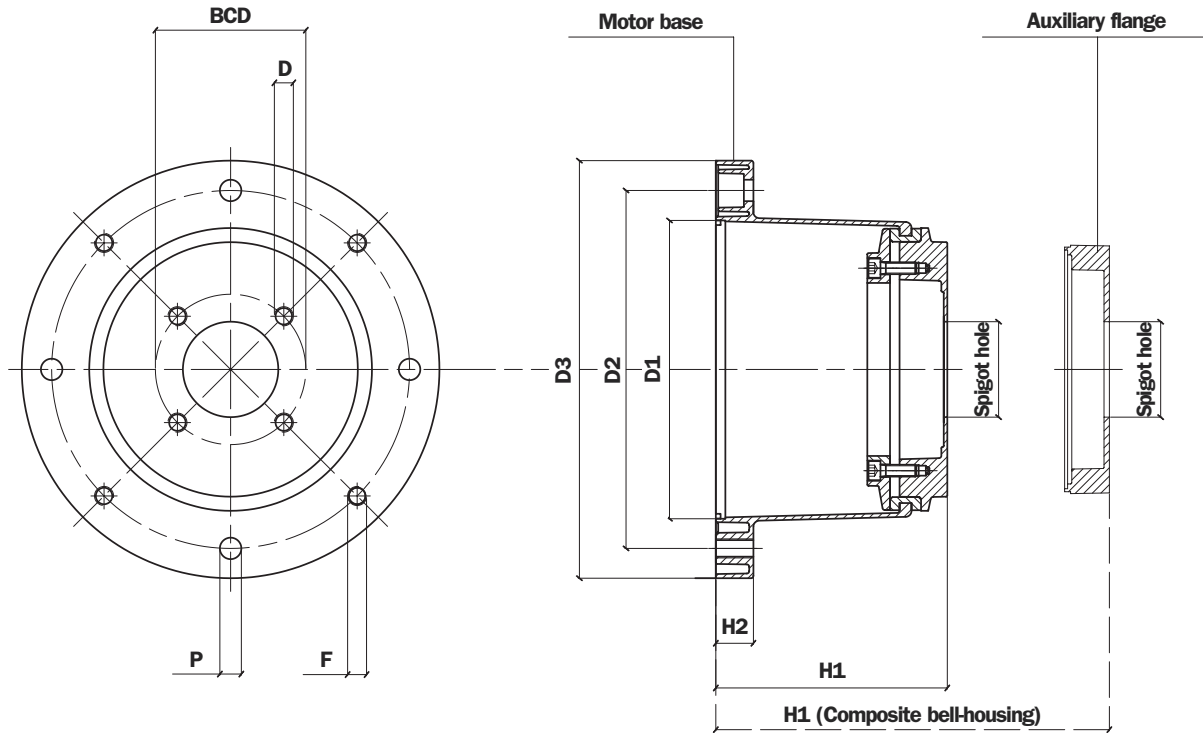
- Type of pump
- Nature of application
- Operating pressure
- Fittings used for connections
- Type of assembly



All tests were conducted in an anechoic-chamber, using certified sound level meters.

All LMS series bell-housings were tested adopting the arrangement illustrated above, comparing the noise level with that emitted by conventional monobloc bell-housings of the same size, under the same pressure and flow rate conditions.

- **The results of the tests show that with LMS series low noise bell-housings, the noise level of the motor-pump unit is reduced by 5 Db (A).**



• The auxiliary flange, if specified, is supplied already fitted to the bell-housing.

**Note:** In order to ensure coaxial alignment between the motor and pump spigot centres, the bell-housing cannot be disassembled and reassembled.

### Machining tolerances

D1	F8
Spigot hole	H7
H1	± 0,15 mm

### Concentricity of D1/Spigot hole

LMS 250	0,20 mm
LMS 300 - LMS 660	0,25 mm

**TABLE 21**

Electric motor, 4-pole, 1500 rpm				Dimensions of LMS low noise bell-housing										
Motor size	kW	Hp	Motor shaft	Bell-housing code	Foot bracket code	D1	D2	D3	H1	H2	F	Nr.	P	Nr.
100-112	2.2-4	3-5.5	28x60	<b>LMS 250</b>	<b>PDM A 250</b>	180	215	250	See tab. 22	19	M12	4	14	4
132	5.5-7.5	7.5-12.5	38x80	<b>LMS 300</b>	<b>PDM A 300</b>	230	265	300		23	M12	4	14	4
160	11-15	15-20	42x110	<b>LMS 350</b>	<b>PDM A 350</b>	250	300	350		31	M16	4	18	4
180	18.5-22	25-30	48x110	<b>LMS 350</b>	<b>PDM A 350</b>	250	300	350		31	M16	4	18	4
200	30	40	55x110	<b>LMS 400</b>	/	300	350	400		31	M16	4	18	4
225	37-45	50-60	60x140	<b>LMS 450</b>	/	350	400	450		31	M16	8	-	-
250	55	75	65x140	<b>LMS 550</b>	/	450	500	550		31	M16	8	-	-
280	75-90	100-125	75x140	<b>LMS 550</b>	/	450	500	550		31	M16	8	-	-
315	110-200	150-272	80x170	<b>LMS 660</b>	/	550	600	660		42	M20	16	-	-

To determine dimension H1 of the bell-housing see table 33  
 For dimensions of the foot bracket see page 55  
 For all other dimensions see pump manufacturer's technical literature

see table 33  
 see page 55  
 see pump manufacturer's technical literature

# LMS low noise bell-housing, dimension H1

**TABLE 22**

Pump flange			Pump flange			Pump flange		
Code	H1	Weight (kg)	Code	H1	Weight (kg)	Code	H1	Weight (kg)
LMS 250AFSA***	128	3,72	LMS 250AFRA***	158	3,97	LMS400AF6A***	288	10,00
LMS 250AFSB***	148	4,10	LMS 250AFRB***	165	4,10	LMS400AF6B***	289	10,10
LMS 300AFSC***	155	4,20	LMS 250AFRC***	168	4,30	LMS400AF6C***	301	10,25
LMS 300AFSD***	168	4,45	LMS 250AFRD***	171	4,60	LMS400AF6D***	314	11,10
LMS 300AFSE***	194	6,51	LMS 250AFRE***	173	4,70	LMS400AF6E***	326	11,70
LMS 350AFSF***	204	6,80	LMS 250AFRG***	181	5,10	LMS400AF6G***	338	11,90
LMS 350AFSG***	228	7,10	LMS 250AFRH***	183	5,70	LMS400AF6H***	342	12,10
LMS 350AFSH***	204	8,51	LMS300AFRA***	178	4,50	LMS400AF6L***	357	13,00
LMS 400AFSL***	228	8,80	LMS300AFRB***	185	4,75	LMS400AF6M***	396	15,70
LMS 400AFSM***	256	9,10	LMS300AFRC***	188	4,85	LMS450AF6A***	287	14,10
LMS 400FSN***	240	11,61	LMS300AFRD***	191	4,90	LMS450AF6B***	288	14,20
LMS 450FSO***	255	12,10	LMS300AFRE***	193	5,10	LMS450AF6C***	300	15,10
LMS 550FSP***	255	15,20	LMS300AFRG***	201	5,50	LMS450AF6D***	313	16,00
LMS 550FSR***	270	15,90	LMS300AFRH***	203	5,80	LMS450AF6E***	325	16,50
LMS 550FSS***	290	19,20	LMS300AF5A***	194	5,20	LMS450AF6G***	337	17,20
LMS 660FST***	305	20,20	LMS300AF5B***	198	5,50	LMS450AF6H***	341	17,50
			LMS300AF5C***	200	5,70	LMS450AF6L***	356	17,90
			LMS300AF5D***	203	5,90	LMS450AF6M***	395	19,00
			LMS300AF5E***	213	6,20	LMS550AF6A***	302	17,20
			LMS300AF5G***	232	6,70	LMS550AF6B***	303	17,20
			LMS300AF5H***	259	7,80	LMS550AF6C***	315	18,30
			LMS350AF5A***	254	8,10	LMS550AF6D***	328	19,00
			LMS350AF5B***	258	8,30	LMS550AF6E***	340	19,50
			LMS350AF5C***	260	8,50	LMS550AF6G***	352	19,90
			LMS350AF5D***	263	8,70	LMS550AF6H***	356	20,20
			LMS350AF5E***	273	9,00	LMS550AF6L***	361	20,45
			LMS350AF5G***	292	10,10	LMS550AF6M***	400	22,50
			LMS350AF5H***	319	11,30	LMS660AF6A***	337	23,00
						LMS660AF6B***	338	23,40
						LMS660AF6C***	350	24,50
						LMS660AF6D***	363	25,30

**Specified tightening torques for auxiliary flange**

- FR\* 18 Nm
- F5\* 100 Nm
- F6\* 180 Nm

**Recommended tightening torques for motor/pump assembly bolts**

- M6 10 Nm
- M8 24 Nm
- M10 50 Nm
- M12 84 Nm
- M14 135 Nm
- M16 205 Nm
- M18 280 Nm
- M20 400 Nm
- M22 530 Nm
- M24 690 Nm

These values are calculated to exploit the performance of the bolt at 70% of its elastic limit.

This means in practice that the shank of the bolt will be stressed typically to 60-70% of its limit of elasticity in the course of being tightened.

The values indicated are valid for hexagon head bolts to UNI 5737 and hexagon socket screws to UNI 5931, property class 8.8, tightened by degrees using a torque wrench.

If bolts or screws are tightened using impact or hammer action drivers, the applied torque should be reduced by 10%.

## Comparative table

MP Filtri	OMT	Raja	KTR
Code	Code	Code	Code
LMS250A***	BS251***	R250***DF	PK+D150/190
LMS300A***	BS301***	R300***DF	PK+D150/190
LMS350A***	BS351***	R350***DF	PK+D150/190/D230/260
LMS400A***	BS400***	R400***DF	PK+D190/D230/260
LMS450A***	BS451***	R450***DF	PK+D190/230/D260/330
LMS550A***	BS551***	R450***DF	PK+D190/230/D260/330
LMS660A***	BS661***	R450***DF	PK+D190/230/D260/330

**Note:** The above table is guideline only.

Not all bell-housings are fully interchangeable.

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



## Low noise bell-housing LMS

Example: LMS

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>250</b>	<b>A</b>	<b>FSA</b>	<b>070</b>	<b>FG</b>

### 1 - Sizes

- 
- 
- 
- 
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- 

### 2 - Product revision code

- 

### 3 - Bell-housing

- See table 22 page 33
- See table 22 page 33

### 4 - Pump interface codes

- See table on page 47

### 5 - Opzioni

- Holes rotated through 45° in relation to standard position (page 47)
- Drain hole + inspection hole
- Double set of holes
- Black anodized finish
- Clearance holes at motor interface
- Customer specification

**Note:** Bell-housings with DI options are supplied complete with threaded closure plug

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

# 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

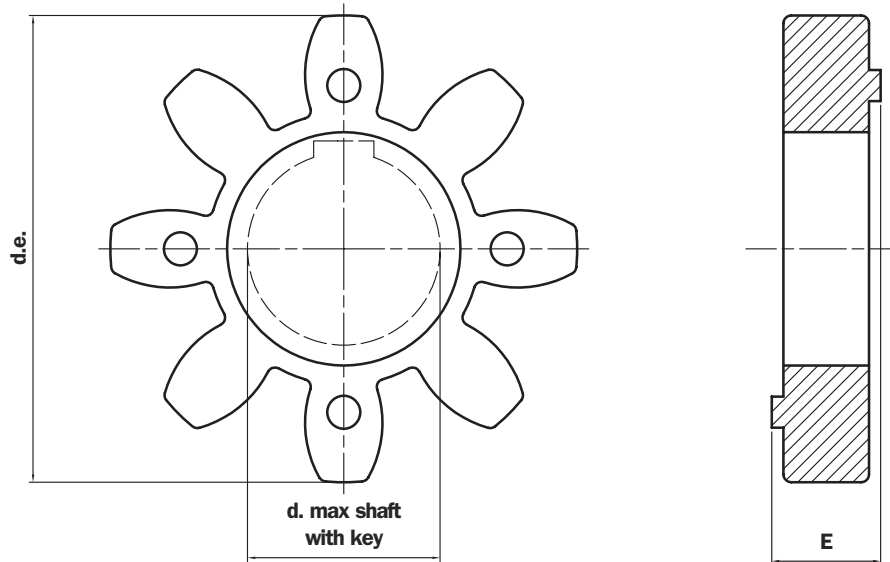
**Ask for anodized version**

#### 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)
<b>SGEA01/SGEG01</b>	EGE0	15	40	16	10	20	0,006
<b>SGEA21</b>	EGE2	18	65	25	95	190	0,02
<b>SGEA31/SGEG31</b>	EGE3	22	80	35	190	380	0,04
<b>SGEA51</b>	EGE5	26	105	45	310	620	0,06
<b>SGEG40/SGES40</b>	EGE4	24	95	40	310	620	0,09
<b>SGEG60/SGES60</b>	EGE6	28	120	55	430	860	0,13
<b>SGEG80/SGES80</b>	EGE8	38	160	75	1250	2500	0,36

**EGE\*\*RR series**

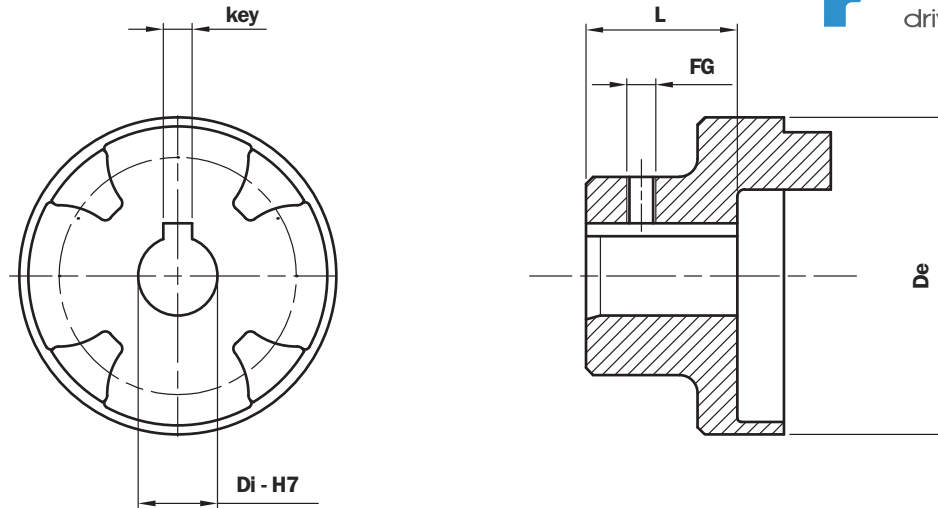
Made in polyurethane Laripur - E 2203-93A, red colour, are suitable for applications where high levels of torque are transmitted. They will withstand temperatures from -30°C to +120°C.  
Shore A hardness 95

**TABLE 36**

Half-coupling type	Code	E	d.e.	d.max	Nominal torque Nm	Max torque Nm	Weight (kg)
<b>SGEA01/SGEG01</b>	EGE0RR	15	40	16	15	30	0,006
<b>SGEA21</b>	EGE2RR	18	65	25	115	230	0,02
<b>SGEA31/SGEG31</b>	EGE3RR	22	80	35	250	500	0,04
<b>SGEA51</b>	EGE5RR	26	105	45	400	800	0,06
<b>SGEG40/SGES40</b>	EGE4RR	24	95	40	380	760	0,09
<b>SGEG60/SGES60</b>	EGE6RR	28	120	55	550	1100	0,13
<b>SGEG80/SGES80</b>	EGE8RR	38	160	75	1400	2900	0,36
<b>SGEG90</b>	EGE9RR	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	D	L	d	Tol	key	Tol	FG	Weight (kg)
63	0.12 - 0.16	0.18 - 0.24	11x23	<b>SGEA01M01021</b>	43	21	11		4		M5	0,07
71	0.25 - 0.34	0.37 - 0.50	14x30	<b>SGEA01M02028</b>	43	28	14		5		M5	0,08
80	0.53 - 0.75	0.75 - 1	19x40	<b>SGEA01M03040</b>	43	44	19		6		M5	0,12
				<b>SGEA21M03040</b>	68	44	19		6		M6	0,30
90	1.1 - 1.5	1.5-2	24x50	<b>SGEA01M04048</b>	43	48	24		8		M5	0,13
				<b>SGEA21M04048</b>	68	48	24		8		M6	0,28
100 - 112	2.2-4	3.5.5	28x60	<b>SGEA21M05060</b>	68	60	28		8		M6	0,33
				<b>SGEA31M05060</b>	85	60	28	H7	8	D10	M8	0,48
132	5.5-7.5	7.5-12.5	38x80	<b>SGEA31M06077</b>	85	77	38		10		M8	0,78
				<b>SGEA51M06077</b>	109,5	77	38		10		M8	1,60
160	11-15	15-20	42x110	<b>SGEA51M07109</b>	109,5	110	42		12		M8	1,60
180	18-22	25-30	48x110	<b>SGEA51M08109</b>	109,5	109	48		14		M8	1,60
200	30	40	55x110	<b>SGEA51M09109</b>	109,5	109	55		16		M8	1,90
225	37-45	50-61	60x140	<b>SGEA51M10109</b>	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	
<b>SGEA01</b> *** **	11	19	43	H7	17	50	17	23	30	40	44	48	-	-	-	-	-	M5
<b>SGEA21</b> *** **	15	24	43	H7	23	50	35	40	42	44	48	50	-	-	-	-	-	M6
<b>SGEA21</b> *** **	25	28	70	H7	40	60	40	42	44	48	50	55	58	60	-	-	-	M6
<b>SGEA31</b> *** **	18	32	70	H7	40	60	42	45	48	50	52	55	58	60	-	-	-	M8
<b>SGEA31</b> *** **	38	42	85	H7	60	80	60	65	70	77	80	-	-	-	-	-	-	M8
<b>SGEA51</b> *** **	18	40	109,5	H7	40	70	42	45	48	50	52	55	58	60	65	70	-	M8
<b>SGEA51</b> *** **	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

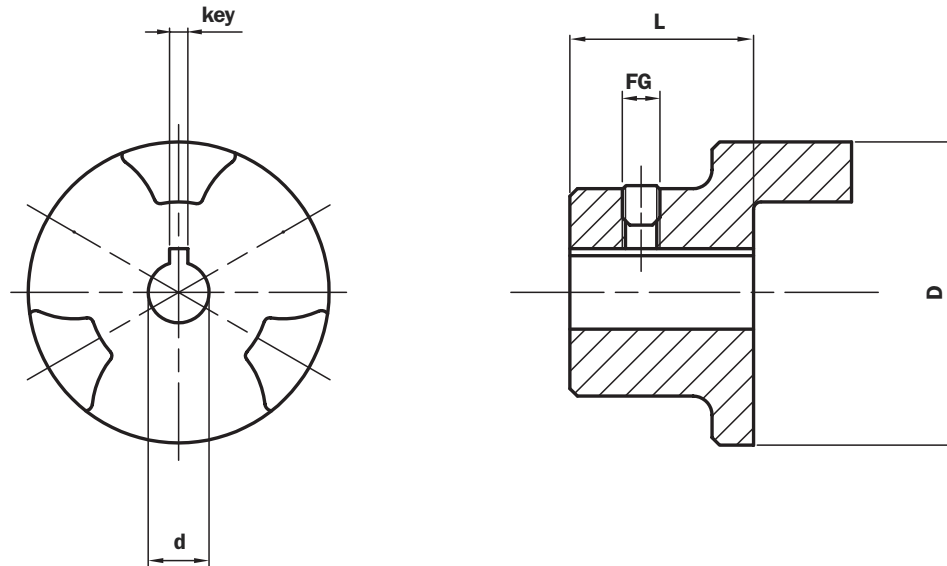
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**TABLE 39 - Motor half-coupling**

Motor 4-pole 1500 rpm				Dimensions of motor half-coupling								
Frame size	kW	Hp	Shaft	Half-coupling code	D	L	d	Tol	key	Tol	FG	Weight (kg)
63	0.12 - 0.16	0.18 - 0.24	11x23	<b>SGEG01M01021</b>	43	21	11		4		M6	0,32
71	0.25 - 0.34	0.37 - 0.50	14x30	<b>SGEG01M02028</b>	43	28	14		5		M6	0,42
80	0.53 - 0.75	0.75 - 1	19x40	<b>SGEG01M03040</b>	43	40	19		6		M6	0,61
90	1.1 - 1.5	1.5-2	24x50	<b>SGEG01M04050</b>	43	50	24		8		M6	0,77
100 - 112	2.2-4	3-5.5	28x60	<b>SGEG31M05060</b>	80	60	28	H7	8		M6	2,35
				<b>SGEG40M05060</b>	95	60	28		8		M8	2,65
132	5.5-7.5	7.5-12.5	38x80	<b>SGEG31M06080</b>	80	80	38		10		M6	3,15
				<b>SGEG40M06080</b>	95	80	38		10		M8	3,55
160	11-15	15-20	42x110	<b>SGEG40M07110</b>	95	110	42		12		M8	4,70
180	18-22	25-30	48x110	<b>SGEG40M08110</b>	95	110	48		14		M8	4,55
200	30	40	55x110	<b>SGEG40M09110</b>	95	110	55		16	JS9	M8	4,35
				<b>SGEG60M09110</b>	120	110	55		16		M8	9,00
225	37-45	50-60	60x140	<b>SGEG60M10140</b>	120	140	60		18		M8	12,30
250	55	75	65x140	<b>SGEG60M11140</b>	120	140	65		18		M8	12,00
				<b>SGEG80M11140</b>	160	140	65	18		M8	18,30	
				<b>SGEG60M12140</b>	120	140	75	20		M10	11,50	
280	75-90	102-122	75x140	<b>SGEG80M12140</b>	160	140	75	F6	20		M10	17,70
				<b>SGEG90M12100</b>	200	100	75		20		M10	21,00
				<b>SGEG80M13170</b>	160	170	80		22		M10	20,60
315	110-200	150-272	80x170	<b>SGEG90M13100</b>	200	100	80		22		M10	20,00
				<b>SGEG90M15100</b>	200	100	95	25		M10	19,00	
355	250-315	340-428	95x140	<b>SGEG90M15100</b>	200	100	95		25		M10	19,00
400	355-400	482-544	100x210	<b>SGEG90M16100</b>	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
<b>SGEG01</b> *** **	/	24	H7	40	20	50	
<b>SGEG30</b> *** **	/	42	H7	80	30	80	
<b>SGEG40</b> *** **	/	55	H7	95	30	110	
<b>SGEG60</b> *** **	/	75	H7	120	40	140	
<b>SGEG80</b> *** **	/	85	H7	160	50	170	
<b>SGEG90</b> *** **	/	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.

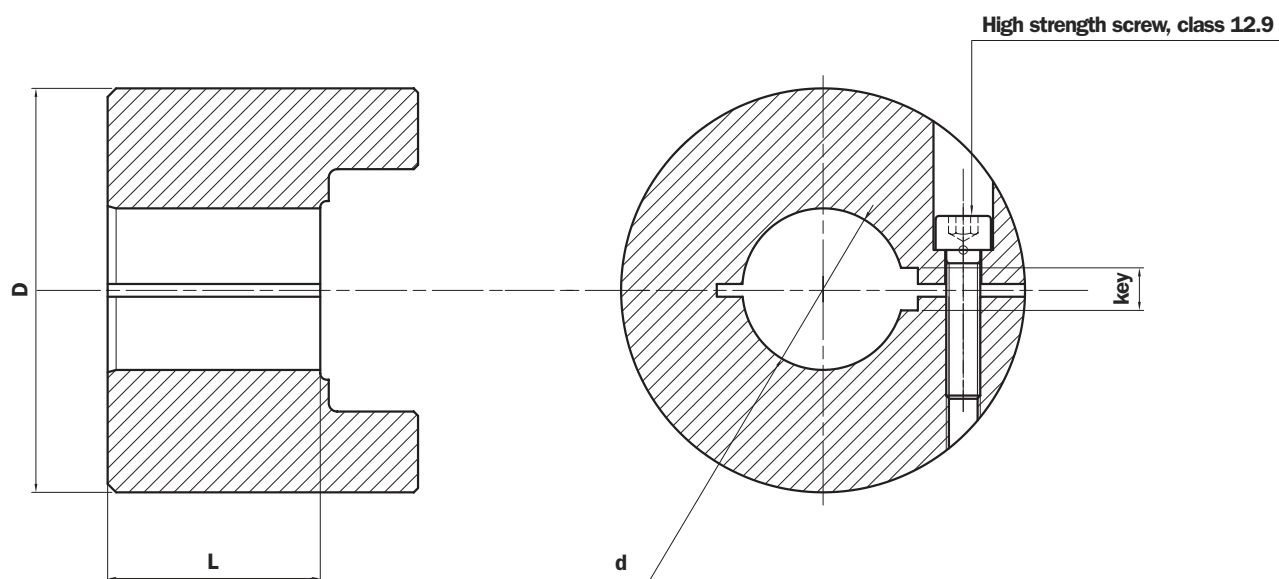
**Note:** For lengths other than those indicated in table 40, contact the MP Filtri Technical and Sales Department.



# 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	<b>SGES40M06050G0</b>	95	50	38		10		M8	4,00
160	11-15	15-20	42x110	<b>SGES40M07065G0</b>	95	65	42		12		M8	5,00
180	18-22	25-30	48x110	<b>SGES40M08065G0</b>	95	65	48		14		M8	5,00
200	30	40	55x110	<b>SGES60M09085G0</b>	120	85	55	H7	16	JS9	M10	8,00
225	37-45	50-61	60x140	<b>SGES60M10085G0</b>	120	85	60		18		M10	8,00
250	55	75	65x140	<b>SGES60M11085G0</b>	120	85	65		18		M10	8,00
280	75-90	102-122	75x140	<b>SGES60M12085G0</b>	120	85	75		20		M10	8,00
315	110-200	150-272	80x170	<b>SGES80M13085G0</b>	160	170	80		22		M10	13,00

## SGES series pump half-couplings - steel

TABLE 42

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



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

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

# ACCESSORIES

The range of products is completed by a number of accessories, including:

**Foot brackets**, which serve to support the motor-and-pump unit in the event that the selected electric motor does not have mounting feet.

**Damping rings**, intended mainly for use with motor-pump units positioned vertically and with the pump submerged in the oil tank.

**Inspection covers**, facilitating the maintenance of oil tanks in hydraulic power units, without necessarily having to dismantle the unit.

**Aluminium tanks** of 10 litres capacity, allowing the assembly of a compact hydraulic power unit.

## Technical specifications

### ACCESSORIES

#### Materials

- **Foot bracket**  
Pressure diecast aluminium alloy.
- **Damping ring**  
Vulcanized aluminium.
- **Inspection covers**  
Pressure diecast aluminium alloy.
- **Tanks**  
Pressure diecast aluminium alloy.

#### 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

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

##### Mineral oils

Types HH-HL-HM-HR-HV-HG, 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.**

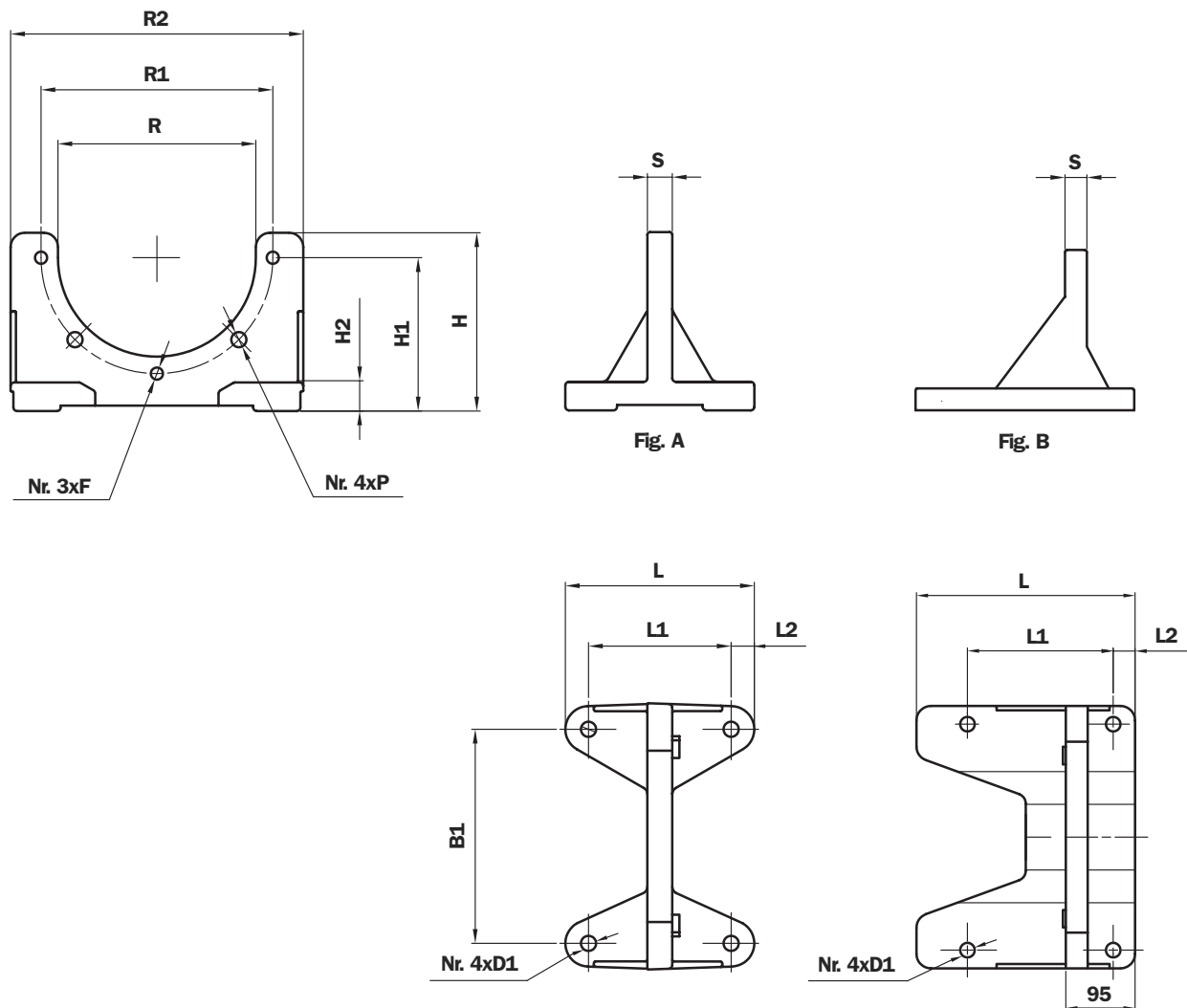
**F**indynamica  
drive and control products

Made of pressure die-cast aluminium and featuring superior mechanical strength, these brackets are proportioned to support **UNEL - MEC** frame electric motors with **B5** mounting flange and no feet.

There are brackets available for a range of motors from **size 71, rated 0.37 kW**, up to **size 180 rated 22 kW**.

(For sizes other than those indicated in the table, contact the MP Filtri Technical and Sales Department).

As already indicated under the heading “**ASSEMBLY OF MOTOR AND PUMP UNIT**”, foot brackets of the **PDM** series should be fitted preferably in conjunction with anti-vibration mounts.



**TABLE 45**

Foot bracket	Fig.	B	B1	R2	L	L1	L2	H	H1	H2	R	R1	S	P	D1	F	Weight (kg)
<b>PDM A 160</b>	A	160	135	180	106	80	13	100	86	16	111	130	14	8,5	8,5	M8	0,45
<b>PDM A 200</b>	A	200	175	207	128	98	21	128	115	14	146	165	14	11	11,5	M10	0,60
<b>PDM A 250</b>	A	250	220	262	172	130	21	157	145	18	191	215	16	13	13,5	M12	1,20
<b>PDM A 300</b>	A	300	270	320	210	160	25	188	170	18	235	265	20	13	13,5	M12	1,80
<b>PDM A 350</b>	B	350	310	360	300	200	30	220	200	30	261	300	30	18	13	M16	4,80

# Damping rings

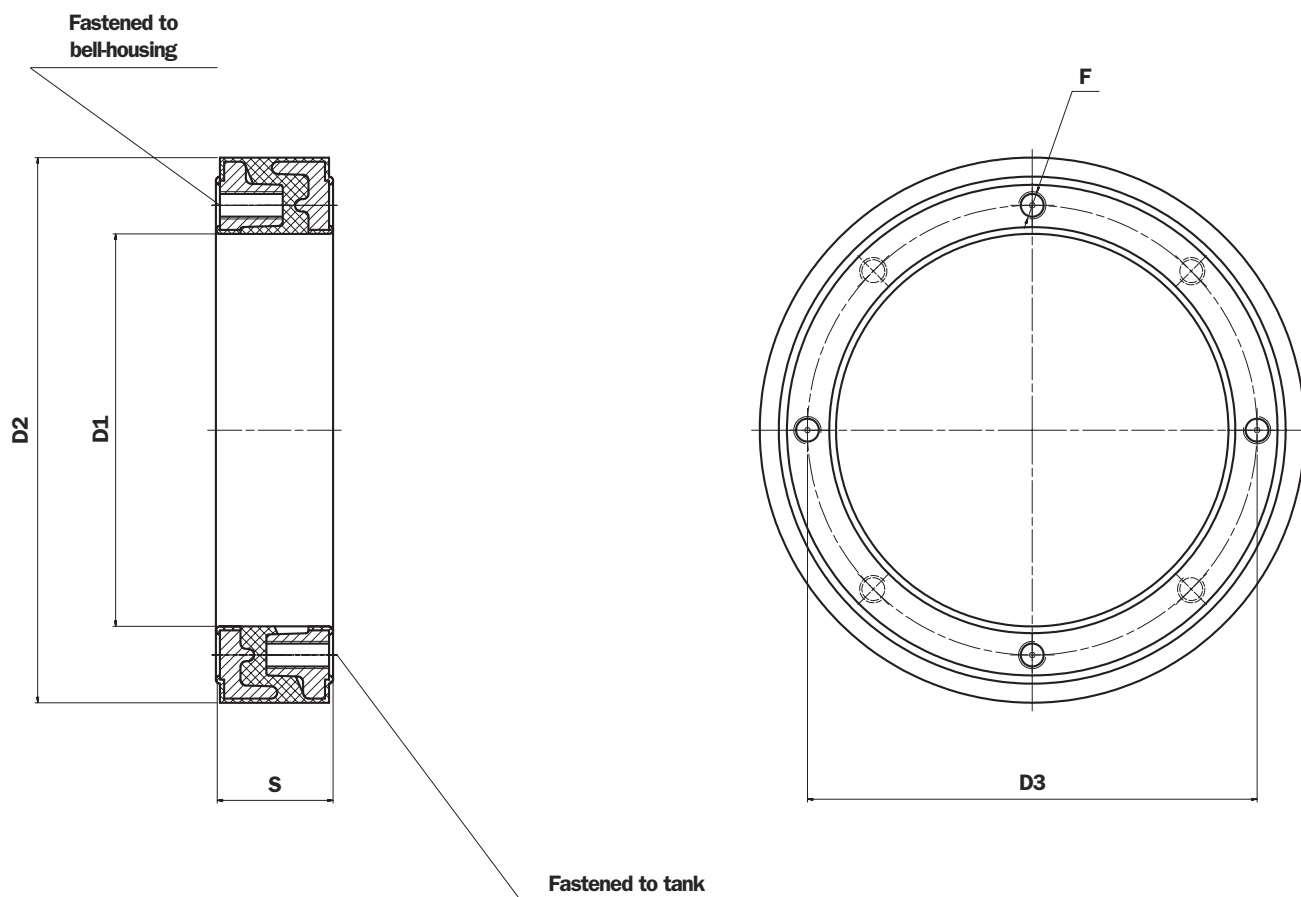
These vulcanized components consist of two aluminium rings embedded in oil-resistant rubber, which guarantee superior mechanical strength and are particularly suitable for vertically mounted motor-and-pump units.

Positioned between the bell-housing motor flange and the lid of the tank lid, they help to reduce the transmission of vibrations and the emission of noise generated by the system.

Damping rings provide a perfect hydraulic sealing actions by virtue of their special profile, which resembles an O-ring surrounded by a flange with fixing holes.

Rings are available for a range of motors from **size 80, rated 0.5 kW**, up to **size 180 rated 22 kW**.

The noise level of the motor-pump unit can be reduced by as much as 5 dB (8A).



**TABLE 46**

Foot bracket	D1	D2	D3	S	F	Weight (kg)
<b>ANM A 200</b>	146	200	165	43	M10	1,70
<b>ANM A 250</b>	190	250	215	48	M12	2,53
<b>ANM A 300</b>	239	300	265	53	M12	2,15
<b>ANM A 350</b>	260	350	300	62	M16	3,95

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

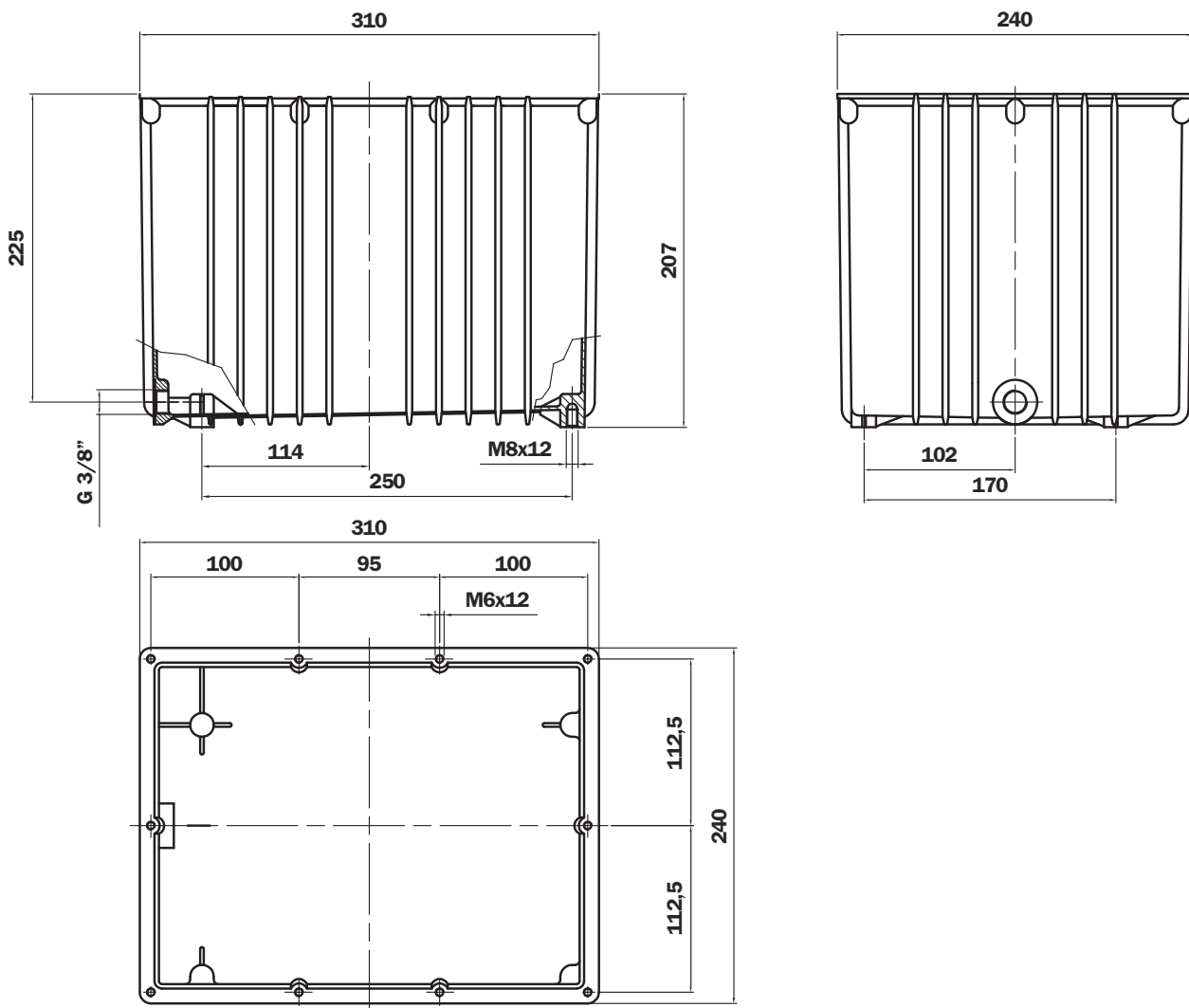
Made of pressure diecast aluminium alloy, these tanks feature superior strength and optimum design and are ideal for compact hydraulic power units.

Generously proportioned fins ensure efficient cooling.

The tank is supplied with:

- M6 threaded fixing holes for lid
- feet with M8 threaded fixing holes
- G 3/8" threaded drain hole

The lid is sealed by a gasket made of special paper, which must be ordered separately indicating code "GUS 10,0".



**TABLE 47**

Code	Weight (kg)
SE10LT	3,95

These pressure diecast aluminium alloy doors offer superior mechanical strength and are manufactured to DIN 24339 standard. They provide easy access to the inside of the oil tank for inspection and cleaning purposes.

On request and for small quantities, to be agreed with MP Filtri Technical and Sales Department, inspection doors can be supplied with:

- Customer logo.
- Hole cut for visual level indicator.
- Hole cut for visual and electrical level indicator.
- Oil sample plug

## Technical specifications

### INSPECTION DOORS

#### Materials

- **Inspection cover**  
Pressure diecast aluminium alloy/cast iron
- **Seal**  
Oil-resistant rubber, Shore A hardness 70.

#### 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

- **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

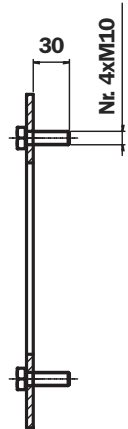
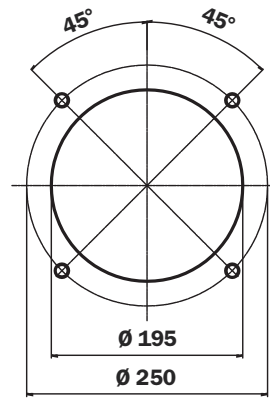
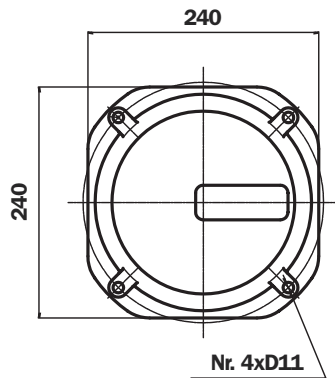
- **Any applications not covered by the normal indications contained in this catalogue must be evaluated and approved by the MP Filtri Technical and Sales Department.**

## Reminders for correct fitting of inspection covers

- **The thickness of the tank wall must be at least 4 mm or greater**
- **Observe the specified hole dimensions when drilling tank wall (see next page)**
- **Make certain that after welding stud screws or bolts, the tank wall does not present any noticeable deformation**
- **Thoroughly clean the surface of the wall on which the seal will be seated.**
- **Wet the seal with hydraulic oil to prevent the rubber from cracking**
- **Fit the seal carefully to the inspection cover**
- **Tighten the retaining nuts, torquing to 15 Nm**

## OB275

Tank wall fixing holes

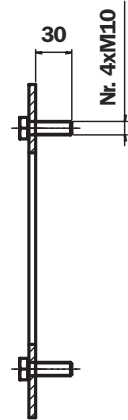
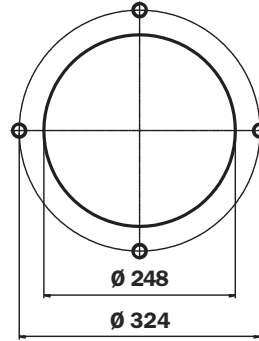
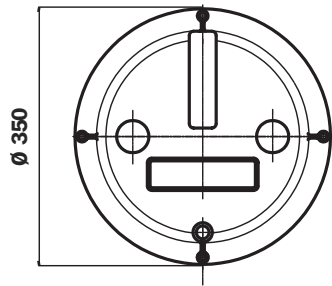


**TABLE 48**

Code	Weight (kg)
Door with MP Filtri OB275P01	1,76
Blank door OB275P02	
Seal GU0275NBR	
Seal FPM GU275VTN	

## OB350

Tank wall fixing holes

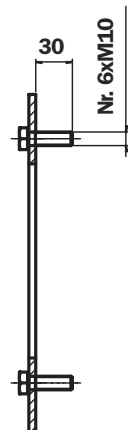
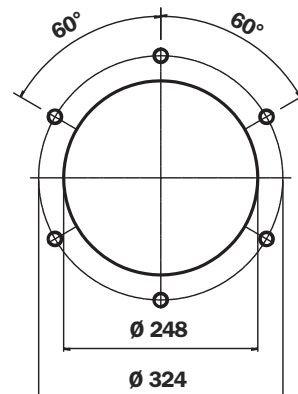
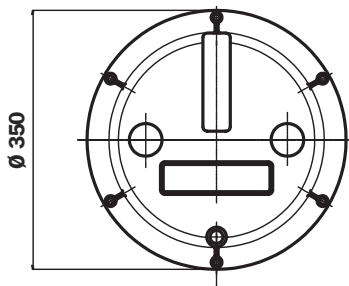


**TABLE 49**

Code	Weight (kg)
Door OB350DIN000	
Seal GU0350DINNBR	1,80
Seal FPM GU0350DINVTN	

## OB356

Tank wall fixing holes



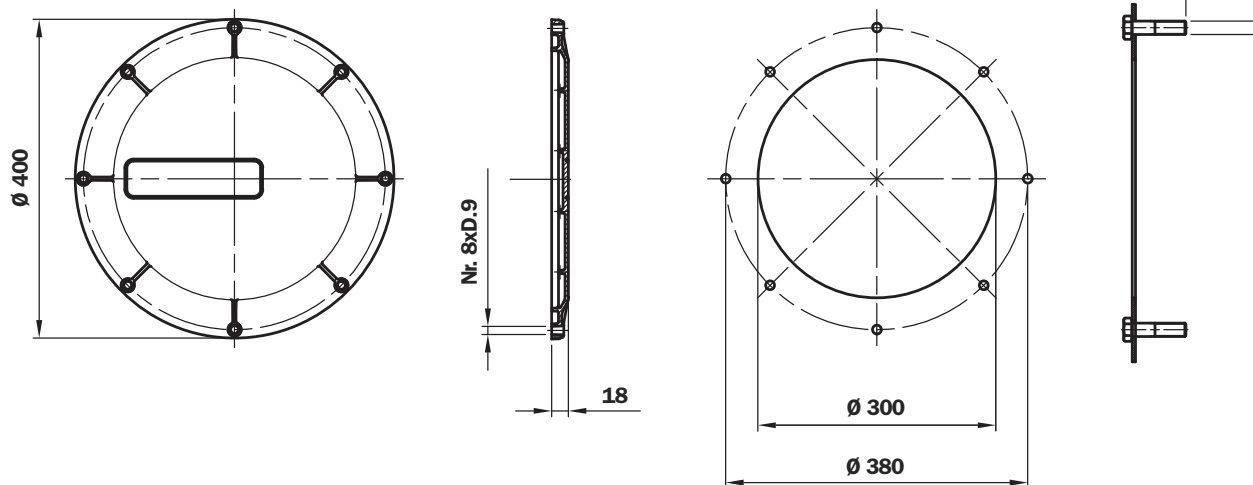
**TABLE 50**

Code	Weight (kg)
Door OB356DIN000	
Seal GU0350DINNBR	1,80
Seal FPM GU0350DINVTN	



## OB400

Tank wall fixing holes

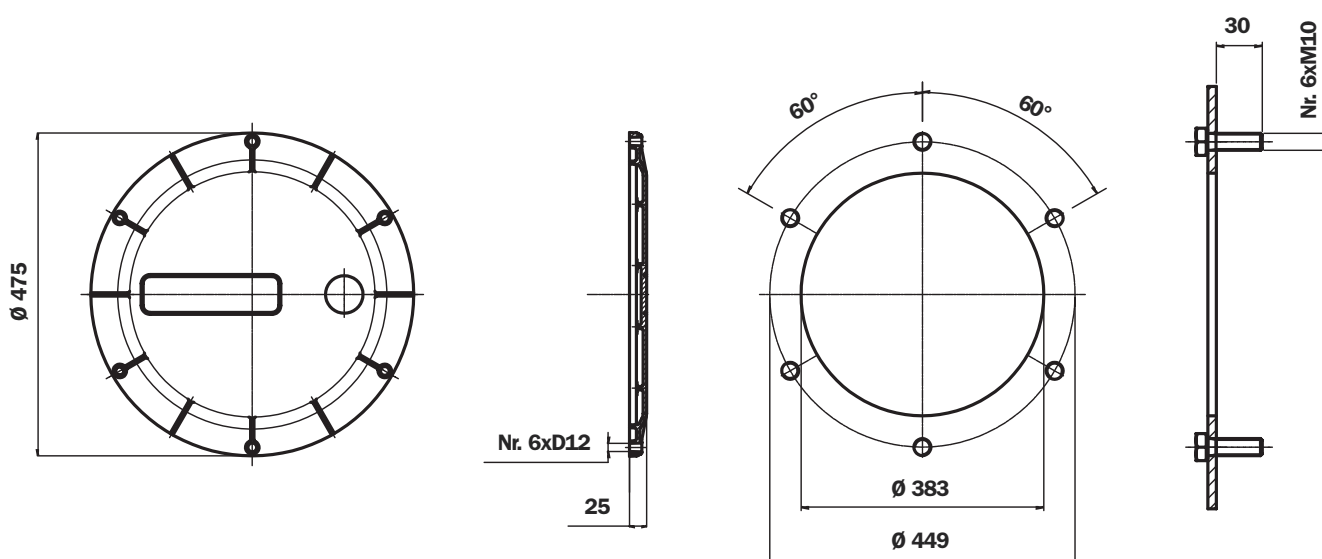


**TABLE 51**

Code	Weight (kg)
Door with MP Filtri OB400P01	2,90
Blank door OB400P02	
Seal GU0400DINNBR	
Seal FPM GU0400DINVTN	

## OB475

Tank wall fixing holes

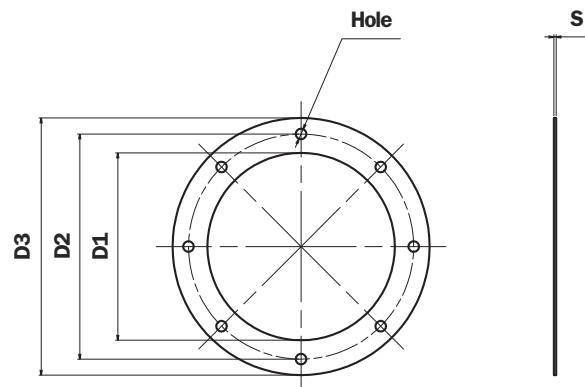


**TABLE 52**

Code	Weight (kg)
Door with MP Filtri OB475P01	3,40
Blank door OB475P02	
Seal GU0475DINNBR	
Seal FPM GU0475DINVTN	

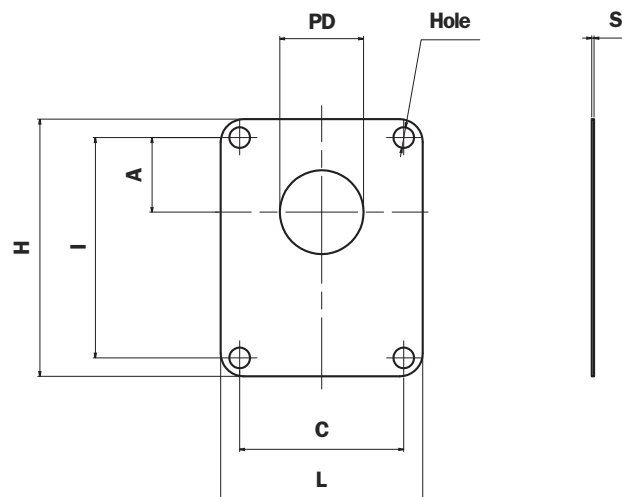
Seals made of special paper provide the sealing action between the lid of the oil tank and the bell-housing (motor interface) and between the bell-housing and the pump flange.

They are available for motors from size 63 rated **0.12 kW**, up to **size 180 rated 22 kW**, and for all gear pumps listed in this catalogue.



**TABLE 53**

Bell-housing code	Seals code	D1	D2	D3	S	Hole
LMC 120	GUM P 120	84	100	120	1	7
LMC 140	GUM P 140	96	115	140		9
LMC 160	GUM P 160	110	130	160		9
LMC 200	GUM P 200	145	165	200		11
LMC 250	GUM P 250	190	215	250		14
LMC 300	GUM P 300	234	265	300		14
LMC 350	GUM P 350	260	300	350		18



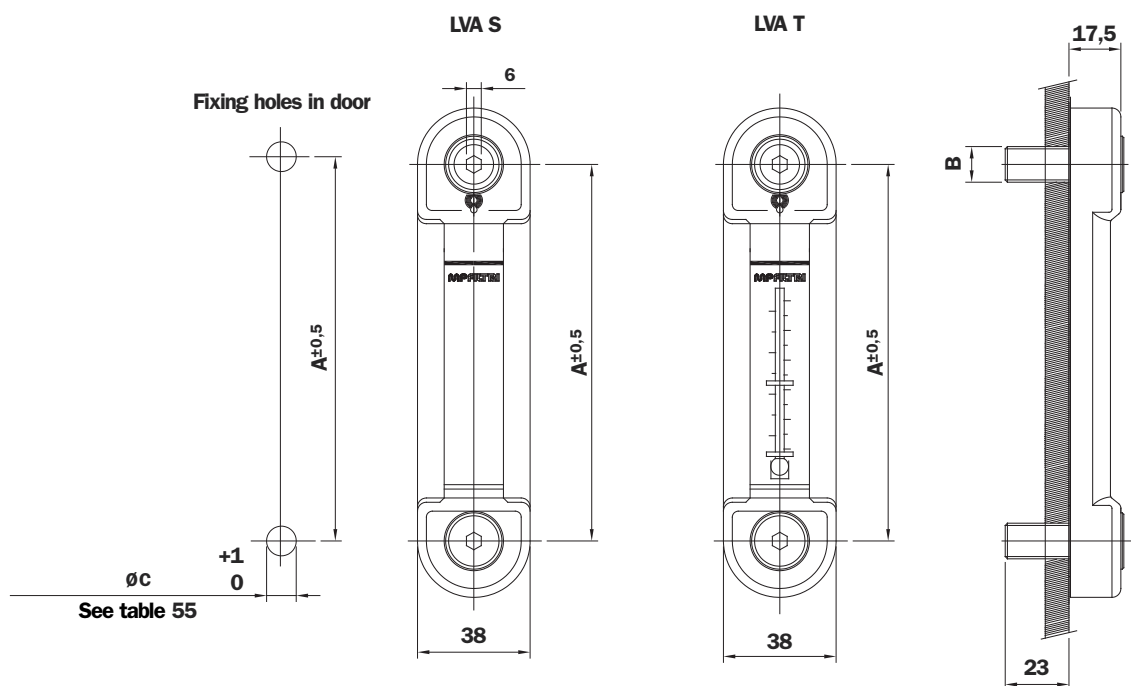
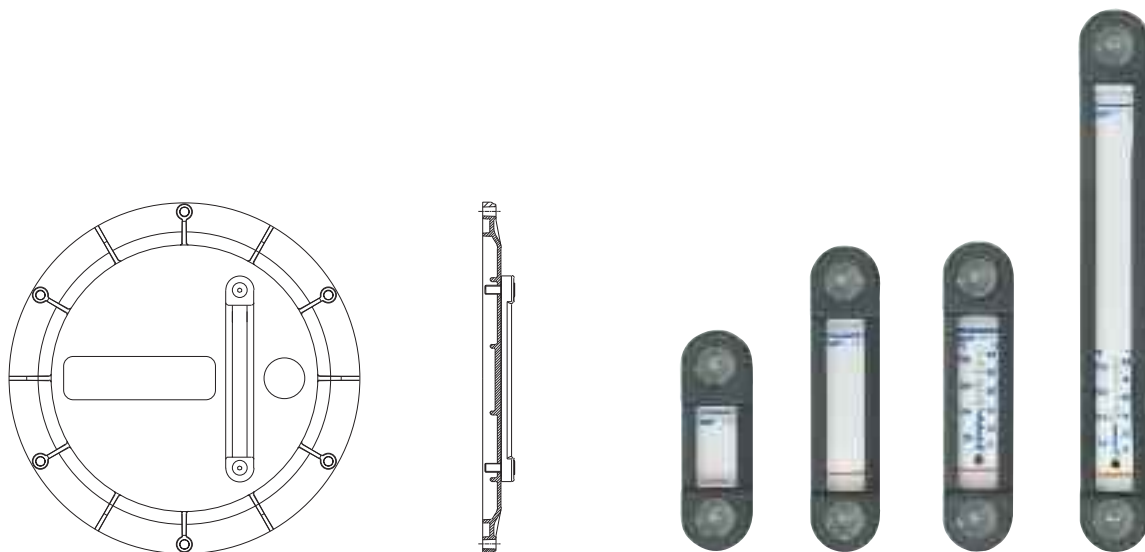
**TABLE 54**

Pump code	Seals code	PD	A	B	C	H	L	S	Hole
FS05M	GUP P001	22	25.6	66	-	80	48	1	6.5
FS100	GUP P002	25.4	26.6	72	52.4	87	67		6.5
FS1M0	GUP P003	30	24.5	73	56	85	68		6.5
FS200	GUP P004	36.5	32.5	96	71.5	112	88		8.5
FS300	GUP P005	50.8	43	128	98.5	148	118		10.5
FSZBR	GUP P013	32	10.35	40	40	75	62		8.5
FSZFR	GUP P014	80	34.5	100	72	118	90		9

**Note:** Motor seals and pump seals must be ordered separately,

For seals with dimensions different to those indicated in tables 53 - 54, contact the MP Filtri Technical and Sales Department.

## Visual level indicators LVA series



### Preparing for to fit the level on request

Code door	Code level
OB275**	LVA 10**
OB350**	LVA 10**
OB356**	LVA 20**
OB400**	LVA 10**
OB475**	LVA 20**
	LVA 30**

TABLE 55

Size	Dimensions		
	A	B	ØC
LVA 10	76	M 10	11
LVA 20	127	M 12	13
LVA 30	254	M 12	13

### Materials:

Transparent amorphous polyamide lens  
Nylon guard  
Seals: Series A-NBR - Series V-FPM

**Operating pressure:** Max 1 bar at +80 °C

**Operating temperature:** From -25 °C to +80 °C

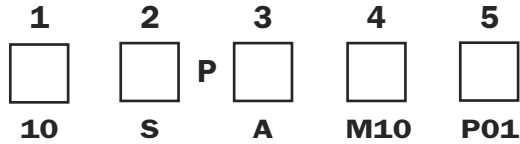
**Tightening torque:** 10 Nm max.

Mineral oils - Synthetic oils - Water base emulsions - Phosphoric esters

## Visual level indicators

### LVA

Example: LVA



#### 1 - Sizes

- 10
- 20
- 30

#### 2 - Accessories

- S Without
- T With thermometer

#### 3 - Seals

- A NBR
- V FPM

#### 4 - Options

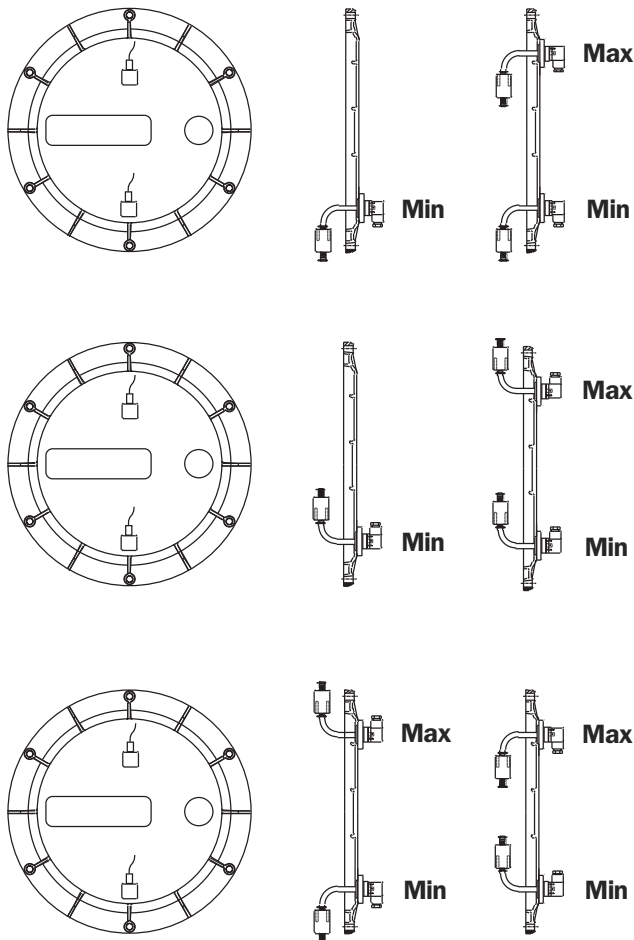
- M10 M10 screws (standard for LVA 10)
- M12 M12 screws (standard for LVA 20/30)

#### 5 - Customizations

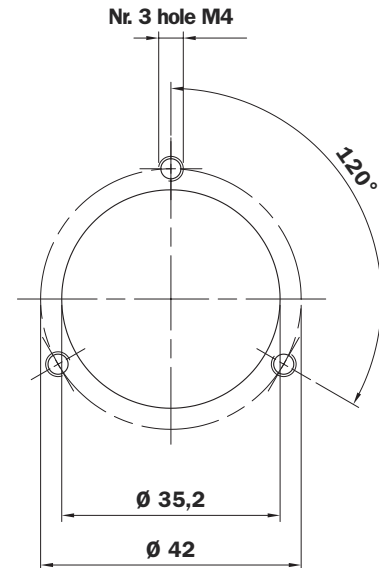
- P01 Nameplate with MP
- P02 Blank nameplate MP (Min. 1000 pcs)
- Pxx Customized (4 Min. 1000 pcs)

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

## Electrical float level indicators LEG series



### Layout of fixing holes for LEG level indicator



**Note:** Arrange the holes according to the position of the level indicator

### Prepared for visual indicator - on request

### Technical specifications

LEG series electrical level indicators are supplied with a 3-hole fixing flange and a reed switch having NC-NO contacts. Designed typically for installation on the vertical walls of oil tanks, these instruments can also be mounted to inspection doors of the OB475 series as indicators of minimum and maximum oil levels in the tank.

#### DIN 43650 CONNECTOR

##### Materials

- **Flange**  
Aluminum
- **Rod**  
Brass
- **Float**  
Nylon foam
- **Seals**  
A= NBR  
V= FPM

##### Temperature

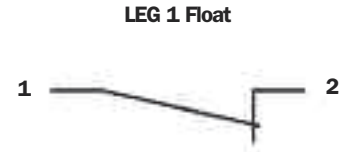
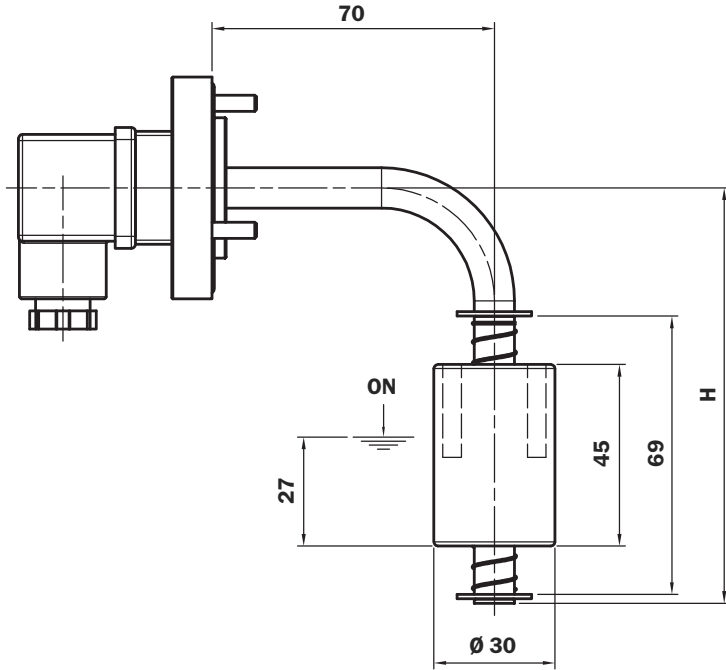
- -15°C ÷ +80°C  
For temperatures outside this range,  
contact the MP Filtri Technical and Sales Department.

### Warning

To operate correctly, the float must be positioned vertically and at a minimum distance of 35 mm from walls made of ferrous metal.

To change the contact from NC to NO, simply turn the float upside down.

The electrical properties indicated are referred to resistive loads; for capacitive and inductive loads and incandescent lamps, use protection circuits.



To invert the contact status from NO to NC and vice versa, simply invert the float.

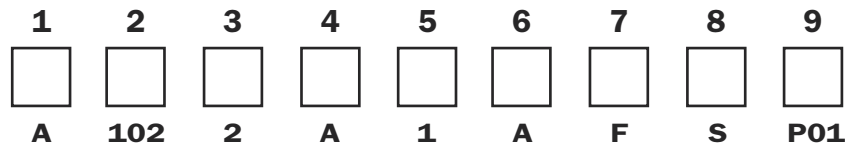
Length	H
103	103
200	200
300	300
350	350

## LEG ordering information

### Electrical float level indicators series

### LEG

Example: LEG



#### 1 - Tube material

**A** Brass

#### 2 - Length

**102**

#### 3 - Number of floats

**1** Nr. 1 float

#### 4 - Float material

**A** Nylon foam

#### 5 - Changeover contacts

**1** NC

#### 6 - Seals

**A** NBR

**V** FPM

#### 7 - Type of fixing

**F** 3 hole flange

#### 8 - Electrical connection

**S** DIN 43650 connector

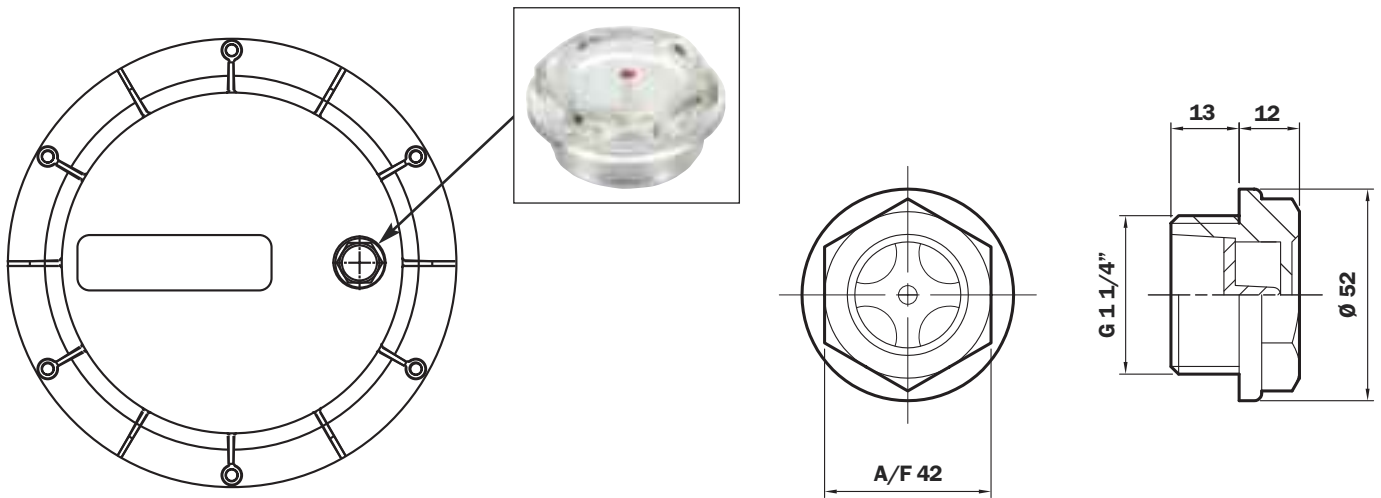
#### 9 - Options

**P01** MP Filtri standard

**Pxx** On request

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

## Visual level indicators code: LCP42NS



### Prepared for electrical indicator - on request

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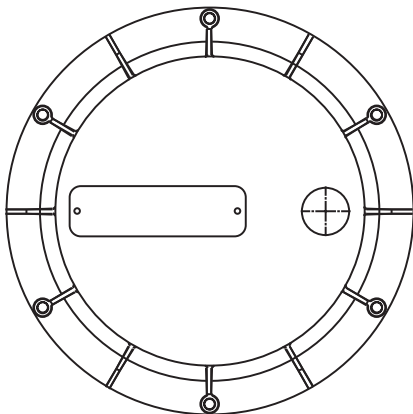
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### Customizing client

Nameplate with customer logo  
 Ordering information: **OB475LOGOP05**



The nameplates applied to the new inspection door are identical to those applied to the old door.  
 The difference with the new door is that nameplates are fixed with rivets 2 x Ø 4 mm.

**For ordering information codes, minimum order quantities, fixing hole positions and other details not indicated in this publication, contact the MP Filtri Technical and Sales Department.**

**TABLE 56**

								Power			Flange dimensions	
8-pole 50 Hz 750 rpm kW		6-pole 50 Hz 1000 rpm HP		4-pole 50 Hz 1500 rpm kW		2-pole 50 Hz 3000 rpm HP		Frame kW	dimensions HP	code kW	B5/V1 HP	B1/V18 size
		0,06	0,08	0,12	0,16	0,18	0,24	<b>63</b>	11x23	M01	140	
		0,09	0,12	0,18	0,24	0,25	0,34				90	
0,09	0,12	0,18	0,24	0,25	0,34	0,37	0,50	<b>71</b>	14x30	M02	160	
0,12	0,16	0,25	0,34	0,37	0,50	0,55	0,75				105	
0,18	0,24	0,37	0,50	0,53	0,75	0,75	1,02	<b>80</b>	19x40	M03	200	
0,25	0,34	0,55	0,75	0,75	1,02	1,10	1,50				120	
0,37	0,50	0,75	1,02	1,10	1,50	1,50	2,04	<b>90</b>	24x50	M04	200	
0,55	0,75	1,10	1,50	1,50	2,04	2,20	3,00				140	
0,75	1,02	1,50	2,04	2,20	3,00	3,00	4,05	<b>100</b>	28x60	M05	250	
1,50	2,04	2,20	3,00	4,00	5,44	4,00	5,44	<b>112</b>			160	
2,20	3,00	3,00	4,08	5,50	7,50	5,50	7,50	<b>132</b>	38x80	M06	300	
3,00	4,08	5,50	7,50	7,50	10,20	7,50	10,20					
4,00	5,44	7,50	10,20	11,00	15,00	11,00	15,00	<b>160</b>	42x110	M07	350	
7,50	10,20	11,00	15,00	15,00	20,40	18,00	25,16					
11,00	15,00	15	20,40	18,50	25,16	22,00	30,00	<b>180</b>	48x110	M08	350	
				22,00	30,00							
15,00	20,40	18,5	25,16	30,00	40,80	30,00	40,80	<b>200</b>	55x110	M09	400	
		22,00	30,00			37,00	50,32					
						45,00	61,20	<b>225</b>	55x110	M09	450	
18,50	24,18			37,00	50,32							
22,00	30,00	30,00	40,80	45,00	61,20			<b>225</b>	60x140	M10	450	
						55,00	74,80	<b>250</b>	60x140	M10	550	
30,00	40,80	37,00	50,32	55,00	74,80							
						75,00	102,00	<b>280</b>	65x140	M11	550	
						90,00	122,40					
37,00	50,32	45,00	61,20	75,00	102,00			<b>280</b>	75x140	M12	550	
45,00	61,20	55,00	74,80	90,00	122,40							
						110,00	148,60	<b>315</b>	65x140	M11	660	
						200,00	272,00					
55,00	74,80	75,00	102,00	110,00	149,60			<b>315</b>	80x170	M13	660	
110,00	149,60	132,00	179,50	200,00	272,00							
						250,00	340,00	<b>355</b>	75x140	M12	800	
						315,00	428,40					
132,00	178,52	160,00	217,80	250,00	340,00			<b>355</b>	95x170	M15	800	
20,00	272,00	250,00	340,00	315,00	428,40							
						355,00	482,80	<b>400</b>	80x170	M13	800	
						400,00	544,00					
250,00	340	315,00	428,40	355,00	482,80			<b>400</b>	100x210	M16	800	
				400,00	544,00							