

# LMG series

IEC electric motor range from size 63 up to size 225





# Bell-housings & Couplings sizing

|                  |           |
|------------------|-----------|
|                  | p.        |
| <b>AUTOMATIC</b> | <b>11</b> |
| <b>MANUALLY</b>  | <b>12</b> |

## SOFTWARE FOR AUTOMATIC CALCULATION

The web-based software program will allow you to select the most suitable MP Filtri's Bell-housings & Couplings in accordance with your process design requirements.

The program will automatically check your input design process prior to propose you the acceptable solutions and create an output in PDF report style format.

The MP Filtri Selection Tool software program is easy to use with a flexible fast design method and provides improved layout formats with full descriptions.

The web-based tool is available at MP Filtri website at following link:  
<https://www.mpfiltri.com/tools/>

The related, complete user guide is available as Manual and downloadable from the "Download" section of MP Filtri website, as well as scanning the following QR code:



**BELL-HOUSINGS  
& COUPLINGS**





# BELL-HOUSINGS & COUPLINGS SIZING

## A GUIDE TO SELECT THE CORRECT BELL-HOUSING AND DRIVE COUPLING MANUALLY

### DATA REQUIRED

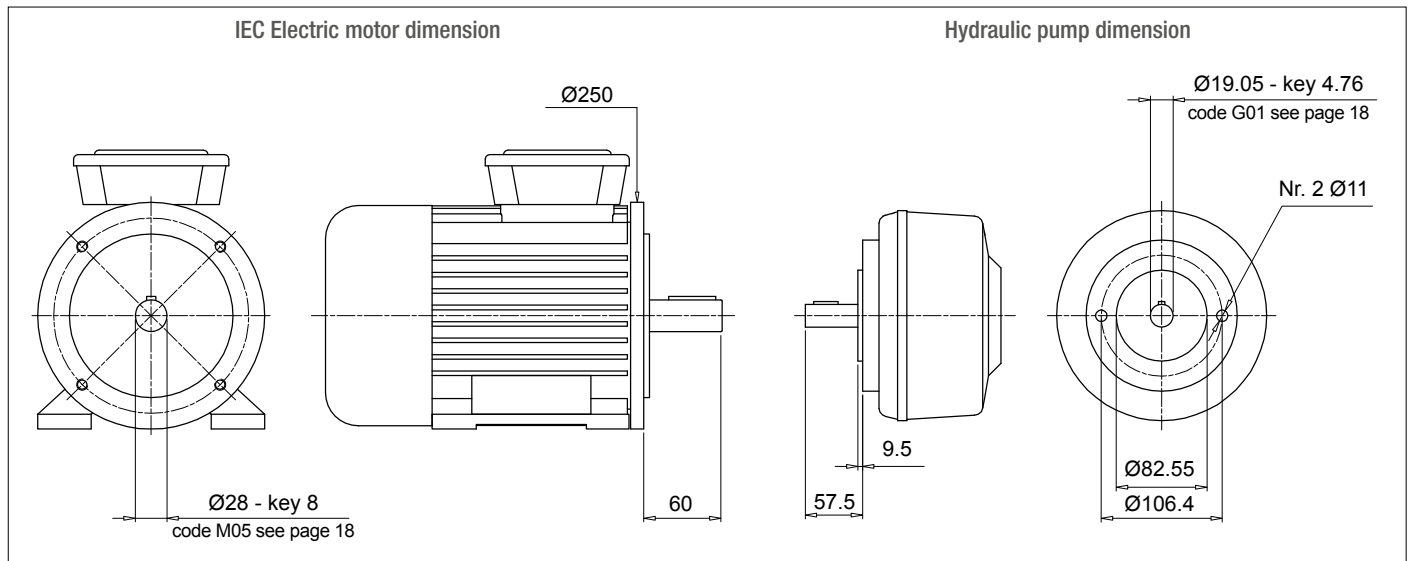
- Electric motor power/motor size
- Manufacturer and pump type

### TO VERIFY:

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

### Example:

- Electric motor 2.2 kW - size 100-112
- Atos pump code PFE31 - Shaft 1



### Bell-Housing's length calculation

- $H = 60 + 18 + 57.5 = 135.5 \text{ mm}$  (18 = Sp spider - see page 31)
- Choose type of bell-housing (LMC - LMS):  
For monobloc bell-housing LMC/LDC series see pages 75 ÷ 81  
For Low noise bell-housing LMS/LDS series see pages 81 ÷ 89  
For Multi-components 2-3 bell housing series see pages 91 ÷ 111

#### Note:

The length of bell-housing must be  $\geq$  than the length calculated (135.5 mm)

### Case A

#### Solution with monobloc bell-housing series **LMC/LDC**

Pages 75 ÷ 81 for IEC Electric motor size 100-112 - LMC250

LMC 250 bell-housing with height  $\geq 135.5$  - LMC250AFSQ

The bell-housing code must be completed with pump drilling code (see pages 60-61).

For the specific case:

Spigot hole 82.55 - PCD 106.4 - Nr.2 holes M10 : Drilling code 060

Definitive bell-housing code **LMC250AFSQ060**

### Case B

#### Solution with low noise bell-housing series **LMS/LDS**

Pages 83 ÷ 89 for IEC Electric motor size 100-112 - LMS250

LMS 250 bell-housing with height  $\geq 135.5$  - LMS250AFSA

The bell-housing code must be completed with pump drilling code (see pages 60-61).

For the specific case:

Spigot hole 82.55 - PCD 106.4 - Nr.2 holes M10 : Drilling code 060

Definitive bell-housing code **LMS250AFSA060**

### Coupling selection

#### Motor half-coupling (see page 26)

For IEC Electric motor size 100/112, the half-coupling is **SGEA21M05060**

#### Spider (see page 31)

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 - see pages 18-19 for shaft 19.05 - key 4.76 - code: **G01**

Pump half-coupling length = BH length - THK Spider - THK Spigot

$$\text{LMC} = 138 \text{ mm} - 60 - 18 - 9.5 = 50.5 \text{ mm}$$

$$\text{LMS} = 148 \text{ mm} - 60 - 18 - 9.5 = 60.5 \text{ mm}$$

LMC - Choose the half-coupling's length at page 26  $\leq$  50.5 mm.

LMS - Choose the half-coupling's length at page 26  $\leq$  60.5 mm.

LMC - Available length for SGEA21 = 50 mm

LMS - Available length for SGEA21 = 60 mm

Half coupling for LMC: **SGEA21G01050**

Half coupling for LMS: **SGEA21G01050**

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

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.

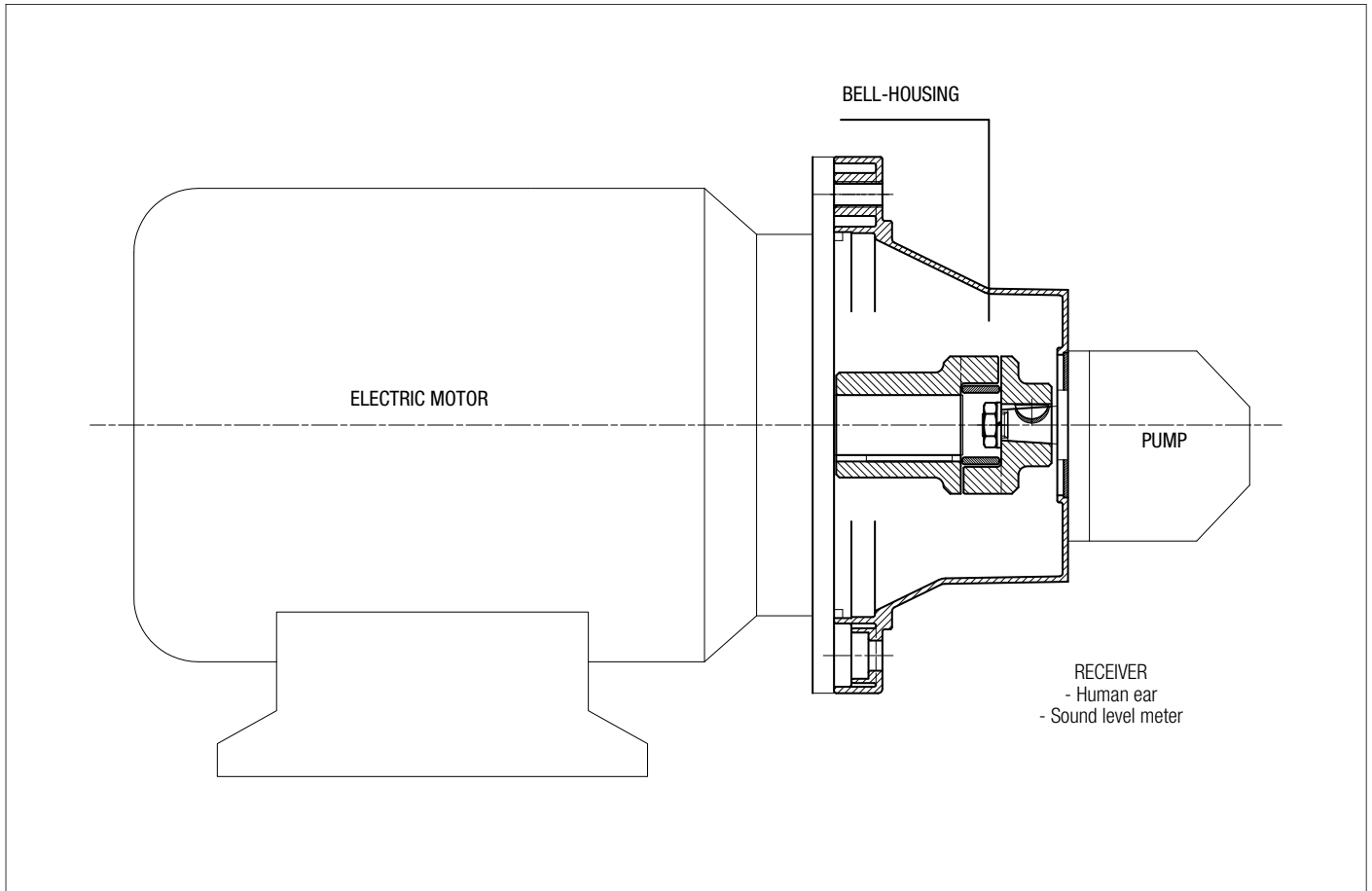
## ② SOUND

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

- Sound source
- Transmission medium
- Receive

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.

## MOTOR AND PUMP UNIT



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.

## FINAL CONSIDERATION

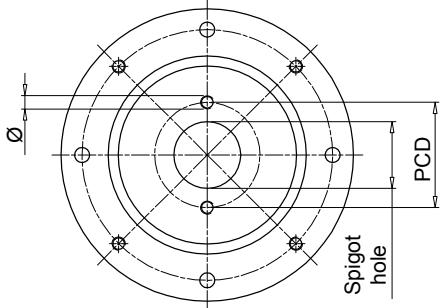
For best results, in any event, the motor-and-pump unit should be incorporated into the hydraulic system in such a way that no one component is rigidly associated with another, resulting in the propagation of vibration, and consequently noise.

## RECOMMENDED TIGHTENING TORQUES FOR MOTOR/PUMP FIXING ON THE BELL-HOUSING

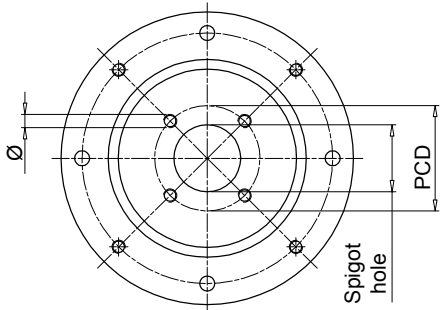
|     |         |     |         |
|-----|---------|-----|---------|
| M6  | 10 N·m  | M16 | 205 N·m |
| M8  | 15 N·m  | M18 | 280 N·m |
| M10 | 50 N·m  | M20 | 400 N·m |
| M12 | 84 N·m  | M22 | 530 N·m |
| M14 | 135 N·m | M24 | 690 N·m |

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

### Valid configuration for bell-housing up to Ø400

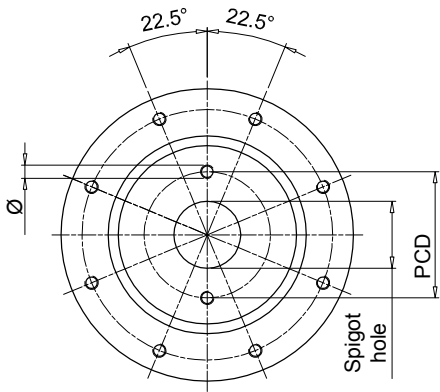


Bell-housing with nr. 2 holes at pump interface, aligned with through holes at motor interface.

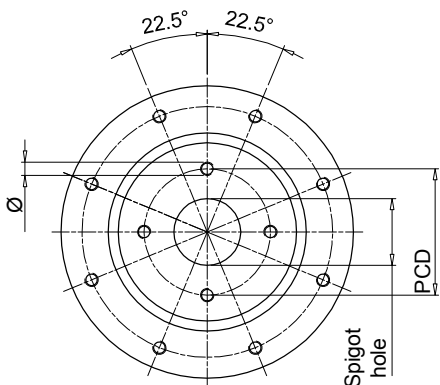


Bell-housing with nr. 4 holes at pump interface, aligned with thread holes at motor interface.

### Valid configuration for bell-housing from Ø450 to Ø660



Bell-housing with nr. 2 holes at pump interface + 22.5° compared to through holes at motor interface.



Bell-housing with nr. 4 holes at pump interface + 22.5° compared to thread holes at motor interface.

| Spigot hole [mm] | PCD    | Ø    | Nr. holes  | Code       | Type            |
|------------------|--------|------|------------|------------|-----------------|
| <b>40</b>        | 72.00  | M8   | 2          | <b>191</b> | -               |
| <b>45.2</b>      | 88.90  | M8   | 4          | <b>096</b> | -               |
|                  | 71.80  | M8   | 4          | <b>120</b> | -               |
| <b>50</b>        | 80.00  | M8   | 2          | <b>052</b> | ISO3019-2-50-B2 |
|                  | 93.00  | M10  | 2          | <b>053</b> | -               |
|                  | 60.00  | M5   | 4          | <b>280</b> | -               |
|                  | 63.00  | Ø7   | 4          | <b>057</b> | -               |
|                  | 93.00  | M8   | 2          | <b>287</b> | -               |
| <b>50.8</b>      | 82.50  | M8   | 2          | <b>050</b> | SAE A-A 50-2    |
| <b>56</b>        | 76.00  | M6   | 4          | <b>234</b> | -               |
| <b>57.15</b>     | 106.40 | Ø11  | 2          | <b>212</b> | -               |
| <b>60</b>        | 74.00  | M10  | 4          | <b>098</b> | -               |
|                  | 98.50  | M6   | 4          | <b>147</b> | -               |
|                  | 75.00  | M6   | 4          | <b>227</b> | -               |
| <b>62.7</b>      | 157.20 | M12  | 4          | <b>231</b> | -               |
| <b>63</b>        | 100.00 | M8   | 2          | <b>042</b> | ISO3019-2-63-B2 |
|                  | 125.00 | M6   | 4          | <b>043</b> | -               |
|                  | 85.00  | M8   | 4          | <b>044</b> | -               |
|                  | 80.00  | M8   | 2          | <b>051</b> | -               |
|                  | 80.00  | Ø8.5 | 4          | <b>058</b> | -               |
|                  | 100.00 | M10  | 2          | <b>062</b> | -               |
| <b>65</b>        | 82.00  | M8   | 4          | <b>168</b> | ISO3019-2-63-B4 |
|                  | 90.00  | M8   | 4          | <b>271</b> | -               |
|                  | 90.00  | M8   | 4          | <b>073</b> | -               |
| <b>70</b>        | 84.00  | Ø7   | 4          | <b>289</b> | -               |
| <b>71.8</b>      | 88.90  | M10  | 4          | <b>047</b> | -               |
| <b>75</b>        | 102.00 | M10  | 4          | <b>139</b> | -               |
| <b>80</b>        | 100.00 | M8   | 4          | <b>024</b> | ISO3019-2-80-B4 |
|                  | 103.20 | M8   | 2          | <b>045</b> | ISO3019-2-80-B2 |
|                  | 100.00 | Ø11  | 4          | <b>059</b> | -               |
|                  | 100.00 | M10  | 2          | <b>061</b> | -               |
|                  | 110.00 | M10  | 2          | <b>063</b> | -               |
|                  | 140.00 | M10  | 2          | <b>064</b> | -               |
|                  | 115.00 | M10  | 2          | <b>065</b> | -               |
|                  | 100.00 | M10  | 4          | <b>067</b> | -               |
|                  | 106.40 | M10  | 2          | <b>083</b> | -               |
|                  | 130.00 | M8   | 4          | <b>087</b> | -               |
|                  | 100.00 | Ø8.5 | 4          | <b>093</b> | -               |
|                  | 113.00 | M12  | 4          | <b>104</b> | -               |
| 95.00            | M8     | 4    | <b>169</b> | -          |                 |
| 103.00           | M8     | 4    | <b>242</b> | -          |                 |
| 110.00           | M10    | 4    | <b>272</b> | -          |                 |
| <b>82.55</b>     | 106.40 | M10  | 2          | <b>060</b> | SAE A 82-2      |
|                  | 105.00 | M10  | 4          | <b>097</b> | -               |
|                  | 106.40 | M8   | 2          | <b>254</b> | -               |
|                  | 146.00 | M12  | 2          | <b>260</b> | -               |
|                  | 110.00 | M10  | 2          | <b>284</b> | -               |
| <b>85</b>        | 106.40 | M10  | 2          | <b>066</b> | -               |
| <b>90</b>        | 112.00 | M8   | 2          | <b>134</b> | -               |
|                  | 105.00 | M8   | 4          | <b>156</b> | -               |
|                  | 118.00 | Ø9   | 2          | <b>163</b> | -               |
|                  | 112.00 | Ø9   | 2          | <b>164</b> | -               |
| <b>92</b>        | 140.00 | M8   | 4          | <b>088</b> | -               |
|                  | 145.00 | M10  | 4          | <b>089</b> | -               |

"-": configuration out of ISO & SAE Standard



| Spigot hole [mm] | PCD    | Ø   | Nr. holes  | Code       | Type             |
|------------------|--------|-----|------------|------------|------------------|
| <b>95</b>        | 115.00 | M8  | 4          | <b>137</b> | -                |
|                  | 127.00 | M10 | 4          | <b>131</b> | -                |
| <b>98.4</b>      | 125.00 | Ø11 | 4          | <b>128</b> | -                |
| <b>100</b>       | 125.00 | M10 | 2          | <b>023</b> | ISO3019-2-100-B4 |
|                  | 125.00 | M10 | 4          | <b>025</b> | ISO3019-2-100-B2 |
|                  | 125.00 | Ø11 | 4          | <b>031</b> | -                |
|                  | 125.00 | M5  | 4          | <b>032</b> | -                |
|                  | 190.00 | Ø15 | 4          | <b>038</b> | -                |
|                  | 125.00 | Ø13 | 4          | <b>041</b> | -                |
|                  | 125.00 | M12 | 2          | <b>071</b> | -                |
|                  | 140.00 | M12 | 2          | <b>072</b> | -                |
|                  | 146.00 | M12 | 2          | <b>075</b> | -                |
|                  | 126.00 | M10 | 2          | <b>106</b> | -                |
|                  | 120.00 | M8  | 4          | <b>122</b> | -                |
|                  | 160.00 | M10 | 4          | <b>141</b> | -                |
| 150.00           | M10    | 4   | <b>150</b> | -          |                  |
| <b>101.6</b>     | 161.50 | M12 | 4          | <b>029</b> | -                |
|                  | 146.00 | M12 | 2          | <b>070</b> | SAE B 101-2      |
|                  | 127.00 | M12 | 4          | <b>125</b> | -                |
|                  | 146.00 | M10 | 2          | <b>159</b> | -                |
| <b>105</b>       | 127.00 | M10 | 4          | <b>224</b> | -                |
|                  | 146.00 | M12 | 2          | <b>076</b> | -                |
| <b>110</b>       | 175.00 | M10 | 4          | <b>110</b> | -                |
|                  | 130.00 | M8  | 4          | <b>154</b> | -                |
|                  | 200.00 | M10 | 4          | <b>202</b> | -                |
|                  | 135.00 | M10 | 4          | <b>219</b> | -                |
|                  | 145.00 | M12 | 4          | <b>273</b> | -                |
| <b>112</b>       | 140.00 | M12 | 2          | <b>074</b> | -                |
|                  | 140.00 | M10 | 2          | <b>138</b> | -                |
|                  | 130.00 | M10 | 4          | <b>264</b> | -                |
| <b>115</b>       | 180.00 | M12 | 4          | <b>198</b> | -                |
| <b>116</b>       | 160.00 | M14 | 2          | <b>084</b> | -                |
| <b>120</b>       | 210.00 | M16 | 2          | <b>094</b> | -                |
|                  | 145.00 | M10 | 4          | <b>155</b> | -                |
|                  | 150.00 | Ø13 | 4          | <b>267</b> | -                |
| <b>125</b>       | 160.00 | M12 | 4          | <b>026</b> | ISO3019-2-125-B4 |
|                  | 160.00 | Ø13 | 4          | <b>033</b> | -                |
|                  | 160.00 | M12 | 2          | <b>079</b> | -                |
|                  | 180.00 | M16 | 2          | <b>082</b> | ISO3019-2-125-B2 |
|                  | 155.00 | M10 | 4          | <b>102</b> | -                |
|                  | 160.00 | Ø17 | 4          | <b>113</b> | -                |
|                  | 200.00 | M12 | 4          | <b>114</b> | -                |
|                  | 181.20 | M16 | 2          | <b>136</b> | -                |
|                  | 200.00 | M16 | 4          | <b>200</b> | -                |
|                  | 180.00 | Ø20 | 4          | <b>215</b> | -                |
| 170.00           | Ø18    | 4   | <b>237</b> | -          |                  |
| <b>127</b>       | 161.50 | M12 | 4          | <b>021</b> | -                |
|                  | 181.20 | M16 | 2          | <b>080</b> | SAE C 127-2      |
|                  | 161.50 | M14 | 4          | <b>140</b> | -                |
| <b>130</b>       | 165.00 | Ø11 | 4          | <b>054</b> | -                |
|                  | 150.00 | M12 | 4          | <b>068</b> | -                |
|                  | 181.20 | M16 | 2          | <b>085</b> | -                |
|                  | 165.00 | M12 | 4          | <b>124</b> | -                |
|                  | 165.00 | M14 | 4          | <b>135</b> | -                |

"-": configuration out of ISO & SAE Standard

| Spigot hole [mm] | PCD    | Ø   | Nr. holes  | Code       | Type                |
|------------------|--------|-----|------------|------------|---------------------|
| <b>130</b>       | 165.00 | M10 | 4          | <b>253</b> | -                   |
| <b>135</b>       | 160.00 | M10 | 4          | <b>151</b> | -                   |
|                  | 175.40 | M12 | 4          | <b>220</b> | -                   |
| <b>140</b>       | 180.00 | M14 | 4          | <b>077</b> | ISO3019-2-140-B4    |
|                  | 180.00 | M12 | 2          | <b>081</b> | -                   |
|                  | 165.00 | M10 | 4          | <b>157</b> | -                   |
|                  | 200.00 | M16 | 4          | <b>176</b> | ISO3019-2-140-B2    |
|                  | 165.00 | Ø11 | 4          | <b>223</b> | -                   |
|                  | 180.00 | M16 | 2          | <b>232</b> | -                   |
| <b>150</b>       | 185.00 | M16 | 4          | <b>069</b> | -                   |
|                  | 228.60 | M16 | 4          | <b>022</b> | -                   |
| <b>152.4</b>     | 228.60 | M18 | 2          | <b>090</b> | -                   |
|                  | 228.60 | M18 | 4          | <b>108</b> | -                   |
|                  | 217.50 | Ø17 | 4          | <b>118</b> | -                   |
|                  | 228.60 | M20 | 2          | <b>166</b> | SAE D 152-2         |
|                  | 228.60 | M20 | 4          | <b>192</b> | SAE D 152 -4        |
|                  | 190.50 | M8  | 4          | <b>207</b> | -                   |
| <b>160</b>       | 200.00 | M16 | 4          | <b>027</b> | ISO3019 - 2 -160 B4 |
|                  | 200.00 | Ø17 | 4          | <b>035</b> | -                   |
|                  | 200.00 | M16 | 2          | <b>091</b> | -                   |
|                  | 224.00 | M20 | 2          | <b>092</b> | ISO3019 - 2 -160 B2 |
|                  | 200.00 | M12 | 2          | <b>107</b> | -                   |
|                  | 230.00 | M22 | 4          | <b>111</b> | -                   |
|                  | 185.00 | M12 | 4          | <b>152</b> | -                   |
|                  | 224.00 | M16 | 4          | <b>184</b> | -                   |
| 230.00           | Ø22    | 4   | <b>228</b> | -          |                     |
| <b>162</b>       | 188.00 | M12 | 4          | <b>263</b> | -                   |
| <b>165.1</b>     | 317.35 | M20 | 4          | <b>143</b> | SAE E 165 - 4       |
|                  | 317.35 | M24 | 2          | <b>145</b> | SAE E 165 - 2       |
|                  | 229.00 | M20 | 4          | <b>201</b> | -                   |
| <b>175</b>       | 317.35 | M18 | 4          | <b>204</b> | -                   |
|                  | 200.00 | M12 | 4          | <b>153</b> | -                   |
| <b>177.8</b>     | 230.00 | M18 | 2          | <b>185</b> | -                   |
|                  | 350.00 | M24 | 4          | <b>146</b> | SAE F 177 - 4       |
| <b>180</b>       | 216.00 | M12 | 4          | <b>222</b> | -                   |
|                  | 350.00 | M24 | 2          | <b>203</b> | SAE F 177 - 2       |
|                  | 216.00 | Ø13 | 4          | <b>055</b> | -                   |
|                  | 216.00 | M16 | 4          | <b>078</b> | -                   |
|                  | 224.00 | M16 | 4          | <b>112</b> | ISO3019 - 2 -180 B4 |
|                  | 216.00 | M12 | 4          | <b>132</b> | -                   |
| <b>200</b>       | 215.00 | M22 | 4          | <b>148</b> | -                   |
|                  | 230.00 | M22 | 4          | <b>226</b> | -                   |
|                  | 250.00 | M20 | 4          | <b>028</b> | ISO3019 - 2 -200 B4 |
|                  | 250.00 | Ø22 | 4          | <b>095</b> | -                   |
|                  | 280.00 | M24 | 2          | <b>117</b> | -                   |
| <b>203.2</b>     | 230.50 | M12 | 4          | <b>214</b> | -                   |
|                  | 254.00 | M14 | 4          | <b>210</b> | -                   |
| <b>205</b>       | 240.00 | M16 | 4          | <b>133</b> | -                   |
| <b>224</b>       | 280.00 | M20 | 4          | <b>144</b> | ISO3019 - 2 -224 B4 |
|                  | 280.00 | Ø22 | 4          | <b>205</b> | -                   |
| <b>250</b>       | 310.00 | M24 | 4          | <b>238</b> | -                   |
|                  | 315.00 | M20 | 4          | <b>282</b> | ISO3019 - 2 -250 B4 |
| <b>275</b>       | 355.00 | M16 | 4          | <b>233</b> | -                   |
|                  | 355.00 | Ø18 | 4          | <b>281</b> | -                   |

"-": configuration out of ISO & SAE Standard

## Technical data

### Bell-Housing - IEC electric motor range from size 63 up to size 225

#### Materials

- Bell-housing: Pressure die casting Aluminium
- Center ring: Galvanized Steel
- Gasket: Special paper - Guarnital

#### Compatibility with fluids

Modular bell-housing components compatible for use with:

- Mineral oils types HH-HL-HM-HR-HV, 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 MP Filtri Technical and Sales Department

#### Temperature

From -30 °C to +80 °C

#### Note

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



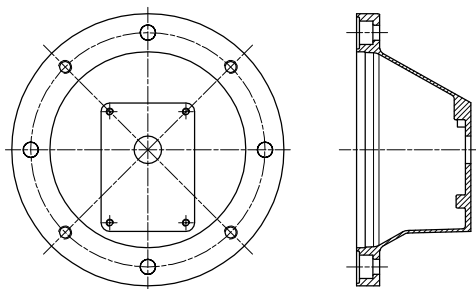
## IEC Electric motors

| Bell-Housing size | European standard size |   |   |   |     |   | German standard size |    |    | IEC Motors size        |
|-------------------|------------------------|---|---|---|-----|---|----------------------|----|----|------------------------|
|                   | 0.5                    | 1 | 2 | 3 | 3.5 | 4 | ZB                   | ZF | ZG |                        |
| LMG140            | ●                      | ● | ● |   |     |   | ●                    |    |    | IEC 63 Ø140 - Ø11x23   |
| LMG160            | ●                      | ● | ● |   |     |   | ●                    |    |    | IEC 71 Ø160 - Ø14x30   |
| LMG200            | ●                      | ● | ● | ● |     |   | ●                    | ●  |    | IEC 80 Ø200 - Ø19x40   |
| LMG200            | ●                      | ● | ● | ● |     |   | ●                    | ●  |    | IEC 90 Ø200 - Ø24x50   |
| LMG250            |                        | ● | ● | ● | ●   |   | ●                    | ●  |    | IEC 110 Ø250 - Ø28x60  |
| LMG250            |                        | ● | ● | ● | ●   |   | ●                    | ●  |    | IEC 112 Ø250 - Ø28x60  |
| LMG300            |                        | ● | ● | ● | ●   | ● | ●                    | ●  | ●  | IEC 132 Ø300 - Ø38x80  |
| LMG351            |                        |   | ● | ● | ●   | ● | ●                    | ●  | ●  | IEC 160 Ø350 - Ø42x110 |
| LMG351            |                        |   | ● | ● | ●   | ● | ●                    | ●  | ●  | IEC 180 Ø350 - Ø48x110 |
| LMG400            |                        |   | ● | ● | ●   | ● | ●                    | ●  | ●  | IEC 200 Ø400 - Ø55x110 |
| LMG450            |                        |   | ● | ● | ●   | ● | ●                    | ●  | ●  | IEC 225 Ø450 - Ø60x140 |

**Note:** For specific information see pages 70 ÷ 72 "Table of Combination"

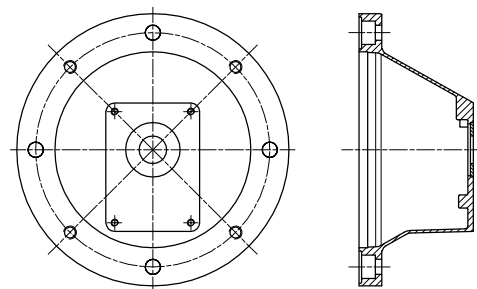
**LMG \*\*\* 4S**

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



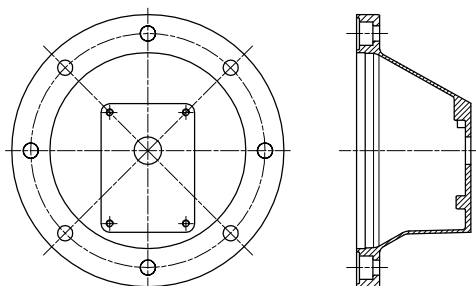
**LMG \*\*\* 4E**

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



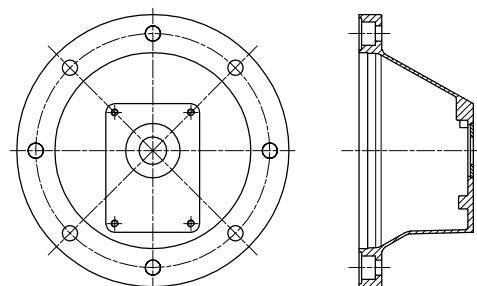
**LMG \*\*\* 8S**

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



**LMG \*\*\* 8E**

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



## Designation & Ordering code

### COMPLETE KIT (BELL-HOUSING & COUPLINGS)

| Motors identification code |               |           |           | Configuration example: AKA02 FS200 Z 4E |             |  |  |
|----------------------------|---------------|-----------|-----------|---|-------------|--|--|
| Size                       |               | Size      |           | Size                                    |             |  |  |
| <b>02</b>                  | 63 B3-B5      | <b>13</b> | 180 B3-B5 | <b>44</b>                               | 71 B14      |  |  |
| <b>03</b>                  | 71 B3-B5      | <b>16</b> | 200 B3-B5 | <b>45</b>                               | 80 B14      |  |  |
| <b>04</b>                  | 80 B3-B5      | <b>18</b> | 225 B3-B5 | <b>46</b>                               | 90 B14      |  |  |
| <b>05</b>                  | 90 B3-B5      | <b>20</b> | 250 B3-B5 | <b>48</b>                               | 100/112 B14 |  |  |
| <b>07</b>                  | 100/112 B3-B5 | <b>22</b> | 280 B3-B5 |   |             |  |  |
| <b>11</b>                  | 132 B3-B5     | <b>26</b> | 315 B3-B5 |   |             |  |  |
| <b>12</b>                  | 160 B3-B5     | <b>43</b> | 63 B14    |   |             |  |  |

**Pump flange identification code**  
FS200 See page 67

**Product revision code**  
Z

**Versions**

|           |   |
|-----------|---|
| <b>4S</b> | 4 through holes + 4 threaded holes, motor interface without coupling removal ring |
| <b>4E</b> | 4 through holes + 4 threaded holes, motor interface with coupling removal ring    |
| <b>8S</b> | 8 through holes, motor interface without coupling removal ring                    |
| <b>8E</b> | 8 through holes, motor interface with coupling removal ring                       |

### BELL-HOUSING LMG

| Bell-Housing series and size |               |               |               | Configuration example: LMG140 M FS200 4E DI |  |  |  |  |
|------------------------------|---------------|---------------|---------------|---|--|--|--|--|
| <b>LMG140</b>                | <b>LMG200</b> | <b>LMG300</b> | <b>LMG550</b> |   |  |  |  |  |
| <b>LMG141</b>                | <b>LMG201</b> | <b>LMG351</b> | <b>LMG660</b> |   |  |  |  |  |
| <b>LMG160</b>                | <b>LMG250</b> | <b>LMG400</b> |               |   |  |  |  |  |
| <b>LMG161</b>                | <b>LMG251</b> | <b>LMG450</b> |               |   |  |  |  |  |

**Product revision code**  
M

**Pump flange identification code**  
FS200 See page 67

**Versions**

|           |   |
|-----------|---|
| <b>4S</b> | 4 through holes + 4 threaded holes, motor interface without coupling removal ring |
| <b>4E</b> | 4 through holes + 4 threaded holes, motor interface with coupling removal ring    |
| <b>8S</b> | 8 through holes, motor interface without coupling removal ring                    |
| <b>8E</b> | 8 through holes, motor interface with coupling removal ring                       |

**Options**

|            |                                      |
|------------|--------------------------------------|
| <b>DI</b>  | Drain hole + inspection hole         |
| <b>AN</b>  | Black anodized finish                |
| <b>SA</b>  | Motor interface with clearance holes |
| <b>Pxx</b> | Customer specification               |

### COUPLING KIT

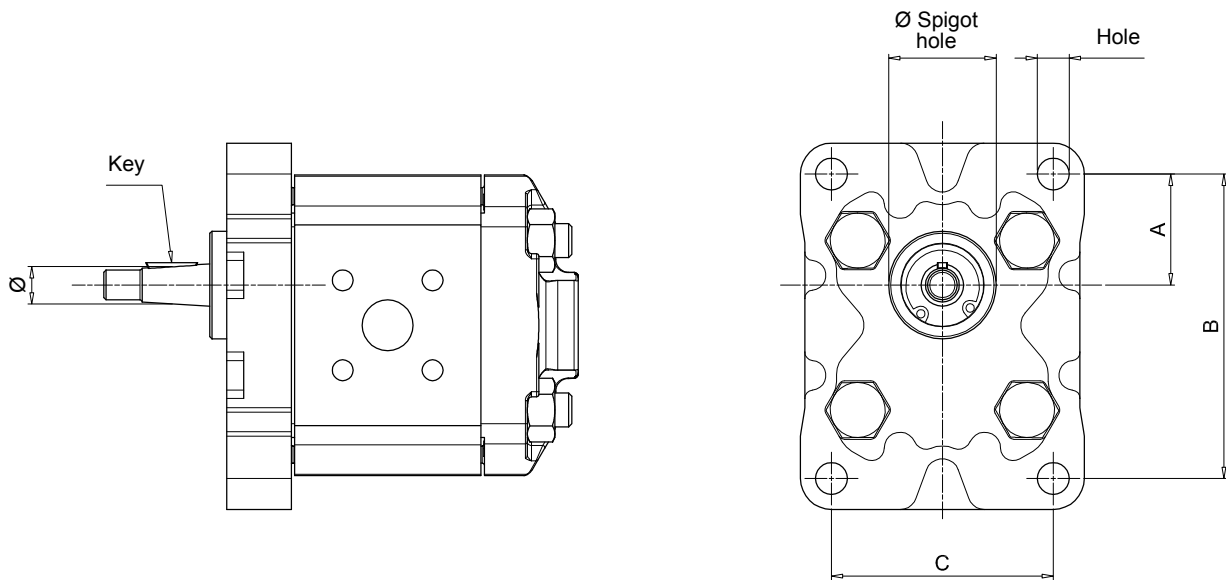
| Motors identification code |               | Configuration example: AKG02 FS200 Z |             |  |
|----------------------------|---------------|--------------------------------------|-------------|--|
| Size                       | Size          |                                      |             |  |
| <b>02</b>                  | 63 B3-B5      | <b>13</b>                            | 180 B3-B5   |  |
| <b>03</b>                  | 71 B3-B5      | <b>43</b>                            | 63 B14      |  |
| <b>04</b>                  | 80 B3-B5      | <b>44</b>                            | 71 B14      |  |
| <b>05</b>                  | 90 B3-B5      | <b>45</b>                            | 80 B14      |  |
| <b>07</b>                  | 100/112 B3-B5 | <b>46</b>                            | 90 B14      |  |
| <b>11</b>                  | 132 B3-B5     | <b>48</b>                            | 100/112 B14 |  |
| <b>12</b>                  | 160 B3-B5     |                                      |             |  |

**Pumps flange identification code**  
FS200 See page 67

**Product revision code**  
Z

**Note:**

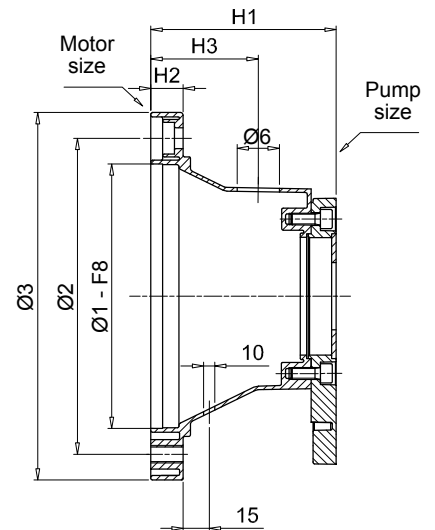
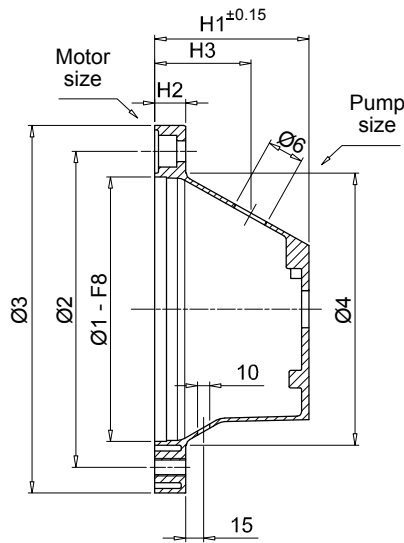
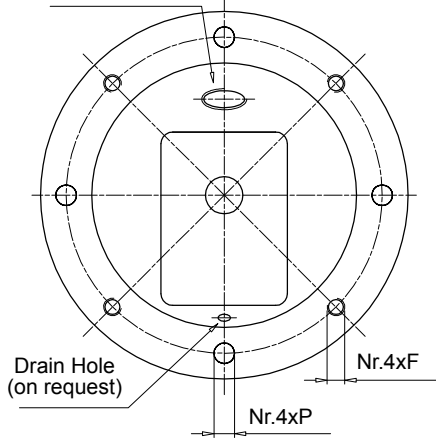
- Bell-Housings with DI options are supplied complete with threaded closure plug.
- Bell-Housing with 4E/8E version are supplied with center ring mounted.
- For product range codes see pages 70 ÷ 72



### Designation of pump flange and shaft

| Pump group   | Ø Spigot hole | Dimensions |       |       |      | Pump flange code | Ø    | Key        | Shaft type  | Pump half-coupling code |
|--------------|---------------|------------|-------|-------|------|------------------|------|------------|-------------|-------------------------|
|              |               | A          | B     | C     | Hole |                  |      |            |             |                         |
| <b>05</b>    | 22.0          | 25.5       | 66.0  | -     | M6   | <b>FS05M</b>     | 6.0  | 2.0        | parallel    | <b>FS05M</b>            |
|              | 22.0          | 25.5       | 66.0  | -     | M6   | <b>FS05C</b>     | 7.0  | 2.0        | parallel    | <b>FS05C</b>            |
| <b>1</b>     | 25.4          | 26.2       | 72.0  | 52.0  | M6   | <b>FS100</b>     | 9.7  | 2.4        | tapered 1:8 | <b>FS100</b>            |
|              | 30.0          | 24.5       | 73.0  | 56.0  | M6   | <b>FS1M0</b>     | 12.0 | 3.0        | parallel    | <b>FS1C0</b>            |
|              | 30.0          | 24.5       | 73.0  | 56.0  | M6   | <b>FS1M0</b>     | 13.9 | 3.0        | tapered 1:8 | <b>FS1M0</b>            |
| <b>2</b>     | 36.5          | 32.5       | 96.0  | 71.5  | M8   | <b>FS200</b>     | 17.2 | 3.2 - 4    | tapered 1:8 | <b>FS200</b>            |
|              | 50.8          | 43.0       | 128.0 | 98.5  | M8   | <b>FS25T</b>     | 22.2 | 4.0        | tapered 1:8 | <b>FS300</b>            |
| <b>3</b>     | 50.8          | 42.0       | 128.0 | 98.5  | M10  | <b>FS300</b>     | 22.2 | 4.0        | tapered 1:8 | <b>FS300</b>            |
|              | 50.8          | 43.0       | 128.0 | 98.5  | M10  | <b>FS3M0</b>     | 22.2 | 4.0        | tapered 1:8 | <b>FS300</b>            |
|              | 50.8          | 45.0       | 137.0 | 98.5  | M10  | <b>FS3T0</b>     | 22.2 | 4.0        | tapered 1:8 | <b>FS300</b>            |
|              | 60.0          | 48.5       | 148.0 | 127.0 | M12  | <b>FS35M</b>     | 25.6 | 4.76 - 5.0 | tapered 1:8 | <b>FS350</b>            |
| <b>3.5</b>   | 60.3          | 49.5       | 149.5 | 114.3 | M10  | <b>FS350</b>     | 25.6 | 4.76 - 5.0 | tapered 1:8 | <b>FS350</b>            |
|              | 63.5          | 65.0       | 196.0 | 142.8 | M12  | <b>FS4M0</b>     | 33.3 | 6.35 - 7.0 | tapered 1:8 | <b>FS400</b>            |
| <b>4</b>     | 63.5          | 64.3       | 188.0 | 143.0 | M12  | <b>FS400</b>     | 33.3 | 6.35 - 7.0 | tapered 1:8 | <b>FS400</b>            |
|              | 32.0          | 10.3       | 40.0  | 40.0  | M8   | <b>FSZBR</b>     | 9.8  | 2.0        | tapered 1:5 | <b>FSZBR</b>            |
| <b>Bosch</b> | 80.0          | 34.5       | 100.0 | 72.0  | M8   | <b>FSZFR</b>     | 16.9 | 3.0        | tapered 1:5 | <b>FSZFR</b>            |
|              | 105.0         | 48.0       | 145.0 | 102.0 | M10  | <b>FSZGR</b>     | 25.2 | 5.0        | tapered 1:5 | <b>FSZGR</b>            |

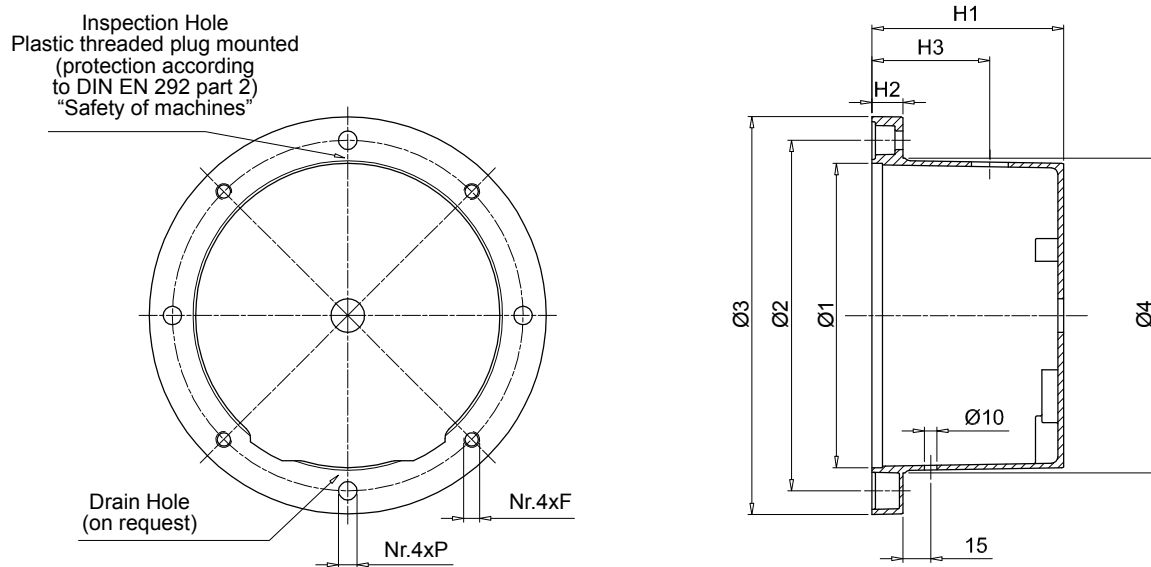
Inspection Hole  
Plastic threaded plug mounted  
(protection according  
to DIN EN 292 part 2)  
"Safety of machines"



(\*) Shape valid for LMG 251

### Bell-housing

| IEC - Electric motors |                   | Bell-housing code | Dimensions [mm] |     |     |     |     |    |     |    | On request |      | Weight [kg] |
|-----------------------|-------------------|-------------------|-----------------|-----|-----|-----|-----|----|-----|----|------------|------|-------------|
| Motor size            | Shaft end [Ø x L] |                   | Ø1              | Ø1  | Ø3  | Ø4  | H1  | H2 | F   | P  | H3         | Ø6   |             |
| 63 - B14              | 11x23             | <b>LMG090</b>     | 60              | 75  | 90  | 63  | 60  | 7  | -   | 6  | 40         | 1/2" | 0.30        |
| 71 - B14              | 14x30             | <b>LMG105</b>     | 70              | 85  | 105 | 74  | 67  | 8  | -   | 7  | 40         | 1/2" | 0.35        |
| 80 - B14              | 19x40             | <b>LMG120</b>     | 80              | 100 | 120 | 84  | 87  | 9  | -   | 7  | 45         | 1/2" | 0.40        |
| 63 - B3/B5            | 11x23             | <b>LMG140</b>     | 95              | 115 | 140 | 100 | 60  | 13 | M8  | 9  | 40         | 1/2" | 0.35        |
| 63 - B3/B5            | 11x23             | <b>LMG141</b>     | 95              | 115 | 140 | 100 | 95  | 13 | M8  | 9  | 50         | 1/2" | 0.40        |
| 71 - B3/B5            | 14x30             | <b>LMG160</b>     | 110             | 130 | 160 | 110 | 70  | 15 | M8  | 9  | 40         | 1/2" | 0.44        |
| 71 - B3/B5            | 14x30             | <b>LMG161</b>     | 110             | 130 | 160 | 110 | 105 | 15 | M8  | 9  | 50         | 1/2" | 0.50        |
| 80 - B3/B5            | 19x40             | <b>LMG200</b>     | 130             | 165 | 200 | 135 | 87  | 18 | M10 | 11 | 45         | 3/4" | 0.68        |
| 90 - B3/B5            | 24x50             | <b>LMG201</b>     | 130             | 165 | 200 | 135 | 95  | 18 | M10 | 11 | 50         | 3/4" | 0.80        |
| 100-112 - B3/B5       | 28x60             | <b>LMG250</b>     | 180             | 215 | 250 | 185 | 105 | 22 | M12 | 14 | 70         | 3/4" | 1.16        |
| 100-112 - B3/B5       | 28x60             | <b>LMG251 (*)</b> | 180             | 215 | 250 | 185 | 126 | 22 | M12 | 14 | 70         | 3/4" | 1.80        |



### Bell-housing

| IEC - Electric motors |                   | Bell-housing code | Dimensions [mm] |     |     |     |     |    |     |    | On request |    | Weight [kg] |
|-----------------------|-------------------|-------------------|-----------------|-----|-----|-----|-----|----|-----|----|------------|----|-------------|
| Motor size            | Shaft end [Ø x L] |                   | Ø1              | Ø2  | Ø3  | Ø4  | H1  | H2 | F   | P  | H3         | Ø6 |             |
| 132                   | 38x80             | <b>LMG300</b>     | 230             | 265 | 300 | 235 | 145 | 23 | M12 | 14 | 80         | 1" | 2.55        |
| 160                   | 42x110            | <b>LMG351</b>     | 250             | 300 | 350 | 255 | 178 | 31 | M16 | 18 | 100        | 1" | 4.90        |
| 180                   | 48x110            | <b>LMG351</b>     | 250             | 300 | 350 | 255 | 178 | 31 | M16 | 18 | 100        | 1" | 4.90        |

## IEC Motors B3/5 - standard gear pump

| IEC - Electric motors<br>Motor size | Shaft end<br>[Ø x L] | Pump<br>identification<br>code | Components           |                             |                |                            |                      |                               |
|-------------------------------------|----------------------|--------------------------------|----------------------|-----------------------------|----------------|----------------------------|----------------------|-------------------------------|
|                                     |                      |                                | Bell-Housing<br>code | Motor half-coupling<br>code | Spider<br>code | Pump half-coupling<br>code | Complete<br>kit code | Complete<br>coupling kit code |
| 63                                  | 11x23                | <b>FS05M</b>                   | LMG140MFS05M4S       | SGEA01M01019                | EGE 0          | SGEA01FS05M                | AKA02FS05MZ4S        | AKG02FS05MZ                   |
|                                     |                      | <b>FS05C</b>                   | LMG140MFS05M4S       |                             |                | SGEA01FS05C                | AKA02FS05CZ4S        | AKG02FS05CZ                   |
|                                     |                      | <b>FS100</b>                   | LMG140MFS1004S/4E    |                             |                | SGEA01FS100                | AKA02FS100Z4S/4E     | AKG02FS100Z                   |
|                                     |                      | <b>FS1C0</b>                   | LMG140MFS1M04S/4E    |                             |                | SGEA01FS1C0                | AKA02FS1C0Z4S/4E     | AKG02FS1C0Z                   |
|                                     |                      | <b>FS1M0</b>                   | LMG140MFS1M04S/4E    |                             |                | SGEA01FS1M0                | AKA02FS1M0Z4S/4E     | AKG02FS1M0Z                   |
|                                     |                      | <b>FSZBR</b>                   | LMG140MFSZBR4S       |                             |                | SGEA01FSZBR                | AKA02FSZBRZ4S        | AKG02FSZBRZ                   |
| 71                                  | 14x30                | <b>FS05M</b>                   | LMG160MFS05M4S       | SGEA01M02028                | EGE 0          | SGEA01FS05M                | AKA03FS05MZ4S        | AKG03FS05MZ                   |
|                                     |                      | <b>FS05C</b>                   | LMG160MFS05M4S       |                             |                | SGEA01FS05C                | AKA03FS05CZ4S        | AKG03FS05CZ                   |
|                                     |                      | <b>FS100</b>                   | LMG160MFS1004S/4E    |                             |                | SGEA01FS100                | AKA03FS100Z4S/4E     | AKG03FS100Z                   |
|                                     |                      | <b>FS1C0</b>                   | LMG160MFS1M04S/4E    |                             |                | SGEA01FS1C0                | AKA03FS1C0Z4S/4E     | AKG03FS1C0Z                   |
|                                     |                      | <b>FS1M0</b>                   | LMG160MFS1M04S/4E    |                             |                | SGEA01FS1M0                | AKA03FS1M0Z4S/4E     | AKG03FS1M0Z                   |
|                                     |                      | <b>FSZBR</b>                   | LMG160MFSZBR4S       |                             |                | SGEA01FSZBR                | AKA03FSZBRZ4S        | AKG03FSZBRZ                   |
| 80                                  | 19x40                | <b>FS05M</b>                   | LMG200MFS05M4S       | SGEA01M03048                | EGE 0          | SGEA01FS05M                | AKA04FS05MZ4S        | AKG04FS05MZ                   |
|                                     |                      | <b>FS05C</b>                   | LMG200MFS05M4S       |                             |                | SGEA01FS05C                | AKA04FS05CZ4S        | AKG04FS05CZ                   |
|                                     |                      | <b>FS100</b>                   | LMG200MFS1004S/4E    |                             |                | SGEA01FS100                | AKA04FS100Z4S/4E     | AKG04FS100Z                   |
|                                     |                      | <b>FS1C0</b>                   | LMG200MFS1M04S/4E    |                             |                | SGEA01FS1C0                | AKA04FS1C0Z4S/4E     | AKG04FS1C0Z                   |
|                                     |                      | <b>FS1M0</b>                   | LMG200MFS1M04S/4E    |                             |                | SGEA01FS1M0                | AKA04FS1M0Z4S/4E     | AKG04FS1M0Z                   |
|                                     |                      | <b>FSZBR</b>                   | LMG200MFSZBR4S       |                             |                | SGEA01FSZBR                | AKA04FSZBRZ4S        | AKG04FSZBRZ                   |
|                                     |                      | <b>FS200</b>                   | LMG201MFS2004S/4E    | SGEA21M03048                | EGE 2          | SGEA21FS200                | AKA04FS200Z4S/4E     | AKG04FS200Z                   |
|                                     |                      | <b>FSZFR</b>                   | LMG201MFSZFR4S       |                             |                | SGEA21FSZFR                | AKA04FSZFRZ4S        | AKG04FSZFRZ                   |
| 90                                  | 24x50                | <b>FS05M</b>                   | LMG200MFS05M4S       | SGEA01M04048                | EGE 0          | SGEA01FS05M                | AKA05FS05MZ4S        | AKG05FS05MZ                   |
|                                     |                      | <b>FS05C</b>                   | LMG200MFS05M4S       |                             |                | SGEA01FS05C                | AKA05FS05CZ4S        | AKG05FS05CZ                   |
|                                     |                      | <b>FS100</b>                   | LMG200MFS1004S/4E    |                             |                | SGEA01FS100                | AKA05FS100Z4S/4E     | AKG05FS100Z                   |
|                                     |                      | <b>FS1C0</b>                   | LMG200MFS1M04S/4E    |                             |                | SGEA01FS1C0                | AKA05FS1C0Z4S/4E     | AKG05FS1C0Z                   |
|                                     |                      | <b>FS1M0</b>                   | LMG200MFS1M04S/4E    |                             |                | SGEA01FS1M0                | AKA05FS1M0Z4S/4E     | AKG05FS1M0Z                   |
|                                     |                      | <b>FSZBR</b>                   | LMG200MFSZBR4S       |                             |                | SGEA01FSZBR                | AKA05FSZBRZ4S        | AKG05FSZBRZ                   |
|                                     |                      | <b>FS200</b>                   | LMG201MFS2004S/4E    | SGEA21M04048                | EGE 2          | SGEA21FS200                | AKA05FS200Z4S/4E     | AKG05FS200Z                   |
|                                     |                      | <b>FSZFR</b>                   | LMG201MFSZFR4S       |                             |                | SGEA21FSZFR                | AKA05FSZFRZ4S        | AKG05FSZFRZ                   |
| 100<br>112                          | 28x60                | <b>FS100</b>                   | LMG250MFS1004S       | SGEA21M05055                | EGE 2          | SGEA21FS100                | AKA07FS100Z4S        | AKG07FS100Z                   |
|                                     |                      | <b>FS1C0</b>                   | LMG250MFS1M04S       |                             |                | SGEA21FS1C0                | AKA07FS1C0Z4S        | AKG07FS1C0Z                   |
|                                     |                      | <b>FS1M0</b>                   | LMG250MFS1M04S       |                             |                | SGEA21FS1M0                | AKA07FS1M0Z4S        | AKG07FS1M0Z                   |
|                                     |                      | <b>FSZBR</b>                   | LMG250MFSZBR4S       |                             |                | SGEA21FSZBR                | AKA07FSZBRZ4S        | AKG07FSZBRZ                   |
|                                     |                      | <b>FS200</b>                   | LMG250MFS2004S/4E    |                             |                | SGEA21FS200                | AKA07FS200Z4S/4E     | AKG07FS200Z                   |
|                                     |                      | <b>FSZFR</b>                   | LMG250MFSZFR4S       |                             |                | SGEA21FSZFR                | AKA07FSZFRZ4S        | AKG07FSZFRZ                   |
|                                     |                      | <b>FS25T</b>                   | LMG251MFS25T4E       |                             |                | SGEA21FS300                | AKA07FS25TZ4E        | AKG07FS300Z                   |
|                                     |                      | <b>FS300</b>                   | LMG251MFS3004E       |                             |                | SGEA21FS300                | AKA07FS300Z4E        | AKG07FS300Z                   |
|                                     |                      | <b>FS3M0</b>                   | LMG251MFS3M04E       |                             |                | SGEA21FS300                | AKA07FS3M0Z4E        | AKG07FS300Z                   |
| <b>FS3T0</b>                        | LMG251MFS3T04E       | SGEA21FS300                    | AKA07FS3T0Z4E        | AKG07FS300Z                 |                |                            |                      |                               |
| 132                                 | 38x80                | <b>FS100</b>                   | LMG300MFS1004S       | SGEA31M06077                | EGE 3          | SGEA31FS100                | AKA11FS100Z4S        | AKG11FS100Z                   |
|                                     |                      | <b>FS1C0</b>                   | LMG300MFS1M04S       |                             |                | SGEA31FS1C0                | AKA11FS1C0Z4S        | AKG11FS1C0Z                   |
|                                     |                      | <b>FS1M0</b>                   | LMG300MFS1M04S       |                             |                | SGEA31FS1M0                | AKA11FS1M0Z4S        | AKG11FS1M0Z                   |
|                                     |                      | <b>FSZGR</b>                   | LMG300MFSZGR4S       |                             |                | SGEA31FSZGR                | AKA11FSZGRZ4S        | AKG11FSZGRZ                   |
|                                     |                      | <b>FS200</b>                   | LMG300MFS2004S/4E    |                             |                | SGEA31FS200                | AKA11FS200Z4S/4E     | AKG11FS200Z                   |
|                                     |                      | <b>FSZFR</b>                   | LMG300MFSZFR4S       |                             |                | SGEA31FSZFR                | AKA11FSZFRZ4S        | AKG11FSZFRZ                   |
|                                     |                      | <b>FS25T</b>                   | LMG300MFS25T4S/4E    |                             |                | SGEA31FS300                | AKA11FS25TZ4S/4E     | AKG11FS300Z                   |
|                                     |                      | <b>FS300</b>                   | LMG300MFS3004S/4E    |                             |                | SGEA31FS300                | AKA11FS300Z4S/4E     | AKG11FS300Z                   |
|                                     |                      | <b>FS3M0</b>                   | LMG300MFS3M04S/4E    |                             |                | SGEA31FS300                | AKA11FS3M0Z4S/4E     | AKG11FS300Z                   |
|                                     |                      | <b>FS3T0</b>                   | LMG300MFS3T04S/4E    |                             |                | SGEA31FS300                | AKA11FS3T0Z4S/4E     | AKG11FS300Z                   |
|                                     |                      | <b>FS35M</b>                   | LMG300MFS35M4S/4E    |                             |                | SGEA31FS350                | AKA11FS35MZ4S/4E     | AKG11FS350Z                   |
|                                     |                      | <b>FS350</b>                   | LMG300MFS3504S/4E    |                             |                | SGEA31FS350                | AKA11FS350Z4S/4E     | AKG11FS350Z                   |

### Note:

- For bell-housing dimensions see pages 68-69.
- For coupling dimensions see "Half-couplings" section on pages 30-31.



IEC Motors B3/5 - standard gear pump

| IEC - Electric motors |                   | Pump identification code | Components        |                          |             |                         |                   |                            |
|-----------------------|-------------------|--------------------------|-------------------|--------------------------|-------------|-------------------------|-------------------|----------------------------|
| Motor size            | Shaft end [Ø x L] |                          | Bell-Housing code | Motor half-coupling code | Spider code | Pump half-coupling code | Complete kit code | Complete coupling kit code |
| 160                   | 42x110            | <b>FSZGR</b>             | LMG351MFSZGR4S    | SGEA51M07109             | EGE 5       | SGEA51FSZGR             | AKA12FSZGRZ4S     | AKG12FSZGRZ                |
|                       |                   | <b>FS200</b>             | LMG351MFS2004S    |                          |             | SGEA51FS200             | AKA12FS200Z4S     | AKG12FS200Z                |
|                       |                   | <b>FSZFR</b>             | LMG351MFSZFR4S    |                          |             | SGEA51FSZFR             | AKA12FSZFRZ4S     | AKG12FSZFRZ                |
|                       |                   | <b>FS25T</b>             | LMG351MFS25T4S/4E |                          |             | SGEA51FS300             | AKA12FS25TZ4S/4E  | AKG12FS300Z                |
|                       |                   | <b>FS300</b>             | LMG351MFS3004S/4E |                          |             | SGEA51FS300             | AKA12FS300Z4S/4E  | AKG12FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG351MFS3M04S/4E |                          |             | SGEA51FS300             | AKA12FS3M0Z4S/4E  | AKG12FS300Z                |
|                       |                   | <b>FS3T0</b>             | LMG351MFS3T04S/4E |                          |             | SGEA51FS300             | AKA12FS3T0Z4S/4E  | AKG12FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG351MFS35M4S/4E |                          |             | SGEA51FS350             | AKA12FS35MZ4S/4E  | AKG12FS350Z                |
|                       |                   | <b>FS350</b>             | LMG351MFS3504S/4E |                          |             | SGEA51FS350             | AKA12FS350Z4S/4E  | AKG12FS350Z                |
| 180                   | 48x110            | <b>FSZGR</b>             | LMG351MFSZGR4S    | SGEA51M08109             | EGE 5       | SGEA51FSZGR             | AKA13FSZGRZ4S     | AKG13FSZGRZ                |
|                       |                   | <b>FS200</b>             | LMG351MFS2004S    |                          |             | SGEA51FS200             | AKA13FS200Z4S     | AKG13FS200Z                |
|                       |                   | <b>FSZFR</b>             | LMG351MFSZFR4S    |                          |             | SGEA51FSZFR             | AKA13FSZFRZ4S     | AKG13FSZFRZ                |
|                       |                   | <b>FS25T</b>             | LMG351MFS25T4S/4E |                          |             | SGEA51FS300             | AKA13FS25TZ4S/4E  | AKG13FS300Z                |
|                       |                   | <b>FS300</b>             | LMG351MFS3004S/4E |                          |             | SGEA51FS300             | AKA13FS300Z4S/4E  | AKG13FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG351MFS3M04S/4E |                          |             | SGEA51FS300             | AKA13FS3M0Z4S/4E  | AKG13FS300Z                |
|                       |                   | <b>FS3T0</b>             | LMG351MFS3T04S/4E |                          |             | SGEA51FS300             | AKA13FS3T0Z4S/4E  | AKG13FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG351MFS35M4S/4E |                          |             | SGEA51FS350             | AKA13FS35MZ4S/4E  | AKG13FS350Z                |
|                       |                   | <b>FS350</b>             | LMG351MFS3504S/4E |                          |             | SGEA51FS350             | AKA13FS350Z4S/4E  | AKG13FS350Z                |
| 200                   | 55x110            | <b>FS200</b>             | LMG400MFS2004E    | SGEA51M09109             | EGE 5       | SGEA51FS200             | AKA16FS200Z4S     | AKG16FS200Z                |
|                       |                   | <b>FS300</b>             | LMG400MFS3004E    |                          |             | SGEA51FS300             | AKA16FS300Z4E     | AKG16FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG400MFS3M04E    |                          |             | SGEA51FS300             | AKA16FS3M0Z4E     | AKG16FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG400MFS35M4E    |                          |             | SGEA51FS350             | AKA16FS35MZ4E     | AKG16FS350Z                |
|                       |                   | <b>FS350</b>             | LMG400MFS3504E    |                          |             | SGEA51FS350             | AKA16FS350Z4E     | AKG16FS350Z                |
|                       |                   | <b>FSZFR</b>             | LMG400MFSZFR4S    |                          |             | SGEA51FSZFR             | AKA16FSZFRZ4E     | AKG16FSZFRZ                |
|                       |                   | <b>FSZGR</b>             | LMG400MFSZGR4S    |                          |             | SGEA51FSZGR             | AKA16FSZGRZ4E     | AKG16FSZGRZ                |
| 225                   | 60x140            | <b>FS300</b>             | LMG450MFS3004E    | SGEG60M10110             | EGE 6       | SGEG60FS300             | AKA18FS300Z4E     | AKG18FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG450MFS3M04E    |                          |             | SGEG60FS300             | AKA18FS3M0Z4E     | AKG18FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG450MFS35M4E    |                          |             | SGEG60FS350             | AKA18FS35MZ4E     | AKG18FS350Z                |
|                       |                   | <b>FS350</b>             | LMG450MFS3504E    |                          |             | SGEG60FS350             | AKA18FS350Z4E     | AKG18FS350Z                |
|                       |                   | <b>FSZGR</b>             | LMG450MFSZGR4S    |                          |             | SGEG60FSZGR             | AKA18FSZGRZ4E     | AKG18FSZGRZ                |
| 250                   | 65x140            | <b>FS300</b>             | LMG550MFS3004E    | SGEG60M11140             | EGE 6       | SGEG60FS300             | AKA20FS300Z4E     | AKG20FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG550MFS3M04E    |                          |             | SGEG60FS300             | AKA20FS3M0Z4E     | AKG20FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG550MFS35M4E    |                          |             | SGEG60FS350             | AKA20FS35MZ4E     | AKG20FS350Z                |
|                       |                   | <b>FS350</b>             | LMG550MFS3504E    |                          |             | SGEG60FS350             | AKA20FS350Z4E     | AKG20FS350Z                |
|                       |                   | <b>FSZGR</b>             | LMG550MFSZGR4S    |                          |             | SGEG60FSZGR             | AKA20FSZGRZ4E     | AKG20FSZGRZ                |
| 280                   | 75x140            | <b>FS300</b>             | LMG550MFS3004E    | SGEG80M12140             | EGE 8       | SGEG80FS300             | AKA22FS300Z4E     | AKG22FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG550MFS3M04E    |                          |             | SGEG80FS300             | AKA22FS3M0Z4E     | AKG22FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG550MFS35M4E    |                          |             | SGEG80FS350             | AKA22FS35MZ4E     | AKG22FS350Z                |
|                       |                   | <b>FS350</b>             | LMG550MFS3504E    |                          |             | SGEG80FS350             | AKA22FS350Z4E     | AKG22FS350Z                |
|                       |                   | <b>FSZGR</b>             | LMG550MFSZGR4S    |                          |             | SGEG80FSZGR             | AKA22FSZGRZ4E     | AKG22FSZGRZ                |
| 315                   | 80x170            | <b>FS300</b>             | LMG660MFS3004E    | SGEG80M13170             | EGE 8       | SGEG80FS300             | AKA26FS300Z4E     | AKG26FS300Z                |
|                       |                   | <b>FS3M0</b>             | LMG660MFS3M04E    |                          |             | SGEG80FS300             | AKA26FS3M0Z4E     | AKG26FS300Z                |
|                       |                   | <b>FS35M</b>             | LMG660MFS35M4E    |                          |             | SGEG80FS350             | AKA26FS35MZ4E     | AKG26FS350Z                |
|                       |                   | <b>FS350</b>             | LMG660MFS3504E    |                          |             | SGEG80FS350             | AKA26FS350Z4E     | AKG26FS350Z                |
|                       |                   | <b>FSZGR</b>             | LMG660MFSZGR4S    |                          |             | SGEG80FSZGR             | AKA26FSZGRZ4E     | AKG26FSZGRZ                |

**Note:**

- For bell-housing dimensions see pages 68-69.
- For coupling dimensions see "Half-couplings" section on pages 30-31.

## IEC Electric motors B14 mounting

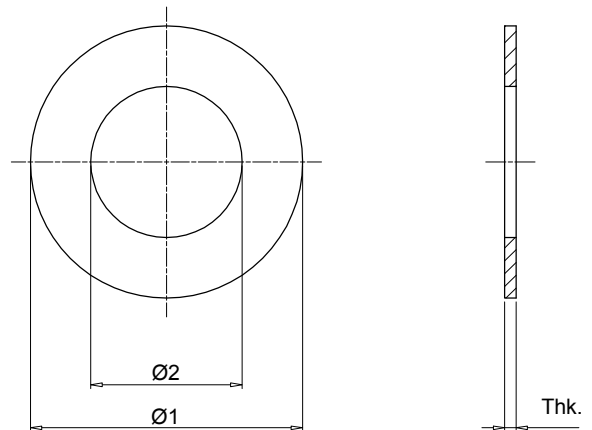
| IEC - Electric motors |                   | Pump identification code | Components        |                          |               |                         |                   |                            |
|-----------------------|-------------------|--------------------------|-------------------|--------------------------|---------------|-------------------------|-------------------|----------------------------|
| Motor size            | Shaft end [Ø x L] |                          | Bell-Housing code | Motor half-coupling code | Spider code   | Pump half-coupling code | Complete kit code | Complete coupling kit code |
| 63                    | 11x23             | <b>FS05M</b>             | LMG090MFS05M4E    | SGEA01M01019FG           | EGE0          | SGEA00FS05M             | AKA43FS05MZ4E     | AKG43FS05MZ                |
|                       |                   | <b>FS05C</b>             | LMG090MFS05M4E    |                          |               | SGEA01FS05C             | AKA43FS05CZ4E     | AKG43FS05CZ                |
|                       |                   | <b>FS100</b>             | LMG090MFS1004E    |                          |               | SGEA01FS100             | AKA43FS100Z4E     | AKG43FS100Z                |
|                       |                   | <b>FS1C0</b>             | LMG090MFS1M04E    |                          |               | SGEA01FS1C0             | AKA43FS1C0Z4E     | AKG43FS1C0Z                |
|                       |                   | <b>FS1M0</b>             | LMG090MFS1M04E    |                          |               | SGEA01FS1M0             | AKA43FS1M0Z4E     | AKG43FS1M0Z                |
|                       |                   | <b>FSZBR</b>             | LMG090MFSZBR4E    |                          |               | SGEA01FSZBR             | AKA43FSZBRZ4E     | AKG43FSZBRZ                |
| 71                    | 14x30             | <b>FS05M</b>             | LMG105MFS05M4E    | SGEA01M02028FG           | EGE 0         | SGEA01FS05M             | AKA44FS05MZ4E     | AKG44FS05MZ                |
|                       |                   | <b>FS05C</b>             | LMG105MFS05M4E    |                          |               | SGEA01FS05C             | AKA44FS05CZ4E     | AKG44FS05CZ                |
|                       |                   | <b>FS100</b>             | LMG105MFS1004E    |                          |               | SGEA01FS100             | AKA44FS100Z4E     | AKG44FS100Z                |
|                       |                   | <b>FS1C0</b>             | LMG105MFS1C04E    |                          |               | SGEA01FS1C0             | AKA44FS1C0Z4E     | AKG44FS1C0Z                |
|                       |                   | <b>FS1M0</b>             | LMG105MFS1M04E    |                          |               | SGEA01FS1M0             | AKA44FS1M0Z4E     | AKG44FS1M0Z                |
|                       |                   | <b>FSZBR</b>             | LMG105MFSZBR4E    |                          |               | SGEA01FSZBR             | AKA44FSZBRZ4E     | AKG44FSZBRZ                |
| 80                    | 19x40             | <b>FS05M</b>             | LMG120MFS05M4E    | SGEA01M03048FG           | EGE 0         | SGEA01FS05M             | AKA45FS05MZ4E     | AKG45FS05MZ                |
|                       |                   | <b>FS05C</b>             | LMG120MFS05M4E    |                          |               | SGEA01FS05C             | AKA45FS05CZ4E     | AKG45FS05CZ                |
|                       |                   | <b>FS100</b>             | LMG120MFS1004E    |                          |               | SGEA01FS100             | AKA45FS100Z4E     | AKG45FS100Z                |
|                       |                   | <b>FS1C0</b>             | LMG120MFS1M04E    |                          |               | SGEA01FS1C0             | AKA45FS1C0Z4E     | AKG45FS1C0Z                |
|                       |                   | <b>FS1M0</b>             | LMG120MFS1M04E    |                          |               | SGEA01FS1M0             | AKA45FS1M0Z4E     | AKG45FS1M0Z                |
|                       |                   | <b>FSZBR</b>             | LMG120MFSZBR4S    |                          |               | SGEA01FSZBR             | AKA45FSZBRZ4E     | AKG45FSZBRZ                |
|                       |                   | <b>FS200</b>             | LMG121MFS2004E    | SGEA21M03048FG           | EGE 2         | SGEA21FS200             | AKA45FS200Z4E     | AKG45FS200Z                |
|                       |                   | <b>FSZFR</b>             | LMG121MFSZFR4S    | SGEA21FSZFR              | AKA45FSZFRZ4S | AKG45FSZFRZ             |                   |                            |
| 90                    | 24x50             | <b>FS05M</b>             | LMG141MFS05M4S    | SGEA01M04048FG           | EGE 0         | SGEA01FS05M             | AKA46FS05MZ4E     | AKG46FS05MZ                |
|                       |                   | <b>FS05C</b>             | LMG141MFS05M4S    |                          |               | SGEA01FS05C             | AKA46FS05CZ4E     | AKG46FS05CZ                |
|                       |                   | <b>FS100</b>             | LMG141MFS1004S/4E |                          |               | SGEA01FS100             | AKA46FS100Z4E     | AKG46FS100Z                |
|                       |                   | <b>FS1C0</b>             | LMG141MFS1M04S/4E |                          |               | SGEA01FS1C0             | AKA46FS1C0Z4E     | AKG46FS1C0Z                |
|                       |                   | <b>FS1M0</b>             | LMG141MFS1M04S/4E |                          |               | SGEA01FS1M0             | AKA46FS1M0Z4E     | AKG46FS1M0Z                |
|                       |                   | <b>FSZBR</b>             | LMG141MFSZBR4S    |                          |               | SGEA01FSZBR             | AKA46FSZBRZ4E     | AKG46FSZBRZ                |
|                       |                   | <b>FS200</b>             | LMG141MFS2004S/4E | SGEA21M04048FG           | EGE 2         | SGEA21FS200             | AKA46FS200Z4E     | AKG46FS200Z                |
|                       |                   | <b>FSZFR</b>             | LMG141MFSZFR4S    | SGEA21FSZFR              | AKA46FSZFRZ4S | AKG46FSZFRZ             |                   |                            |
| 100<br>112            | 28x60             | <b>FS05M</b>             | LMG161MFS05M4S    | SGEA21M05055FG           | EGE 2         | SGEA21FS05M             | AKA48FS05MZ4E     | AKG48FS05MZ                |
|                       |                   | <b>FS05C</b>             | LMG161MFS05M4S    |                          |               | SGEA21FS05C             | AKA48FS05CZ4E     | AKG48FS05CZ                |
|                       |                   | <b>FS100</b>             | LMG161MFS1004S    |                          |               | SGEA21FS100             | AKA48FS100Z4E     | AKG48FS100Z                |
|                       |                   | <b>FS1C0</b>             | LMG161MFS1M04S    |                          |               | SGEA21FS1C0             | AKA48FS1C0Z4E     | AKG48FS1C0Z                |
|                       |                   | <b>FS1M0</b>             | LMG161MFS1M04S    |                          |               | SGEA21FS1M0             | AKA48FS1M0Z4E     | AKG48FS1M0Z                |
|                       |                   | <b>FSZBR</b>             | LMG161MFSZBR4S    |                          |               | SGEA21FSZBR             | AKA48FSZBRZ4E     | AKG48FSZBRZ                |
|                       |                   | <b>FS200</b>             | LMG161MFS2004S/4E |                          |               | SGEA21FS200             | AKA48FS200Z4E     | AKG48FS200Z                |
|                       |                   | <b>FSZFR</b>             | LMG161MFSZFR4S    |                          |               | SGEA21FSZFR             | AKA48FSZFRZ4S     | AKG48FSZFRZ                |

### Note:

- For bell-housing dimensions see pages 68-69.
- For coupling dimensions see "Half-couplings" section on pages 30-31.

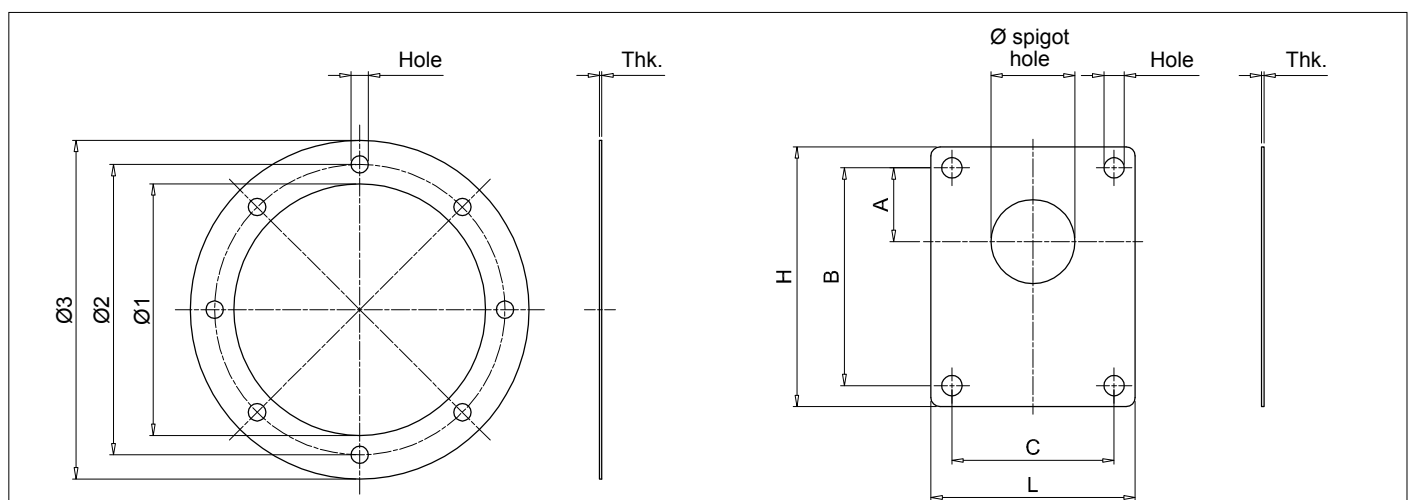
CENTER RING

| Center ring code | Dimensions [mm] |      |      |
|------------------|-----------------|------|------|
|                  | Ø1              | Ø2   | Thk. |
| ANC01FS100       | 50              | 25.4 | 1.0  |
| ANC01FS1M0       | 50              | 30.0 | 1.0  |
| ANC02FS200       | 72              | 36.5 | 2.0  |
| ANC03FS200       | 88              | 36.5 | 2.0  |
| ANC03FS300       | 88              | 50.8 | 2.5  |
| ANC03FS350       | 88              | 60.3 | 2.5  |
| ANC04FS300       | 115             | 50.8 | 3.5  |
| ANC04FS350       | 115             | 60.3 | 3.5  |
| ANCA001          | 42              | 22.0 | 1.0  |
| ANCD005          | 85              | 50.8 | 2.5  |



| Center ring code | Bell-Housing size |        |        |        |        |        |        |        |        |        |        |
|------------------|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|                  | LMG090            | LMG105 | LMG120 | LMG140 | LMG160 | LMG200 | LMG250 | LMG300 | LMG351 | LMG400 | LMG450 |
| ANC01FS100       | ●                 | ●      | ●      | ●      | ●      |        |        |        |        |        |        |
| ANC01FSM0        | ●                 | ●      | ●      | ●      | ●      |        |        |        |        |        |        |
| ANC02FS200       |                   |        | ●      | ●      | ●      | ●      | ●      |        |        |        |        |
| ANC03FS200       |                   |        |        |        |        |        |        | ●      | ●      |        |        |
| ANC03FS300       |                   |        |        |        |        |        |        | ●      |        |        |        |
| ANC03FS350       |                   |        |        |        |        |        |        | ●      |        |        |        |
| ANC04FS200       |                   |        |        |        |        |        |        |        |        | ●      | ●      |
| ANC04FS300       |                   |        |        |        |        |        |        |        | ●      | ●      | ●      |
| ANC04FS350       |                   |        |        |        |        |        |        |        | ●      | ●      | ●      |
| ANCA001          | ●                 | ●      | ●      | ●      | ●      |        | ●      |        |        |        |        |
| ANCD005          |                   |        |        |        |        | ●      | ●      | ●      | ●      |        |        |

GASKET



Motor side gasket

| Bell-housing size | Seals code | Dimensions [mm] |     |     |      |      |
|-------------------|------------|-----------------|-----|-----|------|------|
|                   |            | Ø1              | Ø2  | Ø3  | Thk. | Hole |
| LMG 120           | GUM P 120  | 84              | 100 | 120 | 1    | 7    |
| LMG 140           | GUM P 140  | 96              | 115 | 140 | 1    | 9    |
| LMG 160           | GUM P 160  | 110             | 130 | 160 | 1    | 9    |
| LMG 200           | GUM P 200  | 145             | 165 | 200 | 1    | 11   |
| LMG 250           | GUM P 250  | 190             | 215 | 250 | 1    | 14   |
| LMG 300           | GUM P 300  | 234             | 265 | 300 | 1    | 14   |
| LMG 350           | GUM P 350  | 260             | 300 | 350 | 1    | 18   |

Pump side gasket

| Pump identification code | Seals code | Dimensions [mm] |       |     |      |     |     |      |      |
|--------------------------|------------|-----------------|-------|-----|------|-----|-----|------|------|
|                          |            | Ø               | A     | B   | C    | H   | L   | Thk. | Hole |
| FS05M                    | GUP P001   | 22.0            | 25.6  | 66  | -    | 80  | 48  | 1    | 6.5  |
| FS100                    | GUP P002   | 25.4            | 26.6  | 72  | 52.4 | 87  | 67  | 1    | 6.5  |
| FS1M0                    | GUP P003   | 30.0            | 24.5  | 73  | 56.0 | 85  | 68  | 1    | 6.5  |
| FS200                    | GUP P004   | 36.5            | 32.5  | 96  | 71.5 | 112 | 88  | 1    | 8.5  |
| FS300                    | GUP P005   | 50.8            | 43.0  | 128 | 98.5 | 148 | 118 | 1    | 10.5 |
| FSZBR                    | GUP P013   | 32.0            | 10.35 | 40  | 40.0 | 75  | 62  | 1    | 8.5  |
| FSZFR                    | GUP P014   | 80.0            | 34.5  | 100 | 72.0 | 118 | 90  | 1    | 9.0  |