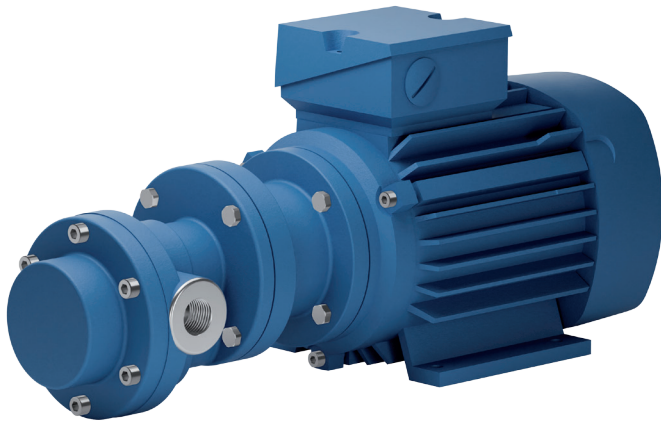




## Construction

Self-priming spur-gear pumps with electric motor (up to 1,5 kW) are designed for industrial applications. Positive displacement pumps with a wide range of capacities, up to 24,1 l/min. Suction- and pressure-ports Whitworth pipe threads - opposite 180°.

## Applications

Industrial application, for example:  
Lubrication Systems, coolant feed in machine tools, Heat transfer, test bench and many more.

## Example of liquids suitable for transport

Pure, non-explosive liquids, not corrosive against pump materials, without any solids. The liquids to deliver, must have lubricating characteristics.  
Oil, mineral oil, synthetic oil, adhesives, sealants, polymers, diesel, paints, inks and many more

## Operating conditions

**Liquid temperature:** -10°C up to +60°C (NBR)

-40°C up to +250°C on request

**Ambient temperature:** -20°C up to +40°C

operating pressure: max. 100 bar

## Drive

Standard: three-phase asynchronous motor

Operation mode: Continuous operation S1

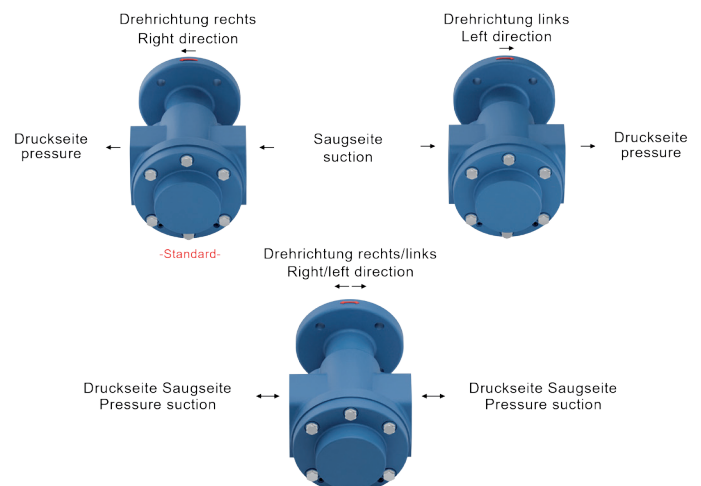
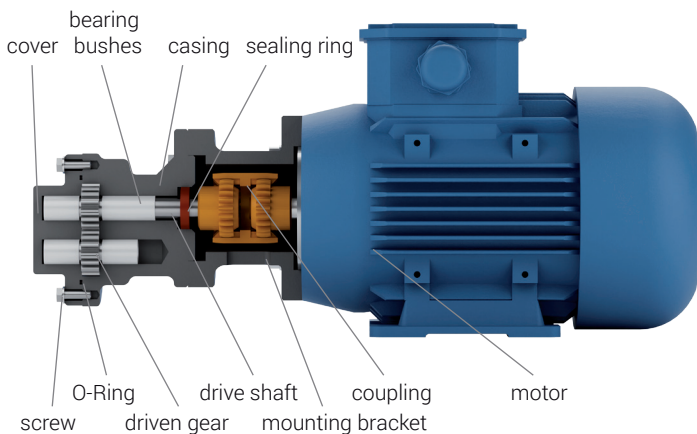
thermal class 155, protection IP 55

Optional: single-phase motor, DC-motors

## Materials

| components       | standard                     | on request                     |
|------------------|------------------------------|--------------------------------|
| casing and cover | cast iron- EN-GJL-250 (GG25) | ductile cast iron (GGG40)      |
| shaft            | steel                        |                                |
| gears            | steel, hardened and grinded  |                                |
| bearing bushes   | composite bearings           |                                |
| shaft seal       | sealing ring NBR             | FPM, PTFE, GLRD, packing gland |

## sectional drawing



## Electric Gear-Pumps Series FLM 1..

### Performance ( $n \approx 1450$ 1/min )

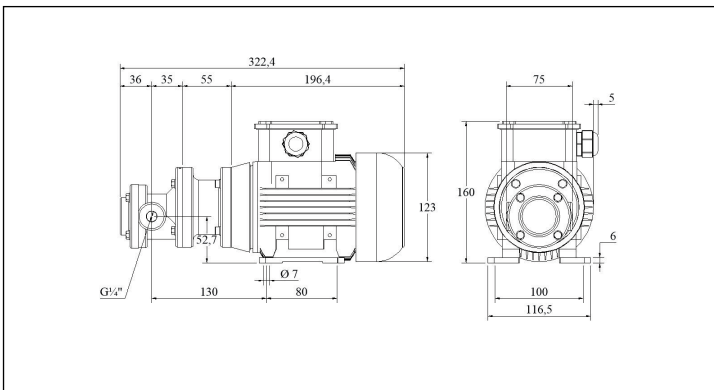
| type     | motor power<br>kW | pressure<br>max. bar | capacity<br>l/min | pressure (bar) |      |      |      |      |      |      |
|----------|-------------------|----------------------|-------------------|----------------|------|------|------|------|------|------|
|          |                   |                      |                   | 5              | 10   | 15   | 20   | 30   | 40   | 50   |
| FLM 1-06 | 0,12              | 20                   |                   | 0,60           | 0,55 |      |      |      |      |      |
| FLM 15   | 0,12              | 30                   |                   | 1,15           | 1,10 | 1,05 | 1,00 | 0,90 |      |      |
|          | 0,18              | 40                   |                   | 1,15           | 1,10 | 1,05 | 1,00 | 0,90 | 0,80 | 0,60 |
| FLM 17   | 0,12              | 20                   |                   | 1,60           | 1,55 | 1,50 | 1,40 |      |      |      |
|          | 0,18              | 40                   |                   | 1,60           | 1,55 | 1,50 | 1,40 | 1,30 | 1,10 |      |
| FLM 110  | 0,12              | 15                   |                   | 2,30           | 2,25 | 2,20 |      |      |      |      |
|          | 0,18              | 20                   |                   | 2,30           | 2,25 | 2,20 | 2,10 |      |      |      |
|          | 0,25              | 40                   |                   | 2,30           | 2,25 | 2,20 | 2,10 | 2,00 | 1,80 |      |

Valid for hydraulic oil with 35 mm<sup>2</sup>/s at 50 °C  
Tolerance of capacity: +/- 3%

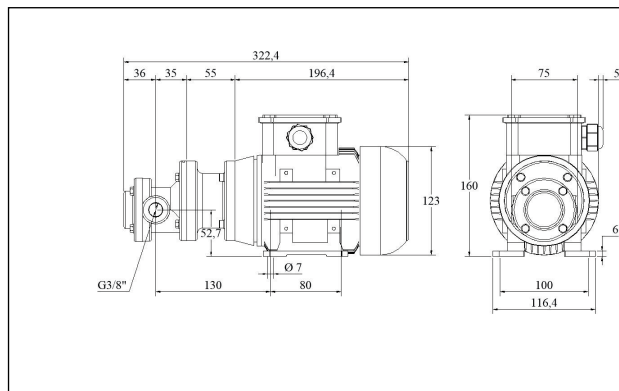
Oil-Speed: max. 1,5 m/s suction side, max. 4,5 m/s pressure side

### Dimensions and weight

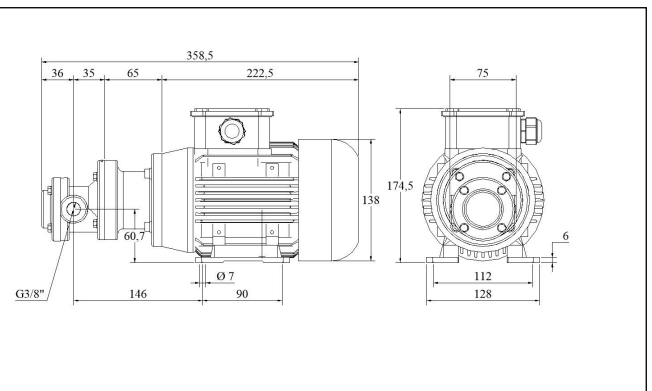
FLM 1-017 bis FLM 17 (0,12 kW / 0,18 kW)      weight: 7,2 / 7,2 kg



FLM 110 (0,12 kW / 0,18 kW)      weight: 7,2 / 7,2 kg



FLM 110 (0,25 kW)      weight: 9,2 kg



## Electric Gear-Pumps Series FLM 210 - FLM 214

### Performance (n ≈ 1450 1/min)

| type    | motor power<br>kW | pressure<br>max. bar |                   | pressure (bar) |      |      |      |      |      |      |      |      |
|---------|-------------------|----------------------|-------------------|----------------|------|------|------|------|------|------|------|------|
|         |                   |                      |                   | 5              | 10   | 15   | 20   | 30   | 40   | 50   | 60   | 70   |
| FLM 210 | 0,12              | 10                   | capacity<br>l/min | 3,00           | 2,95 |      |      |      |      |      |      |      |
|         | 0,18              | 20                   |                   | 3,00           | 2,95 | 2,90 | 2,80 |      |      |      |      |      |
|         | 0,25              | 30                   |                   | 3,00           | 2,95 | 2,90 | 2,80 | 2,70 |      |      |      |      |
|         | 0,37              | 40                   |                   | 3,00           | 2,95 | 2,90 | 2,80 | 2,70 | 2,60 |      |      |      |
|         | 0,55              | 70                   |                   | 3,00           | 2,95 | 2,90 | 2,80 | 2,70 | 2,60 | 2,40 | 2,20 | 2,00 |
| FLM 214 | 0,12              | 10                   |                   | 4,50           | 4,45 |      |      |      |      |      |      |      |
|         | 0,18              | 15                   |                   | 4,50           | 4,45 | 4,40 |      |      |      |      |      |      |
|         | 0,25              | 20                   |                   | 4,50           | 4,45 | 4,40 | 4,30 |      |      |      |      |      |
|         | 0,37              | 30                   |                   | 4,50           | 4,45 | 4,40 | 4,30 | 4,20 |      |      |      |      |
|         | 0,55              | 40                   |                   | 4,50           | 4,45 | 4,40 | 4,30 | 4,20 | 4,10 |      |      |      |
|         | 0,75              | 60                   |                   | 4,50           | 4,45 | 4,40 | 4,30 | 4,20 | 4,10 | 3,90 | 3,70 |      |

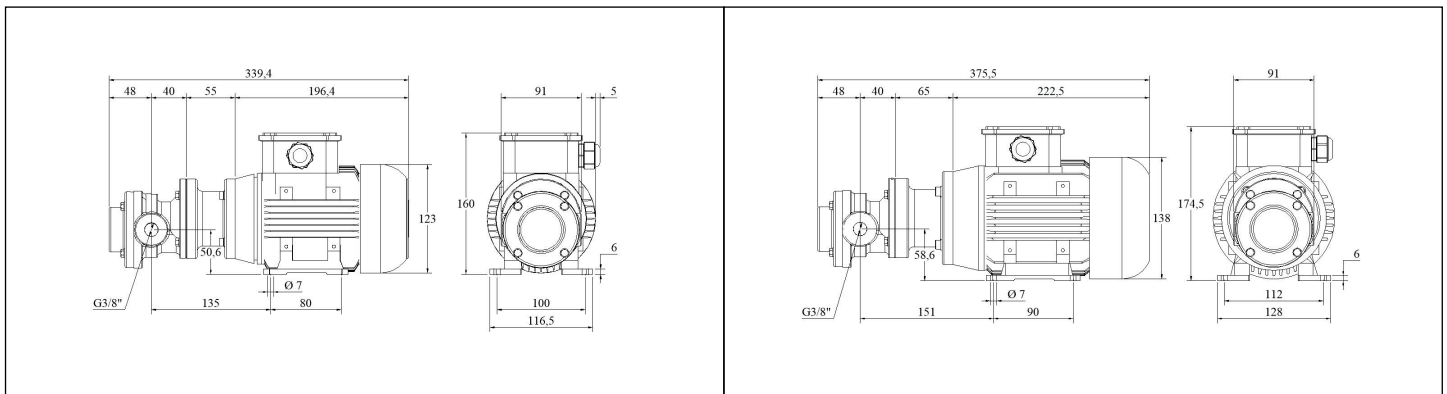
Valid for hydraulic oil with 35 mm<sup>2</sup>/s at 50 °C  
Tolerance of capacity: +/- 3%

Oil-Speed: max. 1,5 m/s suction side, max. 4,5 m/s pressure side

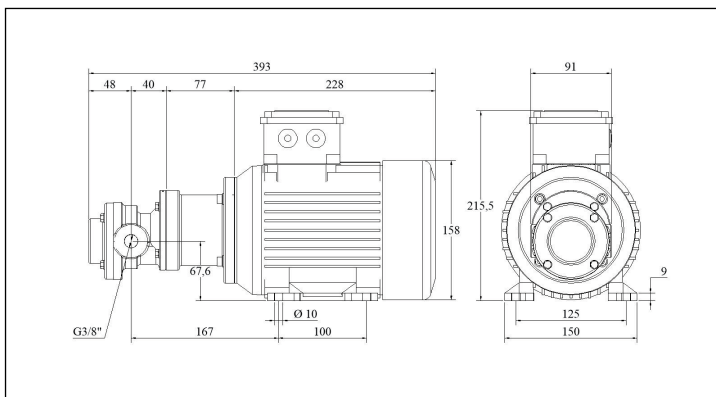
### Dimensions and weight

0,12 / 0,18 kW weight: 8,0 / 8,0 kg

0,25 / 0,37 kW weight: 10,4 / 11,4 kg



0,55 / 0,75 kW weight: 13,5 / 15 kg



## Electric Gear-Pumps Series FLM 219

### Performance ( $n \approx 1450$ 1/min )

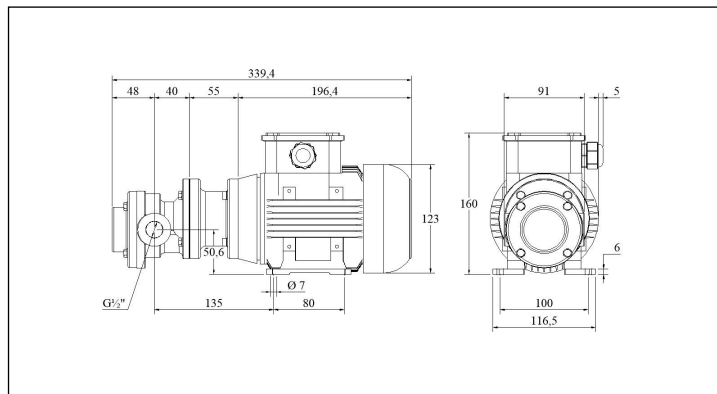
| type    | motor power<br>kW | pressure<br>max. bar |                   | pressure (bar) |      |      |      |      |      |    |    |    |
|---------|-------------------|----------------------|-------------------|----------------|------|------|------|------|------|----|----|----|
|         |                   |                      |                   | 5              | 10   | 15   | 20   | 30   | 40   | 50 | 60 | 70 |
| FLM 219 | 0,12              | 5                    | capacity<br>l/min | 6,00           |      |      |      |      |      |    |    |    |
|         | 0,18              | 10                   |                   | 6,00           | 5,95 |      |      |      |      |    |    |    |
|         | 0,25              | 15                   |                   | 6,00           | 5,95 | 5,90 |      |      |      |    |    |    |
|         | 0,37              | 20                   |                   | 6,00           | 5,95 | 5,90 | 5,85 |      |      |    |    |    |
|         | 0,55              | 30                   |                   | 6,00           | 5,95 | 5,90 | 5,85 | 5,80 |      |    |    |    |
|         | 0,75              | 40                   |                   | 6,00           | 5,95 | 5,90 | 5,85 | 5,80 | 5,70 |    |    |    |

Valid for hydraulic oil with 35 mm<sup>2</sup>/s at 50 °C  
Tolerance of capacity: +/- 3%

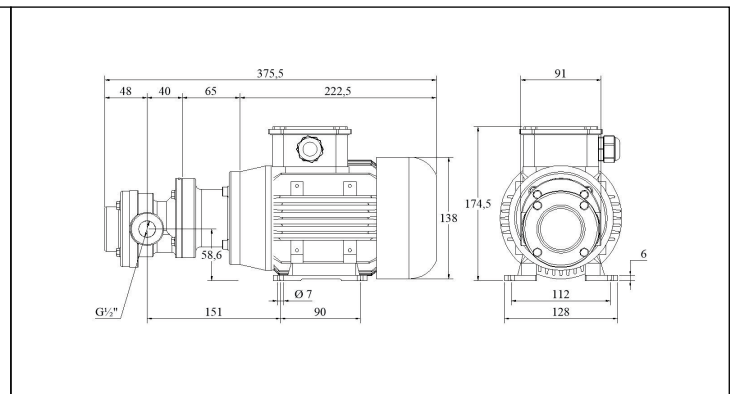
Oil-Speed: max. 1,5 m/s suction side, max. 4,5 m/s pressure side

### Dimensions and weight

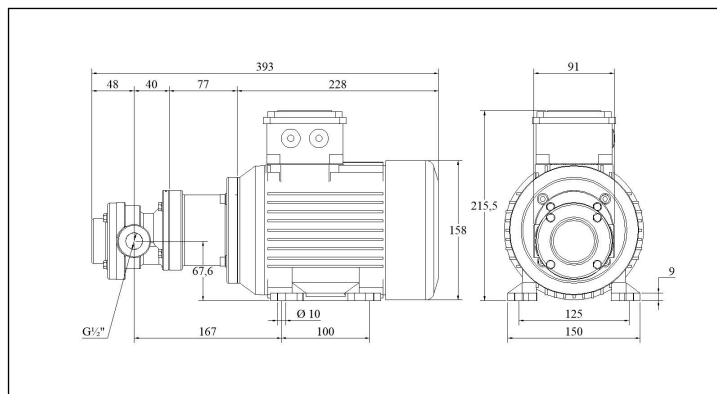
**0,12 / 0,18 kW**    **weight:** 8,0 / 8,0 kg



**0,25 / 0,37 kW**    **weight:** 10,4 / 11,4 kg



**0,55 / 0,75 kW**    **weight:** 13,5 / 15 kg



## Electric Gear-Pumps Series FLM 310- FLM 323

Performance ( n  $\approx$  1450 1/min )

| type    | motor power<br>kW | pressure<br>max. bar |                   | pressure (bar) |       |       |       |       |       |      |      |      |      |
|---------|-------------------|----------------------|-------------------|----------------|-------|-------|-------|-------|-------|------|------|------|------|
|         |                   |                      |                   | 5              | 10    | 15    | 20    | 30    | 40    | 50   | 60   | 70   | 80   |
| FLM 310 | 0,25              | 10                   | capacity<br>l/min | 7,40           | 7,35  |       |       |       |       |      |      |      |      |
|         | 0,37              | 15                   |                   | 7,40           | 7,35  | 7,30  |       |       |       |      |      |      |      |
|         | 0,55              | 25                   |                   | 7,40           | 7,35  | 7,30  | 7,25  |       |       |      |      |      |      |
|         | 0,75              | 35                   |                   | 7,40           | 7,35  | 7,30  | 7,25  | 7,20  |       |      |      |      |      |
|         | 1,1               | 50                   |                   | 7,40           | 7,35  | 7,30  | 7,25  | 7,20  | 7,10  | 7,00 |      |      |      |
|         | 1,5               | 75                   |                   | 7,40           | 7,35  | 7,30  | 7,25  | 7,20  | 7,10  | 7,00 | 6,90 | 6,80 | 6,75 |
| FLM 314 | 0,25              | 8                    |                   | 10,2           | 10,15 |       |       |       |       |      |      |      |      |
|         | 0,37              | 10                   |                   | 10,2           | 10,15 |       |       |       |       |      |      |      |      |
|         | 0,55              | 15                   |                   | 10,2           | 10,15 | 10,1  |       |       |       |      |      |      |      |
|         | 0,75              | 25                   |                   | 10,2           | 10,15 | 10,1  | 10,0  | 9,90  |       |      |      |      |      |
|         | 1,1               | 35                   |                   | 10,2           | 10,15 | 10,1  | 10,0  | 9,90  | 9,70  |      |      |      |      |
|         | 1,5               | 50                   |                   | 10,2           | 10,15 | 10,1  | 10,0  | 9,90  | 9,70  | 9,40 |      |      |      |
| FLM 318 | 0,25              | 5                    |                   | 13,2           |       |       |       |       |       |      |      |      |      |
|         | 0,37              | 8                    |                   | 13,2           | 13,1  |       |       |       |       |      |      |      |      |
|         | 0,55              | 12                   |                   | 13,2           | 13,1  | 13,0  |       |       |       |      |      |      |      |
|         | 0,75              | 20                   |                   | 13,2           | 13,1  | 13,0  | 12,8  |       |       |      |      |      |      |
|         | 1,1               | 30                   |                   | 13,2           | 13,1  | 13,0  | 12,8  | 12,6  |       |      |      |      |      |
|         | 1,5               | 40                   |                   | 13,2           | 13,1  | 13,0  | 12,8  | 12,6  | 12,4  |      |      |      |      |
| FLM 323 | 0,25              | 4                    |                   | 16,70          |       |       |       |       |       |      |      |      |      |
|         | 0,37              | 6                    |                   | 16,70          | 16,60 |       |       |       |       |      |      |      |      |
|         | 0,55              | 10                   |                   | 16,70          | 16,60 |       |       |       |       |      |      |      |      |
|         | 0,75              | 15                   |                   | 16,70          | 16,60 | 16,50 |       |       |       |      |      |      |      |
|         | 1,1               | 25                   |                   | 16,70          | 16,60 | 16,50 | 16,40 | 16,20 |       |      |      |      |      |
|         | 1,5               | 33                   |                   | 16,70          | 16,60 | 16,50 | 16,40 | 16,20 | 16,00 |      |      |      |      |

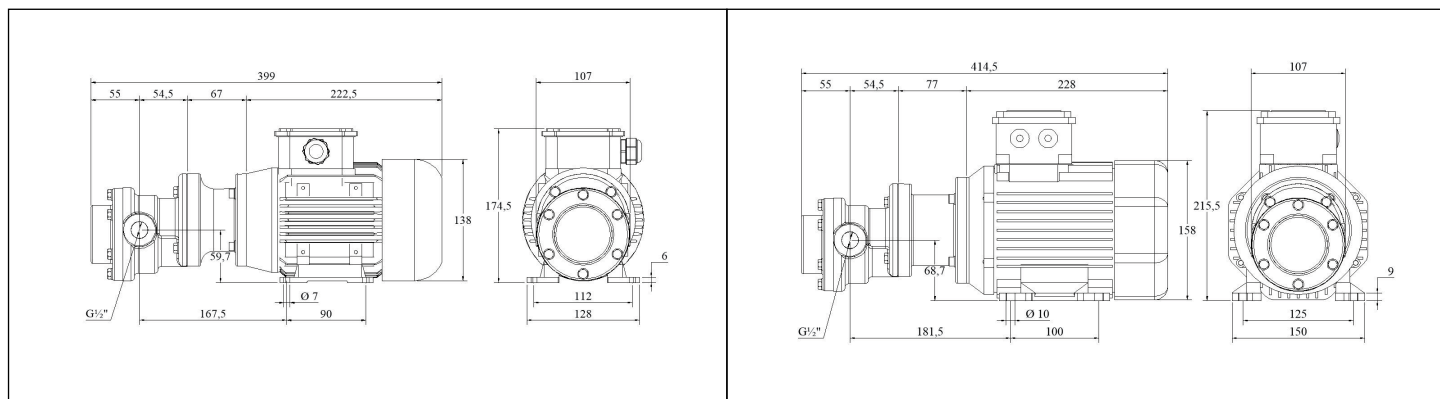
Valid for hydraulic oil with 35 mm<sup>2</sup>/s at 50 °C  
Tolerance of capacity: +/- 3%

Oil-Speed: max. 1,5 m/s suction side, max. 4,5 m/s pressure side

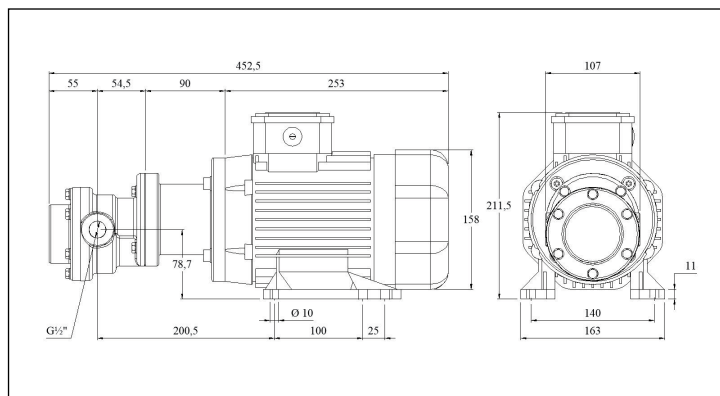
### Dimensions and weight

0,25 / 0,37 kW weight: 12,4 / 13,4 kg

0,55 / 0,75 kW weight: 16 / 17,5 kg



1,1 kW weight: 26,5 kg



## Electric Gear-Pumps Series FLM 328- FLM 333

Performance (  $n \approx 1450$  1/min )

| type    | Motor power<br>kW | pressure<br>max. bar | capacity<br>l/min | pressure (bar) |       |       |       |       |    |
|---------|-------------------|----------------------|-------------------|----------------|-------|-------|-------|-------|----|
|         |                   |                      |                   | 5              | 10    | 15    | 20    | 30    | 40 |
| FLM 328 | 0,37              | 5                    |                   | 20,30          |       |       |       |       |    |
|         | 0,55              | 8                    |                   | 20,30          | 20,20 |       |       |       |    |
|         | 0,75              | 12                   |                   | 20,30          | 20,20 | 20,10 |       |       |    |
|         | 1,1               | 18                   |                   | 20,30          | 20,20 | 20,10 | 20,00 |       |    |
|         | 1,5               | 25                   |                   | 20,30          | 20,20 | 20,10 | 20,00 | 19,80 |    |
| FLM 333 | 0,37              | 4                    |                   | 24,10          |       |       |       |       |    |
|         | 0,55              | 6                    |                   | 24,10          | 24,00 |       |       |       |    |
|         | 0,75              | 10                   |                   | 24,10          | 24,00 |       |       |       |    |
|         | 1,1               | 15                   |                   | 24,10          | 24,00 | 23,90 |       |       |    |
|         | 1,5               | 20                   |                   | 24,10          | 24,00 | 23,90 | 23,80 |       |    |

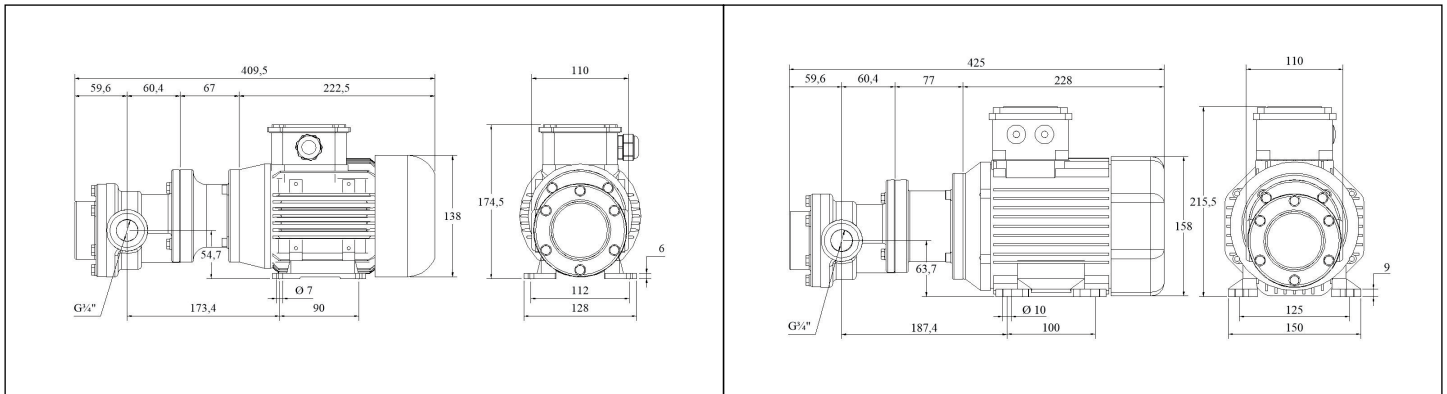
Valid for hydraulic oil with 35 mm<sup>2</sup>/s at 50 °C  
Tolerance of capacity: +/- 3%

Oil-Speed: max. 1,5 m/s suction side, max. 4,5 m/s pressure side

## Dimensions and weight

0,25 / 0,37 kW    weight: 12,5 / 13,5 kg

0,55 / 0,75 kW    weight: 16,2 / 17,7 kg



1,1 kW    weight: 26,7 kg

