

## Fields of Application

- Hot-water supply systems
- Hot-water heating systems
- Heat recovery systems
- Cooling circuits in air-conditioning systems

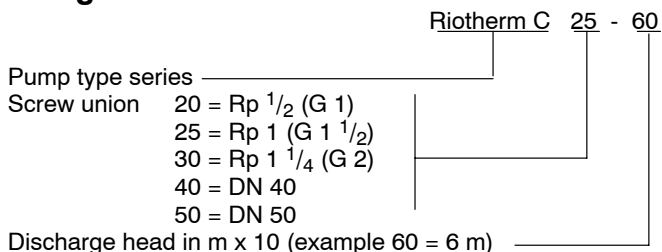
## Fluid Handled

- Heated drinking water, recommended temperature range up to 65 °C.
- Clean water and/or water treated in accordance with the relevant regulations, not containing aggressive, abrasive or solid substances. Water mixed with commercial antifreeze agents based on glycols (mixture ratio max. 1 : 1) with inhibitors (antirust). If the glycol content exceeds 20 %, the operating data must be checked and verified.

## Operating Data

|                | Screw-ended pumps  | Flanged pumps  |
|----------------|--|--|
| Rp             | 1/2, 1 and 1 1/4   | DN 40 and DN 50  |
| Q              | up to 28 m <sup>3</sup> /h, 7.8 l/s  |  |
| H              | up to 5.6 m  | up to 7.5 m  |
| P <sub>1</sub> | up to 99 W   | up to 625 W  |
| p              | up to 10 bar   | up to 10 bar   |
| t              | heating water:<br>- 10 °C up to +110 °C<br>service water<br>up to 18 °dH 65 °C | - 10 °C up to +110 °C<br><br>up to 20 °dH 80 °C<br>short term (2 h) + 110 °C |

## Designation



## Design

Maintenance-free wet rotor pump (glandless) flanged or screw-ended.

## Materials

|               |                         |
|---------------|-------------------------|
| Volute casing | bronze / GG             |
| Shaft         | ceramics / chrome steel |
| Impeller      | plastic                 |
| Bearings      | graphite                |

## Bearings

Graphite plain bearings lubricated by the fluid handled.

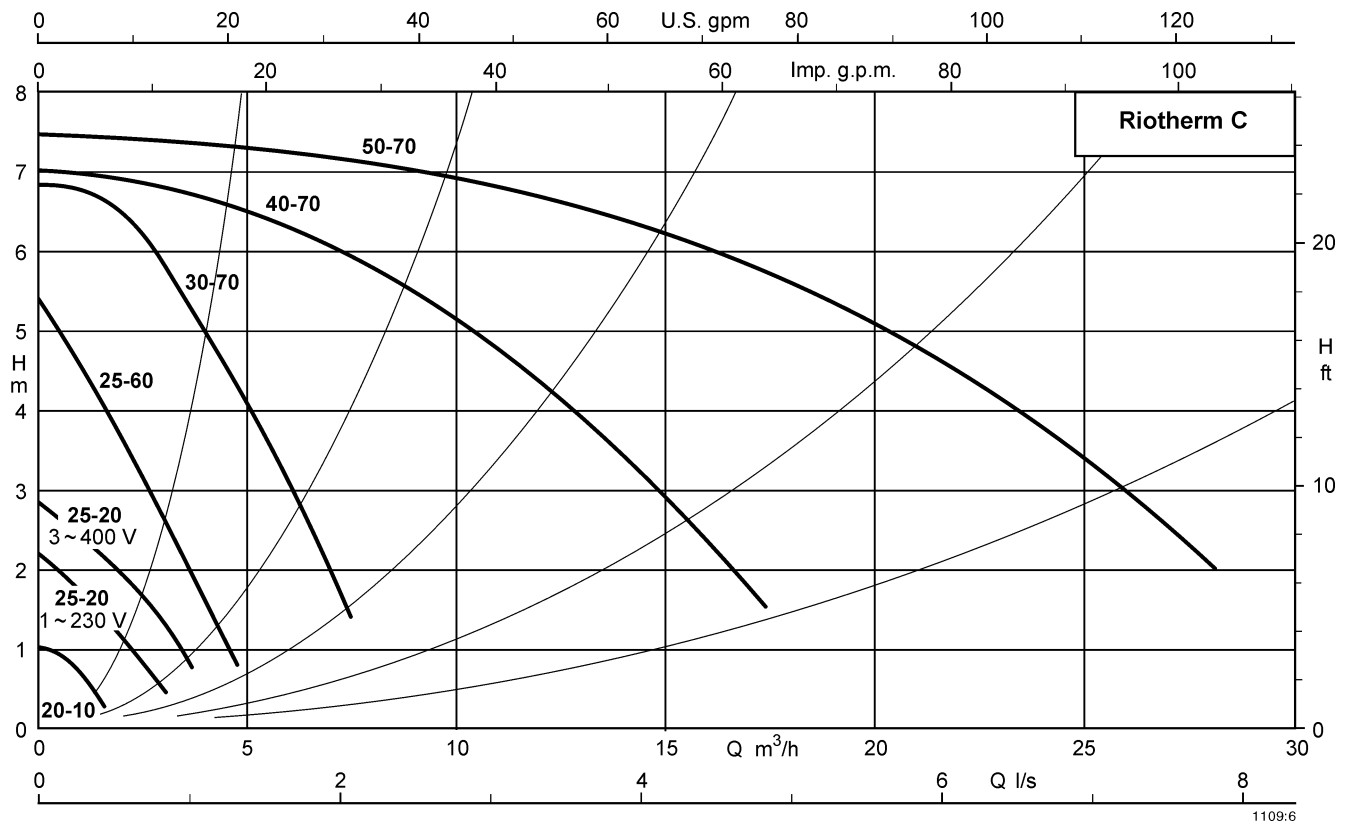
## Drive

### Rp 1/2 and Rp 1

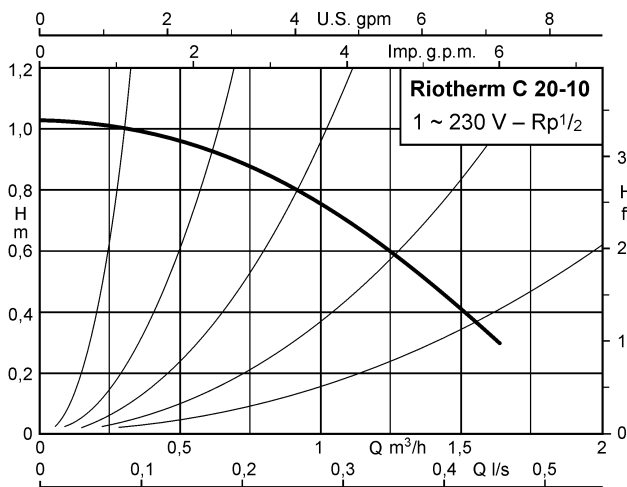
Overload-proof canned motor (additional motor protection is not required), IP 44, thermal class F.

### Rp 1 1/4, DN 40 and DN 50

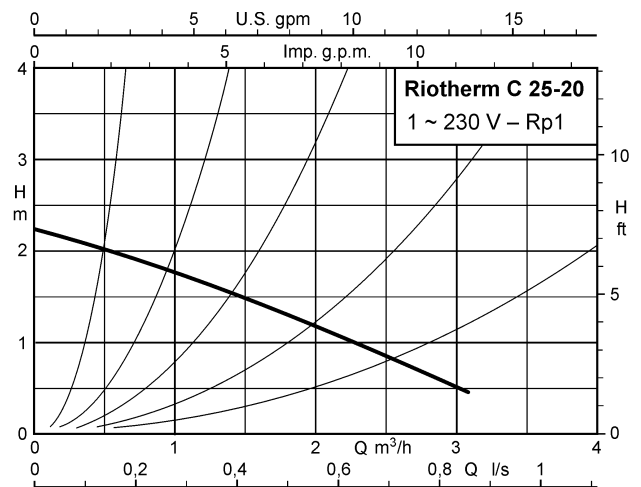
Canned motor, IP 43, thermal class F, radio interference suppression class N.

**Selection Chart**


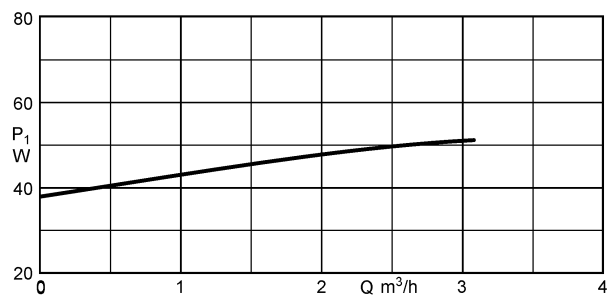
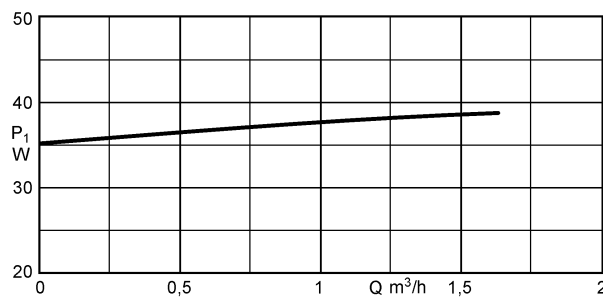
1109:6

**Individual Characteristic Curves**


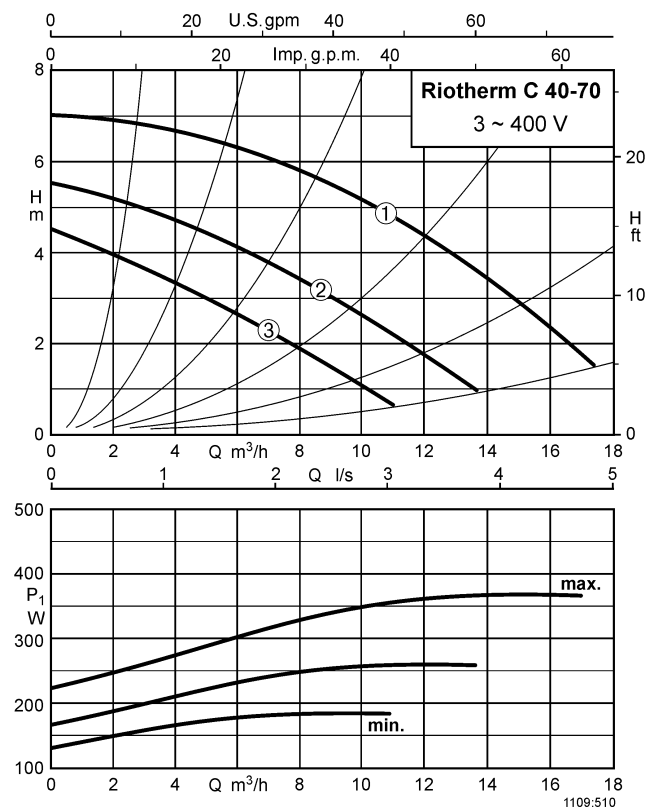
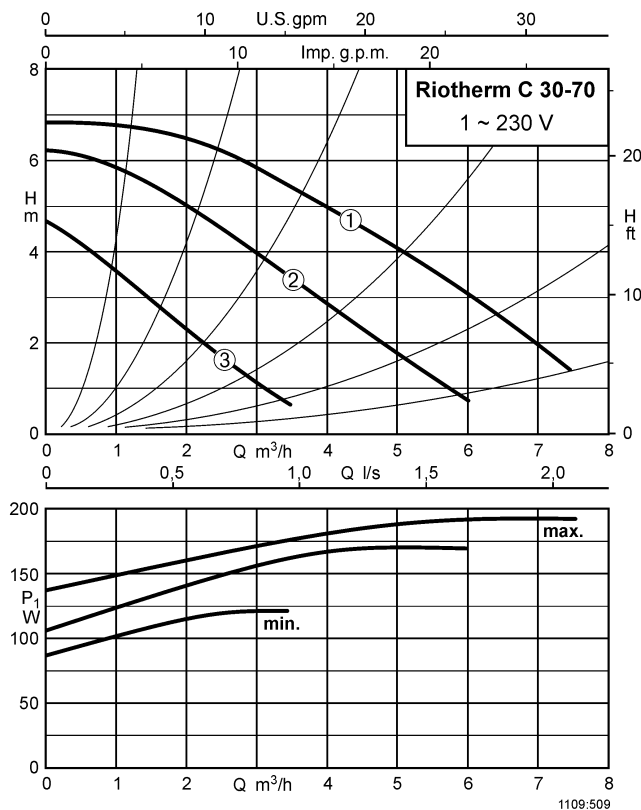
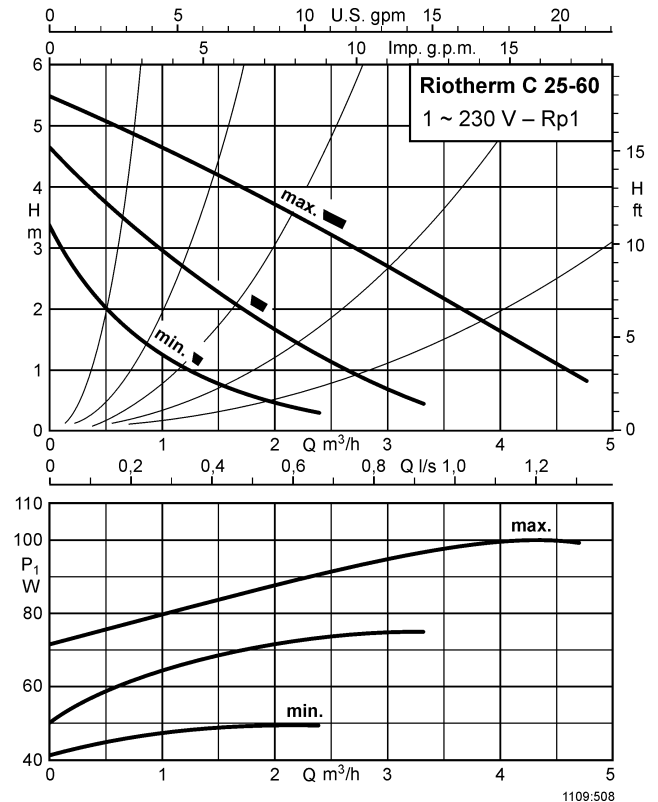
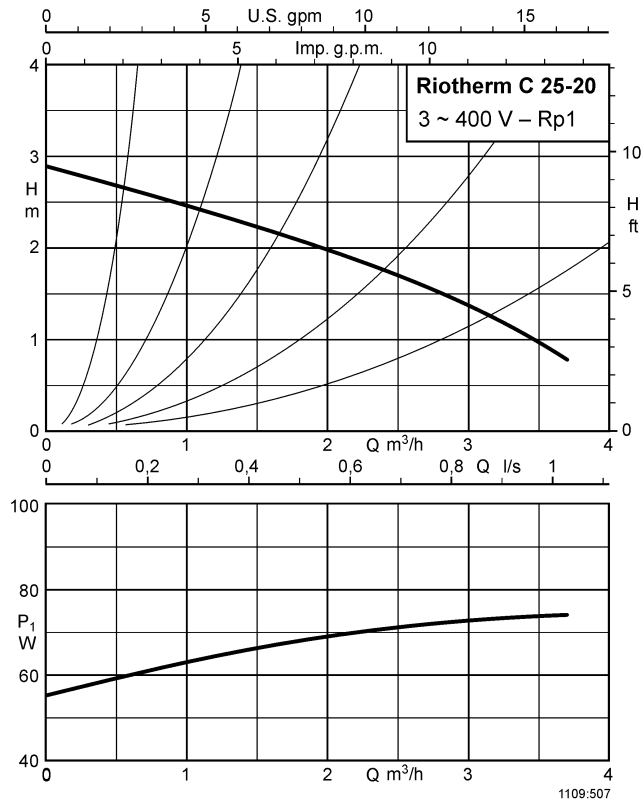
1109:505

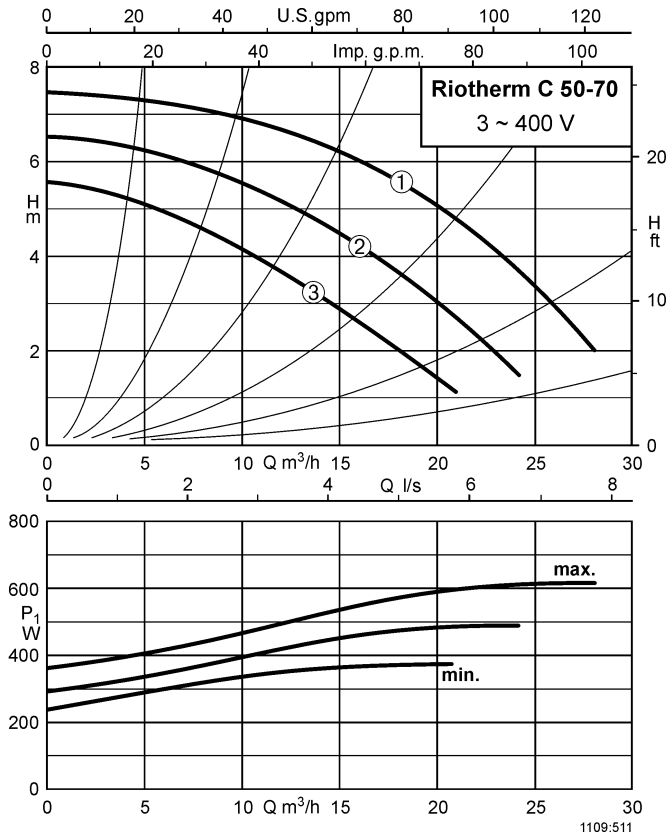


1109:506



Individual Characteristic Curves



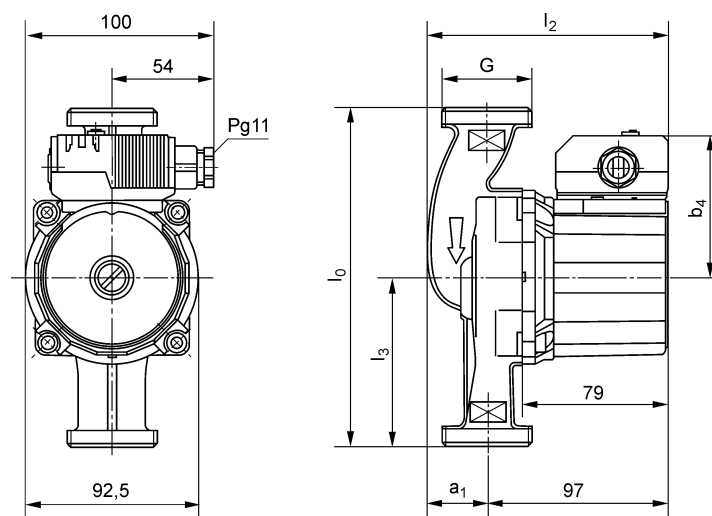

**Minimum Pressure at the Suction Nozzle**

| Installation height | Temperature in °C | bar             |
|---------------------|-------------------|-----------------|
| ≤ 300 m             | 50                | 0.05            |
|                     | 75                | 0.3             |
|                     | 90                | 0.6             |
|                     | 110               | 1.3             |
| >300 m              |                   | +0.01 bar/100 m |

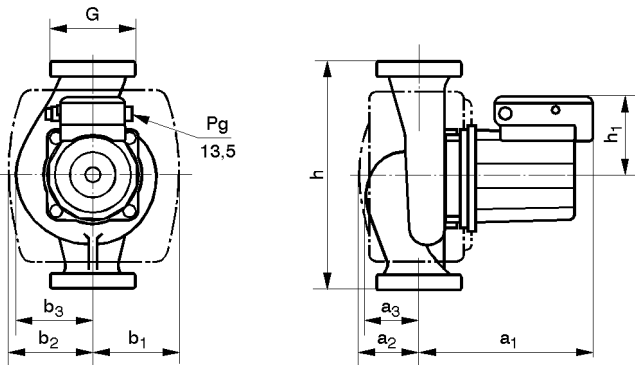
**Technical Data**

| Riotherm C | Casing material | ISO 7/1 | ISO 228 | Speed level | Speed | Power input         | Rated current     |                   |                   | Ident. No. | kg   |
|------------|-----------------|---------|---------|-------------|-------|---------------------|-------------------|-------------------|-------------------|------------|------|
|            |                 | Rp/DN   | G       |             | 1/min | P <sub>1</sub> in W | 1~230 V<br>I in A | 3~230 V<br>I in A | 3~400 V<br>I in A |            |      |
| 20-10      | Bronze          | 1/2     | 1       | -           | 1700  | 36 - 38             | 0.18              | -                 | -                 | 29 130 388 | 2.2  |
| 25-20      | Bronze          | 1       | 1 1/2   | -           | 2300  | 38 - 49             | 0.22              | -                 | -                 | 29 130 389 | 2.4  |
| 25-20      | Bronze          | 1       | 1 1/2   | -           | 2650  | 55 - 72             | -                 | -                 | 0.16              | 29 130 390 | 2.7  |
| 25-60      | Bronze          | 1       | 1 1/2   | 1           | 2700  | 73 - 99             | 0.41              | -                 | -                 | 29 130 391 | 2.8  |
|            |                 |         |         | 2           | 2500  | 52 - 74             | 0.32              | -                 |                   |            |      |
|            |                 |         |         | 3           | 2100  | 39 - 49             | 0.22              | -                 |                   |            |      |
| 30-70      | Bronze          | 1 1/4   | 2       | 1           | 2800  | 140 - 195           | 0.95              | -                 | -                 | 29 130 392 | 5.0  |
|            |                 |         |         | 2           | 2300  | 110 - 175           | 0.87              | -                 |                   |            |      |
|            |                 |         |         | 3           | 1800  | 95 - 120            | 0.62              | -                 |                   |            |      |
| 40-70      | GG              | 40      | -       | 1           | 2600  | 220 - 370           | -                 | 1.31              | 0.76              | 29 130 393 | 11.0 |
|            |                 |         |         | 2           | 2100  | 165 - 260           | -                 | 0.81              | 0.47              |            |      |
|            |                 |         |         | 3           | 1800  | 130 - 185           | -                 | 0.57              | 0.33              |            |      |
| 50-70      | GG              | 50      | -       | 1           | 2800  | 360 - 625           | -                 | 2.13              | 1.23              | 29 130 394 | 16.0 |
|            |                 |         |         | 2           | 2450  | 290 - 495           | -                 | 1.51              | 0.87              |            |      |
|            |                 |         |         | 3           | 2150  | 245 - 380           | -                 | 1.17              | 0.68              |            |      |

|                            | for Riotherm C | Ident. No. | Weight |
|----------------------------|----------------|------------|--------|
|                            | 40-70<br>50-70 |            | kg     |
| <b>Switch plug 3~230 V</b> | x              | 01 084 050 | 0.2    |

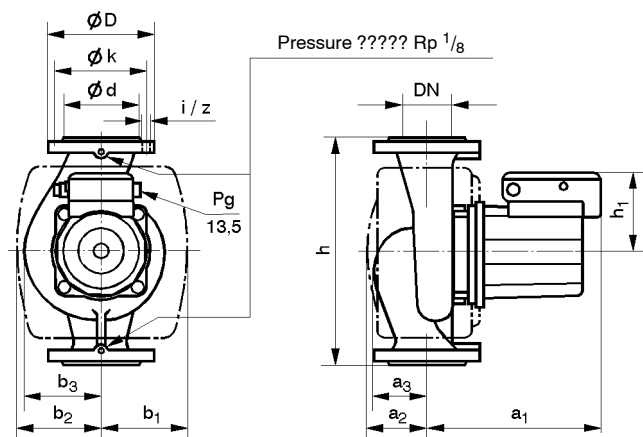
**Outline Drawings**


| Riotherm C | l <sub>0</sub> | l <sub>2</sub> | l <sub>3</sub> | a <sub>1</sub> | b <sub>4</sub> |
|------------|----------------|----------------|----------------|----------------|----------------|
| 20-10      | 140            | 130            | 70             | 34             | 73             |
| 25-20      | 180            | 130            | 70             | 34             | 73             |
| 25-60      | 180            | 130            | 90             | 33             | 76             |


**Dimension Table**

| Riotherm C | a <sub>1</sub> | a <sub>2</sub> | a <sub>3</sub> | b <sub>1</sub> | b <sub>2</sub> | b <sub>3</sub> | h   | h <sub>1</sub> |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|
| 30-70      | 171            | 63             | 40             | 90             | 90             | 66             | 180 | 92             |

Flanges PN 6 to DIN 2531, flanges PN 16 to DIN 2533

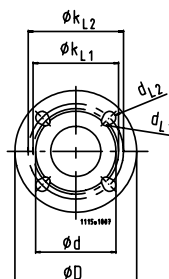

**Dimension Table**

| Riotherm C | a <sub>1</sub> | a <sub>2</sub> | a <sub>3</sub> | b <sub>1</sub> | b <sub>2</sub> | b <sub>3</sub> | h   | h <sub>1</sub> |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|-----|----------------|
| 40-70      | 190            | 70             | 47             | 98             | 98             | 78             | 250 | 103            |
| 50-70      | 222            | 90             | 63             | 115            | 115            | 91             | 280 | 110            |

Flanges PN 6 to DIN 2531, flanges PN 16 to DIN 2533

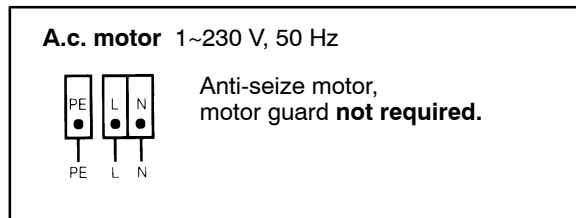
**Flange Dimensions**

| Adapter flange | ØD  | Ød  | Ø <sub>k<sub>L1</sub></sub> /k <sub>L2</sub> |       | n x d <sub>L1</sub> /d <sub>L2</sub> |       |
|----------------|-----|-----|--|-------|--------------------------------------|-------|
|                |     |     | PN 6   | PN 10 | PN 6                                 | PN 10 |
| DN 40          | 150 | 88  | 100  | 110   | 4xØ14                                | 4xØ19 |
| DN 50          | 165 | 102 | 110  | 125   | 4xØ14                                | 4xØ19 |

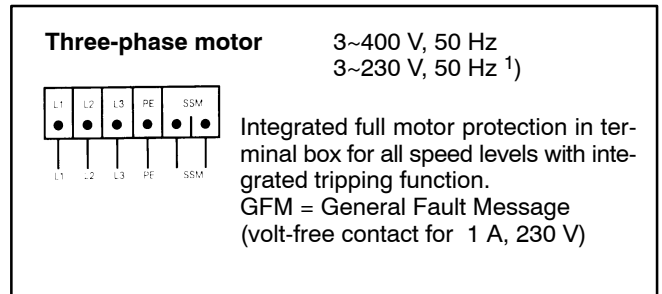


**Wiring Diagram Riotherm C**

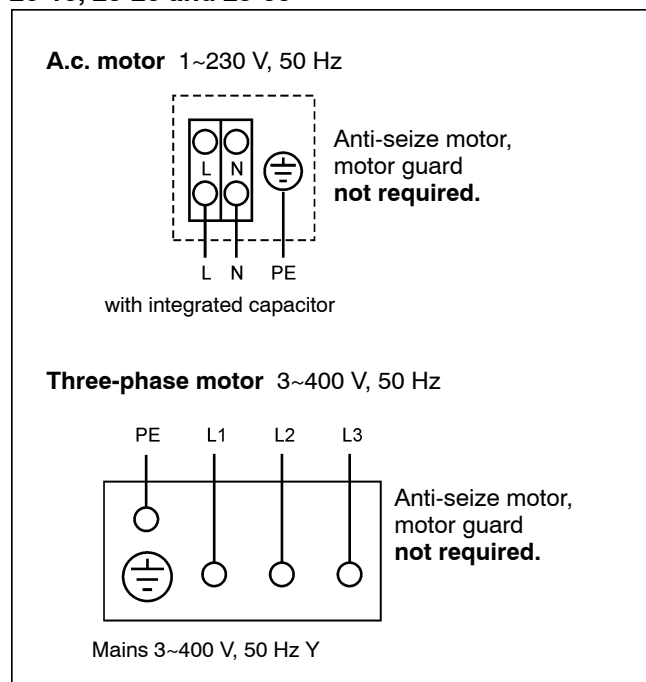
**for size:  
30-70**



**for sizes:  
40-70 and 50-70**



**for sizes  
20-10, 25-20 and 25-60**



<sup>1)</sup> with switch plug (see accessories, page 5)

**Universal use**

Cable entry possible at either side



**Reliable operation**

- Impeller made of glass-fibre reinforced plastic
- Shaft made of ceramics material / corrosion resistant nickel steel
- Wear resistant carbon plain bearings, protected against brief dry running
- Seizure resistant motor

**Energy saving**


Heat insulation as a standard (from Riotherm C 30-70)



**Reliable operation**

- Impeller made of glass-fibre reinforced plastic
- Wear resistant carbon plain bearings, protected against brief dry running
- Seizure resistant motor (Riotherm C 30-70)
- Integrated full motor protection (from Riotherm C 40-70)

**Accessories**

|   |  | Screw union |          | Ident No.  | ~kg |
|---|--|-------------|----------|------------|-----|
|   |  | Pipe end    | Pump end |            |     |
|  <p><b>Screw union sets</b><br/>with internal thread<br/>union end made of gun metal<br/>union nut made of brass</p> |  | Rp 1/2      | G 1      | 18 040 915 | 0.5 |
|   |  | Rp 1        | G 1 1/2  | 18 040 916 | 0.7 |
|   |  | Rp 1 1/4    | G 2      | 18 040 917 | 0.9 |

Subject to technical modifications without prior notice.

1..10.2004

1109.5-10

