



ARAGON  
U M P S

**PIL SERIES**



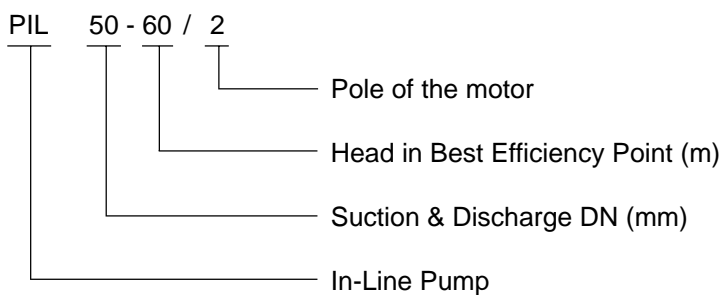
Close Coupled In-line Centrifugal Pump

## Introduction

PIL series is a single stage close coupled type in-line centrifugal pump. It is driven by a TEFC standard electric motor according to IEC & DIN standard.

The top pull out design for fast and easy maintenance.

## Model Code



## Technical Information

|                      |   |  |
|----------------------|---|--|
| Max Capacity         | : | 100m <sup>3</sup> /h                                     |
| Max Head             | : | 80m  |
| Max Power            | : | 30kw   |
| Max Impeller         | : | Φ250mm   |
| Liquid Temperature   | : | -15°C to 120°C   |
| Suction & Discharge  | : | DN 32 to 100   |
| Max Working Pressure | : | 16bar  |
| Mechanical Seal      | : | According to DIN 24960 self-lubrication, unbalanced type |
| Flange               | : | According to DIN2501 PN16                                |
| Electric Motor       | : | TEFC type / IP55 / Class F, single phase up to 2.2kw.    |

**Specification**

| Item | Model       | Capacity<br>(m <sup>3</sup> /h) | Head<br>(m) | Electric Motor (kw) |         |    |            |            |      |
|------|-------------|---------------------------------|-------------|---------------------|---------|----|------------|------------|------|
|      |             |                                 |             | Frame               | Speed   | IM | 1x220-230V | 3x380-415V |      |
| 1    | PIL 32-16/2 | 12                              | 16          | 80                  | 2900rpm | B5 | 1.1        | 1.1        |      |
| 2    | 32-21/2     | 12                              | 21          | 90                  |         |    | 1.5        | 1.5        |      |
| 3    | 32-25/2     | 16                              | 25          | 90                  |         |    | 2.2        | 2.2        |      |
| 4    | 32-32/2     | 16                              | 32          | 100                 |         |    |            | 3          |      |
| 5    | 32-38/2     | 16                              | 38          | 112                 |         |    |            | 4          |      |
| 6    | 32-50/2     | 16                              | 50          | 132                 |         |    |            | 5.5        |      |
| 7    | PIL 40-16/2 | 12.5                            | 16          | 80                  |         |    |            | 1.1        | 1.1  |
| 8    | 40-20/2     | 12.5                            | 20          | 90                  |         |    |            | 1.5        | 1.5  |
| 9    | 40-18/2     | 20                              | 18          | 90                  |         |    |            | 2.2        | 2.2  |
| 10   | 40-25/2     | 20                              | 25          | 100                 |         |    |            |            | 3    |
| 11   | 40-30/2     | 25                              | 30          | 112                 |         |    |            |            | 4    |
| 12   | 40-36/2     | 25                              | 36          | 132                 |         |    |            |            | 5.5  |
| 13   | 40-48/2     | 25                              | 48          | 132                 |         |    |            |            | 7.5  |
| 14   | PIL 50-12/2 | 16                              | 12          | 80                  |         |    |            | 1.1        | 1.1  |
| 15   | 50-15/2     | 20                              | 15          | 90                  |         |    |            | 1.5        | 1.5  |
| 16   | 50-18/2     | 25                              | 18          | 90                  |         |    |            | 2.2        | 2.2  |
| 17   | 50-24/2     | 25                              | 24          | 100                 |         |    |            |            | 3    |
| 18   | 50-28/2     | 30                              | 28          | 112                 |         |    |            |            | 4    |
| 19   | 50-35/2     | 30                              | 35          | 132                 |         |    |            |            | 5.5  |
| 20   | 50-40/2     | 35                              | 40          | 132                 |         |    |            |            | 7.5  |
| 21   | 50-50/2     | 40                              | 50          | 160                 |         |    |            |            | 11   |
| 22   | 50-60/2     | 50                              | 60          | 160                 |         |    |            |            | 15   |
| 23   | 50-70/2     | 50                              | 70          | 160                 |         |    |            |            | 18.5 |
| 24   | 50-81/2     | 50                              | 81          | 180                 |         |    |            |            | 22   |
| 25   | PIL 65-15/2 | 30                              | 15          | 90                  |         |    |            | 2.2        | 2.2  |
| 26   | 65-18/2     | 35                              | 18          | 100                 |         |    |            |            | 3    |
| 27   | 65-22/2     | 40                              | 22          | 112                 |         |    |            |            | 4    |
| 28   | 65-30/2     | 40                              | 30          | 132                 |         |    |            |            | 5.5  |
| 29   | 65-34/2     | 50                              | 34          | 132                 |         |    |            |            | 7.5  |
| 30   | 65-40/2     | 55                              | 40          | 160                 |         |    |            |            | 11   |
| 31   | 65-50/2     | 50                              | 50          | 160                 |         |    |            |            | 15   |
| 32   | 65-60/2     | 60                              | 60          | 160                 |         |    |            |            | 18.5 |
| 33   | 65-66/2     | 60                              | 66          | 180                 |         |    |            |            | 22   |
| 34   | 65-81/2     | 70                              | 81          | 200                 |         |    |            |            | 30   |
| 35   | PIL 80-15/2 | 50                              | 15          | 100                 |         |    |            |            | 3    |
| 36   | 80-20/2     | 50                              | 20          | 112                 |         |    |            |            | 4    |
| 37   | PIL 100-9/2 | 50                              | 9           | 90                  |         |    |            | 2.2        | 2.2  |
| 38   | 100-15/2    | 65                              | 15          | 112                 |         |    |            |            | 4    |

### Application

The pumps are suitable for clean, attenuate, non-corrosive, non-flammable and non-explosive liquid which shall not contain any solid grain and fibre that might damage the pump mechanically or chemically. The detailed requirements on the liquid as the following table.

| Liquid         |   | Max Temperature | Liquid Requirement                                      | Application   |
|----------------|---|-----------------|---|---|
| Water          | Underground water                           | <90°C           |   | PIL pumps are suitable for urban water supply, industry water, cooling system and water for regional heat supply system<br>1) main circulation pump<br>2) mixed circuit pump<br>3) boiler pump<br>4) gas-fired freezer pump<br>5) filter pump<br>6) constant pressure pump<br>7) urban hot water pump |
|                | Water supply for boiler                     | <120°C          |   |   |
|                | Water supply for regions                    | <120°C          |   |   |
|                | Condensate water                            | <90°C           |   |   |
|                | Soft water                                  | -15°C to -120°C |   |   |
|                | Alkalescent water                           |                 | Weak alkalescent  |   |
|                | Sea water                                   |                 | Weak alkalescent  |   |
|                | Cooling or lubricant for mechanical process |                 | Addictive and littel impurity may impair the shaft seal |   |
| Cooling liquid | Hydro carbon antifreeze                     | <50°C           | Tiny quality rime may impair the shaft seal             | PIL pumps can be used in chemical industry, pharmaceutical industry, food processing and so on.<br>1) liquid feeding<br>2) system pressure boosting<br>3) mixed circuit circulation pump  |
|                | Alcoholised compound                        | <50°C           |   |   |
|                | 30% brine (NaCL, CaCL2 solution)            | <50°C           | Tiny quality rime may impair the shaft seal             |   |
| Oil and fuel   | Diesel oil                                  | <20°C           |   | PIL pumps can be used in the transportation of oil and fuel, pressure boosting and circulation.   |
|                | Coal oil                                    | <20°C           |   |   |
|                | Gasoline                                    | <20°C           |   |   |
|                | Machine oil                                 | <20°C           |   |   |
|                | Synthetical lubricant                       | <20°C           |   |   |
|                | Crude oil                                   | <20°C           |   |   |
|                | Vegetable oil                               | <20°C           |   |   |

### Construction and Material

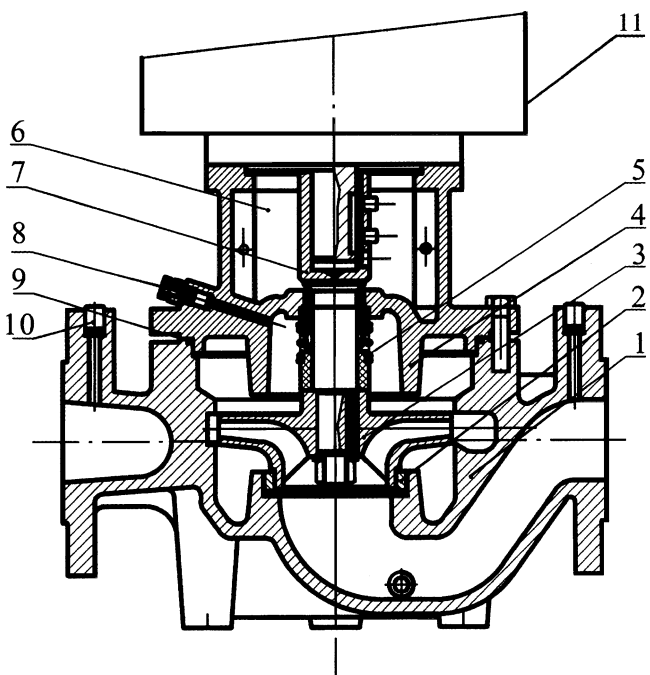
Top pull out design make motor and pump can be separated, standard motor and mechanical seal are provided.

The pump casing is equal to a section of the pipeline. While in maintenance, blind flange can be used to seal the pump cover which enable the normal operation of the pumps. Replaceable wear rings are standard on all casing which assures hydraulic performance and reduces maintenance time and cost.

The bracket is to connect the motor and the pump. "O"-ring or flat rubber circle is used to seal the bracket and the pump.

Standard supply material list as follow:

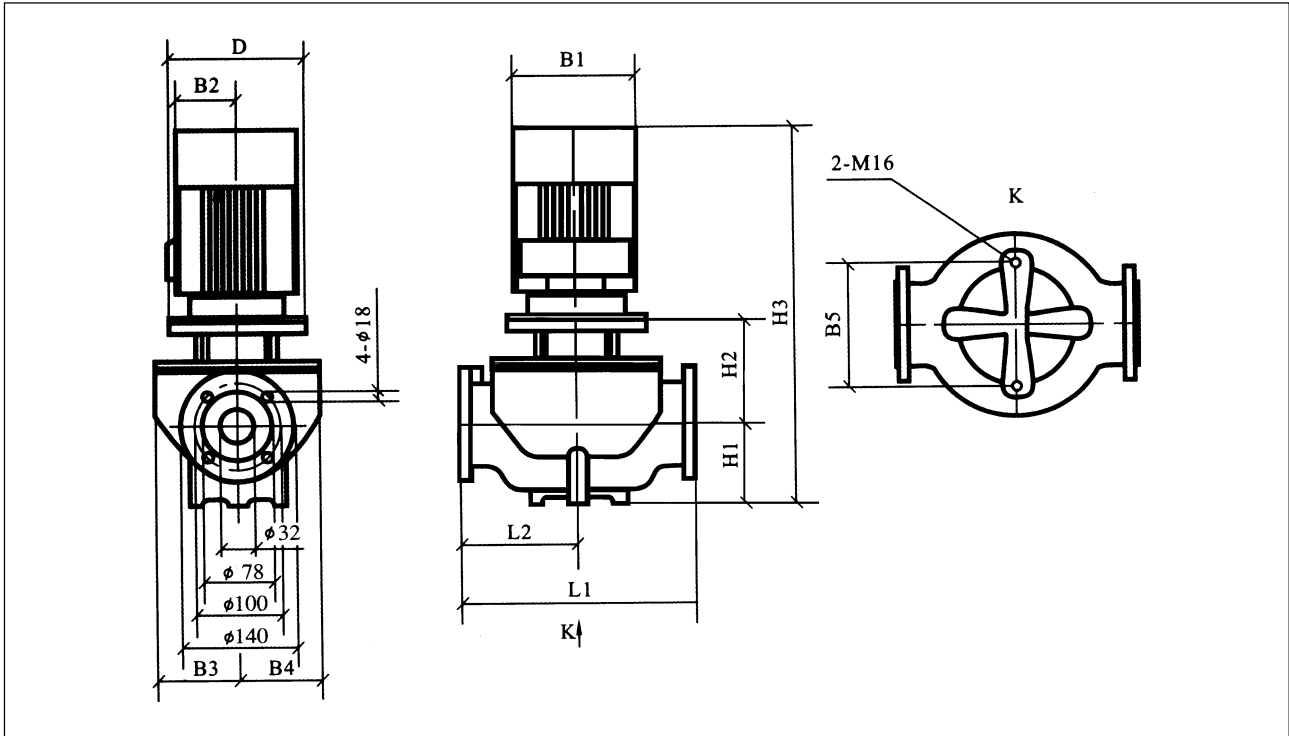
| Part No. | Name            | Material                  | Surface Treatment   |
|----------|-----------------|---------------------------|---|
| 001      | Casing          | Cast iron                 | Bracket and casing have a electrophoresis painting treatment as below:<br>1. Alkaline cleaning<br>2. Zinc phosphate coating treatment<br>3. Electrophoresis<br>4. High temperature rigidification |
| 002      | Wear ring       | Bronze                    |   |
| 003      | Impeller        | Bronze or stainless steel |   |
| 004      | Bracket         | Cast iron                 |   |
| 005      | Mechanical seal | Carbon/Silicon carbide    |   |
| 006      | Protect cover   | Stainless steel           |   |
| 007      | Shaft           | Stainless steel           |   |
| 008      | Vent            | Brass                     |   |
| 009      | O-ring          | NBR                       |   |
| 010      | Plug            | Stainless steel           |   |



- 1. Casing
- 2. Wearing ring
- 3. Impeller
- 4. Bracket
- 5. Mechanical seal
- 6. Protect cover
- 7. Shaft
- 8. Vent
- 9. O-ring
- 10. Plug
- 11. Electric motor

General arrangement drawing

## PIL 32



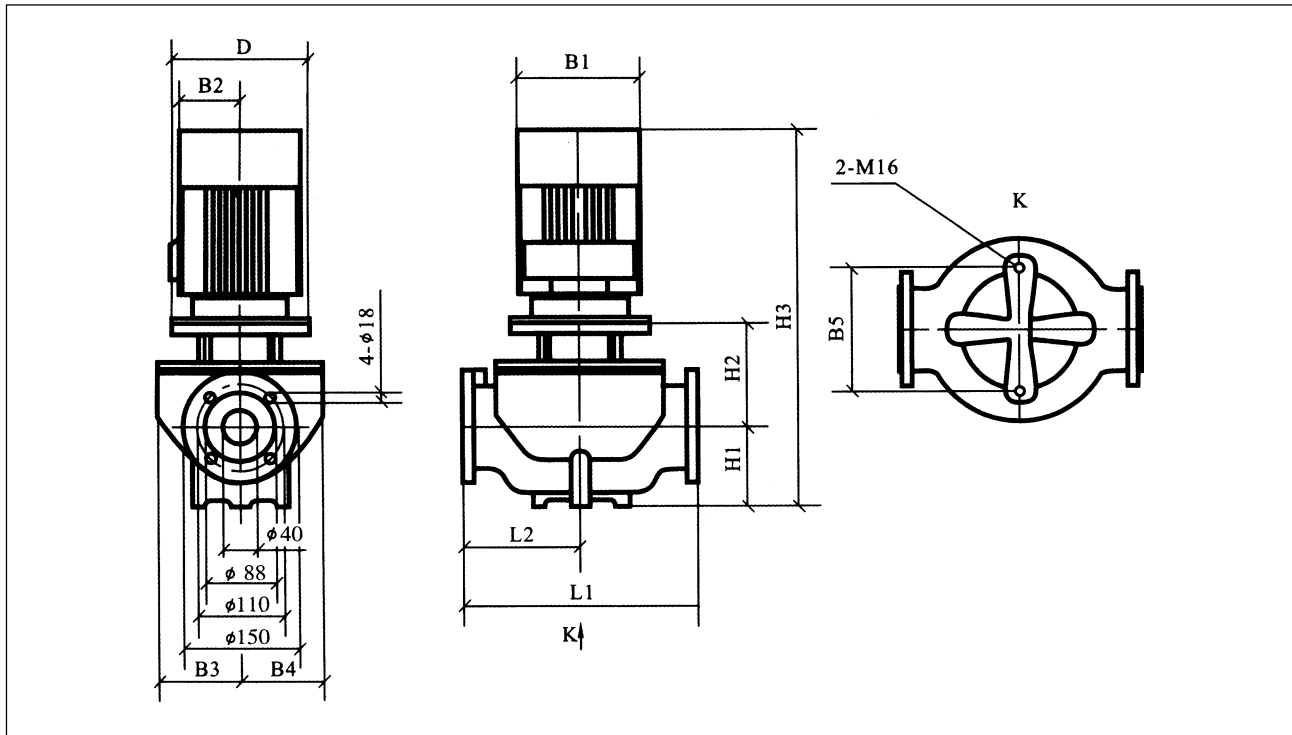
### Size, Weight and Volume for Transportation

| Model       | PN | Dimension (mm) |     |     |     |     |     |     |     |     |     |     | Weight (kg) |     | m <sup>3</sup> |
|-------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|----------------|
|             |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3  | L1  | L2  | N.W         | G.W |                |
| PIL 32-16/2 | 16 | 120            | 170 | 142 | 125 | 117 | 144 | 100 | 154 | 535 | 340 | 170 | 20          | 21  | 0.036          |
| 32-21/2     | 16 | 140            | 190 | 155 | 125 | 117 | 144 | 100 | 154 | 535 | 340 | 170 | 23          | 26  | 0.064          |
| 32-25/2     | 16 | 140            | 190 | 155 | 125 | 117 | 144 | 100 | 154 | 575 | 340 | 170 | 25          | 28  | 0.064          |
| 32-32/2     | 16 | 160            | 197 | 165 | 125 | 117 | 144 | 100 | 183 | 655 | 340 | 170 | 25          | 28  | 0.064          |
| 32-38/2     | 16 | 160            | 230 | 188 | 144 | 144 | 144 | 100 | 184 | 656 | 440 | 220 | 44          | 49  | 0.125          |
| 32-50/2     | 16 | 200            | 260 | 208 | 144 | 144 | 144 | 100 | 223 | 714 | 440 | 220 | 46          | 51  | 0.125          |

### Performance Table

| Model       | Motor (kw) | Q (m <sup>3</sup> /h) | 4  | 8  | 12 | 16 | 20 | 24 |
|-------------|------------|-----------------------|----|----|----|----|----|----|
| PIL 32-16/2 | 1.1        | H<br>(m)              | 19 | 17 | 16 | 15 |    |    |
| 32-21/2     | 1.5        |                       | 24 | 22 | 21 | 17 |    |    |
| 32-25/2     | 2.2        |                       | 31 | 30 | 28 | 25 | 21 |    |
| 32-32/2     | 3.0        |                       | 36 | 35 | 34 | 32 | 29 |    |
| 32-38/2     | 4.0        |                       | 44 | 42 | 40 | 38 | 34 | 30 |
| 32-50/2     | 5.5        |                       | 56 | 55 | 53 | 50 | 45 | 40 |

## PIL 40



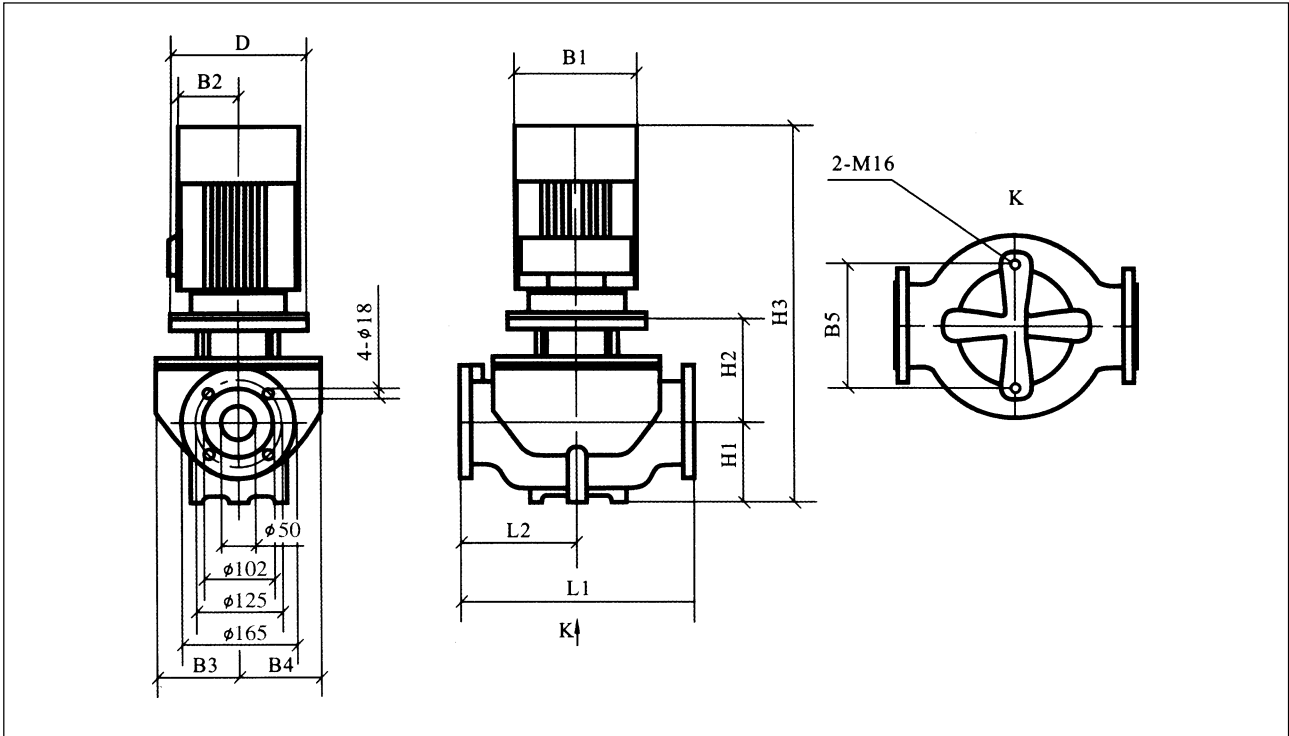
### Size, Weight and Volume for Transportation

| Model       | PN | Dimension (mm) |     |     |     |     |     |     |     |     |     |     | Weight (kg) |     | m <sup>3</sup> |
|-------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|----------------|
|             |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3  | L1  | L2  | N.W         | G.W |                |
| PIL 40-16/2 | 16 | 120            | 170 | 142 | 97  | 96  | 120 | 68  | 140 | 455 | 320 | 160 | 38          | 41  | 0.064          |
| 40-20/2     | 16 | 140            | 190 | 155 | 97  | 96  | 120 | 68  | 150 | 508 | 320 | 160 | 39          | 43  | 0.064          |
| 40-18/2     | 16 | 140            | 190 | 155 | 110 | 95  | 144 | 100 | 173 | 563 | 340 | 170 | 54          | 59  | 0.125          |
| 40-25/2     | 16 | 160            | 197 | 165 | 127 | 115 | 144 | 100 | 185 | 600 | 340 | 170 | 65          | 70  | 0.125          |
| 40-30/2     | 16 | 160            | 230 | 188 | 127 | 115 | 144 | 100 | 185 | 620 | 340 | 170 | 70          | 75  | 0.125          |
| 40-36/2     | 16 | 200            | 260 | 208 | 138 | 125 | 144 | 110 | 215 | 755 | 440 | 220 | 91          | 106 | 0.236          |
| 40-48/2     | 16 | 200            | 260 | 208 | 138 | 125 | 144 | 110 | 215 | 755 | 440 | 220 | 93          | 108 | 0.236          |

### Performance Table

| Model       | Motor (kw) | Q (m <sup>3</sup> /h) | 4  | 8  | 12.5 | 16 | 20 | 25 | 28 | 32 |
|-------------|------------|-----------------------|----|----|------|----|----|----|----|----|
| PIL 40-16/2 | 1.1        | H (m)                 | 22 | 20 | 16   | 11 |    |    |    |    |
| 40-20/2     | 1.5        |                       | 25 | 23 | 20   | 15 |    |    |    |    |
| 40-18/2     | 2.2        |                       | 24 | 23 | 21   | 20 | 18 | 17 | 14 |    |
| 40-25/2     | 3.0        |                       | 30 | 29 | 28   | 27 | 25 | 24 | 21 | 18 |
| 40-30/2     | 4.0        |                       | 35 | 34 | 33   | 32 | 31 | 30 | 27 | 21 |
| 40-36/2     | 5.5        |                       | 45 | 42 | 41   | 40 | 38 | 36 | 30 | 26 |
| 40-48/2     | 7.5        |                       | 55 | 54 | 53   | 52 | 50 | 48 | 45 | 39 |

## PIL 50



### Size, Weight and Volume for Transportation

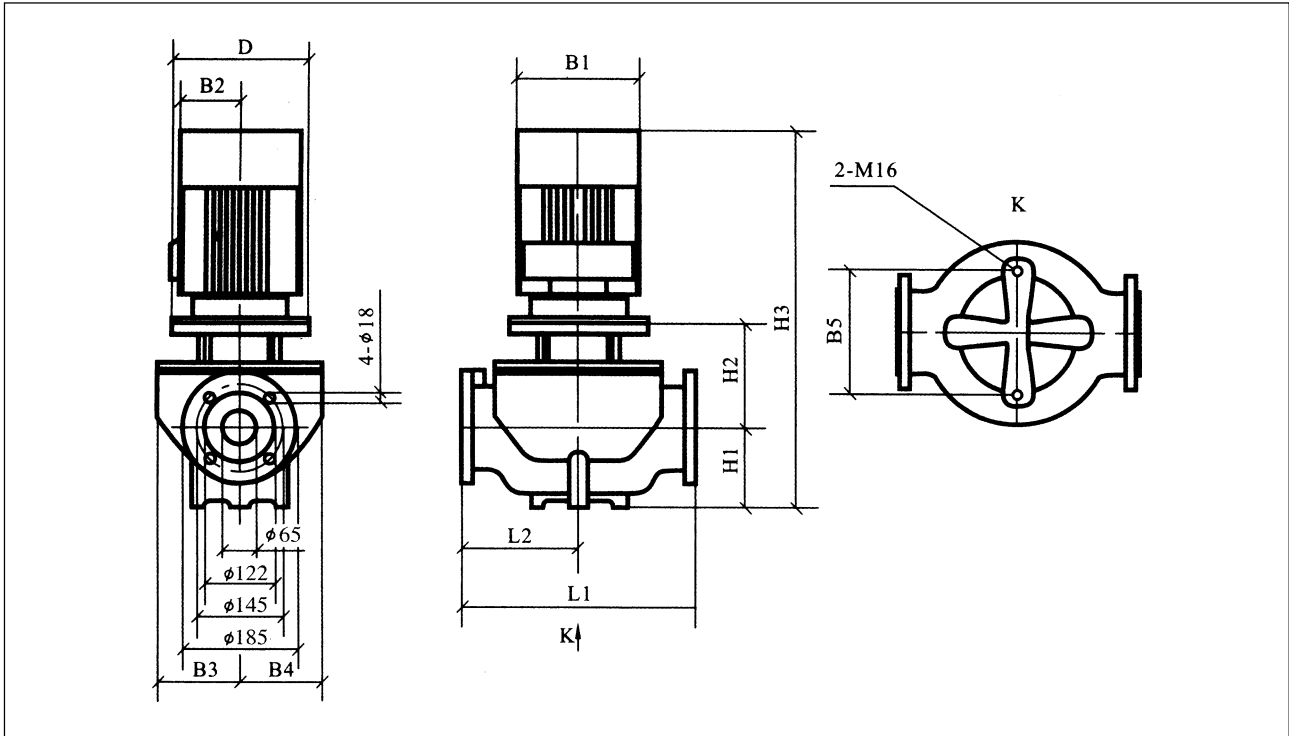
| Model       | PN | Dimension (mm) |     |     |     |     |     |     |     |     |     | Weight (kg) |     | m <sup>3</sup> |       |
|-------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|----------------|-------|
|             |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3  | L1  | L2          | N.W |                | G.W   |
| PIL 50-12/2 | 16 | 120            | 170 | 142 | 117 | 115 | 144 | 115 | 155 | 560 | 340 | 170         | 47  | 52             | 0.125 |
| 50-15/2     | 16 | 140            | 190 | 155 | 117 | 115 | 144 | 115 | 155 | 560 | 340 | 170         | 53  | 58             | 0.125 |
| 50-18/2     | 16 | 140            | 190 | 155 | 117 | 115 | 144 | 115 | 155 | 560 | 340 | 170         | 55  | 60             | 0.125 |
| 50-24/2     | 16 | 160            | 197 | 165 | 117 | 115 | 144 | 115 | 175 | 605 | 340 | 170         | 62  | 67             | 0.125 |
| 50-28/2     | 16 | 160            | 230 | 188 | 129 | 115 | 144 | 115 | 175 | 625 | 340 | 170         | 75  | 80             | 0.125 |
| 50-35/2     | 16 | 200            | 260 | 208 | 129 | 115 | 144 | 115 | 196 | 471 | 340 | 170         | 87  | 102            | 0.236 |
| 50-40/2     | 16 | 200            | 260 | 208 | 171 | 158 | 144 | 115 | 188 | 733 | 440 | 220         | 103 | 118            | 0.236 |
| 50-50/2     | 16 | 350            | 330 | 255 | 171 | 158 | 144 | 115 | 252 | 817 | 440 | 220         | 191 | 206            | 0.312 |
| 50-60/2     | 16 | 350            | 330 | 255 | 171 | 158 | 144 | 115 | 252 | 817 | 440 | 220         | 201 | 216            | 0.312 |
| 50-70/2     | 16 | 350            | 330 | 255 | 171 | 158 | 144 | 115 | 252 | 917 | 440 | 220         | 218 | 233            | 0.312 |
| 50-81/2     | 16 | 350            | 360 | 285 | 171 | 158 | 144 | 115 | 252 | 957 | 440 | 220         | 245 | 260            | 0.424 |

### Performance Table

| Model       | Power (kw) | Q (m <sup>3</sup> /h) | H (m) |    |    |    |    |    |    |    |    |    |    |    |    |  |  |
|-------------|------------|-----------------------|-------|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
|             |            |                       | 5     | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 70 |  |  |
| PIL 50-12/2 | 1.1        | H (m)                 | 15    | 13 | 12 | 10 | 8  |    |    |    |    |    |    |    |    |  |  |
| 50-15/2     | 1.5        |                       | 20    | 18 | 16 | 15 | 13 |    |    |    |    |    |    |    |    |  |  |
| 50-18/2     | 2.2        |                       | 24    | 23 | 22 | 20 | 18 | 15 |    |    |    |    |    |    |    |  |  |
| 50-24/2     | 3.0        |                       | 28    | 27 | 26 | 25 | 24 | 22 | 18 |    |    |    |    |    |    |  |  |
| 50-28/2     | 4.0        |                       | 35    | 33 | 32 | 31 | 30 | 28 | 24 |    |    |    |    |    |    |  |  |
| 50-35/2     | 5.5        |                       | 40    | 39 | 38 | 37 | 36 | 35 | 32 | 30 | 26 |    |    |    |    |  |  |
| 50-40/2     | 7.5        |                       | 43    |    | 42 |    | 41 |    | 40 | 37 | 35 |    |    |    |    |  |  |
| 50-50/2     | 11.0       |                       | 56    | 55 |    | 54 |    | 52 |    | 50 |    | 41 | 38 |    |    |  |  |
| 50-60/2     | 15.0       |                       | 70    | 69 |    | 68 |    | 66 |    | 64 |    | 60 |    | 58 |    |  |  |
| 50-70/2     | 18.5       |                       | 81    | 80 |    | 79 |    | 77 |    | 75 |    | 70 |    | 65 | 58 |  |  |
| 50-81/2     | 22.0       |                       | 90    | 89 |    | 88 |    | 86 |    | 83 |    | 81 |    | 75 | 68 |  |  |



## PIL 65



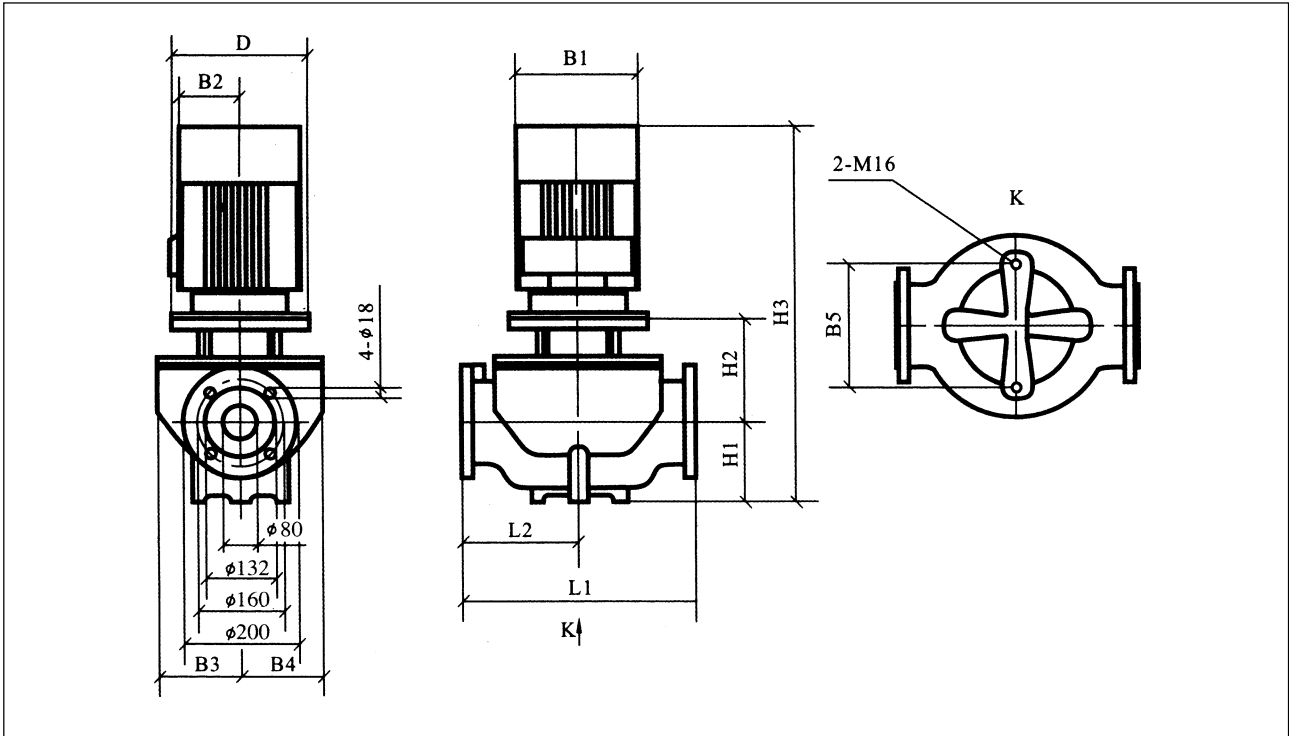
### Size, Weight and Volume for Transportation

| Model      | PN | Dimension (mm) |     |     |     |     |     |     |     |      |     |     | Weight (kg) |     | m <sup>3</sup> |
|------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------------|-----|----------------|
|            |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3   | L1  | L2  | N.W         | G.W |                |
| PIL65-15/2 | 16 | 140            | 190 | 155 | 142 | 124 | 144 | 105 | 176 | 526  | 360 | 180 | 58          | 64  | 0.125          |
| 65-18/2    | 16 | 160            | 197 | 165 | 142 | 124 | 144 | 105 | 192 | 612  | 360 | 180 | 70          | 75  | 0.125          |
| 65-22/2    | 16 | 160            | 230 | 188 | 142 | 124 | 144 | 105 | 192 | 632  | 360 | 180 | 75          | 80  | 0.125          |
| 65-30/2    | 16 | 200            | 260 | 208 | 142 | 124 | 144 | 105 | 212 | 747  | 360 | 180 | 90          | 105 | 0.236          |
| 65-34/2    | 16 | 200            | 260 | 208 | 142 | 124 | 144 | 105 | 212 | 747  | 360 | 180 | 92          | 107 | 0.236          |
| 65-40/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 878  | 475 | 238 | 194         | 209 | 0.312          |
| 65-50/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 878  | 475 | 238 | 204         | 219 | 0.312          |
| 65-60/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 938  | 475 | 238 | 221         | 236 | 0.312          |
| 65-66/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 978  | 475 | 238 | 256         | 273 | 0.424          |
| 65-81/2    | 16 | 400            | 400 | 310 | 179 | 167 | 144 | 125 | 263 | 1048 | 475 | 238 | 307         | 324 | 0.424          |

### Performance Table

| Model       | Power (kw) | Q (m <sup>3</sup> /h) | H (m) |      |      |      |      |      |      |      |    |      |    |    |    |    |    |     |  |
|-------------|------------|-----------------------|-------|------|------|------|------|------|------|------|----|------|----|----|----|----|----|-----|--|
|             |            |                       | 5     | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45 | 50   | 55 | 60 | 70 | 80 | 90 | 100 |  |
| PIL 65-15/2 | 2.2        | H (m)                 | 18.5  | 18   | 17.5 | 17   | 16   | 15   | 13   | 12   |    |      |    |    |    |    |    |     |  |
| 65-18/2     | 3.0        |                       | 22    | 21.5 | 21   | 20.5 | 20   | 19   | 18   | 16   |    |      |    |    |    |    |    |     |  |
| 65-22/2     | 4.0        |                       | 25.5  | 25   | 24.5 | 24   | 23.5 | 23   | 22.5 | 22   | 19 | 17   |    |    |    |    |    |     |  |
| 65-30/2     | 5.5        |                       | 33    | 32.5 |      | 32   |      | 31   |      | 30   |    | 26   | 25 |    |    |    |    |     |  |
| 65-34/2     | 7.5        |                       | 39    | 38.5 |      | 38   |      | 37   |      | 36   |    | 34   |    | 31 |    |    |    |     |  |
| 65-40/2     | 11.0       |                       | 44    | 43.5 |      | 43   |      | 42   |      | 41.5 |    | 40.5 | 40 | 38 | 33 |    |    |     |  |
| 65-50/2     | 15.0       |                       | 54    | 53.5 |      | 53   |      | 52   |      | 51   |    | 50   |    | 48 | 45 | 40 |    |     |  |
| 65-60/2     | 18.5       |                       | 65    | 64.5 |      | 64   |      | 63   |      | 62   |    | 61   |    | 60 | 57 | 52 | 47 |     |  |
| 65-66/2     | 22.0       |                       | 71    | 70.5 |      | 70   |      | 69.5 |      | 68   |    | 67   |    | 66 | 65 | 59 | 55 | 49  |  |
| 65-81/2     | 30.0       |                       | 90    | 89   |      | 88   |      | 86   |      | 85   |    | 83   |    | 82 | 81 | 80 | 75 | 70  |  |

## PIL 80



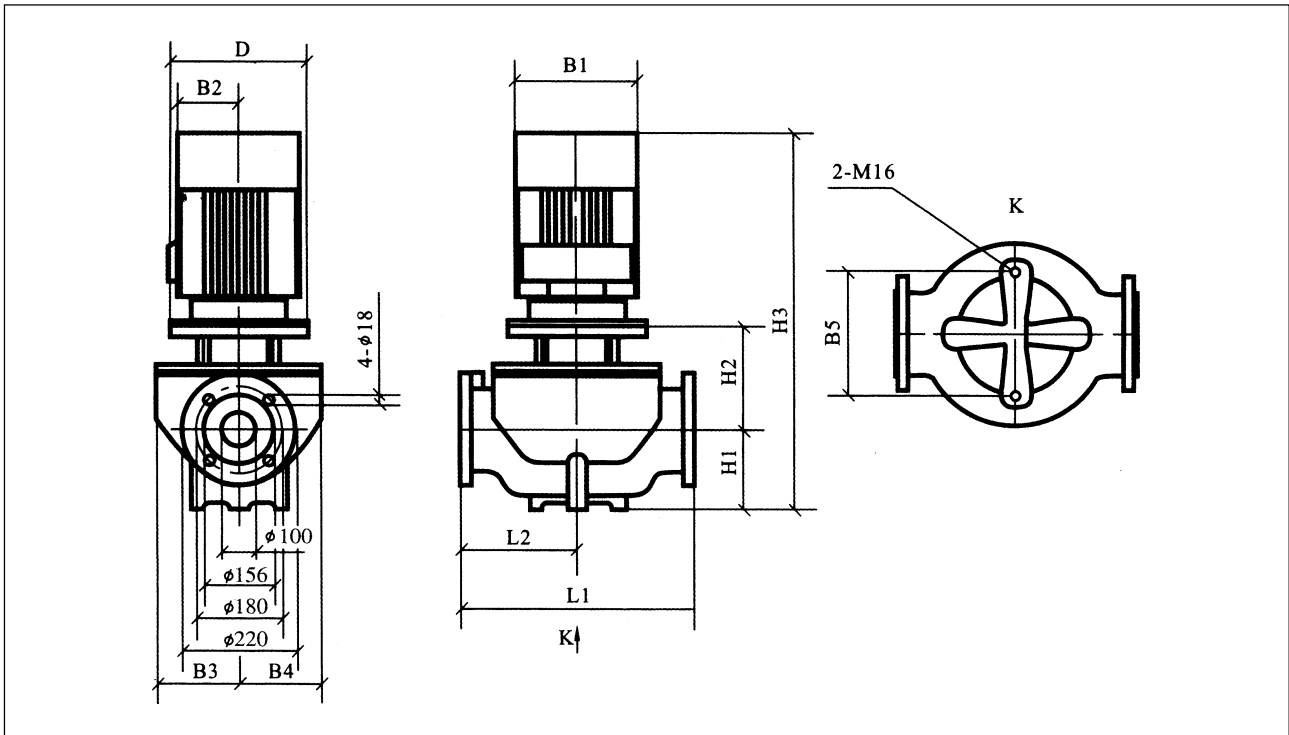
### Size, Weight and Volume for Transportation

| Model       | PN | Dimension (mm) |     |     |     |     |     |     |     |     |     |     | Weight (kg) |     | m <sup>3</sup> |
|-------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|----------------|
|             |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3  | L1  | L2  | N.W         | G.W |                |
| PIL 80-15/2 | 16 | 160            | 197 | 165 | 142 | 124 | 160 | 105 | 172 | 578 | 450 | 225 | 58          | 64  | 0.125          |
| 80-20/2     | 16 | 160            | 230 | 190 | 142 | 124 | 160 | 105 | 201 | 630 | 450 | 225 | 70          | 75  | 0.125          |

### Performance Table

| Model       | Power (kw) | Q (m <sup>3</sup> /h) | 5     | 10   | 20   | 30   | 40   | 50 | 60 | 70 | 80 |
|-------------|------------|-----------------------|-------|------|------|------|------|----|----|----|----|
|             |            |                       | H (m) |      |      |      |      |    |    |    |    |
| PIL 80-15/2 | 3.0        | (m)                   | 18    | 17.5 | 17   | 16.5 | 16   | 15 | 13 | 12 |    |
| 80-20/2     | 4.0        |                       | 22.5  | 22   | 21.5 | 21   | 20.5 | 20 | 18 | 17 | 16 |

## PIL 100



### Size, Weight and Volume for Transportation

| Model       | PN | Dimension (mm) |     |     |     |     |     |     |     |     |     |     | Weight (kg) |     | m <sup>3</sup> |
|-------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------|-----|----------------|
|             |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3  | L1  | L2  | N.W         | G.W |                |
| PIL 100-9/2 | 16 | 140            | 190 | 155 | 134 | 101 | 160 | 105 | 178 | 578 | 450 | 225 | 58          | 64  | 0.125          |
| 100-15/2    | 16 | 160            | 230 | 190 | 134 | 101 | 160 | 105 | 190 | 630 | 450 | 225 | 70          | 75  | 0.125          |

### Performance Table

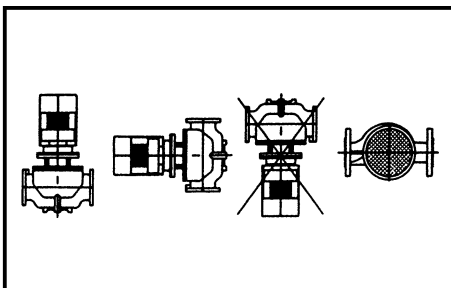
| Model       | Power (kw) | Q (m <sup>3</sup> /h) | 5    | 10   | 20 | 30   | 40 | 50 | 60  | 65 | 70 | 80 |
|-------------|------------|-----------------------|------|------|----|------|----|----|-----|----|----|----|
| PIL 100-9/2 | 2.2        | H                     | 13   | 12.5 | 12 | 11.5 | 10 | 9  | 8.5 | 8  | 6  |    |
| 100-15/2    | 4.0        | (m)                   | 21.5 | 21   | 20 | 19   | 18 | 17 | 16  | 15 | 14 | 12 |

## Installation

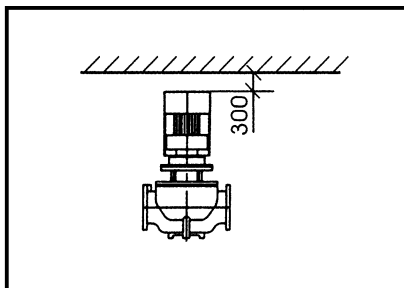
Some detail requirement of the installation is as below, the concrete request is as follow:

1. If the system pipeline can support the pumps, pump with 4kw motor power can be hung in line; if the system pipeline can't support the pumps or the pump motor power is higher than 4kw, the pumps must be installed in brackets or base.
2. Pumps with motor power lower than 4kw can be installed horizontally or vertically to the pipeline. Pumps with motor power higher than 4kw, can only be installed vertically to the pipeline (see 2-A)
3. The pump installation shall not allow the system pipeline tensile force to be transferred to the pump casing.
4. The pump should be installed in the environment with sufficient cooling and the cooling air shall not be above 40°C.
5. If the pump are installed outdoors, there should be covers to protect electric components from water.
6. For the convenience of maintenance, there should be enough space above and below the pumps. Minimum 300mm shall be kept for pump with motor power lower than 5.5kw, and minimum 1000mm for pumps with motor power higher than 5.5kw (see 2-B)
7. To prevent noises and vibration and ensure the best operation, anti-vibration base shall be used to installation. Generally, cement base with the weight equal or bigger than 1.3x pump weight shall be adopted (see 2-C)
8. Pumps with bases or without bases are both available on request (see appendix for base dimensions)

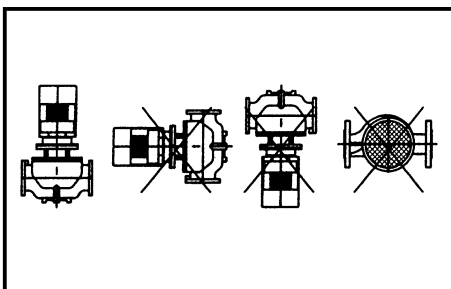
For power 4.0kw and below



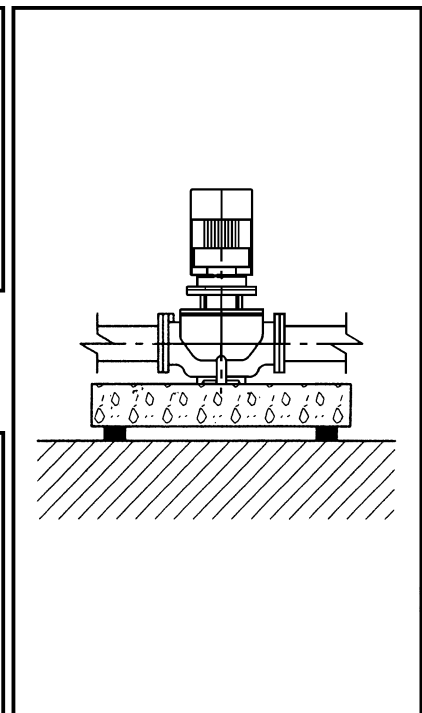
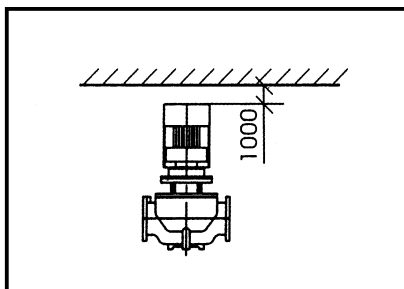
For power below 5.5kw



For power above 4.0kw



For power 5.5kw and above

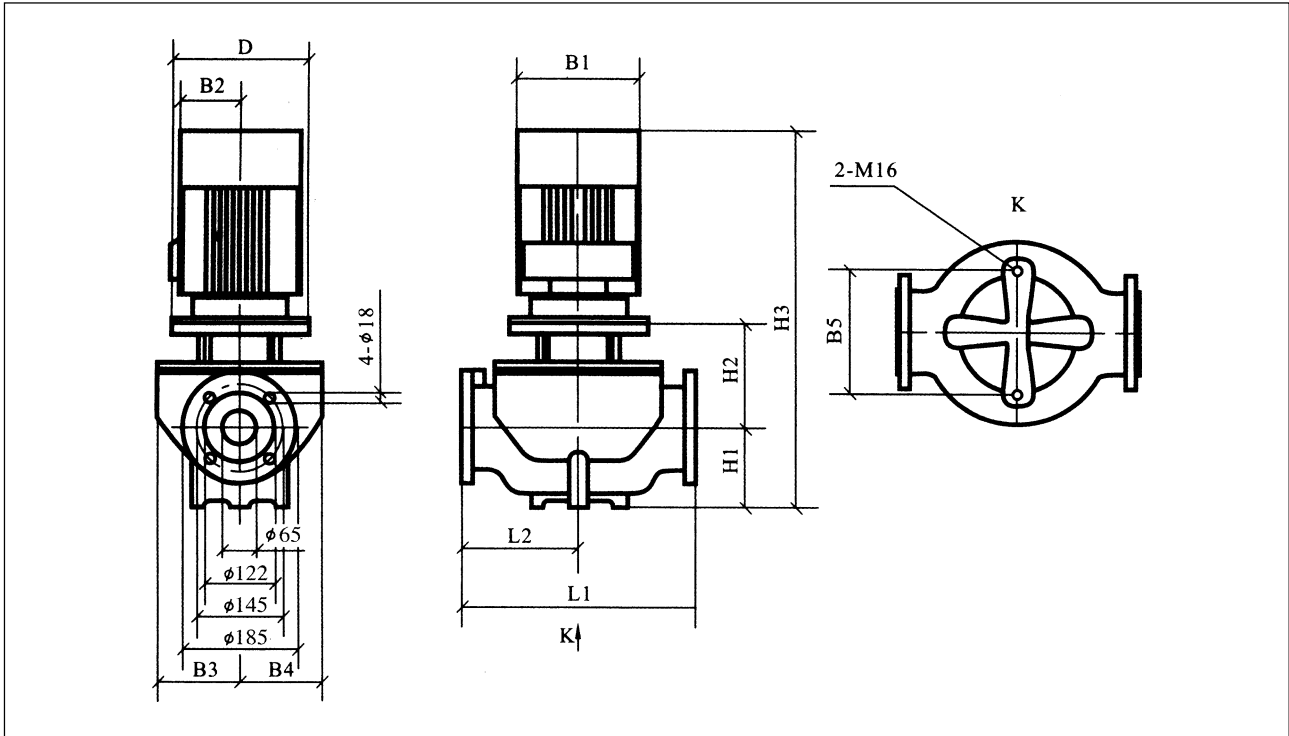


2-A

2-B

2-C

## PIL 65



### Size, Weight and Volume for Transportation

| Model      | PN | Dimension (mm) |     |     |     |     |     |     |     |      |     |     | Weight (kg) |     | m <sup>3</sup> |
|------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------------|-----|----------------|
|            |    | D              | B1  | B2  | B3  | B4  | B5  | H1  | H2  | H3   | L1  | L2  | N.W         | G.W |                |
| PIL65-15/2 | 16 | 140            | 190 | 155 | 142 | 124 | 144 | 105 | 176 | 526  | 360 | 180 | 58          | 64  | 0.125          |
| 65-18/2    | 16 | 160            | 197 | 165 | 142 | 124 | 144 | 105 | 192 | 612  | 360 | 180 | 70          | 75  | 0.125          |
| 65-22/2    | 16 | 160            | 230 | 188 | 142 | 124 | 144 | 105 | 192 | 632  | 360 | 180 | 75          | 80  | 0.125          |
| 65-30/2    | 16 | 200            | 260 | 208 | 142 | 124 | 144 | 105 | 212 | 747  | 360 | 180 | 90          | 105 | 0.236          |
| 65-34/2    | 16 | 200            | 260 | 208 | 142 | 124 | 144 | 105 | 212 | 747  | 360 | 180 | 92          | 107 | 0.236          |
| 65-40/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 878  | 475 | 238 | 194         | 209 | 0.312          |
| 65-50/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 878  | 475 | 238 | 204         | 219 | 0.312          |
| 65-60/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 938  | 475 | 238 | 221         | 236 | 0.312          |
| 65-66/2    | 16 | 350            | 330 | 255 | 179 | 167 | 144 | 125 | 263 | 978  | 475 | 238 | 256         | 273 | 0.424          |
| 65-81/2    | 16 | 400            | 400 | 310 | 179 | 167 | 144 | 125 | 263 | 1048 | 475 | 238 | 307         | 324 | 0.424          |

### Performance Table

| Model       | Power (kw) | Q (m <sup>3</sup> /h) | H (m) |      |      |      |      |      |      |      |    |      |    |    |    |    |    |     |  |
|-------------|------------|-----------------------|-------|------|------|------|------|------|------|------|----|------|----|----|----|----|----|-----|--|
|             |            |                       | 5     | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45 | 50   | 55 | 60 | 70 | 80 | 90 | 100 |  |
| PIL 65-15/2 | 2.2        | H (m)                 | 18.5  | 18   | 17.5 | 17   | 16   | 15   | 13   | 12   |    |      |    |    |    |    |    |     |  |
| 65-18/2     | 3.0        |                       | 22    | 21.5 | 21   | 20.5 | 20   | 19   | 18   | 16   |    |      |    |    |    |    |    |     |  |
| 65-22/2     | 4.0        |                       | 25.5  | 25   | 24.5 | 24   | 23.5 | 23   | 22.5 | 22   | 19 | 17   |    |    |    |    |    |     |  |
| 65-30/2     | 5.5        |                       | 33    | 32.5 |      | 32   |      | 31   |      | 30   |    | 26   | 25 |    |    |    |    |     |  |
| 65-34/2     | 7.5        |                       | 39    | 38.5 |      | 38   |      | 37   |      | 36   |    | 34   |    | 31 |    |    |    |     |  |
| 65-40/2     | 11.0       |                       | 44    | 43.5 |      | 43   |      | 42   |      | 41.5 |    | 40.5 | 40 | 38 | 33 |    |    |     |  |
| 65-50/2     | 15.0       |                       | 54    | 53.5 |      | 53   |      | 52   |      | 51   |    | 50   |    | 48 | 45 | 40 |    |     |  |
| 65-60/2     | 18.5       |                       | 65    | 64.5 |      | 64   |      | 63   |      | 62   |    | 61   |    | 60 | 57 | 52 | 47 |     |  |
| 65-66/2     | 22.0       |                       | 71    | 70.5 |      | 70   |      | 69.5 |      | 68   |    | 67   |    | 66 | 65 | 59 | 55 | 49  |  |
| 65-81/2     | 30.0       |                       | 90    | 89   |      | 88   |      | 86   |      | 85   |    | 83   |    | 82 | 81 | 80 | 75 | 70  |  |



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