

## Laing DDC-pump 12V DDC 4.2

Alphacool article number: 49119



### Quick Info

This pump is the first pump worldwide which is used in mass-produced water cooled workstations and is ideal for the watercooling of processors and electronic components. Due to its compact size and its power it can be used for many applications.

- Ball motor pump with spherically shaped rotor/impeller unit
- Fits easily into all commercially available PC, barebone and mini-PC cases
- Enables efficient operation with relatively high performance

### Scope of delivery

1x Laing DDC-pump 12V DDC 4.2, black

## Technical data

|                                   |   |
|-----------------------------------|---|
| L x W x H                         | 92 x 70 x 40mm  |
| Material                          | stainless steel 1.4571, PPS-GF40, EPDM O-rings, aluminium oxide, carbon |
| Threads                           | 2x 3/8" barbed fittings   |
| Speed                             | max. 4500 rpm   |
| Max power consumption             | 15.6 W  |
| Voltage                           | 12V DC  |
| Power connector                   | 3-Pin Molex   |
| PWM control                       | n/a   |
| Max. working temperature ambiente | 10°C - 50°C   |
| Max. working temperature water    | 10°C - 60°C   |
| Max. head of pump                 | 4,28m   |
| Max. flow                         | 510 L/h   |
| Max. pump pressure                | 0,4 bar   |
| Weight                            | 203g  |
| Color                             | black   |

## Download links

|                  |   |
|------------------|---|
| Product pictures | <a href="#">49119_Laing_DDC-pump_12V_DDC_4.2_pics.zip</a> |
|------------------|---|

## Packaging dimensions per unit

|           |                  |
|-----------|------------------|
| L x W x H | 108 x 94 x 45 mm |
| Weight    | 222 g            |

## Other data

|              |               |
|--------------|---------------|
| Certificates | CE, FC, RoHS  |
| EAN          | 4049469149673 |
| Customs code | 84137081900   |

## Article text

This pump is the first pump worldwide which is used in mass-produced water cooled workstations and is ideal for the watercooling of processors and electronic components. Due to its compact size and its power it can be used for many applications.

This DC pump is an electronically commuted ball motor pump with an estimated lifespan of more than 50.000hrs at 12V. The only moving part on the pump is the spherically shaped Rotor unit which is sitting on an ultra-hard, wear-resistant ceramics bearing ball.

A conventional shaft with bearings and seals is not used or needed. The spherical bearing of the rotor unit on the ceramics bearing ball has many advantages: The development of bearing clearance is technically impossible which results in the impossibility of noise level increase over the lifespan of the pump. The bearing is self-adjusting, making the pump consistently quiet in operation over the full lifespan. The pump is directly lubricated by the coolant (wet-running pump). Therefore no maintenance is required.

As the rotor is magnetically held in place even small dirt particles pose no problem for the mechanism, a blocking of the pump is not possible under normal operating conditions. Even after a long period of standstill reliable operation is ensured. The permanent magnetic rotor unit is frictionlessly driven by a magnetic field which is produced by the surrounding stator.

The stator is completely built around the rotor, therefore the pump is with its 38mm only slightly higher than the stator unit. It therefore fits in almost any PC case, may it be Super tower or Barebone. A separate magnetic shielding is usually not required. The ball motor principle allows powerful yet power-saving operation. The pump can be regulated by power variations of the DC operating voltage over a wide range. All parts in touch with the coolant are completely corrosion free.

Pump tacho: With 3-pin Molex connector as pump tacho output (for mainboards or control units)

Why are there Swiftech and Laing Versions? Are they different?

The latter question can be answered quickly: No! Here an explanation: Lain produces all pumps in Hungary. They are just labelled differently for Overseas markets and the European market. The pumps themselves are therefore exactly identical. The overseas version has Swiftech as a distributor and the European version is neutrally black. The cheaper Swiftech pumps are usually shipped with decouplers, the Laing pumps usually not. The power, pressure head, flow rates. etc. are exactly the same.

Important: The Laing pump's electronics are not waterproof. Please make sure that the electronic components do not come in contact with water during installation or when working on the pump. When replacing the top always ensure a proper fit of the O-ring seal and avoid spills when filling the Laing reservoir. Damages due to water in the electronic components are not replaced by Laing!

## Drawing

