



DDC DC pump

THE FIRST MASS PRODUCED PUMP
FOR COMPUTER COOLING

DC pump DDC

Application.

The Laing DDC is the world's first pump to be used in mass produced water-cooled workstations, and presents an ideal solution for cooling processors and electronic components using water. Besides a lot of online coverage, the Laing DDC is also awarded with the Innovation Award of Baden-Württemberg, known as one of the most innovative regions in Germany and Europe. Due to its size and output, the Laing DDC can also be used in a large number of applications.

Design.

The Laing DDC is an electronically commutated spherical motor pump, with an expected service life of well over 50,000 hours at 12 Volt. The only moving part in a spherical motor pump is a spherically shaped rotor/ impeller unit, which is seated on an ultra-hard, wearresistant ceramic ball. The conventional shaft, shaft bearings and shaft seals have been eliminated. The spherical bearing of the rotor/impeller unit on the ceramic ball offers a number of advantages. One such advantage is that the occurrence of bearing play - and the associated increase in noise - is not possible due to the principle involved. Consequently, the pump continues to work quietly throughout its entire service life. The bearing is selfrealigning. It is lubricated directly by the medium being pumped (wet rotor design). This means that the pump is maintenance-free. Since the rotor is always magnetically held in the designated position, small particles of dirt do not present a problem. Under normal conditions, it is impossible for the rotor to become locked. Reliable

starting is also ensured even after long periods of shutdown. The permanently magnetic rotor/impeller unit is driven by the magnetic field generated by the surrounding stator. The stator is wrapped entirely around the rotor.

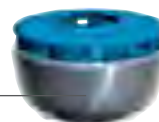
As a result, the entire pump is only slightly taller than the rotor itself, measuring only 38 mm in height.

Accordingly, it fits easily into all standard PC cases. Generally, no separate magnetic shielding is required. The spherical motor design permits economical operation with comparatively high output. Supply voltage variation provides a simple means of controlling the speed of the DDC pump over a large output range. All parts in contact with the medium are 100% corrosion resistant. With an optional tachometer output, it is possible to monitor the speed of the pump directly. In many computers, the tachometer output can be connected to a fan connector.

Pump housing



Permanent magnetic rotor/impeller unit



Gasket



Ceramic bearing ball



Stator

Power sup



Technical Data.

Motor design	Electronically commutated spherical motor
Rated voltage	12 Volt DC
Power consumption	DDC-1: max. 10 Watt DDC-1 plus: max. 18 Watt
Voltage range	8 to 13,2 Volt*
Acceptable media	Water, Water-/Glycolic Mixtures**, other media on request;
Max. system pressure	150 kPa (1,5 bar)
Max. system temperature	60° C
Wetted parts	Stainless steel 1.4571, PPS-GF40, EPDM gasket, Aluminium oxide, carbon; PA6.6 GF35

Available pump housings:



3/8" hosebarb



1/4" R male

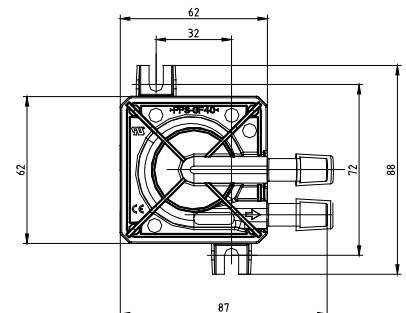
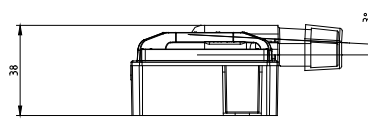
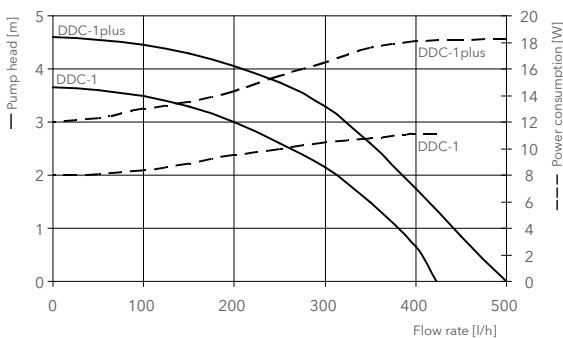
*minimal start Voltage of 9 Volt necessary
* check pump performance for mixtures of 20% or more glycol



Product range incl. 12 Volt power cord (530 mm).

Model	Part number	Connection	Description	Product category
DDC-1	LH 65 00 020	3/8" hosebarb	with cable end sleeve	7 W
DDC-1P	LH 65 00 021		with AMP plug	
DDC-1T	LH 65 00 023		with AMP plug and tach output (750 mm) with Molex plug	
DDC-1 R	LH 65 00 030	1/4" R male	with cable end sleeve	
DDC-1 RP	LH 65 00 031		with AMP plug	
DDC-1 RT	LH 65 00 033		with AMP plug and tach output (750 mm) with Molex plug	
DDC-1plus	LH 65 00 040	3/8" hosebarb	with cable end sleeve	
DDC-1plus P	LH 65 00 041		with AMP plug	
DDC-1plus T	LH 65 00 043		with AMP plug and tach output (750 mm) with Molex plug	
DDC-1plus R	LH 65 00 050	1/4"R male	with cable end sleeve	
DDC-1plus RP	LH 65 00 051		with AMP plug	
DDC-1plus RT	LH 65 00 053		with AMP plug and tach output (750 mm) with Molex plug	

Pump curve and dimensional drawings.



What can Xylem do for you?

Xylem ['zɪləm]

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to xylem.com.



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