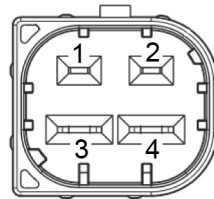


Pierburg „CWA400“ (PWM version)

Pierburg's electric water pump in the increased capacity range.



- 1 - Signal (PWM)
- 2 - Signal (GND)
- 3 - Power (12V)
- 4 - Power (GND)

Pierburg CWA400

The CWA400 is the next development stage of the very successful principle the CWA200 used.

(A brushless and fully canned motor for instance)

This pump is supplying more than double the hydraulic performance at nearly the same dimensions.

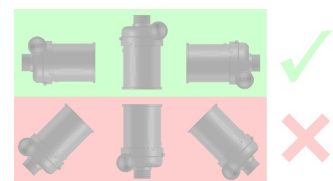
Suitable mainly for engine cooling in combustion engine vehicles.

Specifications:

- Name: "Pierburg CWA400"
- Operation voltage: 8 to 16 V (Nominal: 12.5 V) (Full hydraulic power @ 12.5 to 16 V)
- Weight: approx. 2.55 kg
- Current consumption: 35.5A (36.3A max.)/ (approx. 0.2mA in standby mode)
- Nominal diff. pressure: 0.85 bar *
- Flow rate: approx. 150l/min @ 0.85bar / 220l/min @ 0.55bar
- Speed: approx. 20 to 5900 rpm
- Temperature range: -40°C – 128°C (water) / -40°C – 140°C (ambient)
- Protection: IP67
- Part numbers: (e.g.) Pierburg – 7.07223.10.0 // BMW: 11515A05704 / 11517563659 / 11517568594

Notes:

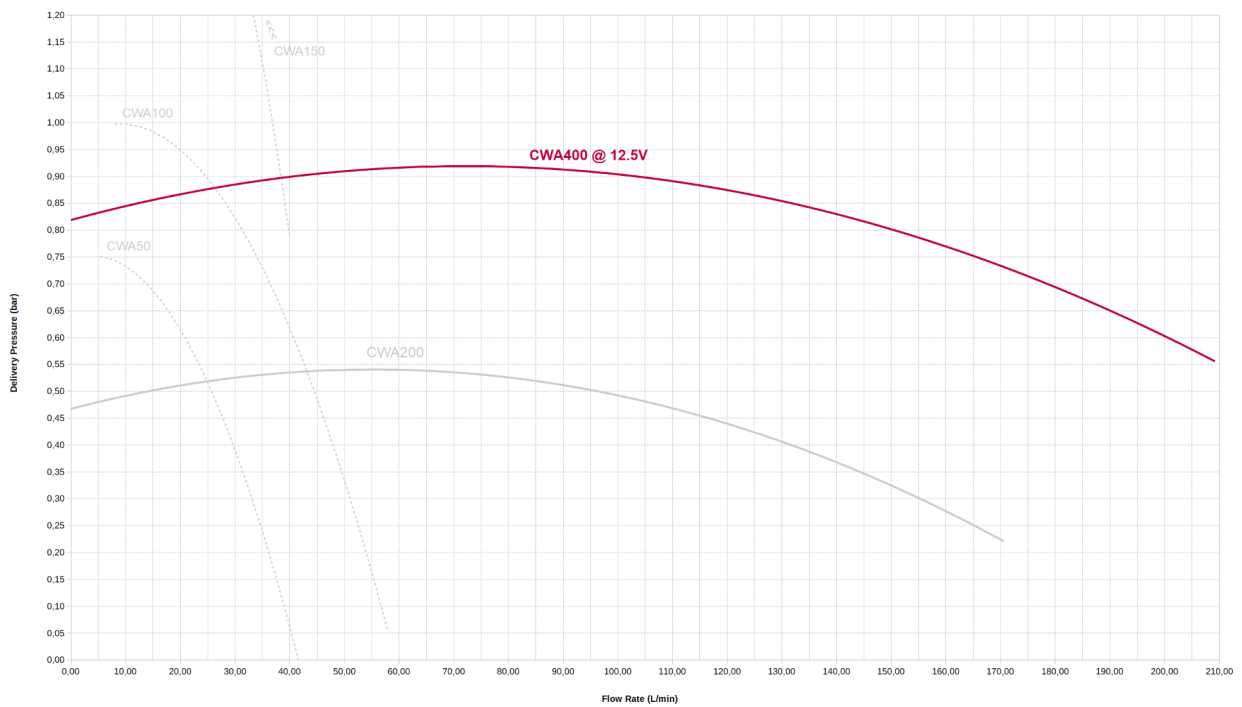
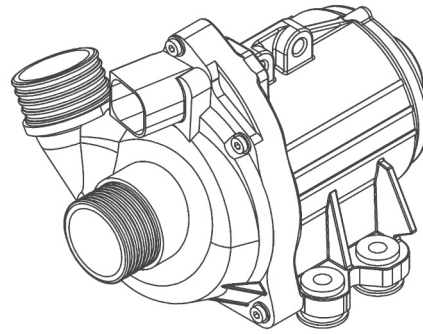
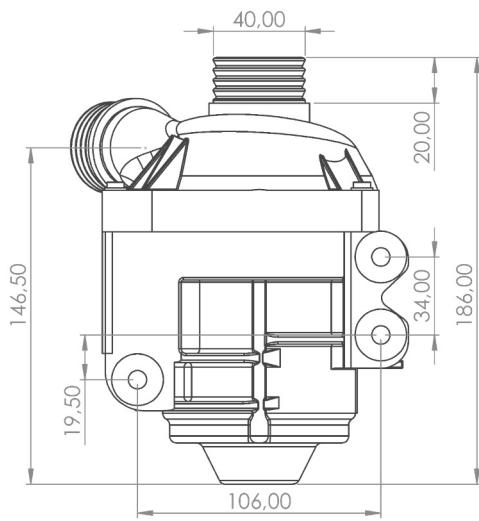
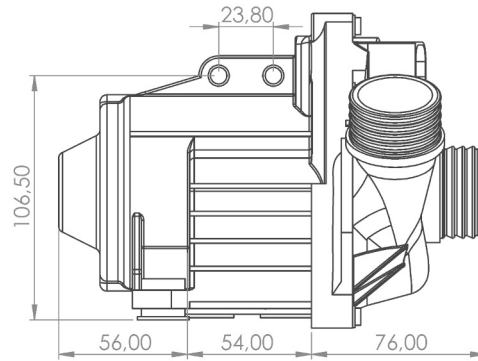
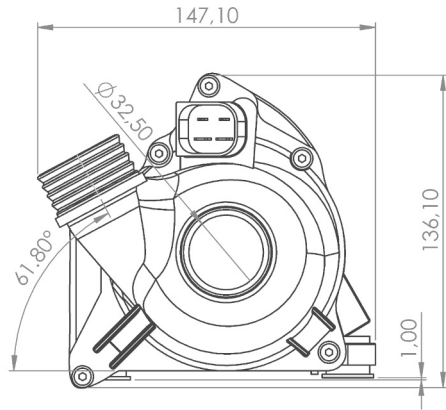
- Power (speed) reduction below 0°C and/or below 12.5V.
- Works with water, water/glycol mixtures and “other liquids” (according to Pierburg)
- The PWM input is equipped with a 60 kOhm pull-down resistor.
- Flow diagram @ 80°C, 12.5V, Water/Glycol 50/50



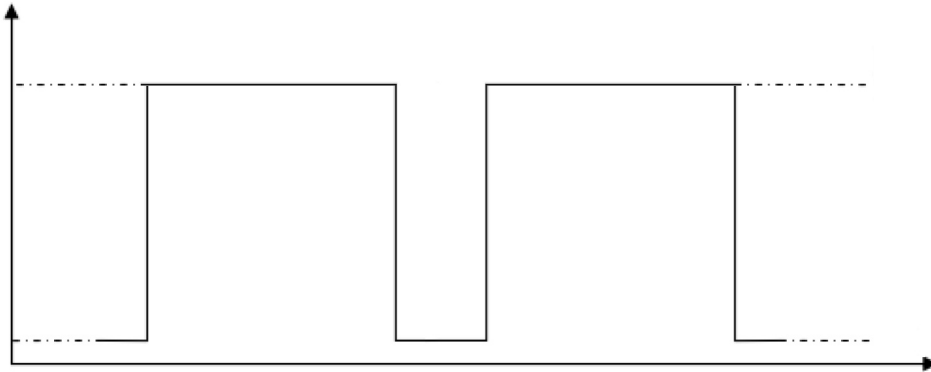
Know-how:

* Pump pressure is not the same as the system pressure.

Those pumps can of course be used in normal automotive cooling systems with system pressures in the range of 0.8 to 1.2 bar for instance. The pump pressure or differential pressure expresses the ‘resistance’ of which the pump has to work against. (more or less)



PWM interface:



Input frequency:

50 Hz -1000 Hz

Input level:

- Power supply → $U_b = 8$ to $16V$
- PWM high → $\text{Min } 0.6 U_b / \text{Max } U_b + 3V$
- PWM low → $\text{Min GND} - 3V / \text{Max } 0.4 U_b$

Note:

To ensure the pump awakes correctly an uninterrupted high pulse of 3ms must be applied.

(For example: 50% duty at 150 Hz)

Duty Cycle:

- 0 – 1% → Stop
- 1 – 7% → Emergency running (about 95% speed)
- 8 – 12% → Stop / Error Reset (not supported by this pump)
- 13 – 85% → Controlled operation from min to max speed
- 86 – 97% → Maximum speed
- 98 – 100% → Emergency running (about 95% speed)