Grundfos 15 20 CIL2 s

SMALL UP COMPOSITE PROGRAMME

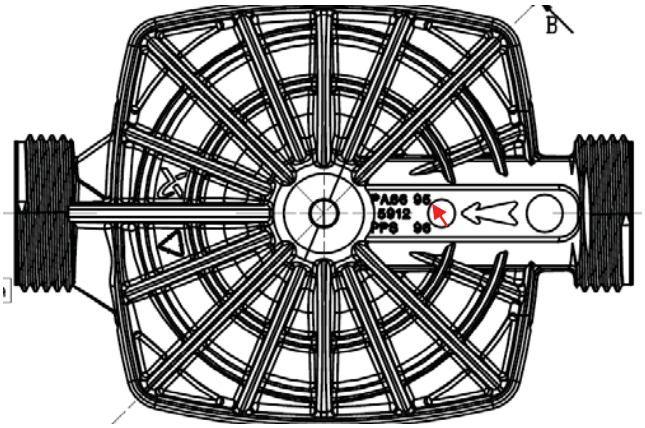
Housing name: CIL-2

The CIL2 housing (**C**omposite **I**n- **L**ine Version **2**) is available in 2 different composite material, made by injection moulding, using collapsible core technology:

1. Zytel 70G30 HSR2 BK-309 is a ultra high hydrolysis resistant PA6.6 with 30% glass fibre, heat stabilized and lubricated.
2. FORTON 1140 L4 is a WRAS approved PPS 40%GF material.

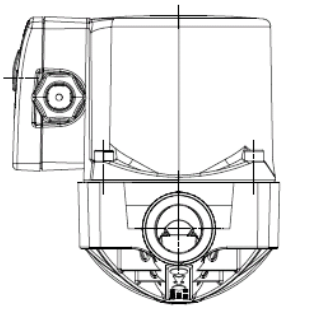
For differentiation please see arrow an the bottom side of the housing:

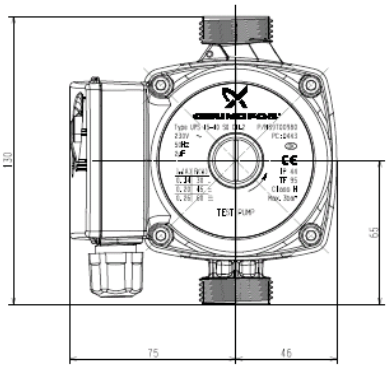
Connections:
On CIL2
- Inlet G1" sealed by axial gasket.
- Outlet G1" sealed by axial gasket.
(See gasket recommendation)

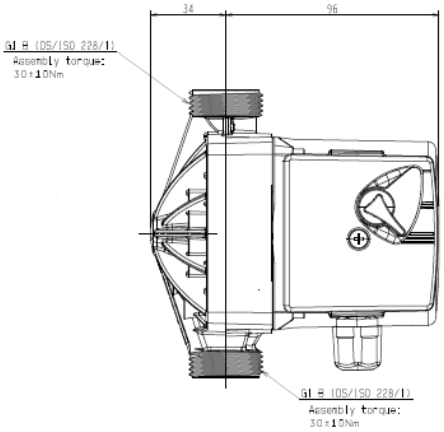


CIL2 for Sanitary: PPS PN 10 bar Tmax 95°C
UPS(O) 15 – 20/30/40/50/55/60/65 CIL2S

For CIL2 in PPS there are drinking water approvals in different countries (e.g. AUS, UK etc.) available.







Application
The pump is developed to be used in a boiler. But it can be used in all appliances, where the forces having any effect to the housing are limited by special fixations and the requirements regarding temperature, pressure and media are fulfilled.

Circulation of liquids in :
- Central heating system
- District heating system
- Hot water service system
- Small industrial system
- Cooling system
- Air-conditioning system

The pump can be used as well in open as in closed systems.

Application conditions:
Pumped media:
- Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibres.
- Cooling liquids, not containing mineral oil.
- Domestic hot water (only CIL2S)
- Central heating water (regarding VDI 2035) e.g. with normal additives as antifreeze (glycol), corrosion inhibitor or cleaning agents

Maximum volume of added glycol: 40%

The kinematic viscosity of water is 1 mm2/s (1 cSt) at 20°C. If the circulator pump is used for a liquid with a higher viscosity, the hydraulic performance of the pump
will be reduced. Maximum viscosity is 10 cSt.

The ambient temperature for standard pumps with a permissible liquid temperature from +2°C to +110°C should always be lower than the liquid temperature, as otherwise condensation may form in the stator housing.

Maximum system pressure
Pump with PA 6.6 30 GF:
Medium pressure: Max. 3 bar
PN: 0.3 MPa (3 bar).

Pump with PPS:
Medium pressure Max. 10 bar
PN: 1.0 MPa (10 bar).

Inlet pressure:

To avoid cavitation, noise and damage to the
pump bearings, the following minimum pressure are required at pump in suction port.

Liquid Temperature	75° C	90° C	110° C
Inlet	0.5 m	4.0 m	11.0 m

Operational conditions:
Normal operation temperature: +2°C to 90°C

Max. medium temperature: TF95
(up to 105°C for maximum 1 minute)

Humidity: Max. 95% RH

Ambient temperature: -20°C to 60°C
Liquid and ambient temperature profile

Liquid temp.[°C]	105	100	90	80	60	40	2
Max. ambient temp. [°C]	55	60	60	60	60	40	0

The ambient temperature for standard pumps with a permissible liquid temperature from +2°C to +105° should always be lower than the liquid temperature, as otherwise condensation may form in the stator housing and or terminal box.

Temperature/Time- Profie for PA6.6 30%GF
The temperature/time-profile in heating applications during operation, will be according to the following chart.