

50/60 Hz



ecocirc XL and XLplus

HIGH EFFICIENCY WET ROTOR CIRCULATORS
FOR COMMERCIAL HEATING AND COOLING APPLICATIONS

ErP 2009/125/EC

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ecocirc XL – ecocirc XLplus

High efficiency circulators for commercial heating with electronically commutated permanent magnet technology.



PRODUCT DESCRIPTION

ecocirc XL and ecocirc XLplus circulation pumps are designed for circulating liquids in the following systems:

- Hot water heating systems
- Air conditioning and cooling systems
- Domestic hot water systems.

The pump can be also used for:

- Solar systems
- Geothermal systems.

DUTY RANGE

- Flow rate: up to 70 m³/h for single-head pumps and up to 135 m³/h for twin pumps
- Head: up to 12 m
- Maximum power consumption: 1550 [W]
- Temperature of pumped liquid: -10°C to +110°C
- Ambient temperature during operations: 0 to +40°C
- Maximum operating pressure: 10 bar (PN 10).

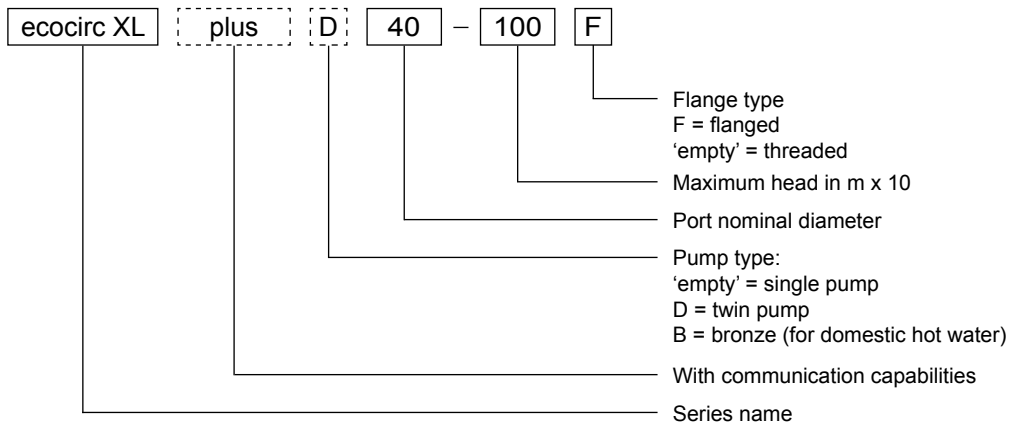
FEATURES

- Proportional pressure control
- Constant pressure control
- Constant speed
- Night Mode
- Constant temperature control (ecocirc XLplus only)
- Differential temperature control (ecocirc XLplus only)
- Additional operating modes for dual pumps (2 single head circulators or twin models) including parallel and alternate operations (ecocirc XLplus only)
- Dry run protection
- Air purge
- Plug for 100W motor size
- Reading and settings of the pump by digital display and human interface with push buttons
- Insulation shell for single head pumps systems for heating
- Integrated communication capabilities (Modbus and BacNet) for ecocirc XLplus.

BENEFITS

- Low power consumption. ecocirc XL and ecocirc XLplus are compliant to the ErP Directive.
- Easy to set-up
- User-friendly human interface with digital display
- Control panel with push buttons to change circulator status
- Operating status visualization
- Warning and alarm visualization
- Errors and working log history visualization (ecocirc XLplus only)
- Dry running detection
- Multi-pump functions
- External control and monitoring (ecocirc XLplus only)
- Module for wireless communication (ecocirc XLplus only).

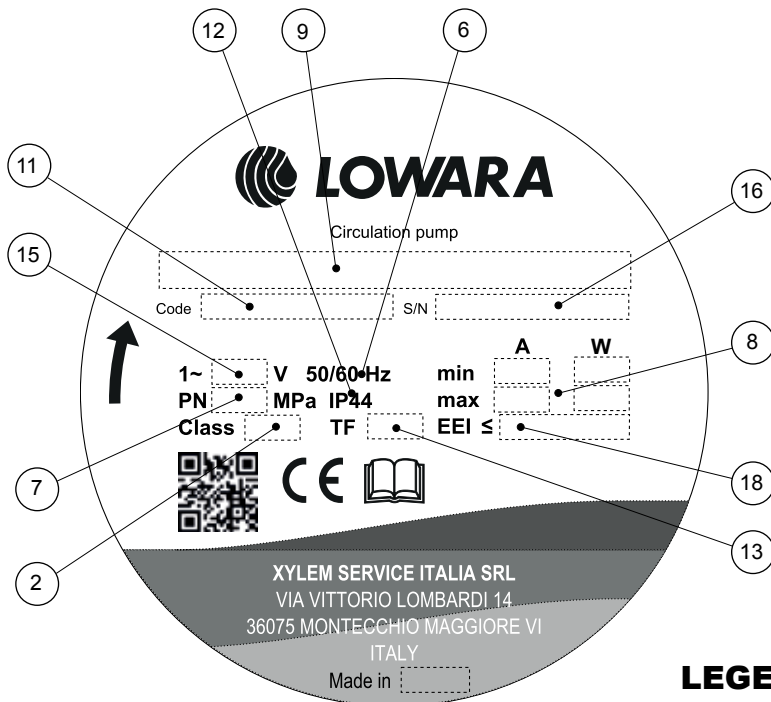
IDENTIFICATION CODE



EXAMPLE: ecocirc XLplus D 40-100 F

High Efficiency electronic circulator ecocirc XL plus with communication capabilities, twin version, port nominal diameter 40, max head 10 m, flanged.

PUMP TYPE RATING PLATE



LEGEND

- 2 - Insulation class
- 6 - Frequency
- 7 - Maximum operating pressure
- 8 - Electric pump consumption
- 9 - Electric pump unit type
- 11 - Electric pump unit / pump part number
- 12 - Protection degree
- 13 - Maximum operating liquid temperature (EN 60335-2-51)
- 15 - Rated voltage range
- 16 - Serial number (date + progressive number)
- 18 - EEI index

Product Range

ecocirc XL

Single-head Pump type	Threaded pipe connection						Electrical connection	Integrated communication capabilities
	Port to port (mm)	Connection	PN 6/10	PN 6	PN 10			
ecocirc XL 25-40 (B) *	180	G 1 ½ – Rp 1	•			plug	no communication protocol	
ecocirc XL 25-60 (B) *	180	G 1 ½ – Rp 1	•			plug	no communication protocol	
ecocirc XL 25-80	180	G 1 ½ – Rp 1	•			terminals	no communication protocol	
ecocirc XL 25-100	180	G 1 ½ – Rp 1	•			terminals	no communication protocol	
ecocirc XL 32-40 (B) *	180	G 2 – Rp 1 ¼	•			plug	no communication protocol	
ecocirc XL 32-60 (B) *	180	G 2 – Rp 1 ¼	•			plug	no communication protocol	
ecocirc XL 32-80 (B)	180	G 2 – Rp 1 ¼	•			terminals	no communication protocol	
ecocirc XL 32-100 (B)	180	G 2 – Rp 1 ¼	•			terminals	no communication protocol	

Single-head Pump type	Flanged connection						Electrical connection	Integrated communication capabilities
	Port to port (mm)	Connection	PN 6/10	PN 6	PN 10			
ecocirc XL 32-80 F	220	DN 32	•			terminals	no communication protocol	
ecocirc XL 32-100 F	220	DN 32	•			terminals	no communication protocol	
ecocirc XL 32-120 F (B)	220	DN 32	•			terminals	no communication protocol	
ecocirc XL 40-80 F	220	DN 40	•			terminals	no communication protocol	
ecocirc XL 40-100 F	220	DN 40	•			terminals	no communication protocol	
ecocirc XL 40-120 F (B)	250	DN 40	•			terminals	no communication protocol	
ecocirc XL 50-80 F (B)	240	DN 50	•			terminals	no communication protocol	
ecocirc XL 50-100 F	240	DN 50	•			terminals	no communication protocol	
ecocirc XL 50-120 F (B)	280	DN 50	•			terminals	no communication protocol	
ecocirc XL 65-80 F (B)	340	DN 65	•			terminals	no communication protocol	
ecocirc XL 65-120 F (B)	340	DN 65	•			terminals	no communication protocol	
ecocirc XL 80-120 F	360	DN 80		•		terminals	no communication protocol	
ecocirc XL 80-120 F	360	DN 80			•	terminals	no communication protocol	
ecocirc XL 100-120 F	360	DN 100		•		terminals	no communication protocol	
ecocirc XL 100-120 F	360	DN 100			•	terminals	no communication protocol	

Twin-head Pump type	Flanged connection						Electrical connection	Integrated communication capabilities
	Port to port (mm)	Connection	PN 6/10	PN 6	PN 10			
ecocirc XL D 32-120 F	220	DN 32	•			terminals	no communication protocol	
ecocirc XL D 40-80 F	220	DN 40	•			terminals	no communication protocol	
ecocirc XL D 40-100 F	220	DN 40	•			terminals	no communication protocol	
ecocirc XL D 40-120 F	250	DN 40	•			terminals	no communication protocol	
ecocirc XL D 50-80 F	240	DN 50	•			terminals	no communication protocol	
ecocirc XL D 50-120 F	280	DN 50	•			terminals	no communication protocol	
ecocirc XL D 65-80 F	340	DN 65	•			terminals	no communication protocol	
ecocirc XL D 65-120 F	340	DN 65	•			terminals	no communication protocol	
ecocirc XL D 80-120 F	360	DN 80		•		terminals	no communication protocol	
ecocirc XL D 80-120 F	360	DN 80			•	terminals	no communication protocol	

(*) Not yet available

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ecocirc XLplus

Single-head Pump type	Threaded pipe connection						Electrical connection	Integrated communication capabilities	Wireless **
	Port to port (mm)	Connection	PN 6/10	PN 6	PN 10				
ecocirc XLplus 25-40 (B) *	180	G 1 ½ – Rp 1	•			plug	Modbus	•	
ecocirc XLplus 25-60 (B) *	180	G 1 ½ – Rp 1	•			plug	Modbus	•	
ecocirc XLplus 25-80	180	G 1 ½ – Rp 1	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 25-100	180	G 1 ½ – Rp 1	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 32-40 (B) *	180	G 2 – Rp 1 ¼	•			plug	Modbus	•	
ecocirc XLplus 32-60 (B) *	180	G 2 – Rp 1 ¼	•			plug	Modbus	•	
ecocirc XLplus 32-80 (B)	180	G 2 – Rp 1 ¼	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 32-100 (B)	180	G 2 – Rp 1 ¼	•			terminals	Modbus & BACnet	•	

Single-head Pump type	Flanged connection						Electrical connection	Integrated communication capabilities	Wireless **
	Port to port (mm)	Connection	PN 6/10	PN 6	PN 10				
ecocirc XLplus 32-80 F	220	DN 32	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 32-100 F	220	DN 32	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 32-120 F (B)	220	DN 32	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 40-80 F	220	DN 40	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 40-100 F	220	DN 40	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 40-120 F (B)	250	DN 40	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 50-80 F (B)	240	DN 50	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 50-100 F	240	DN 50	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 50-120 F (B)	280	DN 50	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 65-80 F (B)	340	DN 65	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 65-120 F (B)	340	DN 65	•			terminals	Modbus & BACnet	•	
ecocirc XLplus 80-120 F	360	DN 80		•		terminals	Modbus & BACnet	•	
ecocirc XLplus 80-120 F	360	DN 80			•	terminals	Modbus & BACnet	•	
ecocirc XLplus 100-120 F	360	DN 100		•		terminals	Modbus & BACnet	•	
ecocirc XLplus 100-120 F	360	DN 100			•	terminals	Modbus & BACnet	•	

Twin-head Pump type	Flanged connection						Electrical connection	Integrated communication capabilities	Wireless **
	Port to port (mm)	Connection	PN 6/10	PN 6	PN 10				
ecocirc XLplus D 32-120 F	220	DN 32	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 40-80 F	220	DN 40	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 40-100 F	220	DN 40	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 40-120 F	250	DN 40	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 50-80 F	240	DN 50	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 50-120 F	280	DN 50	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 65-80 F	340	DN 65	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 65-120 F	340	DN 65	•			terminals	Modbus & BACnet	•	
ecocirc XLplus D 80-120 F	360	DN 80		•		terminals	Modbus & BACnet	•	
ecocirc XLplus D 80-120 F	360	DN 80			•	terminals	Modbus & BACnet	•	

(*) Not yet available.

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(**) Available as an accessory.

Functions

CONTROL MODES

Constant pressure

Proportional pressure

Constant speed

Night mode

Control modes influenced by the temperature

Δ P-T control

T - Constant temperature control

Δ T - Differential temperature

Additional operating modes for dual-pump setup

Alternate operation

Backup operation

Parallel operation

Reading and settings on the pump

Pump settings

Control panel and display

Communication

External Start - Stop (Digital input)

Signal relay (Digital Output)

Analog input 0-10V

Analog input 4-20mA

Temperature sensor (ecocirc XLplus)

Communication BUS (ecocirc XLplus)

Wireless (ecocirc XLplus)

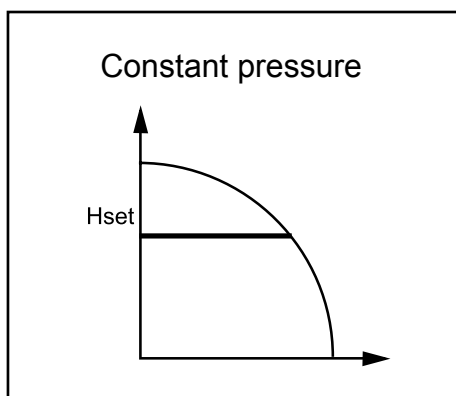
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CONTROL MODES

ecocirc XL and XLplus can be operated with 4 different functional modes.

The pump has been factory set at constant pressure without Night Mode. The set point is factory set and it is suitable for more installations.

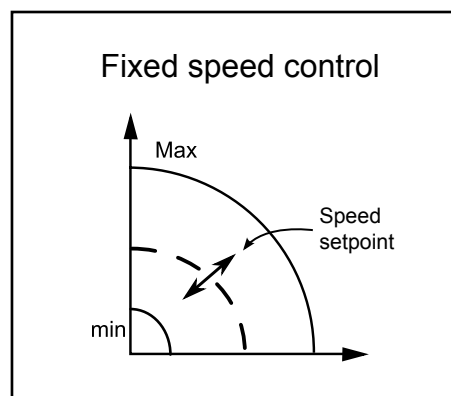
Constant pressure



The pump maintains a constant pressure at any flow demand. The desired head of the pump can be set via user interface.

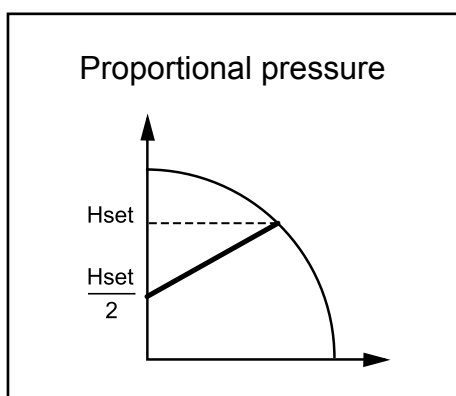
Constant pressure functional mode is recommended in systems with relatively small pressure losses.

Constant Speed



The pump maintains a fixed speed at any flow demand. The speed of the pump can be set via user interface. Constant speed is great when used in the primary or boiler loop in a primary/secondary hydronic system.

Proportional pressure



The pump pressure is continuously increased / decreased depending on the flow demand. The maximum head can be set via user interface.

Proportional pressure functional mode is recommended in systems with relatively large pressure losses in the distribution pipes.

Night Mode

This function reduces the power consumption of the pump to the minimum when the heating system is not running. An autolearn process detects the proper working conditions. The electronic registers a drop of the water temperature and the circulator automatically decreases the speed. The pump returns to the original set point as soon as the system restarts and the water temperature has increased.

The Night Mode can be activated in combination with:

- Proportional pressure
- Constant pressure
- Constant speed

It cannot be used in cooling systems.

The prerequisite of this functional mode are:

- The pump has to be installed in the supply line;
- The night condition can be detected with good confidence if a higher level control system is set to change the supply temperature.

CONTROL MODES INFLUENCED BY THE TEMPERATURE

ecocirc XLplus version can be used with 3 additional control modes depending on the temperature of the pumped media. The set-up of the control modes as well as of the external temperature sensor, necessary for ΔT control, is available only through Communication BUS or Wireless capabilities by the connection to an external device.

ΔP – T Control

This function changes the nominal differential pressure set point depending on the temperature of the pumped media.

The temperature is controlled by the built-in temperature sensor or by an additional external temperature sensor (type KTY83).

T – Constant temperature control

The functional mode changes the speed of the pump in order to maintain constant temperature of the pumped media.

The temperature is controlled by the built-in temperature sensor or by an additional external temperature sensor (type KTY83).

It is suitable for heating systems with fixed system characteristics, for example domestic hot water systems.

ΔT – Differential temperature control

The function changes the speed of the pump in order to maintain a constant differential temperature of the pumped media.

This function requires an additional external temperature sensor (type KTY83) that controls, together with the built-in temperature sensor, the differential water temperature in the system.

ADDITIONAL OPERATING MODES FOR DUAL-PUMP SET UP

Each ecocirc XLplus circulator can be configured to work together with another one in dual-pump functionality.

The dual-pump setting is already configured as default with twin pumps, but can also be set in case of two single head circulators if they are connected to each other through the communication port RS485; in this second case the two single head pumps must be of the same model, and once connected it is necessary to establish which one is the main pump (master) and which is the secondary pump (slave).

When the communication ports are to be used for communication between two circulators, and the pump is

also to be connected to an external device (i.e. Building Management System) via port RS485, then it is necessary to install the optional module RS485. This enables the use of the second port (and this must be done on the main pump).

ecocirc XLplus dual pump can be used in different operating modes.

Back-up operation

Only the main pump (master) operates, while the second (slave) pump starts running in case of failure of the main pump. The back-up pump is automatically put into operation once a day for a few minutes in order to prevent rotor-blocking due to long-term inactivity.

In case of a failure of the main pump, the secondary pump starts running immediately, using the same parameters and functionality of the main.

Alternate operation

In this functional mode only one pump runs at a time. The working time is switched every 24 hours so the workload is balanced between both pumps.

In case of failure of one of the two pumps, the other will immediately start operating continuously.

Parallel operation

Both pumps run simultaneously with the same setpoint. The main pump determines the needs of the entire system and it is able to optimize performance; to ensure the required performance with minimum energy consumption, the main pump starts or stops the second pump based on the head and flow demand.

In the case of ecocirc XLplus twin models, there is the possibility that in some situations this functional mode will generate non-optimal behaviour of the circulator, changing the speed of the two motors continuously and generating a noise from the flap valve inside the pump housing. In this situation “forced parallel” can be set to ensure that the pumps operate at the same setpoint with stable behaviour.

READING AND SETTINGS ON THE PUMP

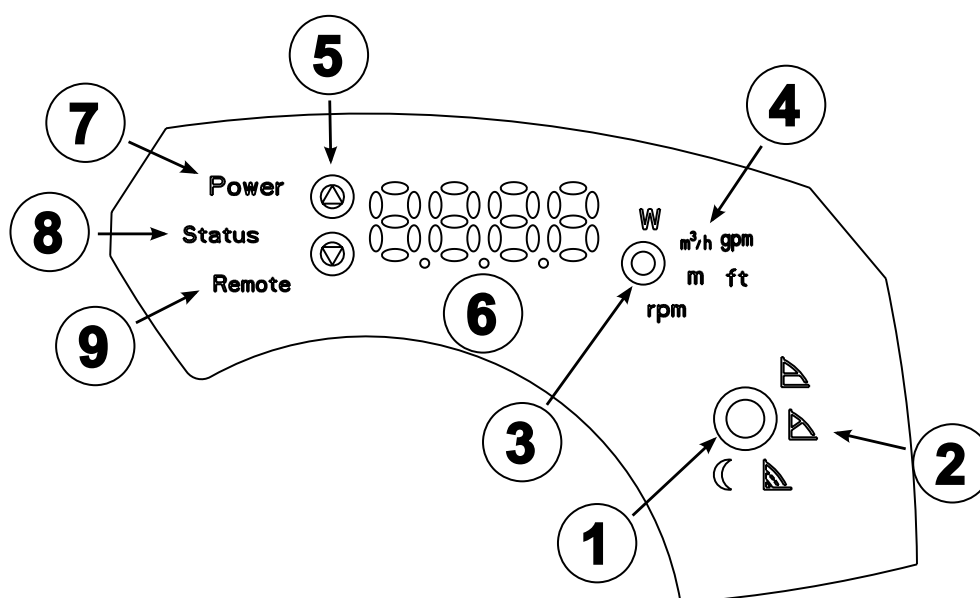
Pump settings

To change the pump settings it can be used one of the following ways:

- User Interface
- Communication BUS (ecocirc XLplus only)
- Wireless capability (ecocirc XLplus only).

Control panel and Display

ecocirc XL and ecocirc XLplus features a 3 or 4 digits display with intuitive and user-friendly interface. The control panel has 4 self-explanatory push buttons and is designed to give quick and easy access to the pump and performance data on installation site.



Ref.	Function	Description
1	Control Mode Button	Operating modes are cyclically changed by pressing the button
2	Control mode indicators	- Constant Pressure - Proportional Pressure - Constant Speed - Night Mode
3	Parameter Button	The unit of measurement changes by pressing the button
4	Parameter indicators	The units of measurement displayed are: - Power consumption (W) - Flow rate (m ³ /h - gpm) - Head (m - ft) - Speed (rpm) By pressing the "Parameter Button" for more than 1 second the unit of measurement changes to: - Flow: m ³ /h <--> gpm - Head: m <--> ft
5	Setting Buttons	To change the set point: - Press one of the setting buttons: displays starts to blinking the actual set point. - Change the value using the button. - Wait 3 seconds to store and activate the new set point: the display will stop blinking.
6	Digital Display	
7	Power indicator	When lighted-up power supply is present
8	Status / Fault indicator	- Green: pump is working properly - Orange: alarm for system problem - Red: pump failure
9	Remote Control indicator	- Off: remote communication deactivated - On: remote communication activated

COMMUNICATION

ecocirc XL and ecocirc XLplus enables communication by the following:

- External start / stop (Digital input)
- Signal relay (Digital output)
- Analog input 0-10 V
- Analog input 4-20 mA
- Communication BUS (ecocirc XLplus only)
- Wireless capability (ecocirc XLplus only).

External start / stop (Digital Input)

The pump can be started or stopped via an external potential-free contact or a relay.

The pump unit is provided by default with the digital input short-circuited.

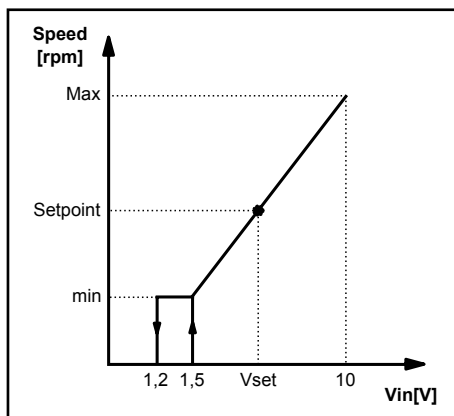
Signal relay (Digital output)

The pump is equipped with a relay for a potential-free fault signal. If there is a fault the relay is activated together with the red status light and the error code on the user interface display.

Analog input (0-10V)

The pump integrates a 0-10 V analog input.

When a voltage input is detected the pump switch to fixed speed control mode automatically and start to work according to the following diagram:



Analog input (4-20mA)

The pump can be equipped with a 4-20mA external differential pressure sensor with the purpose of increasing the precision in operating modes involved with pressure regulation.

Communication BUS

ecocirc XLplus can communicate remotely through a built in RS485 port with the following protocols:

- Modbus RTU
- Bacnet MSTP

The circulator is factory setting with Modbus protocol. This communication BUS capability offers the possibility to:

- connect two pumps in dual pumps operation;
- connect the pump to a BMS (Building Management System);
- connect the pump to an external device (PC or laptop).

It can be used for the following functions:

- Reading of operating parameters
- Reading of warning and alarm indications
- Setting the control mode
- Setting the set point
- Setting the control modes influenced by the temperature
- Give access to all the parameters that cannot be set-up by the user interface.

To offer a connection to an external BMS or to a generic external device even when the standard communication BUS is used for dual pump operations (in case of twin-head pumps), the pump can be equipped with an additional communication BUS provided as an optional.

Wireless

ecocirc XLplus is designed for wireless communication with Smart-Phone or Tablet by an optional Wireless module.

The Wireless communication capability offers the possibility to read and set up the pump status.

It can be used for the following functions:

- Reading of operating parameters
- Reading of warning and alarm indications
- Setting the control mode
- Setting the set point
- Setting the control modes influenced by the temperature
- Give access to all the parameters that cannot be set-up by the user interface.

OPERATING CONDITIONS

Water conditions

General recommendation:

- Water in heating systems: according to VDI 2035
- Water containing glycol: water/glycol mixture up to 50%.

Ambient conditions

The unit can be transported only in vertical position as indicated on the packaging. The product can be transported at an ambient temperature from -40°C to 70°C with humidity maximum 95% and protected against dirt, heat source and mechanical damage.

The product must be stored at an ambient temperature from -25°C to 55°C and maximum humidity of 95%.

Pumped liquids

The pump is suitable for thin, clear, non-aggressive and non-explosive liquids, not containing abrasive, solid or fibrous substances, toxic or corrosive liquids, potable liquids other than water or liquids not compatible with the pump construction material.

The pump is electronically protected against overloads; for this reason the use of water + glycol in the system can reduce the performance of the circulator, according to the percentage of glycol and the temperature of the fluid.

Minimum inlet pressure at the suction port

The values in the table are the inlet pressure above the atmospheric pressure.

Nominal Diameter	Fluid temperature 25°C	Fluid temperature 95°C	Fluid temperature 110°C
Rp 1	0,2 bar	1 bar	1,6 bar
Rp 1 1/4	0,2 bar	1 bar	1,6 bar
DN 32	0,3 bar	1,1 bar	1,7 bar
DN 40	0,3 bar	1,1 bar	1,7 bar
DN 50	0,3 bar	1,1 bar	1,7 bar
DN 65	0,5 bar	1,3 bar	1,9 bar
DN 80	0,5 bar	1,3 bar	1,9 bar
DN 100	0,5 bar	1,3 bar	1,9 bar

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NOTICE:

- Do not apply a pressure lower than the values specified as this could cause cavitation and damage the pump.
- The inlet pressure plus the pump pressure against a closed valve must be lower than maximum admissible system pressure.

ELECTRICAL DATA

Pump type	ecocirc XL ecocirc XLplus
Rated Voltage	1 x 230 V +/- 10%
Frequency	50/60 Hz
IP Protection	IP 44
Insulation class	Class 155 (F)
Digital input	External potential free contact Contact load: 5V, 10 mA
Digital output	Vmax < 250 VAC Imax < 2 A
Analog input	0-10 V 4-20 mA
Communication Bus	Modbus RTU BACnet MS/TP
Leakage current	< 3.5 mA
ECM (Electromagnetic compatibility)	EN 55014-1:2006 + A1:2009 + A2:2011, EN 55014-2:1997 + A1:2001 + A2:2008, EN 61000-3-2:2006 + A1:2009 + A2:2009, EN 61000-3-3:2008, 61800-3:2004+A1:2012.

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CONSTRUCTION

The circulator is a wet rotor circulation pump: all rotating components are immersed in the pumped liquid, which cools the motor and lubricates the bearings. The motor has high-efficiency due to the permanent magnet rotor, and it is driven by an electronic drive integrated with the circulator.

ecocirc XL and ecocirc XLplus are of the spherical rotor type for models 25-40, 25-60, 32-40, 32-60: the specific design of these circulators prevents blocked rotors and / or bearing damage caused by the presence of impurities in the water. An automatic air-venting routine allows the perfect filling of water in the rotor zone, to avoid potential dry-runs: this routine can also be manually re-called by the user whenever deemed appropriate.

The remaining models in the ecocirc XL and ecocirc XL-plus range have electrical motors of the cylindrical-rotor type.

The pump automatically protects itself from poor lubrication with an automatic air-venting routine during the startup phase (and it can be also manually re-called whenever deemed appropriate), along with the detection of any dry-run; in addition, the circulator prevents itself from potential rotor-locking related to the presence of solid particles suspended in the pumped liquid through a system of internal filters.

In case of stand-by periods, an automatic anti-block routine rotates the rotor for few minutes a day..

The pump features the following:

- Controller integrated in the control box
- User interface on the control box
- Cast iron or bronze pump housing
- Twin-head versions
- No external motor protection required
- Insulation shell supplied with single head pumps for heating systems.

Pump connections

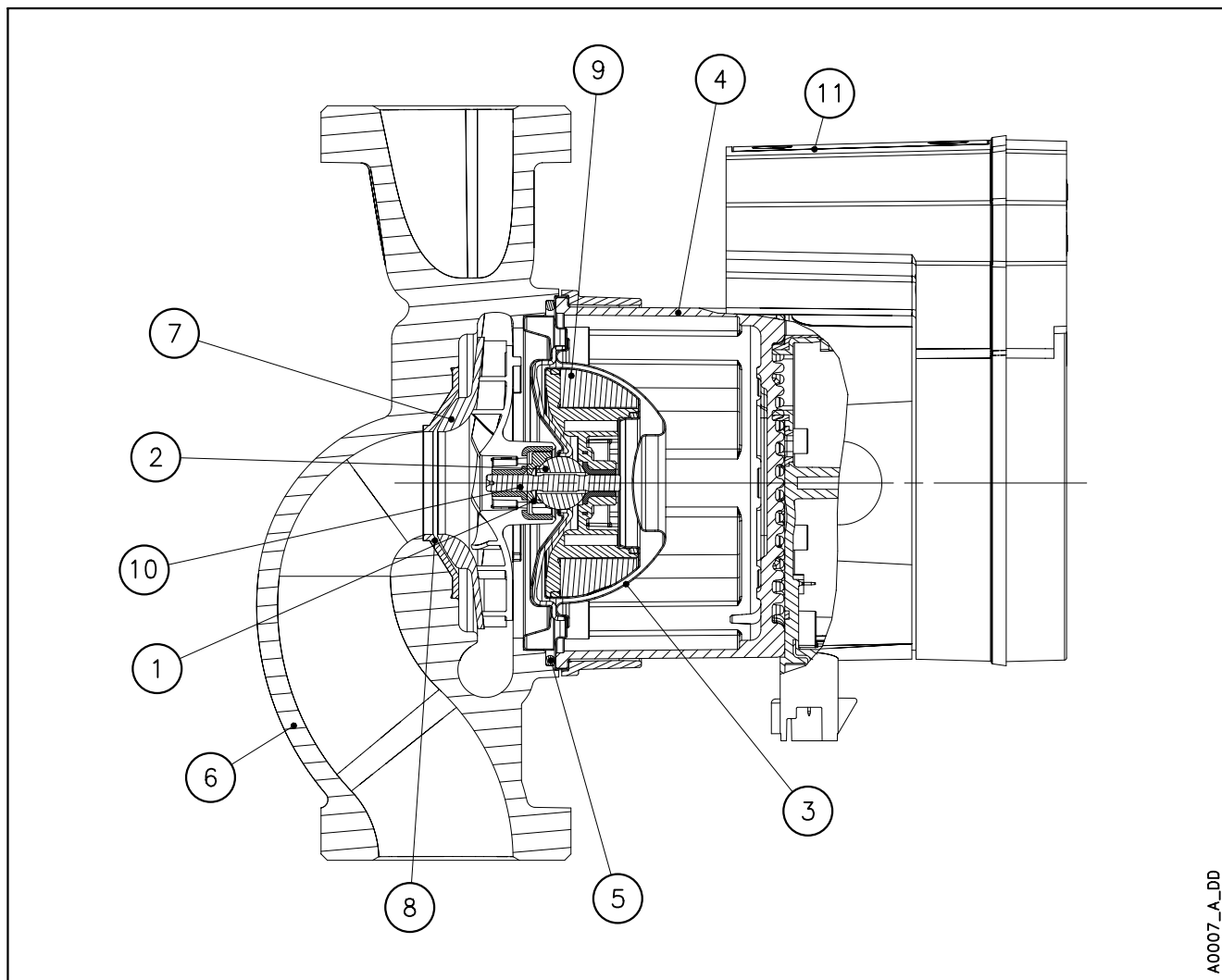
Threaded pipe connections according to ISO 228-1
Flange dimensions to EN 1092-2.

Surface treatment

For heating applications the material is cast iron G250 as standard.

Pump coating (cataphoretic) in black color.

SECTIONAL DRAWINGS (25-40, 25-60, 32-40, 32-60 models)



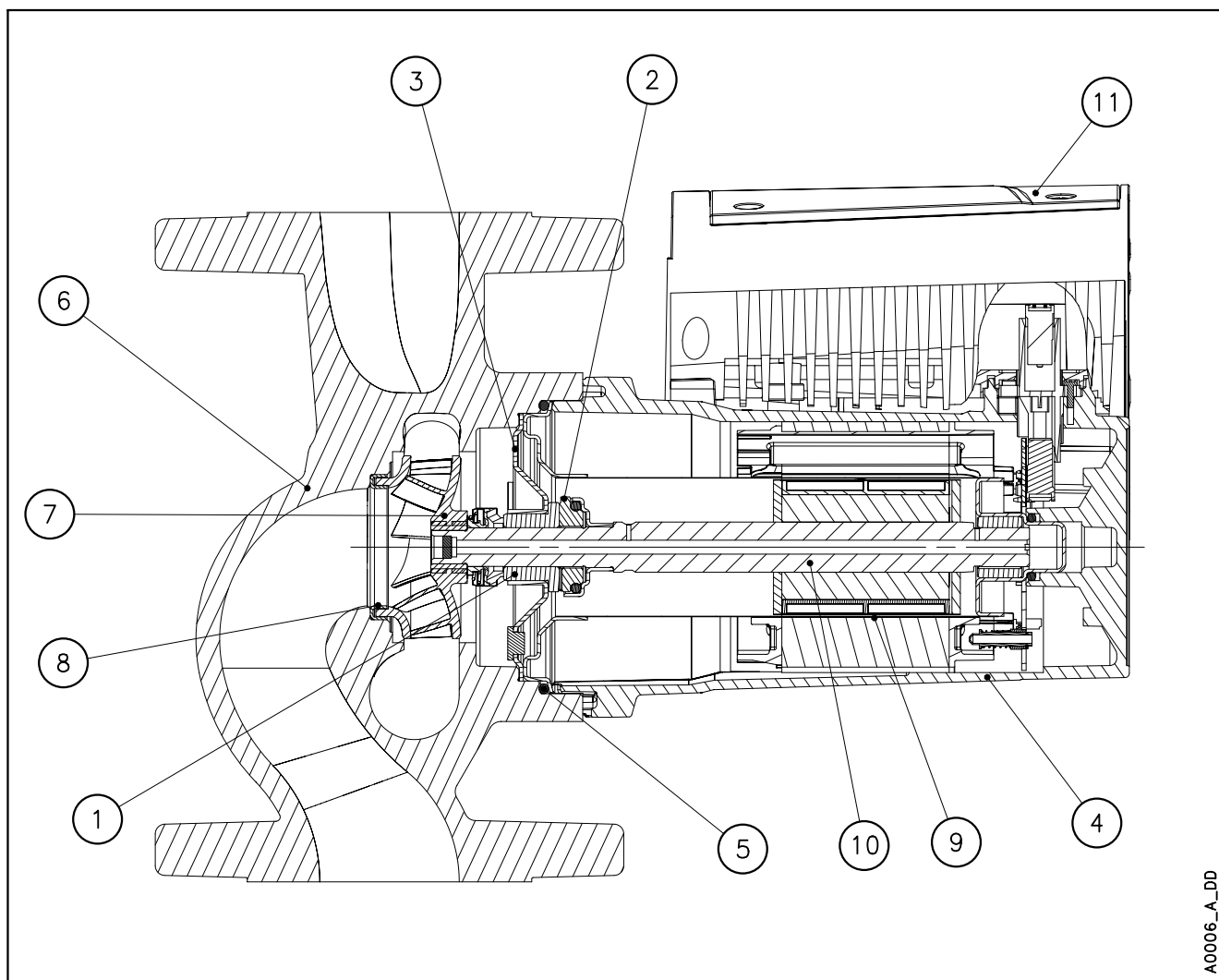
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TABLES OF MATERIALS

Ref. N.	Name	Material	Reference Standards Europe
1	Bearing washer	Carbon, resin impregnated	
2	Spherical bearing	Aluminum oxide	
3	Casing plate	Stainless steel	EN 1.4401
4	Motor housing	Aluminum	
5	O-rings	EPDM	
6	Pump housing	Cast iron	EN 1561-GJL-250 (JL1040)
		Bronze	CuSn10-C-GS
7	Impeller	PPO	
8	Neck ring	Stainless steel	
9	Rotor can	Stainless steel	EN 1.4401
10	Shaft	Stainless steel	EN 1.4301
11	Control box	Polycarbonate	

XL1-en_a_tm

SECTIONAL DRAWINGS



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TABLES OF MATERIALS

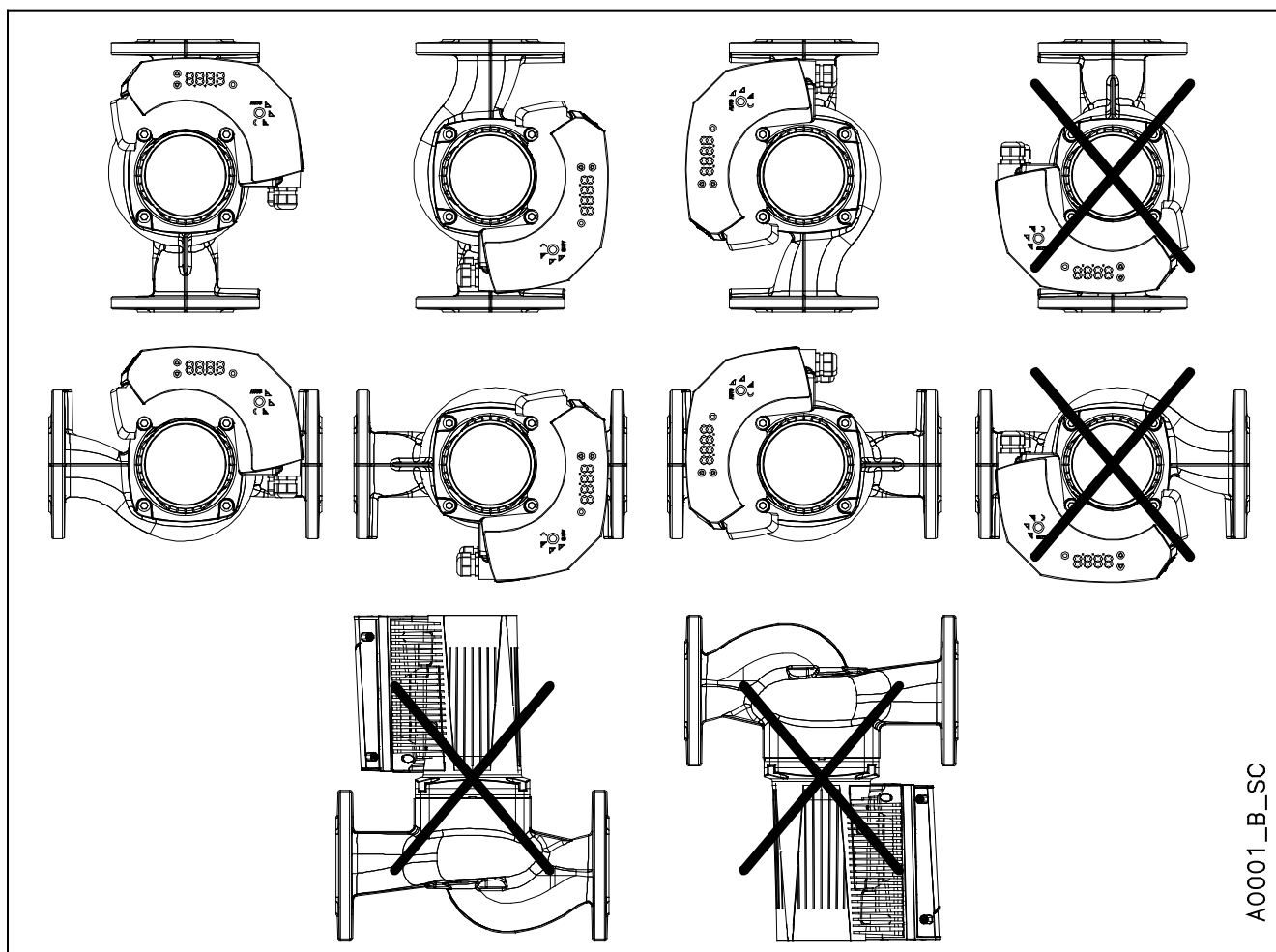
Ref. N.	Name	Material	Reference Standards Europe
1	Bush Bearing	Carbon, resin impregnated	
2	Thrust bearing	Aluminum oxide	
3	Bearing plate	Stainless steel	EN 1.4301
4	Motor housing	Aluminum	
5	O-rings	EPDM	
6	Pump housing	Cast iron	EN 1561-GJL-250 (JL1040)
		Bronze	CuSn10-C-GS
7	Impeller	PPS	
8	Wear ring	Stainless steel	EN 1.4301
9	Rotor can	Stainless steel	EN 1.4435
10	Shaft	Stainless steel	EN 1.4028
11	Control box	Polycarbonate	

XL2-en_a_tm

INSTALLATION

ecocirc XL is designed for indoor installation.

The pump must be installed with the pump head in a horizontal position. The arrow of the pump housing shows the flow direction through the pump. If necessary pump head can be rotated to better reading the user interface. If it's possible and applicable install the insulation shell included on the delivery.



A0001_B_SC

Electrical installation

- The local regulations in force overrule.

Electrical connection checklist

Check that the following requirements are met:

- The electrical leads are protected from high temperature, vibrations, and collisions.
- The current type and voltage of mains connection must correspond to the data plate on the pump.
- The power supply line is provided with:
 - A high-sensitivity differential switch (30 mA)[residual current device RCD] suitable for earth fault currents with DC or pulsating DC content (a Type B RCD is suggested).



- A mains isolator switch with a contact gap of at least 3 mm.

The electrical control panel checklist

NOTICE:

The control panel must match the ratings of the electric pump. Improper combinations could fail to guarantee the protection of the unit.

Check that the following requirements are met:

- The control panel must protect the pump against short-circuit. A time lag fuse or a circuit breaker (Type C model is suggested) can be used to protect the pump.
- The pump has built in overload and thermal protection, no additional overload protection is required.

The motor checklist

Use cable according to rules with 3 leads (2 + earth/ground). All cable must be heat-resistant up to +85°C (185°F).

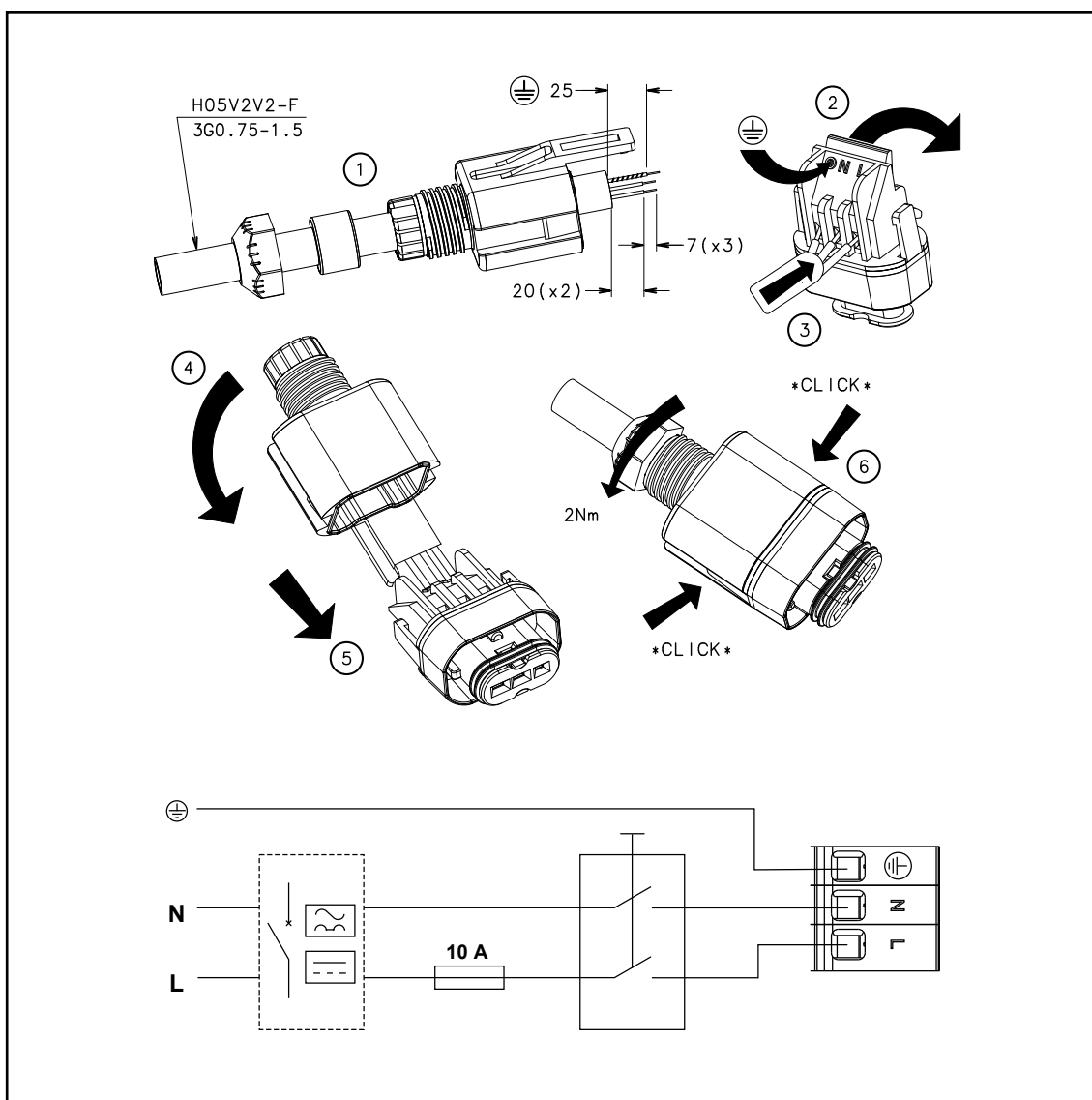
ecocirc XL - XLplus

Models with plug

Power Supply: 1 x 230V \pm 10%, 50/60Hz

Follow the subsequent steps:

1. Open the connector cover and insert the cable inside the cable gland
2. Pull down the contact retention spring
3. Connect the cable according to the wiring diagram
4. Align the two parts of the connector
5. Push the two parts one inside the other
6. Close the connector and tight carefully the cable gland



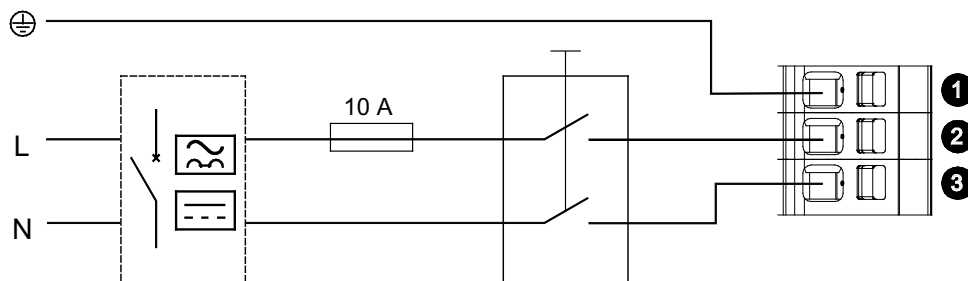
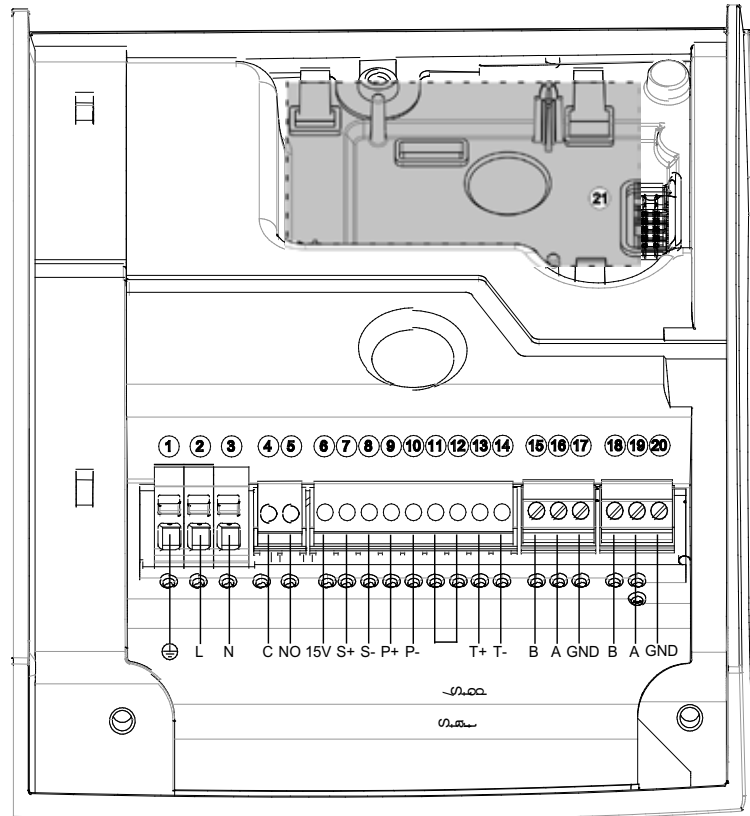
ecocirc XL - XLplus

Models with a standard terminal block connection

Power Supply: 1 x 230V ±10%, 50/60Hz

Follow the subsequent steps to connect:

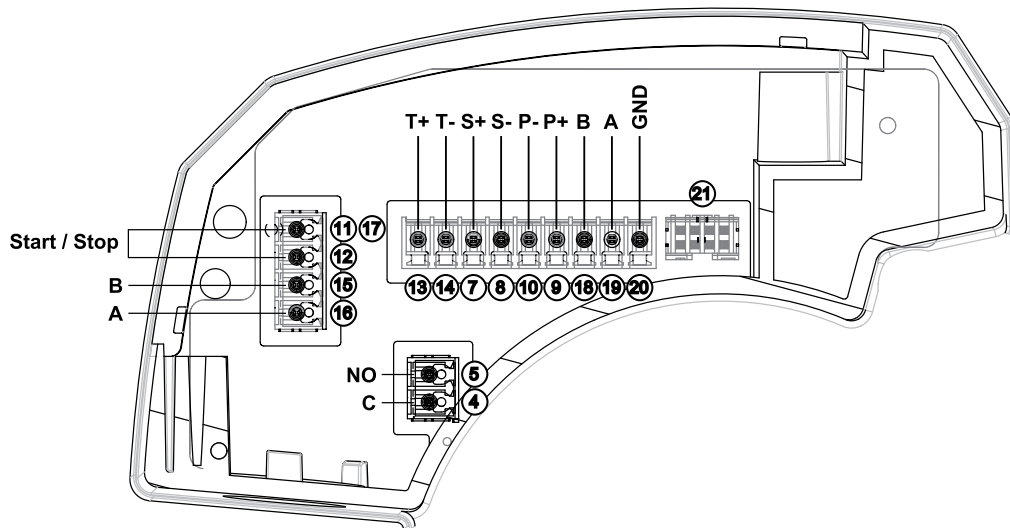
1. Open the terminal block cover removing the screws
2. Insert the cable inside the M20 cable gland
3. Connect the cable according to the wiring diagram



ecocirc XL - XLplus

Input - output Connections

Polarization-keys on terminals are used to prevent wrong insertions.
 For models up to 100W refer to the following image.
 For all other models refer to the image of the previous page.



Function	Terminal pair	Contact rating
External start/stop	(11) (12)	The drive provides 5VDC through these terminals: no external voltage must be provided!
0-10V external analog input	(7) (8)	
Fault signal	(4) (5)	Max 250V at 2A (inductive load)
4-20mA pressure sensor input	(9) (10)	
External temperature sensor	(13) (14)	The drive works with a KTY83 temperature sensor (1KΩ at 25°C)
Communication bus (standard)	(15) (16) (17)	TIA/EIA RS485
Communication bus (optional)	(18) (19) (20)	TIA/EIA RS485
Optional Wireless / RS485 module	(21)	

En-Rev_A

Part numbers

ecocirc XL

Single-head Pump type	Threaded pipe connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XL 25-40 (B) *	180	G 1 ½ – Rp 1	605009100 *			605009300 *
ecocirc XL 25-60 (B) *	180	G 1 ½ – Rp 1	605009150 *			605009350 *
ecocirc XL 25-80	180	G 1 ½ – Rp 1	E503010AA			
ecocirc XL 25-100	180	G 1 ½ – Rp 1	E503020AA			
ecocirc XL 32-40 (B) *	180	G 2 – Rp 1 ¼	605009200 *			605009400 *
ecocirc XL 32-60 (B) *	180	G 2 – Rp 1 ¼	605009250 *			605009450 *
ecocirc XL 32-80 (B)	180	G 2 – Rp 1 ¼	E503030AA			E503600AA
ecocirc XL 32-100 (B)	180	G 2 – Rp 1 ¼	E503040AA			E503610AA

Single-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XL 32-80 F	220	DN 32	E503050AA			
ecocirc XL 32-100 F	220	DN 32	E503060AA			
ecocirc XL 32-120 F (B)	220	DN 32	E503070AA			E503620AA
ecocirc XL 40-80 F	220	DN 40	E503080AA			
ecocirc XL 40-100 F	220	DN 40	E503090AA			
ecocirc XL 40-120 F (B)	250	DN 40	E503100AA			E503630AA
ecocirc XL 50-80 F (B)	240	DN 50	E503110AA			E503640AA
ecocirc XL 50-100 F	240	DN 50	E503120AA			
ecocirc XL 50-120 F (B)	280	DN 50	E503130AA			E503650AA
ecocirc XL 65-80 F (B)	340	DN 65	E503140AA			E503660AA
ecocirc XL 65-120 F (B)	340	DN 65	E503150AA			E503670AA
ecocirc XL 80-120 F	360	DN 80		E503170AA		
ecocirc XL 80-120 F	360	DN 80			E503160AA	
ecocirc XL 100-120 F	360	DN 100		E503180AA		
ecocirc XL 100-120 F	360	DN 100			E503190AA	

Twin-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				
		Connection	PN 6/10	PN 6	PN 10	
ecocirc XL D 32-120 F	220	DN 32	E502070AA			
ecocirc XL D 40-80 F	220	DN 40	E502050AA			
ecocirc XL D 40-100 F	220	DN 40	E502060AA			
ecocirc XL D 40-120 F	250	DN 40	E502080AA			
ecocirc XL D 50-80 F	240	DN 50	E502090AA			
ecocirc XL D 50-120 F	280	DN 50	E503450AA			
ecocirc XL D 65-80 F	340	DN 65	E502100AA			
ecocirc XL D 65-120 F	340	DN 65	E503470AA			
ecocirc XL D 80-120 F	360	DN 80		E503480AA		
ecocirc XL D 80-120 F	360	DN 80			E503490AA	

(*) Not yet available.

Pn-ecocircXL-en_d_sc

ecocirc XLplus

Single-head Pump type	Threaded pipe connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XLplus 25-40 (B) *	180	G 1 ½ – Rp 1	605009125 *			605009325 *
ecocirc XLplus 25-60 (B) *	180	G 1 ½ – Rp 1	605009175 *			605009375 *
ecocirc XLplus 25-80	180	G 1 ½ – Rp 1	E503210AA			
ecocirc XLplus 25-100	180	G 1 ½ – Rp 1	E503220AA			
ecocirc XLplus 32-40 (B) *	180	G 2 – Rp 1 ¼	605009225 *			605009425 *
ecocirc XLplus 32-60 (B) *	180	G 2 – Rp 1 ¼	605009275 *			605009475 *
ecocirc XLplus 32-80 (B)	180	G 2 – Rp 1 ¼	E503230AA			E503700AA
ecocirc XLplus 32-100 (B)	180	G 2 – Rp 1 ¼	E503240AA			E503710AA

Single-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XLplus 32-80 F	220	DN 32	E503250AA			
ecocirc XLplus 32-100 F	220	DN 32	E503260AA			
ecocirc XLplus 32-120 F (B)	220	DN 32	E503270AA			E503720AA
ecocirc XLplus 40-80 F	220	DN 40	E503280AA			
ecocirc XLplus 40-100 F	220	DN 40	E503290AA			
ecocirc XLplus 40-120 F (B)	250	DN 40	E503300AA			E503730AA
ecocirc XLplus 50-80 F (B)	240	DN 50	E503310AA			E503740AA
ecocirc XLplus 50-100 F	240	DN 50	E503320AA			
ecocirc XLplus 50-120 F (B)	280	DN 50	E503330AA			E503750AA
ecocirc XLplus 65-80 F (B)	340	DN 65	E503340AA			E503760AA
ecocirc XLplus 65-120 F (B)	340	DN 65	E503350AA			E503770AA
ecocirc XLplus 80-120 F	360	DN 80		E503370AA		
ecocirc XLplus 80-120 F	360	DN 80			E503360AA	
ecocirc XLplus 100-120 F	360	DN 100		E503380AA		
ecocirc XLplus 100-120 F	360	DN 100			E503390AA	

Twin-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				
		Connection	PN 6/10	PN 6	PN 10	
ecocirc XLplus D 32-120 F	220	DN 32	E502170AA			
ecocirc XLplus D 40-80 F	220	DN 40	E502150AA			
ecocirc XLplus D 40-100 F	220	DN 40	E502160AA			
ecocirc XLplus D 40-120 F	250	DN 40	E502180AA			
ecocirc XLplus D 50-80 F	240	DN 50	E502190AA			
ecocirc XLplus D 50-120 F	280	DN 50	E503550AA			
ecocirc XLplus D 65-80 F	340	DN 65	E502200AA			
ecocirc XLplus D 65-120 F	340	DN 65	E503570AA			
ecocirc XLplus D 80-120 F	360	DN 80		E503580AA		
ecocirc XLplus D 80-120 F	360	DN 80			E503590AA	

(*) Not yet available.

Pn-ecocircXLplus-en_d_sc

ecocirc XL (Germany)

Single-head Pump type	Threaded pipe connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XL 25-40 (B) *	180	G 1 ½ – Rp 1	6050E9100 *			6050E9300 *
ecocirc XL 25-60 (B) *	180	G 1 ½ – Rp 1	6050E9150 *			6050E9350 *
ecocirc XL 25-80	180	G 1 ½ – Rp 1	E505000AA			
ecocirc XL 25-100	180	G 1 ½ – Rp 1	E505010AA			
ecocirc XL 32-40 (B) *	180	G 2 – Rp 1 ¼	6050E9200 *			6050E9400 *
ecocirc XL 32-60 (B) *	180	G 2 – Rp 1 ¼	6050E9250 *			6050E9450 *
ecocirc XL 32-80 (B)	180	G 2 – Rp 1 ¼	E505020AA			E505600AA
ecocirc XL 32-100 (B)	180	G 2 – Rp 1 ¼	E505030AA			E505610AA

Single-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XL 32-80 F	220	DN 32	E505040AA			
ecocirc XL 32-100 F	220	DN 32	E505050AA			
ecocirc XL 32-120 F (B)	220	DN 32	E505060AA			E505620AA
ecocirc XL 40-80 F	220	DN 40	E505070AA			
ecocirc XL 40-100 F	220	DN 40	E505080AA			
ecocirc XL 40-120 F (B)	250	DN 40	E505090AA			E505630AA
ecocirc XL 50-80 F (B)	240	DN 50	E505100AA			E505640AA
ecocirc XL 50-100 F	240	DN 50	E505110AA			
ecocirc XL 50-120 F (B)	280	DN 50	E505120AA			E505650AA
ecocirc XL 65-80 F (B)	340	DN 65	E505130AA			E505660AA
ecocirc XL 65-120 F (B)	340	DN 65	E505140AA			E505670AA
ecocirc XL 80-120 F	360	DN 80		E503170AA		
ecocirc XL 80-120 F	360	DN 80			E503160AA	
ecocirc XL 100-120 F	360	DN 100		E503180AA		
ecocirc XL 100-120 F	360	DN 100			E503190AA	

Twin-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				
		Connection	PN 6/10	PN 6	PN 10	
ecocirc XL D 32-120 F	220	DN 32	E508070AA			
ecocirc XL D 40-80 F	220	DN 40	E508050AA			
ecocirc XL D 40-100 F	220	DN 40	E508060AA			
ecocirc XL D 40-120 F	250	DN 40	E508080AA			
ecocirc XL D 50-80 F	240	DN 50	E508090AA			
ecocirc XL D 50-120 F	280	DN 50	E505450AA			
ecocirc XL D 65-80 F	340	DN 65	E508100AA			
ecocirc XL D 65-120 F	340	DN 65	E505470AA			
ecocirc XL D 80-120 F	360	DN 80		E503480AA		
ecocirc XL D 80-120 F	360	DN 80			E503490AA	

(*) Not yet available.

Pn-ecocircXL(G)-en_d_sc

ecocirc XLplus (Germany)

Single-head Pump type	Threaded pipe connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XLplus 25-40 (B) *	180	G 1 ½ – Rp 1	6050E9125 *			6050E9325 *
ecocirc XLplus 25-60 (B) *	180	G 1 ½ – Rp 1	6050E9175 *			6050E9375 *
ecocirc XLplus 25-80	180	G 1 ½ – Rp 1	E505800AA			
ecocirc XLplus 25-100	180	G 1 ½ – Rp 1	E505810AA			
ecocirc XLplus 32-40 (B) *	180	G 2 – Rp 1 ¼	6050E9225 *			6050E9425 *
ecocirc XLplus 32-60 (B) *	180	G 2 – Rp 1 ¼	6050E9275 *			6050E9475 *
ecocirc XLplus 32-80 (B)	180	G 2 – Rp 1 ¼	E505820AA			E506400AA
ecocirc XLplus 32-100 (B)	180	G 2 – Rp 1 ¼	E505830AA			E506410AA

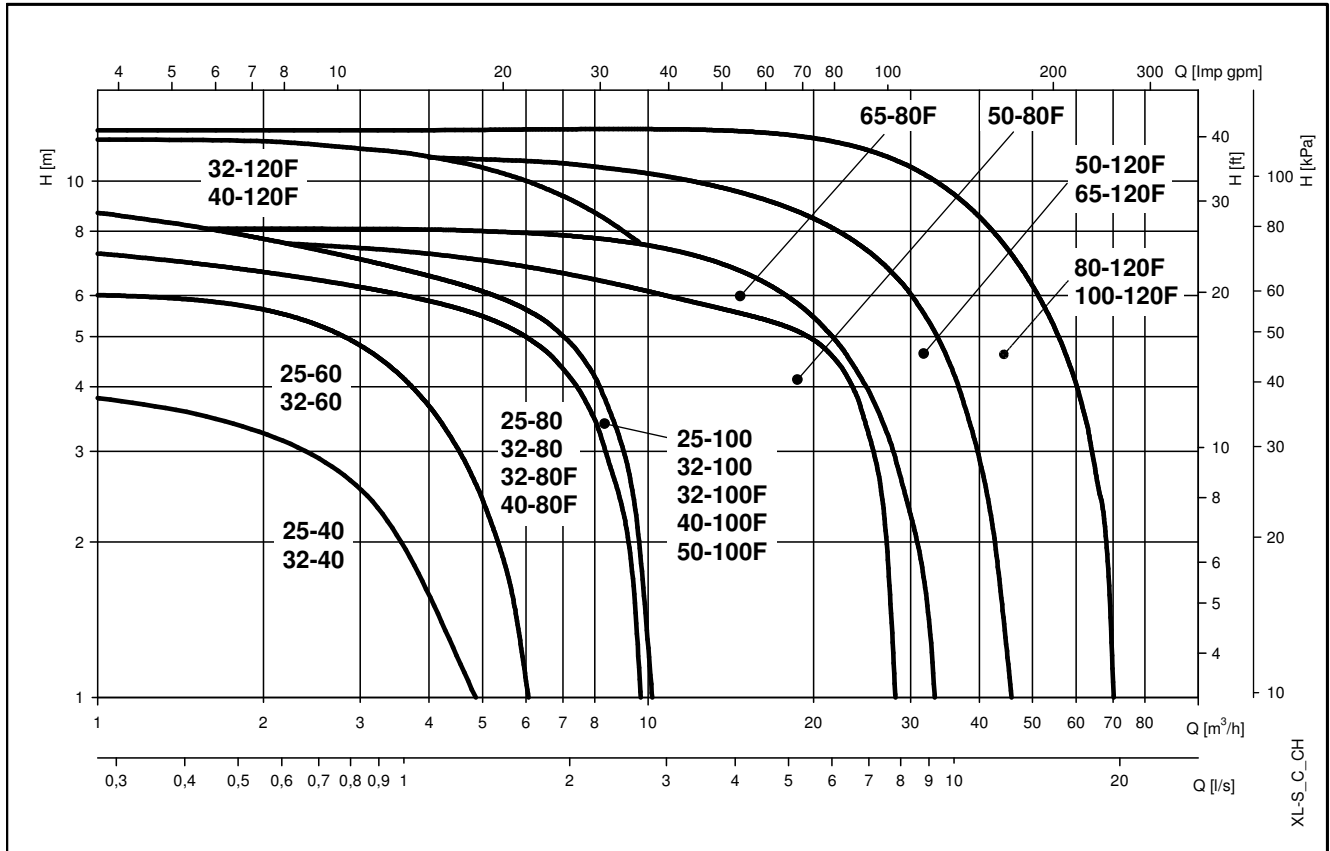
Single-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				Bronze
		Connection	PN 6/10	PN 6	PN 10	PN 6/10
ecocirc XLplus 32-80 F	220	DN 32	E505840AA			
ecocirc XLplus 32-100 F	220	DN 32	E505850AA			
ecocirc XLplus 32-120 F (B)	220	DN 32	E505860AA			E506420AA
ecocirc XLplus 40-80 F	220	DN 40	E505870AA			
ecocirc XLplus 40-100 F	220	DN 40	E505880AA			
ecocirc XLplus 40-120 F (B)	250	DN 40	E505890AA			E506430AA
ecocirc XLplus 50-80 F (B)	240	DN 50	E505900AA			E506440AA
ecocirc XLplus 50-100 F	240	DN 50	E505910AA			
ecocirc XLplus 50-120 F (B)	280	DN 50	E505920AA			E506450AA
ecocirc XLplus 65-80 F (B)	340	DN 65	E505930AA			E506460AA
ecocirc XLplus 65-120 F (B)	340	DN 65	E505940AA			E506470AA
ecocirc XLplus 80-120 F	360	DN 80		E503370AA		
ecocirc XLplus 80-120 F	360	DN 80			E503360AA	
ecocirc XLplus 100-120 F	360	DN 100		E503380AA		
ecocirc XLplus 100-120 F	360	DN 100			E503390AA	

Twin-head Pump type	Flanged connection					
	Port to port (mm)	Cast iron				
		Connection	PN 6/10	PN 6	PN 10	
ecocirc XLplus D 32-120 F	220	DN 32	E508170AA			
ecocirc XLplus D 40-80 F	220	DN 40	E508150AA			
ecocirc XLplus D 40-100 F	220	DN 40	E508160AA			
ecocirc XLplus D 40-120 F	250	DN 40	E508180AA			
ecocirc XLplus D 50-80 F	240	DN 50	E508190AA			
ecocirc XLplus D 50-120 F	280	DN 50	E506250AA			
ecocirc XLplus D 65-80 F	340	DN 65	E508200AA			
ecocirc XLplus D 65-120 F	340	DN 65	E506270AA			
ecocirc XLplus D 80-120 F	360	DN 80		E503580AA		
ecocirc XLplus D 80-120 F	360	DN 80			E503590AA	

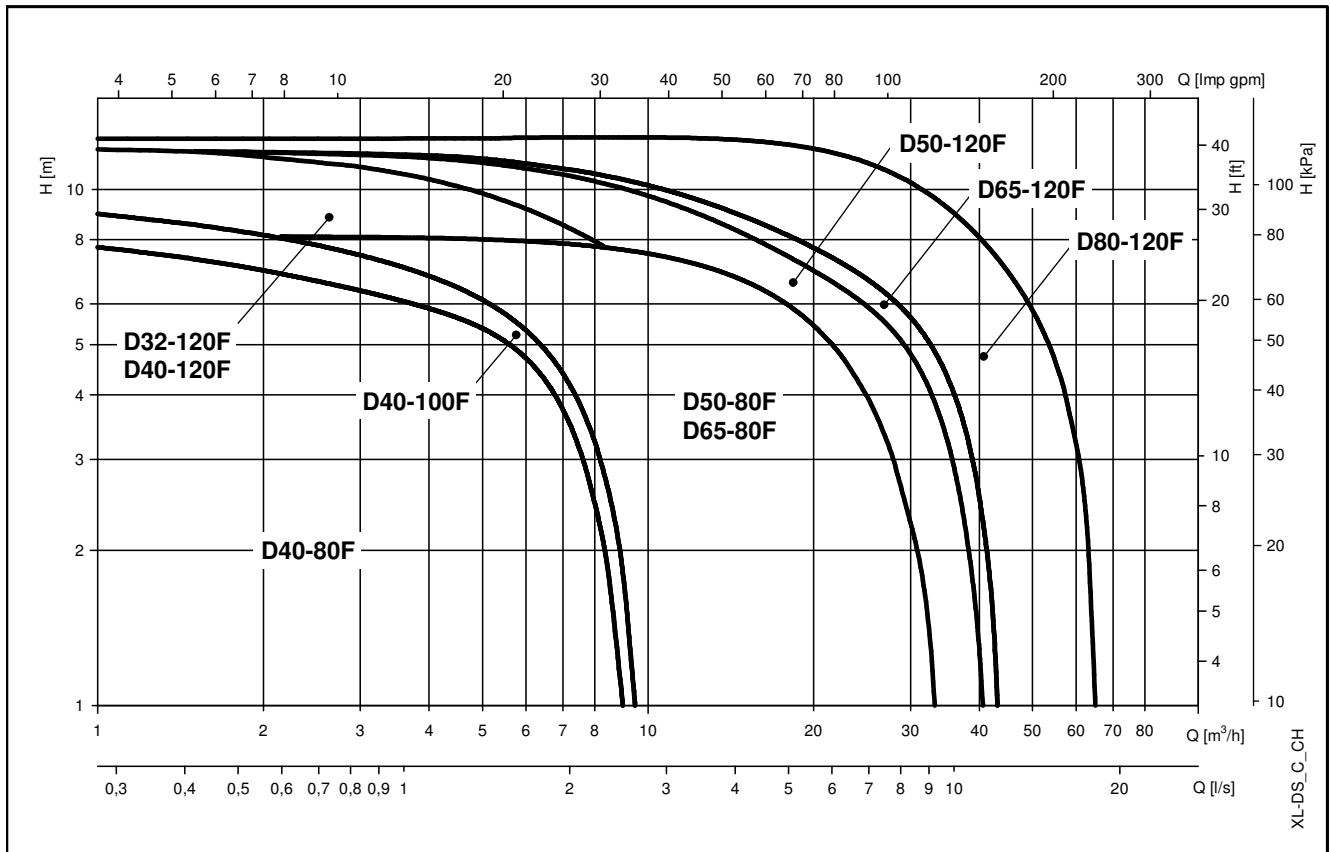
(*) Not yet available.

Pn-ecocircXLplus(G)-en_d_sc

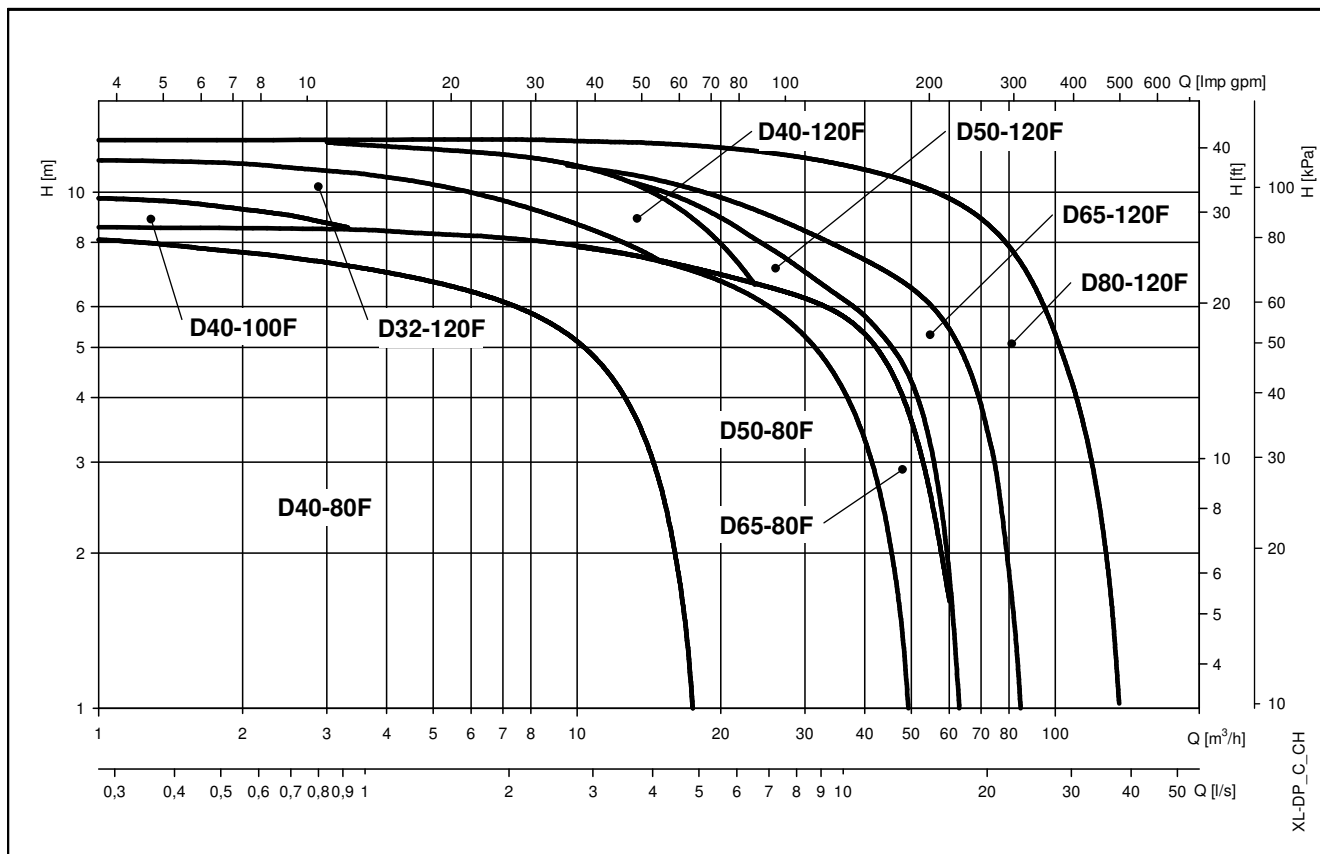
ecocirc XL-XLplus



ecocirc XL-XLplus D (single operation)



ecocirc XL-XLplus D (parallel operation)

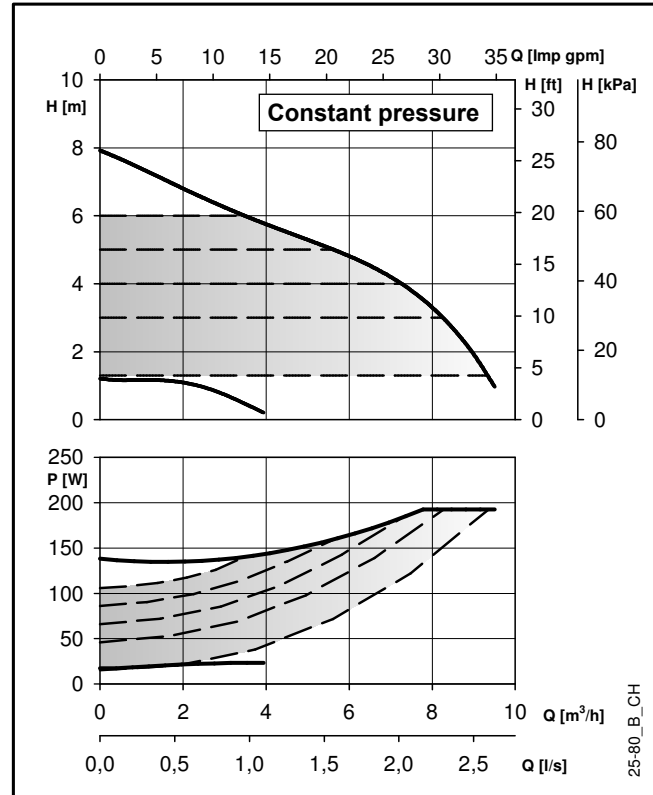
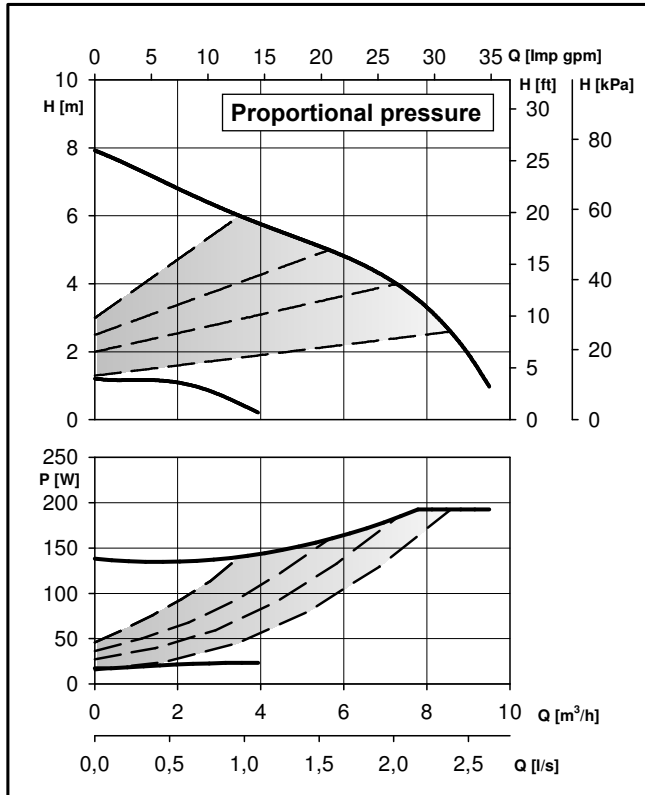


Performance curves

The curves shown in the next pages represent average values and cannot be used as guarantee. For requirements related to specific minimum performances a specific measurement is necessary.

EEL according to EN 16297.

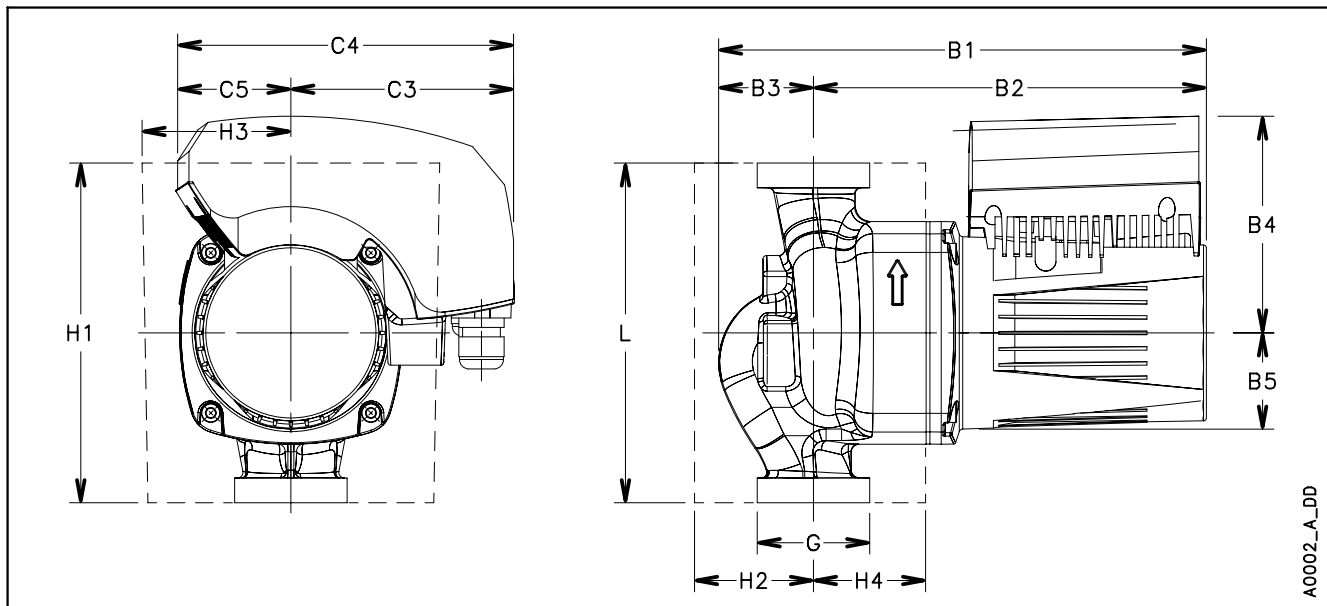
ecocirc XL-XLplus 25-80



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 25-80		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	17 / 193	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

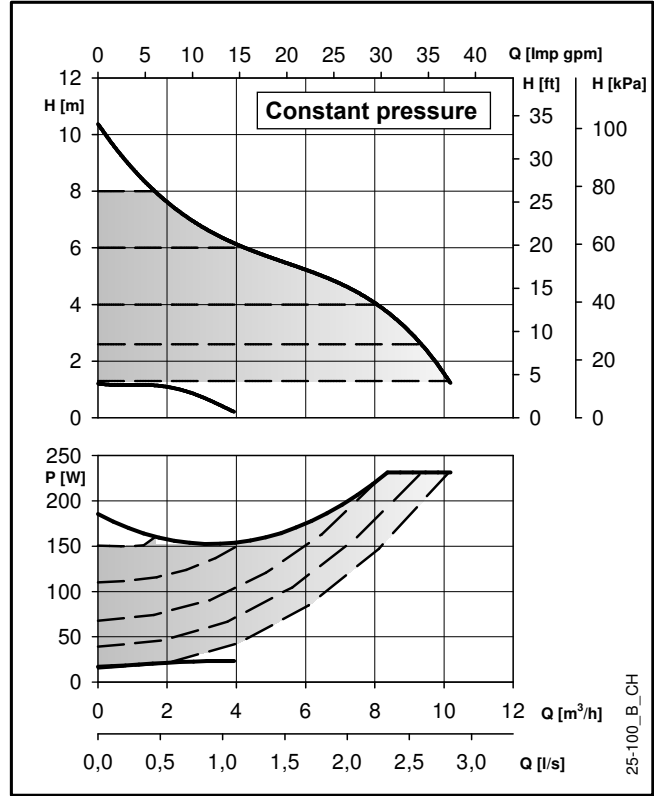
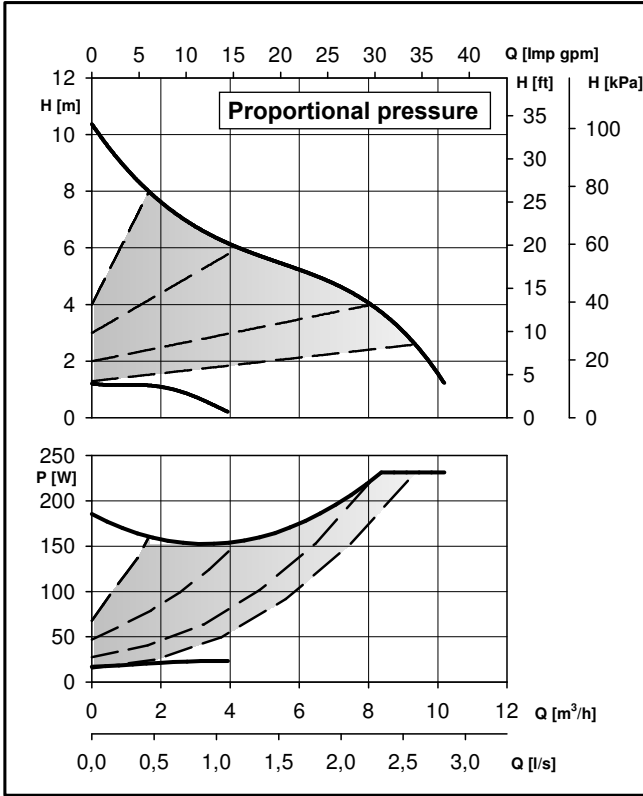
En-Rev_C



ecocirc XL-XLplus 25-80		Dimensions (mm)					Net weight 7 (Kg) - Gross weight 10,5 (Kg)							
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	
180	G 1 ½ - Rp 1	260	205	55	118	51	116	178	62	180	70	83	55	

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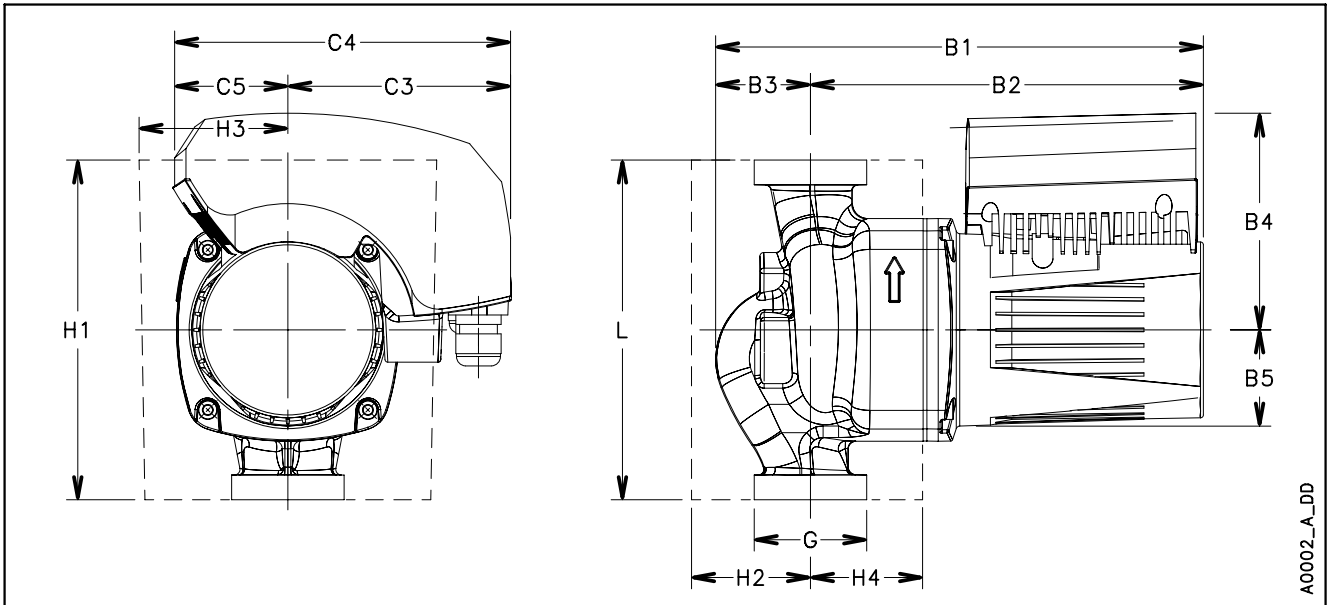
ecocirc XL-XLplus 25-100



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 25-100		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	17 / 231	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,7	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

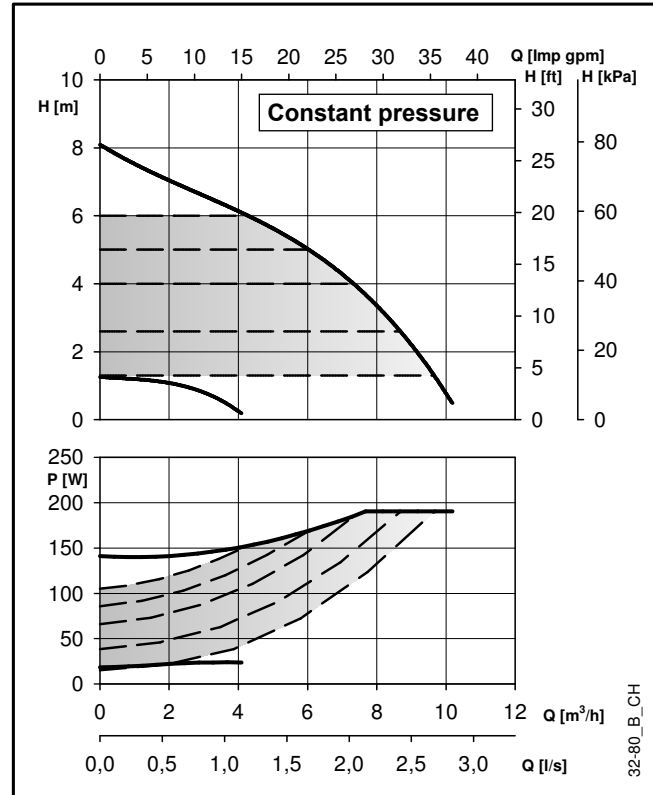
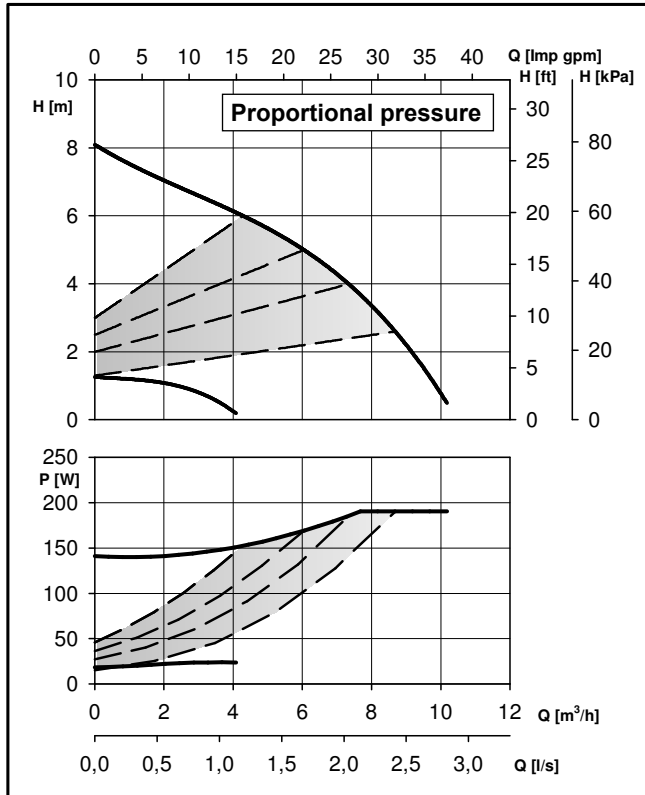
En-Rev_C



ecocirc XL-XLplus 25-100		Dimensions (mm)					Net weight 7 (Kg) - Gross weight 10,5 (Kg)							
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	
180	G 1 ½ – Rp 1	260	205	55	118	51	116	178	62	180	70	83	55	

En-Rev_A

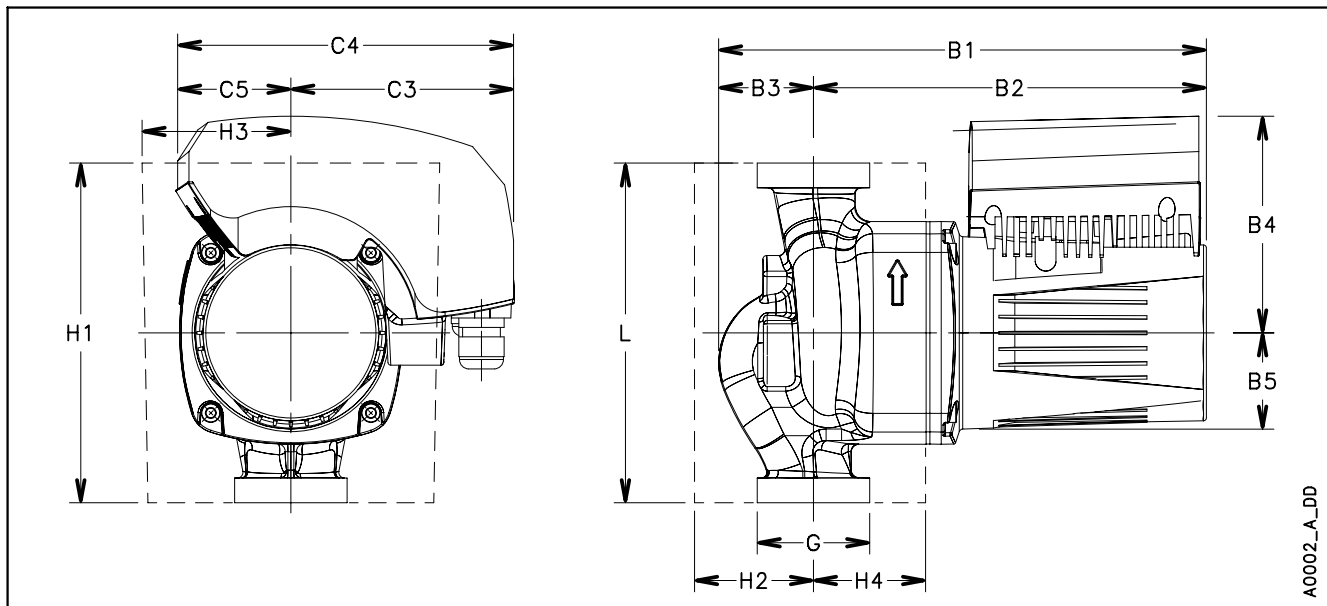
ecocirc XL-XLplus 32-80 (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 32-80 (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	18 / 191	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_C

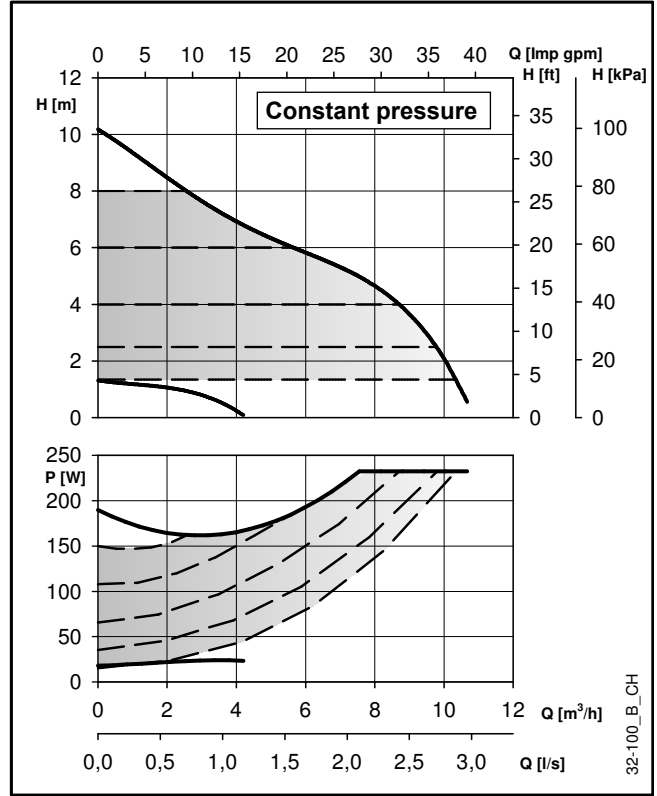
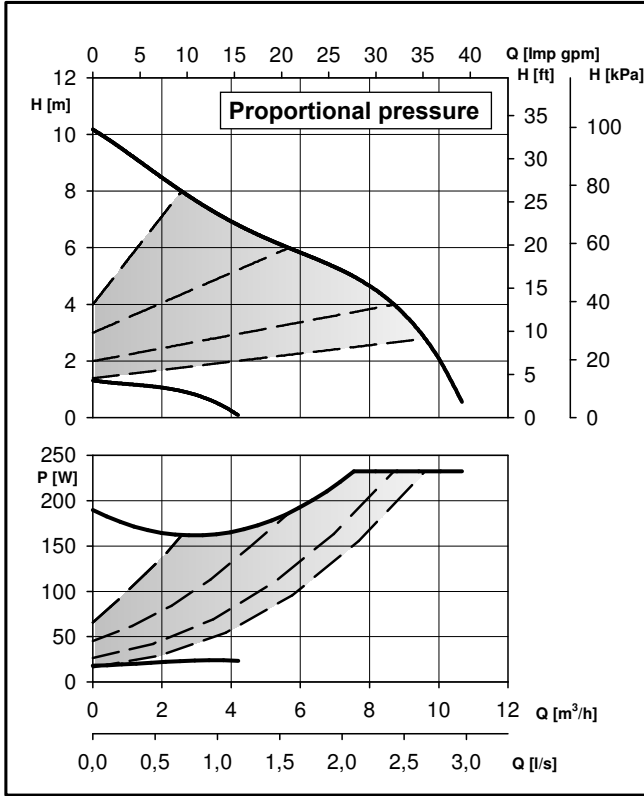


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ecocirc XL-XLplus 32-80 (B)		Dimensions (mm)					Net weight 7,3 (Kg) - Gross weight 10,8 (Kg)							
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	
180	G 2 – Rp 1 ¼	260	208	52	118	51	116	178	62	180	67	83	58	

En-Rev_A

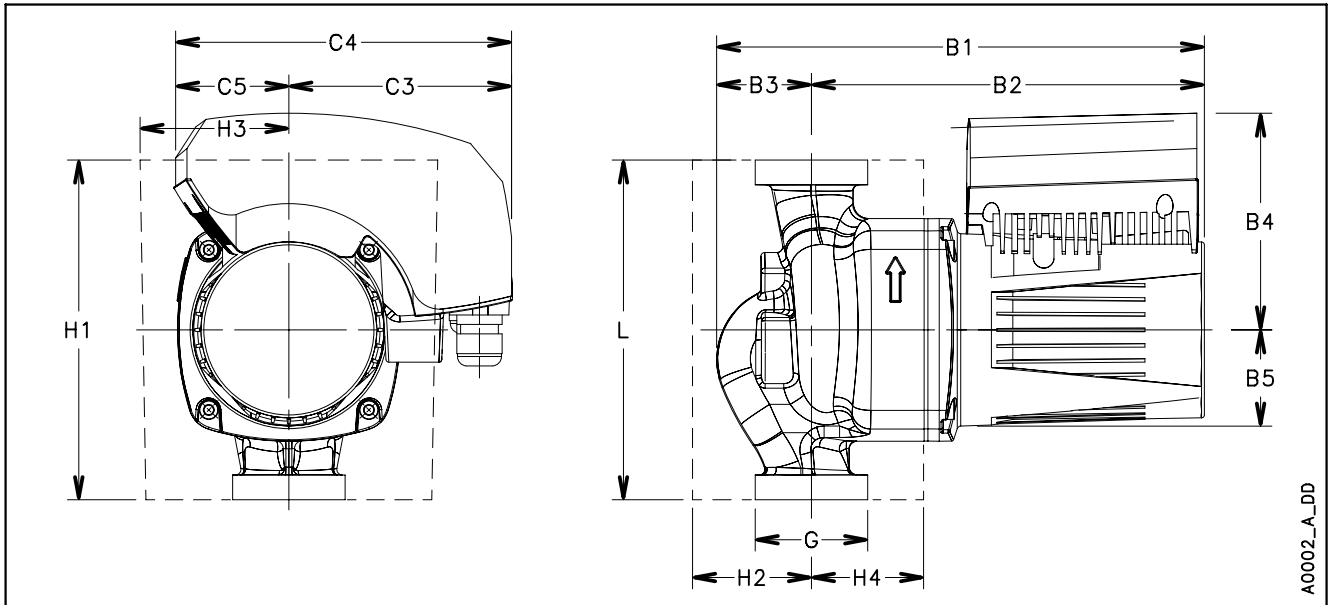
ecocirc XL-XLplus 32-100 (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 32-100 (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	18 / 233	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,7	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

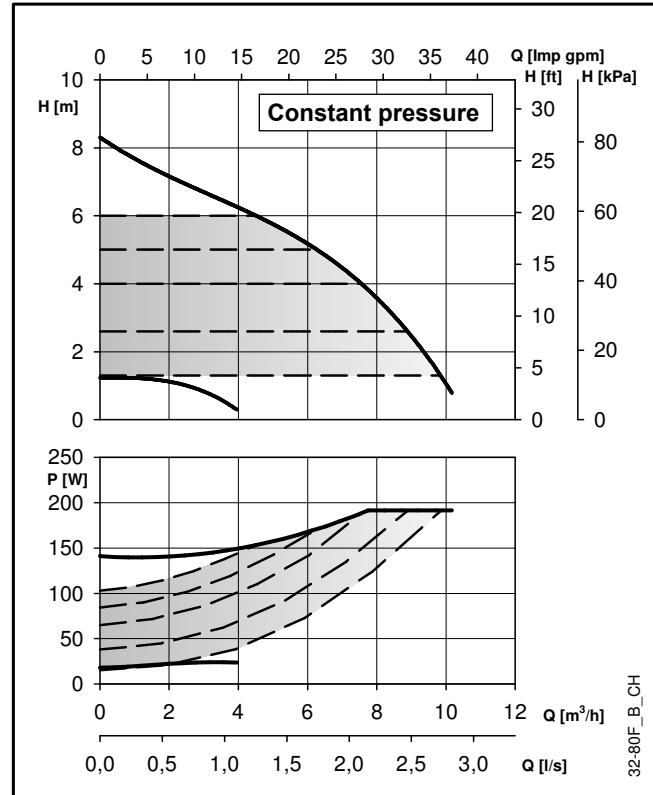
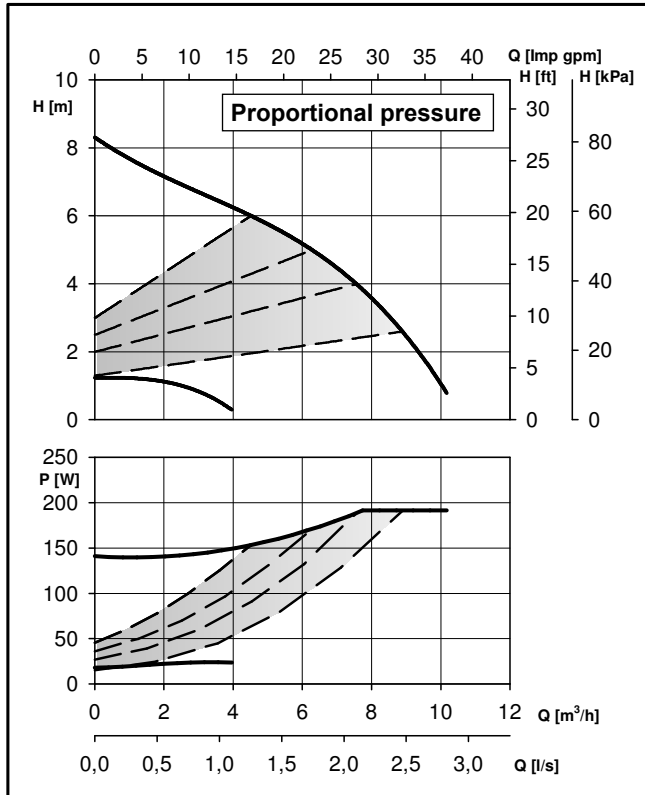
En-Rev_C



ecocirc XL-XLplus 32-100 (B)		Dimensions (mm)					Net weight 7,3 (Kg) - Gross weight 10,8 (Kg)							
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	
180	G 2 – Rp 1 ¼	260	208	52	118	51	116	178	62	180	67	83	58	

En-Rev_A

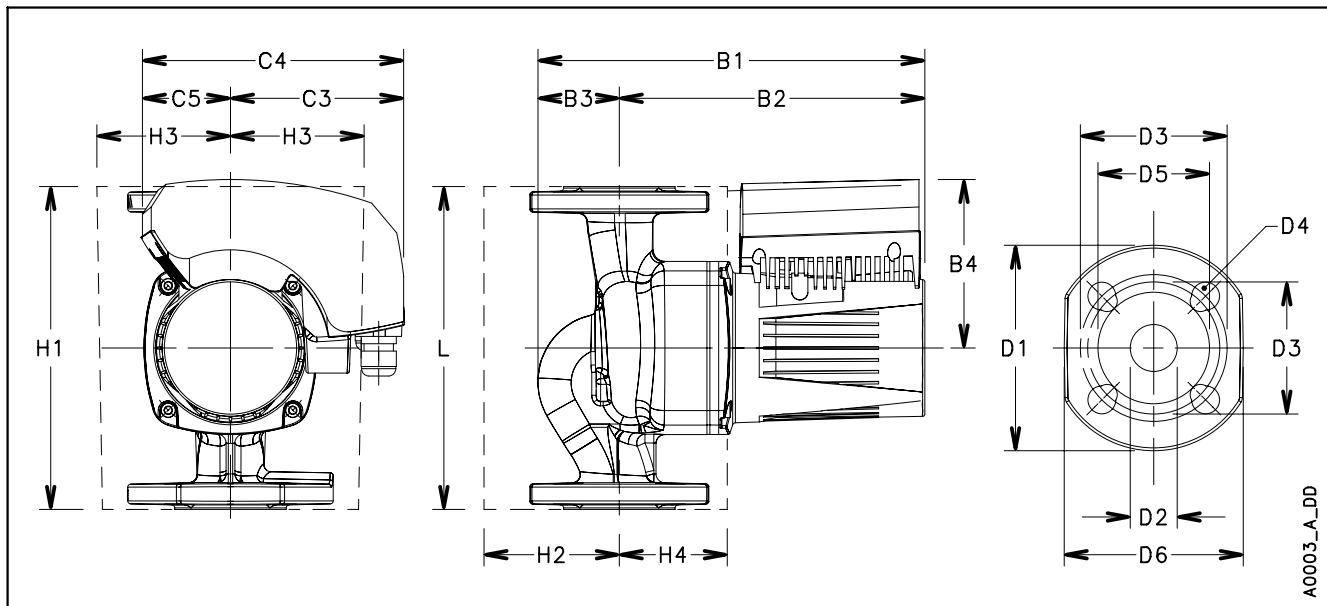
ecocirc XL-XLplus 32-80 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 32-80 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	18 / 192	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_C

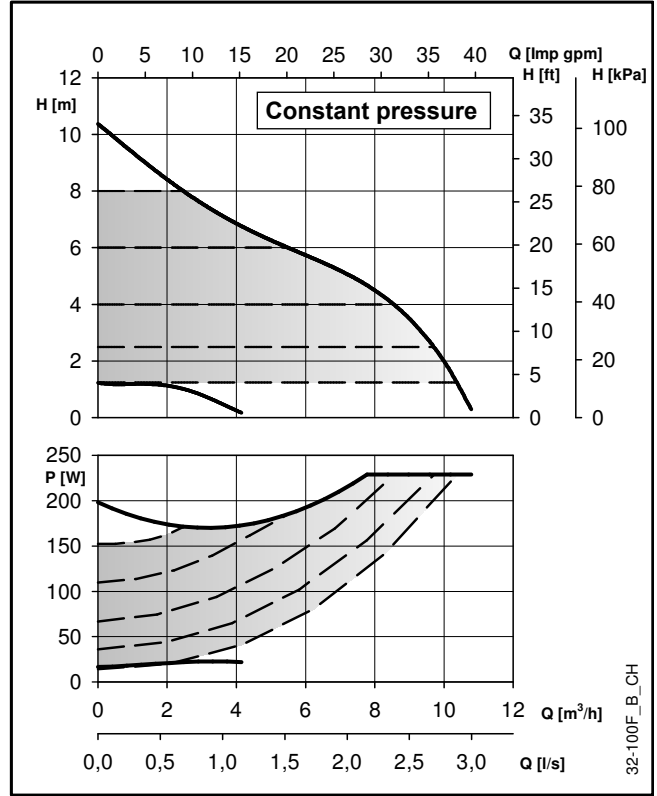
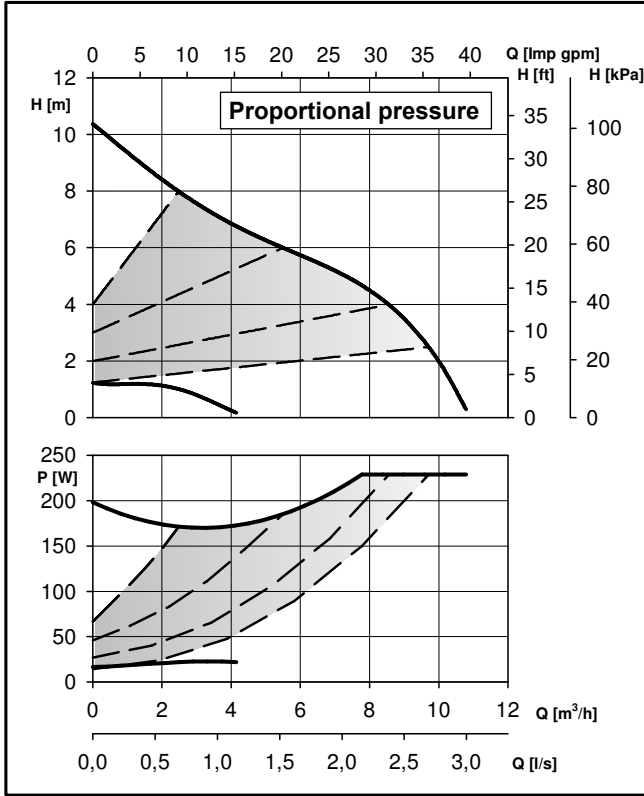


A0003_A_DD

ecocirc XL-XLplus 32-80 F		Dimensions (mm)										Net weight 9,8 (Kg) - Gross weight 13,3 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
220	DN 32	266	208	58	118	51	116	178	62	220	94	96	76	140	32	90/100	4 x 14/19	76

En-Rev_A

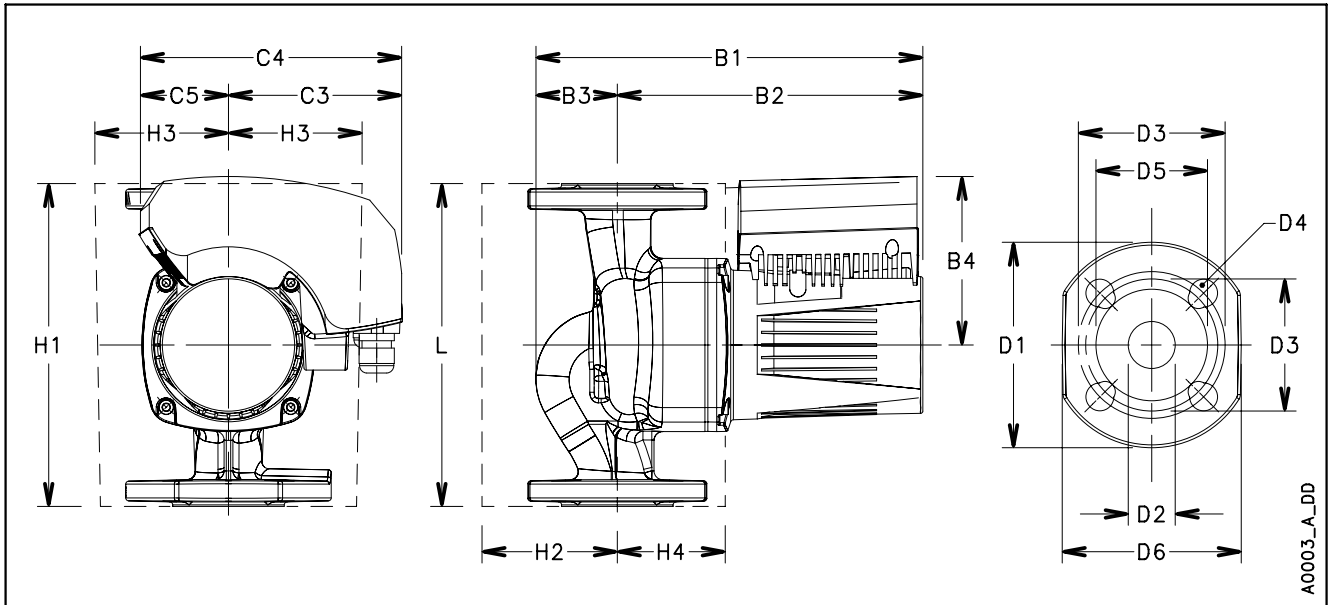
ecocirc XL-XLplus 32-100 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 32-100 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	17 / 230	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,7	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_C

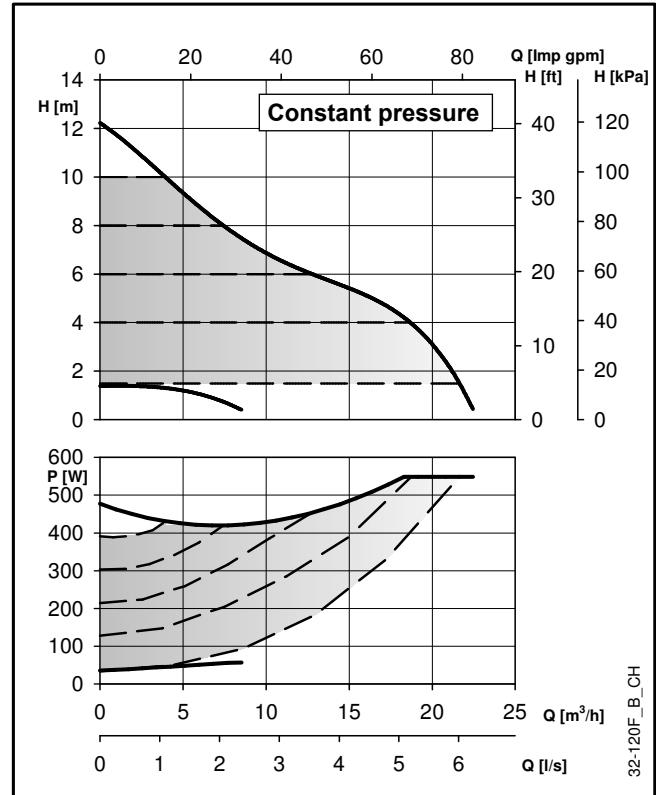
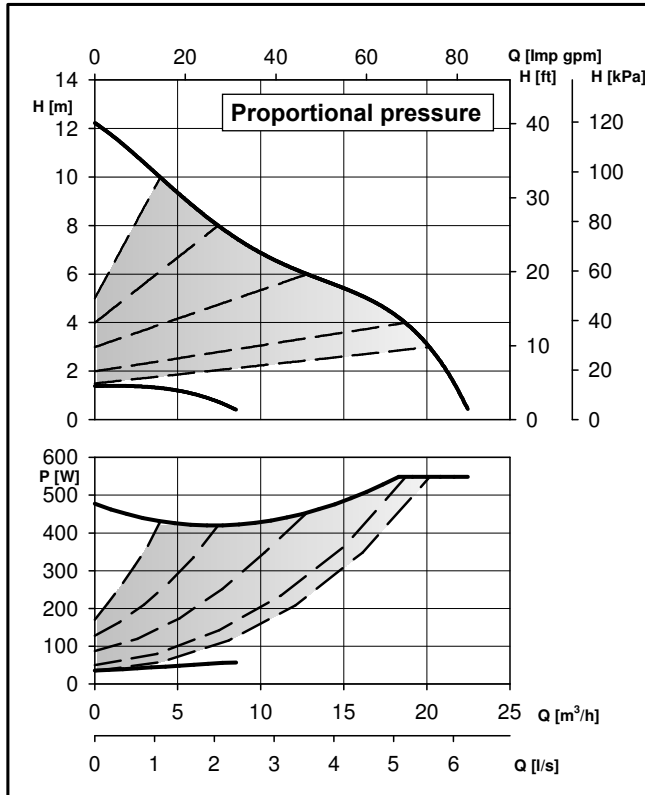


A0003_A_DD

ecocirc XL-XLplus 32-100 F		Dimensions (mm)											Net weight 9,8 (Kg) - Gross weight 13,3 (Kg)					
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
220	DN 32	266	208	58	118	51	116	178	62	220	94	96	76	140	32	90/100	4 x 14/19	76

En-Rev_A

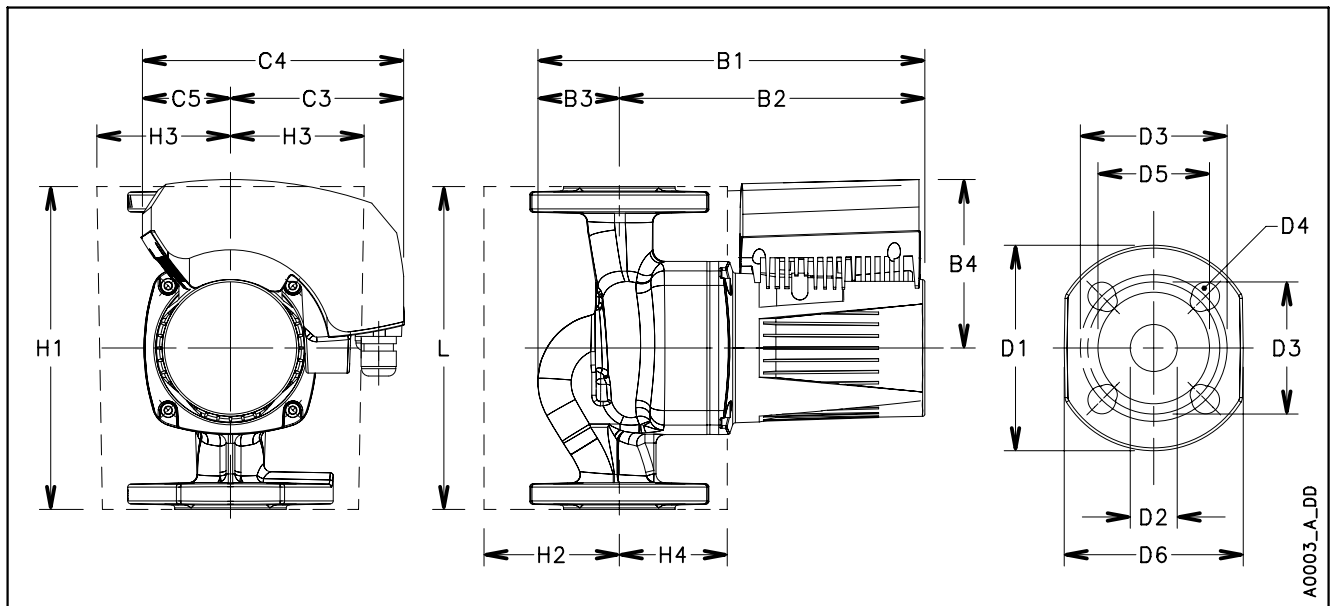
ecocirc XL-XLplus 32-120 F (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 32-120 F (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	36 / 549	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

En-Rev_C

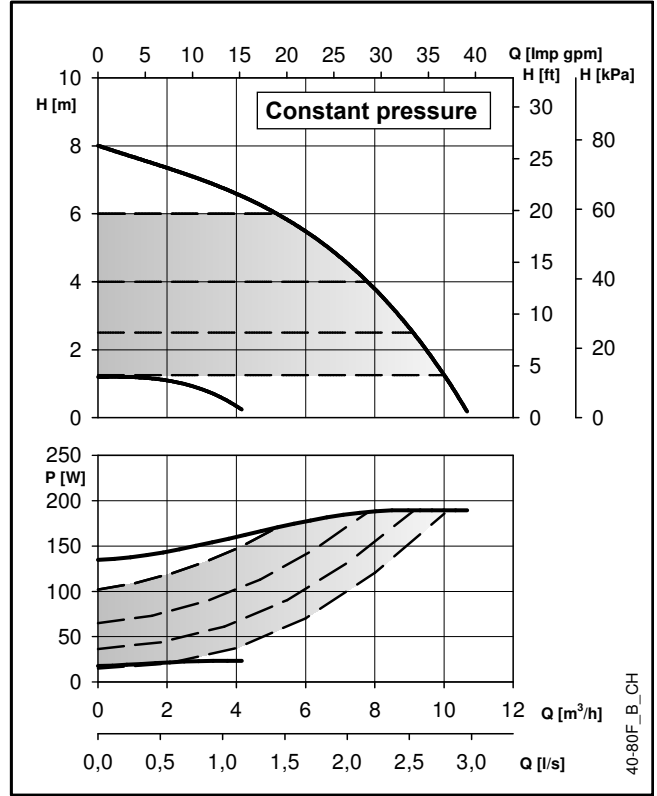
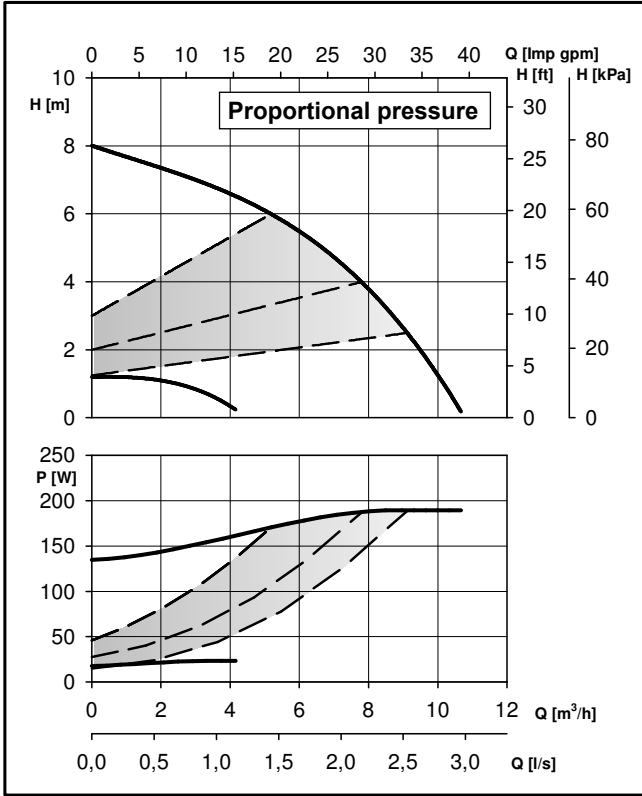


A0003_A_DD

ecocirc XL-XLplus 32-120 F (B)		Dimensions (mm)												Net weight 13 (Kg) - Gross weight 16,8 (Kg)				
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
220	DN 32	322	252	70	132	53	128	206	78	220	83	83	83	140	32	90/100	4 x 14/19	76

En-Rev_A

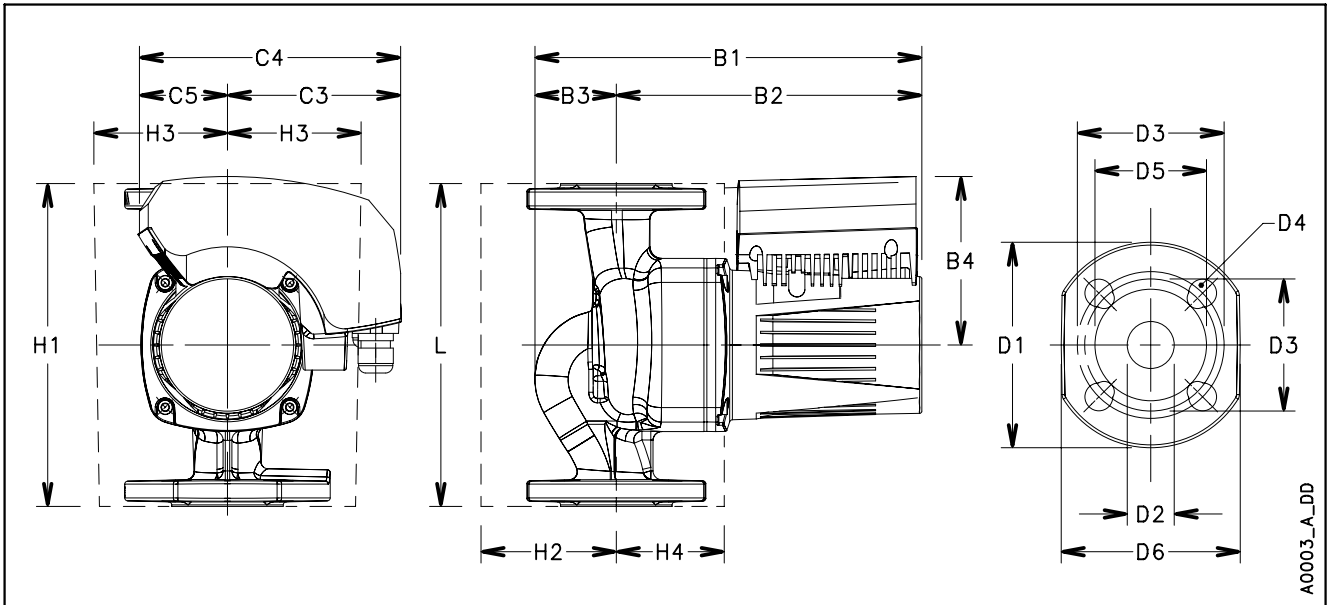
ecocirc XL-XLplus 40-80 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 40-80 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	18 / 190	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_C

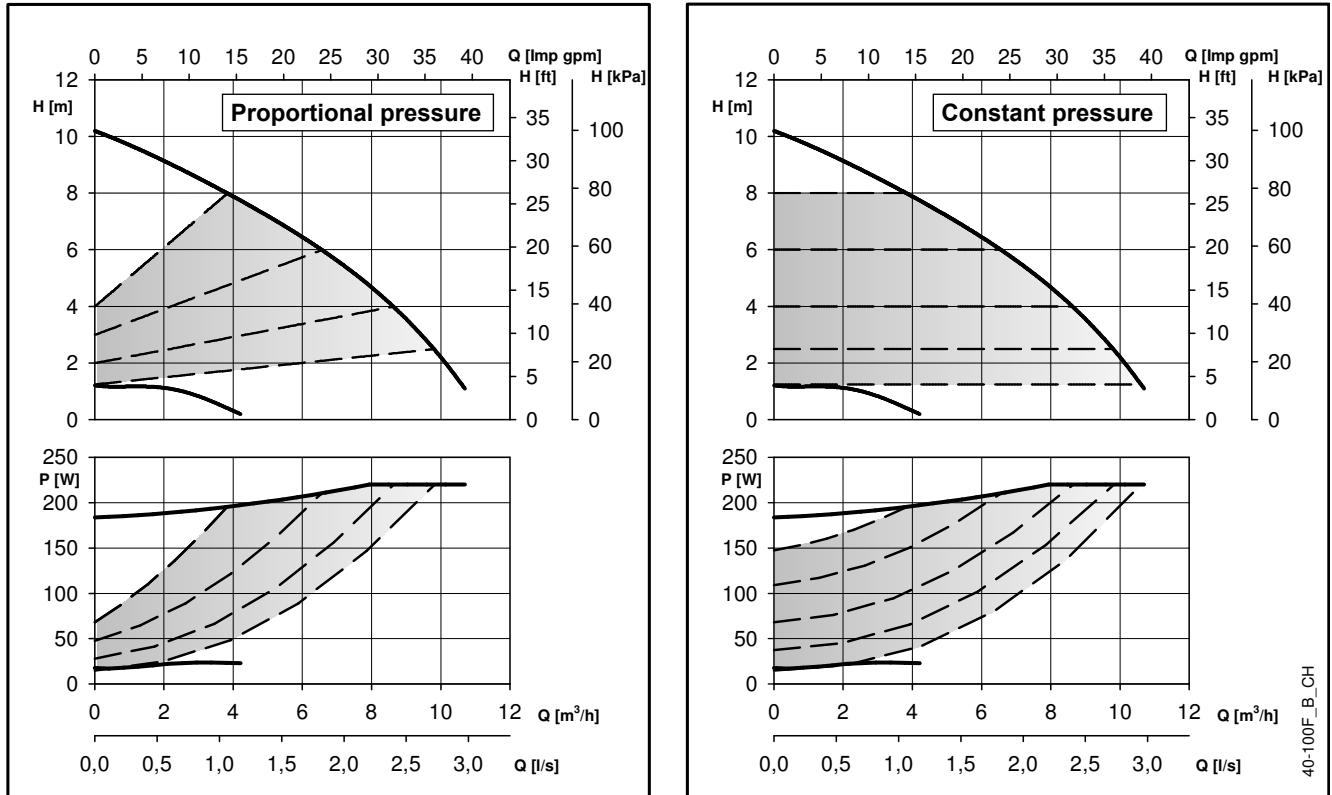


A0003_A_DD

ecocirc XL-XLplus 40-80 F		Dimensions (mm)										Net weight 10,7 (Kg) - Gross weight 14,2 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
220	DN 40	274	212	62	118	51	116	178	62	220	94	96	76	150	40	100/110	4 x 14/19	84

En-Rev_A

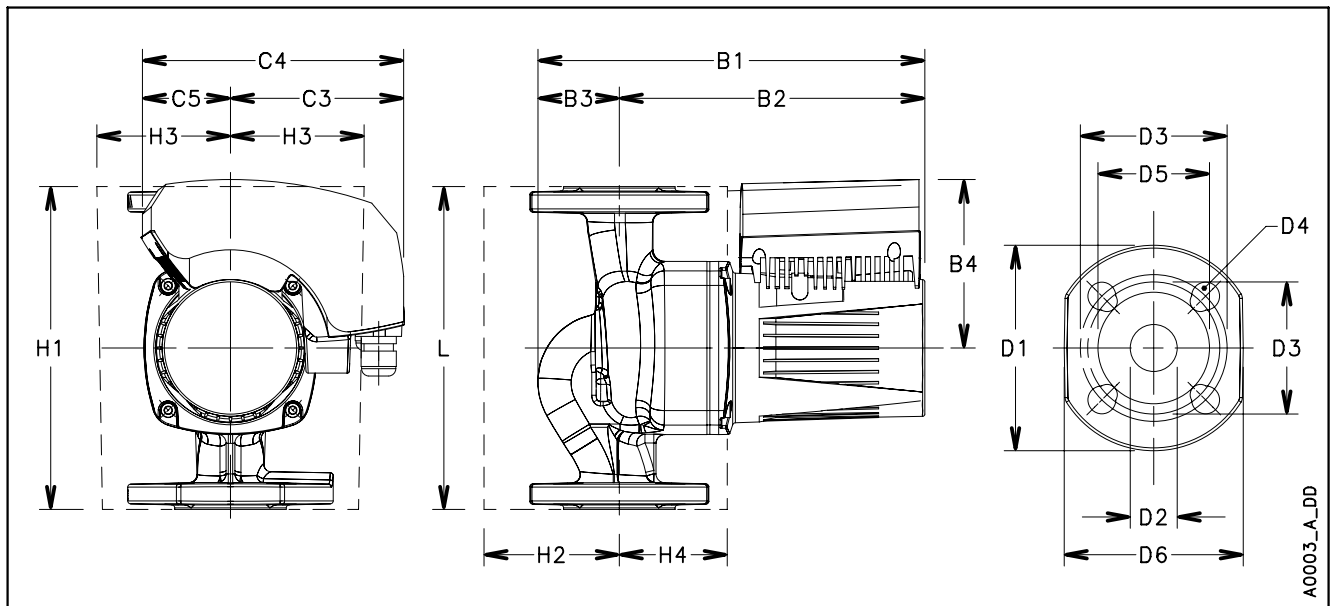
ecocirc XL-XLplus 40-100 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 40-100 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	17 / 220	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,6	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

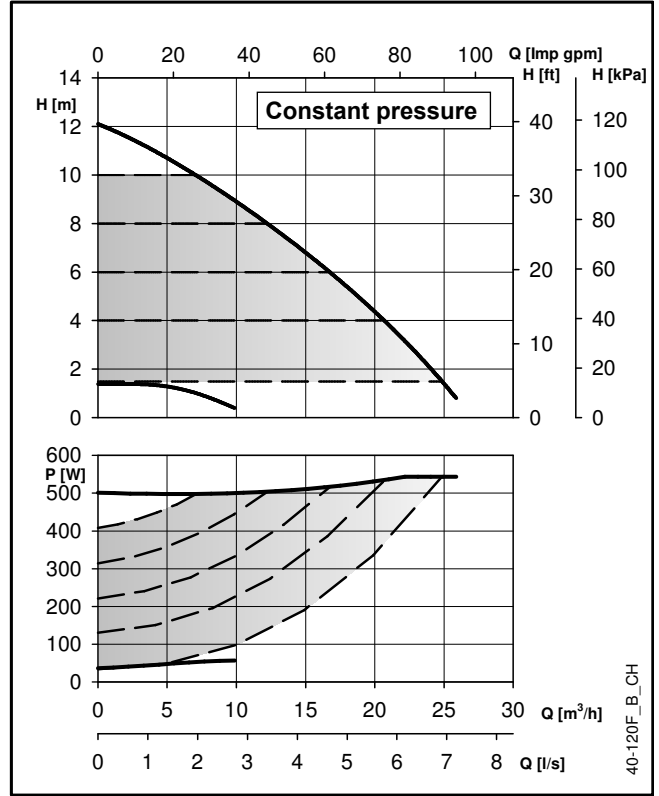
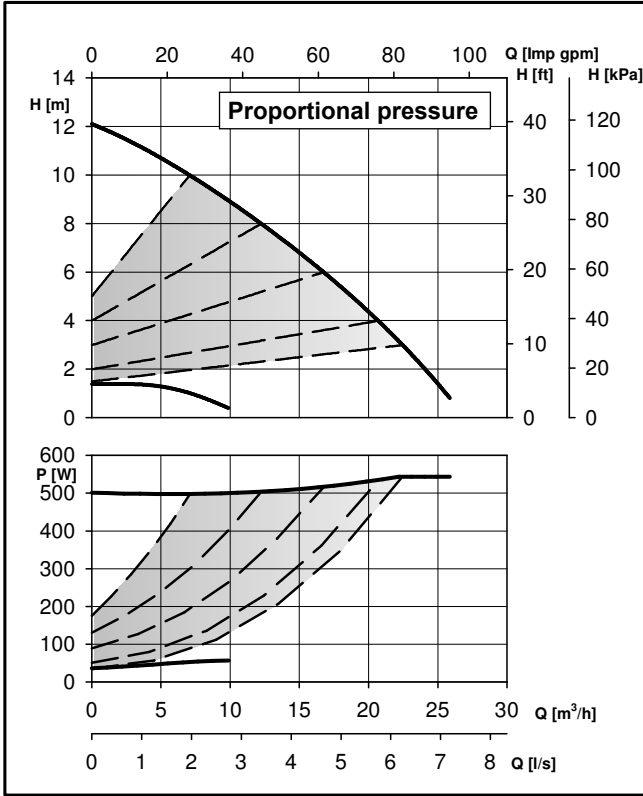
En-Rev_C



ecocirc XL-XLplus 40-100 F		Dimensions (mm)										Net weight 10,7 (Kg) - Gross weight 14,2 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
220	DN 40	274	212	62	118	51	116	178	62	220	94	96	76	150	40	100/110	4 x 14/19	84

En-Rev_A

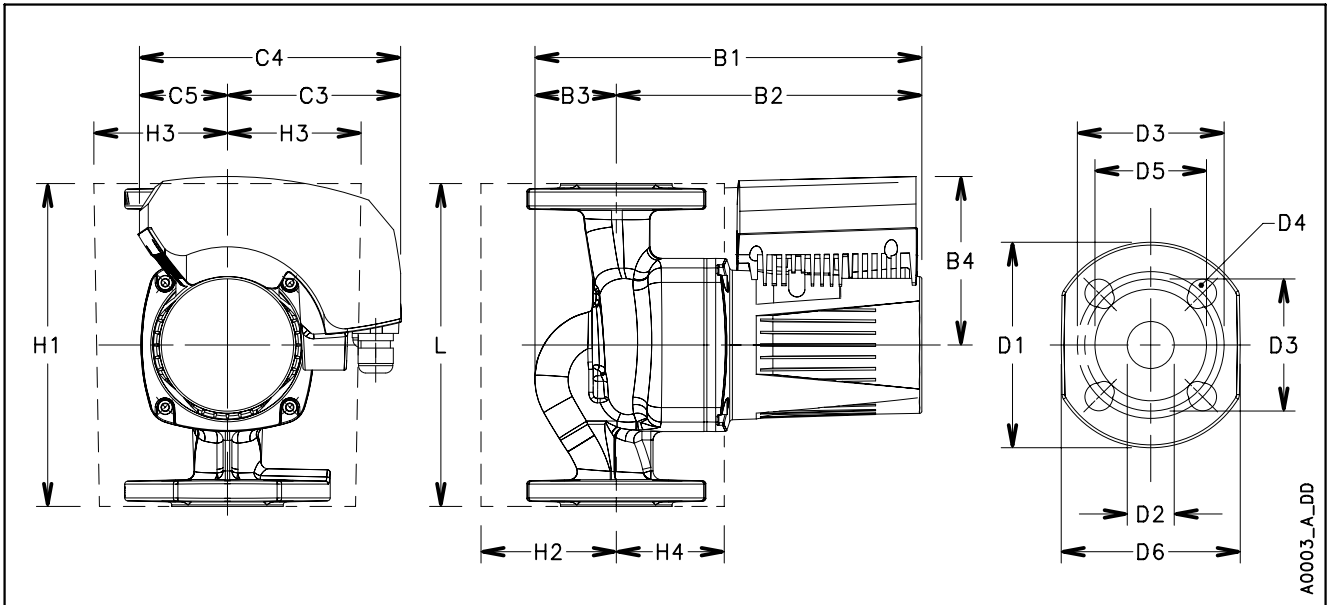
ecocirc XL-XLplus 40-120 F (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 40-120 F (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	36 / 544	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

En-Rev_C

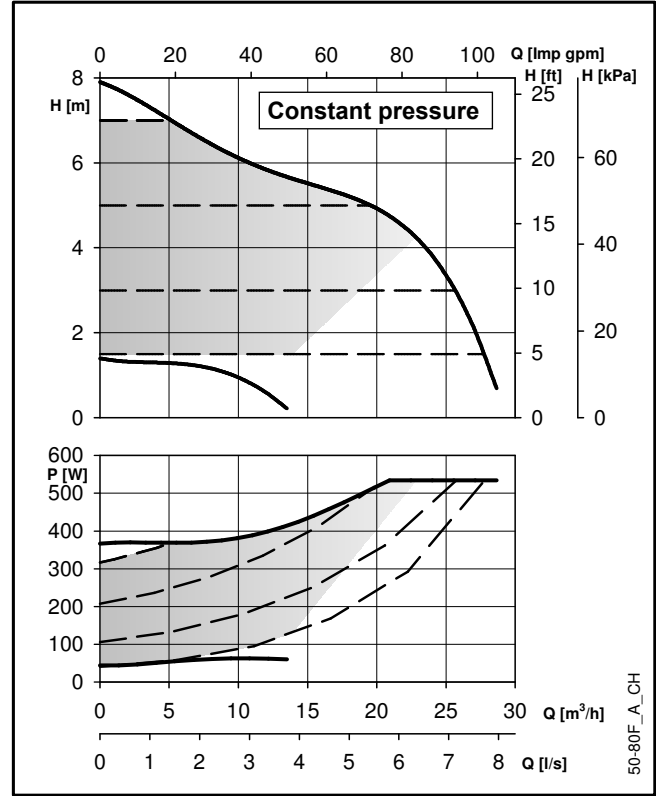
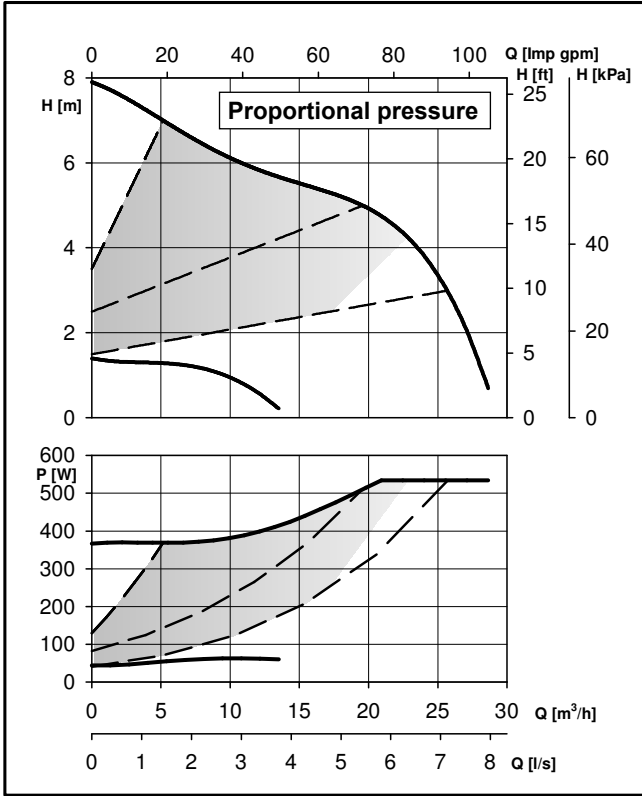


A0003_A_DD

ecocirc XL-XLplus 40-120 F (B)		Dimensions (mm)											Net weight 13,9 (Kg) - Gross weight 17,7 (Kg)					
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
250	DN 40	338	256	82	132	53	128	206	78	250	87	90	88	150	40	100/110	4 x 14/19	84

En-Rev_A

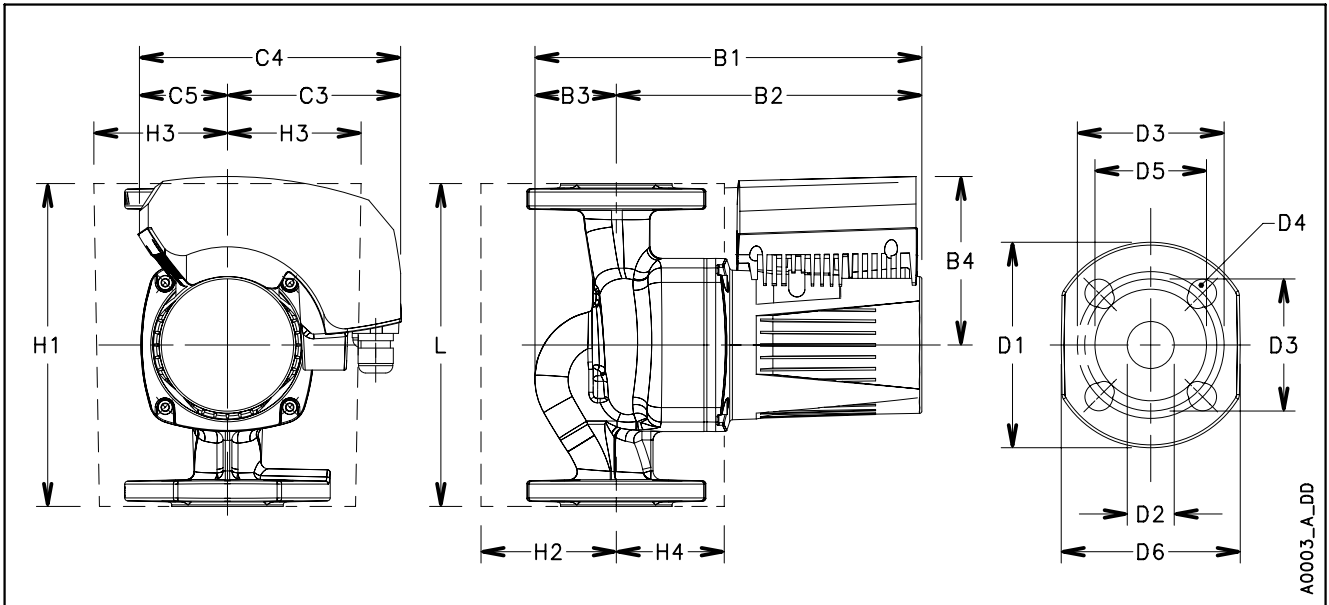
ecocirc XL-XLplus 50-80 F (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 50-80 F (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	44 / 534	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 2,3	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

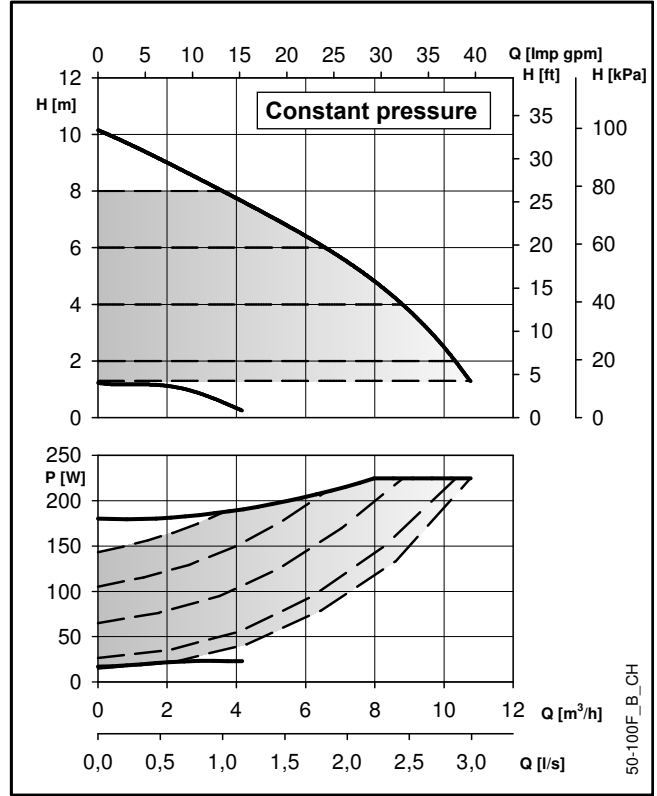
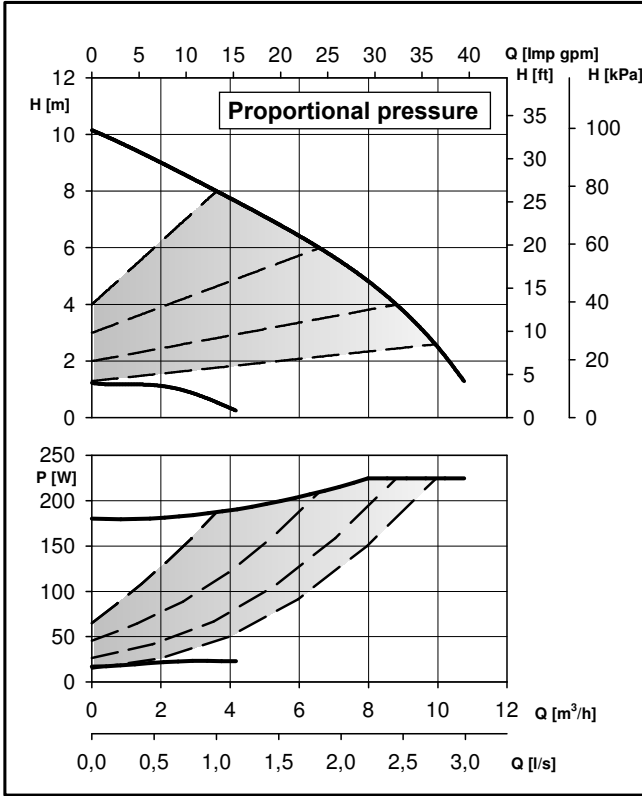
En-Rev_B



ecocirc XL-XLplus 50-80 F (B)		Dimensions (mm)										Net weight 15,9 (Kg) - Gross weight 19,7 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
240	DN 50	355	261	94	132	53	128	206	78	280	93	93	93	165	50	110/125	4 x 14/19	100

En-Rev_B

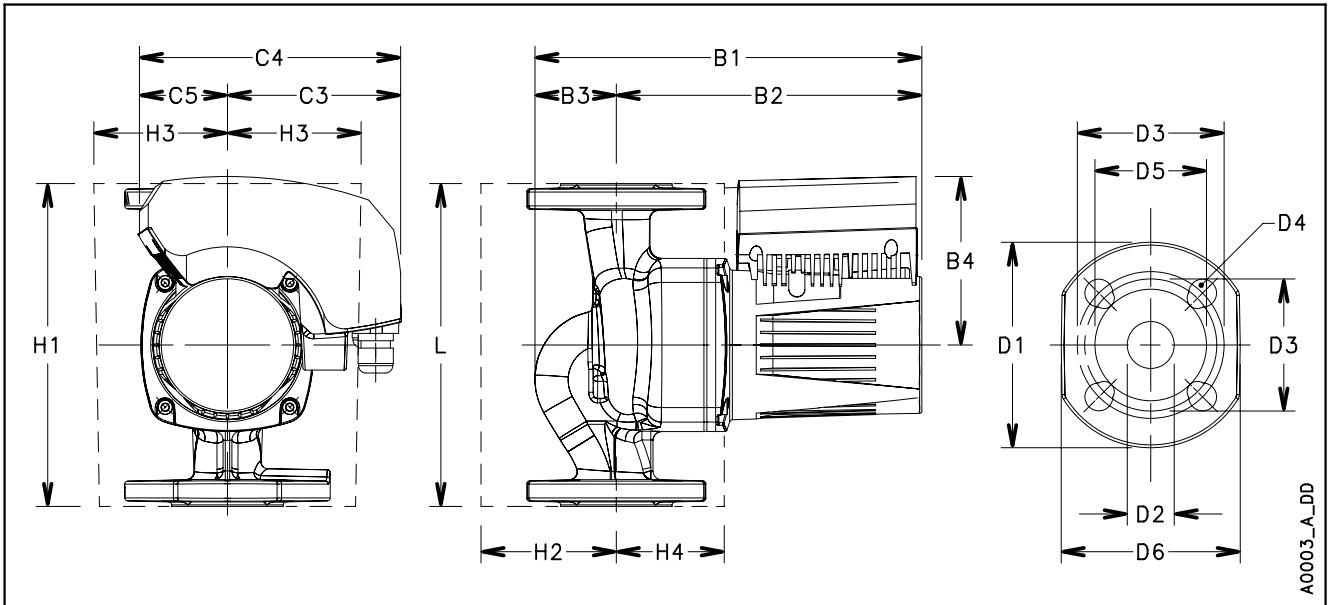
ecocirc XL-XLplus 50-100 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 50-100 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	17 / 225	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,6	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_C

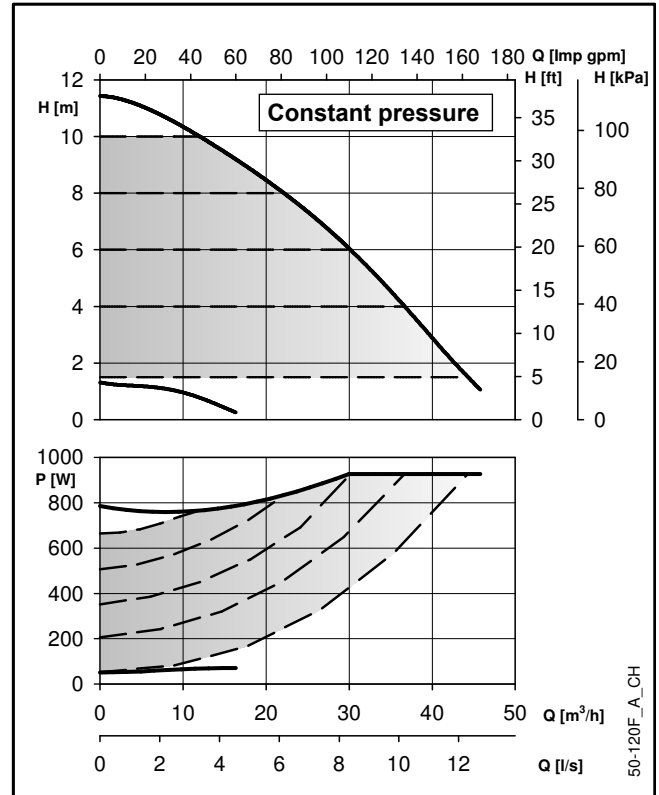
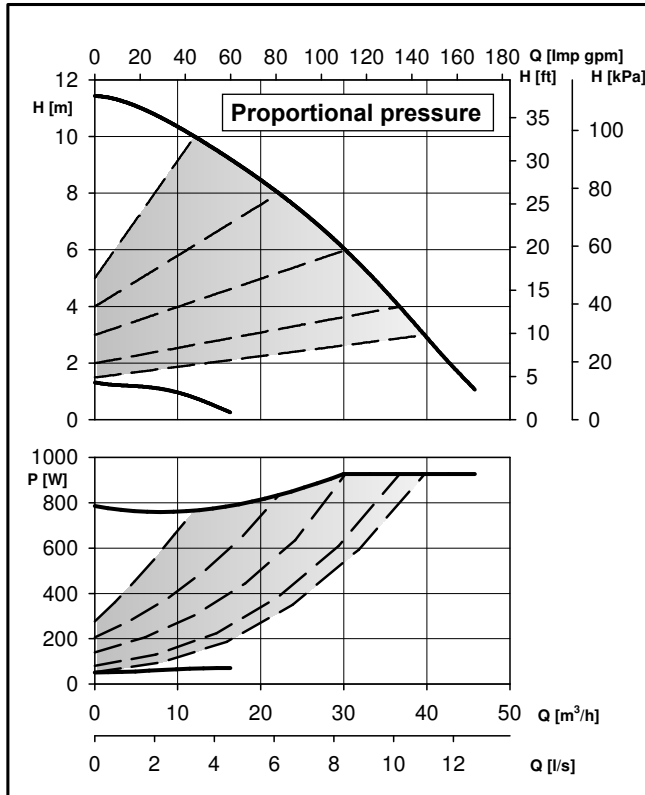


A0003_A_DD

ecocirc XL-XLplus 50-100 F		Dimensions (mm)										Net weight 12,3 (Kg) - Gross weight 15,8 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
240	DN 50	281	217	64	118	51	116	178	62	220	94	96	76	165	50	110/125	4 x 14/19	100

En-Rev_A

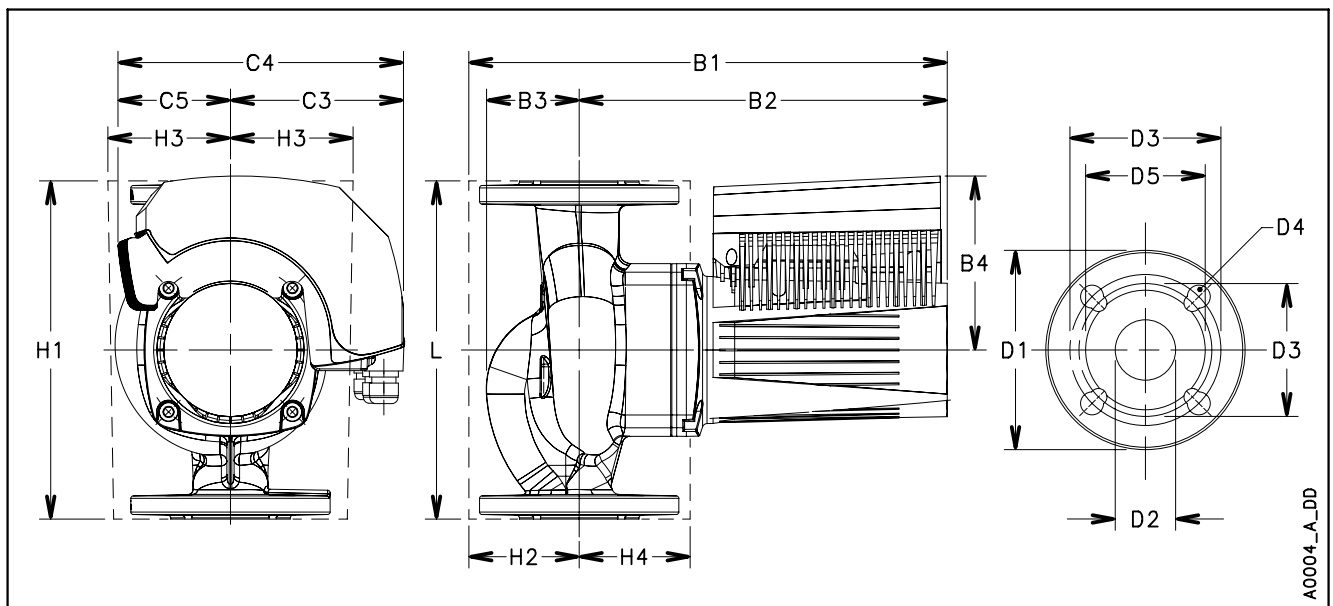
ecocirc XL-XLplus 50-120 F (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 50-120 F (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	52 / 927	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 4,1	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 52 \text{ dB(A)}$

En-Rev_B

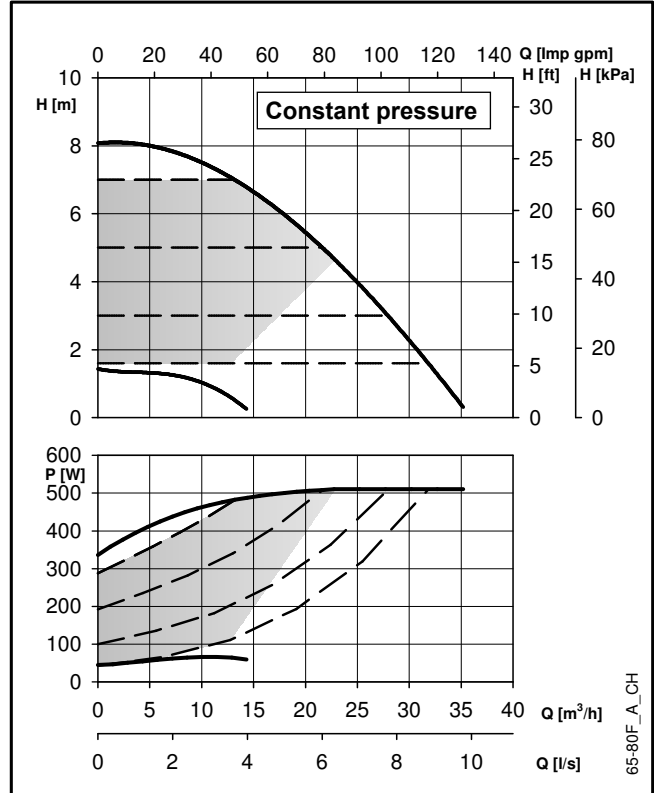
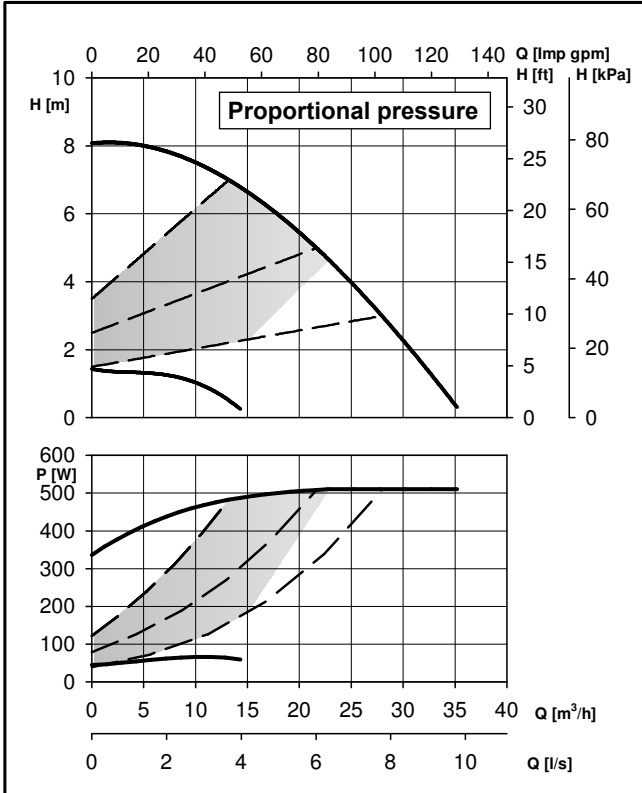


A0004_A_DD

ecocirc XL-XLplus 50-120 F (B)		Dimensions (mm)										Net weight 15,1 (Kg) - Gross weight 19 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
280	DN 50	368	290	78	147	60	148	230	82	280	94	105	95	165	50	110/125	4 x 14/19	100

En-Rev_A

ecocirc XL-XLplus 65-80 F (B)

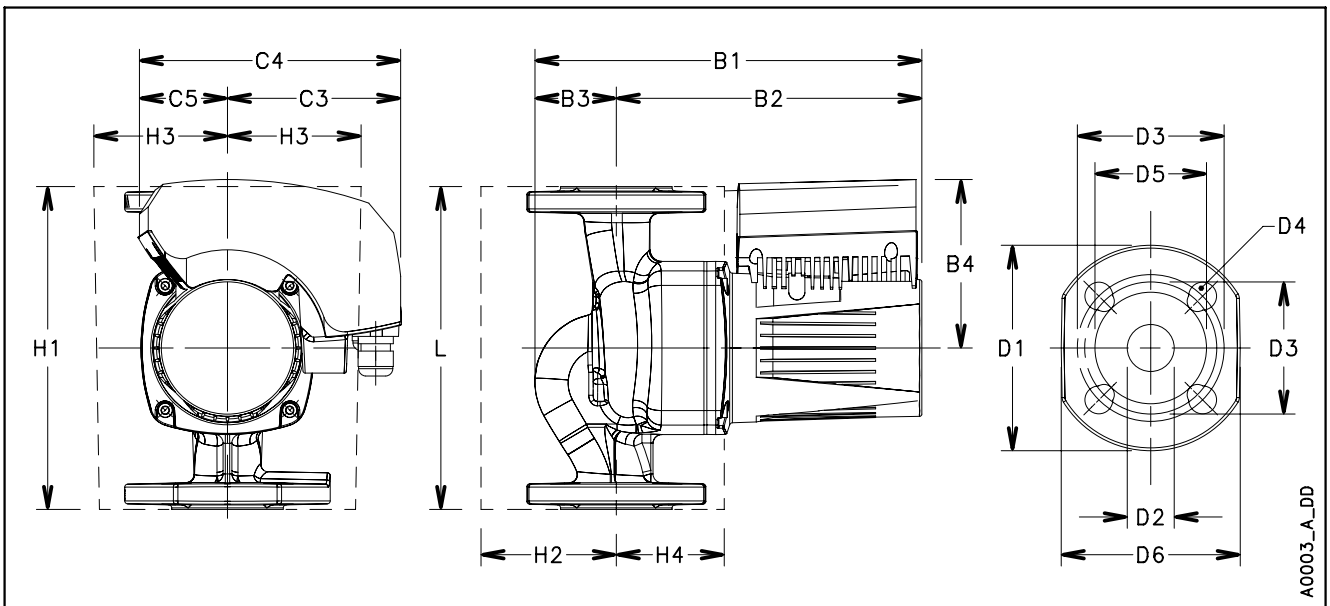


65-80F_A_CH

These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 65-80 F (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	45 / 510	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,2	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

En-Rev_B

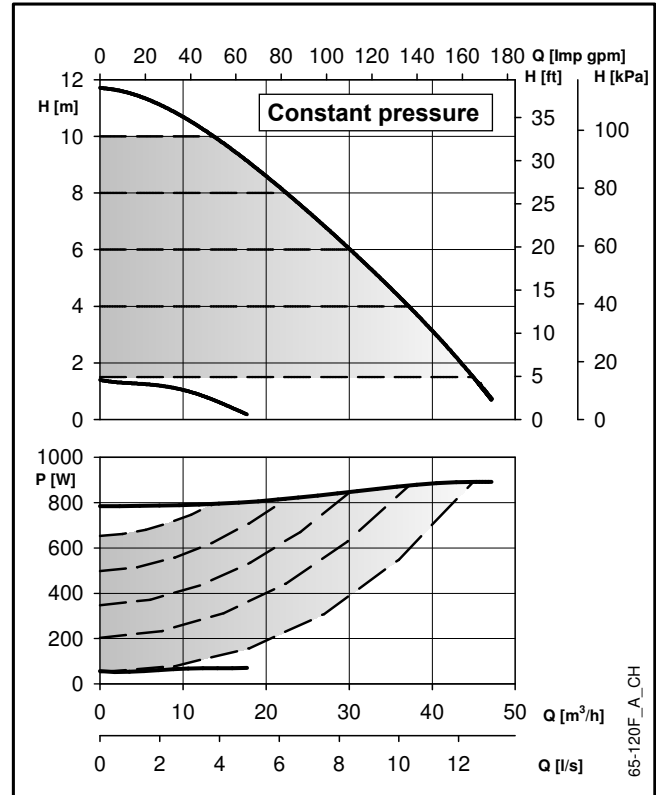
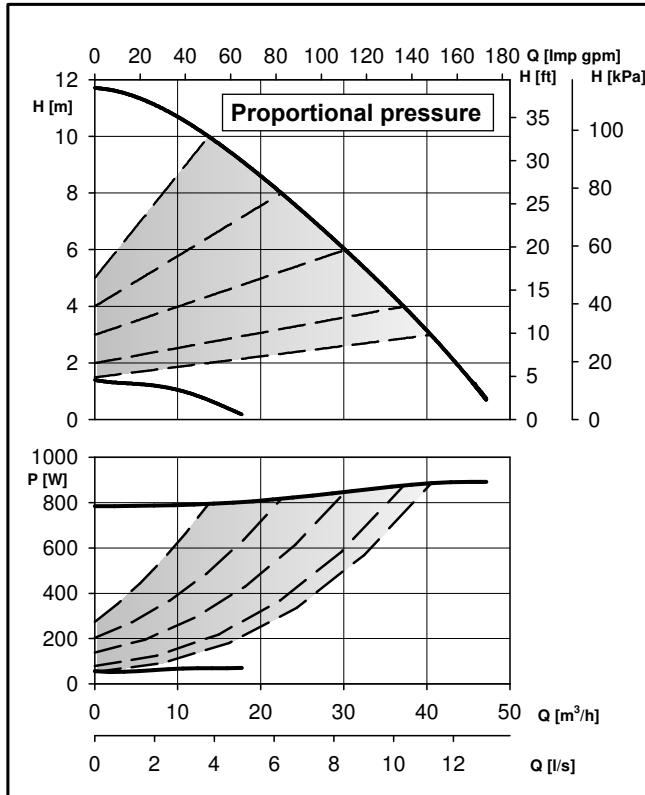


A0003_A_DD

ecocirc XL-XLplus 65-80 F (B)		Dimensions (mm)										Net weight 18,9 (Kg) - Gross weight 24,2 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
340	DN 65	364	267	97	132	53	128	206	78	340	112	106	108	185	65	130/145	4 x 14/19	118

En-Rev_A

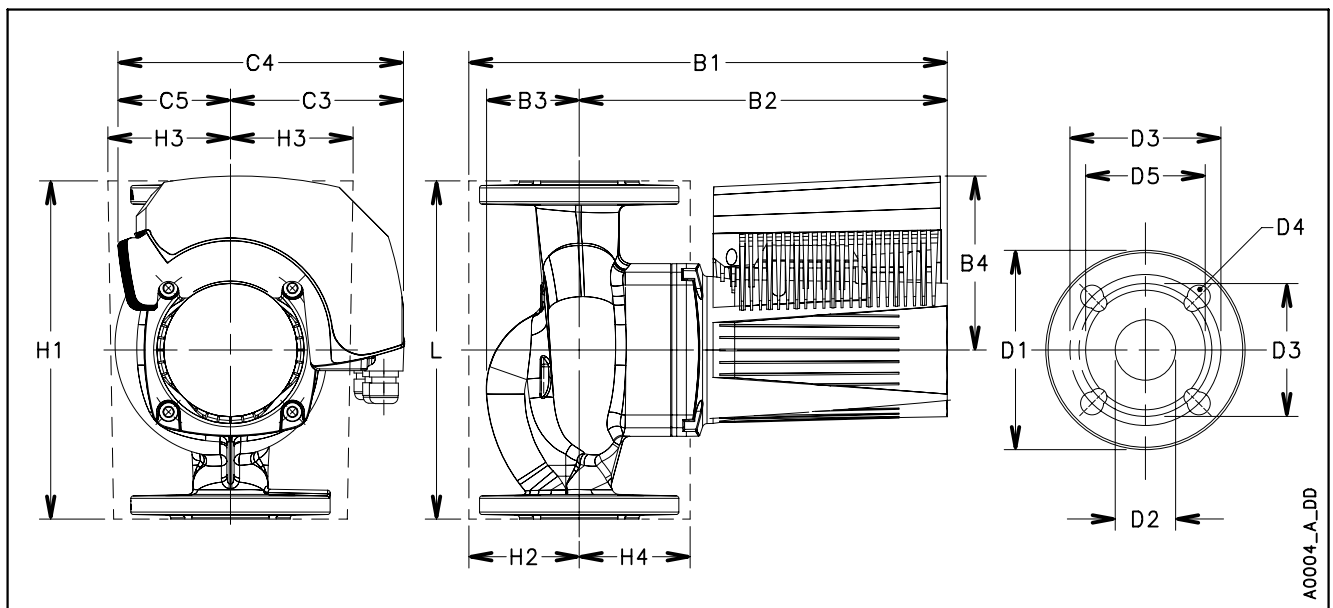
ecocirc XL-XLplus 65-120 F (B)



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 65-120 F (B)		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	53 / 892	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 4,0	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 52 \text{ dB(A)}$

En-Rev_B

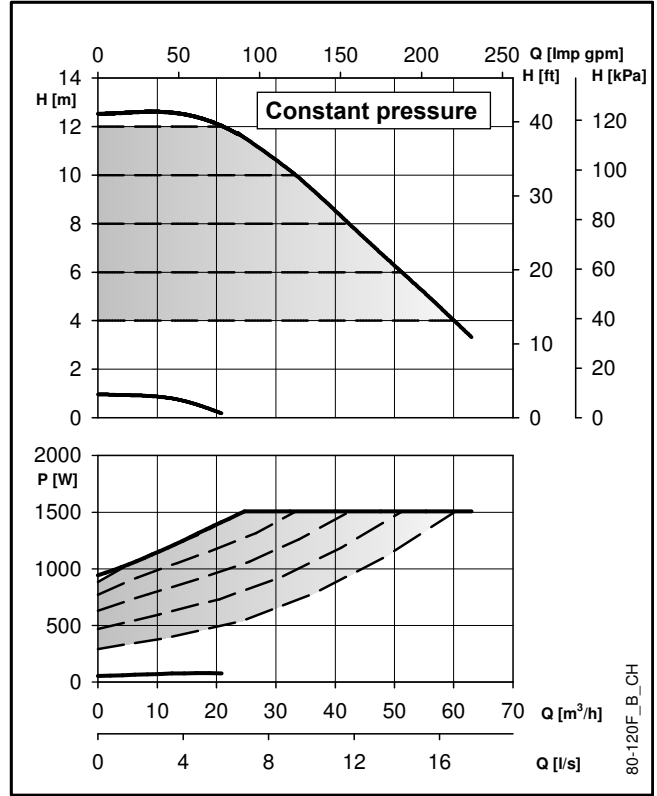
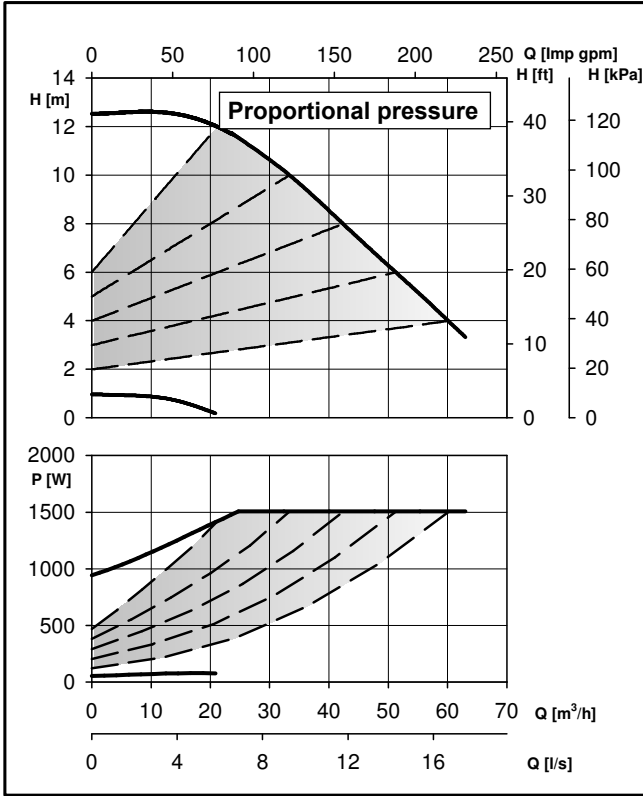


A0004_A_DD

ecocirc XL-XLplus 65-120 F (B)		Dimensions (mm)										Net weight 17,9 (Kg) - Gross weight 23,2 (Kg)						
L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
340	DN 65	381	297	84	147	60	148	241	93	340	104	106	104	185	65	130/145	4 x 14/19	118

En-Rev_A

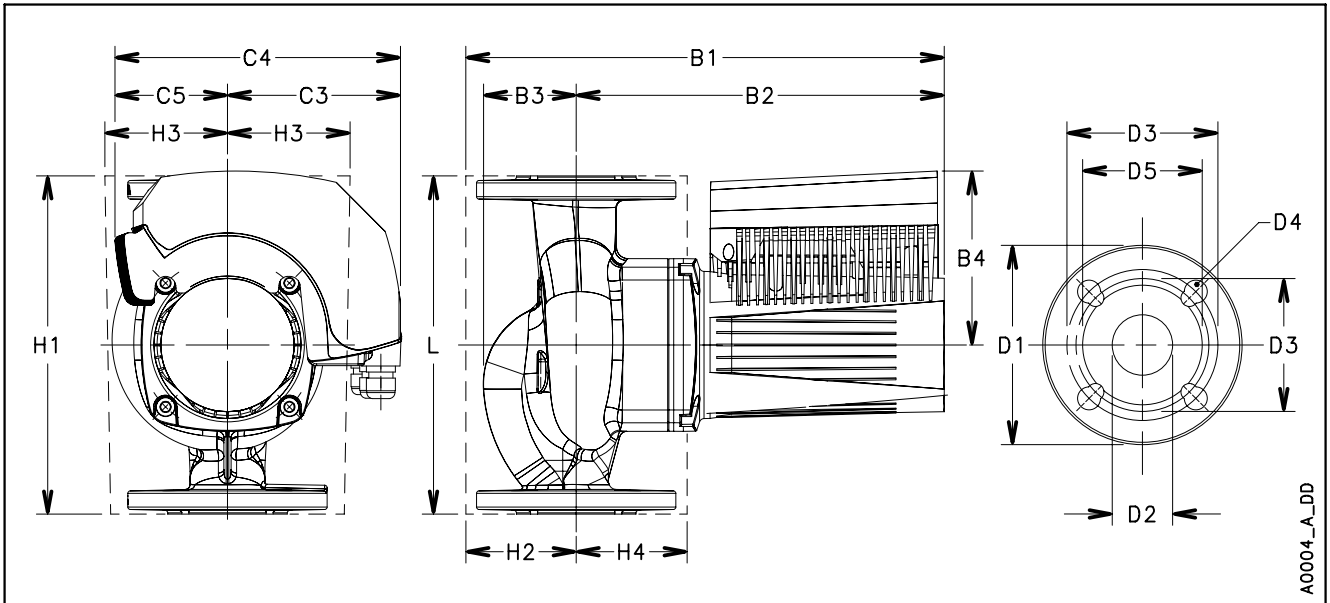
ecocirc XL-XLplus 80-120 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}.$

ecocirc XL-XLplus 80-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	55 / 1510	Max. working pressure	0,6 MPa (6 bar) or 1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 6,6	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 55 \text{ dB(A)}$

En-Rev_B

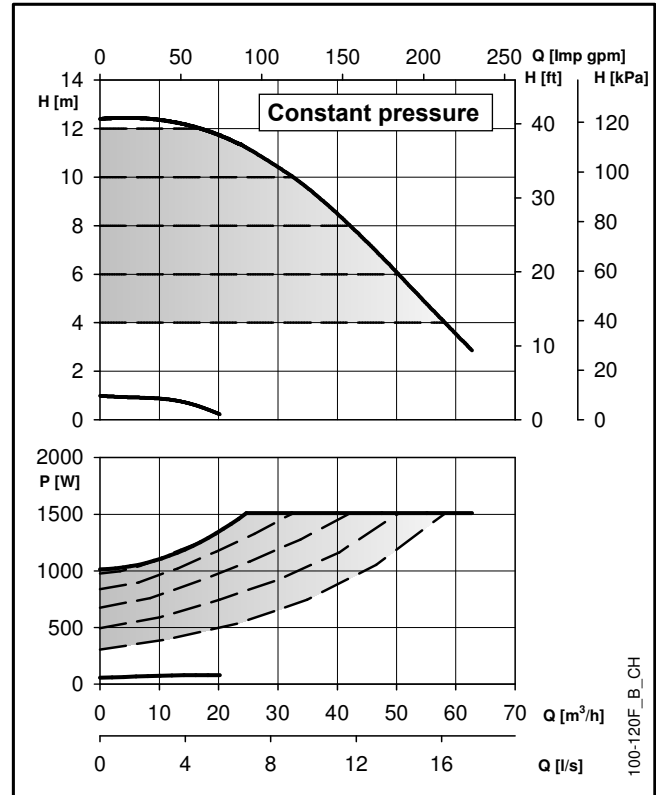
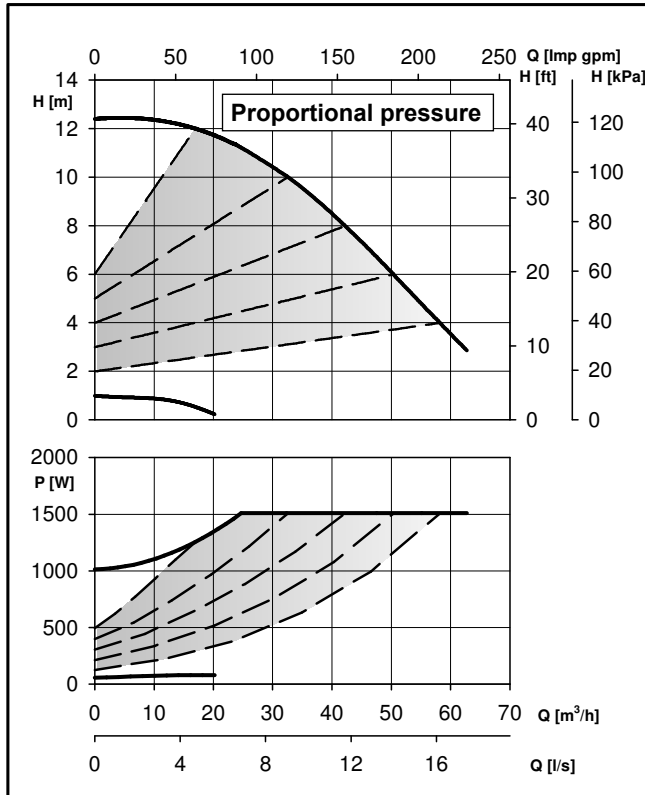


A0004_A_DD

ecocirc XL-XLplus 80-120 F		Dimensions (mm)										Net weight 22,2 (Kg) - Gross weight 27,6 (Kg)							
PN	L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
6	360	DN 80	396	306	90	147	60	148	241	93	360	110	110	110	200	80	150	4 x 19	132
10	360	DN 80	396	306	90	147	60	148	241	93	360	110	110	110	200	80	160	8 x 19	132

En-Rev_B

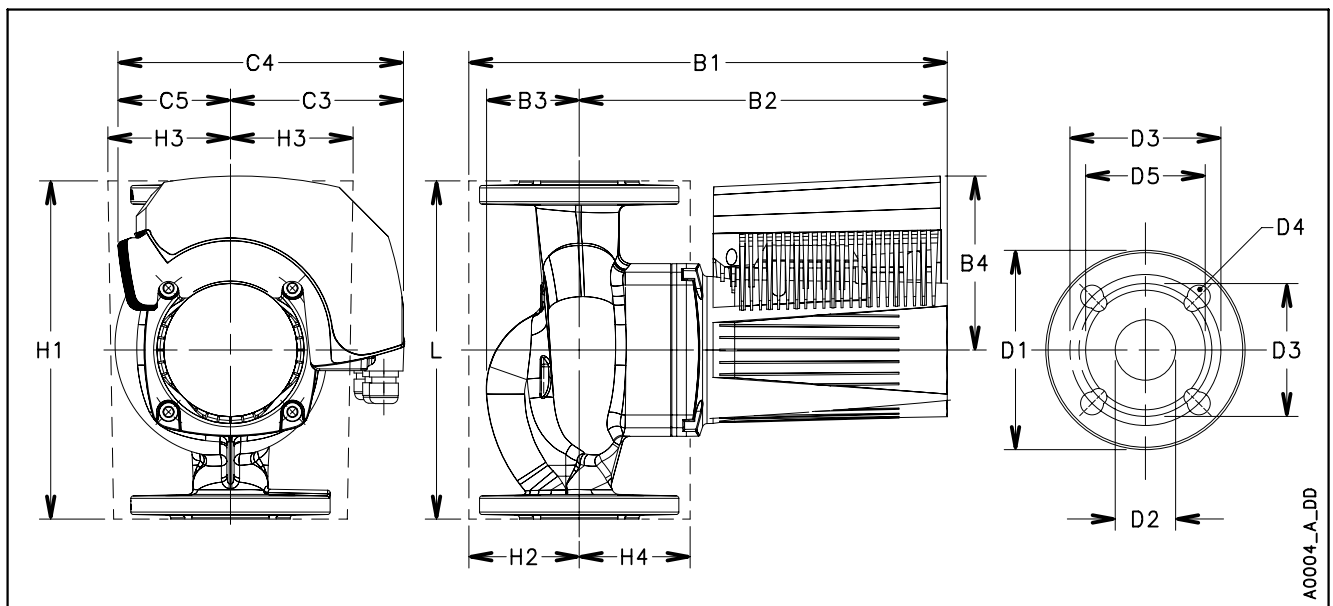
ecocirc XL-XLplus 100-120 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus 100-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	57 / 1510	Max. working pressure	0,6 MPa (6 bar) or 1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 6,6	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 55 \text{ dB(A)}$

En-Rev_B

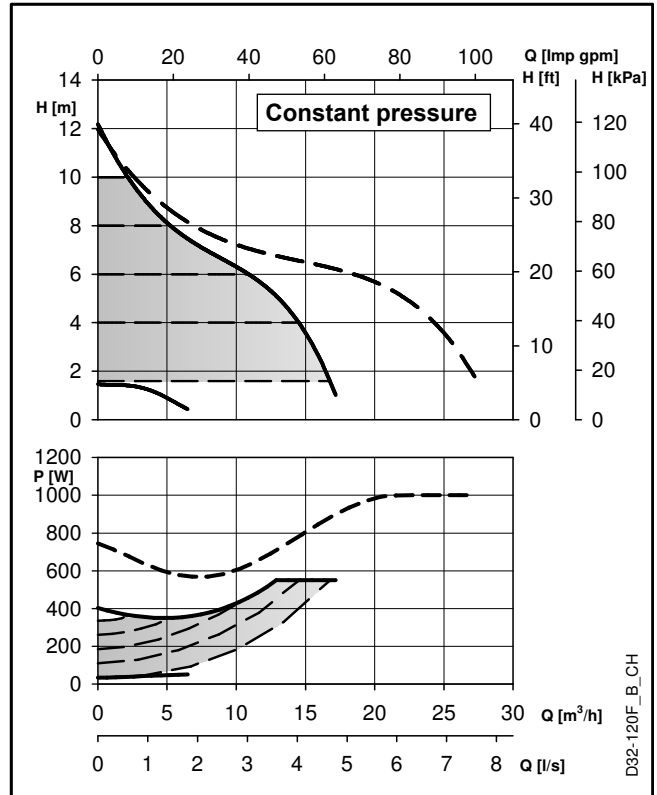
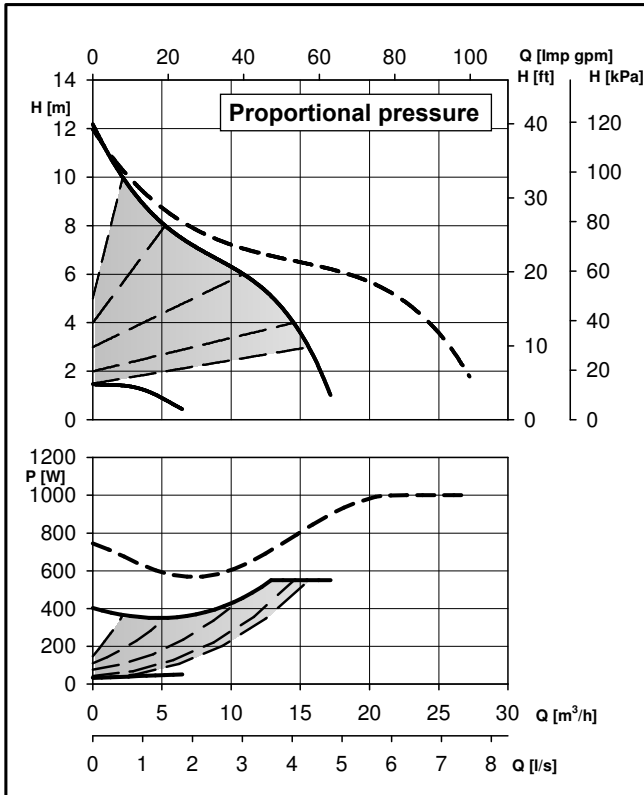


A0004_A_DD

ecocirc XL-XLplus 100-120 F (B)		Dimensions (mm)										Net weight 26,2 (Kg) - Gross weight 31,6 (Kg)							
PN	L	G	B1	B2	B3	B4	B5	C3	C4	C5	H1	H2	H3	H4	D1	D2	D3	D4	D5
6	360	DN 100	403	306	97	147	60	148	241	93	360	120	120	120	220	100	170	4 x 19	156
10	360	DN 100	403	306	97	147	60	148	241	93	360	120	120	120	220	100	180	8 x 19	156

En-Rev_B

ecocirc XL-XLplus D32-120 F

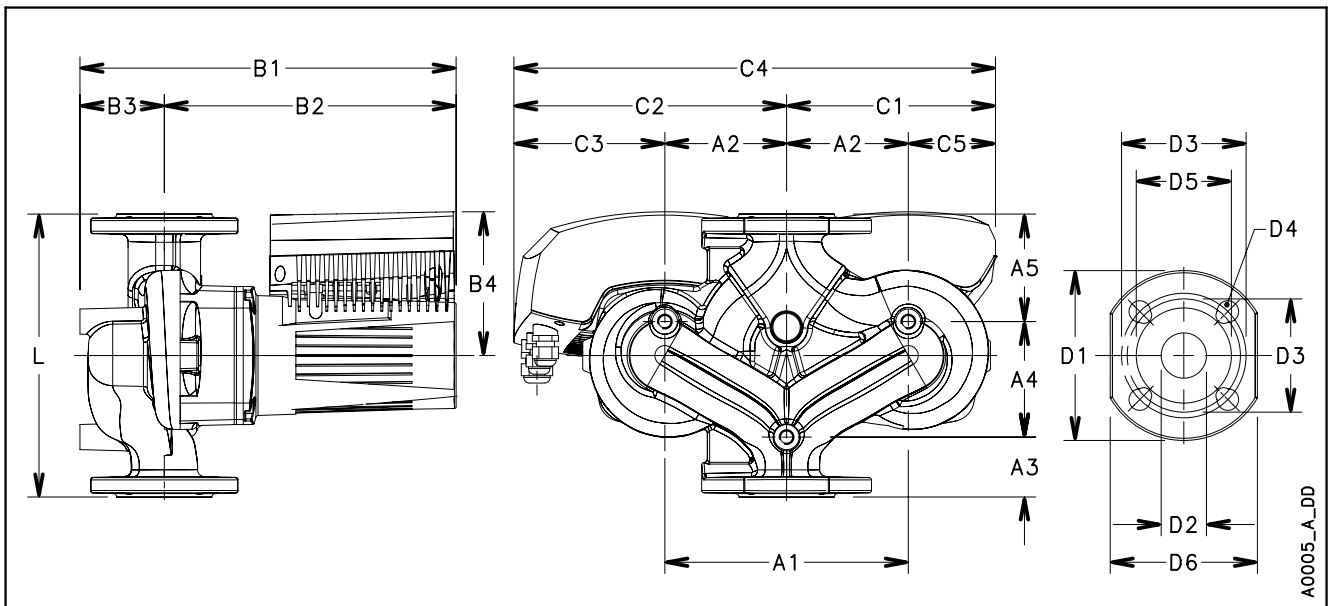


D32-120F_B_CH

These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D32-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	34 / 551	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

En-Rev_D

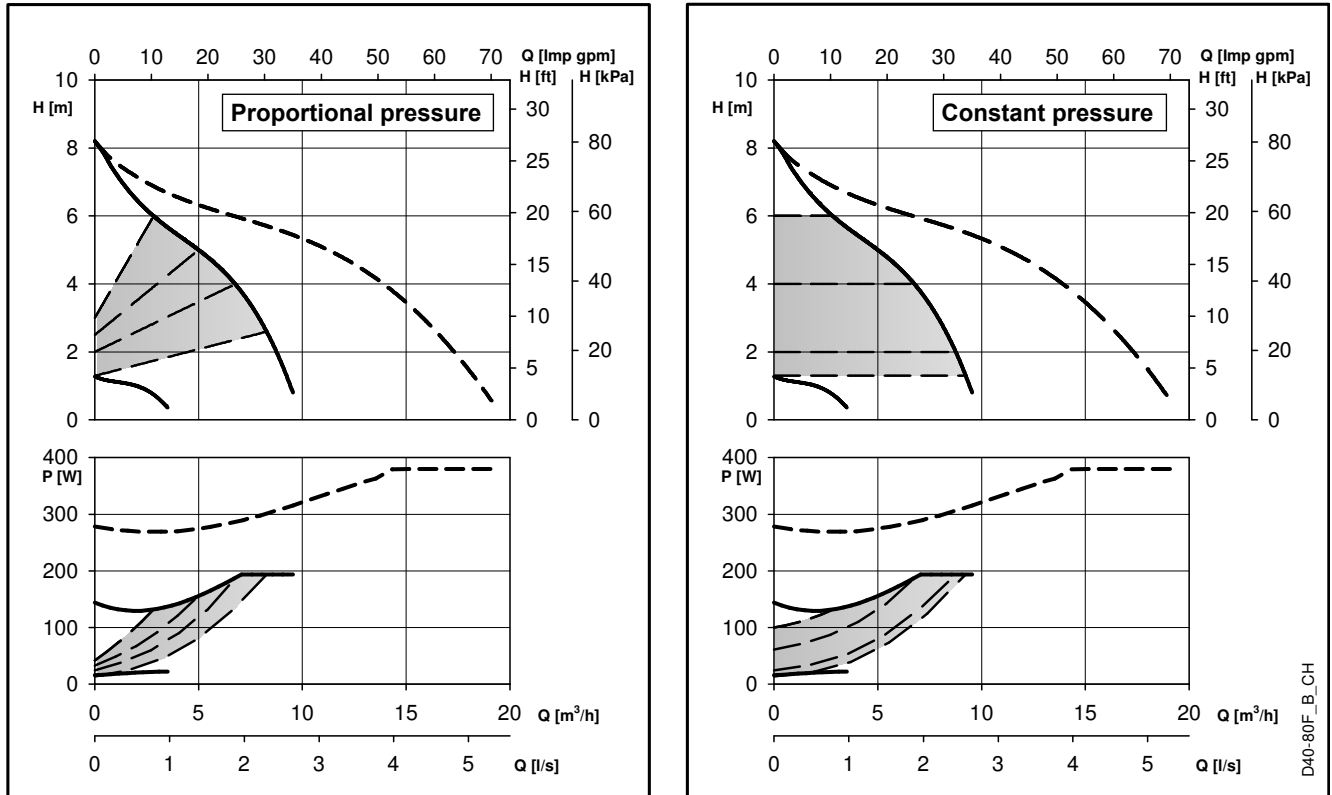


A0005_A_DD

ecocirc XL-XLplus D32-120 F		Dimensions (mm)										Net weight 27,4 (Kg) - Gross weight 34,9 (Kg)									
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
220	DN 32	322	252	70	132	53	185,5	235,5	128	421	78	215	107,5	43	97	80	140	32	90/100	4 x 14/19	76

En-Rev_A

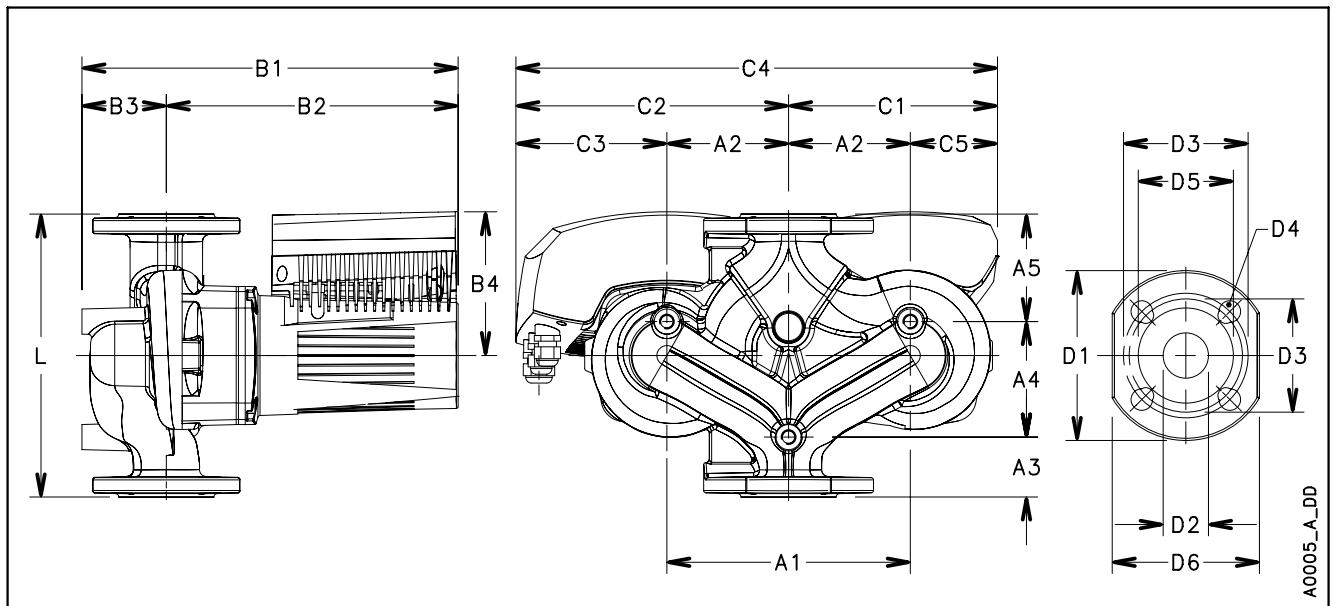
ecocirc XL-XLplus D40-80 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D40-80 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	16 / 194	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_D

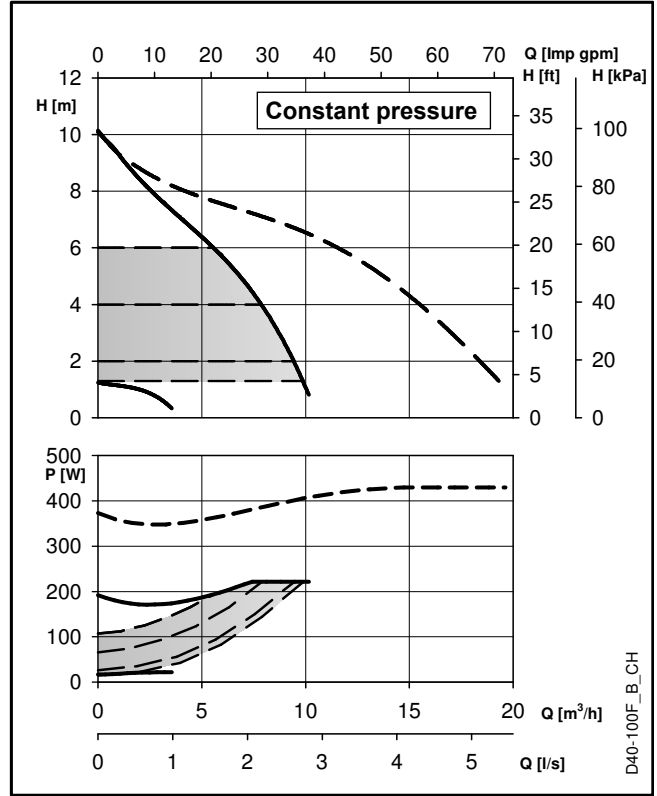
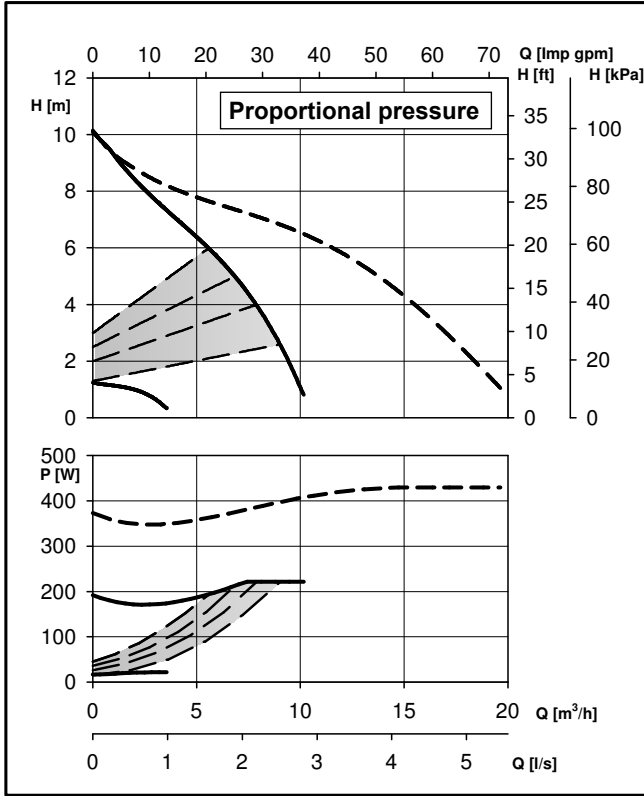


A0005_A_DD

ecocirc XL-XLplus D40-80 F							Dimensions (mm)					Net weight 21,2 (Kg) - Gross weight 28,7 (Kg)									
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
220	DN 40	274	212	62	118	51	157	211	116	368	62	190	95	45	92	83	150	40	100/110	4 x 14/19	84

En-Rev_A

ecocirc XL-XLplus D40-100 F

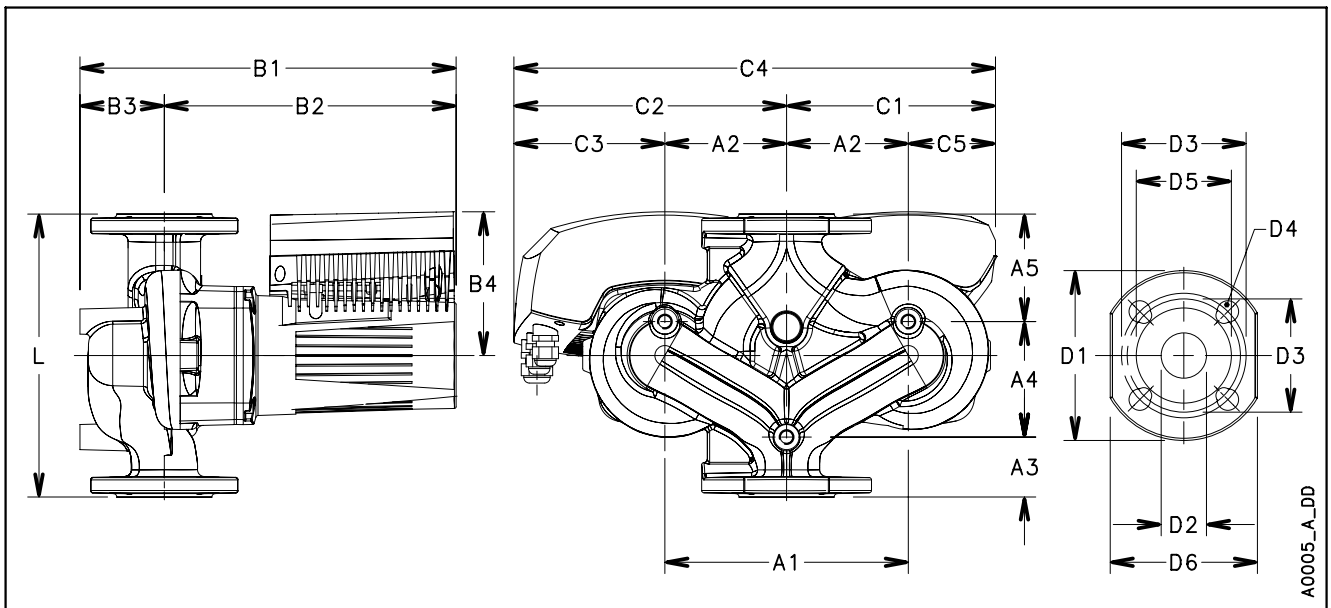


D40-100F_B_CH

These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D40-100 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	17 / 222	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 1,6	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 43 \text{ dB(A)}$

En-Rev_D

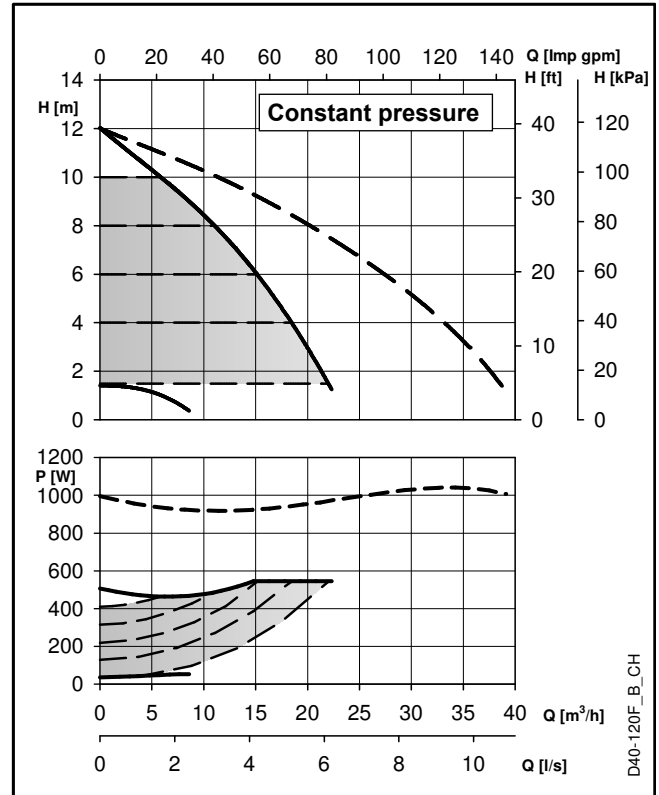
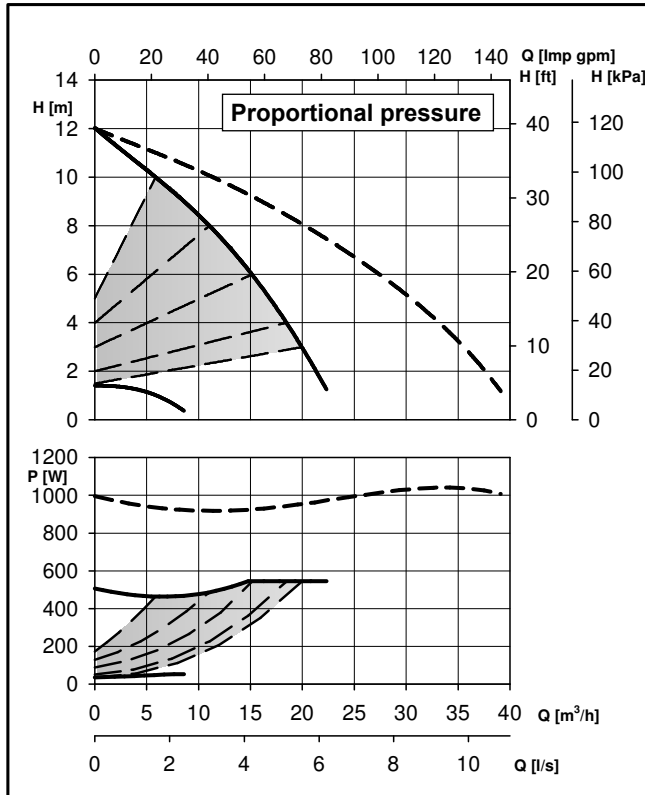


A0005_A_DD

ecocirc XL-XLplus D40-100 F		Dimensions (mm)										Net weight 21,2 (Kg) - Gross weight 28,7 (Kg)									
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
220	DN 40	274	212	62	118	51	157	211	116	368	62	190	95	45	92	83	150	40	100/110	4 x 14/19	84

En-Rev_A

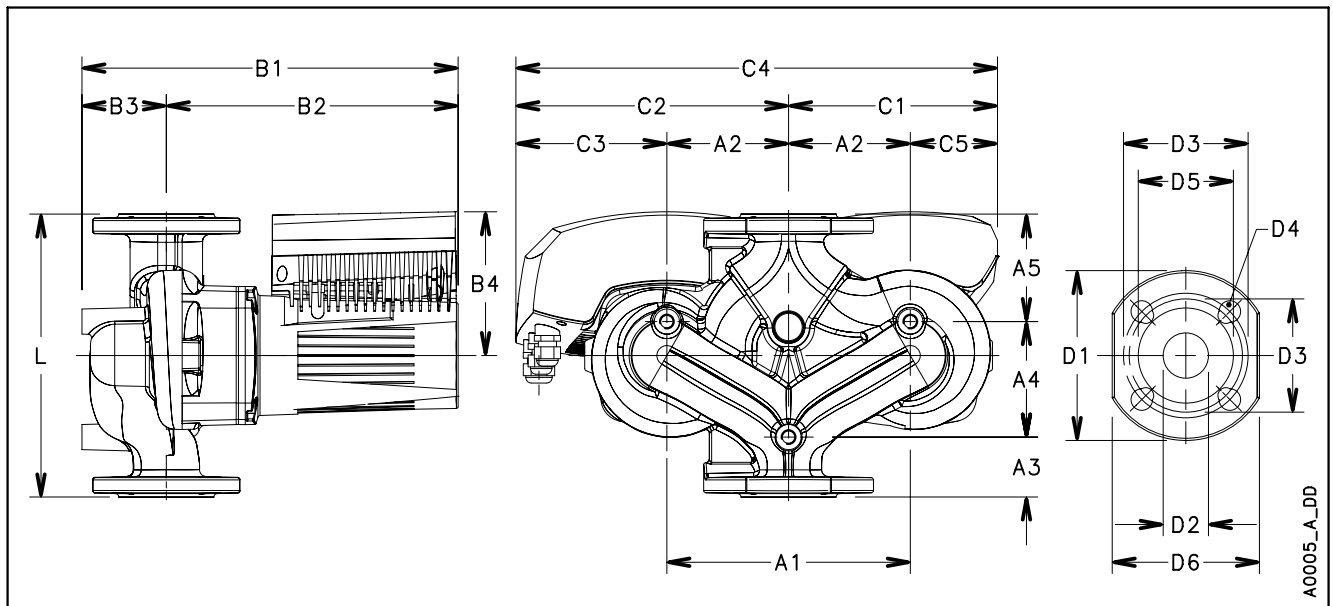
ecocirc XL-XLplus D40-120 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D40-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	36 / 545	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,4	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

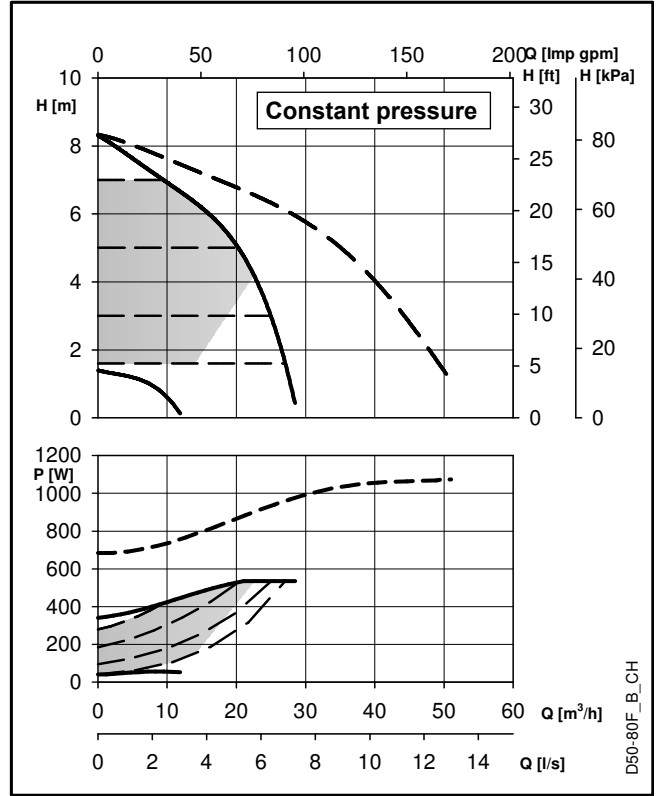
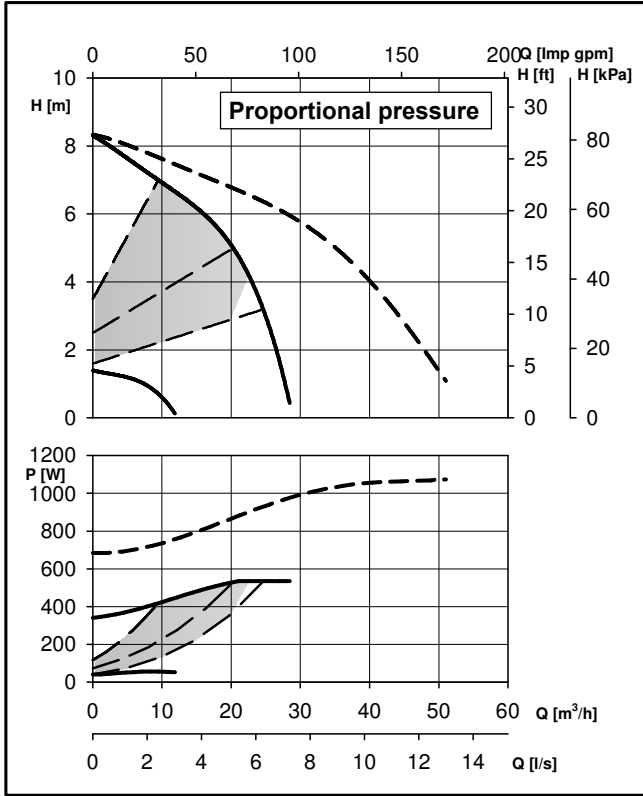
En-Rev_D



ecocirc XL-XLplus D40-120 F		Dimensions (mm)					Net weight 28,6 (Kg) - Gross weight 36,1 (Kg)														
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
250	DN 40	338	256	82	132	53	185,5	235,5	128	421	78	215	107,5	53	102	95	150	40	100/110	4 x 14/19	84

En-Rev_A

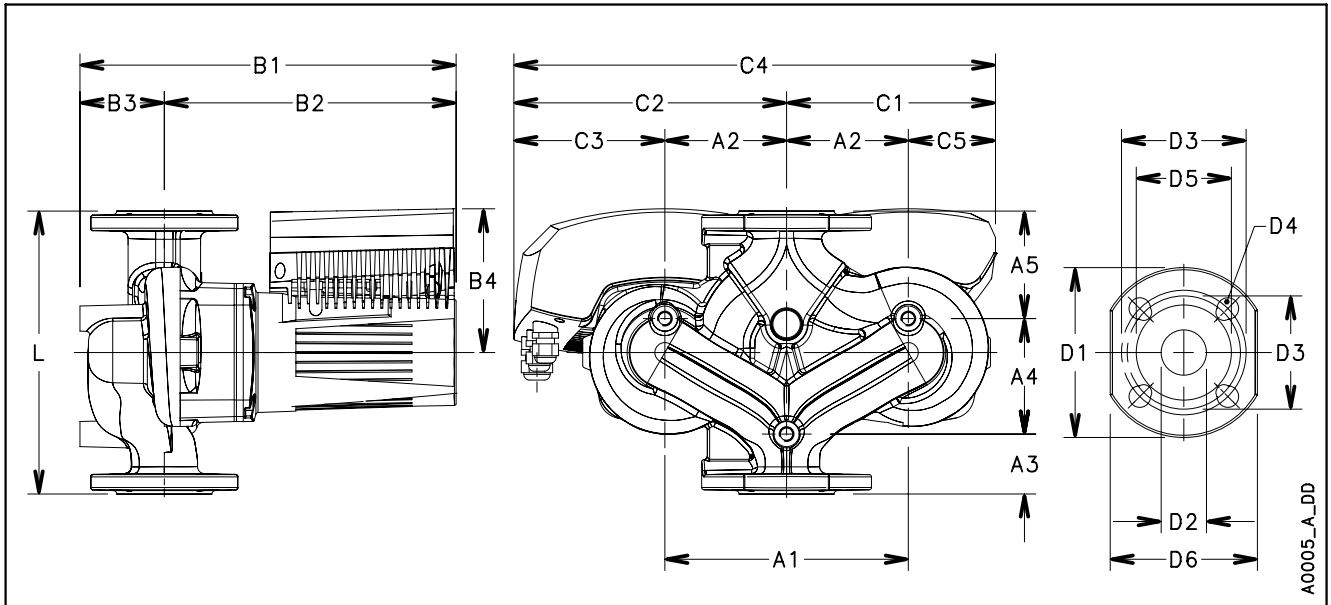
ecocirc XL-XLplus D50-80 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D50-80 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	45 / 535	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,3	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 55 \text{ dB(A)}$

En-Rev_C

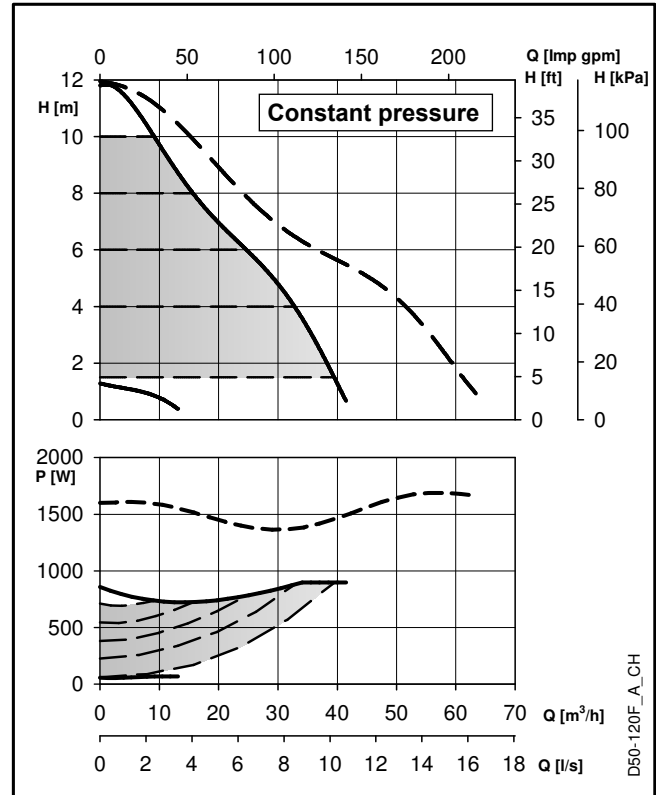
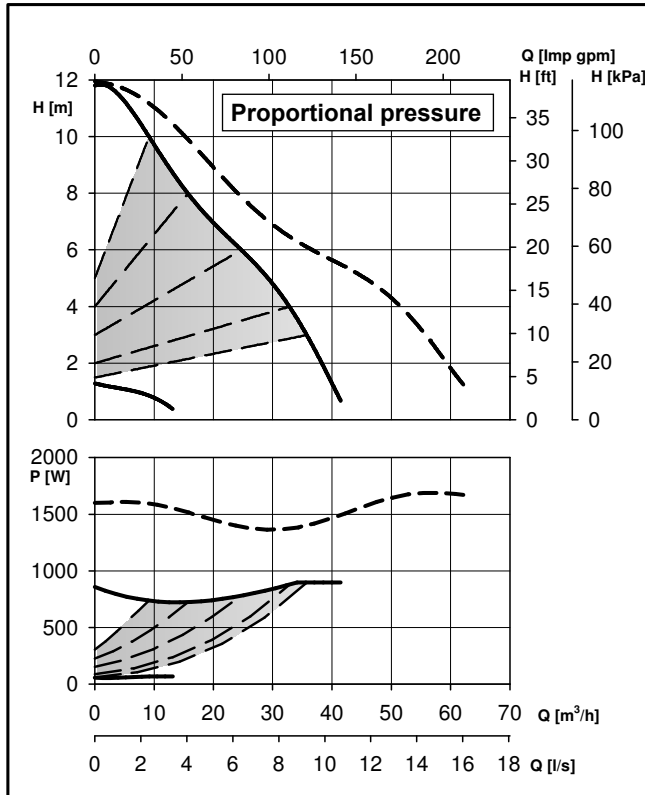


A0005_A_DD

ecocirc XL-XLplus D50-80 F		Dimensions (mm)										Net weight 33 (Kg) - Gross weight 40,5 (Kg)									
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
240	DN 50	355	261	94	132	53	198	248	128	446	78	240	120	50	105	85	165	50	110/125	4 x 14/19	100

En-Rev_B

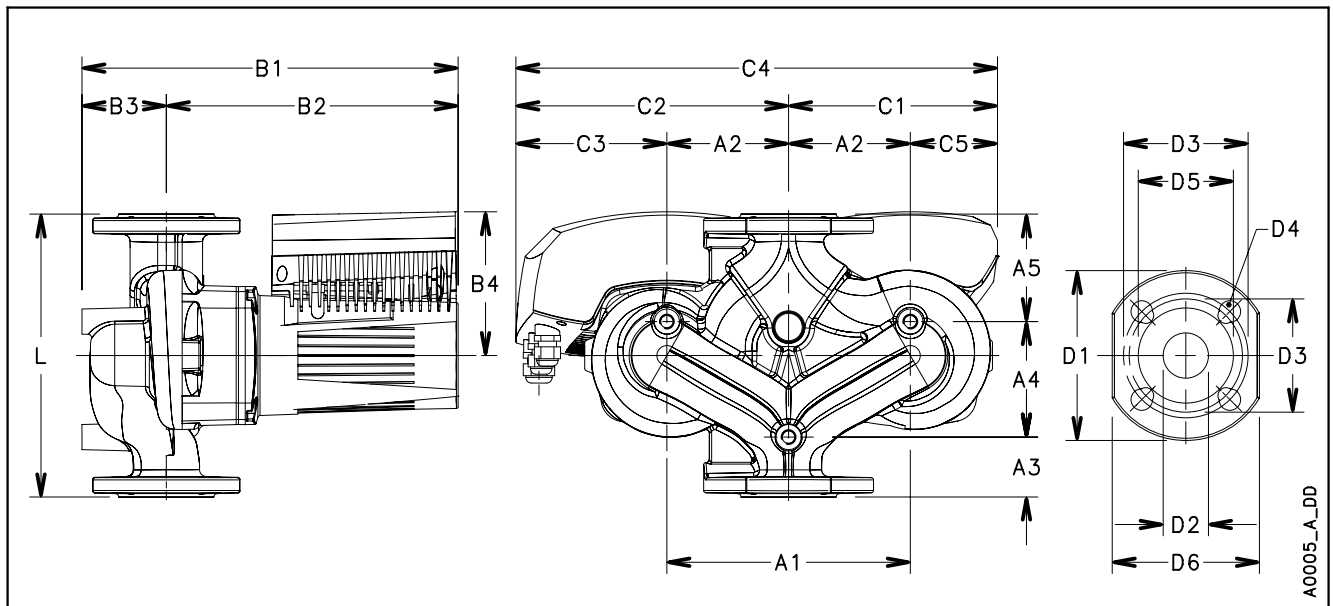
ecocirc XL-XLplus D50-120 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D50-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	55 / 897	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 4,0	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 52 \text{ dB(A)}$

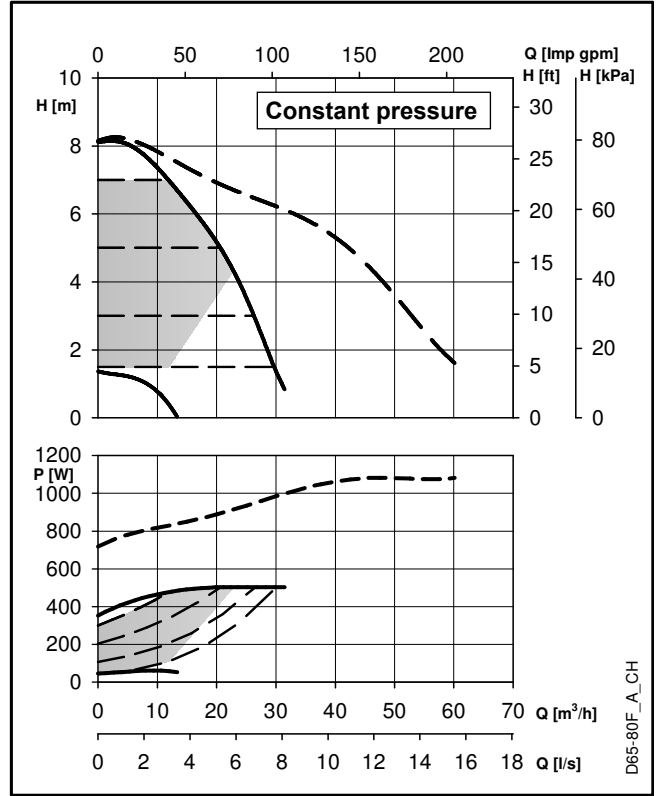
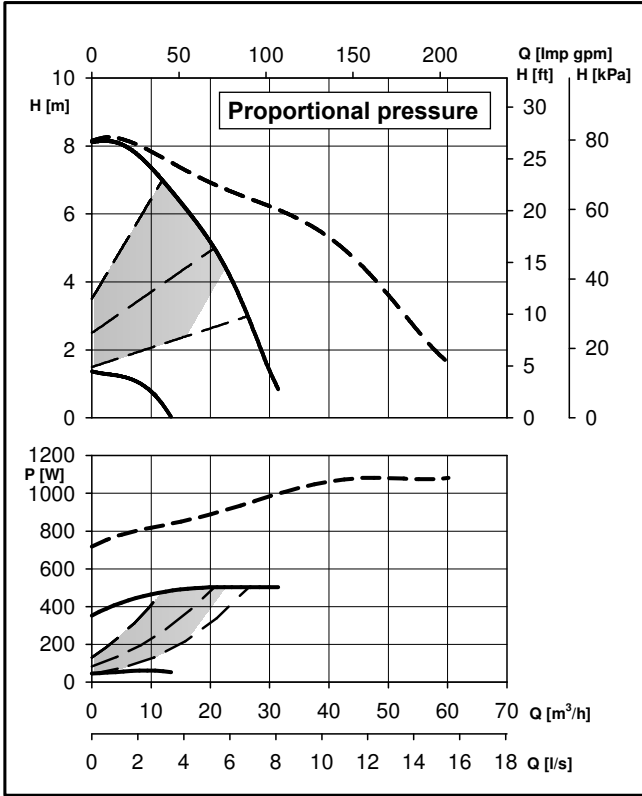
En-Rev_C



ecocirc XL-XLplus D50-120 F		Dimensions (mm)					Net weight 41,8 (Kg) - Gross weight 52,3 (Kg)														
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
280	DN 50	368	290	78	147	60	202	268	148	470	82	240	120	60	125	95	165	50	110/125	4 x 14/19	100

En-Rev_A

ecocirc XL-XLplus D65-80 F

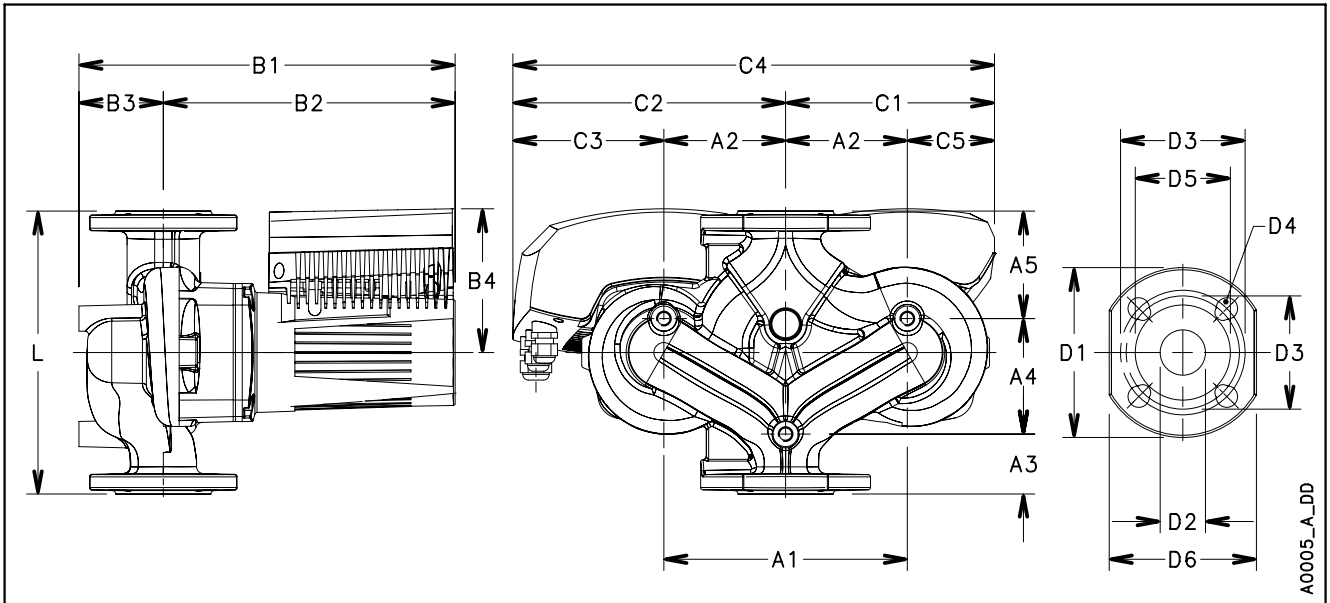


D65-80F_A_CH

These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D65-80 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	46 / 502	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,2 / 2,2	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 48 \text{ dB(A)}$

En-Rev_C

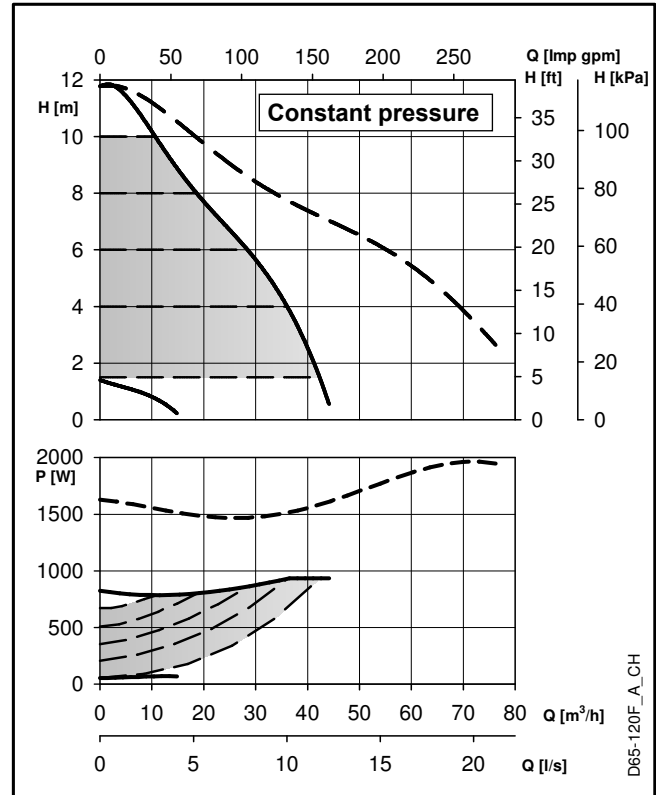
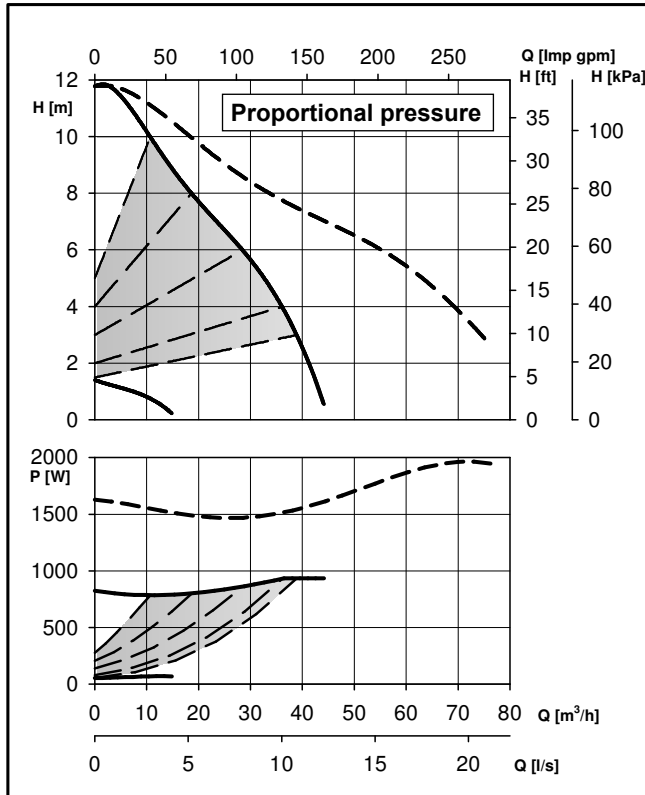


A0005_A_DD

ecocirc XL-XLplus D65-80 F							Dimensions (mm)					Net weight 38,5 (Kg) - Gross weight 49 (Kg)									
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
340	DN 65	364	267	97	132	53	198	248	128	446	78	240	120	60	145	135	185	65	130/145	4 x 14/19	118

En-Rev_A

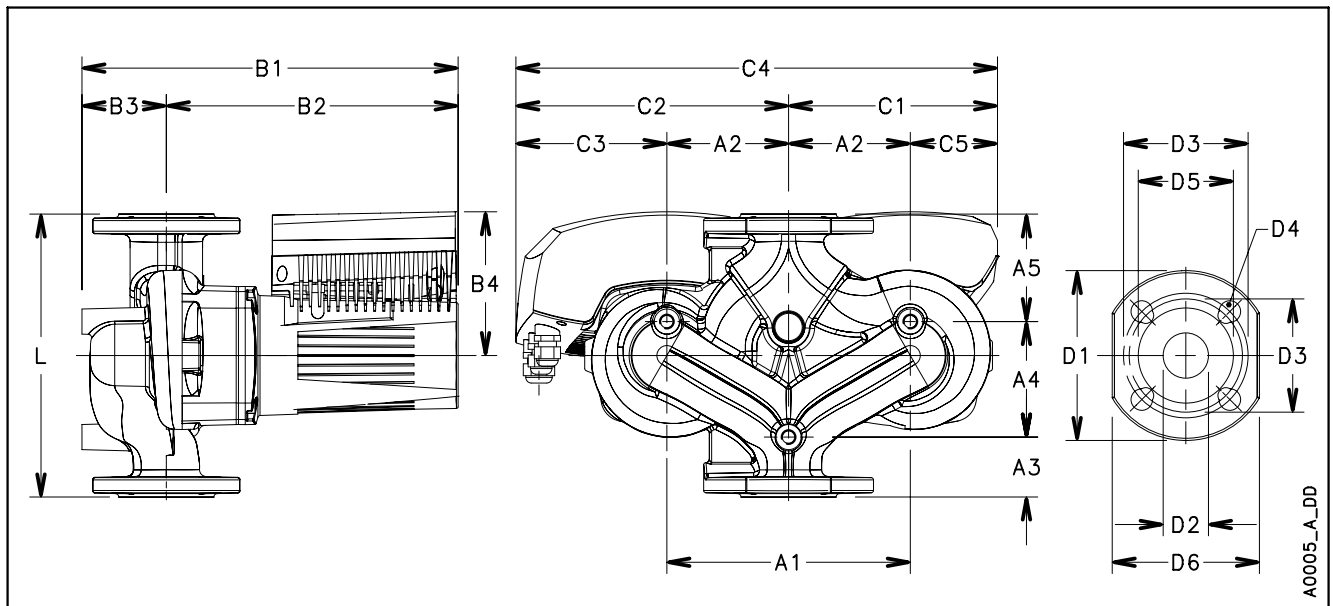
ecocirc XL-XLplus D65-120 F



These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D65-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	55 / 935	Max. working pressure	1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 4,1	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 52 \text{ dB(A)}$

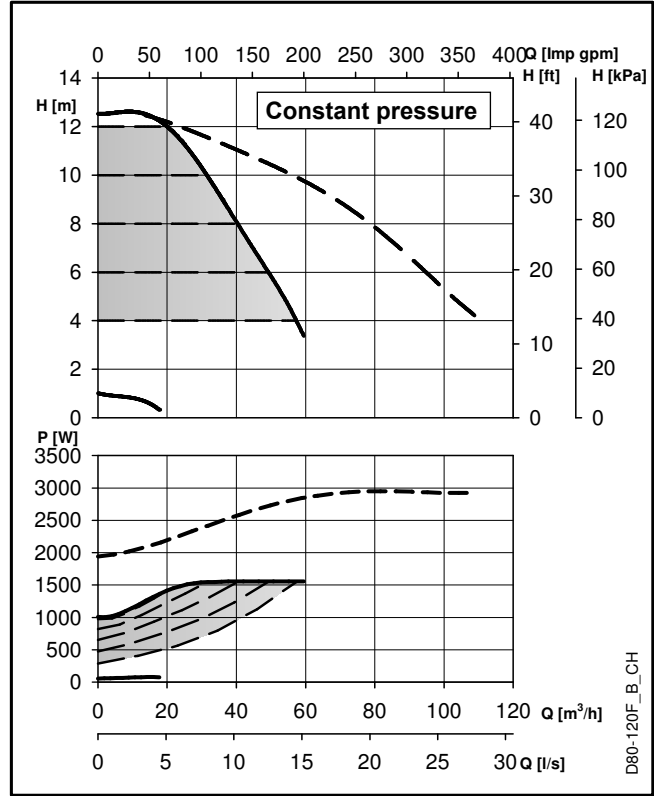
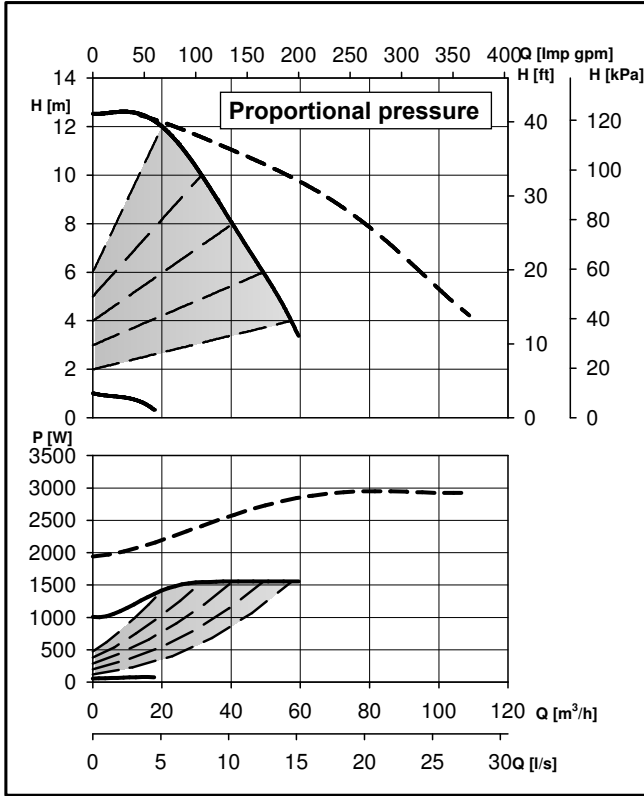
En-Rev_C



ecocirc XL-XLplus D65-120 F		Dimensions (mm)					Net weight 43,4 (Kg) - Gross weight 53,9 (Kg)														
L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
340	DN 65	381	297	84	147	60	213	268	148	481	93	240	120	55	155	130	185	65	130/145	4 x 14/19	118

En-Rev_A

ecocirc XL-XLplus D80-120 F

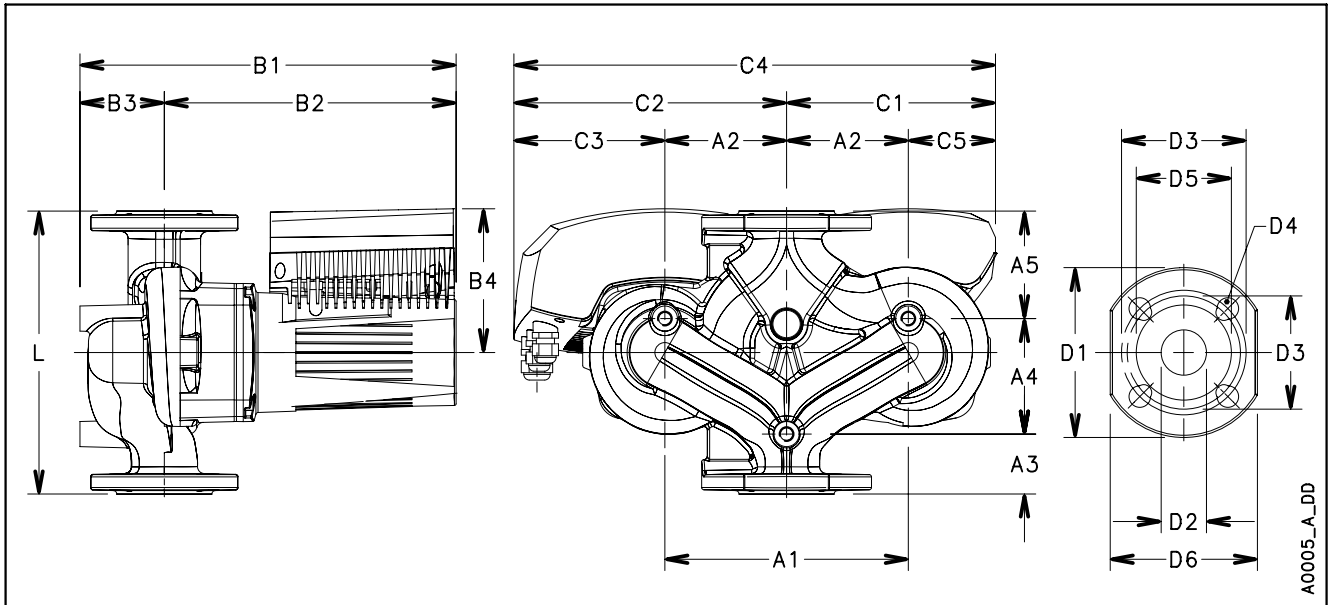


D80-120F_B_CH

These performances are valid for liquids with density $\rho = 1.0 \text{ Kg/dm}^3$ and kinematic viscosity $\nu = 1 \text{ mm}^2/\text{sec}$.

ecocirc XL-XLplus D80-120 F		Pump Data	
Rated voltage	1 x 230 V $\pm 10\%$	IP protection	44
Frequency	50/60 Hz	Insulation class	155 (F)
Power absorbed [W] (min/max)	55 / 1560	Max. working pressure	0,6 MPa (6 bar) or 1,0 MPa (10 bar)
Input current [A] (min/max)	0,4 / 6,6	Liquid temperature	-10°C (14°F) to +110 °C (230°F)
Specific EEI \leq	0,23	Sound pressure level	$\leq 55 \text{ dB(A)}$

En-Rev_B



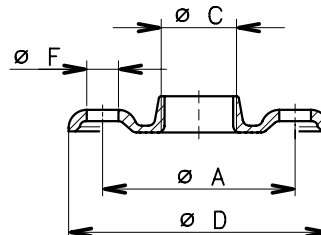
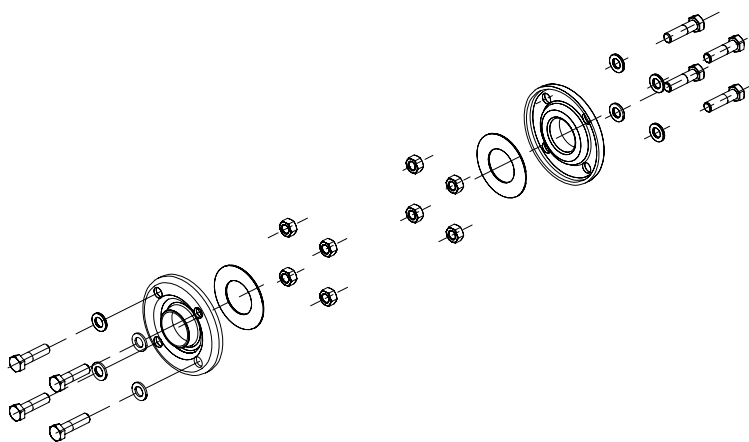
A0005_A_DD

ecocirc XL-XLplus D80-120 F			Dimensioni (mm)										Net weight 51,3 (Kg) - Gross weight 61,8 (Kg)									
PN	L	G	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	D1	D2	D3	D4	D5
6	360	DN 80	396	306	90	147	60	213	268	148	481	93	240	120	70	145	145	200	80	150	4 x 19	132
10	360	DN 80	396	306	90	147	60	213	268	148	481	93	240	120	70	145	145	200	80	160	8 x 19	132

En-Rev_B

ACCESSORIES

ecocirc XL-XLplus THREADED COUNTERFLANGES KIT EN 1092-1



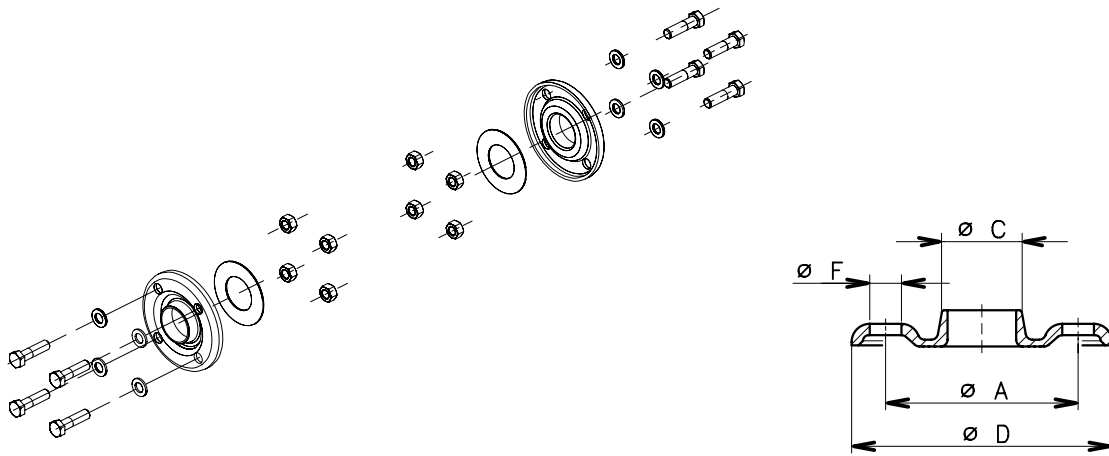
Kit containing 2 counterflanges with bolts and gaskets.
 - threaded, galvanized steel.
 - threaded, AISI 316 stainless steel.

C05928A_A_SC

PART NUMBER	DESCRIPTION	DN	PN (bar)	Ø C	Ø A (mm)	Ø D (mm)	Ø F (mm)	N°
109395700	Kit Rp 1" 1/4 PN6 galvanized steel	32	6	Rp 1 1/4	90	120	14	4
109395701	Kit Rp 1" 1/4 PN6 AISI 316							
109395710	Kit Rp 1" 1/2 PN6 galvanized steel	40	6	Rp 1 1/2	100	130	14	4
109395711	Kit Rp 1" 1/2 PN6 AISI 316							
109395720	Kit Rp 2" PN6 galvanized steel	50	6	Rp 2	110	140	14	4
109395721	Kit Rp 2" PN6 AISI 316							
109395730	Kit Rp 2" 1/2 PN6 galvanized steel	65	6	Rp 2 1/2	130	160	14	4
109395731	Kit Rp 2" 1/2 PN6 AISI 316							
109395740	Kit Rp 3" PN6 galvanized steel	80	6	Rp 3	150	190	18	4
109395741	Kit Rp 3" PN6 AISI 316							
109395750	Kit Rp 4" PN6 galvanized steel	100	6	Rp 4	170	210	18	4
109395751	Kit Rp 4" PN6 AISI 316							
109390631	Kit Rp 1" 1/4 PN10 galvanized steel	32	10	Rp 1 1/4	100	140	18	4
109390633	Kit Rp 1" 1/4 PN10 AISI 316							
109398020	Kit Rp 1" 1/2 PN10 galvanized steel	40	10	Rp 1 1/2	110	150	18	4
109398022	Kit Rp 1" 1/2 PN10 AISI 316							
109398030	Kit Rp 2" PN10 galvanized steel	50	10	Rp 2	125	165	18	4
109398032	Kit Rp 2" PN10 AISI 316							
109392710	Kit Rp 2" 1/2 PN10 galvanized steel	65	10	Rp 2 1/2	145	185	18	4
109392750	Kit Rp 2" 1/2 PN10 AISI 316							
109392720	Kit Rp 3" PN10 galvanized steel	80	10	Rp 3	160	200	18	8
109392760	Kit Rp 3" PN10 AISI 316							
109392730	Kit Rp 4" PN10 galvanized steel	100	10	Rp 4	180	220	18	8
109392770	Kit Rp 4" PN10 AISI 316							

En -Rev_A

ecocirc XL-XLplus WELD-ON COUNTERFLANGES KIT EN 1092-1



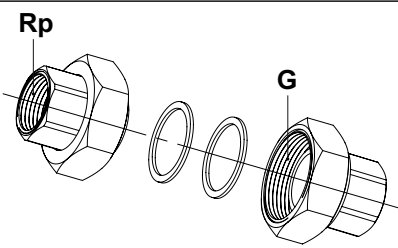
Kit containing 2 counterflanges with bolts and gaskets.
 - weld-on counterflanges, carbon steel.
 - weld-on counterflanges, AISI 316 stainless steel.

C05928B_A_SC

PART NUMBER	DESCRIPTION	DN	PN (bar)	Ø C (mm)	Ø A (mm)	Ø D (mm)	Ø F (mm)	N°
109395772	Kit DN32 PN6 carbon steel	32	6	43	90	120	14	4
109395775	Kit DN32 PN6 AISI 316							
109395782	Kit DN40 PN6 carbon steel	40	6	48	100	130	14	4
109395785	Kit DN40 PN6 AISI 316							
109395792	Kit DN50 PN6 carbon steel	50	6	60	110	140	14	4
109395795	Kit DN50 PN6 AISI 316							
109395802	Kit DN65 PN6 carbon steel	65	6	76	130	160	14	4
109395805	Kit DN65 PN6 AISI 316							
109395812	Kit DN80 PN6 carbon steel	80	6	89	150	190	18	4
109395815	Kit DN80 PN6 AISI 316							
109395822	Kit DN100 PN6 carbon steel	100	6	108	170	210	18	4
109395825	Kit DN100 PN6 AISI 316							
109395832	Kit DN32 PN10 carbon steel	32	6	43	100	140	18	4
109395835	Kit DN32 PN10 AISI 316							
109390662	Kit DN40 PN10 carbon steel	40	6	48	110	150	18	4
109390665	Kit DN40 PN10 AISI 316							
109390692	Kit DN50 PN10 carbon steel	50	6	60	125	165	18	4
109390695	Kit DN50 PN10 AISI 316							
109390732	Kit DN65 PN10 carbon steel	65	6	76	145	185	18	4
109392880	Kit DN65 PN10 AISI 316							
109390762	Kit DN80 PN10 carbon steel	80	6	89	160	200	18	8
109392890	Kit DN80 PN10 AISI 316							
109390772	Kit DN100 PN10 carbon steel	100	6	108	180	220	18	8
109392900	Kit DN100 PN10 AISI 316							

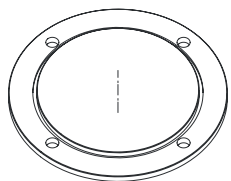
En-Rev_B

ecocirc XL-XLplus SCREWED CONNECTIONS

MODEL	PART NUMBER	MATERIAL	G	Rp	
	105890200	Galvanized steel	1" 1/2	1"	
	105890220	Galvanized steel	2"	1" 1/4	
	105890201	Brass	1" 1/2	1"	
	105890221	Brass	2"	1" 1/4	
	Kit containing 2 threaded connections and 2 gaskets.				

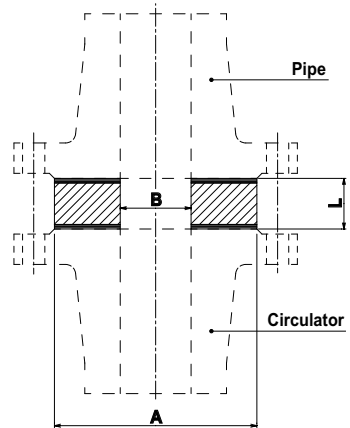
En-Rev_A

BLIND FLANGES

MODEL	PART NUMBER	CIRCULATOR TYPE
	109395550	D 40-80 F / D 40-100 F
	109395560	D 32-120 F / D 40-120 F / D 50-80 F / D 65-80 F
	109395570	D 50-120 F / D 65-120 F / D 80-120 F
	Kit containing 1 blind flange painted steel, 1 OR and 4 screws.	

En-Rev_A

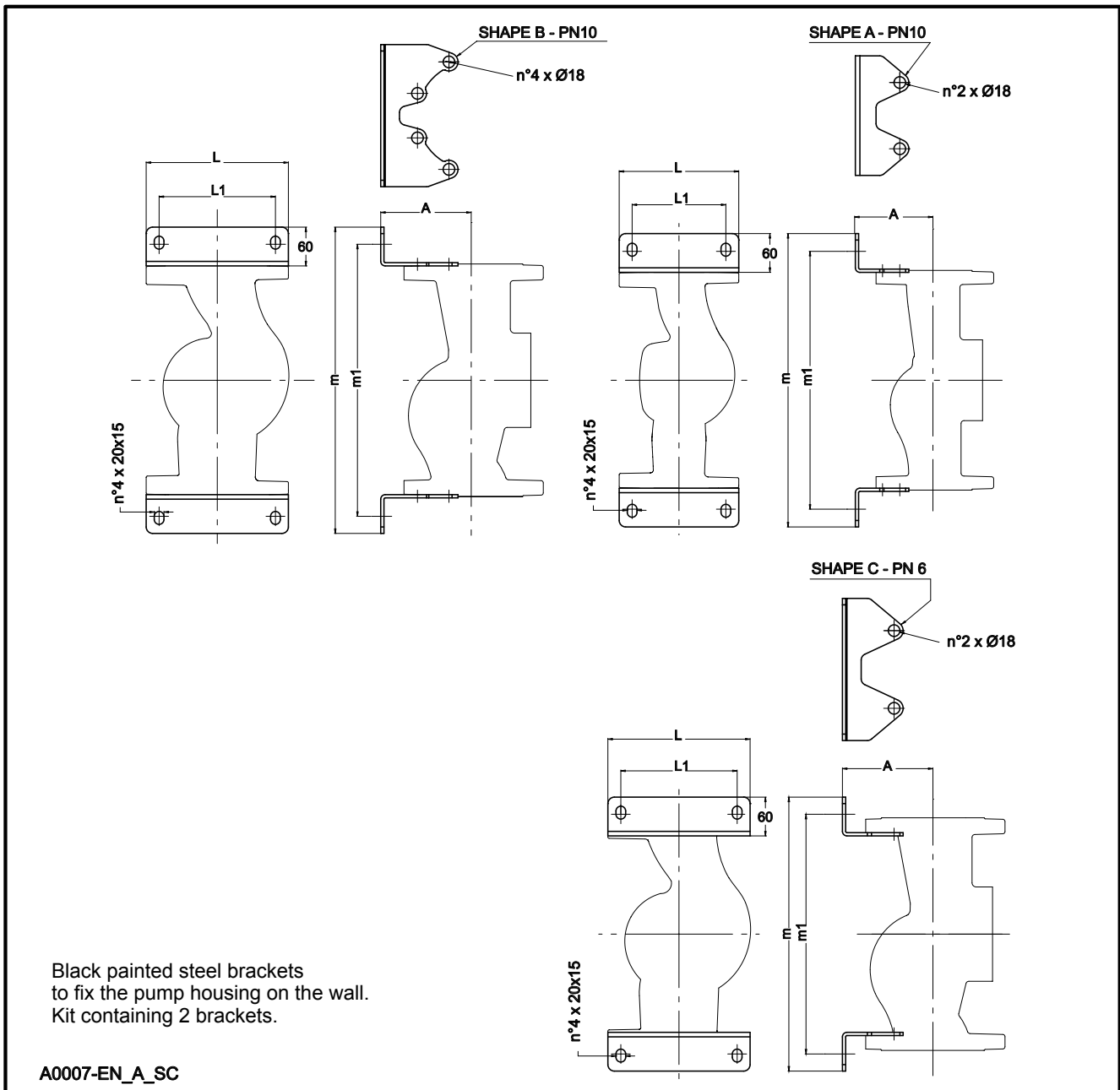
ADAPTERS*

MODEL	PART NUMBER	DN	PN (bar)	A (mm)	B (mm)	L** (mm)	
	109395850	40	10	88	45	30	
	109395860	50	10	102	55	40	
	109395870	65	10	122	70	60	
	Kit containing 1 steel adapter, 2 gaskets and 4 bolts (with nuts and washers) for the appropriate length.						
	** L dimension including 2 gaskets.						

En-Rev_A

* Dedicated to circulators with cast iron pump housing only.

ecocirc XL-XLplus BRACKETS KIT



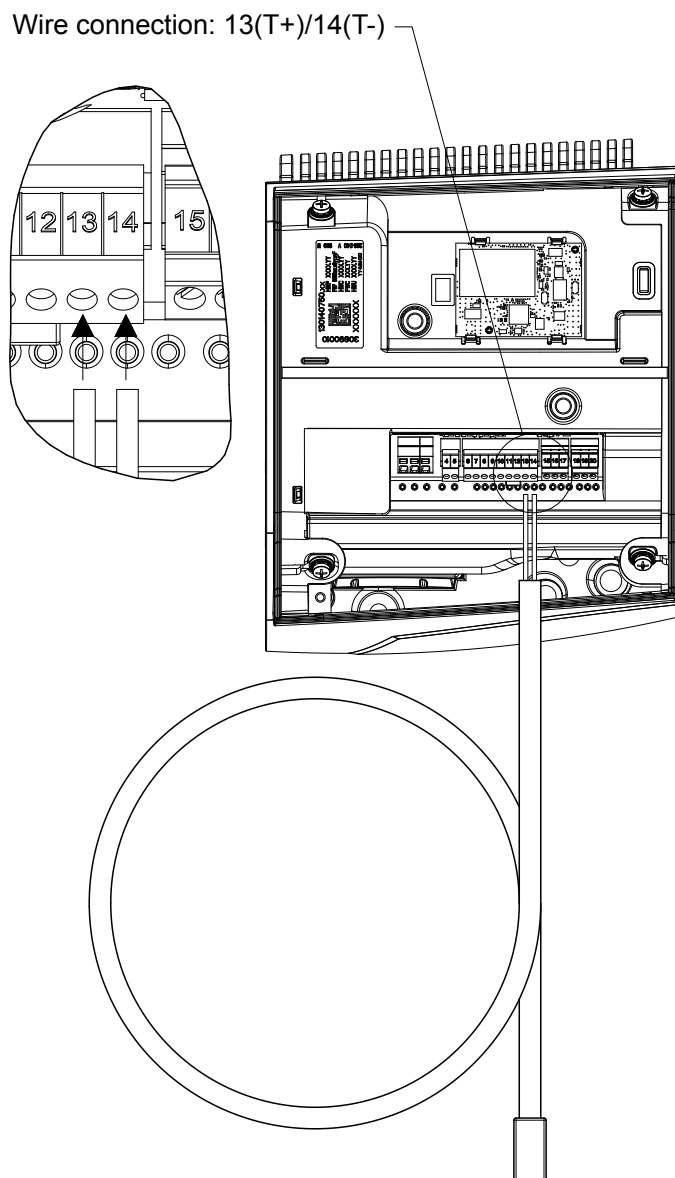
PART NUMBER	CIRCULATOR TYPE	PN (bar)	SHAPE	DIMENSIONS (mm)				
				A	m	m1	L	L1
109395590	32-100 F (B) / 32-120 F (B) / D 32-120 F	6/10	A	100	334	284	150	110
109395600	40-100 F (B) / D 40-100 F	6/10	A	100	334	284	150	110
	40-120 F (B) / D 40-120 F	6/10	A	100	364	314	150	110
109395610	50-100 F / 50-80 F (B) / D 50-80 F	6/10	A	110	354	304	165	125
	50-120 F (B) / D 50-120 F	6/10	A	110	394	344	165	125
109395620	65-80 F (B) / D 65-80 F / 65-120 F (B) / D 65-120 F	6/10	A	120	454	404	185	145
109395630	80-120 F / D 80-120 F	10	B	130	474	426	200	160
109395640	80-120 F / D 80-120 F	6	C	130	424	376	200	160
109395650	100-120 F	10	B	140	474	426	220	180
109395660	100-120 F	6	C	140	424	376	220	180

En-Rev_A

ecocirc XLplus DIFFERENTIAL TEMPERATURE SENSOR

PART NUMBER	DESCRIPTION
002168551	Temperature sensor KTY 83/122

En-Rev_A



The differential temperature functional mode changes the speed of the pump in order to maintain a constant differential temperature of the pumped media.

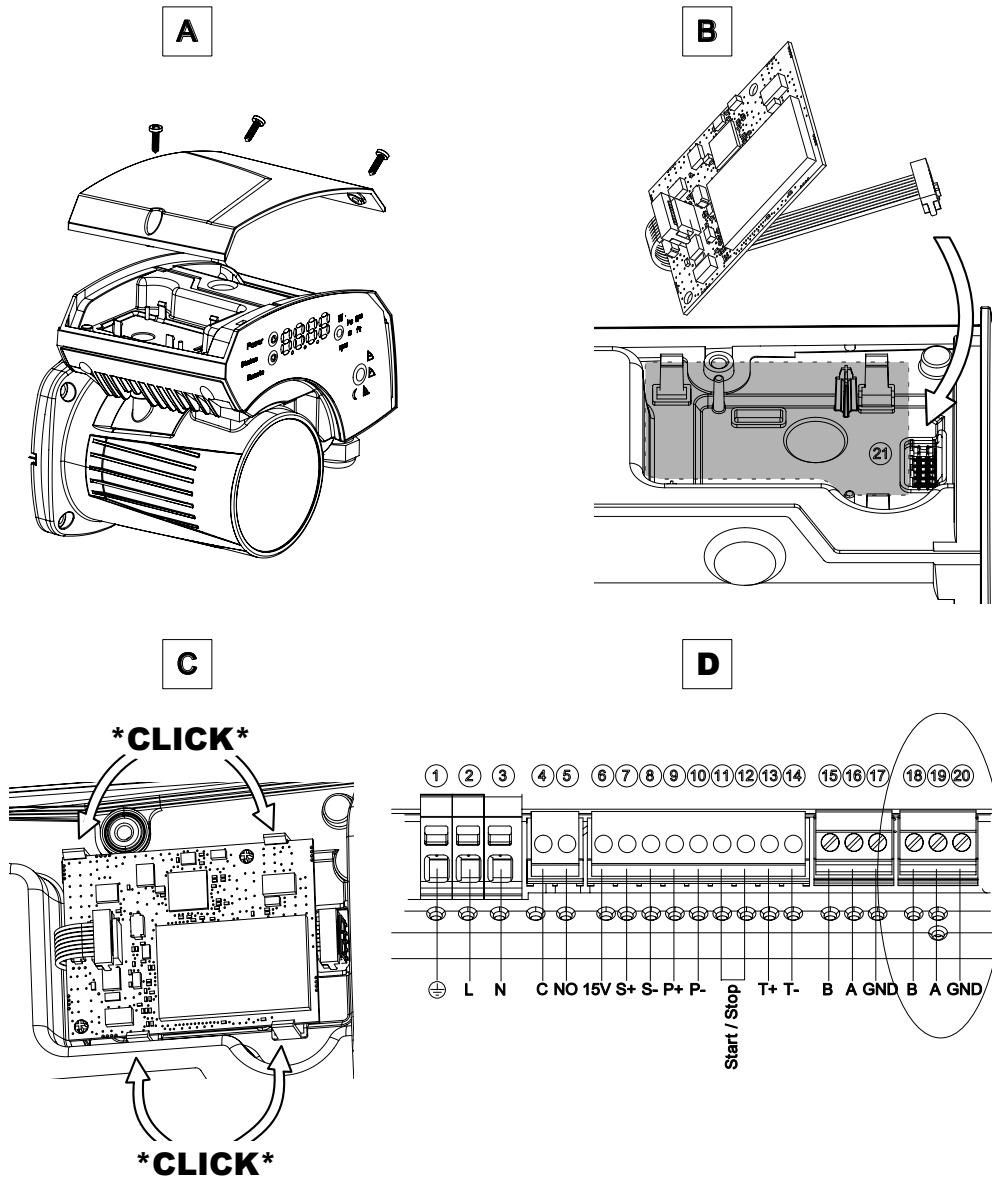
The additional external temperature sensor (type KTY83) controls, together with the built-in temperature sensor, the differential water temperature in the system.

The external KTY83 temperature sensor (1KΩ at 25°C), connected to terminals 13 and 14, with the purpose of measuring an absolute or a differential water temperature, in temperature dependent / influenced operating modes.

ecocirc XLplus WIRELESS AND ADDITIONAL RS485 MODULE

PART NUMBER	DESCRIPTION
109395500	Wireless module
109395510	RS 485 module

En-Rev_A



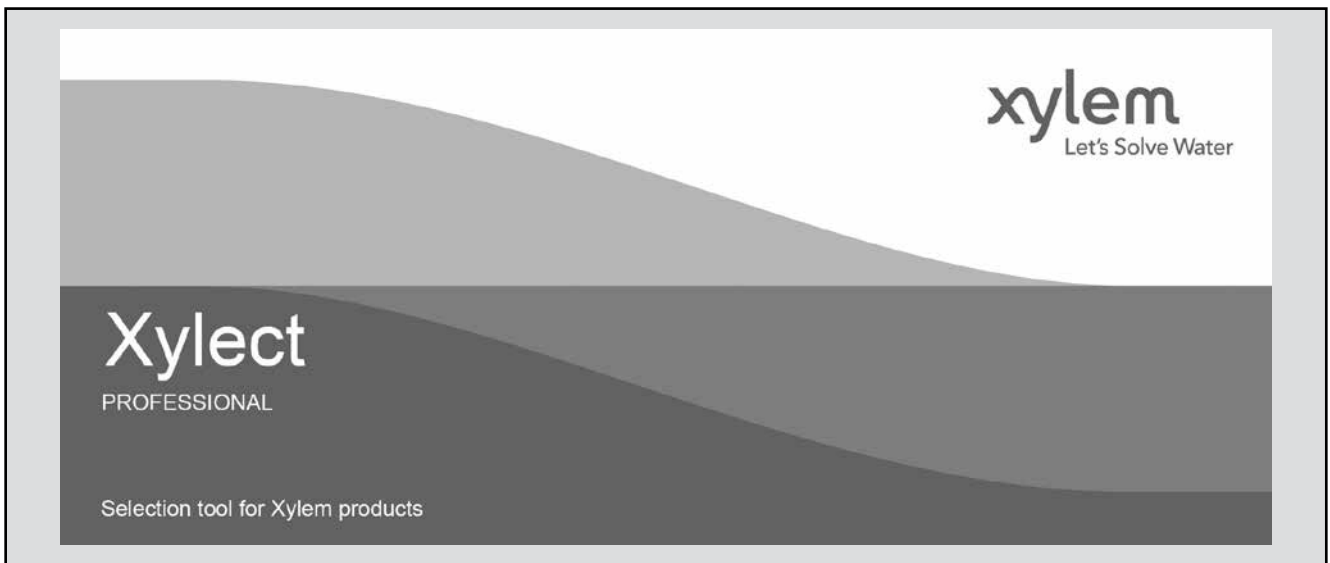
The drive can be equipped with

- an optional Wireless module
- an optional RS485 module

Both the modules shall be plugged inside the drive, fixed by the provided clips and with the cable connected to the connector 21.

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect™



Xylect™ is pump solution selection software with an extensive online database of product information across the entire Lowara range of pumps and related products, with multiple search options and helpful project management facilities. The system holds up-to-date product information on thousands of products and accessories.

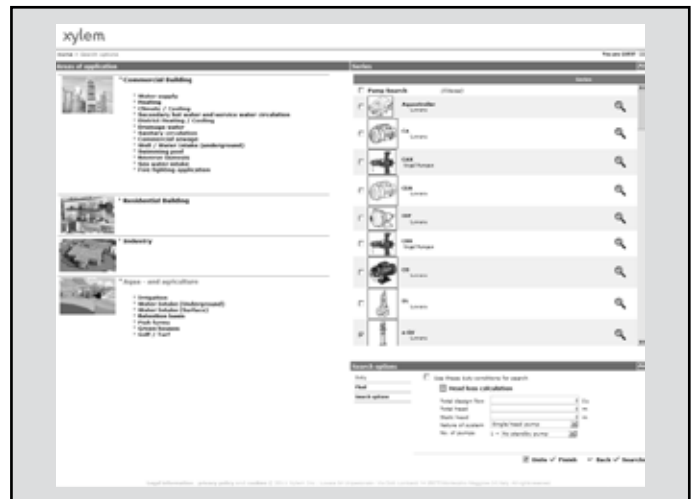
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

The search can be made by:

- Application
- Product type
- Duty point

Xylect™ gives a detailed output:

- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Options
- Data sheet printouts
- Document downloads incl dxf files



The search by application guides users not familiar with the product range to the right choice.

FURTHER PRODUCT SELECTION AND DOCUMENTATION

Xylect™

The screenshot displays the Xylect web application interface. At the top, there is a navigation bar with 'Home > Search options > Product configuration' and a user status 'You are GUEST'. Below this is a table of product alternatives for 'Commercial Building'. The table columns include Product, Item no., Stages, Discharge size, Number of DQ/Q [%], DH/H [%], Suction size, Relative friction, n [1/min], and Rated power [kW].

Product	Item no.	Stages	Discharge size	Number of DQ/Q [%]	DH/H [%]	Suction size	Relative friction	n [1/min]	Rated power [kW]	
Lowara 33SV8/2AG185T	10157021	8	DN 65	2	-2.7	-5.4	DN 65	97	2950	18.5
Lowara 33SV8G220T	10157023	8	DN 65	2	0.2	0.4	DN 65	98	2955	22.0
Lowara 33SV9/1AG220T	10157025	9	DN 65	2	3.0	6.2	DN 65	102	2955	22.0
Lowara 33SV9/2AG220T	10157024	9	DN 65	2	1.2	2.5	DN 65	102	2955	22.0
Lowara 33SV9G0304T	10157076	9	DN 65	4	-48.7	-73.7	DN 65	102	1460	3.0

Below the table, the 'Current configuration' for the selected product (33SV8G220T) is shown. It includes a performance curve graph with Head [m] on the y-axis (0 to 200) and flow rate [m³/h] on the x-axis (0 to 36). The graph shows a system curve and a pump curve, with an application range indicated. Key values are highlighted: 155.7 m head, 75.2% efficiency, 3.16 m NPSH-values, and 18.1 kW shaft power P2. The 'Current configuration' panel on the right lists various settings: Stages 8, Reference speed 2900 rpm, Performance curve 33SV8, Installation type Rigid coupling, Motor manufacturer Lowara, Motor design IE2 Three phase surface motor, Motor 22 kW PLM180RB5/3220, Rated power P2 22 kW, Rated voltage 400 V, Rated current 38.6 A, Degree of protection IP 55, Materials Stainless steel AISI 304, Type of seal Mechanical seal, and Shaft seal SV - Uniten Roten.

The detailed output makes it easy to select the optimal pump from the given alternatives.

The best way to work with Xylect™ is to create a personal account. This makes it possible to:

- Set own standard units
- Create and save projects
- Share projects with other Xylect™ users

Every user has a My Xylect space, where all projects are saved.

For more information about Xylect™ please contact our sales network or visit www.xylect.com.

This screenshot shows the 'Dimensional drawings' section of the Xylect application. It features a detailed technical drawing of a pump assembly with various dimensions labeled. The drawing includes a side view and a top view. Dimensions are provided in millimeters (mm) and inches (in). Key dimensions include: O1 313, O2 306, L1 1065, L2 494, H 240, and various diameters like Ø118 (in) and Ø122 (in). The 'Current configuration' panel on the right is also visible, showing the same settings as in the previous screenshot.

Dimensional drawings appear on the screen and can be downloaded in dxf format.

Xylem |'zīləm|

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

We're a global team 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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