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Let's Solve Water

ecocirc, ecocirc+

HIGH EFFICIENCY WET ROTOR CIRCULATORS FOR
RESIDENTIAL HEATING, COOLING AND DOMESTIC HOT WATER APPLICATIONS

ErP 2009/125/EC

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Cod. 191027281 Rev. E Ed.11/2023

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SUMMARY

ecocirc and ecocirc+

FEATURES

- EEI ≤0.18
- Proportional Pressure
- Constant Pressure
- Constant Speed
- eAdapt (ecocirc+)
- Night Mode (ecocirc+)
- Automatic "air purge"
- Plug
- Reading and setting of the pump by multifunctional knob, multicolor led
- Digital display (ecocirc+)
- Insulation shell
- **Bluetooth®** wireless technology (ecocirc+)
- Pump body in cast iron and stainless steel versions

BENEFITS

- Complete product portfolio: 4-6-8 m maximum head
- Low power consumption. ecocirc and ecocirc+ are compliant to the ErP Directive.
- Easy to set-up
- User-friendly human machine interface with digital display (ecocirc+)
- Control panel with one knob to change circulator status
- Operating status visualization
- Warning and alarm visualization
- Errors visualization (ecocirc+)
- External control and monitoring via Bluetooth® wireless technology (ecocirc+)
- Comfort self optimization and cost saving with eAdapt and Night mode (ecocirc+)

PRODUCT DESCRIPTION

ecocirc and ecocirc+ circulation pumps are designed for water circulation in heating, air conditioning and domestic hot water systems.

The pump can be also used for:
- Refurbishment or extension of existing systems.
- Facilities fitted with thermostatic valves.
- Single-family houses or apartment buildings.
- Floor heating systems.

DUTY RANGE

- **Flow rate**: up to 4,5 m³/h.
- **Head**: up to 8 m.
- **Maximum power consumption**: 60 W
- **Temperature of pumped liquid**: -10°C ÷ +110°C.
- **Ambient temperature**: -10°C ÷ +40°C.
- **Maximum operating pressure**: 10 bar (PN 10).
- **Power supply**: Single-phase 230 V (±10%) 50-60 Hz.
- **Insulation class** F (155°C).
- **Protection class** IP 44.
- **Sound level** ≤ 43 dB(A).

Regulations (EC) n. 641/2009 and (EU) n. 622/2012 – Annex I – point 2
(Product information requirements)

a) Energy efficiency index: see the EEI value in the tables of technical data section.
b) "The benchmark for most efficient circulators is EEI ≤ 0,20".
c) Information relevant for disassembly, recycling or disposal at end-of-life: observe the current laws and by-laws governing sorted waste disposal. Consult the product operating manual.
d) Information for circulators specifically designed to potable water uses: note not applicable to these products.

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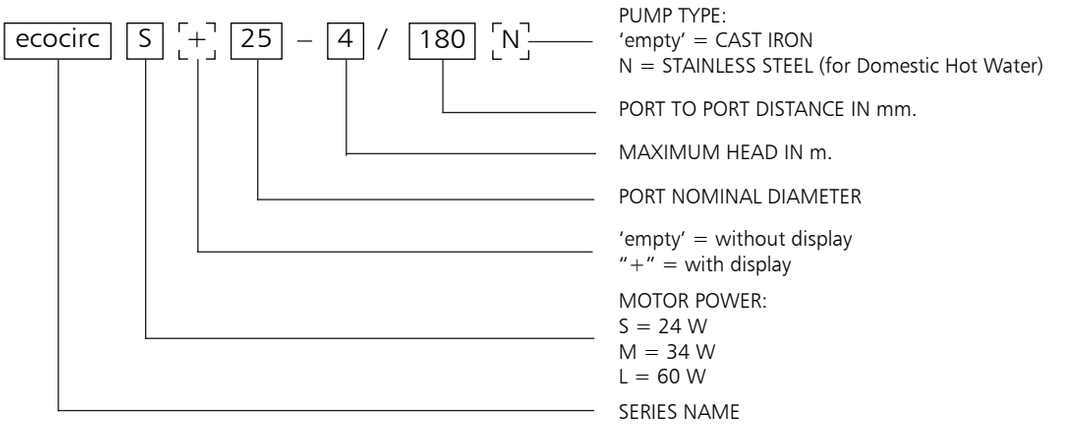
IDENTIFICATION CODE



EXAMPLE : ecocirc S + 25-4/180

Electronic circulator of ecocirc series, motor power = 24 W, equipped with display, port nominal diameter = 25, max head = 4 m, port to port distance 180 mm.

PRODUCT RANGE

Models	Limit power [W]	Port to port [mm]	Port nominal diameter	Max head [m]	Connection	Part number	
						Cast Iron	AISI304
ecocirc S 15-4/130 (N)	24	130	15	4	G 1 / R ½	60B0L1000	60B0L1001
ecocirc M 15-6/130 (N)	34	130	15	6	G 1 / R ½	60B0L1002	60B0L1004
ecocirc L 15-8/130 (N)	60	130	15	8	G 1 / R ½	60B0L1003	60B0L1005
ecocirc S 20-4/130	24	130	20	4	G 1 ¼ / R ¾	60B0L1006	-
ecocirc S 20-4/150 N	24	150	20	4	G 1 ¼ / R ¾	-	60B0L1008
ecocirc M 20-6/130	34	130	20	6	G 1 ¼ / R ¾	60B0L1007	-
ecocirc M 20-6/150 N	34	150	20	6	G 1 ¼ / R ¾	-	60B0L1009
ecocirc S 25-4/130 (N)	24	130	25	4	G 1 ½ / R 1	60B0L1010	60B0L1013
ecocirc S 25-4/180 (N)	24	180	25	4	G 1 ½ / R 1	60B0L1016	60B0L1019
ecocirc M 25-6/130 (N)	34	130	25	6	G 1 ½ / R 1	60B0L1011	60B0L1014
ecocirc M 25-6/180 (N)	34	180	25	6	G 1 ½ / R 1	60B0L1017	60B0L1020
ecocirc L 25-8/130 (N)	60	130	25	8	G 1 ½ / R 1	60B0L1012	60B0L1015
ecocirc L 25-8/180 (N)	60	180	25	8	G 1 ½ / R 1	60B0L1018	60B0L1021
ecocirc S 32-4/180 (N)	24	180	32	4	G 2 / R 1 ¼	60B0L1022	60B0L1025
ecocirc M 32-6/180 (N)	34	180	32	6	G 2 / R 1 ¼	60B0L1023	60B0L1026
ecocirc L 32-8/180 (N)	60	180	32	8	G 2 / R 1 ¼	60B0L1024	60B0L1027
ecocirc S+ 15-4/130	24	130	15	4	G 1 / R ½	60B0L1028	-
ecocirc M+ 15-6/130	34	130	15	6	G 1 / R ½	60B0L1029	-
ecocirc L+ 15-8/130	60	130	15	8	G 1 / R ½	60B0L1030	-
ecocirc S+ 20-4/130	24	130	20	4	G 1 ¼ / R ¾	60B0L1031	-
ecocirc M+ 20-6/130	34	130	20	6	G 1 ¼ / R ¾	60B0L1032	-
ecocirc S+ 25-4/130	24	130	25	4	G 1 ½ / R 1	60B0L1033	-
ecocirc M+ 25-6/130	34	130	25	6	G 1 ½ / R 1	60B0L1034	-
ecocirc L+ 25-8/130	60	130	25	8	G 1 ½ / R 1	60B0L1035	-
ecocirc S+ 25-4/180	24	180	25	4	G 1 ½ / R 1	60B0L1036	-
ecocirc M+ 25-6/180	34	180	25	6	G 1 ½ / R 1	60B0L1037	-
ecocirc L+ 25-8/180	60	180	25	8	G 1 ½ / R 1	60B0L1038	-
ecocirc S+ 32-4/180	24	180	32	4	G 2 / R 1 ¼	60B0L1039	-
ecocirc M+ 32-6/180	34	180	32	6	G 2 / R 1 ¼	60B0L1040	-
ecocirc L+ 32-8/180	60	180	32	8	G 2 / R 1 ¼	60B0L1041	-

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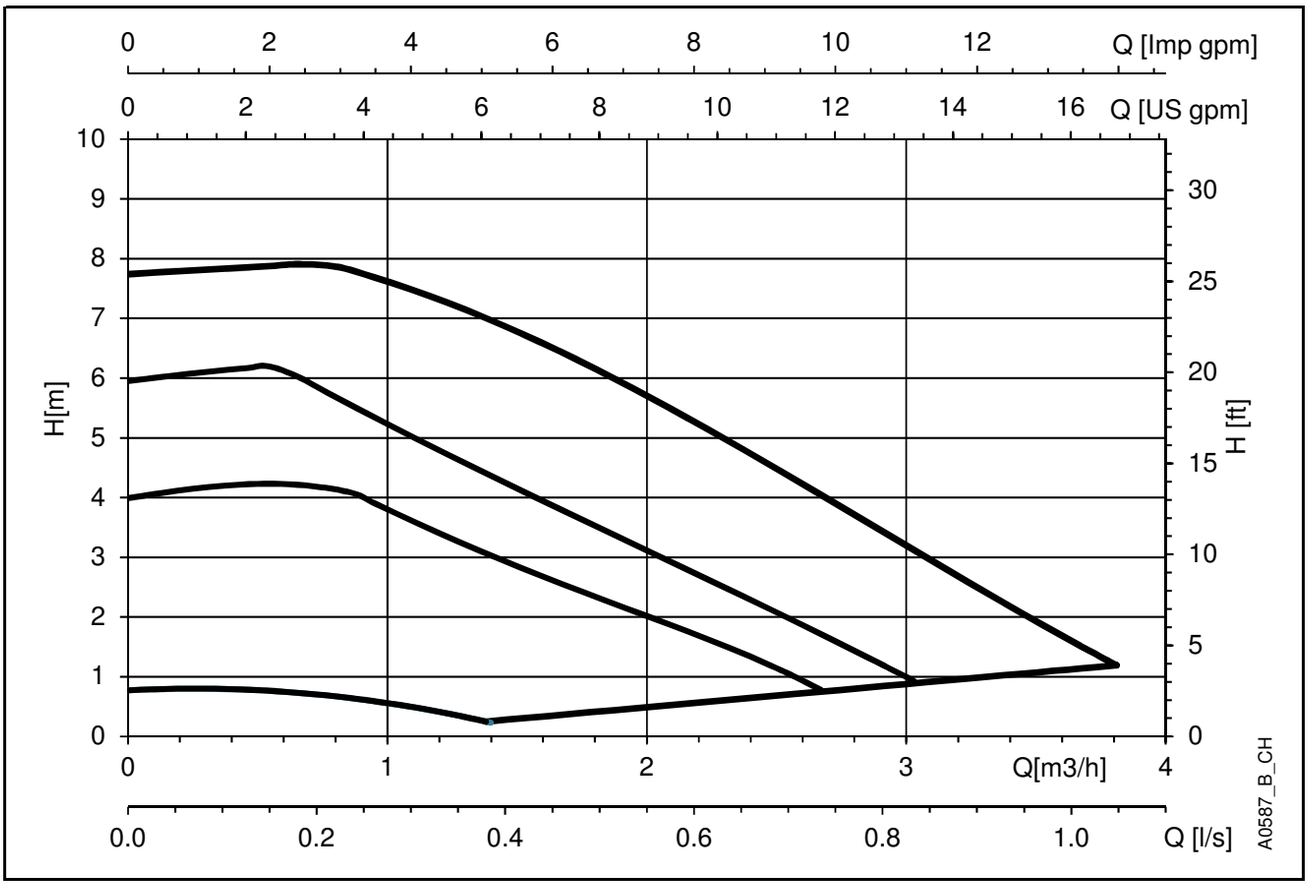
HYDRAULIC PERFORMANCE



MAIN FEATURES

	ecocirc	ecocirc+
RANGE		
# of models	28	14
Max head (m)	4 - 6 - 8	4 - 6 - 8
READING AND SETTING		
Knob	X	X
Fault indication	X	X
Digital display		X
CONTROL AND OPERATING MODES		
Proportional pressure	X	X
Constant pressure	X	X
Constant speed	X	X
Night mode		X
Bluetooth® wireless technology		X
eAdapt		X

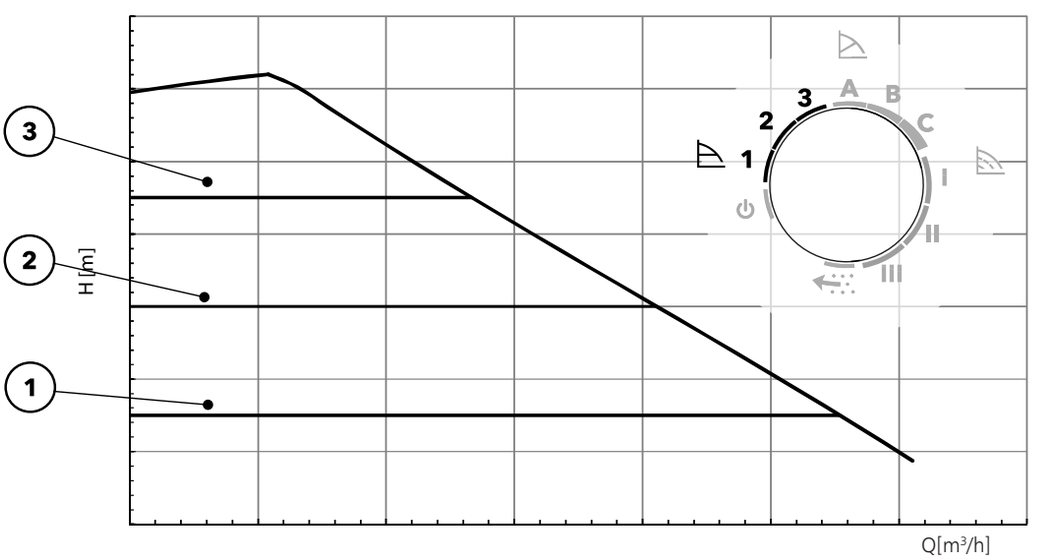
En-Rev_B

ecocirc, ecocirc+
CONTROL MODES

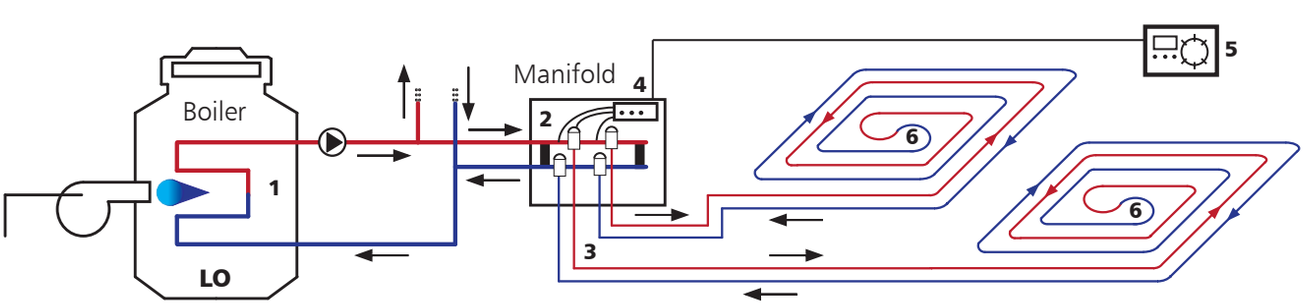
ecocirc and ecocirc+ can be operated with 3 different functional modes: Constant pressure, Proportional pressure and Constant speed.

Constant pressure

The pump maintains a constant pressure at any flow demand. The desired head of the pump can be set via user interface selecting 1, 2 or 3 performance curve (see picture below).



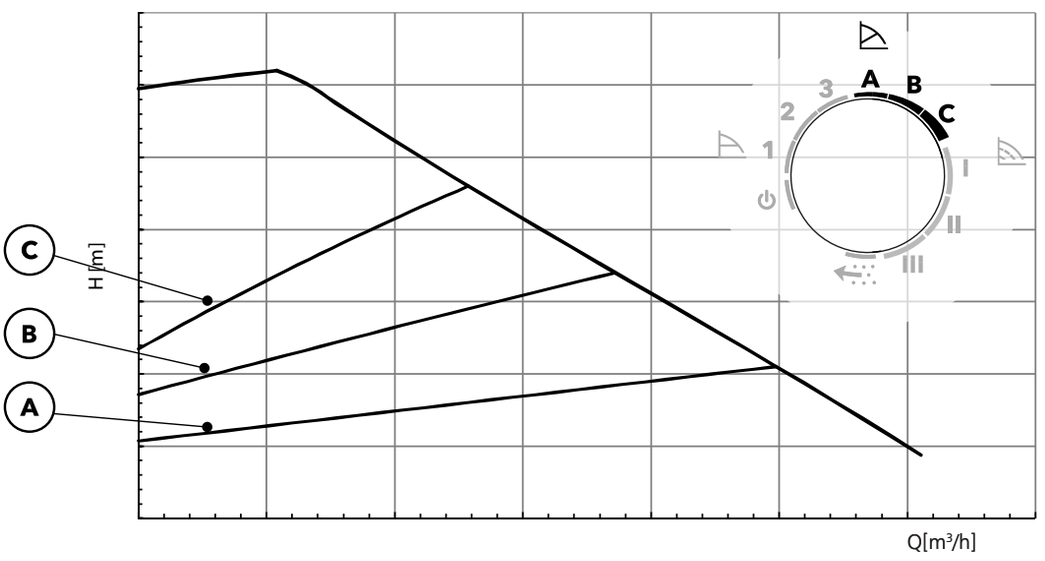
Constant pressure control is ideal for systems in which the distribution pipe is non-existent or very short.
A prime example is **underfloor heating**. The distribution pipe consists in most cases of an extremely short pipe run and the manifold. In such cases, system resistance is negligible.



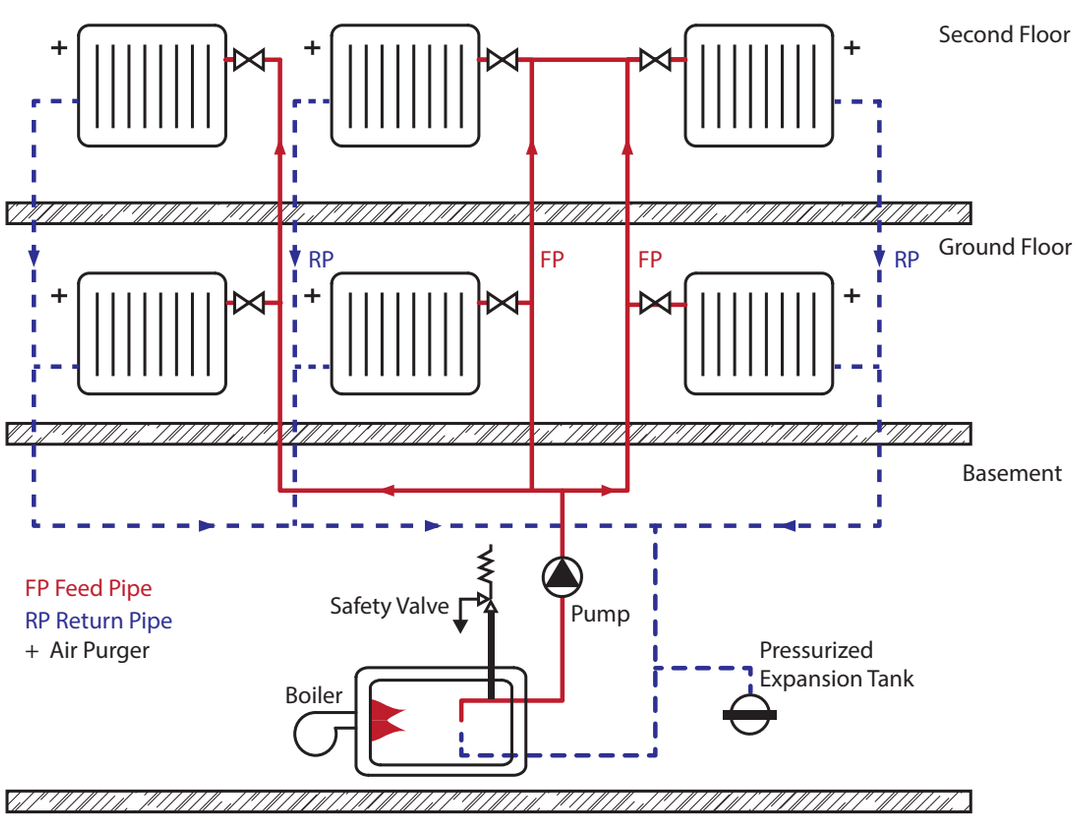
ecocirc, ecocirc+
CONTROL MODES

Proportional pressure

At proportional pressure control the pump pressure is continuously increased/decreased depending on the flow demand. The maximum head can be set via user interface selecting A, B or C performance curve (see picture below).



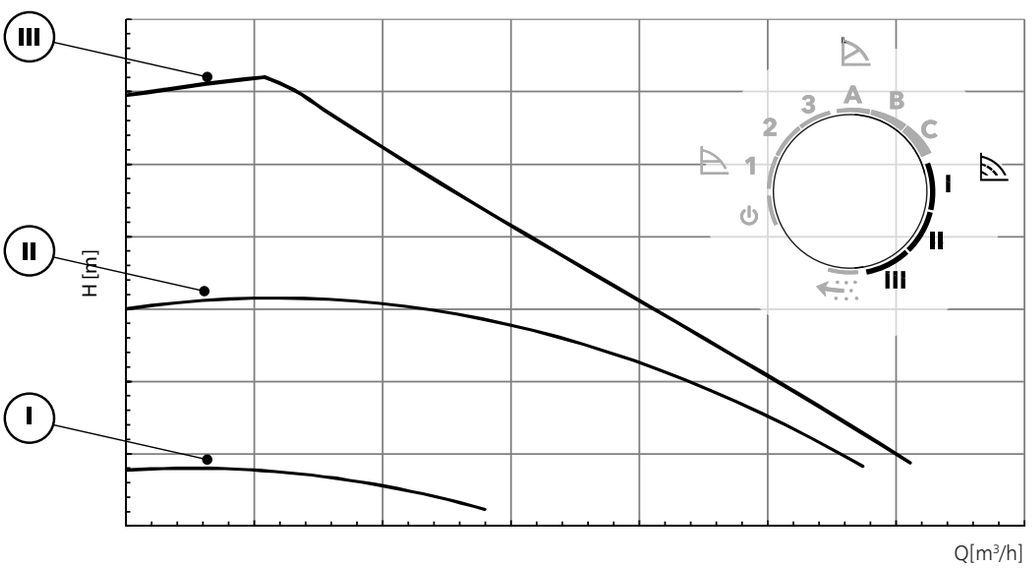
Proportional pressure functional mode is recommended in systems with relatively large pressure losses in the distribution pipes such as **radiator heating loops**.



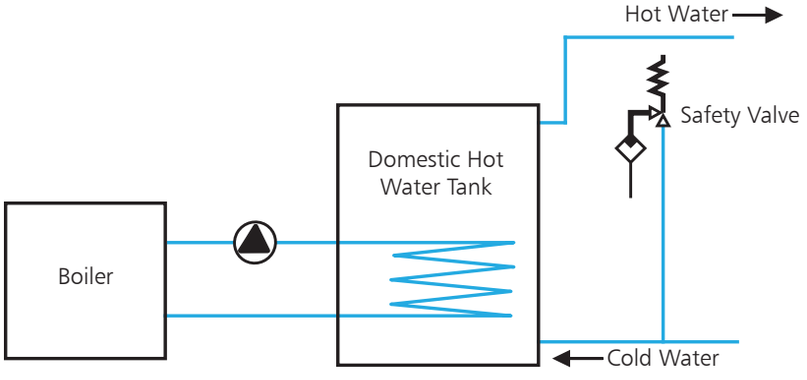
ecocirc, ecocirc+
CONTROL MODES

Constant Speed

At constant curve/constant speed the pump maintains a fixed speed at any flow demand.
The speed of the pump can be set via user interface selecting I, II or III performance curve.



Constant speed control is the most common when used in the primary or boiler loop in a primary/secondary hydronic system.

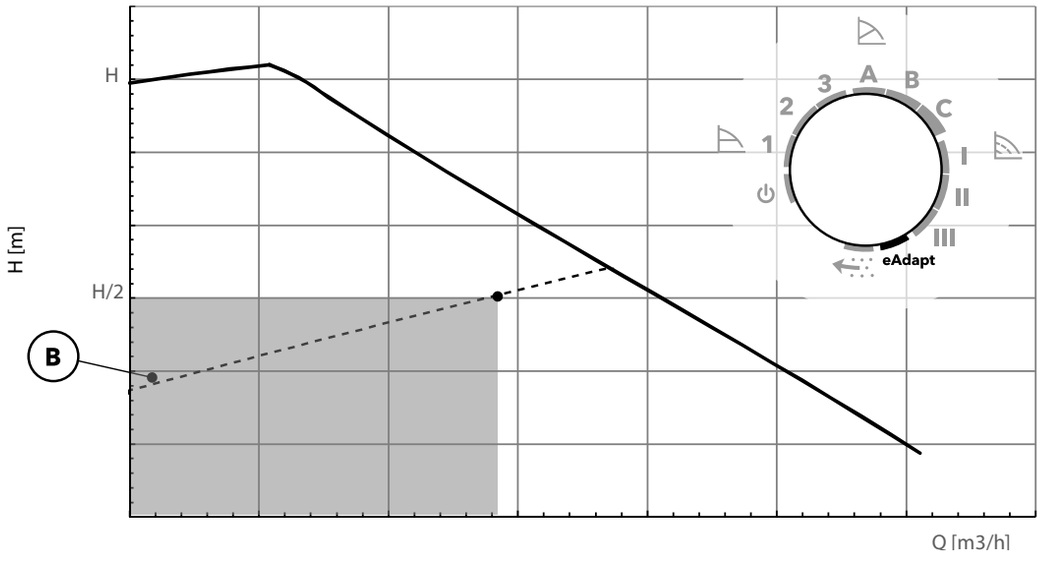


ecocirc+
CONTROL MODES

eAdapt function

eAdapt

The functionality is particularly suitable for heating systems with two pipes, radiators and thermostatic valves.
It optimizes power consumption by constantly determining the ideal duty point.
It represents the best selection when system features or heat requirements ask the circulator to work in the area highlighted in the graph for most of the time.
For duty points outside the highlighted area, it may be appropriate to set the circulator according to one of the other available functional modes.



Night mode

The additional Night Mode function can be activated in combination with Proportional Pressure, Constant Pressure and Constant Speed. This function reduces the power consumption of the pump to the minimum when the heating system is not running. The pump 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.

OTHER FUNCTIONS:

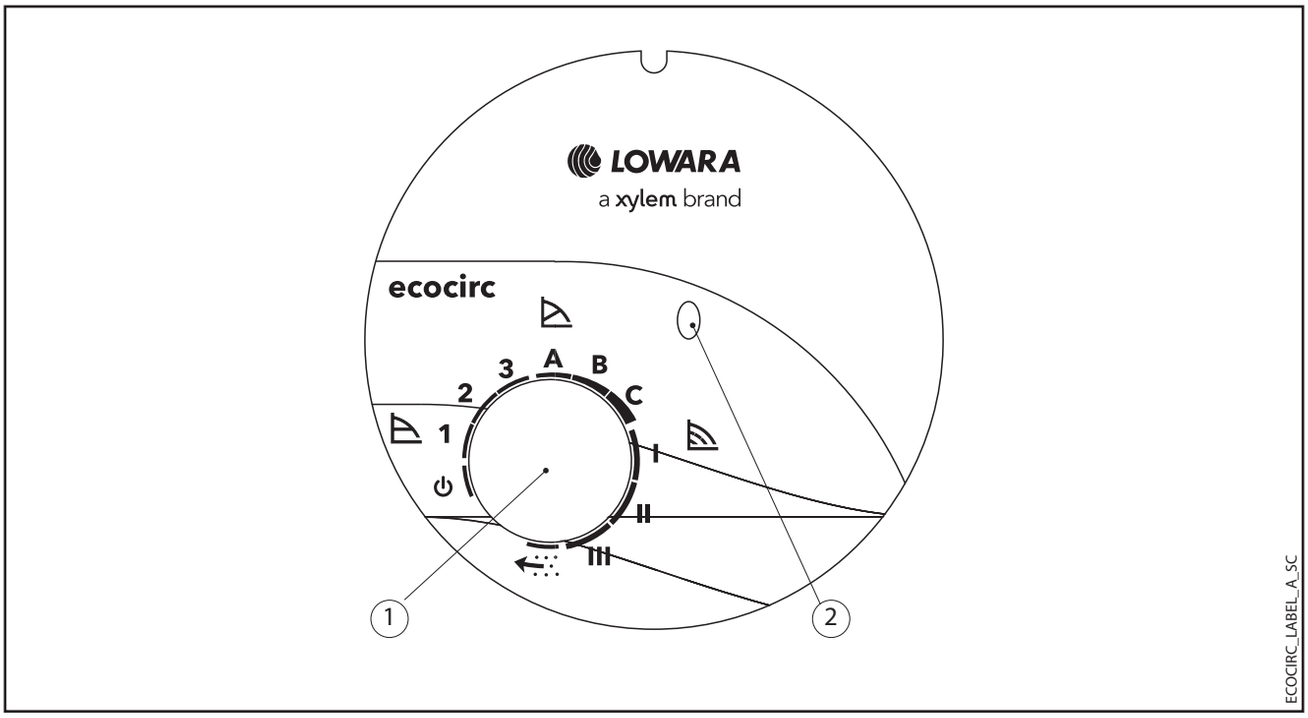
Automatic air Purge mode

The automatic air purge mode allows a quick automatic air-venting for a safe operation. This function can be also set up manually by the installer to ensure a complete air-venting.

Communication via Bluetooth® wireless technology

It allows a direct interface between your mobile device and your pump through an app.

ecocirc
HUMAN MACHINE INTERFACE



Ref.	Function	Description	
1	Knob	Operating modes change by turning the knob:	
		⏻	Stand-by
		1·2·3	Constant pressure control at 1, 2 or 3 performance curve
		A·B·C	Proportional pressure control at A, B or C performance curve
		I·II·III	Constant speed control at I, II or III performance curve
			Automatic air purge function
2	Control mode LED	- Green: pump is working properly	
		- Green (blinking): air purge program is running	
		- Red: pump failure or dry run	

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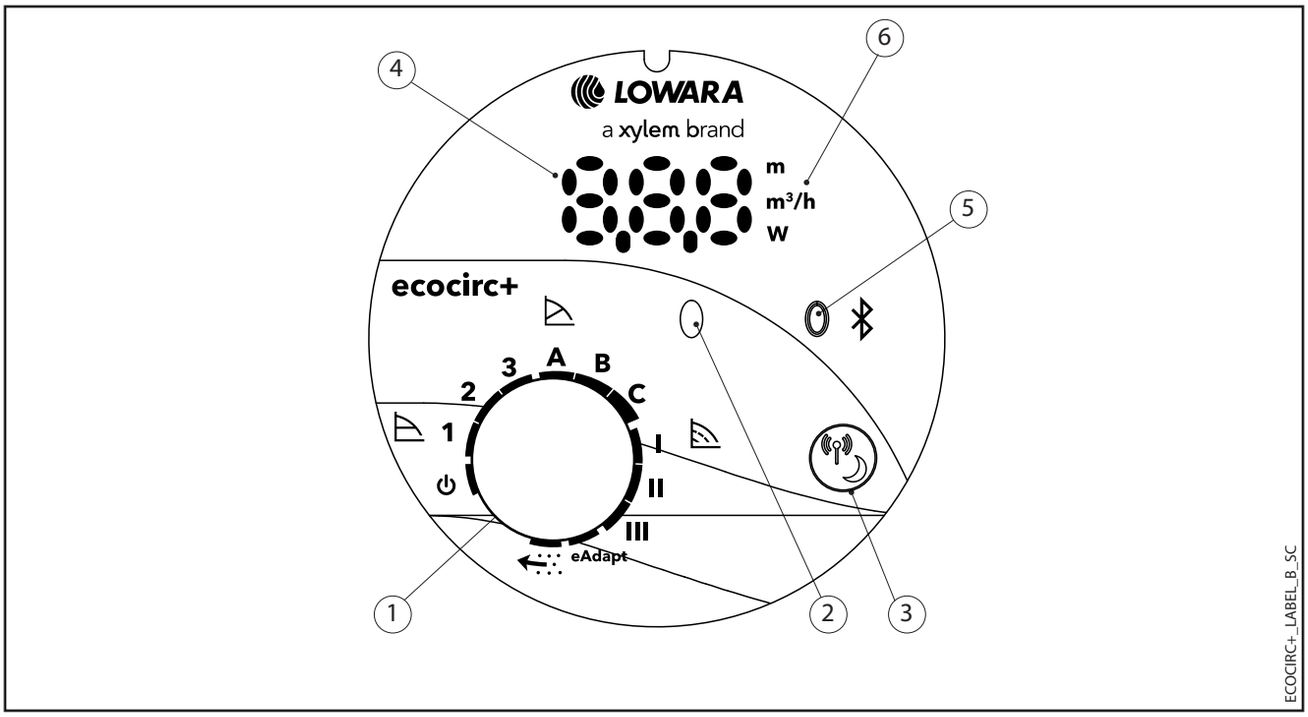
HUMAN MACHINE INTERFACE



Ref.	Function	Description	
1	Knob	Operating modes change by turning the knob:	
		⏻	Stand-by
		1-2-3	Constant pressure control at 1, 2 or 3 performance curve
		A-B-C	Proportional pressure control at A, B or C performance curve
		I-II-III	Constant speed control at I, II or III performance curve
		eAdapt	eAdapt
			Automatic air purge function
2	Control mode LED	- Green: pump is working properly	
		- Green (blinking):air purge program is running	
		- Yellow: night mode function	
		- Red: pump failure or dry run	
3	Selection button	To set up the Night Mode	
		To activate the Bluetooth® wireless functionality	
4	Digital Display		
5	Communication LED	- Green: pump is connected to a remote interface via Bluetooth® wireless technology	
6	Parameter indicators	Power consumption (W), Flow rate (m^3/h), Head (m)	

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OPERATING CONDITIONS

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 85°C with humidity maximum 95% and must be protected against dirt, heat source and mechanical damage.
The product must be stored at an ambient temperature from -40°C to 85°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.

Water conditions

General recommendation:
- Water in heating systems: according to local technical standards (e.g. VDI 2035-Part 1 to 3 where VDI is the Association of German Engineers);
- Water containing glycol: water/glycol mixture up to 50%.

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, ecocirc+
SECTIONAL DRAWINGS AND MAIN COMPONENTS

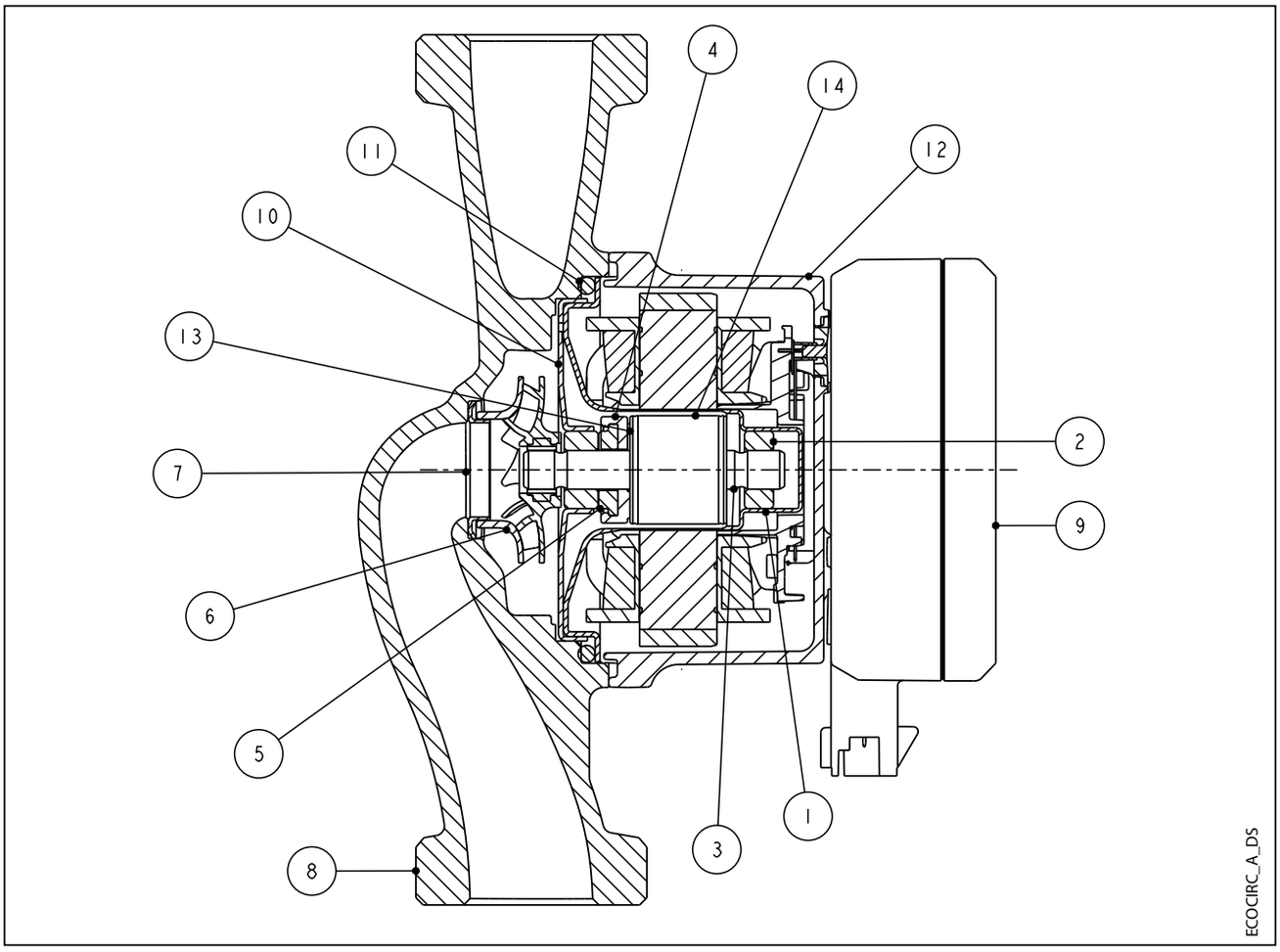


TABLE OF MATERIALS

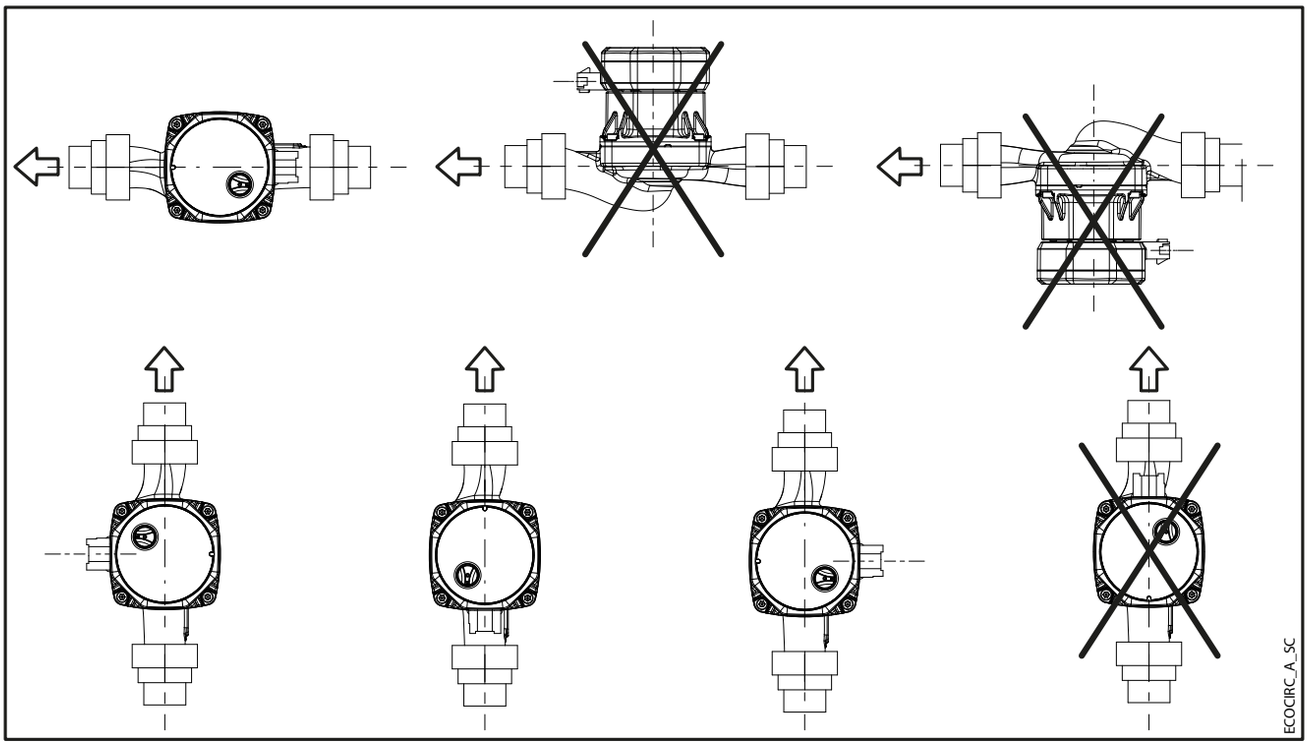
Ref. N.	Denomination	Material	Reference Standards	
			Europe	U.S.A
1	Rotor can	Stainless steel	EN 1.4435	AISI 316L
2	Bush bearing	Alumina ceramic		
3	Shaft	Alumina ceramic		
4	Thrust bearing housing	EPDM		
5	Thrust bearing	Graphite		
6	Impeller	PPE/PS-I Composite		
7	Wear ring	Stainless steel	EN 1.4301	AISI 304
8	Pump body	Stainless steel	EN 1.4308	AISI 304
		Cast iron	EN-GJL-200	ASTM Class 25
9	Control box	PC composite		
10	Front bearing housing	Stainless steel	EN 1.4301	AISI 304
11	O-ring	EPDM		
12	Motor housing	Aluminum	EN-AB-AlSi11Cu2	-
13	Rotor plastic	PPS Composite		
14	Rotor sleeve	Stainless steel	EN 1.4301	AISI 304

ecocirc-en_b_tm

ecocirc, ecocirc+
INSTALLATION

ecocirc and ecocirc+ is designed for indoor installations.
The pump must be installed with the pump head in a horizontal position, in vertical as well as horizontal pipes. The arrow of the pump housing shows the flow direction through the pump. The pump head can be rotated so the display is in a convenient position. Pipes and valves must be correctly sized.

If it's possible and applicable install the thermal shells included on the delivery. Do not insulate the motor housing, the electronics can overheat so that the pump automatically switch off. To ensure adequate cooling of the pump head, position the circulator in such a way that sufficient cooling is ensured. Air temperature must not exceed +40°C. The thermal shells must only be used in hot water circulation applications with fluid temperature above +20°C.

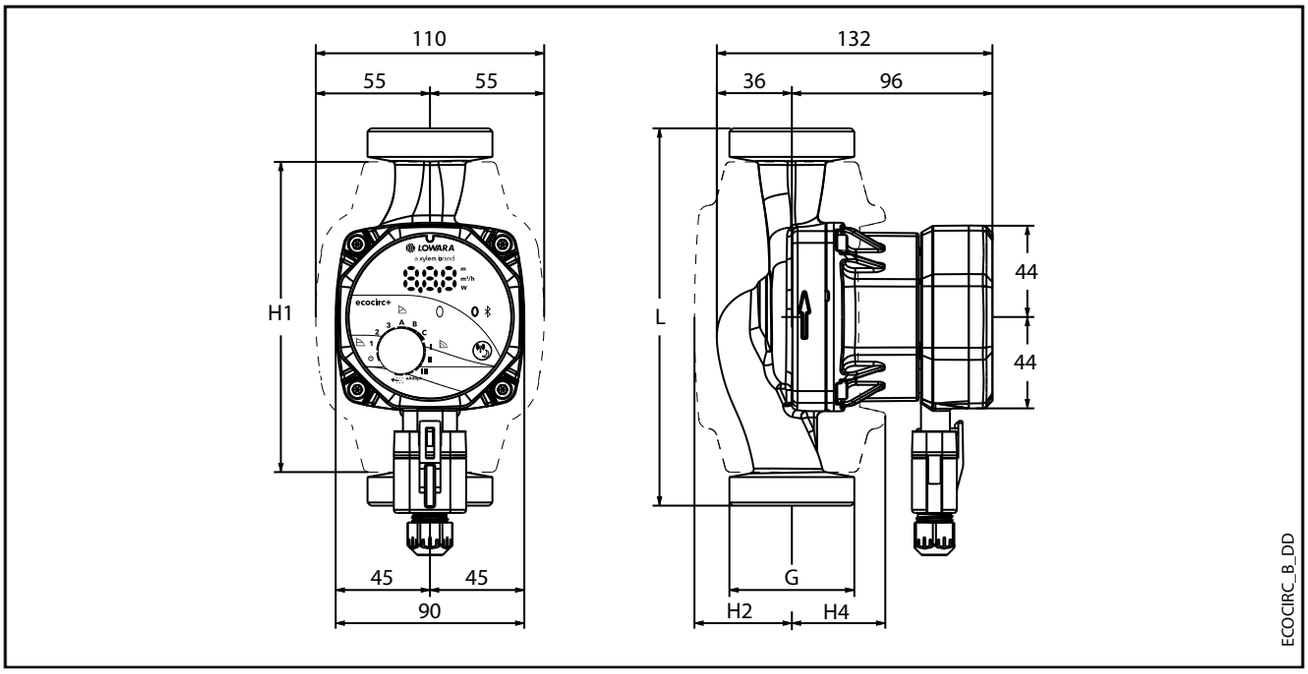


The local regulations in force overrule specified requirements listed here below.

- The electrical leads are protected from high temperature, vibrations and collisions.
- Use cables according to rules with 3 leads (2 + earth/ground). All cables must be heat-resistant up to +85°C. Cables should be positioned so that they do not touch the motor housing or pipework.
- The current type and voltage of mains connection must correspond to the data plate on the pump.
- Always connect the external protection conductor to ground (earth) terminal before making other electrical connections. All electrical equipment must be ground (earth) connected. This applies to the pump unit and related equipment.
- 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).

- The number of power on / power off of the pump must be less than 3 times per hour and in any case less than 20 per 24h.

ecocirc, ecocirc+
DIMENSIONS AND WEIGHTS



CAST IRON VERSION

PUMP TYPE	DIMENSIONS [mm]				
	L	G	H1	H2	H4
ecocirc S(+) 15-4/130	130	G 1 / R ½	142	46	44
ecocirc S(+) 20-4/130	130	G 1 ¼ / R ¾	142	46	44
ecocirc S(+) 25-4/130	130	G 1 ½ / R 1	142	46	44
ecocirc S(+) 25-4/180	180	G 1 ½ / R 1	148	47	45
ecocirc S(+) 32-4/180	180	G 2 / R 1 ¼	148	47	45
ecocirc M(+) 15-6/130	130	G 1 / R ½	142	46	44
ecocirc M(+) 20-6/130	130	G 1 ¼ / R ¾	142	46	44
ecocirc M(+) 25-6/130	130	G 1 ½ / R 1	142	46	44
ecocirc M(+) 25-6/180	180	G 1 ½ / R 1	148	47	45
ecocirc M(+) 32-6/180	180	G 2 / R 1 ¼	148	47	45
ecocirc L(+) 15-8/130	130	G 1 / R ½	142	46	44
ecocirc L(+) 25-8/130	130	G 1 ½ / R 1	142	46	44
ecocirc L(+) 25-8/180	180	G 1 ½ / R 1	148	47	45
ecocirc L(+) 32-8/180	180	G 2 / R 1 ¼	148	47	45

ecocirc-en_a_td

STAINLESS STEEL VERSION

PUMP TYPE	DIMENSIONS [mm]				
	L	G	H1	H2	H4
ecocirc S 15-4/130 N	130	G 1 / R ½	142	46	44
ecocirc S 20-4/150 N	150	G 1 ¼ / R ¾	142	46	44
ecocirc S 25-4/130 N	130	G 1 ½ / R 1	142	46	44
ecocirc S 25-4/180 N	180	G 1 ½ / R 1	148	47	45
ecocirc S 32-4/180 N	180	G 2 / R 1 ¼	148	47	45
ecocirc M 15-6/130 N	130	G 1 / R ½	142	46	44
ecocirc M 20-6/150 N	150	G 1 ¼ / R ¾	142	46	44
ecocirc M 25-6/130 N	130	G 1 ½ / R 1	142	46	44
ecocirc M 25-6/180 N	180	G 1 ½ / R 1	148	47	45
ecocirc M 32-6/180 N	180	G 2 / R 1 ¼	148	47	45
ecocirc L 15-8/130 N	130	G 1 / R ½	142	46	44
ecocirc L 25-8/130 N	130	G 1 ½ / R 1	142	46	44
ecocirc L 25-8/180 N	180	G 1 ½ / R 1	148	47	45
ecocirc L 32-8/180 N	180	G 2 / R 1 ¼	148	47	45

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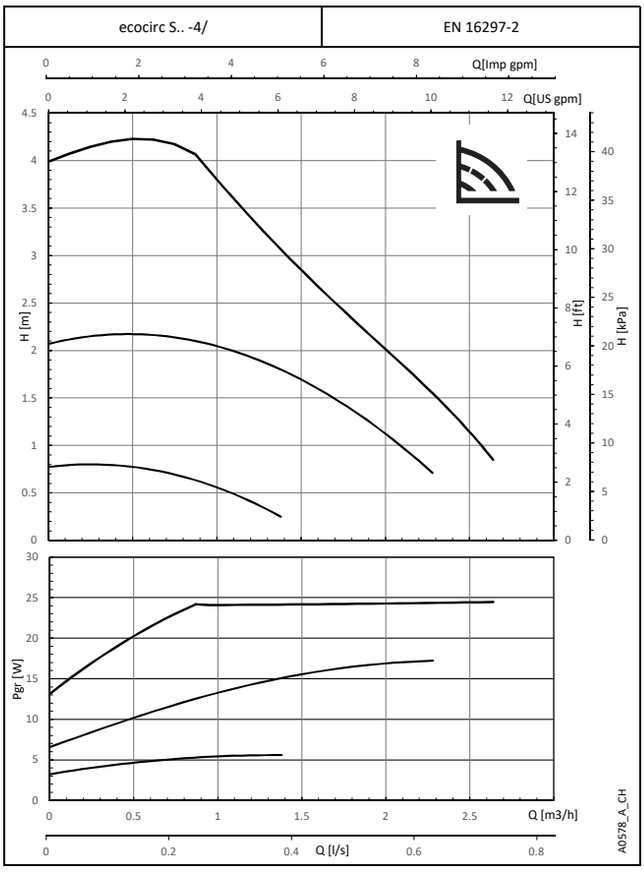
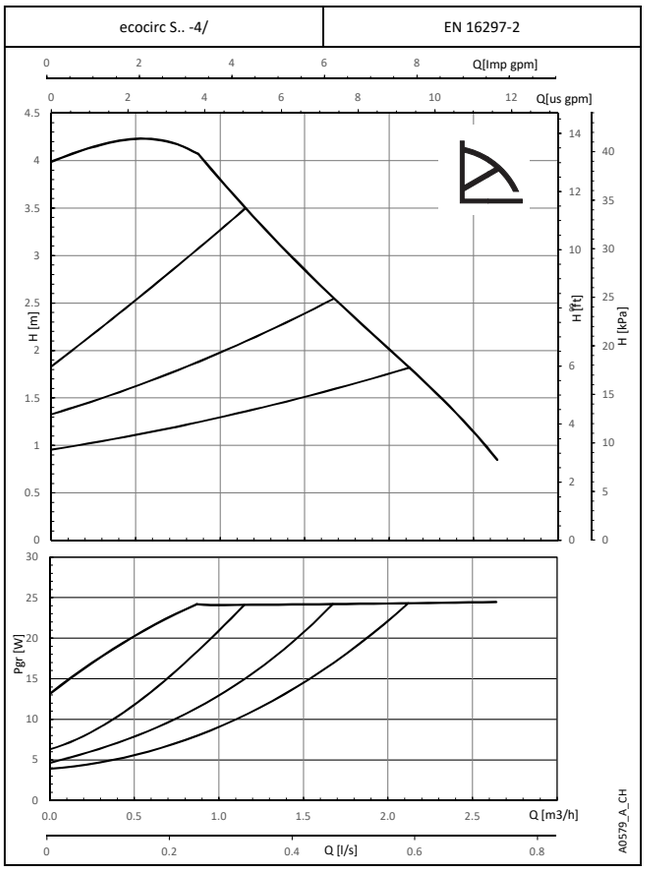
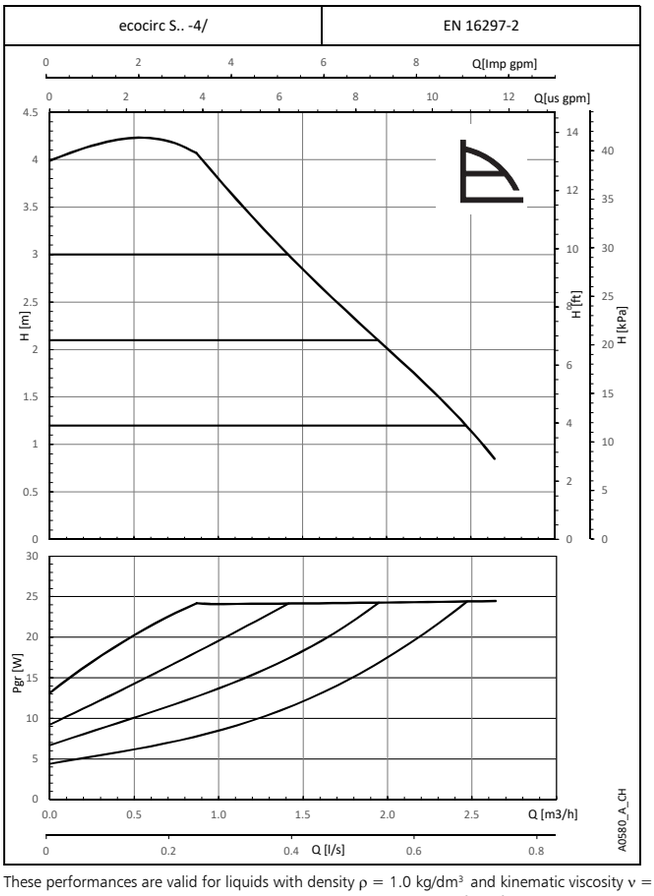
ecocirc S, ecocirc S+.. 4/(N) SERIES
PERFORMANCE CURVES AND TECHNICAL DATA







ecocirc S.. 4/(N)	Pump Data
Rated voltage	1 x 230 V ±10%
Frequency	50-60 Hz
Power absorbed [W] (min/max)	3 / 24
Input current [A] (min/max)	0,03 / 0,21
Stand-by power [W]	< 1 W
Specific EEI ≤	0,16
IP protection	44
Insulation class	155 (F)
Max. working pressure	1,0 MPa (10 bar)
Liquid temperature	-10°C to +110 °C
Sound pressure level	≤ 43 dB(A)

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These performances are valid for liquids with density ρ = 1.0 kg/dm³ and kinematic viscosity ν = 1 mm²/sec.
Pump operates steplessly. Lines correspond to knob settings and are for reference only.

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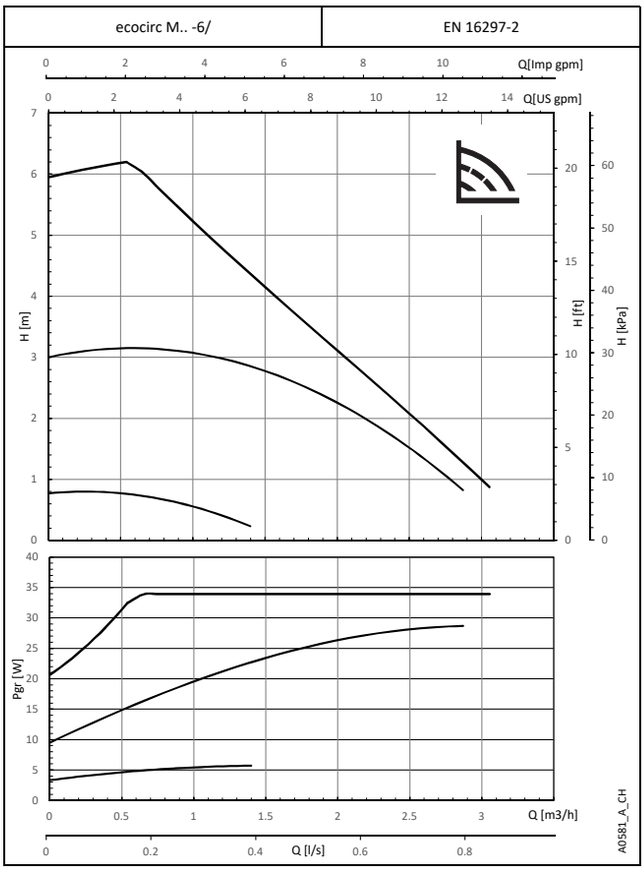
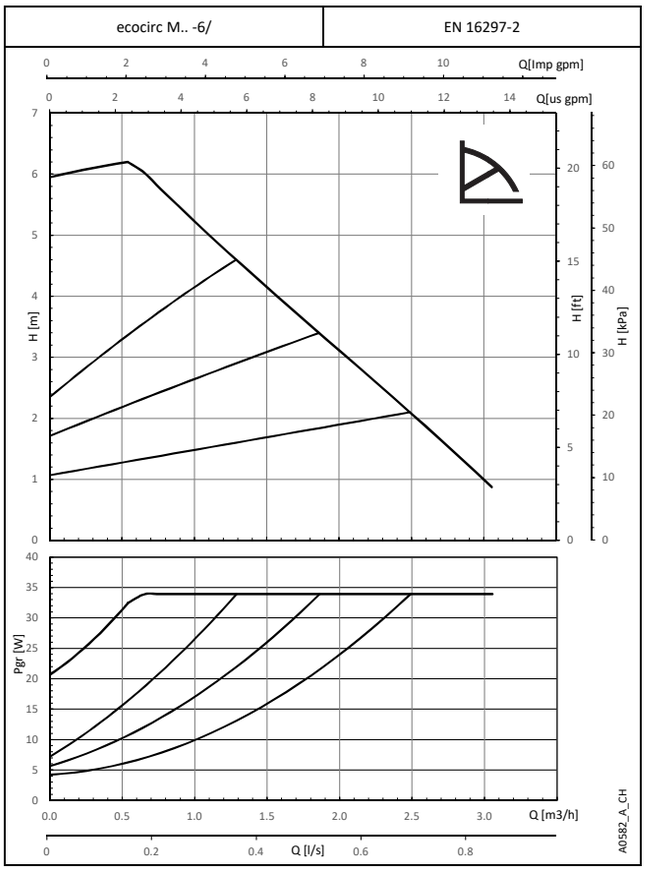
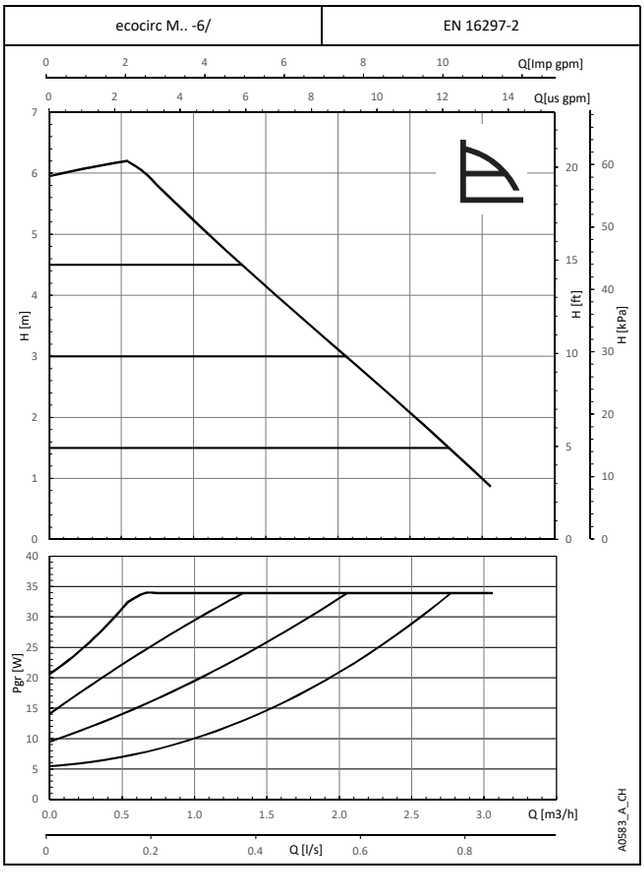
ecocirc M, ecocirc M+.. 6/(N) SERIES
PERFORMANCE CURVES AND TECHNICAL DATA







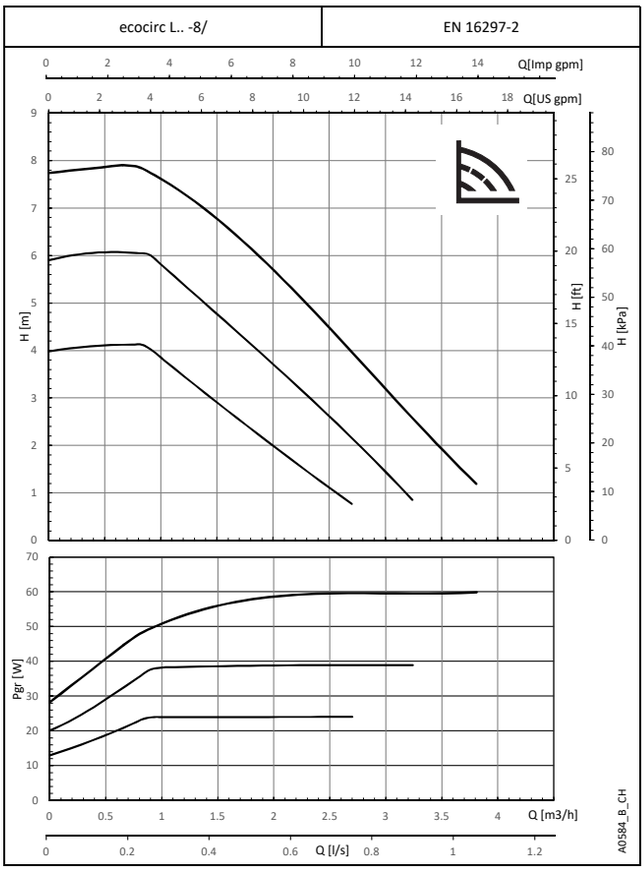
ecocirc M.. 6/(N)	Pump Data
Rated voltage	1 x 230 V ±10%
Frequency	50-60 Hz
Power absorbed [W] (min/max)	3 / 34
Input current [A] (min/max)	0,03 / 0,30
Stand-by power [W]	< 1 W
Specific EEI ≤	0,17
IP protection	44
Insulation class	155 (F)
Max. working pressure	1,0 MPa (10 bar)
Liquid temperature	-10°C to +110 °C
Sound pressure level	≤ 43 dB(A)

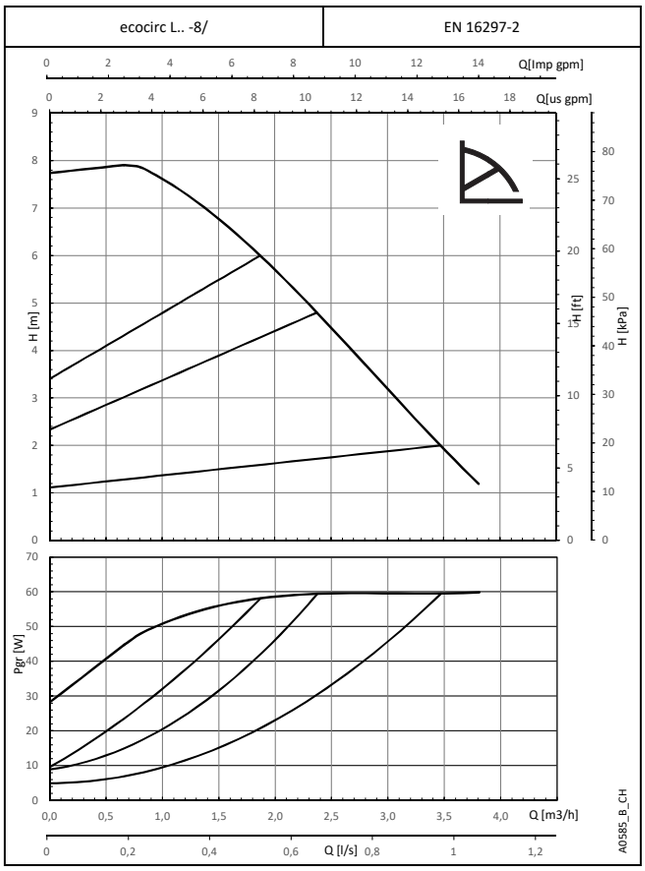
En-Rev_D

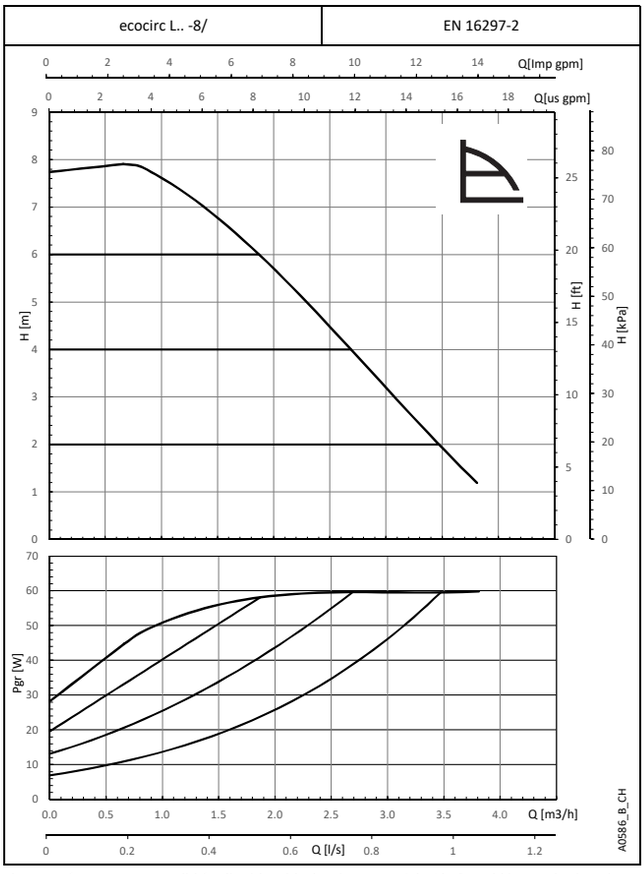
These performances are valid for liquids with density ρ = 1.0 kg/dm³ and kinematic viscosity ν = 1 mm²/sec.
Pump operates steplessly. Lines correspond to knob settings and are for reference only.

LOWARA
a xylem brand

ecocirc L, ecocirc L+.. 8/(N) SERIES
PERFORMANCE CURVES AND TECHNICAL DATA





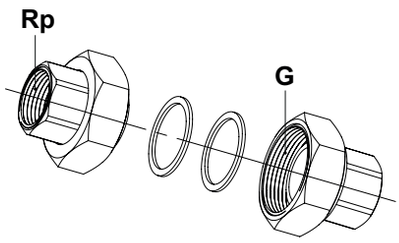


ecocirc L.. 8/(N)	Pump Data
Rated voltage	1 x 230 V ±10%
Frequency	50-60 Hz
Power absorbed [W] (min/max)	5 / 60
Input current [A] (min/max)	0,04 / 0,50
Stand-by power [W]	< 1 W
Specific EEI ≤	0,18
IP protection	44
Insulation class	155 (F)
Max. working pressure	1,0 MPa (10 bar)
Liquid temperature	-10°C to +110 °C
Sound pressure level	≤ 43 dB(A)

En-Rev_C

These performances are valid for liquids with density ρ = 1.0 kg/dm³ and kinematic viscosity ν = 1 mm²/sec.
Pump operates steplessly. Lines correspond to knob settings and are for reference only.

ACCESSORIES
SCREWED CONNECTIONS

Model	Part Number	Material	G	Rp
	105890340	Galvanized steel	1"	1/2"
	105890350	Galvanized steel	1" 1/4	3/4"
	105890200	Galvanized steel	1" 1/2	1"
	105890220	Galvanized steel	2"	1" 1/4
	105890341	Brass	1"	1/2"
	105890351	Brass	1" 1/4	3/4"
	105890201	Brass	1" 1/2	1"
	105890221	Brass	2"	1" 1/4
	Kit containing 2 threaded connections and 2 gaskets.			

En-Rev_A

MY ECOCIRC APP

The MY ecocirc app can be an useful complementary accessory for the new ecocirc+. The data of the pump are read out and transmitted to a remote device (smartphone) via Bluetooth® wireless technology. The connection can be activated by pushing the specific button in the front of the circulator. Operating data such as flow rate, head, current consumption, alarm status and error codes are read and transmitted in real-time to the MY ecocirc app on your smartphone.

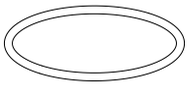
SPARE PARTS

PLUG

Model	Part Number	Description
	644110006	Femal plug

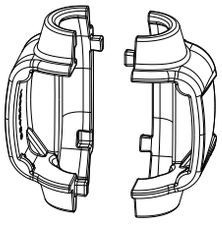
En-Rev_A

O-RING

Model	Part Number	Description
	672221790	O-ring

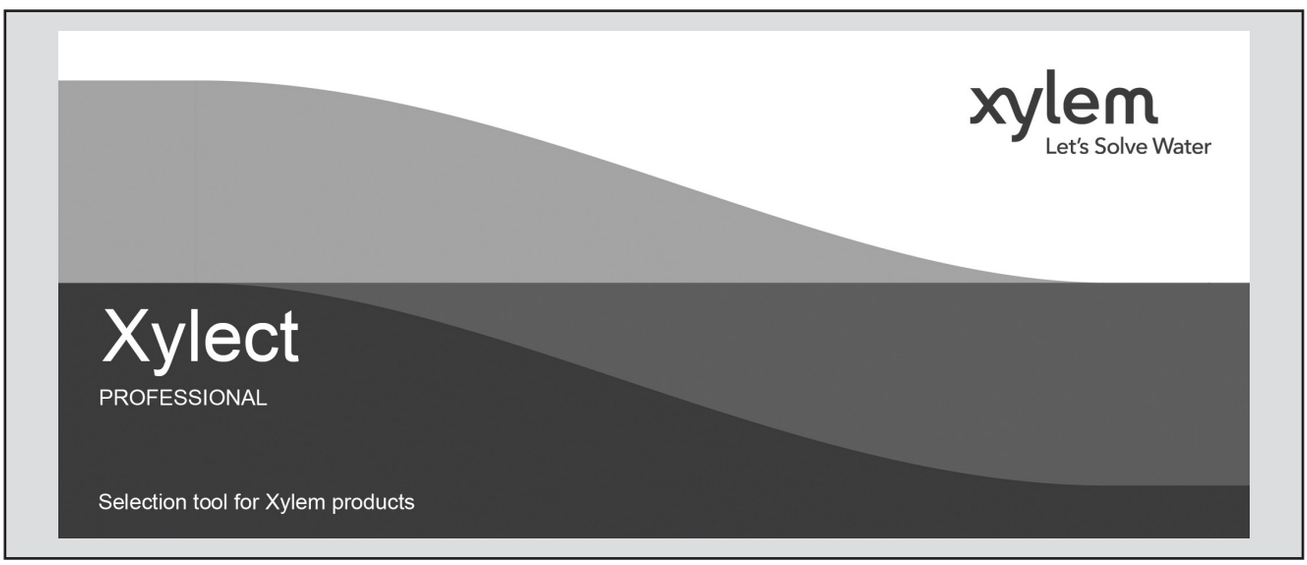
En-Rev_A

INSULATING SHELL

Model	Part Number	Circulator Type	Description
	664560000	15-4/130 (N), 15-6/130 (N), 15-8/130 (N), 20-4/130, 20-6/130, 20-4/150 N, 20-6/150 N	Insulating shell
	664560001	25-4/180 (N), 25-6/180 (N), 25-8/180 (N), 32-4/180 (N), 32-6/180 (N), 32-8/180 (N)	Insulating shell
	664560003	25-4/130 (N), 25-6/130 (N), 25-8/130 (N)	Insulating shell

En-Rev_B

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.

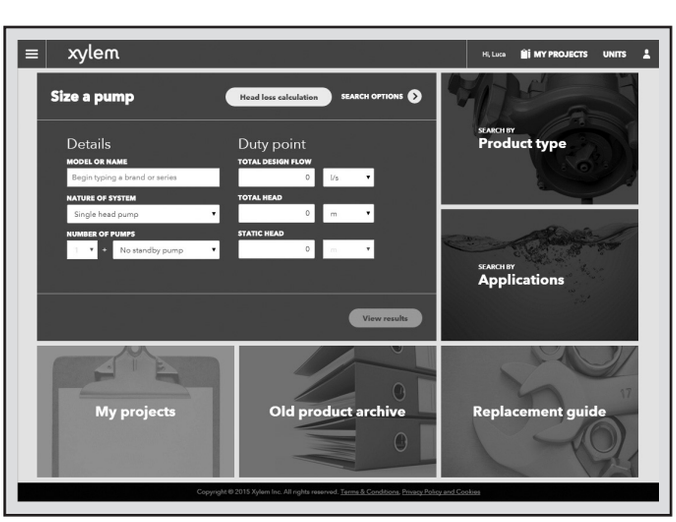
The possibility to search by applications and the detailed information output given makes it easy to make the optimal selection without having detailed knowledge about the Lowara products.

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

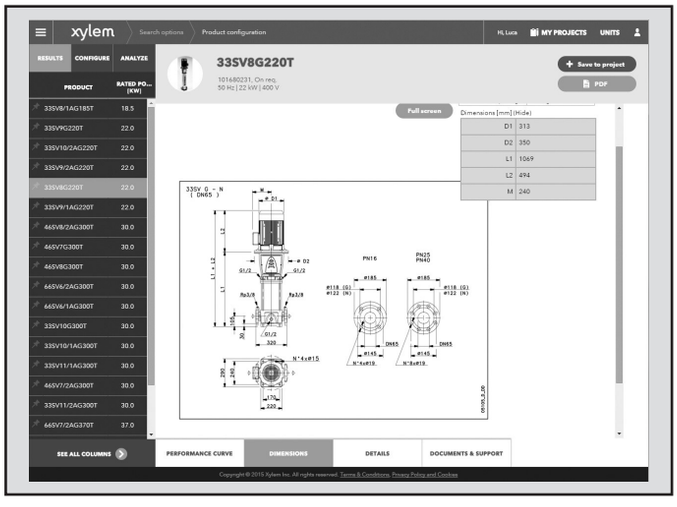
The detailed output makes it easy to select the optimal pump from the given alternatives.

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 registered user has a proper space, where all projects are saved.

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



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 advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. 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 with a strong focus on developing comprehensive, sustainable solutions.

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

LOWARA®

xylem
Let's Solve Water

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