

ALARKO

Circulation Pump Optima BMS

**ECO
DESIGN**

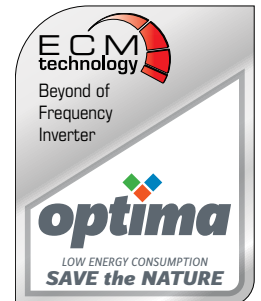
The First&Only
According to
Directives



**AT THE HEART
OF THE SYSTEM**



**HIGHER EFFICIENCY DESIGN WITH ECM
(ELECTRO-COMMUTATED MOTOR) TECHNOLOGY!**





With more than 60 years of Alarko Circulation Pump experience...

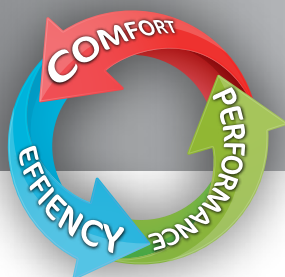
ALARKO OPTIMA BMS

Protect the nature...

Alarko aims to significantly improve the quality of life by adding innovative products that respect the environment and provide significant energy savings, as well as better performance, to its product range. The process of compliance with the European Union ECO Design regulations resulted in a real turning point for the Alarko circulation pumps that is Alarko Optima BMS.

Alarko Optima BMS's Key Benefits

1. Optional digital and analog communication modules compatible with building automation systems
2. Class A High Energy Saving
3. Ideal Performance
4. Reliability
5. Ease of Installation and Commissioning
6. Ease of after-sales service and spare parts supply
7. Electronically controlled
8. In accordance with Turkish SGM-2011/15 and EU EC 641/2009



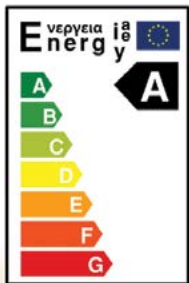
EEI ≤ 0,23

IDEAL PERFORMANCE

Alrko Optima BMS serves in three different operating modes with continuous ideal operating point unlike conventional single and three-speed pumps. In this way, high energy saving is possible.

Eco Design Requirements for European Commission Circulation Pumps

Replacement of wet rotor circulation pumps integrated into the product before August 1, 2015	No conditions stipulated	EEI ≤ 0,23
Wet rotor circulation pumps integrated in the product New Production	No conditions stipulated	EEI ≤ 0,23
Independent wet rotor circulation pumps for Heating / Cooling Systems	No conditions stipulated	EEI ≤ 0,27
	01/01/2014	01/08/2015
		01/01/2020



ADVANCED FEATURES

Alrko Optima BMS provides integrated operation and high energy savings with its digital and analog communication modules and building automation systems.



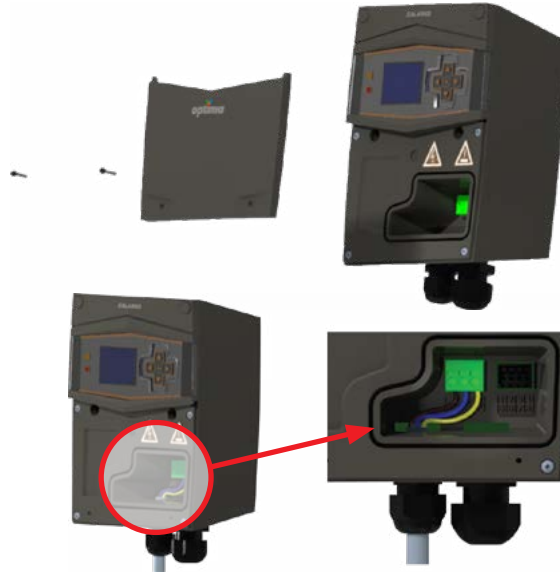
Higher efficiency design and key benefits with ECM (Electro-Commutated Motor) Technology:

- No external sensors or controllers required.
- Motor life is prolonged with low engine temperature.
- Motor life is prolonged due to lower stress on the engine bearings.
- Vibration and noise levels are lower.



- Alarko Optima circulation pumps are documented by the tests carried out in accordance with all the following standards and regulations.
- Machinery Directive 2006/42/ EC
- Low Voltage Directive 2014/35/ EC
- EMC Directive 2004/108/EC
- Ecodesign Directive 2009/125/ EC
- TS EN 60335-1-51:2003 + A2:2012
- TS EN 16297-1:2012
- TS EN 16297-2:2012
- TS EN 60335-1:2012

Alarko Optima circulation pumps have junction boxes and connection sockets that help them to be commissioned very quickly and easily. These specially designed connection sockets on the control box allow the pump to be connected safely and as soon as possible without contact with mains voltage and electronic systems.



Multi Pump operation characteristics

Multi Pump mode operation is managed by the CCM module (software).

Multi Pump mode supports 1 to 8 pumps in a single network.

In a valid Multi Pump configuration, only 1 pump in a network must be defined as a **Lead Pump**.

Each pump in the network must be manually assigned a unique ID by the user.

The ID of the lead pump must be set to 0, and the ID of the other lag pumps must be set to 1, 2, 3.

Multi Pump mode has 3 different scenarios: **Lead/Lag, Main/Standby, Pump Cycling**. (Details are given in the user manual.)

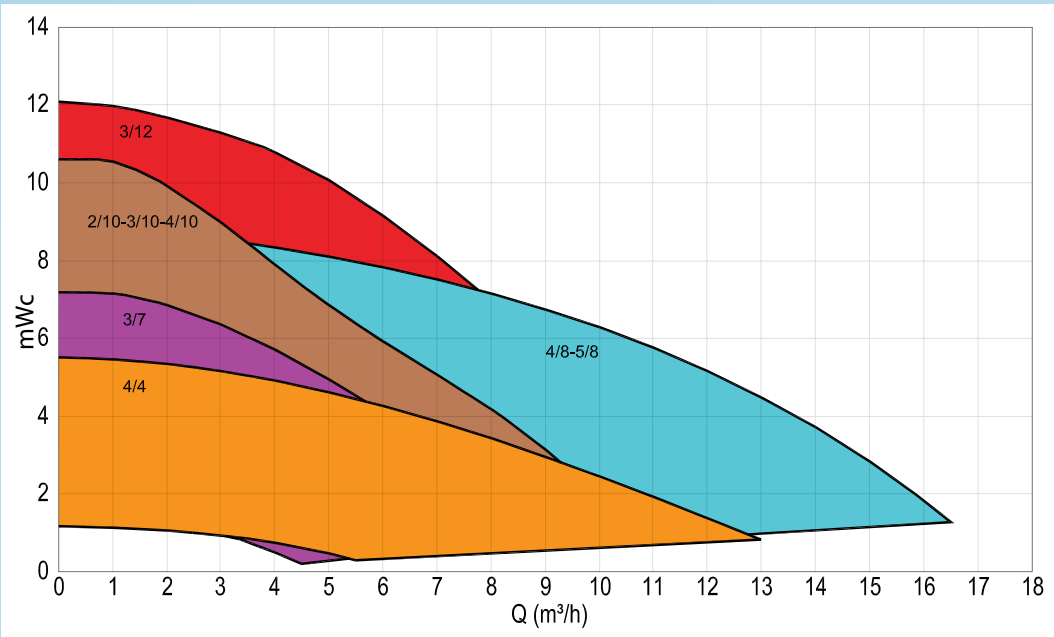
All lag pumps in the Multi Pump network will automatically have the main pump's operating mode, set point, and multi pump mode without the need for additional setting.



Alarko Optima BMS,
provides high energy savings
while improving the quality of life...



General Selection Chart





User Friendly GRAPHIC DISPLAY



Digital Display



No Display Option

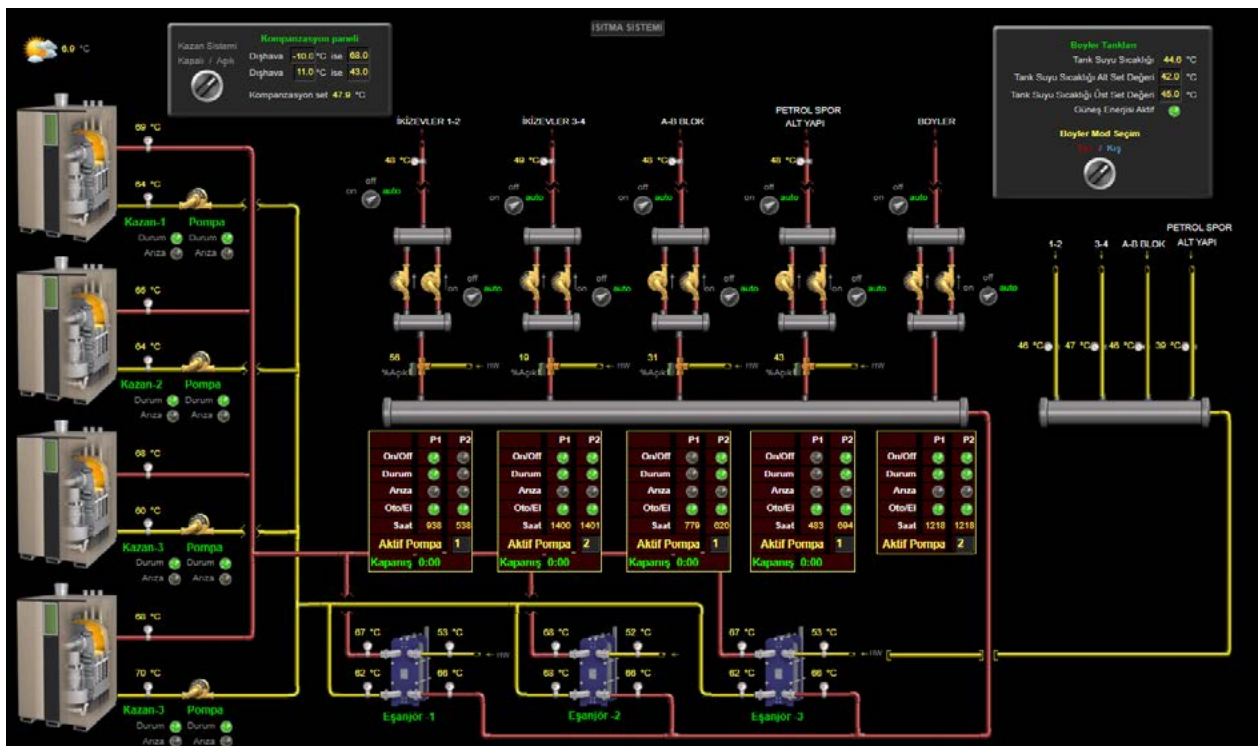
All controls and settings can be made with the help of 5 keys.

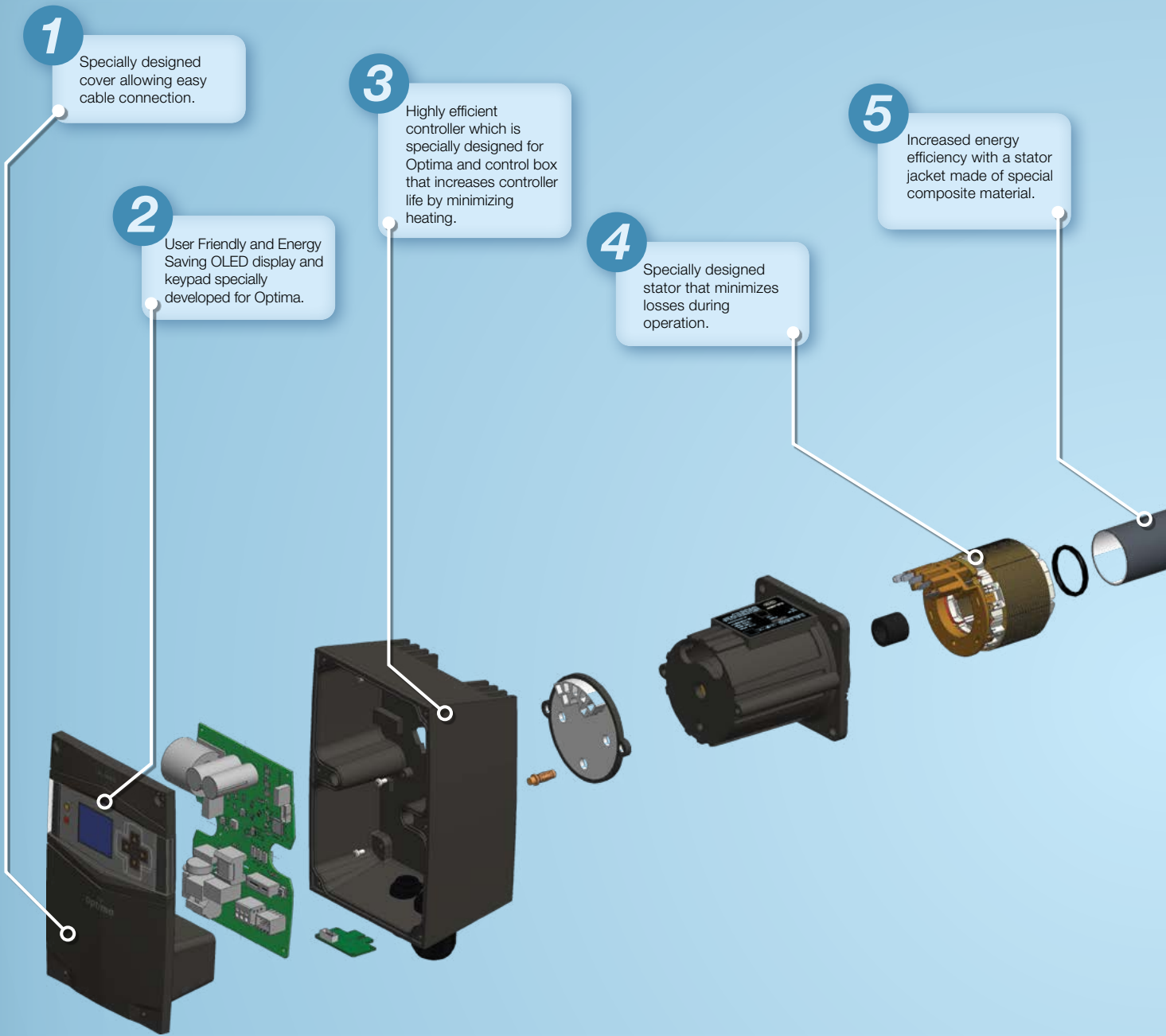
- Graphic Display, Digital Display and No Display options.
- User-friendly control and control system with Turkish software.
- English language support available as standard in the menu.
- "service info" feature showing the code and content of the last 5 errors occurred to the user.

AI at your service

3 different card options
designed to meet all needs

- 1) Communication Control Module (Modbus RTU / BACnet MS-TP/ Multi-Pump)
- 2) Analog Control Module (with Relay)
- 3) Analog Control Module (without Relay)





1 Specially designed cover allowing easy cable connection.

2 User Friendly and Energy Saving OLED display and keypad specially developed for Optima.

3 Highly efficient controller which is specially designed for Optima and control box that increases controller life by minimizing heating.

4 Specially designed stator that minimizes losses during operation.

5 Increased energy efficiency with a stator jacket made of special composite material.

the perfect design is hidden in the details...

Optima circulation pumps, which are produced with the latest technological facilities and designed with care in every part, have passed all tests successfully.



6 High-efficiency rotor with permanent magnet that maximizes motor efficiency.

7 Maintenance-free long-lasting carbon bearings and special stainless material dirt trap that prevents contaminants in the fluid from entering the motor.

8 Specially designed PPO fans with high hydraulic efficiency.

9 Specially designed pump casing for high hydraulic efficiency and silent operation.

10 Polypropylene insulation jacket that provides thermal insulation of the pump body.
Supplied as standard with the pump.

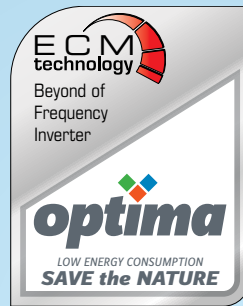


OPTIMA BMS

2/10-180

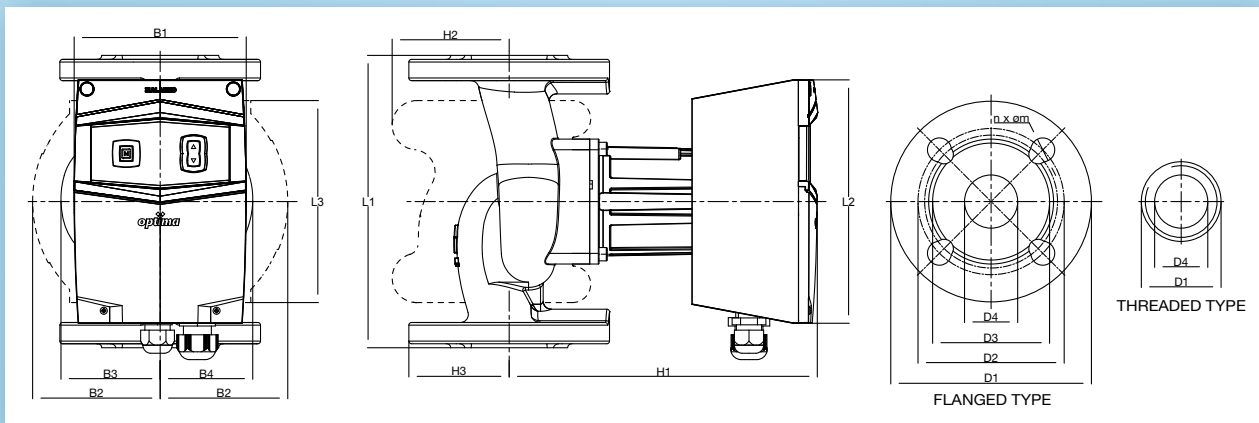
3/10-180

4/10

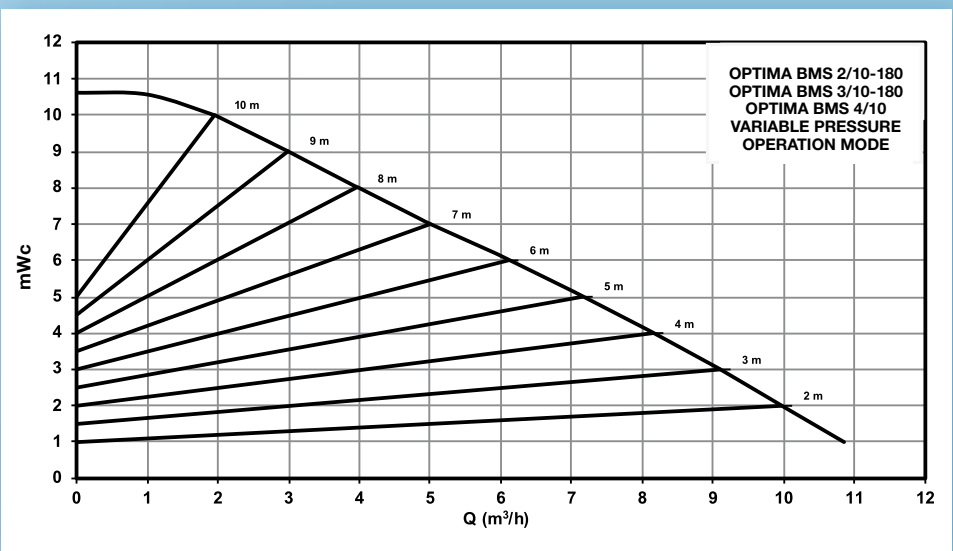
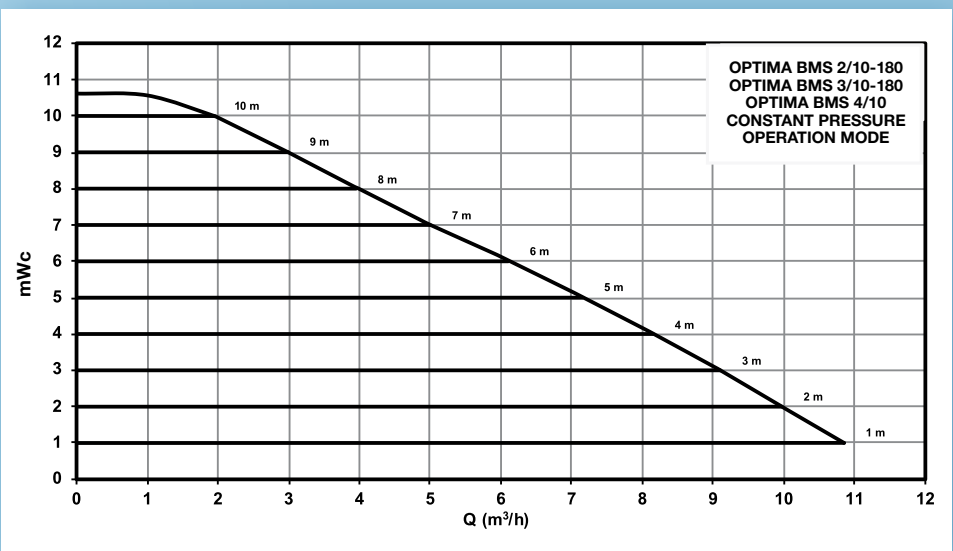
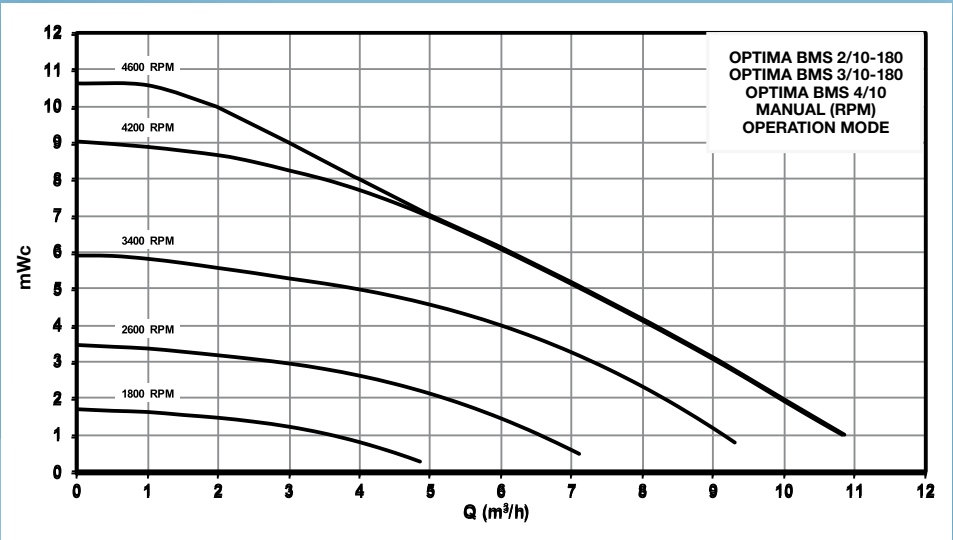


Maximum Pump Head [m]	According to pump type	
Maximum Flow Rate [m³/h]	According to pump type	
Motor Speed [rpm]	1.800 – 4.600	
Input Voltage and Frequency	1~ 230 V AC ± %10, 50 Hz, PE	
Nominal Current [A]	1,4	
Power drawn [W]	12 – 190	
Energy Efficiency Index (EEI)	< 0.23	
Insulation Class	F	
Protection Class	IP X4D	
Temperature Class	TF 110	
Maximum System Pressure	2/10-180 - 3/10-180 PN10	4/10 PN 6/10 ⁽¹⁾
Sound Pressure	< 56 dB	
Relative Humidity	< %90	

¹ The pump is suitable for use at both pressure values.



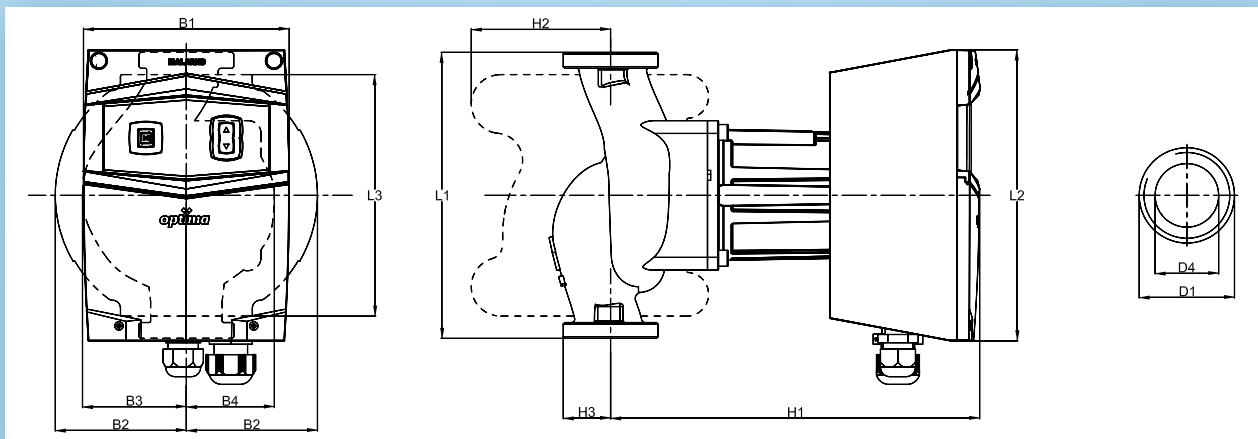
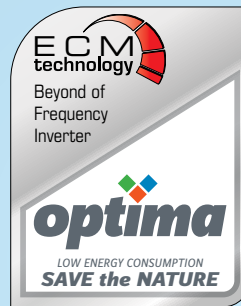
	DIMENSIONS																	
	D1 (mm)	D2 (mm)		D3 (mm)	D4 (mm)	n x Øm (mm)		B1 (mm)	B2 (mm)	B3 (mm)	B4 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H1 (mm)	H2 (mm)	H3 (mm)	Weight (kg)
Optima BMS 2/10-180	G1 1/2"	-	-	-	25.0	-	-	129.5	82.5	65.3	55.7	180.0	183.0	152.0	232.6	77.5	23.9	6.2
OPTIMA 3/10-180	G2"	-	-	-	30.0	-	-	129.5	82.5	65.3	55.7	180.0	183.0	152.0	232.6	77.5	29.8	6.2
OPTIMA 4/10	151.0	100.0	110.0	88.0	40.0	4x14	4x18	129.5	81.0	65.3	55.7	220.0	183.0	152.0	232.6	77.9	75.5	10.5





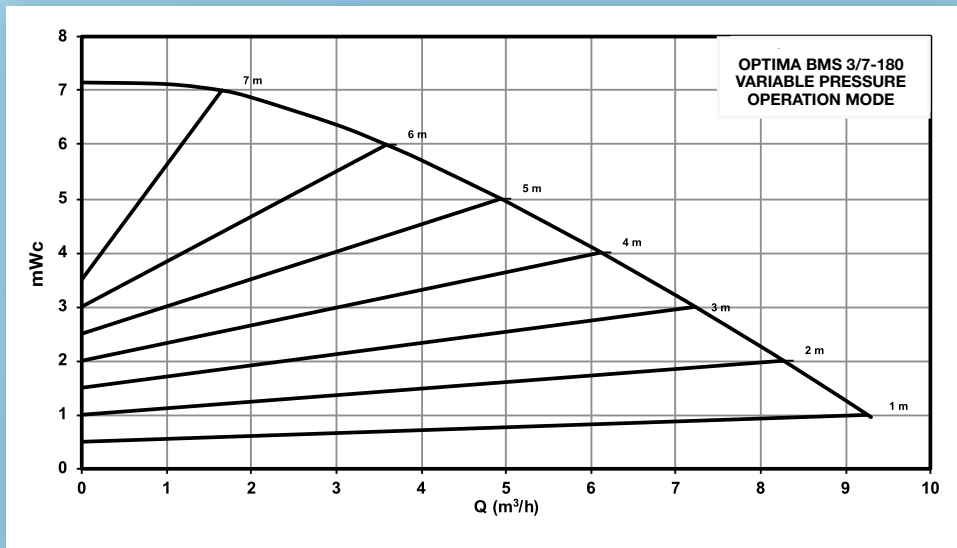
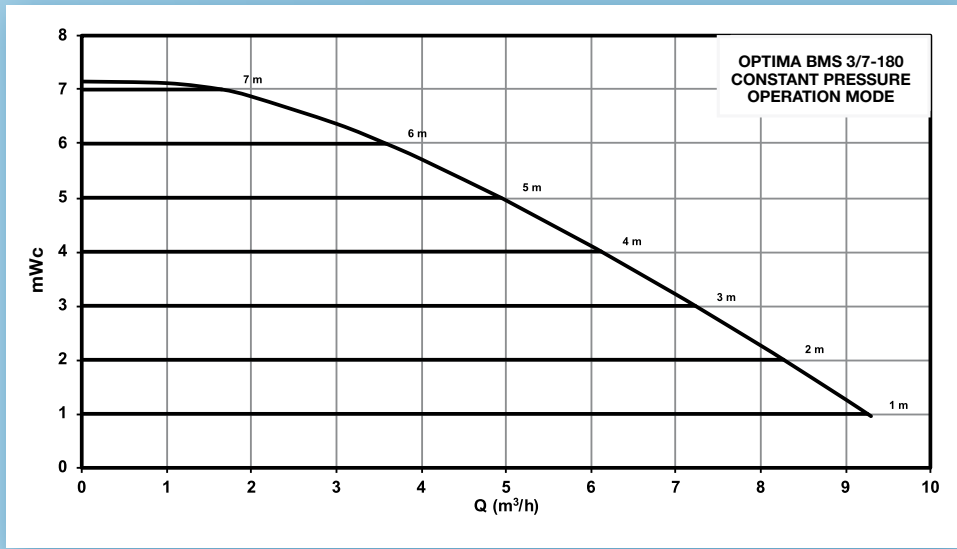
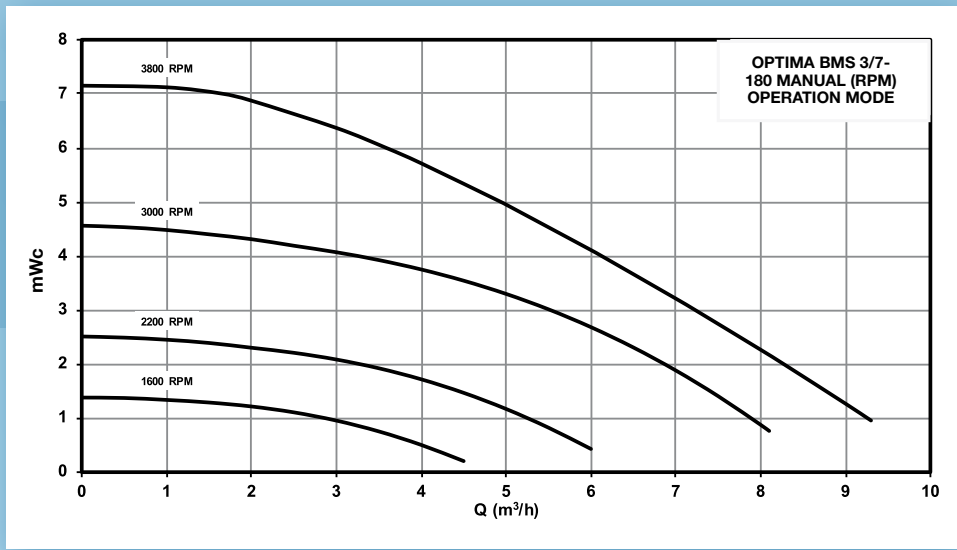
OPTIMA BMS 3/7-180

Maximum Pump Head [m]	According to pump type
Maximum Flow Rate [m³/h]	According to pump type
Motor Speed [rpm]	1.600 – 3.800
Input Voltage and Frequency	1~ 230 V AC ± %10, 50 Hz, PE
Nominal Current [A]	1
Power drawn [W]	12 – 125
Energy Efficiency Index (EEI)	< 0.23
Insulation Class	F
Protection Class	IP X4D
Temperature Class	TF 110
Maximum System Pressure	PN10
Sound Pressure	< 56 dB
Relative Humidity	< %90



DIMENSIONS

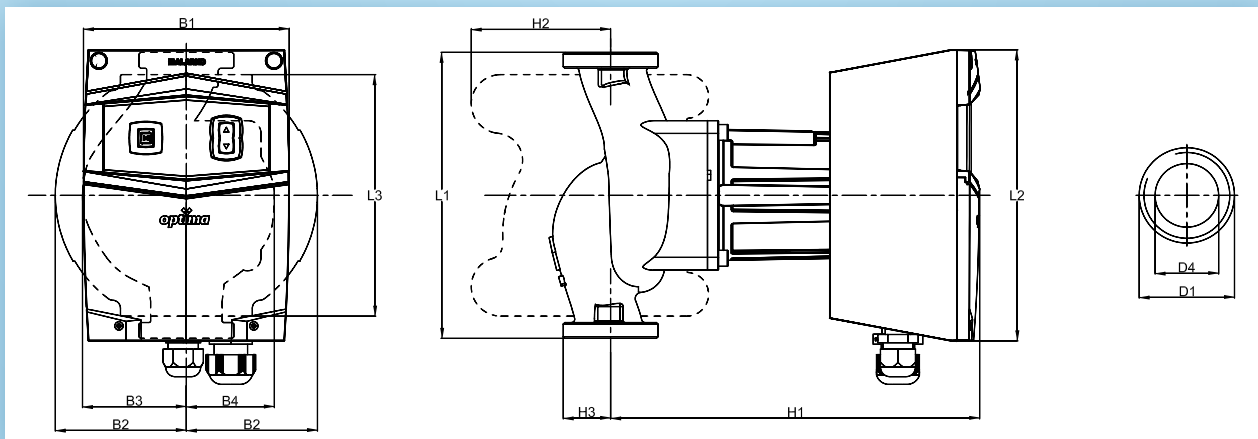
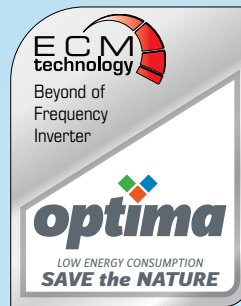
	D1	D2 (mm)		D3	D4	n x Øm (mm)		B1	B2	B3	B4	L1	L2	L3	H1	H2	H3	Weight (kg)
	(mm)	PN6	PN10	(mm)	(mm)	PN6	PN10	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
Optima BMS 3/7-180	G2"	-	-	-	30.0	-	-	129.5	82.5	65.3	55.7	180.0	183.0	152.0	232.6	77.5	29.8	6.2





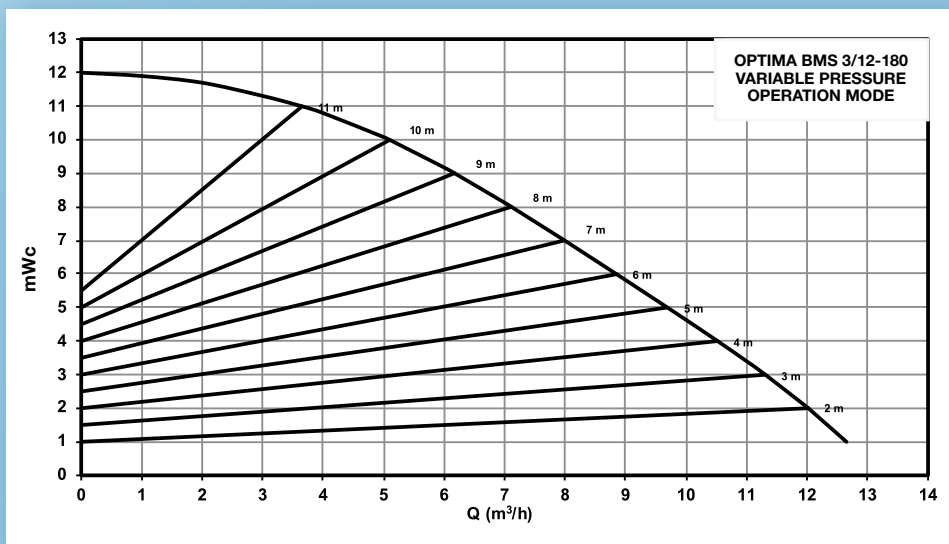
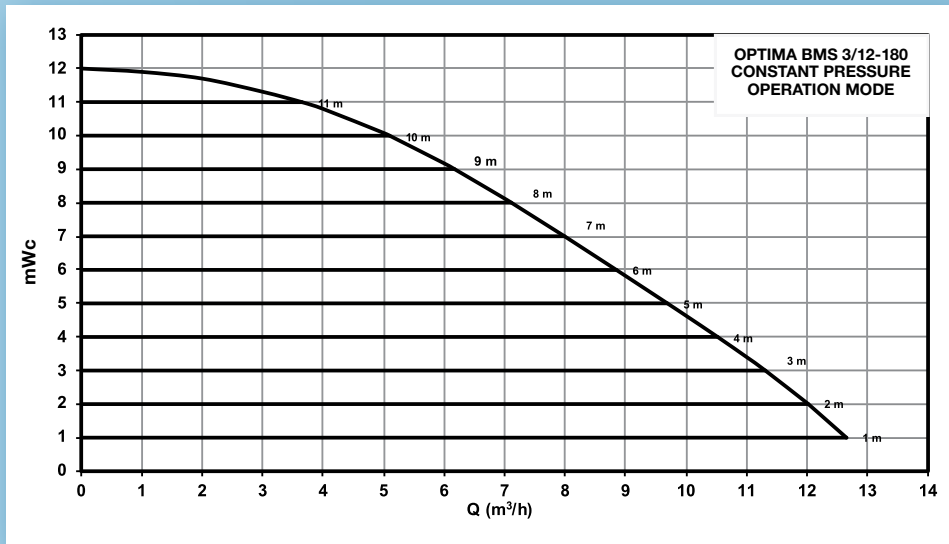
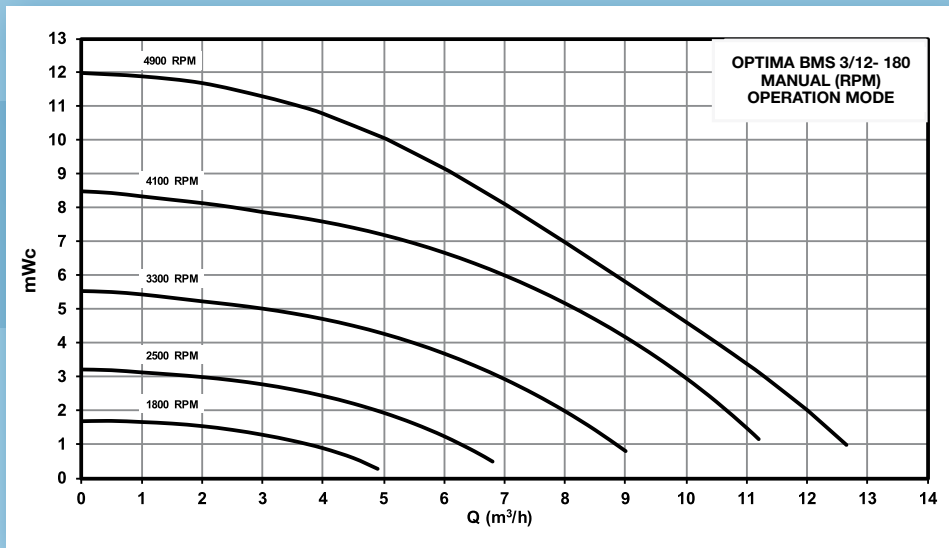
OPTIMA BMS 3/12-180

Maximum Pump Head [m]	According to pump type
Maximum Flow Rate [m³/h]	According to pump type
Motor Speed [rpm]	1.800 – 4.900
Input Voltage and Frequency	1~ 230 V AC ± %10, 50 Hz, PE
Nominal Current [A]	1,34
Power drawn [W]	16 – 300
Energy Efficiency Index (EEI)	< 0.23
Insulation Class	F
Protection Class	IP X4D
Temperature Class	TF 110
Maximum System Pressure	PN10
Sound Pressure	< 56 dB
Relative Humidity	< %90



DIMENSIONS

	D1	D2 (mm)		D3	D4	n x Øm (mm)		B1	B2	B3	B4	L1	L2	L3	H1	H2	H3	Weight (kg)
	(mm)	PN6	PN10	(mm)	(mm)	PN6	PN10	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
Optima BMS 3/12-180	G2"	-	-	-	30.0	-	-	129.5	82.5	65.3	55.7	180.0	183.0	152.0	233.0	77.5	29.8	6.5

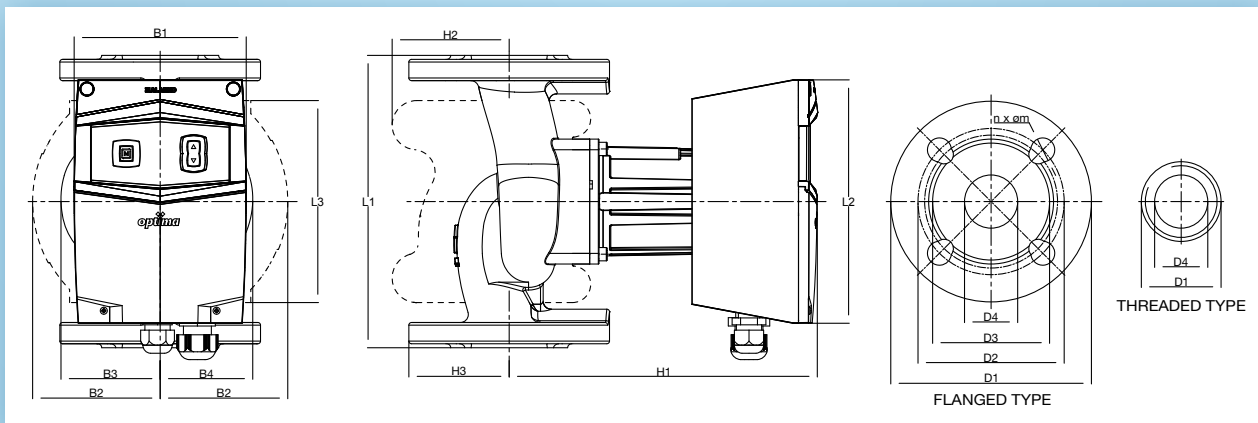
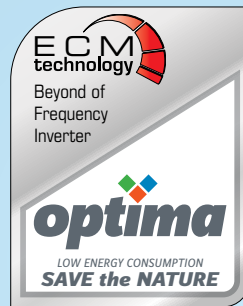




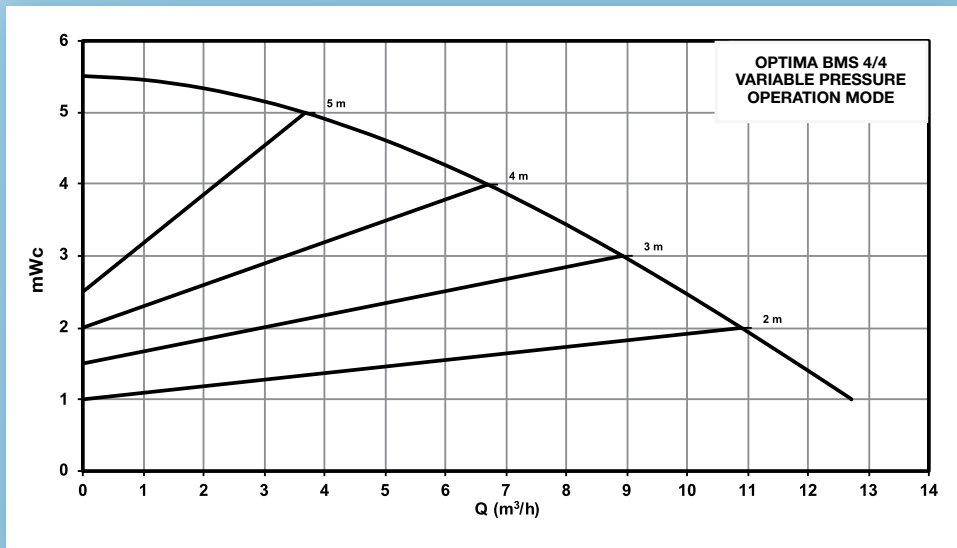
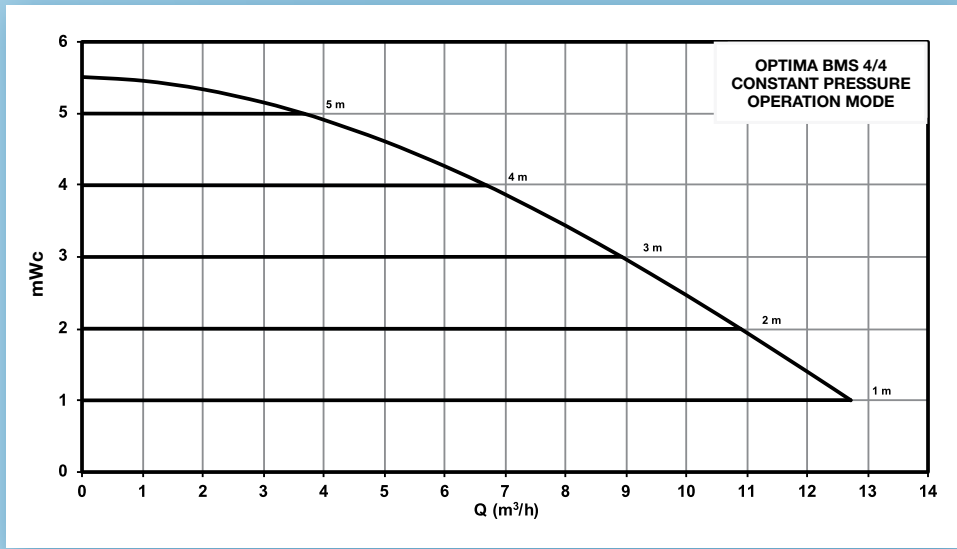
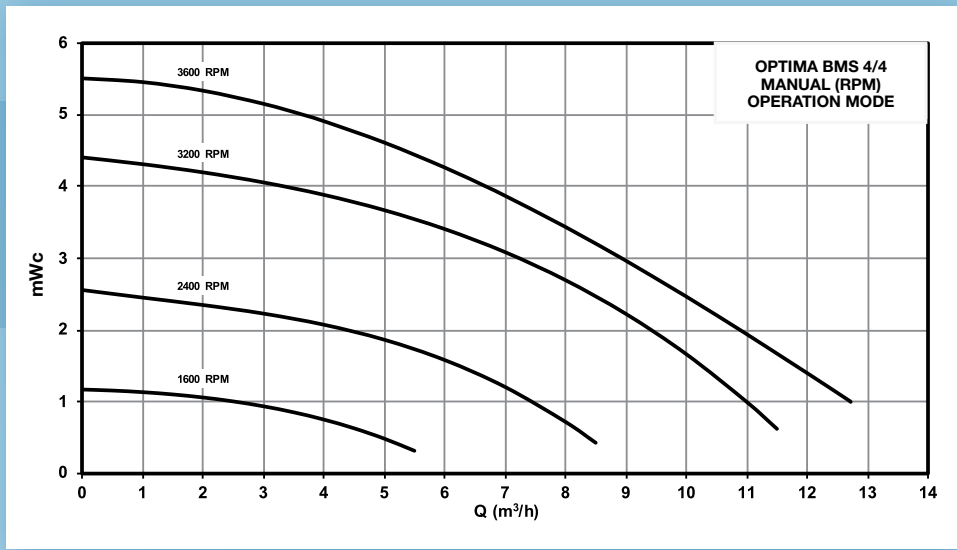
OPTIMA BMS 4/4

Maximum Pump Head [m]	According to pump type
Maximum Flow Rate [m ³ /h]	According to pump type
Motor Speed [rpm]	1.600 – 3.600
Input Voltage and Frequency	1~ 230 V AC ± %10, 50 Hz, PE
Nominal Current [A]	1
Power drawn [W]	12 – 125
Energy Efficiency Index (EEI)	< 0.23
Insulation Class	F
Protection Class	IP X4D
Temperature Class	TF 110
Maximum System Pressure	PN 6/10 ⁽¹⁾
Sound Pressure	< 56 dB
Relative Humidity	< %90

¹ The pump is suitable for use at both pressure values.



	DIMENSIONS																	
	D1 (mm)	D2 (mm)		D3 (mm)	D4 (mm)	n x Øm (mm)		B1 (mm)	B2 (mm)	B3 (mm)	B4 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H1 (mm)	H2 (mm)	H3 (mm)	Weight (kg)
Optima BMS 4/4	151.0	100.0	110.0	88.0	40.0	4x14	4x18	129.5	96.0	69.7	57.5	220.0	183.0	152.0	232.3	88.0	75.5	12





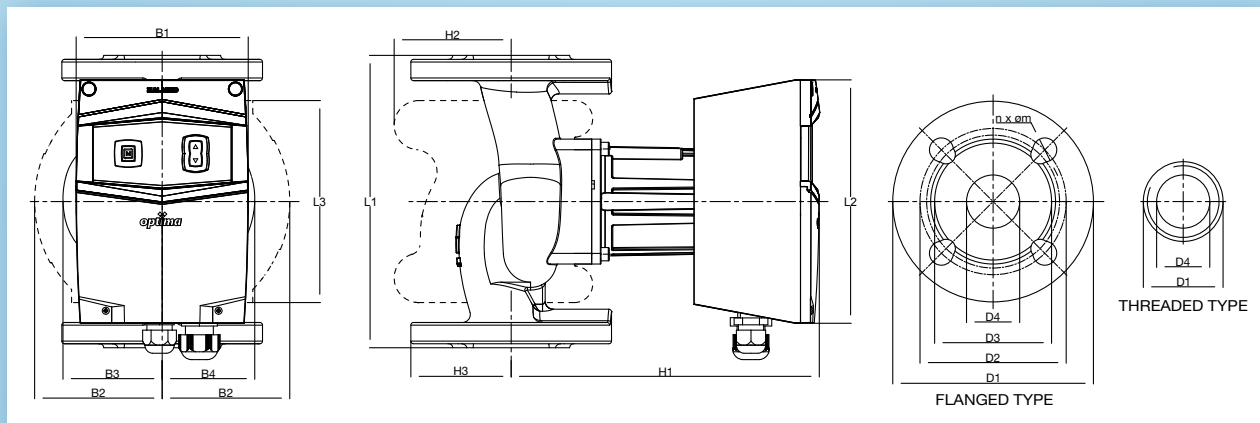
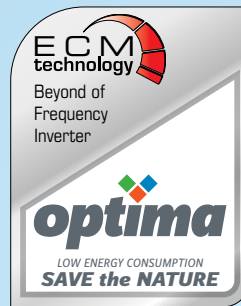
OPTIMA BMS

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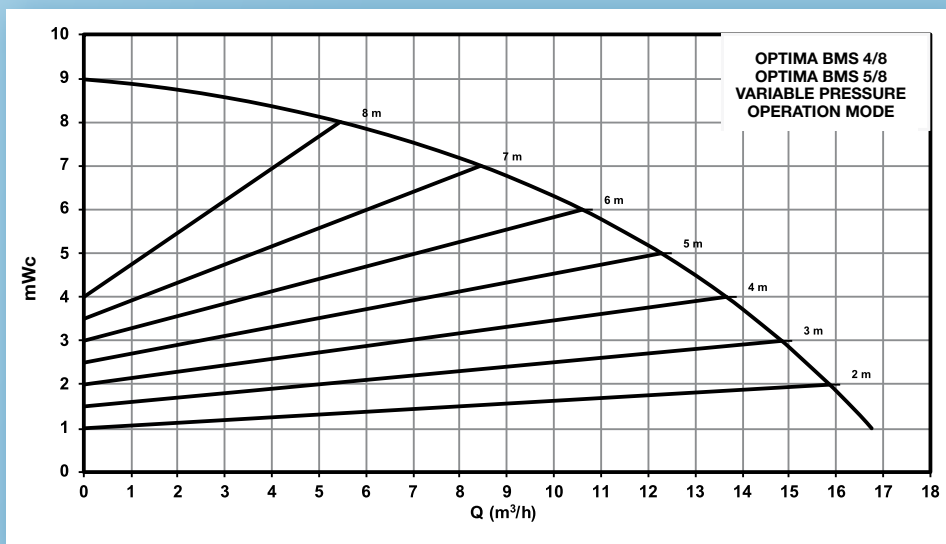
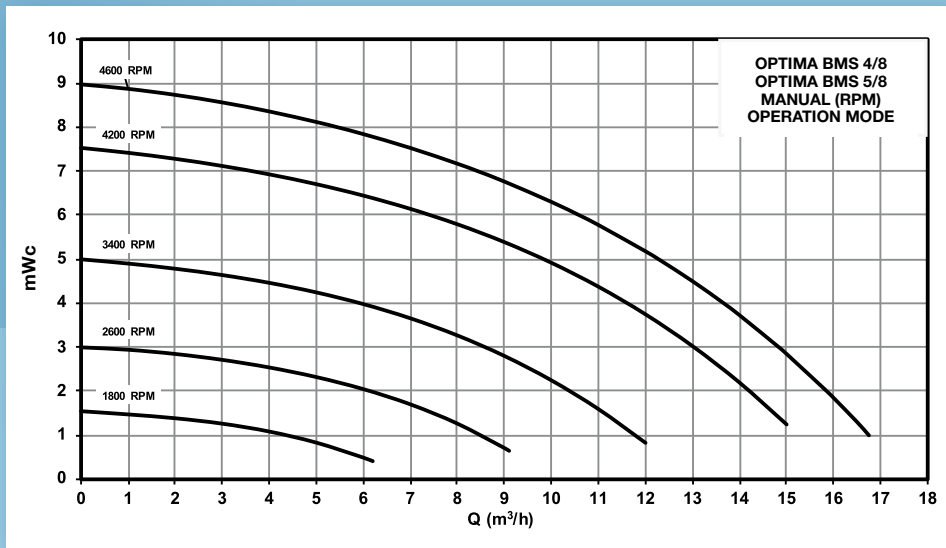
5/8

Maximum Pump Head [m]	According to pump type
Maximum Flow Rate [m ³ /h]	According to pump type
Motor Speed [rpm]	1.800 – 4.600
Input Voltage and Frequency	1~ 230 V AC ± %10, 50 Hz, PE
Nominal Current [A]	1,35
Power drawn [W]	15 – 300
Energy Efficiency Index (EEI)	< 0.23
Insulation Class	F
Protection Class	IP X4D
Temperature Class	TF 110
Maximum System Pressure	PN 6/10 ⁽¹⁾
Sound Pressure	< 56 dB
Relative Humidity	< %90

¹ The pump is suitable for use at both pressure values.



	DIMENSIONS																	
	D1 (mm)	D2 (mm)		D3 (mm)	D4 (mm)	n x Øm (mm)		B1 (mm)	B2 (mm)	B3 (mm)	B4 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	H1 (mm)	H2 (mm)	H3 (mm)	Weight (kg)
Optima BMS 4/8	151.0	100.0	110.0	88.0	40.0	4x14	4x18	129.5	96.0	69.7	57.5	220.0	183.0	152.0	232.0	88.0	75.5	12
Optima BMS 5/8	166.0	110.0	125.0	102.0	50.0	4x14	4x18	129.5	96.0	69.7	57.5	240.0	183.0	152.0	232.0	88.0	83.0	12





MODE SELECTION TABLE

	Manual Pressure	Variable Pressure	Constant Pressure
Heating Systems with Two Pipes and Thermostatic Valves		<ul style="list-style-type: none"> Total friction loss > 4mSS Too long circulation line High friction losses Usage of pressure compensating valve Branch valves with extremely low flow 	<ul style="list-style-type: none"> Total friction loss < 2mSS Short or large diameter circulation lines Low friction losses
Single Pipe Heating Systems	<ul style="list-style-type: none"> Systems that do not use flow changer circuit elements (thermostatic radiator valve, two-way cut-off valve, etc.) 		<ul style="list-style-type: none"> Systems using thermostatic valves Systems using thermostatic valve and pressure compensation valve
Floor Heating Systems	<ul style="list-style-type: none"> Systems that do not use flow changer circuit elements (thermostatic radiator valve, two-way cut-off valve, etc.) 	<ul style="list-style-type: none"> High friction losses Usage of pressure compensating valve 	<ul style="list-style-type: none"> Systems using thermostatic valves
Heating Systems Using Condensing Boiler		<ul style="list-style-type: none"> Secondary circulation circuits High friction losses Usage of pressure compensating valve 	<ul style="list-style-type: none"> Primary circulation circuits Low pressure loss Natural circulation
Flow rate and Systems with Unchanged Internal System Resistance	<ul style="list-style-type: none"> DWH (Boiler) applications Plate exchanger storage tank applications In recirculation applications where pressure loss and flow rate changes are very low 	<ul style="list-style-type: none"> Primary circulation circuits Low pressure loss Natural circulation 	<ul style="list-style-type: none"> High friction losses Usage of pressure compensating valve

CABLE and FUSE TABLE

	5/8	4/10	4/8	4/4	3/12-180	3/10-180	3/7-180	2/10-180
Cable	3 x 1.5 mm ²							
Fuse	2A							

Note: Manufacturer reserves the right to change any product specifications without notice.

ALARKO



**ALARKO CARRIER
SANAYİ VE TİCARET A.Ş.**

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