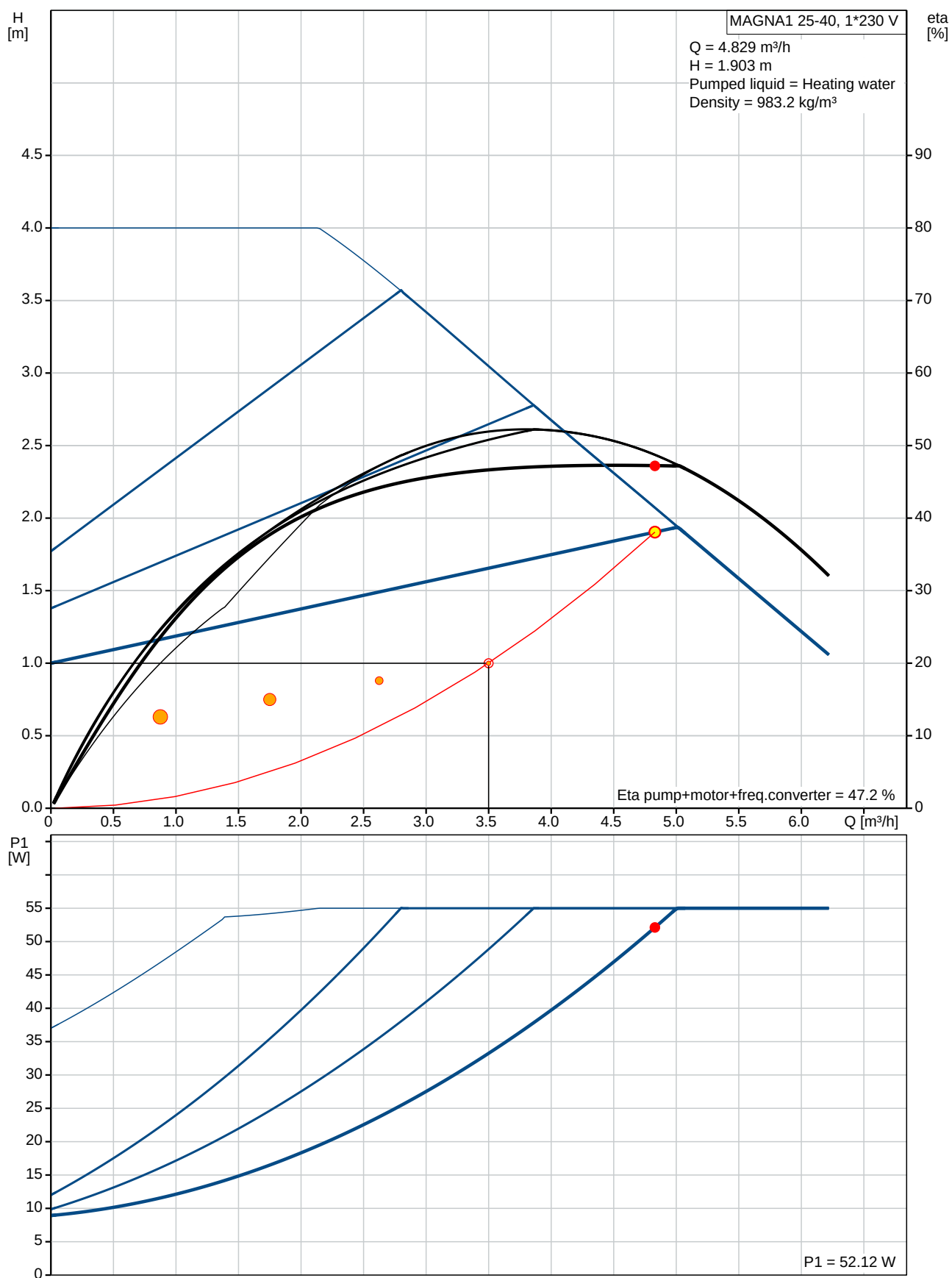


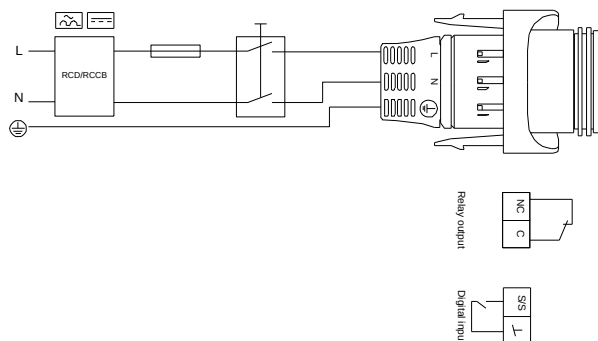
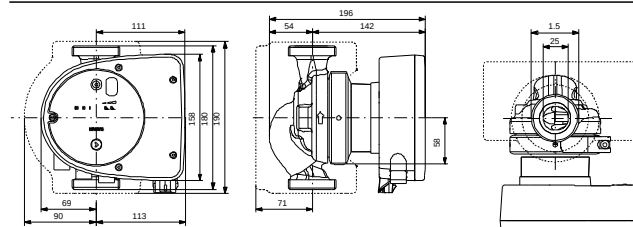
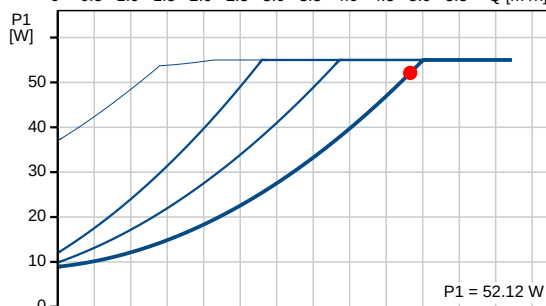
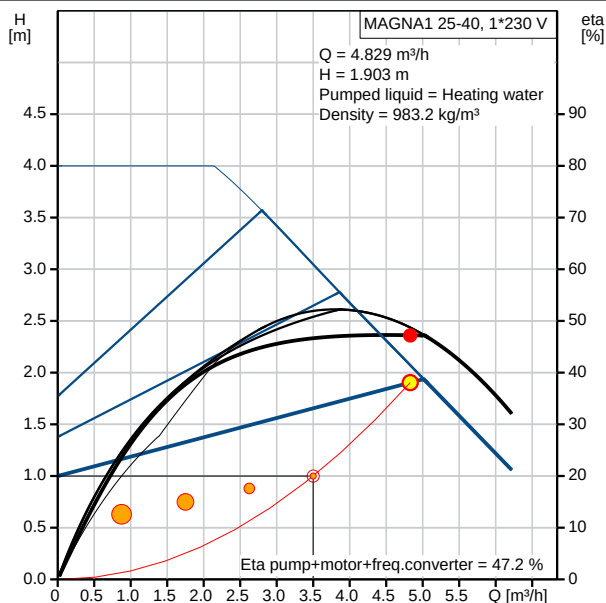
Qty.	Description
1	MAGNA1 25-40 NEW MAGNA1  Note! Product picture may differ from actual product Product No.: 99221216 The new MAGNA1 is the simple option for a job well done. It is the perfect choice when replacing older circulators and due to its compliance with the EuP 2015 regulations, substantial savings on electricity is a reality. The ideal choice for basic performance needs in applications where basic system control and monitoring is desired. • Monitoring via the fault relay, ensuring peace of mind • Digital start/stop input available for remote pump control • Continuous operation and reduced downtime with the wireless twin pump function (available on twin-head pumps) • High energy efficiency resulting in substantial savings on electricity • Easy setup and operation via the simple user interface • No maintenance due to the canned-rotor type design. MAGNA1 is the simple and efficient choice for most applications including • Heating - Main pump - Mixing loops - Heating surfaces • Cooling - Air conditioning surfaces - Ground source heat pump systems - Smaller chiller applications Liquid: Pumped liquid: Heating water Liquid temperature range: -10 .. 110 °C Density: 983.2 kg/m³ Technical: Actual calculated flow: 4.829 m³/h Resulting head of the pump: 1.903 m TF class: 110 Approvals on nameplate: CE,VDE,EAC,CN ROHS,WEEE Materials: Pump housing: Cast iron EN-GJL-200 ASTM A48-200B Impeller: PES 30%GF Installation: Range of ambient temperature: 0 .. 40 °C Maximum operating pressure: 10 bar Pipe connection: G 1 1/2" Pressure rating: PN10 Port-to-port length: 180 mm

Qty.	Description
	Electrical data: Power input - P1: 9 .. 56 W Mains frequency: 50 / 60 Hz Rated voltage: 1 x 230 V Maximum current consumption: 0.09 .. 0.45 A Enclosure class (IEC 34-5): X4D Insulation class (IEC 85): F Others: Energy (EEI): 0.20 Net weight: 4.5 kg Gross weight: 5 kg Shipping volume: 0.013 m³ Finnish LVI No.: 4615235 Country of origin: DE Custom tariff no.: 84137030

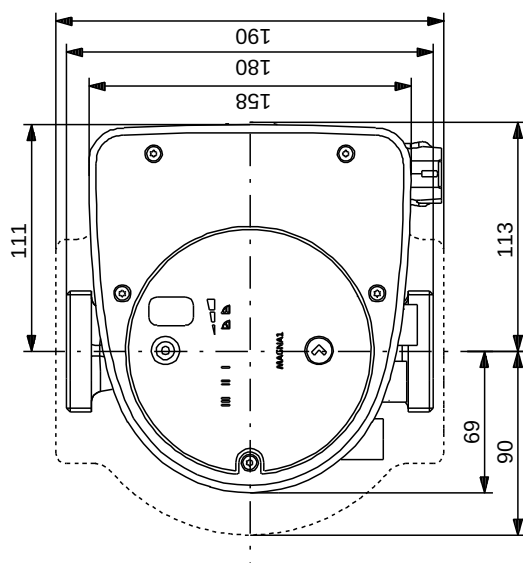
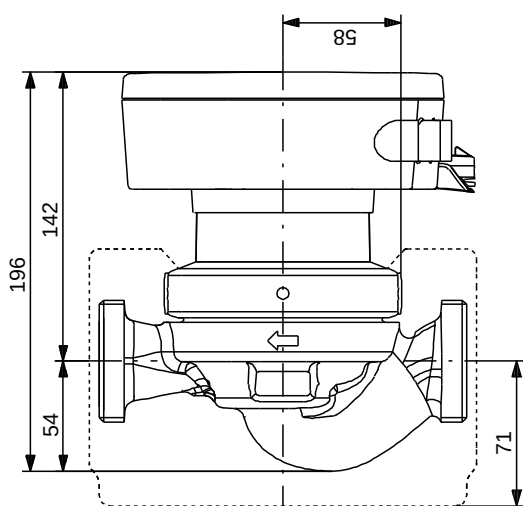
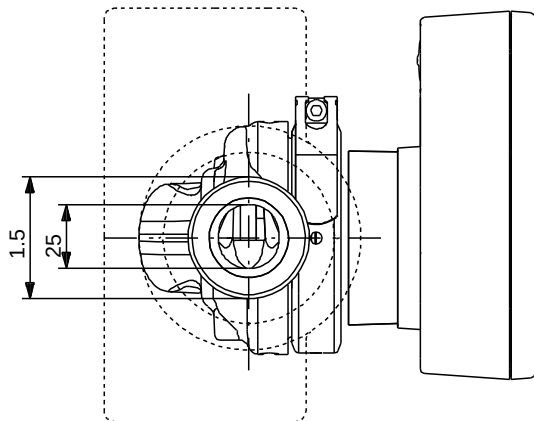
99221216 MAGNA1 25-40



Description	Value
General information:	
Product name:	MAGNA1 25-40
Product No:	99221216
EAN number:	5712608941894
	5712608941894
Price:	444,00 GBP
Technical:	
Actual calculated flow:	4.829 m³/h
Resulting head of the pump:	1.903 m
Head max:	40 dm
TF class:	110
Approvals on nameplate:	CE,VDE,EAC,CN ROHS,WEEE
Model:	C
Materials:	
Pump housing:	Cast iron
	EN-GJL-200
	ASTM A48-200B
Impeller:	PES 30%GF
Installation:	
Range of ambient temperature:	0 .. 40 °C
Maximum operating pressure:	10 bar
Pipe connection:	G 1 1/2"
Pressure rating:	PN10
Port-to-port length:	180 mm
Liquid:	
Pumped liquid:	Heating water
Liquid temperature range:	-10 .. 110 °C
Density:	983.2 kg/m³
Electrical data:	
Power input - P1:	9 .. 56 W
Mains frequency:	50 / 60 Hz
Rated voltage:	1 x 230 V
Maximum current consumption:	0.09 .. 0.45 A
Enclosure class (IEC 34-5):	X4D
Insulation class (IEC 85):	F
Others:	
Energy (EEI):	0.20
Net weight:	4.5 kg
Gross weight:	5 kg
Shipping volume:	0.013 m³
Finnish LVI No.:	4615235
Country of origin:	DE
Custom tariff no.:	84137030

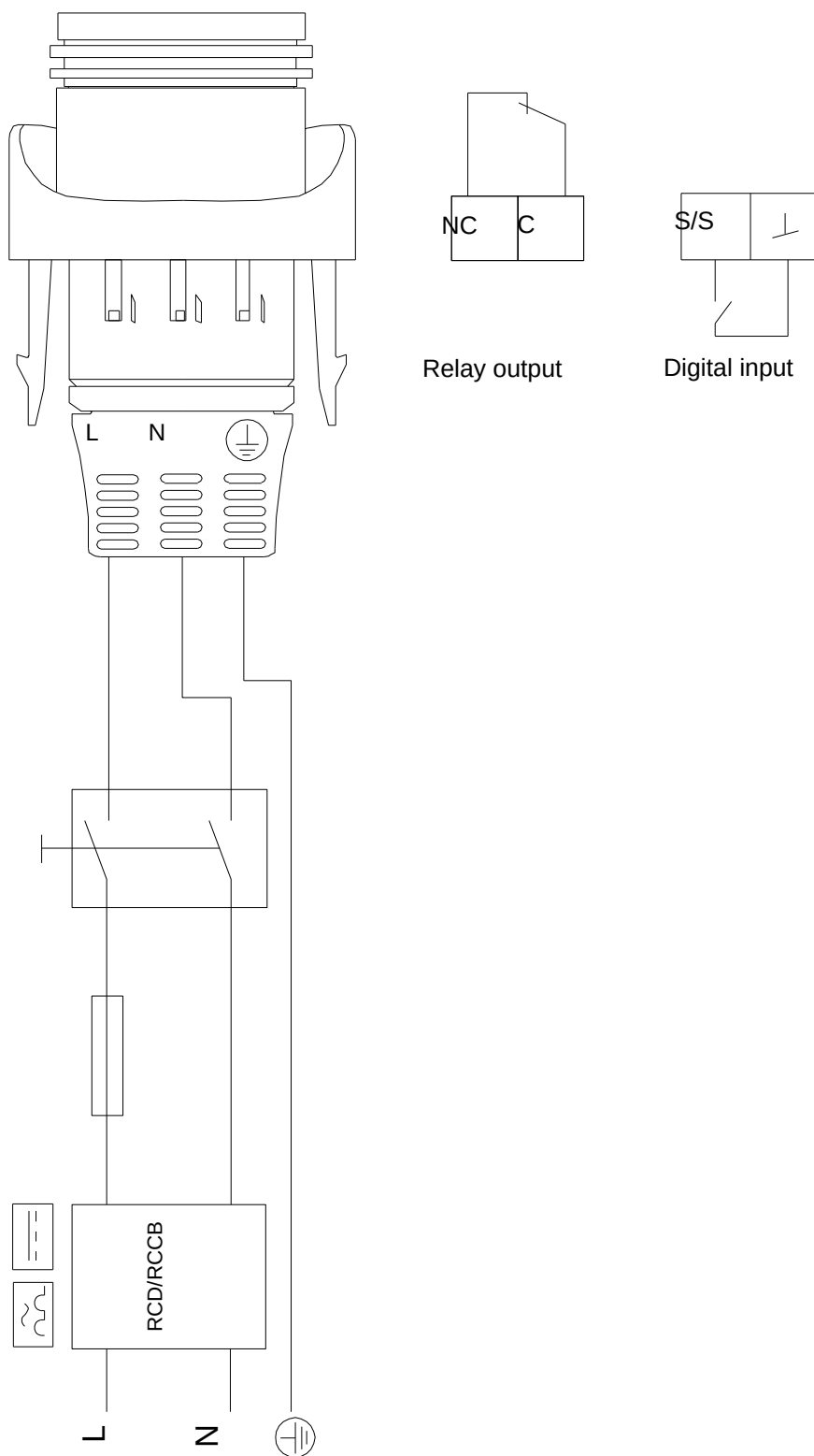


99221216 MAGNA1 25-40



Note! All units are in [mm] unless others are stated.
Disclaimer: This simplified dimensional drawing does not show all details.

99221216 MAGNA1 25-40



Note! All units are in [mm] unless others are stated.

99221216 MAGNA1 25-40

Input					
General					
Application	Heating				
Application area	Commercial buildings				
Installation type	Distribution				
Installation	Main circulator				
Flow (Q)	3.5 m³/h				
Head (H)	1 m				
BMS connectivity	No				
Prefer fast delivery	No				
Your requirements					
Pumped liquid	Heating water				
Min. liquid temperature	20 °C				
Max. liquid temperature	60 °C				
Liquid temperature during operation	60 °C				
Max. operation pressure	10 bar				
Min. inlet pressure	1.5 bar				
Allowed flow undersize	10 %				
Control mode					
Control mode	Prop. pressure				
Decrease at low flow	50 %				
Enclosure class	IP20				
Remote controlled by external controller	No				
Edit load profile					
Heating season	285 days				
Load profile	Standard profile				
Configuration					
Select type of hydraulic	Parallel				
Total number of pumps	1				
Pump design					
Pump material	Cast iron or stainless steel				
Operational conditions					
Frequency	50 Hz				
Phase	1 or 3				
Min. power limit for SD start	5.5 kW				
Voltage	1 x 230 or 3 x 400 V				
Ambient temperature	20 °C				
Hit list settings					
Energy price	0.13 GBP/kWh				
Increase of energy price	6 %				
Calculation period	15 years				
Load Profile					
	1	2	3	4	
Flow	100	75	50	25	%
Head	166	149	133	116	%
P1	0.033	0.024	0.016	0.012	kW
Eta total	46.7	44.2	37.7	23.6	%
Time	410	1026	2394	3010	h/a
Energy consumption	14	24	39	35	kWh/Year
Quantity	1	1	1	1	

Sizing result	
Type	MAGNA1 25-40
Quantity	1
Flow	4.829 m³/h (+38%)
Head	1.903 m (+90%)
Min.inlet pressure	0.2 bar (60 °C, against atmosphere)
Power P1	0.052 kW
Eta pump+motor	47.2 % =Eta pump * Eta motor
Eta total	47.2 % =Eta relative to the duty point
Energy consumption	112 kWh/Year
CO2 emission	64 kg/Year
Price	444,00 GBP
Life cycle cost	794 GBP /15Years

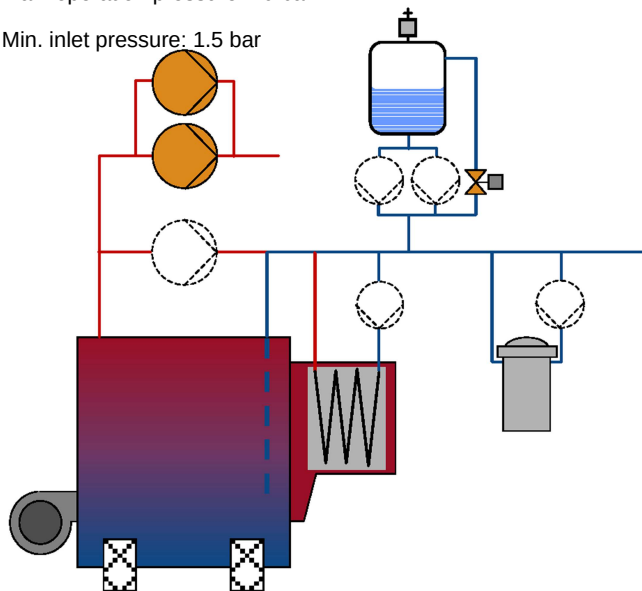
Installation and Input

Flow (Q): 3.5 m³/h

Head (H): 1 m

Max. operation pressure: 10 bar

Min. inlet pressure: 1.5 bar



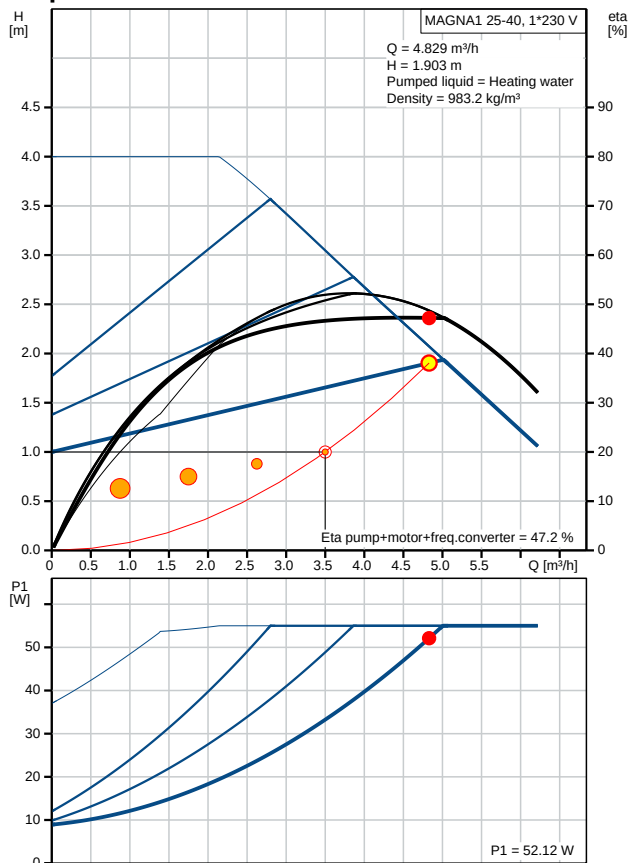
Sizing Results

Product number:	99221216
Type:	MAGNA1 25-40
Quantity:	1
Flow:	4.829 m³/h (+38%)
Head:	1.903 m (+90%)
Power P1:	0.052 kW
Eta pump+motor:	47.2 % = Eta pump * Eta motor
Eta total:	47.2 % = Eta relative to the duty point
Energy consumption:	112 kWh/Year
CO2 emission:	64 kg/Year
Price:	444,00 GBP

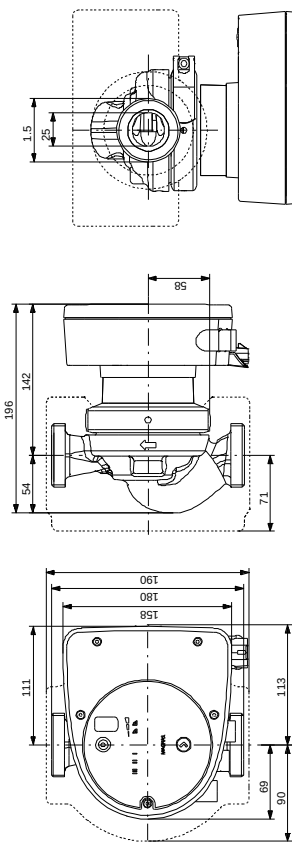
Load profile

	1	2	3	4	
Flow	100	75	50	25	%
Head	166	149	133	116	%
P1	0.033	0.024	0.016	0.012	kW
Eta total	46.7	44.2	37.7	23.6	%
Time	410	1026	2394	3010	h/a
Energy consumption	14	24	39	35	kWh/Year
Quantity	1	1	1	1	

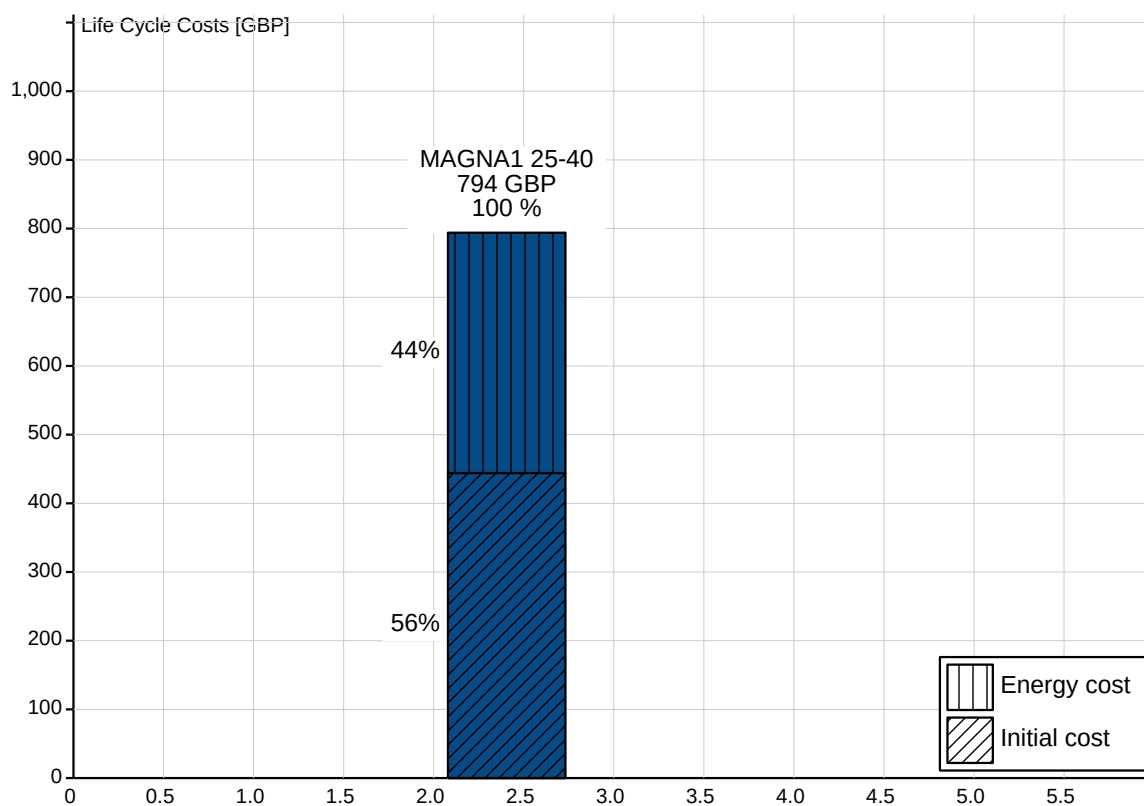
Pump Curve



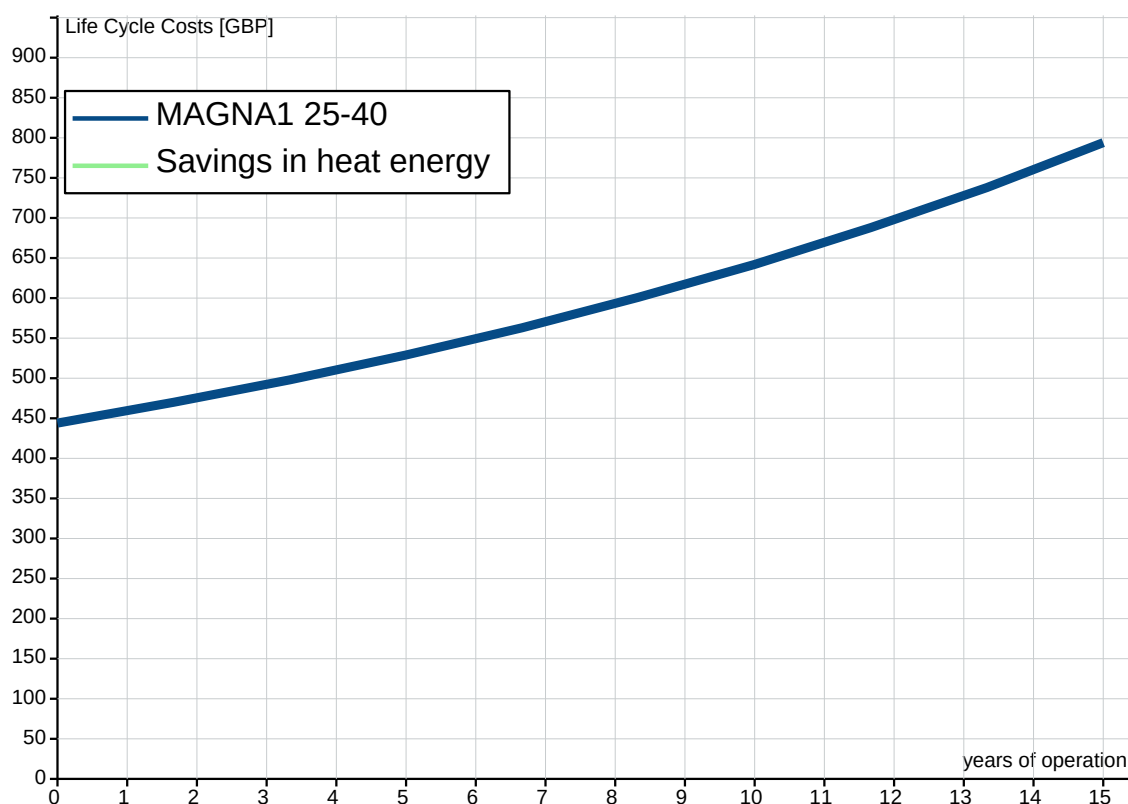
Dimensional Drawing



Life Cycle Costs - 15 years of operation



Payback Time



Life Cycle Cost Report

Requirements:	General inputs:	
Flow: 4.829 m ³ /h Capacity per year: 10950 m ³ /year Head: 1.903 m	Energy price (high tariff): 0.13 GBP/kWh	n - Life in years: 15 i - Interest rate: 0 % p - Inflation rate: 6 %

Inputs:	A:	
System:	MAGNA1 25-40	
	per year	total (life)
Initial investment cost [GBP]		444
Pump system [GBP]		444
Further investment [GBP]		
Installation and commissioning cost [GBP]		
Energy cost [GBP]	15	350
Energy consumption [kWh/Year]	112	
Specific Energy [kWh/m ³]		
Change of efficiency per year [%/Year]		
Operating cost [GBP/Year]		
[GBP/Year]		
Routine maintenance cost [GBP/Year]		
Repair cost [GBP/Year]		
Other yearly costs [GBP/Year]		
Downtime and loss of production cost [GBP/Year]		
Environmental cost [GBP]		
Decommissioning and disposal cost [GBP]		

Output:		
Net present LCC-value [GBP]		794
of which present energy cost is [GBP]		350
and maintenance cost is [GBP]		
of which net present energy cost % is [%]		44.1
and maintenance cost % is [%]		0.0