

High-efficiency Drinking Water Pump

Calio-Therm S

Type Series Booklet



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Type Series Booklet Calio-Therm S

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Building Services: Heating

Drinking Water Circulator Pumps

Calio-Therm S



Main applications

- Drinking water circulation systems
- Similar systems in industry and building services applications (e.g. cooling water circulation)

Fluids handled

- Drinking water and water for the food and beverage industry, as per German 2001 drinking water regulations

Operating data

Operating properties

Characteristic		Value
Flow rate	Q [m³/h]	≤ 3,5
	Q [l/s]	≤ 1,0
Head	H [m]	≤ 6
Fluid temperature	T [°C]	2 - 95
Ambient temperature	T [°C]	0 - 40
Operating pressure	p [bar]	≤ 10
Sound pressure level	[dB (A)]	< 45
Piping connection		R 1

Designation

Example: Calio-Therm S 25-40

Designation key

Code	Description
Calio S	High-efficiency pump
Therm	Drinking water pump
25	Nominal diameter of pipe connection R 1
40	Head in m x 10 (example: 4 m = 40)

Design details

Design

- Highly efficient, maintenance-free wet rotor pump (glandless)
- Screw-ended

Drive

- High-efficiency electric motor with continuously variable differential pressure control
- Electronically commutated synchronous motor with permanent magnet rotor
- 230 V - 50/60 Hz
- IP42 enclosure
- Thermal class F
- Temperature class TF 95
- RFI emission EN 55014-1
- Interference immunity EN 55014-2

Bearings

- Product-lubricated special plain bearing

Operating modes

- Automatic mode with constant-pressure or proportional-pressure control
- Fixed-speed operation with manual setpoint input

Automatic functions

- Continuous output adjustment depending on the operating mode
- Soft start (limitation of starting current)
- Full motor protection with integrated trip electronics
- Setback operation

Manual functions

- Setting the operating mode
- Vent function
- Deblocking option
- Setting the differential pressure setpoint
- Setting the speed level

Signalling and display functions

- Alternating display of flow rate and electrical input power
- Error messages on the display

Materials

Overview of available materials

Component	Material
Volute casing	Stainless steel
Shaft	Ceramics
Impeller	Polyamide (PA - GF 35)
Bearing	Ceramics
Bearing plate	Stainless steel 1.4301
Can	Stainless steel 1.4301
Thermal insulation shell	Polypropylene

Product benefits

- Maximum savings of operating costs by high-efficiency technology combined with speed control

- Future-proof by maximum energy efficiency and 5-year spare parts availability as per the German "Handwerkermarke" trade seal ("Handwerkermarke" guarantee only applies to Germany)
- Easy to use with a combination of control keys, integrated display and symbols showing the operating status
- High availability by manual and integrated protective functions
- Compact dimensions and KSB plug make the pumps easy to install. Thermal insulation shell included in the scope of supply.

Certifications

Overview

Label	Effective in:	Note
 Von Profis. Für Qualität.	Germany	All sizes

Selection information

Minimum pressure

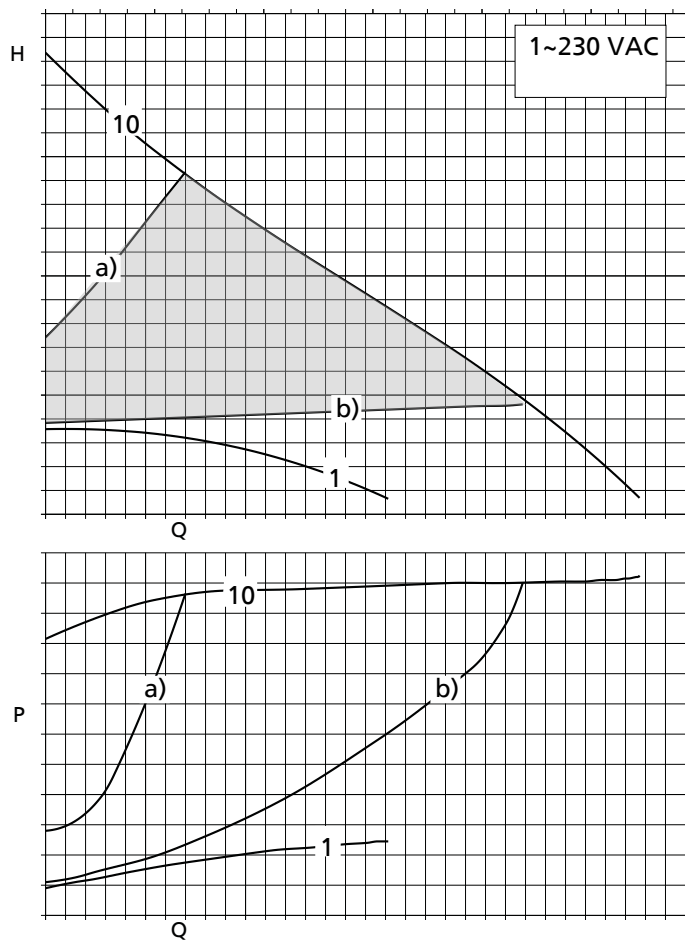
The minimum pressure $p_{\min}$ at the pump suction nozzle serves to avoid cavitation noises at an ambient temperature of +40 °C and the indicated fluid temperature $T_{\max}$.

The indicated values are applicable up to 300 m above sea level. For installation at altitudes > 300 m, an allowance of 0.01 bar / 100 m must be added.

Minimum pressure $p_{\min}$ [bar] specified for the fluid temperature [°C]

Size	Fluid temperature	Minimum pressure
	[°C]	[bar]
All	5 to 75	0,05
	76 to 95	0,28

Description of the characteristic curve



Selection example

1	Min.	Fixed speed operation
10	Max.	Fixed speed operation
	Control range, settings in 0.1 m increments	
a)	Control curve, maximum head	
b)	Control curve, minimum head	

 The characteristic curve can be adjusted between a) and b) by pressing the control keys.

Programme overview / selection tables

Features and functions

Features and functions

Functions	Feature
Operating modes	
Δp -v for variable differential pressure	X
Δp -c for constant differential pressure	X
Fixed speed operation (n = constant)	X
Manual functions	
Setting the operating mode	X
Setting the differential pressure setpoint	X
Setting of speed level	X
Vent plug	X
Deblocking option	X
Automatic functions	
Continuous output adjustment depending on the operating mode (Δp control)	X
Setback operation	X
Soft start	X
Signalling and display functions	
Error codes indicated on the display	X
Alternating display of flow rate and electrical input power	X

Technical data

Selection table Calio-Therm S

Calio-Therm S	Connection		PN	P ₁	Motor protection ¹⁾	Signalling contacts	Nominal current 1~230 VAC, 50/60 Hz [A]	Mat. No.	[kg]
	Piping	Pump	[bar]	[W]					
25-40	R 1	G 1 ½	10	4,0 - 23	X	-	0,06 - 0,23	29134764	2.8
25-60	R 1	G 1 ½	10	4,0 - 47	X	-	0,05 - 0,48	29134765	2.8

¹⁾ Integrated motor protection in the terminal box

Selection chart

Calio-Therm S

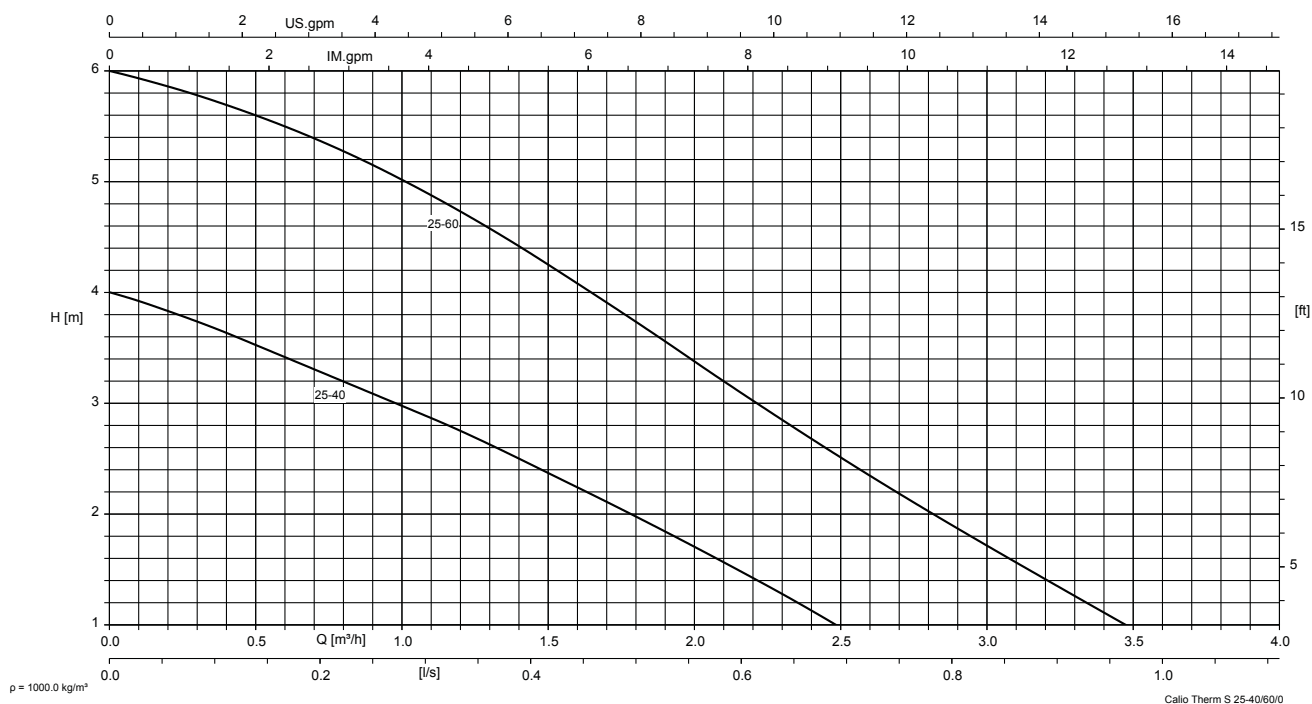
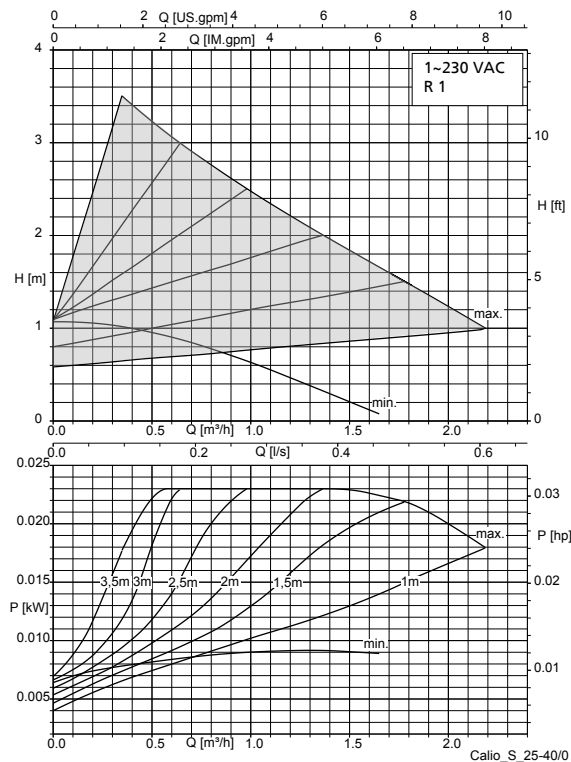


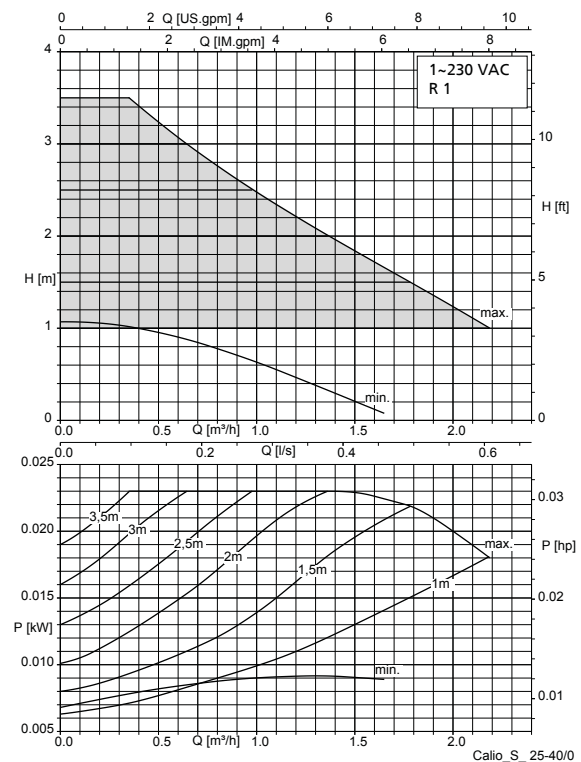
Illustration of maximum control range

Characteristic curves

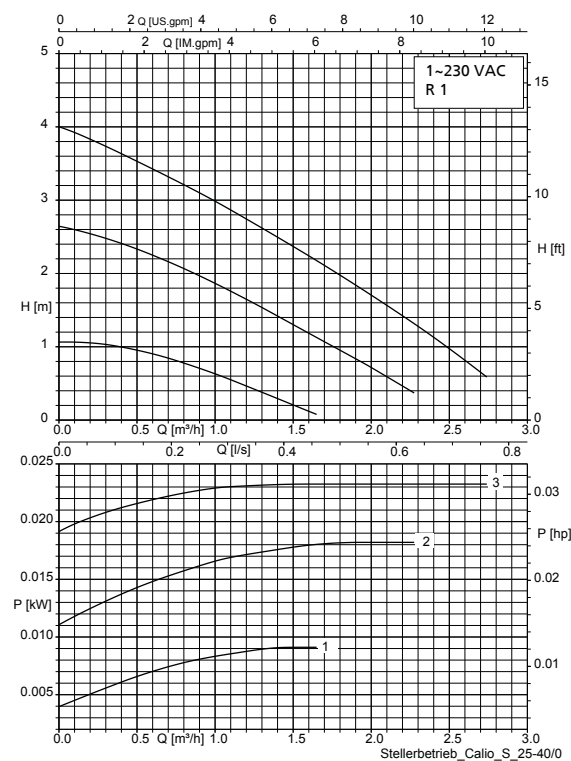
Calio-Therm S 25-40 Δpv



Calio-Therm S 25-40 Δpc

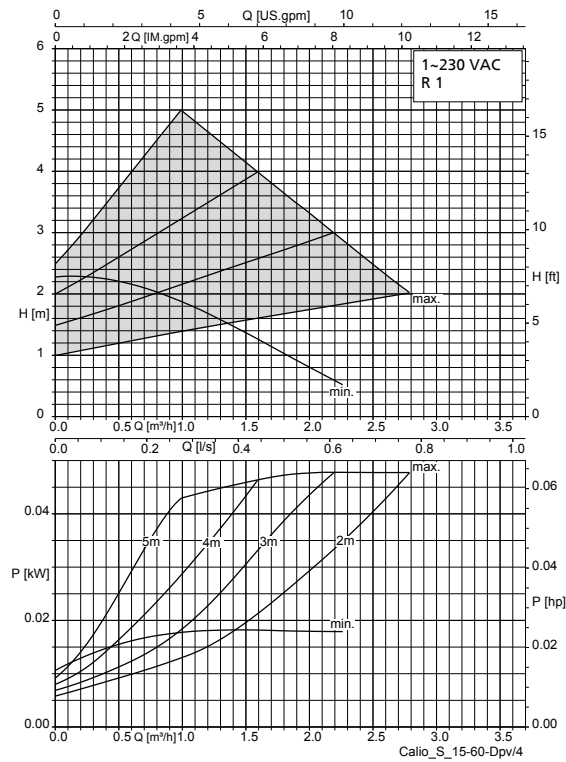


Calio-Therm S 25-40 fixed speed operation

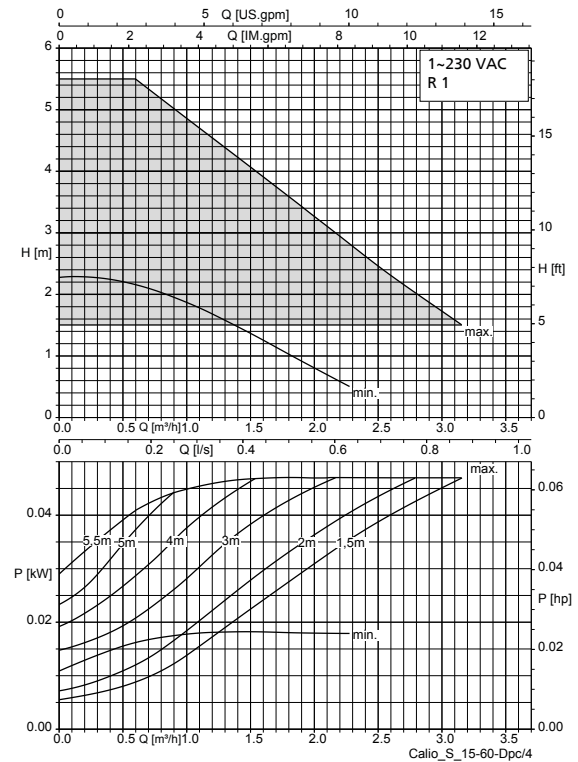


1, 2, 3 = speed level 1, 2, 3

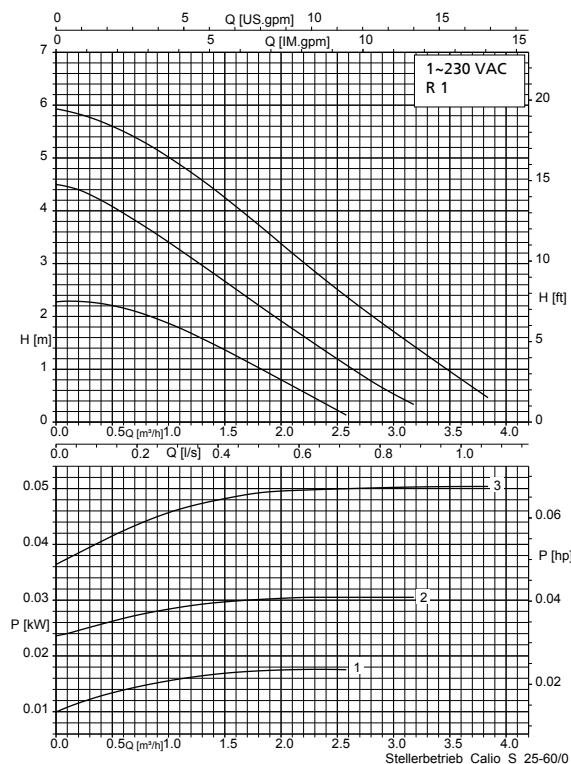
Calio-Therm S 25-60 Δpv



Calio-Therm S 25-60 Δpc



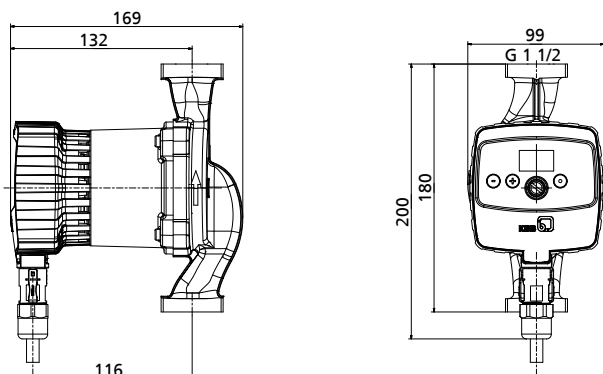
Calio-Therm S 25-60 fixed speed operation



1, 2, 3 = speed level 1, 2, 3

Dimensions

Calio-Therm S



Screw-ended pumps

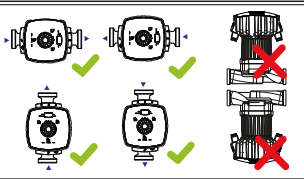
Dimensions [mm]

Size	R	G
25-40	1	1 1/2
25-60	1	1 1/2

Installation information

Calio-Therm S

Permissible installation positions

Sizes	
All	 The diagram shows six installation orientations. The first four (horizontal and vertical) are marked with green checkmarks, indicating they are permissible. The last two (vertical with the pump head at the bottom) are marked with red X's, indicating they are non-permissible.

Scope of supply

- Pump
- Sealing elements
- Installation and operating manual
- Thermal insulation shells



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