

High-efficiency Drinking Water Pump

Calio-Therm S NC/NCV

Type Series Booklet



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Type Series Booklet Calio-Therm S NC/NCV

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Building Services: Heating

Drinking Water Circulator Pumps

Calio-Therm S NC/NCV



Main applications

- Drinking water circulation systems

Fluids handled

- Drinking water and heated drinking water of up to 65 °C
- Fluids with a maximum kinematic viscosity of 10 mm²/s

Operating data

Operating properties

Characteristic		Value
Flow rate	Q [m ³ /h]	≤ 0,7
	Q [l/s]	≤ 0,19
Head	H [m]	≤ 1
Fluid temperature	T [°C]	≥ +5
		≤ +60
Hardness of fluid handled	[°dH]	≤ 20
Ambient temperature	T [°C]	≥ 0
		≤ +40
Operating pressure	p [bar]	≤ 10
Pipe connection, internal thread (Calio-Therm S NC)	Rp	1/2 - 3/4
Pipe connection, external thread (Calio-Therm S NCV)	G	1 1/4

Design details

Design

- Maintenance-free high-efficiency wet rotor pump (glandless)

Drive

- Short-circuit-proof electric motor
- 230 V, 50 Hz/60 Hz
- IP42 enclosure
- Thermal class F
- Temperature class TF 60
- Interference emission EN 55014-1:2006 + A1:2009 + A2:2011, EN 61000-3-2:2006 + A1:2009 + A2:2009, EN 61000-3-3:2008
- Interference immunity EN 55014-2:1997 + A1:2001 + A2:2008

Bearings

- Product-lubricated special plain bearing

Connections

- Screw-ended

Operating modes

- Fixed speed operation with three speed levels

Automatic functions

- Automatic stop when the motor is blocked

Manual functions

- Setting the speed level

Signalling and display functions

- LEDs indicate operating status and faults

Designation

Example: Calio-Therm S NCV S

Designation key

Code	Description	
Calio-Therm S	Type series	
NCV	Design	
	NC	Fixed speed
	NCV	Fixed speed with integrated non-return valve and shut-off valve (ball valve)
S	Connection	
	S	With plug-type connection
	K	With integrated power cable (2 m length) and shockproof plug (plug type F)

Materials

Overview of available materials

Part number	Component	Material
102	Volute casing	Brass CW617N
210	Shaft	Stainless steel 1.4305
230	Impeller	Technopolymer
310	Bearings	CuSn8, suitable for drinking water
817	Can	Stainless steel 1.4404, wetted parts polyamide PA6.6

Product benefits

- Broad product range with many connection options
- No tools required for connection
- Easy to operate; operating status displayed
- High-efficiency pump for maximum energy savings
- Three speed levels for optimum adaptation to the system

Selection information

Minimum inlet pressure

The minimum inlet 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 inlet pressure p_{min} specified for the fluid temperature T_{max} .

Fluid temperature	Minimum inlet pressure
[°C]	[bar]
≤ 60	0,4

Permissible fluid temperature

Temperature limits of the fluid handled

Permissible fluid temperature	Value
Maximum	+60 °C
Minimum	+5 °C

Permissible ambient temperature

Permissible ambient temperatures specified for the fluid temperature

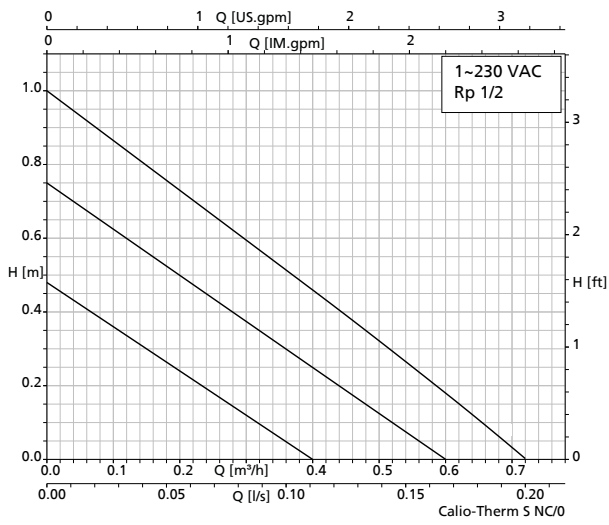
Fluid temperature	Permissible ambient temperature
≤ +60 °C	+40 °C
≥ +5 °C	0 °C

Technical data

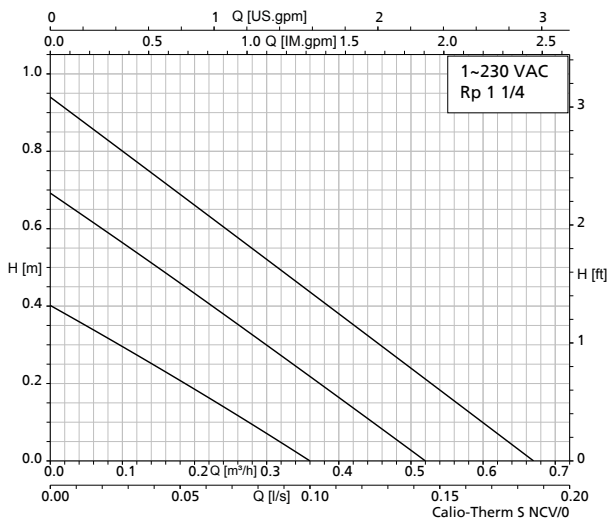
Size	Connection		Enclosure	Speed level	P ₁ [W]	Plug-type connector	Connection cable integrated in the pump	Mat. No.	[kg]
	External thread	Internal thread							
Calio-Therm S NC S	-	Rp 1/2 (EN 10266)	IP42	3	2,5 - 8,0	✗	-	29134811	1
Calio-Therm S NC K	-	Rp 1/2 (EN 10266)	IP42	3	2,5 - 8,0	-	✗	29134812	1
Calio-Therm S NCV S	G 1 1/4 (DIN ISO 228)	-	IP42	3	2,5 - 8,0	✗	-	29134813	1,3
Calio-Therm S NCV K	G 1 1/4 (DIN ISO 228)	-	IP42	3	2,5 - 8,0	-	✗	29134814	1,3

Characteristic curves

Calio-Therm S NC



Calio-Therm S NCV



Dimensions

Calio-Therm S NC/NCV

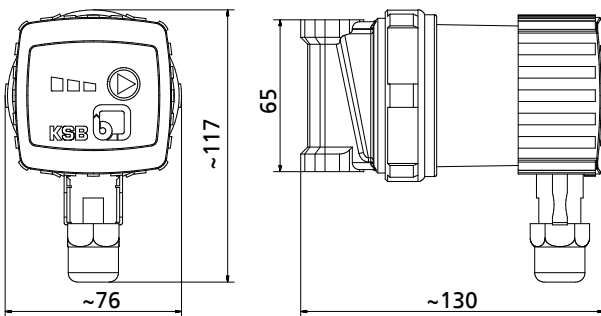


Fig. 1: Dimensions of Calio-Therm S NC S [mm]

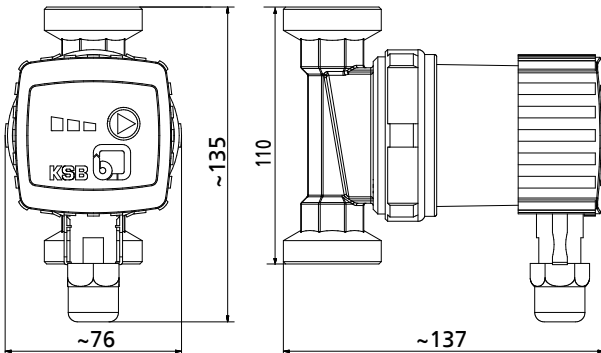


Fig. 2: Dimensions of Calio-Therm S NCV S [mm]

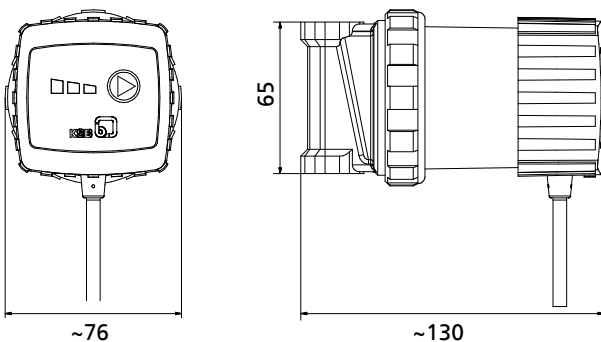


Fig. 3: Dimensions of Calio-Therm S NC K [mm]

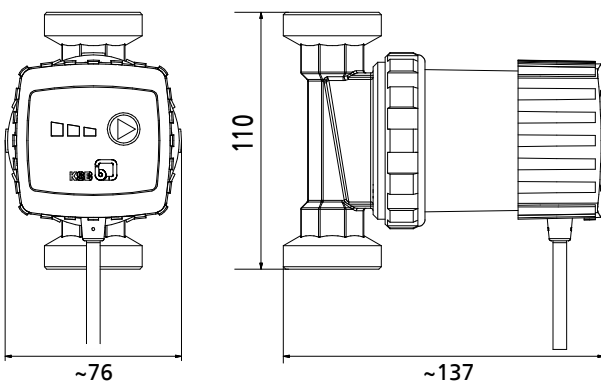


Fig. 4: Dimensions of Calio-Therm S NCV K [mm]

Installation information

Calio-Therm S NC/NCV

Permissible installation positions

Sizes						
Calio-Therm S NC						
	✓	✓	✓	✗	✗	✗
Calio-Therm S NCV						
	✓	✓	✓	✗	✗	✗

The plug-type connection / cable connection integrated in the pump can be fixed in any position (e.g. pointing downward). To this end, loosen the product-integrated union nut and move the pump head (connection housing including motor) into the required position. Then tighten the union nut again.



Scope of supply

Depending on the model, the following items are included in the scope of supply:

- Pump
- Plug-type connection or integrated, pre-configured connection cable (depending on the size)
- Installation/operating manual
- Thermal insulation shells
- 2 fitted plugs preventing the ingress of foreign matter


Accessories

Electrical accessories

	Description	Mat. No.	[kg]
	Timer	01143799	0,2
	Angular connector, black, with sealed 3-core connection cable 3 × 0.75 mm ² , length 1.5 m	18041690	0,015

Pipe unions / fittings

Pipe unions / fittings

	Description	Mat. No.	[kg]
	2 pipe unions with G 1 1/4 union nut and insert with Rp 3/4 internal thread, brass For pumps with G 1 1/4 external thread / R 3/4 pipe connection	40982167	0,2



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