

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, fixed speed

Calio-Therm S NC/NCV



Main applications

- Drinking water circulation systems to DVGW-W551

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
		≤ +65
Hardness of fluid handled	[°dH]	≤ 20
Ambient temperature	T [°C]	≥ 0
		≤ +40
Operating pressure	p [bar]	≤ 10
Average sound pressure level	[dB (A)]	≤ 45
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 65
- 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

- Open-loop control via setpoint setting

Automatic functions

- Automatic stop when the motor is blocked

Manual functions

- Setting the speed level

Signalling functions and display functions

- LEDs indicate operating status and faults (3 flashing LEDs)

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 No.	Description	Material
102	Volute casing	Brass CW617N
210	Shaft	Stainless steel 1.4305
230	Impeller	Technopolymer
310	Bearing	CuSn8, suitable for drinking water
817	Can	Stainless steel 1.4404, wetted parts polyamide PA6.6

Casing parts which are in contact with the atmosphere and with the fluid handled are free from paint-wetting impairment materials.

All wetted components are DVGW-approved for use in drinking water circulation systems.

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

Product information

Product information as per Regulation No. 1907/2006 (REACH)

For information as per chemicals Regulation (EC) No. 1907/2006 (REACH), see <http://www.ksb.com/reach>.

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

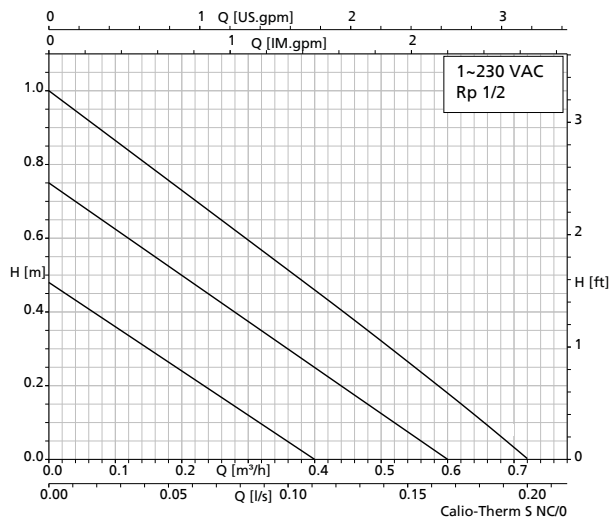
Calio-Therm S NC/NCV

Technical data

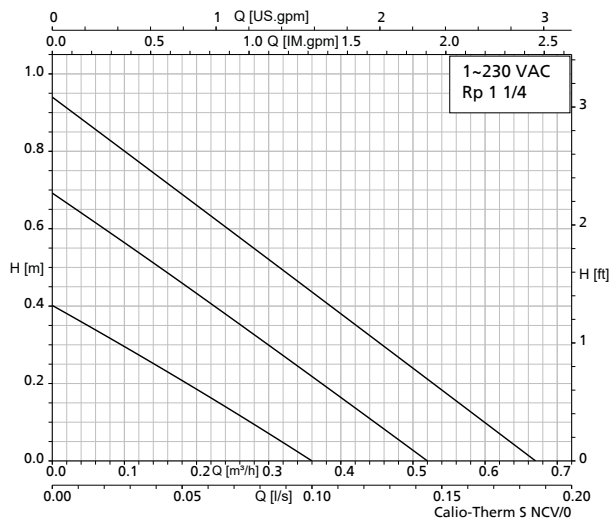
Size	Connection		Enclosure	Speed levels	P ₁ [W]	I _N 1~230 V AC, 50 Hz / 60 Hz [A]	Plug-type connector	Integrated connection cable	Mat. No.	[kg]
	External thread	Internal thread								
Calio-Therm S NC S	-	Rp 1/2 (EN 10266)	IP42	3	2,5 - 8,0	0,011 - 0,035	✗	-	29134811	1
Calio-Therm S NC K	-	Rp 1/2 (EN 10266)	IP42	3	2,5 - 8,0	0,011 - 0,035	-	✗	29134812	1
Calio-Therm S NCV S	G 1 1/4 (DIN ISO 228)	-	IP42	3	2,5 - 8,0	0,011 - 0,035	✗	-	29134813	1,3
Calio-Therm S NCV K	G 1 1/4 (DIN ISO 228)	-	IP42	3	2,5 - 8,0	0,011 - 0,035	-	✗	29134814	1,3

Characteristic curves

Calio-Therm S NC



Calio-Therm S NCV



Dimensions

Calio-Therm S NC/NCV

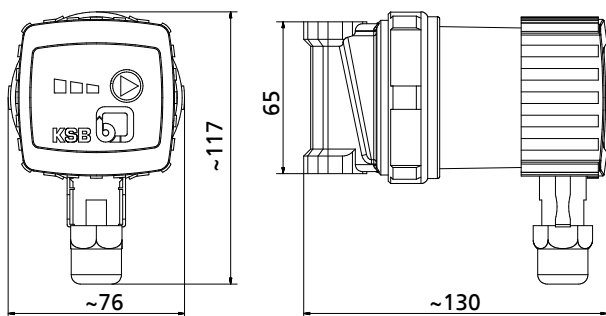


Fig. 1: Dimensions of Calio-Therm S NC S [mm]

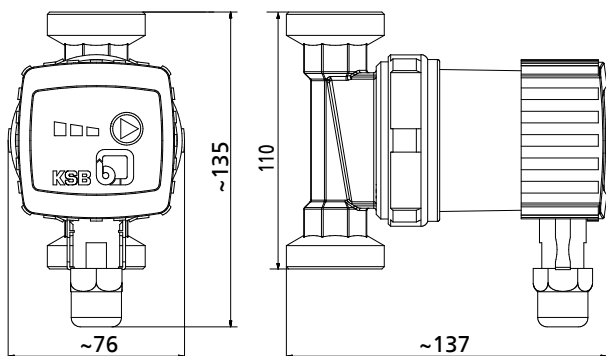


Fig. 2: Dimensions of Calio-Therm S NCV S [mm]

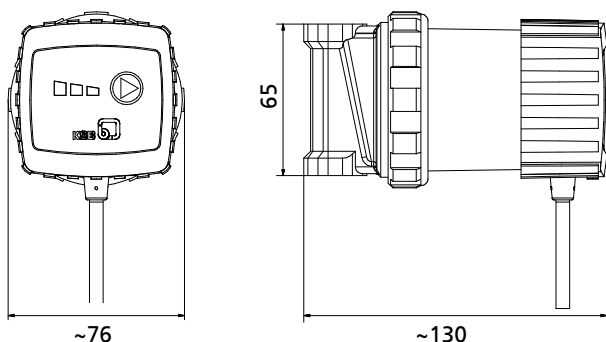


Fig. 3: Dimensions of Calio-Therm S NC K [mm]

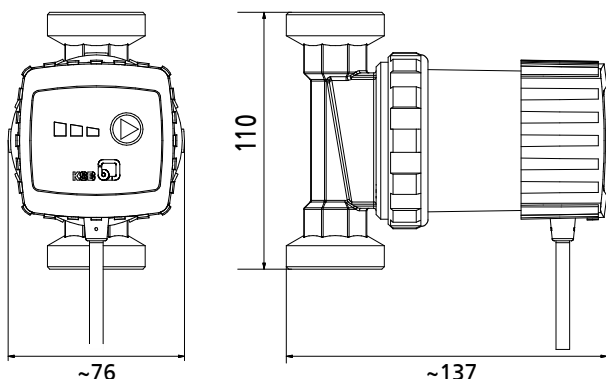


Fig. 4: Dimensions of Calio-Therm S NCV K [mm]

Installation information

Permissible installation positions

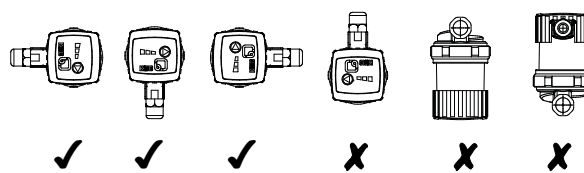


Fig. 5: Permissible installation positions of Calio-Therm S NC

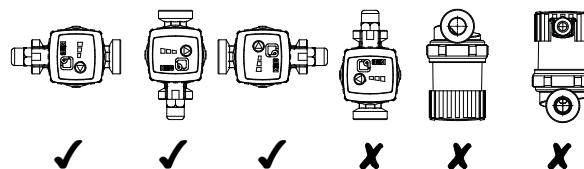


Fig. 6: Permissible installation positions of Calio-Therm S NCV

Scope of supply



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

- Pump set
- Two-piece thermal insulation shell
- 2 fitted plugs preventing the ingress of foreign matter
- Plug-type connection or integrated, pre-configured connection cable
- Installation/operating manual

Accessories


Electrical 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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