

High-efficiency Drinking Water Pump

Calio-Therm NC

Type Series Booklet



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Type Series Booklet Calio-Therm NC

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Contents

Building Services: Heating.....	4
Fixed Speed Drinking Water Pumps.....	4
Calio-Therm NC	4
Main applications.....	4
Fluids handled	4
Operating data.....	4
Designation	4
Design details.....	4
Materials.....	5
Product benefits.....	5
Certifications	5
Selection information	6
Overview of product features / selection tables	7
Technical data	7
Selection chart.....	7
Characteristic curves.....	8
Dimensions	10
Installation information.....	10
Scope of supply	10
Accessories.....	11

Building Services: Heating

Fixed Speed Drinking Water Pumps

Calio-Therm NC



Main applications

- Drinking water supply
- Hot-water supply
- 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 TrinkwV 2001 drinking water regulations

Operating data

Operating properties

Characteristic		Value
Flow rate	Q [m³/h]	≤ 9
	Q [l/s]	≤ 2,5
Head	H [m]	≤ 7
Fluid temperature – Heating water	T [°C]	+2 to +110
Fluid temperature – Drinking water ¹⁾	T [°C]	Up to +65 and up to 14 [°dH] (hardness)
Ambient temperature	T [°C]	0 to 40
Operating pressure	p [bar]	≤ 10
Pressure class	PN [bar]	10
Sound pressure level	[dB (A)]	< 45
Connection		G 1 1/4, G 1 1/2

Designation

Beispiel: Calio-Therm NC 25-40-130

Designation key

Code	Description	
Calio	Type series	
Therm	Drinking water pump	
NC	Fixed speed	
25	Nominal diameter of pump nozzle	
	20	G 1/4
	25	G 1 1/2
40	Head in m x 10 (example: 40 = 4 m)	
130	Overall	
	130	130 mm

Design details

Design

- Maintenance-free wet rotor pump (glandless)

Drive

- Electric motor
- Integrated motor protection
- 1~230 VAC, 50 Hz
- IP44 enclosure
- Thermal class F
- Temperature class TF 110
- Interference emissions EN 61000-6-3
- Interference immunity EN 61000-6-2

Bearings

- Product-lubricated special plain bearing

Connections

- Screw-ended or flanged

Operating modes

- 3 adjustable speed levels

Automatic functions

- Soft start
- Full motor protection

Manual functions

- Setting the speed level
- Vent plug
- Deblocking function

1) We recommend using fluids with temperatures no higher than 65 °C to prevent possible consequences caused by lime sedimentation; higher fluid temperatures are permissible for short periods (e.g. for thermal disinfection cycles).

Materials

Overview of available materials


Component	Material
Volute casing	Stainless steel 1.4308
Shaft	Ceramics
Impeller	Plastic with glass fibre content (PSU-GF20) (PP-GF30 for Calio-Therm NC 25-70)
Bearing	Ceramics
Can	Stainless steel 1.4301
Thermal insulation shells	Polypropylene

Product benefits

- Saving energy by matching output to individual system requirements
- Easy replacement
- All wetted parts are in compliance with KTW recommendations (use of elastomers in drinking water applications).
- Universal use reduces storage costs.

Certifications

Overview

Label	Effective in:	Comment
 <small>Von Profis. Für Qualität.</small>	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.

i To prevent condensation, the ambient temperature must always be lower than the temperature of the fluid handled.

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

Size	Fluid temperature [°C]	Minimum pressure	
		Screw-ended pumps [bar]	Flanged pumps [bar]
All	Up to 80	0,05	0,5
	81 to 95	0,3	1,5
	96 to 110	1,1	2,5

Fluid temperature [°C] specified for the ambient temperature [°C]

Size	Fluid temperature [°C]	Ambient temperature [°C]
	All	110
	90	40

Description of the characteristic curve

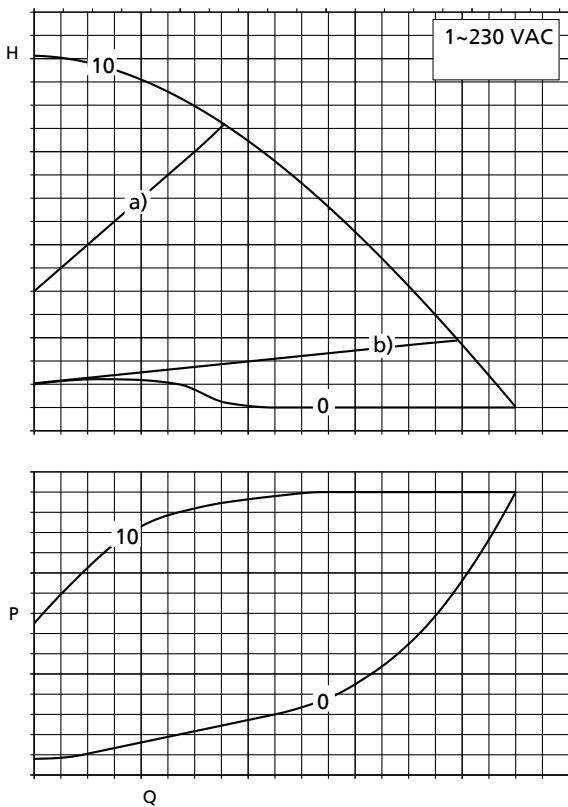


Fig. 1: Selection example

i The characteristic curve can be adjusted between a) and b) by turning the press&turn dial.

0	Level 0 = open-loop control, minimum speed (corresponds to a setting of 0 %)
10	Level 10 = open-loop control, maximum speed (corresponds to a setting of 100 %)

Overview of product features / selection tables

Features and functions

Features and functions

Functions/features
Automatic functions
Soft start

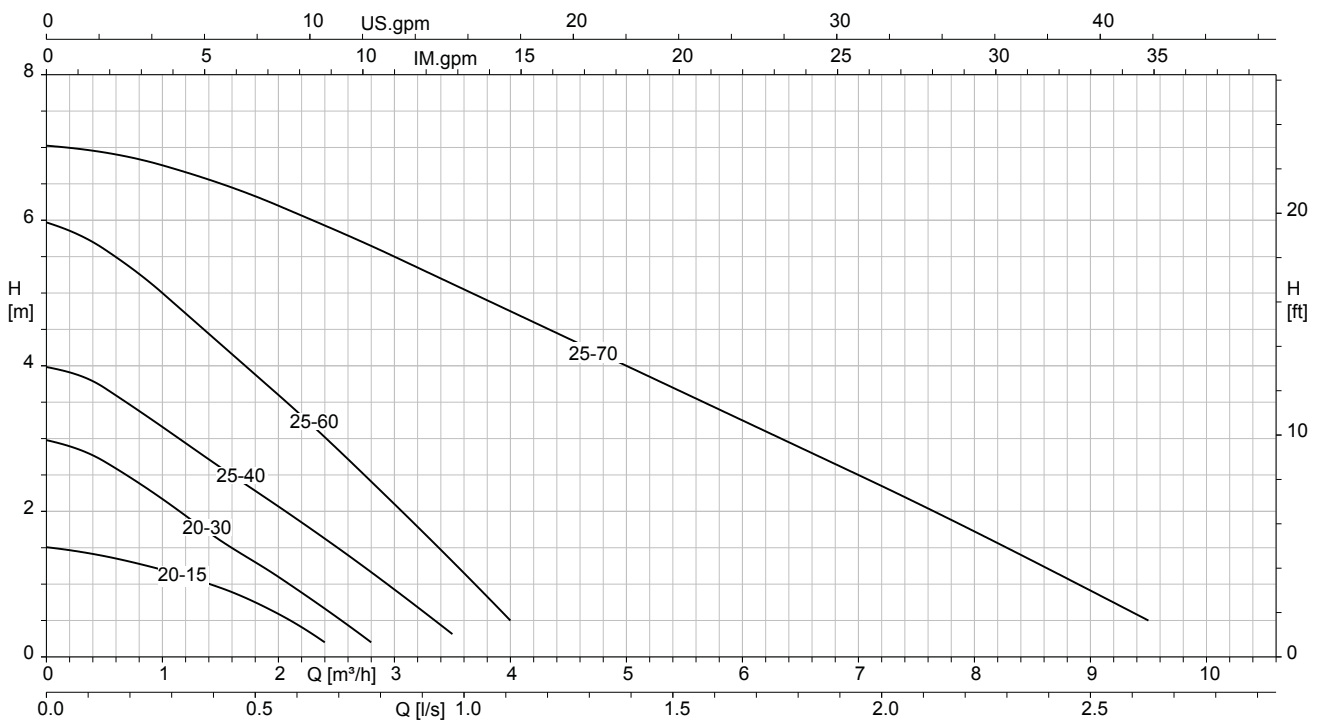
Technical data

Calio-Therm NC selection table

Size	Connection		PN [bar]	n		P ₁ [W]	Signalling contacts	I _N 1-230 VAC, 50 Hz [A]	Mat. No.	[kg]
	Piping	Pump		Min. [min ⁻¹]	Max. [min ⁻¹]					
20-15	R 3/4	G 1 1/4	10	1300	2800	26 - 34	-	0,11 - 0,15	29134843	2,7
20-30	R 3/4	G 1 1/4	10	1300	2800	27 - 35	-	0,12 - 0,15	29134844	2,7
25-40-130	R 1	G 1 1/2	10	1800	2800	33 - 44	-	0,14 - 0,19	29134845	2,7
25-40	R 1	G 1 1/2	10	1800	2800	33 - 44	-	0,14 - 0,19	29134846	2,8
25-60	R 1	G 1 1/2	10	1800	2800	6 - 85	-	0,03 - 0,50	29134847	2,8
25-70	R 1	G 1 1/2	10	1800	2800	220 - 260	-	1,03 - 1,13	29134848	6,5

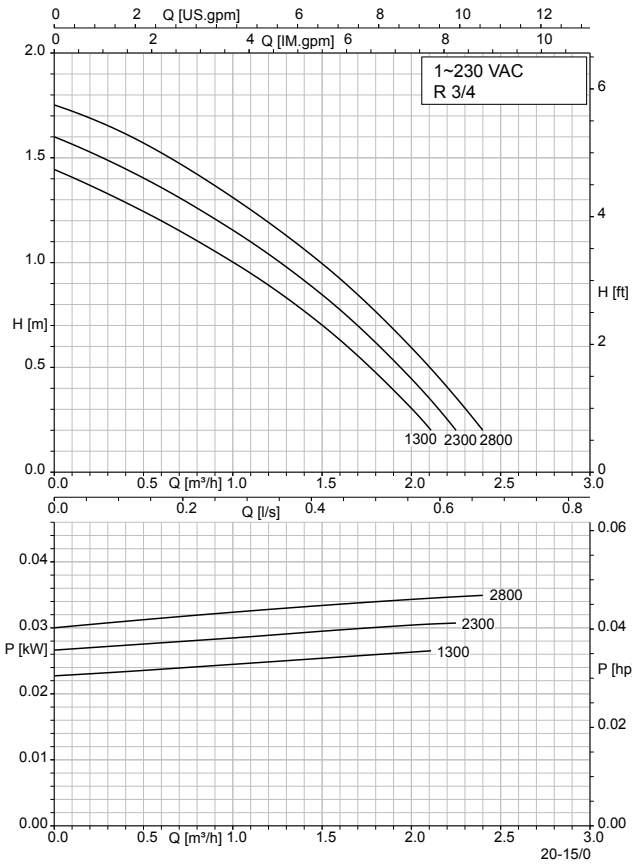
Selection chart

Calio-Therm NC

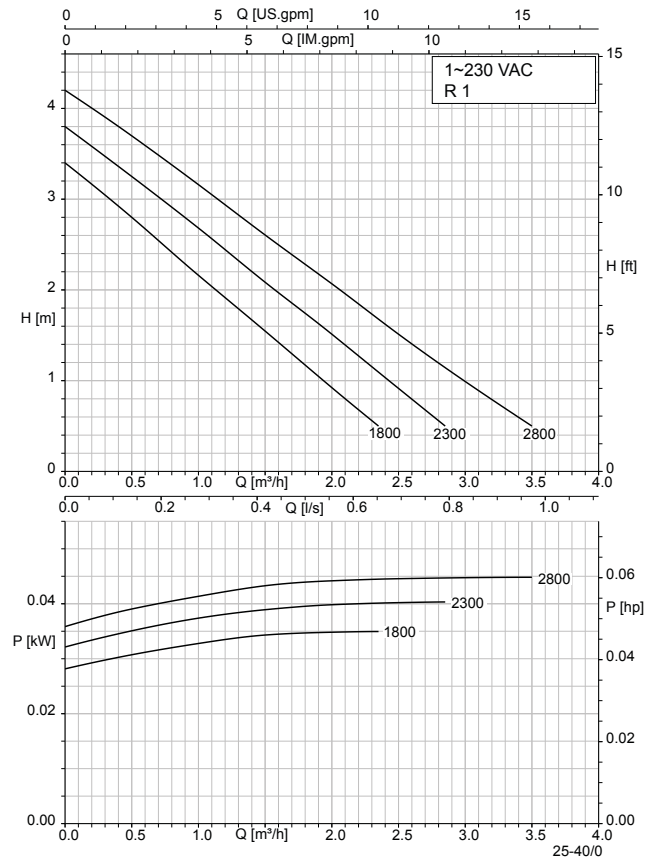


Characteristic curves

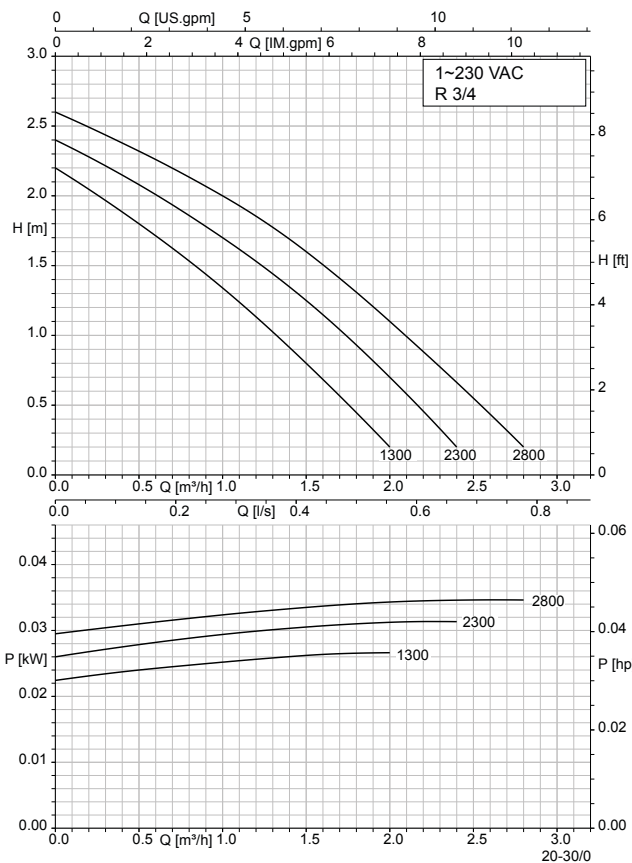
Calio-Therm NC 20-15



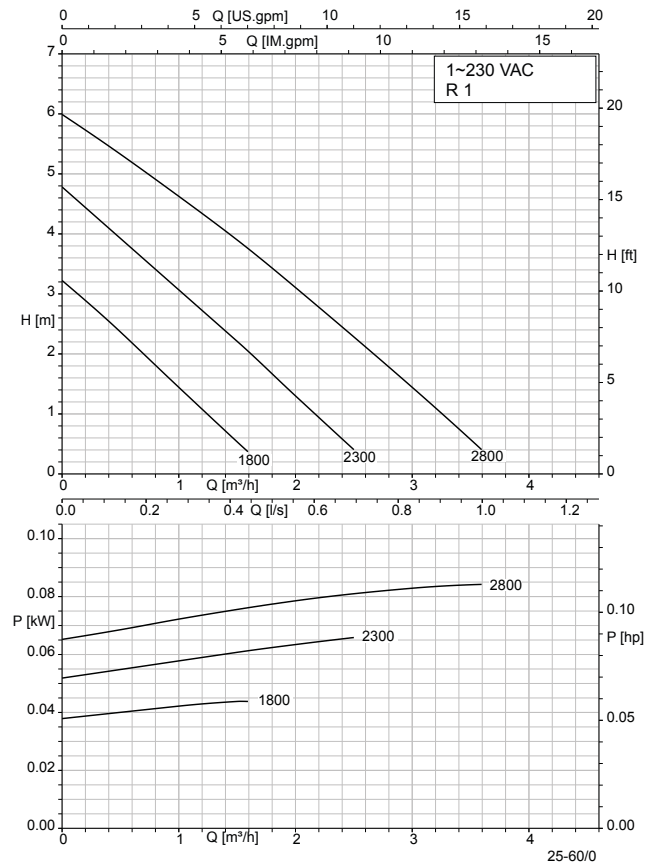
Calio-Therm NC 25-40



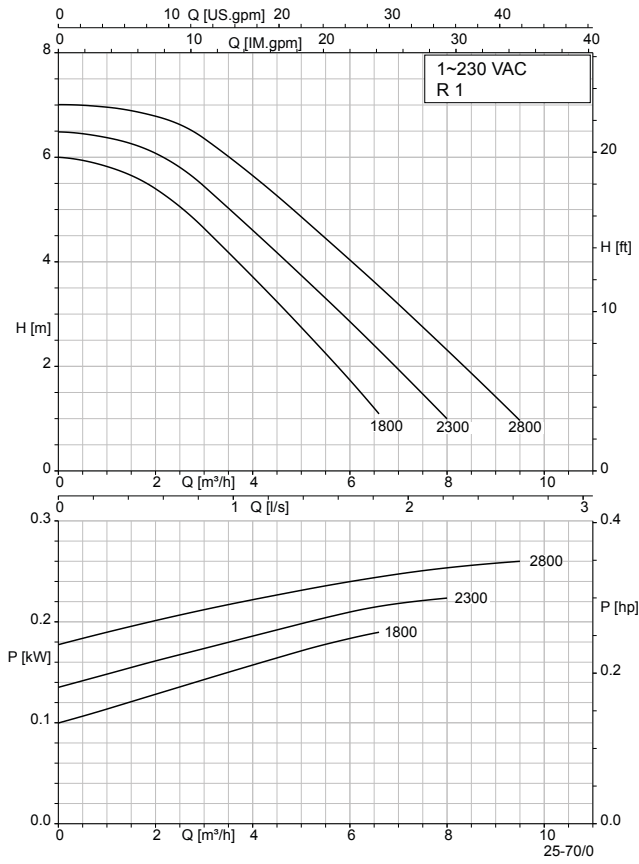
Calio-Therm NC 20-30



Calio-Therm NC 25-60



Calio-Therm NC 25-70



Dimensions

Calio-Therm NC

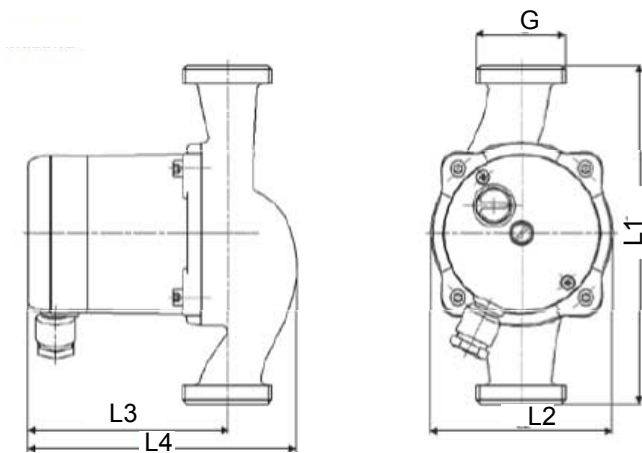


Fig. 2: Dimensions Calio-Therm NC 20-15 to 25-60

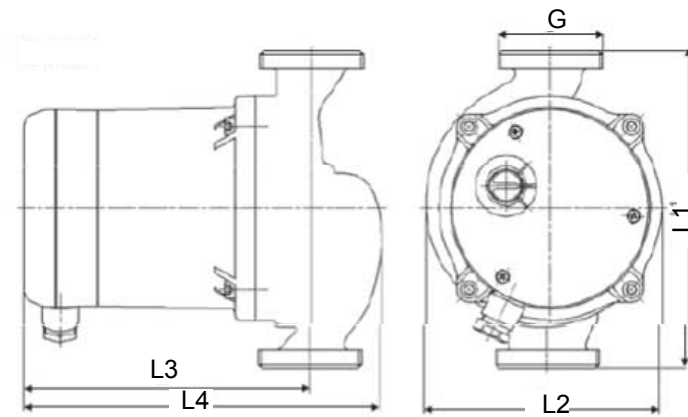


Fig. 3: Dimensions Calio-Therm NC 25-70

Dimensions [mm]

Size	R	G	DN	L1	L2	L3	L4
20-15	3/4	1 1/4	-	150	98	108	145
20-30	3/4	1 1/4	-	150	98	108	145
25-40-130	1	1 1/2	-	130	98	108	145
25-40	1	1 1/2	-	180	98	108	145
25-60	1	1 1/2	-	180	98	108	145
25-70	1	1 1/2	-	180	135,5	166	206

Installation information

Calio-Therm

Permissible installation positions



Sizes	
All	

Scope of supply

- Pump
- Sealing elements
- Installation/operating manual
- Insulation shells (for overall length ≥ 180 mm only)

Accessories

Pipe unions

	Description	Mat. No.	[kg]
	2 pump pipe unions with G 1 1/2 union nut and union end with Rp 3/4 internal thread, steel For pumps with G 1 1/2 external thread / R 3/4 pipe connection	19075560	0,2
	2 pump pipe unions with G 1 1/2 union nut and union end with Rp 1 internal thread, steel For pumps with G 1 1/2 external thread / R 1 pipe connection	19075561	0,2

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