

CHI, CHIU

Multipurpose stainless steel pumps
50 Hz



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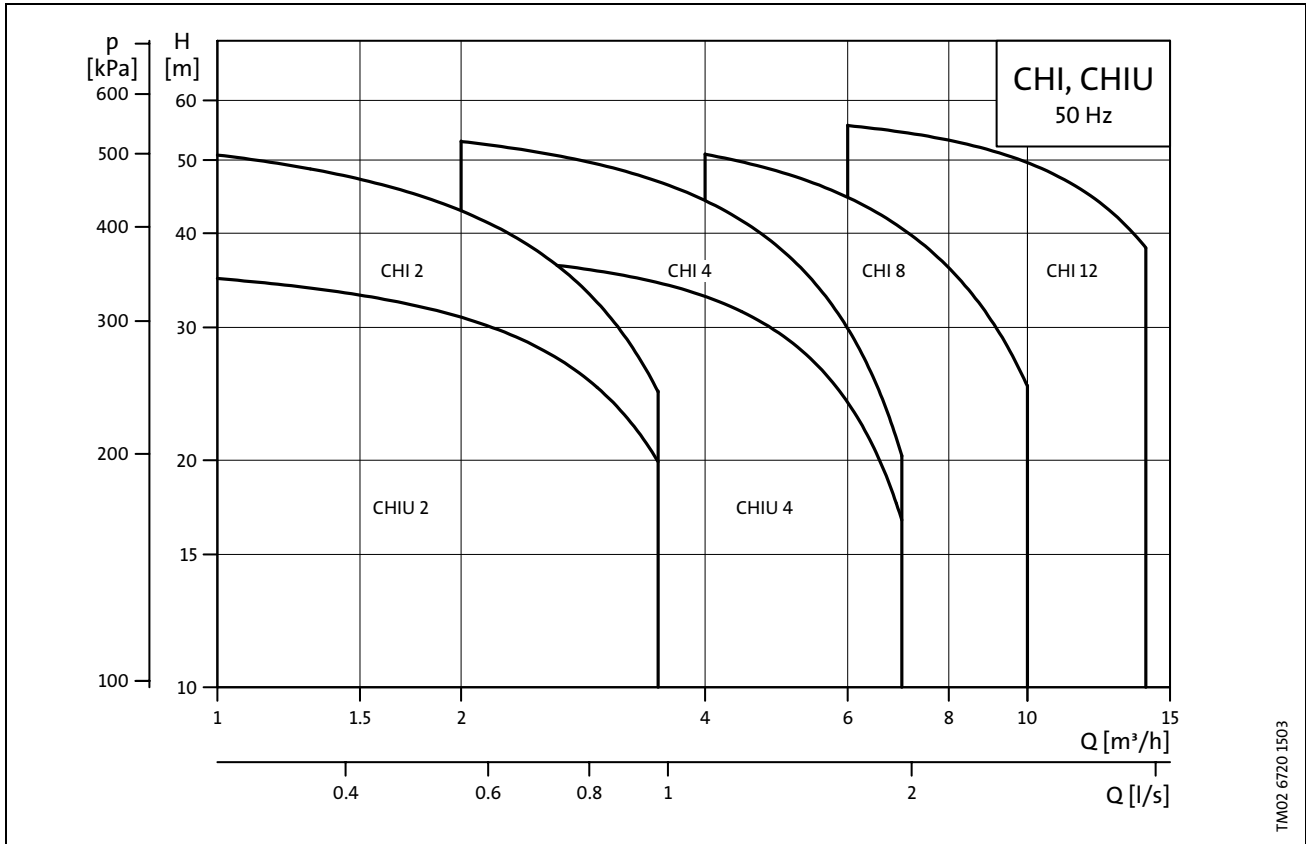
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Performance range, 50 Hz



TM02 6720 1503

Applications

The CHI and CHIU pumps are primarily designed for industrial applications:

Typical applications	CHI	CHIU
Water treatment	●	○
Industrial washing and dish-washing machines	●	○
Pressure boosting of process water	●	
Heating and cooling in industrial processes	●	○
Air-conditioning	●	○
Airwashing, moisturization, humidification (softened water)	●	●
Water supply and pressure boosting (potable water, also slightly chlorinated)	●	●
Fertilizer/dosing systems	●	○
Aquafarming	●	

In addition, the CHI, CHIU pump is suitable for many specialized applications.

- Recommended
- Applicable

Pumped liquids

Thin, clean, non-aggressive and non-explosive liquids without solid particles or fibres.

The pumps are able to pump liquids such as demineralised water, softened water, cleaning solutions, light oils and other light chemicals.

When pumping liquids with a density and/or viscosity higher than that of water, motors with correspondingly higher outputs must be used, if required.

Whether a pump is suitable for a particular liquid depends on a number of factors of which the most important are chloride content, pH value, temperature and content of solvents, oils, etc.

Operating conditions

- Liquid temperature: -15°C to +110 °C
- Maximum ambient temperature: +40°C
- Maximum operating pressure: 10 bar

Maximum inlet pressure is limited by maximum operating pressure.

Maximum operating pressure and liquid temperature

The actual operating range depends on the operating pressure, the pump type, the type of shaft seal, the pumped liquid and the liquid temperature.

Shaft seal

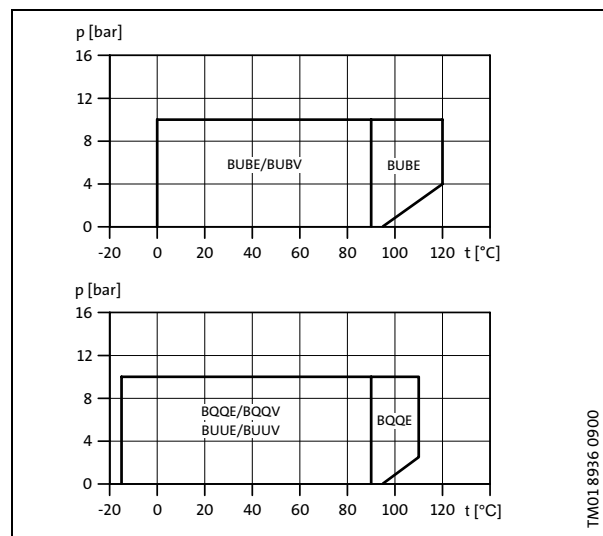
The shaft seal is to be selected on the basis of liquid temperature and type of liquid.

For other liquids than water, the chemical resistance of the materials - incl. seal face, seat and rubber components of the shaft seal - must be taken into account.

The following table shows available shaft seal types.

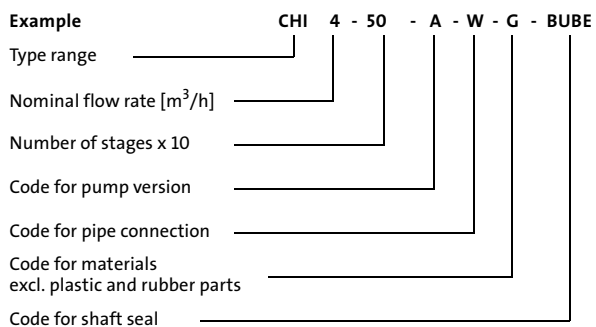
Pump type	Shaft seal type	Material	Rubber parts
CHI	BUBE BUBV	Tungsten carbide (U)/ Carbon (B)	EPDM (E) FKM (V)
	BQQE BQQV	Silicium carbide (Q)/ Silicium carbide (Q)	
	BUUE BUUV	Tungsten carbide (U)/ Tungsten carbide (U)	
CHIU	No shaft seal		

The following curves apply to clean water and water-containing antifreeze additives.

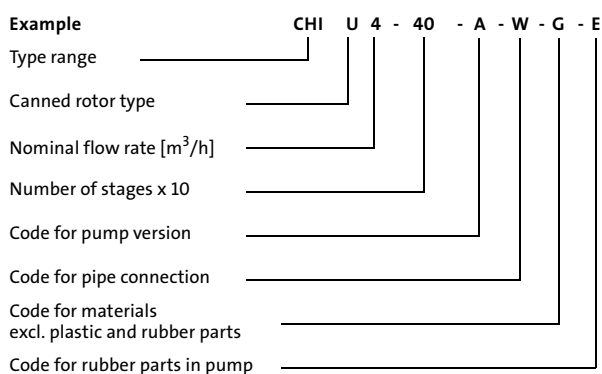


Type keys

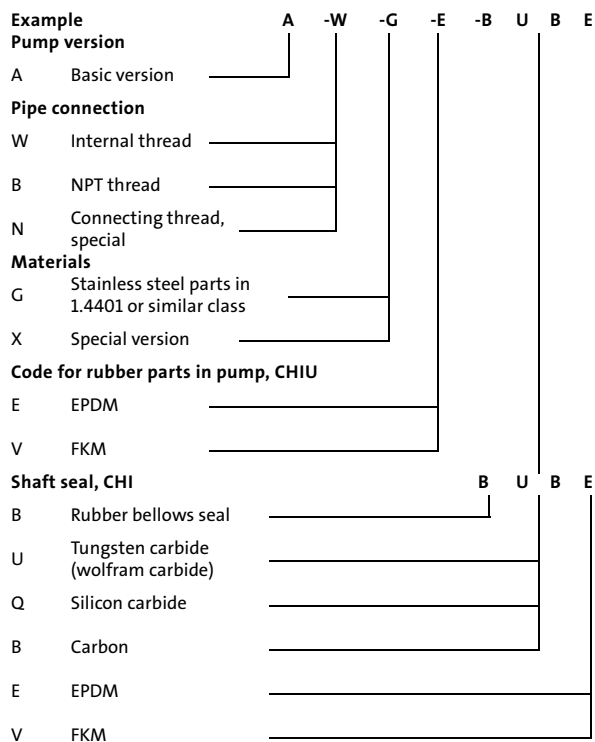
CHI



CHIU



Codes



Pump, CHI

Horizontal, multistage centrifugal pump of the non self-priming type with extended pump/motor shaft.

The pump has a maintenance-free mechanical shaft seal with dimensions according to DIN 24960.

Compact pump unit with small physical dimensions, axial suction port and radial discharge port.

Connections	CHI 2	CHI 4	CHI 8	CHI 12
Axial suction port	Rp 1	Rp 1½	Rp 1½	Rp 1½
Radial discharge port	Rp 1	Rp 1½	Rp 1½	Rp 1½

Motor, CHI

The pump is coupled with a totally enclosed, fan-cooled Grundfos squirrel-cage motor.

Standard voltages: 1 x 220-240 V, 50 Hz
3 x 220-240/380-415 V, 50 Hz

Enclosure class: IP 55
Insulation class: F

Sound-pressure level: ≤ 64 dB(A)

Single-phase motors have a built-in thermal overload unit.

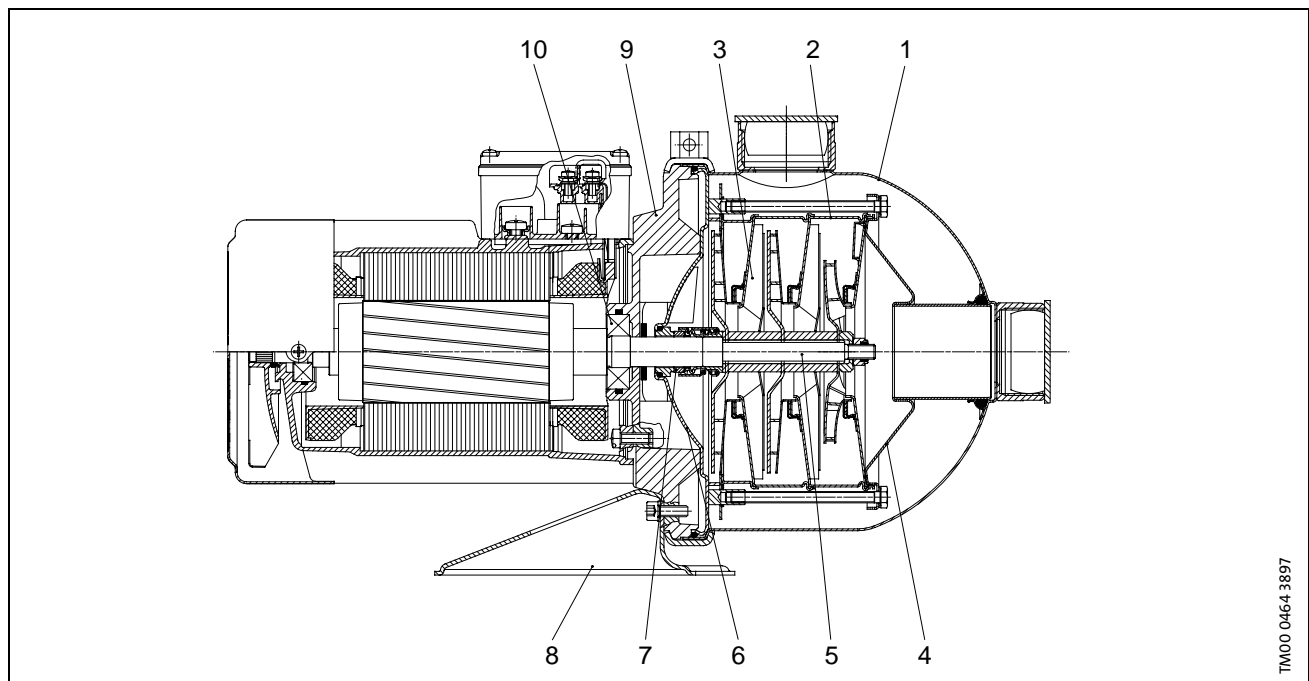
Three-phase motors must be connected to a motor starter in accordance with local regulations.

CHI single-phase are also available with variable speed motors, type MGE. See separate data booklet for CHIE.

Materials, CHI

Pos.	Description	Materials	DIN W.-Nr.
1	Pump sleeve	Stainless steel	1.4401
2	Intermediate chamber/ guide vanes	Stainless steel	1.4401
3	Impeller	Stainless steel	1.4401
4	Suction interconnector	Stainless steel	1.4401
5	Spline shaft	Stainless steel	1.4401
6	Cover plate	Stainless steel	1.4401
7	Shaft seal faces	BUBE, BUBV, BUUE, BUUV, BQQE and BQQV	
8	Base plate	Painted steel	1.0338
9	Motor flange	Cast iron Silumin	EN-JL1040
10	Ball bearing		
	O-rings	EPDM or FKM	

Sectional drawing, CHI



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Pump, CHIU

Horizontal, multistage centrifugal pump of the canned rotor type, i.e. pump and motor form an integral unit without shaft seal. The bearings are lubricated by the pumped liquid.

Compact pump unit with small physical dimensions, axial suction port and radial discharge port.

Connections	CHIU 2	CHIU 4
Axial suction port	Rp 1	Rp 1½
Radial discharge port	Rp 1	Rp 1½

Motor, CHIU

The motor is a 2-pole, asynchronous squirrel-cage motor. As the motor is cooled by the pumped liquid, the noise level is very low.

Standard voltages: 1 x 220-240 V, 50 Hz
3 x 220-240 V, 50 Hz
3 x 380-415 V, 50 Hz

Enclosure class: IP 44

Insulation class: H

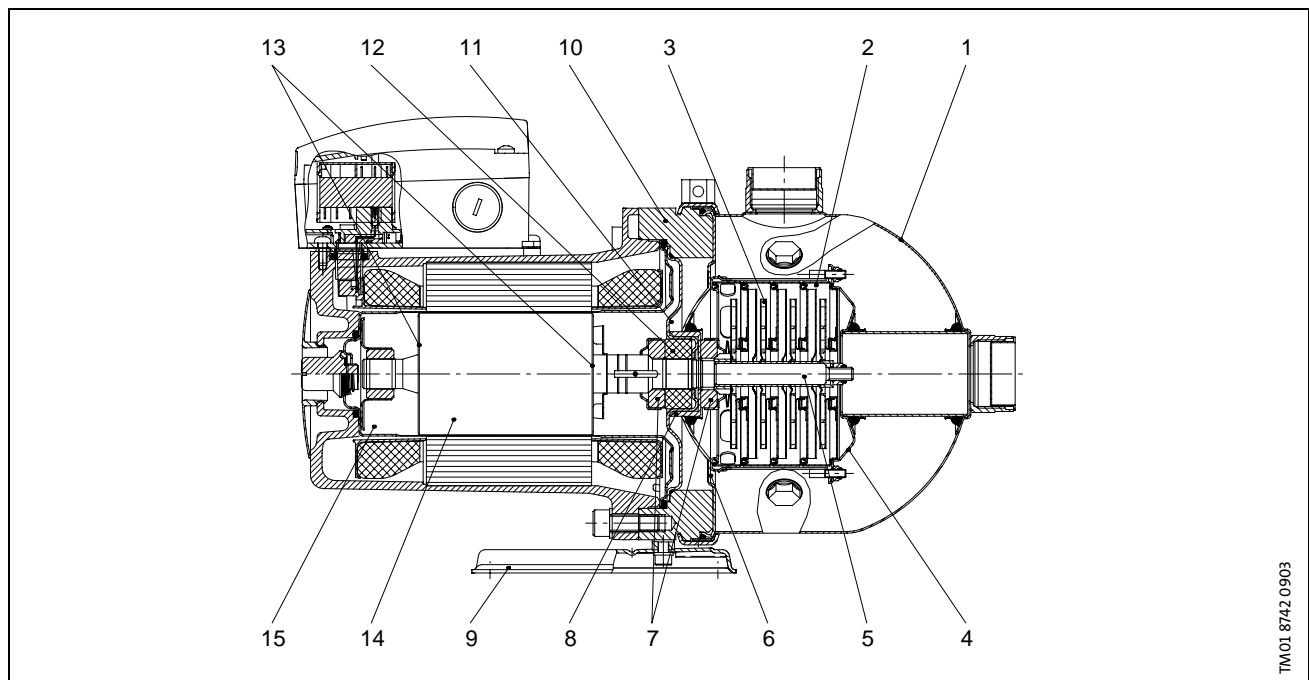
Motor protection: The pump requires an external contactor for motor protection, connected to built-in thermal overload unit.

Sound-pressure level: ≤ 44 dB(A)

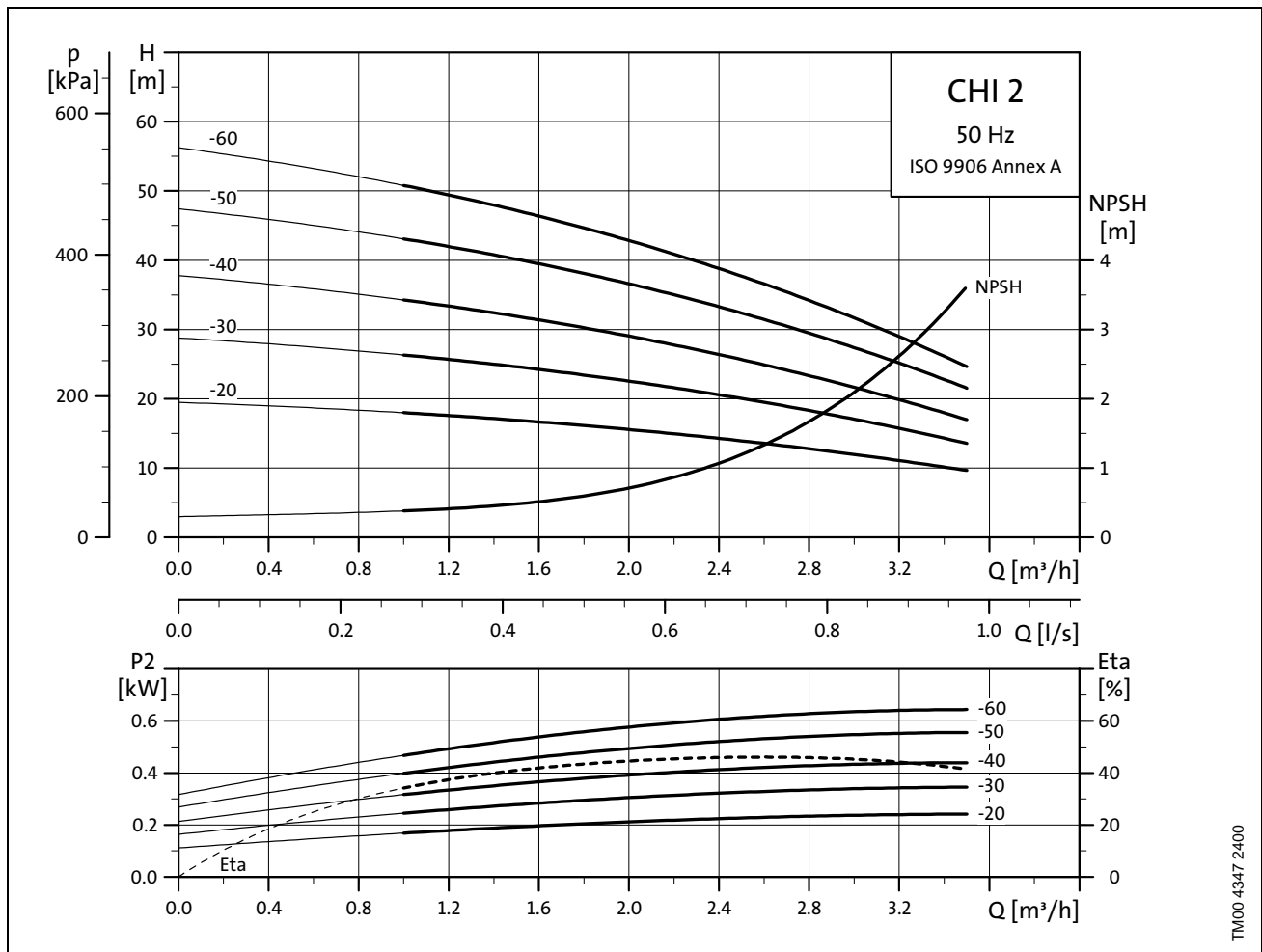
Materials, CHIU

Pos.	Description	Materials	DIN W.-Nr.
1	Pump sleeve	Stainless steel	1.4401
2	Intermediate chamber	Stainless steel	1.4401
3	Impeller	Stainless steel	1.4401
4	Suction interconnector	Stainless steel	1.4401
5	Spline shaft	Stainless steel	1.4401
6	Cover plate	Stainless steel	1.4401
7	Thrust bearing	Carbon MY 106	
8	Spacer sleeve	Stainless steel	1.4401
9	Base plate	Painted steel	1.0338
10	Motor stool	Aluminium	2.0615
11	Bearing plate	Stainless steel	1.4301
12	Radial bearing	Ceramic Al ₂ O ₃ /SiC	
13	Rotor ends	1-phase: Brass 3-phase: Copper	
14	Rotor cladding	Stainless steel	1.4401
15	Rotor can	Stainless steel	1.4401
	O-rings	EPDM or FKM	

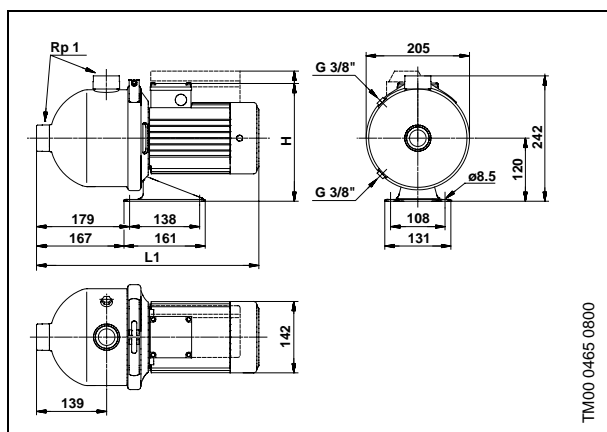
Sectional drawing, CHIU



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Dimensions and weights



Pump type	Dimensions [mm]				Net weight [kg]
	1-phase		3-phase		
	L1	H	L1	H	
CHI 2-20	397	253	397	229	9.6
CHI 2-30	397	253	397	229	9.9
CHI 2-40	397	253	397	229	10.1
CHI 2-50	397	253	397	229	10.8
CHI 2-60	397	253	397	229	11.0

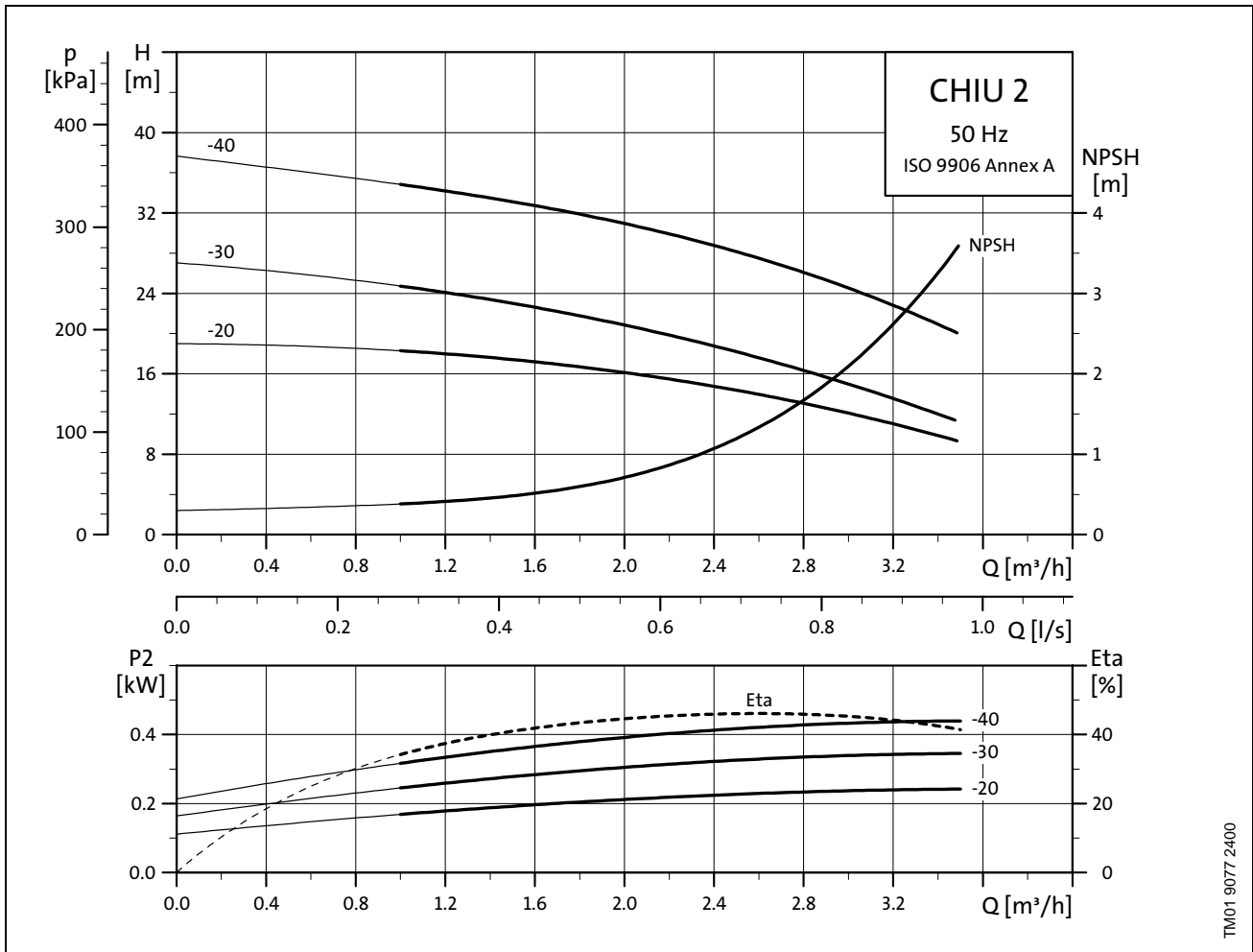
Electrical data

1 x 220-240 V, 50 Hz

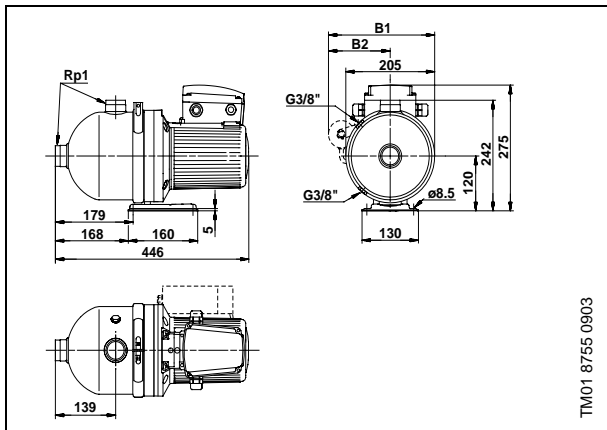
Pump type	P ₁ [W]	I _{1/I} [A]	n [min ⁻¹]
CHI 2-20	450	1.9 - 2.4	2920
CHI 2-30	540	2.4 - 2.6	2880
CHI 2-40	640	2.9 - 2.9	2850
CHI 2-50	800	3.6 - 3.5	2850
CHI 2-60	940	4.4 - 4.0	2820

3 x 220-240/380-415 V, 50 Hz

Pump type	P ₁ [W]	I _{1/I} [A]	n [min ⁻¹]
CHI 2-20	350	1.5 / 0.8	2940
CHI 2-30	480	1.7 / 1.0	2910
CHI 2-40	620	1.9 / 1.1	2885
CHI 2-50	820	2.6 / 1.5	2885
CHI 2-60	950	2.8 / 1.6	2860



Dimensions and weights



Pump type	Dimensions [mm]		Net weight [kg]
	1-phase		
	B1	B2	
CHIU 2-20	245	142.5	20.3
CHIU 2-30	245	142.5	20.6
CHIU 2-40	245	142.5	20.9

Electrical data

1 x 220-240 V, 50 Hz

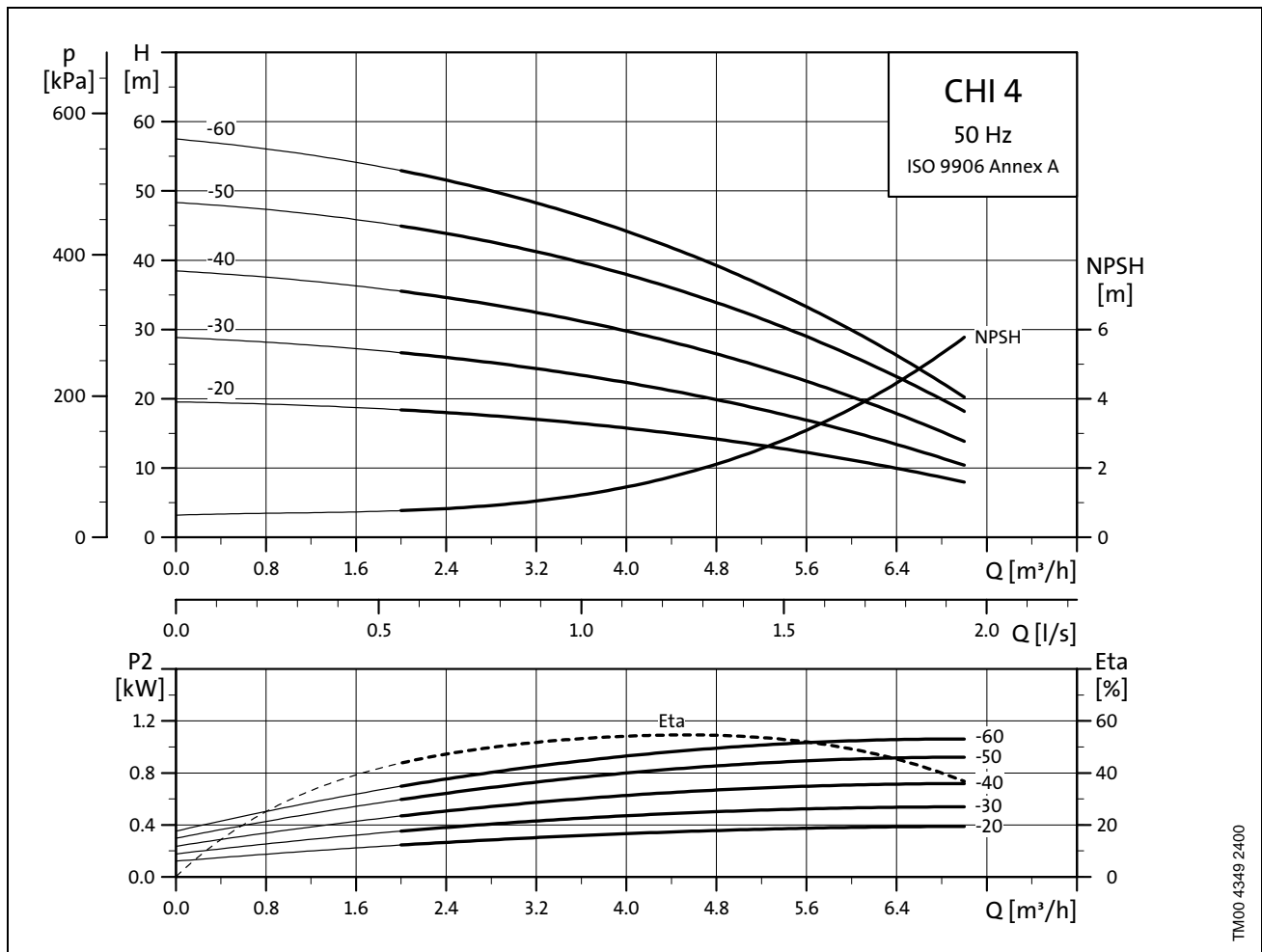
Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHIU 2-20	450	2.0 - 2.5	2900
CHIU 2-30	540	2.5 - 2.7	2900
CHIU 2-40	640	3.0 - 3.0	2900

3 x 220-240 V, 50 Hz

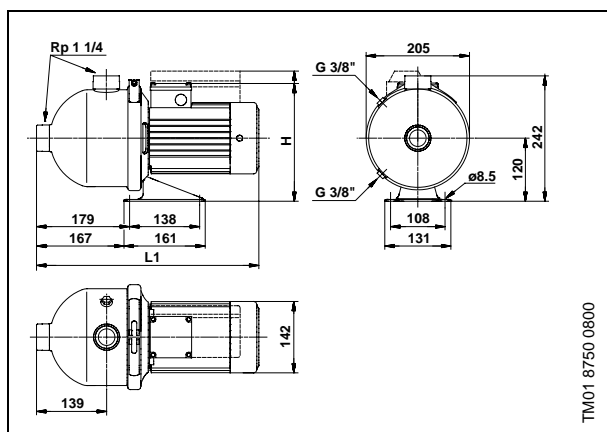
Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHIU 2-20	350	1.6	2900
CHIU 2-30	480	1.8	2900
CHIU 2-40	620	2.0	2900

3 x 380-415 V, 50 Hz

Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHIU 2-20	350	0.9	2900
CHIU 2-30	480	1.1	2900
CHIU 2-40	620	1.2	2900



Dimensions and weights



Pump type	Dimensions [mm]				Net weight [kg]
	1-phase		3-phase		
	L1	H	L1	H	
CHI 4-20	397	253	397	229	9.6
CHI 4-30	397	253	397	229	9.9
CHI 4-40	397	253	397	229	10.6
CHI 4-50	437	253	437	229	12.1
CHI 4-60	437	253	437	229	12.3

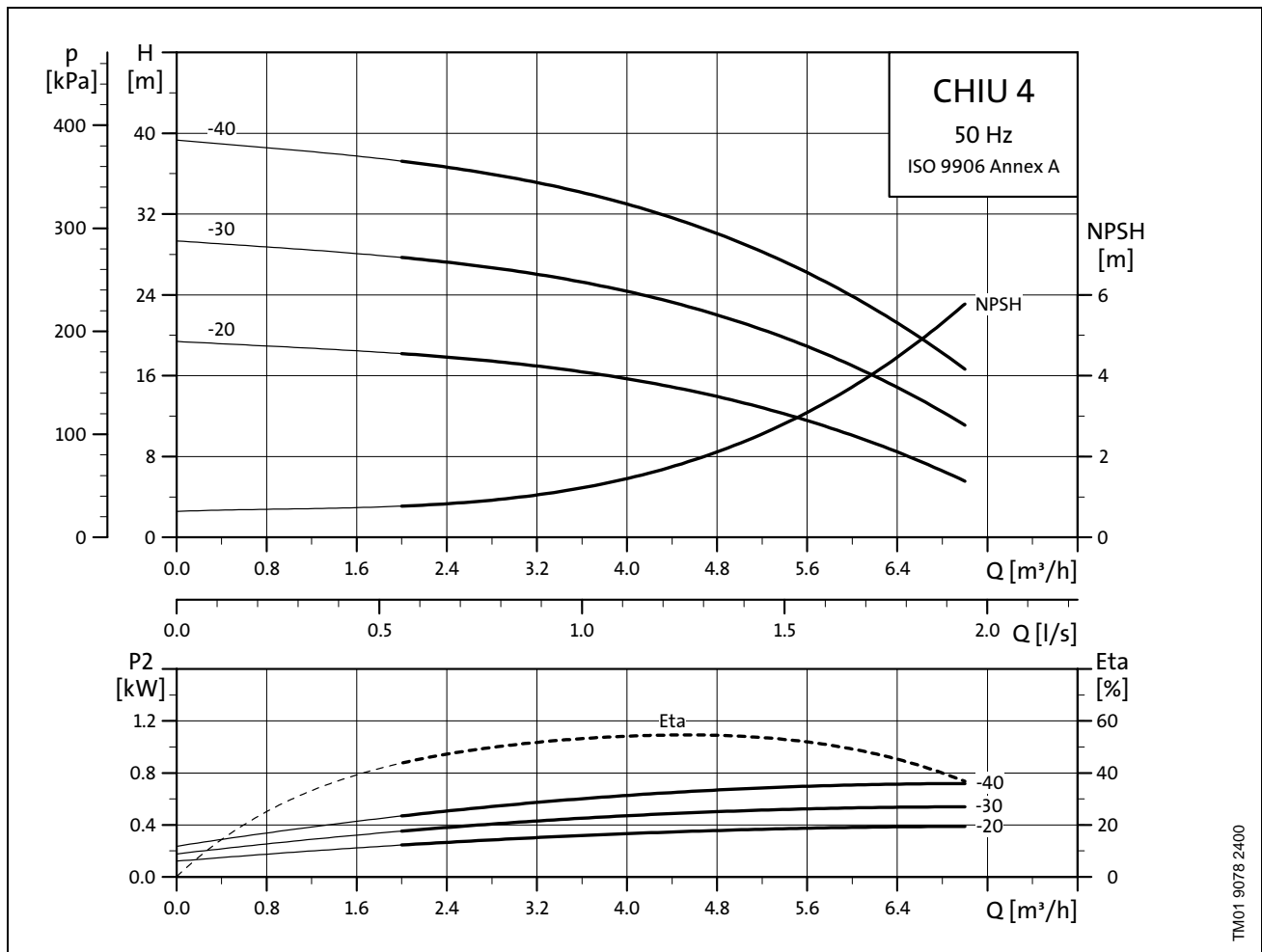
Electrical data

1 x 220-240 V, 50 Hz

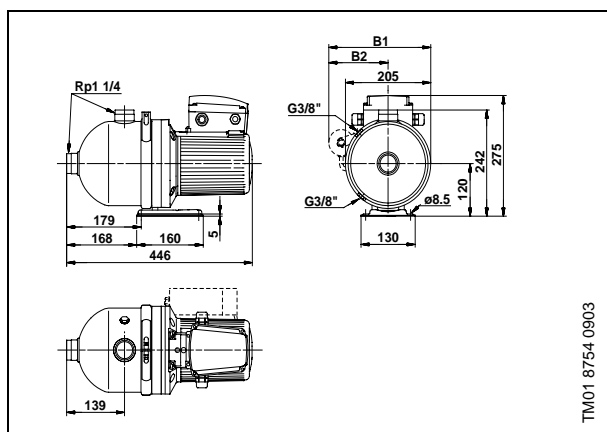
Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHI 4-20	590	2.6 - 2.7	2885
CHI 4-30	820	3.7 - 3.6	2830
CHI 4-40	1040	4.9 - 4.5	2860
CHI 4-50	1420	6.6 - 5.7	2830
CHI 4-60	1510	7.1 - 6.8	2850

3 x 220-240/380-415 V, 50 Hz

Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHI 4-20	550	1.8 / 1.0	2900
CHI 4-30	800	2.4 / 1.4	2870
CHI 4-40	1080	3.2 / 1.8	2860
CHI 4-50	1330	4.0 / 2.3	2870
CHI 4-60	1630	4.8 / 2.7	2850



Dimensions and weights



Pump type	Dimensions [mm]		Net weight [kg]
	1-phase		
	B1	B2	
CHIU 4-20	245	142.5	20.3
CHIU 4-30	245	142.5	20.6
CHIU 4-40	—	—	20.9

Electrical data

1 x 220-240 V, 50 Hz

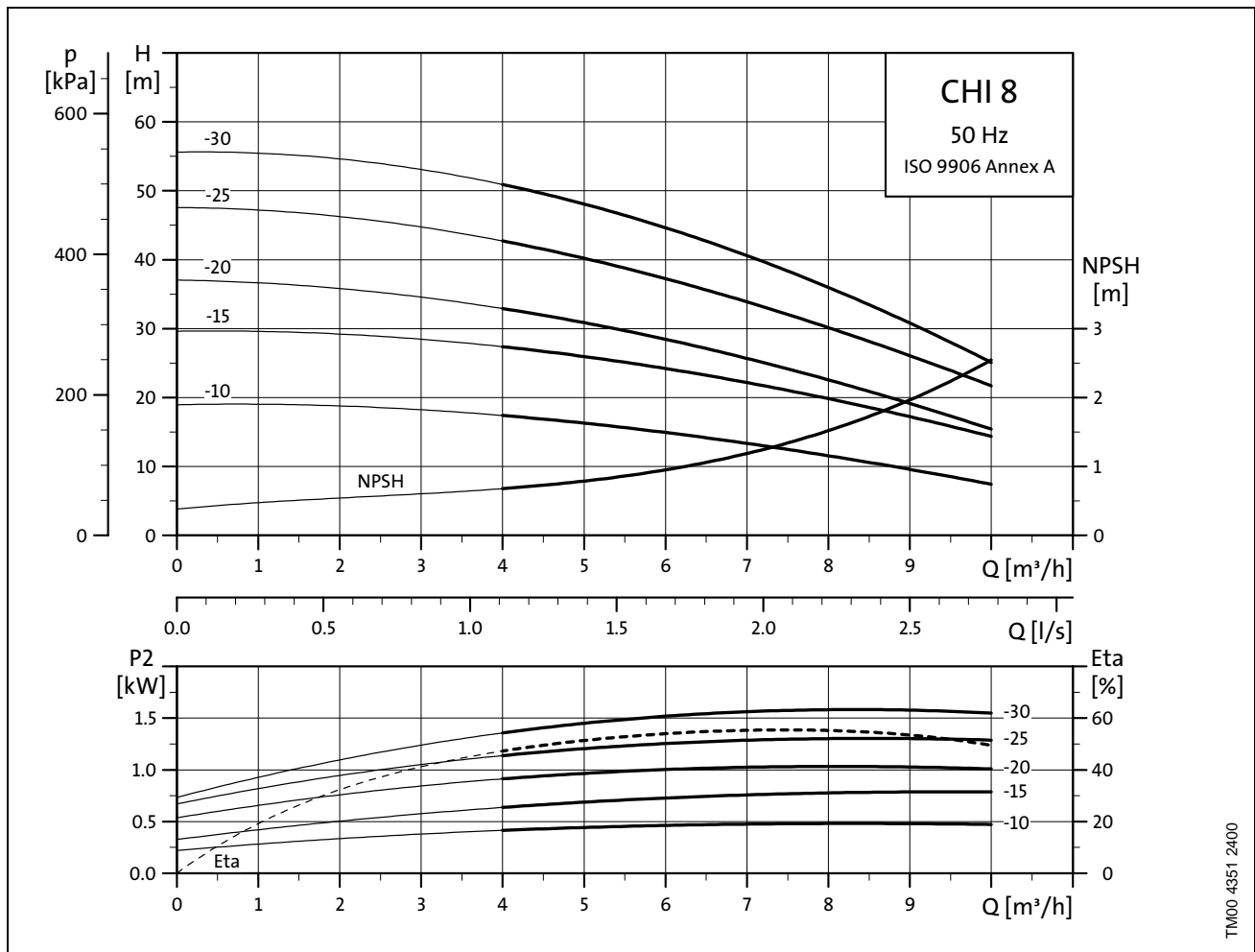
Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHIU 4-20	590	2.7 - 2.8	2900
CHIU 4-30	820	3.4 - 3.7	2900

3 x 220-240, 50 Hz

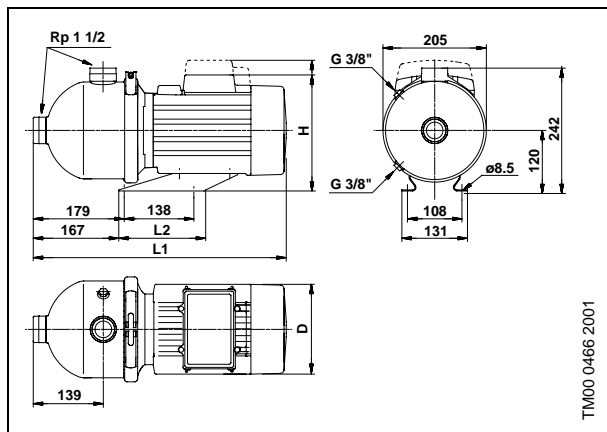
Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHIU 4-20	550	1.9	2900
CHIU 4-30	800	2.5	2900
CHIU 4-40	1080	3.3	2900

3 x 380-415 V, 50 Hz

Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHIU 4-20	550	1.1	2900
CHIU 4-30	800	1.5	2900
CHIU 4-40	1080	1.9	2900



Dimensions and weights



Pump type	Dimensions [mm]				Net weight [kg]
	L1	D	H		
			1-phase	3-phase	
CHI 8-10	397	142	229	229	10.5
CHI 8-15	437	142	229	229	12.1
CHI 8-20	437	142	229	229	13.7
CHI 8-25	500	142	259	229	14.3
CHI 8-30	500	178	259	230	21.4

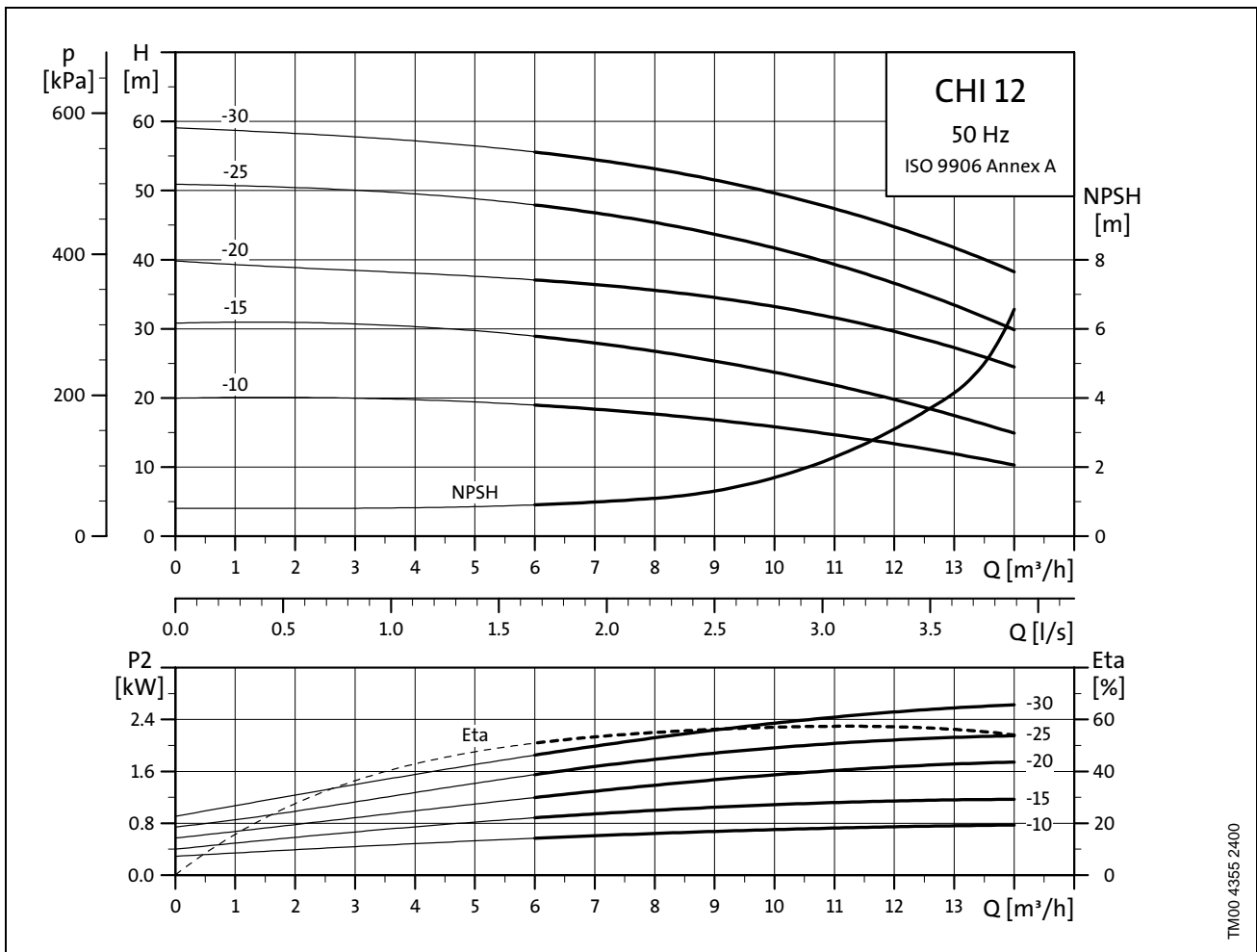
Electrical data

1 x 220-240 V, 50 Hz

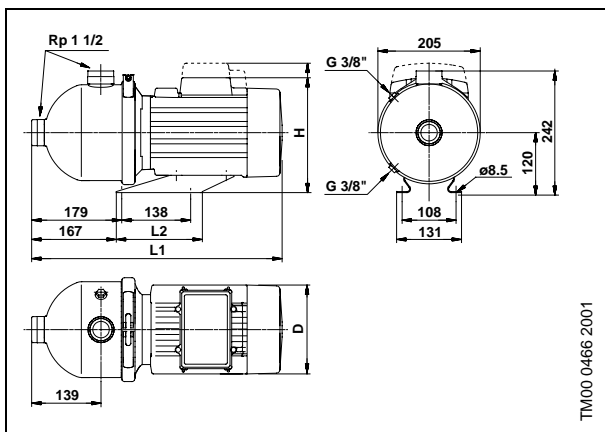
Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHI 8-10	730	3.1 - 3.2	2840
CHI 8-15	1040	4.9 - 4.5	2750
CHI 8-20	1350	6.2 - 6.2	2800
CHI 8-25	1860	8.6 - 8.3	2815
CHI 8-30	2230	10.6 - 9.2	2820

3 x 220-240/380-415 V, 50 Hz

Pump type	P ₁ [W]	I _{1/1} [A]	n [min ⁻¹]
CHI 8-10	720	2.4 / 1.4	2875
CHI 8-15	1090	3.3 / 1.9	2835
CHI 8-20	1370	5.3 / 3.1	2880
CHI 8-25	1730	5.8 / 3.4	2830
CHI 8-30	2080	6.5 / 3.7	2890



Dimensions and weights



Pump type	Dimensions [mm]				Net weight [kg]
	L1	D	H		
			1-phase	3-phase	
CHI 12-10	437	142	229	229	11.8
CHI 12-15	437	142	229	229	13.5
CHI 12-20	500	178	259	230	20.9
CHI 12-25	500	178	259	230	23.9
CHI 12-30	500	178	-	230	23.9

Electrical data

1 x 220-240 V, 50 Hz

Pump type	P_1 [W]	$I_{1/1}$ [A]	n [min^{-1}]
CHI 12-10	1170	5.5 - 4.9	2830
CHI 12-15	1600	7.5 - 6.9	2740
CHI 12-20	2310	10.9 - 10.1	2880
CHI 12-25	2800	13.7 - 12.4	2810

3 x 220-240/380-415 V, 50 Hz

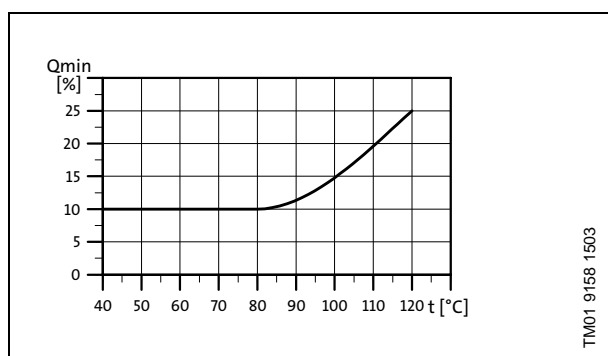
Pump type	P_1 [W]	$I_{1/1}$ [A]	n [min^{-1}]
CHI 12-10	1170	3.6 / 2.1	2860
CHI 12-15	1600	4.8 / 2.8	2820
CHI 12-20	2300	7.1 / 4.1	2900
CHI 12-25	2800	9.0 / 5.2	2890
CHI 12-30	3310	10.4 / 6.0	2900

Curve conditions

The guidelines below apply to the curves shown on the previous pages:

1. Tolerances to ISO 9906, Annex A, if indicated.
2. Measurements were made with airless water at a temperature of 20°C.
3. The curves apply to a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt).
4. The bold curves indicate the **recommended** performance range. The thin curves are only a **guide**.
5. Due to the risk of overheating, the pumps should **not** be used at a flow below the minimum flow rate.

The curve below shows the minimum flow rate as a percentage of the nominal flow rate in relation to the liquid temperature.



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Subject to alterations.