GRUNDFOS **PRODUCT GUIDE**

CH, CHN

Horizontal multistage end-suction pumps

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GRUNDFOS

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General description

Product description

The Grundfos CH and CHN pumps are non-self-priming, horizontal, multistage, centrifugal pumps.

Pump and motor are integrated in a compact and user-friendly design making the pumps suitable for installation in compact systems.

The pump is fitted with a maintenance-free, mechanical shaft seal and through-going pump-motor shaft.

- **CH:** Chambers as well as all moving parts in contact with the pumped liquid are made of stainless steel. Discharge chamber, suction chamber and base plate are made of cast iron/iron and painted non-gloss black.
- **CHN:** Discharge chamber, suction chamber, base plate as well as all parts in contact with the pumped liquid are made of stainless steel.

The motor is painted non-gloss black.

The pump is UL Listed to US and Canadian safety standards.

Applications

The CH and CHN pumps are designed for small domestic and industrial systems.

Applications include

- Liquid transfer and circulation of liquids within light industry and farming
- Pressure boosting in single-pump and multi-pump booster systems
- Domestic water supply
- Cooling systems
- Air-conditioning systems.

Pumped liquids

CH

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

CHN

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

Operating conditions

Liquid temperature range:	32°F to +176°F
Max. ambient temperature:	+131°F.

The maximum operating pressure depends on the temperature of the pumped liquid, see table:

Max. operating pressure	145 psi (10 bar)	87 psi (6 bar)
CH 2, CHN 2 CH 4, CHN 4	32°F to +104°F	+105°F to +176°F
CH 8 CH 12	32°F to +131°F	+132°F to +176°F

Min. inlet pressure:	According to the NPSH curve plus a safety margin of 2 feet.
Max. inlet pressure:	Limited by the max. operating pressure.

Pump

The CH, CHN pumps are non-self-priming, horizontal, multistage, centrifugal pumps with mechanical shaft seal and through-going pump-motor shaft. The pumps have axial suction port and radial discharge port and are mounted on a base plate. All movable parts in contact with the pumped liquid are made of stainless steel.

EPDM or FKM O-rings are available as standard.

For pipe connections, see the table:

Connections	CH 2, CHN 2	CH 4, CHN 4	CH 8	CH 12
Axial suction port	NPT 1	NPT 1¼	NPT 1½	NPT 1½
Radial discharge port	NPT 1	NPT 1	NPT 1¼	NPT 1½
Drain hole, priming hole	Rp 3/8	Rp 3/8	Rp ½	Rp ½

TM02 5939 4402.

Fig. 1 CH pump

General description

Motor

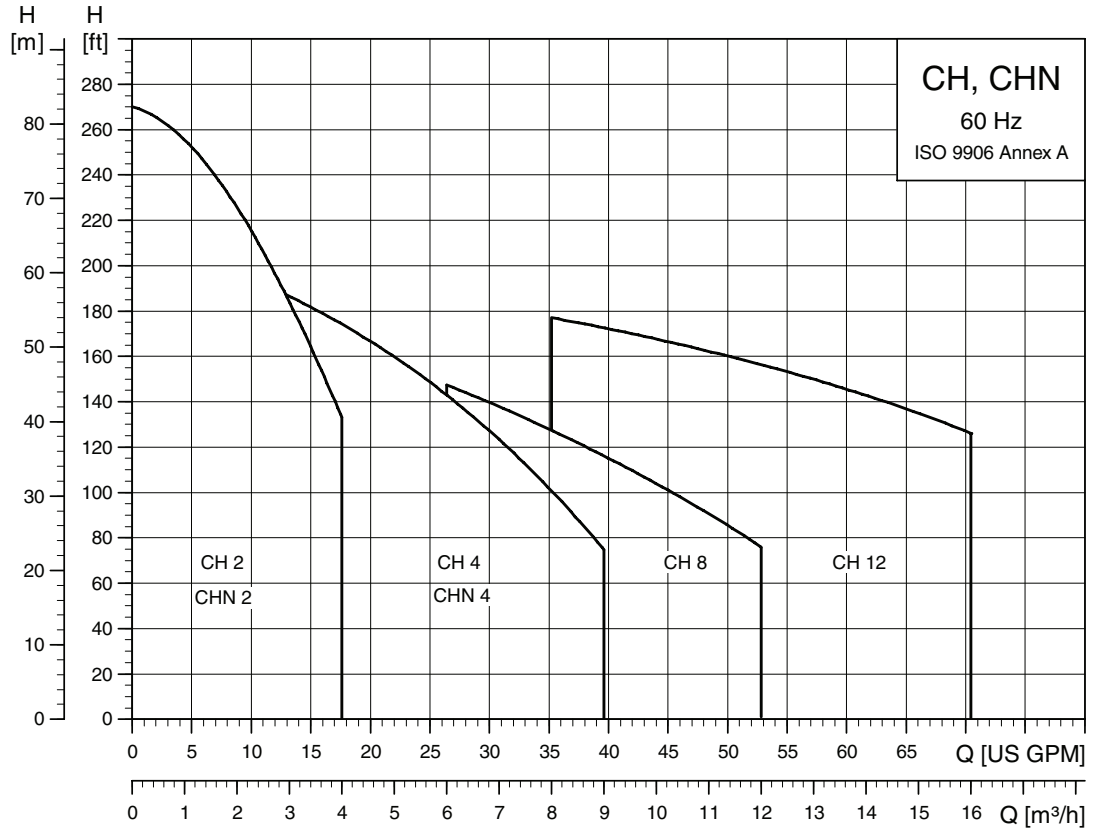
The pump is fitted with a totally enclosed, fan-cooled, squirrel-cage Grundfos motor.

Rated speed:	3500 min^{-1}
Enclosure class:	IP 54
Insulation class:	F
Standard voltages:	1 x 115-230 V, 3 x 208-230/460 3 x 575 V

Single-phase motors have built-in thermal overload protection. Three-phase motors must be connected to a motor starter according to local regulations.

Performance range

CH, CHN, 60 Hz



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Identification

Type key CH and CHN

Example	CH(N)	4	-30	A	-B	-A	-AQQE

Type range

Rated flow rate in m^3/h

Code for impellers

Code for pump version

Code for pipe connection

Code for materials, excluding plastic and rubber parts

Code for shaft seal*

Codes for Impeller:

Pump type	ø90 [mm]	ø95 [mm]	ø98 [mm]	ø130 [mm]
CH 2-30	3			
CH 2-40	4			
CH 2-50	5			
CH 2-60	6			
CH 4-20		2		
CH 4-30		3		
CH 4-40		4		
CH 4-50		5		
CH 8-20				1
CH 8-25			2	
CH 8-30			1	1
CH 8-40				2
CH 12-10			1	
CH 12-20				1
CH 12-30			1	1

Codes for physical dimensions:

B : NPT pipe connection
N : Different connection diameters
W : Whitworth thread, R_p ISO 7/1

Codes for materials:

A : Basic version
I : Stainless materials
X : Special version.

Codes for Shaft seal:

A : O-ring seal with fixed driver
Q : Silicon carbide
E : EPDM
U: *Tungsten carbide
V : FKM
* Only available as non-standard

CH, CHN 2-50

Sectional drawings

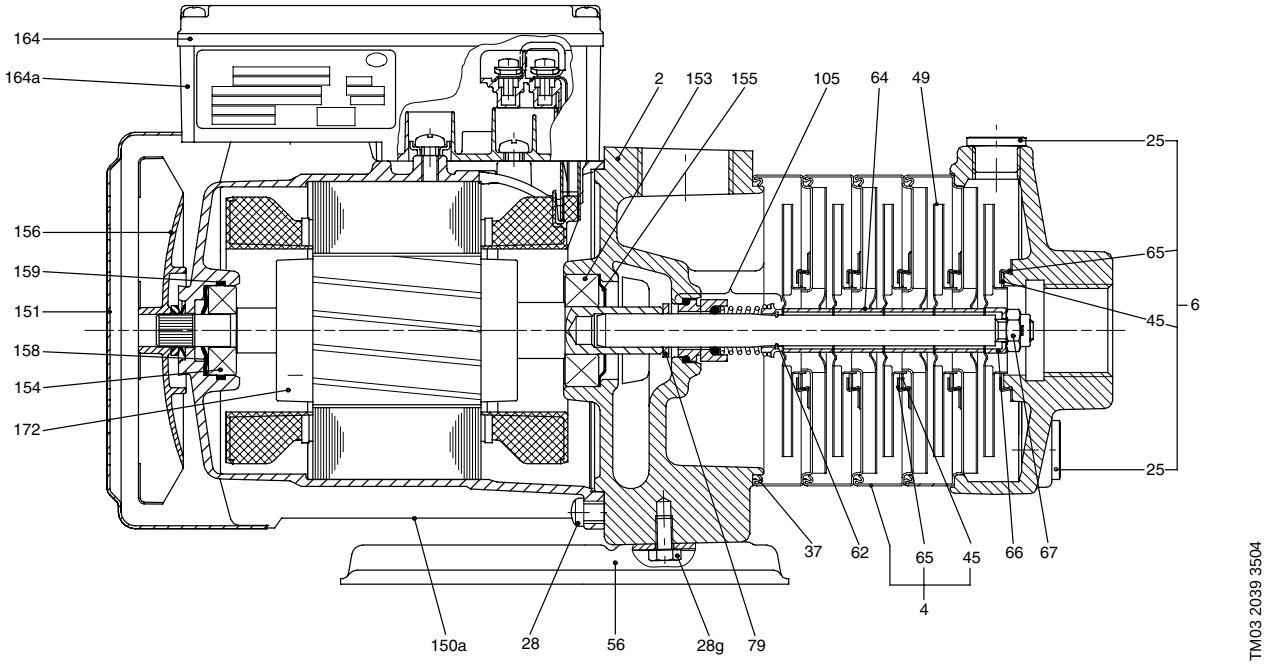


Fig. 2 CH, CHN 2-50 with ML 71 motor

Components

Pos.	Component
2	Discharge chamber
4	Chamber
6	Suction chamber
25	Plug
28	Screw
28g	Hexagon head screw
37	Gasket
45	Neck ring
49	Impeller

Pos.	Component
56	Base plate
62	Stop ring
64	Spacing pipe
65	Retainer for neck ring
66	Clamp
67	Lock nut
79	Diverting disc
105	Shaft seal
150a	Stator housing

Pos.	Component
151	Fan cover
153,154	Ball bearing
155	Bearing cover plate
156	Fan
158	Corrugated spring
159	O-ring
164	Terminal box cover
164a	Terminal box
172	Shaft

CH, CHN 4-60

Sectional drawing

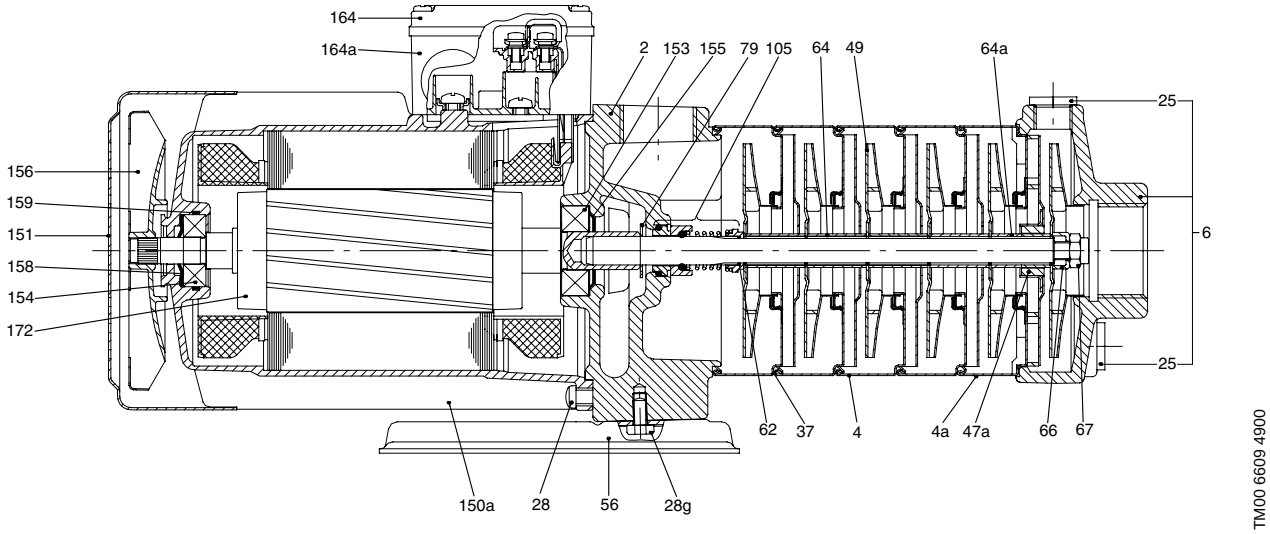


Fig. 3 CH, CHN 4-60 with ML 80 motor

Components

Pos.	Component
2	Discharge chamber
4	Chamber
4a	Chamber with bearing
6	Suction chamber
25	Plug
28	Screw
28g	Hexagon head screw
37	Gasket
47a	Bearing
49	Impeller

Pos.	Component
56	Base plate
62	Stop ring
64	Spacing pipe
64a	Spacing pipe
66	Clamp
67	Lock nut
79	Diverting disc
105	Shaft seal
150a	Stator housing
151	Fan cover

Pos.	Component
153,154	Ball bearing
155	Bearing cover plate
156	Fan
158	Corrugated spring
159	O-ring
164	Terminal box cover
164a	Terminal box
172	Shaft

CH 8-50

Sectional drawing

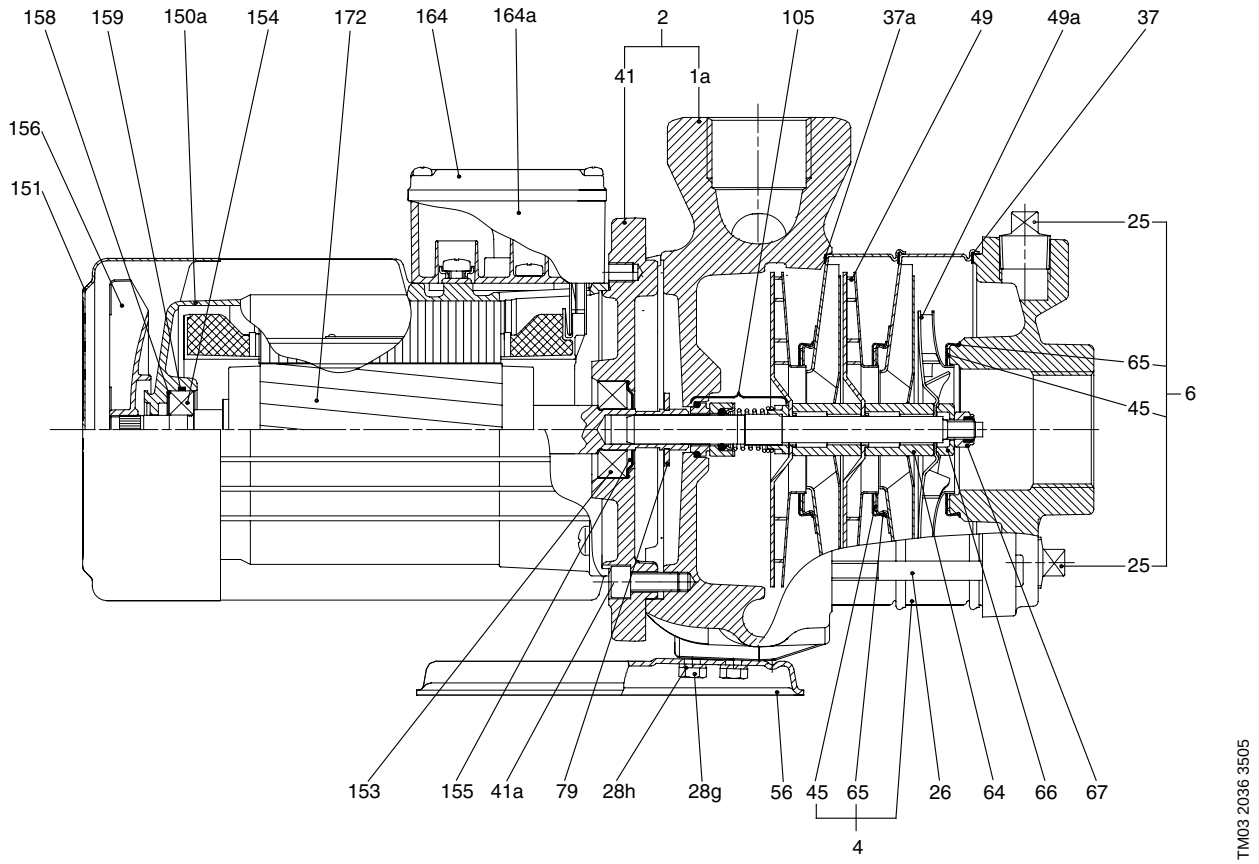


Fig. 4 CH 8-50 with ML 80 motor

Components

Pos.	Component
1a	Pump housing
4	Chamber
6	Suction chamber
25	Plug
26	Staybolt
28	Screw
28g	Hexagon head screw
28h	Serrated lock washer
37	Gasket
37a	Gasket
41	Bearing plate

Pos.	Component
45	Neck ring
49	Impeller
49a	Impeller
56	Base plate
64	Spacing pipe
65	Retainer for neck ring
66	Clamp
67	Lock nut
79	Diverting disc
105	Shaft seal
150a	Stator housing

Pos.	Component
151	Fan cover
153,154	Ball bearing
155	Bearing cover plate
156	Fan
158	Corrugated spring
159	O-ring
164	Terminal box cover
164a	Terminal box
172	Shaft

CH 12-50

Sectional drawing

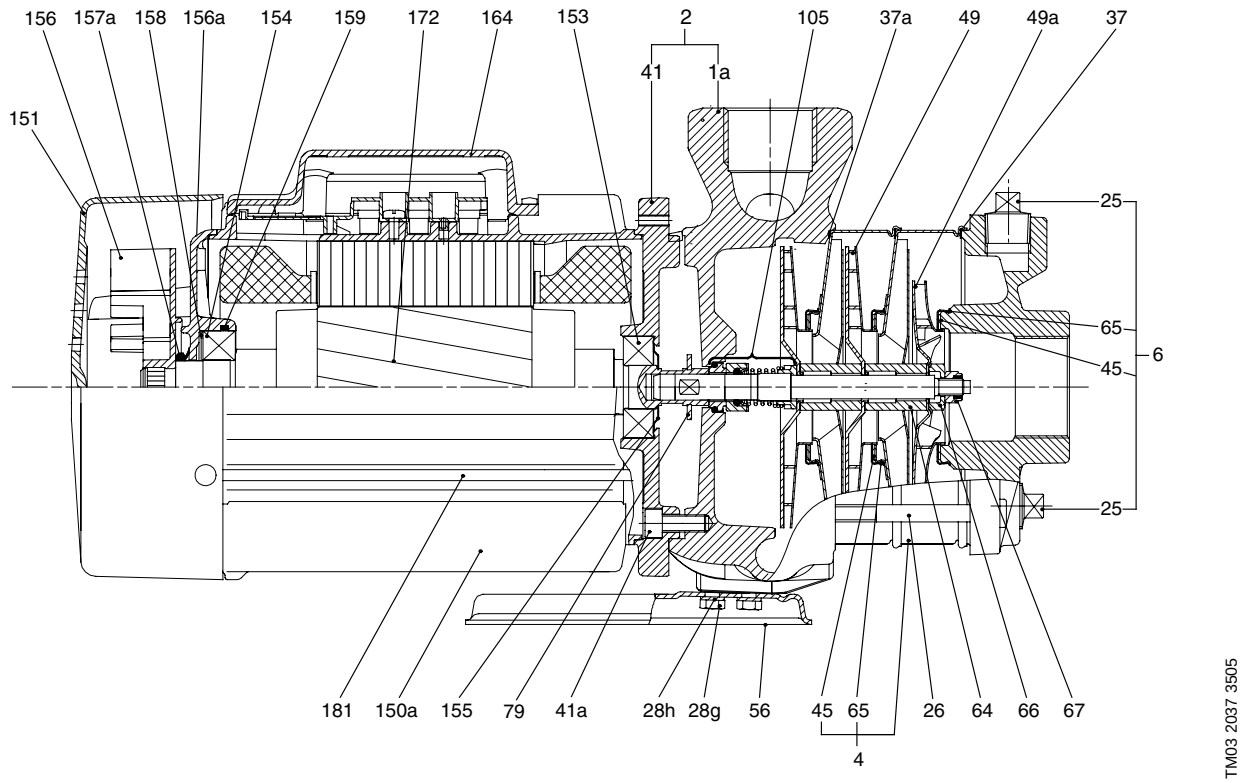


Fig. 5 CH 12-50 with ML 90 motor

Components

Pos.	Component
1a	Pump housing
4	Chamber
6	Suction chamber
25	Plug
26	Staybolt
28	Screw
28g	Hexagon head screw
28h	Serrated lock washer
37	Gasket
37a	Gasket
41	Bearing plate

Pos.	Component
45	Neck ring
49	Impeller
49a	Impeller
56	Base plate
64	Spacing pipe
65	Retainer for neck ring
66	Clamp
67	Lock nut
79	Diverting disc
105	Shaft seal
150a	Stator housing

Pos.	Component
151	Fan cover
153,154	Ball bearing
155	Bearing cover plate
156	Fan
156a	Non-drive end shield
157a	Lip seal
158	Corrugated spring
159	O-ring
164	Terminal box cover
172	Shaft
181	Staybolt

Material specification

Pos.	Description	Material	CH		CHN	
			DIN W.-Nr.	ISO/AISI/ASTM	DIN W.-Nr.	ISO/AISI/ASTM
105	Shaft seal					
Motor parts						
62	Stop ring	Stainless steel	1.4401	AISI 316	1.4401	AISI 316
150	Stator housing complete with terminal box	Silumin/composite (ML 71 and ML 80) Silumin (ML 90)				
150a	Stator housing	Silumin/composite (ML 71 and ML 80) Silumin (ML 90)				
151	Fan cover	Steel (ML 71 and ML 80) Composite PBT/PC (ML 90)	1.0330.3		1.0330.3	
153, 154	Ball bearing					
155	Bearing cover plate	Stainless steel	1.4301	AISI 304	1.4301	AISI 304
156	Fan	Composite PA 66 30% GF				
156a	Non-drive end shield (ML 90)	Silumin				
157a	Lip seal (ML 90)					
158	Corrugated spring					
159	O-ring	NBR rubber				
159a	Gasket					
164	Terminal box cover					
164a	Terminal box					
172	Shaft: pump Shaft: motor	Stainless steel Steel	1.4057 1.0531	AISI 431	1.4057 1.0531	AISI 431
172a	Shaft, complete	Stainless steel/steel	1.4057/ 1.0531	AISI 431	1.4057 1.0531	AISI 431
181	Staybolt (only ML 90)	Steel				
Pump parts						
1a	Pump housing	Cast iron/stainless steel	0.6020	ASTM 30 B	1.4308	CF 8[1)]
2	Discharge chamber	Cast iron/stainless steel	0.6020	ASTM 30 B	1.4308	CF 8[1)]
4	Chamber	Stainless steel	1.4301	AISI 304	1.4301	AISI 304
4a	Chamber with bearing (CH 4)	Stainless steel + aluminium oxide Al_2O_3 (ceramic)	1.4301	AISI 304	1.4301	AISI 304
6	Suction chamber, compl.	Cast iron/stainless steel	0.6020	ASTM 30 B	1.4308	CF 8[1)]
25	Plug	Free-cutting steel/stainless steel	1.0718		1.4301	AISI 304
26	Staybolt	Galvanized steel				
28	Screw					
28g	Hexagon head screw					
28h	Serrated lock washer					
37, 37a	Gasket	Synthetic-fibre-reinforced rubber (NBR)				
41	Bearing plate	Cast iron/stainless steel	0.6020	ASTM 30 B	1.4308	CF 8[1)]
45	Neck ring	PTFE				
47a	Bearing (shaft) (CH 4-60)	Chromium-nickel-molybdenum-cemented tungsten carbide				
49	Impeller CH 8 and 12: ø130 CH, CHN 4: ø95 CH, CHN 2: ø90	Stainless steel	1.4301	AISI 304	1.4301	AISI 304
49a	Impeller CH 8 and 12: ø98	Stainless steel	1.4301	AISI 304	1.4301	AISI 304
56	Base plate	Iron/stainless steel	1.0330.3		1.4301	AISI 304
64, 64a	Spacing pipe	Stainless steel	1.4401	AISI 316	1.4401	AISI 316
65	Retainer for neck ring	Stainless steel	1.4301	AISI 304	1.4301	AISI 304
66	Clamp	Stainless steel	1.4401	AISI 316	1.4401	AISI 316
67	Lock nut	Stainless steel	1.4301	AISI 304	1.4301	AISI 304
79	Diverting disc	NR rubber				

1) CF 8 is cast equivalent of AISI 304 stainless steel

Curve conditions

The guidelines below apply to the curves on the following pages:

- Tolerances according to ISO 9906, Annex A.
- The **bold** curves state the **recommended** performance range.
- The thin curves are only intended as a guide.
- The curves must not be used as guarantee curves.
- All curves are based on measurements at:
- 1 x 220 V, 60 Hz
- 3 x 380 V, 60 Hz.
- When the motor is running at the lowest or highest rated voltage, the pump performance will usually vary by ±1.5 - 3 feet at a given duty point.
- Specific minimum performance requirements necessitate individual measurements.
- The measurements have been made with airless water at a temperature of 70°F (~20°C).

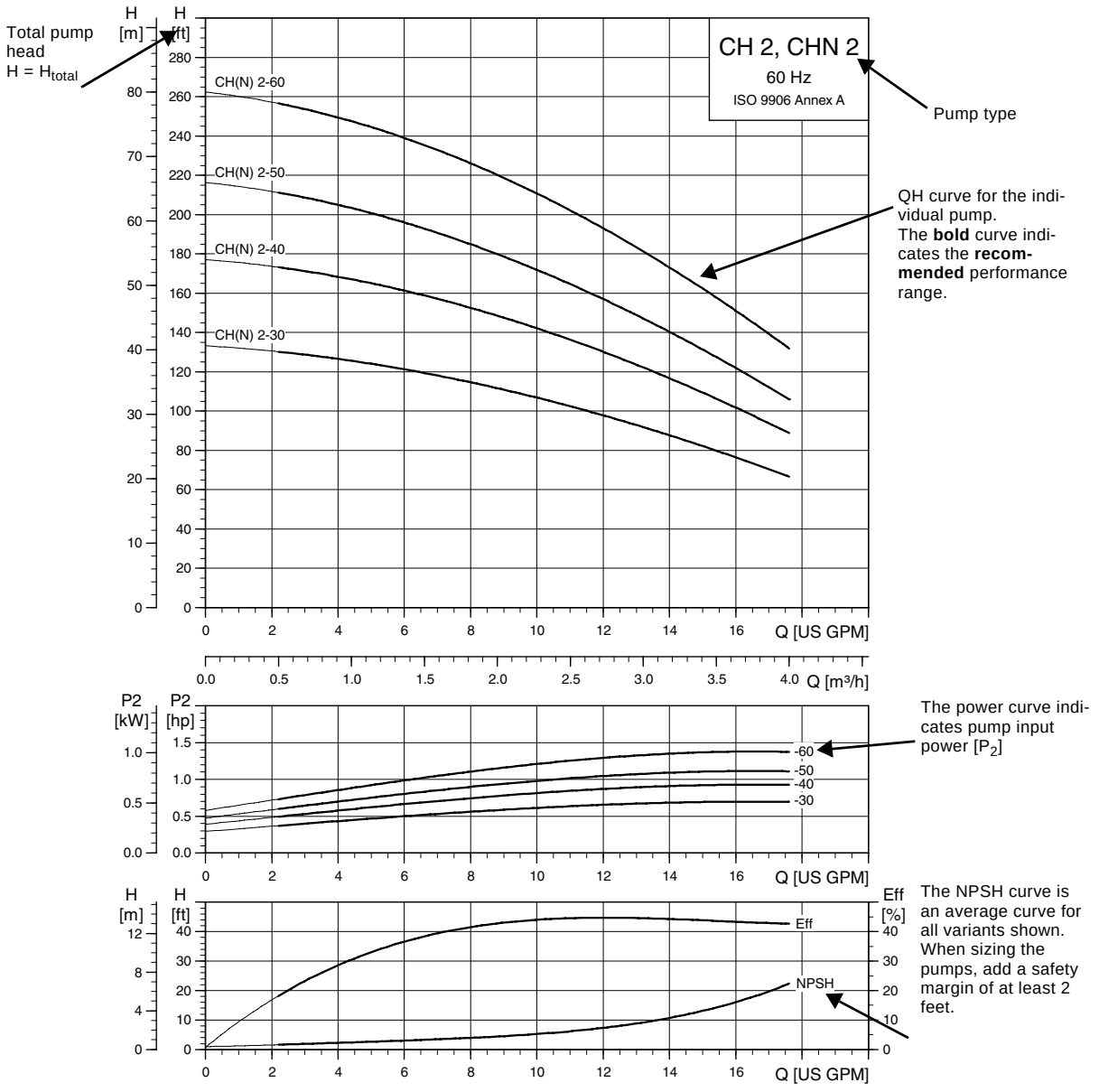
The curves apply to a kinematic viscosity of
υ = 1 mm²/s (1 cSt)

Curve conditions

How to read the curve charts

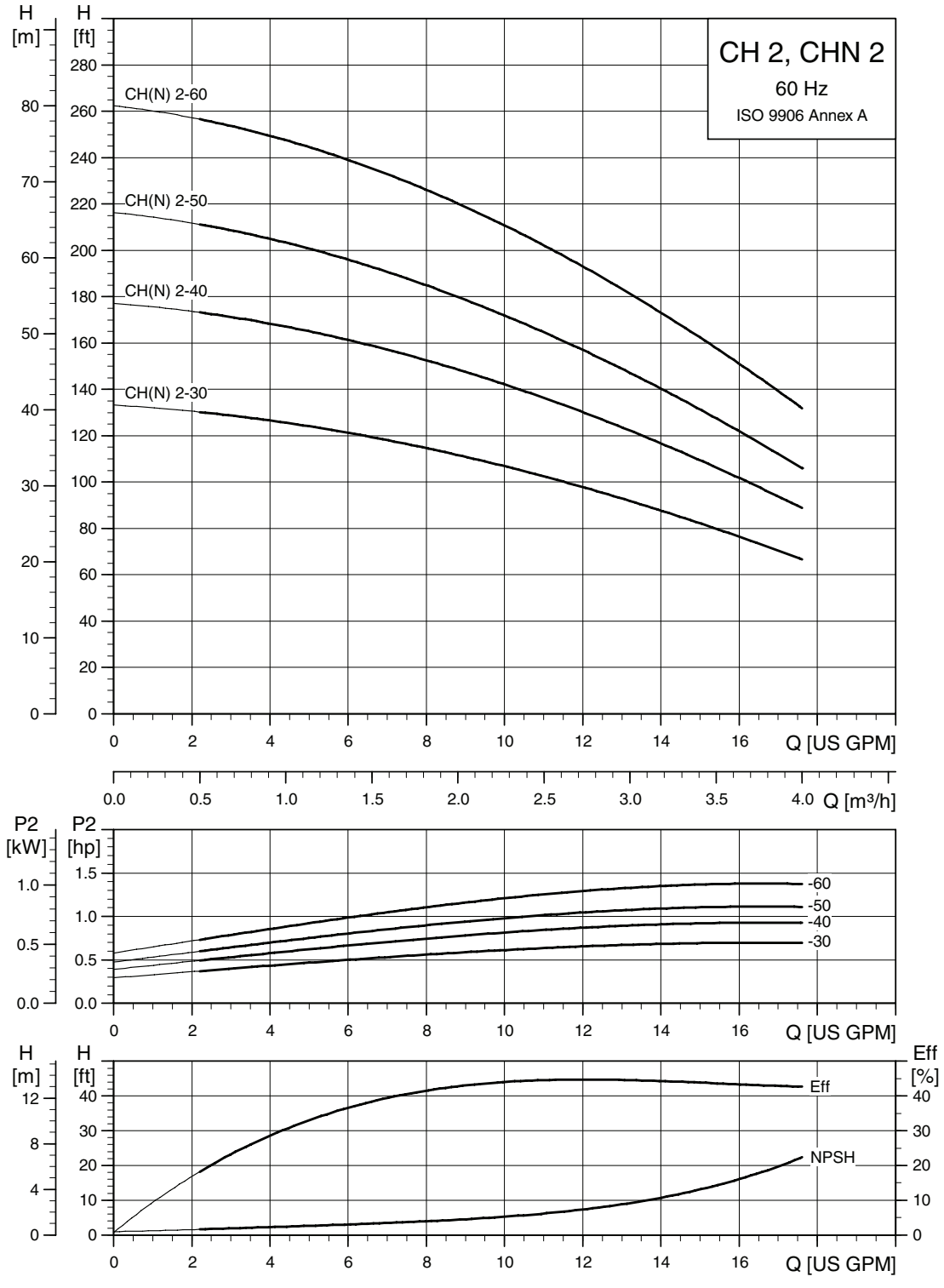
Curves

QH:	Pump performance at actual speed.
P_2:	Pump input, i.e. pump without motor.
Eff:	Total efficiency, i.e. pump with motor, is shown in the curve charts as Eff.
NPSH:	Average values for all variants shown in chart 1. When sizing, make a safety allowance of at least 2 feet.



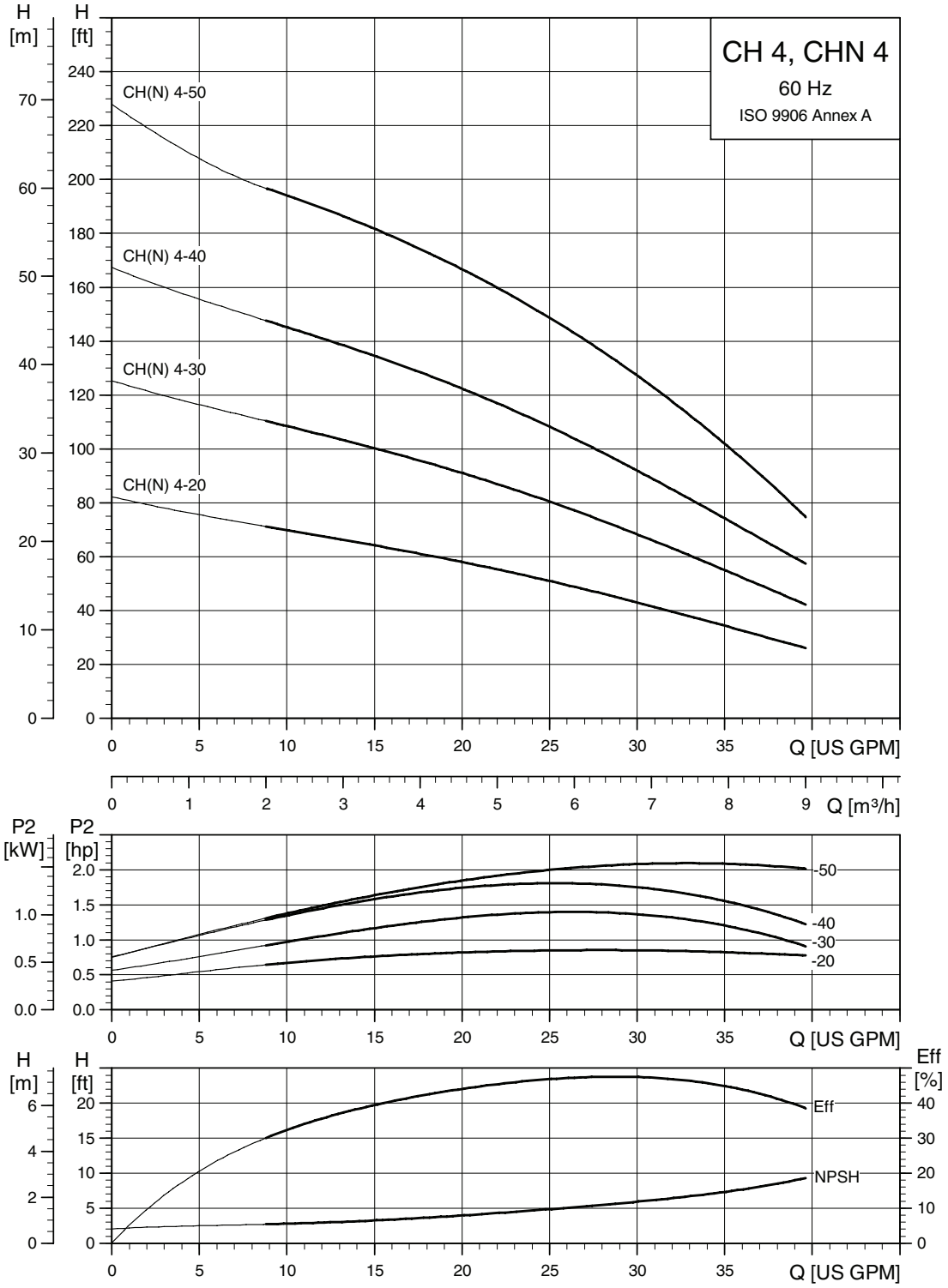
Performance curves

CH 2, CHN 2



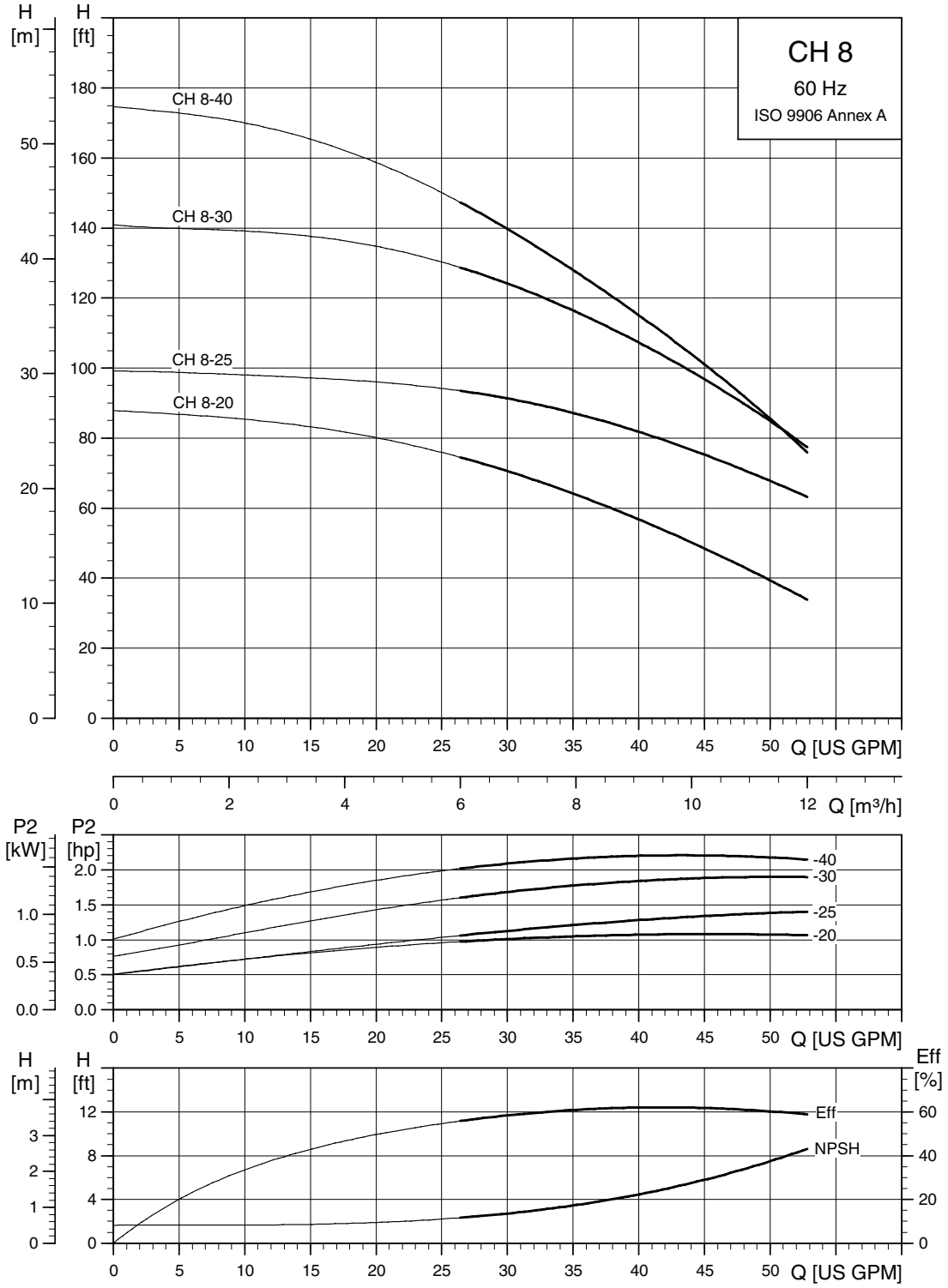
Performance curves

CH 4, CHN 4



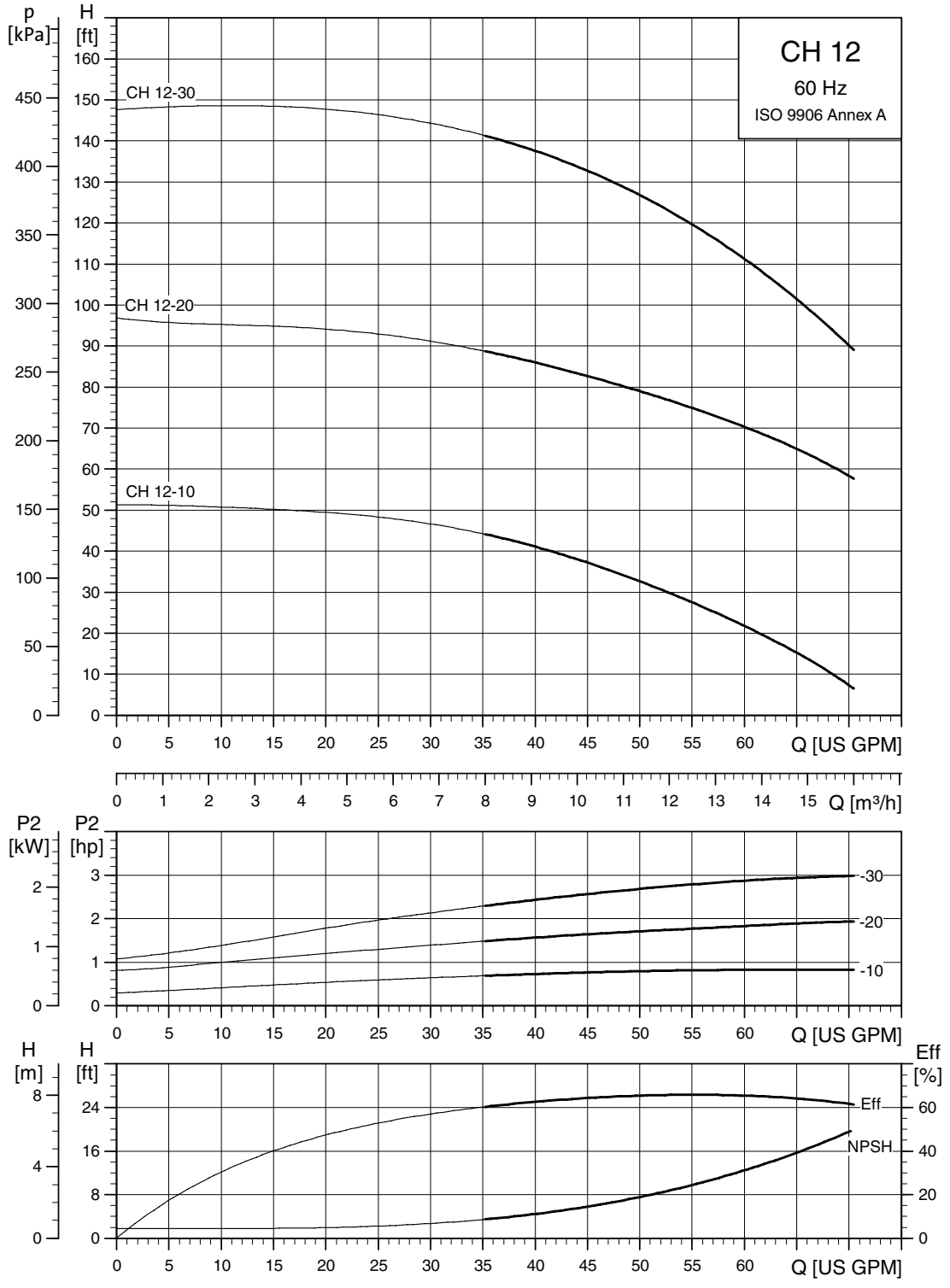
Performance curves

CH 8



Performance curves

CH 12



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CH, CHN

$I_{1/1}$ indicates maximum rated current within the voltage range.

I_{st} indicates maximum locked rotor current within the voltage range.

CH, CHN 2

Voltage [V]	Frequency [Hz]	Pump type	Motor type	SF	$I_{1/1}$ [A]	I_{st} [A]	Motor P_2 [HP]	C [µF/V]
3 x 208-230/440-480	60	CH, CHN 2-30	ML 71	1.70	2.90/1.45	15.7	0.50	
		CH, CHN 2-40	ML 71	1.70	4.0/2.10	20.7	0.75	
		CH, CHN 2-50	ML 71	1.70	4.0/2.10	20.7	0.75	
		CH, CHN 2-60	ML 80	1.60	5.20/2.60	32.0	1.00	
1 x 115/230	60	CH, CHN 2-30	ML 71	1.60	9.00/4.50	24.9	0.50	40/400
		CH, CHN 2-40	ML 80	1.50	11.5/5.70	34.0	0.75	40/400
		CH, CHN 2-50	ML 80	1.50	11.5/5.70	34.0	0.75	40/400
		CH, CHN 2-60	ML 80	1.50	15.0/7.50	48.0	1.00	50/400
3 x 575 (Canada)	60	CH, CHN 2-30	ML 71	1.70	1.16	15.7	0.50	
		CH, CHN 2-40	ML 71	1.70	1.68	8.0	0.75	
		CH, CHN 2-50	ML 71	1.70	1.68	8.0	0.75	
		CH, CHN 2-60	ML 80	1.60	2.08	11.2	1.00	

CH, CHN 4

Voltage [V]	Frequency [Hz]	Pump type	Motor type	SF	$I_{1/1}$ [A]	I_{st} [A]	Motor P_2 [HP]	C [µF/V]
3 x 208-230/440-480	60	CH, CHN 4-20	ML 71	1.70	2.90/1.45	15.7	0.50	
		CH, CHN 4-30	ML 71	1.70	4.0/2.10	20.7	0.75	
		CH, CHN 4-40	ML 80	1.60	5.20/2.60	33.9	1.00	
		CH, CHN 4-50	ML 80	1.47	6.90/3.50	42.0	1.50	
1 x 115/230	60	CH, CHN 4-20	ML 71	1.60	9.00/4.50	24.9	0.50	40/400
		CH, CHN 4-30	ML 71	1.50	11.5/5.70	34.0	0.75	40/400
		CH, CHN 4-40	ML 80	1.50	15.0/7.50	33.9	1.00	50/400
		CH, CHN 4-50	ML 90	1.40	21.5/10.7	33.9	1.50	60/400
3 x 575 (Canada)	60	CH, CHN 4-20	ML 71	1.70	1.16	5.1	0.50	
		CH, CHN 4-30	ML 71	1.70	1.68	8.0	0.75	
		CH, CHN 4-40	ML 80	1.60	2.08	11.2	1.00	
		CH, CHN 4-50	ML 80	1.47	2.80	15.3	1.50	

CH 8

Voltage [V]	Frequency [Hz]	Pump type	Motor type	SF	$I_{1/1}$ [A]	I_{st} [A]	Motor P_2 [HP]	C [µF/V]
3 x 208-230/440-480	60	CH 8-20	ML 71	1.70	4.0/2.10	15.6	0.75	
		CH 8-25	ML 80	1.60	5.20/2.60	20.4	1.00	
		CH 8-30	ML 80	1.47	6.90/3.50	32.0	1.50	
		CH 8-40	ML 80	1.47	6.90/3.50	32.0	1.50	
1 x 115/230	60	CH 8-20	ML 80	1.50	11.5/5.70	34.0	0.75	40/400
		CH 8-25	ML 80	1.50	15.0/7.50	48.0	1.00	50/400
		CH 8-30	ML 90	1.40	21.5/10.7	83.0	1.50	60/400
		CH 8-40	ML 90	1.40	21.4/10.6	32.0	1.50	60/400
3 x 575 (Canada)	60	CH 8-20	ML 71	1.70	1.68	8.0	0.50	
		CH 8-25	ML 80	1.60	2.08	11.2	1.00	
		CH 8-30	ML 80	1.47	2.80	15.3	1.50	
		CH 8-40	ML 80	1.47	2.80	15.3	1.50	

Electrical data

CH 12

Voltage [V]	Frequency [Hz]	Pump type	Motor type	SF	$I_{1/1}$ [A]	I_{st} [A]	Motor P_2 [HP]	C [µF/V]
3 x 208-230/440-480	60	CH 12-10	ML 71	1.70	2.90/1.45	15.7	0.50	
		CH 12-20	ML 80	1.47	6.90/3.50	32.0	1.50	
		CH 12-30	ML 90	1.50	9.10/4.75	46.0	2.00	
1 x 115/230	60	CH 12-10	ML 71	1.60	9.00/4.50	24.9	0.50	40/400
		CH 12-20	ML 90	1.40	21.5/10.7	83.0	1.50	60/400
3 x 575 (Canada)	60	CH 12-10	ML 71	1.70	1.16	5.1	0.50	
		CH 12-20	ML 80	1.47	2.80	15.3	1.50	
		CH 12-30	ML 90	1.50	3.80	28.0	2.00	

Dimensions

CH, CHN 2 and 4 with ML 71/80 motor

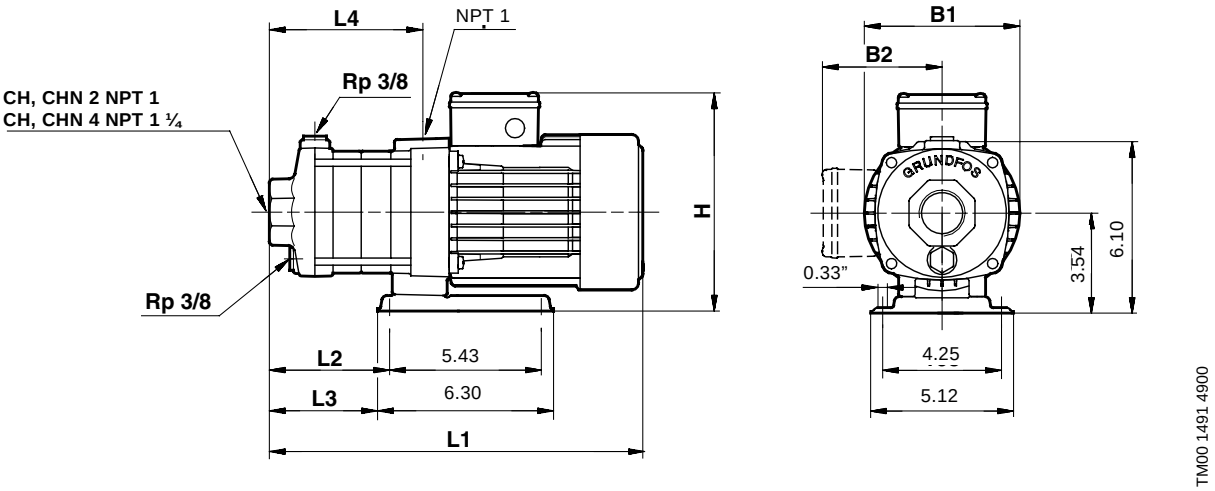


Fig. 6 Dimensional sketches CH, CHN 2 and 4 with ML 71/80 motor

CH, CHN 2

Voltage [V]	Frequency [Hz]	Pump type	Motor type	L1 [Inch]	L2 [Inch]	L3 [Inch]	L4 [Inch]	B1 [Inch]	B2 [Inch]	H [Inch]
3 x 208-230/440-480	60	CH, CHN 2-30	ML 71	12.68	3.62	3.19	4.61	5.75	4.33	7.87
		CH, CHN 2-40	ML 71	15.04	4.33	3.90	5.32	5.75	4.33	7.87
		CH, CHN 2-50	ML 71	15.75	5.04	4.61	6.06	5.75	4.33	7.87
		CH, CHN 2-60	ML 80	16.42	5.75	5.32	6.77	5.57	4.53	7.87
1 x 115/230	60	CH, CHN 2-30	ML 71	12.68	3.62	3.19	4.61	5.75	5.71	8.90
		CH, CHN 2-40	ML 80	15.00	4.33	3.90	5.32	5.57	5.71	8.90
		CH, CHN 2-50	ML 80	15.71	5.04	4.61	6.06	5.57	5.71	8.90
		CH, CHN 2-60	ML 90	16.38	5.75	5.32	6.77	5.57	5.71	8.90
3 x 575 (Canada)	60	CH, CHN 2-30	ML 71	12.68	3.62	3.19	4.61	5.75	4.33	8.86
		CH, CHN 2-40	ML 71	15.04	4.33	3.90	5.32	5.75	4.33	8.86
		CH, CHN 2-50	ML 71	15.75	5.04	4.61	6.06	5.75	4.33	8.86
		CH, CHN 2-60	ML 80	16.42	5.75	5.32	6.77	5.57	4.53	8.86

CH, CHN 4

Voltage [V]	Frequency [Hz]	Pump type	Motor type	L1 [Inch]	L2 [Inch]	L3 [Inch]	L4 [Inch]	B1 [Inch]	B2 [Inch]	H [Inch]
3 x 208-230/440-480	60	CH, CHN 4-20	ML 71	12.36	3.27	2.84	4.25	5.75	4.33	7.87
		CH, CHN 4-30	ML 71	15.04	4.33	3.90	5.32	5.75	4.33	7.87
		CH, CHN 4-40	ML 80	16.18	5.39	4.96	6.42	5.57	4.53	7.87
		CH, CHN 4-50	ML 80	17.28	6.46	6.02	7.48	5.57	4.53	7.87
1 x 115/230	60	CH, CHN 4-20	ML 71	12.36	3.27	2.84	4.25	5.75	4.33	8.90
		CH, CHN 4-30	ML 71	13.47	3.27	2.84	4.25	5.75	5.71	8.90
		CH, CHN 4-40	ML 80	16.18	4.33	3.90	5.32	5.57	5.71	8.90
		CH, CHN 4-50	ML 80	17.28	5.39	4.96	6.42	5.57	5.71	8.90
3 x 575 (Canada)	60	CH, CHN 4-20	ML 71	12.36	3.27	2.84	4.25	5.75	4.33	7.87
		CH, CHN 4-30	ML 71	13.47	3.27	2.84	4.25	5.75	4.33	7.87
		CH, CHN 4-40	ML 71	14.57	4.33	3.90	5.32	5.75	4.33	7.87
		CH, CHN 4-50	ML 80	17.28	5.39	4.96	6.42	5.57	4.53	7.87

Dimensions and weights

CH 8 and 12 with ML 71/80 motor

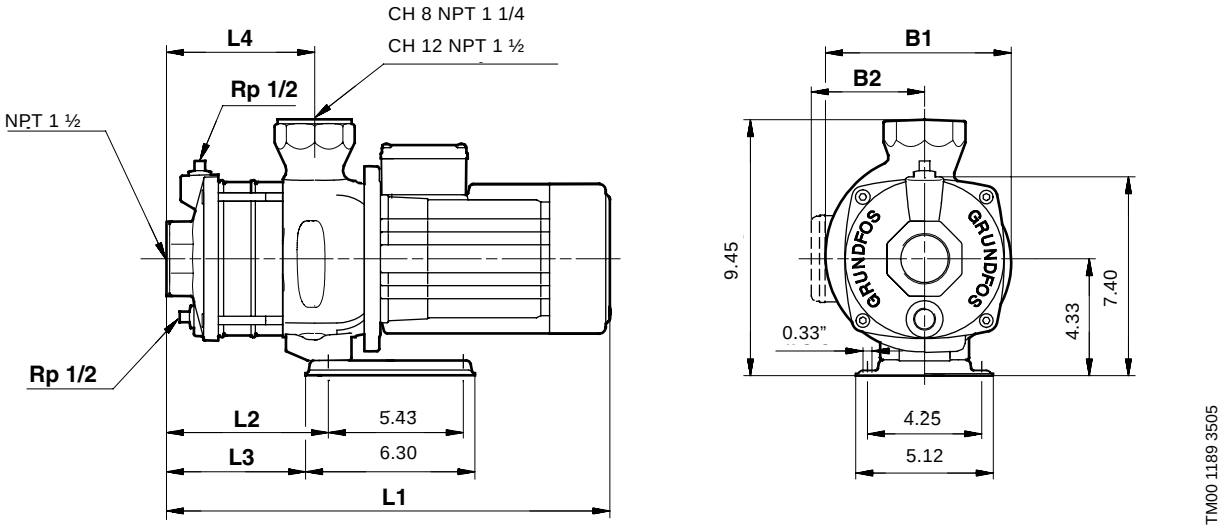


Fig. 7 Dimensional sketches CH, CHN 8and 12 with ML 71/80 motors

CH 8

Voltage [V]	Frequency [Hz]	Pump type	Motor type	L1 [Inch]	L2 [Inch]	L3 [Inch]	L4 [Inch]	B1 [Inch]	B2 [Inch]	H [Inch]
3 x 208-230/440-480	60	CH 8-20	ML 71	12.24	2.72	2.28	3.03	6.97	4.29	7.87
		CH 8-25	ML 80	15.00	3.90	3.47	4.21	6.97	4.29	7.87
		CH 8-30	ML 80	15.00	3.90	3.47	4.21	6.97	4.29	7.87
		CH 8-40	ML 80	15.00	3.90	3.47	4.21	6.97	4.29	7.87
1 x 115/230	60	CH 8-20	ML 80	13.82	2.72	2.28	3.03	6.97	4.88	8.90
		CH 8-25	ML 80	15.00	3.90	3.47	4.21	6.97	4.88	8.90
3 x 575 (Canada)	60	CH 8-20	ML 71	12.24	2.72	2.28	3.03	6.97	4.29	9.45
		CH 8-25	ML 80	15.00	3.90	3.47	4.21	6.97	4.29	9.45
		CH 8-30	ML 80	15.00	3.90	3.47	4.21	6.97	4.29	9.45
		CH 8-40	ML 80	15.00	3.90	3.47	4.21	6.97	4.29	9.45

CH 12

Voltage [V]	Frequency [Hz]	Pump type	Motor type	L1 [Inch]	L2 [Inch]	L3 [Inch]	L4 [Inch]	B1 [Inch]	B2 [Inch]	H [Inch]
3 x 208-230/440-480	60	CH 12-10	ML 71	12.24	2.72	2.28	3.03	6.97	4.29	9.45
		CH 12-20	ML 80	13.82	2.72	2.28	3.03	6.97	4.29	9.45
1 x 115/230	60	CH 12-10	ML 71	12.24	2.72	2.28	3.03	6.97		8.90
3 x 575 (Canada)	60	CH 12-10	ML 71	12.24	2.72	2.28	3.03	6.97	4.29	9.45
		CH 12-20	ML 80	13.82	2.72	2.28	3.03	6.97	4.29	9.45

Dimensions and weights

CH 8 and 12 with ML 90 motor

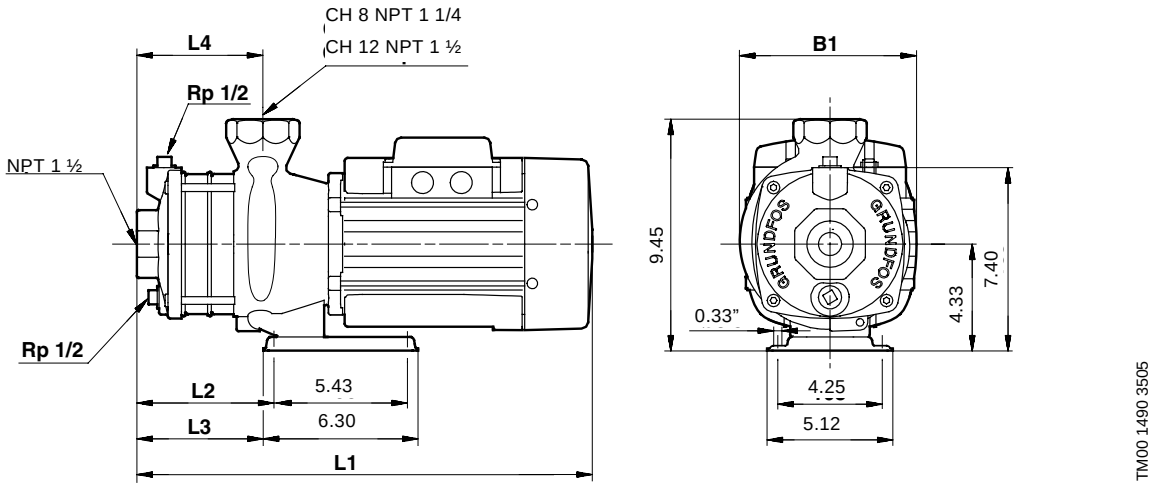


Fig. 8 Dimensional sketches CH, CHN 8 and 12 with ML 90 motor

CH 8

Voltage [V]	Frequency [Hz]	Pump type	Motor type	L1 [Inch]	L2 [Inch]	L3 [Inch]	L4 [Inch]	B1 [Inch]	B2 [Inch]	H [Inch]
1 x 115/230	60	CH 8-30	ML 90	16.89	3.90	3.47	4.21	7.52	5.20	8.66
		CH 8-40	ML 90	16.89	3.90	3.47	4.21	7.52	5.20	8.66

CH 12

Voltage [V]	Frequency [Hz]	Pump type	Motor type	L1 [Inch]	L2 [Inch]	L3 [Inch]	L4 [Inch]	B1 [Inch]	B2 [Inch]	H [Inch]
3 x 208-230/440-480	60	CH 12-30	ML 90	16.89	3.90	3.47	4.21	7.32	4.88	8.66
1 x 115/230	60	CH 12-20	ML 90	15.71	2.72	2.28	3.03	7.52	5.20	8.66
3 x 575 (Canada)	60	CH 12-30	ML 90	16.89	3.90	3.47	4.21	7.32	4.88	8.66

Dimensions and weights

Weights

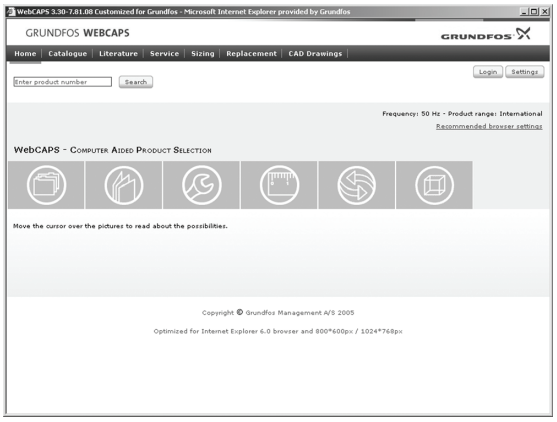
CH, CHN, single-phase

Pump type	60 Hz		
	Net weight [lbs]	Gross weight [lbs]	Shipping volume [ft³]
CH, CHN 2-20	28	30	0.66
CH, CHN 2-30	28	30	0.66
CH, CHN 2-40	29	30	0.83
CH, CHN 2-50	29	31	0.83
CH, CHN 2-60	32	36	0.83
CH, CHN 4-20	26	28	0.66
CH, CHN 4-30	30	31	0.83
CH, CHN 4-40	31	34	0.83
CH, CHN 4-50	-	-	-
CH, CHN 4-60	-	-	-
CH 8-20	40	44	1.49
CH 8-25	42	46	1.49
CH 8-30	57	62	1.49
CH 8-40	57	62	1.49
CH 8-50	-	-	-
CH 8-60	-	-	-
CH 12-10	33	37	1.49
CH 12-20	60	64	1.49
CH 12-30	-	-	-
CH 12-40	-	-	-
CH 12-50	-	-	-
CH 12-60	-	-	-

CH, CHN, three-phase

Pump type	60 Hz		
	Net weight [lbs]	Gross weight [lbs]	Shipping volume [ft³]
CH, CHN 2-20	24	26	0.66
CH, CHN 2-30	24	26	0.66
CH, CHN 2-40	25	26	0.66
CH, CHN 2-50	25	28	0.83
CH, CHN 2-60	26	29	0.83
CH, CHN 4-20	24	26	0.66
CH, CHN 4-30	27	29	0.83
CH, CHN 4-40	30	32	0.83
CH, CHN 4-50	-	-	-
CH, CHN 4-60	-	-	-
CH 8-20	35	41	1.49
CH 8-25	37	44	1.49
CH 8-30	41	48	1.49
CH 8-40	42	48	1.49
CH 8-50	-	-	-
CH 8-60	-	-	-
CH 12-10	35	41	1.49
CH 12-20	41	48	1.49
CH 12-30	58	64	1.49
CH 12-40	64	70	1.49
CH 12-50	-	-	-
CH 12-60	-	-	-

WebCAPS

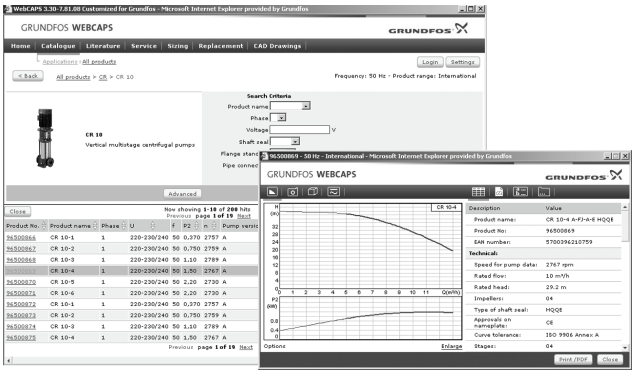


WebCAPS is a **Web**-based **C**omputer **A**ided **P**roduct **S**election program available on www.grundfos.com.

WebCAPS contains detailed information on more than 185,000 Grundfos products in more than 22 languages.

In WebCAPS, all information is divided into 6 sections:

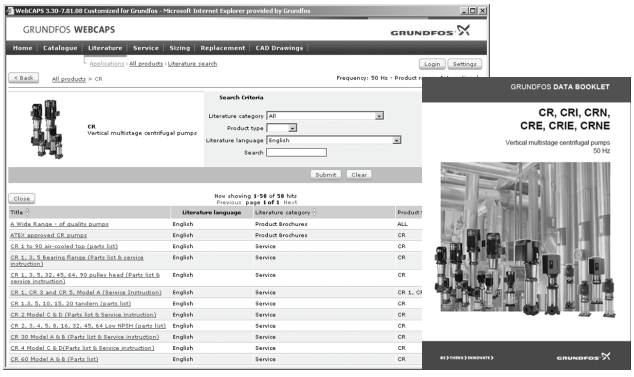
- Catalog
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.



Catalog

This section is based on fields of application and pump types, and contains

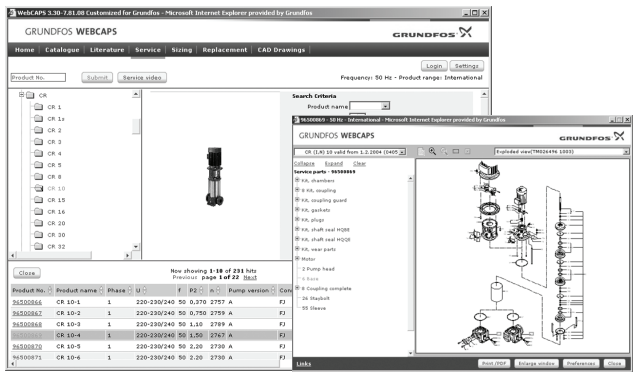
- technical data
- curves (QH, Eff, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



Literature

In this section you can access all the latest documents of a given pump, such as

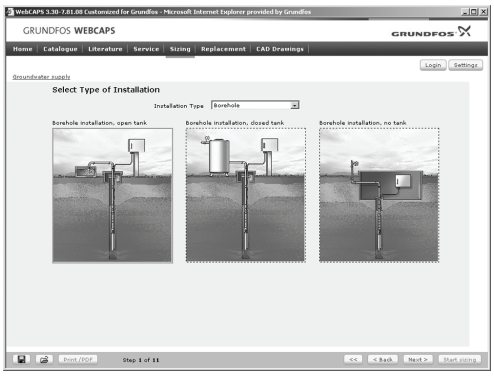
- product guides
- installation and operating instructions
- service documentation, such as Service kit catalog and Service kit instructions
- quick guides
- product brochures, etc.



Service

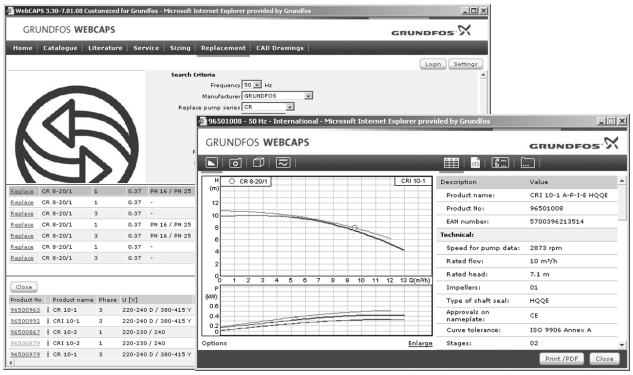
This section contains an easy-to-use interactive service catalog. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.
Furthermore, this section contains service videos showing you how to replace service parts.

Further product documentation



Sizing

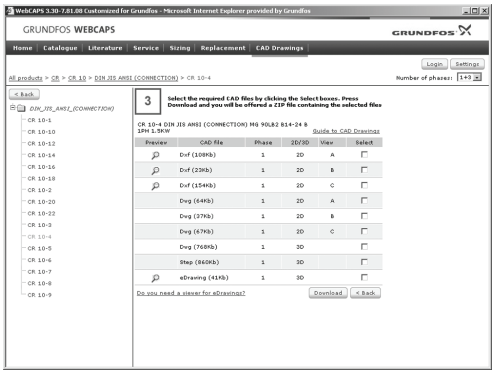
This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.



Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump.
The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.



CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

2-dimensional drawings:
- .dxf, wireframe drawings
- .dwg, wireframe drawings.

3-dimensional drawings:
- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS

Fig. 9 WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election program containing detailed information on more than 185,000 Grundfos products in more than 22 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

L-CH-PG-001 0506 **US**

Subject to alterations.

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