

# CR, CRI, CRN

North America

Vertical multistage centrifugal pumps



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## 1. Introduction

This data booklet deals with Grundfos CR, CRI and CRN pumps with these nominal flow sizes:

- CR, CRN, CRI 1s, 1, 3, 5, 10, 15, 20
- CR, CRN 32, 45, 64.

Options for larger flow sizes are described in the data booklet for CR, CRN 95-255, 60 Hz available on Grundfos Product Center at

<http://net.grundfos.com/qr/i/99407996>.



CR, CRI and CRN pumps

### Pump Energy Index (PEI)

Pump Energy Index (PEI) was established by the U.S. Department of Energy (DOE) and adopted by Canada as the standard metric used to evaluate pump efficiency. The value is the ratio of the pump efficiency rating (PER) divided by the calculated minimally compliant PER ( $PER_{STD}$ ) for the pump type. This provides a representation of a pump's actual performance compared to the minimal standard performance required by regulation. The lower the PEI value, the more efficient a pump is at the tested operating points.

PER is determined by defined testing parameters required by the DOE. This includes testing a particular pump model at its best efficiency point (BEP).

For PEI values there are two different versions:

- $PEI_{CL}$  (constant load): Applies to a bare-shaft pump and a pump sold with a motor
- $PEI_{VL}$  (variable load): Applies to pumps sold with a motor and controller (such as VFD, VSD)

The DOE has set the maximum PEI value as 1.00. Any pump, pump and motor, or pump, motor and controller that exceeds a PEI value of 1.00 can no longer be manufactured after January 26, 2020.

PEI is a generalized efficiency value. PEI cannot be used to determine the efficiency of a pump in a specific application.

### PEI values for CR 10-64

Product type	Poles	$PEI_{CL}$ bare- shaft pump	$PEI_{CL}$ pump with motor	$PEI_{VL}$ pump with motor plus control- ler <sup>1)</sup>	Impeller diameter [in (mm)]
CR, CRN, CRI 10	2	0.87	0.87	0.48	3.66 (92.90)
CR, CRN, CRI 15	2	0.91	0.91	0.48	4.13 (104.80)
CR, CRN, CRI 20	2	0.91	0.91	0.47	4.13 (104.80)
CR, CRN 32	2	0.87	0.87	0.45	4.66 (118.40)
	4	0.90	0.91	0.50	
CR, CRN 45	2	0.89	0.89	0.46	5.34 (136)
	4	0.91	0.91	0.47	
CR, CRN 64	2	0.93	0.93	0.46	5.59 (142)
	4	0.94	0.94	0.48	

1) Grundfos CUE continuous controls.

### Features and benefits

Grundfos CR, CRI, CRN pumps are vertical multistage centrifugal pumps. The in-line design enables installation in a horizontal one-pipe system where the inlet and outlet ports are in the same horizontal plane and have the same pipe dimensions. This design provides a more compact pump design.

Grundfos CR pumps are available in various sizes and various numbers of stages to provide the flow rate and the pressure required.

CR pumps are designed for a variety of applications ranging from pumping potable water to pumping chemicals. The pumps are therefore suitable for a wide variety of pumping systems where the performance and material of the pump meet specific demands.

A CR pump consists of two main components: the motor and the pump unit.

The pump unit consists of optimized hydraulics, various types of connections, a sleeve, a pump head and various other parts.

CR pumps are available in various material versions according to the pumped liquid.

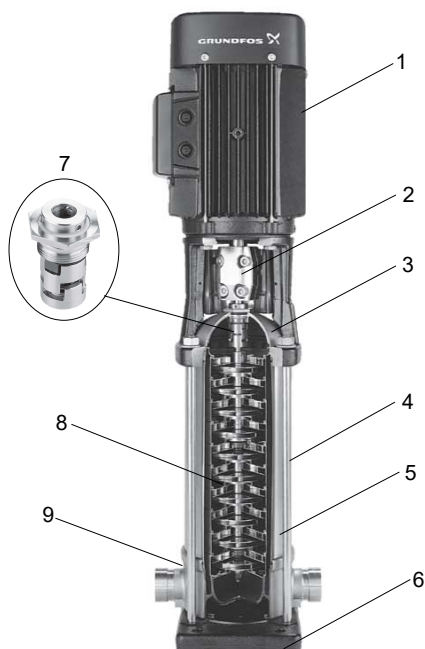
CR pumps fitted with EPDM elastomers are compliant with ANSI/NSF 61 and ANSI/NSF 372. See UL file MH26400 or contact Grundfos.

## Pump

The CR pumps are non-self-priming, vertical multistage centrifugal pumps. The pumps are supplied with WEG motors as standard. Grundfos ML motors are available on request.

The pump consists of a base and a pump head. Staybolts secure the chamber stack and sleeve between the pump head and base. The base has inlet and outlet ports on the same level (in-line).

All pumps are fitted with a maintenance-free mechanical shaft seal of the cartridge type.



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### CR pump

Pos.	Description
1	Motor
2	Coupling
3	Pump head
4	Sleeve
5	Staybolts
6	Base plate
7	Shaft seal (cartridge type)
8	Impellers
9	Base

## Motor

CR, CRI and CRN pumps are fitted with a Grundfos specified motor. The motors are all heavy-duty 2-pole, NEMA C-face motors. The pumps are supplied with WEG motors as standard. Grundfos ML motors (0.33 to 30 HP, TEFC three-phase) are available on request.

### Electrical data

Mounting designation	NEMA
Insulation class	F
Efficiency	Premium efficiency - EISA compliant
Enclosure	IP55
	TEFC - Totally Enclosed Fan Cooled (Grundfos standard).
	ODP - Open Drip Proof (on request).
60 Hz standard voltages	1 × 115/208-230 V
	3 × 208-230/460 V
	3 × 575 V
Number of poles	2

Approvals, WEG		
Approvals, Grundfos ML		

### WEG motors 0.25 to 20 HP

- rolled steel construction
- service factor 1.15
- suitable for VFD operation per NEMA MG 1 part 31.4.4.2
- certified Class I Division 2, Groups A, B, C, D
- certified Class II, Division 2, Groups F, G (three-phase only).

### WEG motors 25 to 300 HP

- cast iron frame
- rated for severe duty
- service factor 1.25 (25 to 100 HP)
- service factor 1.15 (125 to 300 HP)
- Inverter rated per NEMA MG 1 part 31
- certified Class I Division 2, Groups A, B, C, D
- certified Class II, Division 2, Groups F, G.

### Grundfos E-motors

We also offer frequency-controlled CRE and CRNE pumps which are the ideal choice for a number of applications characterized by a demand for variable flow at constant pressure. These pumps are suited for water supply systems and pressure boosting as well as for industrial applications. Depending on the application, the pumps offer energy savings, increased comfort and improved processing.



### Optional motors

The Grundfos standard range of motors covers a wide variety of application demands. However, for special applications or operating conditions, custom-built motor solutions can be provided.

For special applications or operating conditions, Grundfos offers custom-built motors such as:

- explosion-proof motors
- motors with anti-condensation heating unit
- low-noise motors
- motors with thermal protection.

### Motor protection

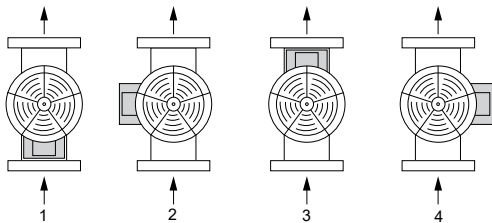
Single-phase Grundfos specified motors up to 7.5 HP have a built-in thermal overload switch.

Three-phase motors must be connected to a motor-protective circuit breaker according to local regulations.

Three-phase Grundfos ML motors 5 HP (4 kW) and larger have a built-in thermistor (PTC) according to DIN 44082 (TP 211 according to IEC 34-11).

### Terminal box positions

As standard the terminal box is mounted on the inlet side of the pump.



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Terminal box positions

Pos.	Description
1	Position 6 Standard
2	Position 9
3	Position 12
4	Position 3

### Viscosity

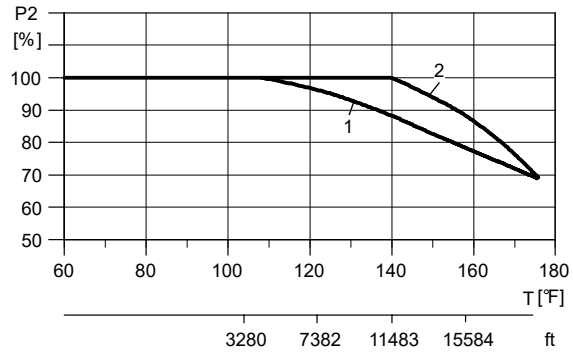
Pumping liquids with densities or kinematic viscosities higher than those of water will cause a considerable pressure drop, a drop in the hydraulic performance and a rise in the power consumption.

In such situations, the pump must be fitted with a larger motor. If in doubt, contact Grundfos.

### Ambient temperature and altitude

If the ambient temperature exceeds the maximum temperature limits of the pump or the pump is installed at an altitude exceeding the altitude values in the chart below, the motor must not be fully loaded due to the risk of overheating.

Overheating may result from excessive ambient temperatures or the low density and consequently low cooling effect of the air at high altitudes. In such cases, it may be necessary to use a motor with a higher rated output (P2).



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Relationship between motor output (P2) and ambient temperature (T) and altitude (ft)

Pos.	Description
1	NEMA energy-efficient motors
2	NEMA premium-efficiency motors

**Example:** From the figure above it appears that P2 must be reduced to 88 % when a pump with a NEMA premium-efficiency ML motor is installed at 15,584 ft (4750 m) above sea level. At an ambient temperature of 167 °F (75 °C), P2 of a standard-efficiency motor must be reduced to 74 % of rated output.

In cases where both the maximum temperature and the maximum altitude are exceeded, the derating factors must be multiplied. Example:  $0.89 \times 0.89 = 0.79$ .

## 2. Applications

### Water supply

	CR, CRI	CRN
Filtration and transfer at waterworks	●	○
Distribution from waterworks	●	○
Pressure boosting in mains	●	○
Pressure boosting in, for example, high-rise buildings, hotels	●	○
Pressure boosting for industrial water supply	●	○

### Industry

	CR, CRI	CRN
<b>Pressure boosting</b>		
Process-water systems	●	●
Washing and cleaning systems	●	●
Vehicle-washing tunnels	●	○
Firefighting systems	●	-
<b>Liquid transfer</b>		
Cooling and air-conditioning systems (refrigerants)	●	○
Boiler feed and condensate systems	●	○
Machine tools (cooling lubricants)	●	●
Aquafarming <sup>2)</sup>	●	○
<b>Special transfer duties</b>		
Oils and alcohols	●	●
Acids and alkalis <sup>2)</sup>	-	●
Glycol and coolants	●	-

<sup>2)</sup> CRT, CRTE version available. For further information about CRT, CRTE pumps, see the section on pumped liquids or the related CRT, CRTE product guide.

### Water treatment

	CR, CRI	CRN
Ultra-filtration systems	-	●
Reverse osmosis systems <sup>3)</sup>	-	●
Softening, ionising, demineralising systems	-	●
Distillation systems	-	●
Separators	●	●
Swimming baths <sup>3)</sup>	-	●

<sup>3)</sup> CRT, CRTE version available. For further information about CRT, CRTE pumps, see the section on pumped liquids or the related CRT, CRTE product guide.

### Irrigation

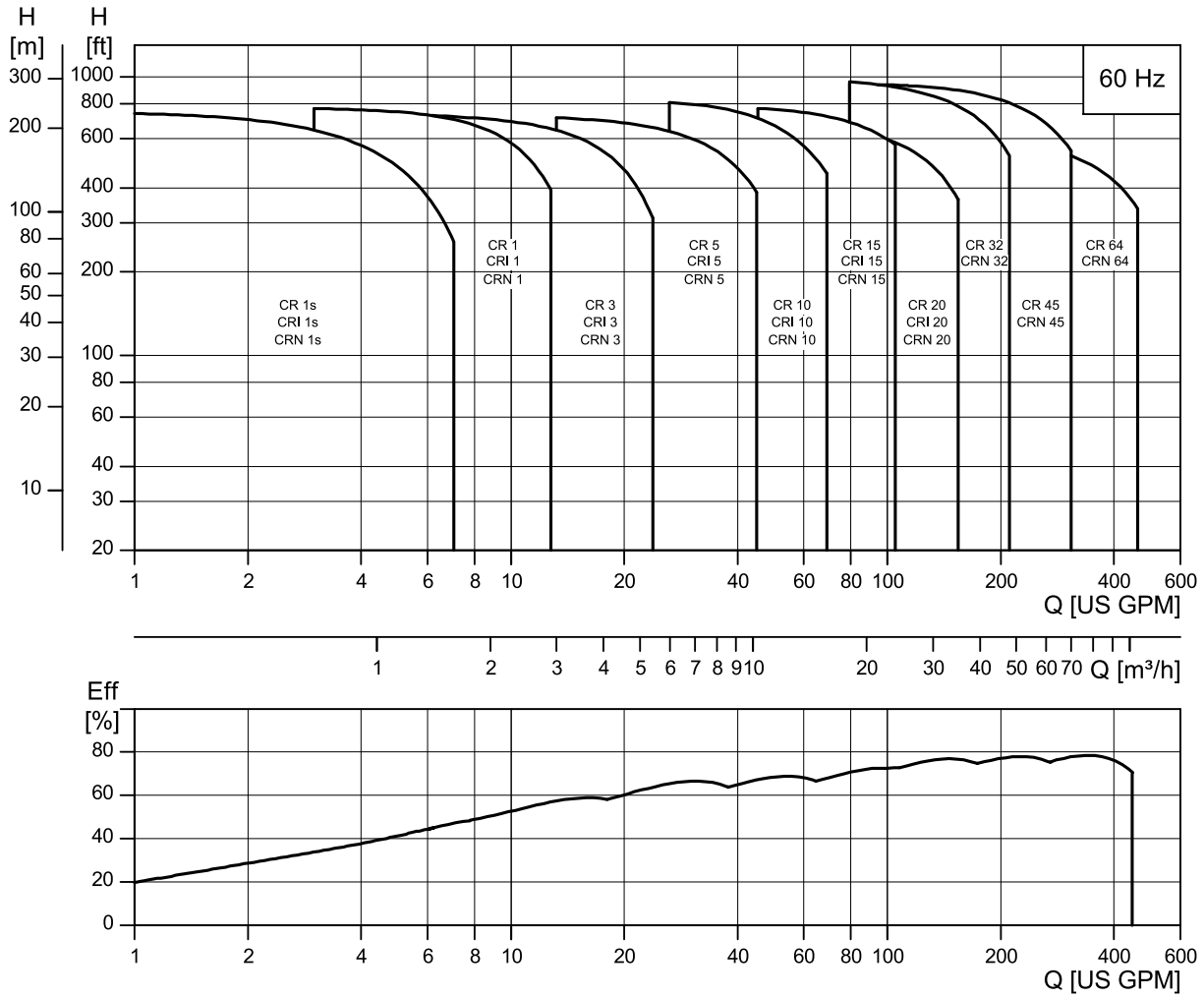
	CR, CRI	CRN
Field irrigation (flooding)	●	○
Sprinkler irrigation	●	○
Drip-feed irrigation	●	○

- Recommended version
- Alternative version

### Related information

[Pumped liquids](#)

### 3. Performance range



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## 4. Product range

Range	CR 1s	CR 1	CR 3	CR 5	CR 10	CR 15	CR 20	CR 32	CR 45	CR 64
Nominal flow rate [US gpm]	4.5	8.5	15	30	55	95	110	140	220	340
Temperature range [°F]				-4 to +250					-22 to +250 <sup>4)</sup>	
Temperature range [°F] on request				-40 to +356					-40 to +356	
Max. working pressure [psi]★	362	362	362	362	362	362	362	435	435	435
Max. working pressure [psi] on request	-	725	725	725	725	725	725	580	580	580
Max. pump efficiency [%]	35	49	59	67	70	72	72	76	78	79
<b>CR pumps</b>										
CR: Flow range [US gpm]	0.5 - 5.7	1 - 12.8	1.5 - 23.8	3 - 45	5.5 - 70	9.5 - 125	11-155	14-210	22 -310	34-450
CR: Max. pump pressure (H [ft])	760	790	790	780	820	800	700	995	940	565
CR: Motor power [HP]	0.33 - 2	0.33 - 3	0.33 - 5	0.75 - 7.5	0.75 - 15	2-25	3-25	5-50	7.5 - 60	10-60
<b>Version</b>										
CR: Cast iron and stainless steel AISI 304	•	•	•	•	•	•	•	•	•	•
CRI: Stainless steel AISI 304	•	•	•	•	•	•	•	-	-	-
CRN: Stainless steel AISI 316	•	•	•	•	•	•	•	•	•	•
CRT, CRTE: Titanium	-		See CRT, CRTE product guide				-	-	-	-
<b>CR pipe connection</b>										
Oval flange (NPT)	1"	1"	1"	1.25"	2"	2"	2"	-	-	-
Oval flange (NPT) - on request	1.25"	1.25"	1.25"	1"	1.5"	-	-	-	-	-
ANSI flange size	1.25"	1.25"	1.25"	1.25"	2"	2"	2"	2.5"	3"	4"
ANSI flange size - on request	-	-	-	-	-	-	-	3"	4"	5" <sup>5)</sup>
ANSI flange class	250 lb.	250 lb.	250 lb.	250 lb.	250 lb.	250 lb.	250 lb.	125/ 250 lb.	125/ 250 lb.	125/ 250 lb.
<b>CRI pipe connection</b>										
Oval flange (NPT)	1"	1"	1"	1.25"	2"	2"	2"	-	-	-
Oval flange (NPT) - on request	1.25"	1.25"	1.25"	1"	1.5"	-	-	-	-	-
ANSI flange size	1.25"	1.25"	1.25"	1.25"	2"	2"	2"	-	-	-
ANSI flange class	300 lb.	300 lb.	300 lb.	300 lb.	300 lb.	300 lb.	300 lb.	-	-	-
Clamp coupling (NPT) - on request	1", 1.25"	1", 1.25"	1", 1.25"	1", 1.25"	1.5", 2"	1.5", 2"	1.5", 2"	-	-	-
Union (NPT ext. Thread) - on request	2"	2"	2"	2"	-	-	-	-	-	-
<b>CRN pipe connection</b>										
PJE (Victaulic)	1.25"	1.25"	1.25"	1.25"	2"	2"	2"	-	-	-
PJE (Victaulic) - on request	-	-	-	-	-	-	-	3"	4"	4"
ANSI flange size	1.25"	1.25"	1.25"	1.25"	2"	2"	2"	2.5"	3"	4"
ANSI flange size - on request	-	-	-	-	-	-	-	3"	-	-
ANSI flange class	300 lb.	300 lb.	300 lb.	300 lb.	300 lb.	300 lb.	300 lb.	150/ 300 lb.	150/ 300 lb.	150/ 300 lb.
Clamp coupling (NPT) - on request	1", 1.25"	1", 1.25"	1", 1.25"	1", 1.25"	1.5", 2"	1.5", 2"	1.5", 2"	-	-	-



Range	CR 1s	CR 1	CR 3	CR 5	CR 10	CR 15	CR 20	CR 32	CR 45	CR 64
Union (NPT ext. Thread) - on request	2"	2"	2"	2"	-	-	-	-	-	-
<b>CRT pipe connection</b>										
PJE coupling (Vitaulic)	-	1.25"	1.25"	1.25"	2"	2"	-	-	-	-
ANSI flange size - on request	-	-	-	-	2"	2"	-	-	-	-

4) CRN 32 to CRN 64 with HQQE shaft seal: -40 °F to +250 °F.

5) CR 5" flange is not manufactured to ANSI specification. Gasket contact surface is approximately 0.25".

- Available.

- ★ See the section on operating conditions for specific working pressures.

### Related information

[Maximum operating pressure and temperature range](#)

[Maximum inlet pressure](#)

## 5. Identification

### Type key

#### Example

**CRE 32-4-2 A-G-A-E-HQQE-N-C-B**

Code	Explanation
CR	Type range: CR, CRI, CRN, CRT
E	Pump with integrated frequency converter
32	Flow rate [gpm (m <sup>3</sup> /h)]
4	Number of impellers
2	Number of reduced-diameter impellers
A	Code for pump version
G	Code for pipe connection
A	Code for materials
E	Code for rubber parts
	Code for shaft seal:
H	• Shaft seal type designation
Q	• Seal face material (rotating seal face)
Q	• Seal face material (stationary seal face)
E	• Secondary seal material (rubber parts)
N	Code for motor: P2 [HP (kW)]
C	Code for motor: phase and voltage [V]
B	Code for motor: speed variant [rpm]

### Key to codes

Code	Description
<b>Pump version</b>	
A	Basic version
B	Oversize motor
C	CR compact
D	Pump with pressure intensifier
E	Pump with certificate
F	Pump for high temperatures (with air-cooled top)
G	E-pump without operating panel
H	Horizontal version
I	Different pressure rating
J	E-pump with a different maximum speed
K	Pump with low NPSH
L	Pump including Grundfos CUE and certificate
M	Magnetic drive
N	With sensor
O	Cleaned and dried
P	Undersize motor
Q	High-pressure pump with high-speed MGE motor
R	Belt-driven pump
S	High-pressure pump
T	Thrust handling device
U	ATEX-approved pump
V	Cascade function

Code	Description
W	Deep-well pump with ejector
X	Special version
6	Special version with NSF 61/372 approval
Y	Electropolished
Z	Pumps with bearing flange

Pipe connection	
A	Oval flange
B	NPT thread
CA	FlexiClamp
CX	TriClamp
F	DIN flange
FC	DIN 11853-2 flange (collar flange)
FE	EN 1092-1, type E
G	ANSI flange
J	JIS flange
N	Changed diameter of ports
P	PJE coupling (Victaulic type)
X	Special version

Materials	
A	Basic version
C	Carbon-free pump
D	Carbon-graphite-filled PTFE (bearings)/tungsten carbide
E	Pickled and passivated (Only Japan)
H	Flanges and base plate EN 1.4408
K	Bronze (bearings)/tungsten carbide
L	Motor stool, base plate and flanges EN 1.4408
M	Motor stool, base plate, coupling and flanges EN 1.4408 and coupling guards in cobber. Bolts, nuts and spacing pipes EN 1.4401 or higher grade
N	Flanges EN 1.4408
P	PEEK neck ring
Q	Silicon carbide/silicon carbide bearing in pump and silicon carbide/silicon carbide seal faces in thrust handling device
R	Silicon carbide/silicon carbide bearing
S	PTFE neck rings
T	Base plate EN 1.4408
U	Silicon carbide/silicon carbide bearing in pump and silicon carbide/tungsten carbide seal faces in thrust handling device
W	Tungsten carbide/tungsten carbide
X	Special version

Rubber parts in pump	
E	EPDM
F	FXM (Fluoraz <sup>®</sup> )
K	FFKM (Kalrez <sup>®</sup> )
N	CR (Neoprene)
V	FKM (Viton <sup>®</sup> )

Shaft seal type designation	
A	O-ring seal with fixed driver
H	Balanced cartridge seal with O-ring

Code	Description
O	Double seal, back-to-back
P	Double seal, tandem
X	Special version
<b>Seal face material (rotating and stationary seal face)</b>	
B	Carbon, synthetic resin-impregnated
U	Cemented tungsten carbide
Q	Silicon carbide
X	Other ceramics
<b>Secondary seal material (rubber parts)</b>	
E	EPDM
F	FXM (Fluoraz <sup>®</sup> )
K	FFKM (Kalrez <sup>®</sup> )
V	FKM (Viton <sup>®</sup> )

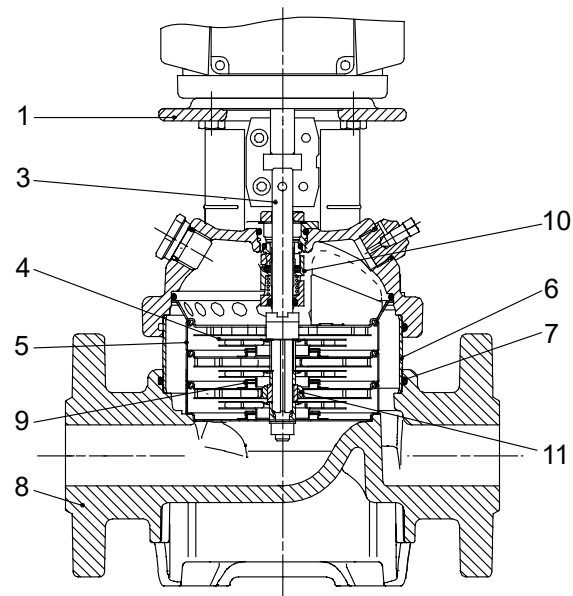
### Codes for motor

Code	Description
<b>P2 [HP (kW)]</b>	
C	0.33 (0.25)
D	0.5 (0.37)
E	0.75 (0.55)
F	1 (0.75)
G	1.5 (1.1)
H	2 (1.5)
I	3 (2.2)
K	5 (4)
L	7.5 (5.5)
M	10 (7.5)
N	15 (11)
O	20 (15)
P	25 (18.5)
Q	30 (22)
R	40 (30)
S	50 (37)
T	60 (45)
U	75 (55)
V	100 (75)
W	120 (90)
1	150 (110)
2	175 (132)
3	215 (160)
4	270 (200)
5	335 (250)
<b>Phase and voltage (V)</b>	
A	1 × 200-240 V
B	3 × 200-240 V
C	3 × 440-480 V
D	3 × 380-500 V
X	Not defined
<b>Speed variant (rpm)</b>	
A	1450-2000

Code	Description
B	2900-4000
C	4000-5900
2	2-pole
4	4-pole

## 6. Construction

### CR 1s, 1, 3, 5, 10, 15, 20



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#### Materials, CR

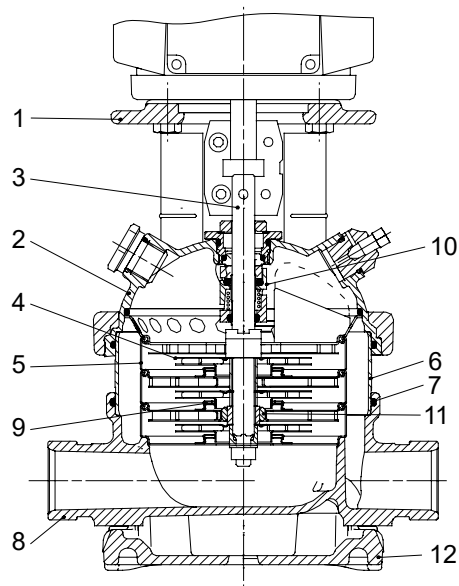
Pos.	Designation	Materials	DIN/EN	≈ AISI/ASTM
1	Pump head	Grey cast iron	EN 1561 EN-GJL-200	ASTM 25B
3	Shaft	Stainless steel	EN 10088 1.4401 <sup>6)</sup> EN 10088 1.4057 <sup>7)</sup>	AISI 316 <sup>6)</sup> AISI 431 <sup>7)</sup>
4	Impeller	Stainless steel	EN 10088 1.4301	AISI 304
5	Chamber	Stainless steel	EN 10088 1.4301	AISI 304
6	Sleeve	Stainless steel	EN 10088 1.4301	AISI 304
7	O-ring for sleeve	EPDM or FKM	-	-
8	Base	Grey cast iron	EN 1561 EN-GJL-250	ASTM 25B
9	Neck ring	PTFE	-	-
10	Shaft seal (seal faces)	Silicon carbide/silicon carbide	-	-
11	Bearing ring	Silicon carbide/silicon carbide	-	-
	Staybolts	Bright steel	EN 10277 C35R	-

<sup>6)</sup> CR 1s, 1, 3, 5.

<sup>7)</sup> CR 10, 15, 20.



## CRI 1s, 1, 3, 5, 10, 15, 20



TM021195

## Materials, CRI

Pos.	Designation	Materials	DIN/EN	≈ AISI/ASTM
1	Motor stool	Grey cast iron <sup>8)</sup>	EN 1563 EN-GJS-450-10	ASTM A536 65-45-12
2	Pump head	Stainless steel	EN 10283 1.4408	CF 8M equal to AISI 316
3	Shaft	Stainless steel	EN 10088 1.4401 <sup>9)</sup> EN 10088 1.4057 <sup>10)</sup>	AISI 316 <sup>9)</sup> AISI 431 <sup>10)</sup>
4	Impeller	Stainless steel	EN 10088 1.4301	AISI 304
5	Chamber	Stainless steel	EN 10088 1.4301	AISI 304
6	Sleeve	Stainless steel	EN 10088 1.4301	AISI 304
7	O-ring for sleeve	EPDM or FKM	-	-
8	Base	Stainless steel	EN 10283 1.4408	CF 8M equal to AISI 316
9	Neck ring	PTFE	-	-
10	Shaft seal (seal faces)	Silicon carbide/silicon carbide	-	-
11	Bearing ring	Silicon carbide/silicon carbide	-	-
12	Base plate	Grey cast iron <sup>8)</sup>	EN 1561 EN-GJL-200 <sup>10)+ 11)</sup> EN 1563 EN-GJS-500-7 <sup>12)</sup>	ASTM 25B <sup>10)+ 11)</sup> ASTM A536 65-45-12 <sup>12)</sup>
	Staybolts	Bright steel	EN 10277 C35R	-

<sup>8)</sup> Stainless steel available on request.

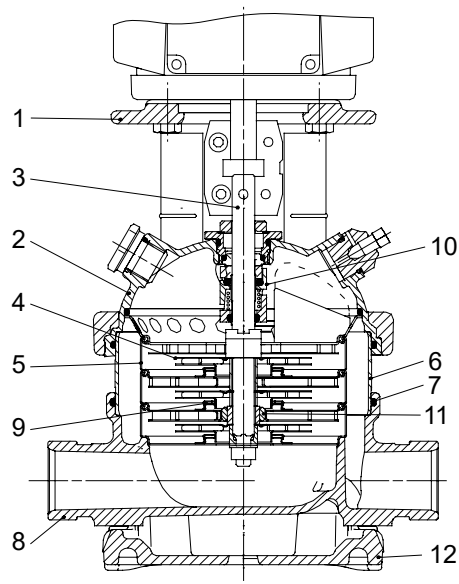
<sup>9)</sup> CRI 1s, 1, 3, 5.

<sup>10)</sup> CRI 10, 15, 20.

<sup>11)</sup> CRI 1s, 1, 3, 5 with FGJ flange connection.

<sup>12)</sup> CRI 1s, 1, 3, 5 with clamp connections, such as PJE, CA.

## CRN 1s, 1, 3, 5, 10, 15, 20



TM021195

## Materials, CRN

Pos.	Designation	Materials	DIN/EN	≈ AISI/ASTM
1	Motor stool	Grey cast iron <sup>13)</sup>	EN 1563 EN-GJS-450-10	ASTM A536 65-45-12
2	Pump head	Stainless steel	EN 10283 1.4408	CF 8M equal to AISI 316
3	Shaft	Stainless steel	EN 10088 1.4401 <sup>14)</sup> EN 10088 1.4460 <sup>15)</sup>	AISI 316 <sup>14)</sup> AISI 329 <sup>15)</sup>
4	Impeller	Stainless steel	EN 10088 1.4401	AISI 316
5	Chamber	Stainless steel	EN 10088 1.4401	AISI 316
6	Sleeve	Stainless steel	EN 10088 1.4401	AISI 316
7	O-ring for sleeve	EPDM or FKM	-	-
8	Base	Stainless steel	EN 10283 1.4408	CF 8M equal to AISI 316
9	Neck ring	PTFE	-	-
10	Shaft seal (seal faces)	Silicon carbide/silicon carbide	-	-
11	Bearing ring	Silicon carbide/silicon carbide	-	-
12	Base plate	Grey cast iron <sup>13)</sup>	EN 1561 EN-GJL-200 <sup>15)+ 16)</sup> EN 1563 EN-GJS-500-7 <sup>17)</sup>	ASTM 25B <sup>15)+ 16)</sup> ASTM A536 65-45-12 <sup>17)</sup>
	Staybolts	Stainless steel	EN 10088 1.4401 <sup>14)</sup> EN 10088 1.4057 <sup>15)</sup>	AISI 316 <sup>14)</sup> AISI 431 <sup>15)</sup>

<sup>13)</sup> Stainless steel available on request.

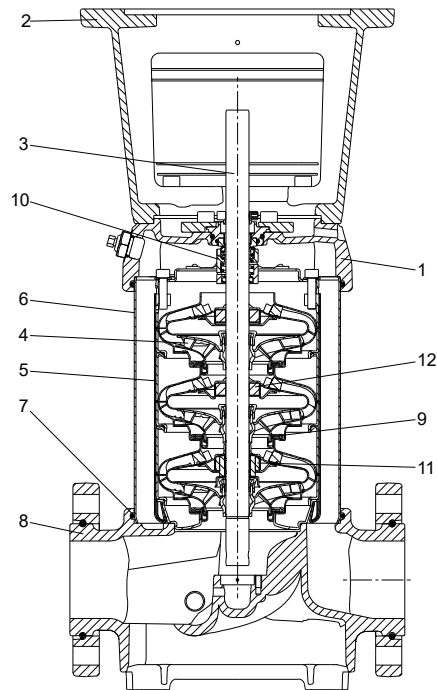
<sup>14)</sup> CRN 1s, 1, 3, 5.

<sup>15)</sup> CRN 10, 15, 20.

<sup>16)</sup> CRN 1s, 1, 3, 5 with FGJ flange connection.

<sup>17)</sup> CRN 1s, 1, 3, 5 with clamp connections, such as PJE, CA.

## CR 32, 45, 64

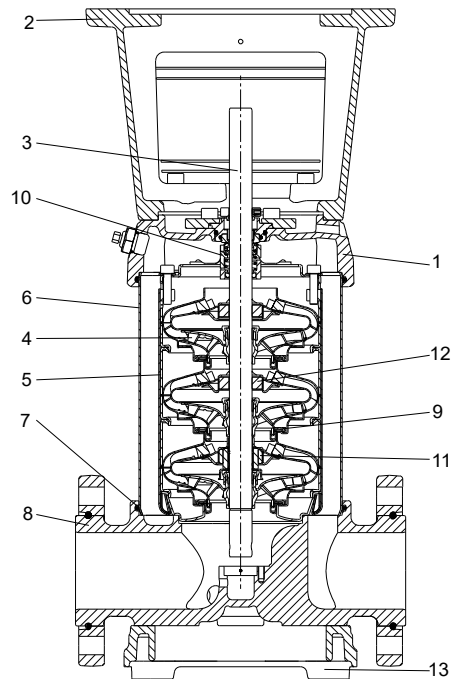


TM060711

## Materials, CR

Pos.	Designation	Materials	DIN/EN	≈ AISI/ASTM
1	Pump head	Ductile cast iron	EN 1563 EN-GJS-500-7	ASTM A536 65-45-12
2	Motor stool	Grey cast iron	EN 1561 EN-GJL-200	ASTM 25B
3	Shaft	Stainless steel	EN 10088 1.4057	AISI 431
4	Impeller	Stainless steel	EN 10088 1.4301	AISI 304
5	Chamber	Stainless steel	EN 10088 1.4301	AISI 304
6	Sleeve	Stainless steel	EN 10088 1.4301	AISI 304
7	O-ring for sleeve	EPDM or FKM	-	-
8	Base	Ductile cast iron	EN 1563 EN-GJS-500-7	ASTM A536 65-45-12
9	Neck ring	Carbon-graphite-filled PTFE	-	-
10	Shaft seal (seal faces)	Silicon carbide/silicon carbide	-	-
11	Bearing ring	Silicon carbide/silicon carbide	-	-
12	Support bushing	Carbon-graphite-filled PTFE	-	-
13	Base plate	Ductile cast iron	EN 1563 EN-GJS-500-7	ASTM A536 65-45-12
	Staybolts	Bright steel	EN 10277 ETG 35	-

## CRN 32, 45, 64



TM060712

## Materials, CRN

Pos.	Designation	Materials	DIN/EN	≈ AISI/ASTM
1	Pump head	Stainless steel	EN 10283 1.4408	CF 8M equal to AISI 316
2	Motor stool	Grey cast iron <sup>18)</sup>	EN 1561 EN-GJL-200	ASTM 25B
3	Shaft	Stainless steel	EN 10088 1.4462	-
4	Impeller	Stainless steel	EN 10088 1.4401	AISI 316
5	Chamber	Stainless steel	EN 10088 1.4401	AISI 316
6	Sleeve	Stainless steel	EN 10088 1.4401	AISI 316
7	O-ring for sleeve	EPDM or FKM	-	-
8	Base	Stainless steel	EN 10283 1.4408	CF 8M equal to AISI 316
9	Neck ring	Carbon-graphite-filled PTFE	-	-
10	Shaft seal (seal faces)	Silicon carbide/silicon carbide	-	-
11	Bearing ring	Silicon carbide/silicon carbide	-	-
12	Support bushing	Carbon-graphite-filled PTFE	-	-
13	Base plate	Ductile cast iron <sup>18)</sup>	EN 1563 EN-GJS-500-7	ASTM A536 65-45-12
	Staybolts	Stainless steel	EN 10088 1.4057	AISI 431

<sup>18)</sup> Stainless steel available on request.



## 7. Operating conditions

### Pumped liquids

The pumps are suitable for pumping thin, non-explosive liquids, not containing solid particles or fibers. The liquid must not chemically attack the pump materials. When pumping liquids with a density and/or viscosity higher than that of water, oversized motors 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 the chloride content, pH value, temperature and content of chemicals and oils.

Please note that aggressive liquids, such as sea water and some acids, may attack or dissolve the protective oxide film of the stainless steel and thus cause corrosion. The CR, CRI, CRN pump types are suitable for the following liquids:

#### CR, CRI

- Non-corrosive liquids.

For liquid transfer, circulation and pressure boosting of cold or hot clean water.

#### CRN

- Industrial liquids.

In systems where all parts in contact with the liquid must be made of high-grade stainless steel.

#### CRT

- Saline liquids
- hypochlorites
- acids.

For saline or chloride-containing liquids, such as sea water or oxidizing agents, such as hypochlorites, CRT pumps of titanium are available. See separate product guide on CRT.

### List of pumped liquids

A number of typical liquids are listed on the following pages.

Other pump versions may be applicable, but those stated in the list are considered to be the best choices. The table is intended as a general guide only, and cannot replace actual testing of the pumped liquids and pump materials under specific working conditions.

The list must, however, be applied with some caution as factors such as the following may affect the chemical resistance of a specific pump version:

- concentration of the pumped liquid
- liquid temperature
- pressure.

Safety precautions must be made when pumping dangerous liquids.

#### Notes

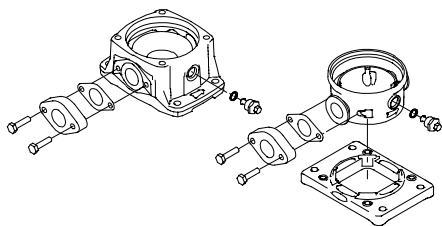
D	Often with additives.
E	Density and/or viscosity differ from that of water. Allow for this when calculating motor output and pump performance.
F	Pump selection depends on many factors. Contact Grundfos.
H	Risk of crystallization/precipitation in shaft seal
1	The pumped liquid is highly inflammable.
2	The pumped liquid is combustible.
3	Insoluble in water.
4	Low self-ignition point.

Pumped liquid	Note	Liquid concentration, liquid temperature	CR		CRN	
			1s, 1, 3, 5, 10, 15, 20	32, 45, 64	1s, 1, 3, 5, 10, 15, 20	32, 45, 64
Acetic acid CH <sub>3</sub> COOH		5 %, 68 °F			HQQE	HQQE/HBQE
Acetone CH <sub>3</sub> COCH <sub>3</sub>	1, F	100 %, 68 °F			HBQE	HQQE/HBQE
Alkaline degreasing agent	D, F		HQQE	HQQE/HBQE		
Ammonium bicarbonate NH <sub>4</sub> HCO <sub>3</sub>	E	20 %, 86 °F			HQQE	HQQE/HBQE
Ammonium hydroxide NH <sub>4</sub> OH		20 %, 104 °F	HQQE	HQQE/HBQE		
Aviation fuel	1, 3, 4, F	100 %, 68 °F	HQBv	HQQV/HBQV		
Benzoic acid C <sub>6</sub> H <sub>5</sub> COOH	H	0,5 %, 68 °F			HQQV	HQQV/HBQV
Boiler water		< 248 °F	HQQE	HQQE/HBQE		
	F	248 °F - 356 °F	-	-		
Calcareous water		< 194 °F	HQQE	HQQE		
Calcium acetate (as coolant with inhibitor) Ca(CH <sub>3</sub> COO) <sub>2</sub>	D, E	30 %, 122 °F	HQQE	HQQE		
Calcium hydroxide Ca(OH) <sub>2</sub>	E	Saturated solution, 122 °F	HQQE	HQQE		
Chloride-containing water	F	< 86 °F, max. 500 ppm			HQQE	HQQE
Chromic acid H <sub>2</sub> CrO <sub>4</sub>	H	1 %, 68 °F			HQQV	HQQV/HBQV
Citric acid HOC(CH <sub>2</sub> CO <sub>2</sub> H) <sub>2</sub> COOH	H	5 %, 104 °F			HQQE	HQQE/HBQE
Completely desalinated water (demineralized water)		< 248 °F			HQQE	HQQE/HBQE
Condensate		< 194 °F	HQQE	HQQE/HBQE		
Copper sulfate CuSO <sub>4</sub>	E	10 %, 122 °F			HQQE	HQQE
Corn oil	D, E, 3	100 %, 176 °F	HQQV	HQQV/HBQV		
Diesel oil	2, 3, 4, F	100 %, 68 °F	HQBv	HQQV/HBQV		
Domestic hot water (potable water)		< 248 °F	HQQE	HQQE/HBQE		
Ethanol (ethyl alcohol) C <sub>2</sub> H <sub>5</sub> OH	1, F	100 %, 68 °F	HQQE	HQQE/HBQE		
Ethylene glycol HOCH <sub>2</sub> CH <sub>2</sub> OH	D, E	50 %, 122 °F	HQQE	HQQE		
Formic acid HCOOH		5 %, 68 °F			HQQE	HQQE/HBQE
Glycerine (glycerol) OHCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH	D, E	50 %, 122 °F	HQQE	HQQE/HBQE		
Hydraulic oil (mineral)	E, 2, 3	100 %, 212 °F	HQQV	HQQV/HBQE		
Hydraulic oil (synthetic)	E, 2, 3	100 %, 212 °F	HQQV	HQQV/HBQE		
Isopropyl alcohol CH <sub>3</sub> CHOHCH <sub>3</sub>	1, F	100 %, 68 °F	HQBv	HQQV/HBQV		
Lactic acid CH <sub>3</sub> CH(OH)COOH	E, H	10 %, 68 °F			HQQE	HQQE/HBQE
Linoleic acid C <sub>17</sub> H <sub>31</sub> COOH	E, 3	100 %, 68 °F	HQQV	HQQV/HBQV		
Methanol (methyl alcohol) CH <sub>3</sub> OH	1, F	100 %, 68 °F	HQQE	HQQE/HBQE		
Motor oil	E, 2, 3	100 %, 176 °F	HQQV	HQQV/HBQV		
Naphthalene C <sub>10</sub> H <sub>8</sub>	E, H	100 %, 176 °F	HQQV	HQQV/HBQV		
Nitric acid HNO <sub>3</sub>	F	1 %, 68 °F			HQQE	HQQE/HBQE
Oil-containing water		< 212 °F	HQQV	HQQV/HBQV		
Olive oil	D, E, 3	100 %, 176 °F	HQQV	HQQV/HBQV		
Oxalic acid (COOH) <sub>2</sub>	H	1 %, 68 °F			HQQE	HQQE/HBQE
Ozone-containing water (O <sub>3</sub> )		1 PPM, < 105 °F			HQQE	HQQE/HBQE
Peanut oil	D, E, 3	100 %, 194 °F	HQQV	HQQV/HBQV		
Petrol/gasoline	1, 3, 4, F	100 %, 68 °F	HQBv	HQQV/HBQV		
Phosphoric acid H <sub>3</sub> PO <sub>4</sub>	E	20 %, 68 °F			HQQV	HQQV/HBQV
Propanol C <sub>3</sub> H <sub>7</sub> OH	1, F	100 %, 68 °F	HQQV	HQQV/HBQV		
Propylene glycol CH <sub>3</sub> CH(OH)CH <sub>2</sub> OH	D, E	50 %, 194 °F	HQQE	HQQE		
Potassium carbonate K <sub>2</sub> CO <sub>3</sub>	E	20 %, 122 °F	HQQE	HQQE		

Pumped liquid	Note	Liquid concentration, liquid temperature	CR		CRN	
			1s, 1, 3, 5, 10, 15, 20	32, 45, 64	1s, 1, 3, 5, 10, 15, 20	32, 45, 64
Potassium formate (as coolant with inhibitor) KOOCH	D, E	30 %, 122 °F	HQQE	HQQE		
Potassium hydroxide KOH	E	20 %, 122 °F			HQQE	HQQE
Potassium permanganate $Kmno_4$		5 %, 68 °F			HQQE	HQQE/HBQE
Rape seed oil	D, E, 3	100 %, 176 °F	HQQV	HQQV/HBQV		
Salicylic acid $C_6H_4(OH)COOH$	H	0,1 %, 68 °F			HQQE	HQQE/HBQE
Silicone oil	E, 3	100 %	HQQV	HQQV/HBQV		
Sodium bicarbonate $NaHCO_3$	E	10 %, 140 °F			HQQE	HQQE/HBQE
Sodium chloride (as coolant) NaCl	D, E	30 %, < 41 °F, pH > 8	HQQE	HQQE		
Sodium hydroxide NaOH	E	20 %, 122 °F			HQQE	HQQE
Sodium hypochlorite NaOCl	F	0,1 %, 68 °F			HQQE	HQQE
Sodium nitrate $NaNO_3$	E	10 %, 140 °F			HQQE	HQQE/HBQE
Sodium phosphate $Na_3PO_4$	E, H	10 %, 140 °F			HQQE	HQQE
Sodium sulfate $Na_2SO_4$	E, H	10 %, 140 °F			HQQE	HQQE/HBQE
Softened water		< 248 °F			HQQE	HQQE/HBQE
Soybean oil	D, E, 3	100 %, 176 °F	HQQV	HQQV/HBQV		
Sulfuric acid $H_2SO_4$	F	1 %, 68 °F			HQQV	HQQV/HQQV
Sulfurous acid $H_2SO_3$		1 %, 68 °F			HQQE	HQQE/HBQE
Swimming pool water (low chloride)		Max. 5 ppm free chlorine ( $Cl_2$ )	HQQE	HQQE/HBQE		

## Maximum operating pressure and temperature range

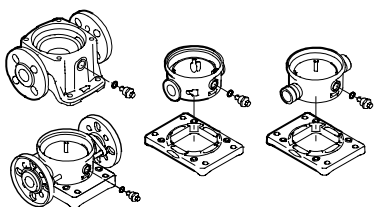
Oval flange



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	Max. operating pressure [psi]	Liquid temp. range [°F]
CR, CRI, CRN 1s	232	-4 to +248
CR, CRI, CRN 1	232	-4 to +248
CR, CRI, CRN 3	232	-4 to +248
CR, CRI, CRN 5	232	-4 to +248
CR 10-1 → CR 10-6	145	-4 to +248
CRI, CRN 10-1 → CRI, CRN 10-10	232	-4 to +248
CR 15-1 → CR 15-5	145	-4 to +248
CRI, CRN 15-1 → CRI, CRN 15-8	232	-4 to +248
CR 20-1 → CR 20-5	145	-4 to +248
CRI, CRN 20-1 → CRI, CRN 20-7	232	-4 to +248

ANSI, Clamp, PJE



TM028835

	Max. operating pressure [psi]	Liquid temp. range [°F]
CR, CRI, CRN 1s	362	-4 to +248
CR, CRI, CRN 1	362	-4 to +248
CR, CRI, CRN 3	362	-4 to +248
CR, CRI, CRN 5	362	-4 to +248
CR, CRI 10-1 → 10-10	232	-4 to +248
CR, CRI 10-12 → 10-17	362	-4 to +248
CRN 10 (all stages)	362	-4 to +248
CR, CRI 15-1 → 15-8	232	-4 to +248
CR, CRI 15-9 → 15-12	362	-4 to +248
CRN 15 (all stages)	362	-4 to +248
CR, CRI 20-1 → 20-7	232	-4 to +248
CR, CRI 20-8 → 20-10	362	-4 to +248
CRN 20 (all stages)	362	-4 to +248
CR, CRN 32-1-1 → 32-5	232	-22 to +248
CR, CRN 32-6-2 → 32-11-2	435	-22 to +248

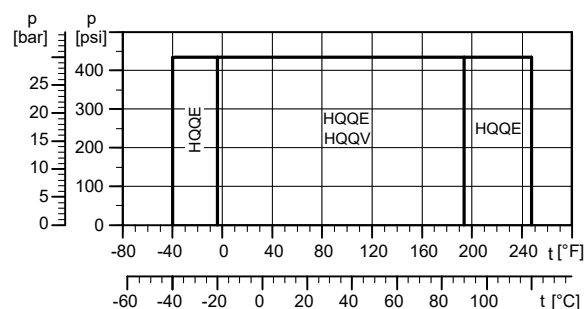
ANSI, Clamp, PJE

CR, CRN 45-1-1 → 45-4-2	232	-22 to +248
CR, CRN 45-4-1 → 45-8-1	435	-22 to +248
CR, CRN 64-1-1 → 64-3	232	-22 to +248
CR, CRN 64-4-2 → 64-5-2	435	-22 to +248

## Operating range of the shaft seal

The operating range of the shaft seal depends on operating pressure, pump type, type of shaft seal and liquid temperature. The following curves apply to clean water and water with anti-freeze liquids. For selecting the right shaft seal, see the section on pumped liquids.

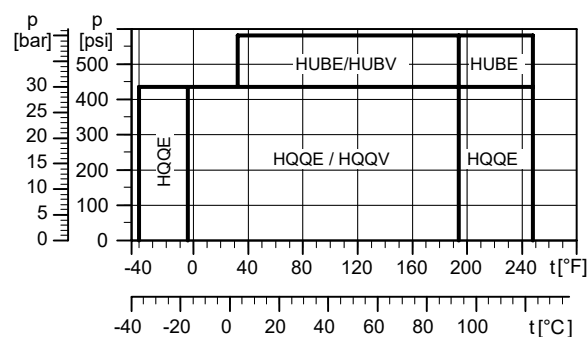
### CR 1s to CR 20



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Operating range of standard shaft seals for CR 1s to CR 20

### CR 32 to CR 64 (3 - 60 HP)



TM060999

Operating range of standard shaft seals for CR 32 to CR 64 (3 - 60 HP)

**HP**

Shaft seal	Description	Max. temp. range [°F]
HQQE	O-ring (cartridge) (balanced seal), SiC/SiC, EPDM	-40 °F to +248 °F
HQQV	O-ring (cartridge) (balanced seal), SiC/SiC, FKM	-4 °F to +194 °F
HUBE	O-ring (cartridge) (balanced seal), TC/carbon, EPDM	+32 °F to +248 °F
HUBV	O-ring (cartridge) (balanced seal), TC/carbon, FKM	+32 °F to +194 °F

Note that TC equals tungsten carbide.

See the section on variants, in case of extreme temperatures:

- low temperatures down to -40 °F
- high temperatures up to +356 °F.

**Related information**

[Pumped liquids](#)

[Lists of variants - on request](#)

**Maximum inlet pressure**

The following table shows the maximum permissible inlet pressure. However, the outlet pressure, which is the actual inlet pressure plus the pressure delivered by the pump must always be lower than the maximum permissible operating pressure.

If the maximum permissible operating pressure is exceeded, the conical bearing in the motor may be damaged and the life of the shaft seal reduced.

Pump type and stages	Maximum inlet pressure [psi (bar)]
<b>CR, CRI, CRN 1s</b>	
1s-2 → 1s-27	145 (10)
<b>CR, CRI, CRN 1</b>	
1-2 → 1-25	145 (10)
1-27	217 (15)
<b>CR, CRI, CRN 3</b>	
3-2 → 3-17	145 (10)
3-19 → 3-25	217 (15)
<b>CR, CRI, CRN 5</b>	
5-2 → 5-9	145 (10)
5-10 → 5-24	217 (15)
<b>CR, CRI, CRN 10</b>	
10-1 → 10-5	116 (8)
10-6 → 10-17	145 (10)
<b>CR, CRI, CRN 15</b>	
15-1 → 15-2	116 (8)
15-3 → 15-12	145 (10)
<b>CR, CRI, CRN 20</b>	
20-1	116 (8)
20-2 → 20-10	145 (10)
<b>CR, CRN 32</b>	

Pump type and stages	Maximum inlet pressure [psi (bar)]
32-1-1 → 32-2	58 (4)
32-3-2 → 32-6	145 (10)
32-7-2 → 32-10-2	217 (15)
<b>CR, CRN 45</b>	
45-1-1 → 45-1	58 (4)
45-2-2 → 45-3	145 (10)
45-4-2 → 45-7	217 (15)
<b>CR, CRN 64</b>	
64-1-1	58 (4)
64-1 → 64-2-1	145 (10)
64-2 → 64-5-2	217 (15)

### Examples of operating and inlet pressures

The values for operating pressures and inlet pressures shown in the tables must not be considered individually but must always be compared. See the following examples:

#### Example 1:

Pump (see the section on CR 3):	CRE 3-10 A-A-A
Max. operating pressure:	232 psi (16 bar)
Max. inlet pressure:	145 psi (10 bar)
Outlet pressure against a closed valve:	139.2 psi (9.5 bar)

This pump is not allowed to start at an inlet pressure of 145 psi, but at an inlet pressure of  $232.0 - 139.2 = 92.8$  psi (6.39 bar).

#### Example 2:

Pump (see the section on CR 10):	CRE 10-2 A-GJ-A
Max. operating pressure:	232 psi (16 bar)
Max. inlet pressure:	116 psi (8 bar)
Outlet pressure against a closed valve:	42 psi (3 bar)

This pump is allowed to start at an inlet pressure of 116 psi (8 bar), as the outlet pressure is only 42 psi, which results in an operating pressure of  $116 + 42 = 158$  psi (11 bar). On the contrary, the maximum operating pressure of this pump is limited to 158 psi, as a higher operating pressure will require an inlet pressure of more than 116 psi (8 bar).

In case the inlet or operating pressure exceeds the pressure permitted, see the section on variants.

#### Related information

[CR 3](#)

[CR 10](#)

[Lists of variants - on request](#)

## 8. Selection

### Selection of pumps

Base the selection of pumps on these parameters:

- Duty point of the pump. See the section on duty point of the pump.
- Sizing data such as pressure loss as a result of height differences, friction loss in the pipes, pump efficiency. See the section on sizing data.
- Pump materials. See the section on pump material.
- Pump connections. See the section on pump connection.
- Shaft seal. See the section on shaft seal.

#### Duty point of the pump

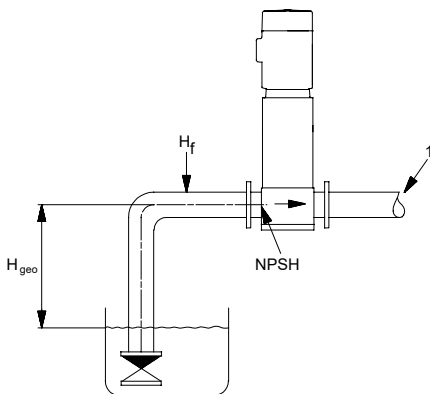
From a duty point, you can select a pump on the basis of the curve charts in the section on performance curves.

Ideally, the duty point should match the best efficiency on the pump curve. See the example in fig. Example of a CR pump's duty point.

#### Sizing data

When sizing a pump, take these parameters into account.

- Required flow rate and pressure at the draw-off point.
- Pressure loss as a result of height differences ( $H_{geo}$ ).
- Friction loss in the pipes ( $H_f$ ). It may be necessary to account for pressure loss in connection with long pipes, bends, valves, or similar.
- Best efficiency at the estimated duty point.
- NPSH value. For calculation of the NPSH value, see the section on minimum inlet pressure - NPSHA.



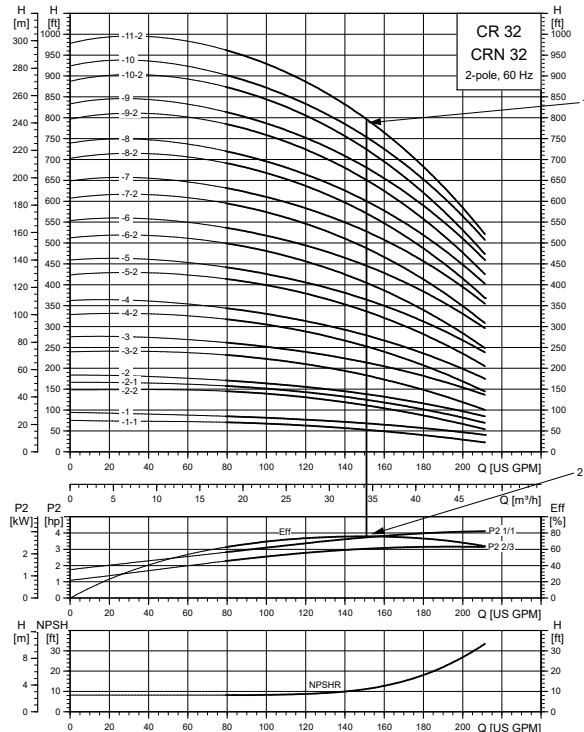
TM026711

#### Sizing data

Pos.	Description
1	Required flow rate, required pressure

### Pump efficiency

Before determining the best efficiency point, identify the operation pattern of the pump. If the pump is expected to always operate at the same duty point, then select a pump which is operating at a duty point corresponding to the best efficiency of the pump.

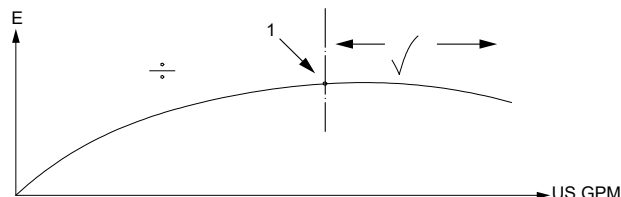


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#### Example of a CR pump's duty point

Pos.	Description
1	Duty point
2	Best efficiency

As the pump is sized on the basis of the highest possible flow rate, it is important to always have the duty point to the right of the best efficiency point on the efficiency curve. This must be considered in order to keep efficiency high when the flow rate drops.



TM028579

#### Best efficiency

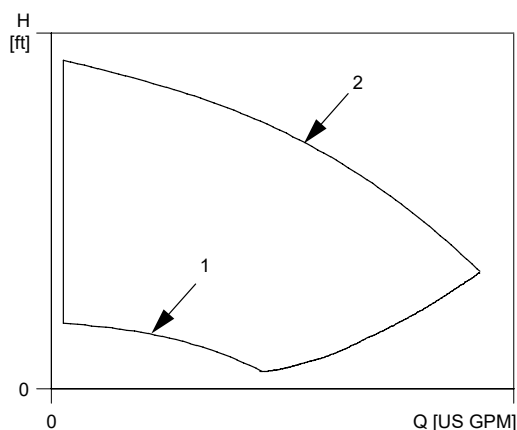
Pos.	Description
1	Best efficiency point

Normally, pumps with an external variable frequency drive (VFD) are used in applications characterized by a variable flow rate. Consequently, it is not possible to select a pump that is constantly operating at its best efficiency.

In order to achieve optimum operating economy, the pump must be selected on the basis of the following criteria:

- The maximum required duty point must be as close as possible to the QH curve of the pump.
- The required duty point must be positioned so that P2 is close to the maximum point of the 100 % curve.

Between the minimum and maximum performance curves, pumps with a VFD have an infinite number of performance curves each representing a specific speed. Therefore, it may not be possible to select a duty point close to the 100 % curve.



TM027572

Minimum and maximum performance curves

Pos.	Description
1	Min. curve
2	Max. curve

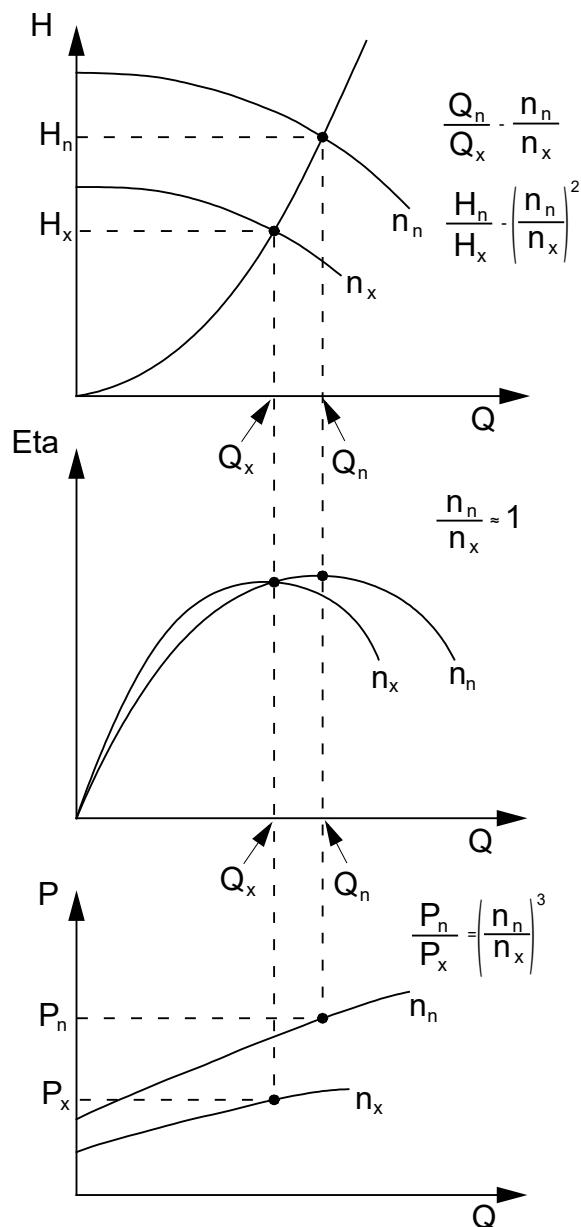
In situations where it is not possible to select a duty point close to the 100 % curve the affinity equations to the right can be used. The head (H), the flow rate (Q) and the input power (P) are all the appropriate variables for the motor speed (n). See the figure below.

#### Note:

The approximated formulas apply on the condition that the system characteristic remains unchanged for  $n_n$  and  $n_x$  and that it is based on the formula  $H = k \times Q^2$ , where  $k$  is a constant.

The power equation implies that the pump efficiency is unchanged at the two speeds. In practice this is not quite correct.

To obtain a precise calculation of the power savings resulting from a reduction of pump speed, take into account the efficiencies of the frequency converter and the motor.



TM008720

#### Affinity equations

$H_n$	Rated head in feet
$H_x$	Current head in feet
$Q_n$	Rated flow rate in US gpm
$Q_x$	Current flow rate in US gpm
$n_n$	Rated motor speed in $\text{min}^{-1}$ ( $n_n = 3500 \text{ min}^{-1}$ )
$n_x$	Current motor speed in $\text{min}^{-1}$
$\eta_n$	Rated efficiency in %
$\eta_x$	Current efficiency in %



### Grundfos Product Center

We recommend that you size your pump in Grundfos Product Center, which is a selection program offered by Grundfos.

Grundfos Product Center features a user-friendly and easy-to-use virtual guide which leads you through the selection of the pump for the application in question.

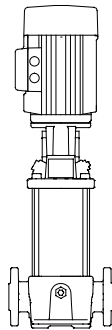
For further information see the section on Grundfos Product Center.

### Pump material

Select the material variant on the basis of the liquid to be pumped. The product range covers these basic types.

- The CR, CRI pump types are suitable for clean, non-aggressive liquids, such as potable water and, oils.
- The CRN pump type is suitable for industrial liquids and acids. See the section on pumped liquids or contact Grundfos.

For saline or chloride-containing liquids, such as sea water, CRT pumps of titanium are available.



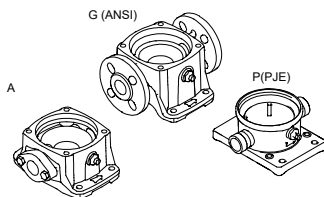
TM032155

*CR pump*

### Pump connection

Selection of pump connection depends on the rated pressure and the pipes. To meet any requirement, the CR, CRI and CRN pumps offer a wide range of flexible connections such as:

- Oval flange (NPT) - fig. Pump connections
- ANSI flange - fig. Pump connections
- PJE coupling - fig. Pump connections
- Clamp coupling
- Union (NPT[M])
- Other connections on request.



TM021201

*Pump connections*

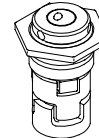
### Shaft seal

As standard, the CR range is fitted with a Grundfos shaft seal (Cartridge type) suitable for the most common applications. See fig. Shaft seal (Cartridge type).

The following three key parameters must be taken into account when selecting the shaft seal:

- type of pumped liquid
- liquid temperature
- maximum pressure.

Grundfos offers a wide range of shaft seal variants to meet specific demands. See the section on pumped liquids.



TM020538

*Shaft seal (Cartridge type)*

### Inlet pressure and operating pressure

Do not exceed the limit values stated in the section on maximum operating pressure and temperature range and in the section on maximum inlet pressure as regards these pressures:

- maximum inlet pressure
- maximum operating pressure.

### Minimum inlet pressure - NPSHA

We recommend that you calculate the inlet pressure "H" in these situations:

- The liquid temperature is high.
- The flow rate is significantly higher than the rated flow rate.
- Water is drawn from depths.
- Water is drawn through long pipes.
- Inlet conditions are poor.

To avoid cavitation, make sure that there is a minimum pressure on the inlet side of the pump.

Calculate the maximum suction lift "H" in feet of head as follows:

$$H = p_b \times 2.31 - \text{NPSHR} - H_f - H_v$$

$$P_b = \text{Barometric pressure in psi.}$$

$P_b$  can be set to 14.7 psi at sea level. In closed systems,  $p_b$  indicates system pressure in psi.

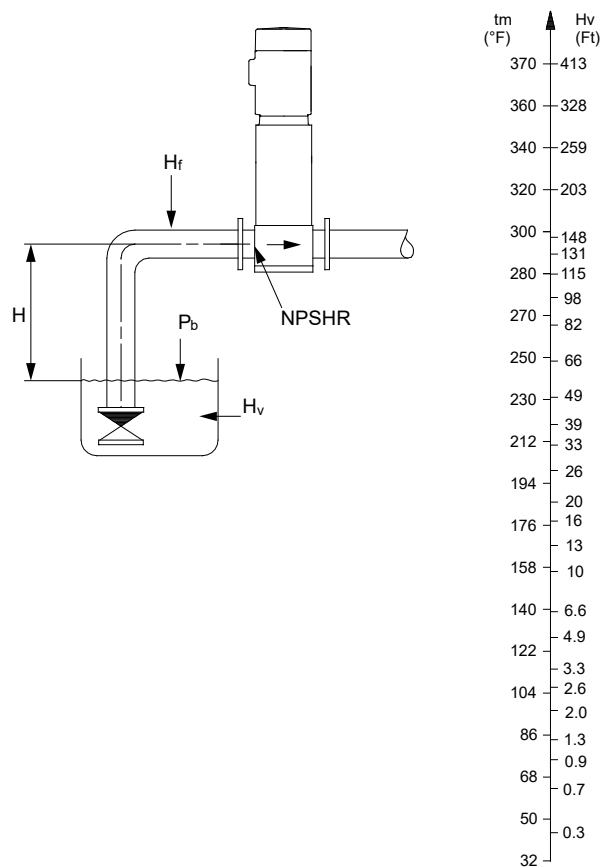
NPSHR = Net Positive Suction Head Required in feet of head. To be read from the NPSHR curve at the highest flow rate the pump will be delivering.

$H_f$  = Friction loss in the inlet pipe in feet of head at the highest flow rate the pump will be delivering.

$H_v$  = Vapor pressure in feet of head. To be read from the vapor pressure scale.  $H_v$  depends on the liquid temperature  $T_m$ .

If the "H" calculated is positive, the pump can operate at a suction lift of maximum "H" feet.

If the "H" calculated is negative, an inlet pressure of minimum "H" feet is required.



### Minimum inlet pressure - NPSHR

To avoid cavitation, never select a pump with a duty point too far to the right on the NPSHR curve.

Always check the NPSHR value of the pump at the highest possible flow rate.

In case a lower NPSHR value is required, see the section on variants.

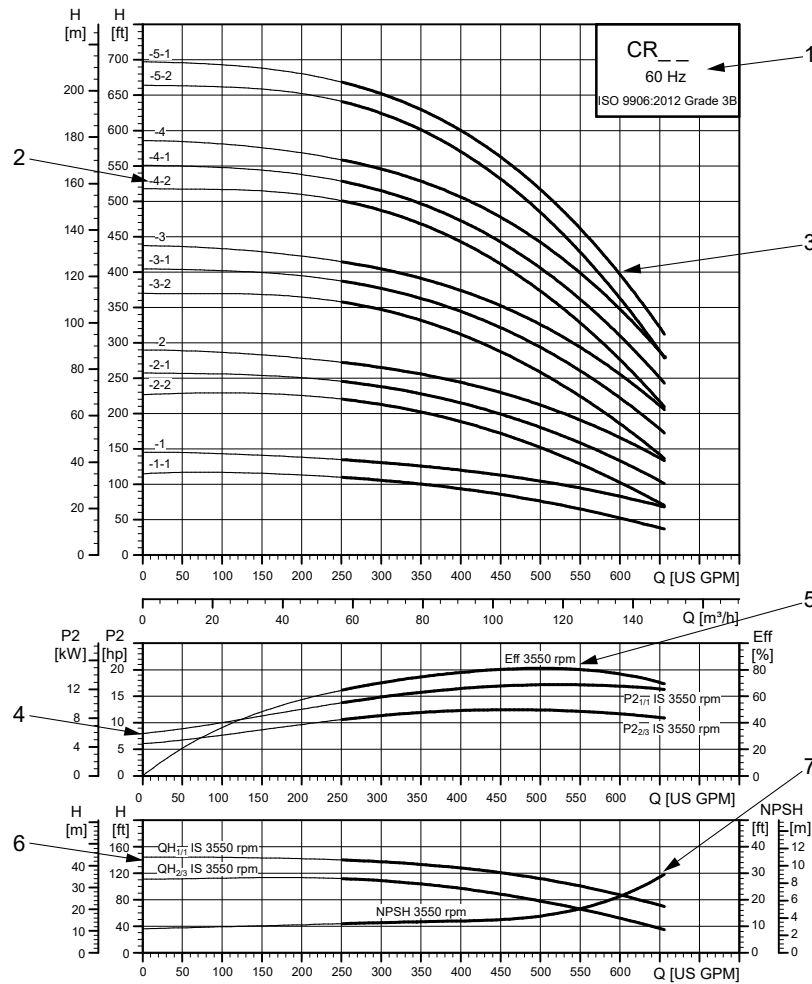
### Related information

[Pumped liquids](#)

[Maximum operating pressure and temperature range](#)

[Maximum inlet pressure](#)

### How to read the curve charts



Pos.	Description
1	Pump type. Frequency, poles or speed. ISO or ANSI standard.
2	Number of stages. First figure: number of stages. Second figure: number of reduced-diameter impellers.
3	QH curve of the individual pump. The bold curves indicate the recommended duty range for best efficiency.
4	The power curves indicate pump input power <b>per stage</b> . Curves are shown for full (1/1) and for reduced-diameter (2/3) impellers.
5	The Eff curve shows the efficiency of a pump with three full size impellers. The efficiency of pumps with reduced-diameter impellers is approximately 2 % lower than the Eff curve shown in the chart.
6	QH curve for each individual impeller. Curves are shown for full (1/1) and for reduced-diameter (2/3) impellers.
7	The NPSH curve is a maximum curve for all the variants shown.

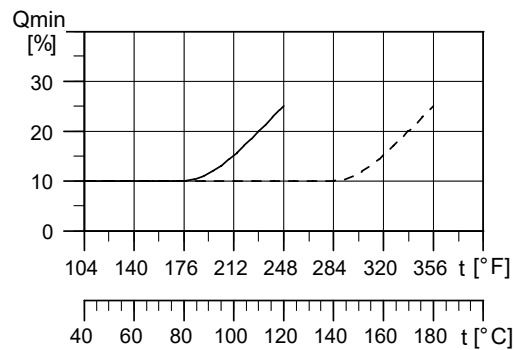
TM079034

## Guidelines to performance curves

The guidelines below apply to the performance curves:

- Tolerances to ANSI or ISO standards, such as ISO 9906:2012, Grade 3B, if indicated on the curve chart.
- The motors used for the measurements are standard Grundfos-specified motors.
- Measurements have been made with airless water at a temperature of 68 °F (20 °C).
- The curves apply to the following kinematic viscosity:  $\nu = 1 \text{ mm}^2/\text{s}$  (1 cSt).
- Due to the risk of overheating, the pumps must not be used at a flow rate below the minimum flow rate.
- The QH curves apply to a rated motor speed of a three-phase mains-operated motor. For realistic curves, go to Grundfos Product Center (<http://product-selection.grundfos.com>), and insert data.

The curve below shows the minimum flow rate as a percentage of the rated flow rate in relation to the liquid temperature. The dotted line shows a CR pump fitted with an air-cooled top assembly.

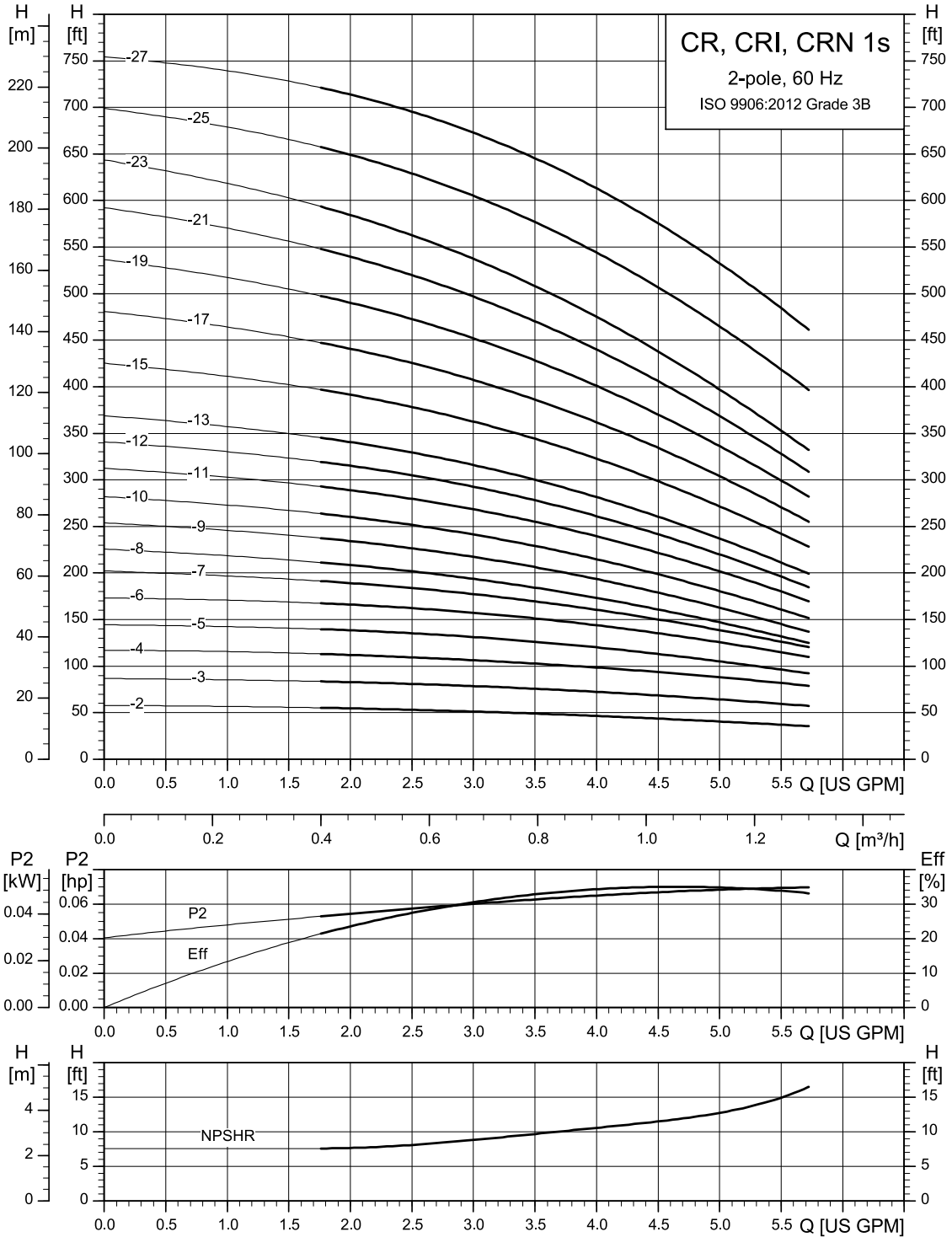


TM027538

*Minimum flow rate*

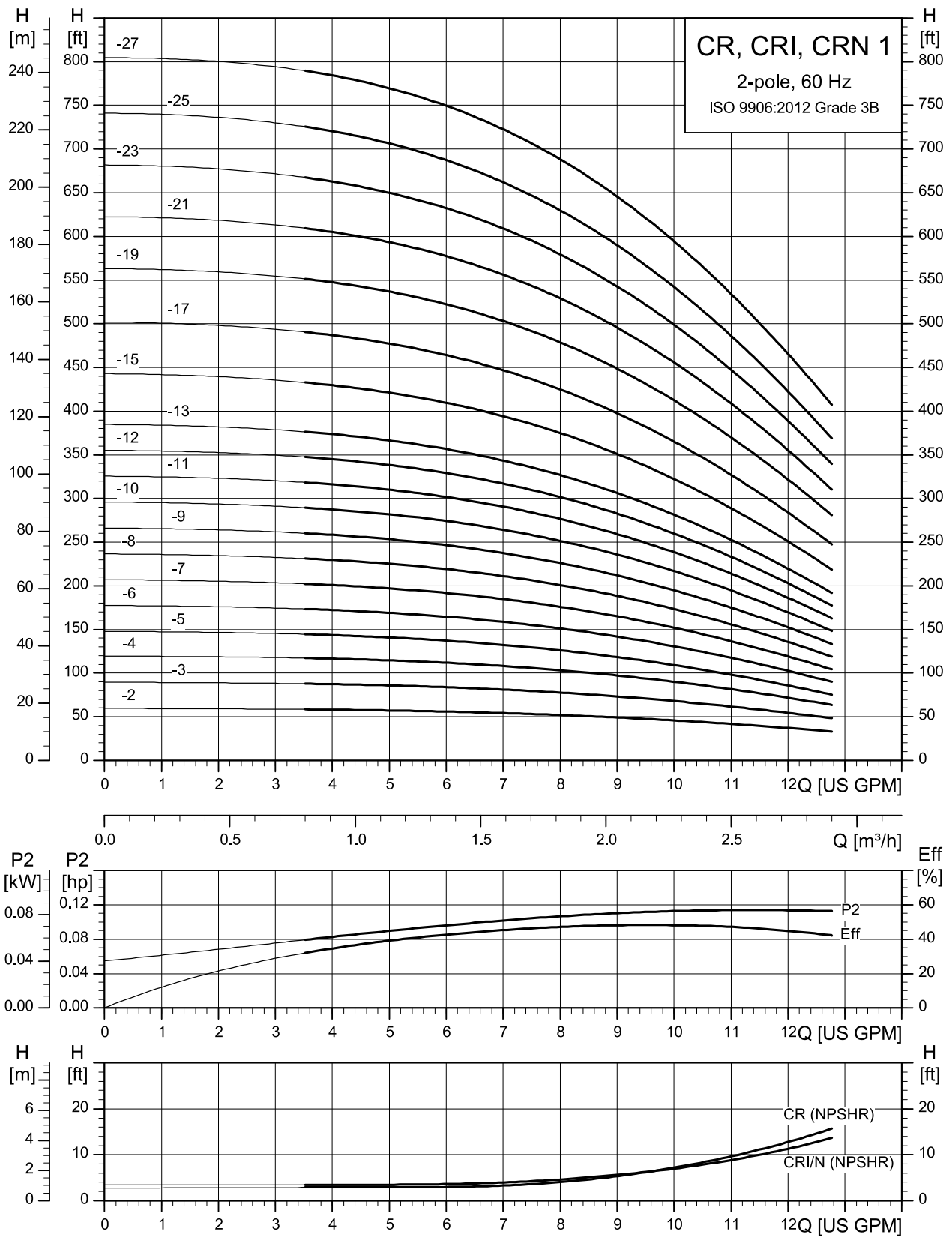
# 9. Performance curves

## CR, CRI, CRN 1s



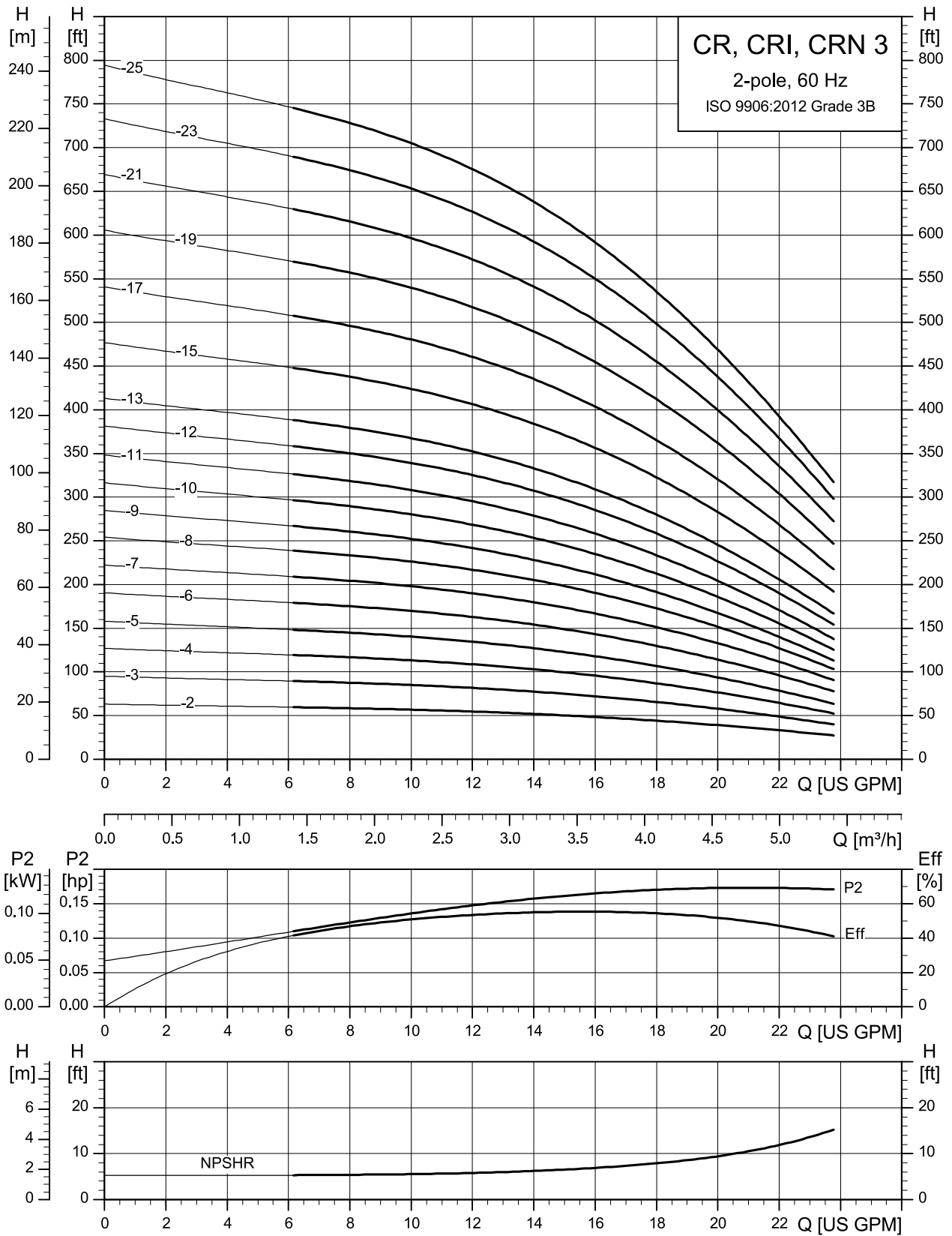
TM025741

CR, CRI, CRN 1



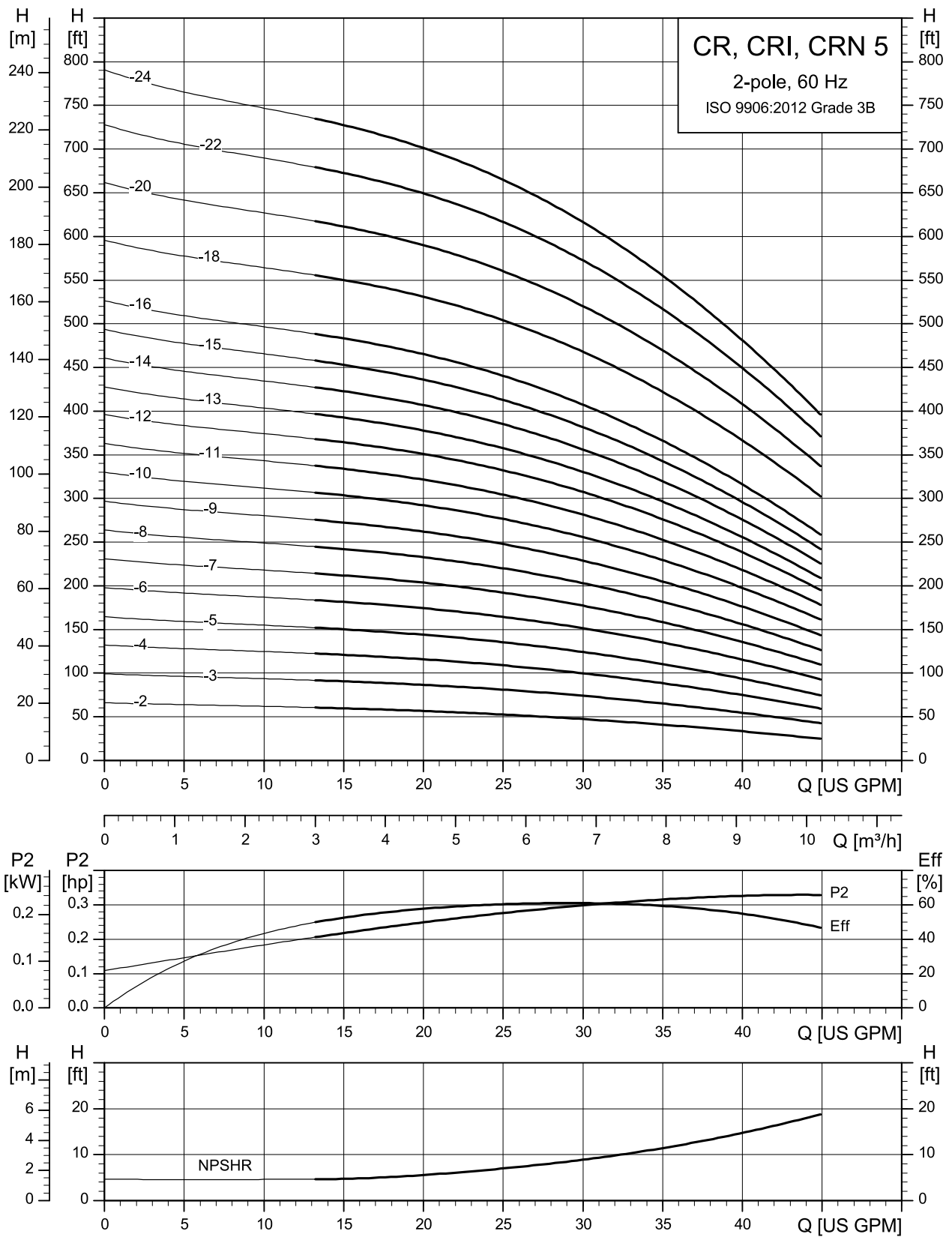
TM024083

CR, CRI, CRN 3



TM024084

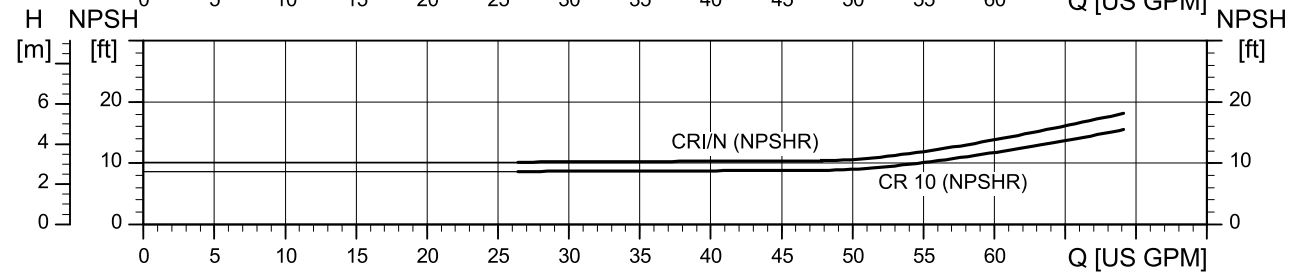
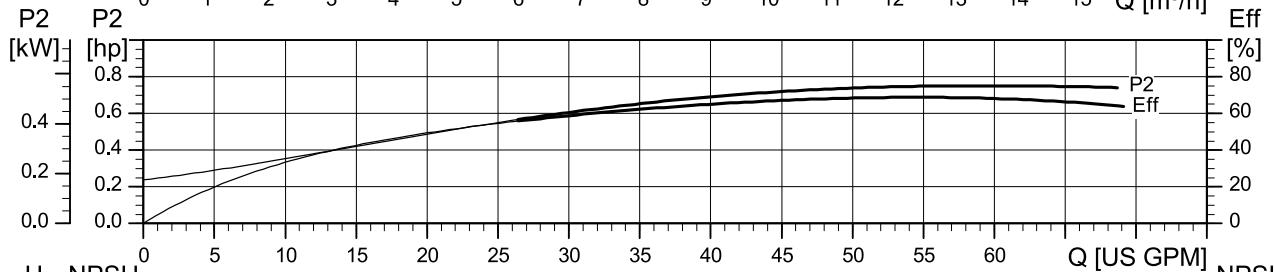
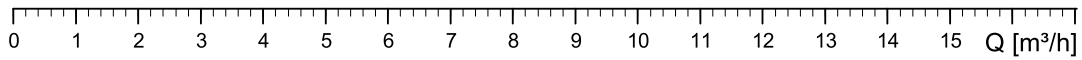
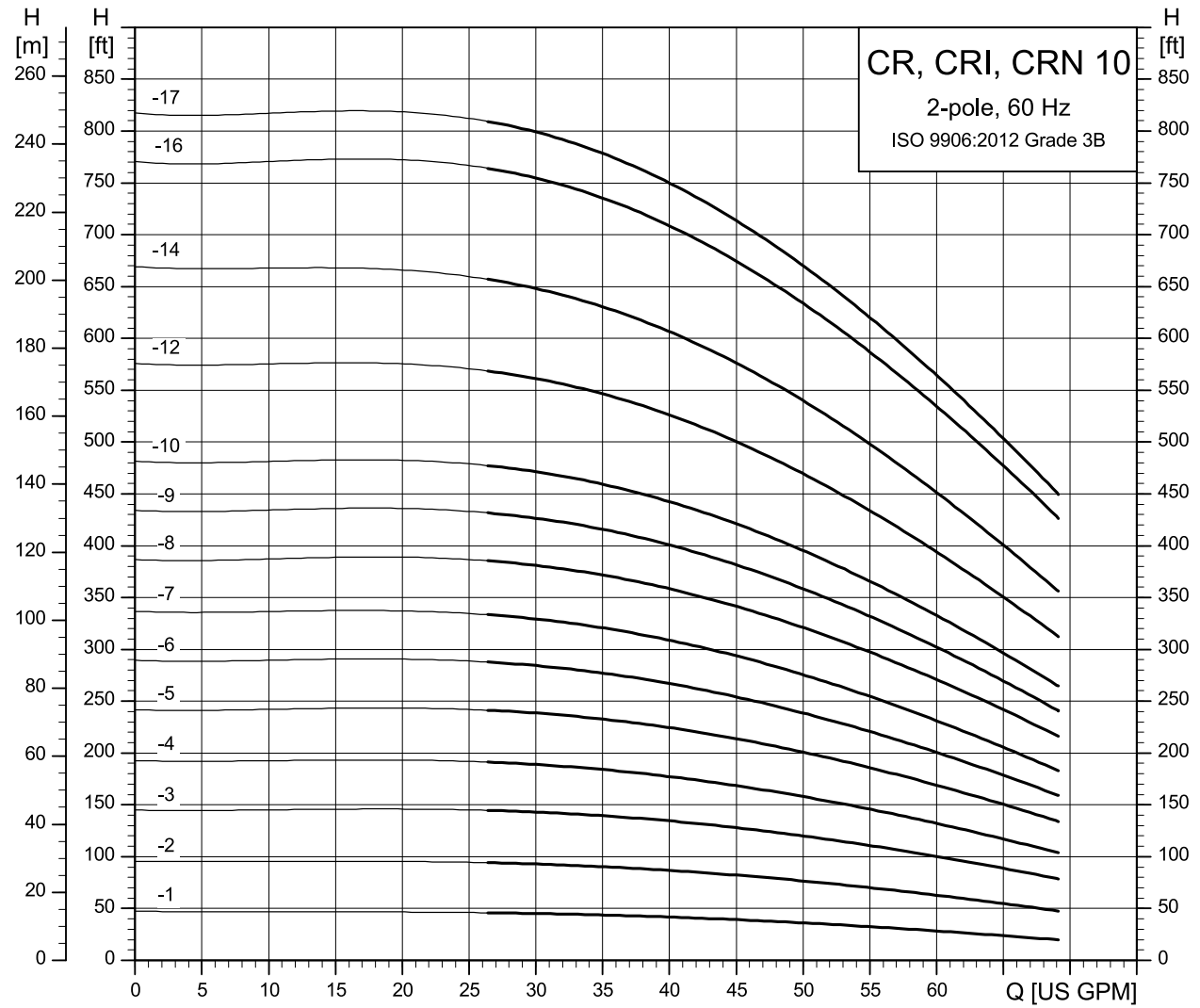
**CR, CRI, CRN 5**



TM024085

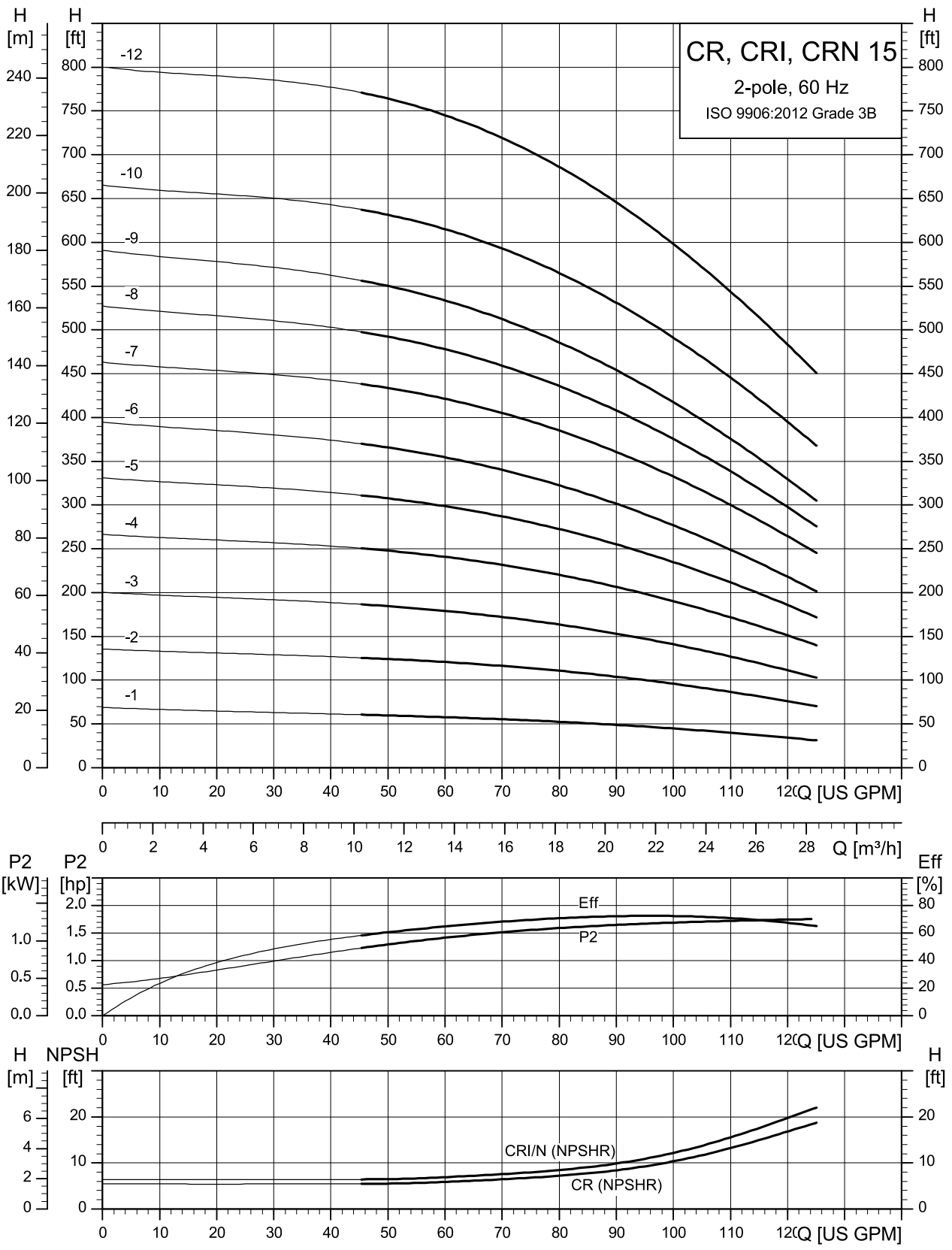


**CR, CRI, CRN 10**



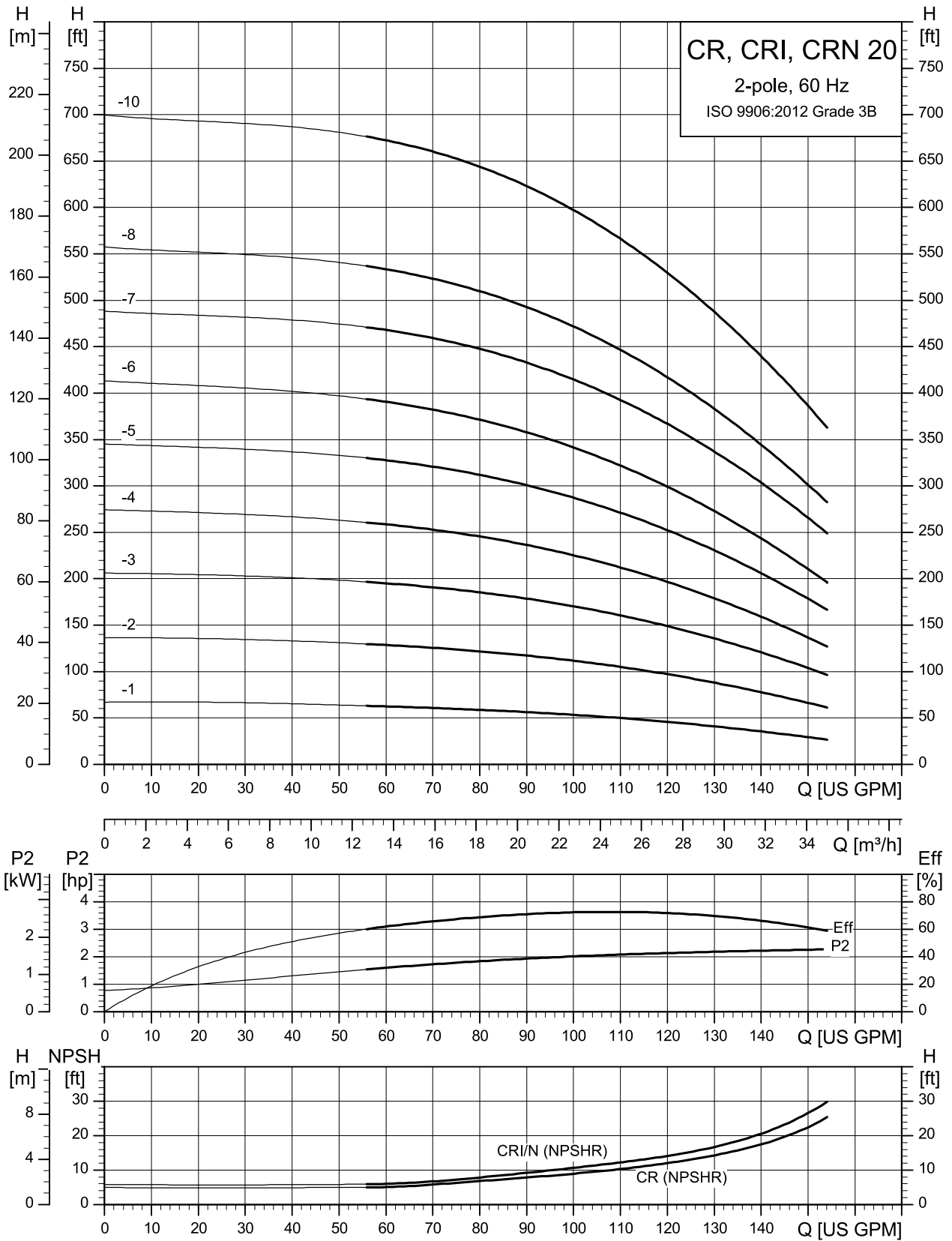
TM027221

**CR, CRI, CRN 15**



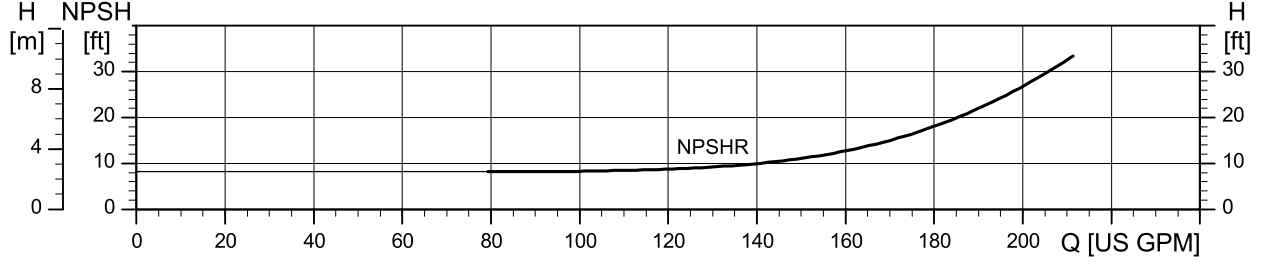
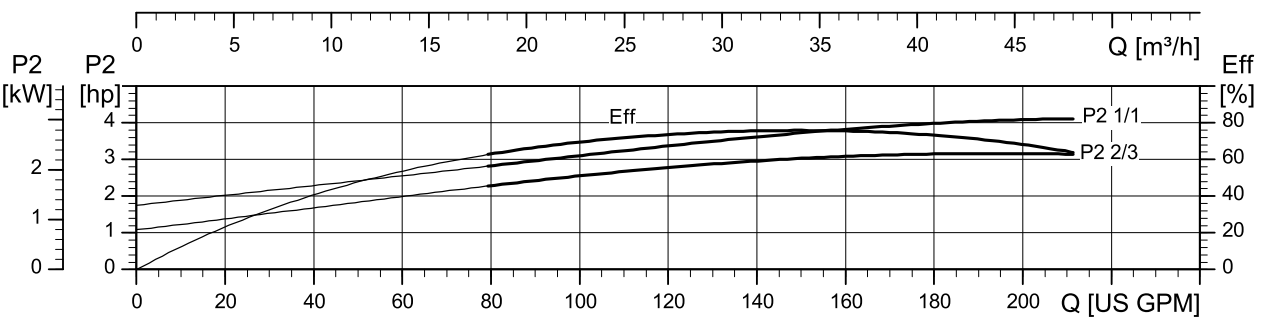
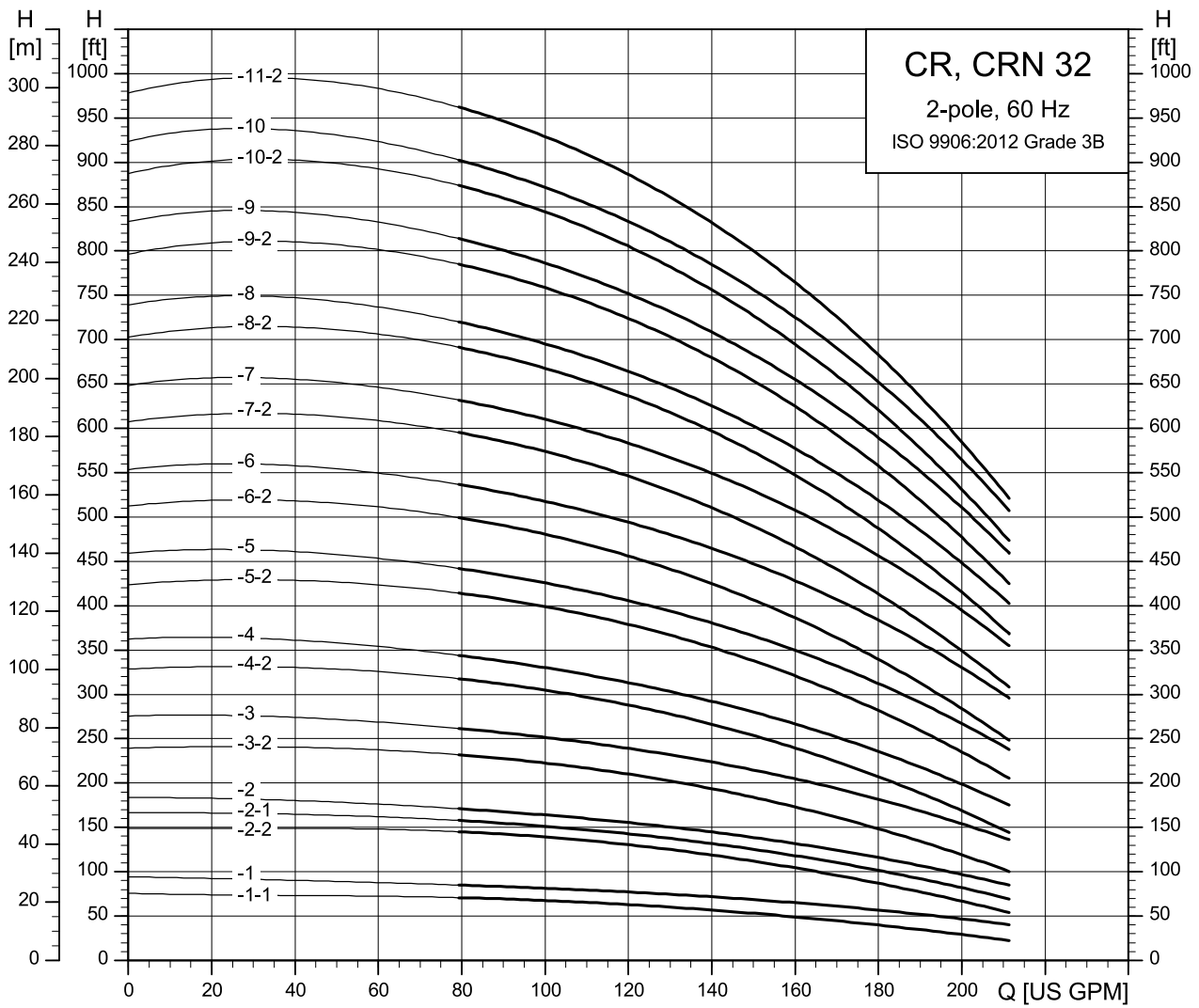
TM027222

**CR, CRI, CRN 20**



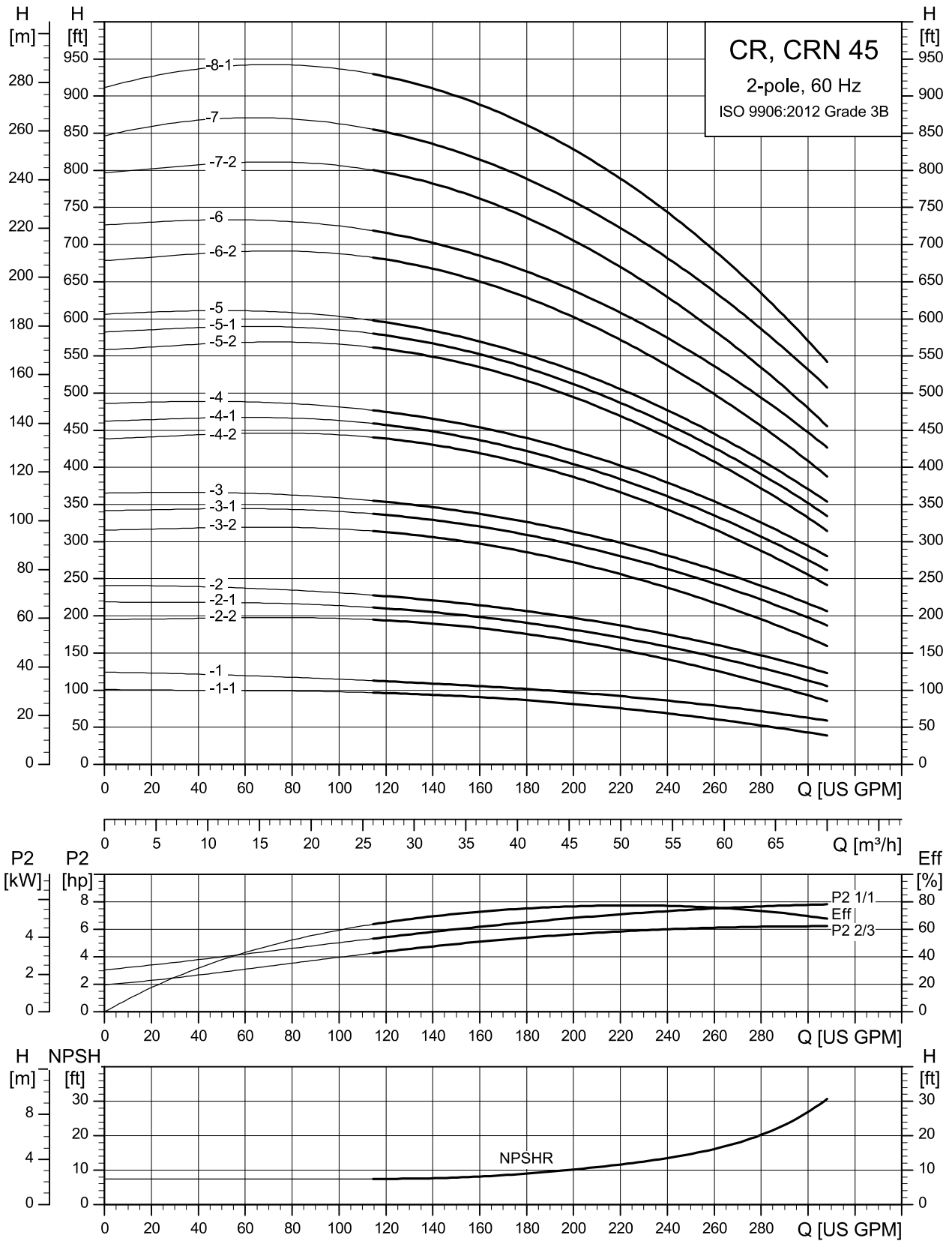
TM027223

**CR, CRN 32**



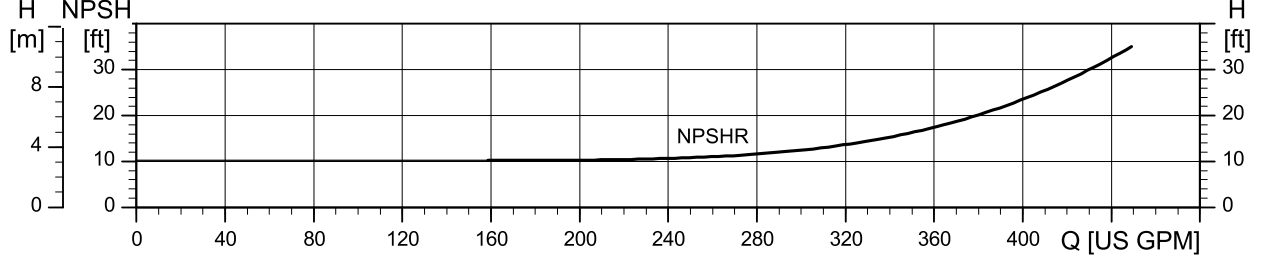
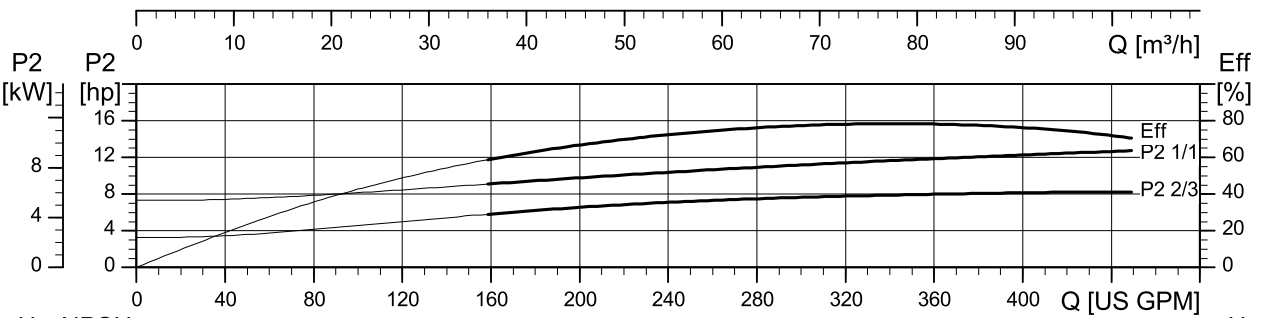
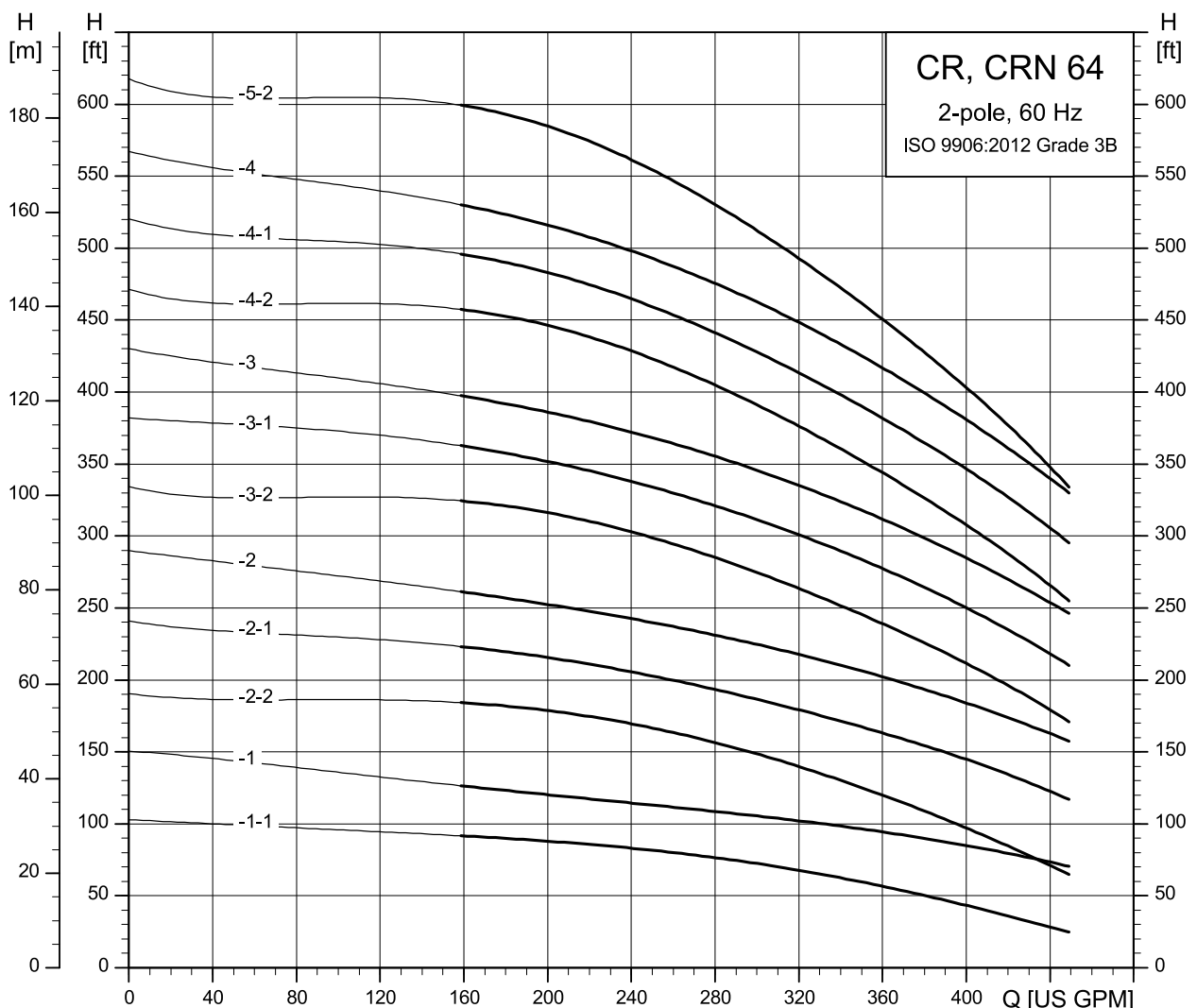
TM020039

**CR, CRN 45**



TM020040

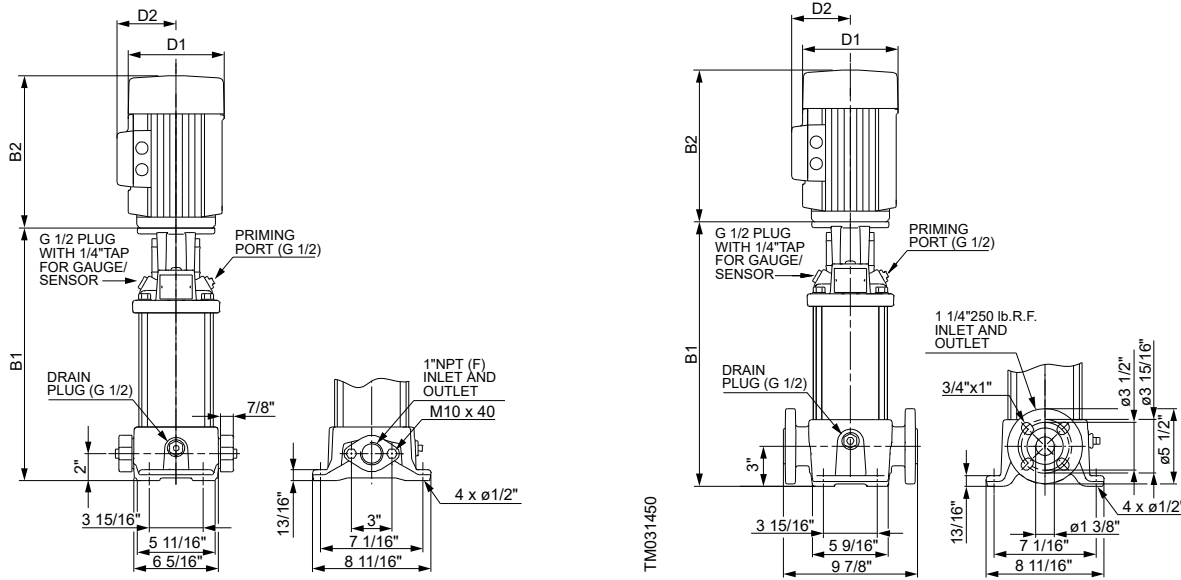
### CR, CRN 64



TM020041

# 10. Technical data

## CR 1s



Pump type	P2 [HP]	Ph.	Oval <sup>19)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC		B1+B2	
					D1	D2		
CR 1s-2	1/3	1	•	11.97 (304)	6.65 (169)	5.51 (140)	21.02 (534)	57.72 (26)
		3	•	11.97 (304)	6.69 (170)	5.51 (140)	20.24 (514)	54.69 (25)
CR 1s-3	1/3	1	•	11.97 (304)	6.65 (169)	5.51 (140)	21.02 (534)	58.16 (26)
		3	•	11.97 (304)	6.69 (170)	5.51 (140)	20.24 (514)	55.13 (25)
CR 1s-4	1/3	1	•	12.68 (322)	6.65 (169)	5.51 (140)	21.73 (552)	59.03 (27)
		3	•	12.68 (322)	6.69 (170)	5.51 (140)	20.94 (532)	56.00 (25)
CR 1s-5	1/3	1	•	13.39 (340)	6.65 (169)	5.51 (140)	22.44 (570)	59.90 (27)
		3	•	13.39 (340)	6.69 (170)	5.51 (140)	21.65 (550)	56.87 (26)
CR 1s-6	1/2	1	•	14.09 (358)	6.65 (169)	5.51 (140)	23.54 (598)	63.22 (29)
		3	•	14.09 (358)	6.69 (170)	5.51 (140)	22.76 (578)	63.73 (29)
CR 1s-7	1/2	1	•	14.80 (376)	6.65 (169)	5.51 (140)	24.25 (616)	64.09 (29)
		3	•	14.80 (376)	6.69 (170)	5.51 (140)	23.46 (596)	64.60 (29)
CR 1s-8	1/2	1	•	15.51 (394)	6.65 (169)	5.51 (140)	24.96 (634)	64.96 (29)
		3	•	15.51 (394)	6.69 (170)	5.51 (140)	24.17 (614)	65.48 (30)
CR 1s-9	3/4	1	•	16.22 (412)	7.64 (194)	5.87 (149)	27.52 (699)	79.89 (36)
		3	•	16.22 (412)	6.69 (170)	5.51 (140)	24.88 (632)	67.77 (31)
CR 1s-10	3/4	1	•	16.93 (430)	7.64 (194)	5.87 (149)	28.23 (717)	80.76 (37)
		3	•	16.93 (430)	6.69 (170)	5.51 (140)	25.59 (650)	68.64 (31)
CR 1s-11	3/4	1	•	17.64 (448)	7.64 (194)	5.87 (149)	28.94 (735)	81.41 (37)
		3	•	17.64 (448)	6.69 (170)	5.51 (140)	26.30 (668)	69.29 (31)
CR 1s-12	3/4	1	•	18.35 (466)	7.64 (194)	5.87 (149)	29.65 (753)	82.29 (37)
		3	•	18.35 (466)	6.69 (170)	5.51 (140)	27.01 (686)	70.16 (32)

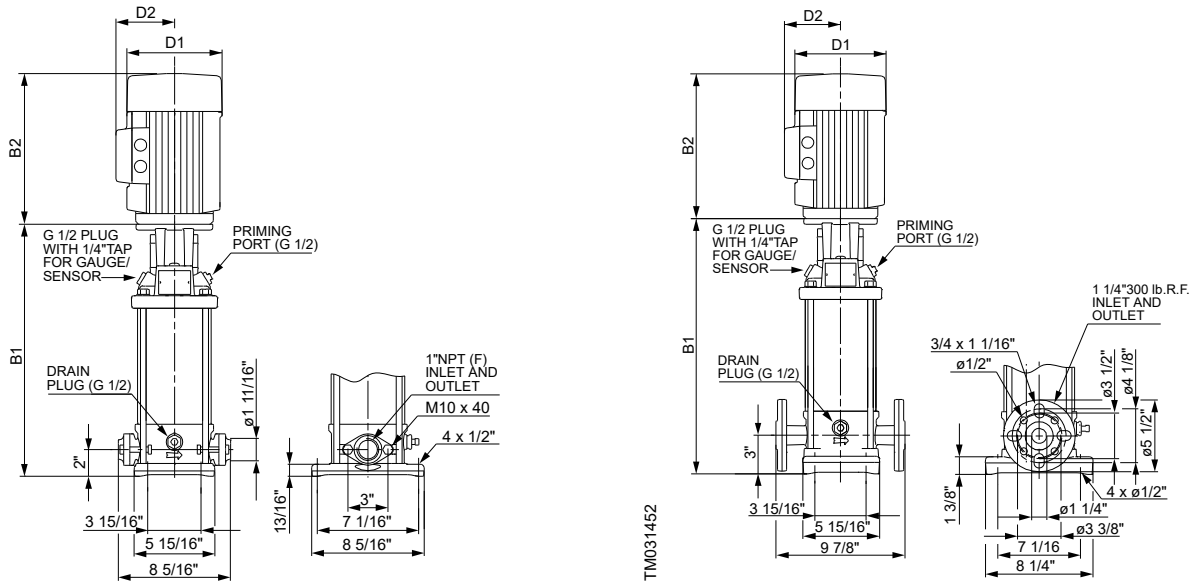
Pump type	P2 [HP]	Ph.	Oval <sup>19)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 1s-13	1	1	•	19.06 (484)	7.64 (194)	5.87 (149)	30.75 (781)	85.65 (39)
		3	•	19.06 (484)	6.69 (170)	5.51 (140)	28.11 (714)	72.20 (33)
CR 1s-15	1	1	•	20.47 (520)	7.64 (194)	5.87 (149)	32.17 (817)	87.38 (40)
		3	•	20.47 (520)	6.69 (170)	5.51 (140)	29.53 (750)	73.93 (34)
CR 1s-17	1 1/2	1	•	21.89 (556)	7.64 (194)	5.87 (149)	34.37 (873)	94.01 (43)
		3	•	21.89 (556)	7.64 (194)	5.87 (149)	33.58 (853)	93.07 (42)
CR 1s-19	1 1/2	1	-	23.31 (592)	7.64 (194)	5.87 (149)	35.79 (909)	95.77 (43)
		3	-	23.31 (592)	7.64 (194)	5.87 (149)	35.00 (889)	94.82 (43)
CR 1s-21	1 1/2	1	-	24.72 (628)	7.64 (194)	5.87 (149)	37.20 (945)	97.50 (44)
		3	-	24.72 (628)	7.64 (194)	5.87 (149)	36.42 (925)	96.55 (44)
CR 1s-23	1 1/2	1	-	26.14 (664)	7.64 (194)	5.87 (149)	38.62 (981)	99.25 (45)
		3	-	26.14 (664)	7.64 (194)	5.87 (149)	37.83 (961)	98.30 (45)
CR 1s-25	2	1	-	27.56 (700)	7.64 (194)	5.87 (149)	40.43 (1027)	106.4 (48)
		3	-	27.56 (700)	7.64 (194)	5.87 (149)	40.04 (1017)	104.5 (47)
CR 1s-27	2	1	-	28.98 (736)	7.64 (194)	5.87 (149)	41.85 (1063)	108.1 (49)
		3	-	28.98 (736)	7.64 (194)	5.87 (149)	41.46 (1053)	106.2 (48)

<sup>19)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.



CRI 1s



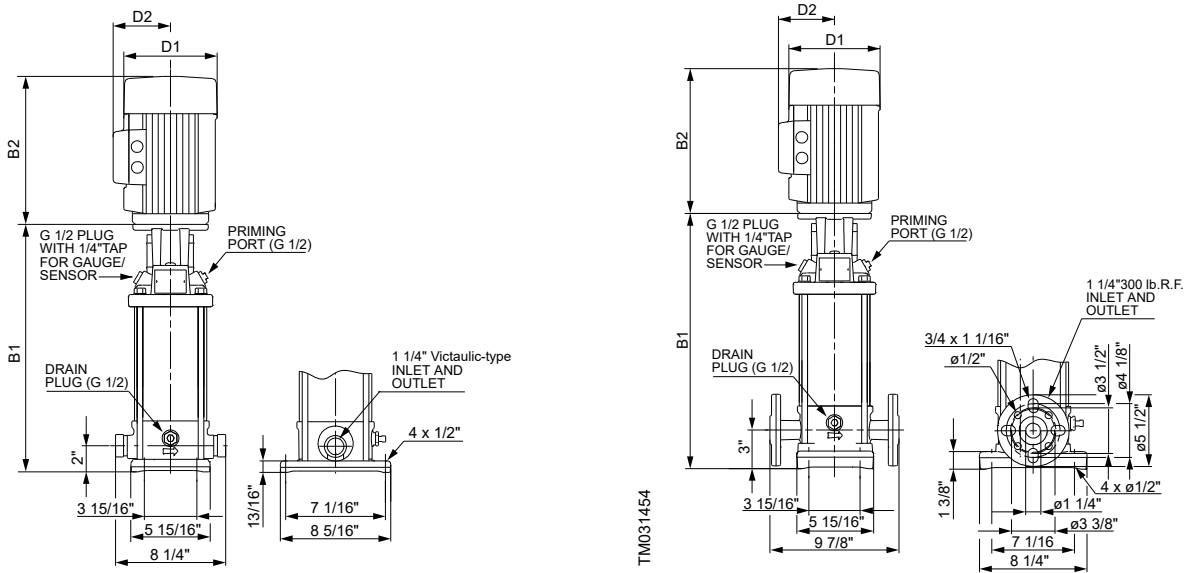
Pump type	P2 [HP]	Ph.	Oval <sup>20)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 1s-2	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.43 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.40 (22)
CRI 1s-3	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.87 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.84 (23)
CRI 1s-4	1/3	1	•	12.80 (325)	6.65 (169)	5.51 (140)	21.85 (555)	53.74 (24)
		3	•	12.80 (325)	6.69 (170)	5.51 (140)	21.06 (535)	50.71 (23)
CRI 1s-5	1/3	1	•	13.50 (343)	6.65 (169)	5.51 (140)	22.56 (573)	54.61 (25)
		3	•	13.50 (343)	6.69 (170)	5.51 (140)	21.77 (553)	51.58 (23)
CRI 1s-6	1/2	1	•	14.21 (361)	6.65 (169)	5.51 (140)	23.66 (601)	57.93 (26)
		3	•	14.21 (361)	6.69 (170)	5.51 (140)	22.87 (581)	58.44 (27)
CRI 1s-7	1/2	1	•	14.92 (379)	6.65 (169)	5.51 (140)	24.37 (619)	58.80 (27)
		3	•	14.92 (379)	6.69 (170)	5.51 (140)	23.58 (599)	59.31 (27)
CRI 1s-8	1/2	1	•	15.63 (397)	6.65 (169)	5.51 (140)	25.08 (637)	59.67 (27)
		3	•	15.63 (397)	6.69 (170)	5.51 (140)	24.29 (617)	60.18 (27)
CRI 1s-9	3/4	1	•	16.34 (415)	7.64 (194)	5.87 (149)	27.64 (702)	74.60 (34)
		3	•	16.34 (415)	6.69 (170)	5.51 (140)	25.00 (635)	62.48 (28)
CRI 1s-10	3/4	1	•	17.05 (433)	7.64 (194)	5.87 (149)	28.35 (720)	75.48 (34)
		3	•	17.05 (433)	6.69 (170)	5.51 (140)	25.71 (653)	63.35 (29)
CRI 1s-11	3/4	1	•	17.76 (451)	7.64 (194)	5.87 (149)	29.06 (738)	76.11 (35)
		3	•	17.76 (451)	6.69 (170)	5.51 (140)	26.42 (671)	63.99 (29)
CRI 1s-12	3/4	1	•	18.46 (469)	7.64 (194)	5.87 (149)	29.76 (756)	77.00 (35)
		3	•	18.46 (469)	6.69 (170)	5.51 (140)	27.13 (689)	64.87 (29)
CRI 1s-13	1	1	•	19.17 (487)	7.64 (194)	5.87 (149)	30.87 (784)	80.35 (36)
		3	•	19.17 (487)	6.69 (170)	5.51 (140)	28.23 (717)	66.89 (30)
CRI 1s-15	1	1	•	20.59 (523)	7.64 (194)	5.87 (149)	32.28 (820)	82.10 (37)
		3	•	20.59 (523)	6.69 (170)	5.51 (140)	29.65 (753)	68.65 (31)
CRI 1s-17	1 1/2	1	•	22.01 (559)	7.64 (194)	5.87 (149)	34.49 (876)	88.73 (40)
		3	•	22.01 (559)	7.64 (194)	5.87 (149)	33.70 (856)	87.78 (40)

Pump type	P2 [HP]	Ph.	Oval <sup>20)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 1s-19	1 1/2	1	-	23.43 (595)	7.64 (194)	5.87 (149)	35.91 (912)	90.48 (41)
		3	-	23.43 (595)	7.64 (194)	5.87 (149)	35.12 (892)	89.53 (41)
CRI 1s-21	1 1/2	1	-	24.84 (631)	7.64 (194)	5.87 (149)	37.32 (948)	92.22 (42)
		3	-	24.84 (631)	7.64 (194)	5.87 (149)	36.54 (928)	91.27 (41)
CRI 1s-23	1 1/2	1	-	26.26 (667)	7.64 (194)	5.87 (149)	38.74 (984)	93.96 (43)
		3	-	26.26 (667)	7.64 (194)	5.87 (149)	37.95 (964)	93.01 (42)
CRI 1s-25	2	1	-	27.68 (703)	7.64 (194)	5.87 (149)	40.55 (1030)	101.1 (46)
		3	-	27.68 (703)	7.64 (194)	5.87 (149)	40.16 (1020)	99.16 (45)
CRI 1s-27	2	1	-	29.09 (739)	7.64 (194)	5.87 (149)	41.97 (1066)	102.8 (47)
		3	-	29.09 (739)	7.64 (194)	5.87 (149)	41.57 (1056)	100.9 (46)

<sup>20)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRN 1s



TM031454

TM031453

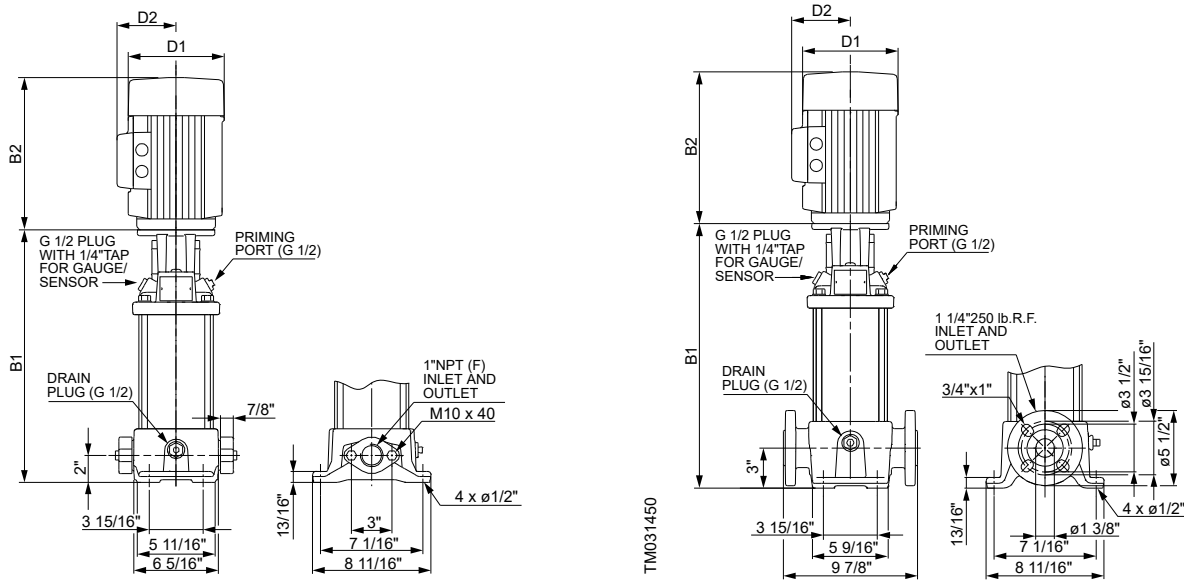
Pump type	P2 [HP]	Ph.	PJE <sup>21)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 1s-2	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.21 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.18 (22)
CRN 1s-3	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.87 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.84 (23)
CRN 1s-4	1/3	1	•	12.80 (325)	6.65 (169)	5.51 (140)	21.85 (555)	53.74 (24)
		3	•	12.80 (325)	6.69 (170)	5.51 (140)	21.06 (535)	50.71 (23)
CRN 1s-5	1/3	1	•	13.50 (343)	6.65 (169)	5.51 (140)	22.56 (573)	54.61 (25)
		3	•	13.50 (343)	6.69 (170)	5.51 (140)	21.77 (553)	51.58 (23)
CRN 1s-6	1/2	1	•	14.21 (361)	6.65 (169)	5.51 (140)	23.66 (601)	57.94 (26)
		3	•	14.21 (361)	6.69 (170)	5.51 (140)	22.87 (581)	58.46 (27)
CRN 1s-7	1/2	1	•	14.92 (379)	6.65 (169)	5.51 (140)	24.37 (619)	58.80 (27)
		3	•	14.92 (379)	6.69 (170)	5.51 (140)	23.58 (599)	59.31 (27)
CRN 1s-8	1/2	1	•	15.63 (397)	6.65 (169)	5.51 (140)	25.08 (637)	59.67 (27)
		3	•	15.63 (397)	6.69 (170)	5.51 (140)	24.29 (617)	60.18 (27)
CRN 1s-9	3/4	1	•	16.34 (415)	7.64 (194)	5.87 (149)	27.64 (702)	74.38 (34)
		3	•	16.34 (415)	6.69 (170)	5.51 (140)	25.00 (635)	62.26 (28)
CRN 1s-10	3/4	1	•	17.05 (433)	7.64 (194)	5.87 (149)	28.35 (720)	75.25 (34)
		3	•	17.05 (433)	6.69 (170)	5.51 (140)	25.71 (653)	63.13 (29)
CRN 1s-11	3/4	1	•	17.76 (451)	7.64 (194)	5.87 (149)	29.06 (738)	75.91 (34)
		3	•	17.76 (451)	6.69 (170)	5.51 (140)	26.42 (671)	63.78 (29)
CRN 1s-12	3/4	1	•	18.46 (469)	7.64 (194)	5.87 (149)	29.76 (756)	76.78 (35)
		3	•	18.46 (469)	6.69 (170)	5.51 (140)	27.13 (689)	64.65 (29)
CRN 1s-13	1	1	•	19.17 (487)	7.64 (194)	5.87 (149)	30.87 (784)	80.41 (36)
		3	•	19.17 (487)	6.69 (170)	5.51 (140)	28.23 (717)	66.95 (30)
CRN 1s-15	1	1	•	20.59 (523)	7.64 (194)	5.87 (149)	32.28 (820)	82.10 (37)
		3	•	20.59 (523)	6.69 (170)	5.51 (140)	29.65 (753)	68.65 (31)
CRN 1s-17	1 1/2	1	•	22.01 (559)	7.64 (194)	5.87 (149)	34.49 (876)	88.52 (40)
		3	•	22.01 (559)	7.64 (194)	5.87 (149)	33.70 (856)	87.57 (40)

Pump type	P2 [HP]	Ph.	PJE <sup>21)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 1s-19	1 1/2	1	•	23.43 (595)	7.64 (194)	5.87 (149)	35.91 (912)	90.26 (41)
		3	•	23.43 (595)	7.64 (194)	5.87 (149)	35.12 (892)	89.31 (41)
CRN 1s-21	1 1/2	1	•	24.84 (631)	7.64 (194)	5.87 (149)	37.32 (948)	92.00 (42)
		3	•	24.84 (631)	7.64 (194)	5.87 (149)	36.54 (928)	91.05 (41)
CRN 1s-23	1 1/2	1	•	26.26 (667)	7.64 (194)	5.87 (149)	38.74 (984)	93.74 (43)
		3	•	26.26 (667)	7.64 (194)	5.87 (149)	37.95 (964)	92.79 (42)
CRN 1s-25	2	1	•	27.68 (703)	7.64 (194)	5.87 (149)	40.55 (1030)	100.9 (46)
		3	•	27.68 (703)	7.64 (194)	5.87 (149)	40.16 (1020)	98.95 (45)
CRN 1s-27	2	1	•	29.09 (739)	7.64 (194)	5.87 (149)	41.97 (1066)	102.6 (47)
		3	•	29.09 (739)	7.64 (194)	5.87 (149)	41.57 (1056)	100.7 (46)

<sup>21)</sup>PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CR 1



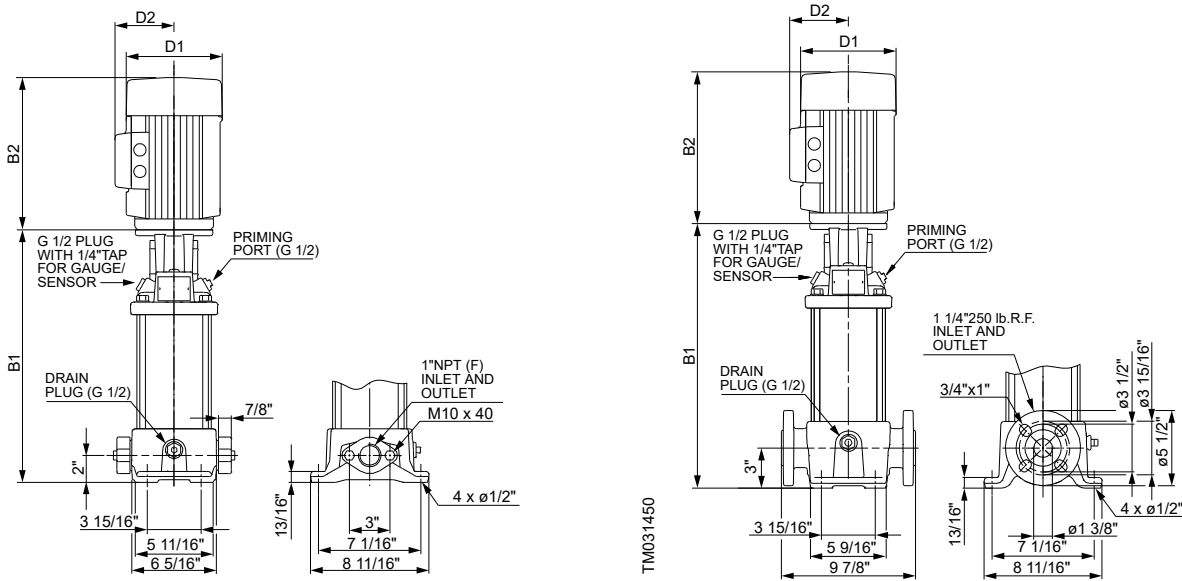
Pump type	P2 [HP]	Ph.	Oval <sup>22)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 1-2	1/3	1	•	11.97 (304)	6.64 (169)	5.52 (140)	21.01 (534)	58.20 (26)
		3	•	11.97 (304)	6.69 (170)	5.52 (140)	20.23 (514)	54.45 (25)
CR 1-3	1/3	1	•	11.97 (304)	6.64 (169)	5.52 (140)	21.01 (534)	58.64 (27)
		3	•	11.97 (304)	6.69 (170)	5.52 (140)	20.23 (514)	54.90 (25)
CR 1-4	1/2	1	•	12.68 (322)	6.64 (169)	5.52 (140)	22.11 (562)	61.29 (28)
		3	•	12.68 (322)	6.69 (170)	5.52 (140)	21.33 (542)	58.20 (26)
CR 1-5	1/2	1	•	13.39 (340)	6.64 (169)	5.52 (140)	22.82 (580)	62.39 (28)
		3	•	13.39 (340)	6.69 (170)	5.52 (140)	22.04 (560)	59.30 (27)
CR 1-6	3/4	1	•	14.09 (358)	7.64 (194)	5.88 (149)	25.38 (645)	69.23 (31)
		3	•	14.09 (358)	6.69 (170)	5.52 (140)	22.75 (578)	61.07 (28)
CR 1-7	3/4	1	•	14.80 (376)	7.64 (194)	5.88 (149)	26.09 (663)	70.11 (32)
		3	•	14.80 (376)	6.69 (170)	5.52 (140)	23.45 (596)	61.95 (28)
CR 1-8	1	1	•	15.51 (394)	7.64 (194)	5.88 (149)	27.19 (691)	73.19 (33)
		3	•	15.51 (394)	6.69 (170)	5.52 (140)	24.56 (624)	66.14 (30)
CR 1-9	1	1	•	16.22 (412)	7.64 (194)	5.88 (149)	27.90 (709)	74.30 (34)
		3	•	16.22 (412)	6.69 (170)	5.52 (140)	25.26 (642)	67.24 (31)
CR 1-10	1 1/2	1	•	16.93 (430)	7.64 (194)	5.88 (149)	29.39 (747)	78.48 (36)
		3	•	16.93 (430)	7.64 (194)	5.88 (149)	28.61 (727)	80.69 (37)
CR 1-11	1 1/2	1	•	17.64 (448)	7.64 (194)	5.88 (149)	30.10 (765)	79.15 (36)
		3	•	17.64 (448)	7.64 (194)	5.88 (149)	29.31 (745)	81.35 (37)
CR 1-12	1 1/2	1	•	18.35 (466)	7.64 (194)	5.88 (149)	30.81 (783)	80.25 (36)
		3	•	18.35 (466)	7.64 (194)	5.88 (149)	30.02 (763)	82.45 (37)
CR 1-13	1 1/2	1	•	19.06 (484)	7.64 (194)	5.88 (149)	31.52 (801)	81.13 (37)
		3	•	19.06 (484)	7.64 (194)	5.88 (149)	30.73 (781)	83.33 (38)
CR 1-15	2	1	•	20.47 (520)	7.64 (194)	5.88 (149)	33.33 (847)	85.98 (39)
		3	•	20.47 (520)	7.64 (194)	5.88 (149)	32.94 (837)	91.49 (42)
CR 1-17	2	1	•	21.89 (556)	7.64 (194)	5.88 (149)	34.75 (883)	87.96 (40)
		3	•	21.89 (556)	7.64 (194)	5.88 (149)	34.35 (873)	93.48 (42)

Pump type	P2 [HP]	Ph.	Oval <sup>22)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 1-19	3	1	-	24.41 (620)	9.45 (240)	8.06 (205)	40.88 (1038)	125.8 (57)
		3	-	24.41 (620)	9.45 (240)	6.69 (170)	38.13 (968)	126.7 (58)
CR 1-21	3	1	-	25.83 (656)	9.45 (240)	8.06 (205)	42.30 (1074)	127.6 (58)
		3	-	25.83 (656)	9.45 (240)	6.69 (170)	39.54 (1004)	128.5 (58)
CR 1-23	3	1	-	27.24 (692)	9.45 (240)	8.06 (205)	43.72 (1110)	129.4 (59)
		3	-	27.24 (692)	9.45 (240)	6.69 (170)	40.96 (1040)	130.2 (59)
CR 1-25	3	1	-	28.66 (728)	9.45 (240)	8.06 (205)	45.14 (1146)	131.1 (60)
		3	-	28.66 (728)	9.45 (240)	6.69 (170)	42.38 (1076)	132.0 (60)
CR 1-27	3	1	-	30.08 (764)	9.45 (240)	8.06 (205)	46.55 (1182)	133.1 (60)
		3	-	30.08 (764)	9.45 (240)	6.69 (170)	43.80 (1112)	134.0 (61)

<sup>22)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRI 1



Pump type	P2 [HP]	Ph.	Oval <sup>23)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 1-2	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.43 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.40 (22)
CRI 1-3	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.87 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.84 (23)
CRI 1-4	1/2	1	•	12.80 (325)	6.65 (169)	5.51 (140)	22.24 (565)	56.18 (25)
		3	•	12.80 (325)	6.69 (170)	5.51 (140)	21.46 (545)	56.70 (26)
CRI 1-5	1/2	1	•	13.50 (343)	6.65 (169)	5.51 (140)	22.95 (583)	57.28 (26)
		3	•	13.50 (343)	6.69 (170)	5.51 (140)	22.17 (563)	57.79 (26)
CRI 1-6	3/4	1	•	14.21 (361)	7.64 (194)	5.87 (149)	25.51 (648)	71.99 (33)
		3	•	14.21 (361)	6.69 (170)	5.51 (140)	22.87 (581)	59.87 (27)
CRI 1-7	3/4	1	•	14.92 (379)	7.64 (194)	5.87 (149)	26.22 (666)	72.86 (33)
		3	•	14.92 (379)	6.69 (170)	5.51 (140)	23.58 (599)	60.74 (28)
CRI 1-8	1	1	•	15.63 (397)	7.64 (194)	5.87 (149)	27.32 (694)	76.23 (35)
		3	•	15.63 (397)	6.69 (170)	5.51 (140)	24.69 (627)	62.77 (28)
CRI 1-9	1	1	•	16.34 (415)	7.64 (194)	5.87 (149)	28.03 (712)	77.32 (35)
		3	•	16.34 (415)	6.69 (170)	5.51 (140)	25.39 (645)	63.87 (29)
CRI 1-10	1 1/2	1	•	17.05 (433)	7.64 (194)	5.87 (149)	29.53 (750)	82.86 (38)
		3	•	17.05 (433)	7.64 (194)	5.87 (149)	28.74 (730)	81.91 (37)
CRI 1-11	1 1/2	1	•	17.76 (451)	7.64 (194)	5.87 (149)	30.24 (768)	83.50 (38)
		3	•	17.76 (451)	7.64 (194)	5.87 (149)	29.45 (748)	82.55 (37)
CRI 1-12	1 1/2	1	•	18.46 (469)	7.64 (194)	5.87 (149)	30.94 (786)	84.60 (38)
		3	•	18.46 (469)	7.64 (194)	5.87 (149)	30.16 (766)	83.65 (38)
CRI 1-13	1 1/2	1	•	19.17 (487)	7.64 (194)	5.87 (149)	31.65 (804)	85.46 (39)
		3	•	19.17 (487)	7.64 (194)	5.87 (149)	30.87 (784)	84.51 (38)
CRI 1-15	2	1	•	20.59 (523)	7.64 (194)	5.87 (149)	33.46 (850)	92.60 (42)
		3	•	20.59 (523)	7.64 (194)	5.87 (149)	33.07 (840)	90.68 (41)
CRI 1-17	2	1	•	22.01 (559)	7.64 (194)	5.87 (149)	34.88 (886)	94.55 (43)
		3	•	22.01 (559)	7.64 (194)	5.87 (149)	34.49 (876)	92.64 (42)

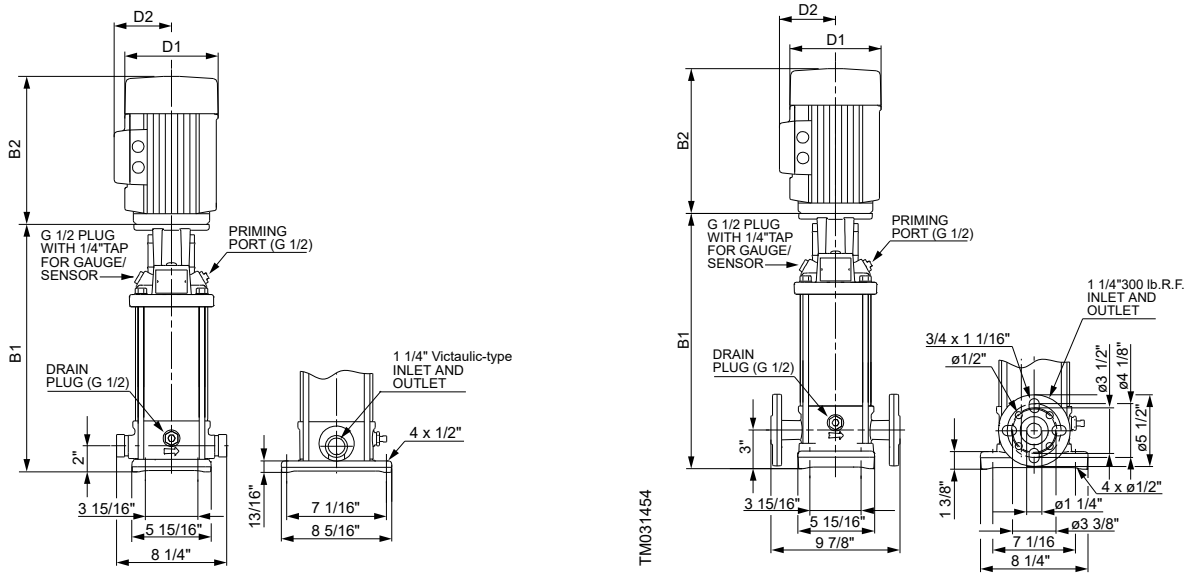
Pump type	P2 [HP]	Ph.	Oval <sup>23)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 1-19	3	1	-	24.53 (623)	9.45 (240)	8.07 (205)	40.98 (1041)	130.9 (59)
		3	-	24.53 (623)	9.45 (240)	6.69 (170)	38.23 (971)	128.3 (58)
CRI 1-21	3	1	-	25.94 (659)	9.45 (240)	8.07 (205)	42.40 (1077)	132.7 (60)
		3	-	25.94 (659)	9.45 (240)	6.69 (170)	39.65 (1007)	130.1 (59)
CRI 1-23	3	1	-	27.36 (695)	9.45 (240)	8.07 (205)	43.82 (1113)	134.4 (61)
		3	-	27.36 (695)	9.45 (240)	6.69 (170)	41.06 (1043)	131.8 (60)
CRI 1-25	3	1	-	28.78 (731)	9.45 (240)	8.07 (205)	45.24 (1149)	136.1 (62)
		3	-	28.78 (731)	9.45 (240)	6.69 (170)	42.48 (1079)	133.5 (61)
CRI 1-27	3	1	-	30.20 (767)	9.45 (240)	8.07 (205)	46.65 (1185)	138.1 (63)
		3	-	30.20 (767)	9.45 (240)	6.69 (170)	43.90 (1115)	135.5 (61)

<sup>23)</sup> Oval flanged pump: Dimensions B1 and B1+B2 are 1 inch (25 mm) less than ANSI flanged pump and the net weight is approximately 9 lb (4 kg) less.

- Available.



CRN 1



TM031454

TM031453

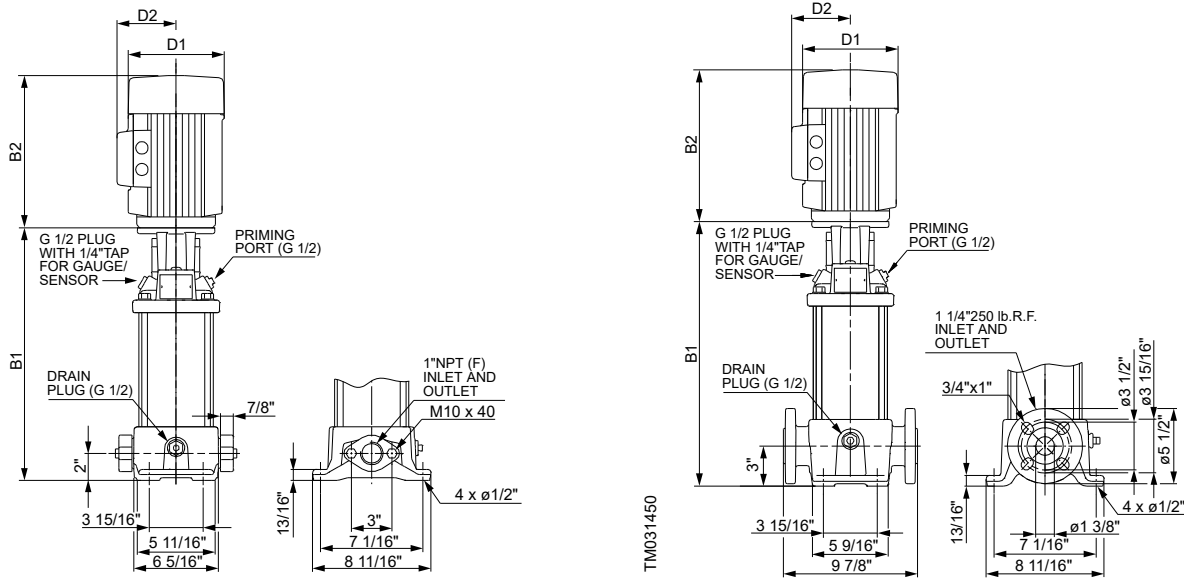
Pump type	P2 [HP]	Ph.	PJE <sup>24)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 1-2	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.43 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.40 (22)
CRN 1-3	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.87 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.84 (23)
CRN 1-4	1/2	1	•	12.80 (325)	6.65 (169)	5.51 (140)	22.24 (565)	56.18 (25)
		3	•	12.80 (325)	6.69 (170)	5.51 (140)	21.46 (545)	56.70 (26)
CRN 1-5	1/2	1	•	13.50 (343)	6.65 (169)	5.51 (140)	22.95 (583)	57.06 (26)
		3	•	13.50 (343)	6.69 (170)	5.51 (140)	22.17 (563)	57.57 (26)
CRN 1-6	3/4	1	•	14.21 (361)	7.64 (194)	5.87 (149)	25.51 (648)	71.78 (33)
		3	•	14.21 (361)	6.69 (170)	5.51 (140)	22.87 (581)	59.66 (27)
CRN 1-7	3/4	1	•	14.92 (379)	7.64 (194)	5.87 (149)	26.22 (666)	72.86 (33)
		3	•	14.92 (379)	6.69 (170)	5.51 (140)	23.58 (599)	60.74 (28)
CRN 1-8	1	1	•	15.63 (397)	7.64 (194)	5.87 (149)	27.32 (694)	76.23 (35)
		3	•	15.63 (397)	6.69 (170)	5.51 (140)	24.69 (627)	62.77 (28)
CRN 1-9	1	1	•	16.34 (415)	7.64 (194)	5.87 (149)	28.03 (712)	77.10 (35)
		3	•	16.34 (415)	6.69 (170)	5.51 (140)	25.39 (645)	63.65 (29)
CRN 1-10	1 1/2	1	•	17.05 (433)	7.64 (194)	5.87 (149)	29.53 (750)	82.64 (37)
		3	•	17.05 (433)	7.64 (194)	5.87 (149)	28.74 (730)	81.69 (37)
CRN 1-11	1 1/2	1	•	17.76 (451)	7.64 (194)	5.87 (149)	30.24 (768)	83.29 (38)
		3	•	17.76 (451)	7.64 (194)	5.87 (149)	29.45 (748)	82.34 (37)
CRN 1-12	1 1/2	1	•	18.46 (469)	7.64 (194)	5.87 (149)	30.94 (786)	84.38 (38)
		3	•	18.46 (469)	7.64 (194)	5.87 (149)	30.16 (766)	83.43 (38)
CRN 1-13	1 1/2	1	•	19.17 (487)	7.64 (194)	5.87 (149)	31.65 (804)	85.30 (39)
		3	•	19.17 (487)	7.64 (194)	5.87 (149)	30.87 (784)	84.35 (38)
CRN 1-15	2	1	•	20.59 (523)	7.64 (194)	5.87 (149)	33.46 (850)	92.38 (42)
		3	•	20.59 (523)	7.64 (194)	5.87 (149)	33.07 (840)	90.46 (41)
CRN 1-17	2	1	•	22.01 (559)	7.64 (194)	5.87 (149)	34.88 (886)	94.34 (43)
		3	•	22.01 (559)	7.64 (194)	5.87 (149)	34.49 (876)	92.43 (42)

Pump type	P2 [HP]	Ph.	PJE <sup>24)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 1-19	3	1	•	24.53 (623)	9.45 (240)	8.07 (205)	40.98 (1041)	130.5 (59)
		3	•	24.53 (623)	9.45 (240)	6.69 (170)	38.23 (971)	127.9 (58)
CRN 1-21	3	1	•	25.94 (659)	9.45 (240)	8.07 (205)	42.40 (1077)	132.2 (60)
		3	•	25.94 (659)	9.45 (240)	6.69 (170)	39.65 (1007)	129.6 (59)
CRN 1-23	3	1	•	27.36 (695)	9.45 (240)	8.07 (205)	43.82 (1113)	134.0 (61)
		3	•	27.36 (695)	9.45 (240)	6.69 (170)	41.06 (1043)	131.4 (60)
CRN 1-25	3	1	•	28.78 (731)	9.45 (240)	8.07 (205)	45.24 (1149)	135.7 (62)
		3	•	28.78 (731)	9.45 (240)	6.69 (170)	42.48 (1079)	133.1 (60)
CRN 1-27	3	1	•	30.20 (767)	9.45 (240)	8.07 (205)	46.65 (1185)	137.7 (62)
		3	•	30.20 (767)	9.45 (240)	6.69 (170)	43.90 (1115)	135.1 (61)

<sup>24)</sup>PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CR 3



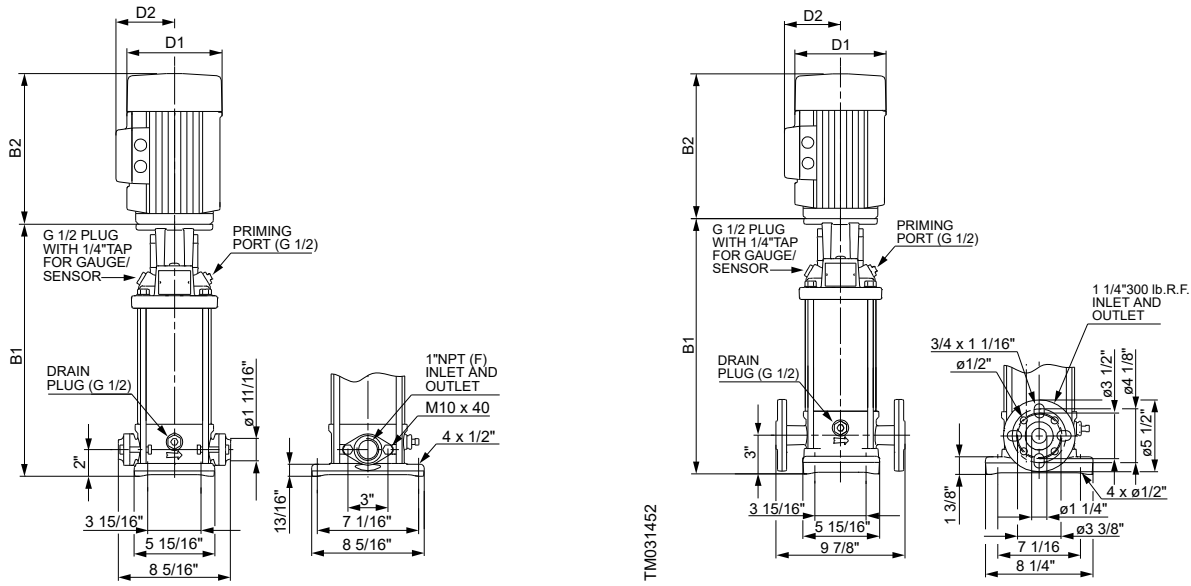
Pump type	P2 [HP]	Ph.	Oval <sup>25)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 3-2	1/3	1	•	11.97 (304)	6.65 (169)	5.51 (140)	21.02 (534)	57.72 (26)
		3	•	11.97 (304)	6.69 (170)	5.51 (140)	20.24 (514)	54.69 (25)
CR 3-3	1/2	1	•	11.97 (304)	6.65 (169)	5.51 (140)	21.42 (544)	60.61 (27)
		3	•	11.97 (304)	6.69 (170)	5.51 (140)	20.63 (524)	61.12 (28)
CR 3-4	3/4	1	•	12.68 (322)	7.64 (194)	5.87 (149)	23.98 (609)	75.32 (34)
		3	•	12.68 (322)	6.69 (170)	5.51 (140)	21.34 (542)	63.20 (29)
CR 3-5	3/4	1	•	13.39 (340)	7.64 (194)	5.87 (149)	24.69 (627)	76.41 (35)
		3	•	13.39 (340)	6.69 (170)	5.51 (140)	22.05 (560)	64.29 (29)
CR 3-6	1	1	•	14.09 (358)	7.64 (194)	5.87 (149)	25.79 (655)	79.78 (36)
		3	•	14.09 (358)	6.69 (170)	5.51 (140)	23.15 (588)	66.32 (30)
CR 3-7	1 1/2	1	•	14.80 (376)	7.64 (194)	5.87 (149)	27.28 (693)	85.32 (39)
		3	•	14.80 (376)	7.64 (194)	5.87 (149)	26.50 (673)	84.37 (38)
CR 3-8	1 1/2	1	•	15.51 (394)	7.64 (194)	5.87 (149)	27.99 (711)	86.41 (39)
		3	•	15.51 (394)	7.64 (194)	5.87 (149)	27.20 (691)	85.46 (39)
CR 3-9	1 1/2	1	•	16.22 (412)	7.64 (194)	5.87 (149)	28.70 (729)	87.28 (40)
		3	•	16.22 (412)	7.64 (194)	5.87 (149)	27.91 (709)	86.33 (39)
CR 3-10	2	1	•	16.93 (430)	7.64 (194)	5.87 (149)	29.80 (757)	93.53 (42)
		3	•	16.93 (430)	7.64 (194)	5.87 (149)	29.41 (747)	91.62 (42)
CR 3-11	2	1	•	17.64 (448)	7.64 (194)	5.87 (149)	30.51 (775)	94.18 (43)
		3	•	17.64 (448)	7.64 (194)	5.87 (149)	30.12 (765)	92.27 (42)
CR 3-12	2	1	•	18.35 (466)	7.64 (194)	5.87 (149)	31.22 (793)	95.27 (43)
		3	•	18.35 (466)	7.64 (194)	5.87 (149)	30.83 (783)	93.36 (42)
CR 3-13	3	1	•	20.16 (512)	9.45 (240)	8.07 (205)	36.61 (930)	132.3 (60)
		3	•	20.16 (512)	9.45 (240)	6.69 (170)	33.86 (860)	129.7 (59)
CR 3-15	3	1	•	21.57 (548)	9.45 (240)	8.07 (205)	38.03 (966)	134.3 (61)
		3	•	21.57 (548)	9.45 (240)	6.69 (170)	35.28 (896)	131.7 (60)
CR 3-17	3	1	•	22.99 (584)	9.45 (240)	8.07 (205)	39.45 (1002)	136.0 (62)
		3	•	22.99 (584)	9.45 (240)	6.69 (170)	36.69 (932)	133.4 (61)

Pump type	P2 [HP]	Ph.	Oval <sup>25)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 3-19	5	1	-	24.41 (620)	10.98 (279)	8.43 (214)	43.74 (1111)	193.0 (88)
		3	-	24.41 (620)	9.45 (240)	6.69 (170)	39.69 (1008)	149.8 (68)
CR 3-21	5	1	-	25.83 (656)	10.98 (279)	8.43 (214)	45.16 (1147)	194.7 (88)
		3	-	25.83 (656)	9.45 (240)	6.69 (170)	41.10 (1044)	151.5 (69)
CR 3-23	5	1	-	27.24 (692)	10.98 (279)	8.43 (214)	46.57 (1183)	196.5 (89)
		3	-	27.24 (692)	9.45 (240)	6.69 (170)	42.52 (1080)	153.3 (70)
CR 3-25	5	1	-	28.66 (728)	10.98 (279)	8.43 (214)	47.99 (1219)	198.4 (90)
		3	-	28.66 (728)	9.45 (240)	6.69 (170)	43.94 (1116)	155.2 (70)

<sup>25)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

**CRI 3**



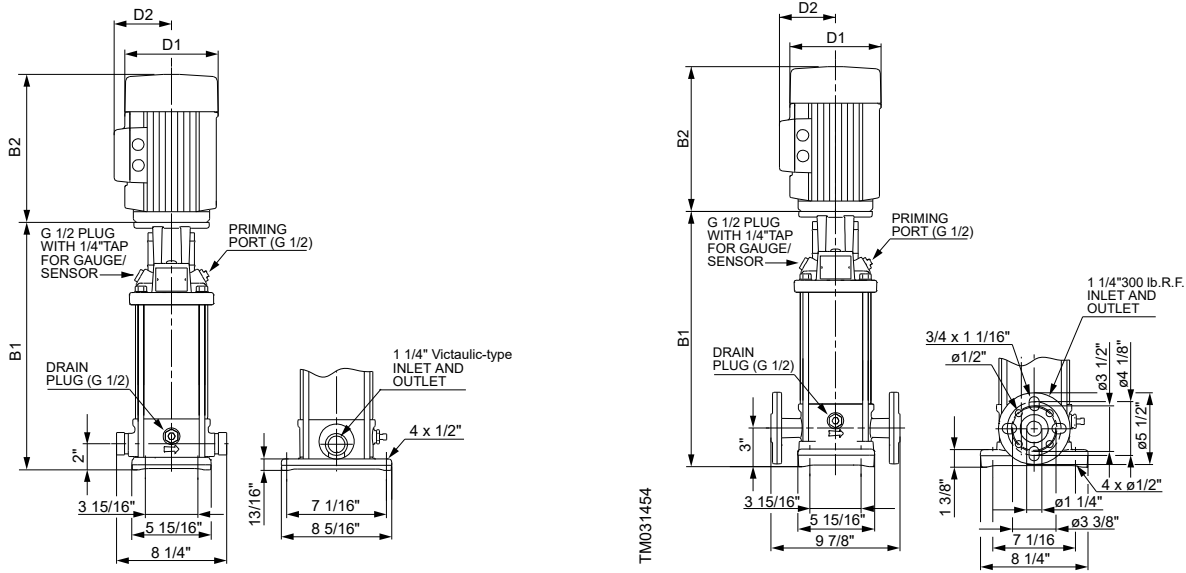
Pump type	P2 [HP]	Ph.	Oval <sup>26)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC		B1+B2	
					D1	D2		
CRI 3-2	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.43 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.40 (22)
CRI 3-3	1/2	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.54 (547)	55.31 (25)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.75 (527)	55.83 (25)
CRI 3-4	3/4	1	•	12.80 (325)	7.64 (194)	5.87 (149)	24.09 (612)	70.03 (32)
		3	•	12.80 (325)	6.69 (170)	5.51 (140)	21.46 (545)	57.90 (26)
CRI 3-5	3/4	1	•	13.50 (343)	7.64 (194)	5.87 (149)	24.80 (630)	71.12 (32)
		3	•	13.50 (343)	6.69 (170)	5.51 (140)	22.17 (563)	59.00 (27)
CRI 3-6	1	1	•	14.21 (361)	7.64 (194)	5.87 (149)	25.91 (658)	74.49 (34)
		3	•	14.21 (361)	6.69 (170)	5.51 (140)	23.27 (591)	61.03 (28)
CRI 3-7	1 1/2	1	•	14.92 (379)	7.64 (194)	5.87 (149)	27.40 (696)	80.03 (36)
		3	•	14.92 (379)	7.64 (194)	5.87 (149)	26.61 (676)	79.08 (36)
CRI 3-8	1 1/2	1	•	15.63 (397)	7.64 (194)	5.87 (149)	28.11 (714)	81.12 (37)
		3	•	15.63 (397)	7.64 (194)	5.87 (149)	27.32 (694)	80.17 (36)
CRI 3-9	1 1/2	1	•	16.34 (415)	7.64 (194)	5.87 (149)	28.82 (732)	81.99 (37)
		3	•	16.34 (415)	7.64 (194)	5.87 (149)	28.03 (712)	81.04 (37)
CRI 3-10	2	1	•	17.05 (433)	7.64 (194)	5.87 (149)	29.92 (760)	88.24 (40)
		3	•	17.05 (433)	7.64 (194)	5.87 (149)	29.53 (750)	86.33 (39)
CRI 3-11	2	1	•	17.76 (451)	7.64 (194)	5.87 (149)	30.63 (778)	88.88 (40)
		3	•	17.76 (451)	7.64 (194)	5.87 (149)	30.24 (768)	86.97 (39)
CRI 3-12	2	1	•	18.46 (469)	7.64 (194)	5.87 (149)	31.34 (796)	89.99 (41)
		3	•	18.46 (469)	7.64 (194)	5.87 (149)	30.94 (786)	88.07 (40)
CRI 3-13	3	1	•	20.28 (515)	9.45 (240)	8.07 (205)	36.73 (933)	125.3 (57)
		3	•	20.28 (515)	9.45 (240)	6.69 (170)	33.98 (863)	122.6 (56)
CRI 3-15	3	1	•	21.69 (551)	9.45 (240)	8.07 (205)	38.15 (969)	127.2 (58)
		3	•	21.69 (551)	9.45 (240)	6.69 (170)	35.39 (899)	124.6 (57)
CRI 3-17	3	1	•	23.11 (587)	9.45 (240)	8.07 (205)	39.57 (1005)	129.0 (58)
		3	•	23.11 (587)	9.45 (240)	6.69 (170)	36.81 (935)	126.3 (57)

Pump type	P2 [HP]	Ph.	Oval <sup>26)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 3-19	5	1	-	24.53 (623)	10.98 (279)	8.43 (214)	43.86 (1114)	185.9 (84)
		3	-	24.53 (623)	9.45 (240)	6.69 (170)	39.80 (1011)	142.7 (65)
CRI 3-21	5	1	-	25.94 (659)	10.98 (279)	8.43 (214)	45.28 (1150)	187.7 (85)
		3	-	25.94 (659)	9.45 (240)	6.69 (170)	41.22 (1047)	144.5 (66)
CRI 3-23	5	1	-	27.36 (695)	10.98 (279)	8.43 (214)	46.69 (1186)	189.4 (86)
		3	-	27.36 (695)	9.45 (240)	6.69 (170)	42.64 (1083)	146.2 (66)
CRI 3-25	5	1	-	28.78 (731)	10.98 (279)	8.43 (214)	48.11 (1222)	191.4 (87)
		3	-	28.78 (731)	9.45 (240)	6.69 (170)	44.06 (1119)	148.2 (67)

<sup>26)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRN 3



Pump type	P2 [HP]	Ph.	PJE <sup>27)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 3-2	1/3	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.14 (537)	52.43 (24)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.35 (517)	49.40 (22)
CRN 3-3	1/2	1	•	12.09 (307)	6.65 (169)	5.51 (140)	21.54 (547)	55.31 (25)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.75 (527)	55.83 (25)
CRN 3-4	3/4	1	•	12.80 (325)	7.64 (194)	5.87 (149)	24.09 (612)	70.03 (32)
		3	•	12.80 (325)	6.69 (170)	5.51 (140)	21.46 (545)	57.90 (26)
CRN 3-5	3/4	1	•	13.50 (343)	7.64 (194)	5.87 (149)	24.80 (630)	70.90 (32)
		3	•	13.50 (343)	6.69 (170)	5.51 (140)	22.17 (563)	58.78 (27)
CRN 3-6	1	1	•	14.21 (361)	7.64 (194)	5.87 (149)	25.91 (658)	74.50 (34)
		3	•	14.21 (361)	6.69 (170)	5.51 (140)	23.27 (591)	61.04 (28)
CRN 3-7	1 1/2	1	•	14.92 (379)	7.64 (194)	5.87 (149)	27.40 (696)	80.03 (36)
		3	•	14.92 (379)	7.64 (194)	5.87 (149)	26.61 (676)	79.08 (36)
CRN 3-8	1 1/2	1	•	15.63 (397)	7.64 (194)	5.87 (149)	28.11 (714)	80.90 (37)
		3	•	15.63 (397)	7.64 (194)	5.87 (149)	27.32 (694)	79.95 (36)
CRN 3-9	1 1/2	1	•	16.34 (415)	7.64 (194)	5.87 (149)	28.82 (732)	81.77 (37)
		3	•	16.34 (415)	7.64 (194)	5.87 (149)	28.03 (712)	80.82 (37)
CRN 3-10	2	1	•	17.05 (433)	7.64 (194)	5.87 (149)	29.92 (760)	88.02 (40)
		3	•	17.05 (433)	7.64 (194)	5.87 (149)	29.53 (750)	86.11 (39)
CRN 3-11	2	1	•	17.76 (451)	7.64 (194)	5.87 (149)	30.63 (778)	88.89 (40)
		3	•	17.76 (451)	7.64 (194)	5.87 (149)	30.24 (768)	86.98 (39)
CRN 3-12	2	1	•	18.46 (469)	7.64 (194)	5.87 (149)	31.34 (796)	89.77 (41)
		3	•	18.46 (469)	7.64 (194)	5.87 (149)	30.94 (786)	87.85 (40)
CRN 3-13	3	1	•	20.28 (515)	9.45 (240)	8.07 (205)	36.73 (933)	125.1 (57)
		3	•	20.28 (515)	9.45 (240)	6.69 (170)	33.98 (863)	122.5 (56)
CRN 3-15	3	1	•	21.69 (551)	9.45 (240)	8.07 (205)	38.15 (969)	127.0 (58)
		3	•	21.69 (551)	9.45 (240)	6.69 (170)	35.39 (899)	124.4 (56)
CRN 3-17	3	1	•	23.11 (587)	9.45 (240)	8.07 (205)	39.57 (1005)	128.7 (58)
		3	•	23.11 (587)	9.45 (240)	6.69 (170)	36.81 (935)	126.1 (57)

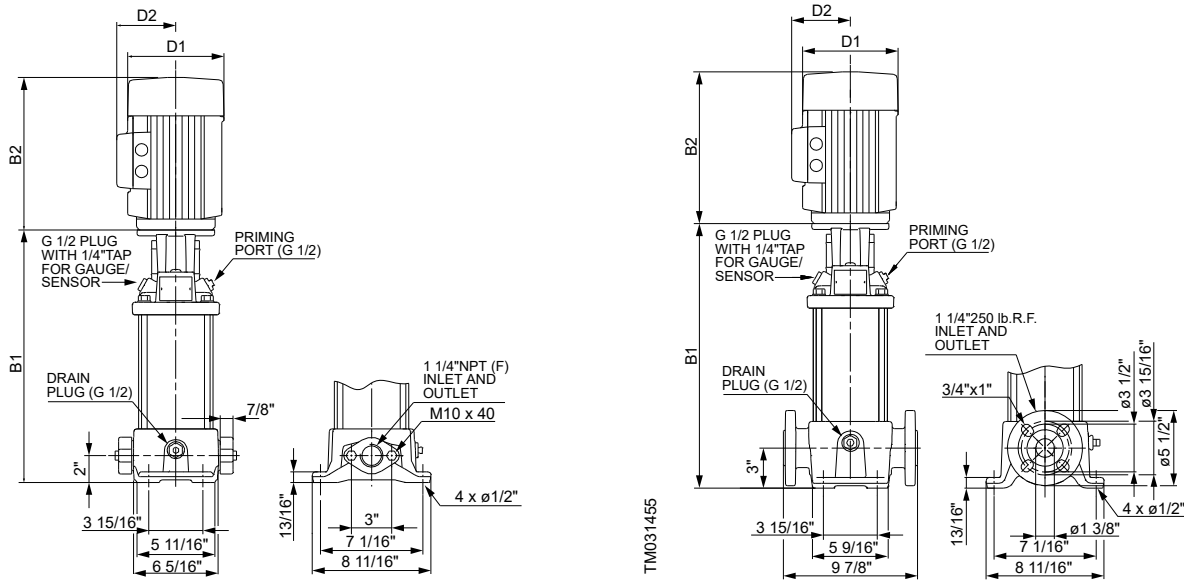
Pump type	P2 [HP]	Ph.	PJE <sup>27)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 3-19	5	1	•	24.53 (623)	10.98 (279)	8.43 (214)	43.86 (1114)	185.5 (84)
		3	•	24.53 (623)	9.45 (240)	6.69 (170)	39.80 (1011)	142.3 (65)
CRN 3-21	5	1	•	25.94 (659)	10.98 (279)	8.43 (214)	45.28 (1150)	187.5 (85)
		3	•	25.94 (659)	9.45 (240)	6.69 (170)	41.22 (1047)	144.3 (65)
CRN 3-23	5	1	•	27.36 (695)	10.98 (279)	8.43 (214)	46.69 (1186)	189.0 (86)
		3	•	27.36 (695)	9.45 (240)	6.69 (170)	42.64 (1083)	145.8 (66)
CRN 3-25	5	1	•	28.78 (731)	10.98 (279)	8.43 (214)	48.11 (1222)	191.0 (87)
		3	•	28.78 (731)	9.45 (240)	6.69 (170)	44.06 (1119)	147.8 (67)

<sup>27)</sup> PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.



CR 5



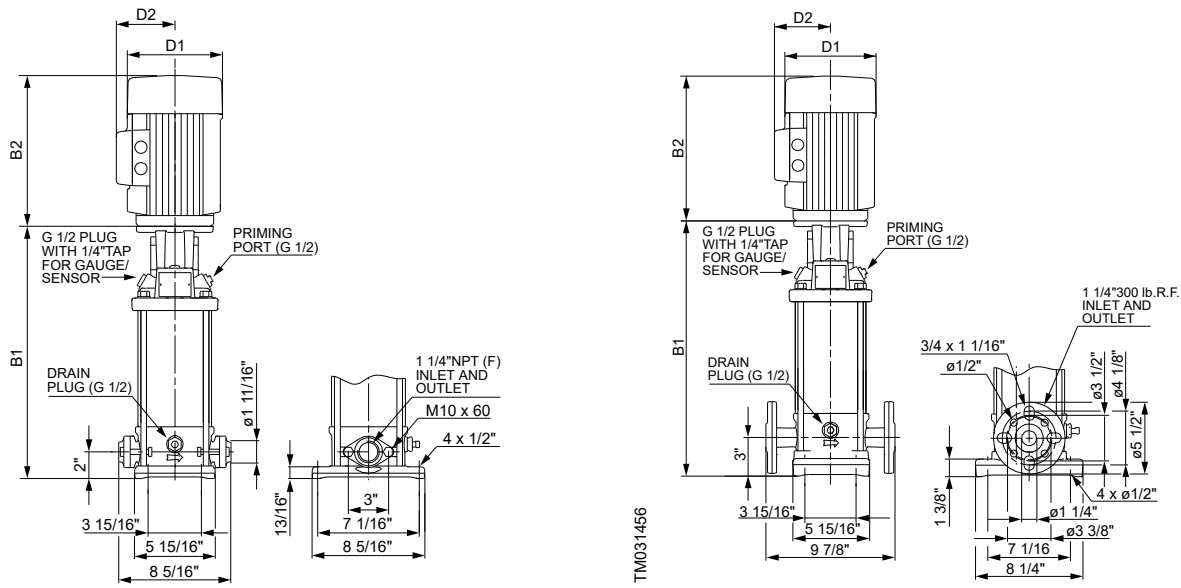
Pump type	P2 [HP]	Ph.	Oval <sup>28)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 5-2	3/4	1	•	11.97 (304)	7.64 (194)	5.87 (149)	23.27 (591)	74.23 (34)
		3	•	11.97 (304)	6.69 (170)	5.51 (140)	20.63 (524)	62.10 (28)
CR 5-3	1	1	•	13.03 (331)	7.64 (194)	5.87 (149)	24.72 (628)	78.33 (36)
		3	•	13.03 (331)	6.69 (170)	5.51 (140)	22.09 (561)	64.87 (29)
CR 5-4	1 1/2	1	•	14.09 (358)	7.64 (194)	5.87 (149)	26.57 (675)	84.23 (38)
		3	•	14.09 (358)	7.64 (194)	5.87 (149)	25.79 (655)	83.28 (38)
CR 5-5	2	1	•	15.16 (385)	7.64 (194)	5.87 (149)	28.03 (712)	90.77 (41)
		3	•	15.16 (385)	7.64 (194)	5.87 (149)	27.64 (702)	88.86 (40)
CR 5-6	2	1	•	16.22 (412)	7.64 (194)	5.87 (149)	29.09 (739)	92.22 (42)
		3	•	16.22 (412)	7.64 (194)	5.87 (149)	28.70 (729)	90.31 (41)
CR 5-7	3	1	•	18.39 (467)	9.45 (240)	8.07 (205)	34.84 (885)	129.6 (59)
		3	•	18.39 (467)	9.45 (240)	6.69 (170)	32.09 (815)	126.9 (58)
CR 5-8	3	1	•	19.45 (494)	9.45 (240)	8.07 (205)	35.91 (912)	130.8 (59)
		3	•	19.45 (494)	9.45 (240)	6.69 (170)	33.15 (842)	128.2 (58)
CR 5-9	3	1	•	20.51 (521)	9.45 (240)	8.07 (205)	36.97 (939)	132.2 (60)
		3	•	20.51 (521)	9.45 (240)	6.69 (170)	34.21 (869)	129.6 (59)
CR 5-10	5	1	•	21.57 (548)	10.98 (279)	8.43 (214)	40.91 (1039)	188.4 (85)
		3	•	21.57 (548)	9.45 (240)	6.69 (170)	36.85 (936)	145.2 (66)
CR 5-11	5	1	•	22.64 (575)	10.98 (279)	8.43 (214)	41.97 (1066)	189.8 (86)
		3	•	22.64 (575)	9.45 (240)	6.69 (170)	37.91 (963)	146.6 (66)
CR 5-12	5	1	•	23.70 (602)	10.98 (279)	8.43 (214)	43.03 (1093)	191.2 (87)
		3	•	23.70 (602)	9.45 (240)	6.69 (170)	38.98 (990)	148.1 (67)
CR 5-13	5	1	•	24.76 (629)	10.98 (279)	8.43 (214)	44.09 (1120)	192.4 (87)
		3	•	24.76 (629)	9.45 (240)	6.69 (170)	40.04 (1017)	149.2 (68)
CR 5-14	5	1	•	25.83 (656)	10.98 (279)	8.43 (214)	45.16 (1147)	193.9 (88)
		3	•	25.83 (656)	9.45 (240)	6.69 (170)	41.10 (1044)	150.7 (68)
CR 5-15	5	1	•	26.89 (683)	10.98 (279)	8.43 (214)	46.22 (1174)	195.0 (88)
		3	•	26.89 (683)	9.45 (240)	6.69 (170)	42.17 (1071)	151.8 (69)

Pump type	P2 [HP]	Ph.	Oval <sup>28)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 5-16	5	1	•	27.95 (710)	10.98 (279)	8.43 (214)	47.28 (1201)	196.2 (89)
		3	•	27.95 (710)	9.45 (240)	6.69 (170)	43.23 (1098)	153.0 (69)
CR 5-18	7 1/2	1	-	30.59 (777)	10.98 (279)	8.43 (214)	49.92 (1268)	224.9 (102)
		3	-	30.59 (777)	10.98 (279)	7.95 (202)	47.56 (1208)	213.4 (97)
CR 5-20	7 1/2	1	-	32.72 (831)	10.98 (279)	8.43 (214)	52.05 (1322)	227.7 (103)
		3	-	32.72 (831)	10.98 (279)	7.95 (202)	49.69 (1262)	216.2 (98)
CR 5-22	7 1/2	1	-	34.84 (885)	10.98 (279)	8.43 (214)	54.17 (1376)	230.1 (104)
		3	-	34.84 (885)	10.98 (279)	7.95 (202)	51.81 (1316)	218.6 (99)
CR 5-24	7 1/2	1	-	36.97 (939)	10.98 (279)	8.43 (214)	56.30 (1430)	232.7 (106)
		3	-	36.97 (939)	10.98 (279)	7.95 (202)	53.94 (1370)	221.2 (100)

<sup>28)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

**CRI 5**



TM031456

TM031453

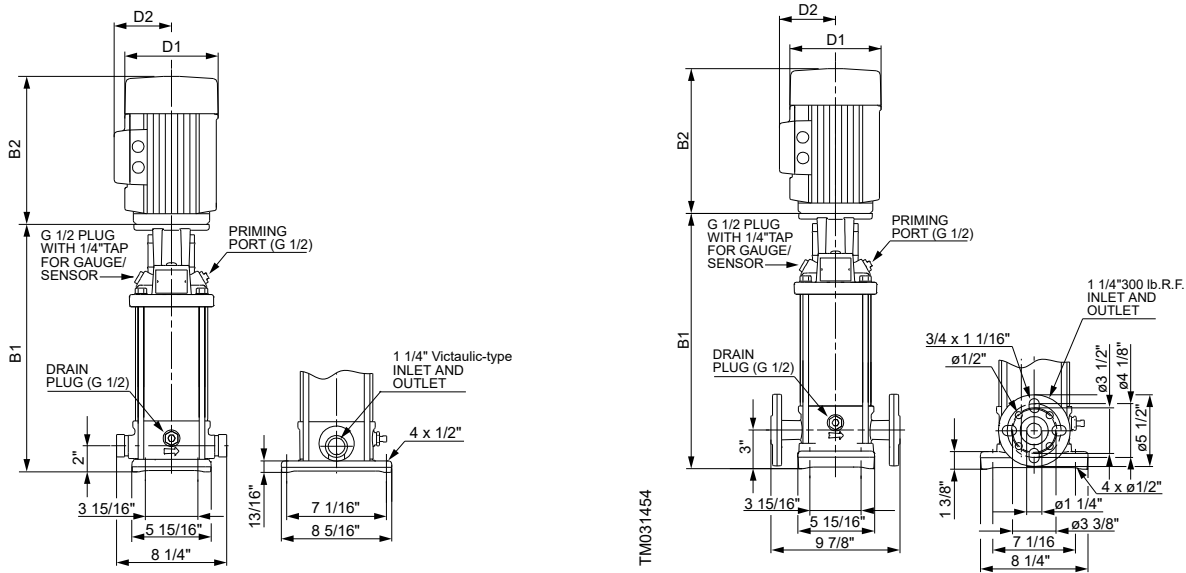
Pump type	P2 [HP]	Ph.	Oval <sup>29)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 5-2	3/4	1	•	12.09 (307)	7.64 (194)	5.87 (149)	23.39 (594)	68.94 (31)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.75 (527)	56.81 (26)
CRI 5-3	1	1	•	13.15 (334)	7.64 (194)	5.87 (149)	24.84 (631)	73.07 (33)
		3	•	13.15 (334)	6.69 (170)	5.51 (140)	22.20 (564)	59.62 (27)
CRI 5-4	1 1/2	1	•	14.21 (361)	7.64 (194)	5.87 (149)	26.69 (678)	78.93 (36)
		3	•	14.21 (361)	7.64 (194)	5.87 (149)	25.91 (658)	77.99 (35)
CRI 5-5	2	1	•	15.28 (388)	7.64 (194)	5.87 (149)	28.15 (715)	85.55 (39)
		3	•	15.28 (388)	7.64 (194)	5.87 (149)	27.76 (705)	83.64 (38)
CRI 5-6	2	1	•	16.34 (415)	7.64 (194)	5.87 (149)	29.21 (742)	86.93 (39)
		3	•	16.34 (415)	7.64 (194)	5.87 (149)	28.82 (732)	85.02 (39)
CRI 5-7	3	1	•	18.50 (470)	9.45 (240)	8.07 (205)	34.96 (888)	122.5 (56)
		3	•	18.50 (470)	9.45 (240)	6.69 (170)	32.20 (818)	119.9 (54)
CRI 5-8	3	1	•	19.57 (497)	9.45 (240)	8.07 (205)	36.02 (915)	123.7 (56)
		3	•	19.57 (497)	9.45 (240)	6.69 (170)	33.27 (845)	121.1 (55)
CRI 5-9	3	1	•	20.63 (524)	9.45 (240)	8.07 (205)	37.09 (942)	125.1 (57)
		3	•	20.63 (524)	9.45 (240)	6.69 (170)	34.33 (872)	122.5 (56)
CRI 5-10	5	1	•	21.69 (551)	10.98 (279)	8.43 (214)	41.02 (1042)	181.4 (82)
		3	•	21.69 (551)	9.45 (240)	6.69 (170)	36.97 (939)	138.2 (63)
CRI 5-11	5	1	•	22.76 (578)	10.98 (279)	8.43 (214)	42.09 (1069)	182.8 (83)
		3	•	22.76 (578)	9.45 (240)	6.69 (170)	38.03 (966)	139.6 (63)
CRI 5-12	5	1	•	23.82 (605)	10.98 (279)	8.43 (214)	43.15 (1096)	184.2 (84)
		3	•	23.82 (605)	9.45 (240)	6.69 (170)	39.09 (993)	141.0 (64)
CRI 5-13	5	1	•	24.88 (632)	10.98 (279)	8.43 (214)	44.21 (1123)	185.4 (84)
		3	•	24.88 (632)	9.45 (240)	6.69 (170)	40.16 (1020)	142.2 (64)
CRI 5-14	5	1	•	25.94 (659)	10.98 (279)	8.43 (214)	45.28 (1150)	186.8 (85)
		3	•	25.94 (659)	9.45 (240)	6.69 (170)	41.22 (1047)	143.6 (65)
CRI 5-15	5	1	•	27.01 (686)	10.98 (279)	8.43 (214)	46.34 (1177)	188.0 (85)
		3	•	27.01 (686)	9.45 (240)	6.69 (170)	42.28 (1074)	144.8 (66)

Pump type	P2 [HP]	Ph.	Oval <sup>29)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 5-16	5	1	●	28.07 (713)	10.98 (279)	8.43 (214)	47.40 (1204)	189.2 (86)
		3	●	28.07 (713)	9.45 (240)	6.69 (170)	43.35 (1101)	146.0 (66)
CRI 5-18	7 1/2	1	-	30.71 (780)	10.98 (279)	8.43 (214)	50.04 (1271)	217.8 (99)
		3	-	30.71 (780)	10.98 (279)	7.95 (202)	47.68 (1211)	206.3 (94)
CRI 5-20	7 1/2	1	-	32.83 (834)	10.98 (279)	8.43 (214)	52.17 (1325)	220.7 (100)
		3	-	32.83 (834)	10.98 (279)	7.95 (202)	49.80 (1265)	209.2 (95)
CRI 5-22	7 1/2	1	-	34.96 (888)	10.98 (279)	8.43 (214)	54.29 (1379)	223.0 (101)
		3	-	34.96 (888)	10.98 (279)	7.95 (202)	51.93 (1319)	211.6 (96)
CRI 5-24	7 1/2	1	-	37.09 (942)	10.98 (279)	8.43 (214)	56.42 (1433)	225.7 (102)
		3	-	37.09 (942)	10.98 (279)	7.95 (202)	54.06 (1373)	214.2 (97)

<sup>29)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRN 5



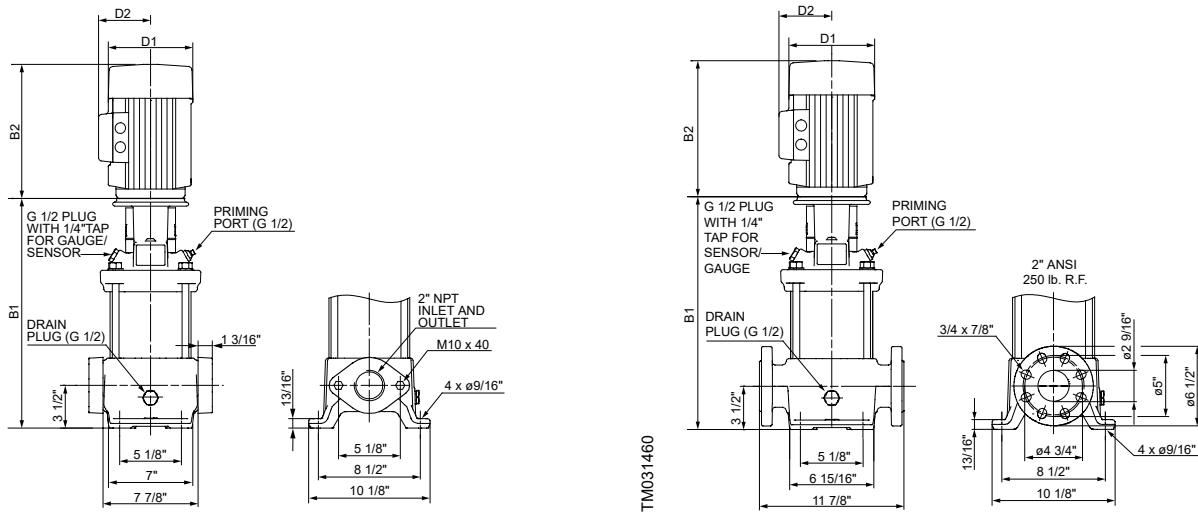
Pump type	P2 [HP]	Ph.	PJE <sup>30</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 5-2	3/4	1	•	12.09 (307)	7.64 (194)	5.87 (149)	23.39 (594)	68.94 (31)
		3	•	12.09 (307)	6.69 (170)	5.51 (140)	20.75 (527)	56.81 (26)
CRN 5-3	1	1	•	13.15 (334)	7.64 (194)	5.87 (149)	24.84 (631)	72.85 (33)
		3	•	13.15 (334)	6.69 (170)	5.51 (140)	22.20 (564)	59.39 (27)
CRN 5-4	1 1/2	1	•	14.21 (361)	7.64 (194)	5.87 (149)	26.69 (678)	78.73 (36)
		3	•	14.21 (361)	7.64 (194)	5.87 (149)	25.91 (658)	77.78 (35)
CRN 5-5	2	1	•	15.28 (388)	7.64 (194)	5.87 (149)	28.15 (715)	85.29 (39)
		3	•	15.28 (388)	7.64 (194)	5.87 (149)	27.76 (705)	83.38 (38)
CRN 5-6	2	1	•	16.34 (415)	7.64 (194)	5.87 (149)	29.21 (742)	86.71 (39)
		3	•	16.34 (415)	7.64 (194)	5.87 (149)	28.82 (732)	84.80 (38)
CRN 5-7	3	1	•	18.50 (470)	9.45 (240)	8.07 (205)	34.96 (888)	122.3 (55)
		3	•	18.50 (470)	9.45 (240)	6.69 (170)	32.20 (818)	119.7 (54)
CRN 5-8	3	1	•	19.57 (497)	9.45 (240)	8.07 (205)	36.02 (915)	123.5 (56)
		3	•	19.57 (497)	9.45 (240)	6.69 (170)	33.27 (845)	120.9 (55)
CRN 5-9	3	1	•	20.63 (524)	9.45 (240)	8.07 (205)	37.09 (942)	124.9 (57)
		3	•	20.63 (524)	9.45 (240)	6.69 (170)	34.33 (872)	122.3 (55)
CRN 5-10	5	1	•	21.69 (551)	10.98 (279)	8.43 (214)	41.02 (1042)	181.1 (82)
		3	•	21.69 (551)	9.45 (240)	6.69 (170)	36.97 (939)	137.9 (63)
CRN 5-11	5	1	•	22.76 (578)	10.98 (279)	8.43 (214)	42.09 (1069)	182.3 (83)
		3	•	22.76 (578)	9.45 (240)	6.69 (170)	38.03 (966)	139.1 (63)
CRN 5-12	5	1	•	23.82 (605)	10.98 (279)	8.43 (214)	43.15 (1096)	183.8 (83)
		3	•	23.82 (605)	9.45 (240)	6.69 (170)	39.09 (993)	140.6 (64)
CRN 5-13	5	1	•	24.88 (632)	10.98 (279)	8.43 (214)	44.21 (1123)	184.9 (84)
		3	•	24.88 (632)	9.45 (240)	6.69 (170)	40.16 (1020)	141.8 (64)
CRN 5-14	5	1	•	25.94 (659)	10.98 (279)	8.43 (214)	45.28 (1150)	186.4 (85)
		3	•	25.94 (659)	9.45 (240)	6.69 (170)	41.22 (1047)	143.2 (65)
CRN 5-15	5	1	•	27.01 (686)	10.98 (279)	8.43 (214)	46.34 (1177)	187.6 (85)
		3	•	27.01 (686)	9.45 (240)	6.69 (170)	42.28 (1074)	144.4 (65)

Pump type	P2 [HP]	Ph.	PJE <sup>30)</sup>	ANSI dimensions [inch (mm)]				Net wt. [lb (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 5-16	5	1	•	28.07 (713)	10.98 (279)	8.43 (214)	47.40 (1204)	188.8 (86)
		3	•	28.07 (713)	9.45 (240)	6.69 (170)	43.35 (1101)	145.6 (66)
CRN 5-18	7 1/2	1	•	30.71 (780)	10.98 (279)	8.43 (214)	50.04 (1271)	217.4 (99)
		3	•	30.71 (780)	10.98 (279)	7.95 (202)	47.68 (1211)	205.9 (93)
CRN 5-20	7 1/2	1	•	32.83 (834)	10.98 (279)	8.43 (214)	52.17 (1325)	220.0 (100)
		3	•	32.83 (834)	10.98 (279)	7.95 (202)	49.80 (1265)	208.5 (95)
CRN 5-22	7 1/2	1	•	34.96 (888)	10.98 (279)	8.43 (214)	54.29 (1379)	222.4 (101)
		3	•	34.96 (888)	10.98 (279)	7.95 (202)	51.93 (1319)	210.9 (96)
CRN 5-24	7 1/2	1	•	37.09 (942)	10.98 (279)	8.43 (214)	56.42 (1433)	225.0 (102)
		3	•	37.09 (942)	10.98 (279)	7.95 (202)	54.06 (1373)	213.5 (97)

<sup>30)</sup> PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CR 10

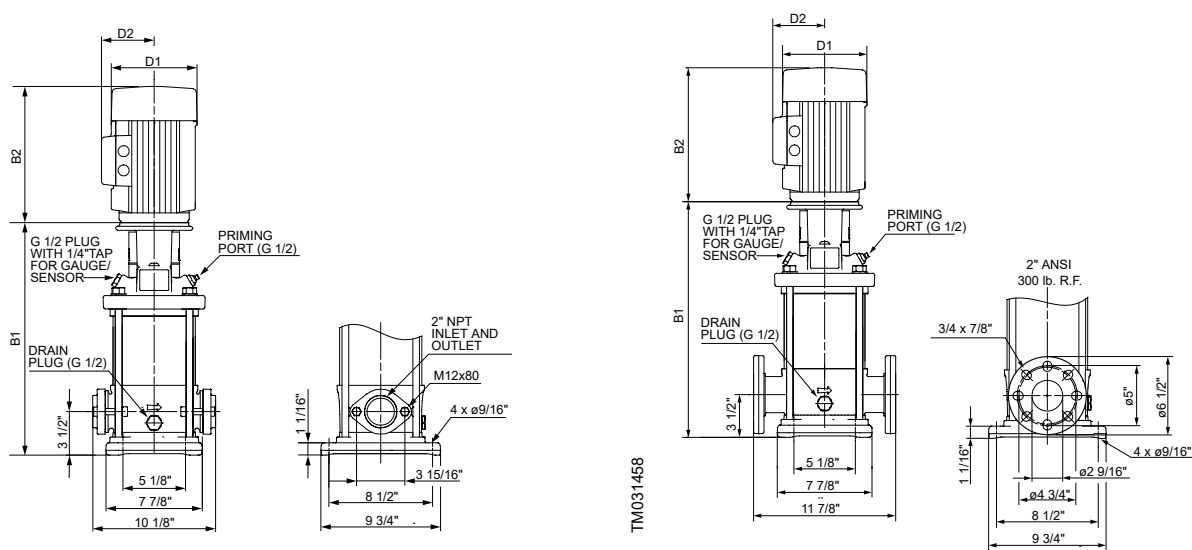


Pump type	P2 [HP]	P h.	Oval <sup>31)</sup>	ANSI dimensions [inch (mm)]						Net wt. [lb (kg)]	
				B1	TEFC			ODP			
					D1	D2	B1+B2	D1	D2		B1+B2
CR 10-1	3/4	1	●	15.28 (388)	7.64 (194)	5.87 (149)	26.57 (675)	-	-	-	105.8 (48)
		3	●	15.28 (388)	6.69 (170)	5.51 (140)	23.94 (608)	-	-	-	92.59 (42)
CR 10-2	1 1/2	1	●	15.28 (388)	7.64 (194)	5.87 (149)	27.76 (705)	-	-	-	112.4 (51)
		3	●	15.28 (388)	7.64 (194)	5.87 (149)	26.97 (685)	-	-	-	112.4 (51)
CR 10-3	3	1	●	17.20 (437)	9.45 (240)	8.07 (205)	33.66 (855)	-	-	-	165.3 (75)
		3	●	17.20 (437)	9.45 (240)	6.69 (170)	30.91 (785)	-	-	-	163.1 (74)
CR 10-4	3	1	●	18.39 (467)	9.45 (240)	8.07 (205)	34.84 (885)	-	-	-	167.6 (76)
		3	●	18.39 (467)	9.45 (240)	6.69 (170)	32.09 (815)	-	-	-	165.3 (75)
CR 10-5	5	1	●	19.57 (497)	10.98 (279)	8.43 (214)	38.90 (988)	-	-	-	224.9 (102)
		3	●	19.57 (497)	9.45 (240)	6.69 (170)	34.84 (885)	-	-	-	180.8 (82)
CR 10-6	5	1	●	20.75 (527)	10.98 (279)	8.43 (214)	40.08 (1018)	-	-	-	227.1 (103)
		3	●	20.75 (527)	9.45 (240)	6.69 (170)	36.02 (915)	-	-	-	183.0 (83)
CR 10-7	7 1/2	1	-	22.24 (565)	10.98 (279)	8.43 (214)	41.57 (1056)	-	-	-	253.5 (115)
		3	-	22.24 (565)	10.98 (279)	7.95 (202)	39.21 (996)	-	-	-	242.5 (110)
CR 10-8	7 1/2	1	-	23.43 (595)	10.98 (279)	8.43 (214)	42.76 (1086)	-	-	-	255.7 (116)
		3	-	23.43 (595)	10.98 (279)	7.95 (202)	40.39 (1026)	-	-	-	244.7 (111)
CR 10-9	7 1/2	1	-	24.61 (625)	10.98 (279)	8.43 (214)	43.94 (1116)	-	-	-	257.9 (117)
		3	-	24.61 (625)	10.98 (279)	7.95 (202)	41.57 (1056)	-	-	-	246.9 (112)
CR 10-10	7 1/2	1	-	25.79 (655)	10.98 (279)	8.43 (214)	45.12 (1146)	-	-	-	260.1 (118)
		3	-	25.79 (655)	10.98 (279)	7.95 (202)	42.76 (1086)	-	-	-	249.1 (113)
CR 10-12	10	1	-	28.15 (715)	10.98 (279)	8.43 (214)	47.48 (1206)	-	-	-	275.6 (125)
		3	-	28.15 (715)	10.98 (279)	7.95 (202)	46.97 (1193)	-	-	-	286.6 (130)
CR 10-14	15	3	-	33.07 (840)	13.19 (335)	9.45 (240)	51.89 (1318)	11.57 (294)	9.45 (240)	51.73 (1314)	315.3 (143)
CR 10-16	15	3	-	35.43 (900)	13.19 (335)	9.45 (240)	54.25 (1378)	11.57 (294)	9.45 (240)	54.09 (1374)	321.9 (146)
CR 10-17	15	3	-	37.80 (960)	13.19 (335)	9.45 (240)	56.61 (1438)	11.57 (294)	9.45 (240)	56.46 (1434)	326.3 (148)

<sup>31)</sup>Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

● Available.

CRI 10



TM031458

TM031459

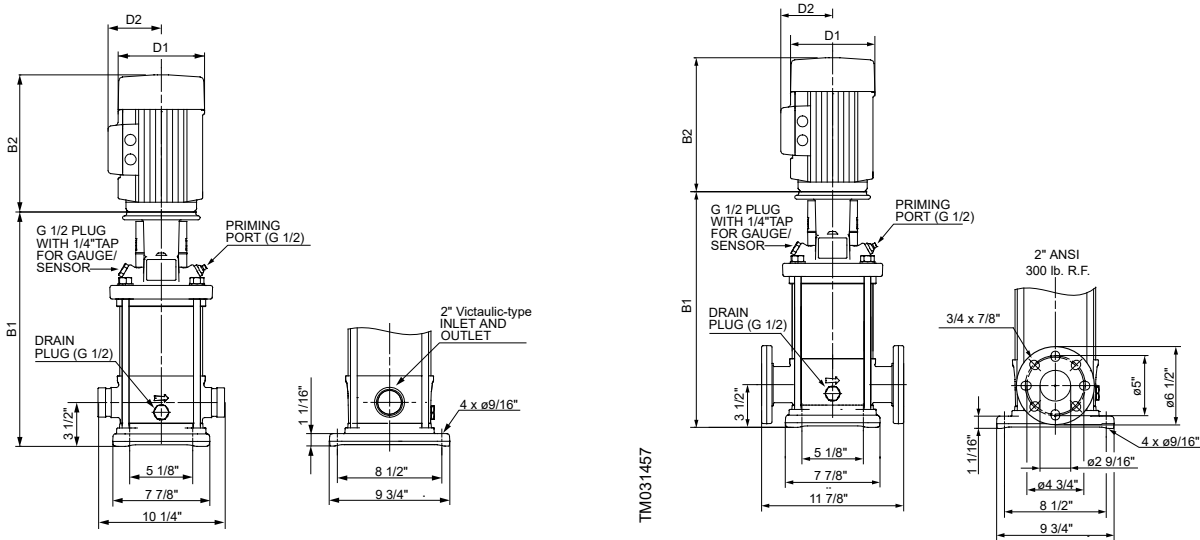
Pump type	P2 [HP]	Ph.	Oval <sup>32)</sup>	ANSI dimensions [inch (mm)]							Net wt. [lb (kg)]
				B1	TEFC			ODP			
					D1	D2	B1+B2	D1	D2	B1+B2	
CRI 10-1	3/4	1	●	15.20 (386)	7.64 (194)	5.87 (149)	26.50 (673)	-	-	-	99.21 (45)
		3	●	15.20 (386)	6.69 (170)	5.51 (140)	23.86 (606)	-	-	-	85.98 (39)
CRI 10-2	1 1/2	1	●	15.20 (386)	7.64 (194)	5.87 (149)	27.68 (703)	-	-	-	105.8 (48)
		3	●	15.20 (386)	7.64 (194)	5.87 (149)	26.89 (683)	-	-	-	105.8 (48)
CRI 10-3	3	1	●	17.13 (435)	9.45 (240)	8.07 (205)	33.58 (853)	-	-	-	158.7 (72)
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	30.83 (783)	-	-	-	156.5 (71)
CRI 10-4	3	1	●	18.31 (465)	9.45 (240)	8.07 (205)	34.76 (883)	-	-	-	160.9 (73)
		3	●	18.31 (465)	9.45 (240)	6.69 (170)	32.01 (813)	-	-	-	156.5 (71)
CRI 10-5	5	1	●	19.49 (495)	10.98 (279)	8.43 (214)	38.82 (986)	-	-	-	218.3 (99)
		3	●	19.49 (495)	9.45 (240)	6.69 (170)	34.76 (883)	-	-	-	174.2 (79)
CRI 10-6	5	1	●	20.67 (525)	10.98 (279)	8.43 (214)	40.00 (1016)	-	-	-	220.5 (100)
		3	●	20.67 (525)	9.45 (240)	6.69 (170)	35.94 (913)	-	-	-	176.4 (80)
CRI 10-7	7 1/2	1	●	22.17 (563)	10.98 (279)	8.43 (214)	41.50 (1054)	-	-	-	246.9 (112)
		3	●	22.17 (563)	10.98 (279)	7.95 (202)	39.13 (994)	-	-	-	235.9 (107)
CRI 10-8	7 1/2	1	●	23.35 (593)	10.98 (279)	8.43 (214)	42.68 (1084)	-	-	-	249.1 (113)
		3	●	23.35 (593)	10.98 (279)	7.95 (202)	40.32 (1024)	-	-	-	238.1 (108)
CRI 10-9	7 1/2	1	●	24.53 (623)	10.98 (279)	8.43 (214)	43.86 (1114)	-	-	-	251.3 (114)
		3	●	24.53 (623)	10.98 (279)	7.95 (202)	41.50 (1054)	-	-	-	240.3 (109)
CRI 10-10	7 1/2	1	●	25.71 (653)	10.98 (279)	8.43 (214)	45.04 (1144)	-	-	-	253.5 (115)
		3	●	25.71 (653)	10.98 (279)	7.95 (202)	42.68 (1084)	-	-	-	242.5 (110)
CRI 10-12	10	1	-	28.07 (713)	10.98 (279)	8.43 (214)	47.40 (1204)	-	-	-	266.8 (121)
		3	-	28.07 (713)	10.98 (279)	7.95 (202)	46.89 (1191)	-	-	-	277.8 (126)
CRI 10-14	15	3	-	32.95 (837)	13.19 (335)	9.45 (240)	51.77 (1315)	11.57 (294)	9.45 (240)	51.61 (1311)	308.6 (140)
CRI 10-16	15	3	-	35.32 (897)	13.19 (335)	9.45 (240)	54.13 (1375)	11.57 (294)	9.45 (240)	53.98 (1371)	313.1 (142)
CRI 10-17	15	3	-	37.68 (957)	13.19 (335)	9.45 (240)	56.50 (1435)	11.57 (294)	9.45 (240)	56.34 (1431)	317.5 (144)

<sup>32)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

● Available.



CRN 10

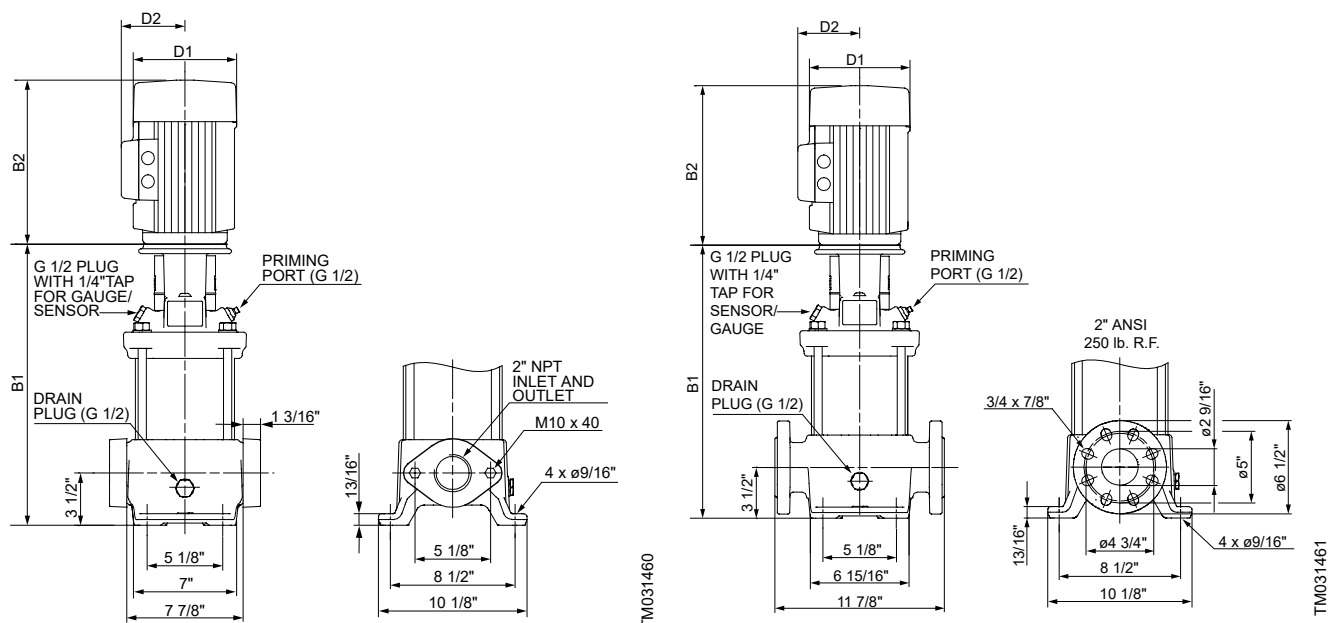


Pump type	P2 [HP]	Ph.	PJE <sup>33)</sup>	ANSI dimensions [inch (mm)]						Net wt. [lb (kg)]	
				B1	TEFC			ODP			
					D1	D2	B1+B2	D1	D2		B1+B2
CRN 10-1	3/4	1	●	15.20 (386)	7.64 (194)	5.87 (149)	26.50 (673)	-	-	-	99.21 (45)
		3	●	15.20 (386)	6.69 (170)	5.51 (140)	23.86 (606)	-	-	-	85.98 (39)
CRN 10-2	1 1/2	1	●	15.20 (386)	7.64 (194)	5.87 (149)	27.68 (703)	-	-	-	105.8 (48)
		3	●	15.20 (386)	7.64 (194)	5.87 (149)	26.89 (683)	-	-	-	105.8 (48)
CRN 10-3	3	1	●	17.13 (435)	9.45 (240)	8.07 (205)	33.58 (853)	-	-	-	158.7 (72)
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	30.83 (783)	-	-	-	156.5 (71)
CRN 10-4	3	1	●	18.31 (465)	9.45 (240)	8.07 (205)	34.76 (883)	-	-	-	160.9 (73)
		3	●	18.31 (465)	9.45 (240)	6.69 (170)	32.01 (813)	-	-	-	158.7 (72)
CRN 10-5	5	1	●	19.49 (495)	10.98 (279)	8.43 (214)	38.82 (986)	-	-	-	218.3 (99)
		3	●	19.49 (495)	9.45 (240)	6.69 (170)	34.76 (883)	-	-	-	174.2 (79)
CRN 10-6	5	1	●	20.67 (525)	10.98 (279)	8.43 (214)	40.00 (1016)	-	-	-	220.5 (100)
		3	●	20.67 (525)	9.45 (240)	6.69 (170)	35.94 (913)	-	-	-	178.6 (81)
CRN 10-7	7 1/2	1	●	22.17 (563)	10.98 (279)	8.43 (214)	41.50 (1054)	-	-	-	249.1 (113)
		3	●	22.17 (563)	10.98 (279)	7.95 (202)	39.13 (994)	-	-	-	235.9 (107)
CRN 10-8	7 1/2	1	●	23.35 (593)	10.98 (279)	8.43 (214)	42.68 (1084)	-	-	-	251.3 (114)
		3	●	23.35 (593)	10.98 (279)	7.95 (202)	40.32 (1024)	-	-	-	238.1 (108)
CRN 10-9	7 1/2	1	●	24.53 (623)	10.98 (279)	8.43 (214)	43.86 (1114)	-	-	-	253.5 (115)
		3	●	24.53 (623)	10.98 (279)	7.95 (202)	41.50 (1054)	-	-	-	240.3 (109)
CRN 10-10	7 1/2	1	●	25.71 (653)	10.98 (279)	8.43 (214)	45.04 (1144)	-	-	-	255.7 (116)
		3	●	25.71 (653)	10.98 (279)	7.95 (202)	42.68 (1084)	-	-	-	244.7 (111)
CRN 10-12	10	1	●	28.07 (713)	10.98 (279)	8.43 (214)	47.40 (1204)	-	-	-	266.8 (121)
		3	●	28.07 (713)	10.98 (279)	7.95 (202)	46.89 (1191)	-	-	-	277.8 (126)
CRN 10-14	15	3	●	32.95 (837)	13.19 (335)	9.45 (240)	51.77 (1315)	11.57 (294)	9.45 (240)	51.61 (1311)	308.6 (140)
CRN 10-16	15	3	●	35.32 (897)	13.19 (335)	9.45 (240)	54.13 (1375)	11.57 (294)	9.45 (240)	53.98 (1371)	313.1 (142)
CRN 10-17	15	3	●	37.68 (957)	13.19 (335)	9.45 (240)	56.50 (1435)	11.57 (294)	9.45 (240)	56.34 (1431)	317.5 (144)

<sup>33)</sup>PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CR 15

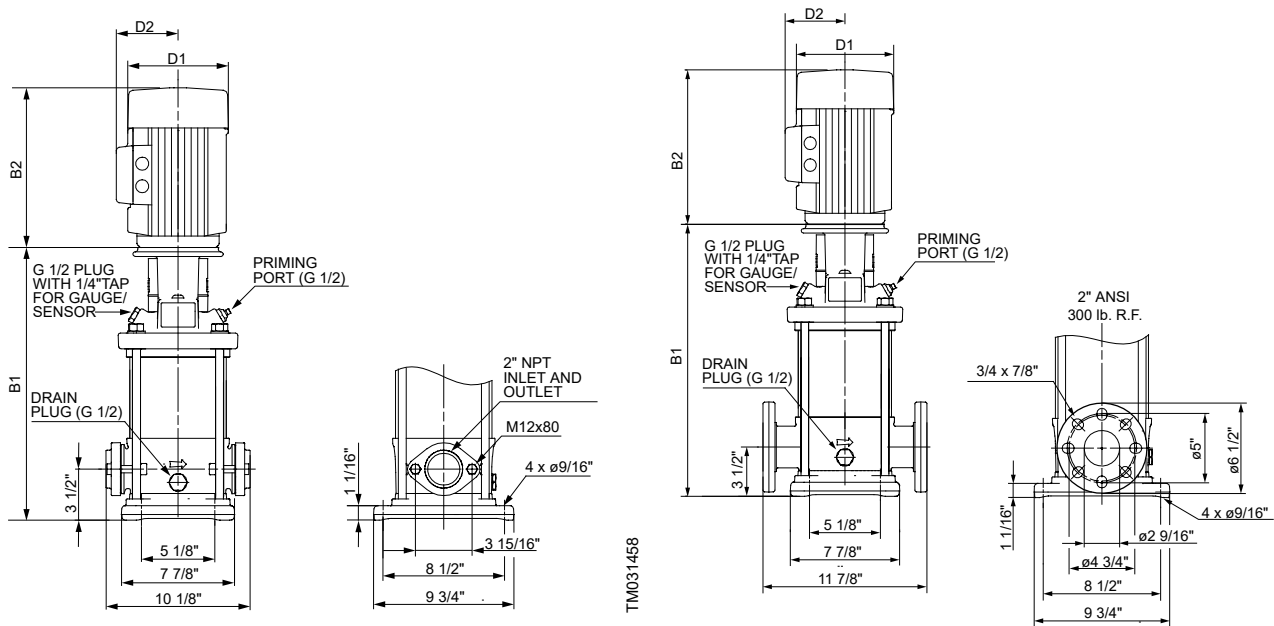


Pump type	P2 [HP]	Ph.	Oval <sup>34)</sup>	ANSI dimensions [inch (mm)]									Net wt. [lb (kg)]
				B1	TEFC			ODP					
					D1	D2	B1+B2	D1	D2	B1+B2			
CR 15-1	2	1	●	16.46 (418)	7.64 (194)	5.87 (149)	29.33 (745)	-	-	-	119.0 (54)		
		3	●	16.46 (418)	7.64 (194)	5.87 (149)	28.94 (735)	-	-	-	116.8 (53)		
CR 15-2	5	1	●	17.20 (437)	10.98 (279)	8.43 (214)	36.54 (928)	-	-	-	220.5 (100)		
		3	●	17.20 (437)	9.45 (240)	6.69 (170)	32.48 (825)	-	-	-	176.4 (80)		
CR 15-3	7 1/2	1	●	19.29 (490)	10.98 (279)	8.43 (214)	38.62 (981)	-	-	-	249.1 (113)		
		3	●	19.29 (490)	10.98 (279)	7.95 (202)	36.26 (921)	-	-	-	235.9 (107)		
CR 15-4	7 1/2	1	●	21.06 (535)	10.98 (279)	8.43 (214)	40.39 (1026)	-	-	-	251.3 (114)		
		3	●	21.06 (535)	10.98 (279)	7.95 (202)	38.03 (966)	-	-	-	240.3 (109)		
CR 15-5	10	1	●	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	262.4 (119)		
		3	●	22.83 (580)	10.98 (279)	7.95 (202)	41.65 (1058)	-	-	-	273.4 (124)		
CR 15-6	15	3	-	27.17 (690)	13.19 (335)	9.45 (240)	45.98 (1168)	11.57 (294)	9.45 (240)	45.83 (1164)	302.0 (137)		
CR 15-7	15	3	-	28.94 (735)	13.19 (335)	9.45 (240)	47.76 (1213)	11.57 (294)	9.45 (240)	47.60 (1209)	306.4 (139)		
CR 15-8	15	3	-	30.71 (780)	13.19 (335)	9.45 (240)	49.53 (1258)	11.57 (294)	9.45 (240)	49.37 (1254)	308.6 (140)		
CR 15-9	20	3	-	32.48 (825)	13.19 (335)	9.45 (240)	52.09 (1323)	11.57 (294)	9.45 (240)	51.14 (1299)	354.9 (161)		
CR 15-10	20	3	-	34.25 (870)	13.19 (335)	9.45 (240)	53.86 (1368)	11.57 (294)	9.45 (240)	52.91 (1344)	359.4 (163)		
CR 15-12	25	3	-	37.17 (944)	14.17 (360)	11.10 (282)	60.75 (1543)	16.22 (412)	11.93 (303)	59.33 (1507)	533.5 (242)		

<sup>34)</sup>Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

● Available.

CRI 15

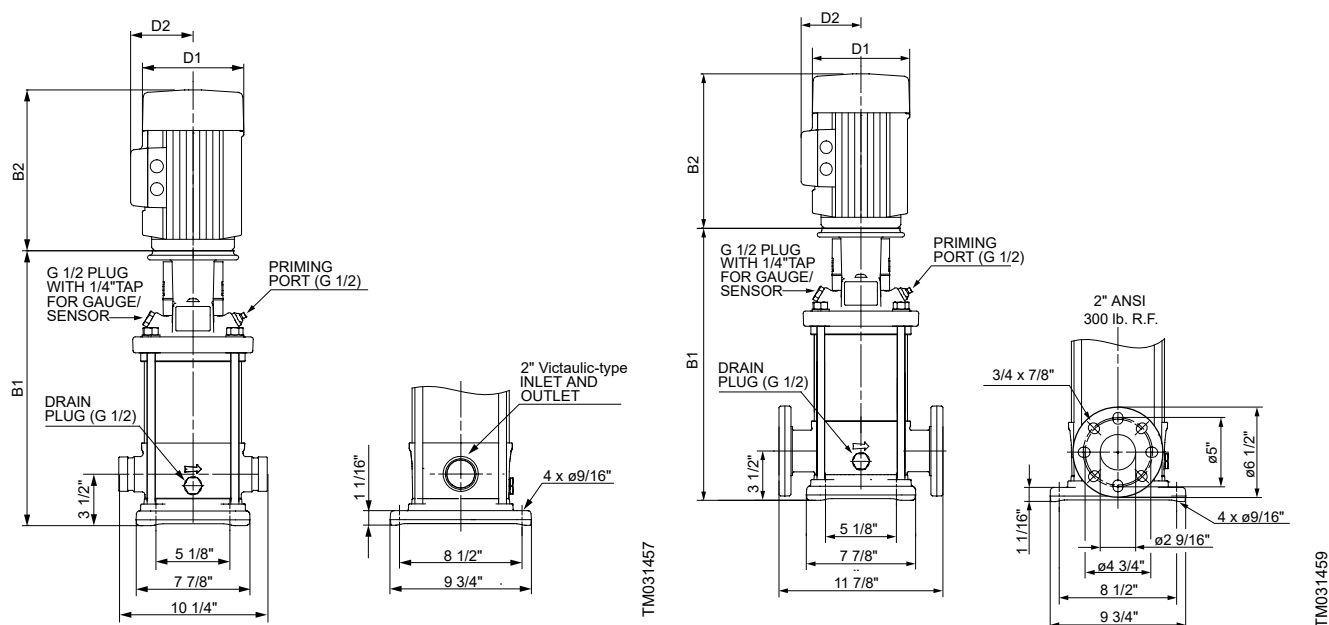


Pump type	P2 [HP]	Ph.	Oval <sup>35)</sup>	ANSI dimensions [inch (mm)]									Net wt. [lb (kg)]
				B1	TEFC			ODP					
					D1	D2	B1+B2	D1	D2	B1+B2			
CRI 15-1	2	1	●	16.38 (416)	7.64 (194)	5.87 (149)	29.25 (743)	-	-	-	112.4 (51)		
		3	●	16.38 (416)	7.64 (194)	5.87 (149)	28.86 (733)	-	-	-	110.2 (50)		
CRI 15-2	5	1	●	17.13 (435)	10.98 (279)	8.43 (214)	36.46 (926)	-	-	-	213.8 (97)		
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	32.40 (823)	-	-	-	169.8 (77)		
CRI 15-3	7 1/2	1	●	19.21 (488)	10.98 (279)	8.43 (214)	38.54 (979)	-	-	-	240.3 (109)		
		3	●	19.21 (488)	10.98 (279)	7.95 (202)	36.18 (919)	-	-	-	229.3 (104)		
CRI 15-4	7 1/2	1	●	20.98 (533)	10.98 (279)	8.43 (214)	40.32 (1024)	-	-	-	244.7 (111)		
		3	●	20.98 (533)	10.98 (279)	7.95 (202)	37.95 (964)	-	-	-	231.5 (105)		
CRI 15-5	10	1	●	22.76 (578)	10.98 (279)	8.43 (214)	42.09 (1069)	-	-	-	253.5 (115)		
		3	●	22.76 (578)	10.98 (279)	7.95 (202)	41.57 (1056)	-	-	-	264.6 (120)		
CRI 15-6	15	3	●	27.05 (687)	13.19 (335)	9.45 (240)	45.87 (1165)	11.57 (294)	9.45 (240)	45.71 (1161)	295.4 (134)		
CRI 15-7	15	3	●	28.82 (732)	13.19 (335)	9.45 (240)	47.64 (1210)	11.57 (294)	9.45 (240)	47.48 (1206)	297.6 (135)		
CRI 15-8	15	3	●	30.59 (777)	13.19 (335)	9.45 (240)	49.41 (1255)	11.57 (294)	9.45 (240)	49.25 (1251)	302.0 (137)		
CRI 15-9	20	3	-	32.36 (822)	13.19 (335)	9.45 (240)	51.97 (1320)	11.57 (294)	9.45 (240)	51.02 (1296)	348.3 (158)		
CRI 15-10	20	3	-	34.13 (867)	13.19 (335)	9.45 (240)	53.74 (1365)	11.57 (294)	9.45 (240)	52.80 (1341)	350.5 (159)		
CRI 15-12	25	3	-	37.05 (941)	14.17 (360)	11.10 (282)	60.63 (1540)	16.22 (412)	11.93 (303)	59.21 (1504)	524.7 (238)		

<sup>35)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRN 15

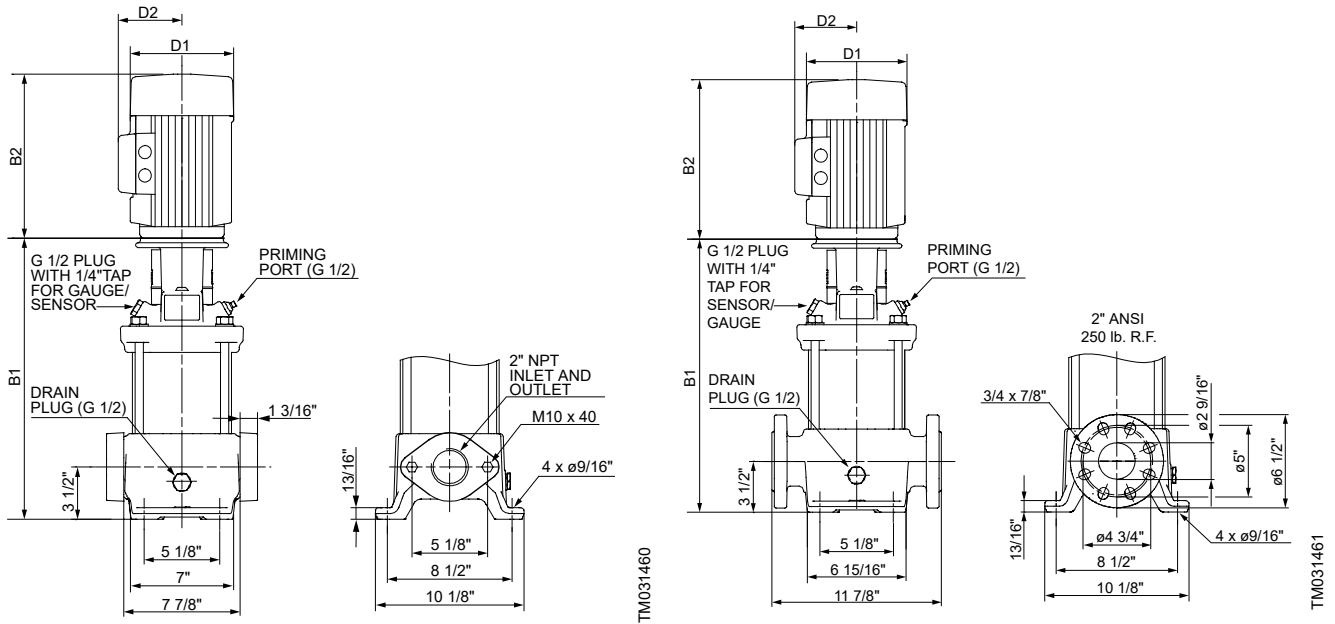


Pump type	P2 [HP]	Ph.	PJE <sup>36)</sup>	ANSI dimensions [inch (mm)]									Net wt. [lb (kg)]
				B1	TEFC			ODP					
					D1	D2	B1+B2	D1	D2	B1+B2			
CRN 15-1	2	1	●	16.38 (416)	7.64 (194)	5.87 (149)	29.25 (743)	-	-	-	112.4 (51)		
		3	●	16.38 (416)	7.64 (194)	5.87 (149)	28.86 (733)	-	-	-	110.2 (50)		
CRN 15-2	5	1	●	17.13 (435)	10.98 (279)	8.43 (214)	36.46 (926)	-	-	-	213.8 (97)		
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	32.40 (823)	-	-	-	169.8 (77)		
CRN 15-3	7 1/2	1	●	19.21 (488)	10.98 (279)	8.43 (214)	38.54 (979)	-	-	-	240.3 (109)		
		3	●	19.21 (488)	10.98 (279)	7.95 (202)	36.18 (919)	-	-	-	229.3 (104)		
CRN 15-4	7 1/2	1	●	20.98 (533)	10.98 (279)	8.43 (214)	40.32 (1024)	-	-	-	244.7 (111)		
		3	●	20.98 (533)	10.98 (279)	7.95 (202)	37.95 (964)	-	-	-	233.7 (106)		
CRN 15-5	10	1	●	22.76 (578)	10.98 (279)	8.43 (214)	42.09 (1069)	-	-	-	255.7 (116)		
		3	●	22.76 (578)	10.98 (279)	7.95 (202)	41.57 (1056)	-	-	-	266.8 (121)		
CRN 15-6	15	3	●	27.05 (687)	13.19 (335)	9.45 (240)	45.87 (1165)	11.57 (294)	9.45 (240)	45.71 (1161)	295.4 (134)		
CRN 15-7	15	3	●	28.82 (732)	13.19 (335)	9.45 (240)	47.64 (1210)	11.57 (294)	9.45 (240)	47.48 (1206)	299.8 (136)		
CRN 15-8	15	3	●	30.59 (777)	13.19 (335)	9.45 (240)	49.41 (1255)	11.57 (294)	9.45 (240)	49.25 (1251)	302.0 (137)		
CRN 15-9	20	3	●	32.36 (822)	13.19 (335)	9.45 (240)	51.97 (1320)	11.57 (294)	9.45 (240)	51.02 (1296)	348.3 (158)		
CRN 15-10	20	3	●	34.13 (867)	13.19 (335)	9.45 (240)	53.74 (1365)	11.57 (294)	9.45 (240)	52.80 (1341)	350.5 (159)		
CRN 15-12	25	3	●	37.05 (941)	14.17 (360)	11.10 (282)	60.63 (1540)	16.22 (412)	11.93 (303)	59.21 (1504)	524.7 (238)		

<sup>36)</sup>PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CR 20

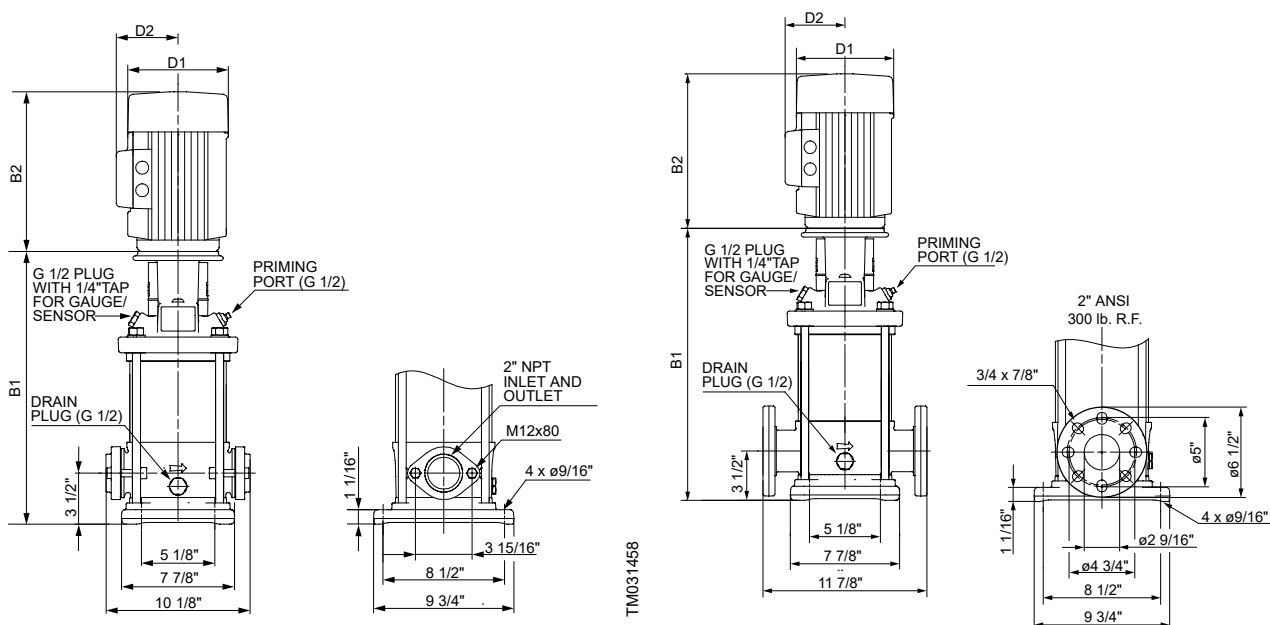


Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]									Net wt. [lb (kg)]
			Oval <sup>37)</sup>	B1	TEFC			ODP				
					D1	D2	B1+B2	D1	D2	B1+B2		
CR 20-1	3	1	●	17,20 (437)	9,45 (240)	8,07 (205)	33,66 (855)	-	-	-	165,3 (75)	
		3	●	17,20 (437)	9,45 (240)	6,69 (170)	30,91 (785)	-	-	-	160,9 (73)	
CR 20-2	5	1	●	17,20 (437)	10,98 (279)	8,43 (214)	36,54 (928)	-	-	-	220,5 (100)	
		3	●	17,20 (437)	9,45 (240)	6,69 (170)	32,48 (825)	-	-	-	176,4 (80)	
CR 20-3	7 1/2	1	●	19,29 (490)	10,98 (279)	8,43 (214)	38,62 (981)	-	-	-	249,1 (113)	
		3	●	19,29 (490)	10,98 (279)	7,95 (202)	36,26 (921)	-	-	-	235,9 (107)	
CR 20-4	10	1	●	21,06 (535)	10,98 (279)	8,43 (214)	40,39 (1026)	-	-	-	257,9 (117)	
		3	●	21,06 (535)	10,98 (279)	7,95 (202)	39,88 (1013)	-	-	-	269,0 (122)	
CR 20-5	15	3	●	25,39 (645)	13,19 (335)	9,45 (240)	44,21 (1123)	11,57 (294)	9,45 (240)	44,06 (1119)	297,6 (135)	
CR 20-6	15	3	-	27,17 (690)	13,19 (335)	9,45 (240)	45,98 (1168)	11,57 (294)	9,45 (240)	45,83 (1164)	302,0 (137)	
CR 20-7	20	3	-	28,94 (735)	13,19 (335)	9,45 (240)	48,54 (1233)	11,57 (294)	9,45 (240)	47,60 (1209)	346,1 (157)	
CR 20-8	20	3	-	30,71 (780)	13,19 (335)	9,45 (240)	50,32 (1278)	11,57 (294)	9,45 (240)	49,37 (1254)	350,5 (159)	
CR 20-10	25	3	-	33,62 (854)	14,17 (360)	11,10 (282)	57,20 (1453)	16,22 (412)	11,93 (303)	55,79 (1417)	524,7 (238)	

<sup>37)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRI 20

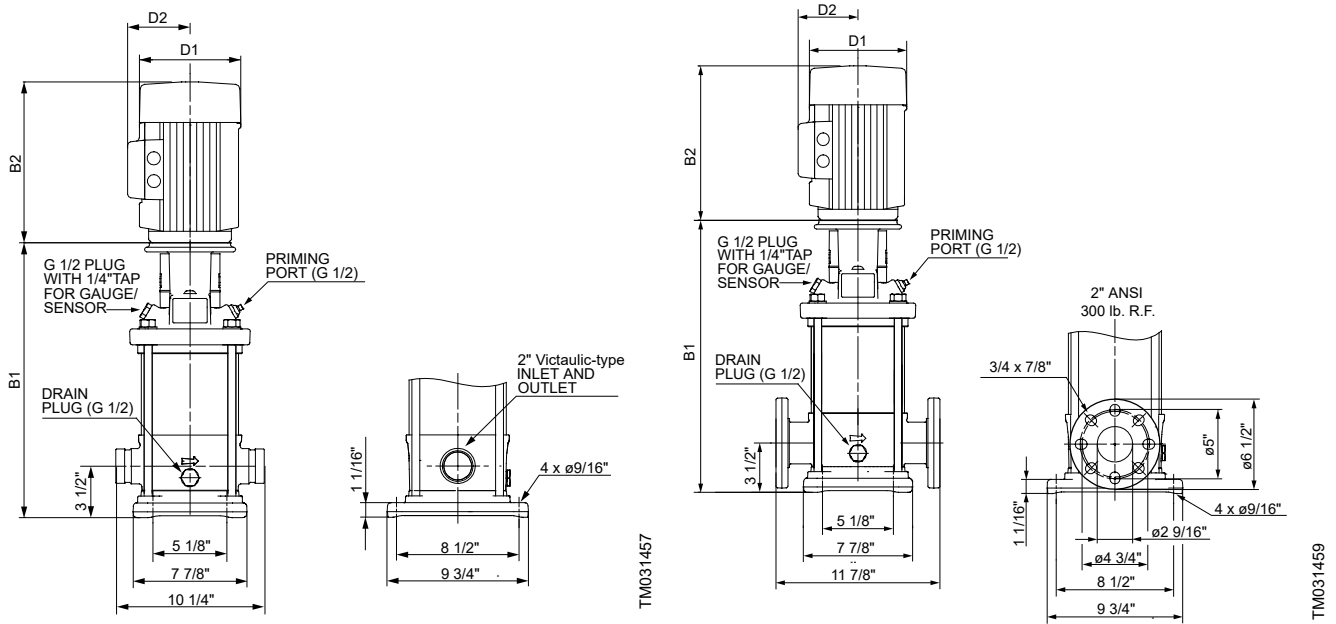


Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]									Net wt. [lb (kg)]
			Oval <sup>38)</sup>	B1	TEFC			ODP				
					D1	D2	B1+B2	D1	D2	B1+B2		
CRI 20-1	3	1	●	17.13 (435)	9.45 (240)	8.07 (205)	33.58 (853)	-	-	-	156.5 (71)	
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	30.83 (783)	-	-	-	154.3 (70)	
CRI 20-2	5	1	●	17.13 (435)	10.98 (279)	8.43 (214)	36.46 (926)	-	-	-	213.8 (97)	
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	32.40 (823)	-	-	-	169.8 (77)	
CRI 20-3	7 1/2	1	●	19.21 (488)	10.98 (279)	8.43 (214)	38.54 (979)	-	-	-	240.3 (109)	
		3	●	19.21 (488)	10.98 (279)	7.95 (202)	36.18 (919)	-	-	-	229.3 (104)	
CRI 20-4	10	1	●	20.98 (533)	10.98 (279)	8.43 (214)	40.32 (1024)	-	-	-	251.3 (114)	
		3	●	20.98 (533)	10.98 (279)	7.95 (202)	39.80 (1011)	-	-	-	262.4 (119)	
CRI 20-5	15	3	●	25.28 (642)	13.19 (335)	9.45 (240)	44.09 (1120)	11.57 (294)	9.45 (240)	43.94 (1116)	291.0 (132)	
CRI 20-6	15	3	●	27.05 (687)	13.19 (335)	9.45 (240)	45.87 (1165)	11.57 (294)	9.45 (240)	45.71 (1161)	295.4 (134)	
CRI 20-7	20	3	●	28.82 (732)	13.19 (335)	9.45 (240)	48.43 (1230)	11.57 (294)	9.45 (240)	47.48 (1206)	337.3 (153)	
CRI 20-8	20	3	-	30.59 (777)	13.19 (335)	9.45 (240)	50.20 (1275)	11.57 (294)	9.45 (240)	49.25 (1251)	343.9 (156)	
CRI 20-10	25	3	-	33.50 (851)	14.17 (360)	11.10 (282)	57.09 (1450)	16.22 (412)	11.93 (303)	55.67 (1414)	518.1 (235)	

<sup>38)</sup> Oval flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CRN 20

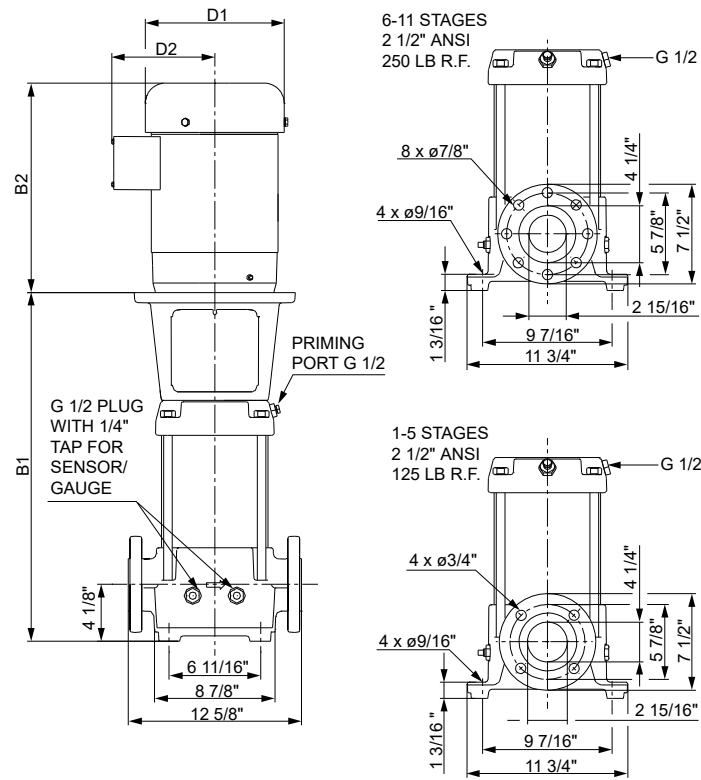


Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]									Net wt. [lb (kg)]
			PJE <sup>39)</sup>	B1	TEFC			ODP				
					D1	D2	B1+B2	D1	D2	B1+B2		
CRN 20-1	3	1	●	17.13 (435)	9.45 (240)	8.07 (205)	33.58 (853)	-	-	-	156.5 (71)	
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	30.83 (783)	-	-	-	154.3 (70)	
CRN 20-2	5	1	●	17.13 (435)	10.98 (279)	8.43 (214)	36.46 (926)	-	-	-	213.8 (97)	
		3	●	17.13 (435)	9.45 (240)	6.69 (170)	32.40 (823)	-	-	-	169.8 (77)	
CRN 20-3	7 1/2	1	●	19.21 (488)	10.98 (279)	8.43 (214)	38.54 (979)	-	-	-	240.3 (109)	
		3	●	19.21 (488)	10.98 (279)	7.95 (202)	36.18 (919)	-	-	-	229.3 (104)	
CRN 20-4	10	1	●	20.98 (533)	10.98 (279)	8.43 (214)	40.32 (1024)	-	-	-	251.3 (114)	
		3	●	20.98 (533)	10.98 (279)	7.95 (202)	39.80 (1011)	-	-	-	262.4 (119)	
CRN 20-5	15	3	●	25.28 (642)	13.19 (335)	9.45 (240)	44.09 (1120)	11.57 (294)	9.45 (240)	43.94 (1116)	291.0 (132)	
CRN 20-6	15	3	●	27.05 (687)	13.19 (335)	9.45 (240)	45.87 (1165)	11.57 (294)	9.45 (240)	45.71 (1161)	295.4 (134)	
CRN 20-7	20	3	●	28.82 (732)	13.19 (335)	9.45 (240)	48.43 (1230)	11.57 (294)	9.45 (240)	47.48 (1206)	339.5 (154)	
CRN 20-8	20	3	●	30.59 (777)	13.19 (335)	9.45 (240)	50.20 (1275)	11.57 (294)	9.45 (240)	49.25 (1251)	343.9 (156)	
CRN 20-10	25	3	●	33.50 (851)	14.17 (360)	11.10 (282)	57.09 (1450)	16.22 (412)	11.93 (303)	55.67 (1414)	518.1 (235)	

<sup>39)</sup>PJE flanged pump dimensions B1 and B1+B2 are 1 inch (25 mm) less than the corresponding ANSI dimensions, and the net weight is approximately 9 lb (4 kg) less.

- Available.

CR 32



TM027699\_1009

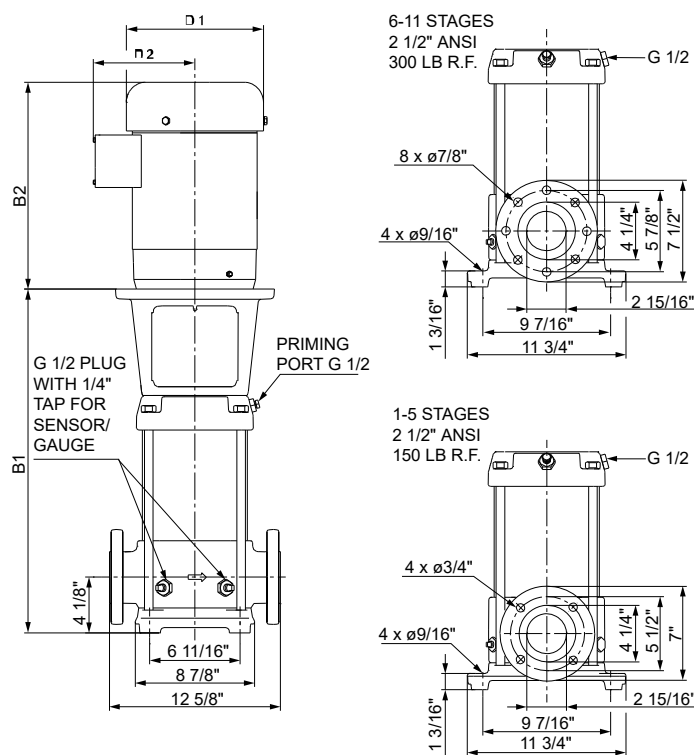
Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>40)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CR 32-1-1	5	-	20.08 (510)	10.98 (279)	8.43 (214)	39.41 (1001)	-	-	-	242.1 (110)
		3	20.08 (510)	9.45 (240)	6.69 (170)	35.35 (898)	-	-	-	198.9 (90)
CR 32-1	5	-	20.08 (510)	10.98 (279)	8.43 (214)	39.41 (1001)	-	-	-	242.1 (110)
		3	20.08 (510)	9.45 (240)	6.69 (170)	35.35 (898)	-	-	-	198.9 (90)
CR 32-2-2	7 1/2	-	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	269.4 (122)
		3	22.83 (580)	10.98 (279)	7.95 (202)	39.80 (1011)	-	-	-	257.9 (117)
CR 32-2-1	7 1/2	-	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	269.4 (122)
		3	22.83 (580)	10.98 (279)	7.95 (202)	39.80 (1011)	-	-	-	257.9 (117)
CR 32-2	10	-	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	276.5 (125)
		3	22.83 (580)	10.98 (279)	7.95 (202)	41.65 (1058)	-	-	-	287.6 (130)
CR 32-3-2	10	-	25.59 (650)	10.98 (279)	8.43 (214)	44.92 (1141)	-	-	-	283.6 (129)
		3	25.59 (650)	10.98 (279)	7.95 (202)	44.41 (1128)	-	-	-	294.6 (134)
CR 32-3	15	3	29.72 (755)	13.19 (335)	9.45 (240)	48.54 (1233)	11.57 (294)	9.45 (240)	48.39 (1229)	330.6 (150)
CR 32-4-2	15	3	32.48 (825)	13.19 (335)	9.45 (240)	51.30 (1303)	11.57 (294)	9.45 (240)	51.14 (1299)	337.2 (153)
CR 32-4	20	3	32.48 (825)	13.19 (335)	9.45 (240)	52.09 (1323)	11.57 (294)	9.45 (240)	51.14 (1299)	377.6 (171)
CR 32-5-2	20	3	35.24 (895)	13.19 (335)	9.45 (240)	54.84 (1393)	11.57 (294)	9.45 (240)	53.90 (1369)	384.4 (174)
CR 32-5	20	3	35.24 (895)	13.19 (335)	9.45 (240)	54.84 (1393)	11.57 (294)	9.45 (240)	53.90 (1369)	384.4 (174)
CR 32-6-2	25	3	37.99 (965)	14.17 (360)	11.10 (282)	61.57 (1564)	16.22 (412)	11.93 (303)	60.16 (1528)	558.8 (253)
CR 32-6	25	3	37.99 (965)	14.17 (360)	11.10 (282)	61.57 (1564)	16.22 (412)	11.93 (303)	60.16 (1528)	558.8 (253)
CR 32-7-2	30	3	40.75 (1035)	14.17 (360)	11.10 (282)	64.33 (1634)	16.22 (412)	11.93 (303)	62.91 (1598)	573.3 (260)
CR 32-7	30	3	40.75 (1035)	14.17 (360)	11.10 (282)	64.33 (1634)	16.22 (412)	11.93 (303)	62.91 (1598)	573.3 (260)
CR 32-8-2	30	3	43.50 (1105)	14.17 (360)	11.10 (282)	67.09 (1704)	16.22 (412)	11.93 (303)	65.67 (1668)	586.1 (266)
CR 32-8	40	3	43.50 (1105)	15.83 (402)	12.60 (320)	69.61 (1768)	17.68 (449)	13.39 (340)	67.68 (1719)	730.8 (331)



Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>40)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CR 32-9-2	40	3	46.26 (1175)	15.83 (402)	12.60 (320)	72.36 (1838)	17.68 (449)	13.39 (340)	70.43 (1789)	738.5 (335)
CR 32-9	40	3	46.26 (1175)	15.83 (402)	12.60 (320)	72.36 (1838)	17.68 (449)	13.39 (340)	70.43 (1789)	738.5 (335)
CR 32-10-2	40	3	49.02 (1245)	15.83 (402)	12.60 (320)	75.12 (1908)	17.68 (449)	13.39 (340)	73.19 (1859)	746.0 (338)
CR 32-10	40	3	49.02 (1245)	15.83 (402)	12.60 (320)	75.12 (1908)	17.68 (449)	13.39 (340)	73.19 (1859)	746.0 (338)
CR 32-11-2	50	3	51.77 (1315)	15.83 (402)	12.60 (320)	77.87 (1978)	17.68 (449)	13.39 (340)	75.95 (1929)	787.6 (357)

<sup>40)</sup>Weights are based on pumps with TEFC motor. See the price list for individual weights.

CRN 32



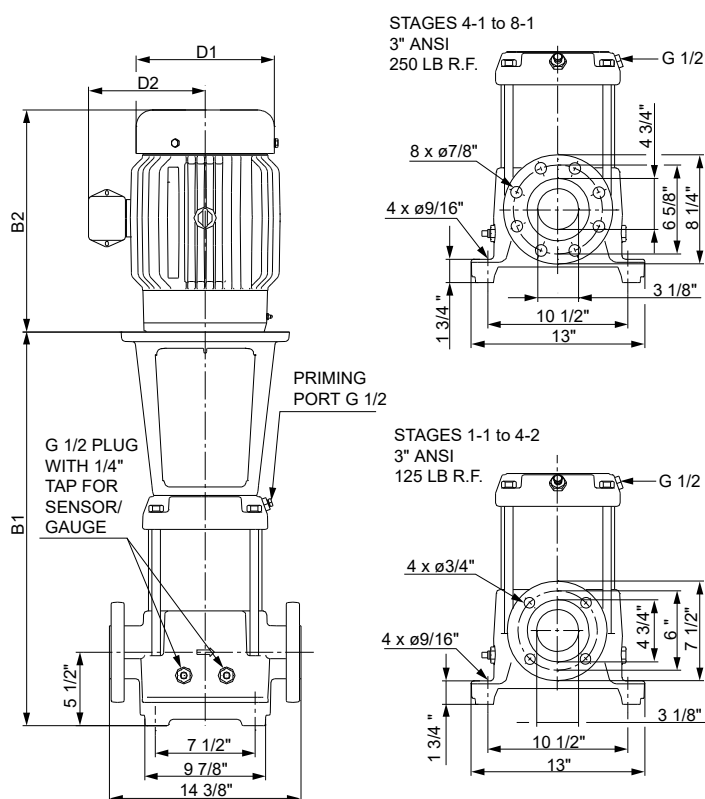
TM027703\_1009

Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]						Net wt. <sup>41)</sup> [lb (kg)]	
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2		B1+B2
CRN 32-1-1	5	1	20.08 (510)	10.98 (279)	8.43 (214)	39.41 (1001)	-	-	-	247.0 (112)
		3	20.08 (510)	9.45 (240)	6.69 (170)	35.35 (898)	-	-	-	203.8 (92)
CRN 32-1	5	1	20.08 (510)	10.98 (279)	8.43 (214)	39.41 (1001)	-	-	-	247.0 (112)
		3	20.08 (510)	9.45 (240)	6.69 (170)	35.35 (898)	-	-	-	203.8 (92)
CRN 32-2-2	7 1/2	1	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	274.5 (125)
		3	22.83 (580)	10.98 (279)	7.95 (202)	39.80 (1011)	-	-	-	263.0 (119)
CRN 32-2-1	7 1/2	1	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	274.5 (125)
		3	22.83 (580)	10.98 (279)	7.95 (202)	39.80 (1011)	-	-	-	263.0 (119)
CRN 32-2	10	1	22.83 (580)	10.98 (279)	8.43 (214)	42.17 (1071)	-	-	-	281.6 (128)
		3	22.83 (580)	10.98 (279)	7.95 (202)	41.65 (1058)	-	-	-	292.6 (133)
CRN 32-3-2	10	1	25.59 (650)	10.98 (279)	8.43 (214)	44.92 (1141)	-	-	-	288.4 (131)
		3	25.59 (650)	10.98 (279)	7.95 (202)	44.41 (1128)	-	-	-	299.5 (136)
CRN 32-3	15	3	29.72 (755)	13.19 (335)	9.45 (240)	48.54 (1233)	11.57 (294)	9.45 (240)	48.39 (1229)	335.4 (152)
CRN 32-4-2	15	3	32.48 (825)	13.19 (335)	9.45 (240)	51.30 (1303)	11.57 (294)	9.45 (240)	51.14 (1299)	342.0 (155)
CRN 32-4	20	3	32.48 (825)	13.19 (335)	9.45 (240)	52.09 (1323)	11.57 (294)	9.45 (240)	51.14 (1299)	382.4 (173)
CRN 32-5-2	20	3	35.24 (895)	13.19 (335)	9.45 (240)	54.84 (1393)	11.57 (294)	9.45 (240)	53.90 (1369)	389.0 (176)
CRN 32-5	20	3	35.24 (895)	13.19 (335)	9.45 (240)	54.84 (1393)	11.57 (294)	9.45 (240)	53.90 (1369)	389.0 (176)
CRN 32-6-2	25	3	37.99 (965)	14.17 (360)	11.10 (282)	61.57 (1564)	16.22 (412)	11.93 (303)	60.16 (1528)	562.4 (255)
CRN 32-6	25	3	37.99 (965)	14.17 (360)	11.10 (282)	61.57 (1564)	16.22 (412)	11.93 (303)	60.16 (1528)	562.4 (255)
CRN 32-7-2	30	3	40.75 (1035)	14.17 (360)	11.10 (282)	64.33 (1634)	16.22 (412)	11.93 (303)	62.91 (1598)	576.9 (262)
CRN 32-7	30	3	40.75 (1035)	14.17 (360)	11.10 (282)	64.33 (1634)	16.22 (412)	11.93 (303)	62.91 (1598)	576.9 (262)
CRN 32-8-2	30	3	43.50 (1105)	14.17 (360)	11.10 (282)	67.09 (1704)	16.22 (412)	11.93 (303)	65.67 (1668)	589.6 (267)
CRN 32-8	40	3	43.50 (1105)	15.83 (402)	12.60 (320)	69.61 (1768)	17.68 (449)	13.39 (340)	67.68 (1719)	734.3 (333)
CRN 32-9-2	40	3	46.26 (1175)	15.83 (402)	12.60 (320)	72.36 (1838)	17.68 (449)	13.39 (340)	70.43 (1789)	742.0 (337)

Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>41)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CRN 32-9	40	3	46.26 (1175)	15.83 (402)	12.60 (320)	72.36 (1838)	17.68 (449)	13.39 (340)	70.43 (1789)	742.0 (337)
CRN 32-10-2	40	3	49.02 (1245)	15.83 (402)	12.60 (320)	75.12 (1908)	17.68 (449)	13.39 (340)	73.19 (1859)	749.3 (340)
CRN 32-10	40	3	49.02 (1245)	15.83 (402)	12.60 (320)	75.12 (1908)	17.68 (449)	13.39 (340)	73.19 (1859)	749.3 (340)
CRN 32-11-2	50	3	51.77 (1315)	15.83 (402)	12.60 (320)	77.87 (1978)	17.68 (449)	13.39 (340)	75.95 (1929)	790.9 (359)

<sup>41)</sup>Weights are based on pumps with TEFC motor. See the price list for individual weights.

CR 45

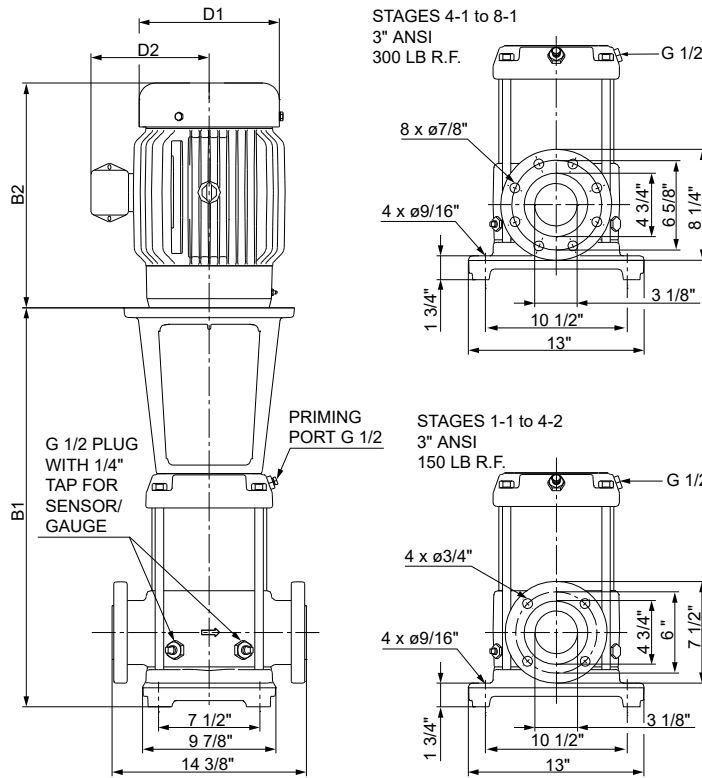


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Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>42)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CR 45-1-1	7 1/2	1	22.20 (564)	10.98 (279)	8.43 (214)	41.54 (1055)	-	-	-	283.3 (129)
		3	22.20 (564)	10.98 (279)	7.95 (202)	39.17 (995)	-	-	-	271.8 (123)
CR 45-1	10	1	22.20 (564)	10.98 (279)	8.43 (214)	41.54 (1055)	-	-	-	290.4 (132)
		3	22.20 (564)	10.98 (279)	7.95 (202)	41.02 (1042)	-	-	-	301.4 (137)
CR 45-2-2	15	3	29.49 (749)	13.19 (335)	9.45 (240)	48.31 (1227)	11.57 (294)	9.45 (240)	48.15 (1223)	345.5 (157)
CR 45-2-1	15	3	29.49 (749)	13.19 (335)	9.45 (240)	48.31 (1227)	11.57 (294)	9.45 (240)	48.15 (1223)	345.5 (157)
CR 45-2	15	3	29.49 (749)	13.19 (335)	9.45 (240)	48.31 (1227)	11.57 (294)	9.45 (240)	48.15 (1223)	345.5 (157)
CR 45-3-2	20	3	32.64 (829)	13.19 (335)	9.45 (240)	52.24 (1327)	11.57 (294)	9.45 (240)	51.30 (1303)	394.5 (179)
CR 45-3-1	25	3	32.64 (829)	14.17 (360)	11.10 (282)	56.22 (1428)	16.22 (412)	11.93 (303)	54.80 (1392)	560.6 (254)
CR 45-3	25	3	32.64 (829)	14.17 (360)	11.10 (282)	56.22 (1428)	16.22 (412)	11.93 (303)	54.80 (1392)	560.6 (254)
CR 45-4-2	30	3	35.79 (909)	14.17 (360)	11.10 (282)	59.37 (1508)	16.22 (412)	11.93 (303)	57.95 (1472)	576.4 (261)
CR 45-4-1	30	3	35.79 (909)	14.17 (360)	11.10 (282)	59.37 (1508)	16.22 (412)	11.93 (303)	57.95 (1472)	582.1 (264)
CR 45-4	30	3	35.79 (909)	14.17 (360)	11.10 (282)	59.37 (1508)	16.22 (412)	11.93 (303)	57.95 (1472)	582.1 (264)
CR 45-5-2	40	3	38.94 (989)	15.83 (402)	12.60 (320)	65.04 (1652)	17.68 (449)	13.39 (340)	63.11 (1603)	735.0 (333)
CR 45-5-1	40	3	38.94 (989)	15.83 (402)	12.60 (320)	65.04 (1652)	17.68 (449)	13.39 (340)	63.11 (1603)	735.0 (333)
CR 45-5	40	3	38.94 (989)	15.83 (402)	12.60 (320)	65.04 (1652)	17.68 (449)	13.39 (340)	63.11 (1603)	735.0 (333)
CR 45-6-2	50	3	42.09 (1069)	15.83 (402)	12.60 (320)	68.19 (1732)	17.68 (449)	13.39 (340)	66.26 (1683)	783.8 (356)
CR 45-6	50	3	42.09 (1069)	15.83 (402)	12.60 (320)	68.19 (1732)	17.68 (449)	13.39 (340)	66.26 (1683)	783.8 (356)
CR 45-7-2	50	3	45.24 (1149)	15.83 (402)	12.60 (320)	71.34 (1812)	17.68 (449)	13.39 (340)	69.41 (1763)	793.3 (360)
CR 45-7	60	3	45.24 (1149)	17.91 (455)	16.02 (407)	74.06 (1881)	17.68 (449)	13.39 (340)	69.41 (1763)	1083.0 (491)
CR 45-8-1	60	3	48.39 (1229)	17.91 (455)	16.02 (407)	77.20 (1961)	17.68 (449)	13.39 (340)	72.56 (1843)	1092.5 (496)

<sup>42)</sup> Weights are based on pumps with TEFC motor. See the price list for individual weights.

CRN 45

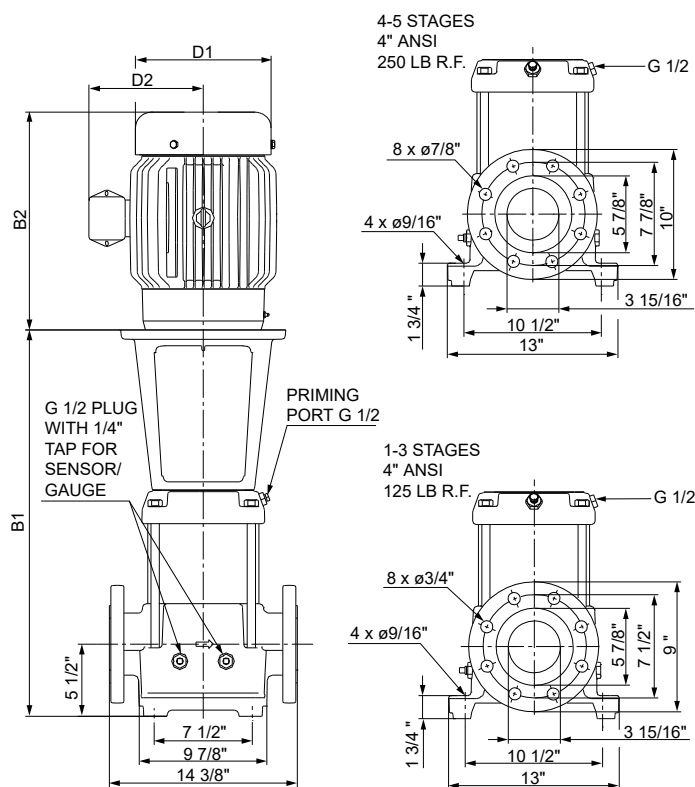


TM027704\_1009

Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>43)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CRN 45-1-1	7 1/2	1	22.20 (564)	10.98 (279)	8.43 (214)	41.54 (1055)	-	-	-	283.8 (129)
		3	22.20 (564)	10.98 (279)	7.95 (202)	39.17 (995)	-	-	-	272.3 (124)
CRN 45-1	10	1	22.20 (564)	10.98 (279)	8.43 (214)	41.54 (1055)	-	-	-	290.9 (132)
		3	22.20 (564)	10.98 (279)	7.95 (202)	41.02 (1042)	-	-	-	301.9 (137)
CRN 45-2-2	15	3	29.49 (749)	13.19 (335)	9.45 (240)	48.31 (1227)	11.57 (294)	9.45 (240)	48.15 (1223)	346.0 (157)
CRN 45-2-1	15	3	29.49 (749)	13.19 (335)	9.45 (240)	48.31 (1227)	11.57 (294)	9.45 (240)	48.15 (1223)	346.0 (157)
CRN 45-2	15	3	29.49 (749)	13.19 (335)	9.45 (240)	48.31 (1227)	11.57 (294)	9.45 (240)	48.15 (1223)	346.0 (157)
CRN 45-3-2	20	3	32.64 (829)	13.19 (335)	9.45 (240)	52.24 (1327)	11.57 (294)	9.45 (240)	51.30 (1303)	395.0 (179)
CRN 45-3-1	25	3	32.64 (829)	14.17 (360)	11.10 (282)	56.22 (1428)	16.22 (412)	11.93 (303)	54.80 (1392)	561.1 (254)
CRN 45-3	25	3	32.64 (829)	14.17 (360)	11.10 (282)	56.22 (1428)	16.22 (412)	11.93 (303)	54.80 (1392)	561.1 (254)
CRN 45-4-2	30	3	35.79 (909)	14.17 (360)	11.10 (282)	59.37 (1508)	16.22 (412)	11.93 (303)	57.95 (1472)	576.9 (262)
CRN 45-4-1	30	3	35.79 (909)	14.17 (360)	11.10 (282)	59.37 (1508)	16.22 (412)	11.93 (303)	57.95 (1472)	580.4 (263)
CRN 45-4	30	3	35.79 (909)	14.17 (360)	11.10 (282)	59.37 (1508)	16.22 (412)	11.93 (303)	57.95 (1472)	580.4 (263)
CRN 45-5-2	40	3	38.94 (989)	15.83 (402)	12.60 (320)	65.04 (1652)	17.68 (449)	13.39 (340)	63.11 (1603)	733.2 (333)
CRN 45-5-1	40	3	38.94 (989)	15.83 (402)	12.60 (320)	65.04 (1652)	17.68 (449)	13.39 (340)	63.11 (1603)	733.2 (333)
CRN 45-5	40	3	38.94 (989)	15.83 (402)	12.60 (320)	65.04 (1652)	17.68 (449)	13.39 (340)	63.11 (1603)	733.2 (333)
CRN 45-6-2	50	3	42.09 (1069)	15.83 (402)	12.60 (320)	68.19 (1732)	17.68 (449)	13.39 (340)	66.26 (1683)	782.1 (355)
CRN 45-6	50	3	42.09 (1069)	15.83 (402)	12.60 (320)	68.19 (1732)	17.68 (449)	13.39 (340)	66.26 (1683)	782.1 (355)
CRN 45-7-2	50	3	45.24 (1149)	15.83 (402)	12.60 (320)	71.34 (1812)	17.68 (449)	13.39 (340)	69.41 (1763)	791.3 (359)
CRN 45-7	60	3	45.24 (1149)	17.91 (455)	16.02 (407)	74.06 (1881)	17.68 (449)	13.39 (340)	69.41 (1763)	1081.0 (490)
CRN 45-8-1	60	3	48.39 (1229)	17.91 (455)	16.02 (407)	77.20 (1961)	17.68 (449)	13.39 (340)	72.56 (1843)	1090.5 (495)

<sup>43)</sup> Weights are based on pumps with TEFC motor. See the price list for individual weights.

## CR 64

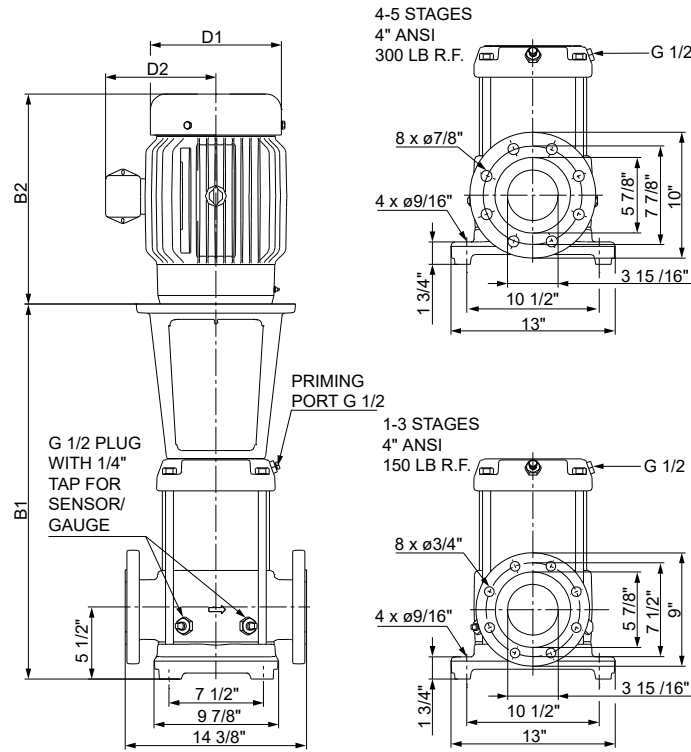


TM027701\_1009

Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>44)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CR 64-1-1	10	1	22.28 (566)	10.98 (279)	8.43 (214)	41.61 (1057)	-	-	-	299.7 (136)
		3	22.28 (566)	10.98 (279)	7.95 (202)	41.10 (1044)	-	-	-	310.7 (141)
CR 64-1	15	3	26.42 (671)	13.19 (335)	9.45 (240)	45.24 (1149)	11.57 (294)	9.45 (240)	45.08 (1145)	346.6 (157)
CR 64-2-2	20	3	29.69 (754)	13.19 (335)	9.45 (240)	49.29 (1252)	11.57 (294)	9.45 (240)	48.35 (1228)	397.0 (180)
CR 64-2-1	20	3	29.69 (754)	13.19 (335)	9.45 (240)	49.29 (1252)	11.57 (294)	9.45 (240)	48.35 (1228)	397.0 (180)
CR 64-2	25	3	29.69 (754)	14.17 (360)	11.10 (282)	53.27 (1353)	16.22 (412)	11.93 (303)	51.85 (1317)	563.0 (255)
CR 64-3-2	30	3	32.91 (836)	14.17 (360)	11.10 (282)	56.50 (1435)	16.22 (412)	11.93 (303)	55.08 (1399)	580.4 (263)
CR 64-3-1	40	3	32.91 (836)	15.83 (402)	12.60 (320)	59.02 (1499)	17.68 (449)	13.39 (340)	57.09 (1450)	725.1 (329)
CR 64-3	40	3	32.91 (836)	15.83 (402)	12.60 (320)	59.02 (1499)	17.68 (449)	13.39 (340)	57.09 (1450)	725.1 (329)
CR 64-4-2	40	3	36.18 (919)	15.83 (402)	12.60 (320)	62.28 (1582)	17.68 (449)	13.39 (340)	60.35 (1533)	746.7 (339)
CR 64-4-1	50	3	36.18 (919)	15.83 (402)	12.60 (320)	62.28 (1582)	17.68 (449)	13.39 (340)	60.35 (1533)	780.5 (354)
CR 64-4	50	3	36.18 (919)	15.83 (402)	12.60 (320)	62.28 (1582)	17.68 (449)	13.39 (340)	60.35 (1533)	780.5 (354)
CR 64-5-2	60	3	39.41 (1001)	17.91 (455)	16.02 (407)	68.23 (1733)	17.68 (449)	13.39 (340)	63.58 (1615)	1080.4 (490)

<sup>44)</sup> Weights are based on pumps with TEFC motor. See the price list for individual weights.

CRN 64



TM027705\_1009

Pump type	P2 [HP]	Ph.	ANSI dimensions [inch (mm)]							Net wt. <sup>45)</sup> [lb (kg)]
			B1	TEFC			ODP			
				D1	D2	B1+B2	D1	D2	B1+B2	
CRN 64-1-1	10	1	22.28 (566)	10.98 (279)	8.43 (214)	41.61 (1057)	-	-	-	301.0 (137)
		3	22.28 (566)	10.98 (279)	7.95 (202)	41.10 (1044)	-	-	-	312.0 (142)
CRN 64-1	15	3	26.42 (671)	13.19 (335)	9.45 (240)	45.24 (1149)	11.57 (294)	9.45 (240)	45.08 (1145)	348.0 (158)
CRN 64-2-2	20	3	29.69 (754)	13.19 (335)	9.45 (240)	49.29 (1252)	11.57 (294)	9.45 (240)	48.35 (1228)	398.3 (181)
CRN 64-2-1	20	3	29.69 (754)	13.19 (335)	9.45 (240)	49.29 (1252)	11.57 (294)	9.45 (240)	48.35 (1228)	398.3 (181)
CRN 64-2	25	3	29.69 (754)	14.17 (360)	11.10 (282)	53.27 (1353)	16.22 (412)	11.93 (303)	51.85 (1317)	564.4 (256)
CRN 64-3-2	30	3	32.91 (836)	14.17 (360)	11.10 (282)	56.50 (1435)	16.22 (412)	11.93 (303)	55.08 (1399)	581.7 (264)
CRN 64-3-1	40	3	32.91 (836)	15.83 (402)	12.60 (320)	59.02 (1499)	17.68 (449)	13.39 (340)	57.09 (1450)	726.4 (329)
CRN 64-3	40	3	32.91 (836)	15.83 (402)	12.60 (320)	59.02 (1499)	17.68 (449)	13.39 (340)	57.09 (1450)	726.4 (329)
CRN 64-4-2	40	3	36.18 (919)	15.83 (402)	12.60 (320)	62.28 (1582)	17.68 (449)	13.39 (340)	60.35 (1533)	749.3 (340)
CRN 64-4-1	50	3	36.18 (919)	15.83 (402)	12.60 (320)	62.28 (1582)	17.68 (449)	13.39 (340)	60.35 (1533)	783.2 (355)
CRN 64-4	50	3	36.18 (919)	15.83 (402)	12.60 (320)	62.28 (1582)	17.68 (449)	13.39 (340)	60.35 (1533)	783.2 (355)
CRN 64-5-2	60	3	39.41 (1001)	17.91 (455)	16.02 (407)	68.23 (1733)	17.68 (449)	13.39 (340)	63.58 (1615)	1082.8 (491)

<sup>45)</sup> Weights are based on pumps with TEFC motor. See the price list for individual weights.

## 11. Motor data

### Standard motors in the CR range

Motors used in the CR pump range are:

- Grundfos-specified WEG motors
- Grundfos ML motors.

The information in the tables below applies to the following motor types and sizes:

Type	Phase	Motor range [HP]	Cooling method
WEG	1	1/3 - 10	TEFC
	3	1/3 - 300	TEFC
	3	15 - 300	ODP
ML	3	1/3 - 30	TEFC

### WEG motors 0.25 to 20 HP

- rolled steel construction
- service factor 1.15
- suitable for VFD operation per NEMA MG 1 part 31.4.4.2
- certified Class I Division 2, Groups A, B, C, D
- certified Class II, Division 2, Groups F, G (three-phase only).

### WEG motors 25 to 300 HP

- cast iron frame
- rated for severe duty
- service factor 1.25 (25 to 100 HP)
- service factor 1.15 (125 to 300 HP)
- Inverter rated per NEMA MG 1 part 31
- certified Class I Division 2, Groups A, B, C, D
- certified Class II, Division 2, Groups F, G.

### Grundfos-specified motors

Grundfos CR pumps are supplied with heavy-duty 2-pole, NEMA energy-efficient C-frame motors built or selected according to rigid Grundfos specifications. All CR pump motors have heavy-duty bearings for maximum thrust requirements.

We do not recommend that you use an off-the-shelf standard WEG motor on a Grundfos pump. Ideally, the best motor choice would be the Grundfos-specified motor.

Three-phase Grundfos-specified motors are NEMA Premium Efficiency (EISA compliant).

Single-phase Grundfos-specified motors up to 7 1/2 HP have a built-in thermal overload switch.

Other motor types are available, for example Explosion-proof, inverter-duty, IEEE 841. Contact your local Grundfos company for more information.

Motor dimensions and data on pumps supplied by Grundfos Canada may vary. Contact your local Grundfos company for more information. All values are subject to change without notice.



## TEFC motors

## 2-pole TEFC motors (WEG)

Totally Enclosed Fan Cooled, constant speed



TM077440

HP	Ph	Frame	Service factor	Voltage [V]	Motor eff. $\eta$ [%]	Full-load current $I_{1/1}$ [A]	Service-factor current [A]	Starting current $I_{start}$ [A]	Power factor $\cos \phi_{1/1}$	Speed [rpm]
1/3	1	56C	1.15	115/230	54.0	5.2/2.87-2.6	5.98/2.87-2.99	36.4/20.1-18.2	0.76	3490
	3	56C	1.15	230/460	72.0	1.31-1.15/0.57	1.31-1.32/0.66	9.3-8.17/4.05	0.76	3450
	3	56C	1.15	575	72.0	0.46	0.53	3.25	0.76	3450
1/2	1	56C	1.15	115/230	60.0	7/3.87-3.5	8.05/3.87-4.03	56/31.0-28.0	0.76	3500
	3	56C	1.15	230/460	74.0	1.73-1.57/0.78	1.73-1.81/0.9	13.3-12.1/6.01	0.80	3435
	3	56C	1.15	575	74.0	0.63	0.72	4.83	0.80	3435
3/4	1	56C	1.15	115/230	66.0	8/4.42-4.0	9.2/4.42-4.6	64/35.4-32.0	0.91	3500
	3	56C	1.15	230/460	77.0	2.48-2.24/1.12	2.48-2.58/1.29	20.1-18.1/9.07	0.75	3440
	3	56C	1.15	575	77.0	0.896	1.03	7.26	0.75	3440
1	1	56C	1.15	115/230	70.0	10.1/5.64-5.06	11.6/5.64-5.82	84.8/47.4-42.5	0.92	3500
	3	56C	1.15	230/460	78.5	3.32-3.0/1.5	3.32-3.45/1.73	29.2-26.4/13.2	0.75	3435
	3	56C	1.15	575	78.5	1.2	1.38	10.6	0.75	3435
1 1/2	1	56C	1.15	115/230	75.0	13.2/7.3-6.6	15.2/7.3-7.59	106/58.4-52.8	0.97	3500
	3	56C	1.15	230/460	84.0	4.14-3.74/1.87	4.14-4.3/2.15	37.7-34.0/17	0.88	3520
	3	56C	1.15	575	84.0	1.5	1.73	13.7	0.88	3520
2	1	56C	1.15	115/230	77.0	17.5/9.62-8.73	20.1/9.62-10.0	137/75.0-68.1	0.97	3495
	3	56C	1.15	230/460	85.5	5.46-4.94/2.47	5.46-5.68/2.84	54.1-48.9/24.5	0.89	3520
	3	56C	1.15	575	85.5	1.98	2.28	19.6	0.89	3520
3	1	182TC	1.15	115/230	80.0	24.2/19.7-12.1	27.8/19.7-13.9	169/138-84.7	0.99	3510
	3	182TC	1.15	230/460	86.5	8.12-7.34/3.67	8.12-8.44/4.22	71.5-64.6/32.3	0.87	3515
	3	182TC	1.15	575	86.5	2.94	3.38	25.9	0.87	3515
5	1	184TC	1.15	230	84.0	31.7-25.3	31.7-27.0	254-202	0.98	3515
	3	184TC	1.15	230/460	88.5	13.1-11.8/5.9	13.1-13.6/6.79	102-92/46	0.89	3500
	3	184TC	1.15	575	88.5	4.72	5.43	36.8	0.89	3500
7 1/2	1	213TC	1.15	230	84.0	31.7-38.8	31.7-44.6	225-275	0.99	3515
	3	213TC	1.15	230/460	89.5	19.2-17.3/8.67	19.2-19.9/9.97	33.3-131.0/65.9	0.89	3530
	3	213TC	1.15	575	89.5	6.94	7.98	52.7	0.89	3530
10	1	215TC	1.15	230	86.5	42.5-38.1	42.5-43.8	306-274	0.99	3510
	3	215TC	1.15	230/460	90.2	25.4-23.0/11.5	25.4-26.5/13.2	191-173/86.3	0.91	3530
	3	215TC	1.15	575	90.2	9.2	10.6	69	0.91	3530
15	3	254TC	1.15	230/460	91.0	38.5-34.8/17.4	38.5-40.0/20	262-237/118	0.87	3525
	3	254TC	1.15	575	91.0	13.9	16.0	114	0.89	3520
20	3	256TC	1.15	230/460	91.0	50.2-45.4/22.7	50.2-52.2/26.1	331-300/150	0.91	3515
	3	256TC	1.15	575	91.0	18.2	20.9	120	0.91	3515
25	3	284TSC	1.25	230/460	91.7	63.6-57.6/28.8	63.6-72.0/36	401-363/181	0.88	3545
	3	284TSC	1.25	575	91.7	23	28.8	145	0.88	3545

HP	Ph	Frame	Service factor	Voltage [V]	Motor eff. $\eta$ [%]	Full-load current $I_{1/1}$ [A]	Service-factor current [A]	Starting current $I_{start}$ [A]	Power factor $\cos \phi_{1/1}$	Speed [rpm]
30	3	286TSC	1.25	230/460	91.7	73.8-67.6/33.8	73.8-84.5/42.3	465-426/213	0.89	3540
	3	286TSC	1.25	575	91.7	27	33.8	170	0.89	3540
40	3	324TSC	1.25	230/460	92.4	101-92.6/46.3	101-116/57.9	636-583/292	0.88	3560
	3	324TSC	1.25	575	92.4	37	46.3	233	0.88	3560
50	3	326TSC	1.25	230/460	93.0	124-112/56.1	124-140/70.1	769-694/348	0.89	3550
	3	326TSC	1.25	575	93.0	44.9	56.1	278	0.89	3550
60	3	364TSC	1.25	230/460	93.6	148-134/67	148-168/83.8	977-884/442	0.90	3560
	3	364TSC	1.25	575	93.6	53.6	67.0	354	0.90	3560
75	3	365TSC	1.25	230/460	93.6	181-164/81.9	181-205/102	1213-1099/549	0.90	3555
	3	365TSC	1.25	575	93.6	65.6	82	440	0.90	3555

Note that motors with a nameplate stating 230/460 V are suitable for operation at 208 V.

## 2-pole TEFC motors (Grundfos ML)

### Totally Enclosed Fan Cooled, constant speed



HP	Ph	Frame	Service factor	Voltage [V]	Motor eff. $\eta$ [%]	Full-load current $I_{1/1}$ [A]	Service-factor current [A]	Starting current $I_{start}$ [A]	Power factor $\cos \phi_{1/1}$	Speed [rpm]
1/3	3	56C	1.35	208-230/460	79.3	1.12-1.10/0.55	1.5-1.45/0.75	7.1 - 7.7 / 3.9	0.81-0.75	3450-3480
1/2	3	56C	1.25	208-230/460	80.6	1.64-1.55/0.78	2.0-1.9/0.95	9.7 - 10.1 / 5.1	0.84-0.78	3430-3460
3/4	3	56C	1.25	208-230/460	80.1	2.4-2.3/1.2	2.9-2.75/1.4	14.2 - 15 / 7.8	0.84-0.78	3430-3460
1	3	56C	1.25	208-230/460	77.0	3.25-3.35/1.68	4.0-3.9/1.95	19.2 - 21.8 / 10.9	0.81-0.72	3430-3460
1 1/2	3	56C	1.15	208-230/460	84.1	4.45-4.30/2.16	5.1-4.95/2.48	32-31/15.6	0.84-0.78	3440-3480
2	3	56C	1.15	208-230/460	85.5	6.0-5.8/2.9	6.8-6.6/3.3	48.0-52.8/26.4	0.81-0.78	3500-3520
3	3	182TC	1.15	208-230/460	86.5	8.5-8.2/4.1	9.6-9.2/4.6	72.3-79.5/39.8	0.85-0.82	3500-3520
5	3	182TC	1.15	208-230/460	88.5	14.1-13.1/7.29	16.2-15.0/8.4	141.0-192.6/107.2	0.89-0.86	3525-3540
7 1/2	3	213TC	1.15	208-230/460	89.5	19.5-18.1/9.09	22.4-20.8/10.4	198.9-267.9/134.5	0.89-0.86	3490-3520
10	3	215TC	1.15	208-230/460	90.2	26.5-24.6/12.4	30.5-28.3/14.3	180.2-221.4/111.6	0.87	3480-3500
15	3	254TC	1.15	208-230/460	91.0	37.5-34.0/17	43-39/19.6	255-306/153	0.91-0.89	3490-3530
20	3	256TC	1.15	208-230/460	91.0	50.5-46.0/23	58-53/26.5	308-373/186	0.92-0.90	3490-3530
25	3	284TSC	1.15	208-230/460	91.7	62-56/28	71.5-64.5/32	341-420/210	0.92-0.91	3490-3530
30	3	286TSC	1.15	208-230/460	91.7	74-67/33.5	85-77/38.5	400-489/245	0.92-0.91	3490-3540

## ODP motors

### 2-pole ODP motors (WEG)

#### Open Drip Proof, constant speed

HP	Ph	Frame	Service factor	Voltage [V]	Motor eff. $\eta$ [%]	Full-load current $I_{1/1}$ [A]	Service-factor current [A]	Starting current $I_{start}$ [A]	Power factor $\cos \varphi_{1/1}$	Speed [rpm]
15	3	254TC	1.15	230/460	90.2	38.9-35.2/17.6	38.9-40.5/20.2	292-264/132	0.87	3545
	3	254TC	1.15	575	90.2	14.1	16.2	106	0.87	3545
20	3	256TC	1.15	230/460	91.0	52.6-47.6/23.8	52.6-54.7/27.4	316-286/143	0.87	3525
	3	256TC	1.15	575	91.0	19.0	21.9	114	0.87	3525
25	3	284TSC	1.25	230/460	91.7	64.4-58.2/29.1	64.4-72.8/36.4	425-384/192	0.87	3544
	3	284TSC	1.25	575	91.7	23.3	29.1	154	0.87	3544
30	3	284TSC	1.25	230/460	91.7	77.4-70.0/35	77.4-87.5/43.8	488-441/221	0.86	3550
	3	284TSC	1.25	575	91.7	28.0	35.0	176	0.86	3550
40	3	324TSC	1.25	230/460	92.4	104-93.7/46.8	104-117/58.5	634-572/285	0.87	3557
	3	324TSC	1.25	575	92.4	37.5	46.9	229	0.87	3557
50	3	324TSC	1.25	230/460	93.0	131-119/59.4	131-149/74.3	825-750/374	0.84	3560
	3	324TSC	1.25	575	93.0	47.5	59.4	299	0.85	3560
60	3	326TSC	1.25	230/460	93.6	157-142/71	157-178/88.8	989-895/447	0.85	3560
	3	326TSC	1.25	575	93.6	56.8	71.0	358	0.85	3560
75	3	365TSC	1.25	230/460	93.6	188-170/84.8	188-213/106	1241-1122/560	0.87	3555
	3	365TSC	1.25	575	93.6	67.8	84.8	447	0.87	3555

Note that motors with a nameplate stating 230/460 V are suitable for operation at 208 V.

## 12. Accessories

### Pipe connections

Various sets of counterflanges and couplings are available for pipe connection.

### Counterflanges for CR

A set consists of two counterflanges, two gaskets, bolts and nuts.

Pump type	Counterflange	Description	Pressure class	Pipe connection	Product number
CR 1s CR 1 CR 3 CR 5		Threaded	ANSI 250 lb.	1 1/4" NPT	91122260
		Threaded	ANSI 250 lb.	2" NPT	335021
		Threaded	ANSI 125 lb.	2 1/2" NPT	559601
		Threaded	ANSI 250 lb.	2 1/2" NPT	345050
CR 10 CR 15 CR 20		Threaded	ANSI 125 lb.	3" NPT	569601
		Threaded	ANSI 250 lb.	3" NPT	91121952
CR 32		Threaded	ANSI 125 lb.	4" NPT	579801
		Threaded	ANSI 250 lb.	4" NPT	3600028
CR 45		Threaded	ANSI 125 lb.	4" NPT	579801
		Threaded	ANSI 250 lb.	4" NPT	3600028
CR 64		Threaded	ANSI 125 lb.	4" NPT	579801
		Threaded	ANSI 250 lb.	4" NPT	3600028

### Counterflanges for CRI, CRN

Counterflanges for CRI and CRN pumps are made of stainless steel according to AISI 316. A set consists of two counterflanges, two gaskets, bolts and nuts.

Pump type	Counterflange	Description	Pressure class	Pipe connection	Product number
CRI, CRN 1s CRI, CRN 1 CRI, CRN 3 CRI, CRN 5		Threaded	ANSI 300 lb.	1 1/4" NPT	91129013
CRI, CRN 10 CRI, CRN 15 CRI, CRN 20		Threaded	ANSI 300 lb.	2" NPT	339919
CRN 32		Threaded	ANSI 150 lb.	2 1/2" NPT	91121951
		Threaded	ANSI 300 lb.	2 1/2" NPT	0ID00138
CRN 45		Threaded	ANSI 150 lb.	3" NPT	91121953
		Threaded	ANSI 300 lb.	3" NPT	91121954
CRN 64		Threaded	ANSI 150 lb.	4" NPT	0ID00148
		Threaded	ANSI 300 lb.	4" NPT	91121955

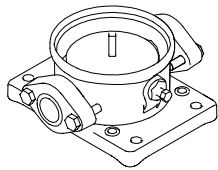
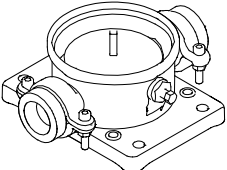
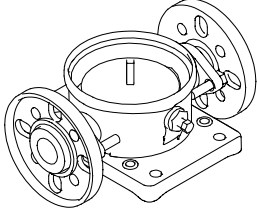
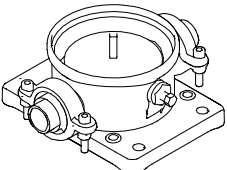
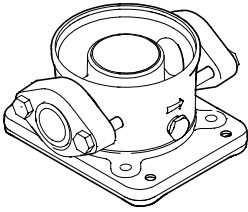
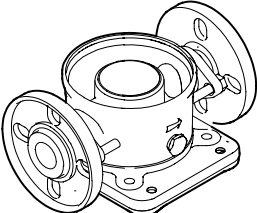
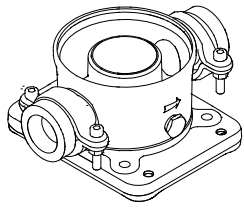
### PJE couplings for CRI, CRN

Materials in contact with the pumped liquid are made of stainless steel AISI 316 and of rubber. A set consists of two couplings, two gaskets, two pipe stubs, bolts and nuts.

Couplings	Pump type	Pipe stub	Rated pressure [psi]	Pipe connection	Rubber parts	Number of coupling sets needed	Product number
	CRI, CRN 1s CRI, CRN 1 CRI, CRN 3 CRI, CRN 5	Threaded	1160	1 1/4" NPT	EPDM	1	4013010
	CRI, CRN 10 CRI, CRN 15 CRI, CRN 20	Threaded	1015	2" NPT	EPDM	1	331301
	CRI, CRN 10 CRI, CRN 15 CRI, CRN 20	Threaded	1015	2" NPT	FKM	1	0ID00128

## FlexiClamp base connections for CRI, CRN

All sets comprise the necessary number of bolts and nuts as well as a gasket or O-ring.

Pump type	Base connections	Connection	Pipe connection	Rubber parts	Product number
CRI, CRN 1s CRI, CRN 1 CRI, CRN 3 CRI, CRN 5		Oval (cast iron)	1" NPT	Klingsil	96468491
			1 1/4" NPT	Klingsil	96470781
		Oval (stainless steel)	1" NPT	Klingsil	96480850
			1 1/4" NPT	Klingsil	96480851
CRI, CRN 1s CRI, CRN 1 CRI, CRN 3 CRI, CRN 5		Union ext. threaded	2" NPT	EPDM	96480852
			2" NPT	FKM	96480853
CRI, CRN 1s CRI, CRN 1 CRI, CRN 3 CRI, CRN 5		ANSI (FGJ) (stainless steel)	1 1/4" NPT	EPDM	96480858
			1 1/4" NPT	FKM	96480859
CRI, CRN 1s CRI, CRN 1 CRI, CRN 3 CRI, CRN 5		Clamp, threaded pipe stub	1" NPT	EPDM	96480854
			1" NPT	FKM	96480855
			1 1/4" NPT	EPDM	96480856
			1 1/4" NPT	FKM	96480857
CRI, CRN 10 CRI, CRN 15 CRI, CRN 20		Oval (cast iron)	2" NPT	Klingsil	96498838
		Oval (stainless steel)	2" NPT	Klingsil	96498839
CRI, CRN 10 CRI, CRN 15 CRI, CRN 20		ANSI (FGJ) (stainless steel)	2" NPT	EPDM	96511402
			2" NPT	FKM	96511403
CRI, CRN 10 CRI, CRN 15 CRI, CRN 20		Clamp, threaded pipe stub	1 1/2" NPT	EPDM	96500271
			1 1/2" NPT	FKM	96500272
			2" NPT	EPDM	96500273
			2" NPT	FKM	96500274
			2" NPT	EPDM	96508602
			2" NPT	FKM	96508603

## CR flange guide

### Commonly asked questions

#### What is the "pressure class"?

- The pressure class is a pressure rating expressed as a dimensionless number.
- Pressure class does not affect the pump operating pressure.
- The class rating charts in ANSI B16.5 give actual pounds per square inch maximum allowable pressure at a given temperature.
- 150 lb, 150# or Class 150 are different ways to write the same pressure class.



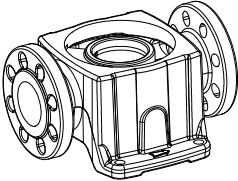

#### What factors determine the required pressure class?

Pressure ratings are affected by the following:

- material
- sealing methods
- operating temperatures.

#### Are pump flanges compatible with mating flanges of a different pressure class?

- The multiframe used on a CR 1s through 20 can be used on both 125 lb and 250 lb installations.
- The multiframe on a CRI/CRN 1s through 20 can be used on both 150 lb and 300 lb installations.
- All other mating flange classes must match the pump flange class.

Pump	Flange	Size	Material	Pressure class	Mate with:
CR 1s to 5	 TM060955	1.25 in	Cast Iron	250 lb	125 or 250 lb
CRI, CRN 1s to 5	 TM060956	1.25 in	Ductile Iron	300 lb	150 or 300 lb
CR 10 to 20	 TM060957	2 in	Cast Iron	250 lb	125 or 250 lb
CRI, CRN 10 to 20	 TM060945	2 in	Ductile Iron	300 lb	150 or 300 lb

## 13. Variants

### Lists of variants - on request

In addition to the standard CR, CRI, CRN product range, Grundfos offers a wide range of variants to meet customer needs for customized solutions. Contact Grundfos for further information or special requests.

The variants are described in the CR custom-built data booklet available on Grundfos Product Center at <http://net.grundfos.com/qr/i/98522834>.

### Pumps

Variant	Description
Horizontally mounted pump	For safety or height reasons, certain applications, for instance on ships, require the pump to be mounted in the horizontal position. For easy installation the pump is equipped with brackets that support motor and pump.
Low-temperature pump to -40 °F	Exposed to temperatures down to -40 °F, coolant pumps may require neck-rings with a different diameter in order to prevent impeller drag.
High-speed pump up to 681 psi	For high-pressure applications, a unique pump capable of generating up to 681 psi pressure is available. The pump is equipped with a high-speed motor, type MLE. The direction of rotation is the opposite of that of standard pumps, and the chamber stack is turned upside-down, as a result of which the pumped liquid flows in the opposite direction.
High-pressure pump up to 696 psi	For high-pressure applications, a unique double pump system capable of generating up to 696 psi pressure is available.
Low-NPSH pump (improved suction)	Recommended for boiler-feed applications where cavitation may occur due to poor inlet conditions.
Belt-driven pumps	Belt-driven pumps designed to operate in places with limited space or where no electrical power is available.
Pumps for pharmaceutical and biotechnological applications	CRN pumps designed for applications requiring the sterilization and CIP capability of pipes, valves and pumps. (CIP = Clean-In-Place).

### Connections and other variants

Variant	Description
Pipe connections	In addition to the wide range of standard flange connections, a 232 psi DIN standard clamping flange is available. Customized flanges are available according to specifications.
TriClamp connections	TriClamp connections are of a hygienic design with a sanitary coupling for use in the pharmaceutical and food industry.
Electropolished pumps	To substantially reduce the risk of corrosion of the materials. For use in the pharmaceutical and food industry.

### Motors

Variant	Description
Explosion-proof motors	For operation in hazardous atmospheres, explosion-proof or dust-ignition-proof motors may be required.
Motors with thermal protection	Motors may be fitted with thermostats or thermistors.
Motors with anti-condensation heating unit	For operation in humid environments motors with built-in anti-condensation heating may be required.
Premium efficient motors	Grundfos offers motors from 1 to 75 HP with a Premium efficiency class.
Different motor brand	If technically possible, Grundfos can fit the pump with a motor of a brand other than the standard. This will normally increase the time of delivery. Alternatively, the pump can be supplied without a motor (motor thrust rating must be checked).
Oversized motor	Ambient temperatures above 104 °F or installation at altitudes of more than 3280 ft above sea level require the use of an oversized motor (that is, derating).
4-pole motors	Grundfos offers standard motors fitted with 4-poles.



## Shaft seals

Variant	Description
<b>Shaft seal with FFKM O-ring material</b>	We recommend shaft seals with FFKM or FXM O-ring material for applications where the pumped liquid may damage the standard O-ring material.
<b>Seal with flush, quench seal</b>	Recommended for applications involving crystallizing, hardening or sticky liquids.
<b>Cool-Top® shaft seal system</b>	Recommended for applications involving extremely high temperatures. No conventional mechanical shaft seal can withstand liquid temperatures of up to 356 °F for any length of time. For that type of application, we recommend Grundfos' unique air-cooled shaft seal system. In order to ensure a low liquid temperature around the standard shaft seal, the pump is fitted with a special air-cooled shaft seal chamber. No separate cooling is required.
<b>Double shaft seal with pressure chamber</b>	Recommended for applications involving poisonous or explosive liquids. Protects the surrounding environment and the people working in the vicinity of the pump. Consists of two seals mounted in a "back-to-back" arrangement inside a separate pressure seal chamber. As the pressure in the chamber is higher than the pump pressure, leakage is prevented. A dosing pump or a special pressure-intensifier generates the seal chamber pressure.
<b>CRN MAGdrive</b>	Magnetically driven pumps for industrial applications. Key applications are industrial processes involving the handling of aggressive, environmental, dangerous or volatile liquids, such as organic compounds and solvents.

# 14. Submittal data

CR, CRI, CRN

Company name:

Vertical Multistage Centrifugal Pumps

Prepared by:

Phone number: ( )

Fax number: ( )

Date:

Page 1 of:

Quote number:

### Client Information

Project title:

Client name:

Reference number:

Client number:

Client contact:

Client phone number: ( )

### Location Information

For:

Unit:

Site:

Service:

Address:

City:

State:

Zip Code:

### Application Information

#### Operating Conditions

#### Pumped Fluid

Fluid type:

	Max.	Norm.	Min.
Capacity (gpm)			
Inlet Pressure (psig)			
Outlet Pressure (psig)			
Differential Head (ft)			
Hydraulic Power (HP) at designated capacity			
NPSH Available (ft)			

	Rated	Max.	Norm.
Fluid Temperature (°F) at designated temperature			
Specific Gravity			
Vapor Pressure (psia)			
Viscosity (cp)			
Fluid ph:			
Hazardous:			
Flammable:			
Other:			
Chlorides (ppm):			
Corrosion/Erosion caused by:			

#### Service

Continuous

Intermittent (starts/day):

### Pump Information

Model Information from Type Key and Codes:

----> (Example: CR 5-10 A-FGJ-A-E-HQQE )

Quantity Required:

Minimum required flow rate:

NPSH required at duty point:

### Product Guide additional information pages

Materials page number:

Performance curve page number:

Technical data page number:

Motor data page number:

### Motor Information

HP:

Phase:

Voltage:

Enclosure:

Custom-built pump information (optional):

Additional Information

## 15. Quotation text

### CR, CRI, CRN

Vertical, non-self-priming, multistage, in-line, centrifugal pump for installation in pipe systems and mounting on a foundation.

The pump has the following characteristics:

- Impellers and intermediate chambers are made of AISI \_\_\_\_\_ Stainless steel
- Pump head and base are made of \_\_\_\_\_
- Power transmission is via cast iron split coupling.
- Pipe connections is via \_\_\_\_\_
- The motor is a \_\_\_\_\_ -phase AC motor

#### Technical

Rated flow rate: \_\_\_\_\_ gpm

Rated head: \_\_\_\_\_ ft

Minimum liquid temperature: \_\_\_\_\_ °F

Maximum liquid temperature: \_\_\_\_\_ °F

Type of shaft seal: \_\_\_\_\_

#### Materials

Material, pump housing: \_\_\_\_\_

Material, shaft: AISI \_\_\_\_\_ Stainless steel

Material, impeller: AISI \_\_\_\_\_ Stainless steel

Material, sleeve: AISI \_\_\_\_\_ Stainless steel

Material, seal metal: AISI \_\_\_\_\_ Stainless steel

- seal face: \_\_\_\_\_
- seal face \_\_\_\_\_
- seal elastomer: \_\_\_\_\_

#### Installation

Maximum ambient temperature: \_\_\_\_\_ °F

Max. pressure at stated temperature: \_\_\_\_\_ psi / °F

Standard, pipe connection: \_\_\_\_\_

Size, pipe connection: \_\_\_\_\_

Rated pressure, pipe connection: \_\_\_\_\_ psi

Frame size for motor: \_\_\_\_\_ NEMA

#### Electrical data

Motor type: \_\_\_\_\_

Rated power (P2): \_\_\_\_\_ HP

Frequency: \_\_\_\_\_ Hz

Rated voltage: \_\_\_\_\_ V

Rated current: \_\_\_\_\_ A

Service factor: \_\_\_\_\_

Starting current: \_\_\_\_\_ A

Rated speed: \_\_\_\_\_ rpm

Full-load motor efficiency: \_\_\_\_\_ %

Insulation class: \_\_\_\_\_

#### Additional

Gross weight: \_\_\_\_\_ lb

Shipping volume: \_\_\_\_\_

Model: \_\_\_\_\_

## 16. Grundfos Product Center

Online search and sizing tool to help you make the right choice.

From the international view, you can select your specific country to view the product range available to you.

International view: <https://product-selection.grundfos.com>

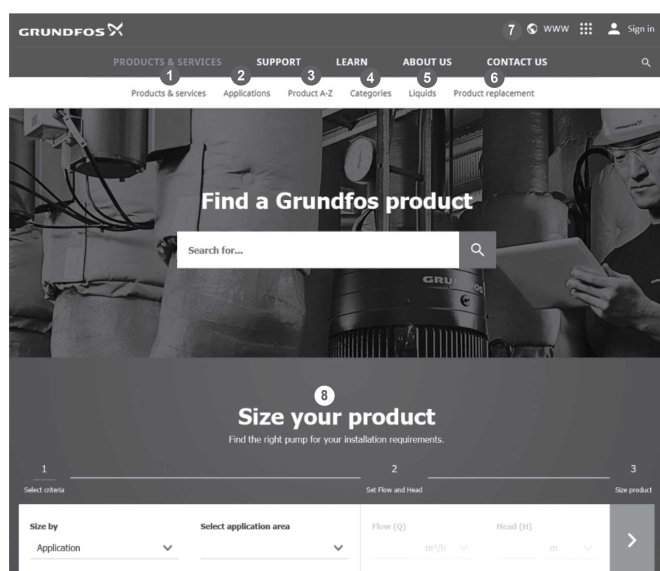
### All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.



### Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc., in PDF format.



TM072383-1\_GRAY

When you select your country, you will see the menus below. Note that some menus may not be available depending on the country.

Example: <https://product-selection.grundfos.com/us>

Pos.	Description
1	<b>Products &amp; services</b> enables you to find products and documents by typing a product number or name into the search field.
2	<b>Applications</b> enables you to choose an application to see how Grundfos can help you design and optimize your system.
3	<b>Products A-Z</b> enables you to look through a list of all the Grundfos products.
4	<b>Categories</b> enables you to look for a product category.
5	<b>Liquids</b> enables you to find pumps designed for aggressive, flammable or other special liquids.
6	<b>Product replacement</b> enables you to find a suitable replacement.
7	<b>WWW</b> enables you to select the country, which changes the language, the available product range and the structure of the website.
8	<b>Sizing</b> enables you to size a product based on your application and operating conditions.

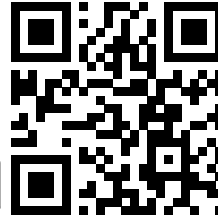
## 17. Grundfos GO

### Mobile solution for professionals on the GO!

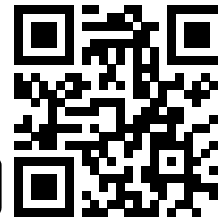
Grundfos GO is the mobile tool box for professional users on the go. It is the most comprehensive platform for mobile pump control and pump selection, including sizing, replacement and documentation. It offers intuitive, handheld assistance and access to Grundfos online tools, and it saves valuable time for reporting and data collection.



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