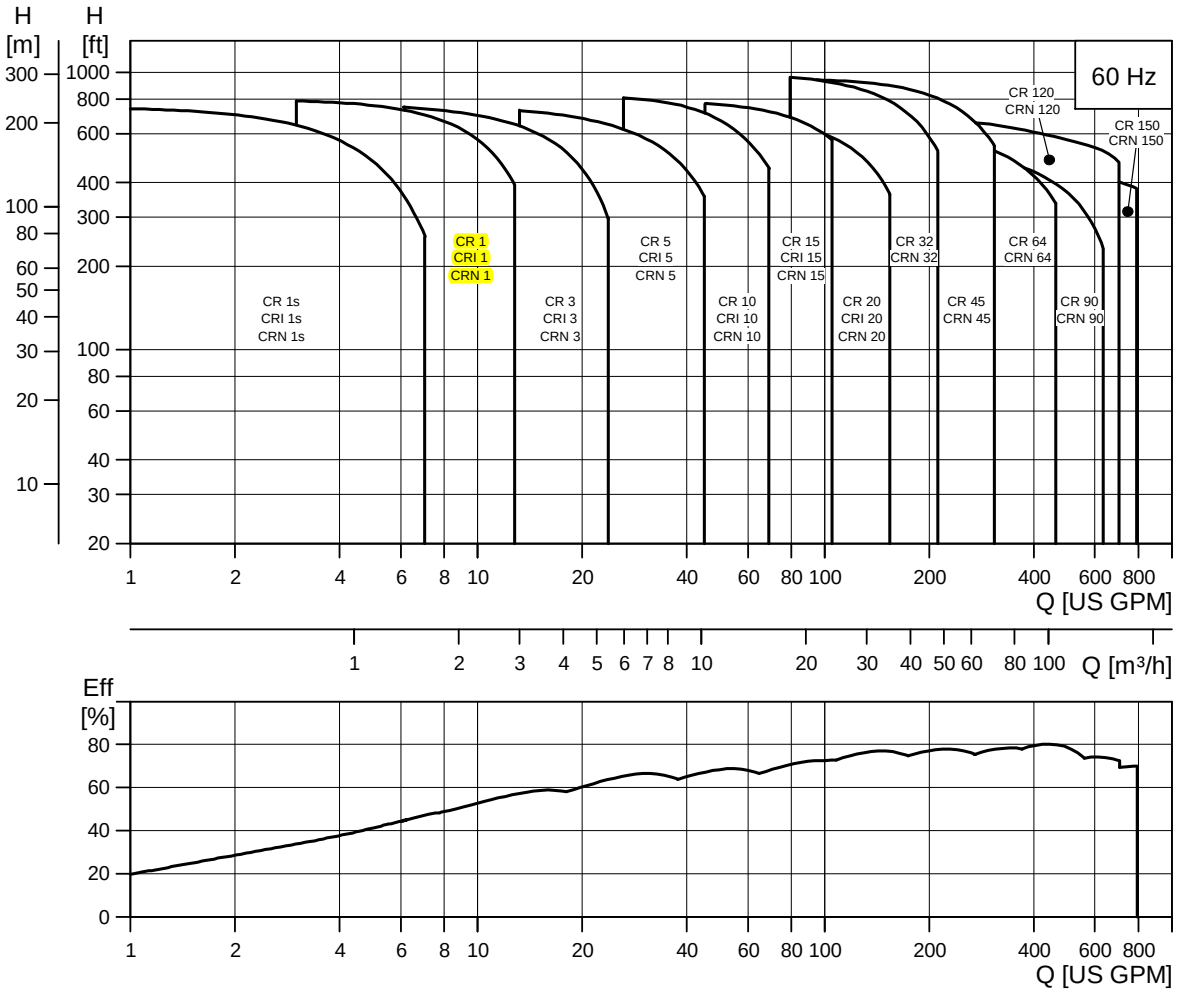
3. Performance range



TM02 5518 0209

4. Product range

Range	CR 1s	CR 1	CR 3	CR 5	CR 10	CR 15	CR 20
Nominal flow rate [US gpm]	4.5	8.5	15	30	55	95	110
Temperature range [°F]				-4 to +250			
Temperature range [°F] – on request				-40 to +356			
Max. working pressure [psi]★	362	362	362	362	362	362	362
Max. working pressure [psi] – on request	-	725	725	725	725	725	725
Max. pump efficiency [%]	35	49	59	67	70	72	72
CR pumps							
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
CR: Max. pump pressure (H [ft])	760	790	790	780	820	800	700
CR: Motor power [Hp]	.33 - 2	.33 - 3	.33 - 5	.75 - 7.5	.75 - 15	2-25	3-25
Version							
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					-
CR pipe connection							
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 size - on request	-	-	-	-	-	-	-
ANSI flange class	250 lb.	250 lb.	250 lb.	250 lb.	250 lb.	250 lb.	250 lb.
CRI pipe connection							
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"	-	-	-
CRN pipe connection							
PJE (Victaulic)	1.25"	1.25"	1.25"	1.25"	2"	2"	2"
PJE (Victaulic) - on request	-	-	-	-	-	-	-
ANSI flange size	1.25"	1.25"	1.25"	1.25"	2"	2"	2"
ANSI flange size - on request	-	-	-	-	-	-	-
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"	-	-	-
CRT pipe connection							
PJE coupling (Vitaulic)	-	1.25"	1.25"	1.25"	2"	2"	-
ANSI flange size - on request	-	-	-	-	2"	2"	-

• Available.

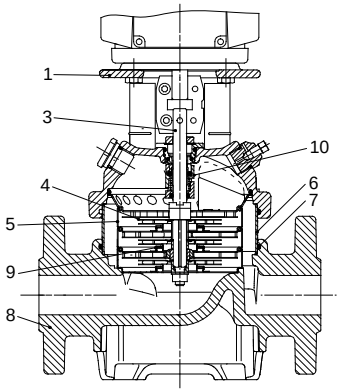
★ See section *7. Operating conditions* on page 13 for specific working pressures.

6. Construction

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

TM02 1198 0601 - GR7377 - GR7379

Sectional drawing



TM02 1194 1403

Materials: CR

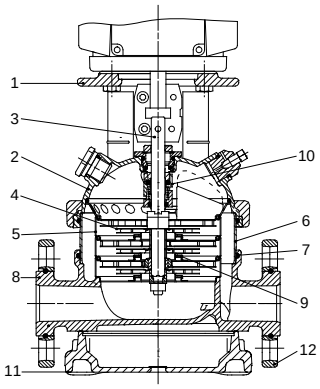
Pos.	Designation	Materials	AISI/ASTM
1	Pump head	Cast iron	A 48-30 B
3	Shaft	Stainless steel	AISI 316[1)] AISI 431[2)]
4	Impeller	Stainless steel	AISI 304
5	Chamber	Stainless steel	AISI 304
6	Outer sleeve	Stainless steel	AISI 304
7	O-ring for outer sleeve	EPDM or FKM	
8	Base	Cast iron	A 48-30 B
9	Neck ring	PTFE	
10	Shaft seal	Cartridge type	
	Bearing rings	Silicon carbide	
	Rubber parts	EPDM or FKM	
12	FGJ flange	Cast iron	A 48-30 B

1) CR 1s, 1, 3, 5
2) CR 10, 15, 20
3) Stainless steel available on request.
4) CF 8M is cast equivalent of AISI 316 stainless steel.
5) CRI/CRN 1s, 1, 3, 5
6) CRN 10, 15, 20
7) CRI 10, 15, 20

CRI, CRN 1s, 1, 3, 5, 10, 15 and 20

TM02 1808 2001 - GR7373 - GR7375

Sectional drawing



TM03 2156 3805

Materials: CRI, CRN

Pos.	Designation	Materials	AISI/ASTM
1	Pump head	Cast iron[3)]	A 48-30 B
2	Pump head cover	Stainless steel	CF 8M[4)]
3	Shaft	Stainless steel	AISI 316[5)] AISI 329[6)] AISI 431[7)]
8	Base	Stainless steel	CF 8M[4)]
9	Neck ring	PTFE	
10	Shaft seal	Cartridge type	
11	Base plate	Cast iron[3)]	A 48-30 B
	Bearing rings	Silicon carbide	
	Rubber parts	EPDM or FKM	
		CRI	
4	Impeller	Stainless steel	AISI 304
5	Chamber	Stainless steel	AISI 304
6	Outer sleeve	Stainless steel	AISI 304
7	O-ring for outer sleeve	EPDM or FKM	
12	FGJ flange ring	Ductile iron[3)]	A 65-45-12
	Oval flange	Stainless steel	AISI 316
		CRN	
4	Impeller	Stainless steel	AISI 316
5	Chamber	Stainless steel	AISI 316
6	Outer sleeve	Stainless steel	AISI 316
7	O-ring for outer sleeve	EPDM or FKM	
12	FGJ flange ring	Ductile iron[3)]	A 65-45-12

Pumped liquid	Note	Liquid concentration, liquid temperature	CR		CRN	
			1s, 1, 3, 5, 10, 15, 20	32, 45, 64, 90, 120, 150	1s, 1, 3, 5, 10, 15, 20	32, 45, 64, 90, 120, 150
Acetic acid CH_3COOH		5 %, 68 °F			HQQE	HQQE/HBQE
Acetone CH_3COCH_3	1, F	100 %, 68 °F			HBQE	HQQE/HBQE
Alkaline degreasing agent	D, F		HQQE	HQQE/HBQE		
Ammonium bicarbonate NH_4HCO_3	E	20 %, 86 °F			HQQE	HQQE/HBQE
Ammonium hydroxide NH_4OH		20 %, 104 °F	HQQE	HQQE/HBQE		
Aviation fuel	1, 3, 4, F	100 %, 68 °F	HQBV	HQQV/HBQV		
Benzoic acid C_6H_5COOH	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) $Ca(CH_3COO)_2$	D, E	30 %, 122 °F	HQQE	HQQE		
Calcium hydroxide $Ca(OH)_2$	E	Saturated solution, 122 °F	HQQE	HQQE		
Chloride-containing water	F	< 86 °F, max. 500 ppm			HQQE	HQQE
Chromic acid H_2CrO_4	H	1 %, 68 °F			HQQV	HQQV/HBQV
Citric acid $HOC(CH_2CO_2H)_2COOH$	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 $CuSO_4$	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_2H_5OH	1, F	100 %, 68 °F	HQQE	HQQE/HBQE		
Ethylene glycol $HOCH_2CH_2OH$	D, E	50 %, 122 °F	HQQE	HQQE		
Formic acid HCOOH		5 %, 68 °F			HQQE	HQQE/HBQE
Glycerine (glycerol) $OHCH_2CH(OH)CH_2OH$	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 $CH_3CHOHCH_3$	1, F	100 %, 68 °F	HQBV	HQQV/HBQV		
Lactic acid $CH_3CH(OH)COOH$	E, H	10 %, 68 °F			HQQE	HQQE/HBQE
Linoleic acid $C_{17}H_{31}COOH$	E, 3	100 %, 68 °F	HQQV	HQQV/HBQV		
Methanol (methyl alcohol) CH_3OH	1, F	100 %, 68 °F	HQQE	HQQE/HBQE		
Motor oil	E, 2, 3	100 %, 176 °F	HQQV	HQQV/HBQV		
Naphthalene $C_{10}H_8$	E, H	100 %, 176 °F	HQQV	HQQV/HBQV		
Nitric acid HNO_3	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 $(COOH)_2$	H	1 %, 68 °F			HQQE	HQQE/HBQE
Ozone-containing water (O_3)		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_3PO_4	E	20 %, 68 °F			HQQV	HQQV/HBQV
Propanol C_3H_7OH	1, F	100 %, 68 °F	HQQV	HQQV/HBQV		
Propylene glycol $CH_3CH(OH)CH_2OH$	D, E	50 %, 194 °F	HQQE	HQQE		
Potassium carbonate K_2CO_3	E	20 %, 122 °F	HQQE	HQQE		
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

Pumped liquid	Note	Liquid concentration, liquid temperature	CR		CRN	
			1s, 1, 3, 5, 10, 15, 20	32, 45, 64, 90, 120, 150	1s, 1, 3, 5, 10, 15, 20	32, 45, 64, 90, 120, 150
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		

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 *Pumped liquids* on page 13.

CR 1s - CR 20

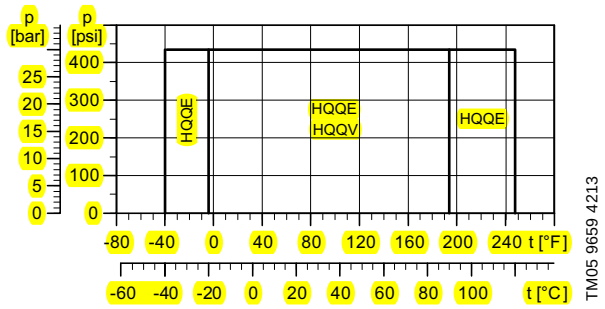


Fig. 5 Operating range of standard shaft seals for CR 1s - CR 20

CR 32 - CR 150 (3.0-60 Hp)

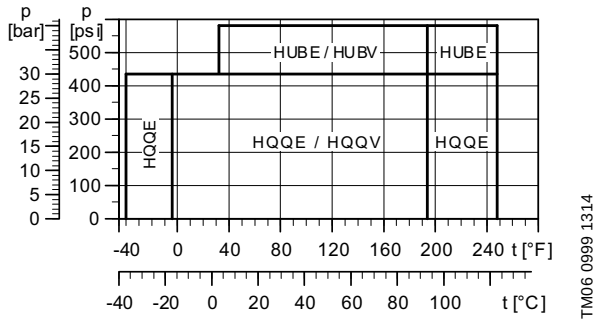


Fig. 6 Operating range of standard shaft seals for CR 32 - CR 150 (3.0-60 Hp)

CR 120 - CR 150 (75-100 Hp)

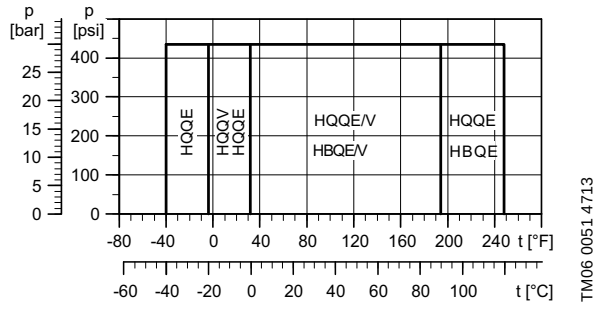


Fig. 7 Operating range of standard shaft seals for CR 120 - CR 150 (75-100 Hp)

Shaft seal	Description	Max. temp. range [°F]
HQQE	O-ring (cartridge) (balanced seal), SiC/SiC, EPDM	-40 °F to +248 °F
HBQE	O-ring (cartridge) (balanced seal), Carbon/SiC, EPDM	+32 °F to +248 °F
HBQV	O-ring (cartridge) (balanced seal), Carbon/SiC, FKM	+32 °F to +194 °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: TC= tungsten carbide

See section *Lists of variants - on request* on page 77, in case of extreme temperatures:

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

Maximum inlet pressure

The following table shows the maximum permissible inlet pressure. However, the current inlet pressure + the pressure against a closed valve **must** always be lower than the maximum permissible operating pressure.

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

Pump type	Stages		Max. [psi (bar)]
	60 Hz	50 Hz	
CR, CRI, CRN 1s	2-27	2-36	145 (10)
CR, CRI, CRN 1	2-25	2-36	145 (10)
	27		217 (15)
CR, CRI, CRN 3	2-17	2-29	145 (10)
	19-25	31-36	217 (15)
CR, CRI, CRN 5	2-9	3-16	145 (10)
	10-24	18-36	217 (15)
CR, CRI, CRN 10	1-5	1-6	116 (8)
	6-17	7-22	145 (10)
CR, CRI, CRN 15	1-2	1-3	116 (8)
	3-12	4-17	145 (10)
CR, CRI, CRN 20	1	1-3	116 (8)
	2-10	4-17	145 (10)
CR, CRN 32	1-1 - 2	1-1 - 4	58 (4)
	3-2 - 6	5-2 - 10	145 (10)
	7-2 - 11-2	11-14	217 (15)
CR, CRN 45	1-1 - 1	1-1 - 2	58 (4)
	2-2 - 3	3-2 - 5	145 (10)
	4-2 - 8-1	6-2 - 13-2	217 (15)
CR, CRN 64	1-1	1-1 - 2-2	58 (4)
	1 - 2-1	2-1 - 4-2	145 (10)
	2 - 5-2	4-1 - 8-1	217 (15)
CR, CRN 90		1-1 - 1	58 (4)
	1-1 - 1	2-2 - 3-2	145 (10)
	2-2 - 4-1	3-6	217 (15)
CR, CRN 120	1-1 - 1	1 - 2-1	145 (10)
	2-2 - 3	2 - 5-1	217 (15)
	4-1 - 5-1	6-1 - 7	290 (20)
CR, CRN 150	1-1	1-1 - 1	145 (10)
	1-2	2-1 - 4-1	217 (15)
	3-2 - 4-1	5-2 - 6	290 (20)

Example of operating and inlet pressures

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

Example 1:

The following pump type has been selected: CR 3-10 A-A-A

Max. operating pressure: **232 psi**

Max. inlet pressure: **145 psi**

Discharge pressure against a closed valve: **139.2 psi**, see page 43.

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**.

Example 2:

The following pump has been selected: CR 10-2 A-GJ-A

Max. operating pressure: **232 psi**

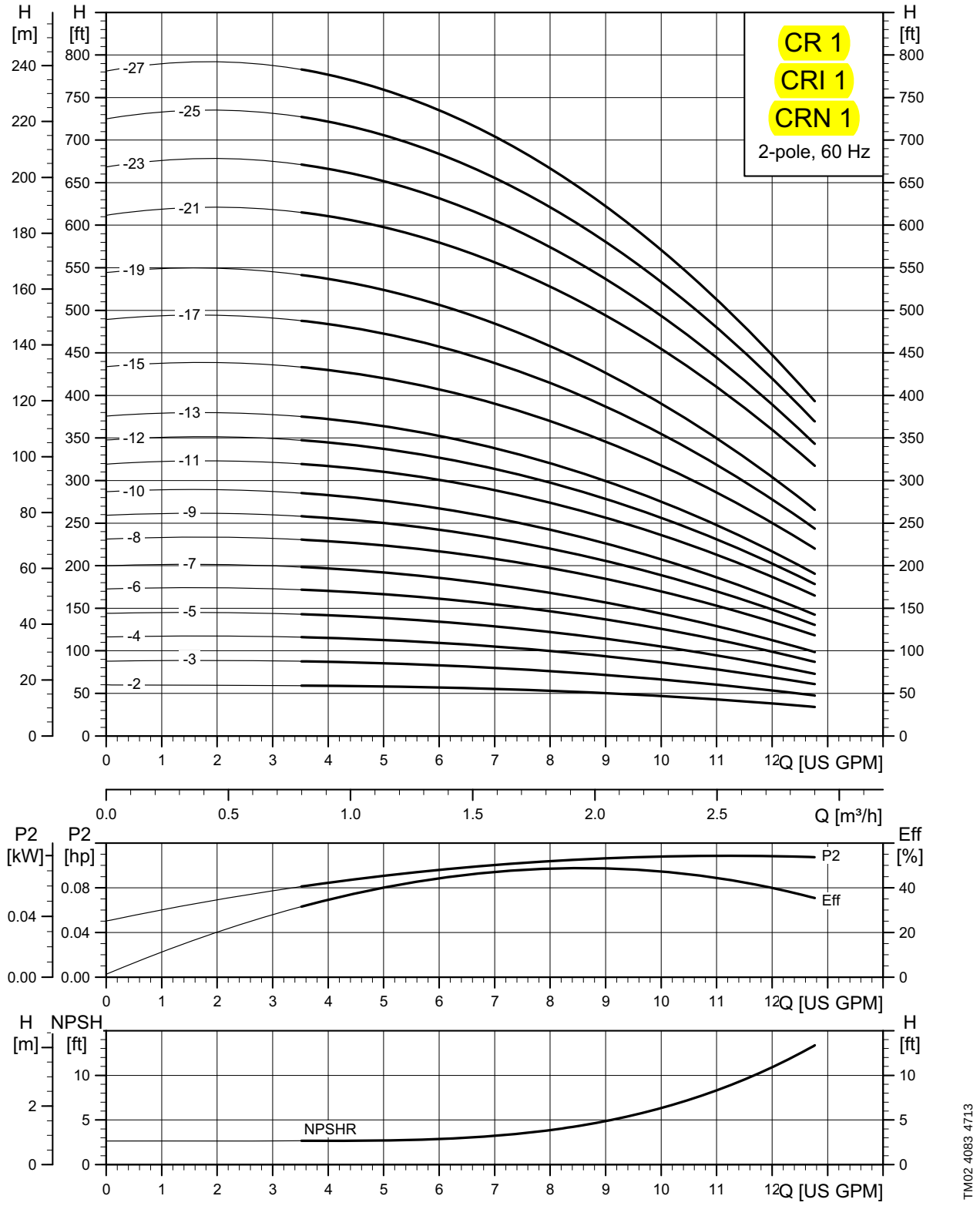
Max. inlet pressure: **116 psi**

Discharge pressure against a closed valve: **42 psi (97 ft)**, see page 49.

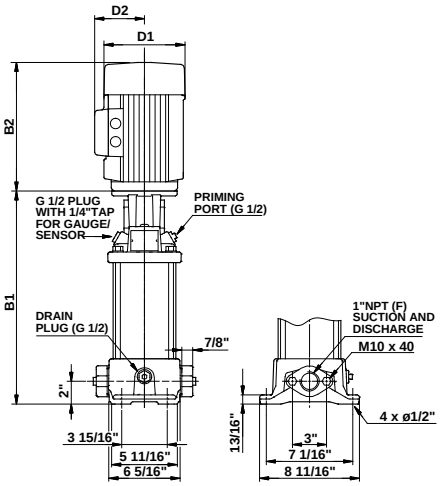
This pump is allowed to start at an inlet pressure of 116 psi, as the discharge pressure is only 42 psi, which results in an operating pressure of 116 + 42 = **158 psi**. On the contrary, the max. operating pressure of this pump is limited to 158 psi, as a higher operating pressure will require an inlet pressure of more than 116 psi.

In case the inlet or operating pressure exceeds the pressure permitted, see section *Lists of variants - on request* on page 77.

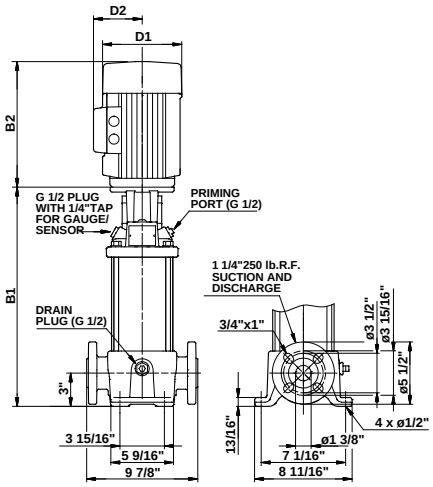
CR, CRI, CRN 1


CR 1
CRI 1
CRN 1
2-pole, 60 Hz
H [m]
H [ft]
-27
-25
-23
-21
-19
-17
-15
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
-2
Q [US GPM]
Q [m³/h]
P2 [kW]
P2 [hp]
Eff [%]
P2
Eff
NPSH [ft]
NPSHR
TM02 4083 4713

CR 1



TM03 1450 2205



TM03 1451 2205

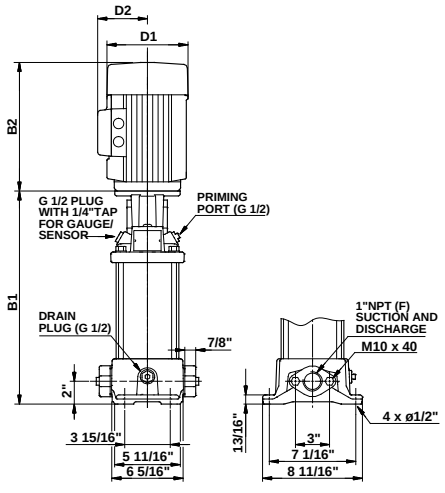
Pump type	P2 [Hp]	Ph.	Oval*	ANSI dimensions [inch (mm)]				Ship. wt. [lbs (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CR 1-2	1/3	1	●	11.97 (305)	6.19 (158)	5.18 (132)	21.26 (541)	69 (32)
		3	●	11.97 (305)	5.55 (141)	4.57 (117)	19.41 (494)	67 (31)
CR 1-3	1/3	1	●	11.97 (305)	6.19 (158)	5.18 (132)	21.26 (541)	69 (32)
		3	●	11.97 (305)	5.55 (141)	4.57 (117)	19.41 (494)	67 (31)
CR 1-4	1/2	1	●	12.68 (323)	6.19 (158)	5.18 (132)	21.97 (559)	73 (34)
		3	●	12.68 (323)	5.55 (141)	4.57 (117)	20.12 (512)	68 (31)
CR 1-5	1/2	1	●	13.39 (341)	6.19 (158)	5.18 (132)	22.68 (577)	75 (35)
		3	●	13.39 (341)	5.55 (141)	4.57 (117)	20.83 (530)	69 (32)
CR 1-6	3/4	1	●	14.09 (358)	6.19 (158)	5.18 (132)	24.00 (610)	80 (37)
		3	●	14.09 (358)	5.55 (141)	4.57 (117)	21.53 (547)	71 (33)
CR 1-7	3/4	1	●	14.80 (376)	6.19 (158)	5.18 (132)	24.71 (628)	81 (37)
		3	●	14.80 (376)	5.55 (141)	4.57 (117)	22.24 (565)	72 (33)
CR 1-8	1	1	●	15.51 (394)	7.19 (183)	5.73 (146)	26.70 (679)	93 (43)
		3	●	15.51 (394)	5.55 (141)	4.57 (117)	22.95 (583)	72 (33)
CR 1-9	1	1	●	16.22 (412)	7.19 (183)	5.73 (146)	27.41 (697)	94 (43)
		3	●	16.22 (412)	5.55 (141)	4.57 (117)	23.66 (601)	74 (34)
CR 1-10	1 1/2	1	●	16.93 (431)	7.19 (183)	5.73 (146)	28.61 (727)	95 (44)
		3	●	16.93 (431)	5.55 (141)	4.57 (117)	25.55 (649)	74 (34)
CR 1-11	1 1/2	1	●	17.64 (449)	7.19 (183)	5.73 (146)	29.32 (745)	102 (47)
		3	●	17.64 (449)	5.55 (141)	4.57 (117)	26.26 (668)	76 (35)
CR 1-12	1 1/2	1	●	18.35 (467)	7.19 (183)	5.73 (146)	30.03 (763)	103 (47)
		3	●	18.35 (467)	5.55 (141)	4.57 (117)	26.97 (686)	77 (35)
CR 1-13	1 1/2	1	●	19.06 (485)	7.19 (183)	5.73 (146)	30.74 (781)	104 (48)
		3	●	19.06 (485)	5.55 (141)	4.57 (117)	27.68 (704)	78 (36)
CR 1-15	2	1	●	20.47 (520)	7.19 (183)	5.73 (146)	33.03 (839)	114 (52)
		3	●	20.47 (520)	7.01 (179)	4.33 (110)	31.69 (805)	104 (48)
CR 1-17	2	1	●	21.89 (557)	7.19 (183)	5.73 (146)	34.45 (876)	116 (53)
		3	●	21.89 (557)	7.01 (179)	4.33 (110)	33.11 (841)	106 (49)
CR 1-19	3	1	-	24.41 (621)	8.60 (219)	6.87 (175)	39.06 (993)	155 (71)
		3	-	24.41 (621)	7.01 (179)	4.33 (110)	37.64 (957)	123 (56)
CR 1-21	3	1	-	25.83 (657)	8.60 (219)	6.87 (175)	40.48 (1029)	158 (72)
		3	-	25.83 (657)	7.01 (179)	4.33 (110)	39.06 (993)	125 (57)
CR 1-23	3	1	-	27.24 (692)	8.60 (219)	6.87 (175)	41.89 (1065)	159 (73)
		3	-	27.24 (692)	7.01 (179)	4.33 (110)	40.47 (1028)	130 (59)
CR 1-25	3	1	-	28.66 (728)	8.60 (219)	6.87 (175)	43.31 (1101)	161 (74)
		3	-	28.66 (728)	7.01 (179)	4.33 (110)	41.89 (1065)	132 (60)
CR 1-27	3	1	-	30.08 (765)	8.60 (219)	6.87 (175)	44.73 (1137)	163 (74)
		3	-	30.08 (765)	7.01 (179)	4.33 (110)	43.31 (1101)	134 (61)

All dimensions in inches unless otherwise noted.

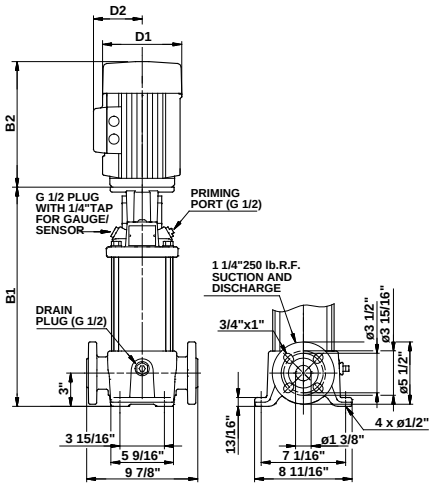
* Oval flanged pump B1 and B1+B2 dimension is one inch less than ANSI flanged pump and weight is approximately 9 lbs. less.

● Available.

CRI 1



TM03 1450 2205



TM03 1451 2205

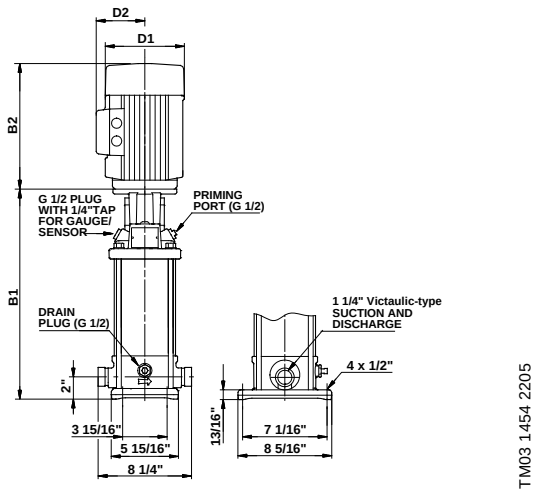
Pump type	P2 [Hp]	Ph.	Oval*	ANSI dimensions [inch (mm)]				Ship. wt. [lbs (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRI 1-2	1/3	1	●	12.09 (308)	6.19 (158)	5.18 (132)	21.38 (544)	64 (30)
		3	●	12.09 (308)	5.55 (141)	4.57 (117)	19.53 (497)	62 (29)
CRI 1-3	1/3	1	●	12.09 (308)	6.19 (158)	5.18 (132)	21.38 (544)	64 (30)
		3	●	12.09 (308)	5.55 (141)	4.57 (117)	19.53 (497)	62 (29)
CRI 1-4	1/2	1	●	12.80 (326)	6.19 (158)	5.18 (132)	22.09 (562)	68 (31)
		3	●	12.80 (326)	5.55 (141)	4.57 (117)	20.24 (515)	63 (29)
CRI 1-5	1/2	1	●	13.50 (343)	6.19 (158)	5.18 (132)	22.79 (579)	69 (32)
		3	●	13.50 (343)	5.55 (141)	4.57 (117)	20.94 (532)	64 (30)
CRI 1-6	3/4	1	●	14.21 (361)	6.19 (158)	5.18 (132)	24.12 (613)	74 (34)
		3	●	14.21 (361)	5.55 (141)	4.57 (117)	21.65 (550)	65 (30)
CRI 1-7	3/4	1	●	14.92 (379)	6.19 (158)	5.18 (132)	24.83 (631)	75 (35)
		3	●	14.92 (379)	5.55 (141)	4.57 (117)	22.36 (568)	66 (66)
CRI 1-8	1	1	●	15.63 (398)	7.19 (183)	5.73 (146)	26.82 (682)	88 (40)
		3	●	15.63 (398)	5.55 (141)	4.57 (117)	23.07 (586)	67 (31)
CRI 1-9	1	1	●	16.34 (416)	7.19 (183)	5.73 (146)	27.53 (700)	89 (41)
		3	●	16.34 (416)	5.55 (141)	4.57 (117)	23.78 (605)	68 (31)
CRI 1-10	1 1/2	1	●	17.05 (434)	7.19 (183)	5.73 (146)	28.73 (730)	90 (41)
		3	●	17.05 (434)	5.55 (141)	4.57 (117)	25.67 (653)	69 (32)
CRI 1-11	1 1/2	1	●	17.76 (452)	7.19 (183)	5.73 (146)	29.44 (748)	97 (44)
		3	●	17.76 (452)	5.55 (141)	4.57 (117)	26.38 (671)	70 (32)
CRI 1-12	1 1/2	1	●	18.46 (469)	7.19 (183)	5.73 (146)	30.14 (766)	98 (45)
		3	●	18.46 (469)	5.55 (141)	4.57 (117)	27.08 (688)	71 (33)
CRI 1-13	1 1/2	1	●	19.17 (487)	7.19 (183)	5.73 (146)	30.85 (784)	99 (45)
		3	●	19.17 (487)	5.55 (141)	4.57 (117)	27.79 (706)	72 (33)
CRI 1-15	2	1	●	20.59 (523)	7.19 (183)	5.73 (146)	33.15 (843)	109 (50)
		3	●	20.59 (523)	7.01 (179)	4.33 (110)	31.81 (808)	99 (45)
CRI 1-17	2	1	●	22.01 (560)	7.19 (183)	5.73 (146)	34.57 (879)	110 (50)
		3	●	22.01 (560)	7.01 (179)	4.33 (110)	33.23 (845)	101 (46)
CRI 1-19	3	1	-	24.53 (624)	8.60 (219)	6.87 (175)	39.18 (996)	148 (68)
		3	-	24.53 (624)	7.01 (179)	4.33 (110)	37.76 (960)	116 (53)
CRI 1-21	3	1	-	25.94 (659)	8.60 (219)	6.87 (175)	40.59 (1031)	150 (69)
		3	-	25.94 (659)	7.01 (179)	4.33 (110)	39.17 (995)	118 (54)
CRI 1-23	3	1	-	27.36 (695)	8.60 (219)	6.87 (175)	42.01 (1068)	152 (69)
		3	-	27.36 (695)	7.01 (179)	4.33 (110)	40.59 (1031)	123 (56)
CRI 1-25	3	1	-	28.78 (732)	8.60 (219)	6.87 (175)	43.43 (1104)	154 (70)
		3	-	28.78 (732)	7.01 (179)	4.33 (110)	42.01 (1068)	125 (57)
CRI 1-27	3	1	-	30.20 (768)	8.60 (219)	6.87 (175)	44.85 (1140)	156 (71)
		3	-	30.20 (768)	7.01 (179)	4.33 (110)	43.43 (1104)	127 (58)

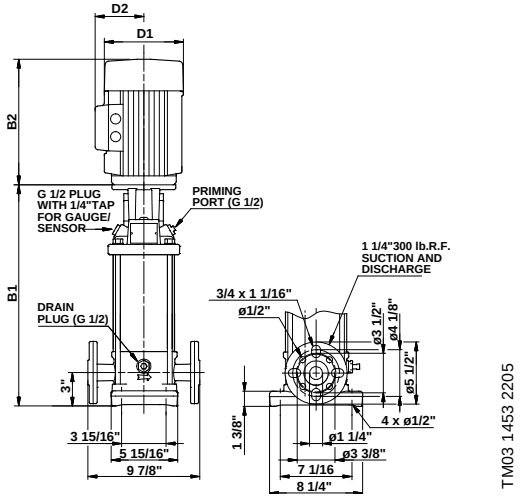
All dimensions in inches unless otherwise noted.

* Oval flanged pump B1 and B1+B2 dimension is one inch less than ANSI flanged pump and weight is approximately 9 lbs. less.

● Available.

CRN 1





Pump type	P2 [Hp]	Ph.	PJE*	ANSI dimensions [inch (mm)]				Ship. wt. [lbs (kg)]
				B1	TEFC			
					D1	D2	B1+B2	
CRN 1-2	1/3	1	•	12.09 (308)	6.19 (158)	5.18 (132)	21.38 (544)	64 (30)
		3	•	12.09 (308)	5.55 (141)	4.57 (117)	19.53 (497)	62 (29)
CRN 1-3	1/3	1	•	12.09 (308)	6.19 (158)	5.18 (132)	21.38 (544)	64 (30)
		3	•	12.09 (308)	5.55 (141)	4.57 (117)	19.53 (497)	62 (29)
CRN 1-4	1/2	1	•	12.80 (326)	6.19 (158)	5.18 (132)	22.09 (562)	68 (31)
		3	•	12.80 (326)	5.55 (141)	4.57 (117)	20.24 (515)	63 (29)
CRN 1-5	1/2	1	•	13.50 (343)	6.19 (158)	5.18 (132)	22.79 (579)	69 (32)
		3	•	13.50 (343)	5.55 (141)	4.57 (117)	20.94 (532)	64 (30)
CRN 1-6	3/4	1	•	14.21 (361)	6.19 (158)	5.18 (132)	24.12 (613)	74 (34)
		3	•	14.21 (361)	5.55 (141)	4.57 (117)	21.65 (550)	65 (30)
CRN 1-7	3/4	1	•	14.92 (379)	6.19 (158)	5.18 (132)	24.83 (631)	75 (35)
		3	•	14.92 (379)	5.55 (141)	4.57 (117)	22.36 (568)	66 (30)
CRN 1-8	1	1	•	15.63 (398)	7.19 (183)	5.73 (146)	26.82 (682)	88 (40)
		3	•	15.63 (398)	5.55 (141)	4.57 (117)	23.07 (586)	67 (31)
CRN 1-9	1	1	•	16.34 (416)	7.19 (183)	5.73 (146)	27.53 (700)	89 (41)
		3	•	16.34 (416)	5.55 (141)	4.57 (117)	23.78 (605)	68 (31)
CRN 1-10	1 1/2	1	•	17.05 (434)	7.19 (183)	5.73 (146)	28.73 (730)	90 (41)
		3	•	17.05 (434)	5.55 (141)	4.57 (117)	25.67 (653)	69 (32)
CRN 1-11	1 1/2	1	•	17.76 (452)	7.19 (183)	5.73 (146)	29.44 (748)	97 (44)
		3	•	17.76 (452)	5.55 (141)	4.57 (117)	26.38 (671)	70 (32)
CRN 1-12	1 1/2	1	•	18.46 (469)	7.19 (183)	5.73 (146)	30.14 (766)	98 (45)
		3	•	18.46 (469)	5.55 (141)	4.57 (117)	27.08 (688)	71 (33)
CRN 1-13	1 1/2	1	•	19.17 (487)	7.19 (183)	5.73 (146)	30.85 (784)	99 (45)
		3	•	19.17 (487)	5.55 (141)	4.57 (117)	27.79 (706)	72 (33)
CRN 1-15	2	1	•	20.59 (523)	7.19 (183)	5.73 (146)	33.15 (843)	108 (49)
		3	•	20.59 (523)	7.01 (179)	4.33 (110)	31.81 (808)	99 (45)
CRN 1-17	2	1	•	22.01 (560)	7.19 (183)	5.73 (146)	34.57 (879)	110 (50)
		3	•	22.01 (560)	7.01 (179)	4.33 (110)	33.23 (845)	101 (46)
CRN 1-19	3	1	•	23.53 (598)	8.60 (219)	6.87 (175)	39.18 (996)	148 (68)
		3	•	23.53 (598)	7.01 (179)	4.33 (110)	37.76 (960)	116 (53)
CRN 1-21	3	1	•	25.94 (659)	8.60 (219)	6.87 (175)	40.59 (1031)	150 (69)
		3	•	25.94 (659)	7.01 (179)	4.33 (110)	39.17 (995)	118 (54)
CRN 1-23	3	1	•	27.36 (695)	8.60 (219)	6.87 (175)	42.01 (1068)	152 (69)
		3	•	27.36 (695)	7.01 (179)	4.33 (110)	40.59 (1031)	123 (56)
CRN 1-25	3	1	•	28.78 (732)	8.60 (219)	6.87 (175)	43.43 (1104)	154 (70)
		3	•	28.78 (732)	7.01 (179)	4.33 (110)	42.01 (1068)	124 (57)
CRN 1-27	3	1	•	30.20 (768)	8.60 (219)	6.87 (175)	44.85 (1140)	155 (71)
		3	•	30.20 (768)	7.01 (179)	4.33 (110)	43.43 (1104)	126 (58)

All dimensions in inches unless otherwise noted.

* PJE flanged pump B1 and B1+B2 dimension is one inch less than ANSI flanged pump and weight is approximately 9 lbs. less.

• Available.

11. Motor data

Standard motors in the CR range

Motors used in the CR pump range are:

- Grundfos ML motors
- Grundfos specified **Baldor® motors**.

The information in the tables below applies to following motors type and size:

Type	Phase	Motor range [Hp]	Cooling method
ML	3	1/3 - 30	TEFC
Baldor	1	1/3 - 10	TEFC
	3	40-100	TEFC
	3	15-125	ODP

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

It is not recommended that an off-the-shelf standard Baldor motor be used on a Grundfos pump. Ideally, the best motor choice would be the Grundfos specified motor.

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

Other motor types are available (i.e., Explosion proof, Mill and Chem duty, Premium Efficiency, etc.); consult local Grundfos company for more information.

Pumps supplied by Grundfos Canada are normally supplied with motors from other manufactures. 575 volt motors meet NEMA energy efficient standards. Dimensions and data will vary, contact local Grundfos company for more information.

All values are subject to change without notice.

ODP motors

(Open Drip Proof, constant speed)

Hp	Ph	ODP frame	ODP S.F.	ODP voltage [V]	ODP motor eff. %	ODP insul. class	ODP KVA code	ODP full load current	ODP service factor current	ODP starting current
15	3	254TCZ	1.15	208-230/460	89.5	F	H	37-35 / 17.5	40 - 39.4 / 19.7	225-248/124
20	3	254TC	1.15	230/460	90.2	B	G	48/24	55 /27.5	306/153
25	3	284TSCZ	1.15	208-230/460	91	B	G	64-59 / 29.5	74-67 / 33.5	335-374/187
30	3	284TSC	1.15	230/460	91	F	H	70/35	80/40	480/240
40	3	286TSCZ	1.15	230/460	91.7	F	F	94/47	108/54	542/271
50	3	324TSCZ	1.15	230/460	92.4	F	G	116/58	134/67	706/353
60	3	324TSCZ	1.15	230/460	93	B	G	132/66	152/76	844/422
75	3	364TSCZ	1.15	230/460	93	F	G	168/84	192/96	1110/555
100	3	365TSCZ	1.15	230/460	93	F	G	226/113	260/130	1380/690
125	3	405TSCZ	1.15	460	93.6	B	G	140	171	897

Baldor motor

TM02 7696 3803