

1. Product data

Introduction

This data booklet deals with Grundfos CR, CRI and CRN as well as CRE, CRIE and CRNE pumps.

CR, CRI, CRN



Fig. 1 CR, CRI and CRN pumps

CR, CRI and CRN pumps are vertical, multistage centrifugal pumps. The in-line design of the pumps enables installation in a horizontal one-pipe system where the suction and discharge ports are in the same horizontal level and have the same pipe dimensions. This design provides a more compact pump design and pipework.

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

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

The CR pumps consist of two main components: the motor and the pump unit. The CR pump motor is a Grundfos motor designed to EN standards.

The pump unit consists of optimised 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.

CRE, CRIE, CRNE



Fig. 2 CRE, CRIE and CRNE pumps

CRE, CRIE and CRNE pumps are built on the basis of CR, CRI, CRN pumps.

CRE, CRIE and CRNE pumps belong to the so-called E-pump family. CRE, CRIE and CRNE pumps are referred to as E-pumps.

The difference between the CR and CRE pump ranges is the motor. CRE, CRIE and CRNE pumps are fitted with an E-motor, i.e. a motor with built-in frequency converter.

The CRE pump motor is a Grundfos MGE motor designed to EN standards.

The frequency converter enables continuously variable control of the motor speed, which makes it possible to set the pump to operation at any duty point. The purpose of continuously variable speed control of the motor speed is to adjust the performance to a given requirement.

CRE, CRIE and CRNE pumps are available with an integrated pressure sensor connected to the frequency converter.

The pump materials are identical to those of the CR, CRI and CRN pump range.

Selecting a CRE pump

Select a CRE pump if the following features are required:

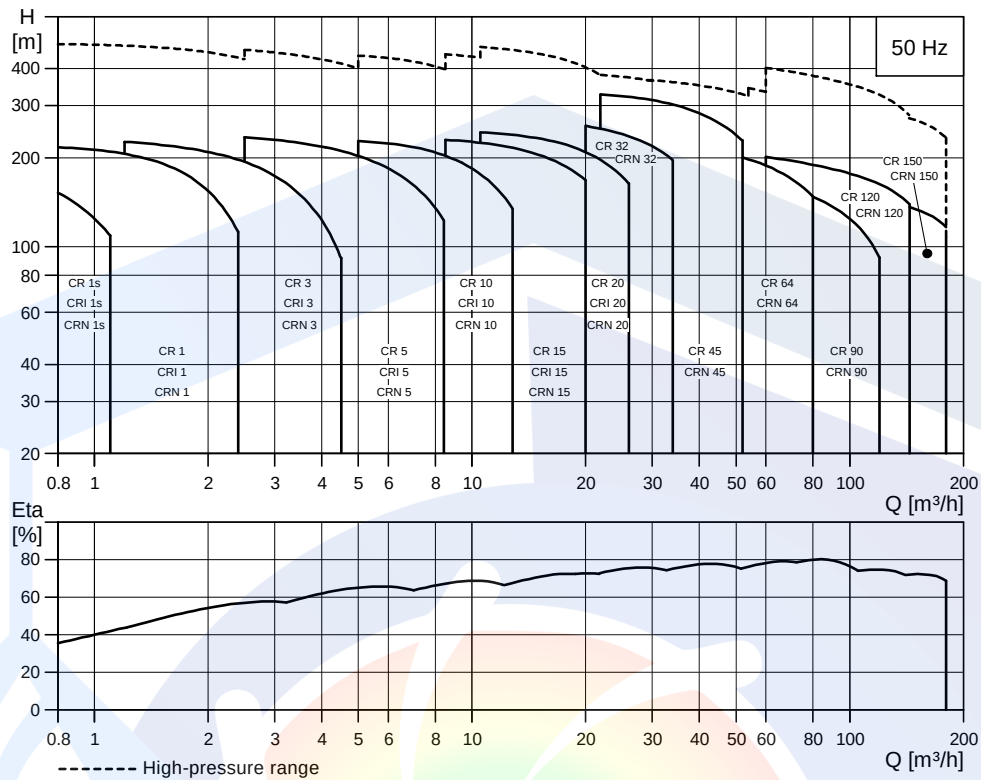
- Controlled operation, i.e. consumption fluctuates.
- Constant pressure.
- Communication with the pump.

Adaptation of performance through frequency-controlled speed control offers obvious benefits such as:

- energy savings
- increased comfort
- control and monitoring of the pump performance.

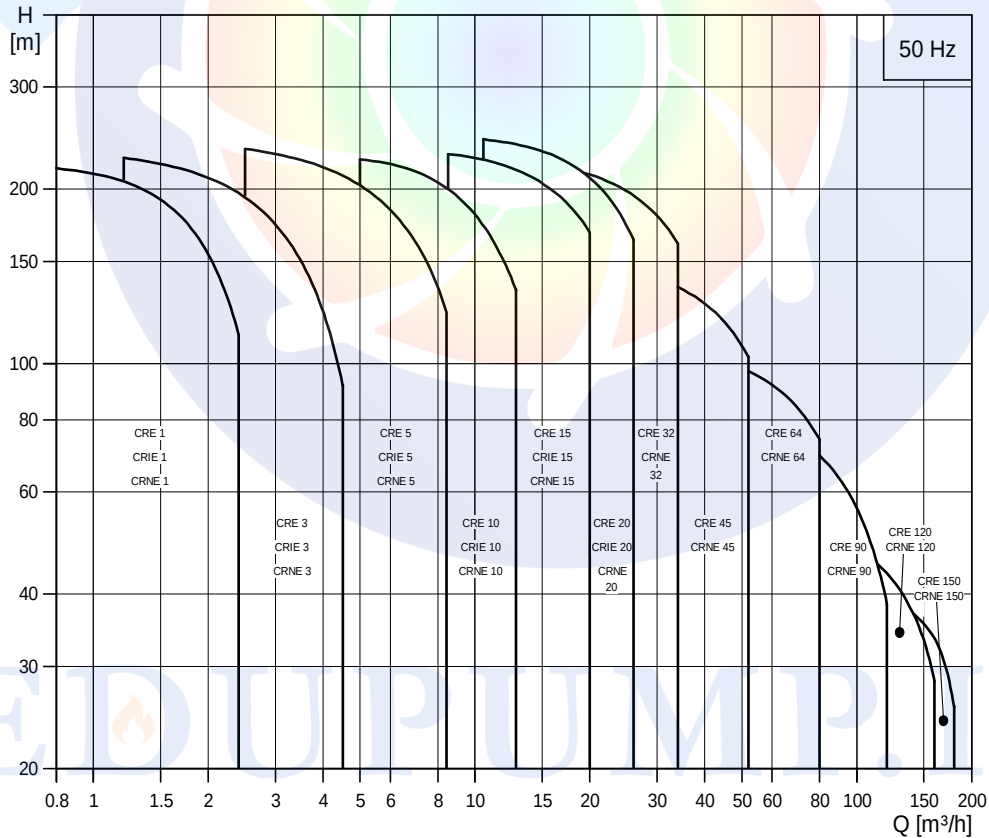
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Performance range of CR, CRI, CRN



TM02 1192 4708

Performance range of CRE, CRIE, CRNE



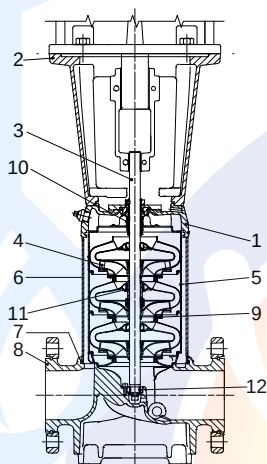
TM02 7281 4708

CR(E) 32, 45, 64 and 90



TM01 2150 1298 - GrA4355

Sectional drawing



TM01 1836 1403

Materials, CR(E)

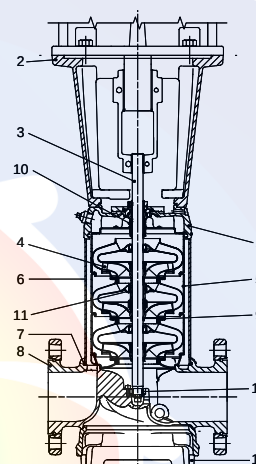
Pos.	Designation	Materials	EN/DIN	AISI/ASTM
1	Pump head	Cast iron EN-GJS-500-7	EN-JS1050	ASTM 80-55-06
2	Motor stool	Cast iron EN-GJL-200	EN-JL1030	ASTM 25B
3	Shaft	Stainless steel	1.4057	AISI 431
4	Impeller	Stainless steel	1.4301	AISI 304
5	Chamber	Stainless steel	1.4301	AISI 304
6	Sleeve	Stainless steel	1.4301	AISI 304
7	O-ring for sleeve	EPDM or FKM		
8	Base	Cast iron EN-GJS-500-7	EN-JS1050	ASTM 80-55-06
9	Neck ring	Carbon-graphite-filled PTFE		
10	Shaft seal			
11	Bearing ring	Bronze		
12	Bottom bearing ring	Tungsten carbide/tungsten carbide		
Rubber parts		EPDM or FKM		

CRN(E) 32, 45, 64 and 90



TM02 7399 3403

Sectional drawing



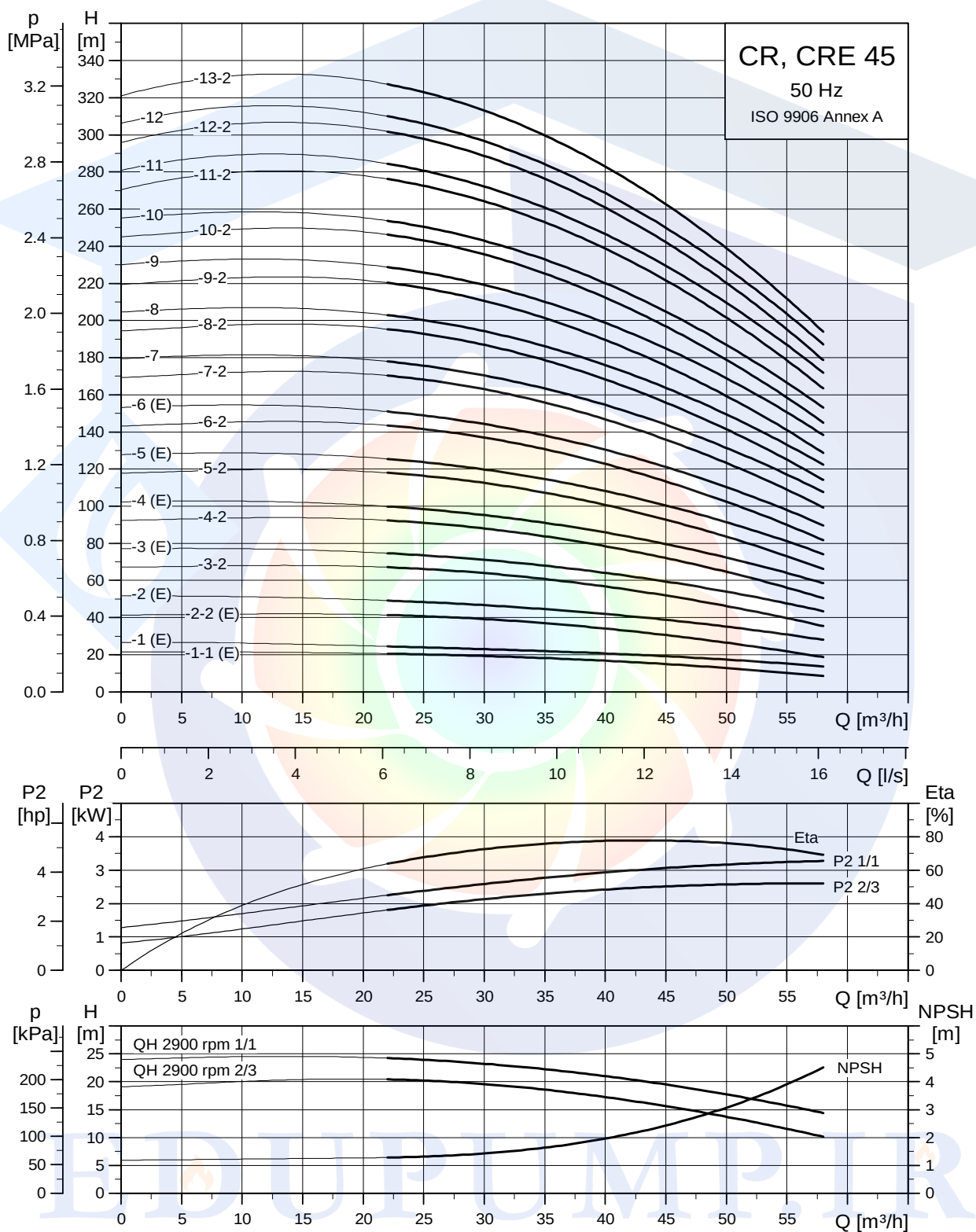
TM01 1837 1403

Materials, CRN(E)

Pos.	Designation	Materials	EN/DIN	AISI/ASTM
1	Pump head	Stainless steel	1.4408	CF 8M equal to AISI 316
2	Motor stool	Cast iron EN-GJL-200 ¹⁾	EN-JL1030	ASTM 25B
3	Shaft	Stainless steel	1.4462	
4	Impeller	Stainless steel	1.4401	AISI 316
5	Chamber	Stainless steel	1.4401	AISI 316
6	Sleeve	Stainless steel	1.4401	AISI 316
7	O-ring for sleeve	EPDM or FKM		
8	Base	Stainless steel	1.4408	CF 8M equal to AISI 316
9	Neck ring	Carbon-graphite filled PTFE		
10	Shaft seal			
11	Bearing ring	Carbon-graphite filled PTFE		
12	Bottom bearing ring	Tungsten carbide/tungsten carbide		
13	Base plate	Cast iron EN-GJS-500-7 ¹⁾	EN-JS1050	ASTM 88-55-06
Rubber parts		EPDM or FKM		

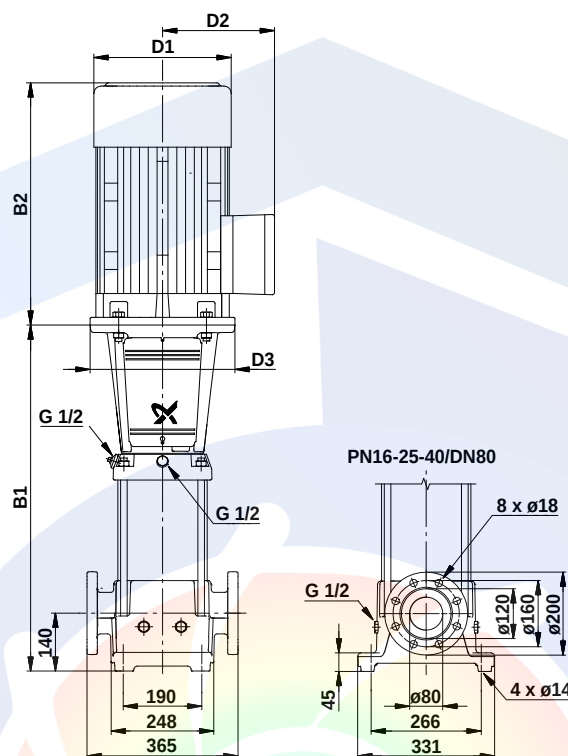
¹⁾ Stainless steel available on request.

CR, CRE 45



TM02 7304 3605

Dimensional sketch



TM01 1751 3203

Dimensions and weights

Pump type	Motor P ₂ [kW]	CR						CRE					
		Dimension [mm]					Net weight [kg]	Dimension [mm]					Net weight [kg]
		B1	B1+B2	D1	D2	D3		B1	B1+B2	D1	D2	D3	
CR(E) 45-1-1	3	559	894	198	120	270	80	559	894	198	177	270	88
CR(E) 45-1	4	559	931	220	134	270	89	559	931	220	188	270	99
CR(E) 45-2-2	5.5	639	1030	220	134	300	104	639	1030	220	188	300	110
CR(E) 45-2	7.5	639	1018	260	159	300	116	639	1030	260	213	300	114
CR 45-3-2	11	829	1300	314	204	350	163	-	-	-	-	-	-
CR(E) 45-3	11	829	1300	314	204	350	163	829	1300	314	308	350	193
CR 45-4-2	15	909	1380	314	204	350	180	-	-	-	-	-	-
CR(E) 45-4	15	909	1380	314	204	350	180	909	1380	314	308	350	212
CR 45-5-2	18.5	989	1504	314	204	350	197	-	-	-	-	-	-
CR(E) 45-5	18.5	989	1504	314	204	350	197	989	1504	314	308	350	228
CR 45-6-2	22	1069	1610	314	204	350	217	-	-	-	-	-	-
CR(E) 45-6	22	1069	1610	314	204	350	217	1069	1610	314	308	350	247
CR 45-7-2	30	1149	1759	407	315	400	324	-	-	-	-	-	-
CR 45-7	30	1149	1759	407	315	400	324	-	-	-	-	-	-
CR 45-8-2	30	1229	1839	407	315	400	328	-	-	-	-	-	-
CR 45-8	30	1229	1839	407	315	400	328	-	-	-	-	-	-
CR 45-9-2	30	1309	1919	407	315	400	332	-	-	-	-	-	-
CR 45-9	37	1309	1976	407	315	400	362	-	-	-	-	-	-
CR 45-10-2	37	1389	2056	407	315	400	367	-	-	-	-	-	-
CR 45-10	37	1389	2056	407	315	400	367	-	-	-	-	-	-
CR 45-11-2	45	1469	2177	439	338	450	455	-	-	-	-	-	-
CR 45-11	45	1469	2177	439	338	450	455	-	-	-	-	-	-
CR 45-12-2	45	1549	2257	439	338	450	460	-	-	-	-	-	-
CR 45-12	45	1549	2257	439	338	450	460	-	-	-	-	-	-
CR 45-13-2	45	1629	2337	439	338	450	464	-	-	-	-	-	-



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نرم افزار فنی و مهندسی
استخر، سونا و جکوزی
سیستم‌های پمپاژ

تهران، سعدی شمالی، خیابان مرادی نور، پلاک ۳۱

تلفن: ۰۲۱-۷۷۶۸۶۹۶۶ فکس: ۰۲۱-۷۷۶۷۸۶۵۹

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