

# 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:

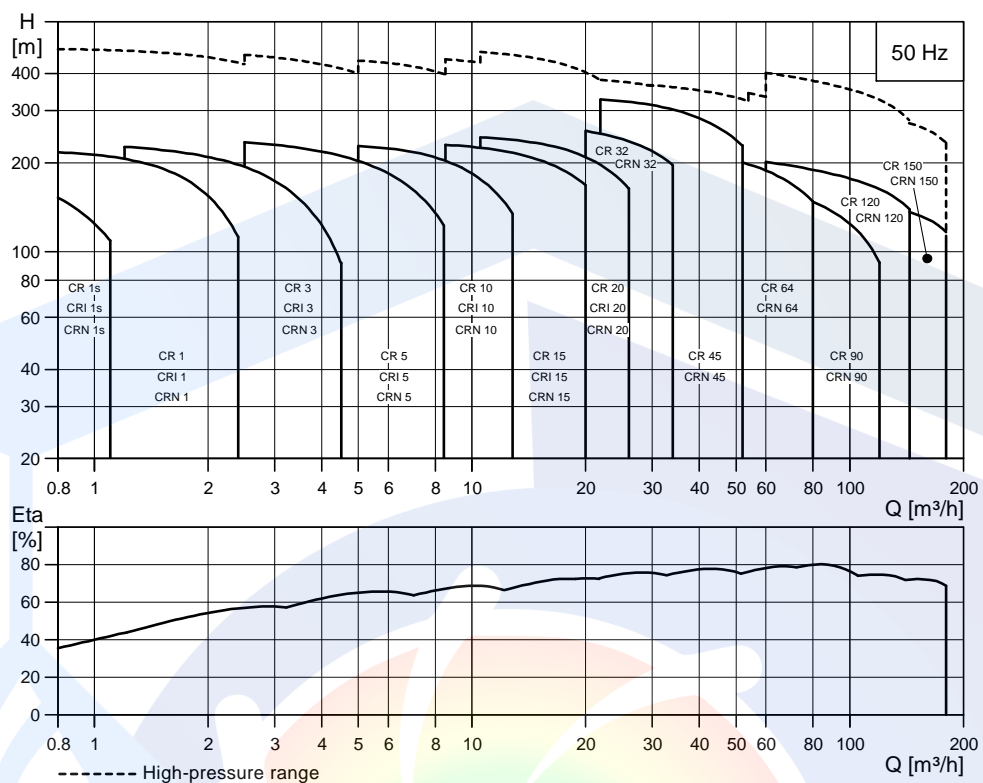
- energy savings
- increased comfort
- control and monitoring of the pump performance.

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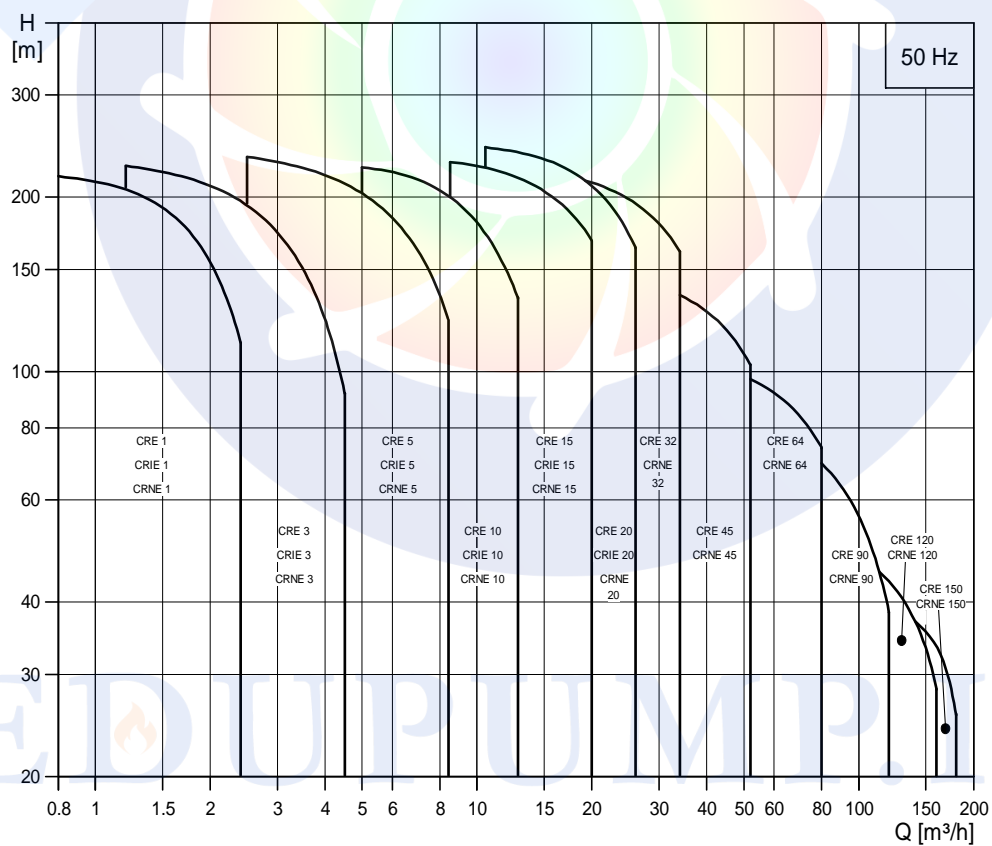
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### Performance range of CR, CRI, CRN



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### Performance range of CRE, CRIE, CRNE



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### 3. Construction

### CRI(E), CRN(E) 1s, 1, 3, 5, 10, 15 and 20

#### CR(E) 1s, 1, 3, 5, 10, 15 and 20

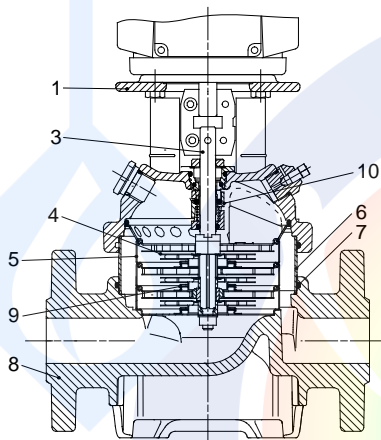


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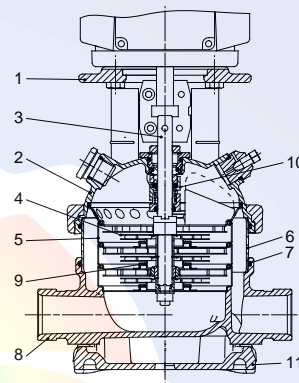
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#### Sectional drawing



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#### Sectional drawing



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#### Materials, CR(E)

Pos.	Designation	Materials	EN/DIN	AISI/ASTM
1	Pump head	Cast iron EN-GJL-200	EN-JL1030	ASTM 25B
3	Shaft	Stainless steel	1.4401 <sup>1)</sup> 1.4057 <sup>2)</sup>	AISI 316 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-GJL-200	EN-JL1030	ASTM 25B
9	Neck ring	PTFE		
10	Shaft seal	Cartridge type		
	Rubber parts	EPDM or FKM		

<sup>1)</sup> CR(E) 1S, 1, 3, 5.

<sup>2)</sup> CR(E) 10, 15, 20.

#### Materials, CRI(E) and CRN(E)

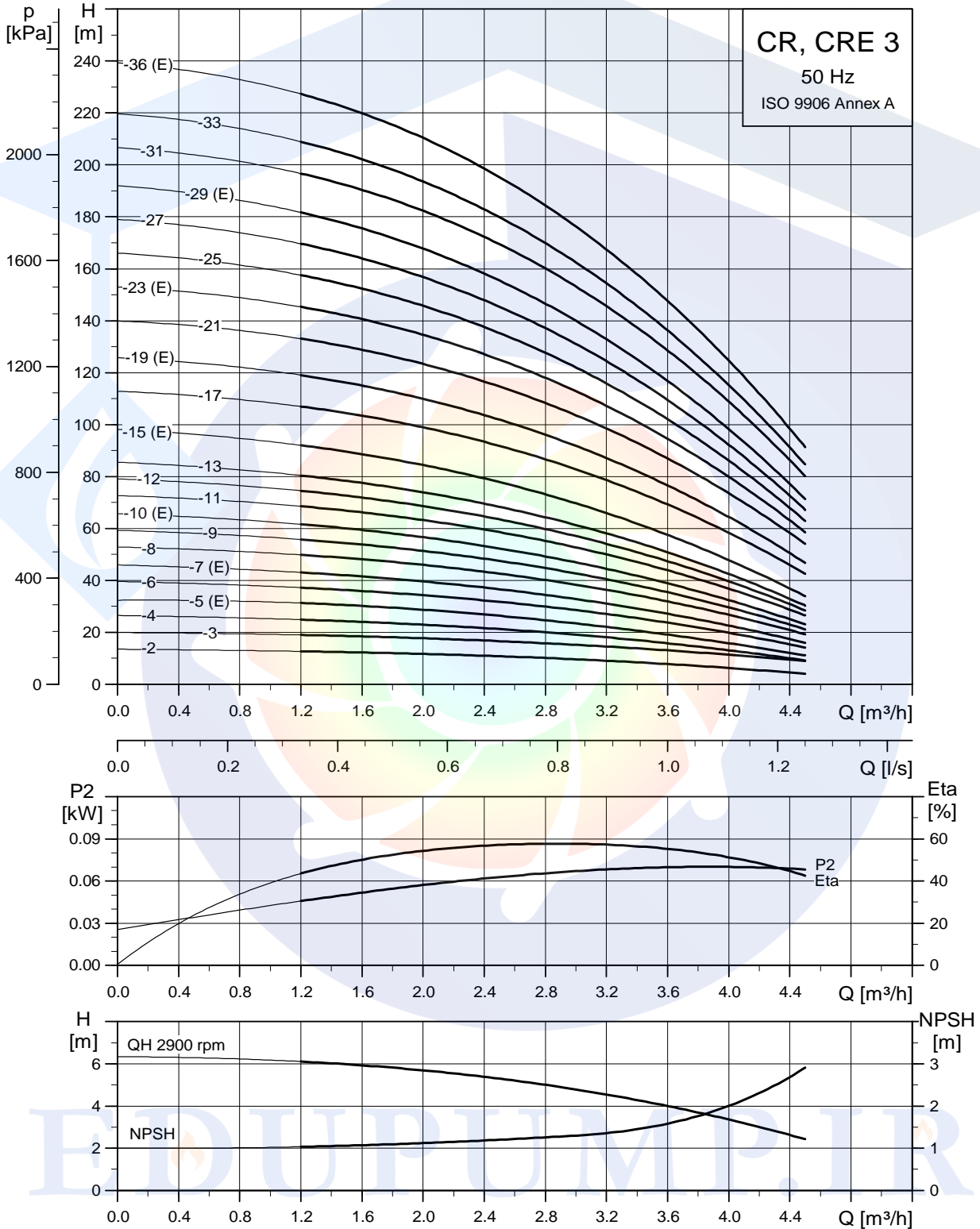
Pos.	Designation	Materials	EN/DIN	AISI/ASTM
1	Pump head	Cast iron EN-GJL-200 <sup>1)</sup>	EN-JL1030	ASTM 25B
2	Pump head cover	Stainless steel	1.4408	CF 8M equal to AISI 316
3	Shaft	Stainless steel	1.4401 <sup>2)</sup> 1.4460 <sup>3)</sup>	AISI 316 AISI 329
8	Base	Stainless steel	1.4408	CF 8M equal to AISI 316
9	Neck ring	PTFE		
10	Shaft seal	Cartridge type		
11	Base plate	Cast iron EN-GJL-200 <sup>1)</sup>	EN-JL1030	ASTM 25B
	Rubber parts	EPDM or FKM		
CRI(E)				
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		
CRN(E)				
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		

<sup>1)</sup> Stainless steel available on request.

<sup>2)</sup> CRI(E), CRN(E) 1S, 1, 3, 5.

<sup>3)</sup> CRI(E), CRN(E) 10, 15, 20.

## CR, CRE 3



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