

The renowned CRE pump has been upgraded with the latest motor technology to offer impressive energy efficiency that meets the IE5 levels. As part of the Grundfos iSOLUTIONs programme, the pump represents the ultimate in intelligent control and energy efficiency. The new MGE motor goes far beyond what regulations require in terms of energy efficiency just as the advanced built-in control system makes it possible to enable application-related functions to optimise system performance. CRE is also available with built-in sensor and pre-configured to constant pressure for complete plug-n-pump in the installation.

CR(E): Material Cast Iron and SS 304 + Electronically controlled version  
 CRI(E): Material SS 304 + Electronically controlled version  
 CRN(E): Material SS 316 + Electronically controlled version

### Extended specifications

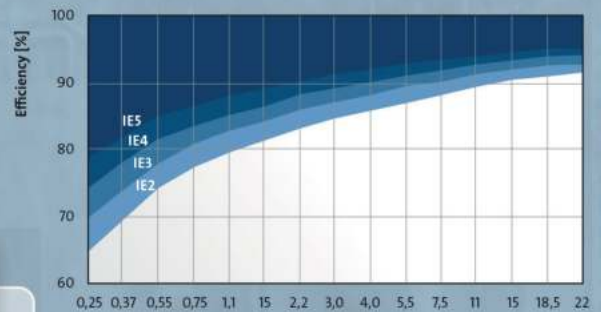
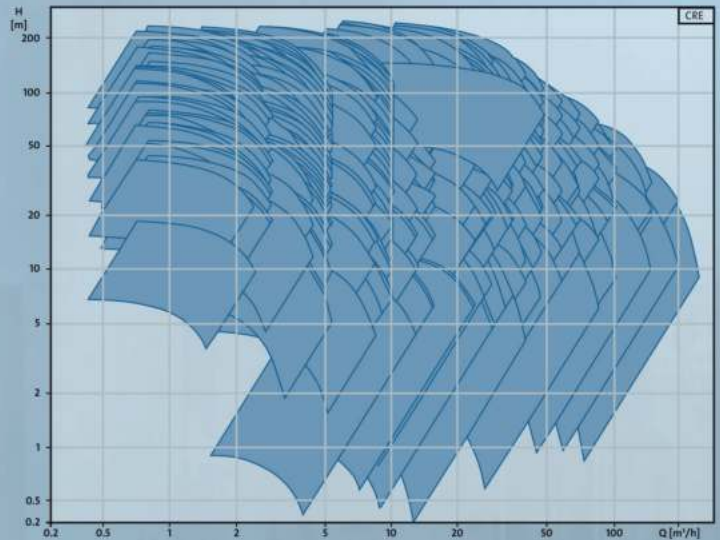
- Ambient temperature** Full load continuous 50 °C, maximum allowed 60 °C
- Enclosure class** IP55 and IP66
- Maximum speed** 5900 rpm
- Wide supply voltage** Single-phase: 200-240 V  
Three-phase: 380-500 V
- Approvals** CE, R CM, cUR us, EAC

### Extended input and output options

The CRE pump offers a variety of configurable input and output options, including:

- Three analogue inputs (0-10 V; 0/4-20 mA; 0.5-3.5 V)
- One analogue output (0-10 V; 0/4-20 mA)
- Two dedicated digital inputs
- Two configurable digital inputs or open-collector outputs
- Two Pt100/1000 inputs for temperature measurement
- LiqTec sensor inputs – dry-running protection sensor
- Two signal relay outputs
- GENibus connection
- Interface for CIM field bus modules

### CRE, CRIE, CRNE Product Range



### Example with BUS Communication

- |                          |   |                          |
|--------------------------|---|--------------------------|
| Specific energy          | • | • Alarm! Overload        |
| Started 345 times        | • | • Setpoint is 3.5 bar    |
| Specific energy          | • | • Sensor warning         |
| Frequency                | • | • Flow value             |
| DC link voltage          | • | • Outlet pressure        |
| Power consumption        | • | • Remote flow            |
| Time is 14:27:43         | • | • Running hours          |
| Total Energy             | • | • Running for 2762 hours |
| Consumption              | • | • 231 V                  |
| Limit exceeded           | • | • Bearing service        |
| Speed is 88 %            | • | • I am running           |
| Water temperature        | • | • Controlled from bus    |
| Control mode Prop. press | • | • Not at power limit     |
| 45                       | • | • Max flow is 88 m3/h    |
| Inlet press 0.4 bar      | • | • Digital input status   |
| Load percent             | • |                          |

### NEW CRE FUNCTIONS

- Run at power limit**  
Full load power output and optimal overload protection
- Advanced stop function**  
Prevents operation against closed valve or low flow operation damage and heat up
- Curve compensation**  
Stabilises unstable pump and load curves
- Activation and de-activation delay**  
Timer delay on digital





## Extended communication

As part of the Grundfos iSOLUTIONs the CRE pumps allow a variety of Communication Interface Modules (CIM) built into the pump to enable direct communication with process control systems; PLC, SCADA or BMS.

As a result, installation is made easier and the initial cost lower because there is no need for gateways.

Adjust operation and monitor operating performance remotely with your preferred field bus:

### Industrial Ethernet

The CRE pump supports the following industrial Ethernet standards:

- Modbus TCP
- PROFINET IO
- BACnet/IP

### Serial fieldbusses

The CRE pump supports the following serial based communication standards:

- Modbus RTU
- PROFIBUS DP
- BACnet MS/TP
- LON

### GENibus

The CRE pump is equipped with a Grundfos GENibus interface.

### GSM

The GSM module enables remote data transmission from Grundfos pumps or controllers – via mobile phones or SCADA systems.

### GRM

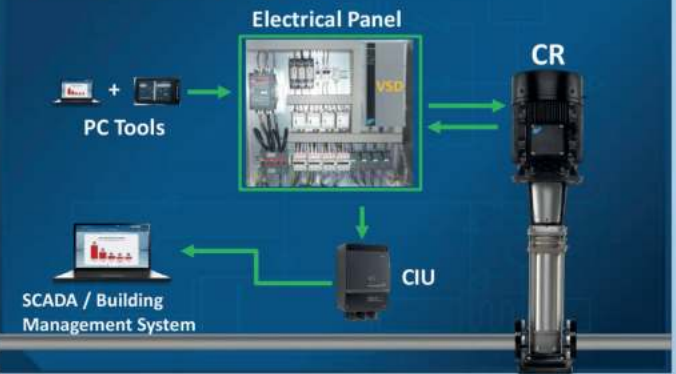
Grundfos Remote Management makes it possible to monitor and manage pump systems remotely to reduce the need for costly – and often unnecessary – on-site inspections.

## Grundfos GO

Grundfos GO is the industry's most advanced mobile pump control solution, designed to be totally compatible with all Grundfos E-pumps, including the CRE. It gives you the possibility to communicate with the pump and hereby monitor and control electronic pumps on-site.



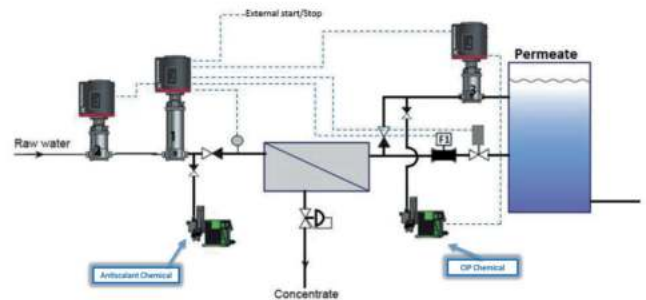
## Comparison System



## Comparison System



## iSOLUTIONS WT. Ultrafiltration Wiring diagram



## Boiler feed with variable speed pumps without feed valve – Smart Boiler Solution!!

