



Oil and Gas Pumps for Industry

Discover what's possible with the CR range



GRUNDFOS 

Possibility in every drop

MAKE A DIFFERENCE
TO YOUR BOTTOM LINE

Assembled in the USA, the Grundfos CR is one of the most reliable, efficient and adaptable vertical multistage centrifugal pumps in the industry. With standard and custom solutions available, you can be sure the CR range will be an ideal fit for your application.

EASE OF MAINTENANCE

Serviceability: Engineered with reliability in mind, the CR’s serviceable parts are easy to access, service and replace. With millions of hours of operation by satisfied users all over the world, the CR is your key to optimal performance and dependability.

Customized Solutions: The CR series has more than one million different combinations, which allows it to handle nearly any application. Some examples of the available customizations include: low NPSH, integrated VFD, high pressure and double mechanical seals.

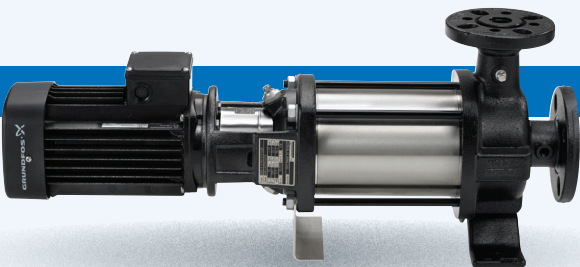
MLE MOTOR



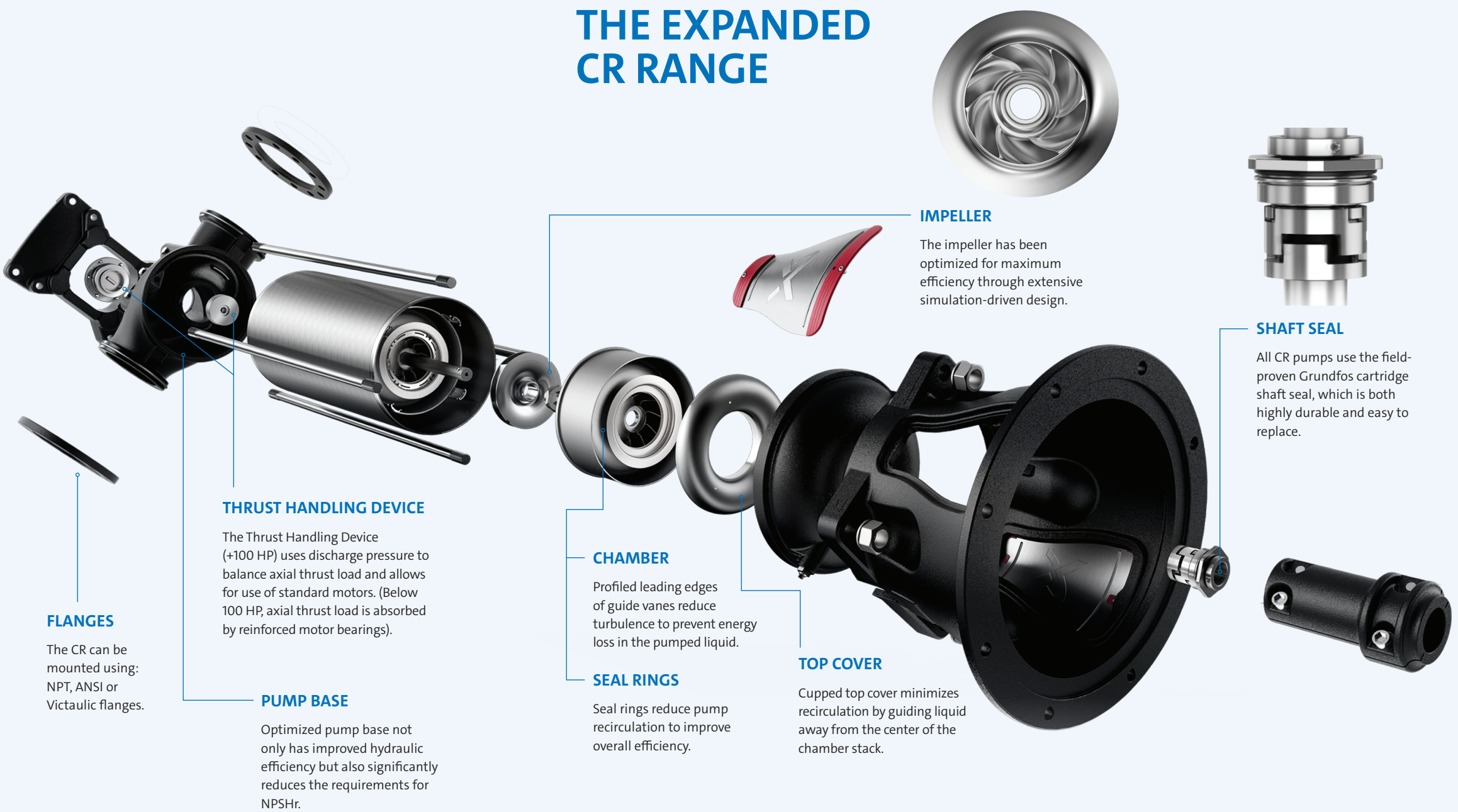
The Grundfos MLE motor is our very own integrated variable frequency, permanent magnet motor that’s packed with intelligent features to help optimize your system. One of the most unique features is the graphical display, which allows you to easily monitor and change settings right on the pump.

CR-H

The Grundfos multistage CR-H offers all the benefits of the CR in an ANSI dimensional solution that will fit directly into your existing pump and piping footprint.



THE EXPANDED
CR RANGE



CR/CRN INFORMATION		CRE/CRNE INFORMATION	
Maximum flow:	46,250 bpd	Maximum flow:	36,100 bpd
Maximum pressure:	580 psi	Maximum pressure:	435 psi
Liquid temperature:	-22 °F to +356 °F	Liquid temperature:	-22 °F to +356 °F

Factory Product Variance

COOL TOP

The Grundfos air-cooled top shaft seal solution is recommended for applications involving temperatures from 248 °F to 356 °F. The air-cooled top separates the seal chamber from the pump by an air-cooled chamber, generating an insulating effect via the narrow passage between the pump and the air-cooled top. Because the temperature in the seal chamber does not exceed 248 °F during operation, a standard Grundfos shaft seal can be used. The Grundfos air-cooled top does not require any external cooling, but an automatic air vent is recommended to vent the pump seal chamber.



NATURAL GAS BELT DRIVE ENGINE

Sometimes, in remote locations, locating a source of electricity is not an option. The natural gas engine takes away the concern for an electric source and lets you operate in the most remote locations.



LOW NPSH

The Low-NPSH pumps are especially suited for handling poor inlet flows and liquid temperatures higher than 140 °F. They feature a special, oversized inlet impeller and chamber that reduces the NPSH value and prevents cavitation and destruction of the pump.

HIGH PRESSURE HS/SF

For applications requiring higher pressure, turn to our CRN HS/SF. Unlike our typical CR, the pump stack is flipped, causing the fluid to flow from top to bottom. This design ensures the mechanical seal is not exposed to the high pressures produced by the pump.



CRNE-HS/SF INFORMATION:

	CRNE-HS	CRN-SF
Maximum flow:	1,000 bpd	36,100 bpd
Maximum pressure:	725 psi	725 psi
Liquid temperature:	-22 °F to +248 °F	-22 °F to +248 °F

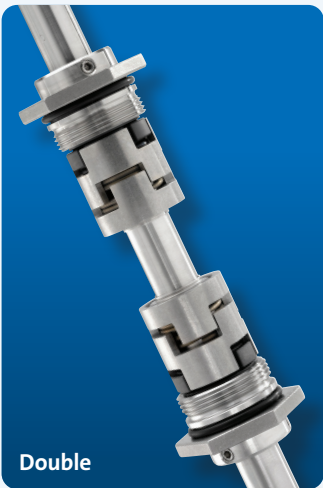
Shaft Seals

TANDEM SEAL

For applications with crystalizing, hardening or sticky liquids, Grundfos offers the CR(I)(N) in the tandem orientation. This requires the use of a product flush that will maintain a clean fluid on the face of the outside seal.



Tandem



Double

DOUBLE SEAL

For those application with dangerous fluids that may be explosive, aggressive or toxic, Grundfos offers a double mechanical seal. This orientation requires a higher pressure in the seal chamber from either a second pump or a dosing pump. The higher pressure within the seal chamber ensures that a potential leak will not be the dangerous fluid being pumped.

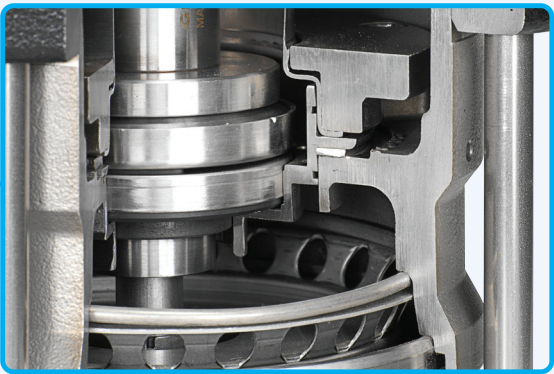
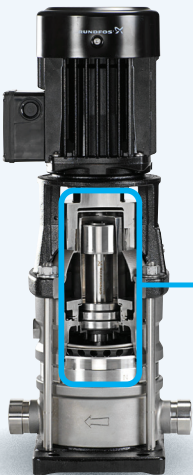


The cartridge design allows you to quickly replace the seal without dismantling the pump.



CRN MAGdrive

The CRN MAGdrive can help when you're pumping something aggressive or dangerous that cannot leak. The pump shaft is rotated from the outside by the forces of magnetism, so the liquid cannot escape the closed circuit. The MAGdrive is available on CRN pumps with a rated power up to 30 HP.



Product Overview



CR, CRE
Energy-efficient vertical inline multistage pumps



CRN MAGdrive
Vertical inline multistage pump with magnetic drive for aggressive liquids



CR-H, CRN-H, CRE-H, CRNE-H
Inline multistage pumps for an ANSI dimensional solution for aggressive liquids



Hydro MPC
Our premier fully integrated pre-engineered packaged pumping system with advanced control capability and energy-efficient vertical inline multistage pumps



GES Solutions
Fully integrated packaged pumping solutions customized for specific applications



NB, NBS, NK
End Suction pumps with multiple designs. Close-coupled, split coupled & long coupled. Available with integrated VFD motor up to 30 HP



DMH
Robust dosing pumps for reliable and high-pressure applications up to 2900 psi



DMX
Mechanical diaphragm metering pumps



Dosing Skid System
Complete chemical-feed packaged systems featuring the latest technology from Grundfos Dosing



SMART Digital
Intelligent dosing pumps with a new drive and adjustments mechanisms

Application Overview

PRODUCT TYPE	LACT UNIT	CONDENSATE	CRUDE OIL	PRODUCED WATER	WATER & CHEMICAL TRANSFER	WATER TREATMENT	WASTEWATER
CR/CRE	●	●	●	●	●		
CRN MAGdrive	●	●	●	●	●		
CR-H, CRN-H, CRE-H, CRNE-H	●	●	●	●	●		
Hydro MPC		●	●	●	●		
GES Solutions		●	●	●	●	●	●
NB, NBS, NK		●		●	●	●	●
DMH						●	
DMX						●	
Dosing Skid Systems						●	
SMART Digital						●	

GRUNDFOS PRODUCT CENTER
grundfos.us/gpc



- Online sizing tool for quick pump selection and CAD drawings
- Easy-to-use service information on each pump
- Instant access to saved items, including complete projects
- Optimized for mobile devices

CONVERSION CHART		
FROM	TO	MULTIPLIER
GPM	BPH	1.428
GPM	BPD	34.28
GPM	BPM	.0238
GPM	GPH	60
GPM	GPD	1440
BPD	GPM	.0291
BPD	GPH	1.729
BPH	GPM	.7
Fl. Hd.	PSI	.443
PSI	Fl. Hd.	2.31
BPH x PSI x .00046 = HP		
$\frac{\text{GPM} \times .3208}{\text{Area Sq. Inches}}$		= Velocity
$\frac{\text{GPM} \times \text{PSI} \times \text{Specific Gravity}}{1715 \times \text{EFF.}}$		= HP
Head Calculation: Head (Ft) = (PSI*2.31) ÷ Specific Gravity		
NPSHa Calculation: $\text{NPSH}_A = H_A \pm H_Z - H_F + H_V - H_{VP}$ H(A) The absolute pressure on the surface of the liquid in the supply tank H(Z) The vertical distance between the surface of the liquid in the supply tank and the centerline of the pump H(F) Friction losses in the suction piping H(V) Velocity head at the pump suction port H(VP) Absolute vapor pressure of the liquid at the pumping temperature		