Unlocking the Potential: Grundfos Industrial Solution

GRUNDFOS

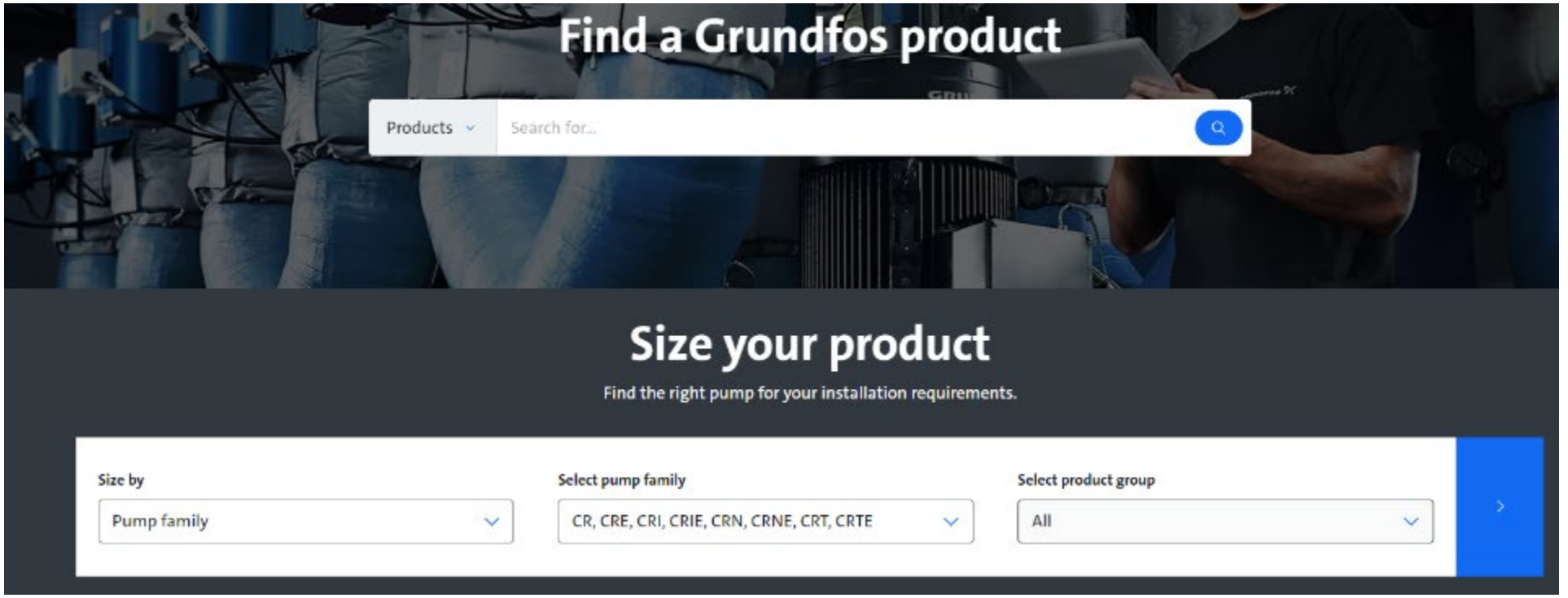
Possibility in every drop

Topics / Agenda

- Grundfos Product Centre
- Optimized Sizing Tool
- What is unique about the optimized sizing function?
- ‘Live’ run through of ‘optimize sizing’ function + FAQs
- Q&A

Grundfos Product Centre

- A visit to Grundfos Product Centre → Truly discover Grundfos Potential !!
- Discover more Grundfos range → Dosing, end suction, inline, submersible, horizontal/vertical multistage, split casing, etc.
- All pump family available for sizing.



- All pump information available:
  - Pump Datasheet
  - Wiring Diagram
  - Dimensional Drawing (2D, 3D, Autocad)
  - Literature (IOM, databooklet, service manual, etc.)

CR 20-17 A-F-A-E-HQQE Model number 96800415

Variants | Quotation | **Specifications** | Sizing results | Spare parts | CAD | Drawings | Documentation | Services | Accessories

Product name	CR 20-17 A-F-A-E-HQQE
Product No	96800415
EAN number	5700310727035

Technical

Pump speed on which pump data are based	1430 rpm
Actual calculated flow	9.779 m³/h
Resulting head of the pump	51.9 m
Maximum head	62 m
Stages	17
Impellers	17
Number of reduced-diameter impellers	0
Low NPSH	N
Pump orientation	Vertical
Shaft seal arrangement	Single
Code for shaft seal	HQQE
Approvals	CE,EAC,UKCA,SEPRO
Approvals for drinking water	WRAS,ACS
Curve tolerance	ISO9906:2012 3B
Pump version	A
Model	A

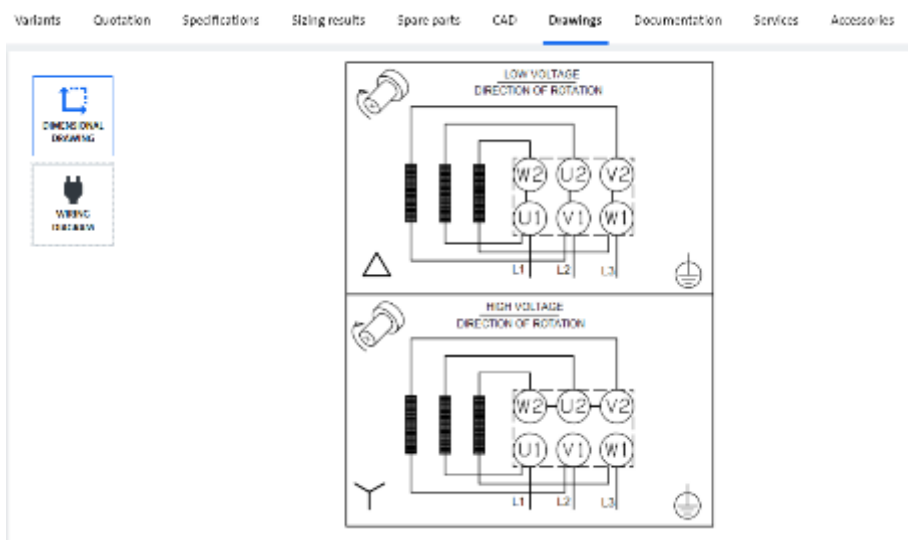
Materials

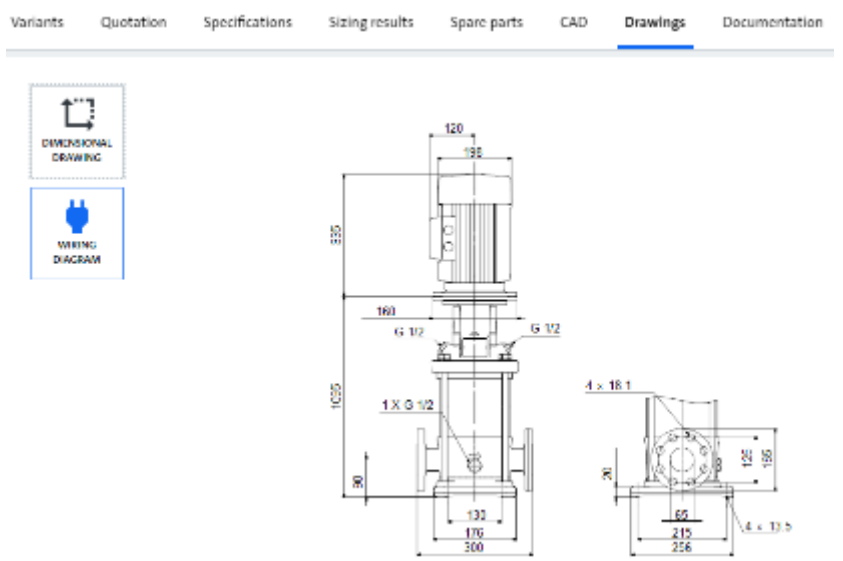
Liquid

Pumped liquid	Water
Liquid temperature range	20 .. 120 °C
Selected liquid temperature	20 °C
Density	998.2 kg/m³
Kinematic viscosity	1 mm2/s

Electrical data

Motor standard	IEC
Motor type	100LB
Rated power - P2	2.2 kW
Power (P2) required by pump	2.2 kW
Mains frequency	50 Hz
Rated voltage	3 x 380-415D V
Rated current	4.9 A
Starting current	600-660 %
Cos phi - power factor	0.79-0.73
Rated speed	1450 rpm
IE Efficiency class	IE3
Motor efficiency at full load	86.7 %
Motor efficiency at 3/4 load	87.7 87.2 %
Motor efficiency at 1/2 load	87.6 85.6 %
Number of poles	4

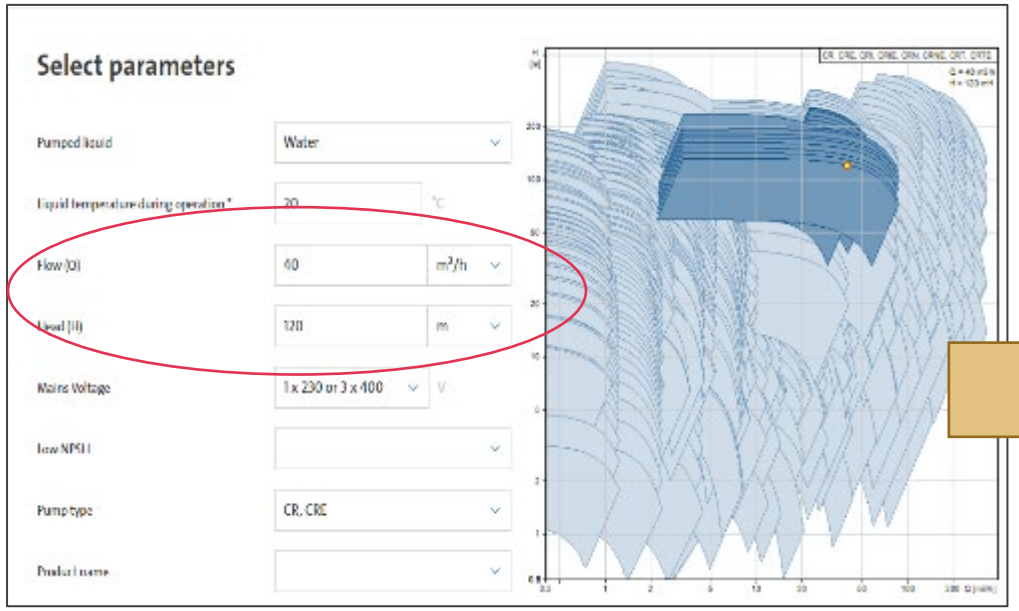




Optimize Sizing Tool

Conventional Sizing

Which pump should we choose when there is 85 models which match your required flow and head?



Optimize sizing tool

Filter sizing selection base on 4 evaluation criteria:

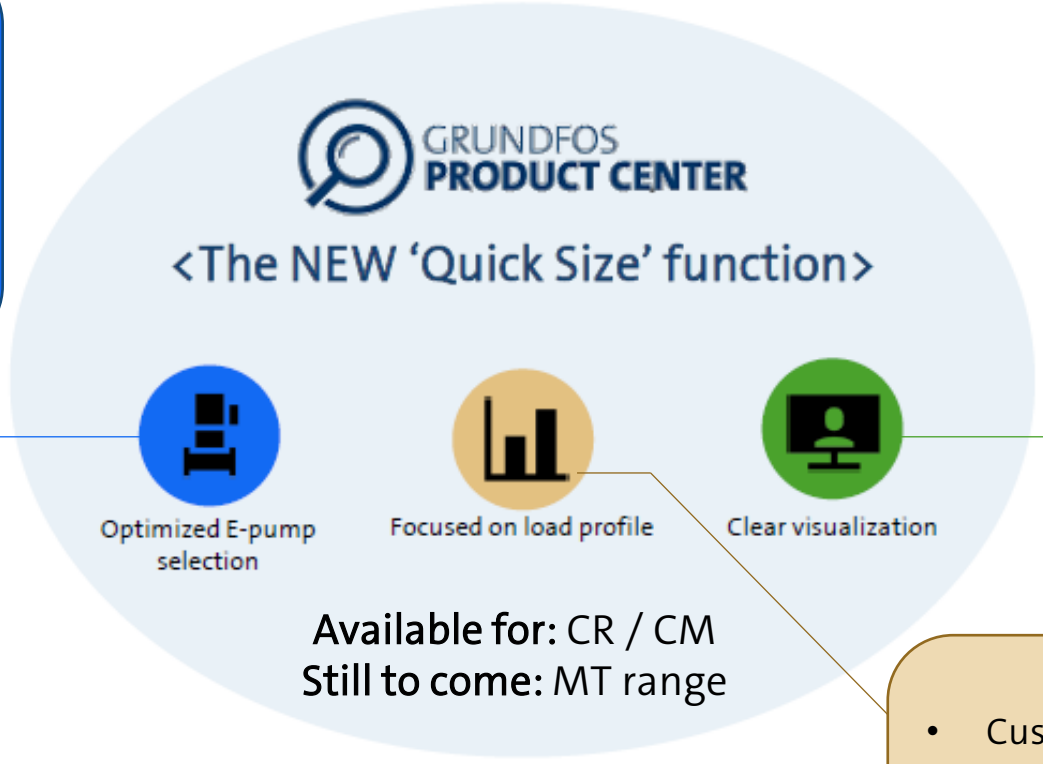
- Lowest Energy Consumption?
- Lowest investment cost (pump cost)?
- Smallest ?
- Lowest life cycle cost (LCC) ?

Final model lock down to max of 4 models only

Curve	Product No	Product name	Life cycle cost [EUR/10 years]	Energy [kWh/year]	Energy costs [EUR /a]	Eta pump [%]	Eta pump+motor [%]
	96122664	CRE 32-6	108694	20035	6411.27	73.6	65.1
	96122665	CRE 32-7	113170	20327	6504.56	72.4	64.2
	96121972	CR 32-12-2	117378	23183	7418.66	62.4	58.1
	96122028	CR 32-12-2	117378	23183	7418.66	62.4	58.1

Comparizon for Optimizing Sizing Function

- Focused on the right hydraulic selection
- Clear overview + comparison (Energy / LCC / Compactness / Price)



Visualizing conventional pump vs Epump (Pump with Inverter):

- Life Cycle Cost (LCC)
- CO2 emissions

- Customizable load profile
- Default profile available:
  > Pressure Boosting
  > Industry
  > Full Load

Move into...
Live Presentation of Tool
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Now.. Let's compare again (w and w/o the optimize function)

BEFORE

Curve	Product No	Product name	Life cycle cost [EUR/10 years]	Energy [kWh/year]	Energy costs [EUR /a]	Eta pump [%]	Eta pump+motor [%]
	96122664	CRE 32 6	108694	20035	6411.27	73.6	65.1
	96122665	CRE 32-7	113170	20327	6504.56	72.4	64.2
	96121972	CR 32-12-2	117378	23183	7418.66	62.4	58.1
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AFTER

Criteria	Product name	P2 [kW]	Energy [kWh/year]	CO2 emission [kg/Year]	Life cycle cost [EUR/10 years]	Price index	Pump + motor length [mm]
Lowest LCC	CRE 32-7	18.5	28264	16100	113589	145	1561
Lowest energy	CRE 32-7	18.5	28264	16100	113589	145	1561
Lowest price	CR 45-6-2	22	38850	22100	140276	100	1621
Most compact	CRE 45-4-2	22	37184	21200	143152	151	1461

Q&A Session
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Thank You!
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