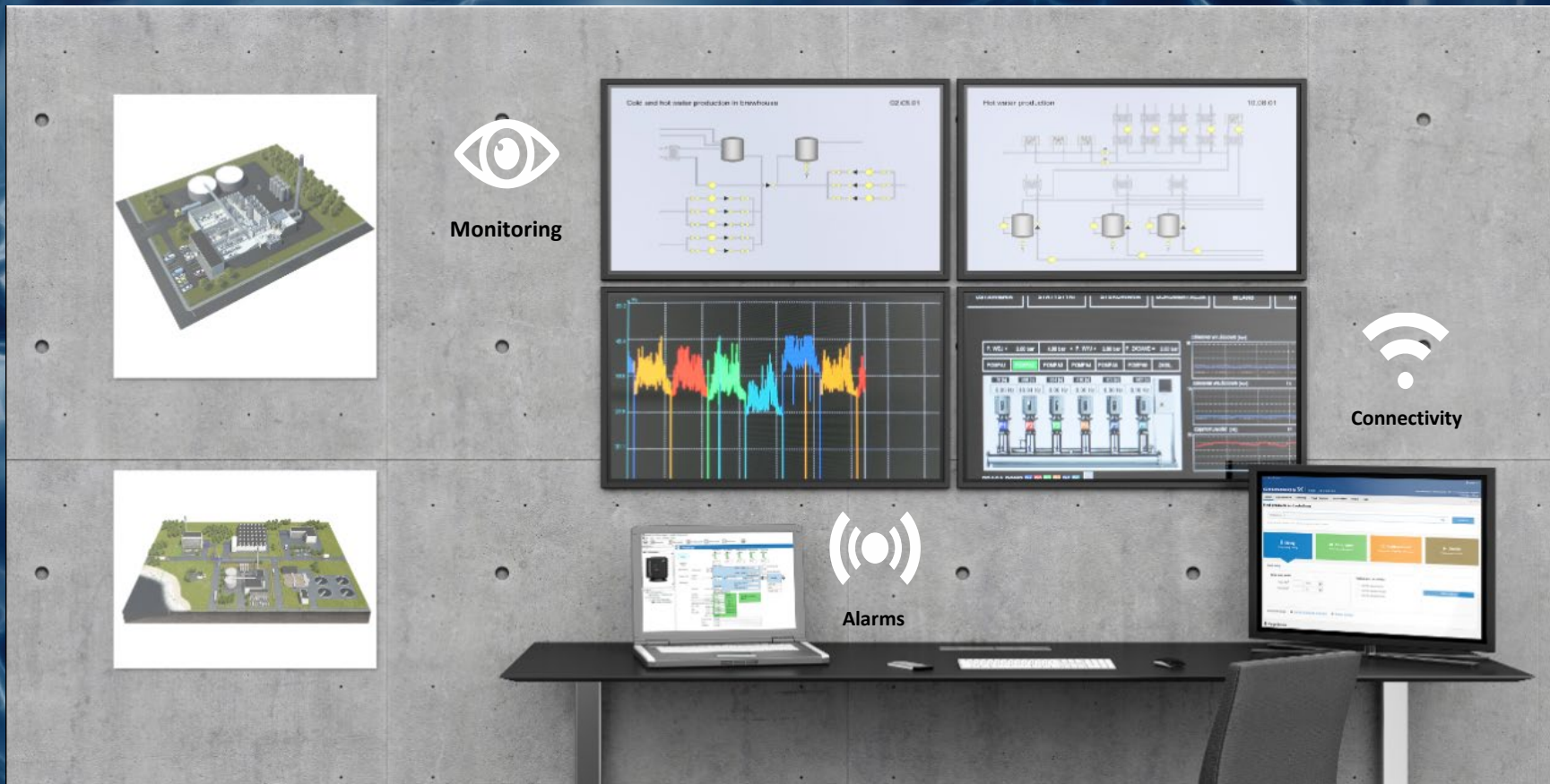


Grundfos iSOLUTIONS

Iqbal Prastowoadi
Regional Product Manager
Multistage, Motor, Drive

John Hong
Sr. Project Proposal



GRUNDFOS iSOLUTIONS

National Dealer Conference 2025 - GTI



Roadmap digitalization 2030

- Focus market F&B, Automotive, Chemical, Electronic, Textile
- PIDI 4.0 (centre for innovation and digital technology development)
- Indonesia 4.0 Conference & Expo



Energy Management system

- Total company register in ESDM -



National Lighthouse Industry 4.0

- Total 15 companies certified in 2024 (3 F&B, 3 Mobility, 3 HI, 6 Chemical)
- 3 companies represent Indonesia in Global Lighthouse Network – WEF (World Economic Forum) wave 12

Grundfos iSOLUTIONS



CONTROL

Hydro-MPC
Control MPC
Control DC
LC231/241



COMMUNICATION

Modbus RTU/TCP
Profibus / Profinet
BACnet
LON
Ethernet IP
3G/4G

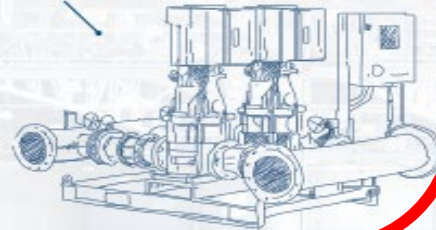


INSTRUMENTATION

Pressure
Level
Flow
Temperature



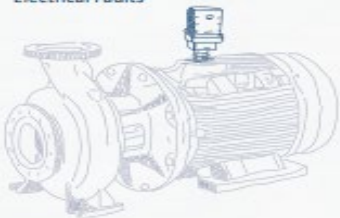
E-PUMPS



Digital Services

GMH

Unbalance / Misalignment
Rotating Mechanical Looseness
Vibration
Temperature
Magnetic Field
Bearing Wear
Electrical Faults



GIM

Vibration
Temperature
Dry Running
Cavitation
Whater Hammer
Unbalance
Motor Speed



Grundfos Pumps

We have the largest portfolio in the market



CR



NB(G)/NK(G)



MACHINE
TOOLS



DOSING &
DISINFECTION



BMS

And much more...

Pump as a Service



RENTING/RENTAL

Pay a monthly fee to use one of our pumping systems. We include transfer and commissioning, maintenance, guarantee and also the uninstall service and the return when the contract is over.

GRUNDFOS ENERGY EARNINGS

Forget about investments! We invoice you a monthly fee depending on your energy savings. When the contract is over, pumping equipment will belong to you.

FLOW/PRESSURE-AS-A-SERVICE

Pay a monthly fee and Grundfos will ensure the Nominal Flow or Pressure agreed with you. No matter the equipment we need for that. During the given period of time, Grundfos will maintain and guarantee the equipment. When the contract is over, pumping equipment will belong to you.

Service Offerings



SERVICE
AGREEMENTS



SERVICE
OPERATIONS



REPAIR
SERVICES



OPTIMIZATION
SERVICES

Product segmentation by power motor

Product type

E-pump (E)

E-Motor (EM)

Drive (D)

BMS

- 3 Phase, 380-500V, 3 - 355kW
- Potential market Power Generation, Mining, Pharma factory

DDA-C

- Remote set up using Grundfos Go
- Embedded Modbus RTU and Modbus TCP

CME

- CME XL (CME32-2) launch in Q4 2025

CRE/CRNE/CRIE

- 90 PNs CRE (0.37-15 kW) with segmentation B in GSI
- Standard range is 4000 RPM (CRE/CRIE/CRNE 1 – 20)

MGE saleable

- 19 PNs ready for saleable
- std voltage MGE: up to 26kW
- LV MGE: up to 11kW [Japan/Taiwan/Korea]

NB : New MGE model J (2.2 -11 kW)

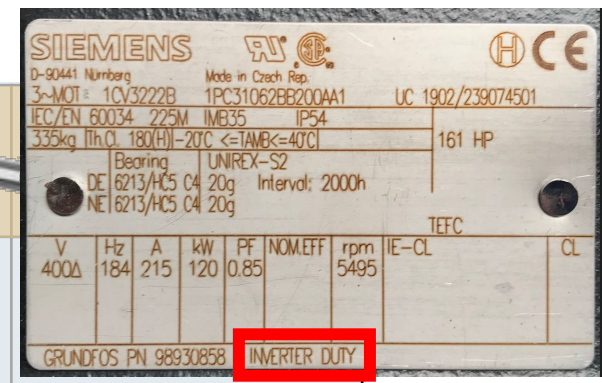
CUE

- Three Phase, 380-500V, 0.55-560kW
- Fast track :
 - 10 PN in GSI (0.55 kW – 30 kW, 380-500V)
 - Up to 75 kW in DCN

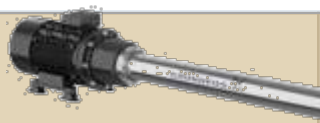
CUE Bundle

- Started in Q3 for product above 7.5 kW

$$REEP2 = \frac{E + D + EM}{E + S + M + EM}$$



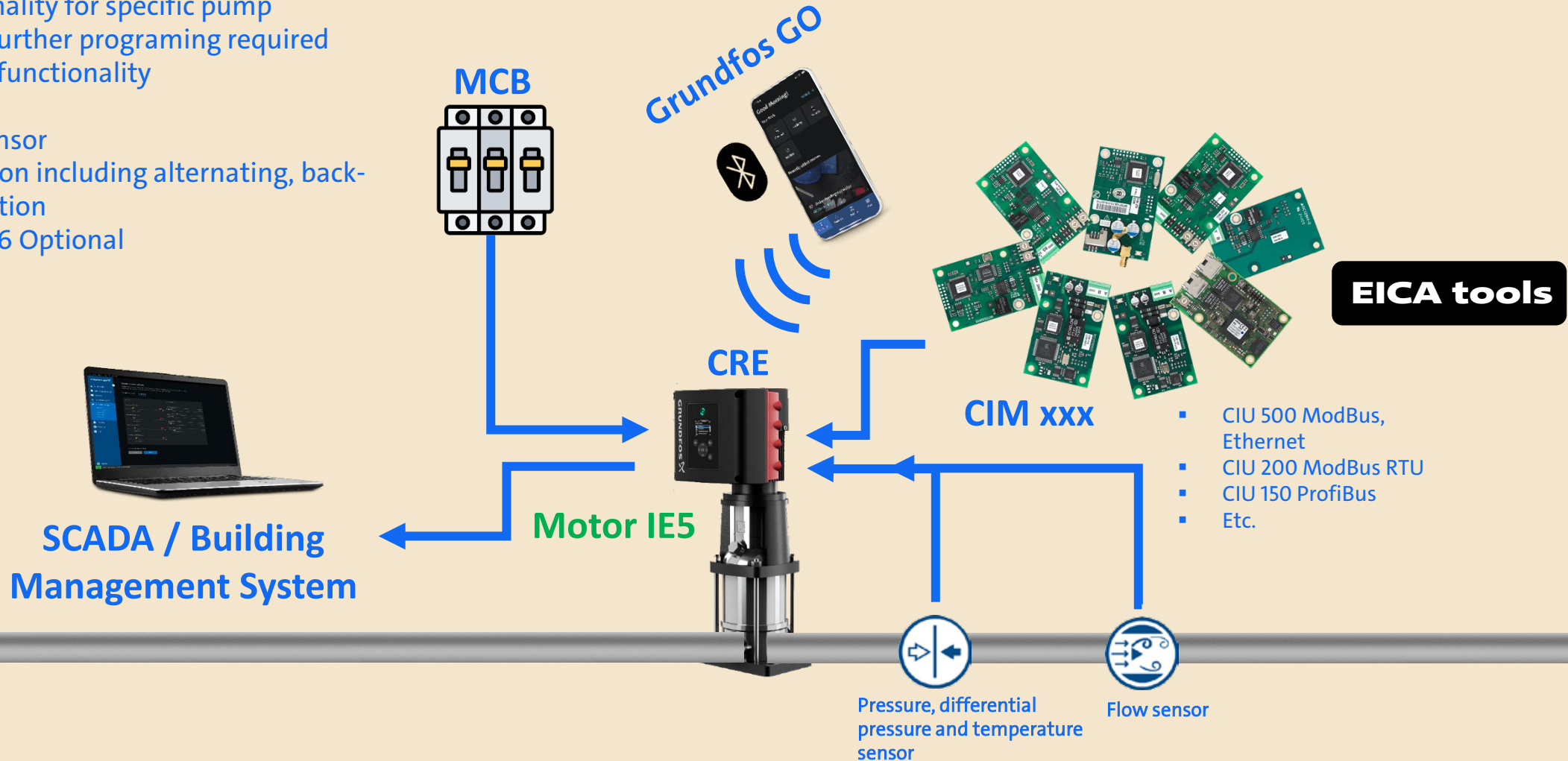
5,5 kW 11 kW 22 kW 26 kW 45 kW 90 kW > 90 kW



Installation - iSolutions with ≤ 26 kW

Advantage of MGE :

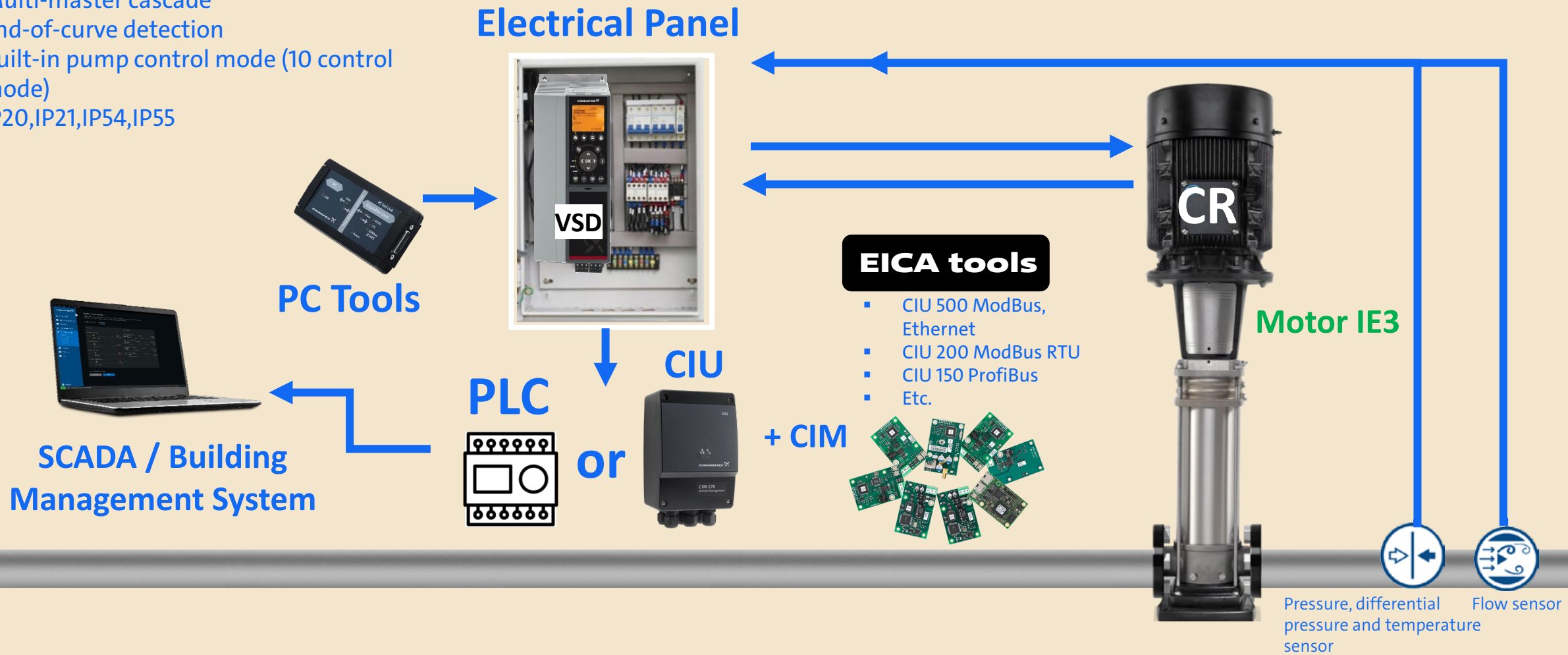
- Reduce CAPEX in installed components & wiring cost
- Dedicated functionality for specific pump applications – no further programming required
- Advanced I/O and functionality
- Built-in protection
- Input for LiqTec sensor
- Multi-pump function including alternating, back-up or cascade function
- IP55 Standard , IP66 Optional



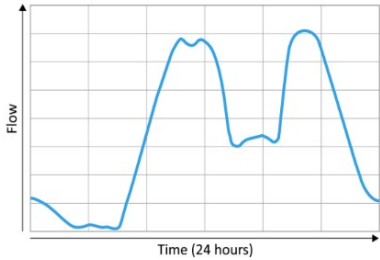
Installation - iSolutions with ≥ 26 kW

Advantage of CUE :

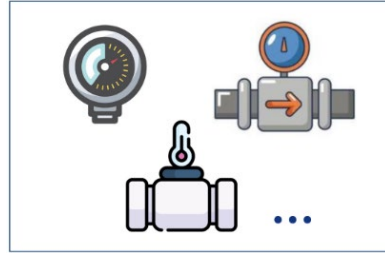
- Sensor less flow and head calculation
- Multi-master cascade
- End-of-curve detection
- Built-in pump control mode (10 control mode)
- IP20,IP21,IP54,IP55



When to use CUE ?



Flow can fluctuate over time

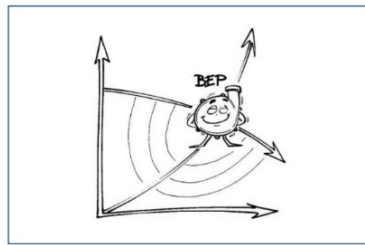


Keep Constant any variable

Application

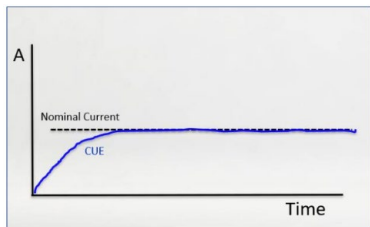


Limit Water Hammer, system pressure and leakages

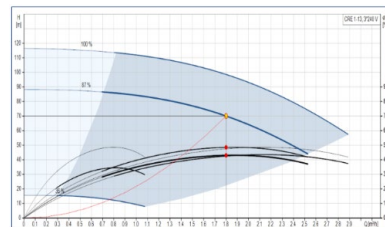


Run on Best Efficiency point

System



Never overpass "Nominal Current" in start



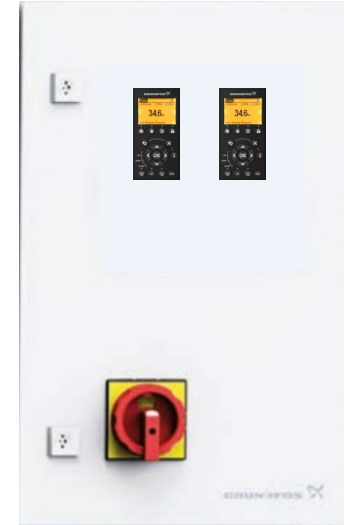
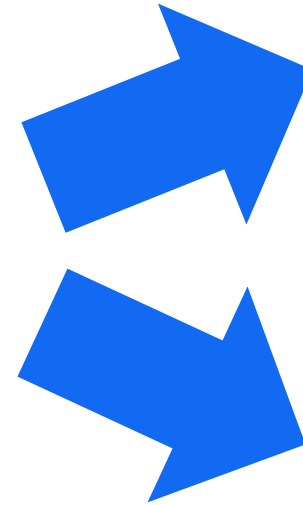
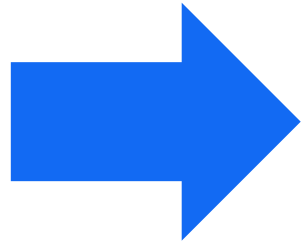
Pump can't run at 100% speed

Design Requirements



- 70% S-pump controlled by other VSD
- Improve energy cost
- Improve condition of the system

Feature of CUE



Feature of CUE

CUE range, Multi pump module MCO 101

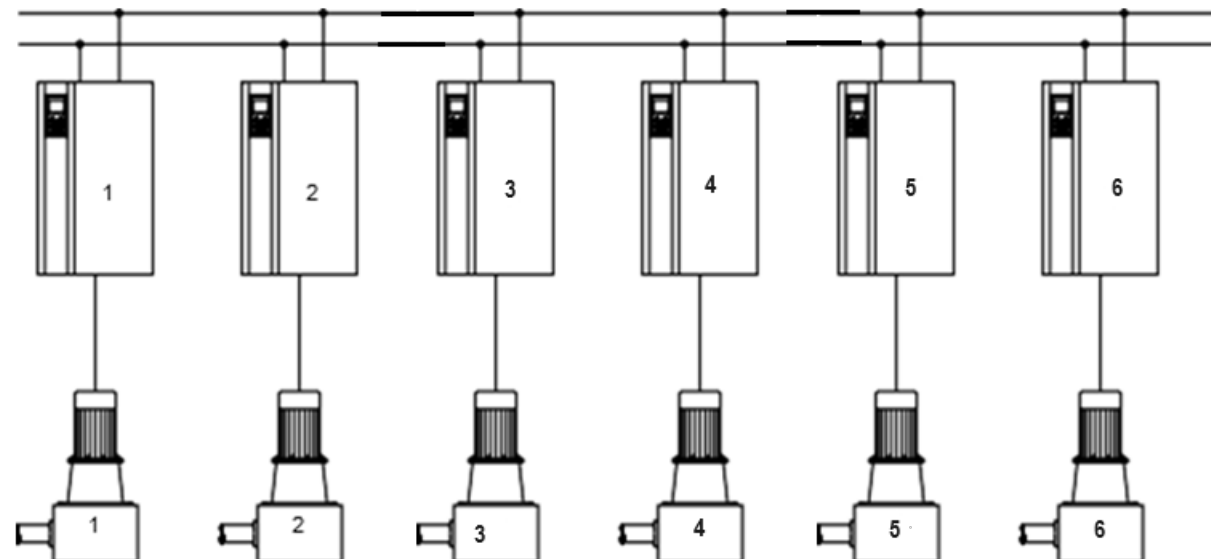
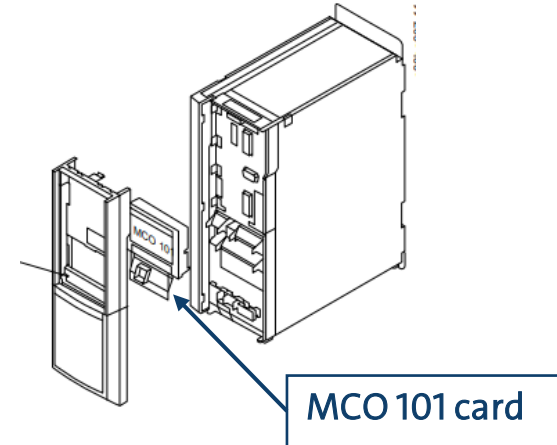
If more than two pump in cascade a MCO 101 card will be required.

The card is installed in pump no 1.

CUE is connected via the Modbus RTU protocol

The variable speed function is then set by choosing “Variable speed only” in the start up guide, followed by the total number of pumps in the system.

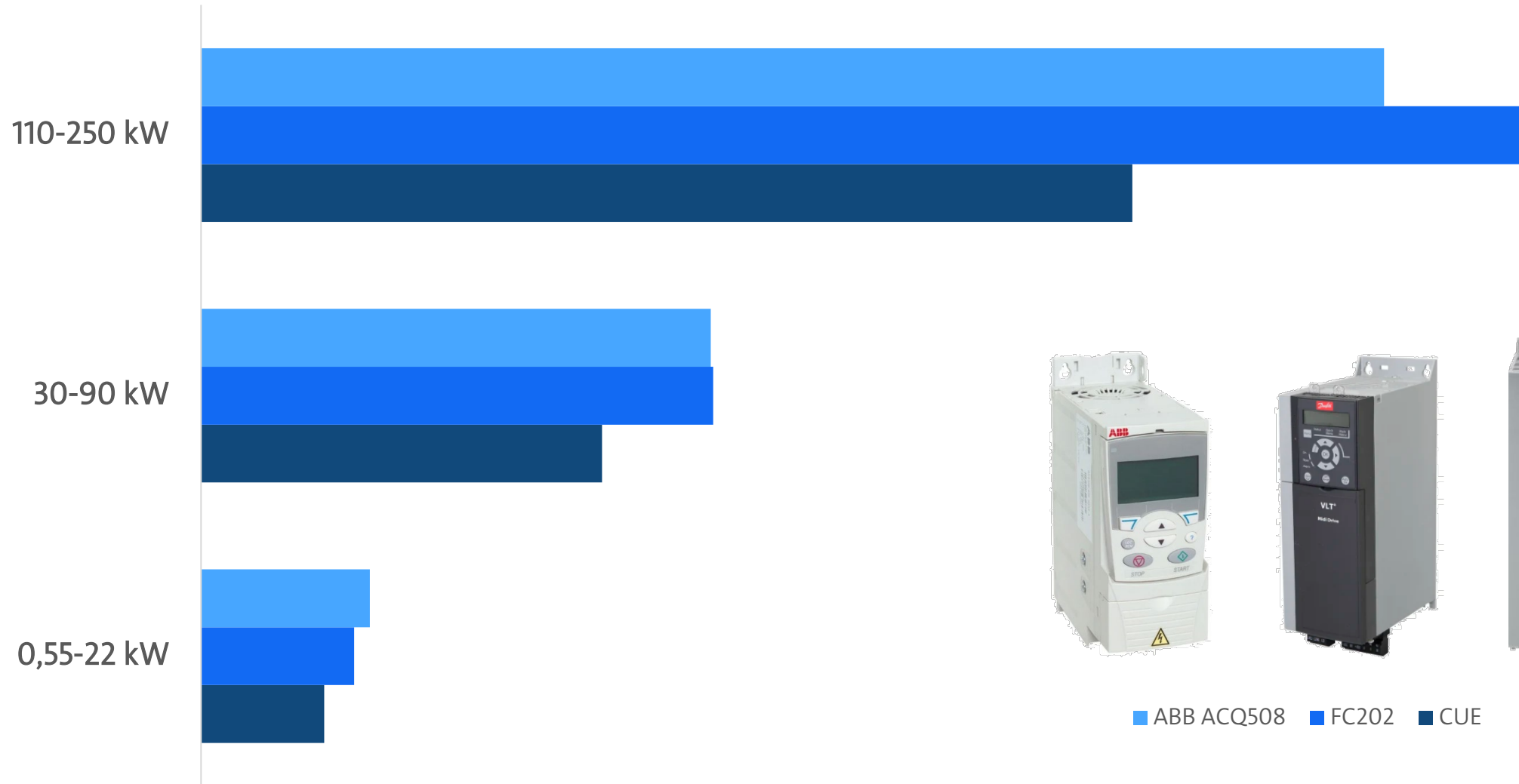
Note: If the CUE hosting the MCO 101 card is out of operation they system will not work



Comparison

				
I/O and Communication	built-in pump control mode	2 Digital Outputs Terminal number: 27, 29 Voltage level: 0-24VDC	2 Digital Outputs Terminal number: 27, 29 Voltage level: 0-24VDC	N.A.
Pump Control	built-in pump control mode	Open loop Constant Pressure Constant Flow Constant level Constant temperature Constant differential pressure Constant other value Proportional differential pressure Sensorless proportional differential pressure Sensorless constant differential pressure	Open loop	Open loop Level control
	Multi Pump Control	multi-master cascade, support up to 8 pumps Variable & Fixed Speed	multi-master cascade, support up to 8 pumps Variable & Fixed Speed	Intelligent Pump Control(IPC) support multi-master, support up to 6 pumps
	Protection	End-of-curve detection Check valve protection Low-flow detection	End-of-curve detection Check valve protection Low-flow detection	N.A

Price Comparison



■ ABB ACQ508 ■ FC202 ■ CUE