Not all pumps are the same – a wide variety of applications with different requirements

### Water / waste water pump

- Maximum efficiency
- Optimum control of partial load ranges
- Special pump protection functions

### Eccentric screw pump

- Maximum starting torque
- High overloads
- High accuracy over the entire speed setting range

### Lubricant pump

- High dynamics
- Precise dosing
- Precise tuning

### Multi-pump operation

- Maintaining a constant supply pressure
- Even load distribution and wear reduction
- High failure safety and reliability

### Hydraulic pump

- High starting torque
- Dynamics
- Maintaining a constant pressure
- High protection class and vibration resistance

### Compressor

- Maximum eficiency even at high speeds
- Precise adjustment to specific process variables using PID controllers

No matter what requirements your pump application entails, the INVEOR MPP fulfills all of them in the best possible way and also saves costs.


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DRIVES TECHNOLOGY

KOSTAL

# INVEOR MPP

## The performance frequency inverter with advanced pump functions.

**Highest efficiency, flexibility and future-proof.**


Smart connections.

# INVEOR MPP

## General features

- Maximum efficiency
- Starting torque
- Speed control range
- Overload
- Low duty variant
- Motor-mounted
- All motor types
- STO
- Future-proof
- Automatic motor identification

## Special pump features

### Dry-running protection

- Prevents a pump from continuing to run without a pumped medium
- Immediate shutdown and error message
- Protection of the pump against defect, overheating and wear

### Blocking detection

- Detecting a blocked drive
- Immediate shutdown and error message
- Protection of the frequency converter and the motor

### PID controller

- Precise control to the desired process variable
- Energy saving, prevention of engine heating, reduction of wear and tear

### Multi-pump operation

- Demand-driven control of up to 6 pumps in a master-slave network
- Constant supply pressure with fluctuating delivery quantities
- Reduced wear, longer pump life
- High failure safety and reliability

## Special features

### Pump display NEW

- Control on the basis of pump-specific process variables
- Pressure or flow directly adjustable

### Smart Sensor NEW

- Acceleration sensor for detecting vibrations in the application
- Provision of data for predictive maintenance

### Bidirectional IOs NEW

- Bidirectional IOs can be assigned as inputs or outputs as desired
- Greatest possible flexibility in the use of inputs and outputs

### Temperature sensor input NEW

- Possibility to connect a PT1000 resistance temperature sensor
- Temperature monitoring and control in the application

## Future-proof

Compatible with numerous control environments

CANopen, EtherCAT, PROFINET, MODBUS RTU, sercos the automation bus, EtherNet/IP, Bluetooth, MQTT, IoT READY, Download on the App Store, GET IT ON Google Play

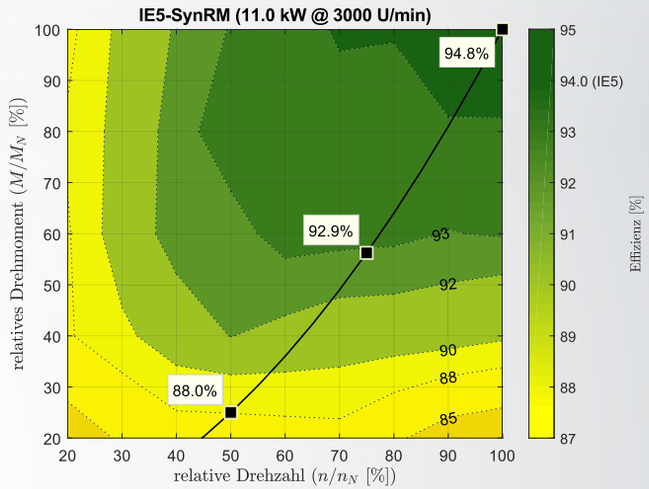
## Control of all motor types:

- Freedom and flexibility in motor selection
- Independence from rare earths when using synchronous reluctance motors

## Energy saving with INVEOR MPP and flexible motor selection

The efficiency of a motor-inverter combination can be visualised using efficiency diagrams as a function of speed and torque.

### SynRM with INVEOR MPP




### Example load profile:

11kW motor, operation 80h/week, of which 20h is partial load operation at 50% speed, 100% torque

- Significant savings effect due to inverter in partial load operation
- Stronger effect of motor efficiency in combined operation of partial load and nominal operation
- Amortisation of the higher investment costs for inverter and high-efficiency motor through energy savings within a few months*

| | ASM on the mains | ASM + INVEOR MPP | SynRM + INVEOR MPP |
|---|---|---|---|
| Return on Investment (ROI) | – | 11 mths | 10 mths |
| Energy savings in combined operation **per year** | 0 | 4.300 kWh<br>**Savings inverter** | 5.700 kWh<br>**Savings inverter + efficient motor** |

* based on average market prices