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ifm Solution for Pump Station Reliability



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ifm Solutions for Pump Station Reliability



Common challenges in a Pump Station

- Motor and pump sets breakdowns have a significant impact in the company's ability to deliver water to the consumer and in most cases comes with a huge price tag, fees, loss in production and the inability of the organization to deliver water to the consumers.
- A reactive approach means machines are run to failure and influences the ability to deliver the water demand.
- Lack of process information leads to poor equipment availability and poor water quality.
- Human protection in order to face the challenger of maintain facilities that never stop and always requires as much as possible of equipment availability.

What solutions does ifm offer?

We offer online technology to monitor the pumps condition, which includes:

- Predictive monitoring of bearings, gears and electric motors;
- Monitoring of rotating pump parts;
- Cavitation monitoring of pumps rotor and valves;
- Monitoring of the water basin level;
- Monitoring of the water pressure, temperature and flow rate at the pumps outlets.



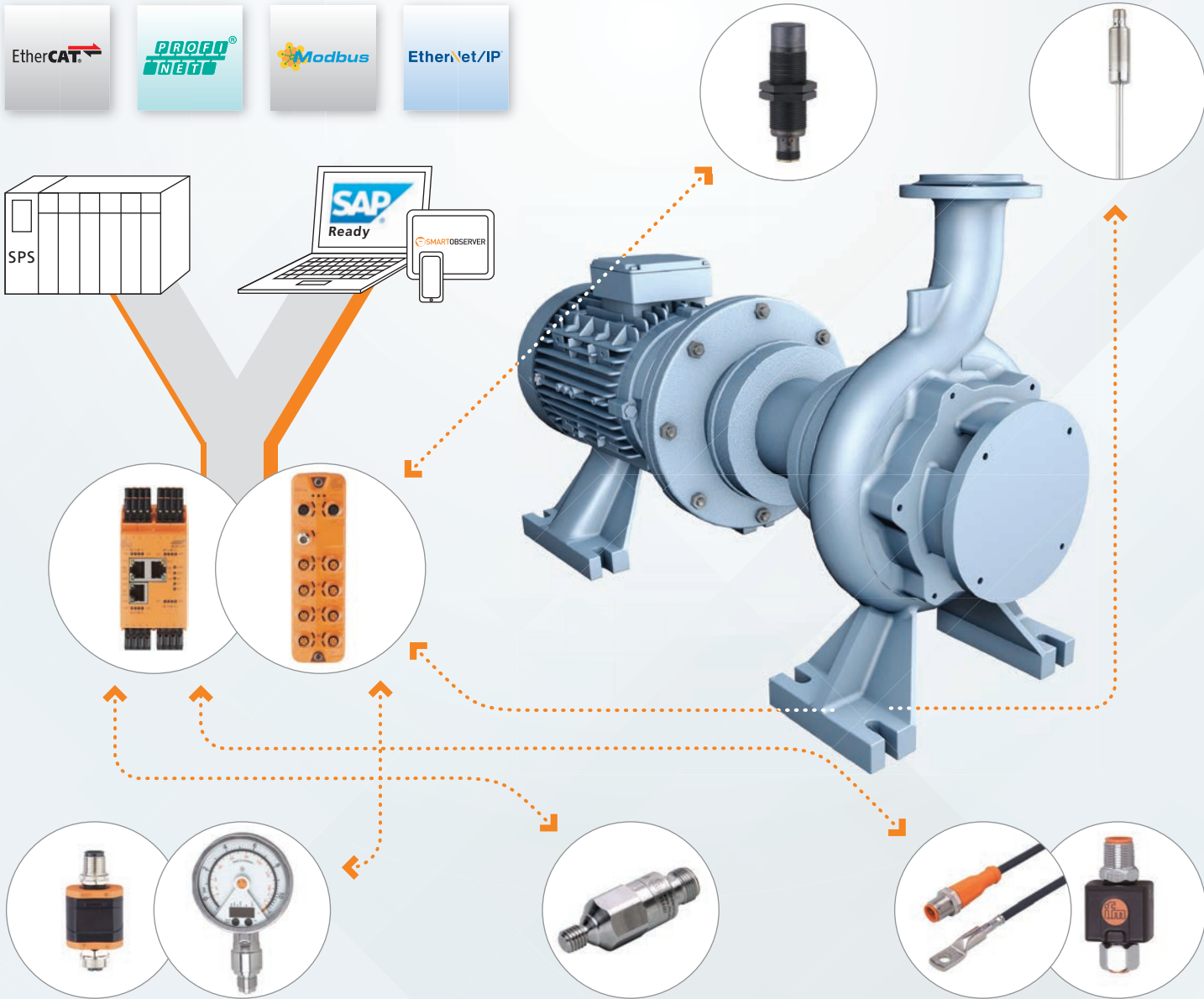
How to ensure process quality?

Successful refurbishment of pump stations contributes to the process quality. Energy efficiency can be achieved for example by replacing 1250 kW motors with the combination of 600 kW motors and state of the art variable speed drives to ensure optimal use of electricity. However such an investment is very expensive and in order to show a fast return in investment water companies needs to implement the latest technologies to ensure the quality. Process quality will only be met by controlling and monitoring the variables like level, pressure, temperature and flow.



Equipment and human protection

Condition monitoring can prevent catastrophic failure. Monitoring your equipment condition will allow you to stop the motor and pump set in the early stages of failure. Early detection mean you are able to protect your assets from damaging beyond repair and prevent failures that could cause unwanted injuries. Monitoring bearing wear, unbalance, misalignment, cavitation and running hours allows you to do proactive maintenance rather than reactive maintenance.



How to maintain process availability?

A smart wiring solution called IO-Link allows you to take all the information to your shop floor (PLC) and top floor (SCADA, MES and ERP). IO-Link is your gateway to Industry 4.0 and provides the possibility of cloud based solutions.

The hardware and software components allow direct networking of all connected sensors and actuators with a local server via an Ethernet network. Using this connection, machine data, process parameters and diagnostic data can be directly read and processed by the IT.

Item	Quantity	Description
VSE151	1	Diagnostic Unit Ethernet IP
DN4013	1	Power Supply 24V DC 10A
PS3417	1	Level Sensor 6m
IGW201	1	Speed Monitoring
PG2454	2	Pressure sensor 10bar
TA2241	2	Temperature Sensor
TP3231	6	Converter
AL1122	2	IO-Link Master Ethernet IP / 8 ports
VSA001	4	Vibration sensor
DP2200	2	Converter
TS2229	1	Temperature Sensor

Application
Package
Suggestion!