Energy-saving systems #Cloud

Equipped for IIoT and Industry 4.0 with Höcker Polytechnik

HÖCKER® POLYTECHNIK

Always one idea ahead

Networked worlds, clouds, usability and efficiency. Control engineering made by Höcker Polytechnik

When the technology in your MultiStar filter system knows what the processing machines demand, every kilowatt of energy is used for its intended purpose and you are informed about the system status at all times, we could talk about our control technology. We could tell you about clouds, apps, networking, PLCs and performance gains through state-of-the-art technologies. There's a lot of know-how in all this technology, and we'd rather talk about the people who master it.

It is our electrical engineers who develop an intelligent network from the latest technology and thus generate added value for our customers every day. They are highly trained, highly motivated and enthusiastic about what makes sense and is technically feasible.

Their developments ensure efficiency in modern workshop operations or optimise processes in industrial production facilities. And all of this, of course, in a user-friendly and secure manner with intra-/internet and cloud connections, apps and many other features.

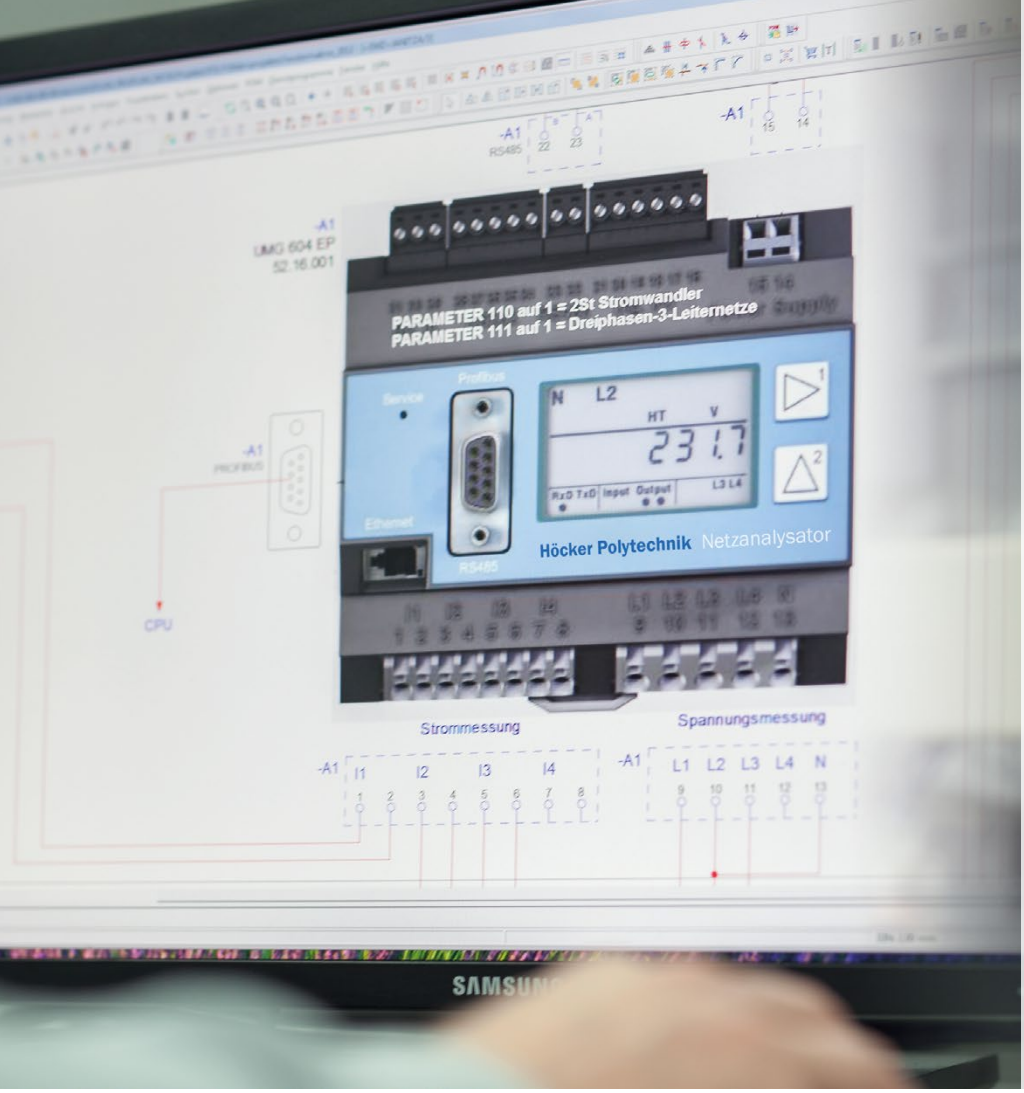
We are ready for Industry 4.0 and will be happy to support you in your steps into the networked future.

Modern times!
Or exactly the technology that serves you

That is our actual understanding of Industry 4.0.
The technology must benefit you and your company.
Without compromise. Just the way you want it.

With a Höcker Polytechnik system you get:

- a system that is individually tailored to your company
- control technology that automates operational processes
- easy-to-operate technology
- energy-efficient components and controls
- competent technical support
- a fast return on investment



Höcker Polytechnik is certified according to ISO 50001

The Höcker energy management system has been certified according to ISO 50001. Our PLC experts are focused on saving energy and we know of course what enormous potential lies in unused energy.

It pays off for you!

Energiemanagement ISO 50001
www.dekra-siegel.de
DEKRA zertifiziert

Benefit from automated processes, Energy efficiency and information advantages

Every unnecessary move and every pointlessly operating motor costs money. We are team players and implement your requirements in such a way that it pays off for your production and your company. Fully automatic disposal processes, networked machine connections, vacuum systems with continuous power adjustment, heat recovery, energy-efficient motors, monitoring systems and many other features noticeably reduce your personnel and energy costs. The optional preventive maintenance programme includes important system updates and hardware checks, thus ensuring the reliable operation of your Höcker system. All this pays off for you.

We know your industry and are aware of the special features of your machinery. Our project managers will show you on site how your requirements can be implemented most efficiently and integrate the new Höcker system into your existing IT infrastructure.

This gives you access to our experience from many similar projects and technology security. And if the framework conditions are right, you can also benefit from subsidies. We are happy to support you there as well.

Control systems from Höcker Polytechnik are used in the following industries:

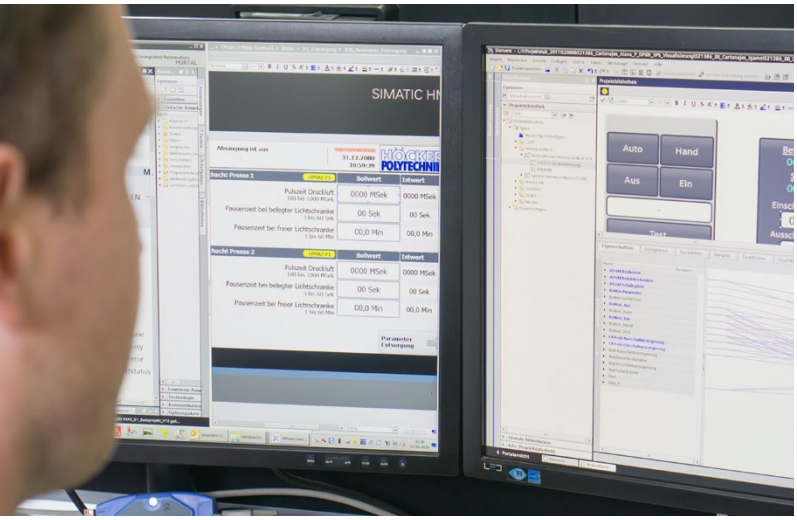
- paper, cardboard and printing industry
- woodworking and wood processing
- plastics processing
- furniture industry
- metal trade and industry
- automotive industry
- recycling companies
- public institutions

and many more

The optimal basis:
Programming. Implement. Implement on site.
Our electrical engineering implements your wishes!

At Höcker Polytechnik, we have been focusing on innovative control technology for many decades. This makes our systems more functional, user-friendly and energy-efficient. As a DIN EN ISO 50001 certified company, we know how to tap into the important savings potential together with you and many intelligent energy and productivity features.

And since no control cabinet is an island any more, we integrate our control technology into clouds, apps or your network. With maximum security.



Planning and programming

Our well-trained programming team will develop your specific control system on the basis of current standards. This ensures reliable operation and is future-proof.

- well-trained and experienced programming team
- development tools EPLAN, SIEMENS Tiaportal and others
- Siemens PLC as control centres
- integration of energy measuring centres
- visualisation for a quick overview
- integration into existing infrastructure
- support of OPC UA, Modbus-TCP and PROFINET
- competent service via remote maintenance
- DIN EN ISO 50001-compliant design

Control cabinet construction

Set up and connect. Our electrical engineering team team will implement your requirements for an optimal control control system.

- ISO 9001 certified company
- use of Rittal® enclosures with all the available equipment features
- industry-specific versions (stainless steel) possible
- standard-compliant connection of all control components
- tested and, of course, with quality assurance
- optional UL 508a / CSA 22.2-compliant design and implementation
- commissioning by qualified personnel
- incl. comprehensive documentation

Electrical installation

What was planned will work - our electrical installation teams make sure of that. On request, they will install all control components at your site.

- our electricians are regularly trained
- no assignment without a project briefing in advance
- equipped with modern testing and installation equipment
- minimised downtime during installation
- team players with your company electricians

The important add-ons:
Devices, apps, cloud connection. Well networked!
Secure access to your system!

With products and support from Höcker Polytechnik, you are prepared for the Industrial Internet of Things (IIoT) and the challenges of Industry 4.0.

Increase your efficiency by integrating your Höcker Polytechnik system into your your process landscape. We support you with our know-how and offer you the necessary interfaces. You are thus prepared for the digital future.

Analysis modules and visualisation

Always keep a clear view of your energy balance and the status of your plant. Solutions from Höcker Polytechnik give you the decisive knowledge advantage.

- Höcker analysis modules in the control cabinet provide you with an overview of the relevant data. From consumption to voltage qualities, vibration monitoring to residual dust monitoring. Consumption histories can also be viewed, of course
- visualised systems make it easier for you to operate your system and provide you with a quick overview
- remote maintenance option with secure VPN connection

Cloud access and apps

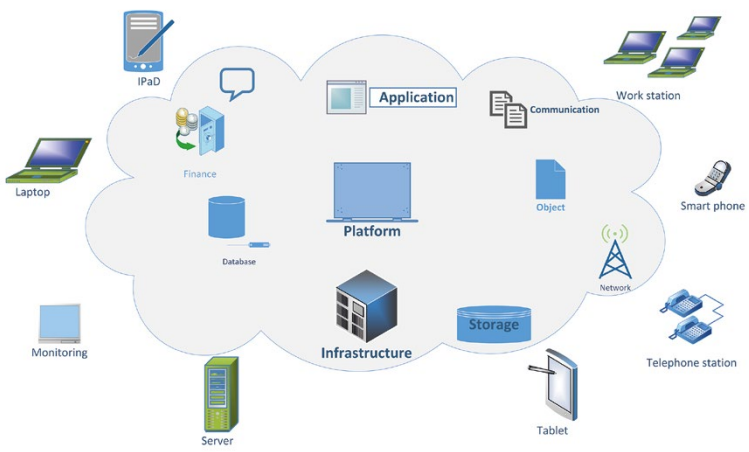
More comfort. More security. Act instead of react. Stay in contact with your Höcker system at all times and be informed or warned at an early stage.

- Höcker cloud solutions give you uncomplicated access to status reports and consumption analyses
- we're tapio ready. Höcker Polytechnik products offer the interface to the tapio system for woodworking.machine, tool manufacturers and many more use the same technology platform with tapio and offer services and digital solutions on tapio that you can use
- Janitza GridVis Cloud Connection

IIoT and Industry 4.0 ready

Increase your operational efficiency and optimise your processes with Höcker products. Networked production worlds create new freedoms.

- we like to put an IP stamp on our products. This makes them accessible in the network and part of the processes
- we support you in integrating your Höcker system into your existing system architecture



Lower your energy costs!
Produce sustainably and profitably and create competitive advantages. We support you!

Even Höcker Polytechnik cannot overcome the limits of physics, but we push these limits again every day with all our technical possibilities. This creates more output for your production, saves resources, the environment and reduces your energy consumption. That is quite simply good and, above all, profitable.

The Höcker Polytechnik 5-step savings program:

1.
Analysis, planning and system design

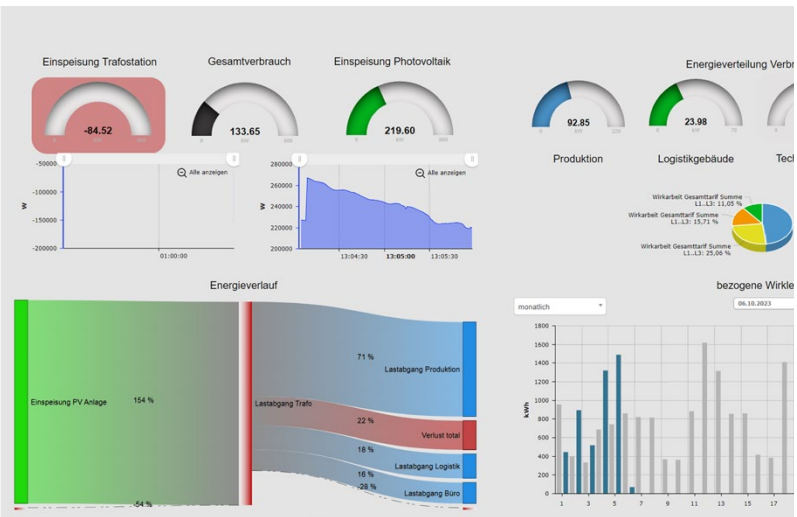
Energy costs can only be reduced later on with a well thought-out air routing, correctly placed components and a lot of experience and industry knowledge.

Therefore, especially the initial discussions with our customers and the various specialist departments at Höcker are decisive for the effectiveness of all measures.

2.
The components. Quality pays off

Saving money the right way starts with a wise investment. We rely on brand-name products that later stand out for their high system availability and make optimal use of every kWh.

These include energy-efficient motors (IE4/IE5), fans with high efficiency, frequency converters, sensors, control cabinets from leading brand manufacturers and, of course, powerful PLC controls.



3.
Sensors and monitoring tools

PLC-coupled sensors reduce the energy consumption of the entire system. If, for example, a machine is switched on in production, the filter system ramps up the output.

This reduces energy consumption and, combined with monitoring and analysis tools, provides more overview and safety.

4.
Sophisticated control

A Höcker Polytechnik control system is programmed to fit seamlessly into your production and is easy to operate via panel or web.

This ensures smooth processes and increases the efficiency of the entire plant through components that are operated at their ideal operating points.

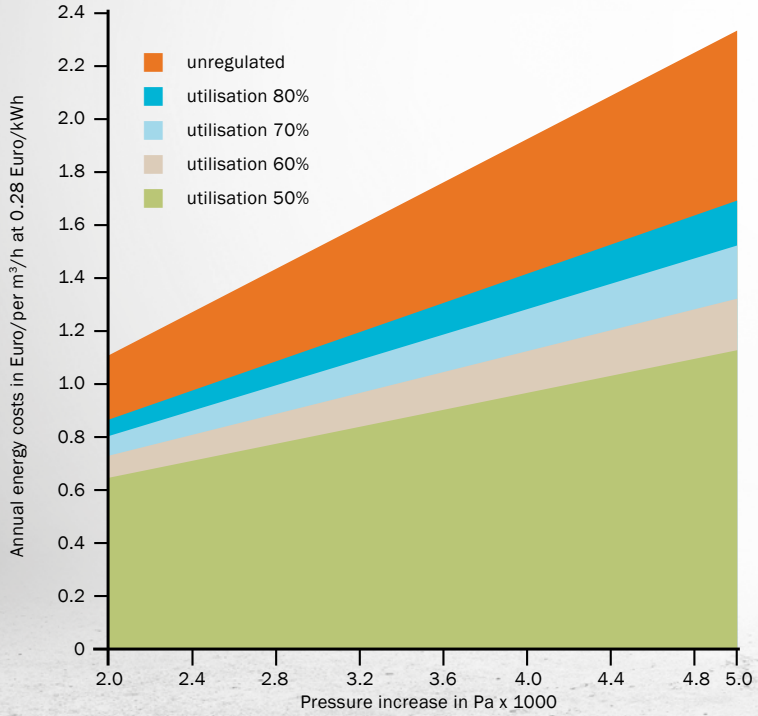
5.
Reducing power consumption by up to 60% with frequency converters

Ventilation and heating systems are among the largest energy consumers in production, especially because of the electric motors. Here, the use of frequency converters in combination with slide controls on the processing machines pays off. The motors are started up in a controlled manner, the air volume is continuously adjusted to the demand and the motors require less power.

In this way, the power consumption of electric motors can be reduced by up to 60%. Höcker Polytechnik successfully uses this technology as standard.

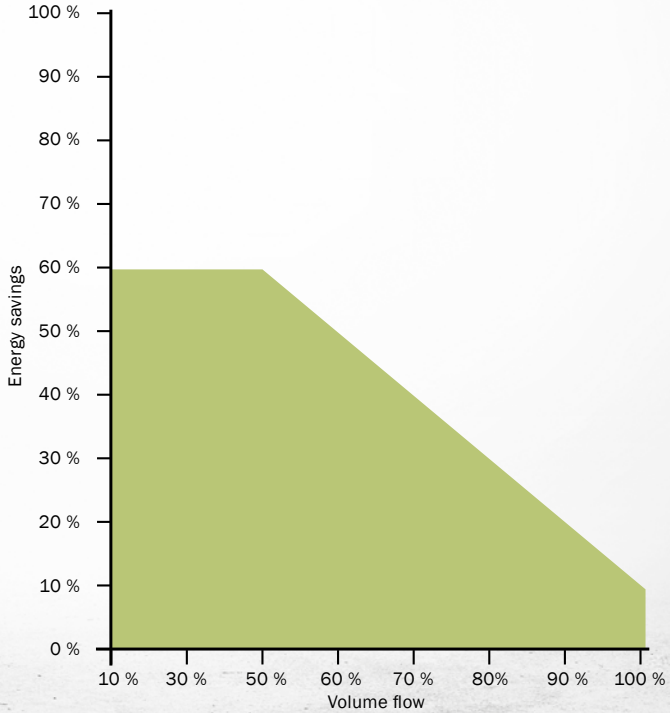
Facts and figures. Frequency converter.

Annual energy costs per m³/h extraction air volume as a function of the total pressure increase at different utilisation levels.



The graph shows the effect of frequency control in euros and cents. The higher the required pressure increase of the fans, the higher the energy costs per m³ of extracted air volume. But also the savings potential through the use of frequency converters when the system is only partially utilised increases with increasing pressure increase.

Energy savings depending on the volume flow.



Conclusion: The greater the air volume and the greater the total pressure increase and the greater the control leeway, the greater the cost savings. The graph on the right shows the savings potential of up to 60 % compared to unregulated systems without energy-saving sliders.

Höcker Polytechnik power analysers

The analysis modules from Höcker Polytechnik provide you with access to all logged and current consumption information of your system via intranet or web app.

With your knowledge of the energy turnover, you can recognise possible savings potential at an early stage and have all the information you need to optimally parameterise your system.

Höcker Polytechnik analysis modules	MEM	PLC+
LCD	●	●
Measured value display	●	●
Data storage - local	●	●
Data storage - cloud	–	◑
GridVis Basic	●	●
HMI visualisation	–	●
APP for measured value display	–	●
Web server / e-mail	–	●/◑
Installation in control cabinet front	●	–
Installation on top-hat rail	●	●
UL certified	●	●

● as standard ◑ optional – not available

Energy-efficient machine extraction

Reduce the energy consumption of your filter system to the absolutely necessary minimum while still good extraction efficiency.

Intelligent extraction solutions from Höcker Polytechnik reduce the energy input and optimise the extraction performance.

The suction lines on the machines are equipped with PLC-coupled sliders. When the machine is switched on, they request a defined extraction power, the frequency converter in the control cabinet continuously increases the power of the energy-efficient motors in the filter house and when the machine is switched off, the motor also shuts down.

2009/125/EG
The European Union's Ecodesign Directive is intended to improve the energy efficiency and environmental compatibility of electrical appliances.

Future-oriented Environmental awareness can pay off for you as a consumer and for the environment.

Implement the Ecodesign Directive and benefit from subsidies

Höcker Polytechnik complies with the Ecodesign Directive.

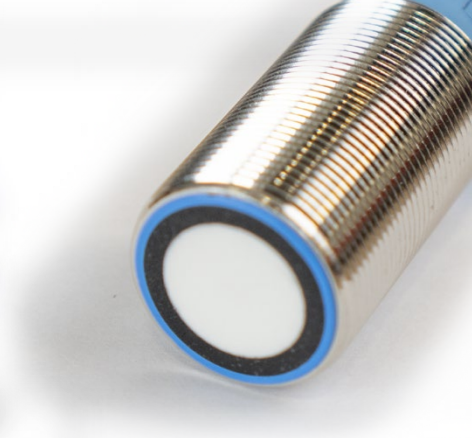
We combine innovative fan design and energy-efficient motors with efficiency-enhancing frequency converters.

1. The clean air fan

Höcker Polytechnik fans are the quiet and reliable heart of your ventilation system.

The flow-optimised impeller design is specially developed for each application and thus achieves the optimum efficiency.

Sensors! Intelligent controls



Correctly positioned and sensibly networked sensors automate processes and increase and increase plant safety. They are the senses of your PLC and see, hear and smell for you. In this way, you receive the important information with which you can can act instead of react in the future. We will be happy to assist you.

Monitoring of filling levels

- **Level sensors in discharge modules of filter systems** activate the discharge process when a minimum filling quantity is exceeded and stop the filter process when the maximum filling quantity is exceeded.
- **Fill level sensors in silos and containers** transmit the actual fill level or a full message.

Air quality control

- **MultiSens sensors** monitor the air quality in work areas for particles and chemical residues,
- **Residual dust monitors** constantly monitor the quality of the air recirculated into the factory halls.
- **Filter guards** monitor the condition of the filter material and the function of the cleaning system.

Sensors for safety and security

- **Light barriers, motion and presence detectors** our standard in all safety-relevant areas as a matter of course.
- **Door and flap sensors** allow operation only when the system is properly secured,
- **Function monitoring of fans** prevents concentrations of explosive substances.
- **Weigh sensors** stop conveyor belts as soon as unusual weight changes are registered.

Preventive maintenance / Process reliability

- **Sensors for detecting vibrations** of fans provide an early warning in the event of running irregularities. In this way, major damage can be prevented. In redundant operation, a reserve fan is automatically activated and production can continue.
- **Rotation sensors** monitor discharge operation.
- **Sensors for maximum pressure limitation** prevent overloading of filter systems.
- **Flow guards in transport pipelines** report creeping blockages.

Productivity and quality

- **Temperature and humidity monitoring** for controlled and recordable coating and drying processes in the coating area.
- **Counting and weighing sensors** monitor briquette quantities.

Furthermore

- There are sensors for almost every application. If there is a sensor and it creates added value for you, then we will be happy to integrate it into your system.

2. The motor

It all depends on the right choice of motor and the technology. A motor that is too powerful or overloaded is an electricity guzzler.

Our experts benefit from 60 years of practical experience in the construction of ventilation systems. The right motor type with energy-efficient technology (IE4/IE5) optimises efficiency.

3. The frequency converter

The use of a frequency converter reduces the current consumption of the fan by up to 60%, enables stepless operation and protects the motor.

Höcker Polytechnik meets the requirements of the Ecodesign Directive by combining these three efficiency-optimising components.

Maximise efficiency, Integrating subsidies

With the use of efficiency-increasing products from Höcker Polytechnik, you benefit from reduced energy costs.

Special government subsidy programmes promote your commitment and thus ensure a quick amortisation of the project.

We will be happy to support you with the application process. Talk to us.

IIoT, interfaces and compatibility.
We help you to integrate your Höcker Polytechnik products into your network. With security!

Your Höcker Polytechnik system can do more. With the right PLC programming and smart interfaces, you are informed 24/7. We integrate your system with 5 tools. That pays off for you.

Real-time monitoring
Cloud connectivity enables real-time monitoring of processes and assets, shortening your response times.

Remote access
With the cloud, users can access process data from anywhere, you work more flexibly and efficiently.

Data storage and analysis
Data is stored securely in the cloud and can be used for later analysis, making it easier to optimise your processes.

Scalability
The solution is easily scalable.
If your requirements change, the system grows with you.

Reduced downtime
Better monitoring minimises downtime and improves the overall efficiency of your plant.

Cost savings
Cloud-based solutions reduce infrastructure costs.

Automation
Automated process control and notifications facilitate management and cost monitoring.

Improved decision making
Future investments can be made based on real-time data and consumption histories.

Future proof
The technology remains current and can be expanded with new developments.

Integration
Integration of PLC and cloud provides a seamless solution for process visualisation.

FlowChief

Process control system
Operate, log and monitor all processes of your extraction system.
Of course, also via app.

Siemens

WinCC Unified
Your panel can do more. Mirror the control surface of your panel to any current web browser.

tapio

Platform for the wood industry
Integrate your Höcker Polytechnik products into the tapio world.
We're tapio ready!

OPC UA

Communicate freely
Standardised data protocol for the connection from the machine to the cloud.

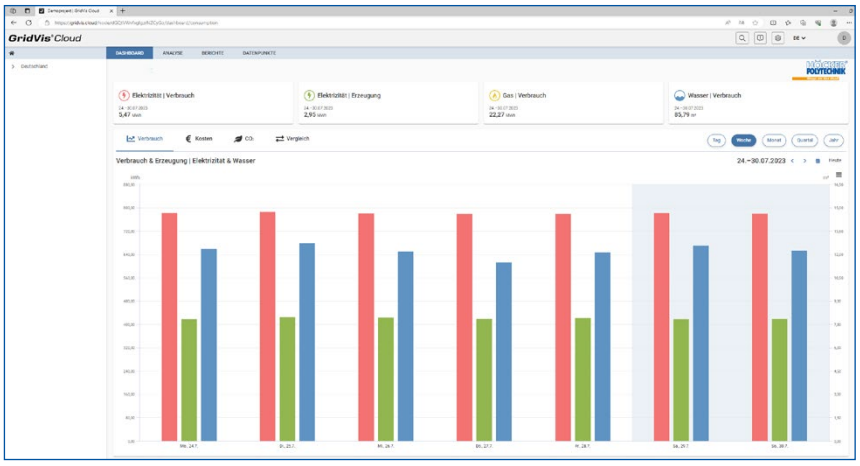
GridVis →

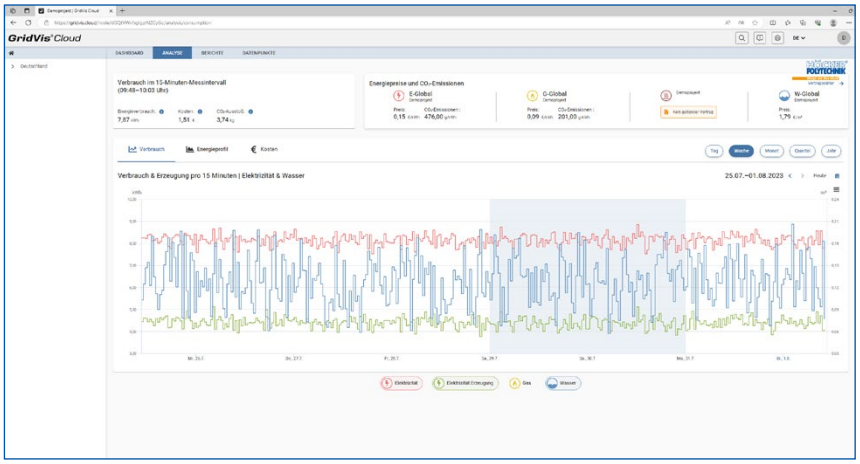
GridVis® Cloud. Energy monitoring made easy

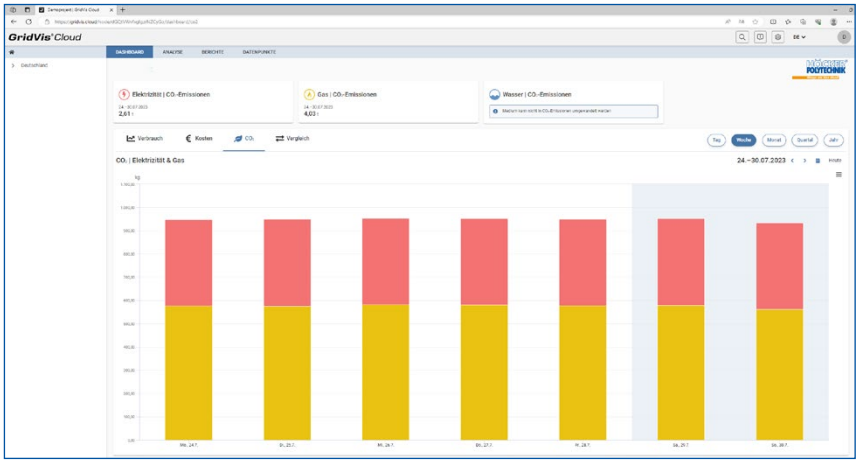
Cost and consumption control for electricity, gas and water incl. CO_2 balance sheet

Cloud Connectivity for your Höcker Polytechnik system

It is the perfect add-on for your Höcker Polytechnik system. Combine the hardware in the control cabinet with the software in the cloud and benefit from optimal cost control, consumption analyses, long-term recordings and much more - simply and securely via the internet, around the clock and no matter where (internet required).







Cloud is as simple as that!

Hardware and software

- cloud Connector, mini PC in robust industrial housing with many features, installation in the control cabinet possible
- UMG measuring devices for data acquisition.
- licence for Software-as-a-Service. Cloud-based software - no server and no installation necessary
- secure data processing on European cloud servers

Platform-independent

- web application for PCs and mobile devices
- tablet-optimised display
- access via internet without VPN
- software-as-a-Service as a web application
- measurement data storage on European servers

Resources

- monitor your electricity, gas and water consumption with meters
- software-based evaluation of your CO_2 balance

Automated

- automatic readout of energy consumption data.
- time synchronisation via the application (alternative for NTP)
- online recorder for software-based measured value recording, also enables evaluation of measuring devices without measured value memory
- third-party products (Modbus TCP/RTU) can be integrated

Visualisation / Dashboard

- individually designable web pages with the dashboard editor
- predefined dashboards (filtered display on one measuring point)
- design using the drag and drop principle
- list function with hierarchy (project structure with levels), search and filter function, device overview
- energy and measured value analysis with graph function on the web, aggregation function, comparison periods

Individual

- the Höcker Polytechnik team supports you with the design and adaptation of your energy monitoring system

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