

## Immediate connection to experts:

### GERMANY / EUROPE

**DIEFFENBACHER GMBH + CO. KG**  
Heilbronner Straße 20  
D-75031 Eppingen  
Germany

**Michael Meergraf** – Spare parts / Service

Phone: +49 (7262) 65-477  
Fax: +49 (7262) 65-100

Cell: +49 (175) 224 5400  
E-Mail: michael.meergraf@dieffenbacher.de

**Stefan Zipf** – Modernization

Phone: +49 (7262) 65-624  
Fax: +49 (7262) 65-660

Cell: +49 (160) 972 48980  
E-Mail: stefan.zipf@dieffenbacher.de

### AMERICA

**DIEFFENBACHER NORTH AMERICA, Inc.**  
9495 Twin Oaks Drive  
Windsor, Ontario N8N 5B8, Canada

**Andy Killing** – Spare parts / Service

Phone: +1 (519) 979-6937 ex.119  
Fax: +1 (519) 979-6803

Cell: +1 (519) 995 0784  
E-Mail: andrew.killing@dieffenbacher.ca

**Colin Folco** – Modernization

Phone: +1 (519) 979-6937 ex.116  
Fax: +1 (519) 979-6803

Cell: +1 (519) 564 4262  
E-Mail: colin.folco@dieffenbacher.ca

### CHINA

**DIEFFENBACHER BEIJING**  
Sci tech, Unit 1305, 13th Floor  
22, Jianguomen Wai Dajie Beijing  
China

**Liu Shouhua** – Sales & Services

Phone: +86 (10) 6522-0935  
Fax: +86 (10) 6522-0936

Cell: +86 (13) 901 013042  
E-Mail: dboliu@dieffenbacher.com.cn

### SOUTH-EAST ASIA

**DIEFFENBACHER ASIA PACIFIC**  
SDN. BHD.  
Unit #11-02 11th floor  
Menara Multi-Purpose, Capital Square  
No. 8 Jalan Munshi Abdullah  
50100 Kuala Lumpur, Malaysia

**Andy Müller** – Spare parts / Service

Phone: +60 (3) 7490-0183  
Fax: +60 (3) 7490-0184

Cell: +60 (17) 609 1992  
E-Mail: andy.mueller@dieffenbacher.com.my

## Competent services – worldwide



90-0000-001450 - Änderungen vorbehalten - Bloch & Partner - 0407 - 06 - K&P

# DIEFFENBACHER

[www.dieffenbacher.com](http://www.dieffenbacher.com)

## Customized consulting, rapid services – worldwide

Customized service strategies for predictive and preventative maintenance, are typical services offered by Dieffenbacher. This includes extensive training capabilities, competent and rapid reacting service centers with spare and wear parts inventory located in Europe, America, South-East Asia and PR China. Modernizations and conversions to increase productivity and improve quality complement the range of services from Dieffenbacher. One special feature is the Dieffenbacher Online Service (TEO) with real-time access to the plants for maintenance, troubleshooting and technological assistance.

The global service network guarantee Dieffenbacher customers can always contact the experts rapidly. Our specialists advise you quickly and without red tape. Service centers with extensive inventory located in Germany, North America, South-East Asia and China provide for smooth and quick response to customers needs.



Michael Meergraf  
Senior Service Manager  
Panel Division (le.)



Stefan Zipf  
Manager Modernization  
Department, Panel Division (ri.)



Service center with spare parts inventory in Windsor, Canada



With our global presence in the service area, Dieffenbacher can offer our customers extensive service and service packages in close proximity to all of our customers mill sites.

All service centers offer exceptionally high levels of service quality which our customers have grown to expect. Qualified and experienced technicians satisfying all customer service requests, whether it is on site or online via the Dieffenbacher Tele Online Service (TEO).

Spare and wear parts are available at all service centers and intelligent logistic systems allow rapid part deliveries, if required.

Our global warehouses contain critical components in the areas of gluing, forming, pressing and finishing.

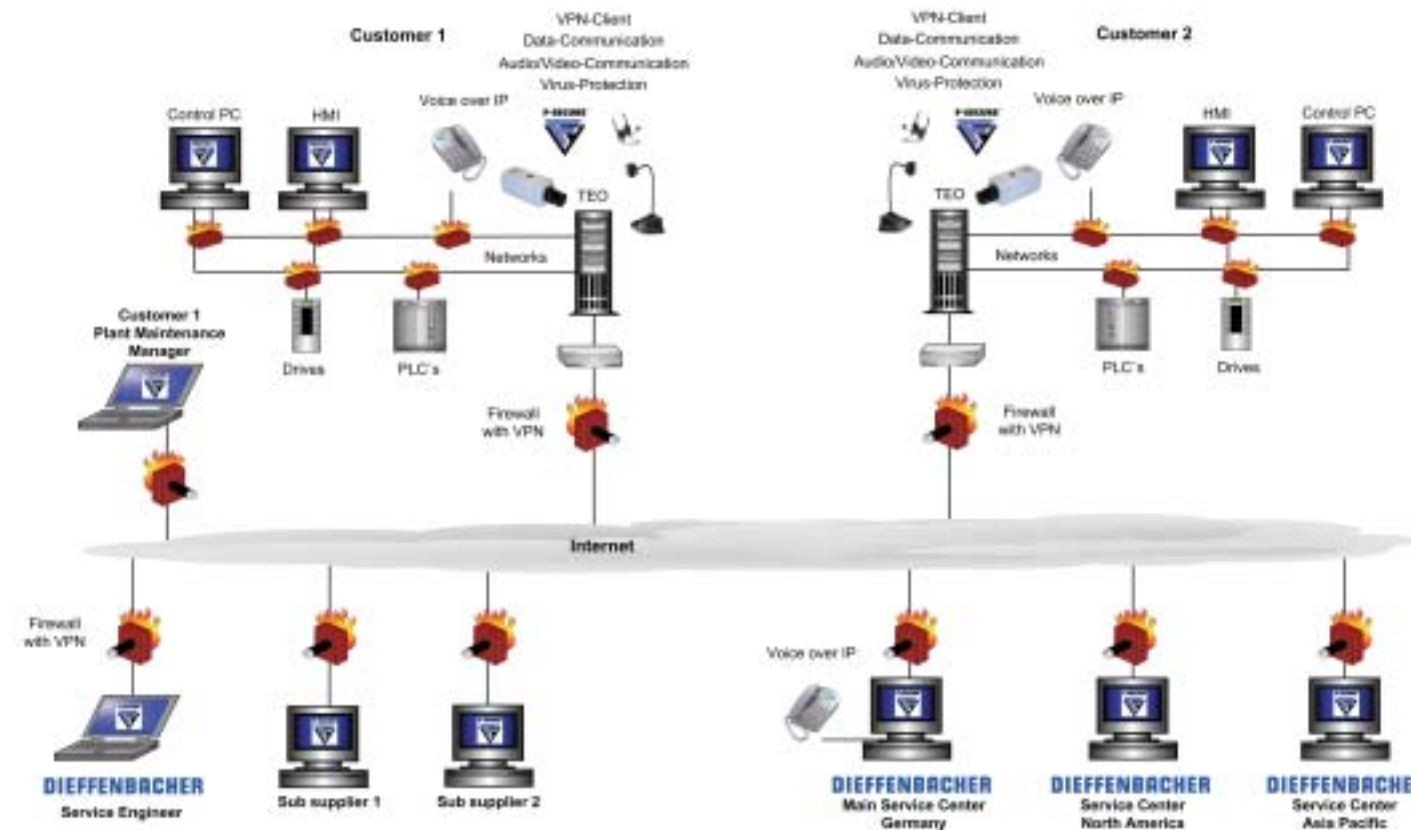
This allows customers to be supplied efficiently and quickly. Sharing technical product information within all worldwide Dieffenbacher service centers achieves optimal service for individual clients.

## TEO Tele engineering online – better than to travel

For 10 years, the TEO at Dieffenbacher has been in continuous use as a service tool and is used by 60 customers. It has been possible to rectify 79 % of all malfunctions using the online service. Furthermore, 91 % of the service cases have been diagnosed and then the corrective or repair work has been carried out by the customer's own personnel. The range of services offered by the Teleservice now covers all technical and technological aspects of the production lines. These include, amongst other things,

- Remote maintenance
- Remote conferencing
- Remote monitoring
- Remote diagnosis
- Remote control
- Voice over IP

Setting up a virtual workplace at Dieffenbacher allows all specialists to access all the relevant information about the machine. Local concentration of specialists from all fields and optimum diagnostic know-how are the basis for quick and reliable assistance. Besides the technical application capabilities of TEO, technological expertise is available to stabilize and increase the individual production quality. Also, sub-suppliers can use the same access technology to create a uniform and defined interface between the customer and all system suppliers.



### TEO SERVICE-LOCATIONS

- GERMANY
- NORTH AMERICA
- SOUTHEAST ASIA
- CHINA

#### Advantages:

- Cost reduction
- 24 h-stand-by service
- Shorter reaction times
- Increased plant availability
- Minimized downtimes
- Increased production
- Multimedia networking
- More precise information, concentration of diagnostic expertise
- Technological assistance
- Improved clarity of operations
- Service whatever the location, worldwide accessibility



In the course of technical innovations (in particularly the broadband Internet connections developed by the industry), Dieffenbacher's Teleservice has been supplemented by additional service components. The automation technology as well as the network and software-based systems are protected by a state-of-the-art, all-round security concept.

This three-stage security concept comprising VPN, firewall and virus protection guards against the ever-increasing danger of virus attack as well as against active and passive access by unauthorized persons. This means the company data on the customer's network is also protected. As a result, the machine, its data and information are protected by the highest levels of security.

Through the integration of Voice over IP (VoIP) technology (which is set to replace conventional telecommunication in the long term), the Dieffenbacher Online Teleservice has created a foundation that will offer our customers additional commercial benefits. VoIP communication has now reached top quality levels and can be used not only between Dieffenbacher and its customers but also independently between the individual locations of corporate groups. In general, it is also possible to exchange data and information between partner companies via secure channels.

Dieffenbacher is prepared for both the advantages and disadvantages of the world of global networking, so that our customers can participate in these innovative technologies now and in the future.

## Personal Condition Monitoring – PCM

PCM is another service in the Dieffenbacher service portfolio. It is for customers who have already implemented the online service successfully over an extended period of time.

Basically, PCM involves monitoring and diagnostic functions from Dieffenbacher service specialists in the area of process engineering, technology, control and automation technology as well as mechanical and hydraulic systems via online service.

PCM is intended to improve the existing processes and operation of our customers. Furthermore, it is intended to locate weak points and avoid potential malfunctions before they happen.

After an extensive check of the production process by an expert team at Dieffenbacher, the potentials for improvement are located and discussed with the customer.

The analysis forms the primary milestone of the improvement process, and PCM is the supplementary tool for this purpose.

### Advantages:

- Increased plant availability
- Avoidance and reduction of unwanted downtime
- Increased product quality
- Training of customer personnel
- Saving raw materials
- More efficient production

## Inspection contracts for plants and machines

### OPTIMUM BASIS FOR PREVENTATIVE MAINTENANCE AND SERVICING

#### Benefits and advantages:

- Maintaining or improving plant serviceability in the long term
- Cost reduction by early detection of problems
- Ability to plan maintenance and servicing
- Analysis of weak points possible through periodic evaluation
- Potential for optimization can be ascertained by periodic evaluation
- More efficient production
- Indirect training of the customer personnel

#### This is used for establishing:

- Deviations
- Faults
- Wear
- Actual operating status

#### Reporting:

- Standardized reporting template
- Based on the documentation in conjunction with experience from our service department
- Provided in digital form

## Training - Competitive edge due to qualified personnel

Increase the productivity of your plant with professionally trained personnel. Benefit from our experience. Lively, practically oriented instruction from our specialists is provided in our own training center or on-site at your plant.

### We offer you training tailored to your plant, with the following topics:

- Basic knowledge about mechanical, hydraulic and electrical systems of our products as well as basic functions of the machines for your new staff
- Product knowledge of the mechanical and hydraulic systems, control cycles of the press computer for further education of experienced maintenance personnel
- Technological knowledge for efficient operation and the best product quality for your operating personnel
- Preventative maintenance for optimum availability and reduction in operating costs
- Diagnostic expertise for rapid troubleshooting



### Advantages from our extensive range of training:

- Increased employee motivation
- Avoidance of operator errors
- Establishment of expert knowledge
- Optimum machine operation

### MODULAR STRUCTURE PLANT COMPONENTS / MACHINES CAN BE SELECTED AS REQUIRED

#### The areas are divided up as follows:

#### Inspections are offered for:

- Continuous belt prepress
- Continuous press system
- Single-daylight press
- Forming station or optional forming line (without spreading machine)
- Multi-daylight press

#### On-schedule compliance:

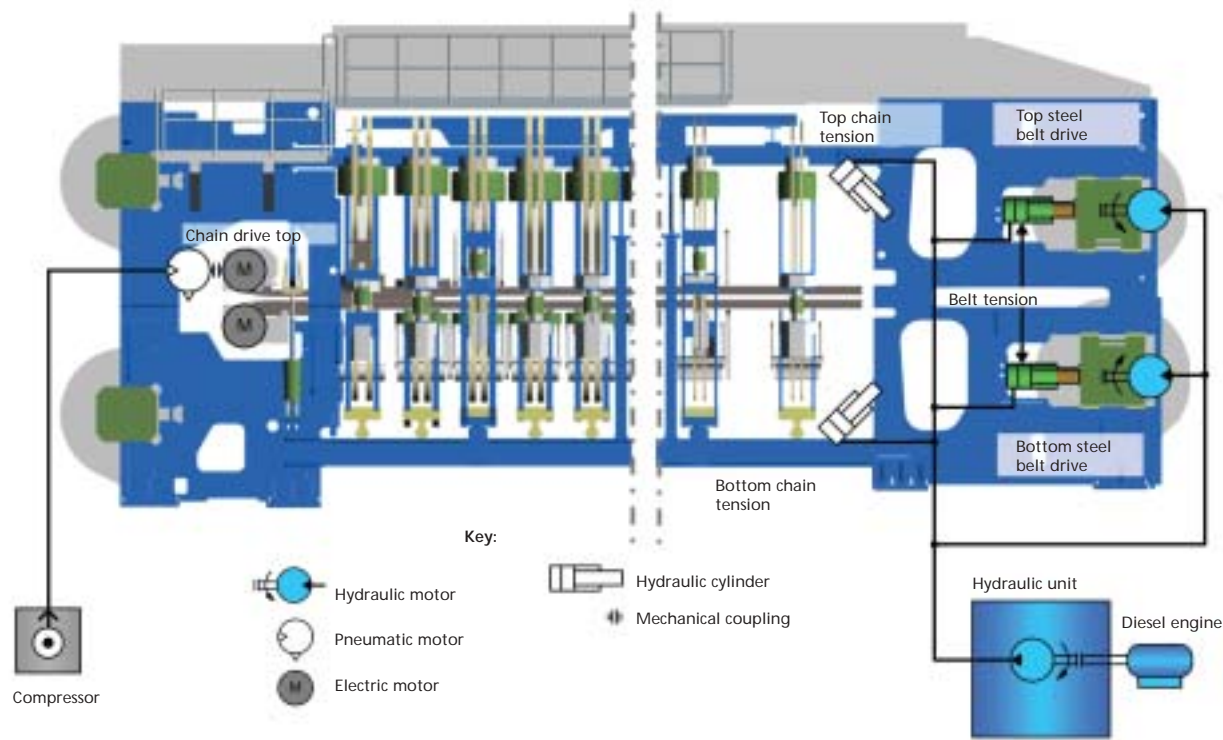
- Performed at least once per calendar year
- Schedule defined by the client
- The duration of the inspection depends on the selected plant components / machines and the downtime specified by the client

#### Personnel requirement depending on the scope of inspection:

- Customer: 2 - 6 people
- Dieffenbacher: 1 - 3 people (at cost)



## Emergency emptying system for continuous CPS presses



The CPS emergency emptying system was developed by Dieffenbacher to allow the new generation of continuous CPS presses (built from 1997 onwards) to be emptied safely, flexibly and rapidly. This is required in emergencies when there are no automation components available (press computer, PLC, electrical power supply, drive technology, etc.) for emptying the press in manual or automatic mode. The CPS emergency emptying system is used as a supplementary and independent unit for reducing downtime.

### Advantages:

- Emptying of the press is guaranteed even if all control components fail
- Increased machine safety
- Increased operating safety
- Increased plant availability
- Independent of automation components
- Rapid emptying of the press (reduced fire risk)
- Reduction in emergency backup power requirement

In case of malfunctions (fire, power failure, etc.) that do not allow the press to empty without significant complexity (cable winch, forklift, etc.), the new emergency emptying system for the press will engage. This system is driven by additional hydraulic motors.

This electrically decoupled system contains all the functions needed for transporting the product fully out of the press. The rolling rods are also carried when the press is being emptied, by means of another pneumatic drive unit on the top chain. This ensures a high level of machine safety because all necessary and required units are driven. Control during emergency emptying is purely by conventional means of synoptic actuation of locking levers in order to switch the corresponding valves and activate the drive units of the emergency emptying system.

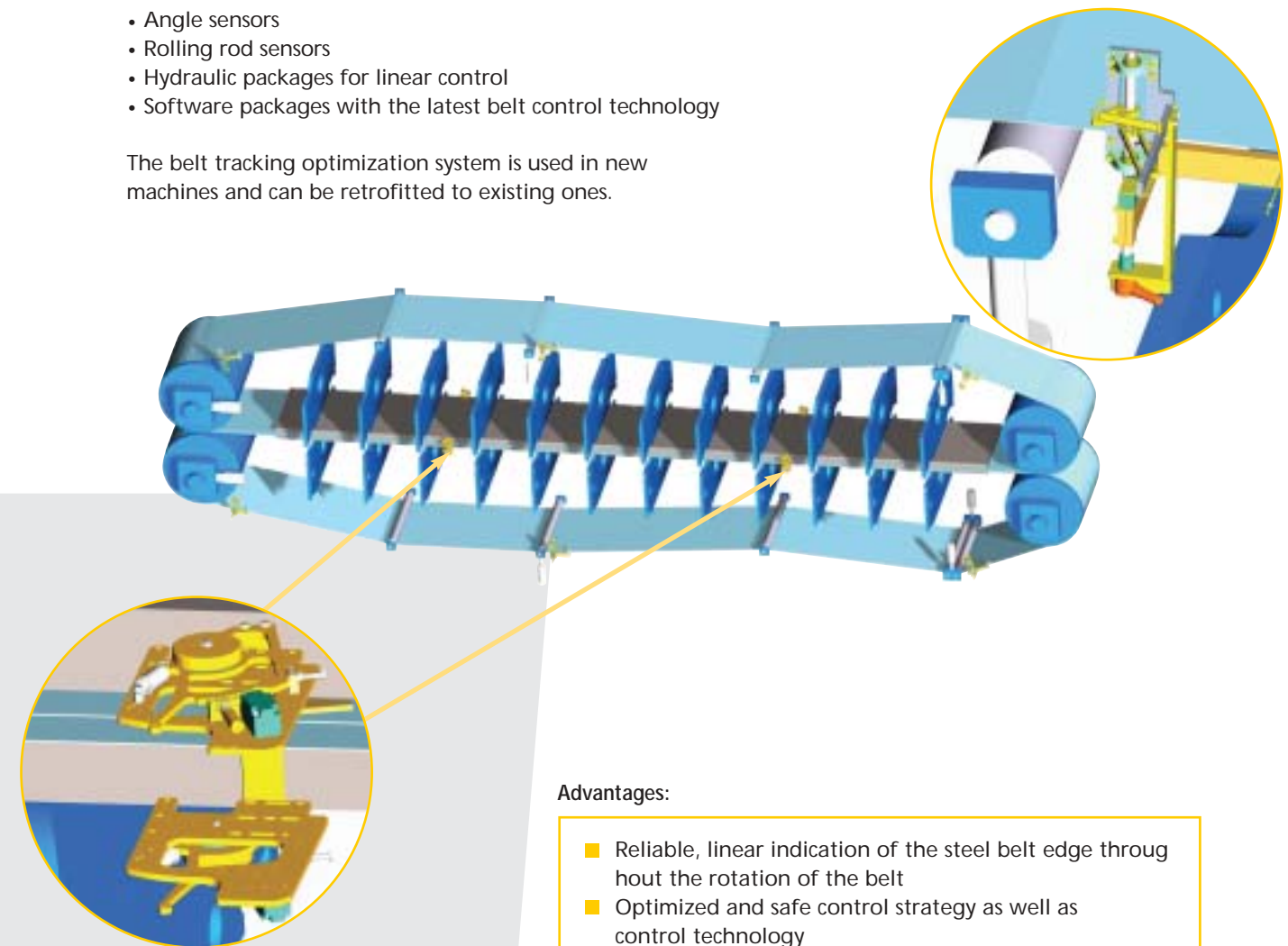
The system is an independent unit and only requires a minimum air supply which is available from the compressed air system. Optionally, further areas of the drive technology and individual components of the hydraulic system can also be integrated.

## Belt tracking optimization system for continuous presses

Dieffenbacher's new belt tracking optimization system aims to increase the serviceability of continuous press systems by controlling and adjusting the press belt tracking in accordance with the product being produced. The combination of a new control system, belt tracking monitoring equipment, sensors and specific technical expertise improves belt tracking control for all CPS press systems. This system makes it possible to optimize belt tracking so that continuous production is assured even at high belt speeds and frequent product changes. The belt tracking package includes the following components:

- Angle sensors
- Rolling rod sensors
- Hydraulic packages for linear control
- Software packages with the latest belt control technology

The belt tracking optimization system is used in new machines and can be retrofitted to existing ones.



### Advantages:

- Reliable, linear indication of the steel belt edge throughout the rotation of the belt
- Optimized and safe control strategy as well as control technology
- Immediate response to nominal/actual deviations
- Increased production safety
- Increased plant availability through optimized belt tracking
- Low wear on the belt control units
- Control system setting according to the product

## Machine modernization with minimum production downtime

Economical system modernization are the exclusive focus of our experienced modernization department. For efficient modernizations Dieffenbacher has a customer oriented, fast-acting competent department, comprising engineers and technical experts.

Modernization concepts are prepared specifically for each customer with a focus on their existing systems and structures in order to increase productivity, quality and/or improve the energy efficiency and safety of the facility.

The important principles for efficient modernizations are: a) completed in the shortest possible time; b) safely implemented; c) overall costs; d) return on investment; e) overall performance (ie. Capacity increase, improvement in quality, latest technology, etc) and f) ensuring that the customer's goals and objectives for the improvement are achieved. With its extensive experience, Dieffenbacher can implement these concepts without lengthy shutdown periods, as has been proven from already completed machine modernization projects.

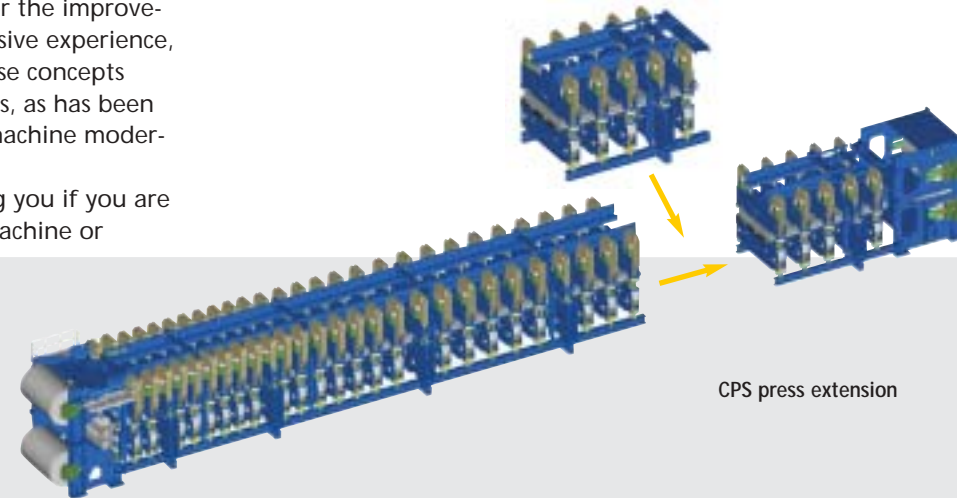
We also look forward to advising you if you are interested in purchasing a used machine or system.

### Improvement in product quality

- Process-optimized control of the machine
  - Dry chip control loop – Forming station/forming line
  - New electrical and hydraulic control system for the press
- Integration of additional weighing devices
- Exchange of forming stations and components

### Integration of new components for process optimization

- Recipe management
- Conversion to variable-speed drives
- Installation of new control systems with visualization



### Machine productivity increase

- Extension of single-daylight machines
- Additional daylight in multi-daylight machines
- Extension of CPS presses
- Extension of gluing system
- Extension of forming station (distribution, loading, metering hopper, spreading head)
- Speed increase for forming line, finishing
- Integration of continuous belt prepresses
- Renewal of individual machine and system components

### Integration of new technologies

- Adaptation of machine hardware and software
- Minimization of pressing and unproductive times in daylight machines
- New heating platens with steam evacuation holes for single and multiple-daylight presses



## Increased production capacity from a customized press extension

Dieffenbacher continuous press systems (CPS) can be modernized by extending them, which leads to a significant increase in production capacity.

The modular design of the CPS makes it possible to extend the entire press by adding new frames to each individual pressure zone. This is done to either the high, medium or low-pressure zones, depending on the specific requirements of our customers production goals and objectives.

Dieffenbacher has developed special concepts for this purpose in order to keep the required downtime for installation to a minimum. This translates to a faster return on investment for our customers. Professional Planning, Engineering and Project Coordination, guarantee smooth integration and an economically efficient solution.

Currently, eight (8) CPS presses have already been successfully extended with production increases up to 50%.

Similarly, this increased production capacity is economically possible on single-daylight presses.

We look forward to advising you if you are interested in a CPS press extension.



### Advantages:

- Increased production
- Flexibility



## Rapid modernization of multi-daylight press systems Safely and successfully increasing performance and improving product quality for any multi-daylight press system.

Dieffenbacher has developed a concept especially tailored to existing multi-daylight presses that allows them to be modernized or replaced within only a few short weeks.

With experience gained from many successfully modernized presses (including competitor press systems), Dieffenbacher can now offer our customers rapid conversions/upgrades or complete press replacement, so that your production downtime will be minimized.

The advantages offered to you through this Dieffenbacher modernization concept ensure there is a rapid return on investment.

Dieffenbacher's knowledgeable modernization team can customize projects to meet any of our customer's goals and objectives, regardless if the press was originally supplied from Dieffenbacher or from a competitor. An experienced team with planning, engineering, modular design, precise



logistics and installation customized to the needs of each customer, means we can upgrade your equipment to the required performance and panel quality as quickly as possible.

Our modernization team would be pleased to discuss additional modernization potential that may exist at your site, through an extensive machine analysis. During this process, a Dieffenbacher team of specialists will evaluate your entire production system and indicate what possibilities might exist for modernization. Through this analysis, Dieffenbacher is able to customize "the Best" overall solution. Your success is our target.

### Advantages:

- Rapid replacement of all brands and press types
- Increased production output
- High serviceability
- Improvement in product quality

## Forming station

The production volumes of older panel systems have been increased considerably in recent years due to improvements in glue chemistry. This results in the performance limit of the forming station being frequently exceeded. Exceeding this limit leads to a decrease in spreading accuracy in the lengthways and crossways directions and, consequently, quality fluctuations are unavoidable in the finished product.

An upgrade to the forming station enables Dieffenbacher's conversion specialists to return spreading quality to the current standard. This is possible even with the increased particle processing rate. At the same time integrating the latest technical developments is possible. This means Dieffenbacher provides equipment owners with the appropriate production volume and required quality criteria at the same time as reducing production costs and downtime. These upgrades are performed on the basis of a detailed operational analysis, with consideration for customer-specific conditions as well as through integrating technological knowledge from the design of state of the art equipment.

### Upgrade components for a particle forming station:

- Reversing distribution belt conveyor
- Outfeed pin rolls
- Opening spoke rolls
- Air guidance devices
- Core layer spreading head
- Core layer weigher



### Advantages:

- Even machine filling and minimization of cleaning expenses
- More even particle output, higher throughput
- Improvement in spreading accuracy, better separation between the surface layers
- Stabilization of spreading, avoidance of air eddies
- Homogenization of core layer spreading, no dust separation layer
- Constant weight of spreading in the surface and core layers



## Repair of any machine components such as heating platens, cylinders, etc.

Manufacturing of spare parts demands experience and the use of special machinery in order to achieve the necessary production accuracy that is required for original quality spare parts.

Our employees and our production facilities in Germany and Canada have been trained specifically in this work and apply strict quality guidelines to all projects. It is because of this that Dieffenbacher can offer you spare parts such as heating platens with the highest quality at attractive prices.

We supply new replacement heating platens or carefully refurbished platens for all brands and types of presses, whether heated with steam, water, thermal oil or electric heater cartridges.

Our heating platens are designed for high specific pressures as well as the highest accuracy and reliability with a monoblock design.

### Special features:

- Pressure test up to 50 bar (700 psi)
- Channel hole from 1/2 to 1 1/2 - inch diameter
- Holes for steam or extraction
- Holes for thermal elements
- Connection coupling and attachment plates
- Reversible platens with chamfered edges and welded inserts

### Power:

- Size: 4500 mm (15 inch) x 15,240 mm (50 inch) long
- Weight: 72,000 kg (160,000 lbs)

### Accuracy:

- Flatness and parallel alignment: < 0.04 mm/m (< 0.002 / 4 inch)
- Surface composition: Ra2 (63 RMS)



## New heating platen temperature control: Increased productivity by up to 15%

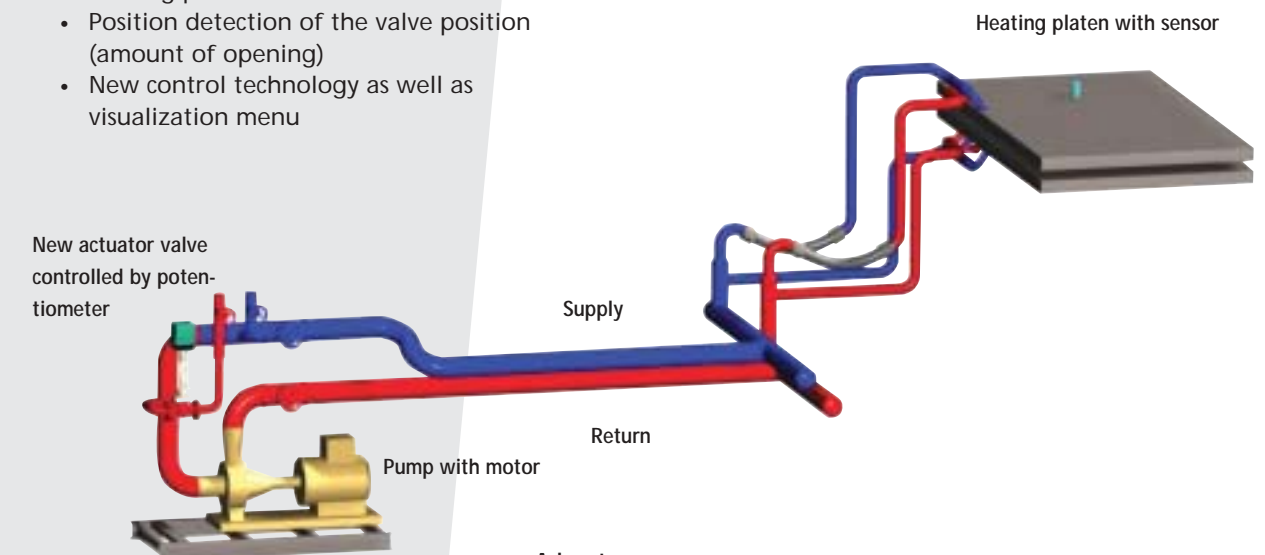
Dieffenbacher offers you a new, innovative heating platen temperature control system that can increase productivity by up to 15% at the same time as reducing waste.

By implementing modern automation components, any existing heating control system can be modernized on CPS equipment.

This modernization is used as a further basis for continuous, high-quality fiber or wood panel production.

### The new heating platen temperature control system contains the following main components:

- New actuator valves
- Additional temperature sensors in the heating platens
- Position detection of the valve position (amount of opening)
- New control technology as well as visualization menu



### Advantages:

- Higher temperatures in the heating platens. Therefore more rapid production
- More accurate and faster temperature control in the heating platens. Therefore continuous quality
- Avoidance of excessively high or low temperature fluctuations during interruptions in production, thanks to faster valve technology. This reduces the level of waste (e.g. during an interruption in production or when starting production)
- Reduced fire risk
- Better checking of the fault analysis for the heating, by feedback information about opening width of the actuator valves
- Minimum undershoot of the heating platen temperature when production is resumed

## Technology for innovations Trialing new raw materials, developing new technologies

The modern Technology Center built by Dieffenbacher at the Eppingen site is equipped for developing new types of wood panels, investigating new raw materials and trialing new production technologies.

Reliable knowledge for industrial applications is gathered on the semi-industrial scale. Dieffenbacher conducts tests on behalf of its customers and for investigating its own developments.

The Technology Center is equipped for drying and sifting strands and chips, and for gluing, spreading and preheating all panel materials. The two trial presses are universally applicable for all panel materials.

At the same location, there is also a Technology Center for trialing and manufacturing three-dimensional materials such as pallets made from wood chips.

Highly modern single-daylight trial press with format 1.25 x 2.5 m (4 x 8 ft)

- Clear breadth 1 m
- Heated with thermal oil
- Specific pressure up to 6.5 N/mm<sup>2</sup>
- Position and pressure control
- Extremely high-performance hydraulic system
- Steam injection
- Directly connected to OSB, OSL and particleboard spreading line



Conti simulation press with 600 x 800 mm format ▶

- Extremely high-speed hydraulic system simulates the behavior of a continuous press
- Electrically heated
- Clear breadth 800 mm
- Specific pressure up to 8 N/mm<sup>2</sup>
- Position and pressure control



Modern spreading machines for OSB, OSL and MDF on industrial scale

- Continuous spreading machine for fibers
- Continuous spreading machine for strands



All chip spreading variants are available

- Wind spreading chamber and roller spreading head for spreading the surface layer
- Various mechanical spreading heads for spreading the core layer



Laboratory

The laboratory connected to the Technology Center can perform all the evaluations and panel checks that are usual in the industry.

## Dieffenbacher services:

- Customer-specific service concepts
- Rapid-response service centers stationed in Europe, America, South-East Asia and China with flexible availability of experts as well as supply of wear and replacement parts at short notice
- Tele Online Service – TEO with real-time access to maintenance and troubleshooting via the Internet and ISDN
- IT system protection, comprehensive safety concepts against viruses, hackers, etc.
- Software maintenance (backup, new releases, updates)
- Inspection, maintenance, diagnosis and monitoring for preventative maintenance
- Repair of any machine components such as heating platens, cylinders, etc.
- Machine modernization with minimum production downtime
- Disassembly, general overhaul and re-installation of used machines
- Tried-and-tested retrofit packages for increasing availability, productivity and safety of existing machines, such as belt tracking optimization, forming belt influence compensation, emergency press emptying, de-ionization unit for prepress and forming line
- Model panel manufacture and material checking in our technical center
- Extensive customer training from experienced service engineers and software developers at our training center and on-site
- Technical customer consulting: **Machine modernization**  
**Technology**  
**Process optimization**  
**Spare parts stocking**



Service center,  
Dieffenbacher North  
America



Service center,  
Dieffenbacher Eppingen



Service center, China

Service center, Southeast Asia



## Notes: