

- **THE BETTER ALTERNATIVE
FOR LAMINATION OF:**
- **CONTACT CARDS**
 - **CONTACTLESS CARDS**
 - **INLAYS / PRE-LAMS**
 - **ID CARDS**
 - **PASSPORTS & HOLDER PAGES**

Bürkle's Lamination Systems Model "Smartlam" provide a cost-effective solution addressing a wide range of applications and production requirements



SYSTEM SOLUTIONS FOR
PLASTIC CARD PRODUCTION

BÜRKLE 
PROCESS TECHNOLOGIES



The headquarters of Robert Bürkle GmbH, founded in 1920, are in the Black Forest region in the South-West of Germany.

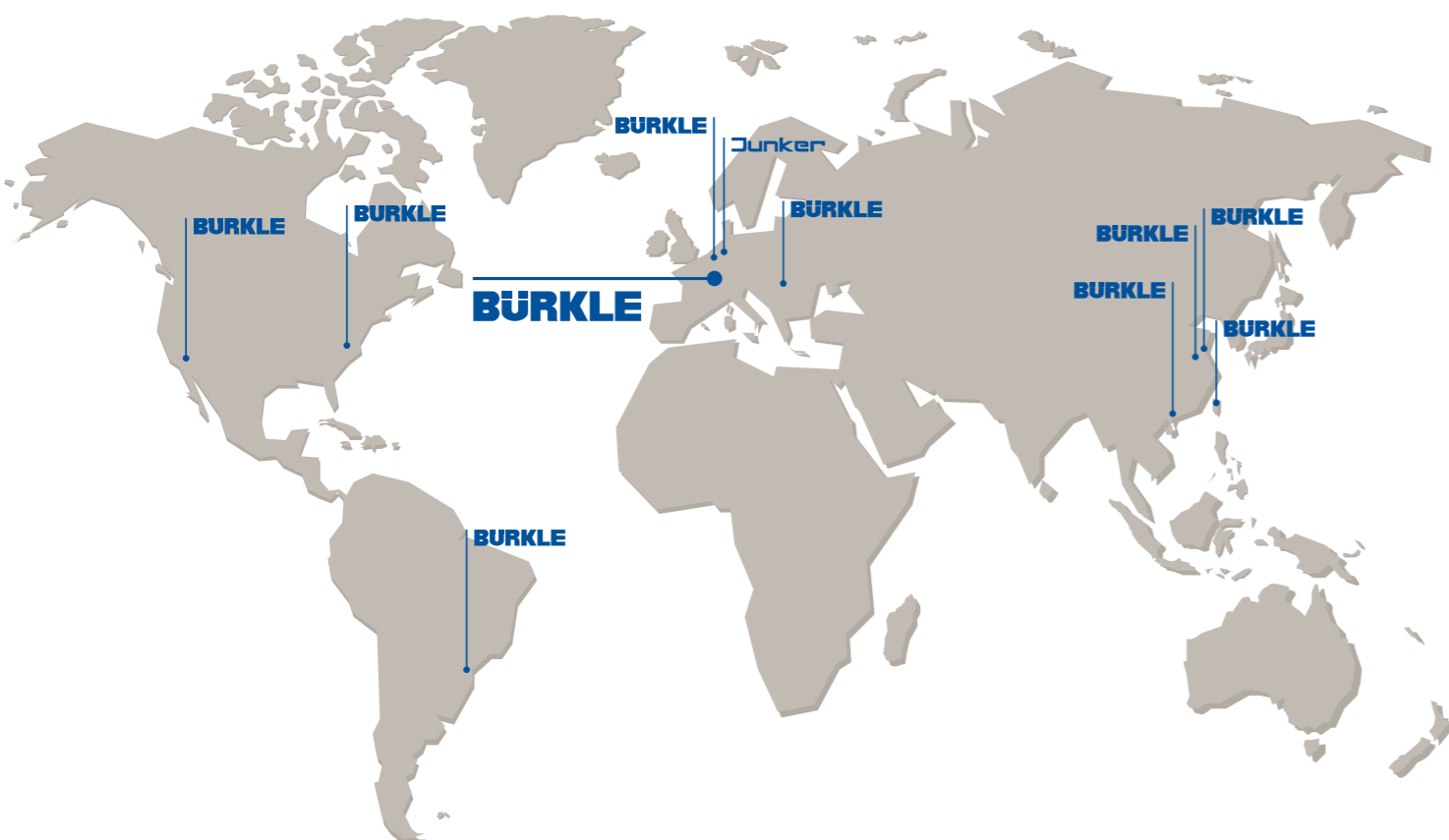
» ROBERT BÜRKLE GMBH

Bürkle is among the world market leaders in the field of pressing and surface-finishing technologies. With a staff of 700 employees we plan and manufacture e.g. machines and lines for the furniture, wood-based panel, door and parquet industry.

Owing to an above-average expenditure for research and development and the high technological standards, our machines and lines are well known beyond German borders.

Over 80% of Bürkle machines are exported around the globe. The company has branches in Europe, America and Asia.

We offer our know-how from planning and design to installation and start-up of complete systems. Quality and the power of innovation are the key to our market success.



e.a.sy SYSTEM SOLUTIONS FOR PLASTIC CARD PRODUCTION

e.a.sy solutions – economic efficiency, system technology and service are in the foreground.

Bürkle customers rely on the sophisticated and future-oriented technology of our machines and lines.

This means: our supplied systems allow an absolutely economic production, meet highest technical demands and can be extended by adding modules at any time.

Therefore, the requirements of our customers are implemented consistently according to economic aspects.

A consistent service orientation completes our programme: service hotline and sophisticated diagnostic systems are a standard feature for us and ensure the highest possible process reliability.

From the advisory service, development and design to installation and start-up of a line, we have one goal: the result must be *e.a.sy!*



economic application systems by BÜRKLE



LAMINATION SYSTEM SMARTLAM



THE NEW GENERATION FOR THE NEW CENTURY: SMARTLAM

LAMINATING SYSTEMS FOR CONTACT AND CONTACTLESS CARDS

Bürkle's broad worldwide process knowledge allows setting new standards in automated plastic card manufacturing equipment. Smartlam provides a broad system platform for a variety of plastic card lamination requirements including low and high volume Conventional Cards, Contact Cards, Contactless Cards, ID Cards and Passports addressing the entire range of available card materials. The development of the SMARTLAM line is the result of our many years' experience and consists of a new modular system with many well-proven design features of the previous systems.

SMARTLAM FEATURES

- High-performance system for the production of conventional plastic cards, Contact Cards, Contactless Cards, ID Cards and Passports.
- Excellent system access for maintenance
- Compact footprint
- Straight forward installation. No extensive concrete modifications (pit) necessary as the system can be placed directly on the factory floor
- Fully integrated and automated system
- Production capacities up to 80.000 cards per hour
- Sheet sizes of 9 to 120 cards per sheet
- Available in single daylight up to 16 daylights

HOT TRANSFER PRESS PLANT

- Robust steel designed system members for long service life
- Optional "pressure less" platen closing for Contactless Cards with weight compensation system
- Available with efficient Thermal Oil Heating
- Precise temperature uniformity across the entire platen during the product heating phase of the lamination cycle of $\pm 2^\circ\text{C}$ due to the efficient transfer of thermal fluid heat energy

- Uniform pressure distribution due to Bürkle's innovative platen guiding system and centered piston
- Zero "Kiss Pressure" for contactless card production. Optional Weight Compensation available
- Optional Vacuum Chamber
- Optional Hot Press Cooling System available
- Reduce operational cost due to efficient use of reduced motor power

HYDRAULICS

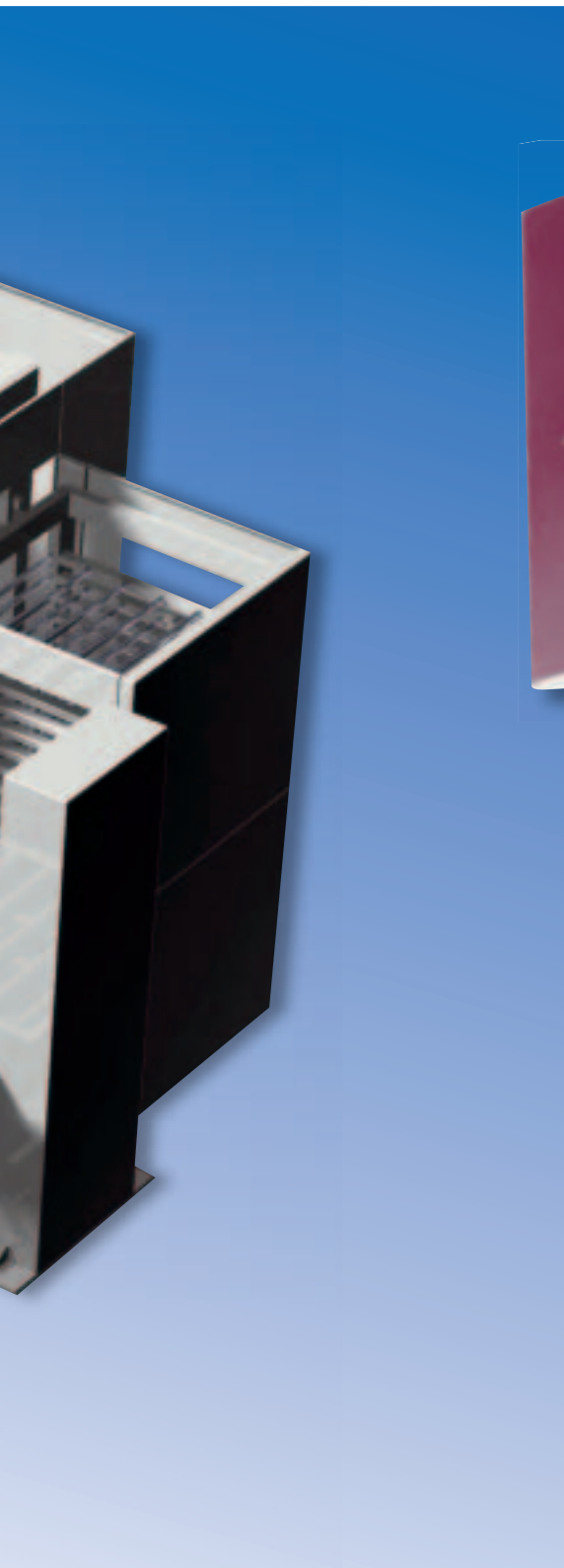
- Minimum space requirement
- Independent sequencing of Hot Press and Cold Press
- Special pressure measurement assures high pressure accuracy of $\pm 1 \text{ bar} / \pm 14.5 \text{ psi}$
- Innovative hydraulic accumulator system allows an exact constant pressure without separate operation of the hydraulic pumps
- The hydraulic system is utilized only during press closing and pressure build up resulting in less noise and wear
- Does not require oil cooling



THE NEW GENERATION FOR THE NEW CENTURY: SMARTLAM



- 1 Loading lift table
- 2 Transfer loading device
- 3 Hot press
- 4 Cold press
- 5 Hydraulics
- 6 Unloading rack
- 7 Unloading lift table
- 8 Cross-conveyor
- 9 Tilt-style or horizontal lay-up station



LAY-UP STATION – HORIZONTAL DESIGN

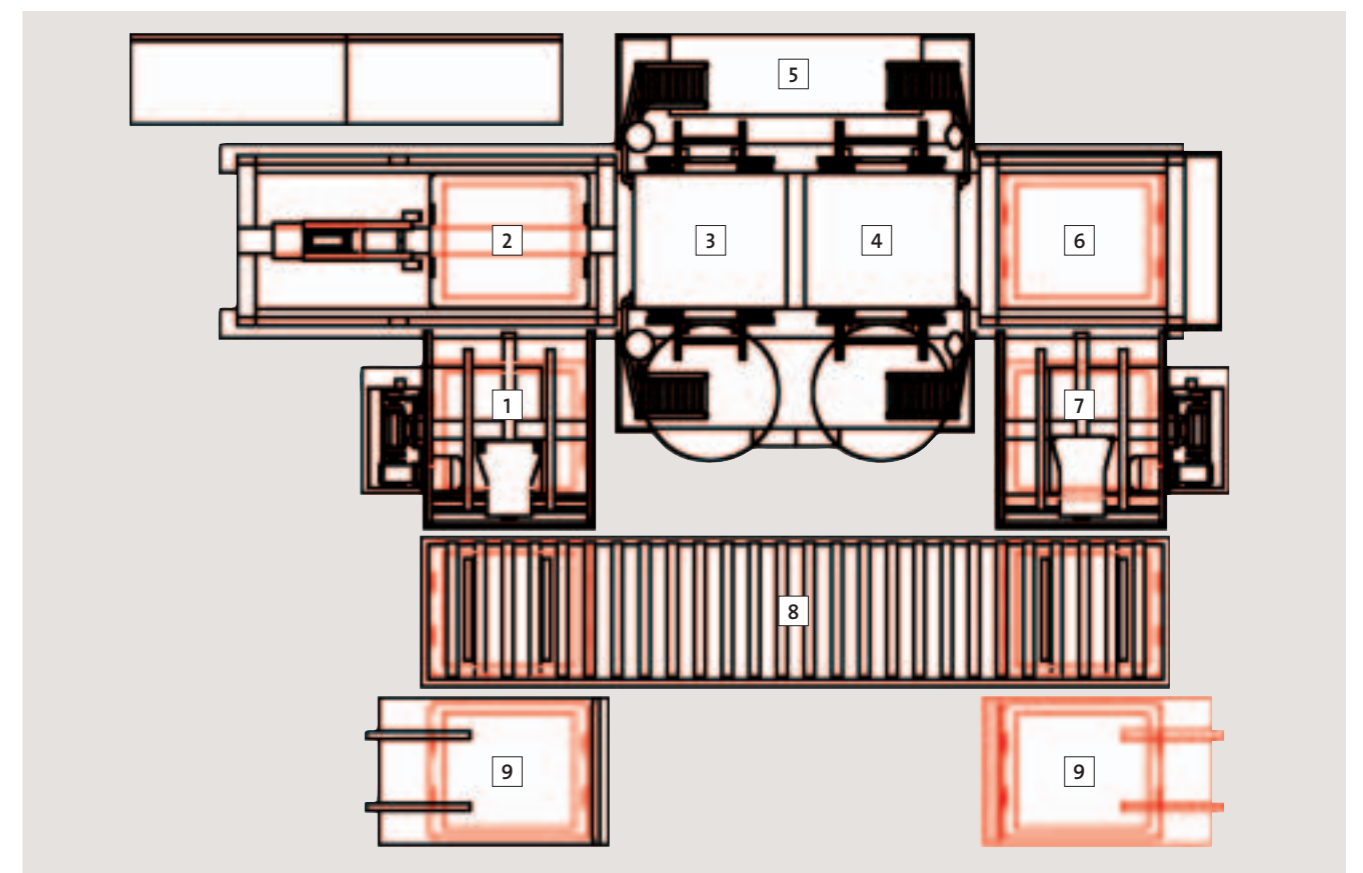
- Provides surface for precise lay-up of contactless cards
- Provisions of space for placement of the mirror plates during handling
- Ergonomic design
- Reduced electrostatic discharge

LAY-UP STATION – TILT-STYLE DESIGN

- Common design allows all current sizes due to adjustable stops
- Flexible installation
- Adjustable working heights provide improved operator ergonomics
- Reduced electrostatic discharge



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BÜRKLE PROCESS CONTROL AND VISUALIZATION

Bürkle's advanced control system utilizes a State of Art PLC System and Windows NT Based Computer Systems allowing a variety of Process Recipes and Process Monitoring.

PROCESS CONTROL

A major feature of all Bürkle equipment is that the design of the machines mechanical platform and State of the Art Control System – Siemens S7 – provide consistent and repeatable process control, from the lay-up station up to the break down station.

PROCESS VISUALIZATION

Bürkle's PC System provides an efficient history file capability for machine process data retention. This feature is useful for observing process variables such as heat uniformity, pressure and time for future recipe development.

FLEXIBLE RECIPE DEVELOPMENT

- Bürkle's exclusive Process Visualization Windows Based Application Program allows high flexibility developing new process recipes and allows online editing, as required
- Recipes or order data can be input directly from the Machine PC, or by an optional Remote PC (Master PC)
- Process history data can be exported to standard applications such as Access, or Excel, and others, allowing for statistical processing

HIGH MOBILITY AS RESULT OF A REMOTE OPERATOR PANEL

- All functions of the cycle can be controlled in manual mode using a Hand Held Operator Panel

MODERN DIAGNOSTICS

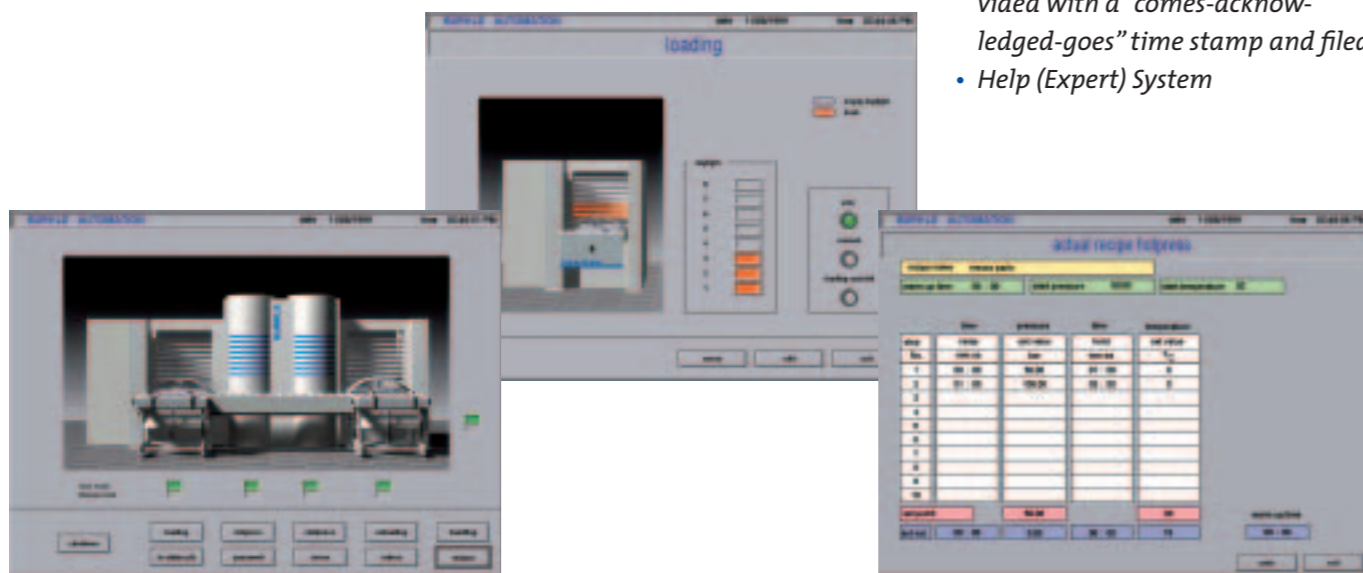
- Bürkle's use of modern control systems allows service personnel to interrogate the systems control logic via modem for service diagnostics, or for logic changes

SCREEN DIAGRAMS

- Well designed Operator PC Screens provide visual representation of the entire system and status
- On Line Process Diagrams provide instant view of the press cycle at any time

OPERATOR FRIENDLY RECIPE, ORDER MANAGEMENT AND OPERATION OF THE MACHINE

- Provides input of up to 100 orders
- Allows storage of 100 individual recipes by user defined designations
- Error message display - signals and failure messages are provided with a "comes-acknowledged-goes" time stamp and filed
- Help (Expert) System



TECHNICAL DATA

LAMINATING SYSTEMS FOR LOW TO MEDIUM VOLUME PRODUCTION

CHKR 50/100 – 1 Daylight

Single Daylight Twin Stack System with manual Rotary Table.

- Press Surface: 570 x 360 mm / 22.4 x 14.1 inch
- Standard Laminate Size: up to 520 x 310 mm (21/24 cards)
- Hot Press Pressure: 500 kN / 112,350 pds
- Cold Press Pressure: 1000 kN / 224,700 pds



Smartlam Model LAC 120 – 4 or 6 Daylights

Multi Daylight Single Stack System.

- Press Surface: 750 x 600 mm / 29.5 x 23.6 inch
- Standard Laminate Size: up to 620 x 520 mm (42/48 cards)
- Hot Press Pressure: 1200 kN / 270,000 pds
- Cold Press Pressure: 1200 kN / 270,000 pds

Smartlam Model CHK 100/200S – 4 or 6 Daylights

Multi Daylight Twin Stack, Automatic System

- Press Surface: 750 x 600 mm / 29.5 x 23.6 inch
- Standard Laminate Size: up to 620 x 520 (42/48 cards)
- Hot Press Pressure: 1000 kN / 225,000 pds
- Cold Press Pressure: 2000 kN / 450,000 pds



LAMINATION SYSTEMS SMARTLAM

Technical Data	Twin Stack System					Single Stack System	
Model	CHKR 50/100	CHK 100/200S	CHK 60/120	CHK 100/200	CHK 120/240	LAC 120	
Press Surface	570 x 360 / 22.4 x 14.1	750 x 600 / 29.5 x 23.6	750 x 600 / 29.5 x 23.6	750 x 850 / 29.5 x 33.5	750 x 1050 / 29.5 x 41.3	750 x 600 / 29.5 x 23.6	mm / inch
Daylights	1	4 or 6	4-16	4-16	4-16	4 or 6	
Max. Hot Press Pressure	500 / 112,350	1000 / 225,000	600 / 135,000	1000 / 225,000	1200 / 270,000	1200 / 270,000	kN / pds
Max. Cold Press Pressure	1000 / 224,700	2000 / 450,000	1200 / 270,000	2000 / 450,000	2400 / 540,000	1200 / 270,000	kN / pds
Heating Medium	Thermal Oil	Thermal Oil	Thermal Oil	Thermal Oil	Thermal Oil	Thermal Oil	
Cooling Medium	Water	Water	Water	Water	Water	Thermal Oil	
Max. Sheet Size	520 x 310 / 20.5 x 12.2	680 x 530 / 26.8 x 20.9	680 x 530 / 26.8 x 20.9	680 x 780 / 26.8 x 30.7	680 x 980 / 26.8 x 38.6	680 x 530 / 26.8 x 20.9	mm / inch
Max. Output	1000	2000	2000	3000	4000	900	Cards per Hour and Daylight

Other platen sizes and options are available on request, e.g. vacuum chamber, additional, material handling solutions and layup stations.

**A GLOBAL COMPANY –
SERVING LOCALLY**

HEADQUARTERS

ROBERT BÜRKLE GMBH

Stuttgarter Straße 123
D-72250 Freudenstadt
Phone +49 (0) 74 41 / 58-0
Fax +49 (0) 74 41 / 78 13
www.buerkle-gmbh.de
buerkle@buerkle-gmbh.de

BÜRKLE NORTH AMERICA INC.

12802 Valley View Street
Suite 12
Garden Grove, CA 92845 / USA
Phone +1-714-379-5090
Fax +1-714-379-5092
www.burkleusa.com
buerkleusa@buerkle-gmbh.de

**BÜRKLE MACHINERY (SHANGHAI)
CO., LTD.**

Building 5 & 6, No. 2715, Ledu Road (W)
Songjiang District
201614 Shanghai
P.R. China
Phone +86-21-57 85-02 88
Fax +86-21-57 85-05 58
buerkleasia@buerkle-gmbh.de

BÜRKLE CHINA V.GMBH

TAIWAN BRANCH

1F, No. 196, Minfu 9th St.
33049 Taoyuan City
Taoyuan County
Taiwan
Phone +886-3-250-3967-8
Fax +886-3-250-4099
buerkletaiwan@buerkle-gmbh.de

BURKLE