



CONFIDENCE IN HEATING PLATEN TECHNOLOGY

Power to the People.

Woodworking

Solid Surface

Industrial systems

Composites



THE DEVELOPMENT OF THERMOFORMING TECHNOLOGY FOR SOLID SURFACE

Solid surface, based on acrylics, has become a "core" material in high-quality interior fitting for many years. The universal utilisation opportunities as well as the thermoformability have led to a worldwide growing demand.



A really fascinating material: solid and durable, yet it can be shaped to meet your requirements. Remarkably versatile – in private homes and public buildings, hospitals and hotels as well as for unique designed products and technical applications – it offers really limitless possibilities.



Already in the early eighties, when thermoforming of solid surface was still in its early phase, ELKOM developed and supplied complex preheating systems for the solid surface industry. As a result, getting pliable solid surface sheets was made affordable to many fabricators.



Based on our comprehensive technical experience, gained in rubber-plastics – and machine applications, we developed and manufactured preheating machines and vacuum-bending machines exclusively upon demand.



In the nineties we continued the technical developments, because the solid surface industry as well as the fabricators required more professional machines. As a result, we introduced our MIKUTHERM-preheating machines and our VAKUTHERM-bending machines to the industry. Both machines were absolutely unique at this time and offered an industrial production-technology under controllable and repeatable conditions, such as preheating and cooling in clearly defined times.

ELKOM, as an inventor and technical leader, did always play a key-roll in this business.

In 2002 ELKOM introduced the brand new MULTITHERM-technology. The patented MULTITHERM machines are the result of a very long development based on fabricators requirements for a compact, easy to handle and safe thermoforming system.

MULTITHERM machines are offered in different versions as "automatic" or "basic" machines and also with modifications according to needs.



ELKOM MULTITHERM key – benefits

The patented and exclusive ELKOM-technique offers a unique "combination-solution" (multifunctional) in just one machine. It provides an excellent price-performance ratio as well as unbeatable advantages such as:

- Floor space saving compact construction
- By use of high-quality insulation material and because of the optimised design, the vacuum table remains on room-temperature, even when the preheating-station is on permanent operation
- Extremely low energy consumption through our patented heating system in conjunction with a microprocessor-based temperature control panel. Solely consumed energy will be replaced. Complicated and risky divided heating platens become redundant. (energy consumption is only 10 % - 50 % of connected load according to working cycles)
- Industrial heating system with 5 years warranty (exclusive ELKOM-system, patented)
- One man operating
- Maintenance free, no wear and tear, reliable and very short working cycles
- Model MULTITHERM-AUTOMATIC with automatic open- and close function, controlled cooling of the whole vacuumplaten, extra cooling circuit in the vacuum for big moulds extra vacuum system in the vacuum field for big moulds with deep shapes
- (e.g.double vanity tops) electronic control of all functions
- Extraordinary reliability through high quality industry standard construction
- Central control panel with timer, audio warning, temperature-displays, indication-lights
- Vacuum-working table platen always made of gold anodised, solid aluminium with grooved vacuum-channels and holes, cooling-circuit-connections for big moulds come as a standard
- Vacuum tank inside machine construction as a standard in conjunction with vacuum manometer and automatic switch, automatic stop, vacuum-level gauge, adjustment for sensitive materials, bypass-valve
- Different kinds of membranes available according to requirement – translucent or dyed, different thicknesses according to application, volume-membrane systems for moulds up to 1000 mm height
- Option vacuum-clamp-system or manual clamps
- Global experience with any kind of thermoplastic material

Preheating Station **MIKUTHERM-JUNIOR**

Basic preheating system for craftsmen and for operating on building sites



In contrast to conventional preheaters we offer a professional and industrial based solution with unique advantages :

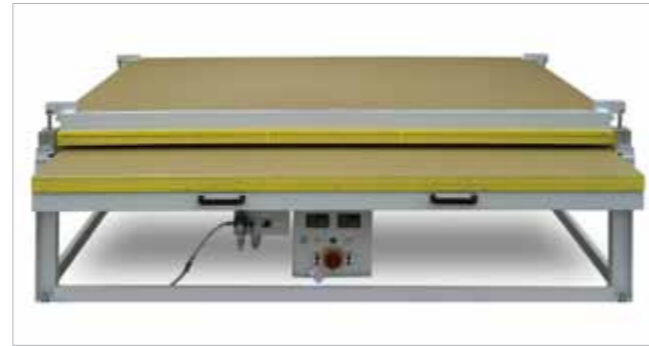
- Top and bottom industrial heating platen made of 12 mm thick aluminium with uniform temperature for penetrating the heat from both sides (prevents surface problems and colour changes)
- High quality insulation on both sides, covered by metallic cladding
- Electronic temperature control system with ready for operation switchboard
- Easy to open and close by insulated handles
- Any material thickness can be preheated
- Temperature range adjustable up to 200 ° C
- Ready for operation in only 15 minutes
- Anodised and scratch-resistant surfaces
- Mobile , also for operation on building-sites
- Fair price-performance ratio

STANDARD-SIZES:

1200 x 300 mm	Heating-power	3200 Watt	230 Volt	50/60 Hz
1400 x 300 mm	Heating-power	3500 Watt	230 Volt	50/60 Hz
1600 x 300 mm	Heating-power	4300 Watt	400 Volt	50/60 Hz
1800 x 300 mm	Heating-power	4800 Watt	400 Volt	50/60 Hz
2000 x 300 mm	Heating-power	5300 Watt	400 Volt	50/60 Hz
2200 x 300 mm	Heating-power	5800 Watt	400 Volt	50/60 Hz
Other dimensions / Voltages / Heating-power upon demand				

Preheating station **MIKUTHERM-OPTIMAL**

Preheating system for serial manufacturing and permanent operation



The ELKOM preheating station MIKUTHERM OPTIMAL has been developed for economical , safe and protective heating of solid surface sheets as well as thermoplastics, acrylic glass and similar material. It is the latest, most efficient and safest system on the market.

- Top and bottom ELKOM industrial electrical heating platen made of 18 mm thick aluminium guarantee uniform temperature distribution
- Freely moving drawer with ball – bearing guide
- Top table is raised and lowered with double-stroke pneumatic cylinders
- Material thickness adjustment within seconds, no risk of surface-damage or colour-change on the precious material
- Central switchbox with main switch, energy saving digital controllers adjustable individually up to 200 ° C for each heating platen, pneumatic switch for top table (to raise and lower), compressed air maintenance unit
- Easy access to material through ball-bearing guided drawer. Only 5 seconds needed to open and close the machine. No other technology is faster, safer or more efficient.
- Heavy torsion-resistant steel construction for unlimited lifetime
- No handling between hot platens and therefore much higher safety compared with traditional systems
- Extremely low energy consumption through optimised digital controllers with multizone-sensor technology . (only 10 % - 50 % of connected load according to working cycles)

TECHNICAL DATA:

Standard dimension:	1100 x 1100 up to 3800 x 1100 mm (customised sizes upon demand)
Table height / drawer surface:	850 mm
Connected load:	6,4 – 30 kw (according to size)
Power consumption:	10 % - 50 % according to working cycles
Voltage:	400 / 690 Volt 3 Ph , any other voltage upon demand
Temperature:	0-200 ° C , adjustable for each platen individually
Material thickness :	adjustable according to needs

Quality Vacuum-Membranepress **VAKUTHERM**

High-quality Vacuum press for industry and craft



- Solid torsion-resistant steel construction with high carrying capacity for steel- or aluminium moulds of any kind
- Table / vacuum-working platen made of solid aluminium with gold anodised surface as a standard
- Maintenance free high- performance vacuum pump (dry running or oil pump) with integrated vacuum storage tank in the steel frame
- Central control panel for vacuum pump, vacuum valve, electronic vacuum controller, main switch, indication lights
- Vakuüm-frame / gasket made of double welded, high-alloyed aluminium-extrusions. Insulated handles on all sides, easy access to table by opening-and closing support by gas-springs, solid and massive steel-hinges on the backside (adjustable)
- Membranes available in different versions: silicone membrane for thermoforming with thickness of 2 or 3 mm available, translucent or dyed, natural rubber membranes, volume membranes with or without replacement-frame for extra tall work-pieces
- Upon demand: working table with heating-or cooling capabilities

TECHNICAL DATA:

Available sizes:	1000 x 1000 mm up to 3750 x 1300 mm special sizes upon demand, special construction feasible
vacuum pumps:	dry-running or oil pumps from 25 m ³ up to 120 m ³ / h
vacuum storage tank:	integrated into the machine
Electrical equipment:	standard 230/400 volt, 50 - 60 Hz

Thermo transfer station **SUBLIMATION**

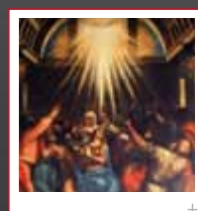
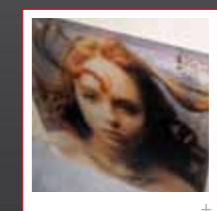
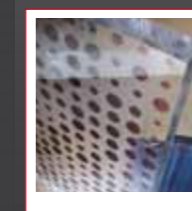
The universally applicable system to transfer thermoprints onto solid surface and acrylics



- Ideal machine for individual , high-quality and precious work pieces made of solid surface , acrylic glass , ceramics or fabrics
- Solid steel construction , torsion-resistant under any kind of load
- The whole vacuum working-table has heating-and cooling capabilities by using our patented ÖKOTHERM-Energy-heating platen system. We offer different technical solutions and sizes, depending on the desired production-capacity and output. (a personal and individual planning of each machine by personal consulting is indispensable)
- Maintenance free, precisely controlled and supervised vacuum--system with a sensitive electronic-control and adjustment system
- Central switchboard to supervise all functions by an electronic control system (Heating / Cooling-Manual Mode – Automatic Mode – Vacuum)
- High performance silicone membrane, 2 mm translucent, for long time durability
- Vakuüm-frame / gasket made of double welded, high-alloyed aluminium-extrusions. Insulated handles on all sides, easy access to table by opening-and closing support by gas-springs, solid and massive steel-hinges on the backside (adjustable)
- Optimum price-performance ratio
- This machine is not only limited to sublimation works but can also be used for thermoforming or vacuumforming tasks. Therefore, it is a multi-functional and very economical unit

TECHNICAL DATA:

Available sizes:	customised solutions
Vacuum pumps:	customised solutions according to needs and demand
Vacuum storage tank:	integrated into the machine
Electrical equipment:	standard 230/400 volt, 50 - 60 Hz



MULTITHERM® BASIC (patented)

Thermoforming station



- High performance with minimum floor space – a unique concept has become famous. Preheating-Shaping-Cooling-down = altogether in one machine
- Rugged and strong steel body with high carrying capacity applicable for heavy moulds and large work pieces
- Extremely strong working/vacuum table made of gold anodised aluminium with integrated heating-and cooling connection fittings for serial production with big metal moulds
- Vakuum-frame / gasket made of double welded, high-alloyed aluminium-extrusions. Insulated handles on all sides, easy access to table by opening-and closing support by gas-springs, solid and massive steel-hinges on the backside (adjustable)
- High-performance silicone membrane 2 mm translucent come as a standard, other membrane systems, volume membranes with or without replacement-frame for extra tall tools and work pieces or natural rubber membranes are available upon demand
- Maintenance free high-performance vacuum-pump, vacuum storage integrated into the machine as a standard
- Preheating station with top and bottom ELKOM-industrial heating platen with a thickness of 18 mm and an energy saving digital temperature-control system to guarantee a uniform temperature. Very low power consumption of 10 % - 50 % depending on working-cycles. (important: divided heating plates are redundant because of risks of bad temperature uniformity and joints)
- Easy to run by one man operation
- Optimum price-performance ratio , MULTITHERM-basic is made for individual as well as serial manufacturing of shaped parts

TECHNICAL DATA:

Standard-sizes: from 1300 x 1200 mm up to 3800 x 1300 mm, other sizes on demand

Heater power: 12,5 to 35,5 KW

Voltage: 230/400 Volt 3 Ph.

energy consumption: 10% - 50% of connected load, according to working cycle

MULTITHERM® AUTOMATIK (Patented)

High-Performance Thermoforming machine



- High performance with minimum floor-space – the unique patented concept has constantly been developed further and has proven its reliability and efficiency with leading fabricators worldwide.
- Preheating station underneath with automatic running drawer, controlled by an SPS computer-system
- Heavy duty ,rugged steel-body frame as basis for the whole preheating-and forming technology
- Developed for one man operation. All functions like opening and closing of the preheating station, temperature and vacuum-control, supervising of all other functions such as cooling temperature in the vacuum field , timing , safety-functions and application control by sensors and a central SPS control
- Preheating station with top and bottom ELKOM-industrial heating platen with a thickness of 18 mm and an energy saving digital temperature-control system to guarantee a uniform temperature. Very low power consumption of 10 % - 50 % depending on working-cycles. (important: divided heating plates are redundant because of risks of bad temperature uniformity and joints)
- The automated drawer is protected and supervised by a touch-sensitive bumper
- Working platen equipped with cooling-circuit connections and additional vacuum connections for serial production under repeatable conditions
- Special design , e.g. heating with thermo oil or sublimation equipment fasible upon demand

TECHNICAL DATA:

Standard-sizes: from 1300 x 1200 mm up to 3800 x 1300 mm, other sizes on demand

Heater power: 12,5 to 35,5 KW

Voltage: 230/400 Volt 3 Ph.

Energy consumption: 10% - 50% of connected load, according to working cycle

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