

... really unique

topex®



We can **label** your process

Labeling process solutions for the plastics processing industry

Unique competence and innovative power for marking, identification and labeling

System supplier of label and machine • Service partner • Label scout



**Portrait**  
Really unique

Topex is a specialist in customized part marking and innovative manufacturing solutions offering technically sophisticated, reliable and long-lasting products to meet the highest standards of quality and precision. We have been certified in accordance with DIN EN ISO 9001:2008 and have made a name for ourselves as a "high-tech powerhouse" and a progress-oriented problem solver producing top quality rather than mere quantity. Well-known companies from the automotive and pharmaceuticals industries, for instance, have been putting their trust in us for many years.

**Philosophy**  
Whatever benefits customers is good

Topex sees itself as a system supplier. We give top priority to comprehensive customer consultancy. We want to work together with our customers to find solutions. In our consultancy sessions, we point out possible concepts and then have specialized departments test them to furnish practical delivery proposals.

These range from labels as data carriers or functional labels with appropriate adhesives in combination with suitable thermal transfer foil, to automatic processing on topex marking systems, integrated into production and assembly lines and incorporated into PC or PLC controls with BUS interfaces and scanner or camera solutions. Extensive service at home and abroad is available 24/7.

– this is what we call topex system solutions – and all from a single source.

**Team**  
Achieve more together

Partnership is part of daily life at topex – inside and out. And open, honest, trust-based relationships with customers are a key ingredient. Topex highly values ongoing training for its employees, as well as sustainability in regard to nature and the environment.

**Sustainability**

Energy from the solar cells on the roof is largely used right in production. Rainwater is ecologically returned to the natural cycle on our own premises.

This is how committed topex is to development in the "Swabian Alb Biosphere Area", in community projects and much more.

Subject areas



**Self-adhesive functional labels**  
for sealing casings or parts of casings  
*Seite 4 – 5*



**Pressure compensation elements (PCE)**  
for ventilating casings  
*Seite 6 – 7*



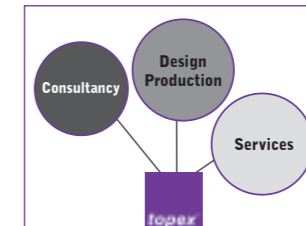
**Protective laminate with perforation**  
for dissolving in assembly applications  
*Seite 8 – 9*



**Thermal transfer printing**  
clear marking by means of thermal transfer printing  
*Seite 10 – 11*



**Laser marking**  
for direct marking of plastic parts  
*Seite 12 – 13*



**Workflow**  
This is how we work at topex  
*Seite 14 – 15*



**More process solutions**

- Self-adhesive rattle or noise control
- Spacers
- Sealing labels
- Laminate/radiation protection

Information upon request



For topics marked with this symbol, a CD containing an in-depth film about the respective topic is available. On request we will send you a CD.



## Foam rubber seal



### Properties of self-adhesive seals

- Mechanically/automatically machinable
- Come in various consistencies and qualities, such as elastomers, foamed elastomers, high-pressure sealing materials, etc.
- For sealing casings and surfaces
- Can produce nearly every contour
- Adhesive chosen to suit specific project
- Material thickness to suit specific project
- Temperature-resistant up to 140° C
- Resistant to a variety of media (oil, water, ...)

## Process examples



### Task:

Applying a foam rubber seal (approx. 35 × 173 mm) in the correct position to a plastic casing.

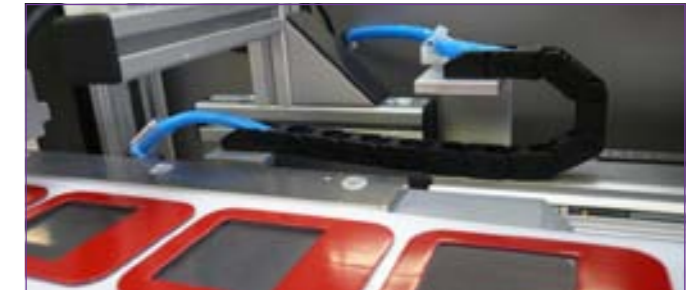
### Solution:

Semi-automatic topex labeling station.

The plastic casing is inserted manually into the holding fixture. The self-adhesive seal is transported at the same time to the large roller (diameter 400 mm) onto the feed edge of the Series 50 topex label dispenser. A pneumatic vacuum stamp runs over the seal and the vacuum is activated, thus fixing the seal. The carrier film is now drawn off by means of a pneumatic retractable feed edge under the seal. The isolated seal is now automatically applied to the plastic casing, which was readied beforehand. The plastic casing is transported pneumatically into another processing position. Now the inner core is withdrawn by means of a pneumatic needle gripper system and deposited into a collecting container. The labeled casing is removed by hand.

### Technical data:

- topex Series 50 label dispenser
- topex 7150 label dispenser control
- Powered roll-off reel for roller 400 mm in diameter
- Pneumatically retractable feed edge
- Label handling with two linear axial movements to apply the label to the product
- Pneumatic needle gripper to remove the inner core of the labels
- Machine mount with protective paneling in accordance with machine directive 2006/42 EC
- Documentation in accordance with machine directive 2006/42 EC



### Task:

To apply double-sided adhesive sealing pads in the correct position with the upper covering film of the adhesive layer on sockets for solar cells.

### Solution:

Fully automatic topex labeling machine.

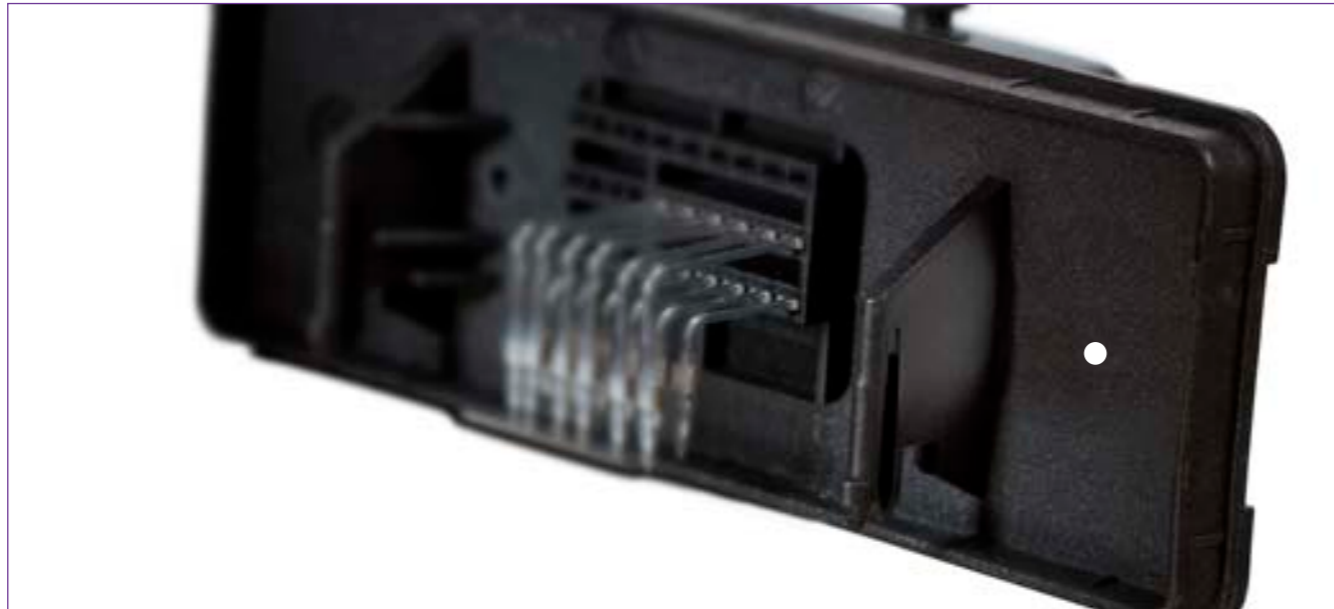
The customer had already provided the sockets in the correct position by way of conveyor technology. The self-adhesive sealing pad is transported at the same time to the large roller (diameter 400 mm) onto the feed edge of the Series 50 topex label dispenser. A pneumatic vacuum stamp runs over the seal and the vacuum is activated, thus fixing the seal. The carrier film is now drawn off by means of a pneumatic retractable feed edge under the pad. The isolated pad is now automatically applied to the socket.

### Technical data:

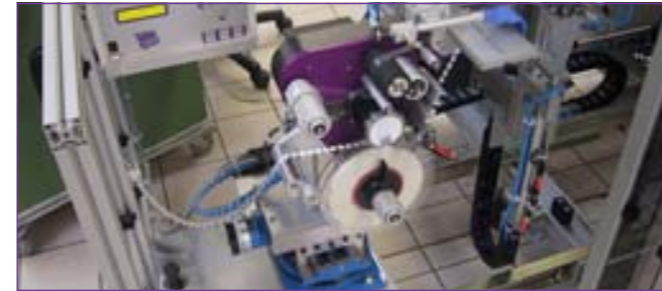
- topex Series 50 label dispenser
- powered roll-off reel for roller 400 mm in diameter
- Powered roll-up reel for the release paper
- Pneumatically retractable feed edge
- Label handling with two linear axial movements
- Machine mount in accordance with machine directive 2006/42 EC
- Documentation in accordance with machine directive 2006/42 EC



## Modular system for processing and inspecting self-adhesive pressure compensation membranes



## Process examples



### Task:

Fully automatic application of self-adhesive pressure compensation membranes to plastic casings.

### Task:

Fully automatic application and inspection of self-adhesive pressure compensation membranes on plastic casing.

### Standard solution:

Fully automatic topex dispenser with optional pneumatic pressure compensation centering unit.

### Solution:

Semiautomatic or fully automatic topex labeling station designed as a rotary indexing table with 4, 6 or 8 processing positions.

The workpiece is put into the proper position by the customer. The topex Series 50 label dispenser receive a signal component in position. The self-adhesive pressure compensation membrane is dispensed at the same time under the vacuum plate. Then follows the horizontal movement away from the feed edge, optionally the pneumatic centering of the membrane on the stamp, as well as the vertical movement pressing the pressure compensation membrane down onto the product. When labeling is completed, the handling returns to initial position.

The workpiece is inserted manually or automatically into the holding fixture and fed to the individual stations by way of a rotary indexing table

### Technical data:

- Fully automatic topex label dispenser 50/50/300
- Label dispenser control 7150
- Pneumatic label handling with two linear axial movement to apply the label to the product
- Spring-mounted vacuum stamp without initiator query
- Documentation in accordance with machine directive 2006/42 EC
- Cycle time: approx. 2–3 seconds
- Labeling tolerance : approx.  $\pm 0.5$  mm
- Optional: pneumatic label centering unit to achieve positioning with an accuracy of  $\pm 0.2$  mm

### Possible stations:

- Inserting and removing the component parts
- PCE labeling with optional centering unit
- Flow inspection of the pressure compensation membrane
- Position control of the pressure compensation membrane by means of a camera
- OK marking by means of a color stamp
- Removal of scrap parts on a scrap conveyor, for example
- Automatic marking of the parts with a topex 7000 thermal transfer labeling system or a topex 5000 laser marking system

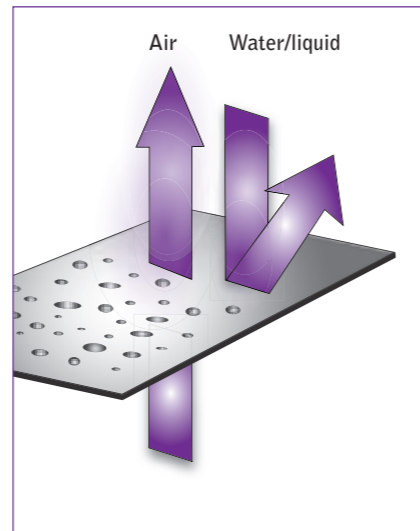
### Properties of pressure compensation elements

#### 1. Function

- To ensure pressure compensation between the interior of the casing and the surroundings. At the same time, water and oil repellent

#### 2. Possibilities of automatic processing

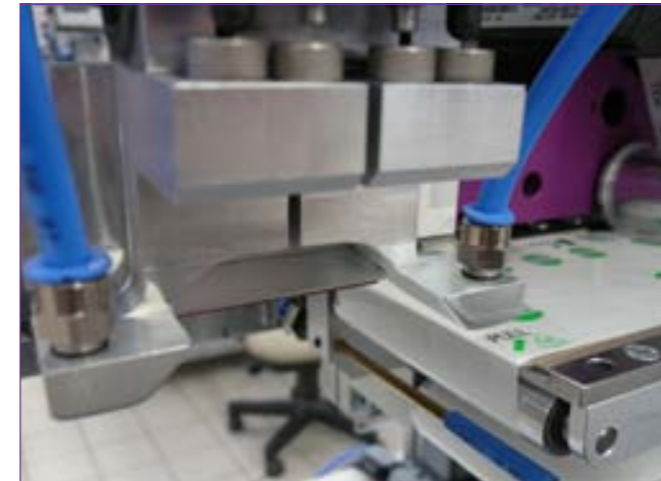
- Self-adhesive, for example, with topex labeling system
- Ultrasonic welding
- Thermal sealing
- Laser welding
- Comes in a wide variety of contours – project-specific
- Comes in various specifications with regard to air permeability, water inlet pressure and temperature stability
- Areas of application: for example, control devices made of plastic or metal, plugs, sensors, etc.



## Releasable label with perforation for assembly purposes



## Process solution



Label delivery – Handling

### Task:

Applying self-adhesive protective laminate in the correct position on a high-gloss plastic surface.

### Solution:

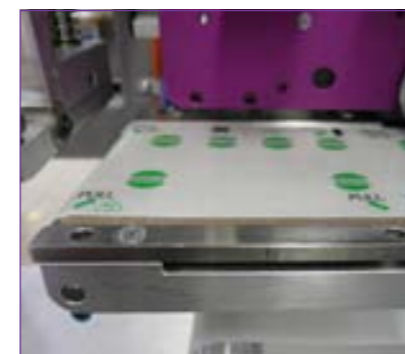
Fully automatic topex Series 50 label dispenser.

The plastic parts are inserted manually in the correct position in a holding fixture. A sensor identifies the work-piece. The self-adhesive protective laminate is transported at the same time onto the feed edge of the topex label dispenser. A pneumatic vacuum stamp runs over the laminate, the vacuum is activated thus fixing the laminate. The carrier film is now drawn off by means of a pneumatic retractable feed edge under the laminate. The isolated laminate is now automatically applied as a protective film to the surface of the plastic.

### Intent and purpose of this protective label

- Protects high-gloss plastic or metal parts against dust, dirt, fingerprints, etc., for example, installation parts in the automotive, entertainment and furniture industry
- The label is applied automatically or manually and can be pulled off as needed without leaving any residue, for example, after final mounting
- Because the backing paper is punched on the back, the label is very stable and thus easy to dispense
- Some of the advantages of this topex protective label for the user are saving shipping costs → parts are protected against scratching when packed, no need to pack them separately
- When installed, the parts are protected and need no subsequent polishing or finishing
- Comes in all contours – to suit specific project
- Comes in any color or with preprinted logos or assembly and processing instructions
- Adhesive chosen to suit specific project

### Parts are protected against scratching



Labels on the feed edge

### Technical data:

- topex Series 50 label dispenser
- topex 7150 label dispenser control
- Pneumatically retractable feed edge
- Label handling with two linear axial movements to apply the label to the product
- Machine mount in accordance with machine directive 2006/42 EC
- Documentation in accordance with machine directive 2006/42 EC
- Cycle time: approx. 5–10 seconds
- Label tolerance: ± 0.5 mm

-> Registered for utility model patent



## Clear marking of plastic parts by means of thermal transfer printed labels



## Process examples



### Task:

Fully automatic marking of plastic parts.

### Solution:

Fully automatic topex 7000 thermo/transfer labeling machine.

The plastic parts are removed in pairs from the injection molding plant by a robot system provided by the customer. The robot runs with component 1 to the labeling station, at the same time the relevant printing data are transmitted to the printer control by means of TCP/IP. The label is printed and pushed under the vacuum plate. The label is transferred to the product by means of pneumatic vacuum handling. A camera inspects the data matrix code. Then component 2 is labeled.

### Technical data:

- Fully automatic topex 7000 thermo/transfer labeling machine
- Pneumatic label handling with two linear axial movements to apply the label to the product
- Spring-mounted vacuum stamp without initiator query
- Fixture to be integrated into a robot station provided by the customer
- Manual adjustment unit for a second product variant
- Camera system for verifying the data matrix code
- Documentation in accordance with machine directive 2006/42 EC
- Cycle time: approx. 2–3 seconds
- Label tolerance: approx.  $\pm 0.5$  mm

### Task:

Clear marking of tubes by means of thermal printed data matrix code. Label applied on the complete circumference of the tube.

### Operational sequence description:

The worker places the unpopulated racks by hand on the inlet belt conveyor. The racks are fixed in processing position. At the same time, a tube from the vibration conveyor pot is isolated and picked up at the transfer position by the robot gripper. The robot gripper runs with the tube onto the label. The label is applied with a rotary movement around the entire tube. The robot gripper runs to the camera system, the data matrix code is counter-checked. Then the labeled tube is inserted at the appropriate place in the rack. The finished racks are transported by a conveyor belt out of the processing area where the worker removes them by hand.

### Characteristics:

- topex 7054-12-300 thermo/transfer labeling machine
- Pneumatic vacuum handling
- Machine mount with protective paneling
- Vibration conveyor pot for feeding the tubes
- Conveyor belt system for moving the racks in and out pneumatic fuser unit for the racks
- Six-axis robot system for complete parts handling
- Software link to the client's superordinate host system
- Camera for counter-checking the data matrix code
- Special labels partly transparent

### The advantages

- High printing speed
- Good to very good printing quality with a resolution of 300 dpi
- Open interface architecture
- Resistant to mechanical and chemical stresses (when suitable labels and thermal transfer ribbons are used)

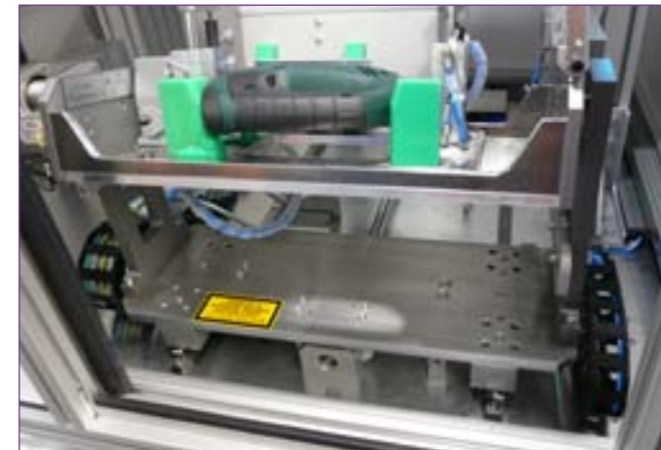


Quality	Temperature range	Resistance	Area of application	Other properties
Paper	0 to +80° C	Limited	Pallet marking	Low-cost variation
Standard			Simple or standard marking	Satisfactory printing quality
Chromo				Good ink coverage and print image
Thermo			Simple or standard marking	
PE	-20 to +80° C	High, against moisture, chemicals, cleaning agents	Entire industry	Very good resistance, best ink coverage, very good print image
PP	-20 to +80° C	High, against moisture, chemicals, cleaning agents	Entire industry	Highly transparent, for "no-label look" applications, more rigid than PE
PVC	-20 to +90° C	High, against moisture, chemicals, cleaning agents	Entire industry	Suitable for outdoor applications, shelf life up to 7 years, UV resistant
PET	-40 to +150° C	High, against moisture, chemicals, cleaning agents	Entire industry Nameplates	Very high mechanical resistance and hardness for demanding long-term marking, high tear strength



## Laser marking for plastic casings

## Process solution



### Marking casings

With topex brand expertise and technology, electric tools can be marked even more efficiently, produced more economically and therefore more successfully marketed. That's for sure.

The new solution based on the topex 5000 marking laser now makes the marking process much more efficient and thus more economical. This is because marking during the assembly process itself, directly onto the casing without any additional label, considerably reduces the required time and expense. This clever concept has already been successfully put to use in a variety of tool series at many locations in Europe and Asia. Because the holding fixtures and installation position of the marking laser can be tailored to specific tools and their casing geometries, you can be sure of getting the best possible results. An intelligent workpiece holder changing system also enables different kinds of casings to be processed on one machine.



Part in pivoting workpiece holder

Finally, a few technical details: The basic unit is the Trumpf Laser TruMark 3020, whose compact design makes it ideal for integrating into the assembly process. A Siemens S7-300 takes over the control within the station, as well as linking to the superordinate network. Ethernet is the data link protocol. The various drive units in the station are networked using PROFIBUS. The station itself works on Win SC RTX and the corresponding visualization program Win CC flexible.

### Advantages and performance

#### Advantages that pay off

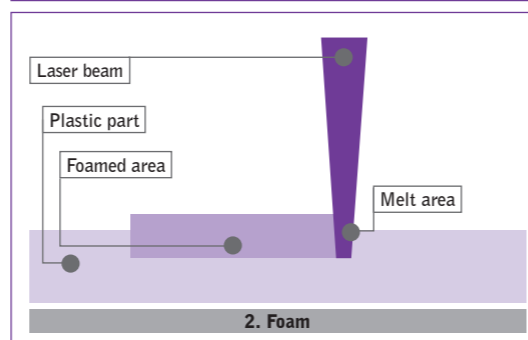
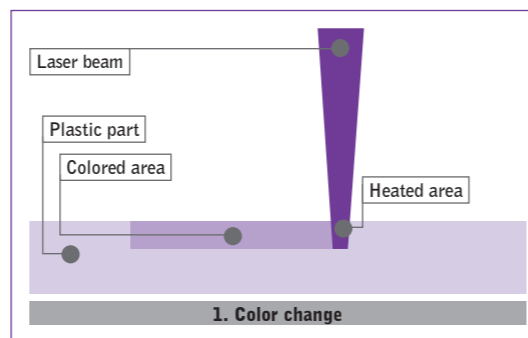
- High level of efficiency
- Low operating costs
- Can be put to a variety of uses
- Compact design
- Low weight

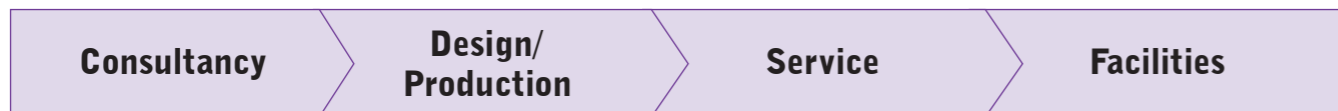
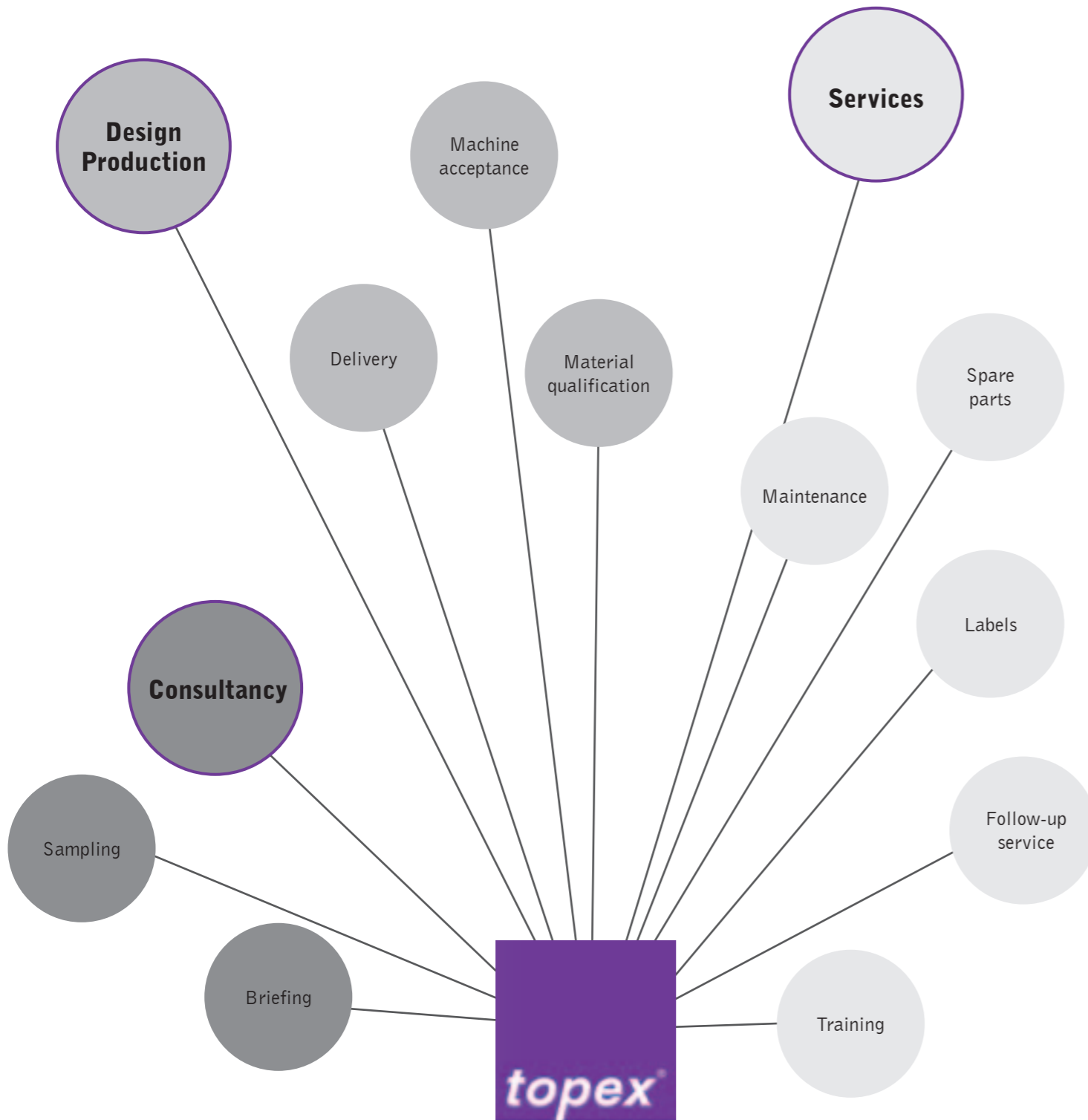
#### Service down to the smallest detail

- Dynamic beam expander
- Open interface architecture
- IP54 enclosure
- Cooling integrated against air
- User-friendly software
- Laser medium: Nd: YAG  
Nd: YVO<sub>4</sub>  
CO<sub>2</sub>
- Min. focus diameter with Nd:YAG 30 μm, for instance
- Charts, lettering, codes, serial numbers, etc. can be shown
- Max. labeling field sizes: 290 × 290 mm<sup>1</sup>

<sup>1</sup> Other lenses available

### Variable lettering possible





	<b>Film 1 Foam rubber seal</b>
	- Application of foam rubber seals
	<b>Film 2 + 3 Pressure compensation elements</b>
	- Labeling pressure compensation membranes - Labeling edge connectors with pressure compensation membranes
	<b>Film 4 + 5 Thermal transfer printing</b>
	- Labeling small load carriers - Marking the entire circumference of tubes
<b>Film 6 Laser marking</b>	
- Marking the casing of hedge clippers	



... really unique

**topex**<sup>®</sup>



### The whole world of marking

- Labeling systems
- Laser marking
- Special-purpose machines
- Peripherals
- Marking printed circuit boards
- Software
- Controls
- Labels and transfer films
- Contract marking

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service partners in the USA  
and in China**

