

# aware

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# aware



We care a lot!

## The company

... giving answers to the complex problems of economical and ecological operating cycles ...

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## Development

... understanding your company's requests and needs and helping with solutions ...

6 - 7

## Plant construction

- Paint and booth engineering 8 - 9
- Process engineering and manufacturing technology 10 - 13
- Electrical and control engineering 14 - 15

## Production and pre-assembly

... realize entirely individual solutions easily ...

16 - 17

## Service

... adapted to fitting your production schedule with an "around the clock service" ...

18 - 19

## We care a lot!

Innovative power, cost effectiveness, and productivity are deciding factors for future success. Every day, we at AWARE are searching for the best solutions in all three fields to offer our customers an added value with our products and performance.

Since its foundation in 1978, our company has developed a solid reputation which extends beyond German borders. Today, we are one of the top addresses for plant construction in environmental and surface technology. Our work is certified and has been repeatedly awarded. We are a "Turn-Key-Supplier" to the automobile industry and, in 2003, have achieved the »Q1 supplier status by FORD«.

These successes are our commitments when designing new plants or "custom tailoring" an existing plant. Through intelligent planning achieving the special requests and needs of your company.

We take care of it!



Your Dirk G. Bohnes  
C.E.O.



**The company**

4 - 5

**From the start our work is designed interdisciplinary and internationally. Taking into account all points of view, we are able to give answers to the complex problems of ecological and economical production. Experienced technicians and engineers from different special departments and various nationalities work together.**

Our teams in the departments process engineering and manufacturing technology, service and management take responsibility for client specific product development and technical advice for particular areas of application. Our know-how guarantees economical and environmental friendly products, allowing effective and resource saving production.

**In the area of high quality surface treatment and finishing:**

- development and supply of turn-key plants for the automobile and general industry

**In the area of methods and plants for treatment of process and waste water:**

- waste water treatment plants
- fresh and process water generation
- bath treatment facilities
- cooling water treatment
- water saving measures
- heavy metal – recycling facilities

**We see to:**

- servicing, maintenance, modernization and supervision of existing systems
- optimize production and reduce investment costs



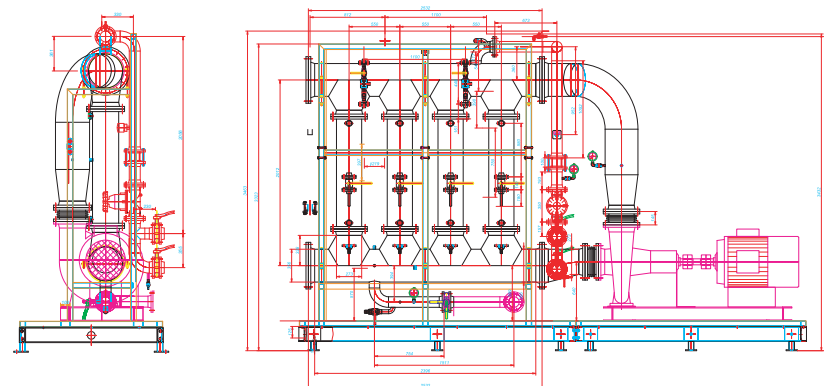
*Our work is certified according to **DIN ISO 9001** and **14001 Umwelt**.*

*In 2003, we have achieved the »**Q1 supplier status by FORD**« for our continuous high level of customers' satisfaction in the area of quality, productivity and services.*



**aware**

How can the quality of your product be improved? How can your product be manufactured more cost effectively? Which plant is the best for your company? How can process and waste water be led back into the process cycle? How can legal requirements and limiting values be met? How can an existing plant be used more efficiently and thus resulting in energy savings?



We understand the requests and needs of your company and help you with solutions. All necessary steps to ensure secure and economical operation of your facilities are especially designed for you in our company.

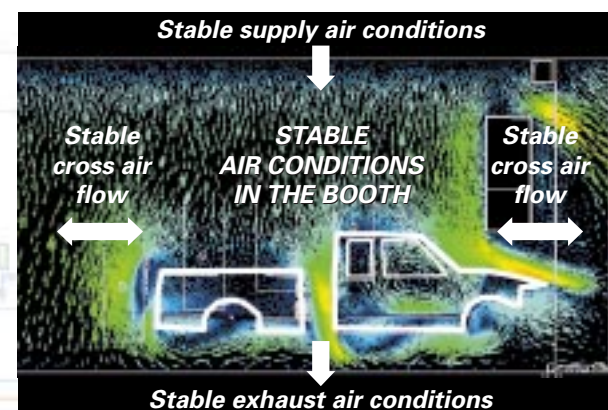
## Development

6 - 7 Computer simulation of a paint booth



### We take care of:

- determination of the precise requirements
- reduction of energy consumption with unchanged or improved product quality
- determination of optimal dimensions, adjusted to the respective premises dimensions
- detailed computer simulations, e. g. of air flow and air conditions in paint booths
- development and supply of test and pilot plants
- planning of large-scale plants with consideration of test results
- ergonomic, user friendly control technology and software
- AWARE-operating models working during several shifts and in AWARE's direct responsibility
- analysis of actual and target values, determination of limiting values, adherence to environmental requirements etc.
- planning and execution of plant modifications
- improvement of already existing plants



Reverse osmosis test facility





**Plant construction**

**Paint and booth engineering**

8 - 9

**Are the supply and exhaust air conditions correct? Which method is best for dust reduction? Can the paint application be improved? Do the existing plants meet the latest requirements? Should solvents and overspray be treated and disposed of?**



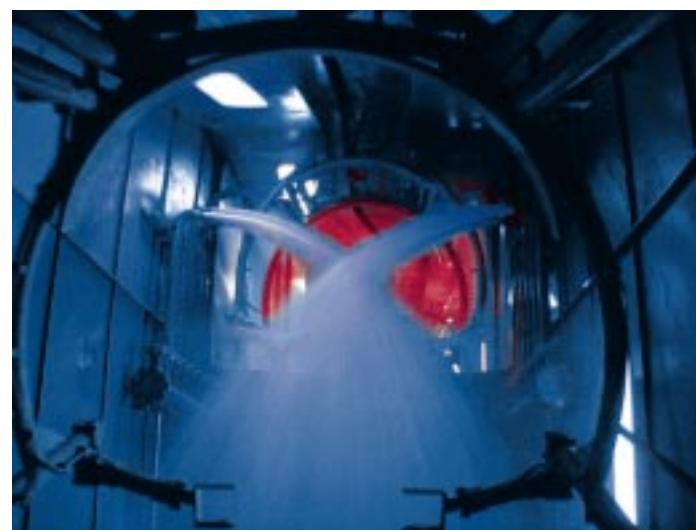
We ensure stable conditions within the booth. As a "Turn-Key Supplier" we plan and realize the complete plant – starting with paint application completely through to paint curing. We show you how to optimize already existing facilities and how to improve the paint application quality. There are no prefabricated routine solutions. Together with you we work on solutions which are tailored to the special needs of your production.

- turn-key plants from planning to commissioning
- paint, wax and full glass booths
- circulation air and infrared oven systems
- supply and exhaust air plants
- air flow analyses and simulations
- paint booth control system to improve paint application in automatic zones
- dust reduction by means of feather duster machines and high pressure blow-off zones
- overspray and solvent disposal with bath treatments and circulation loops





How can resource circulations be used most effectively? Which processes reduce residues and waste? How can fresh water consumption be decreased? How can process results be improved? How can heavy metals be removed most effectively from waste water?



**The goal: Reduction of operating costs without quality loss, increase of efficiency and profitability with consideration of the current environmental requirements.**

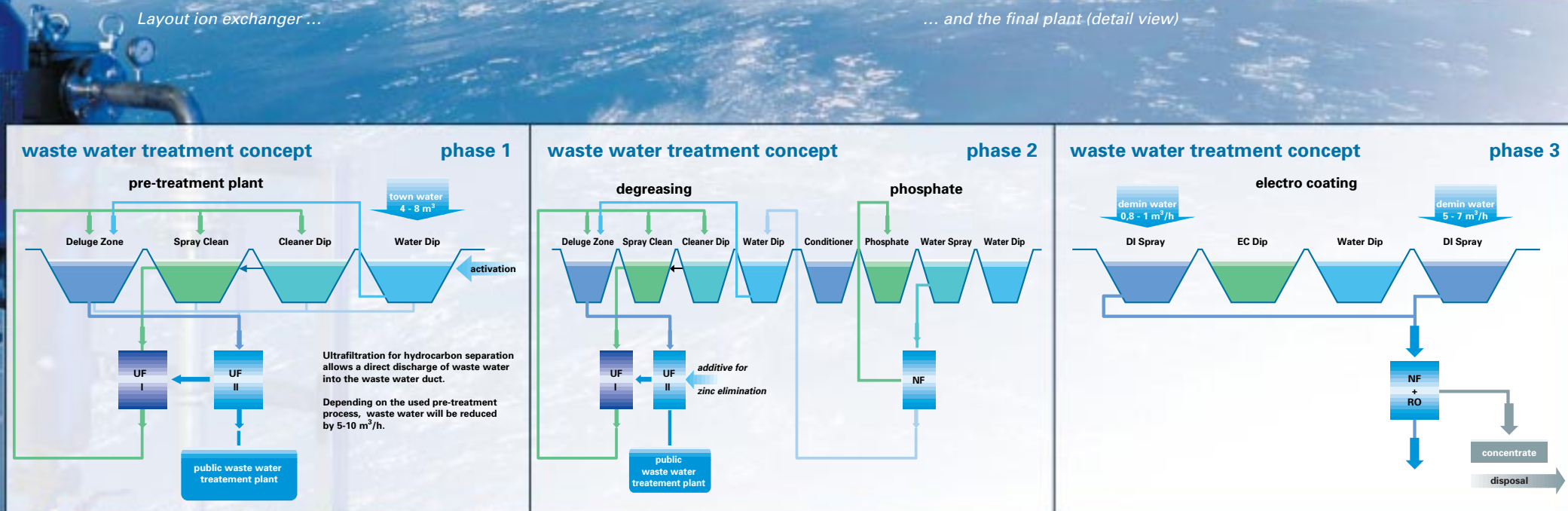
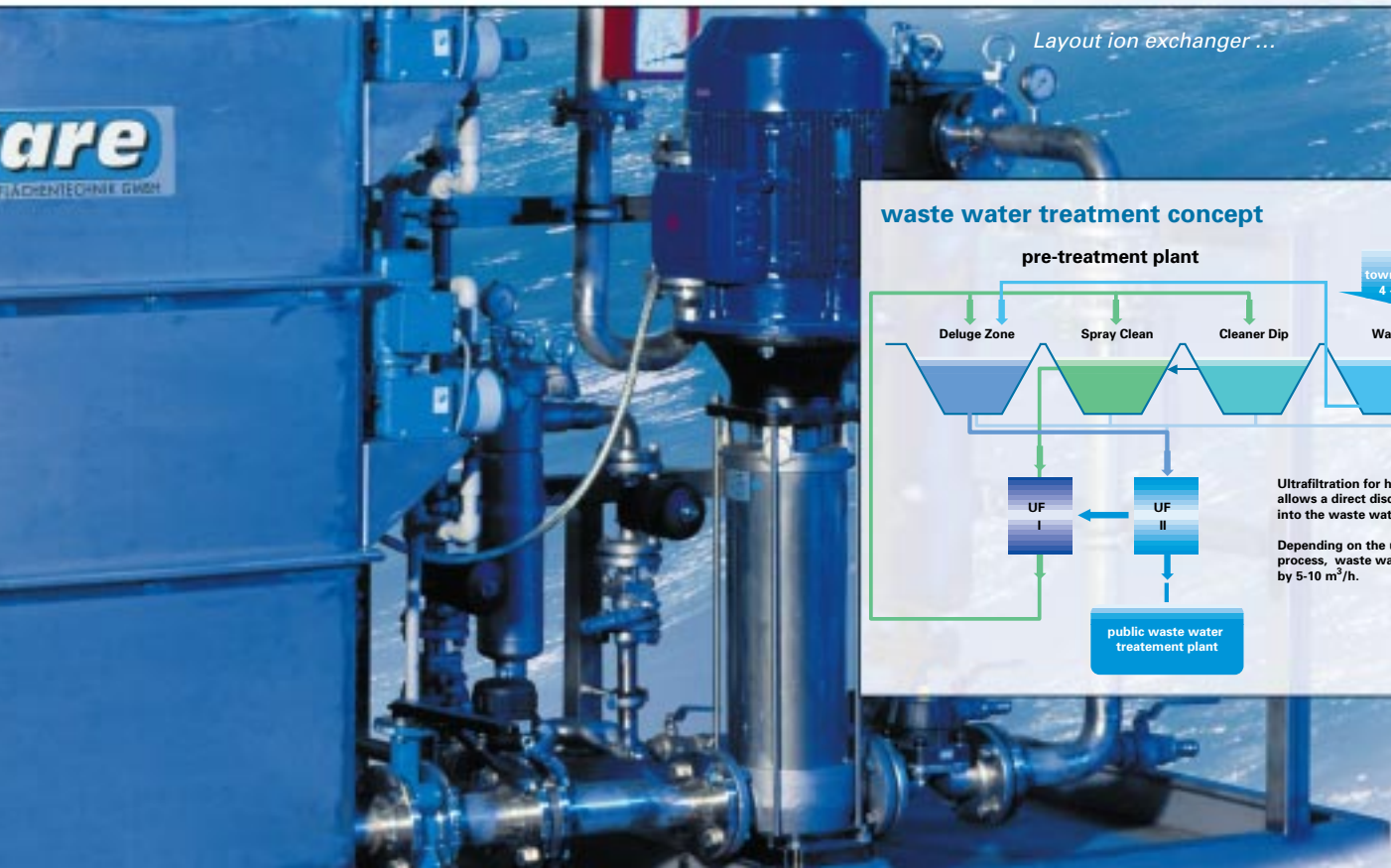
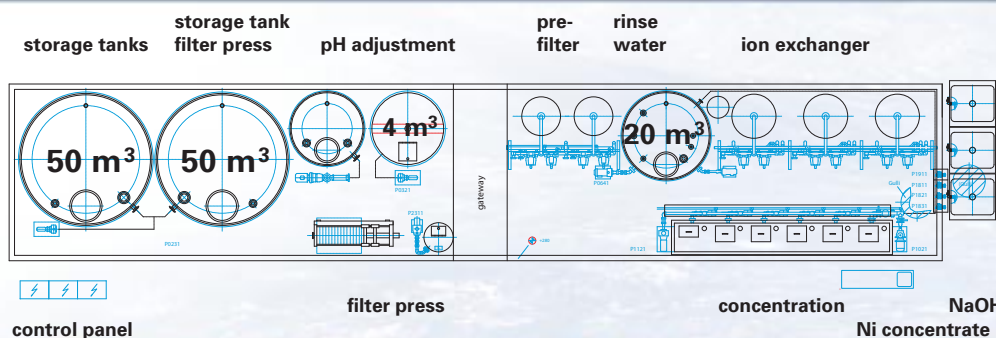
After preliminary examinations and analyses in the laboratory or technical department, the basic processes which will solve your special waste water and filtration problems are determined. Pilot plants especially designed for this purpose can be put into operation in your company. On the basis of these findings and experiences the large scale plant will be designed and executed.

- design and development of individual processes
- prevention of waste water by means of circulation loops
- reduction of use of resources and waste
- fresh water savings
- creation of complete resource circulations
- adherence to legal requirements and limiting values
- optimizing process results with the help of actual and target value analyses
- increased productivity
- AWARE-operation models with full service

**Plant construction**

**Process engineering and manufacturing technology**

The process



Study of a three phase waste water treatment concept, here an example of a paint shop for the automobile industry



We offer a wide range programme of tested and proven engineering. The plants are especially adapted and constructed according to your requirements and the given premises. Test and pilot plants supply the necessary knowledge for optimizing the design of a new plant or to take over the pilot plant into permanent operation.

The result: Increased efficiency under consideration of the current environmental requirements.

We supply plants for all areas of process engineering and manufacturing technology.

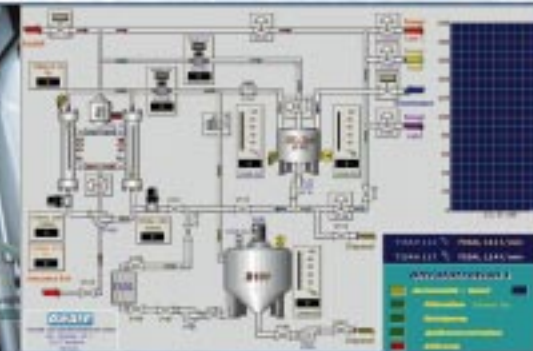
- phosphate and degreasing plants
- bath treatment plants
- filtration systems
- membrane and particle filter
- ultrafiltration plants (e. g. for separation and concentration of paint particles or bath treatment of process baths)
- nanofiltration plants (e. g. for resource recovery out of rinse and surface treatment processes)
- ion exchanger for treatment of rinse water in surface treatment plants
- pressure filter for particle filtration
- waste water treatment plants
- fresh water treatment plants ( e. g. ion exchanger and reverse osmosis plants)
- recycling systems

## Plant construction

## Process engineering and manufacturing technology

Engineering

12 - 13





Plant construction

Electrical and control engineering



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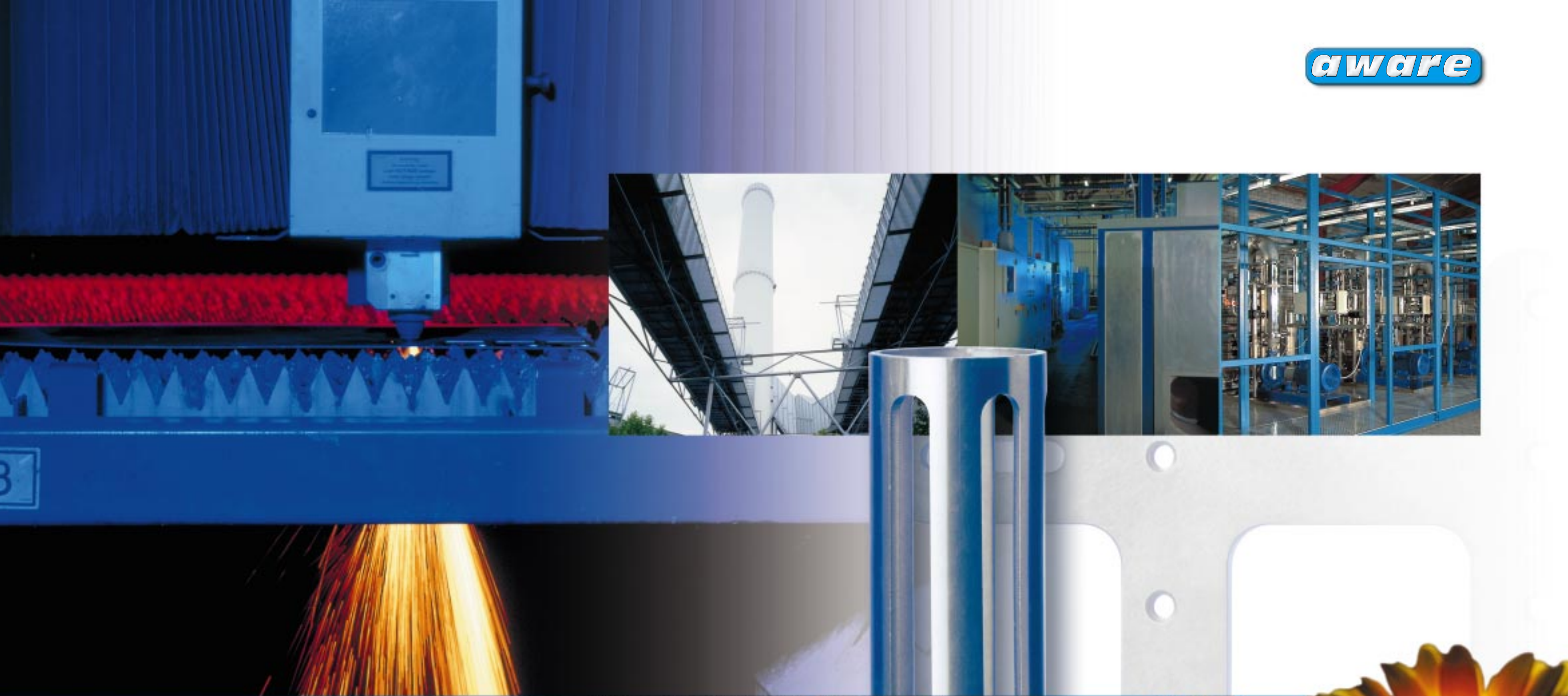
**Only control engineering which is precisely adjusted to the process and user can ensure a trouble-free and economical operation. AWARE supplies individual solutions from control panels up until visualizations.**



The control panels guarantee a safe and clear overview of the control elements. The plant is generally operated by visualization computers, on which all process parameters are clearly displayed.

The user guidance is easy to understand. Process data and sequences of operation can be set and summarized on this interface with ease.

- hardware engineering
- control panel manufacture
- electrical installation
- software engineering comprising all current PLC and bus controls
- visualization systems, e. g. InTouch and WinCC
- commissioning
- documentation
- training
- remote control and distant maintenance
- service



## Production and pre-assembly

16 - 17

**We show flexible reactions to special requirements. And we are continuously extending our capacities. Since 2002, we are able to manufacture with our own laser technology. This enables us to realize individual solutions easily.**

After the designing phase pilot, test and large scale plants are manufactured on our premises. Modules, components, and on request complete systems are pre-assembled by us and thoroughly tested for functional operation. Not until all tests are completely trouble-free, the plant is assembled on your premises and taken over for test or permanent operation.

### **The advantages:**

- individual plant solutions by means of own laser and metal folding
- even "tricky" room conditions can be considered when designing the plant to make the most of it
- extensions, modifications etc. can be trouble-freely integrated
- assured functional operation due to pre-assembly and thorough testing on our premises



We can offer you special service packages und operating models for any kind of plant and for companies of all sizes. Adapted to your production schedules with an "around the clock service". We will be glad to advise you and elaborate a made-to-measure service concept.

AWARE takes responsibility for a continuous and trouble-free operation. We look after the plants. Our process engineering service team continuously examines the limiting values, withdraws the respective samples, analyses them for their constituents and ensures adherence to the required values.

Our qualified service team fits into your existing work process. Because of the permanent contact and data exchange with the development and project department, a trouble-free process on site is supported.

**Service areas:**

- process attendance and plant management
- maintenance, servicing, cleaning
- logistics of all necessary materials for operation of the plants
- analytical chemistry
- guarantee of the required limiting values
- improvement of processes
- training and further instruction of service personnel

**Service**

