

DALEX WELDING MACHINES

SPECIAL WELDING UNITS



DALEX Schweißmaschinen GmbH & Co. KG





EXPERIENCE
WELDING THE FUTURE

DALEX - YOUR SPECIALIST FOR WELDING TECHNOLOGY

As leading medium-sized traditional company, DALEX Schweißmaschinen GmbH & Co. KG has been specialising in the design & production of high-quality technically excellent products for more than 100 years.

Experience, which this company has gained over a century of activity in the industrial fabrication of welding machines and components for almost every individual deployment imaginable, puts the name DALEX in a class of its own when talking about resistance welding. And this goes for countries all around the world.

And DALEX is durable. We have to be to survive for so long; with our own brand of competent, practice-orientated consultation coupled with experienced, highly-specialised technicians and engineers. With a specialised approach to client-orientated manufacturing tasks by our technical field service team, quotations are compiled in close collaboration with our own in-house project planning division. Quotations therefore revolve around D & D solutions which in turn lead to increases in productivity and economic success.

We take our job seriously. Demands made by the client are treated as challenges to be overcome. As your experienced partner, we work together to find your most suitable & economic production process. That completed, we move on to designing & construction of the perfectly prepared one-and-only welding plant- in other words: "The right machine for the right job".

So many years of working in so many fields of deployment amass a mountain of Know-How. The vast number of different machines to come out of Wissen in Germany bear witness to the range of applications DALEX has mastered.

You have a welding problem,
we will find the answer!





ABOVE & BEYOND STANDARD LIMITS

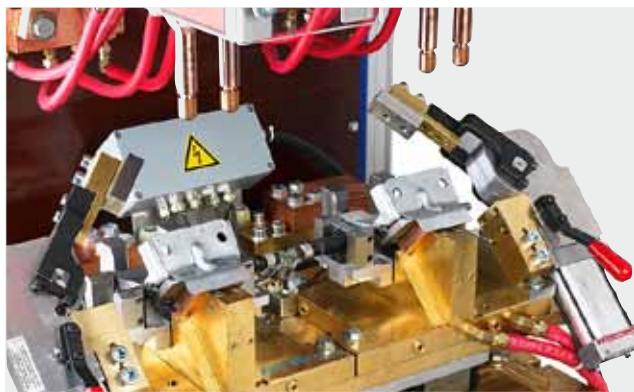
DALEX also manufactures highly-complex production cells in addition to the classical handcraft & industrial machines for spot, projection and roller seam welding. Decades of experience have led to almost perfect systems.

Examples among others are:

- Welding plant with semi & fully automatic workpiece feeding
- Automatic rotary machines
- Linear systems
- Robot cells

The above-mentioned examples contain not only resistance welding but also systems such as MAG & laser welding, pressing, testing & labelling processes as well as pre & post downstream-switched assembly steps.

DIVERSITY OF SPECIAL MACHINE DESIGN

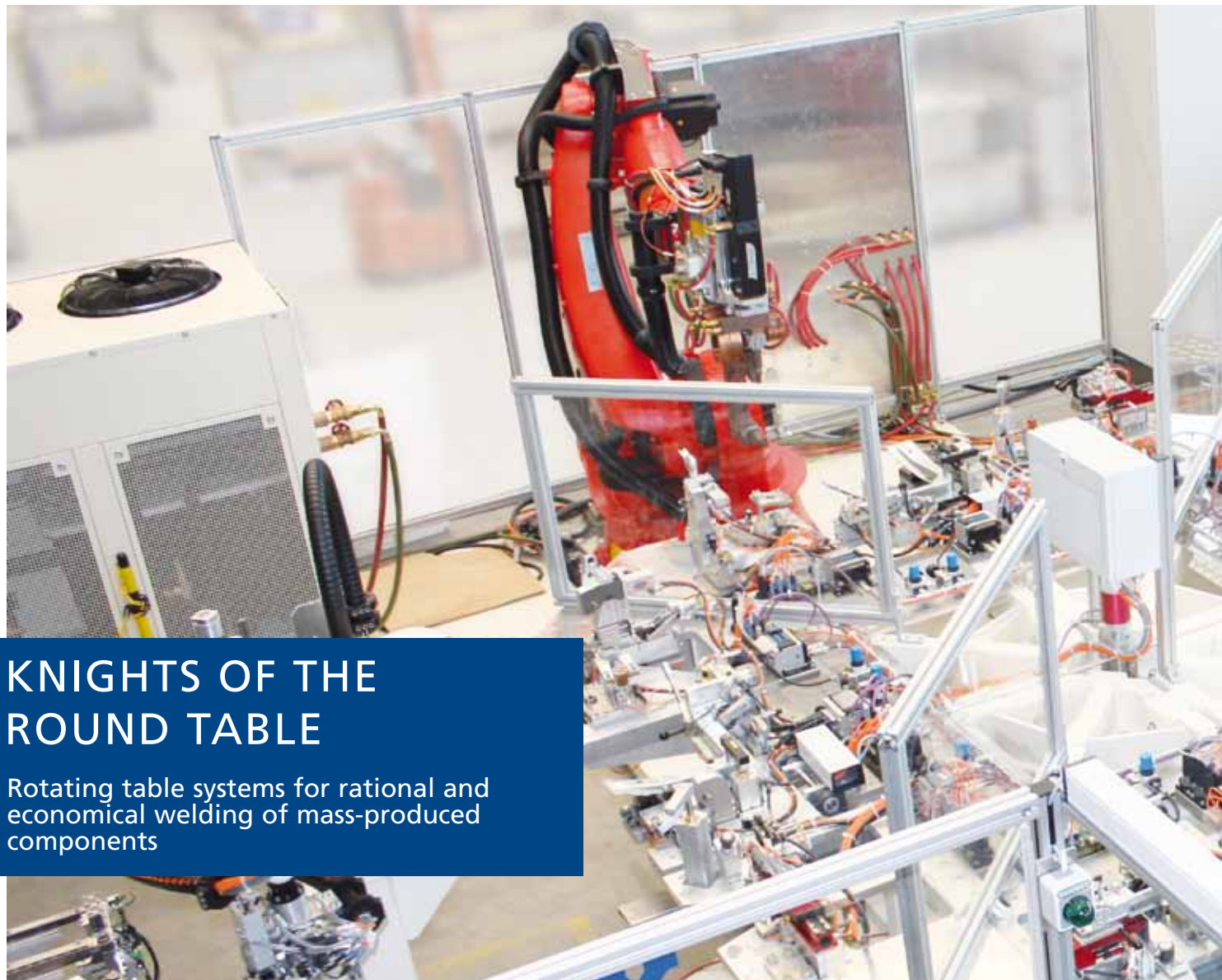


WELDING SOLUTIONS FOR EVERY DILEMMA

The ability to develop specialised client-orientated welding solutions makes DALEX an attractive partner supplying a wide range of manufacturers all over Europe of Household technologies, Windows and doors, Agriculture/industrial vehicles as well as products of Wire mesh/Sieve engineering, Electrical industry, Furniture industry, Advertising technology, Foodstuffs industry, Aerospace technology and much more.

DALEX is well-equipped as competent R & D partner in the automobile industry as well as system supplier.

DALEX equipment is to be found in well-respected automobile manufacturers such as Audi, BMW, Daimler, VW Ford, even as far afield as GM. Such names have to be able to rely on expertise & competence and DALEX is proud of the many years of collaboration and trust in what these global players see as a competent partner.



KNIGHTS OF THE ROUND TABLE

Rotating table systems for rational and economical welding of mass-produced components

ROTARY TRANSFER SOLUTIONS

Rotatory table systems offer high product performance for rational and economical welding of mass-produced items.

Where low flexibility requirements with regard to processing and/or numbers produced, long product lifecycles as well as demands on numbers produced arise, then automatic solutions on the basis of rotating table systems prove themselves as ideal and space-saving solutions.

Deployment of automated insertion & removal stations together with additional processing stations such as signing, testing, milling etc. enables fully automatic production.



Robot rotating table systems for automobile product groups

>>TASK IN HAND...

Welding automobile components



...OUR SOLUTION AT A GLANCE<<

ROTATORY TABLE SYSTEM WITH WELDING ROBOTS

Rotation resistance welding systems for Limbach nuts, square nuts and welded studs as well as spot welding in one installation.

Automated process with infeed facilities, welding robots and removal robots

ROTATIONAL TABLE SOLUTIONS - RATIONAL AND ECONOMIC



>>TASK IN HAND...

Fully-automatic production of contacts onto braided cable

...OUR SOLUTION AT A GLANCE<<

16-STATION ROTARY TRANSFER ASSEMBLY AUTOMATED SYSTEM

Processing of a wide variety of almost unlimited lengths & diameters of cable

Fully-automatic process beginning with cable infeed from coil, via measurement, cutting to length & skinning processes then introduction to wire end contact and double-ended welding-on of contacts and finally depositing of the finished product onto a conveyor





Portal welding plant for automobile seat-backs

PORTAL WELDING PLANT

Portal systems are deployed primarily for multiple-linked processing stations.

In the case of workpieces with large component widths, the workpiece is travelled under a portal framework by a conveyor belt and into the welding station. After successful welding, it is removed and carried on to the next processing station



>>THE TASK...

Welding of automobile seat-backs

...OUR SOLUTION AT A GLANCE<<

PORTAL WELDING PLANT

Automated projection welding of 56 special projections in cascade with servo-motorised drives

PRECISE AND FAST

Robot welding plant for rapid and precise large-scale production



ROBOT WELDING PLANT

Robot welding plant finds application in large-scale production plants and multiple components with a high proportion of welding. Equipped with various peripheries, they work rapidly and extremely precisely.

The deployment spectrum is almost endless- whether as pure hand-held appliance or with DALEX robot guns as self-contained welding unit with integrated transformers.

Moving up the ladder so to speak, "Custom Fit Product" from DALEX describes the ROBOT GUN SERIES CZ/ XZ with a modular system program of 24 basic types, where fittings, drive or transformer type are freely configurable. Types Euro C and Euro X fulfil all stipulations for standard construction designs and are accepted by almost all automobile manufacturers.



Robot transfer lines for automobile components

>>THE TASK...

Fixing welding nuts onto partitioning wall sheeting in left & right versions, pressing in of ball studs, component signing for tracing purposes, palleting in component-related stacking systems



...OUR SOLUTION AT A GLANCE<<

ROBOT TRANSFER LINES

Client speciality: 5 Robots handling workpieces
Complete with component carrier to the stationary welding stations and along the line, thereby avoiding complicated transfer system for the carrier.

Sheet metal infeed per magazine conveyor, universal either for left-hand or right-hand parts

Workpiece return feed conveyor with workpiece carrier station (online variation change)

Special task: press-in station for studs, signing station, 3 stationary Euro-X welding guns, 3 integrated tip dressers

ROBOT DEPLOYMENTS – POWERFUL AND VERSATILE

>>THE TASK...

Welding of insulating jacket, exhaust gas systems
(1 job, 2 solutions, alternative 1)



...OUR SOLUTION AT A GLANCE<<

ROBOT WELDING PLANT WITH MINI GUN

Insertion of exhaust gas components, as well as insulating split shells and mantle in a workpiece carrier of the rotary table.

Parallel to insertion process spot welding and push-spots in second workpiece carrier.

Micro welding guns and push-spots are to be found at the robots.

Advantage: quicker, parallel working possible, higher output

>>THE TASK...

Welding of insulating jacket, exhaust gas systems
(1 job, 2 solutions, alternative 2)



...OUR SOLUTION AT A GLANCE<<

ROBOT WELDING PLANT WITH MINI GUN

Insertion of exhaust gas line of components, as well as insulating split shells and mantles in a workpiece carrier, fixed to a robot

Travel to welding station, spot welding and push-spots at location.

Micro welding guns and push-spotters are fixed stationary in the welding station.

Advantage: simpler handling, fewer interfering edges in the workpiece holder



Robot in combination with rotary indexing table



Handling robot with workpiece carrier



ROBOT WELDING PLANT WITH C-MODULES

The development of C modules in welding technology originated primarily from demands made by the automobile industry. In contrast to conventional resistance welding systems, C modules offer a narrower form, so that they can even reach locations along tight rows of robots.

Additionally, the nut placement device or placement handling can now be introduced through the symmetrical free space on the left & right sides of the units





Robot welding plant with C modules

>>THE TASK...

Spot & projection welding (nuts) to roof trusses for truck driver cabins

...OUR SOLUTION AT A GLANCE<<<<

ROBOT WELDING CELLS WITH C MODULES

Alternating insertion of roof sections by operator.

Take-over of components by robots with type-specific gripper system

Spot & projection welding in welding stations in C module arrangement

Gripper depository & adaption of new gripper in a gripper station





Robot welding plant with C modules..

>>THE TASK...

Welding of roof section trusses for truck driver cabins

...OUR SOLUTION AT A GLANCE<<

ROBOT WELDING PLANT WITH C MODULES

Insertion and welding of 4-edged welding nuts

Insertion of metallic bracket from magazine conveyor,
Spot welding of bracket with main section

Signing (stamping of finished part), tested depositing of
OK / NOK parts



ROBOT WELDING CELLS FOR MAG WELDING

>>THE TASK...

MAG welding of heat exchangers for
truck auxiliary heating

...OUR SOLUTION AT A GLANCE<<

ROBOT MAG WELDING CELLS

A handling robot with special gripper travels a number of stations, picks up a clamping unit with workpiece and welds it under a stationary welding torch. Next, a wire spiral is welded on, then a floor piece, then there is a leakage test in a plunge basin, and finally 2 exhaust gas nozzles are welded on



MAG welding of heat exchangers for truck auxiliary heating



LONGITUDINAL AND TRANSVERSE

CNC coordinate welding plant for mass
production of complex workpieces

CNC-DRIVEN COORDINATE WELDING PLANT

Even in the case of complex workpieces, the welding sequence takes its course rapidly & precisely. The welding unit travels all welding locations in the X & Y axes exactly and to the point. This speed of operation allows large production numbers with constant quality & completion times.

>>THE TASK...

Welding of 4-sided nuts to a seat belt bracket

...OUR SOLUTION AT A GLANCE<<

CNC COORDINATE WELDING PLANT

Plant with 2 operator workplaces, where the workplace carriers are assembled alternately.

In the other position the welding machine travels through the welding positions along the X & Y axes.

Nuts are positioned automatically and the workpieces welded in the individual tablet position.





Linear transfer unit for fabrication of drawer side components

LINEAR SYSTEMS

Linear axes were conceived for high-dynamics with long travel. They enable precise timing and exact locational positioning. Production with many single parts and/or single working sequences provide the economic advantage in simultaneous synchronisation of all processes – the line always runs at the same pace.





HIGH-TECH ON A LARGE SCALE

Linear plant for fully synchronized fabrication
with long process sequence paths

>>THE TASK...

The welding of drawer side parts for
kitchen cabinets

...OUR SOLUTION AT A GLANCE<<

LINEAR TRANSFER PLANT

Mirror-imaged version for left- & right-hand components

Cycle time of 4 sec., designed for long & high variations
(workpiece geometry)

Process projection welding, test procedures, workpiece
sequencing, via portal shuttle, servo-driven welding cylinder





NON-STOP

Transfer lines for workpiece transport
through chain-link principle working stations

TRANSFER SYSTEMS

The absolute basics for flexible automated solutions are modularly expandable longitudinal transfer systems for chain-linking of process & testing stations on the basis of workpiece carrier-based transport of parts or direct workpiece transport on conveyer belt systems. This leads to a win-win situation in the process time and minimising of handling times.

>>THE TASK...

Welding of heat-exchanger plates for the foodstuffs industry

...OUR SOLUTION AT A GLANCE<<

TRANSFER-LINE

- Introduction of profiled heat exchanger sheets (upper & lower sides)
- Spot welding for position fixing
- Seam closure welding of the fixed subassemblies
- Cleaning of welding seams in a brushing station
- Depositing the sheets into a stacking storage system
- Length variations of 1 to 6 metres as well as width also adjustable



SPECIAL WELDING SYSTEMS FOR LASER WELDING

Laser welding is generally deployed for joining components which have to be joined with high speed welding, need a narrow & thin welding seam and lastly not subjected to the effects of high heat input. These high welding speeds, an excellent automation capacity and the possibility for online quality monitoring during the process make laser welding into a prevalingly popular joining process in modern industrial fabrication.



>>THE TASK...

Laser welding of drawer side parts for the furniture industry

Demands on this type of welding:

Fulfilling prescribed strength properties without breaking through to the decorated side of the component



...OUR SOLUTION AT A GLANCE<<

LASER WELDING PLANT

Highest positioning accuracy of components

Distance measurement before approach of the laser head

Cycle time of 4 sec.

Transport of parts per portal shuttle



WELDING PLANT FOR FOIL SEAM WELDING

Roller seam welding of sheets using thin metal foil ("Foil"). This process enables flexible joining of standard sheet sizes, instead of cost-intensive, large-size sheet steel.

>>THE TASK...

Welding of components of truck auxiliary heating

...OUR SOLUTION AT A GLANCE<<

FOIL SEAM WELDING PLANT

Roller-bearing mounted sliding device for the workpiece to enable rotatory alignment of the welding position



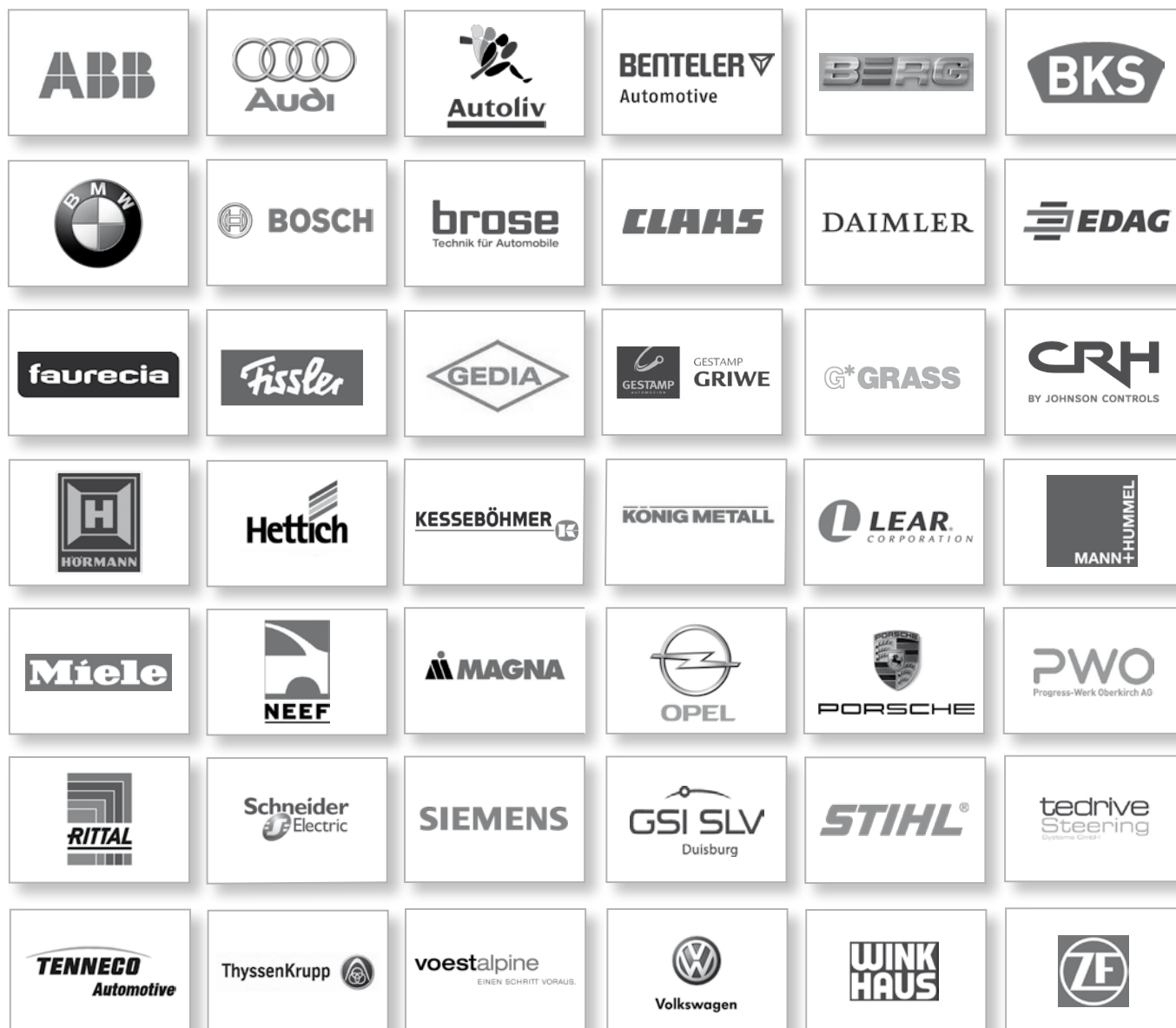
GOING FORWARD TOGETHER

DALEX - PARTNER TO THE BEST

DALEX sees itself as competent and personal partner for clients in industry and at the cutting edge of technology. Key accounts range from medium-sized enterprises to large internationally renowned companies.

So when you are talking about producing excellence in quality, put your trust in a company known worldwide for its unrivalled reputation, come to DALEX Schweißtechnik.

DALEX always aims to satisfy by offering clients an active & solid business relationship. This philosophy has worked for 100 years- join us for the next 100.



EXPERTISE

EXPERIENCE

AUTOMATION

PROJECTION WELDING

INNOVATION

CD-WELDING

ROBOTIC GUNS

KNOW
HOW

HANDGUNS

MF-TRAFO

DEVELOPMENT

SEAM WELDING

SPECIAL SOLUTIONS

COMPETENCE

WE WILL BE PLEASED TO ADVISE YOU - PLEASE CONTACT US

Get in touch with us

telephone **+49 (0) 2742 - 77-0** / E-Mail: kontakt@dalex.de

YOU ARE INTERESTED IN FURTHER INFORMATION?

Our product brochures will give you more interesting and detailed information of the quality and the wide spectrum of DALEX products.

All our brochures can be downloaded at our website: www.dalex.de



ERFAHRUNG SCHWEISST ZUKUNFT
EXPERIENCE WELDS FUTURE

DALEX

SCHWEISSTECHNIK



DALEX
Schweißmaschinen GmbH & Co. KG
Koblenzer Straße 43
D - 57537 Wissen

Tel. +49 2742-77-0
Fax +49 2742-77-101

Internet: www.dalex.de
E-Mail: kontakt@dalex.de

 **made
in
Germany**