



AUTOMATION

CONSULTING

SERVICE

RETROFIT



ACSR-Solutions GmbH is *the* specialist for pharmaceutical machinery and equipment



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Welcome to ACSR Solutions

We are a provider of engineering services in automation and in machine overhauling and retrofitting. Ensuring your spare parts supply is one of our strengths.

ACSR-Solutions GmbH specializes in pharmaceutical machinery and process equipment. Our products and solutions are also used in the food and chemical industries.

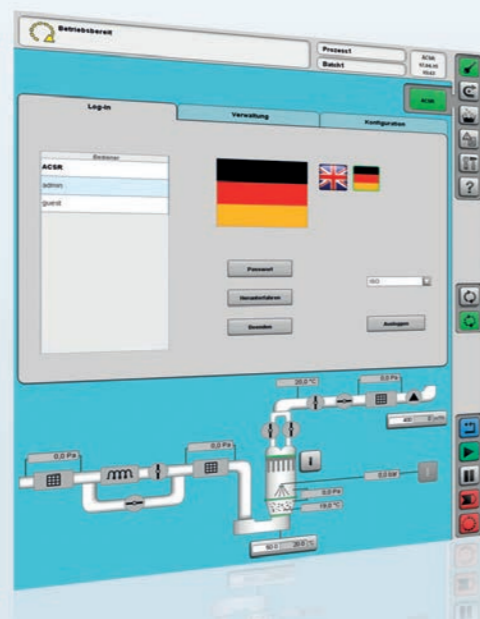
For new development, overhaul, maintenance and spare parts procurement, we can support you competently, reliably, quickly and extremely economically. It does not matter for which manufacturer your machine originates or which year of manufacturing it has.

Our standardized solutions for machines from different manufacturers are developed within a team of engineers and technicians with many years of experience.

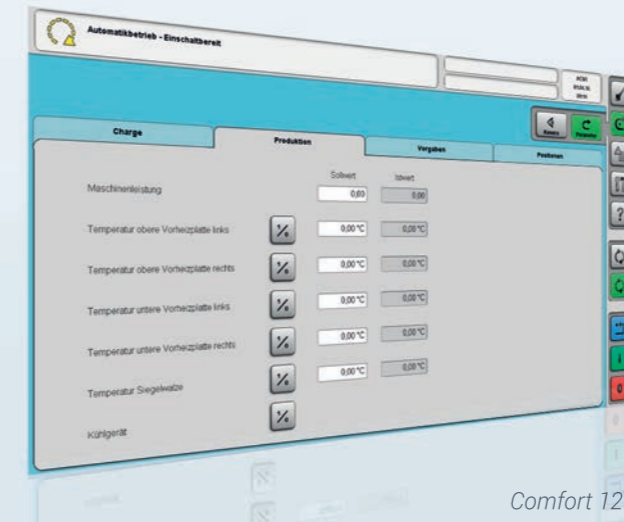
Development and production takes place in accordance with international regulations and standards of the pharmaceutical industry.

Therefore our Automation systems are accordingly to the GAMP regulations developed and are FDA 21 CFR Part 11 compliant.

You will benefit from our flexible, individual and innovative solutions. The cooperation with our customers we understand as a fair and open partnership. In this partnership, the joint developments are the perspective for a long-term and successful business relationship.



Performance 19"



Comfort 12"



Eco 5,7"

Automation

Standard software for systems and machines

The hardware and software systems that we develop are integrated into your systems. This involves adapting our standard products to your specific needs. The functions are performed by a powerful control system which has been designed to cope with most demanding of conditions and guarantees problem-free, long-term operation. The software is developed and maintained in accordance with the latest pharmaceutical-industry standards.

The pharmaceutical version **Performance** includes the following as standard:

- An intuitive and user friendly 19" graphical user interface
- Batch-based production
- Recipe management and product-related settings
- User management compliant to 21 CFR Part 11
- Online switching between languages and units
- Print log of batch data
- Fully network compatible including remote-maintenance interface
- Powerful, PC-based control

The basic version **Comfort** offers the following as standard:

- An intuitive and user friendly 12" graphical user interface
- Recipe management and product-related settings
- User management
- Print log of production data
- Networking compatibility
- Controller of the latest generation

The economy version **Eco** includes the following as standard:

- An intuitive and user friendly 5.7" graphical user interface
- Latest generation of Siemens S7 1200 PLC



TabControl

For tablet presses

TabControl combines machine and process control in a single system. The hardware is installed in a new stainless steel control cabinet integrated into the machine's cover. As an alternative, we offer a detached option with the power electronics and control systems located in an external control cabinet. The operating unit can be mounted either within the control cabinet or on a swivel arm.

Features

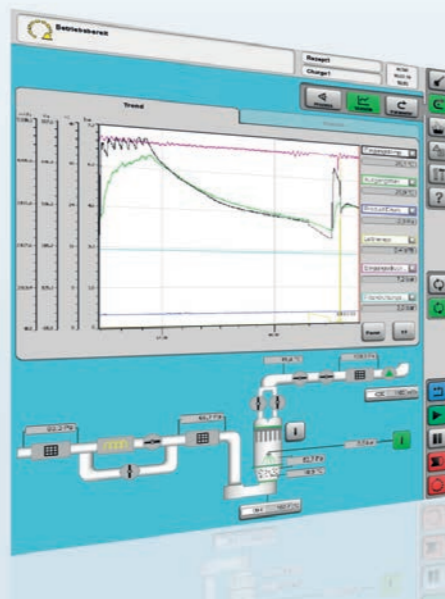
- Displays individual pressures in pre and main compression force
- Trend for pre and main compression averages
- Compression-force monitoring, individual punches for pre and main compression force
- Compression-force regulation via the filling or cylindrical height main compression
- Interface to peripheral equipment, e.g. dust extractor or drum changer
- Motorised adjustment of fill depth, cylindrical height and upper punch penetration including positioning measurement
- Sampling
- Individual selection of tablets using an air-ejection nozzle
- Real-weight control with interface to tablet-control system
- Reduced punches
- Validation package (standard or as build)

Specific solutions

- Air-ejection unit with monitoring of ejection triggering
- Retrofitting of strain gauge measuring points
- Temperature monitoring of ejection cam as alternative to ejection force monitoring
- Servicing of gear box and main machine shaft
- Replacement of lubrication system

Versions

	ECO	Comfort	Performance
Displays individual compression pressures for pre and main compaction force			X
Trend for pre and main compaction force averages			X
Reduced punches			X
Compression force monitoring, individual punches			X
Compression-force regulation via the fill depth or cylindrical height main compression	Fill depth	Fill depth	X
Motorised adjustment of fill depth, cylindrical height and upper punch penetration including positioning measurement			X
Sampling			X
Individually selected tablets using an air-ejection nozzle			X
Real-weight control with interface to tablet-control system			X
Identifying bad tablets via main gate	X	X	X
Interface to peripheral equipment, e.g. dust extractor or container changer	X	X	X
Validation package (standard or as build)	X	X	X



FluidBedControl

For fluid bed dryers

FluidBedControl transforms your fluid bed dryer into state-of-the-art technology by fully replacing the control technology. The upgrade can take place on pneumatic or electric control systems and requires less than 3 weeks to complete.

Features

- System visualisation using overview graphic
- Management of mixing, granulating and drying processes
- Manual and automated control of aggregates
- Process stage and sequence selected as required for production and cleaning
- Control of downstream systems and equipment
- Filtering and air extraction monitoring
- Process data recorded to a database
- Process data can be displayed as required in trends



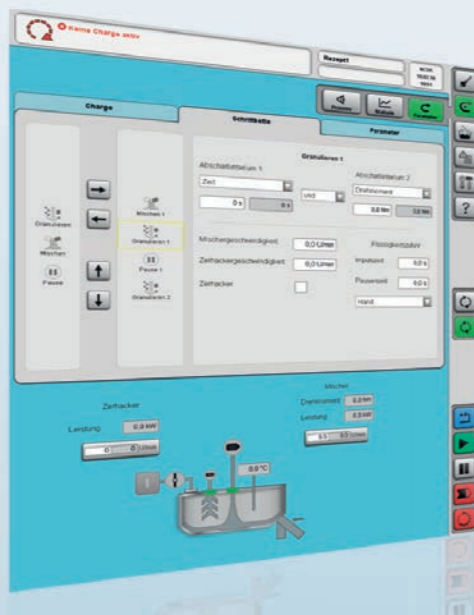
PacControl

For blister packaging and cartoner machines

PacControl integrates all the operational elements of a machine into a single interface unit. It enables, for example, pharmacodes and printed layouts to be stored within a product's recipes data. We also offer centralised operation for the entire production line. PacControl can also be integrated into your company's network.

Features

- Serialisation and tamper evidence systems
- Printer, pharmacode detection and camera systems can be integrated into the user interface
- Integration of MES, ERP and serialisation systems and/or track and trace network systems
- Control and management of all machine aggregates
- Interface to peripheral equipment as well as to upstream and downstream systems
- Recipe management in different formats
- Software controlled cam switch



MixControl

For high-shear granulators and container blenders

MixControl is full scalable and is therefore able to optimal control from Container Blender and High-Share granulator through to process systems. The Automatisations is controlling a simple mixing process as well as a complex manufacturing process for products.

Features

- System visualisation via an overview graphic
- Process management
- Manual and automated control of the aggregates
- Process stage and sequence can be selected as required for production and cleaning
- Control of downstream systems and equipment
- Process data recorded to a database
- Process data can be displayed as required in trends

Our aim

>> To provide you with the services you need to get you ahead of the competition.

Consulting

To create a solid basis from the outset

We advise, develop and support you from the initial idea through to the finished system within a fair and open partnership. We impartially assess the available products on the market and operate independently of third-party interests. Our consultancy services are based on our extensive experience in product development, the success of our reconditioning and retrofitting projects, and on the many years of experience of our experts.



Training

Humans can be a source of error within production especially as machines and systems become increasingly complex. Minor errors can have major effects on production costs, quality, health and the environment. Training courses are therefore indispensable for raising security in operating equipment.

We work together with you to develop training strategies, materials, and theoretical and practical exercises.

The following are examples of training courses we have already carried out:

- Training for operators in tablet making
- Training for technicians in maintenance and troubleshoot of automated systems
- Training for the implementation and commissioning of our reconditioned products

Validation

Virtually every machine and system used for pharmaceutical production is computer-based. At the same time, the authorities and industry associations are paying greater attention to regulations and guidelines to be applied to such systems. The more complex a system, the more complex its validation. To keep costs and effort to a minimum, we work together with our automation-engineering experts to create efficient and inexpensive validation documentation.

Examples of projects in the area of computer system validation:

- Establishment of GAMP compliant development standards
- Supplier audits
- Implementation of validation projects as part of our reconditioning work

Process optimisation

Efficient production requires the optimal interaction between a multitude of factors ranging from the machine through to the operator. The basis of improving system efficiency is a detailed and documented analysis of the entire process. This covers not only the production process but also equipping, cleaning and especially the servicing of equipment. The analysis then serves as a basis for developing a system solution which then gradually undergoes implementation and optimisation. The result is an efficient and reliable system.

The following are examples of completed projects in process optimisation:

- Raising the efficiency and optimising product feed in a tablet press
- Development of a control function for the individual selection of tablets
- Creation of web-based efficiency analysis software

System definition

New procurements are often associated with a complex process of decision making, decisions which need to be sustainable over the long term. At the same time, new technologies are being used for which no previous experience is available. We have knowledge of the new-machine market and can therefore impartially advise you on new procurements. In addition to technological requirements, price and availability also play a role. A realistic alternative to acquiring new machines, that may have long delivery times, are reconditioned pre-owned machines for the pharmaceutical industry. We work together with our partner, the Pharma Maschinen Handelsgesellschaft to advise you on the procurement of technically perfect pre-owned machines and equipment.



Servicing

To extend the availability of your systems

Regular machine servicing increases efficiency and guarantees functioning. We offer our services not only for the reconditioned equipment procured from us but also for the equipment you already operate. You benefit because we operate independently from manufacturers and take a highly price-conscious approach.

We offer the following for your processes and machines:

- Maintenance, inspection, servicing and calibration
- Guaranteed supply of replacement parts, also for those components no longer being produced
- Integration into your company infrastructure, e.g. interfaces to your MES systems
- Integration of peripheral systems

Tell us what you need. We are here to support you with our Service.



Retrofit

To overhaul individual machines

Our customised retrofitting projects are tailored to your specific needs. They range from the reconditioning of a specific module and the replacement of control technology through to general overhauls. For control technology, we use our products from the field of automation.

Reconditioning and retrofitting covers the following:

- Assessment of your equipment
- Working together with you to determine needs
- Procurement and preassembly of the components including the relevant control cabinets
- Reconditioning is carried out in-house or on-site
- Acceptance testing
- Equipment commissioning including calibration, validation and training

Guarantees are of course provided on all products and services.

Retrofit Alliance

The more benefit for companies

ACSR Solutions is a member of the Retrofit Alliance. An alliance of medium-sized traders and service providers who are able to offer from a single source cost-effective, pre-owned machinery and systems.

We offer the following for your processes and machines:

- Overhauled pre-owned machinery as realistic alternatives to expensive new machinery with long delivery times
- Calculated risks for capital investments in new projects
- More than 30 years of market experience, and connections around the world
- More than 600 machines and 1500 containers from renowned European manufacturers permanently in stock
- Products, systems and machines from a single source: point of contact for the entire project duration and support for customers seeking specific machinery
- Machinery overhauls according to customer requirements as well as to the original manufacturer's standards of quality. Installation and certification at the customer premises when required

We take responsibility even after installation. We undertake maintenance, calibration and spare parts supply as well as offering a remote servicing module for machinery using the latest automation technology.

www.retrofit-alliance.com



>> *The benefits to customers multiply when experienced businesses combine their expertise. The Retrofit Alliance represents a strong team for our mutual customers.*

Our partners in the Retrofit Alliance

Elizabeth Europe

The company specialises in the supply of world-class tools, machinery and services for the tablet and packaging industries and develops advanced tablet and packaging technology. The development of appropriate systems and products takes place in close collaboration with customers. This ensures customer needs are met and productivity increases. Elizabeth Europe is based in France and has a large sales organisation covering the whole of Europe and North Africa.

www.elizeurope.com

Pharma Maschinen Germany

Pharma Maschinen has been a worldwide supplier of pre-owned production and packaging machines to the pharmaceutical and packaging industries for more than 25 years. More than 600 production and packaging machines are always available from their 4000 m² warehouse. Pharma Maschinen are happy to offer their experience in selecting and procuring machinery. The company is based in Germany, very close to our location in Düren Kreuzau.

www.pharma-maschinen.com

Your point of contact at ACSR-Solutions GmbH

We are pleased that you wish to contact us.



Frank Schrötler
Director
phone: + 49 (0)2421. 206 36 10
f.schroetler@acsr-solutions.com



Klaus Rosenbach
Director
phone: + 49 (0)2421. 206 36 11
k.rosenbach@acsr-solutions.com

LEGAL INFORMATIONS

Publisher

ACSR Solutions GmbH
Nikolaus-Otto-Straße 7
D-52351 Düren

Managing directors

Frank Schrötler
Klaus Rosenbach

Contact

phone: + 49 (0)2421. 206 36 0
fax: + 49 (0)2421. 206 36 20
e-mail: info@acsr-solutions.com
www.acsr-solutions.com

Design

www.smart-interactive.de

www.acsr-solutions.com

ACSR-Solutions GmbH
Nikolaus-Otto-Straße 7
D-52351 Düren

phone: + 49 (0)2421 . 206 36 0
fax: + 49 (0)2421 . 206 36 20
e-mail: info@acsr-solutions.com

