



CUSTOMER ORIENTED.

**WE SELL TECHNOLOGY –
WE DELIVER SATISFACTION**



BERTRAMS AFTERSALES SERVICES.

As a leading manufacturer of high-quality chemical plants with long lifetimes, the satisfaction of our customers is our first priority.

Superior Bertrams quality combined with regular plant inspections ensures that unscheduled downtimes are reduced to a minimum. Nevertheless, if a repair is necessary, we do everything we can to put your plant back into operation as soon as possible.

Our experienced service engineers will assist you with technical problems, as well as in professional troubleshooting and give you valuable recommendations for optimum plant operation.

We deliver the right spare parts worldwide quickly and reliably. Bertrams engineered spare parts are optimal in their accuracy of fit, material properties and durability, as well as being specifically tailored for your plant.

Ask us for a quote – our service team is always there as your reliable, committed and proficient partner!

■ CUSTOMER ORIENTED

Each customer has specific needs. We offer excellent service over the entire lifetime of your chemical plant.

■ SERVICE EXPERTS

Our team of experienced service engineers ensures that your plant provides the desired performance year after year.

■ SWISS QUALITY

We place great value in the quality of our work, from the installation of your plant to customer-oriented services.

■ DEDICATED

We are your dedicated and dependable partner for the problem-free operation of your chemical plant.

■ RELIABLE

Just like your plant, our service guarantees quality and reliability.

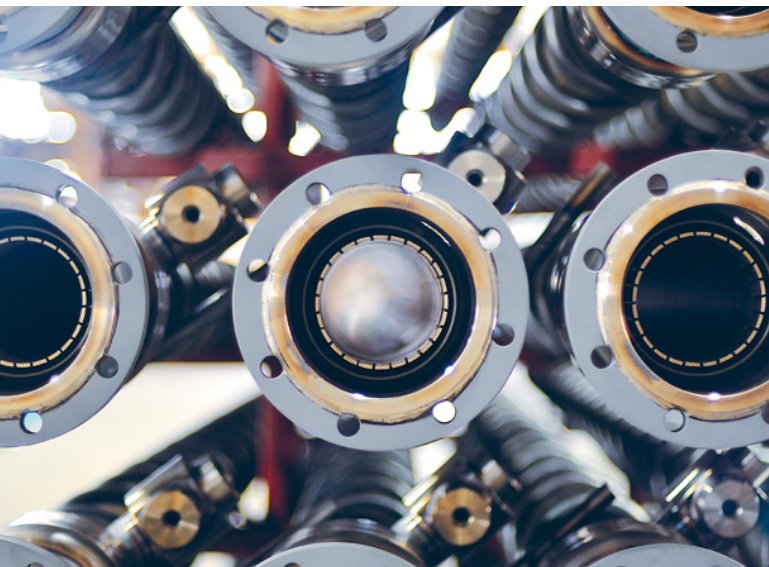
“Made in Switzerland.”

ALL BERTRAMS SERVICES AT A GLANCE.

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BERTRAMS ENGINEERED SPARE PARTS. SUPERIOR PARTS QUALITY AT A FAIR PRICE ALWAYS PAYS OFF



Plant quality, safety and reliability are the characteristics that make your Bertrams chemical plant what it is: a chemical plant of excellence.

Our spare and replacement parts are all made to the same high standards. Only Bertrams engineered spare and replacement parts are of the highest quality and fit perfectly to prevent the failure of your chemical plant. They significantly contribute to reducing costs over the service life of the plant. Superior parts quality at a fair price always pays off.

OUR SERVICE:

- Top-quality components
- Guaranteed accuracy of fit
- Expert advice for the identification of the correct spare part
- Worldwide supply of spare parts
- Long-term availability of all parts
- Instruction manual for correct use, handling and installation

YOUR BENEFITS:

- Top quality – now much cheaper!
- Ensuring plant availability
- All parts available from a single source
- Avoidance of malfunction thanks to correct precision fit
- Save time and costs due to an extended service life

SPARE PARTS PACKAGES.

MAXIMUM SPARE PARTS AVAILABILITY AND PLANT UPTIME

Bertrams stands for high-quality chemical plants with long lifetimes. However, as the components age and the operating time increases, the probability of failure becomes higher, resulting in decreased plant availability.

In order to avoid costly production failures and downtimes, Bertrams recommends its plant-specific spare parts packages, designed for different levels of support and matching customers critical needs and budget.

BERTRAMS RECOMMENDED PLANT-TAILORED SPARE PARTS PACKAGES:

- First-Aid Package
- Advanced Package
- Premium Package

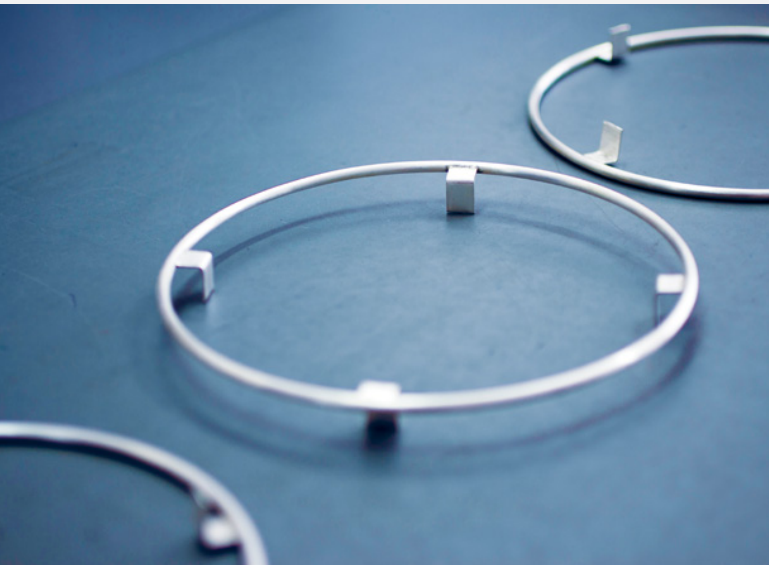
YOUR BENEFITS:

- Immediate availability of required spare parts in case of failure
- Minimising fault downtimes
- Support ongoing preventive maintenance and repair activities
- Packages are planned based on the manufacturer's experience
- Significant cost savings compared to the ordering of individual parts



FIRST-AID PACKAGE.

ALL RELEVANT SPARE PARTS FOR THE START-UP PHASE



The First-Aid Package contains all relevant spare parts that are required during the start-up phase as well as parts that are changed during the first inspection of your chemical plant.

The inspection interval depends on the operating time and/or the operating condition. The package allows the customer the option to hold on-site any parts critical for the safe operation of the plant.

THIS PACKAGE TYPICALLY INCLUDES:

- Various seals
- Silver seals
- Welding material
- Lubricants
- Attractive package price
- Previous expert advice

YOUR BENEFITS:

- Smooth start-up and first inspection
- Minimising delays during the start-up phase
- Quick plant restart after first inspection
- Optimally tailored to your plant and specific requirements
- Significant cost savings compared to the ordering of individual parts

ADVANCED SPARE PARTS PACKAGE.

SECURITY FOR THE FIRST TWO YEARS OF OPERATION

Longer operation time can result in an increased probability of failure.

The Advanced Spare Parts Package is designed to support the plant's basic operation and allows the customer the option to hold spare parts that are critical to the functional operation of the plant. The package includes additionally defined components to ensure continued plant operation in the first two years and is the most economical way of buying the required parts.

THIS PACKAGE TYPICALLY INCLUDES:

- Complete FIRST-AID PACKAGE +
- Various seals and silver seals
- Demister
- Spares for control valves, pumps, burner, etc.
- Instruments
- Attractive package price
- Previous expert advice

YOUR BENEFITS:

- Smooth plant operation with immediate availability of spare parts
- Minimising unplanned downtimes
- Optimally tailored to your plant and specific requirements
- Save time and money due to fast order processes and predictable costs
- Significant cost savings compared to the ordering of individual parts



PREMIUM SPARE PARTS PACKAGE.

HIGH SECURITY AND AVAILABILITY OF YOUR PLANT

The Premium Spare Parts package is designed to support the plants full functional operation year after year. The package covers the anticipated spare parts needs over the plant lifetime.

This comprehensive package allows the customer the reassurance of full availability of critical spare parts on-site as well as extending the plant lifetime.

The stock of spare parts can be checked and individually adapted as part of the annual plant inspection.

THIS PACKAGE TYPICALLY INCLUDES:

- Complete ADVANCED PACKAGE +
- Individual plant spare parts
- Attractive package price
- Previous expert advice

YOUR BENEFITS:

- Maximum productivity and plant reliability
- Maximum safety in case of plant failure
- Optimally tailored to your plant and specific requirements
- Save time and money due to fast order processes and predictable costs
- Significant cost savings and protection against price fluctuations
- Comprehensive spare parts review, including recommendations



FIELD SERVICE.

A GOOD START IS THE KEY TO SUCCESS

Proper installation and commissioning play a key role in ensuring the successful long-term operation of your chemical plant.

In many cases, the main reasons for failure during the first few months of operation are incorrect installation or lack of adequate care during commissioning. If important details are overlooked, the correct functioning of the plant can be compromised, and in some cases the warranty is also affected. Our high-level installation services are carried out by specialist field service engineers.

OUR SERVICE:

- Professional review of the plant assembly and start-up planning
- Optimal support and advice from our experienced Bertrams experts regarding:
 - correct assembly and installation
 - plant function
 - optimum plant operation
- Qualified basic operator training



YOUR BENEFITS:

- Safe and controlled start-up phase due to fast and professional plant installation and commissioning
- Receiving the plants' warranty
- Avoiding of delays
- Increased reliability, efficiency and safety of your chemical plant
- Detailed documentation of the plant assembly and start-up

PLANT INSPECTION. YOUR PLANT PERFORMANCE IN GOOD HANDS



Nothing is more expensive than an unexpected loss of production due to plant failure.

Regular plant inspections are the basic requirement for a long-term and trouble-free plant operation. Our Bertrams Plant Inspection is the most effective way to keep your business operational and help to secure your long-term competitiveness.

Unplanned shutdowns can be reduced to a minimum and limited to the unpredictable.

OUR SERVICE:

- Professional instruction and supervision of the plant
- Inspection by experienced service engineers
- Review, evaluation and interpretation of operating parameters
- Identification and documentation of the current plant status
- Comprehensive plant review, including recommendations for proper plant operation

YOUR BENEFITS:

- Prevention of unplanned downtimes due to early detection of defects
- Ensure the continued validity of your plants' warranty with a professional first inspection
- Improved planning of maintenance costs and increase in plant lifetime
- Knowledge transfer directly from the plant manufacturer

SITE ASSISTANCE.

TECHNICAL SUPPORT ON-SITE: BECAUSE TIME IS MONEY

Bertrams Chemical Plants are characterised by their long lifetimes and reliability.

However, if technical problems occur and advice from our technical helpline experts is not enough, our experienced service engineers are available on-site worldwide. They support plant personnel on technical issues as well as determining and supervising the corrective actions needed. In addition, they will provide valuable recommendations for your personnel.

OUR SERVICE:

- Fault diagnosis and acceptance test
- Qualified instruction, advice and monitoring of repairs
- Adjustment of process parameters
- Detailed documentation of the results with concrete recommendations
- On-the-job training for your personnel
- We also provide Site Assistance for selected third-party plants

YOUR BENEFITS:

- Fastest possible problem solution and troubleshooting
- Direct supervision of service actions carried out by maintenance staff
- Avoiding operating errors
- Competent manufacturer support for Bertrams chemical plants on-site
- Minimising disruptions to production
- Long-term maintenance of plant value



TECHNICAL HELPLINE.

EXPERT HELP JUST A PHONE CALL AWAY



The availability of your chemical plant is a top priority for us.

Therefore, the technical helpline puts you in direct contact with our plant specialists. They will assist and advise your plant personnel on all technical questions regarding Bertrams plants – benefit from our extensive experience in order to solve problems quickly and effectively. Whether spare parts are required or a visit on-site needs to be scheduled – we take care of it promptly and reliably!

OUR SERVICE:

- Free telephone support for all technical problems and questions
- Trouble detection and problem-solving
- Advice on Bertrams services, including plant conservation/removal
- Languages: German, English
- Optional: direct order of parts or Site Assistance
- Availability: MO - FR from 08:00 to 17:00 CET
- Technical Helpline Phone +41 61 467 53 80

YOUR BENEFITS:

- Immediate aid by Bertrams experts with profound technical know-how
- Quick identification of the problem
- Direct service actions to prevent failure and minimise the consequences
- Competent manufacturer support for Bertrams chemical plants
- Short reaction times
- Avoiding high travel costs

TRAINING AND QUALIFICATION. SHARING KNOWLEDGE AND CREATING CUSTOMER VALUE

There is one factor that ensures safe and optimal plant operation: well-trained staff.

Our Bertrams training and qualification courses are designed to give your plant personnel the competencies they need. Providing the necessary skills to use the plant safely, determine the correct maintenance strategy, handle first-line troubleshooting, interpret alerts and undertake appropriate action to avoid downtime and maintain plant availability.

KEY CONTENTS:

- Plant and operation introduction
- Explanation of functional routines by means of PFD and PID
- Safety instructions
- Service/maintenance requirements
- Diagnosis and fault prediction
- First-line troubleshooting
- Valuable tips and tricks
- Languages: English, others on request

YOUR BENEFITS:

- Increased plant availability and productivity through well-trained operators and maintenance staff
- Lower operating costs through prevention of incorrect operation
- Safety of operations and personnel
- Long-term increase of plant lifetime
- Valuable and practical know-how transferred directly from the plant manufacturer



MODIFICATION KITS. ALWAYS STATE OF THE ART

Is your Bertrams chemical plant still state of the art?

No problem. Bertrams offers standardised modification kits for mechanical modifications, as well as for the replacement of existing components by the latest Bertrams technology.

With our modification kits you will not only extend the lifetime of your chemical plant but also ensure long-term process and operational safety.

OUR SERVICE:

- Modification and conversion of the existing plant with state-of-the-art technology
- Standardised modification kits with fixed rate pricing
- Fast and reliable implementation
- We conform to your time schedule

YOUR BENEFITS:

- Improvement of plant functionality, stability and product quality
- Increase in service life and thereby reduced life cycle costs
- Long-term process parameter set-up and operational safety
- Increased ease of use
- Preservation of investment and plant



REVAMPING.

FINE-TUNE YOUR PLANT FOR EVERY STAGE OF LIFE

You want the latest technology but do not want to invest in a new chemical plant?

No problem. We are committed to delivering the latest innovations not only in new plants, but also in the form of upgrades for older chemical plants.

In many cases plant operators can upgrade their existing plant by retrofitting it with new Bertrams technology. As a result of upgrades, the production capacity and lifetime can be increased and energy and maintenance costs can be reduced.

OUR SERVICE:

- Competent advice on the feasibility of upgrading your chemical plant
- Fast and qualified monitoring of the procedural or mechanical upgrade and recommissioning by the plant manufacturer on-site
- Training of the operating personnel
- We also provide revamping for selected third-party plants



YOUR BENEFITS:

- Improved functionality of the current technology, e.g. increase in capacity
- Sustainable energy and cost savings
- Increased plant reliability and improved workplace conditions
- Emission reduction
- Compliance with legal requirements
- Alternative to new investment

OVERHAUL.

BRINGING USED COMPONENTS BACK INTO SHAPE

Greater output, less CO₂ and ... This is what ageing chemical plants are capable of after undergoing an overhaul.

Thus, when the melt pump, spraying device or spray basket of your prilling plant wears out after a certain period of use, do it the easy way and contact Bertrams servicing. We offer you the overhaul of individual, used components. Bertrams in-house overhaul guarantees a fast and high-quality repair of used components and extends the life cycle of your chemical plant.

OUR SERVICE:

- Rapid determination of repair costs by estimate
- Fast overhaul of used components
- Certificate of dynamic balancing for spray basket or test protocol for overhauled melt pump/spraying device
- Optional: Spray basket leasing over the duration of the overhaul or delivery of a new Bertrams spray basket



YOUR BENEFITS:

- Professional in-house overhaul
- Competence regarding overhaul or new purchase recommendation
- Maintaining the plant function
- Avoiding costly shutdowns
- Alternative to new investment



RELIABLE:

Security and partnership for the most diverse requirements in the chemical industry.

LEADING THE WAY:

Plants for the concentration and/or solidification of alkalis in the chlor-alkali industry.

EFFICIENT:

Recovery plants for the concentration, purification and treatment of sulphuric acid and nitric acid ($\text{H}_2\text{SO}_4/\text{HNO}_3$).

COST-EFFECTIVE:

Wet oxidation units for the treatment of wastewaters that are not readily biodegradable.

CUSTOMER ORIENTED:

We sell technology – we deliver satisfaction.

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