



Ensuring productivity
and reliability
Service & Solutions

Engineering Value

Krauss Maffei
Berstorff

**1. Startup**

From day one, we provide you with support in everything from setting up and commissioning your system through to training your personnel, which, by request, we can offer as early as the project planning phase.

**2. Utilization**

As soon as you start up your system, our experienced service team will be entirely at your disposal with a wide range of services.

**3. Optimization**

To enable you to make efficient use of your system and meet new requirements at any time, we offer you our expert support in everything from consultation and component optimization through to preventive service.

**4. Phase-out**

Is your system starting to show its age? No problem! Whether refurbishing or a complete overhaul, our solutions make sure your system is fit for the future.

Ensuring productivity and reliability

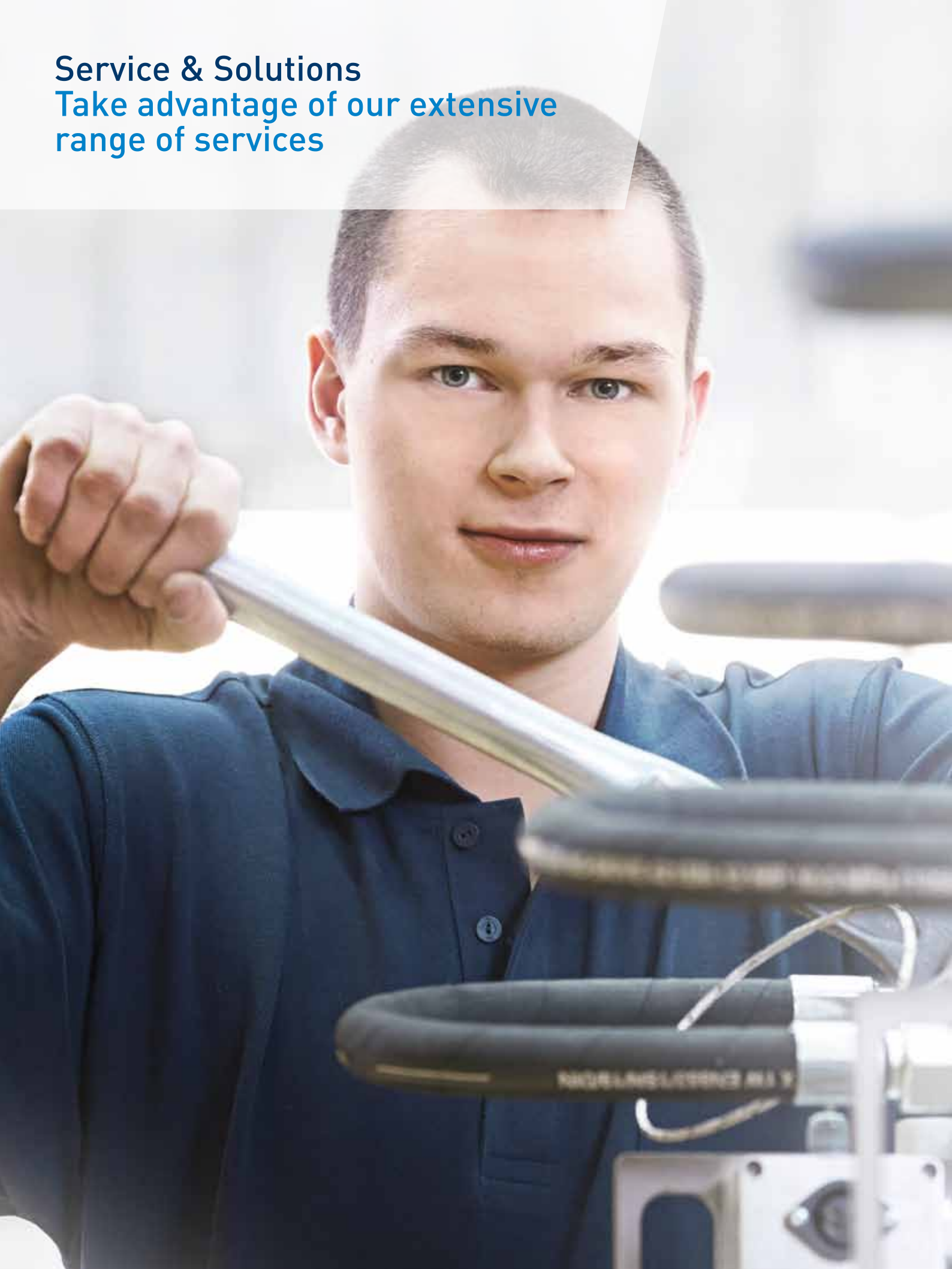
Service & Solutions


With our services, we provide you with flanking support throughout your machine's life cycle with a strong focus on your specific needs.


Profit from:

- An extensive network of highly trained and experienced service specialists
- State-of-the-art measuring equipment for troubleshooting, remote diagnostics and online support
- Teams of specialists are available around the globe to provide you with direct assistance

Service & Solutions
Take advantage of our extensive
range of services



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- ### 1. Startup
- Assembly
 - Commissioning
 - Training
 - Spare parts packages
 - Teleservice
 - Hotline

- 
- ### 2. Utilization
- Training
 - Spare parts packages
 - Troubleshooting
 - Maintenance
 - Inspection
 - Teleservice
 - Application advice
 - Repairs
 - Hotline
 - Preventive service

- 
- ### 3. Optimization
- Retrofitting
 - Modernization
 - Energy consulting
 - Training
 - Maintenance
 - Inspection
 - Process consulting
 - Teleservice
 - Preventive service

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- ### 4. Phase-out
- Overhauling and refurbishing
 - Modernization
 - Spare parts packages
 - Relocating machines
 - Used machines



1. Professional startup

A perfect start is vital for your success

You can rely on our full support from day one. Our technicians provide you with flanking support every step of the way from setup to startup of your system.

Assembly

Our motivated employees ensure the fast and professional setup of your system.

Commissioning

Our specialists configure your system on site, train your operating personnel, and conduct trial and acceptance runs together with your engineers.

Training

Well-trained personnel are essential to the successful operation of your system.

Spare parts packages

Even before you get started, we coordinate with you spare parts packages customized to meet all your application requirements.

Teleservice

Our state-of-the-art remote maintenance solution provides you with support from as early as the commissioning and startup phases.

Hotline

In the event of technical problems or a machine breakdown, it is vitally important to have access to quick and expert solutions. With our expertise and dedicated support, we ensure that your system is back up and running perfectly as quickly as possible.

Your benefits:

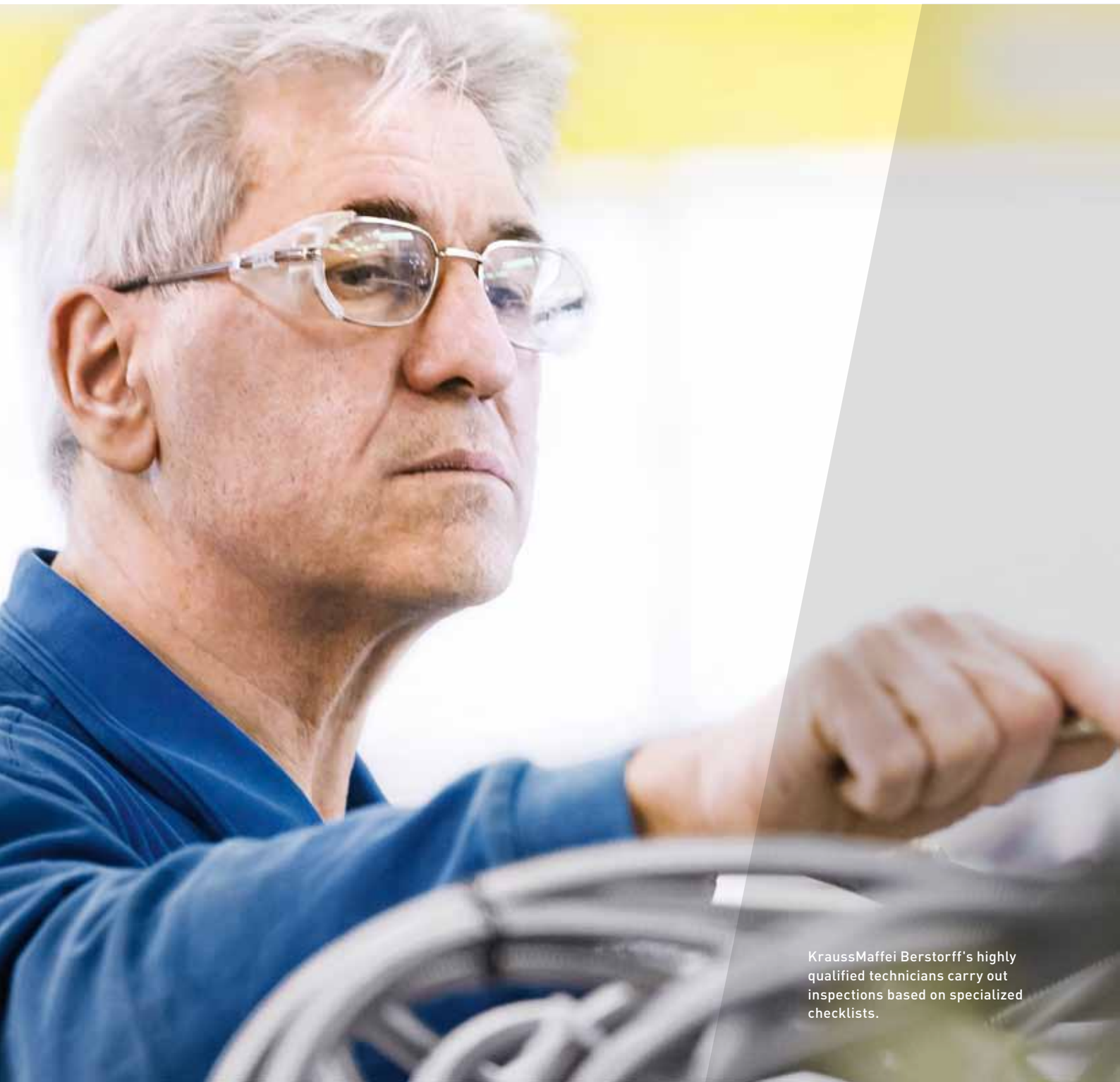
- Professional support
 - Intensive training course of your operating personnel
 - Spare parts packages customized to suit your requirements
-



KraussMaffei Berstorff's service technicians analyze your processes and work with you to identify areas for improvement and solutions for high product quality.

2. Utilization: ensuring maximum availability

Our fast and expert service makes for trouble-free production



KraussMaffei Berstorff's highly qualified technicians carry out inspections based on specialized checklists.



To ensure the long-term availability of your machines and systems, we can offer you a wide range of services customized to suit your needs.

Training

Well-trained personnel enable you to maintain a high level of production and machine reliability. KraussMaffei Berstorff offers you an extensive program of training courses which can be held either at in-house training centers or individually on site. Ask us about our current training program.

Spare parts packages

The first priority of our Spare Parts Service is to supply our customers with suitable original spare parts as quickly as possible. Our active Parts Management Service covers everything from consulting to the selection of spare and wear parts tailored to your requirements.

Troubleshooting

A breakdown can lead to loss of manufacturing capacity, product quality and productivity. With our extensive worldwide service network with well-trained technicians, we can troubleshoot and resolve your problem quickly.

Maintenance

Routine system maintenance is the key to reliable production during the utilization phase. It also helps to retain the value of your system and provides a safeguard against costly machine breakdowns. We can offer you maintenance programs tailored to your needs.

Preventive service

Unforeseen and expensive failures can be largely avoided by preventive service.

Inspection

If you want to be on the safe side, we recommend that you have your system inspected by our specialists. With our specialist tools and measuring equipment, we are able to diagnose your system quickly and take preemptive action before you run into trouble. Using a checklist, we check your system's electrical, hydraulic and mechanical components, as well as its safety devices. The resulting documentation tells us what spare parts or other action is needed. A service quality seal documents that your system has been inspected by us.

Teleservice

Our state-of-the-art teleservice gives you direct access to your system, enabling us to provide you with quick fault diagnostics and support.

Application advice

Do you need support with your application or process? Our experienced process engineers will be happy to advise you.

Repairs

Do you need repair work done? You have the option of onsite repair or part repair at our factory. Take advantage of this opportunity, and leave the job to us.

Hotline

In the event of technical problems or a machine breakdown, it is vitally important to have access to quick and expert solutions. With our expertise and dedicated support, we ensure that your system is back up and running perfectly as quickly as possible.

Warranty

In the event of problems or breakdowns, we will supply you with all the spare parts or support you need – quickly and with a minimum of fuss.

Your benefits:

- Assured high system availability
 - Quick assistance in the event of a machine breakdown
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3. Optimized performance

Efficient manufacturing on high-performance systems

Our goal is to keep your system and your employees technically up-to-date. New technology can be integrated into existing systems, enabling you to embrace the latest innovations. After expertly modifying your system, we make sure that your personnel is provided with all the requisite training.

Retrofitting

Meeting new requirements often necessitates a retrofit. To this end, we can supply you with complete turnkey solutions including all the services you need.

Modernization

Newly developed technologies can be incorporated to increase the productivity of your system. These include our state-of-the-art control system and recently developed machine components.

Process consulting

If your requirements regarding materials, tools and processes change, our experienced process engineers will be happy to give you all the support you need.

Energy consulting

Given today's rising energy costs, a review of your system is an investment definitely worth making. We will be pleased to advise you on everything from optimally adapted drive motors to efficient thermal insulation of heating elements.

Training

The basis for efficient production is continuous training of your personnel. We recommend that you take advantage of KraussMaffei Berstorff's worldwide training program.

Maintenance

Routine system maintenance is essential to ensuring a high level of availability. It also helps to retain the value of your system.

Inspection

You can rely on our experienced service team to maintain the efficiency and high performance of your system.

Teleservice

Our state-of-the-art teleservice gives you direct access to your system, enabling us to provide you with quick fault diagnostics and support.

Preventive service

To protect your system against avoidable and costly breakdowns, we recommend our preventive service and flanking service packages.

Your benefits:

- Consistently high cost efficiency
 - Qualified operating personnel
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Screw configurations optimally adapted to your process enhance your product quality and reduce your energy consumption





With our state-of-the-art control and safety systems, even older machines can be upgraded to run efficiently for many more years.

4. Phase-out: continuous modernization

Tried and tested modernization solutions for maximum performance

Has your system been operating to your total satisfaction for a lengthy period of time? Do you want to hold onto it even if it is starting to show its age and in need of repair? No problem! We will be happy to advise you on what upgrades would be best for your system, and where worthwhile investments can be made.

Overhauling and refurbishing

Are you happy with your system and want to extend its useful life? We will help you plan a complete overhaul of your system and ensure that it continues to give you maximum performance.

Modernization

We offer custom modernization solutions tailored to fit the requirements of new production methods. These range from the replacement of individual components to the retrofitting of complete assemblies. Upgrades like retrofitting the control unit and electronic components provide a significant increase in system productivity, enhanced production quality, higher availability and greater ease of operation.

Spare parts packages

Our Spare Parts Service offers you a reliable supply of spare parts throughout the entire life cycle of your system.

Relocating machines

During the long life cycle of a system, there may come a time when you need to move it from one production site to another. For a task this complex, we can provide you with extensive support through our service specialists.

Used machines

When it comes to buying, selling or renting used systems, we can offer you cost-effective solutions and a full range of services.

Your benefits:

- Longer system service life
 - Reduced operating costs
 - Consistently high product quality
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Our service packages give you all-round protection

Full-time protection

To meet the specifications of our customers, we offer a full range of services which are available as attractive service packages.

Technicians

Our specially trained technicians have all the expertise, specialist tools and measuring equipment needed to expertly inspect and maintain your system.

Spare parts

For the maintenance and repair of our systems we use only original parts which meet the high quality standards you have come to expect from us – parts which you can be assured are reliable and innovative down to the last detail.

Availability

With our Service Agreement you don't have to worry about the next maintenance work or inspection, and will find it easier to plan ahead when it comes to production.

Costs

A Service Agreement gives you fixed costs that are easier to budget.

Our service packages are optimized to meet your needs. They can be extended to include custom services.

On the following double pages you will find a summary of our packages for various extrusion lines.

Our service packages

For pipe, profile and sheet extrusion lines as well as PVC pelletizing systems

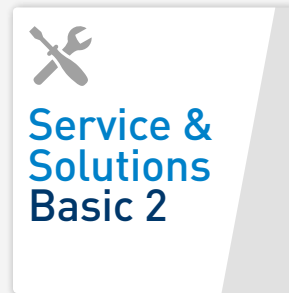
Select from our specially configured service packages:



Service & Solutions Basic 1

One of our experts equipped with special tools surveys your screws and barrels. This package covers the following services:

- Survey of your screws including a wear report
- Survey of your barrel (parallel version) including a wear report
- Wear curve assessment including a letter of recommendation giving details of estimated service life
- In the event of abnormal wear characteristics, our design department can provide assistance with geometric modifications to optimize the service life of your processing unit
- After changing over to a different material, your system geometry can also be modified to meet your new requirements
- One of the benefits of a survey is that if a replacement processing unit is needed, this can be scheduled into our production process in advance, thereby ensuring that it is available in time



Service & Solutions Basic 2

One of our experts equipped with special tools examines your gear unit. This package covers the following services:

- Taking of an oil sample for analysis by an independent laboratory
- Oil sample assessment including a laboratory report. A summary giving details of oil sample condition, wearing metals, contamination and additive content
- Survey of the gear unit using structure-borne sound measuring equipment
- Preparation of a report based on frequency curves including a detailed list of anomalous vibrations which can be attributed to the exact location of individual bearings or gearing parts
- A gear unit survey enables wear to be detected in good time and any necessary gear unit overhauls to be scheduled
- A timely gear unit overhaul keeps your costs to a minimum
- If a gear unit overhaul is planned, we can offer competitively priced reconditioned gear units so your system is only shut down for the time it takes to replace the gear unit. We will be pleased to take your old gear unit in part exchange



Service & Solutions Advanced

Screws and barrel survey from Basic 1
+ gear unit check from Basic 2
+ Service Agreement

Our specialist maintains your system and makes all necessary replacements:

- All the required spare parts will be delivered to you ahead of the agreed service date
- Replacement of spare parts for the extruder and downstream units including check



Service & Solutions Premium

Service & Solutions Premium

Screws and barrel survey from Basic 1
+ gear unit check from Basic 2
+ Service Agreement from Advanced

A specialist trains your employees for 1 day covering topics customized in advance to meet the specific training needs of your personnel:

- Preparation and distribution of training documents
- Provision of theoretical and practical training
- Troubleshooting based on electrical circuit diagrams, hydraulic and pneumatic diagrams
- Award of a Certificate of Training

Service Hotline in Munich

The KraussMaffei Berstorff Hotline provides support with all aspects of service and helps you with configuring a service package tailored to your machines and systems. Please contact us at any time – during or outside our normal business hours.

Electrical Service Hotline: +49 (0)89 8899-4078

Electrical Service Hotline: +49 (0)89 8899-2273

Mechanical Service Hotline: +49 (0)89 8899-4380

Summary of our services

For compounding, film, foam and rubber extrusion or polymerization lines

Stationary: preventive maintenance prior to scheduled machine shutdown at any specified time



Service & Solutions Stationary

Configure a service package tailored to your specific needs for a scheduled machine shutdown. Below you will find a selection of our services. Our consultants will be pleased to help you put together an optimal package for your system:

Wear measurement

Screw, barrel bore, clutch

Gear unit inspection

Oil sampling, oil lubrication system, input/output shafts, gearing

Gear unit overhauls

Instead of a lengthy overhaul, take advantage of our exchange program and save time with a reconditioned gear unit

Function testing

Temperature control, freedom of movement of valves, heat exchanger, heating elements, shutdown functions, leak-tightness

Screw repairs

Replacement of elements and reconfiguration

Barrel replacement

Barrell replacement as well as replacement of seals and connecting parts

Motor

Alignment check, replacement of bearings, brushes on DC motors

Clutch

Replacement, function testing



Runtime: preventive maintenance during ongoing production



Service & Solutions Runtime

Configure your own individual service package. Select from the following options:

Checks

Audio & visual checks, leakage, temperatures, noise/vibration

Oil check

Oil level, analysis of oil sample in laboratory

Condition Monitoring

Fixed vibration sensors including "selective response threshold" assessment

Training: training courses



Service & Solutions Training

We offer special custom training in operation, maintenance and servicing of extrusion lines

Service Hotline in Hanover

The KraussMaffei Berstorff team provides a hotline for support with all aspects of service and helps you configure a custom service package tailored to your machines and systems. Please contact us at any time – during or outside our normal business hours.

Hotline: +49 (0) 172 5119 623

Contact: +49 (0) 511 5702-223

Contact: +49 (0) 511 5702-320

Our training program Knowledge increases productivity and quality

KraussMaffei Berstorff offers a wide range of system training courses which can be combined to suit your requirements. In these, we provide you with a sound knowledge of how to work with our systems. Numerous non-machine-specific training courses round off our program.

Machine training courses

Practical exercises directly on the machine. Learn safe handling of our machines and get in shape for practical work. We offer you training courses for our entire range of products:

- Operator courses
- Technology courses
- Maintenance courses
- Servicing courses
- Automation components





Customized practical training
on your machines.

OEE Plus

Boosting cost-efficiency for you



High overall equipment efficiency (OEE) is a fundamental prerequisite for your company's success. KraussMaffei Berstorff's product portfolio comprises tailored machines and lines along with perfectly matched services that increase the economic efficiency and the sustainability of your production. Benefit from our proven know-how of extrusion technology in any application.



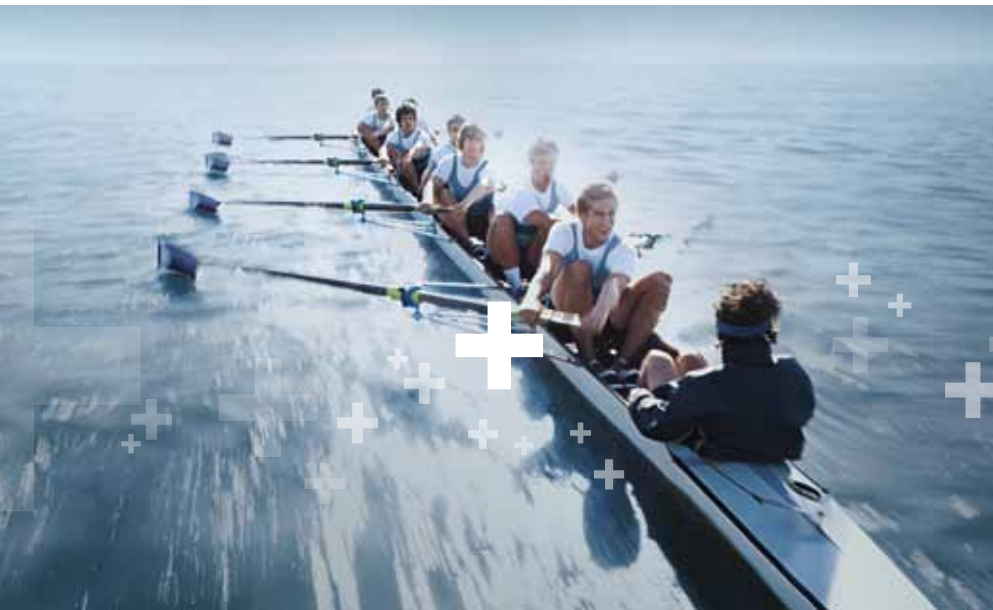
Availability



Performance



Quality



For more information about OEE Plus, visit:
www.kraussmaffeiberstorff.com/oeplus

KraussMaffei Berstorff

A strong brand in a unique global group

Value-proven Extrusion Technology solutions

Around the world, KraussMaffei Berstorff stands for reliable and value-proven solutions in Extrusion Technology. These range from using individual extruders for degassing in polymerization, compounding, pipe, profile, film and sheet extrusion, physical foaming and the manufacture of technical rubber articles and intermediates for tire production up to complete extrusion lines. All machines and systems from KraussMaffei Berstorff are custom-configured, for example for the chemical, automotive, construction, packaging or pharmaceutical industry.

There for you around the world

KraussMaffei Berstorff is your partner – from the first planning meeting through development of the best possible technical and business solution up through commissioning, servicing and production of your system. We guarantee high-quality advice, solution expertise, reliable spare parts logistics and fast-reacting service during each phase. Our goal is increasing your success.

Individualized service

Benefit from KraussMaffei Berstorff's reliable service. Our customer service team and experienced fitters, technicians and engineers are there for you as quickly as possible and even help on location to optimize your systems and processes and to minimize downtime as much as possible. Rely on our highly skilled repair and spare parts service.

You can find additional information about KraussMaffei Berstorff at:
www.kraussmaffeiberstorff.com

KraussMaffei Group

Comprehensive expertise

Unique selling proposition Technology³

The KraussMaffei Group is the only provider in the world to possess the essential machine technologies for plastics and rubber processing with its KraussMaffei, KraussMaffei Berstorff and Netstal brands: Injection Molding Machinery, Automation, Reaction Process Machinery and Extrusion Technology.

The group is represented internationally with more than 30 subsidiaries and over ten production plants as well as about 570 commercial and service partners. This is what makes us your highly skilled and integrated partner. Use our comprehensive and unique expertise in the industry.

You can find additional information at:
www.kraussmaffei.com



The KraussMaffei Group has a global presence. Countries with subsidiaries are marked in light blue. In the white-colored regions, the Group is represented by over 570 sales and service partners.

Your requirements Our solutions

With your KraussMaffei Berstorff system, you have chosen a product that delivers highest levels of productivity and reliability. Service & Solutions by KraussMaffei Berstorff ensure that your machine not only retains its value but also performs optimally. Our highly trained and experienced personnel are at your disposal worldwide.