



KORSCH
CUSTOMER SERVICE

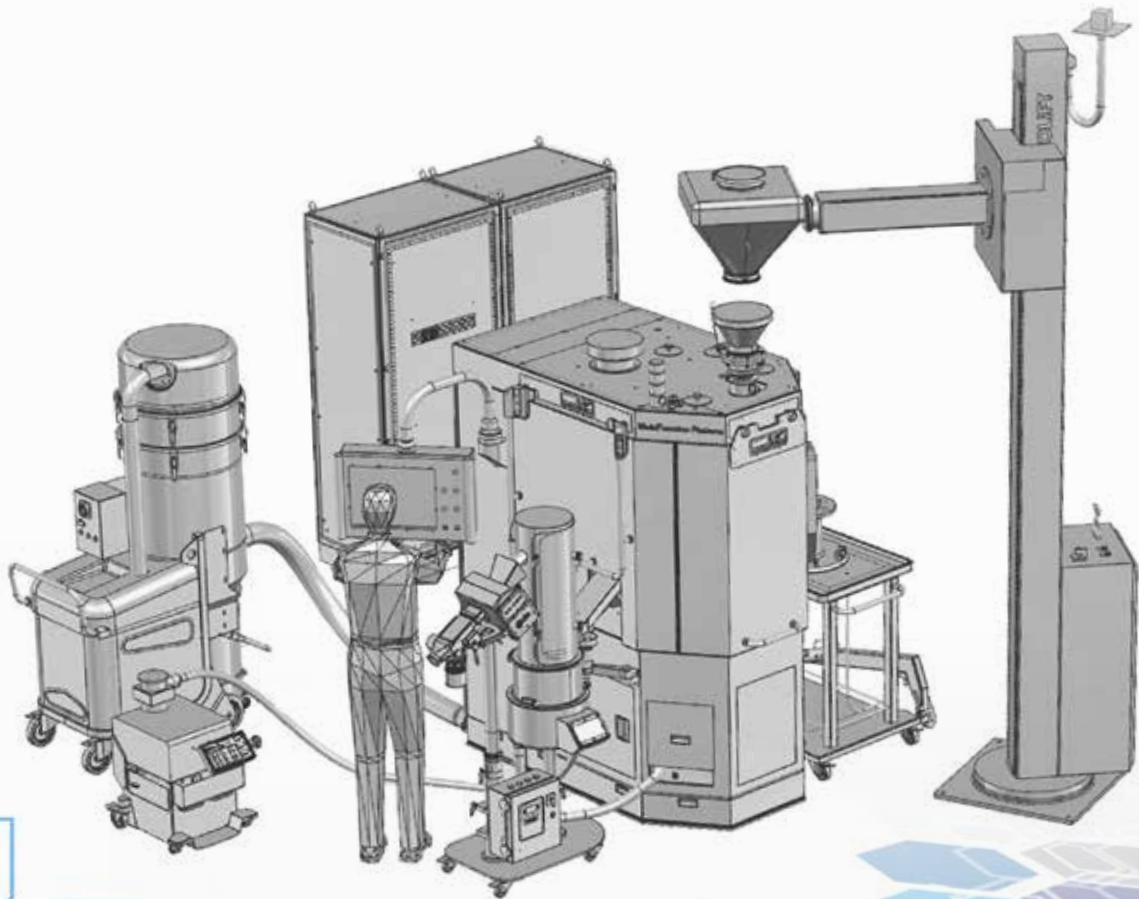
ENERGIZE YOUR PROCESS



KORSCH
The Specialist.

ENERGIZE YOUR PROCESS

KORSCH offers a global service capability that addresses all facets of tablet production support and optimization. Our team of experienced experts provides far more than equipment repair and spare parts. We work to understand your process and provide instruction and best practices to permit our customers to leverage our technology and to realize the highest levels of product quality, equipment reliability, and production efficiency.



OUR CAPABILITY AT A GLANCE...



INNOVATION CENTER

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- Compression Studies/Tableting Trials
- Training Certification
- Process Development
- Factory Acceptance Testing
- Product Development and Scale Up



ON-SITE SUPPORT SERVICES

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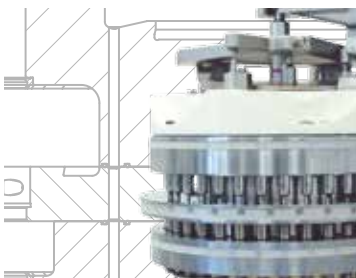
- Qualification and Validation
- Commissioning/SAT
- Calibration Services
- Training Certification
- Preventative Maintenance
- Process Optimization
- Service Agreements
- Peripheral Equipment Integration
- Network Integration
- Remote Support



ENGINEERING SERVICES

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- Project Management
- System Integration
- Compression Room Layouts



OEM SPARE PARTS SUPPORT

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- OEM Spare Parts
- E-Doc



UPGRADES AND REBUILDS

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- Equipment Upgrades
- Equipment Rebuild
- Control System Upgrades



CERTIFIED PRE-OWNED EQUIPMENT

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- Certified Pre-Owned Equipment
- Machine Trade-Ins



KORSCH INNOVATION CENTER



INNOVATION CENTER

The KORSCH INNOVATION CENTER is a state-of-the-art facility that is designed to support our customers, and to create an environment for learning and technical advancement. With ten compression suites, equipped with the latest KORSCH technology, our experts can support training certification, tablet compression studies, product development and scale-up, as well as factory acceptance testing. Built with our customers in mind, this facility is the ideal setting to advance your tableting technology.

YOUR BENEFITS

- Test the latest technology
- Confirm production parameters
- Develop ROI
- Optimize the process

AT A GLANCE

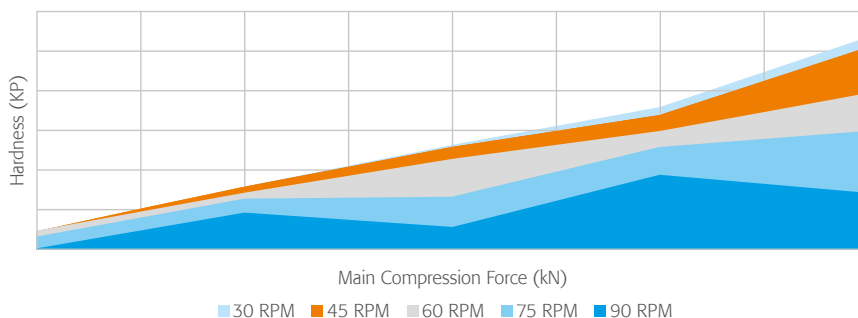
- More than 600 customer visits per year
- Ten compression suites, four IPC labs and an auditorium
- KORSCH specialists in pharmaceutical development and quality assurance at your disposal
- Complete technology portfolio

Understand the Process

COMPRESSION STUDIES / TABLETING TRIALS

Compression studies permit a detailed assessment of feasibility and performance on a high speed, modern tablet press. Generating data to characterize the relationship between press parameters (press force, press speed, feeder speed, insertion depth) and physical tablet qualities (weight, thickness, hardness, friability, dissolution) permits process optimization and supports process troubleshooting. Compression studies may be executed on both single-layer and multi-layer technology.

COMPRESSION FORCE VERSUS TABLET HARDNESS



Learn from Experts

TRAINING

A qualified and well-trained staff is paramount to insure the optimal performance of the tablet press. At the KORSCH INNOVATION CENTER, our experts can provide comprehensive training on the machine setup, operation, changeover, optimization, and maintenance. Hands-on and classroom training is geared to the specific requirements of the customer, and is supported by a formal certification program. Let us help you create your own experts so that you can leverage the full capability of your KORSCH technology.

YOUR BENEFITS

- Competent operation and maintenance staff
- Higher machine efficiency and uptime
- Higher product quality
- Lower operating costs and extended machine life

Advance Your Products

PROCESS DEVELOPMENT

KORSCH can support your process development effort by offering a wide range of technology and expertise in our INNOVATION CENTER. From early feasibility to scale-up, to full production scale including multi-layer and core placement – KORSCH has the technology to optimize the process. A full complement of peripheral and in-process test equipment permits a comprehensive approach to process and product development.

Pre-Shipment Inspection

FACTORY ACCEPTANCE TESTING

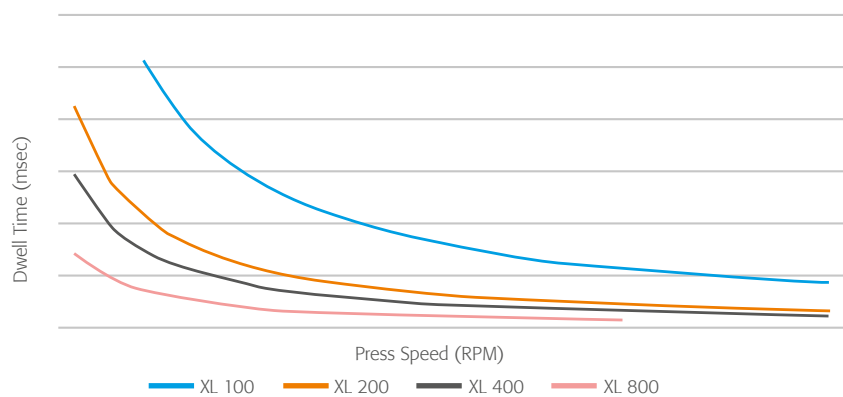
The KORSCH INNOVATION CENTER is the perfect venue to conduct your factory acceptance test (FAT) prior to the machine shipment. A dedicated FAT team and a formal FAT protocol insure a comprehensive review of the machine safety and functionality, and insure a streamlined commissioning on-site. The FAT execution is the ideal learning experience and a perfect way to interact with KORSCH experts in advance of the machine delivery.

Transfer the Technology

PRODUCT DEVELOPMENT AND SCALE UP

KORSCH can support technology transfer from small-scale to full-scale by documenting process parameters and demonstrating feasibility on production scale equipment. Leverage KORSCH expertise on scale-up methodology and tablet press optimization to streamline your technology transfer and to verify production scale capability.

KORSCH DWELL TIME





ON-SITE SUPPORT SERVICES

We offer you a wide range of services that significantly increase your production reliability. Our services allow you to reach optimal machine efficiency and assure the quality of your products.

Executed by KORSCH Experts

QUALIFICATION AND VALIDATION

KORSCH offers a comprehensive validation documentation capability. Our professional documentation group works closely with our engineering and project management team to deliver a package of specification documents, validation protocols, and support documents to fully meet the project requirements. The validation protocols are executed on-site by our service experts to fully document the safety and functionality of the system.

Installed and ready to Go

COMMISSIONING / SAT

The full commissioning services include equipment installation, execution of validation protocols, execution of site acceptance testing protocols, and training certification. Executed by a KORSCH expert, the commissioning establishes a solid foundation for the press to operate successfully in the production environment.

For Precision and Reliability

CALIBRATION SERVICES

KORSCH provides complete calibration services for all instrumentation on the tablet press, including rotational speed, linear punch position, and press forces. The Calibration Qualification document includes the calibration test method, required accuracy, and acceptance criteria. The calibration is executed with fully traceable instruments, and KORSCH provides formal calibration certificates subsequent to the work. Annual or semi-annual calibration programs are recommended to ensure that the calibration records stay current.

CALIBRATION PACKAGE INCLUDES

- Strain gauge verification
- Rotational speed verification
- Linear punch positions
- Calibration using certified standards
- Calibration certification

YOUR BENEFITS

- Maintain regulatory compliance with updated calibration certificates
- Leverage the calibration as a training opportunity
- Optimize press performance



Customized Training

TRAINING CERTIFICATION

Optimal performance requires a high level of operational competence. KORSCH on-site training will help your operators understand the machines and their control system, how to carry out maintenance tasks, and how to create recipes. Depending on the level of knowledge, the training can be implemented in the form of training courses or supervision. For all courses, formal training certification is provided.

COMPREHENSIVE COURSE SELECTION

- Basic concepts of tablet compression
- Basic set-up and operation
- Advanced tablet press set-up and operation
- HMI administration
- Tablet press maintenance
- Tablet press calibration
- Tablet press trouble shooting
- Multi-layer technology
- Wash-in-place and high-containment technology
- PharmaResearch® data acquisition

Scheduled and Predictable

PREVENTATIVE MAINTENANCE

To ensure optimal machine performance and uptime, KORSCH offers a comprehensive Preventative Maintenance Program which includes a detailed inspection of the key mechanical and control system components. A detailed PM protocol is utilized to assess the machine condition and a corresponding PM report is issued. The proactive implementation of the PM service will avoid unplanned downtime and insure long term reliability.

YOUR BENEFITS

- Maintain peak performance
- Minimize downtime and enhance safety
- Complete machine inspection with service report



YOUR BENEFITS

- Increase output
- Increase production yields
- Decrease changeover time
- Decrease wear and tear
- Optimize tablet quality
- Maximize efficiency
- Decrease operating costs

Your Process – Our Experts

PROCESS OPTIMIZATION

Optimizations can have various objectives: One is to improve overall equipment effectiveness (OEE). Sometimes even small changes can impact capacity and availability in a positive way. Other goals include increasing the quality of the tablets or the production yields. In each case, not only the individual machine, but also the entire process is put to the test. Press forces, tools, feed systems, peripheral devices, and all other settings are involved in the result and must be optimally harmonized with each other – and with your product. Put your trust in our years of experience and our systematic approach. We will execute the optimization matrix and make detailed recommendations regarding process improvement.

For Continued Reliability

SERVICE AGREEMENTS

KORSCH offers a wide variety of service contracts that are designed to ensure the optimal performance of your KORSCH machine. Each service contract is customized to meet the specific requirements of the customer and the application.

Service contracts permit a predictable, fixed price approach to annual maintenance and service of your KORSCH machine.

SERVICE CONTRACT COMPONENTS

- Equipment calibration
- Preventative maintenance inspection
- Operation and maintenance training
- Process optimization support
- Spare part and wear part packages

For Seamless Operation

PERIPHERAL EQUIPMENT INTEGRATION

Special products or production conditions sometimes require new peripheral devices, such as magnesium stearate spray systems. KORSCH provides peripheral devices and integrates them into your production line – so that the new process functions just as smoothly as the old one.

OUR RANGE OF PERIPHERAL DEVICES

- Tablet deduster
- Metal detector
- Automatic tablet tester
- Vacuum cleaner
- Material feed unit

For Centralized Data Management

NETWORK INTEGRATION

The KORSCH control system offers a standard Ethernet architecture which simplifies and streamlines network integration. KORSCH has extensive experience with all aspects of central network integration, including:

- Centralized domain login
- Centralized product recipe management
- Centralized batch data storage
- Integration to central SCADA
- Integration to Historian

Cost Effective and Timely

REMOTE SUPPORT

All KORSCH machines have the capability to be supported remotely by experts at KORSCH. The result is expedited diagnostic support and minimal downtime. The remote session must be authorized and enabled at the customer site to insure absolute security. The remote access capability permits:

- Immediate fault diagnosis and support
- Analysis of PLC software
- Analysis of HMI software
- Analysis of drive parameters
- General system troubleshooting



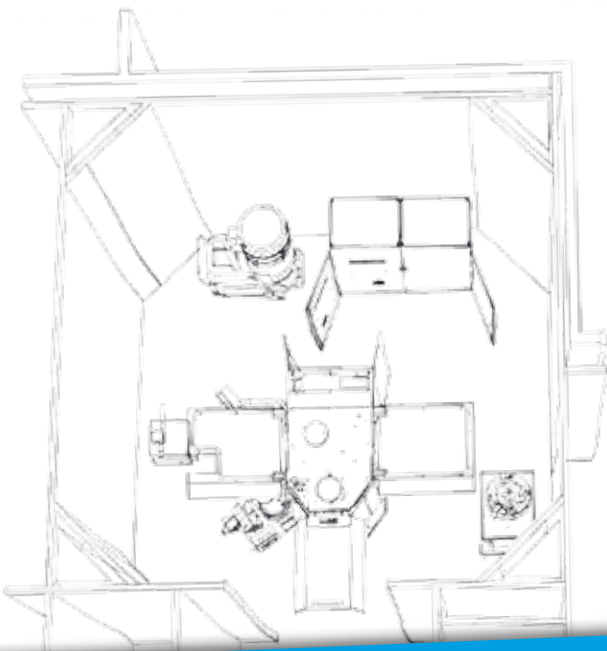
ENGINEERING SERVICES

As the global specialist in tablet compression technology, KORSCH offers a wide range of engineering services to support our customers. From professional project management, to compression room layout and design, to the full integration of the tablet press with all peripherals, KORSCH has the engineering resources and expertise to ensure the success of every project.

From Order to SAT

PROJECT MANAGEMENT

KORSCH has an experienced team of project management professionals who manage each project from the purchase order to the site acceptance test. The project manager assigned to the project is the key point of contact throughout the project life cycle. A detailed Gantt chart schedule is issued to confirm all key milestones. All FAT and SAT logistics are coordinated to insure a successful project execution.



Bringing it All Together

SYSTEM INTEGRATION

In many cases, the tablet press is interfaced with a deduster, metal check, tablet testing system, material feed system, tablet collection system, and in some cases directly with a packaging line. This requires a high level of integration – both mechanically and from a control system perspective. KORSCH engineers have vast experience and bring a systems approach to delivering a complete master plan to a fully integrated tablet compression system.

Develop the Right Plan

COMPRESSION ROOM LAYOUTS

The KORSCH design team has extensive experience in developing ergonomic and functional compression room layouts which include the tablet press, peripheral equipment, turret change apparatus, material feed systems, and tablet collection and transfer components. This system's approach ensures that every aspect of the room design is optimized and that the integration of the components is well planned to insure peak performance and efficiency.

Keep it KORSCH

OEM SPARE PARTS

We offer spare parts according to KORSCH specifications and tolerances ranging from o-ring to turrets as well as complete assemblies and press tools in all formats.

YOUR BENEFITS

- All spare parts include a warranty
- Support to identify the right parts and immediate availability
- Access to design and technical improvements
- Experienced service technicians are available for installation



User-friendly Interface

E-DOC

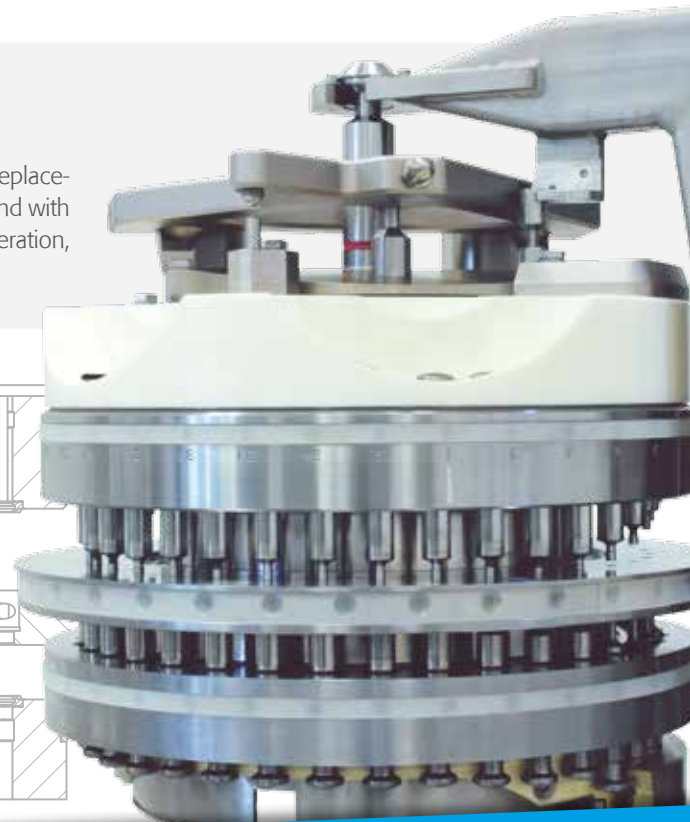
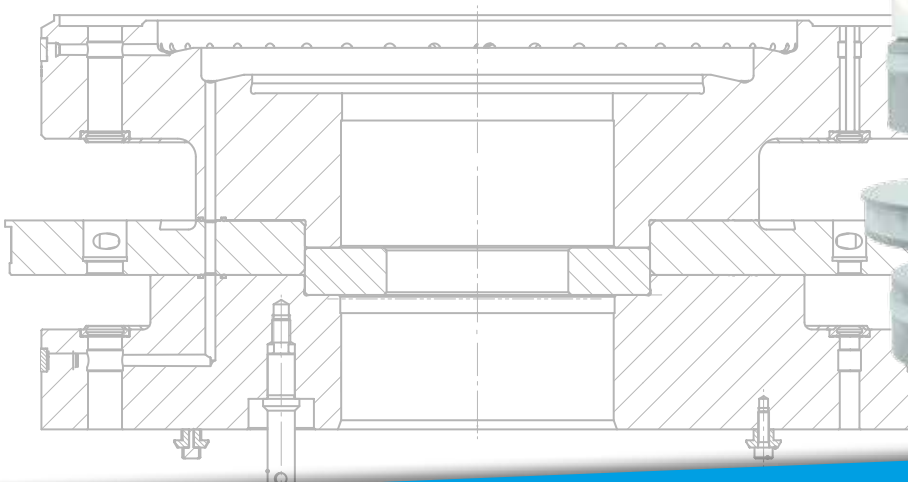
The Electronic Spare Part Catalog features an intuitive and user-friendly interface to assist you in the procurement process.

YOUR BENEFITS

- Simple navigation to find the right machine part quickly and easily
- Spare part list is linked to the drawings
- Wiring diagrams available on the same platform
- Easy ordering process

OEM SPARE PARTS SUPPORT

Peak operating performance can only be guaranteed with KORSCH OEM replacement parts, which are manufactured to exacting standards and tolerances, and with optimal materials. KORSCH OEM parts ensure reliable and long term operation, and protect your investment in KORSCH technology.





UPGRADES AND REBUILDS

To expand or restore the capability of your existing tablet press KORSCH offers a wide range of upgrades. Multi-layer kits, magnesium stearate spray systems, additional turrets, fast-change parts, and complete control system upgrades are just some of the options available. KORSCH can also rebuild/refurbish older machines to improve performance and extend the life of aging KORSCH machines.

Enhance the Performance

EQUIPMENT UPGRADES

Our machines offer maximum durability. To ensure that you can take advantage of our further developments and can confidently meet new requirements, we recommend the use of upgrade kits. You can also use these kits to easily update older models into state-of-the-art production lines.

YOUR BENEFITS

- Extend the life
- Improve the performance
- Eliminate risk of obsolete hardware and software
- Executed by KORSCH experts
- Increase flexibility
- Backed by KORSCH warranty

KORSCH HAS A FULL PORTFOLIO OF EQUIPMENT UPGRADES TO ENHANCE ANY MACHINE

- Multi-layer conversion kits
- Magnesium stearate spray system
- Additional turrets and accessories
- Feeder paddles
- Fast-change parts
- Negative pressure monitoring
- Automatic tablet testers
- Tablet deduster / metal check integration
- Tablet collection systems

Renew an Existing Asset

EQUIPMENT REBUILDS

KORSCH offers a comprehensive rebuild capability to update and enhance older KORSCH machines, and to extend the operating lifetime. A typical rebuild project will include a mechanical and electrical overhaul as well as a full control system upgrade. The result is a like-new machine that will perform optimally for years to come – with a KORSCH warranty. Furthermore new functionalities and/or peripherals can be added to the existing machine.

UPGRADES

- Multi-layer conversion kits
- Magnesium stearate spray systems
- Additional turrets and accessories
- Fast change parts

YOUR BENEFITS

- Extend equipment lifetime
- Improve equipment uptime / efficiency
- Optimize production yields
- Full peripherals integration

For Maximum Reliability

CONTROL SYSTEM UPGRADES

The use of outdated software and obsolete hardware can present a high risk. KORSCH offers a range of control system upgrade options to ensure the most current hardware and software, and to insure maximum supportability and reliability.

CONTROL SYSTEM UPGRADE OPTIONS

- Windows operating system
- PLC and industrial PC hardware
- Network integration
- Centralized product recipe management
- Peripherals integration
- Centralized batch data storage
- Interface to upstream / downstream equipment
- SCADA and Historian integration
- Continuous process integration



The open architecture of the KORSCH system permits a fully integrated, systems approach with central control of system login, product recipe administration, and batch report storage. A standard OPC server capability permits process parameters to be seamlessly transferred to central SCADA and Historian systems.



CERTIFIED PRE-OWNED EQUIPMENT

KORSCH maintains an inventory of pre-owned equipment, which is supplemented by our equipment trade-in program. All KORSCH pre-owned machines are carefully inspected, refurbished, and certified for operation by a team of KORSCH experts. KORSCH CERTIFIED PRE-OWNED machines are extremely cost effective and backed by a limited warranty.

Fully Functional and Backed by KORSCH

CERTIFIED PRE-OWNED EQUIPMENT

Not all applications call for the latest model: We accept used machines as payment and offer older models for purchase that were overhauled by our specialists. Feel free to contact us about our current offers!

YOUR BENEFITS

- Extend the life
- Executed by KORSCH experts
- Backed by KORSCH warranty

Maximize Your Investment

MACHINE TRADE-INS

Trade-in your existing KORSCH machine for a significant credit towards a new KORSCH press. KORSCH offers inspection and trade-in services to permit customers to maximize the value of the existing asset and defray the cost of new KORSCH technology.





KORSCH
CUSTOMER SERVICE



KORSCH Global Service Network



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