

Assembly

We handle the proper system set-up for you. This saves you time and you don't have to provide any personnel. Thanks to our many years' experience, errors in assembly are nearly excluded. The system will be ready for operation in the shortest time.



- On your premises or in the end customer's plant
- With German- and English-speaking personnel
- Building site management
- Set-up and assembly of the system components
- Welding of the safety basin
- Cabling of the consumers in the switch cabinet

We start up your KNOLL system and ensure that it is ready for production start-up without delay. If errors occur, our technicians solve these immediately. We guarantee full functionality and with the start-up of the system, we lay the basis for optimal utilization. Of course we also handle technical support on-site.

Commissioning



- Checking of the mechanical and electrical components of the KNOLL system
- Checking to ensure completeness
- Establishment of system readiness
- Launch support
- Fine adjustment of the system in the ongoing manufacturing process
- Elimination of errors
- Operator training and safety training

Training

Our trainings are practically oriented. We communicate you the operating principle of the KNOLL systems so that you can detect maintenance requirements yourself and take appropriate measures. This way, you reduce downtimes and service costs.



- Explanation of the functioning of the KNOLL system
- Operating and service course including safety training
- Individual design, tailored specifically to customer needs
- Directly on the KNOLL system

An inspection provides you with certainty about the actual state of your KNOLL system. Service technicians detect necessary and preventative measures. They provide you with a realistic assessment of the costs involved and the time required.

Inspection



- Evaluation of the system's actual state
- Assessment of damage claims
- Demand forecast of time and man-hours required
- Naming of spare parts
- Reporting

Maintenance

Regular maintenance of your plants reduces service costs and increases availability. Prompt maintenance prevents unforeseen failures. This provides maximum safety and reliability. KNOLL employs well trained service personnel, runs a prompt supply of spare parts and offers the possibility of full-service contracts.



- Determination and assessment of actual plant conditions
- Checking of the mechanical and electrical components
- Functional test
- Replacement of worn, defective and preventative parts
- Checking of the operating parameters; readjustment if necessary
- Conducting of a test run
- Reporting
- Maintenance agreements

Retrofit

A timely installation overhaul safeguards against machine failure and unforeseen downtime. Are you planning to have your installation overhauled externally? KNOLL will gladly overhaul your installation exactly to your specifications and using only original replacement parts: Parts reconditioning · Complete overhauls · Retrofit · Upgrades



- Proper dismantling
- System cleaning
- Replacement of defective and worn parts with original spare parts
 - Complete reconditioning
 - Partial reconditioning
- Conversion or expansion to current state of the art
- Operational check
- Preservation or repainting

Modification

Would you like to increase the profitability and productivity of your system? Our advisors are very well-trained and offer high-quality services. They formulate proposals for how you can bring your system completely up-to-date — including the use of energy-saving technology and maximum operating comfort.



- Individual advising and German quality engineering
- Special constructions for solving customer-specific problems
- Modification of KNOLL systems to bring them up to the state of the art
- Expansion of conveying and filter capacity

If your system is due for repairs, you can rely on the high training and quality standards of our KNOLL service technicians. They arrive on the scene quickly in case of breakdowns and guarantee manufacturer-quality repair.

System repair



- Assessment and evaluation of the KNOLL system's condition
- Error analysis
- Replacement of defective components with original spare parts
- Elimination of software faults
- Checking and if necessary correction of the operating parameters set
- Conduction of a test run
- Reporting

Pump repair

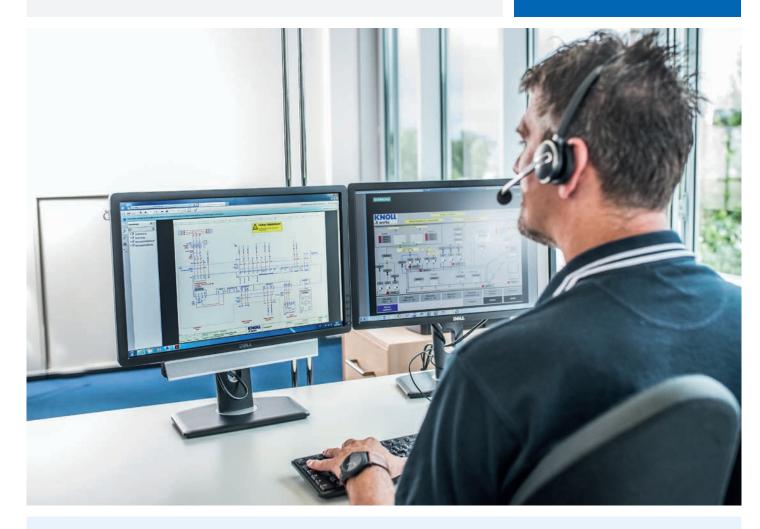
KNOLL pumps can generally be repaired, which saves costintensive reinvestments. We have spare parts for most pump bodies in stock. We promise that they are available within 24 hours for delivery to the customer on-site. If necessary, generally-overhauled exchange pumps can be used another cost advantage!



- Assessment and evaluation of the pump condition
- Error analysis
- Replacement of defective components with original spare parts
- Elimination of software faults
- Checking and if necessary correction of the operating parameters set
- Conduction of a test run
- Reporting

Thanks to remote monitoring, we keep an eye on your system all the time. We log into your system (online connection to the PLC control) and create error diagnoses quickly and precisely. This way, we assist your employees with maintenance. It is no longer necessary to make time-consuming telephone reports of errors.

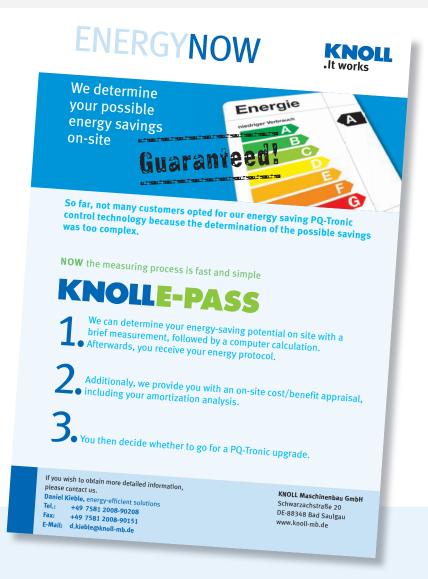
Monitoring



- Recording of the operating parameters and recording of the process data
- Technical support for startup and in case of breakdown
- Process analysis and optimization
- Component diagnosis
- Possibility of preventative maintenance

Energy optimization

Our KNOLL experts are in a position to optimize existing systems with respect to energy consumption and to save up to 70 % of the energy costs. Further advantages: Less heat transfer to the medium, reduced wear and maintenance effort, minimized noise. The amortization time is short. Financial support is offered by a subsidy program of the German Federal Office of Economics and Export Control. Furthermore, the ${\rm CO_2}$ reduction makes an important contribution to environmental protection.



- On-site service
- Pre-conference for estimation of potential
- All screw pumps KTS can be checked
- Measurement in the ongoing production process
- Creation of an energy log
- Quotation with cost/benefit comparison and amortization time for upgrade to PQ-Tronic control technology

In our spare parts warehouse, we stock all important parts in the highest quality — as original parts and to the manufacturer's standard. You will profit from our effective spare parts stocking and quick shipping. This way, we keep the downtimes as short as possible.

Spare parts



- Common wearing parts, consumables, and original spare parts in stock
- Immediate processing of order-related parts
- Spare parts packages possible
- Guaranteed quality thanks to the high KNOLL standard
- Warehouse shipping within 24 hours
- Express delivery for quick assembly
- Worldwide shipping

Rental systems

Come to us if you are going to have load peaks in cooling lubricant preparation. In such cases — but also for experimental systems and pilot projects — we provide you rental systems. This way, you minimize the risks. Furthermore, you will have the opportunity to test the KNOLL systems under real conditions.



- Rental of KNOLL filter systems for bypass and finest filtration
- Compact individual system for bath care
- System types
 - Fluid centrifuges
 - − MicroPur®
 - Compact filter systems
- Independent control
- Quick availability

We check the quality of your cooling lubricant, for insufficient quality causes breakdowns and compromises productivity. Faults can be limited and eliminated with our specialized tests. This is one way that you can ensure the high productivity of your system. Our laboratory analysis is also suitable for identifying modifications or new purchases of the best possible filtering technology.

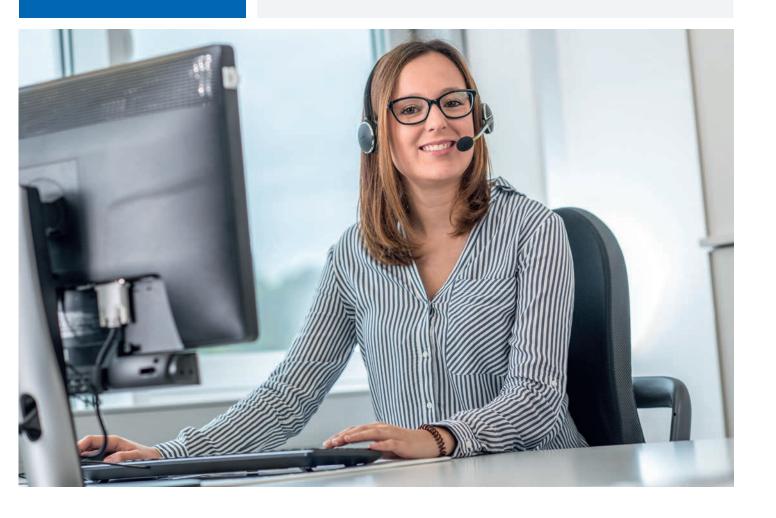
Laboratory analysis



- Examination of dirt content, particle size, and filter capacity
- Supply of test sampling equipment
- Assistance with test sampling by technical support
- Laboratory results report

Service hotline

With our service hotline, we are available to our customers around the world, around the clock — usually in the local language. Our qualified service employees assist you on the telephone or online. If necessary, we send a service technician to visit you.



KNOLL service centres

Germany

during business hours

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Monday-Thursday 05:00 – 09:00 pm Friday 03:00 – 09:00 pm Saturday 07:00 – 12:00 am

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