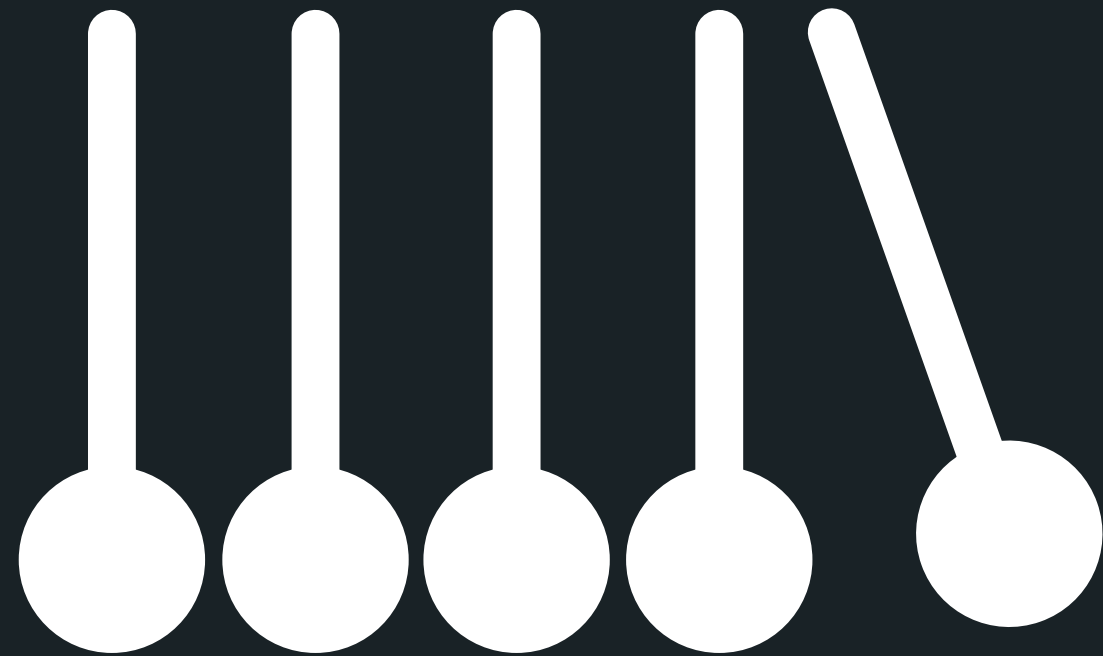


We start you up

Our full-service solution for a  
complete shredder drive system



....and keep you running



As one of the leading manufacturers of liquid rheostats, MKS can look back on more than 100 years of know-how and experience in the field of drive technology.

“Our philosophy is to deliver full-service, high-quality solutions in liquid rheostat and drive system engineering. From assembling to commissioning, preventive maintenance, repairs, reconditioning, engineering, consulting or training, MKS has become highly renowned and acknowledged internationally.

Our highest priority: The respect and fulfillment of our customers’ interests and the achievement of their satisfaction.

Our products always meet the high quality demands we claim. To constantly produce excellent quality and develop this level further, demands the mastery and stability of our processes. Thus, the continuity ensured is basis of our modern quality management and moreover, it makes the work of our employees easier.

The quality of our products depends on the quality of the products purchased. We therefore demand the highest quality possible from our suppliers.

We ensure that the legal and official requirements the company complies with are known to and used by our employees. We subject ourselves regularly to audits performed by certifying organisations.

Bektas Kusdogan [Dipl.-Ing.]  
Deniz Beese [MBA]  
Managing Directors



ISO 9001



## 1917

### Tradition

MKS has its origins in BEA Elektrotechnik & Automation, an accomplished liquid rheostat manufacturing company since 1917.

## 2001

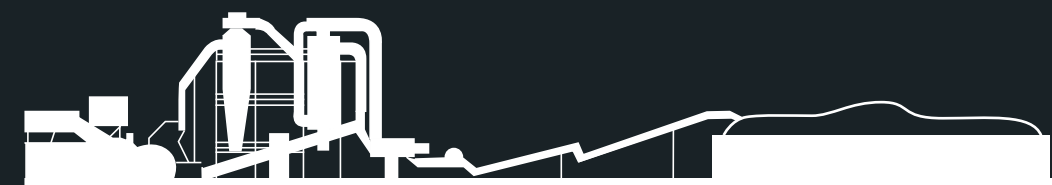
### Know-How

In a management buy-out, Mr. Bektas Kusdogan, long-time BEA employee and head of BEA Liquid Rheostat Manufacturing, took over his department and founded MKS in 2001.

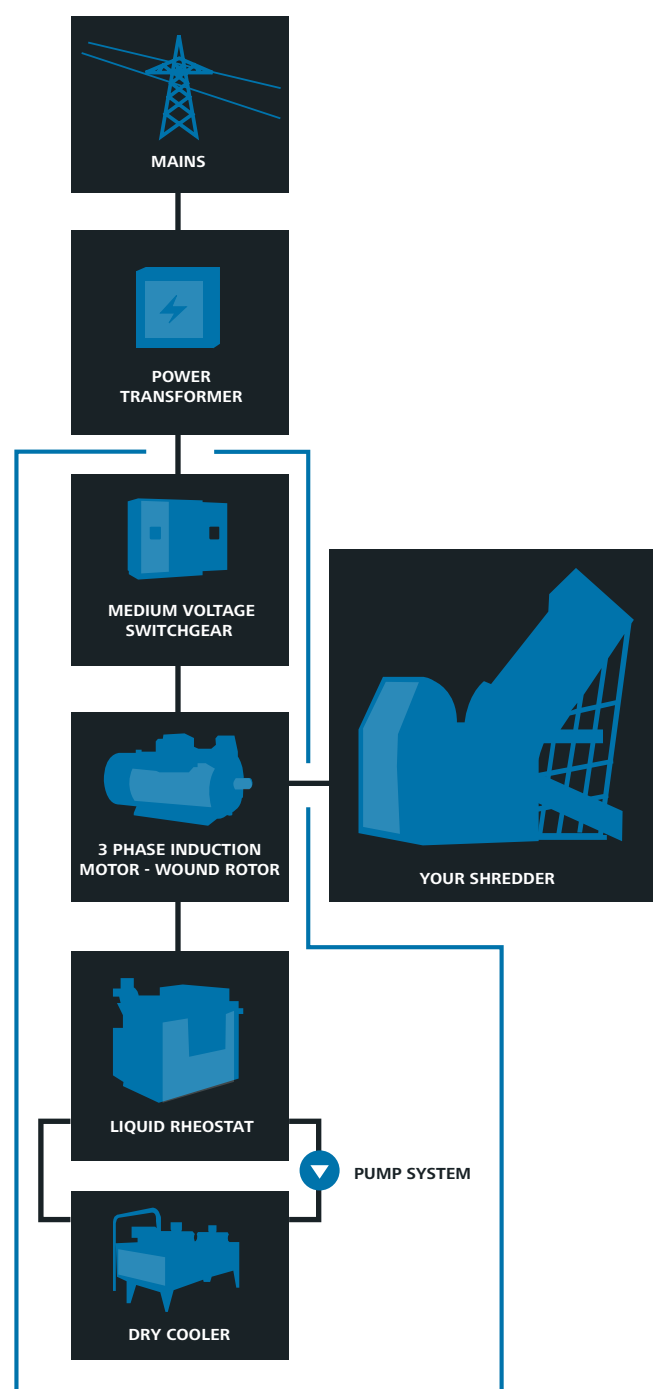
## Today

### Innovation

MKS is established as a successful company operating globally, coming up with innovative solutions and delivering high quality service for liquid rheostats and components worldwide.



# Our full-service solution for a complete shredder drive system.



We deliver your complete drive system from liquid rheostat and switchgear to wound rotor motor and dry cooler for your shredder, in accordance with your demands.

We combine all system components to build a perfectly working overall shredder drive system that enables highly effective operation.

From offer and project planning to delivery – our customers are supported by a single contact person, taking over coordination and handling for the whole project.

Our know-how and experience allow us to meet the most individual challenges and find the ideal solutions for your business. When required, we develop completely new concepts for your drive system.

In-house manufactured liquid rheostat and medium voltage switchgear are designed, engineered and tested by our own MKS well-trained employees in Germany. High quality brand wound rotor motor and dry cooler are supplied by our partners, all well-known manufacturers.

All materials and equipment conform to IEC and VDE standards. Other standards can also be successfully implemented on a custom basis.



Increase  
your  
output  
efficiency  
by lowering  
your energy  
consumption





#### Your long-term partner – support in all service areas

It is our primary mission to provide optimal service to our customers. With our extensive experience, we are highly dedicated to support you in all service fields – promptly, straightforwardly and effectively – anywhere in the world. Our comprehensive service includes assembling, commissioning, preventive maintenance, repairs and reconditioning as well as engineering, consulting and training. For optimal maintenance of your plant, we always keep all spare parts in stock – no matter the date of your purchase. Our documentation stretches back to 1952. This enables us to provide you with all the knowledge, experience and spare parts you need.

- ✓ Worldwide service
- ✓ On-site training
- ✓ Engineering
- ✓ Spare parts



#### The SFAK liquid rheostat – unique in its application.

The SFAK liquid rheostat features a high speed servo drive system aligned to stator current and adequate for starting drives with high inertia and performing high dynamic slip control for shredders. The construction and control allow a highly dynamic and backlash-free bow-toothed coupling. This liquid rheostat type is designed for shredder motors up to 25,000 HP and can work with a rated torque of 70 to 200 %. In this range, motor torque is continuously adjustable via a set point device. The output of a shredder motor controlled by a SFAK liquid rheostat is up to 30% more efficient than rheostats equipped with hydraulic regulator.

- ✓ PLC controlled
- ✓ Hard-wired interlocks
- ✓ PROFIBUS interface
- ✓ Ethernet interface



#### MKS medium voltage switchgear for wound rotor motors

The medium voltage switchgear for wound rotor motors up to 25,000 HP. In standard form, the motor is equipped with two panels for managing motor and transformer connections, including an earthing switch. An extension with a capacitor bank is optional. A sturdy sheet steel enclosure and safety glass windows for visual inspection conform to all safety standards. The MKS medium voltage switchgear guarantees optimum and reliable motor management. Electrical installation is ready for connection, pre-programmed and tested by us. All materials and the complete equipment conform to IEC and VDE standards. Other standards can also be successfully implemented on a custom basis.

- ✓ Motor management
- ✓ Max. 12,000 volts
- ✓ Max. 2,000 amperes
- ✓ Customizable

## Made to resist.

By definition, a liquid rheostat is a device in which the resistance of each conducting path is formed by the electrolyte column. Changing the length and the cross sectional area of the electrolyte column continuously changes the resistance.

Our liquid rheostats resist almost anything. Our customers appreciate their sturdy construction and high reliability. They have a service life of up to 40 years.

up to

40 years  
of service life



#### References:

ABB  
AIM Recycling Laval  
Alfa Acciai  
Azcon  
China Recycling Newell -  
Equipment (Jiangsu) Co. Ltd.  
Deacero  
DECONS S.A.  
Derichebourg Recycling  
EMR  
EMZ  
GDE  
H.J. Hansen  
Harris  
Hill Metals  
Hoi Tung Marine Machinery -  
Suppliers  
Hyundai Electrical  
Italferro s.r.l.  
Italmetalli s.r.l.  
J. Helmke & Co.  
Metallco Stene AS  
Metso  
Midwest Scrap  
Newell Pacific Inc.  
Newell Recycling Equipment LLC  
Pamensky  
Parfer Siti  
Passenaud  
Quad Plus  
Riverside  
SA Recycling  
Schnitzer Steel  
Schorch  
Sims Metal Management  
SNF  
STENA  
Teco Westinghouse  
The Shredder Company  
Total Métal Récupération (TMR)  
Inc.  
WEG  
Wendt

Our products set standards in many sectors such as shredder plants, cement and mining industry, pump stations and power plants – all over the world.

This exceptional position results from our high standards of reliability and quality, our dedication to our customers and confidence in our products. All the more reason to be proud of our extensive reference list. MKS drive systems can be found in more than 100 countries worldwide.







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