

ROTARY VESSEL MECHANICAL MAINTENANCE

SERVICES »»»



PHILLIPS
KILN SERVICES EUROPE

WHY CHOOSE PHILLIPS KILN SERVICES EUROPE?

With over 40 years' experience, Phillips Kiln Services Europe (PKSE) is recognised worldwide for its proven ability to solve complex mechanical engineering problems and its commitment to maximising the service life of all types and makes of rotary kilns, dryers, mills, calciners, coolers and similar equipment.

PKSE understands the criticality of rotating equipment to major processing operations as well as the investment that operators make in maintaining and repairing their equipment to ensure its reliability. As a result, our involvement begins when a rotary vessel is designed and built and continues on throughout its entire life; ensuring you maximise the return on your investment.

The company has developed innovative equipment and perfected methods and work practices to extend rotary vessel life and maintain optimum mechanical performance, which helps to avoid equipment failure, reduces power consumption and, ultimately, decreases your plant's operating costs.

Working with customers in a wide range of countries and industry sectors, including, fertilisers, agri-foods, cement, minerals, aggregates, paper, waste recycling and incineration, our world-class engineers and craftsmen also share a unique skill-set, making us the partner of choice for mechanical maintenance services.

MAINTENANCE

PKSE PROVIDES INNOVATIVE METHODS OF PREVENTATIVE AND CORRECTIVE MAINTENANCE FOR ALL MAKES AND TYPES OF ROTARY VESSELS.

The key to effective maintenance is the ongoing identification and monitoring of potential problems along with the formulation and implementation of action plans to resolve matters before they adversely affect your machinery and your process.

Fully trained and skilled technical teams carry out regular vessel audits and inspections, monitoring and evaluating the mechanical performance and condition of valuable plant assets.

The standard PKSE mechanical inspection of a rotary vessel follows a tried and tested format to verify equipment condition and report on recommendations for courses of action that will help avoid failures and future plant downtime.

Inspections include diagnostic evaluations of the support and thrust rollers and roller support bases, assessment of the shell and tyre condition, positioning and design, the mechanical condition of the drive system, including the girth gear and pinion, the vibration and movement of piers and support beds and the lubrication systems.

REPAIRS

PKSE OFFERS A FULL RANGE OF REPAIRS, REFURBISHMENT AND INSTALLATION SERVICES WITH THE AIM OF EXTENDING THE LIFE OF ROTARY VESSELS.

Our repair and installation work includes everything from simple repair work, such as changing bearings and rollers, installing or reversing girth gears, replacing tyre shell pads/tyre chairs, rollers, tyres and support bases, doing filler bar work by shimming tyres, changing shell sections, installing seals, mill repairs, grate cooler repairs, right through to the installation of new kilns or dryers.

Our involvement is designed to meet your requirements and we can provide expert supervision of the repair work or we can carry out individual repair tasks through to full turnkey projects.

INSTALLATION, REPLACEMENT AND CUSTOM PARTS MANUFACTURING AND SALES

PKSE designs, manufactures and installs complete replacement rotary units or large component parts.

For example, shell sections, girth gears and pinions, kiln and dryer seals and support components, such as tyres, support rollers and shafts, thrust rollers, girth gears, pinions, bases and sleeves.

The Phillips' Enviro-Seal is a proprietary inverted leaf design that provides a tight seal and features a removable riding band and leaf

support ring to minimise flexing and a spill hopper can be integrated into the mounting cylinder to reduce dust or product accumulation around the leaves. Installing the Enviro-Seal can be one of the most cost effective modifications made to your kiln or dryer.

Many mechanical problems can be rectified with the timely supply of vital consumable items such as bearings and stop blocks (chairs), as well as gear lubrication products and systems, for example, dry graphite block lubrication.

»» ALIGNMENT

PKSE's proprietary technologies are used in the analysis and correction of vessel alignment, skew and slope, as well as tyre shimming and resurfacing, thrust monitoring and dynamic balancing.

Alignment of the shell between support piers, girth gear to pinion, and tyres to support rollers is essential for all rotary units. Correct alignment improves service life through increased mechanical stability and decreased mechanical stress on the shell, tyres, tyre pads and retainers, support rollers, roller bearings and shafts, which eliminates aggressive and costly component wear.

HOT KILN ALIGNMENT:

Analysing alignment during the normal operation of the rotary vessel using a computerised laser system allows verifiable measurements to be taken directly from the shell ensuring the highest possible accuracy. Analysis and resolution of alignment issues can eliminate ongoing damage; prolonging the life of your equipment and reducing costly downtime.

THRUST MONITORING AND DYNAMIC BALANCING:

Rotary vessel operators with smaller, 2-pier supported units using antifriction bearings will enjoy increased reliability, extended bearing life and a decrease in tyre face wear by using the patented Thrust Monitor™ technology. PKSE offers the system as an in-situ service carried out by PKSE engineers or it can be purchased as a permanent installation enabling customers to monitor support roller thrust loading in real-time from your plant's control room PC.

ROLLER AND TYRE RECONDITIONING (RESURFACING BY GRINDING)

PKSE pioneered a resurfacing technique for restoring the support contact surfaces on rotary equipment.

As a kiln ages tyre and roller surfaces may show signs of wear, such as pitting, spalling, cracking, marking, irregular face profiles and rolled-over edges. These conditions can cause vibration, high power consumption, alignment problems and short bearing life which can result in premature bearing failure and damage to the tyre retaining components.

The removal of surface material takes out fissures and spalls, eliminates tramp material and compensates for eccentric motion due to shell run out. Tyres, support rollers, thrust rollers and tyre thrust faces can all be restored to surface finishes that meet and exceed OEM tolerances.

PKSE's expert grinders calculate and make corrective roller adjustments to preserve alignment, girth gear to pinion mesh and to set roller skew accurately.

Worn support roller and tyre faces are ground in-situ whilst the rotary unit is in normal production. Unique machines use fast cutting grinding cup stones to cut a true arc about no fixed centre and restore surfaces to a smooth and cylindrical profile. Resurfacing facilitates the accurate adjustment of support rollers and improves mechanical stability, whilst reducing power consumption and decreasing operating costs.



CONSULTANCY, PROJECT MANAGEMENT AND TRAINING

PKSE is uniquely placed to provide impartial advisory and supervisory services to designers, site managers and maintenance engineers.

PKSE's involvement can range from expert supervision of maintenance work through to full turnkey project management. Customers benefit from having access to a valuable technical support and back up support service, where PKSE's engineers can also be used as part of your own maintenance and technical support teams.

We will provide you with all you need from answers to frequently asked questions on mechanical operations to interim and project management and training in mechanical maintenance best practice. Our training options include in-house seminars at customers' own sites and public seminars at locations across Europe and Africa.

For further information on PKSE's range of mechanical maintenance services, visit:

www.pkse.co.uk

Or contact us:

Phillips Kiln Services Europe Ltd.

Unit 4, Traso Business Park, Callywhite Lane,
Dronfield, Sheffield, S18 2XR, U.K.

Email: sales@pkse.co.uk

Call: +44 (0)1246 292700

Fax: +44 (0)1246 292400

PKSE'S AGENTS OPERATE IN THE FOLLOWING COUNTRIES

Belgium, Germany, Holland and Luxembourg

Jan Hendriks

Email: jhendriks@pkse.co.uk

Call: +44 (0) 7967 463 940

France

Patrick Houel, Dinovacom

Email: patrick.houel@dinovacom.fr

Call: +33 (0)6 03 25 42 47

Morocco

Karim Labdaouat, FLIRS

Email: KL@flirs.ma

Call: +212 6 42 36 77 77

Romania

Florin Apostol

Email: florin.flant@gmail.com

Call: +40 731 150 130

Russia

Kishore Bharade

Email: kiln@inbox.ru

Call: +7 903 976 6309

South Africa

Dino Pietroiusti

Robtek

Email: dino@robtek.co.za

Call: +27 82 345 0088

Spain

Carlos Briz

Krosaki AMR Refractorios S.A.u

Email: carlos@krosaki-amr.com

Call: + 34 94 355 7500

Turkey

Zeynep Coruh

Email: zeynepcoruh@ceta.com.tr

Call: +90 212 861 4444

Ukraine

Gregory Kabisher

LLC Krivbassprom

Email: gregoriykp@gmail.com

Call: +38 067 168 9696



PHILLIPS
KILN SERVICES EUROPE