

SLSpro

Proactive • Reliability • Optimization

Gearbox Reconditioning



Bearing Mounting and Dismounting



SOLUTIONS AND SERVICES

Providing Reliability Services and Mechanical Services



Thermography
Inspection



Shaft
Alignment



Vibration Condition
Monitoring



Conveyor Belt Splicing

by

SLS

creating advantage
for your success



A division of SLS Bearings (S) Pte Ltd is focused on customer centric and togetherness for user solutions.

SLS is an authorized Certified Maintenance Partner (CMP) of SKF.

Together with SKF, SLS has done several Vibration Measurement and Analysis jobs for the end users, customers, contractors and other integrators.

SLS PRO Services include:

1) **Reliability Services**

- Dynamic Balancing
- Electrical Panel Cleaning
- Predictive Maintenance Of Electric Motor
- Shaft Alignment
- Thermography Inspection
- Vibration Condition Monitoring
- others

2) **Mechanical Services**

- Bearings Mounting and Dismounting
- Belt Drive Optimisation
- Conveyor Belt Splicing
- Gearbox Reconditioning
- Lubrication Management
- Pulley Lagging
- others

Dynamic Balancing

Unbalance is the second most common source of machine faults found in rotating assemblies after misalignment. Imbalance is normally found in electric motors, rotor and fan assemblies alike.

SLS PRO Engineers are balancing specialists with technical expertise to balance most rotating element, be it fan, pulley and pump applications. This skillful level of balancing knowledge and years of experience of our engineers, ensure that every balancing job, from simple single-plane applications to two-plane rotors, can be carried out to reduce vibration and getting the machine back into production.



Benefits

- Enable the correction of imbalance in rotating equipment
- Reduce downtime, labour and material costs
- Reduce overall vibration of the system
- Improve product quality
- Reduce the possibility of catastrophic failures
- Increase safety

Electrical Panel Cleaning

The NWK-99 cleaning solution facilitates live cleaning without interrupting the power supply. A pioneering solution to clean live electrical equipment. NWK-99 uses a specialised solution to clean equipment in a safe manner without needing to shut down operations. NWK99 has a very high dielectric strength making it safe to clean live electrical panels. It is also non-toxic, eco-friendly, non-corrosive and non-flammable.



NWK-99 blasts away dirt and other residue built up in electrical panels with precision. Slipping easily into the tiny, narrow gaps in between electrical parts, the force of the spray flushes the microdust and drains it. The cleaning liquid and trapped dust accumulates at the bottom and the solution vaporises within minutes.

Benefits

- Able to clean live equipment as it is nonflammable and non-conductive
- Does not damage components as it is non corrosive
- Removes dust quickly
- Eco-friendly
- Evaporates and leaves no residue



Shaft Alignment

Misalignment is a major risk and cost to production. It affects efficiency, safety and reliability of plant equipment. Extended machine reliability through laser alignment is a major factor in increasing profitability.

SLS PRO engineers are well-trained and equipped to conduct laser alignment. With the right set of tools and skills, we increase the operating life of your mechanical components.

Benefits

- Increase bearing service life
- Reduce stress on couplings and bearings
- Save energy in friction reduction
- Reduce vibration and noise
- Increase production capacity and quality



Thermography Inspection

Thermography employs the use of a thermal imaging camera to scan electrical panels through infrared radiations. It is carried out without by non-contact of the equipment or component. Thermal gradients captured by the scanned images can be used to assess the function and performance of equipment.

Thermography imaging can help to identify problematic electrical components without the need to dismantle electrical panels, wires and cabling. This enables electrical problems to be identified quickly and accurately. The most important aspect of thermal imaging is that the scanning is done on a live panel. This reduces production downtime.

Benefits

- Non-contact measurement
- Safe and reliable
- Able to detect electrical problems accurately
- No downtime
- Improve safety
- Reduce fire hazard
- Increase productivity and profitability



Predictive Maintenance Of Electric Motor

Predictive Maintenance Of Electric Motor solution includes both Testing and Product Sales services. Electric Motors are traditionally tested for Insulation Resistance which broadly gives an overall indication whether Motors can be switched on safely. While predictive maintenance helps to give you an status of Motor stator windings insulation condition (especially Turn to Turn winding insulation) which can be easily determined by Surge Testing.

SLS PRO provides a full spectrum of electrical test equipment for Static Motor Analyser and Dynamic Monitoring of in-service motors and generators. Dynamic monitoring, provides health and performance data on the motor, motor load, and incoming power to assess motor performance and suitability in context of the entire machine system.



Static testing of OFF-LINE motors includes following tests:

- Insulation resistance (Megger $M\Omega$)
- Polarization index (PI)/ Dielectric Absorption (DA),
- Step voltage / DC high potential (DC-HiPot)
- Surge test.

Benefits

- Reduce downtime, labour and material costs
- Accurate fault detection
- Predict and Control "down time"
- Root Cause Analysis
- Increase production
- Increase profitability
- Improve safety

Vibration Condition Monitoring

- Vibration Measurement and Analysis with Report & Solutions

SLS provides both Vibration Measurement and Analysis services and Predictive maintenance solution under Reliability Services (RS) division. These solutions help customers to minimize downtime and optimize resources. Following solutions are available depending on your policies, scalability and resource requirements.

Our solutions

- Wired Vibration Sensor
- Wireless Vibration Sensor
- Cloud based
- Local Server based

Our packages

- **SLS PRO RS 1 - BASIC**
RS1 takes the responsibility of Measurement, Analysis with Observations, Suggestions and Recommendations. This service is offered to Users who would like to choose from their maintenance strategy (Reactive type, Adhoc or Annual Maintenance contracts type).
- **SLS PRO RS 2 - INTERMEDIATE**
In addition to RS1, the intermediate package will provide other solutions like Shaft Alignment, Balancing Thermography, Electric Motor Static Analysis, Dynamic Motor Monitoring and Live Panel cleaning services. More services will be added in future when necessary.
- **SLS PRO RS 3 - ADVANCED**
Along with RS1 and or RS2, the advanced package provides solutions on Monitoring the assets. This is a proactive solution; implying that an alarm trigger will be activated so that users can perform the necessary maintenance actions.

Bearings Mounting and Dismounting



Bearings are high precision parts. Improper handling will lead to premature bearing failure. Care should be taken in handling bearings, during installation. Bearings should be assembled in a clean working environment to ensure no contaminant entry proper tools and correct procedure should be utilized. This is important to prolong Bearing life cycle.

SLS PRO offers specialised on-site services and supervision to ensure proper installation procedures are carried out with the correct tools and equipment. The precise Tools and Procedure required to install a bearing, vary with its type, size, speed, application and industry. Our experienced engineers assist you with professional consultation and recommendations for proper mounting and dismounting to facilitate prolonged efficient running of machinery.

Benefits

- Extend machine uptime and mean time between failure (MTBF)
- Reduce downtime and production losses
- Reduce overall maintenance, inventory and labour costs
- Improve safety in working environment

Belt Drive Optimisation

Businesses are seeking ways to maximize profit and cost savings due to the global competitiveness of business and challenging economic environment. Pulley Alignment and Belt Tension are the most critical parts of the Belt Drive. Pulley misalignment can cause premature failure while unequal tension can cause slippage and unwanted vibration. These two crucial issues often cause belt drives to fail prematurely and result in disruption to operations.

SLS PRO specialises in providing fully integrated belt-drive installation, belt-drive performance analysis, reliability and compliance solutions for industries. This programme plays a key part in cost savings by eliminating redundant belts per drive.

Benefits

- Prolong drive service life
- Significant cost reductions
- Longer intervals between maintenance shutdowns
- Distinct energy savings
- Reduces vibration with resultant smooth running



Conveyor Belt Splicing

A conveyor belt system is an essential and critical item of handling material for industries involved in conveying or transporting heavy or bulky materials from one location to another. Industries such as mining, aggregate processing, cement, pulp and paper, just to name a few. Productivity is directly linked to a conveyor's belt systems' health. Unplanned downtime due to breakdown of conveyor belts equate to:

- lost productivity
- unscheduled maintenance and labor costs
- possibly unsafe working conditions

Hence, choosing the right conveyor maintenance partner is critical.

SLS PRO provides the expertise and equipment to do conveyor belt splicing. With state-of-the-art vulcanising equipment and a team of well-trained crew equipped with industry know-how and experience, SLS is your preferred maintenance partner in conveyor belt splicing.

Benefits

- Improve tensioning strength on joint areas
- Withstand a higher capacity when conveyor belt restart after a sudden stop
- Extend period between Mean-Time-Between-Failure (MTBF)



Gearbox Reconditioning

Gearboxes are at the heart of many industrial machines, such as agitators, fin-fan heat exchangers, cooling tower fans, and many others. Critical gearboxes are often used in high-demanding industries, running extensive hours of operation in harsh environments. Gearbox solution, reconditioning and repair should be performed by a maintenance partner with the expertise and resourceful supply of parts.

SLS PRO provides fully integrated solutions for industrial gearbox reconditioning, supported by our in-house Engineering and Technical team who have the experiences in different industries and types of gearbox applications.



Benefits

- Prevent purchase another expensive new gearbox
- Prevent long delivery time of new gearbox
- Prevent unscheduled breakdown causing production
- Prolong gearbox service life and performance

Lubrication Management

Lubricant is lifeblood of machineries. Almost all machineries which involve motion need lubricant and lubrication activities. But lubrication is often understated and many required activities are overlooked. The influence of lubrication activities on machine reliability is great. It is generally accepted that up to 50% of premature bearing failures are due to either incorrect lubrication practices or contamination. A proper lubrication management will help prevent the most frequent failure modes occurring in an industrial plant related to lubricant contamination, chemical degradation or cross contamination.

SLS PRO engineers tailor the right solution for every customer to solve their lubrication problem and offer recommendations for proper lubrication management.

- Tools supply, Installation and Training
- Audit and Mapping
- Planning
- Analysis

Benefits

- Extend and Improve machinery life span
- Minimise future premature failure of machines with installation with proper lubrication management
- Reduce downtime and improve machine availability
- Comprehensive solution package including supplying lubrication tools, planning proper lubrication activities, and monitoring machine condition by lubricant analysis



Pulley Lagging

Conveyor systems often have to perform in demanding environment and operate for long hours without stopping. The life span of conveyor systems primarily depends on the standard and regularity of servicing and maintenance suiting their specific applications. Lagging can extend the life of the pulley shell by providing a replaceable wearing surface or to improve the friction between the conveyor belt and the pulley.

SLS PRO Engineers are conveyor systems specialists with technical expertise to install, repair and maintain conveyor belts and pulleys. In critically demanding industries, our engineering and technical team respond to the customer in shortest possible time.



Benefits

- Fast solution. When completed by experienced personnel, refurbishment and installation can be completed within several hours
- Extend and Improve conveyor belt life span
- Materials used are 90% natural rubber
- On-site service is offered at customers' workshop to minimise downtime

Contact us to find out more about our solutions and services.

Our **SLS PRO** Team of experienced Engineers and Technical Staff will work closely with your maintenance team to Create Advantage for Your Success through efficiency and cost control.

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