

Laboratory & Pilot Scale Grease Manufacturing Plant for Advanced R&D Applications



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Introduction

LINUS PROJECTS (INDIA) is a leading manufacturer and global exporter of lubricant and grease manufacturing machinery. Our Laboratory Model Grease Plant is designed for Research & Development (R&D), formulation validation, pilot batch production, and technical training. This compact system replicates industrial grease manufacturing processes under controlled laboratory conditions.

What is a Laboratory Model Grease Plant?

A Laboratory Model Grease Plant is a small-scale, skid-mounted grease production system engineered to manufacture controlled batches ranging from 10 kg to 200 kg per batch. It simulates industrial processes such as saponification, controlled heating & cooling, crystallization, milling, and homogenization.



Key Applications:

- Development of new grease formulations.
- Testing base oils, thickeners, and additives
- Process optimization and validation
- Pilot batch production before scaling up
- Technical training and academic research

Core Components Lab Model Grease Plant:

- Grease Kettle (Reactor) with jacketed heating and cooling system.
- Heating & Cooling Unit for controlled thermal cycles.
- Grease Milling Machine (Colloid Mill) for uniform consistency.
- Filtration & Degassing System.
- PLC-Based Control Panel with optional SCADA integration.

Grease Manufacturing Process:

1. Base oil charging into kettle
2. Initial heating and saponification at 80–90°C
3. Thickener reaction phase at 160–200°C
4. Controlled cooling for soap fiber crystallization
5. Additive incorporation at 80–100°C
6. Final milling and homogenization

Types of Grease That Can Be Manufactured:

- Lithium Grease
- Lithium Complex Grease

- Calcium Grease
- Calcium Complex Grease
- Calcium Sulphonate Grease
- Aluminium Grease
- Aluminium Complex Grease
- Synthetic Grease
- Food Grade Grease
- Bio Grease
- Non-Soap Grease

TYPES OF GREASE THAT CAN BE MANUFACTURED



GREASE PLANT LABORATORY MODEL

LITHIUM
LITHIUM COMPLEX
CALCIUM
CALCIUM COMPLEX
CALCIUM SULPHONATE
LITHIUM / CALCIUM
ALUMINIUM
ALUMINIUM COMPLEX
FOOD GRADE
SYNTHETIC GREASE
NON-SOAP GREASE
BIO GREASE

Laboratory Testing Capabilities:

- Drop Point Analysis
- Cone Penetration Test
- Four-Ball Wear Test
- Oxidation Stability Test
- Water Washout Test
- Corrosion & Rust Testing
- Load Carrying Capacity Assessment



Quality Assurance & Engineering Support

Each batch manufactured undergoes strict quality validation prior to scale-up. LINUS PROJECTS provides complete engineering consultation including project report preparation, plant layout design, capacity planning, installation, commissioning, and operator training.

LINUS PROJECTS (INDIA) focuses on advanced machinery for fully automated [lube oil blending plant](#), which includes a continuous blender and an auto-cleaning feature. Automation and PLC control oversee the entire process, enhanced by a SCADA interface. Furthermore, packaging robots offer immediate feedback on packaging activities, product positioning, and quality control measures. Partnering with LINUS PROJECTS (INDIA) allows you to integrate cutting-edge technology into your [Lube Oil Blending Plant](#) (LOBP) operations.



OUR CLIENTS





LINUS PROJECTS (INDIA)

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