CASE STUDY

Energy Efficiency through FLP Light Retrofit at JB Pharma's D9 Plant

Objective

In pharmaceutical manufacturing, ensuring safe and efficient lighting especially in hazardous areas with solvent handling is critical. Traditionally, Flameproof (FLP) lighting systems at JB Pharma's D9 plant relied on outdated lamps such as tungsten filament, HPMV, HPSV, and CFLs. These legacy systems delivered lower illumination (lux levels), generated excessive heat (indicating power loss), and required additional components like ballasts, starters, and capacitors resulting in higher maintenance and energy consumption.

To improve energy efficiency and illumination quality, the objective was to retrofit existing FLP fittings with custom-designed LED lamps, without replacing the entire FLP unit delivering both cost and operational efficiency.

Key Outcome and Impact

- Higher lux levels achieved, improving visibility and safety in work zones
- Significant reduction in energy consumption and heat loss due to efficient LED retrofits
- Extended lamp life led to lower maintenance needs and fewer replacements
- Cost savings realized by reusing FLP fixtures instead of purchasing new LED units
- Adopted a cost-effective retrofit strategy that delivered strong ROI with minimal capital investment
- Enhanced workplace efficiency and safety through consistent, improved lighting
- Reduced operational downtime caused by lighting failures or frequent replacements
- Established a replicable model for future lighting upgrades across other facilities
- Identified a qualified vendor to develop custom LED lamps and compatible circuits for existing FLP fixtures
- Successfully piloted and validated performance before plant-wide rollout
- Completed phased implementation across D9 plant, aligning with JB Pharma's commitment to continuous improvement.

Conclusion

This FLP lighting retrofit project at the D9 plant reflects JB Pharma's commitment to innovation, sustainability, and operational excellence. By embracing LED technology within existing infrastructure, the company has delivered a smart, scalable solution that balances performance, safety, and cost-efficiency.