ABSTRAK
ANALISIS FAILURE MOTOR GB-307 BM EXHAUST FAN PRILLING TOWER UREA PUSRI IB PT. PUPUK SRIWIDJAJA PALEMBANG

(2025 : XIV + 54 Halaman + 29 Daftar Gambar + 6 Daftar Tabel + 8 Lampiran)

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Analisis Failure Motor GB-307 BM Exhaust Fan Prilling Tower Urea Pusri IB PT. Pupuk Sriwidjaja Palembang" dan bertujuan untuk melaporkan hasil pengambilan data selama kegiatan di lapangan, serta meningkatkan pemahaman mengenai cara kerja dan prinsip dasar motor listrik tiga fasa. Penelitian ini juga ditujukan untuk mengetahui aplikasi motor listrik tiga fasa dalam dunia industri, khususnya pada sistem exhaust fan di Prilling Tower Urea PT. Pupuk Sriwidjaja Palembang. Metode yang digunakan dalam penelitian ini meliputi observasi langsung di lapangan, studi literatur terkait motor listrik tiga fasa, serta wawancara dengan personel teknis yang berkompeten. Hasil penelitian menunjukkan bahwa motor GB-307 BM mengalami kegagalan (failure) yang disebabkan oleh terjadinya hubungan pendek (short to ground) pada bagian windingMotor GB-307 BM diketahui berfungsi sebagai exhaust fan yang bertugas menyedot udara dari dalam ruangan Prilling Tower. Sistem kontrol pengoperasian motor ini menggunakan metode pengasutan direct-on-line (DOL), yaitu salah satu metode dasar dalam pengoperasian motor listrik. Pengoperasian motor dikendalikan melalui local control switch yang terletak di lantai 4 Prilling Tower. Dengan adanya analisis ini, diharapkan dapat meningkatkan pemahaman teknis mengenai penyebab dan penanganan kegagalan pada motor listrik tiga fasa di lingkungan industri.

Kata kunci: Motor listrik tiga fasa, failure, short to ground, exhaust fan, direct-on- Line, prilling tower.

ABSTRACT
FAILURE ANALYSIS OF MOTOR GB-307 BM EXHAUST FAN AT PRILLING TOWER UREA PUSRI IB PT. PUPUK SRIWIDJAJA PALEMBANG

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Failure Analysis of Motor GB-307 BM Exhaust Fan in the Prilling Tower Urea Pusri IB PT. Pupuk Sriwidjaja Palembang", aims to report the data collection activities conducted during fieldwork at PT. Pupuk Sriwidjaja and to enhance understanding of the working principles and applications of three-phase electric motors in industrial settings. The study also seeks to provide insight into how three-phase motors operate and their role within various industrial systems. The methods employed in this research include direct observation, literature review, and interviews with technical personnel. The findings indicate that the GB-307 BM motor experienced a failure caused by a short to ground in the winding section. The GB-307 BM motor functions as an exhaust fan responsible for extracting air from within the Prilling Tower. The control system of this motor utilizes a direct-on-line (DOL) starting method, which is one of the basic approaches for operating three-phase electric motors. The motor is operated via a local control switch panel located on the 4th floor of the Prilling Tower.This analysis is expected to contribute to a deeper technical understanding of the causes and handling of failures in three-phase electric motors within industrial environments.

Keywords: Three-phase electric motor, failure, short to ground, exhaust fan, direct-On line, prilling tower.