
Surat Tugas/Letter of Appointment

Nomor/
Number
Tanggal/
Date

ST/THS2/0919-B/AAO/IX/2022 - FdI

19 September 2022/19 September 2022

Penugasan Sebagai Pembimbing Utama/Pendamping Skripsi Mahasiswa S2 Semester Ganjil 2022/2023
Appointment of Thesis Advisor/Co-Advisor for Master's Degree Student(s) in Odd Semester 2022/2023

Fakultas Teknik & Teknologi Informasi/Faculty of Engineering & Information Technology

Dekan Fakultas Teknik dan Teknologi Informasi, Universitas Swiss German/
The Dean of Engineering and Information Technology Faculty of Swiss German University,

Menimbang/*Considering:*

1. Perkuliahan S2 semester 2 yg telah berakhir/*The lectures for semester 2 have finished.*
2. Persyaratan untuk mencapai gelar pasca sarjana/*Requirements for Master's Degree graduation.*

Memperhatikan/*Referring to:* Hasil penunjukan Dekan Fakultas Teknik dan Teknologi Informasi/*The appointment by the Dean of Engineering and Information Technology Faculty.*

Memutuskan/*Has Reached the Decision:*

1. Dengan ini menugaskan kepada dosen yang tercantum pada lampiran, sebagai Pembimbing Utama/Pendamping skripsi program Strata Dua (S2) mahasiswa yang tercantum pada lampiran dengan masa penugasan 19 September 2022 sampai dengan 23 Januari 2023/*Herewith gives the task to the lecturers as listed on the attachment to become Thesis Advisor/Co-Advisor for the Masters student(s) listed on the attachment with period of task starting from 19 September 2022 until 23 January 2023.*
2. Dosen yang bersangkutan harus melaksanakan tugas dan tanggung jawab sebaik-baiknya, sesuai dengan petunjuk pembimbingan skripsi dari SGU/*The appointed lecturer shall accomplish the task in responsible ways in line with the thesis guidelines and other regulations given by SGU.*

Terima kasih atas perhatian dan kerjasama Saudara/*Thank you for your attention and cooperation.*

Dekan/*Dean,*



Dr. Maulahikmah Galinium, S.Kom, M.Sc.
Dekan Fakultas Teknik dan Teknologi Informasi/
Dean of Engineering and Information Technology Faculty

Lampiran/*Attachment:*

Daftar Nama Pembimbing Utama, Pendamping dan Mahasiswa pada Semester Ganjil 2022/2023
List of Thesis Advisor, Co-Advisor and Student in Odd Semester 2022/2023.

1. Lampiran 1/*Attachment 1:* Program Studi Magister Teknik Informatika/*Study Program of Master of Information Technology*
2. Lampiran 2/*Attachment 2:* Program Studi Magister Teknik Mesin/*Study Program of Master of Mechanical Engineering*

Lampiran 2 Surat Tugas: ST/THS2/0919-B/AAO/IX/2022 - FdI
Attachment 2 to the Letter of Appointment: ST/THS2/0919-B/AAO/IX/2022 - FdI

Daftar Nama Pembimbing Utama/Pendamping Skripsi Pada Program Magister,
Program Studi Magister Teknik Mesin, Fakultas Teknik dan Teknologi Informasi, pada 19 September 2022 –
23 Januari 2023

*List of The Thesis Advisor/Co-Advisor Master's Degree Program,
Study Program of Master of Mechanical Engineering, Faculty of Engineering & Information Technology,
in 19 September 2022 – 23 January 2023*

Daftar Pembimbing Utama / List of Advisor

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3	Dena Hendriana, B.Sc., S.M., Sc.D.	Dosen Tetap / Homebase Lecturer	Samuel Onasis Keliat	22152003	TURBINE LUBE OIL PURIFICATION SYSTEM AT STEAM POWER GENERATION PLANTS
			Angga Widi Fitriyanto	22152013	OPTIMIZE CHILI PASTE PRODUCTION TIME USING DIRECT FEEDING AUTOMATIC DOSING SYSTEM
4	Dr. Ir. Gembong Baskoro, M.Sc.	Dosen Tetap / Homebase Lecturer	Oma Budi Herawan	22152015	MAINTENANCE SPARE PARTS OPTIMIZATION BY USING ANALYTIC HIERARCHY PROCESS (AHP) IN OIL AND GAS INDUSTRY: STUDY CASE
5	Dr.-Eng. Cuk Supriyadi Alin Nandar	Dosen Tetap / Homebase Lecturer	Irsyad Razaqi	22152014	DESIGN AND DEVELOPMENT OF HUMAN MACHINE INTERFACE (HMI) AND REPORTING SYSTEM IN BAGGING PROCESS
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5	Dr.-Eng. Cuk Supriyadi Alin Nandar	Dosen Tetap / Homebase Lecturer	Achmad Fathoni	22152012	OPTIMIZATION MOISTURE CONTENT USING FUZZY LOGIC BASED ON PROGRAMMABLE LOGIC CONTROLLER (PLC) FOR SOAP DRYING PROCESS
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Jumlah Pembimbing Utama Skripsi Program Studi Magister Teknik Mesin pada Semester Ganjil 2022/2023 adalah 6 orang/
The Thesis Advisor of Study Program of Master of Mechanical Engineering Odd Semester 2022/2023 in total are 6 persons

Jumlah Pembimbing Pendamping Skripsi Program Studi Magister Teknik Mesin pada Semester Ganjil 2022/2023 adalah 6 orang/
The Thesis Co-Advisor of Study Program of Master of Mechanical Engineering Odd Semester 2022/2023 in total are 6 persons

Dekan/Dean,

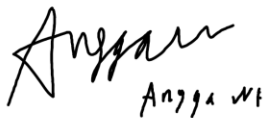


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Date of Defense : 2 February 2023
Thesis Title : IMPROVE CHILI PASTE PRODUCTION TIME USING AN AUTOMATIC TRANSFER SYSTEM

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.



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**IMPROVE CHILI PASTE PRODUCTION TIME
USING AN AUTOMATIC TRANSFER SYSTEM**

By

Angga Widi Fitriyanto
22152013

MASTER'S DEGREE
in

MECHANICAL ENGINEERING - MECHATRONICS
FACULTY OF ENGINEERING & INFORMATION TECHNOLOGY



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January 2023

ABSTRACT

IMPROVE CHILI PASTE PRODUCTION TIME USING AN AUTOMATIC TRANSFER SYSTEM

By

Angga Widi Fitriyanto

Dena Hendriana, B.Sc., S.M., Sc.D, Advisor

Dr. Ir. Hanny J. Berchmans M.T. M.Sc., Co-Advisor

SWISS GERMAN UNIVERSITY

The need for ready-to-eat food is increasing with the increase in the human population and the faster urban lifestyle in Indonesia. This has prompted food and beverage producer investors to choose Indonesia as their target market. One of the famous American food and beverage companies launching its brand in Indonesia. The previously manual production process is no longer relevant with the addition of the brand's products. For this reason, a faster-automated process is needed so that the production floor can produce existing and new products.

In the production preparation process, raw materials that are large in quantity and large packages require a long time if handled manually. Therefore, this research replaced the manual process with an automated system. This research's raw material preparation process is stored in a storage tank. The system will automatically transfer to the destination blending tank if the production process requires it. In this research, the system is called an automatic transfer system. the system will use Programmable Logic Control (PLC) and Human Machine Interface (HMI) as standard controls in today's industrial world. In the automatic transfer process, flowmeters will be used as sensors, automatic valves, and pumps complete with Variable Speed Controller (VSD) become actuators so that the transfer process is not only faster, the amount and accuracy of the transfer process can be adjusted.

Keywords: Automatic Transfer, Blending System, Direct Feeding, Dosing System, Batch processing.

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DEDICATION

I dedicate this study to my beloved family and this works for the future of the country
Indonesia.

ACKNOWLEDGEMENTS

I would like to thank Mr. Dena Hendriana, B.Sc., S.M., Sc.D. and Mr. Dr. Ir. Hanny J. Berchmans M.T. M.Sc. as advisors and co-advisors who always provide support and always give advice. To all lecturers who have guided me while studying at Swiss German University. I would also like to thank my wife, dr. Safrin Aulia Ekawati supported and cared for my family when I worked and took a master's degree program.

TABLE OF CONTENTS

	Page
STATEMENT BY THE AUTHOR.....	2
ABSTRACT.....	3
DEDICATION.....	5
ACKNOWLEDGEMENTS	6
TABLE OF CONTENTS	7
LIST OF FIGURES	10
LIST OF TABLES	13
CHAPTER 1 - INTRODUCTION	14
1.1 Background.....	14
1.2 Research Problems	17
1.3 Research Objectives	17
1.4 Significance of Study	17
1.5 Research Questions.....	17
1.6 Hypothesis	17
1.7 Research scope	18
CHAPTER 2 - LITERATURE REVIEW	19
2.1 Mixing System Technology	19
2.1.1 Mixing System Technology with PLC	19
2.1.2 Mixing System Technology with Arduino	20
2.1.3 Measuring and Control	22
2.2 PLC Technology	23
2.2.1 PLC CPU	24

2.2.2	PLC Analog Input Module	25
2.2.3	PLC Analog Output Module.....	27
2.2.4	PLC Remote Module	28
2.3	Flow Measuring Technology.....	29
2.4	Material Specification	32
CHAPTER 3 - RESEARCH METHODS.....		33
3.1	Research Framework	33
3.1.1	Problem Analysis.....	34
3.1.2	Design.....	34
3.1.3	Simulation.....	34
3.1.4	Verification	35
3.2	Flow Process Diagram.....	35
3.3	System Architecture	37
3.4	Materials and Equipment	38
3.5	Input Output Design.....	40
3.6	Electrical Design	42
3.6.1	Main Electrical Supply	42
3.6.2	Control System Electrical Supply.....	43
3.6.3	Control System Field Instrument.....	46
3.7	Logic Flow Chart.....	48
3.8	HMI Design	50
3.9	PLC Design.....	53
3.10	Simulation.....	59
CHAPTER 4 - RESULTS AND DISCUSSIONS.....		66
4.1	Installation Verification	66
4.2	Validation and Calibration	77

4.3 Testing.....	83
CHAPTER 5 - CONCLUSIONS AND RECCOMENDATIONS	85
5.1 Conclusions.....	85
5.2 Reccomendations	85
GLOSSARY.....	86
REFERENCES.....	88
CURRICULUM VITAE.....	90

LIST OF FIGURES

Figures	Page
Figure 1. ABC Product	14
Figure 2. Process Production with Manual Station.....	15
Figure 3. Automated Liquid Mixing and filling Using PLC and SCADA (Eswar S, Hariprasad N, Jaiganesh L, Mohamedimthiyas M and Gopikrishnan A., 2018).....	19
Figure 4. Automated Color Mixing Machine Using Arduino (Brindha, S. (n.d.), 2018)	20
Figure 5. System architecture Mixing using Microcontroller (Esmaeili, S., Al-AbdulRazaq, A., Oqlah, A., Al-Mujali, F., Al-Humoud, M., & Hummes, D., 2020)	21
Figure 6. Batch Process Control System using SCADA (Tiwary A, Narayan S, Mohana D, Kumar Singh R., 2017)	21
Figure 7. Measuring and Controlling Liquid Flow (Aisha Zahid Junejo's., 2019)	23
Figure 8. PLC Structure (Mohammed S. Saleh et al., 2018)	23
Figure 9. The sequence control system (Mohammed S. Saleh et al., 2018)	24
Figure 10. Block Diagram CPU1516-3PN/DP	25
Figure 11. Wiring and block diagram for current measurement 2-wire and 4-wire connection (2- and 4-wire transducer).....	26
Figure 12. Wiring and block diagram for current output 2-wire connection	27
Figure 13. Block diagram of the IM 155-6 PN ST interface module	29
Figure 14. Venturi Measurement (Ghassan Fadhil Smaisim., 2017).....	29
Figure 15. Turbine Flowmeter Measurement (Ghassan Fadhil Smaisim., 2017)	30
Figure 16 .Ultrasonic Flowmeter Measurement (Ghassan Fadhil Smaisim., 2017)	31
Figure 17. Magnetic Flowmeter Measurement (Ghassan Fadhil Smaisim., 2017).....	31
Figure 18. Magnetic Flowmeter Measurement (Ghassan Fadhil Smaisim., 2017).....	32
Figure 19. Research Framework	33
Figure 20. Problem Analysis.....	34

Figure 21. Process Production with Automatic Station	35
Figure 22. P&ID Chili Preparation Tank.....	36
Figure 23. P&ID Chili Blending Tank.....	36
Figure 24. System Architecture	37
Figure 25. Main Panel Supply	42
Figure 26. VSD and Pump Supply.....	43
Figure 27. Control System Supply PLC	43
Figure 28. Control System Supply Remote IO	44
Figure 29. Control System Supply HMI	45
Figure 30. Control System Supply Valve Terminal.....	45
Figure 31. Control System Supply Flow Meter	45
Figure 32. Control System Digital Input Sensor Connection	46
Figure 33. Control System Analog Input Sensor Connection.....	46
Figure 34. Control System Pneumatic Valve Connection	47
Figure 35. Flow Chart Dosing System.....	48
Figure 36. Flow Chart Dosing System Amount.....	49
Figure 37. HMI Chili Awetan 1 Overview	50
Figure 38. HMI Chili Awetan 2 Overview	51
Figure 39. HMI Chili Awetan 3 Overview	52
Figure 40. HMI Chili Blending Overview	52
Figure 41. PLC Chili Preparation Function Block.....	53
Figure 42. PLC Chili Preparation Function Block Ladder Diagram	54
Figure 43. PLC Chili Blending Dose Function Block	55
Figure 44. PLC Chili Blending Raw Dose Function Block.....	56
Figure 45. PLC Chili Blending Dose Function Block Ladder Diagram	56
Figure 46. PLC Chili Blending RawDose Function Block Ladder Diagram.....	58
Figure 47. PLC Chili Awetan Simulation.....	59

Figure 48. PLC Chili Blending Simulation.....	60
Figure 49. Simulation Coarse Dosing.....	61
Figure 50. Simulation Fine Dosing.....	62
Figure 51. Simulation Stop Dosing.....	63
Figure 52. Simulation Parallel Transfer.....	64
Figure 53. Chili Preparation Tank P&ID Installation.....	66
Figure 54. Chili Preparation Awetan1 P&ID Installation.....	67
Figure 55. Chili Preparation Awetan2 P&ID Installation.....	68
Figure 56. Chili Preparation Awetan3 P&ID Installation.....	68
Figure 57. Chili Blending Tank P&ID Installation.....	69
Figure 58. Chili Blending1 P&ID Installation.....	70
Figure 59. Chili Blending2 P&ID Installation.....	71
Figure 60. Chili Blending3 P&ID Installation.....	71
Figure 61. Chili Blending MCC Installation.....	72
Figure 62. Chili Blending Remote IO Installation.....	73
Figure 63. Chili Preparation MCC Installation.....	74
Figure 64. Chili Preparation Remote IO Installation.....	75
Figure 65. Chili Blending Control Installation.....	76
Figure 66. Chili Preparation Control Installation.....	77
Figure 67. FT-20.01 Calibration Certificate.....	79
Figure 68. FT-03.01 Calibration Certificate.....	81

LIST OF TABLES

Table	Page
Table 1. Heinz Product Order Planning.....	14
Table 2. Related Research Comparison.....	22
Table 3. Standard CPU S7-1500.....	25
Table 4. Measuring ranges	26
Table 5. Current measuring range ± 20 mA	27
Table 6. Output ranges	28
Table 7. Current output ranges 4 to 20 mA	28
Table 8. System Architecture List.....	37
Table 9. Material and Equipment List.....	38
Table 10. Input Output List Preparation Storage.....	40
Table 11. Input Output List Blending.....	41
Table 12. PLC Chili Preparation Function Block Network List	55
Table 13. PLC Chili Blending Dose Function Block Network List	57
Table 14. PLC Chili Blending RawDose Function Block Network List.....	59
Table 15. Chili Awetan Consumption ABC Extra Pedas	64
Table 16. Simulation Time Table.....	65
Table 17. LT-02.01 Validation Table.....	78
Table 18. LT-03.01 Validation Table.....	80
Table 19. LT-04.01 Validation Table.....	82
Table 20. IO Test Blending Area Table	84

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Date of Defense : 2 February 2023
Thesis Title : VACUUM DISTILLATION TURBINE LUBE OIL PURIFICATION SYSTEM IN STEAM POWER GENERATION PLANTS

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.



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(Thesis Co-Advisor)

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**VACUUM DISTILLATION TURBINE LUBE OIL
PURIFICATION SYSTEM IN
STEAM POWER GENERATION PLANTS**

By

Samuel Onasis Keliat

22152003

MASTER'S DEGREE

In

MECHANICAL ENGINEERING - MECHATRONICS
FACULTY OF ENGINEERING & INFORMATION TECHNOLOGY



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January 2023

ABSTRACT

Vacuum Distillation Turbine Lube Oil
Purification System In
Steam Coal-Fired Power Generation Plants

By

Samuel Onasis Keliat

Dena Hendriana, B.Sc, S.M., Sc.D., Advisor

Dr. Ir. Hanny J. Berchmans, MT., Co-Advisor

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Steam coal-fired power generation plants have a turbine lubrication system. Turbine lubrication system is to provide lubrication film for mechanical system and turbine bearings. Contamination in the turbine lube oil affects oil film thickness and is an indication of steam bearings health. Contamination can effect to turbine high vibration and make unbalance to turbine rotation and power plants outages. Contamination are monitored in turbine lube are solid particle contaminants, water content and oxidation products. Common problems found in regular condition monitoring are solid particle contaminants and water contamination in turbine lube oil. Oxidation contamination is a degradation by products and formed in long term of turbine operation. In this thesis, an oil purification system with vacuum distillation method is developed to remove water and particle contamination. Vacuum distillation is to improve reliability and tribological operation in steam coal-fired power generation. the oil purification system developed is a vacuum distillation oil purification system with atmospheric distillation. The advantage of vacuum distillation process over atmospheric pressure distillation is the system can be operated at lower temperature to separate water from turbine lube oil under vacuum pressure; This technique is to avoid degradation on quality properties of turbine lube oil due to thermally sensitive substances.

Keyword: turbine lube oil, oil purification system, oil purifier, vacuum distillation.

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DEDICATION

I dedicated this research to my family and Steam coal-fired Power plants providers in Indonesia

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I would like to thank God for all the blessings

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Sincere thanks to all Lecturers who have supported and encouragement throughout the course of my study while studying in Swiss German University.

I express gratefulness towards my beloved wife, Brigita sihombing and children, Gerald Nathanael, Stacey Corrinthia and Nobischa Livie who provided strong moral support during difficult times.

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TABLE OF CONTENTS

STATEMENT BY THE AUTHOR.....	2
ABSTRACT.....	3
COPYRIGHT.....	4
DEDICATION.....	5
ACKNOWLEDGEMENTS.....	6
TABLE OF CONTENT	7
LIST OF FIGURES.....	9
LIST OF TABLES.....	10
CHAPTER 1: INTRODUCTION.....	11
1.1. Background.....	11
1.2. Research Problem.....	15
1.3. Research Objectives.....	15
1.4. Significance of Study.....	15
1.5. Research Question.....	15
1.6. Hypothesis.....	15
1.7. Thesis Limitation.....	16
CHAPTER 2: LITERATURE REVIEW.....	17
2.1. Tribology	17
2.1.1. Friction.....	18
2.1.2. Wear	19
2.1.3. Lubrication.....	20
2.2. Tribology in Turbine bearing of Fired Coal Power Generation Plants.....	24
2.3. Turbine Lube Oil Contamination And Measurement Standard	25
2.3.1. Turbine Lube Oil Contamination	25
2.3.2. Turbine Lube Oil Cleanliness Standard.....	27
2.4. Turbine Lube Oil Purification Method.....	29
2.4.1. Mechanical Filter.....	29
2.4.2. Water Oil Separation Method	30
CHAPTER 3: RESEARCH METHOD	31

3.1. Research Frame Work.....	31
3.2. Root Cause Analysis of Turbine Lube Oil Contamination.....	32
3.3. Process Design Of Vacuum Distillation Oil Purification system.....	35
3.4. Mechatronic system Design	36
3.5 Electrical Control System Design	40
CHAPTER 4: PROTOTYPING & TESTING	48
4.1. Prototyping.....	48
4.2. Testing & Result	57
4.2.1 Testing	57
4.1.3. Result.....	59
CHAPTER 5: SUMMARY AND CONCLUSIONS.....	64
5.1. Conclusion	64
5.2. Recommendation	64
REFERENCES.....	65
CURRICULUM VITAE.....	67

LIST OF FIGURES

- Figure 1.1. A steam coal-fired power plants
- Figure 1.2. Steam Turbine Lubrication system
- Figure 2.1. Tribology Area: Friction, Wear and Lubrication
- Figure 2.2. Wet tribo-system
- Figure 2.3. Lubrication regimes
- Figure 2.4. Journal bearing lubrication mechanism
- Figure 2.5. Stribeck Curve
- Figure 2.6. External gear pump
- Figure 2.7. Cut off Journal and thrust bearing at steam turbines.
- Figure 2.8. Water contamination in Turbine lube oil
- Figure 2.9. Visual contamination level - ISO 4406 Cleanliness Code
- Figure 2.10. Beta ratio of turbine lube filters
- Figure 3.1: Flow Chart of research frame work
- Figure 3.2. Central Turbine Lubrication System
- Figure 3.3. Mechanism of turbine lube oil degradation
- Figure 3.4. Vacuum Pressure and temperature Water in liquid become vapor
- Figure 3.5. Block Diagram filtration and distillation unit
- Figure 3.6. Block Diagram of Oil filtration and vacuum distillation system
- Figure 3.7. Block diagram of Vacuum distillation oil purification system
- Figure 3.8. List and specifications of mechanical components
- Figure 3.9. List and specification of electrical components
- Figure 3.10. Block Diagram of oil purification system and sensors
- Figure 3.11. Block diagram electrical control system – 380VAC
- Figure 3.12. Design of electrical control circuit – 380 VAC
- Figure 3.13. Programmable Logic control Module
- Figure 3.14. Electrical Components for vacuum dehydration of purification system
- Figure 4.1. Installation of Electrical Control parts in control panel
- Figure 4.2. PLC ladder diagram - 1
- Figure 4.3. PLC ladder diagram - 2

- Figure 4.4. PLC ladder diagram - 3
- Figure 4.5. PLC ladder diagram - 4
- Figure 4.6. PLC ladder diagram - 5
- Figure 4.7. Front view of Electrical Control panel of Oil Purification system
- Figure 4.8. Electrical Panel and Mechanical components installation
- Figure 4.9. Installation of Moisture removal unit, Heater and filtration unit
- Figure 4.10. Installation configuration of vacuum dehydration oil purification system.
- Figure 4.11. Testing of vacuum distillation oil purification system
- Figure 4.12. Graph of temperature Oil at inlet port
- Figure 4.13. Graph of temperature Oil in the vacuum chamber
- Figure 4.14. Graph of vacuum pressure in the vacuum chamber
- Figure 4.15. Graph of Relative Humidity and temperature of air at Ambient
- Figure 4.16. Graph of Relative Humidity and temperature After Moisture Filter
- Figure 4.17. Graph of Relative Humidity and temperature at outlet vacuum chamber
- Figure 4.18. Graph of ISO cleanliness before purification system
- Figure 4.19. Graph of ISO cleanliness After purification system
- Figure 4.120. Graph of RH oil before and after Purification system

LIST OF TABLES

- Table 1.1. Electricity Capacity worldwide in 2021(source: Statista 2022)
- Table 1.2. Grand Total Capacity of Power Plants In Indonesia
- Table 2.1. Types of water state in oil.
- Table 2.2. Cleanliness code ISO 4406:1999
- Table 2.3. Beta ratio and Efficiency of Filters
- Table 3.1. List and specifications of mechanical components
- Table 3.2. List and specifications of electrical components
- Tabel 3.3. Electrical Components for vacuum distillation oil purification system