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I Nyoman Suamir <nyomansuamir@pnb.ac.id>

[J. Adv. Res. Fluid Mech. Therm. Sc.] Submission Acknowledgement

1 message

Nor Azwadi Che Sidik <azwadi@akademiabaru.com> Fri, Nov 6, 2020 at 3:39 PM
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>

I Nyoman Suamir:

Thank you for submitting the manuscript, "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System" to Journal of Advanced Research in Fluid Mechanics and Thermal Sciences. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Submission URL: http://akademiabaru.com/submit/index.php/arfmts/authorDashboard/submission/1926
Username: suamir

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

Nor Azwadi Che Sidik

[J. Adv. Res. Fluid Mech. Therm. Sc.] Editor Decision

5 messages

Henry Hong <henry0812@akademiabaru.com> Mon, Dec 14, 2020 at 2:01 PM
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>, I Made Rasta <maderasta@pnb.ac.id>, Adi Winarta <adi.winarta@pnb.ac.id>, Made Ery Arsana <eryarsana@pnb.ac.id>, I Wayan Adi Subagia <adisubagia@pnb.ac.id>

I Nyoman Suamir, I Made Rasta, Adi Winarta, Made Ery Arsana, I Wayan Adi Subagia:

We have reached a decision regarding your submission to Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System".

Our decision is: Revisions Required
(Please upload the revised manuscript file in OJS SYESTEM under Review Tab at Revision section)

Please submit the revised article by 4 January 2021.

Reviewer's comments:

This paper presents experimental results of the temperature performance and energy performance of a scroll compressor used in a refrigeration system of a display cabinet. The tests were performed for a specific evaporating temperature and varying the condensing temperature and for a specific condensing temperature and varying the evaporating temperature. The temperatures correspond to medium temperature refrigeration systems. The temperature performance was evaluated according to IEEE Standard 112, and the energy performance was evaluated with the isentropic efficiency and the total efficiency.
Here the reviewer comments:
1. Some typos appear in the paper, please check it!
2. Include a diagram to illustrate the measurement of the resistance of compressor motor windings.
3. Include a table with the description of the instruments used in the test bench, detailing the type of instrument, accuracy, measurement range, and number.
4. (Section 2.2) The following paragraph is repeated in the text before Table 1 and after Table 2. Please, correct it. “Investigation on the compressor temperature and performance was performed at different evaporating temperatures. Winding temperature of the compressor motor was estimated by using the resistance of the windings. Data from the compressor windings was measured according to IEEE Standard 112 at every increment of the evaporating temperature as shown in Table 2. The winding resistance measurement was also conducted within 30 second after the refrigeration system was turned off. Before measurement, the refrigeration system was run for about 4 hours.”
5. (Section 2.2) In the manuscript, it is not clear how the condensing temperature was controlled in the tests described in Table 2. I suppose that the test bench can control the condensing temperature.
6. The study presents conclusions based on the calculation of the “compressor efficiency” of the compressor. It was defined as the ratio of hydraulic compression work and the compressor power. Nevertheless, commonly, the overall compressor efficiency is evaluated as the ratio of the minimum compression work (isentropic) and the compressor power. This definition is used to isolate the effect of the thermal losses through the compressor casing, which is estimated as a percentage of the compressor power input. Justify the use of “compressor efficiency”.
7. It is necessary to deepen the analysis of the temperature performance of the compressor, trying to model or estimate the losses due to the inefficiency of the electric motor. The results that can be obtained must be concerning to the value of 15% mentioned on page 8.
8. (Section 3.3) Include a table with the following information for all performed tests: evaporating temperature, condensing temperature, superheat, pressure ratio, compressor power, isentropic efficiency, overall efficiency, volumetric efficiency, and discharge temperature.
9. (P. 11) Improve the presentation of the experimental results of the mass flow rate with the variation of the volumetric efficiency and the density of the refrigerant at the compressor inlet when the evaporating temperature increases.
10. (P. 11) Indicate how much the compressor temperatures can increase when working with low evaporation temperatures and high superheats.

Best regards
Henry

Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

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I Nyoman Suamir <nyomansuamir@pnb.ac.id> Mon, Jan 4, 2021 at 10:57 PM
To: Henry Hong <henry0812@akademiabaru.com>

Dear Henry Hong,

Thank you very much for your decision to our paper "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System". Unfortunately, when you sent this email, I was in home isolation due to Covid-19 infection. I have been suffering for 28 days (12 days totally bedrest due to high fever, Second stage for more than two weeks: my body was still very week, dizzy, cough and loss of appetite) from 6 December 2020 to 2 January 2021. During isolation period, I was totally unable to work using computer. I knew you sent the decision from our research team. However, they could not do the revision. I have done my best (although my body is not entirely fit yet) to make the paper and comment to the reviewer's review done in time but I cannot make it.

Through this email, I would like to ask for 3 days extension. If you agree, I will submit the revised paper and the comments no later than 7 January 2021. I do apologize for this inconvenience. We do hope, you will allow us to have the extension.
Please let us know as soon as possible if you agree.
I thank you very much in advance.

Best regards
Suamir

[Quoted text hidden]

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Dr. I Nyoman Suamir
Lecturer and Researcher
Mechanical Engineering Department
Bali State Polytechnic
Jl. Kampus Bukit Jimbaran
Kuta Selatan
Bali 80364
Indonesia

Henry Hong <henry0812@akademiabaru.com> Tue, Jan 5, 2021 at 12:17 PM
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>

I am extending the due date until end of January. Kindly inform me if you need more time.

Hope speedy recovery.

Regards

Henry

[Quoted text hidden]

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HONG WEI XIAN
Malaysia-Japan International Institute of Technology (MJIIT),

University Teknologi Malaysia Kuala Lumpur,
Jalan Sultan Yahya Petra, Kampung Datuk Keramat,
54100 Kuala Lumpur, Federal Territory of Kuala Lumpur.

I Nyoman Suamir <nyomansuamir@pnb.ac.id> Tue, Jan 5, 2021 at 3:52 PM
To: Henry Hong <henry0812@akademiabaru.com>

Dear Henry Hong,

Thank you very much for your understanding and the extension given.
I do appreciate this.
I will make the article done as soon as possible.

May you stay blessed and safe.

My best wishes
Suamir
[Quoted text hidden]

I Nyoman Suamir <nyomansuamir@pnb.ac.id> Wed, Jan 27, 2021 at 8:34 AM
To: Henry Hong <henry0812@akademiabaru.com>
Cc: Nor Azwadi Che Sidik <azwadi@akademiabaru.com>

Dear Henry Hong,

I have revised my article as the reviewer comments.
It really takes time to complete this major revision.
However, the article looks much better now with more materials and comprehensive discussion added.
I have put three additional pages.

As your previous email that you allowed me to submit the revised article until the end of January 2021 due to Covid-19 infection,
I have been attempting to submit the revised article and response to the reviewer comments but I cannot access your submission page.
I am not authorized anymore to access the page.
Attached are the revised article together with response to the reviewer comments.

I hope this way will work and my revised article can meet your journal requirement.

Please let me know what I should do next for the revised article submission.

Thank you very much for your kind help.

Best regards
Suamir

[Quoted text hidden]

2 attachments

Suamir-Response_reviewers_comments.docx
26K

Journal_ARFMTS_2021 Scroll compressor-withAuthors_rev.docx
1503K

Response to Reviewers' comments

Title:	Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System
Authors:	I Nyoman Suamir, I Made Rasta, Adi Winarta, I Wayan Adi Subagia, Made Ery Arsana
Journal:	Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

Dear Reviewers,

Thank you very much for your valuable reviews. Please find our responses to your comments/suggestions/reviews.

General comment: This paper presents experimental results of the temperature performance and energy performance of a scroll compressor used in a refrigeration system of a display cabinet. The tests were performed for a specific evaporating temperature and varying the condensing temperature and for a specific condensing temperature and varying the evaporating temperature. The temperatures correspond to medium temperature refrigeration systems. The temperature performance was evaluated according to IEEE Standard 112, and the energy performance was evaluated with the isentropic efficiency and the total efficiency.

Re: Thank you.

Comment 1: Some typos appear in the paper, please check it!

Re: We have checked and revised them (in Figure 1, paragraph after Figure 1, Figure 4 and 6 and others).

Comment 2: Include a diagram to illustrate the measurement of the resistance of compressor motor windings.

Re: A diagram was added as Figure 2, and the last paragraph of Section 2.1 was revised to briefly describe the figure (pages 3 and 4). The following figures are renumbered accordingly.

Comment 3: Include a table with the description of the instruments used in the test bench, detailing the type of instrument, accuracy, measurement range, and number.

Re: A table has been added and named as Table 1 (page 4). Other tables are renumbered consequently throughout the article. The last paragraph of Section 2.1 was also revised to concisely describe the table.

Comment 4: (Section 2.2) The following paragraph is repeated in the text before Table 1 and after Table 2. Please, correct it. "Investigation on the compressor temperature and performance was performed at different evaporating temperatures. Winding temperature of the compressor motor was estimated by using the resistance of the windings. Data from the compressor windings was measured according to IEEE Standard 112 at every increment of the evaporating temperature as shown in Table 2. The winding resistance measurement was also conducted within 30 second after the refrigeration system was turned off. Before measurement, the refrigeration system was run for about 4 hours."

Re: Thank you. The two paragraphs are actually not repeated. The first paragraph describes the test conditions at varied condensing temperatures and the second one explains the test conditions at different evaporating temperatures. However, the structure of the paragraphs is similar, therefore, they seem to be repeated. We have revised the paragraph after Table 2 (now as Table 3) as can be seen on page 5 of the article.

Comment 5: (Section 2.2) In the manuscript, it is not clear how the condensing temperature was controlled in the tests described in Table 2. I suppose that the test bench can control the condensing temperature.

Re: Yes, you are correct. The test system was designed to enable the condensing temperature to be controlled easily and accurately. Paragraph after Figure 1 (page 3) has been revised to make clear how the condensing temperature of the refrigeration system to be controlled in accordance with the testing requirement.

Comment 6: The study presents conclusions based on the calculation of the "compressor efficiency" of the compressor. It was defined as the ratio of hydraulic compression work and the compressor power. Nevertheless, commonly, the overall compressor efficiency is evaluated as the ratio of the minimum compression work (isentropic) and the compressor power. This definition is used to isolate the effect of the thermal losses through the compressor casing, which is estimated as a percentage of the compressor power input. Justify the use of "compressor efficiency".

Re: Thank you for the correction. You are right. In practice, ARI Standard 500-2000 also defines the compressor efficiency as the ratio of isentropic work to the actual measured input power.

We have actually put more emphasis on parameters that can indicate the efficiency of the compressor's electric motor. We, therefore, have the value of energy losses in the electric motor. According to Hamamatsu et al. [31], overall compressor efficiency comprises adiabatic efficiency and motor efficiency. Where motor efficiency can be expressed as hydraulic compression work divided by compressor power.

[31] "Hamamatsu, T., T. Iwatsubo, M. Saikawa, (1990). *Development of Advanced Heat Pumps for Room Cooling, Heating and Hot Water Supplying*. Heat Pumps Solving Energy and Environmental Challenges: 477-486. https://doi.org/10.1016/B978-0-08-040193-5.50057-2"

However, what we have presented in the article is not common. *We have revised the definition and equation of the compressor efficiency include corresponding results and figures in the article*. Three references including above reference and three equations are added in the article.

Comment 7: It is necessary to deepen the analysis of the temperature performance of the compressor, trying to model or estimate the losses due to the inefficiency of the electric motor. The results that can be obtained must be concerning to the value of 15% mentioned on page 8.

Re: Thank you for your suggestion. At the moment, our research is just up to the experimental testing. Your suggestion is very useful for us to deepen the study towards modelling heat transfer or heat losses of the electric motor. For this article we can only present the results of experiments in accordance with the progress of our research. Losses on the electric motor still use a value from the standard as published in [30].

Comment 8: (Section 3.3) Include a table with the following information for all performed tests: evaporating temperature, condensing temperature, superheat, pressure ratio,

compressor power, isentropic efficiency, overall efficiency, volumetric efficiency, and discharge temperature.

Re: Thank you. The table has been added in the article. A paragraph has also been added to describe the table.

Comment 9: (P. 11) Improve the presentation of the experimental results of the mass flow rate with the variation of the volumetric efficiency and the density of the refrigerant at the compressor inlet when the evaporating temperature increases.

Re: Thank you. One figure (Fig. 9) and its explanation have been added. In this research we do not include volumetric efficiency of the compressor. However, the variations of the refrigerant density with evaporating temperature have been illustrated in the added figure. We also added compressor's motor efficiency in the added table (Table 7).

Some paragraphs are added and existing paragraphs in the article was thoroughly revised to be adapted to additional equations, tables and figures. Three equations, two tables, and two figures are added in the article.

Comment 10: (P. 11) Indicate how much the compressor temperatures can increase when working with low evaporation temperatures and high superheats.

Re: Thank you. The discussion has been revised to be adapted to additional table and figure. "Evaporating and condensing temperatures together with degree of superheat of suction gas are found to significantly affect temperature of the compressor which include temperatures of body compressor, discharge line and motor windings. Higher evaporating temperature, condensing temperature and degree of superheat can considerably boost temperatures of the compressor. These three variables can increase temperature of the compressor (indicated from discharged gas line temperature) of about 16 °C".

[J. Adv. Res. Fluid Mech. Therm. Sc.] New notification from Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

1 message

Nor Azwadi Che Sidik <azwadi@akademiabaru.com> Thu, Jan 14, 2021 at 12:51 AM
Reply-To: Nor Azwadi Che Sidik <azwadi@akademiabaru.com>
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>

You have a new notification from Journal of Advanced Research in Fluid Mechanics and Thermal Sciences:

You have been added to a discussion titled "Revision reminder" regarding the submission "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System".

Link: http://akademiabaru.com/submit/index.php/arfmts/authorDashboard/submission/1926

Nor Azwadi Che Sidik

[J. Adv. Res. Fluid Mech. Therm. Sc.] Editor Decision

2 messages

Nor Azwadi Che Sidik <azwadi@akademiabaru.com> Wed, Jan 27, 2021 at 7:41 PM
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>, I Made Rasta <maderasta@pnb.ac.id>, Adi Winarta <adi.winarta@pnb.ac.id>, Made Ery Arsana <eryarsana@pnb.ac.id>, I Wayan Adi Subagia <adisubagia@pnb.ac.id>

I Nyoman Suamir, I Made Rasta, Adi Winarta, Made Ery Arsana, I Wayan Adi Subagia:

ACCEPTANCE FOR PUBLICATION IN THE **JOURNAL OF ADVANCED RESEARCH IN FLUID MECHANICS AND THERMAL SCIENCES** (2289-7879) – SCOPUS INDEXED

The reviewers have completed the review for your submission to Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System".

Our decision is to: **Accept for publication**

Please make payment of Article Processing Charge of USD350 (International Corresponding Author) or RM1000 (Malaysian Corresponding Author).
The payment can be accomplished through Bank in, Bank transfer or Telegraphic transfer to the following details:
Beneficiary: AKADEMIA BARU PUBLISHING (M) SDN. BHD
Bank's Name: Maybank
Account number: 562263543306
Swift code: MBBEMYKL
Full Address: No. 7 & 9, Jalan 9/9c, Seksyen 9 Bandar Baru Bangi, 43650 Bangi, Selangor, Malaysia

Please email the proof of payment to azwadi@akademiabaru.com before we can begin copyediting of the accepted article.

Thank you

Truly

Editor-in-chief, Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

–

_____
Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

I Nyoman Suamir <nyomansuamir@pnb.ac.id> Fri, Jan 29, 2021 at 2:27 PM
To: Nor Azwadi Che Sidik <azwadi@akademiabaru.com>

Dear Editor in Chief
JARFMTS,

I have made the payment for the article processing charge of USD 350.
The article is "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System"
Please kindly find the attached file of the proof of payment.

Thank you very much for your cooperation.

Best regards

Suamir

[Quoted text hidden]

--
Dr. I Nyoman Suamir
Lecturer and Researcher
Mechanical Engineering Department
Bali State Polytechnic
Jl. Kampus Bukit Jimbaran
Kuta Selatan
Bali 80364
Indonesia

Transfer-Publication_Fee_2021.jpeg
318K

[J. Adv. Res. Fluid Mech. Therm. Sc.] New notification from Journal of Advanced Research in Fluid Mechanics and Thermal Sciences

1 message

Nor Azwadi Che Sidik <azwadi@akademiabaru.com> Fri, Jan 29, 2021 at 3:23 PM
Reply-To: Nor Azwadi Che Sidik <azwadi@akademiabaru.com>
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>

You have a new notification from Journal of Advanced Research in Fluid Mechanics and Thermal Sciences:

You have been added to a discussion titled "Proof of Payment" regarding the submission "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System".

Link: http://akademiabaru.com/submit/index.php/arfmts/authorDashboard/submission/1926

Nor Azwadi Che Sidik

[J. Adv. Res. Fluid Mech. Therm. Sc.] Editor Decision

1 message

Technical Editor ARFMTS <journal2017arfmts@gmail.com> Wed, Jun 16, 2021 at 2:58 AM
To: I Nyoman Suamir <nyomansuamir@pnb.ac.id>, I Made Rasta <maderasta@pnb.ac.id>, Adi Winarta <adi.winarta@pnb.ac.id>, Made Ery Arsana <eryarsana@pnb.ac.id>, I Wayan Adi Subagia <adisubagia@pnb.ac.id>

I Nyoman Suamir, I Made Rasta, Adi Winarta, Made Ery Arsana, I Wayan Adi Subagia:

The editing of your submission, "Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System," is complete. We are now sending it to production. Please find the copy-edited manuscript for your perusal.

Thank you

Submission URL: https://akademiabaru.com/submit/index.php/arfmts/authorDashboard/submission/1926

Congratulations, your paper has been published!

1 message

Nor Azwadi Che Sidik <azwadi@akademiabaru.com>
To: nyomansuamir@pnb.ac.id

Sat, Jun 26, 2021 at 6:28 PM

Congratulations, your paper has been published!

Dear I Nyoman Suamir, I Made Rasta, Adi Winarta, I Wayan Adi Subagia, Made Ery Arsana,

Your work has now been published in the Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, volume 83, no. 2.
https://akademiabaru.com/submit/index.php/arfmts/article/view/1926

It's the final version of your work and can be cited, downloaded and shared.

Suamir, I. N., Rasta, I. M., Winarta, A., Subagia, I. W. A., & Arsana, M. E. (2021). Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System. Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 83(2), 98–113. https://doi.org/10.37934/arfmts.83.2.98113

Thank you again for publishing with us. We wish you the best success with your research.

Kind regards

The Akademia Baru Publishing Team

Congratulations, your paper is now available in SCOPUS!

1 message

Nor Azwadi Che Sidik <azwadi@akademiabaru.com>
To: nyomansuamir@pnb.ac.id

Fri, Jul 30, 2021 at 10:09 PM

Congratulations, your paper is now available in SCOPUS!

Dear I Nyoman Suamir, I Made Rasta, Adi Winarta, I Wayan Adi Subagia, Made Ery Arsana,

Your published work in the Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, volume 83, no. 2.,

Title: Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System

is now available in SCOPUS database (Click here).

It's the final version of your work and can be cited, downloaded and shared.

Suamir, I. N., Rasta, I. M., Winarta, A., Subagia, I. W. A., & Arsana, M. E. (2021). Study on the Performance of Scroll Compressor Applied for Medium Temperature Refrigeration System. Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 83(2), 98–113. https://doi.org/10.37934/arfmts.83.2.98113

Thank you again for publishing with us. We wish you the best success with your research.

Kind regards

The Akademia Baru Publishing Team

Dear Prof./Dr.,
