

Industrial Automation Q Class Result Using Daring Method- Tuesday 21st April 2020

[07:32, 4/21/2020] Pak Yudha Prasetyawan: Good morning guys. Please start the discussion. Thank you

[07:41, 4/21/2020] Veronica Chai - 116: Here is the basic design for Q2. Maybe we can start discussing the components?

[07:42, 4/21/2020] Pak Yudha Prasetyawan: Ok good

[07:43, 4/21/2020] Sebastianus Y. S. - 073: I think the material for the base of the trolley is using stainless steel so it will not to heavy

[07:44, 4/21/2020] Rafli Muhammad Rangga K. - 085: Is it a clamp or what is it ?

[07:45, 4/21/2020] Yusuf Hafish R. - 157: Its the weight

[07:47, 4/21/2020] Rana Dinah N. - 169: how will it work specifically?

[07:47, 4/21/2020] Fuad Azaim S. - 133: It's a ballast/weight. When the base is on the lowest level, all ballast should be on top position.

[07:49, 4/21/2020] Akhdan Muhardi - 121: Your tool looks interesting. How do you determine the materials that are being used? Is there any limitation of the weight that can be carried out?

[07:52, 4/21/2020] A. A. A. Arini Utari Santosa - 170: The tool is specifically used to recieve the tray from the cutting machine automatically with the need of the worker

[07:52, 4/21/2020] Samuel Adrian N. N. - 123: Since the crackers and the tray are very light, how much weight will it require to bring the base to the lowest level?

[07:53, 4/21/2020] M. Daffa Permana - 128: What is the maximum capacity of trays that can be put in there?

[07:53, 4/21/2020] M. Daffa Permana - 128: In order to get the right weight

[07:53, 4/21/2020] Stolz Mark - 001: Where are the plates placed when they arrive on the cart? (because the brown part seems to be fixed and does not go up)!

And then, the ballast/weight are in what configuration currently? 'Cause I still don't understand how it works

[07:54, 4/21/2020] Yudhistira Ajidharma S - 066: It can handle for about 16 stacks of trays

[07:55, 4/21/2020] Stolz Mark - 001: Oh okay with your last picture I better understand

[07:55, 4/21/2020] Yusuf Hafish R. - 157: Sorry it wasnt very accurate, but the brown part should be up in empty load

[07:55, 4/21/2020] Yudhistira Ajidharma S - 066: 32 kg for weight and 63 cm for the height

[07:56, 4/21/2020] M. Daffa Permana - 128: How about the current mh?

[07:56, 4/21/2020] Charles Liunardi - 011: Is this the initial condition before add some weight? If not, please tell us how much your proposed initial height (before pressed bt tray). If yes, why do you setup to that height level? Your purpose is also to reduce operator bending right? Do you think to increase the initial height level?

[07:57, 4/21/2020] Almas Sabrina A. - 053: we assume that the weight of the tray is around 2kg and the dimension is 130cm x 80 cm. 2kg for a tray is kind of heavy because it is made of bamboo

[07:58, 4/21/2020] Muhammad Dwiki Aqsa Y.P. - 198: and also can i asked what kind of mechanism is used? it is a spring based or what?

[07:59, 4/21/2020] Veronica Chai - 116: Yes it is the initial condition. It is adjusted according to the height of the cutting machine. This tools is used to fetch the tray coming out from cutting machine, so that there will be no need for worker to standby there and receive it one by one. Not to reduce worker's bending.

[08:00, 4/21/2020] Fuad Azaim S. - 133: Yes, why we set it at that height. Because we don't want to increase the cutting machine height. So this trolley fits with gravity concept. We propose this trolley to reduce repetitive movement of worker in stacking the tray manually.

[08:00, 4/21/2020] Rafli Muhammad Rangga K. - 085: I see

[08:01, 4/21/2020] Fuad Azaim S. - 133: Ballast based.. the ballast weight will balancing tray's weight.

[08:01, 4/21/2020] Azam Shah Bin Ahmad - 003: With such initial conditions, isn't the mechanism will be affected by the flour getting inside the mechanism thus affecting its performance?

[08:02, 4/21/2020] Yudhistira Ajidharma S - 066: But indeed, the weight is 2 kg, because the bamboo is thick and consist of 2 layers

[08:03, 4/21/2020] Charles Liunardi - 011: Okay, is the weight or clamp (like rafli said) help to positioning the tray for cutting machine to fall smoothly and not spill out? Or any other functions again?

[08:03, 4/21/2020] Yusuf Hafish R. - 157: I dont think it will since the ballast mechanism itself wouldnt be affected much by the flour

[08:03, 4/21/2020] Charles Liunardi - 011: *ballast weight

[08:04, 4/21/2020] Nadhifa Qintharani Amira - 026: For more detail, the initial of the base will be as high as the cutting machine, but when the product start to piled up, the base will go down until it reach the maximum stack.

[08:05, 4/21/2020] Pak Yudha Prasetyawan: Very good guys.. 👍👍

[08:06, 4/21/2020] Veronica Chai - 116: And since it is after cutting machine, it will not be contacted to flour as much as in the mixing area.

[08:06, 4/21/2020] Fuad Azaim S. - 133: And now we still try to figure out how each bamboo trays can run smoothly without being snagged while passing each other.. so it will be stacked neatly

[08:07, 4/21/2020] Charles Liunardi - 011: Okay i see, thank you

[08:07, 4/21/2020] Nabila R. D. - 195: So, is there any workers needed to make sure its operation? If yes, what is their role?

[08:08, 4/21/2020] Pak Yudha Prasetyawan: What do you mean by snagged. Please inform us

[08:09, 4/21/2020] Gabriela Tesla S. - 113: Yes there will be one worker to do inspection and to move the trolley when trolley is fully loaded

[08:12, 4/21/2020] Fatina Khairunnisa - 013: Each bamboo tray has a different surface ... different from a plastic tray that has a uniform surface between one another. so there is a possibility of being stuck during the buildup/stacking process

[08:14, 4/21/2020] Pak Yudha Prasetyawan: Oh. Okay

[08:15, 4/21/2020] Akhdan Muhardi - 121: Sorry, based on two pictures you guys sent before, are they the same material handling tool? Because I think the workprinciple of both of them is different, one of them is using ballast as the weight to make the base goes up when the base is empty, while the other is using spring to hold the base on the default position (with certain height) when it is empty. Correct me if I am wrong

[08:15, 4/21/2020] Muhammad Dwiki Aqsa Y.P. - 198: is there any safety net to ensure the payload safety?

[08:18, 4/21/2020] Nabila R. D. - 195: Oh, I see. Umm, I am not sure about the first tray. Is the first tray's weight could make it goes down to ensure the second tray allocation so that it would not overlap with the first tray?

[08:20, 4/21/2020] Andyna Aulia Rahma - 009: Yes, because each tray is approximately 2kg, it is enough to move the tool down

[08:20, 4/21/2020] Aini Milania A. - 005: Yup, the tools that use spring are from our previous design. However, this concept is similar to ballasts

[08:20, 4/21/2020] Fuad Azaim S. - 133: We think that we can use 16 ballast with 2kg each.. so it will be balance with the number of tray stacked

[08:20, 4/21/2020] K. Desira Triyanti - 181: We feel, it's easier to represent it in 3D with the concept of ballasts

[08:21, 4/21/2020] Catherine Timony - 197: In addition, if you use a spring, we must find out more about the spring coefficient of the spring that we use. So we think it will make it easier to understand the concept if you use ballast principle.

[08:21, 4/21/2020] A. A. A. Arini Utari Santosa - 170: the tray will eventually go down one by one because of the ballast

[08:22, 4/21/2020] Charles Liunardi - 011: And then at last mat handling? Is it need human operator to lift it again?

[08:22, 4/21/2020] A. A. A. Arini Utari Santosa - 170: Lift what exactly?

[08:22, 4/21/2020] A. A. A. Arini Utari Santosa - 170: the base?

[08:22, 4/21/2020] Charles Liunardi - 011: Lift the tray

[08:23, 4/21/2020] Charles Liunardi - 011: To other processes?

[08:23, 4/21/2020] Yudhistira Ajidharma S - 066: Somehow if the numbers of ballast is too many, we can reduce it into only 8. So a ballast will goes up or making the base down for every 2 stacks of trays. It is still tolerable

[08:23, 4/21/2020] Rafli Muhammad Rangga K. - 085: This the progress from Q1. We propose the combination of mixing, shaping, and cutting

[08:23, 4/21/2020] Almas Sabrina A. - 053: yes, after the trolley is fully loaded, the worker needed to move it to another station

[08:24, 4/21/2020] Veronica Chai - 116: To stack it together to be steamed later on

[08:25, 4/21/2020] Charles Liunardi - 011: I see, is lifting 2 kg trays repetitively will affect the worker? And do you have proposed improvement to reduce the operator lifting tray?

[08:25, 4/21/2020] Nabila R. D. - 195: Oh, I see. Thank you guys for your answer. But, what number of trolleys are needed? Because if there is only one trolley, the cutting machine should be on-off repeatedly and there will also be waiting or delay time to wait the trolley get back to the cutting department again

[08:25, 4/21/2020] Charles Liunardi - 011: Okay thank you

[08:26, 4/21/2020] Gabriela Tesla S. - 113: can you explain the mechanism of this machine?

[08:26, 4/21/2020] Samuel Adrian N. N. - 123: Does the 2 kg also includes the crackers on the tray? Or is it just the raw weight of the tray?

[08:26, 4/21/2020] Veronica Chai - 116: I still dont get how the cutting mechanism sill work. Can you explain more about that?

[08:27, 4/21/2020] Andyna Aulia Rahma - 009: May i ask about the mixing and shaping tool mechanism? Because the two tools seem to be attached, is there any possibility for the flour to goes directly to the shaper before being throughly mixed?

[08:27, 4/21/2020] Achmadi Noor Dzaky - 067: since mixing and shaping process are integrated, how do you guys make sure that the water from the mixing process does not enter the shaping chamber?

[08:27, 4/21/2020] Yudhistira Ajidharma S - 066: Of course includes

[08:28, 4/21/2020] Mohamed Lokman Bin Jalaludin - 001: Can explain how the mixing process can go to the cutting process, both of them are not combine together?? Can explain the proces?

[08:29, 4/21/2020] Mohamed Lokman Bin Jalaludin - 001: Both of them combine together

[08:29, 4/21/2020] A. A. A. Arini Utari Santosa - 170: We havent found the idea yet to move the tray to be with the other trays to be steamed, but the ide that came up was for the trays to be pushed to be stacked to the other trays. So, the base maybe could be both tilted and pushed

[08:29, 4/21/2020] Rafli Muhammad Rangga K. - 085: So the dough will be filled inside the mixing machine. Then, it is pushed and shaped to cylindrical shape, then it slide and cut. It will go to the conveyor

[08:29, 4/21/2020] M. Daffa Rizdhiya S. - 104: We propose a simpler cutting tool, called a geneva wheel mechanism. Here's a video since I don't think just telling it give it enough justice

https://www.youtube.com/watch?v=a8Jk_qfqqN0

[08:29, 4/21/2020] Nadhifa Qintharani Amira - 026: I want to ask, after the products being cut, and moved using conveyor belt, do the trays piled up by them selves in the floor? because in the drawing, there is no tools for stacking the trays. and how about the material handling for the tray to another process?

[08:30, 4/21/2020] Rafli Muhammad Rangga K. - 085: This will answer veronica's question

[08:30, 4/21/2020] Herzani Diva Eltari - 014: For the mixing process.. the dough will firstly mixed by the worker itself until they get the dough consistency they want before it goes to the machine

[08:31, 4/21/2020] Almas Sabrina A. - 053: the load trolley can contain up to 16 trays which weigh 32kg then the worker only need to move the trolley. the worker does not move it as repetitively as the initial condition because the initial condition is required to move each tray which weigh 2kg and stack it together . this trolley using ballast is our improvement that we propose

[08:31, 4/21/2020] Fuad Azaim S. - 133: Yapp, thanks for remind us nabb about this.. we'll think of it. Maybe 2 is enough but we'll discuss it first..

[08:31, 4/21/2020] Achmadi Noor Dzaky - 067: ahh i see

[08:32, 4/21/2020] Samuel Adrian N. N. - 123: The operators will monitor the mixing process until it reaches a certain consistency level before the dough is passed on to the next process

[08:32, 4/21/2020] Charles Liunardi - 011: Ohh, so operator do not lift the trays at all until the end of the process

[08:33, 4/21/2020] Akhdan Muhardi - 121: After the trays pass through the conveyor, the worker will take it and stack it on the pallet jack. So from the cutting process to steaming process, the material handling will be done manually

[08:34, 4/21/2020] Sebastianus Y. S. - 073: if the rotation speed is only that much, isn't it will reduce the production rate, or actually you change the speed of rotation of tools ?

[08:34, 4/21/2020] Fuad Azaim S. - 133: Maybe we can combine our tools :)

[08:34, 4/21/2020] Gabriela Tesla S. - 113: Yess right, until the trolley achieve its maximum limit of trays(32 kg)

[08:34, 4/21/2020] Akhdan Muhardi - 121: Interesting

[08:34, 4/21/2020] Akhdan Muhardi - 121: Hahaha

[08:35, 4/21/2020] Almas Sabrina A. - 053: (((:

[08:35, 4/21/2020] Hidayah Binti Mohd Ali Piah - 002: In between shaping process and cutting process, is it conveyor is being use to transfer to the tray? With the height of 15 cm, how do you make sure that the cracker exactly stack on the tray? Or is there any possibility that the cracker will be fell out of the tray?

[08:35, 4/21/2020] Aini Milania A. - 005: Wouldn't it be very tiring for the workers since they have to move the pallet one by one?

[08:36, 4/21/2020] Akhdan Muhardi - 121: I forgot to put emoji "😏" so it won't be heard like sarcasm😏

[08:36, 4/21/2020] Rafli Muhammad Rangga K. - 085: Actually we can adjust the speed with the diesel machine, so it can be faster than the video. Even it is not faster than the previous cutting tool, but we believe it can solve the problem about reducing defect rate. So, we concern about the efficiency

[08:36, 4/21/2020] Akhdan Muhardi - 121: But that's actually great idea!

[08:36, 4/21/2020] M. Daffa Rizdhiya S. - 104: The speed can be adjusted by changing the diameter of the geneva cross and the circle. Besides since everything goes in series increasing power also increases the cutting speed

[08:36, 4/21/2020] Stolz Mark - 001: We do not really know if it will be slower or faster but if we use geneva wheel, it is at first to ensure the efficiency of cutting result and reduce defect in which we saw so much defect in sme

[08:37, 4/21/2020] Sebastianus Y. S. - 073: but the shape for it is actually the same or you change it a little ?

[08:37, 4/21/2020] Stolz Mark - 001: And as Deka said, we can adjust the speed by changing diameter

[08:37, 4/21/2020] Nabila R. D. - 195: Okayyy

[08:37, 4/21/2020] Charles Liunardi - 011: I think not very tiring and repetitively in short time, because the process will take longer time than workers move it. So the operator can recover his fatigue before other trays come

[08:38, 4/21/2020] Rafli Muhammad Rangga K. - 085: What shape ?

[08:39, 4/21/2020] Sebastianus Y. S. - 073: the shape of tools is like the video, right ?

[08:40, 4/21/2020] Herzani Diva Eltari - 014: And i think for us the main concern is not about the fatigue of the worker but more to the continous process to get more efficiency.. and the manual material handling itself is the same job as the real condition in the sme.. so we think it's alright

[08:40, 4/21/2020] M. Daffa Rizdhiya S. - 104: Nahh, the cutter is a bit different. That video just goes to show you how the geneva cross works

[08:41, 4/21/2020] Sebastianus Y. S. - 073: okay.. I think I get it. thanks

[08:41, 4/21/2020] Chikal Adityatama S. P. - 069: I see, i think the tray modification will be needed here if the fatigur of the workers is included in our concern

[08:41, 4/21/2020] Akhdan Muhardi - 121: Agree. But we will take it for our consideration later, thanks @Aini Milania A. - 005

[08:43, 4/21/2020] Charles Liunardi - 011: Okay, thank you chikal

[08:46, 4/21/2020] Aini Milania A. - 005: Alright thank you for the answer guys

[08:46, 4/21/2020] Mohamed Lokman Bin Jalaludin - 001: Sorry for interrupt, I am still confusing, is it the mixing process does not combine with the cutting process? Because in your diagram there is no any separation

[08:47, 4/21/2020] Veronica Chai - 116: From what i know, the dough will achiever certain consistency level after the mixing process in the mixing machine. Because from the SME i observed. When they move

it to the mixing machine, it is still in flour form not in dough yet. So how are you guys gonna mix it? Is it manually?

[08:47, 4/21/2020] Fuad Azaim S. - 133: Sorry, so which one is true?? The worker will only monitor the mixing process but Herzani Diva Eltari - 014 said the dough is mixed by the worker?. thankss

[08:48, 4/21/2020] Herzani Diva Eltari - 014: Yes the dough will be make manually first before it goes to the machine

[08:50, 4/21/2020] Chikal Adityatama S. P. - 069: Donu mean that the mixing will be done in separate place?

[08:50, 4/21/2020] Yudhistira Ajidharma S - 066: Isn't is supposed to be done in mixing process machine?

[08:50, 4/21/2020] Chikal Adityatama S. P. - 069: Urwelcome by the way

[08:51, 4/21/2020] Herzani Diva Eltari - 014: Hmm... so the function of the machine is to integrate more pf the dough. In the initial condition of the sme itself, the dough is also make by hand first before it goes to the machine

[08:52, 4/21/2020] Godieuil Colin - 002: Sorry but I don't understand on this drawing the shaping process ?

[08:53, 4/21/2020] Veronica Chai - 116: Thank you for the answer😊☐

[08:54, 4/21/2020] Mohamed Lokman Bin Jalaludin - 001: So what is the function of mixing process?

[08:54, 4/21/2020] Chikal Adityatama S. P. - 069: The shaping will be done in the end of mixing

[08:55, 4/21/2020] Herzani Diva Eltari - 014: In the initial condition, after the dough made by hand, it is mixed repeatly in the mixing machine.. so for the improvement we make so the mixing machine is not done repeatly and only need one flow of process

[08:55, 4/21/2020] Gabriela Tesla S. - 113: does your machine use electricity power or is it possible to make it fully work with only karakuri principles?

[08:56, 4/21/2020] Aghnat Rhaka A - 161: i think it is hard to only apply the principles of karakuri. electricity is definitely needed. however we do apply some form of it such as ramp, etc.

[08:56, 4/21/2020] Chikal Adityatama S. P. - 069: Ooo thats why the dough need to be mix before put into the machine, its just one time process

[08:56, 4/21/2020] Herzani Diva Eltari - 014: To integrate the dough more

[08:56, 4/21/2020] Herzani Diva Eltari - 014: Yes

[08:56, 4/21/2020] Rafli Muhammad Rangga K. - 085: It is combined. The process is sequence. After you mix and shape, it will slide at the inclined surface and go to cutting process

[08:58, 4/21/2020] Rafli Muhammad Rangga K. - 085: That is the shaping looks like colin

[09:02, 4/21/2020] Mohamed Lokman Bin Jalaludin - 001: Thank you for the explanation @Rafli Muhammad Rangga K. - 085 and @Herzani Diva Eltari - 014 👍👍

[09:02, 4/21/2020] Pak Yudha Prasetyawan: What do you mean by integrate...

[09:04, 4/21/2020] Achmadi Noor Dzaky - 067 Pradana H. - 106: I kinda wanna ask, what push the dough through the shaping plat, only gravity?

[09:04, 4/21/2020] Herzani Diva Eltari - 014: I mean.. like when we make dough we need to knead the dough again and again so all the materials are combine together, hence the machine also work like that sir.. to help kneading the dough faster

[09:05, 4/21/2020] Pak Yudha Prasetyawan: Ohh okay

[09:09, 4/21/2020] Aghnat Rhaka A - 161: for Q2 group, can i ask a question for the quantity of trays?

so based on our initial condition observation, we noticed that the initial tray stack for transferring to the oven steamer is around 60 trays per one stack, and a total of 120 might be carried to the oven steamer at once.

do you think that those 16 trays capacity will not hinder the established productivity, is the tray bigger so that it could consists similar quantity?

however that is the condition of our SME, and does not reflect the condition of your SME. so correct me if i'm wrong..

[09:09, 4/21/2020] Khalisyia G. A. U. - 148: for q1, after the dough is cut, do the trays directly get handled by the workers?

[09:12, 4/21/2020] Akhdan Muhardi - 121: The trays will be caried out by the conveyor along with the cutting process, after that the worker will manually put them and stack them on the pallet jack

[09:15, 4/21/2020] Pak Yudha Prasetyawan: Guys we haven't talk about the block diagram. Any explanation?

[09:18, 4/21/2020] Samuel Adrian N. N. - 123: @Fuad Azaim S. - 133 the monitoring is done here

[09:24, 4/21/2020] Pak Yudha Prasetyawan: Block diagram?

[09:33, 4/21/2020] Sebastianus Y. S. - 073: Sir, I want to confirm, is the block diagram the same with bill of materials ? or different? because when search the example of block diagram on the internet, the diagram that shows is the bill of materials.

[09:35, 4/21/2020] G.A. Clarence - 096: Some of the available block diagram shows the connection between components of a logic part sir. so is it basically a flowchart?

[09:35, 4/21/2020] Rafli Muhammad Rangga K. - 085: In my opinion, block diagram is needed to represent the flow of system or function of parts

[09:36, 4/21/2020] Rafli Muhammad Rangga K. - 085: Hmm interesting. Yahh flowchart maybe

[09:37, 4/21/2020] Pak Yudha Prasetyawan: Okay. Guys...we may finish the discussion and wait the other student to complete the conversation. Thank you very much...

[09:37, 4/21/2020] Pak Yudha Prasetyawan: I mean pls create your block diagram

[09:39, 4/21/2020] Sebastianus Y. S. - 073: like this, sir ?

[14:06, 4/21/2020] Touraille Maximin - 002: Good afternoon everyone, because I cannot ask questions and respond myself I let you know what are the questions that went through my mind when I saw the design of the Q1 group machine. First of all, I did not understand the mechanism of this machine but this question was answered briefly by Rafli and then with the help of a video by Daffa so, now it is quite clear. Then because there is a gap between the conveyor belt after the shaping machine and the cutting machine, another question was is there any risk of dough falling out of the machine ? I have seen this question but no answer seen. However I think that being able to change the speed will also have an impact on this side.