


TECHNICAL REPORT

Form: 4-Pr-007-4-Fo-0006

Version: 02

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Record No (get by EIC program): 4-Pr-007-4-Fo-0006-5-RC-0014

Date: 19-Aug-2024



Report title: Technical report for new rewinding Singleplex string machine

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Reviewed by Technical
Advisor
(if any)

Approved by: ThongHN


10627
24-Aug-2024
24-Aug-24**I. Background:****1. Current**

In order to increase demand of rewinding string process in Clearner line for Singleplex product
--> PTE make a new rewinding machine

II. Conclusion:

- Machine specification:

+ Material: STR0002

+ Speed of machine: 3000 rpm

+ Length: 6500 \pm 200 mm and 8500 \pm 200 mm+ Tolerance: \pm 200 mm, check by measuring length after rewinding by calibrated ruler.

+ Visual checking: String no tangle, string clean follow 4-QC-221-9-PS-012-0008

-> After test with actual product and all products meet the product requirement .

We can this machine to mass production.

III. Analysis (Yield ratio, Productivity, Cpk, Process Reliability, product's reliability...):**1. Machine requirement**

Input:

Application scope: for material STR0002



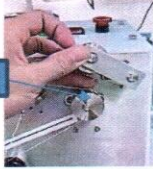



Voltage: Auto volt (110/220 VAC)

Output:

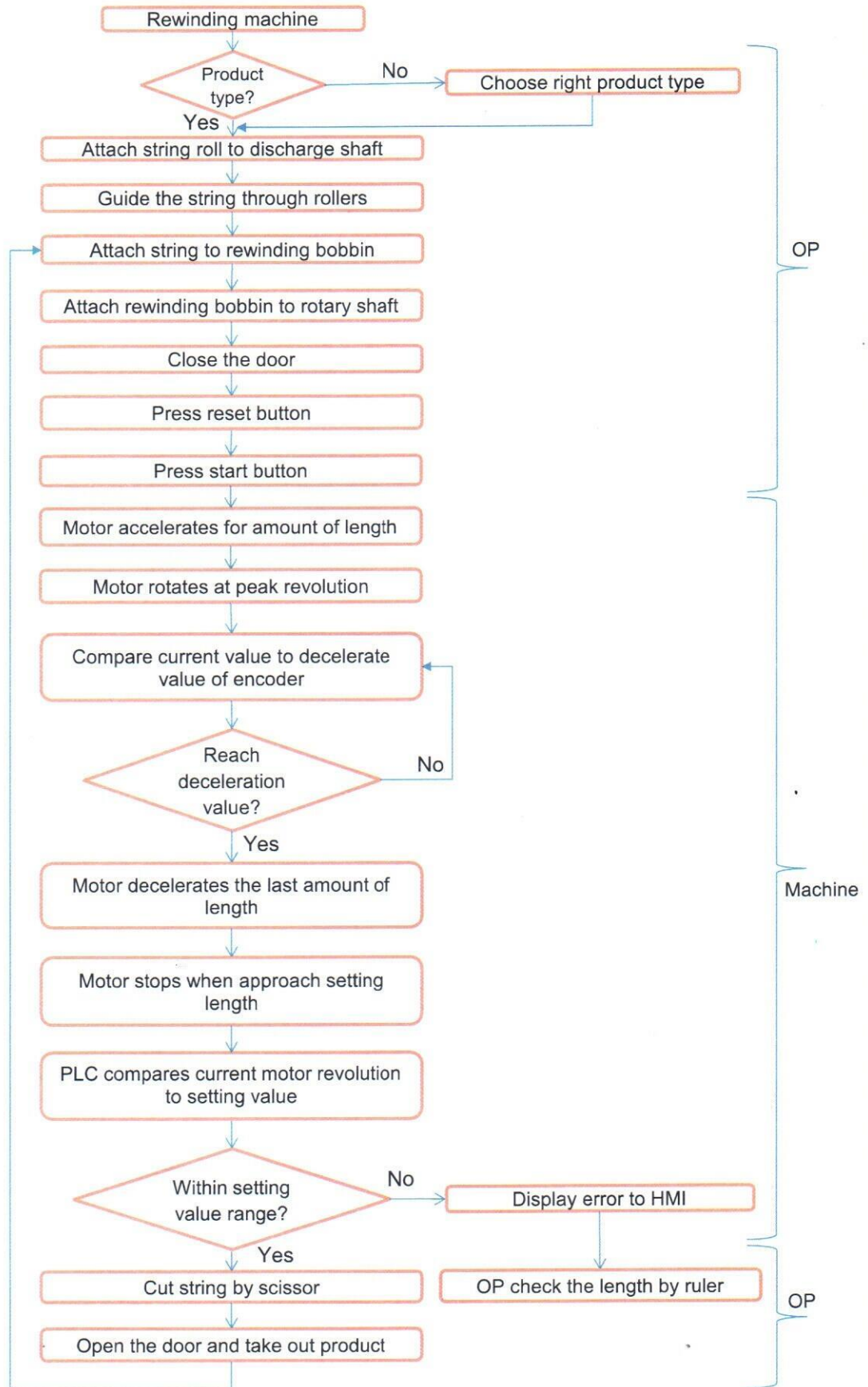
Length: 6500 \pm 200 mm and 8500 \pm 200 mm

Visual checking: String no tangle, string clean follow 4-QC-221-9-PS-012-0008

2. Design concept

Criteria	Image	Content
Overall image		
HMI monitor		Use HMI to improve user experience, faster setup, and display more information
Length determine	 Encoder	Use encoder to determine length of string
Tension of string	 Magnetic brake	Use magnetic brake to maintain the tension of string
Multi-channels		Add separate channels for each range of length of products --> When change product, OP just need to choose on HMI
Length check function		Add length check function to HMI to alarm OP when Non-confirming event occur.

3. Followchart of new machine



4. Test result

a. Initial setting

Machine: N24MPM0528

Speed: 3000 (rpm)

Value of magnetic brake: 1N

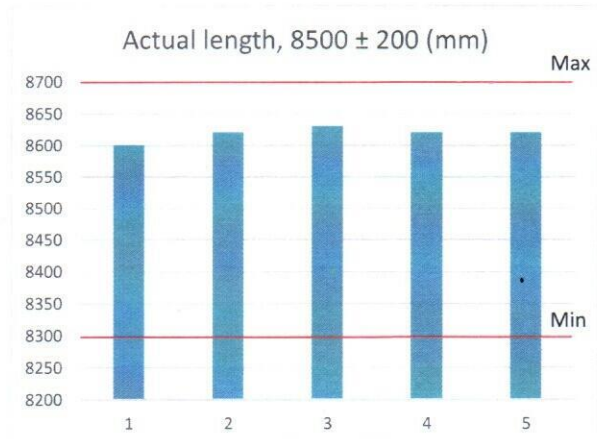
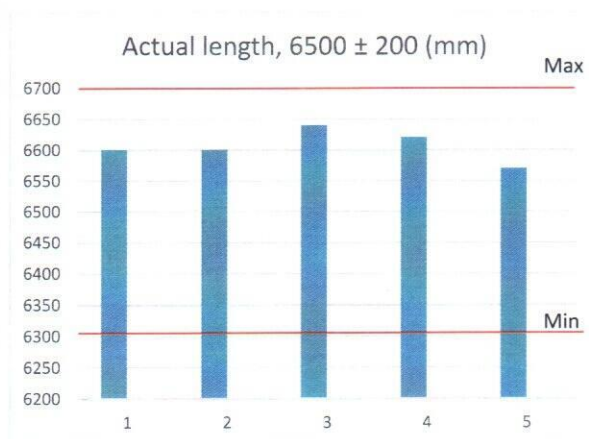
Setting for specification: 6500 ± 200 (mm) and 8500 ± 200 (mm)

Material: STR0002

b. Data

Length: 6500 ± 200 (mm)		
No.	Actual length (mm)	Evaluation
1	6600	Pass
2	6600	Pass
3	6640	Pass
4	6620	Pass
5	6570	Pass
Min	6570	
Max	6640	
Average	6606	
SD	26.08	

Length: 8500 ± 200 (mm)		
No.	Actual length (mm)	Evaluation
1	8600	Pass
2	8620	Pass
3	8630	Pass
4	8620	Pass
5	8620	Pass
Min	8600	
Max	8630	
Average	8618	
SD	10.95	



IV. Appendix standardization (revised quality documentation):

- PTE will make WI and CS for apply.
- PRE will make 4M change and initial control for mass production.

V. Others:

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