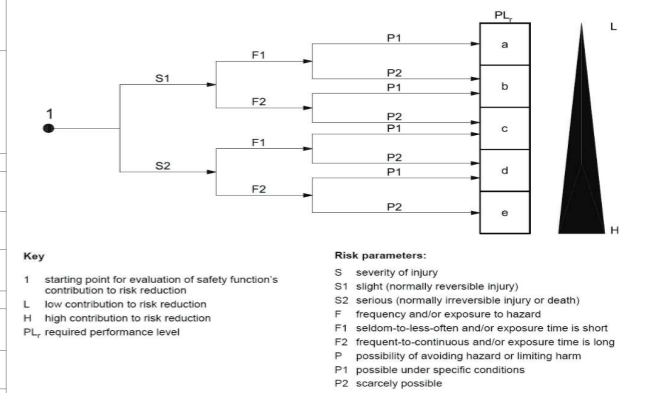


| PROTOCOL APPROVAL | | |
|----------------------------|-------------|--------------------|
| PREPARED BY | DESIGNATION | SIGNATURE AND DATE |
| Sahana I H | Automation | |
| REVIEWED BY BRML | DESIGNATION | SIGNATURE AND DATE |
| Vaibhav Bhosale | Automation | |
| Pabitra Hazra | Design | |
| REVIEWED BY STRIDES PHARMA | DESIGNATION | SIGNATURE AND DATE |
| | | |
| APPROVED BY STRIDES PHARMA | DESIGNATION | SIGNATURE AND DATE |
| | | |



| | | | |
|-----------------------------------|---|-------------------------------|---|
| Assessment reference: | 16049 | Number of operatives: | 1 |
| Type of machine: | Sachet Cartoning Machine | Number of shifts per week: | |
| Machine location: | Bangalore | Usage (hours per week): | |
| Machine description: | Sachet Cartoning Machine | Operating manuals: | Supplied |
| Machine manufacturer: | BAR | SOP's | As required, per post assembly Hazop. |
| Machine model: | p780 | Operatives' training record: | |
| Machine serial number: | p780-16049-01-2022 | Warning signs: | As required, per post assembly Hazop. |
| Modifications from 'as-supplied': | None | Raw materials: | |
| Energy sources: | Electrical Power and Compressed Air | Maintenance manual: | Supplied |
| Energy source ratings: | Electrical - 3phase, 415V Pneumatic - Air @6bar. | Maintenance training record: | Operators & maintenance to be trained upon installation |
| Safety measures: | (eg. PLd safety architecture) | Access by untrained visitors: | Prohibited |
| Assessment carried out by: | OB, RB | | |
| Assessment date: | 23-08-2022 | | |
| Assessment reviewed by: | | | |
| Assessment review date: | | | |
| Version: | 1.0 | | |

| LO (Likelihood of Occurrence) | | |
|-------------------------------|-------------------|-------------------------------|
| 0.033 | Almost impossible | Only in extreme circumstances |
| 1 | Highly unlikely | Though conceivable |
| 1.5 | Unlikely | But could occur |
| 2 | Possible | But unusual |
| 5 | Even chance | Could happen |
| 8 | Probable | Not surprising |
| 10 | Likely | To be expected |
| 15 | Certain | No doubt |

| FE (Frequency of Exposure) | |
|----------------------------|------------|
| 0.5 | Annually |
| 1 | Monthly |
| 1.5 | Weekly |
| 2.5 | Daily |
| 4 | Hourly |
| 5 | Constantly |

| HRN | Risk |
|----------|------------------|
| 0-5 | Negligible |
| 5-50 | Low, significant |
| 50-500 | High |
| Over 500 | Unacceptable |

HRN = LO x FE x DPH x NP

| DPH (Degree of Possible Harm) | |
|-------------------------------|--|
| 0.1 | Scratch or bruise |
| 0.5 | Laceration or mild ill-effect |
| 2 | Break of minor bone or minor illness (temporary) |
| 4 | Break of major bone or major illness (temporary) |
| 6 | Loss of one limb, eye, hearing (permanent) |
| 10 | Loss of two limbs or eyes (permanent) |
| 15 | Fatality |

| NP (Number of Persons at risk) | |
|--------------------------------|---------------|
| 1 | 1-2 persons |
| 2 | 3-7 persons |
| 4 | 8-15 persons |
| 8 | 16-50 persons |
| 12 | 50+ persons |

RML Assumptions: Machine has no electronic guarding at all at initial assessment, frame is present.
Keywords: See "Example Keywords" sheet for further keywords

| No. | Assembly | Machine Location | Type of Hazard | Potential consequences | Comments | Initial assessment | | | | | Action required | Re-assessment after taking action | | | | | Residual Risk Action Required | | |
|-----|---------------------------|---------------------------|--|---|--|--------------------|----|-----|----|-----|------------------|---|-----|----|-----|----|-------------------------------|------------------|---|
| | | | | | | LO | FE | DPH | NP | HRN | | Risk level | LO | FE | DPH | NP | | HRN | Risk level |
| 3 | Camera / Scanner Assembly | Camera / Scanner Assembly | Radiation hazards (Optical radiation (infrared, visible high intensity lights)) | acute radiation syndrome ("radiation sickness") | Hazards - Damage to eyes Why is the hazard there - Continuously Eye contact with the camera lights What drives the hazard - Camera lights How could harm be caused - Operator directly contact with camera Why would the hazard occur - Operator intervention or inspection around the conveyor Potential occurrence of hazard - Possible Possible harm - acute radiation syndrome | 2 | 4 | 2 | 1 | 16 | Low, significant | Operator / Maintenance Staff Awareness Warning Signs | 2 | 4 | 2 | 1 | 16 | Low, significant | Operator / Maintenance Staff Awareness and Training |
| | | | Electric Shock/Fire Hazard | 1.Serious injury or death may occur. 2.If Camera fails, the Robot will not recognize the Sachets | Hazards - Electric Shock Why is the hazard there - Use of Unapproved Power Supplies What drives the hazard - Camera/Scanner How could harm be caused - Operator directly contact with camera Why would the hazard occur - Operator intervention or inspection around the conveyor Potential occurrence of hazard - unlikely Possible harm - Serious injury or death may occur. | 1.5 | 1 | 0.5 | 1 | 16 | Low, significant | Maintain Regular Maintenance | 1.5 | 1 | 0.5 | 1 | 16 | Low, significant | Maintain Regular Maintenance |