PROTOCOL APPROVAL		
PREPARED BY	**DESIGNATION**	**SIGNATURE AND DATE**
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REVIEWED BY BRML	**DESIGNATION**	**SIGNATURE AND DATE**
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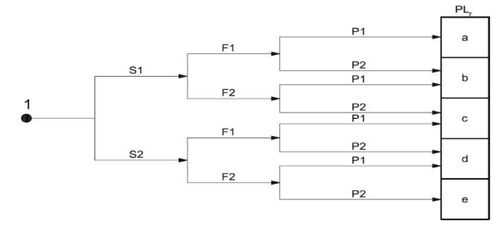
REVIEWED BY STRIDES PHARMA	**DESIGNATION**	**SIGNATURE AND DATE**
APPROVED BY STRIDES PHARMA	**DESIGNATION**	**SIGNATURE AND DATE**



Key

1 starting point for evaluation of safety function's contribution to risk reduction
L low contribution to risk reduction
H high contribution to risk reduction
PL$_r$ required performance level

Risk parameters:

S severity of injury
S1 slight (normally reversible injury)
S2 serious (normally irreversible injury or d
F frequency and/or exposure to hazard
F1 seldom-to-less-often and/or exposure ti
F2 frequent-to-continuous and/or exposure
P possibility of avoiding hazard or limiting
P1 possible under specific conditions
P2 scarcely possible

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	
4	Booklet Pick & Place Assembly	Motor And Gearbox Assembly	Thermal Energy liberated from Motor and gearbox	1. The winding insulation & bearing deteriorates 2. Increases in the temperature of an electric motor reduce its lifespan (Motor Ambient working temperature <=60 deg celcius) (Gearbox Ambient temperature <= 80 deg celcius)	**Hazards** - 1. Burns due to contact with hot Surface of the motor and Gearbox, 2.Motor Insulation an get melted and can cause short circuits and permanent damage to the motor.. **Why is the hazard there** - Motors with a gearbox combination drives the conveyor and tend to heat (extensive temperatures >60 deg celcius can be hazardus) **What drives the hazard** - Electrical Energy and Friction **How could harm be caused** - Operator in contact with hot motor and gearbox Surface. **Why would the hazard occur** - Operator intervention or inspection around the machine, intervention by maintenance personnel. **Potential occurrence of hazard** - Constantly. **Possible harm** - Minor burns.	8	4	0.5	1	16	Low, significant	Operator / Maintenance Staff Awareness Hot Surface Warning Signs	**5**	4	0.5	1	10	Low, significant	Operator / Maintenance Staff Awareness and Training
			1. Noise 2.Vibration	Vibration can cause changes in tendons,muscles,bones and joints ,and can affect the nervous system.collectively,these effects are known as Hand-Arm Vibration Syndrome (HAVS). Workers affected by HAVS commonly report 1.Attacks of whitening (blanching) of one or more fingers when exposed to cold 2.Tingling and loss of sensation in the fingers 3.Pain and cold sensations between perodic white fingers attacks 4.Loss of grip strength & Bone cysts in fingers and wrists 5.Noise may damage hearing - Stress - Hypersensitivity to noise - Increased blood Pressure Increased heart rate -	**Hazards** -vibrate and generates excessive force in the bearing area and reduces the life of the machine **Why is the hazard there** - Electric Motor drives the belt regardless of any minute missalignment which may further cause vibration. **What drives the hazard** - Electrical Energy. **How could harm be caused** - Operator in contact with motor and gearbox Surface.. **Why would the hazard occur** - Operator intervention or inspection around the machine, intervention by maintenance personnel. **Potential occurrence of hazard** - Constantly. **Possible harm** -1.Vibration can cause changes in tendons,muscles,bones and joints . (the highest around 8-16 Hz (Hertz or cycles per second)) 2.Noise may damage hearing (Permissible limit is 75 dB for daytime and 70 dB at night from 1m Distance)	1.5	5.0	2.0	1.0	15.0	Low, significant	Operator / Maintenance Staff Awareness	5.0	1.5	2.0	1.0	4.5	Negligible	Regular Maintenance
		Motor Assembly	EMF/ Electro static	Electrostatic sparks may have enough energy to produce electric shocks, cause electronic damage, spoil mechanical components	**Hazards** - electrical shock, fire and arc flash. **Why is the hazard there** - When power up the Electric Motor & Its power cables are open and fed up floor	0.033	4	15	1	**1.98**	Negligible	Use best practice design	0.03	4	15	1	**1.8**	Negligible	Operator / Maintenance Staff Awareness and Training
			Parts becoming live under fault conditions / Short-circuit / Overload	Burn	**What drives the hazard** - Electrical Energy **How could harm be caused** - Operator in contact with hot motor and gearbox Surface. **Why would the hazard occur** - Operator intervention or inspection around the machine, intervention by maintenance personnel. **Potential occurrence of hazard** - Constantly. **Possible harm** - Minor burns , Electrocution	0.033	4	0.5	1	**0.066**	Negligible	Use best practice design	0.03	4	0.5	1	**0.06**	Negligible	
				Electrocution		0.033	4	0.5	1	**0.066**	Negligible	Use best practice design	0.03	4	0.5	1	**0.06**	Negligible	
				Motor Overload may cause overheating of the motor and damage the windings of the motor		0.033	4	15	1	**1.98**	Negligible	Use best practice design	0.03	4	15	1	**1.8**	Negligible	