PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

RISK ASSESSMENT REPORT

Product/System/Equipment	**Compression Machine (General Block)**
Risk Assessment Report No.	
Report Date	

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

TABLE OF CONTENTS

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

DOCUMENT APPROVAL:

This risk analysis study for the preapproval of report by following:

Responsibility	Name	Signature	Date
Prepared by	**Quality assurance**		
Reviewed by	**Production**		
	Quality control		
	Engineering		
	Store		
	Quality assurance		
Approved by	**Head-QA**		

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

1.0 Introduction

The "Compression machine" is intended to make tablets and slugs of the lubricated granules by means of feeding ,dosing and compaction of lubricated granules and ejection of tablets and slugs with assurance of product safety. The compression of tablet depends upon the compaction force.

2.0 Objective

Objective of this report is to assess the risk associated with the equipment compression machine in pre assessment in the manufacturing facility of General Block of ……., in line with the guidance of the Risk Management manual of ……and ICH Q9.

3.0 Scope

The scope of this document is limited to the design, installation, operation, performance and safety of equipment "Compression Machine" system and define its failure mode at pre assessment in the manufacturing facility at …….

4.0 Risk assessment approach

Risk assessment is carried out as per FMEA (Failure mode, effects analysis) method.

5.0 Responsibility

Quality Assurance
Engineering
Production
Quality Control
Store

6.0 Reference Documents

1. ICH Q9-Quality Risk Management
2. …….. guidance on Risk assessment.

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

Background

……. is intended to start manufacturing of solid oral facility at ……. Risk assessment is a part of corporate quality assurance. Pre Quality Risk assessment of "Compression Machine "is done to check the system is capable of providing quality product throughout the life cycle of the drug product.

7.0 RISK RANKING PARAMETERS

7.1 Rating parameters for Severity

Effect	Scale	Description
No effect	1	No effect on output
Very slight	2	Customer not annoyed
Slight	3	Slight
Minor	4	Minor effect on performance
Moderate	5	Moderate effect on performance
Significant	6	Partial failure but operable
Major	7	Product performance severely affected, but some operability and safe
Extreme	8	Very dissatisfied, product inoperable but safe
Serious	9	Potentially hazardous effect, time-dependent failure
Hazardous	10	Hazardous effect, safety related sudden failure

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

7.2 Rating parameters for Occurrence

Occurrence	Scale	Description
Almost never	1	Failure unlikely; history shows no failures
Remote	2	Rare number of historical failure
Very Slight	3	Very few failures likely
Slight	4	Few failures likely
Low	5	Occasional number of failures likely
Medium	6	Medium number of failures likely
Moderately High	7	Moderately high number of failures likely
High	8	High number of failures likely
Very High	9	Very high number of failures likely
Almost certain	10	Failure almost certain

7.3 Rating parameters for Detection control

Detection	Scale	Description
Almost certain	1	Proven detection methods with high reliability
Very High	2	Proven detection methods available
High	3	Detection tools have high chance of detecting methods
Moderately High	4	Almost certain not to detect failure
Medium	5	Detection tools have moderate chance of detecting defect
Low	6	Detection tools have a low chance of detecting failure
Slight	7	Detection tools may not detect failure
Very Slight	8	Detection tools will probably not detect failure
Remote	9	Detection tools most likely will not detect failure
Impossible	10	Failure not detected

Note: Individual contributory factor for each potential failure mode shall be rated. Other scale parameters may also be selected based on the process.

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

8.0 ACCEPTANCE CRITERIA FOR RISK ASSESSMENT BY FMEA

Acceptance criteria for FMEA are as follows:

S.No.	RPN Rating	RPN Category	Action Status
1.	≥ 76	Critical	CAPA Required
2.	51 to 75	Major	CAPA Required
3.	26 to 50	Moderate	CAPA Required
4.	Up to 25	Minor	Not applicable

PHARMA DEVILS

QUALITY ASSURANCE DEPARTMENT

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

9.0 PRE-RISK ASSESSMENT AS PER FMEA:

Name of facility/Utility/Equipment/Process/Operation: Compression Machine

S. No.	Potential Failure Mode	Potential effect (s) of failure	Severity (s)	Potential cause/ Mechanism of failure	Occurrence (O)	Current Control	Detection (D)	RPN (S x O x D)	Recommended action	Responsibility and TCD	Action Results				
											Action taken	Severity	Occurrence	Detection	New RPN
1	Required Area (floor, Temperature, RH, Differential pressure) & Air preparation unit not proper for the Compression Machine.	Area, Air preparation unit will not be suitable for proper functioning of Equipment.	6	No or less clarity of the product requirement and machine functionality.	3	Approved layout is in place.	3	54	Care has to be taken during Area Qualification & equipment qualification	Engineering , QA, Production,					
2	Required parameter not defined in URS/URS not proper for system	Systems not receive suitable for proper output of quality with all parameter as per specification. Affect the product quality.	6	No or less clarity of the product requirement and machine functionality.	3	Preparation of URS before procurement of equipment is in place with all pre-specified parameter.	2	36	Current control measures are adequate	NA	NA	NA	NA	NA	NA
3	Required utilities (compressed air, electricity) not available	Machine will not function as expected.	7	No or less clarity of the product requirement and machine functionality with respect to utility requirement.	3	URS is in place for system with all predefined requirement of utility like electricity, compressed air.	2	42	Current control measures are adequate	NA	NA	NA	NA	NA	NA

PHARMA DEVILS

QUALITY ASSURANCE DEPARTMENT

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

S. No.	Potential Failure Mode	Potential effect (s) of failure	Severity (s)	Potential cause/ Mechanism of failure	Occurrence (O)	Current Control	Detection (D)	RPN (S x O x D)	Recommended action	Responsibility and TCD	Action Results				
											Action taken	Severity	Occurrence	Detection	New RPN
4	Wrong machine selection in terms of Dimension, capacity and output.	Installation will be affected if dimension is not considered. Output will also get affected if capacity is not considered.	5	No or less clarity of the machine.	3	URS is in place for dimension, capacity and rated output of the of the Compression machine.	3	45	Current control measures are adequate	NA	NA	NA	NA	NA	NA
5	MOC and machine contact parts ,Seals & gaskets not meeting GMP requirement	Not meting GMP requirements and product get affected.	5	No or less clarity of the machine contact part and MOC.	2	URS is in place for MOC (contact part should be of SS316 or 316Land food grade material and non contact parts will be of SS304 and machine contact parts to fulfill GMP requirements. Gasket used shall be of food grade.	2	20	Current control measures are adequate	NA	NA	NA	NA	NA	NA
6	Lubricant used is of no food grade quality	Not meting GMP requirements.	7	No or less clarity of the requirement	4	FOOD grade lubricant is required defined in URS.	2	56	Certificate to be received from the vendor for FOOD grade against the supply. This shall be a part of SOP.	QA, purchase/ production, \engineering.	NA	NA	NA	NA	NA

PHARMA DEVILS

QUALITY ASSURANCE DEPARTMENT

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

S. No.	Potential Failure Mode	Potential effect (s) of failure	Severity (s)	Potential cause/ Mechanism of failure	Occurrence (O)	Current Control	Detection (D)	RPN (S x O x D)	Recommended action	Responsibility and TCD	Action Results				
											Action taken	Severity	Occurrence	Detection	New RPN
7	Equipment not received with the process safety measures.	Accident may happen.	9	No or less clarity about equipment safety measures.	2	Requirement of Safety measures like interlocking of safety guards and side guards, Earthing, Powder level sensor, is defined in URS.	2	36	Current control measures are adequate	NA	NA	NA	NA	NA	NA
8	Dust collector not provided to suck powder generated	Dusting and congestion occurs	5	No or less clarity of the product requirement and machine functionality with respect to utility requirement	2	Dust collector unit provided by the utility.	2	20	Current control measures are adequate	NA	NA	NA	NA	NA	NA
9	Other accessories not received by equipment	Inspection of punch and die are not possible	10	No or less clarity about the tooling accessories	1	Requirement will mention on the URS.	1	10	Current control measures are adequate	NA	NA	NA	NA	NA	NA

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

9.1 REVIEW OF RISK ASSESSMENT AS PER FMEA AFTER ACTION TAKEN:

Action Results					Remarks
Action Taken	Severity	Occurrence	Detectability	RPN	

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

10.0 RISK CONTROL MEASURES

Investigation/findings: *(an extra sheet can be used if space is insufficient)*

……

……

……

……

……

……

……

……

……

Corrective Action: *(an extra sheet can be used if space is insufficient)*

……

……

……

……

……

……

……

……

……

……

(Sign/Date)

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

11.0 SUMMARY AND CONCLUSION REPORT FOR RISK ASSESSMENT

Summary:……..

……

……

……

……

……

……

……

Conclusion:

……

……

……

……

……

……

……

……

PRE RISK ASSESSMENT FOR COMPRESSION MACHINE

12.0 FINAL REPORT APPROVAL:

The final report shall be signed after identifying all the risks and critical control parameters. All the reports or documents have been attached to the respective report (if applicable).

Signature in the block below indicates that all the control measures taken are documented and have been reviewed and found to be acceptable.

Department	Name	Designation	Signature	Date
Quality assurance				
Production				
Quality control				
Engineering				
Store				
Head-QA				